BrightSource

Applicant's Response to Data Requests, Set 1B (Nos. 85-154)

for the APPLICATION FOR CERTIFICATION for the Rio Mesa Solar Electric Generating Facility (Rio Mesa SEGF)

(11-AFC-04)

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Submitted to:

CALIFORNIA ENERGY COMMISSION
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Sacramento, CA 95814-5504

Submitted by:

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MARCH 28, 2012

URS

March 28, 2012

Pierre Martinez
Project Manager
Systems Assessment & Facility Siting Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

Subject: Data Responses, Set 1B (Nos. 85-154)
Rio Mesa Solar Electric Generating Facility (11-AFC-04)

Dear Mr. Martinez:

On behalf of Rio Mesa Solar I, LLC, Rio Mesa Solar II, LLC, and Rio Mesa Solar III, LLC, please find enclosed an electronic copy of Data Responses, Set 1B (Nos. 85-154) in response to Staff's Data Requests filed on February 27, 2012. Five CD ROMS are being provided for Staff. Hard copies and/or CDs will be sent to the Proof of Service list.

Sincerely,

Angela Leiba, Vice President
Senior Project Manager/ Environmental Department Manager

Enclosure

cc: POS List
Project File

Applicant's Response to Data Requests, Set 1B (Nos. 85-154)

for the

Application for Certification

for the

Rio Mesa Solar Electric Generating Facility (Rio Mesa SEGF)

(11-AFC-04)

Submitted to the

California Energy Commission

Submitted by

Rio Mesa Solar I, LLC,
Rio Mesa Solar II, LLC,
Rio Mesa Solar III, LLC

March 28, 2012

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Introduction

Attached are responses from Rio Mesa Solar I, LLC, Rio Mesa Solar II, LLC, and Rio Mesa Solar III, LLC (collectively the "Applicant") to the California Energy Commission (CEC) Staff's Data Requests Set 1B (Nos. 85 – 154). Staff served these data requests on February 27, 2012. The responses are grouped into the following disciplines: Alternatives, Cultural Resources, Paleontological Resources, Soil and Water Resources, Traffic and Transportation, and Visual Resources. Responses are presented in the same order provided by CEC staff, and are keyed to the data request number (85 through 154). In addition, responses to eleven BLM data requests for soil and water resources are provided following responses to CEC data requests 131-142 in the Soil and Water Resources section. The response to one verbal data request for paleontological resources is provided following data requests 126-130 in the Paleontological Resources section. Tables, figures, and attachments are numbered in reference to the data request number.

On March 19, 2012, Applicant provided notice of its objections pursuant to Title 20, California Code of Regulations, Section 1716(f). Applicant objected to Data Requests 44, 121, 122, 123, 126, 127, 128, 129, and 130. In addition to Applicant's responses below, additional confidential information responding Data Requests 96, 103, 104, 105, 109, 112, 113, 116, 119, 123, 126, and 127 will be submitted directly to the CEC Executive Director with an application for confidentiality.

Alternatives (Nos. 85-90)

Data Request:

85. *Please provide a more detailed discussion and updated analysis of the feasibility of adding energy storage capabilities to the proposed Rio Mesa Solar Electric Generating Facility (Rio Mesa SEGF) project. Please include the following:*

    a. *Information on new and modified equipment and processes to add molten-salt or other energy storage to the project. Discuss known or potential alterations to the project configuration and changes to requisite number of heliostats.*

       Also include a detailed discussion of any increase in cost such alterations might add to the project and whether these costs would be offset by increased availability of electricity resulting from storage.

    b. *Information on the expected benefits of adding storage capabilities to the project. Include potential benefits pertaining to improved efficiency and capacity, reduced energy costs, smaller site footprint, increased flexibility, and other potential benefits. Include information comparing the benefits of the proposed Rio Mesa SEGF project to potential benefits of a project that is altered to include storage.*

    c. *Information comparing the environmental effects of the proposed Rio Mesa SEGF project as opposed to a project that includes storage capabilities. Discuss in detail how altering the project configuration, reducing the project footprint, or changing project operations could affect the level of impacts on environmental resources, including potential impacts relating to water use, air quality, sensitive plant and animal species and habitats, cultural resources, and visual resources.*

    d. *A detailed discussion of the extent to which a project with storage capabilities would or would not satisfy each of the stated project objectives compared to the proposed Rio Mesa SEGF project.*

    e. *A detailed discussion of why adding salt storage to the Rio Mesa SEGF project was eliminated as a viable alternative when it is now being considered in two other BrightSource projects.*

Response:

Applicant considers the addition of energy storage capabilities to the proposed Rio Mesa Solar Electric Generating Facility (RMSEGF) to be infeasible for three principal reasons:

1. Contractual

   The two specific signed and approved Power Purchase Agreements (PPAs) that relate to the RMSEGF do not include or anticipate energy storage capabilities in either the contracted capacity

factor or the contracted energy deliveries. The off-taker in these PPAs would not be obligated to purchase most or all of the additional electricity generated by implementation of an energy storage system. Moreover, it would not be feasible to complete the development and engineering of an energy storage system for RMSEGF on a timeline that would allow Applicant to meet its contractual obligations under these PPAs.

2. Site limitations

   The proposed project fully uses the developable area of the RMSEGF site for units without storage in meeting the delivery requirements of the PPAs covering electricity generated at the site. It should be noted that the heliostat layout has been designed for maximum efficiency by Applicant, using sophisticated and patented algorithms and methods, to ensure maximum electricity generation possible from the number of heliostats that was calculated to maximize the economic viability of the project. Therefore, adding sufficient heliostats to properly utilize even a short (e.g., 2-hour) storage system would not be possible without adding substantial potential shadowing and blocking penalty that would limit the extent of any increment in additional electricity generation.

3. Economics

   The incorporation of energy storage to the RMSEGF would be extremely costly, and would require, among other things, a substantial redesign of the heliostat field, power block engineering, and project layout, and would significantly extend the project's schedule violating PPA commercial on-line date (COD) requirements, and making the financing of the project infeasible.

a. The entry of BrightSource Energy (BSE) into the solar thermal storage market was at a point after substantial planning and design had already been completed on the RMSEGF project, and the AFC and POD were created specifically around non-storage CSP technology. A substantial delay in the project would result in order to complete a redesign of the power blocks and solar fields, which would result in a reevaluation of the hydrology and storm water runoff models as a minimum, affect visual resources, require additional biological and cultural ground surveys to account for additional land requirements, and violate PPA COD deadlines. Therefore, BSE has no plans contemplated for potential alterations to the project configuration to add molten-salt or energy storage capability.

b. BSE is currently validating the supercritical and storage configuration to be implemented and tested on future projects at our Solar Energy Development Center (SEDC) facility in Israel. A switch to supercritical technology would mean a delay of at least two years for these projects. RMSEGF has developed preliminary engineering solutions for storage in subcritical plants (current RMSEGF technology) but commercialization of the subcritical storage technology will not be available in California before the implementation of the current PPAs related to this project. A CSP project with storage of equivalent megawatt capacity would require a larger, not smaller footprint. Because of the limitations described above, at this time analysis has shown that any potential benefits would be heavily outweighed by the redesign costs, permitting delays, and loss of at least two signed and approved PPAs. Changing the design at this point would result in a higher cost to the project in engineering, procurement, and construction. Theoretically, the average efficiency utilizing the

supercritical technology would improve a few points, and there would be the benefit of providing clean energy after the sun has set in the afternoon, but this technology alternative has not been validated by our engineers and is currently not available. Additionally, since the project would lose its related PPAs, it would likely become unfinanceable.

c. Without design information for the RMSEGF that specifically integrates storage capabilities, any information regarding potential environmental effects would be extremely speculative. However, as stated above, the addition of storage capabilities to RMSEGF would require the installation of additional heliostats. Hypothetically speaking, the additional heliostats could result in (1) a proportionally higher water usage for mirror washing, (2) more ground disturbance, which would affect biological and cultural resources, and (3) require a remodeling of site hydrology and impacts to Waters of the US and Waters of the State. A redesign including storage may also include relocation of the power blocks, which would require new visual representations of the project for review by the resource agencies.

d. BSE is currently validating the supercritical and storage configuration to be implemented and tested on future projects at our SEDC facility in Israel. A switch to supercritical technology would mean a delay of at least two years for these projects. RMSEGF has developed preliminary engineering solutions for storage in subcritical plants (current RMSEGF technology) but commercialization of the subcritical storage technology will not be available in California before the implementation of the current PPAs related to this project. This facts alone make the project non-compliant with Project Objective No. 7, which states:

7. Design and develop the Project to conform to the requirements of the site-assigned 20-year Power Purchase Agreements (PPA) for Rio Mesa Solar Holdings, LLC, including a commercial on-line date (COD) of 2015.

Additionally, the supercritical with storage configuration does not comply with the timely requirements of Project Objectives Nos. 8 and 12, which state:

8. Site the Project in a timely and environmentally responsible manner by selecting a location with minimal potentially significant impacts, where compliance with applicable laws, ordinances, regulations, and standards (LORS) is feasible.

12. Develop a solar generating facility that assists BLM with its mission to approve 10,000 MW of renewable energy projects on public lands by 2015 in a manner that reduces impacts (i.e., edge effects) and leverages resources being developed on private lands (i.e., shared facilities).

Because the addition of energy storage would require substantial time and resources to modify the design of the RMSEGF and re-evaluate biological, cultural, hydrological, soil and water, and visual impacts, a project with storage technologies would not meet the stated project objectives of achieving the targeted COD of third/fourth quarter 2015. A project with storage capabilities would not satisfy the stated Project Objective No. 7, as well as the proposed RMSEGF, because even if the timeframe were not violated (which it is by a substantial period), the PPAs meant to be serviced by the

RMSEGF do not allow for the increased capacity factor or increased annual energy deliveries that would be realized with a storage equipped project, those benefits would be contractually at risk.

e. A thorough analysis was made concerning our ability to convert these SCE PPAs at Rio Mesa to subcritical[1] with storage in order enjoy the same benefits of the more advanced technology and configuration: lower costs, added value and higher electricity sales (due to storage).

However, because of siting and scheduling constraints, we were unable to consider conversion of the Rio Mesa projects to storage applications at either subcritical or supercritical steam conditions.

- **Siting:** at 1,850 acres per unit, the land area available in the Rio Mesa Solar sites does not support storage, which requires the addition of at least 18 percent more heliostats to the solar field.

- **Scheduling:** the RMSEGF project was well into the development and design phases prior to BSE's ability to engineer a storage solution within our technology. The projects currently being considered for storage inclusion, are still in early stages of development where conceptual designs for power blocks and solar fields are being initiated. As mentioned above, the PPAs that relate to RMS are "non-storage". Furthermore, in order to meet COD targets for the two RMS projects, we must reach financial closing by fourth quarter 2013. BSE is currently validating the supercritical and storage configuration to be implemented and tested on future projects at our SEDC facility in Israel. A switch to supercritical technology would mean a delay of at least two years for these projects. RMSEGF has developed preliminary engineering solutions for storage in subcritical plants (current RMSEGF technology) but commercialization of the subcritical storage technology will not be available in California before the implementation of the current PPAs related to this project.

Data Request:

86. Please provide additional information on the technological feasibility of a parabolic trough alternative, including the following:

a. Information and details documenting the conclusion that a parabolic trough system is less efficient than the proposed Rio Mesa SEGF project. Please expand the discussion of efficiency to address energy conversion, land use, water use, and operating and maintenance costs. Compare the expected efficiencies of the proposed Rio Mesa SEGF project to an alternative using a parabolic trough technology. Include specific data on the net generating capacity, in megawatts, for a parabolic trough alternative at the proposed Rio Mesa SEGF project site (i.e., assuming the same project acreage).

b. Information on the feasibility of adding energy storage capabilities to an alternative using a parabolic trough technology.

[1] Up to an operating pressure of around 2,755 psig in the evaporator part of the boiler, the cycle is sub-critical. This means, that there is a non-homogeneous mixture of water and steam in the evaporator part of the boiler. In this case a drum-type boiler is used because the steam needs to be separated from water in the drum of the boiler before it is superheated and led into the turbine. Above an operating pressure of 3,205 psig in the evaporator part of the boiler, the cycle is supercritical. The cycle medium is a single phase fluid with homogeneous properties and there is no need to separate steam from water in a drum.

c. *Details on the potential impacts of a parabolic trough project relating to worker safety, fire protection, and environmental hazards.*

d. *In addition to the information requested under 86.c, above, provide information comparing the environmental effects of the proposed Rio Mesa SEGF project to an alternative using a parabolic trough technology. Discuss in detail how operation of a parabolic trough project could change the level of impacts on environmental resources, including potential impacts on birds, bats, and eagles. Address the magnitude of impacts on visual resources, including a discussion of the difference between a parabolic trough project and a solar power tower project. Compare impacts relating to glint and glare. Include discussions of how changing the project configuration and operations could affect the level of impacts on other environmental resources, including potential impacts on other sensitive biological species and habitats, water supply and use, air quality, cultural resources, and soils.*

e. *Information on the extent to which a project using a parabolic trough technology, with and without storage, would satisfy the stated project objectives compared to the proposed Rio Mesa SEGF project.*

Response:

Applicant notes that the characteristics of parabolic trough systems are well known to many members of its senior engineering team, which includes numerous senior engineers and managers of Luz International, which commercialized parabolic trough systems in California and built and operated the 354 MW SEGS plants. The decision to move from trough systems to tower systems was fully informed of that prior knowledge and decades-long experience with the older trough technology.

a. Any discussion of a parabolic trough alternative must begin with the fact that substantially less electricity could be produced at the RMSEGF site using the older technology even before considering the effects of the requisite dry cooling, which would only reduce output of the trough system further.

   With respect to energy conversion, Sargent & Lundy[2] have shown that tower systems have higher energy conversion than trough systems. From Applicant's experience, the advantages of the tower system are even larger than those shown by Sargent & Lundy. The two largest advantages are:

   1. Lower parasitic energy for tower systems (trough systems typically use 10 to 12 percent of energy generated for plant use, including pumping heat transfer fluid throughout the solar field, while power tower use is no more than half of that), and

   2. Steam cycle energy availability.

   Trough, with maximum steam conditions of 750°F and about 1,500 psi generates steam with between 15 and 17 percent less energy than a tower, with steam conditions at 1085°F and about 2,500 psi. This is a major cycle efficiency penalty that translates directly into acreage in the solar fields. In

[2] Sargent & Lundy LLC Consulting Group. 2003. Assessment of Parabolic Trough and Power Tower Solar Technology Cost and Performance Forecasts (NREL/SR-550-34440), National Renewable Energy Laboratory, Contract No. DE-AC36-99-GO10337. October.

addition to the steam condition penalty for trough, keep in mind that a trough system does not convert the sun's energy directly to steam. It uses an intermediate heat transfer fluid, such as Therminoil, to absorb the sun's energy and then transfer it into water through a heat exchanger, which is contributes to additional inefficiencies. Adding the excess parasitic loads of trough to the cycle efficiency penalty yields a total penalty of more than 22-24 percent, and that is assuming that the thermal fluid to steam heat exchanger operates at peak efficiency. This equates to a net megawatt capability of approximately 190 MW and is based on the project using wet cooling.

Assuming that the parabolic trough alternative used dry cooling, water use would likely be similar. Operations and maintenance costs can be projected to be lower with a power tower because the capital costs (pumps, piping, coatings etc.) are lower than comparable trough technologies. The Applicant knows of no parabolic trough project that is progressing into construction utilizing dry cooling for its main process steam.

It is useful to compare the Abengoa Mojave Solar Park trough project (a 250MW project to be constructed on 1,765 acres and generate 617,000 MWh per year based on the CPUC advice letter in the case), to the proposed 250 MW power tower project that will produce around 700,000 MWh per year (13 percent more). Moreover, the Abengoa project uses conventional wet cooling towers and requires 2,163 acre-feet/year for 250 MW of total generation. Conversely, RMSEGF utilizes dry cooling for the main process and uses no more than 85 acre-feet/year for each 250 MW plant. This represents a reduction in water requirements of 96 percent for each 250 MW. If the trough plant were to utilize dry cooling like RMSEGF, the reduction in generation and overall efficiency penalty would be significant, and that is over and above the substantial additional parasitic load requirements of trough versus tower projects.

Also, parabolic trough technology requires that the solar field area be completely graded and additional earth moving to accommodate drainage and stormwater flow mitigation, The complete grading of the parabolic trough project site results in a total loss of foraging habitat and many orders of magnitude more land disturbance, versus the tower technology. Impacts to site post construction hydrology including large detention ponds would increase impacts to Waters of the US and Waters of the State. See Figure DR 86-1 to illustrate the minimal ground disturbance by power tower technology solar field relative to parabolic trough solar field.

b. Please refer to the discussion in DR 85 with respect to site limitations and scheduling, both of which apply to the trough alternative. Once again, a trough plant with storage requires a larger footprint, not smaller, than a trough plant without storage. Addition of a storage option for trough technology, if feasible with dry cooling, would further reduce the amount of available energy available for daytime generation. A recent report from NREL-Sandia Labs described a parabolic trough plant with 6 hours of storage where each 50 MW of capacity required approximately 830 acres. Assuming that all 5,750 proposed developed acres for RMSEGF were utilized at this ratio, a total of 346 gross MW would be generated, less than half of the current RMSEGF generation of 750 MW.

c. Fires relating to the synthetic oil used as heat transfer fluid (HTF) have been documented in both California and Spain. The potential environmental hazards associated with HTF typically require additional investment in preventive equipment, berming, etc., and the potential impact of such

hazards has been documented in various CEC siting cases. Applicant is not aware of any potential impacts on worker safety.

d. **Soils**

Based on steam cycle energy conditions and projected cycle efficiencies, implementation of parabolic trough ("PT") technology would require as much as 30-40 percent more land than solar power tower ("SPT") technology to generate the same amount of power if dry cooling were used, and would therefore require a much larger project footprint than the RMSEGF project. Also, since Applicant knows of no trough project currently being proposed with dry cooling, it is debatable as to whether a dry-cooled trough project is feasible.

Assuming that the project boundaries remained the same, the RMSEGF site would have to be graded and leveled, and a flood control and stormwater diversion system installed for a parabolic trough system. PT technologies require a site with less than 1 percent slope, due to the systems pump collector fluid throughout the field. Grading and leveling the site to the proper slope and the installation of the pipe system needed to circulate the collector fluid would involve orders of magnitude greater ground disturbance than that required for RMSEGF. These impacts are only increased when the boundaries for the PT alternative are expanded to accommodate the amount of land that a PT alternative would require to generate the same amount of power as RMSEGF. (see Figure DR 86-1 to illustrate the minimal ground disturbance by power tower technology solar field relative to parabolic trough solar field). The RMSEGF, in comparison, will be constructed in a manner that leaves as much as 66 percent of the site undisturbed, minimizing impacts on biological species, soil, and water resources, among others

Cultural Resources

Given the increased ground disturbance needed for PT technologies (in terms of both on site ground disturbance and the necessary increased project footprint), potential impacts to cultural, archeological, and paleontological resources would be greater for a PT system.

Air Quality

Grading and leveling the site to the proper slope and the installation of the pipe system needed to circulate the collector fluid would involve orders of magnitude greater ground disturbance than that required for RMSEGF. These impacts are only increased when the boundaries for the PT alternative are expanded to accommodate the amount of land that a PT alternative would require to generate the same amount of power as RMSEGF. (see Figure DR 86-1 to illustrate the minimal ground disturbance by power tower technology solar field relative to parabolic trough solar field), Grading and leveling the site for a PT alternative would result in a larger amount of fugitive dust emissions.

The large circulatory system of the PT technology requires heavy equipment for construction including the complete grading of the site that would require orders of magnitude more water or soil stabilizers to control dust. During operations, the additional maintenance requirements in the solar field of a PT project could potentially result in higher emissions from mobile servicing equipment. The proposed RMSEGF, in comparison, requires only mirror washing activities in the heliostat field.

The electronics for each of the heliostats would require substantially less maintenance support than the mechanical equipment supporting many miles of piping and the associated pumps for the heat transfer fluid.

Figure DR 86-1. Minimal ground disturbance of power tower technology solar field relative to parabolic trough solar field

Water Supply and Use

Water use would be greater for PT technology, as there would be a larger amount of reflective surface (mirrors) to clean in order to produce the same amount of power as RMSEGF. If the project boundaries remained unchanged, water use for washing troughs would likely be similar to that expected for RMSEGF on a gal/m^2 basis; however, less power would be generated relative to the

amount of water used if dry cooling were used. A parabolic trough project that uses water for cooling would require much more groundwater than the air-cooled RMSEGF. As noted above, the recently permitted Abengoa project in San Bernardino County states that it requires 2,163 acre-feet/year for 250 MW, whereas RMSEGF will require no more than 85 acre-feet/year.

Biological Species and Habitats

Trough technologies would result in greater impacts to biological resources than SPT given that greater areas of habitats are disturbed in order to produce the same amount of power. Potential impacts to birds, bats, and eagles would be similar regardless of whether trough technologies or the power tower technology is used. Bat impacts are not expected since solar facilities do not operate when bats forage, and bats can easily echolocate to avoid stationary structures on site.

Applicant has shown at the Ivanpah site that as much as 66 percent of a tower project site can be left undisturbed, minimizing impacts on biological species, water resources and soil, among others. A trough technology alternative would require a complete grading of the entire site and removal of all vegetation. It would not be possible to retain the general topography of the site including slope, washes, stormwater runoff, etc.

Visual Resources

The SPT facility heliostat field will have a similar appearance as the PT collector array. The SPT tower will be a more visible feature of the SPT project.

Glint and Glare

Glint and glare impacts would be small for both PT and SPT technologies. The only significant difference between a PT alternative and RMSEGF is the apparent glare of the SRSG at the top of the tower, which does not exist in parabolic trough plants.

e. The following explains why a parabolic trough alternative would not be compliant with stated Project Objectives Nos. 3, 4, 6, 7, 8, and 10.

3. **Consistent with national policy, which encourages the development of new or significantly improved technologies to "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases" (see, e.g., 42 U.S.C. §16513[a]), use BrightSource Energy Inc.'s (BSE's) proprietary solar power tower technology in another utility-scale project, further proving economic viability of the technology.**

   Installing a PT project would not utilize BSE's proprietary solar power tower technology which prevents deployment and proving of incremental improvements on a new technology to make best use of land resources.

4. **Develop a project that minimizes land consumption on a MWh per acre basis.**

Parabolic Trough (PT) systems as discussed earlier are less efficient than power tower systems due to PT not being able to achieve the same high temperature and pressure steam conditions. Therefore, if a PT plant were to use dry cooling similar to a power tower plant, then an additional 21-23 percent land at a minimum would be required. Further, since Applicant knows of no PT projects that are currently being advanced that have dry cooling, which leads us to question its feasibility.

6. **Select a site with minimal slope, predominantly five (5) percent or less.**

   PT projects require a site slope of less than one percent. Much of the RMSEGF project site exceeds this criteria.

7. **Design and develop the Project to conform to the requirements of the site-assigned 20-year Power Purchase Agreements (PPA) for Rio Mesa Solar Holdings, LLC, including a commercial on-line date (COD) of 2015.**

   The 250 MW much more water intensive, wet-cooled Abengoa project generates only 617,000 MWh/year. The SCE PPA's related to the RMSEGF project permit generation up to 700,000 MWh/year.

8. **Site the Project in a timely and environmentally responsible manner by selecting a location with minimal potentially significant impacts, where compliance with applicable laws, ordinances, regulations, and standards (LORS) is feasible.**

   A PT project results in massive grading and leveling of the site, use of large detention ponds to manage stormwater flows, and completely removes all flora and fauna from the site further impacting downstream runoff from the site.

10. **Respond to Metropolitan Water District of Southern California's (MWD's) requests for proposal (RFPs) to develop a solar electric generation facility on MWD-owned land.**

    MWD issued an RFP for a solar project that included contractual rights of up to 600 acre-feet/year. PT projects that are moving forward use much more water intensive wet cooling. The Abengoa project utilizes wet cooling and requires 2,163 acre-feet/year of water for 250 MW. In contrast, the RMSEGF project uses no more than 260 acre-feet/year for 750 MW. Using Abengoa as the benchmark, a PT project is not compliant with the contractual water rights limitation from MWD.

Data Request:

87. Please provide additional information on the technological feasibility of a PV alternative, including the following:

a. Information on how the location of a PV project relative to load centers alters the effect of intermittency on the system.

b. *Data on the net generating capacity, in megawatts, for a PV alternative at the proposed Rio Mesa SEGF project site (i.e., assuming the same project acreage) and provide information as to the types of PV solar cells used in the calculation (e.g. Monocrystalline or Polycrystalline Silicon, thin film, etc.).*

c. *Information on the costs and benefits of incorporating energy storage into a PV project to improve the project's dispatchability and address intermittency.*

d. *Information comparing the environmental effects of the proposed Rio Mesa SEGF project to a PV alternative. Provide details on differences in required water usage for the two technologies. Discuss in detail how operation of a PV project could change the level of impacts on other resources, including potential impacts on birds, bats, and eagles. Address the magnitude of impacts on visual resources, including differences between a PV project and a solar power tower project. Compare impacts relating to glint and glare, including the impacts of heliostats compared to PV panels. Include discussions of how changing the project configuration and operations could affect the level of impacts on other environmental resources, including potential impacts on other sensitive biological species and habitats, air quality, cultural resources, and soils. In addition, please provide the type of PV cells that were used in this comparison (e.g. Monocrystalline or Polycrystalline Silicon, thin film, etc.).*

e. *Information on the extent to which a PV project would satisfy the stated project objectives compared to the proposed Rio Mesa SEGF project.*

Response:

a. Intermittency and variability of PV plants, especially those that use fixed-axis technologies that cannot track the sun over a course of the day, brings into question their suitability for large-scale generation. From the utilities' standpoint, solar thermal power plants in general enjoy substantial operational benefits. RMSEGF's SPT design uses solar energy to heat water into superheated steam that drives a turbine connected to a synchronous rotating generator connected to the transmission system. Thermal and rotating equipment contain inertia that serves to "smooth" generation as well as provide other grid-stabilizing benefits such as VARs, active power control and governor control. RMSEGF also has the particular ability to increase or decrease the number of heliostats focusing on the receiver to account for variability in time of day and season further stabilizing the generation profile, or shaping to profile to meet system needs. RMSEGF can decrease or "turn down" excess mirrors when available solar energy is greater than can be absorbed by the receiver system and converted to electricity by the turbine. Similarly, toward the end of the day or, during times of lesser insolation in winter months, RMSEGF can increase the number of heliostats focused on the receiver to increase production and extend the generating day. These capabilities have the effect of reducing the variability of output of the RMSEGF tower technology. For example, each unit in the proposed RMSEGF project will generate at its maximum rating for at least 40 percent of all sunlit hours despite the fact that insolation will be quite variable during those hours – while a corresponding PV plant will be highly variable at all times.

b. The largest PV plant in the United States is the Sempra Copper Mountain project in Boulder City, Nevada, which is delivering electricity under a PPA to PG&E. This project is listed by CPUC at 48 MW capacity. The largest in California (and the third largest in the country) is NRG's 21 MW Blythe PV project delivering electricity to SCE. Both Copper Mountain and Blythe Solar use Thin Film CdTe type panels.[3] In contrast, solar thermal units of at least 80 MW each have been operating since the 1980s.

   Using the two examples above of "large" PV systems (and publicly available data), the Blythe system has a 21 MW capacity on 200 acres, while Copper Mountain is 48 MW on 450 acres. Translated to the 5,750 acres of the RMSEGF site, this yields a range of 604 MW to 613 MW, the latter figure being based on Copper Mountain. Even at the upper end of the range, this is over 18 percent less capacity than the proposed RMSEGF, prior to factoring in that PV cells provide incrementally less power on very hot days, when tower systems operate can still operate at peak capacity. Comparing electricity generation, CPUC figures show 100,000 MWh annually (23.8 percent capacity factor) for Copper Mountain and 50,000 MWh (27.2 percent capacity factor) for Blythe. Applying the more encouraging Blythe figures to RMSEGF would yield about 1,439,000 MWh at the RMSEGF site, approximately 31.5 percent less than the 2,100,000 MWh for the proposed project. Applicant is not aware of any operating utility-scale Monocrystalline or Polycrystalline Silicon PV projects in California.

c. Flywheel and other mechanical storage technologies would require the powering of a mechanical source, which would only be possible during those times when the PV field is generating electricity, resulting in substantial parasitic losses during the time generation is feasible. Battery storage is undergoing serious study, but to-date has proven to be too expensive and unable to "scale up" to utility-scale projects to consider feasible. Thermal storage is unavailable to PV technologies since by design they create no useful thermal energy. Given these constraints, intermittency and lack of dispatchability issues remain for PV technology.

d. As noted above, most of Staff's areas of inquiry are directly related to the RMSEGF footprint, not the technology. Substituting a PV technology for the SPT technology, would likely require a larger footprint to be able to generate the same amount of GWh of electricity as RMSEGF. Thus, for those disciplines where impacts are substantially related to the project footprint (such as terrestrial biology, botany, and cultural resources), a PV project would not avoid or minimize potentially significant effects. Similarly, for most subject matters related to project construction and operations (such as worker safety, transmission system line safety and nuisance) the potential effects of a PV project are substantially similar to those of a SPT project, and thus a PV facility would not avoid or minimize potential impacts in those disciplines.

[3] CPUC Energy resolution E-4157 (Blythe Solar) and E-4302 (Copper Mountain Solar-1).
NRG Solar (Blythe Solar) and Sempra Energy (Copper Mountain).
It is important to note that both of these plants use CdTe thin-film PV modules, a relatively new technology compared to the older, more established crystalline silicon technology, and recent reports of failures of CdTe thin-film panels raise questions as to long term viability of the current technology capabilities. While there is as yet insufficient data on long-term performance degradation of CdTe cells in desert conditions, all PV cells are known to generate less electricity in elevated temperatures such as summer afternoons, and all PV cells are known to experience a gradual yet steady degradation of performance over their lifespans.

Water Use

Water use would be less for a PV system since steam cycle make up is not required. PV panels and heliostats both require washing in a desert environment, but PV panels may not need to be washed as often.

Bird, Bat and Eagles

All documentation submitted by Applicant to-date demonstrates that the risk from the RMSEGF technology is minimal and the associated impacts to birds, bats, or eagles will be less than significant.

Visual Resources, Glint and Glare

Glint and glare impacts would be small for both PV and SPT technologies.

Sensitive Biological Species and Habitats, Air Quality, Cultural Resources, and Soils

Implementation of PV technology would require more land area than SPT technology for the same MWh output. Projects using either technology would have a perimeter desert tortoise/security fence that would keep tortoise and other wildlife out. PV panels can be developed on top of a framework set 4 to 5 feet above ground surface. However, impacts to the land (soil and stormwater) would be greater for PV as the panels are mounted on concrete foundations where the pylons for Applicant's project are installed by a vibratory hammer with no concrete foundation.

Additionally, because of the larger land area disturbed with PV, biological, cultural, archaeological, and paleontological impacts would have the potential to be greater at a PV facility. Operations of a PV facility would have no air quality emissions. PV panels use smaller and less-complicated mechanical equipment for operation; consequently, PV facilities would use less heavy equipment for construction. Therefore, air emissions from construction equipment is likely to be lower for PV facilities. Fugitive dust emissions would be greater for a PV facility in the solar field for the reasons described above. During operations, since panel washing occurs less frequently, air emissions related to this activity would likely be less. Also, since construction of a PV facility is less complex, it would have less workforce (i.e., provide less jobs) and less traffic impacts. It would also have significantly less operational workforce (almost none) and less economic benefit to the county and state.

e. The Applicant's project objectives are described in more detail in the body of the AFC (see Section 1.3 of the AFC). Those basic project objectives that are not satisfied by a generic PV alterative are not compliant with stated Project Objectives Nos.4, 6, 7, and 8.

4. Consistent with national policy, which encourages the development of new or significantly improved technologies to "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases" (see, e.g., 42 U.S.C. §16513[a]), use BrightSource Energy Inc.'s (BSE's) proprietary solar power tower technology in another utility-scale project, further proving economic viability of the technology.

Installing a PV project would not utilize BSE's proprietary solar power tower technology which prevents deployment and proving of incremental improvements on a new technology to make best use of land resources.

5. **Develop a project that minimizes land consumption on a MWh per acre basis.**

   A generic PV system as discussed earlier are less efficient than power tower systems on a MWh per acre basis and an additional 25-30 percent land as a minimum would be required to equal the generation of a SPT project.

6. **Select a site with minimal slope, predominantly five (5) percent or less.**

   PV projects require a site slope of less than two percent. Much of the RMSEGF project site exceeds this criteria.

7. **Design and develop the Project to conform to the requirements of the site-assigned 20-year Power Purchase Agreements (PPA) for Rio Mesa Solar Holdings, LLC, including a commercial on-line date (COD) of 2015.**

   The generic PV plant would be incapable of generating the maximum permitted MWh allowed under the PPA's that relate to the RMSEGF site. Refer also to the response under Objective 4 above.

8. **Site the Project in a timely and environmentally responsible manner by selecting a location with minimal potentially significant impacts, where compliance with applicable laws, ordinances, regulations, and standards (LORS) is feasible.**

   A generic PV project results in massive grading and leveling of the site, use of large detention ponds to manage stormwater flows, and completely removes all flora and fauna from the site further impacting downstream runoff from the site.

A significant and basic project objective is to use BSE's proprietary technology in another utility-scale project, further proving the technical and economic viability of the technology. A PV project fails to attain this basic objective. It may also be infeasible, since it could not be accomplished in a reasonable time frame, given the lead time to negotiate for the use of another proprietary technology and the follow-on development process.

Data Request:

88. Please provide the additional acreage of washes, wetlands, and jurisdictional waters (Waters of the U.S. and State of California) that would be directly impacted by the on-site alternative 2 in comparison to the preferred alternative direct impacts.

Response:

See response to Data Request 90.

Data Request:

89. Please provide the acreage of wetlands and jurisdictional waters (Waters of the U.S. and State of California) that would be impacted by the on-site alternative 3 given the reduced footprint.

Response:

See response to Data Request 90.

Data Request:

90. For comparison purposes, please provide a table showing the acreages of wetlands and jurisdictional waters that would be directly impacted by each on-site alternative, including the preferred.

Response:

Table DR 90-1 below provides a comparison of impacts to jurisdictional waters (Waters of the U.S. and Waters of the State) among the three on-site alternatives.

For Waters of the U.S., acres of direct impacts have been calculated for On-Site Alternative 1 based on the detailed solar field, power block and common area layout. However, because detailed layouts are not available for On-Site Alternatives 2 and 3, acres of direct impacts cannot be calculated to the same level of detail as for On-Site Alternative 1. Therefore, direct impacts to Waters of the U.S. are estimated for On-Site Alternatives 2 and 3 using the approach described in Table DR 90-1 (see footnote 2).

For Waters of the State of California, acres of direct impacts are not available at this time for On-Site Alternative 1 (CDFG is currently reviewing preliminary delineations and can formally approve direct impact areas once approval of the delineations occurs. Preliminary delineations were based on the guidance and direction of Magdalena Rodriguez at CDFG). Moreover, detailed layouts are not available for On-Site Alternatives 2 and 3. For purposes of comparison, acreage calculations of Waters of the State of California within each on-site alternative are provided. Direct impacts to Waters of the State of California are assumed to be proportional to the size (acres) of the alternative. In addition, percentages were calculated based on the size of the alternative compared to the size of the Preferred Alternative (see Table DR 90-1, footnote 3).

Table DR 90-2 below provides a comparison of impacts to wetlands among the three on-site alternatives.

Table DR 90-1
Direct Impacts to Jurisdictional Waters for On-Site Alternatives

On-Site Alternative	Land area within:		Waters of the U.S. within:[1]		Waters of the State of California within:[1]		Direct Impacts to WUS within:[2]		Direct Impacts to WSC Relative to On-Site Alternative 1:[3]	
	Fenceline[4]	Project Boundary	Fenceline	Project Boundary	Fenceline	Project Boundary	Fenceline	Project Boundary	Fenceline	Project Boundary
#1 Preferred Alternative	5,526 acres	8,979 acres	619 acres	1,171 acres	1,261.4 acres	2,081 acres	40.8 acres (21.7 acres permanent; 19.1 acres temporary)	Not applicable	100%	100%
#2 750 MW MWD-only	Fenceline not available	8,449 acres	Fenceline not available	1,002 acres	Fenceline not available	1,786 acres	Fenceline not available	62.4 acres (33.2 acres permanent; 29.2 acres temporary)	Fenceline not available	94%
# 3 500 MW MWD-only	Fenceline not available	5,580 acres	Fenceline not available	433 acres	Fenceline not available	880 acres	Fenceline not available	28.2 acres (15.0 acres permanent; 13.2 acres temporary)	Fenceline not available	69%

Notes:
1. Results for WUS and WSC do not include acres within the transmission line corridor or access roads (Bradshaw Trail and 34th Avenue) because acres of WUS and WSC are the same for each on-site alternative.
2. For On-Site Alternatives 2 and 3, calculations of direct impacts to WUS are based on the ratio of direct impacts to fenceline acreage for On-Site Alternative 1 (i.e., 5,526 acres within the fenceline divided by 40.8 acres of direct impacts to WUS equals one acre of direct impact to WUS for every approximately 135.4 acres within the fenceline). The ratio of one acre of direct impact to WUS for every 135.4 acres is applied to the project boundary acreage for On-Site Alternatives 2 and 3. For purposes of this table, On-Site Alternatives 2 and 3 are assumed to have the same proportion of permanent and temporary impacts as the Preferred Alternative.
3. Direct impacts to Waters of the State are not available at this time. CDFG is currently reviewing the delineations provided to them on October 7, 2011. A copy of this filing was included in the AFC (Appendix K, Jurisdiction Delineation Information, of Appendix 5.2A, Biological Technical Report, docketed with the CEC on October 14, 2011). Once approval of the delineations occurs, CDFG can formally approve direct impact areas. Since direct impacts are not available at this time, impacts for the sake of comparison of alternatives are assumed to be proportional to the size (acres) of the alternative, and are expressed as a percentage based on their size relative to the size of the Preferred Alternative. For example, On-Site Alternative 2 is 94 percent the size of the Preferred Alternative. Therefore, under this proportional approach, the direct impact area of On-Site Alternative 2 would be equal to 94 percent of the direct impact area of the Preferred Alternative.
4. Fenceline includes solar field layout and common area.

Acronyms:
MW = megawatt
MWD = Metropolitan Water District of Southern California
WSC = Waters of the State of California
WUS = Waters of the United States

Table DR 90-2
Direct Impacts to Wetlands for On-Site Alternatives

On-Site Alternative	Land area within:		NWI Wetlands within:		Wetlands within:		Direct Impacts to NWI Wetlands within:		Direct Impacts to Wetlands within:	
	Fenceline	Project Boundary	Fenceline	Project Boundary	Fenceline	Project Boundary	Fenceline	Project Boundary	Fenceline	Project Boundary
#1 Preferred Alternative	5,526 acres	8,979 acres	0 acres	0.27 acres	0 acres	58.9 acres	0 acres	Not applicable	0 acres	Not applicable
#2 750 MW MWD-only	Fenceline not available	8,449 acres	Fenceline not available	0.38 acres	Fenceline not available	80.9 acres	Fenceline not available	0.38 acres	Fenceline not available	80.9 acres
# 3 500 MW MWD-only	Fenceline not available	5,580 acres	Fenceline not available	0 acres	Fenceline not available	0 acres	Fenceline not available	0 acres	Fenceline not available	0 acres

Note:
1. Results do not include wetlands within the transmission line corridor or access roads (Bradshaw Trail and 34th Avenue) because acres of wetlands are the same for each on-site alternative.

Acronyms:
MW = megawatt
MWD = Metropolitan Water District of Southern California
NWI = National Wetlands Inventory

Cultural Resources (Nos. 91-125)

Data Request:

91. Please identify, with as much detail as the present state of the proposed project's design will permit, where ground disturbance (surface or excavation) would occur on the proposed project site during project construction and operation, including both the overall extent of the area(s) to be disturbed and individual locations of all project components, including the facility buildings, linears, ancillary facilities, parking, roads, and temporary construction parking, laydown, and operational areas. Also, please provide the footprint (length, width, and depth) of any excavations, including foundations and test trenches. For the purposes of staff's cultural resources analysis, it is particularly critical to know the portions of the proposed project area where construction excavation would exceed one meter in depth.

Response:

Electronic copies of all documents listed in Table DR 91-1 are being provided in response to this data request. In addition to these plans, Table 5.13-4 in the AFC provides approximate dimensions of project structures. Note that the project in its entirety will be fenced with tortoise exclusion fencing and a chain-link security fence. Design information is not yet available as to the foundation depths of all of the facilities and structures. Generally, drawings showing the foundation design, electrical duct banks (that may be underground) and pipeline drawings are not available until shortly before construction begins, nor is detailed design required at this stage of the certification process.

Additionally, the installation of the pylons result in a minor amount of surface disturbance of approximately 6-8 inches in diameter for each pylon to a depth appropriate for the soil characteristics. Assuming an approximate total of 255,000 pylons, the total associated disturbance for pylons would be approximately 2 acres. The track of the machine(s) used to install the pylons represents a one-time disturbance and does not represent a permanent, long term, or even a significant disturbance. Unless otherwise shown in the drawings, it can be assumed that all surface-type disturbances (e.g., roads, parking lots) would have a disturbance depth of less than one meter. All buildings and larger structures (e.g., tanks, towers, generators, transformers) would have foundations greater than one meter. See Figure DR 86-1.

Please see Table DR 91-1 for the list of drawings provided for this response as Attachment DR 91-1.

Table DR 91-1
List of Drawings Provided

Document No.	Revision No.	Description
25670-000-C2-0000-00002	A	Vicinity Map
25670-000-C2-0000-00001	D	Site Plan
25670-001-C2-0010-00001	B	Construction Facilities Layout Arrangement Unit 1
25670-009-C2-0010-00001	B	Construction Facilities Layout Arrangement Common Area
25755-001-P1K-0010-00001	D	Power Block Plot Plan
25755-009-P1K-0910-00001	A	Common Area Plot Plan
25670-000-CG-0090-00001	A	Grading and Surfacing Details for Ephemeral Wash Crossing
25670-001-CG-0010-00001	A	Unit 1 Rough Grading and Drainage Plan
25670-002-CG-0010-00001	A	Unit 2 Rough Grading and Drainage Plan
25670-003-CG-0010-00001	A	Unit 3 Rough Grading and Drainage Plan
25670-009-CG-0010-00001	A	Common Area Rough Grading Plan

Data Request:

92. *Please describe the methodology for insertion of the heliostat pedestals as it appears vibratory techniques may be proposed. Provide proposed mitigation measures that would reduce any potentially significant impacts to cultural resources caused by heliostat pedestal installation.*

Response:

Although final design of the pedestals (pylons) has not yet been completed and insertion methods have not been tested at the project site, Applicant is able to provide information in response to this data request based on our past and current experience in earlier projects such as Chevron Coalinga Solar to Steam (S2S) and Ivanpah SEGS. Our current insertion method was developed through extensive testing and is designed to maintain very close tolerance of location, as well as vertical plumbness and elevation, while minimizing ground disturbance and excavation or the introduction of any long term soil stabilizing agents, such as concrete or grout. This method involves a one or two step process.

Step one, which may or may not be required, is to Pre-auger. This is where an auger bit is driven in to the ground at the specific location of each pylon in order to loosen the soil and displace any large sub surface rocks or boulders. The auger bit is then reversed out of the ground so that no soil or spoils are removed from the hole. If the subsurface soil is found to have suitable properties, the pylon insertion may be achieved in a single step, eliminating the pre-augering which further reduces ground disturbance.

Step two (always required) uses a high frequency vibratory hammer to push the pylon in to the ground at the prescribed location (which may have been pre-augered). The depth of the pylon is determined based on soil characteristics and surface hydrology. At Ivanpah SEGS, the depth was approximately 6 feet. This process achieves the very high accuracy required for our solar field heliostats in northing and easting, vertical plumbness, elevation, and directional orientation. The auger and the vibratory hammer are mounted on an extendable arm that enables the installation of several pylons from a single rig point which also helps to minimize ground surface disturbance.

In summary, the individual pylon technology combined with the vibratory installation technique proposed by Applicant minimizes environmental impacts to cultural, soil, water, site hydrology, and biological resources by avoiding the need for concrete foundations and to grade the heliostat fields, which comprise the majority of the project site.

For cultural resources that are determined by CEC and BLM (with SHPO concurrence) as not eligible for the California Register of Historic Resources (CRHR) and not eligible for the National Register of Historic Places (NRHP) no further documentation, testing, and/or data recovery mitigation measures shall be required. Standard Conditions of Certification shall be required that will include archaeological monitoring during all ground disturbing activities within the PAA, inclusive of sites determined as not eligible. These conditions are provided in the AFC and Section 7 of the CRTR.

For cultural resources that are determined by the CEC and BLM (with SHPO concurrence) to be eligible for CRHR/NRHP, additional mitigation measures shall be developed that will mitigate eligible resources to less than significant levels. Such measures may include avoidance, data recovery mitigation, and/or additional documentation. Standard Conditions of Certification shall also be required that will include archaeological monitoring during all ground disturbing activities within the PAA. These conditions are provided in the AFC and Section 7 of the CRTR.

Data Request:

93. *Please provide a time frame for completion and submission of the referenced regional ethnographic study.*

Response:

The ethnographic study can be completed within 60 days of approval of the ethnographic study Area of Potential Effects (APE) by the California Energy Commission (CEC) and Bureau of Land Management (BLM). Applicant remains available for a meeting with the CEC and BLM to obtain approval of the APE for the Project at their earliest convenience.

Data Request:

94. *Please provide the research design, work plan, and scope of work for the ethnographic study to allow staff to understand the specific geographic areas of analysis. Please identify the specific cultural practices/beliefs, and other resource themes that will frame the study and the subsequent ethnographic report; Native Americans who have or will be interviewed for oral history data; and the archives and related data sets to be gathered for analysis.*

Response:

An ethnographic research design, for the specific geographic areas of analysis, identification of specific cultural practices/beliefs, and other resources themes for the Project Area of Analysis (PAA) will be prepared and submitted for Staff review and approval within 30 - 60 days.

According to the CEC Rules of Practice and Procedure and Power Plant Site Regulations and Designation of Transmission Corridor Zones §1714, Appendix B (g)(2)(D), the Applicant is required to provide a copy of their request to the Native American Heritage Commission (NAHC) for information on Native American sacred sites and lists of Native Americans interested in the project vicinity, and copies of any correspondence received from the NAHC. Applicant is also required to notify the Native Americans on the NAHC list about the project, including a project description and map. Applicant must also provide to the CEC a copy of all correspondence sent to Native American individuals and groups listed by the NAHC and copies of all responses, as well as provide a written summary of any oral responses. The information required of Applicant was provided in Section 5.3.3.9 of the AFC and in Section 2.9.2 in the Cultural Resources Technical Report (CRTR) and is briefly summarized below. An ethnographic study is not required by the CEC for certification, but is being conducted by Applicant as a reasonable and good faith effort to identify all Native American historical resources or historic properties within the PAA.

The following work plan or proposed scope of work for the ethnographic study is broken down into the following three major tasks:

Task 1. APE Approval and Contextual Overview

The ethnogeographic parameters of the project area were taken directly from the Draft Chuckwalla Valley Prehistoric Trails Network Cultural Landscape, Native American Ethnographic Context prepared by Lowell John Bean and James Toenjes for the CEC. Please refer to Section 2.6.4 Ethnographic Context in the CRTR. The following is a brief summary of the information provided in this section. A summary of the ethnographic groups likely to have been active in the vicinity of the Project, based on the available published literature, was included. Each subsection described how each discrete ethnographic group may have ordered and used the landscape in their respective territory to promote social cohesion. Available information was used to reconstruct the ethnogeography of the each group's territory, including territory boundaries defined by the landforms that each group may have imbued with particular significance, and to identify primary routes of travel.

URS will coordinate with the CEC and BLM Moreno Valley and Palm Springs Field Offices to receive approval of the ethnographic study APE. The ethnographic study APE is currently assumed to be equivalent to the cultural resources APE. The delineation of cultural resources survey areas was determined based on the CEC Rules of Practice and Procedure and Power Plant Site Regulations and Designation of Transmission Corridor Zones, Appendix B (g)(2)(C) (CEC 2008). For the purpose of this Project, the cultural resources survey areas also are equivalent to the cultural resources APE found in the BLM 8100 Manual, and are in compliance with the Section 106 process [36 CFR §800.16 (d)].

Once the ethnographic study APE is approved by the CEC and BLM, URS will complete a survey of archival records from previous research for data pertinent to ethnohistory of the Project environs in the archives of Cultural Systems Research, Inc. and Dr. Lowell Bean as the basis for the Setting section of the report. The survey will be conducted using the following BLM guidelines:

- **Locating Properties of Traditional Cultural Importance.** Applicant has already met the CEC requirements regarding identification of Native American sacred sites and will follow BLM and Section 106 standards with regards to identification of properties of traditional cultural importance.

As per BLM Manual Section 8110, properties of traditional cultural or religious importance to Native Americans (including "traditional cultural properties" as discussed in National Register Bulletin No. 38) can be found to meet National Register criteria and thus should be located, described, and evaluated at the same stage in the Section 106 compliance process as the field inventory for historic properties. Properties of traditional cultural or religious importance must meet one or more National Register criteria (i.e., must be historically significant) in order to be determined eligible for the National Register. The following three points are BLM guidance as to how to locate properties of traditional cultural or religious importance to Native Americans.

1. **Specific, Definite Places.**
   Properties of traditional cultural or religious importance are specific, definite places that figure directly and prominently in a particular group's cultural practices, beliefs, or values, when those practices, beliefs, or values (i) are widely shared within the group, (ii) have been passed down through the generations, and (iii) have served a recognized role in maintaining the group's cultural identity for at least 50 years. While an individual member of a group may attach importance to a place that does not meet this definition, e.g., a personally important place, such places should not be considered to be properties of traditional cultural or religious importance.

2. **Identified by Consultation, Not Field Survey.**
   Specific properties, or categories of properties, of traditional cultural or religious importance should be known to the group that ascribes traditional value to them. Accordingly, such properties are not identified using survey methods analogous to archaeological survey. Instead, they are identified by consulting with the cultural groups known to have traditional interests in the target area. Consultation gives interested persons an opportunity to reveal areas of concerns that are known to them and that they want the agencies to consider during decision making. Consultation with Native Americans to locate properties of traditional importance is carried out in conformance with BLM Handbook H-8120-1.

3. **Inventory Reports are Generally Not a Subject for Consultation.**
   As per BLM guidance, appropriate planning documents pertaining to the nature and location of a proposed undertaking should be shared with Indian tribes as part of consultation about the undertaking. The BLM Manual states that there is no general need routinely to provide Indian tribes or other cultural groups with inventory reports and other cultural resource documentation, or to consult with them about survey results, unless additional consultation is needed because a proposed undertaking would potentially affect properties of traditional cultural or religious importance, which a tribe or group identified to the BLM or CEC in consultation preceding the survey.

However, it is noted that under CEC Rules of Practice and Procedure and Power Plant Site Regulations and Designation of Transmission Corridor Zones § 1714 (c) and (d), the CEC is required to provide a copy of the AFC to "Local agencies," meaning any local or regional governmental authority within the state, including any Native American government having an interest in matters relevant to the site and

related facilities proposed in the notice or application provided the Native American government has a governing body recognized by the Secretary of the Interior of the United States or the Native American government has otherwise requested in writing to receive a copy of the notice or application. The CEC requests that Native American governments make comments and recommendations regarding the design, operation, and location of the facilities proposed in relation to the environmental quality, public health and safety, and other factors on which they may have expertise. To the extent that the Native American government has land use and related jurisdiction in the area of the proposed sites and related facilities, the CEC requests that Native American governments review and comment upon the land use and related aspects of the proposed sites and related facilities.

- **Coordination and Consultation Efforts to Date.** According to coordination efforts by URS in support of CEC and BLM tribal consultation, three properties of traditional cultural or religious importance have been identified to date—two are inside the PAA and one is outside the PAA. The CEC initiated its consultation efforts on March 7, 2012 and no properties of traditional cultural or religious importance have been identified to date. The BLM has not yet initiated consultation efforts.

Task 2. Native American Interviews

URS will conduct interviews with Native American consultants in support of CEC and BLM consultation efforts for the Project. Interviews will entail travel to the Yuma and Mojave areas and trips within the Coachella Valley and San Bernardino Mountains. URS will be contacting people of the Quechan and Mojave nations along the Colorado River , people farther north along the Colorado River (Chemehuevi/ CRIT, Mojave/CRIT), Halchidhoma , Cahuilla and Serrano people, specifically tribal representative(s) whom the tribal government has designated for this purpose; that is, the tribal contacts identified by the California Native American Heritage Commission Sacred Lands Files. Our discussions with these tribal representatives may include topics such as:

- Pictographs, petroglyphs and geoglyphs
- Trails, specifically song trails and dream trails
- Water sources
- Flora and fauna: procurement areas
- Rock circles
- Pot drops
- Clay sources and ceramics manufacture
- Ceremonial sites, e.g. keruk sites, initiation sites, etc.
- Geographic landmarks, important rock formations
- Ground stone materials and procurement
- Sources of raw materials, e.g. various lithics and biotic materials
- Important historic sites, warfare sites
- Places cited in oral literature
- Camp sites and village sites
- Boundaries of various groups
- Places of current and historic events or significance
- Storage places for food and water

- Calendrical event sites, e.g. solstice sites
- Artifact scatters
- Areas of the hunt
- Rock piles or cairns

The purpose of the discussions will be to 1) identify tribally significant religious or cultural properties that may be eligible for the California Register of Historical Resource (CRHR) and National Register of Historical Places (NRHP), 2) understand tribal concerns sufficiently to take into account the effects that this Project might have on eligible properties; 3) identify the Project's potential to conflict with tribal members' uses of the environment for cultural, religious, and economic purposes; and 4) to seek alternatives that would resolve any potential conflicts.

Task 3. Reporting

This task includes post field work processing of the interview data, identification and evaluation of any ethnohistoric resources for CRHR and NRHP eligibility, and report preparation. The report format will include the following:

- Management Summary/Abstract
- Undertaking Information/Introduction
- Setting (Contextual Overview)
- Research Design
- Methods
- Report of Findings
- Discussion/Interpretation/Evaluation
- Management Considerations
- References
- Appendices
- Confidential Appendices

Data Request:

95. *Please provide a rationale for defining an ethnographic study area (from Desert Center to the Colorado River), as identified for the referenced study, that places the project site at the far eastern side of the study boundary. Tribal ancestral territories and related ethnographic areas in the project vicinity do not end at/or rely upon the Colorado River as a natural boundary between tribes. Instead the river flows in the midst of tribal ethnographic boundaries.*

Response:

The ethnographic study APE is currently assumed to be equivalent to the cultural resources APE. Please refer to Data Response 94 above for the rationale.

Additionally, the ethnogeographic parameters of the project area were taken directly from the Draft Chuckwalla Valley Prehistoric Trails Network Cultural Landscape, Native American Ethnographic

Context prepared by Lowell John Bean and James Toenjes for the CEC. Please refer to Section 2.6.4 Ethnographic Context in the CRTR. The following is a brief summary of the information provided in this section. A summary of the ethnographic groups likely to have been active in the vicinity of the Project, based on the available published literature, was included. Each subsection described how each discrete ethnographic group may have ordered and used the landscape in their respective territory to promote social cohesion. Available information was used to reconstruct the ethnogeography of the each group's territory, including territory boundaries defined by the landforms that each group may have imbued with particular significance, and to identify primary routes of travel.

Data Request:

96. *Staff could not find the figures for the Geoarchaeological Assessment (Assessment) section in the electronic copy of the September 2011 Cultural Resources Technical Report for the Rio Mesa Solar Electric Generating Facility, Riverside County, California submitted to the Energy Commission. Please provide four hard copies of the referenced technical report, including all referenced figures.*

Response:

In response to Data Request 96, four hard copies of the Draft Geoarchaeological Sensitivity Analysis will be provided to the CEC under confidential cover.[4] This report contains confidential cultural resources locational information; report distribution should be restricted to those with a need to know. A summary of the geoarchaeological assessment was included in the AFC section; however, the confidential figures were inadvertently omitted.

Data Request:

97. *Please prepare, for staff review and approval, a research design for the subsurface investigation of landforms in the PAA, any portions of which may date from the terminal Pleistocene through the Holocene epochs (ca. 16,000 years ago to the present). The multiple research objectives of the investigation should include the refinement of the geographic definitions of the landforms that compose the proposed project area, and reconstructions of the processual and historical geomorphology of each constituent landform. The reconstructions would facilitate both the definition of the lateral variation in the depositional energy responsible for the development of each pertinent landform, and determinations of lateral and vertical variations in the age of the stratigraphic units that compose each landform. The investigation should be broadened beyond the heavy emphasis in the Assessment on the search for paleosols. Paleosols are convenient stratigraphic markers of past land surfaces, but staff would argue that the quality of archaeological preservation is higher in relatively low energy depositional environments that have high depositional rates, such as mid- to distal fan reaches, than it is at or near the surface of paleosols where archaeological deposits are intrinsically subject to hundreds or thousands of years of mechanical weathering. The research design must include, among other elements:*

[4] Several of Applicant's responses to staff's Cultural Resources Data Requests reference information that will be submitted under separate confidential cover to the CEC. The legal authority to restrict the public dissemination of cultural resources information is in California Government Code 625.

a. *detailed descriptions for the landforms and geologic units that the Assessment cites as correlates of the landforms and geologic units in the proposed project area; and*

b. *detailed descriptions of the latter landforms and geologic units that also did not appear in the Assessment.*

This information will assist staff in assessing the veracity of these tentative correlations and the ascriptions of equivalent age between the correlated landforms and units. The research design must also include:

c. *explicit discussions of the choices of field methodology and the suite of techniques that the project owner would intend to use in the service of any particular methodology;*

d. *the size and structure of the subsurface sample that the investigation would employ; and*

e. *the proposed suite of attributes for each stratigraphic unit that would be observed and documented.*

The scope of the sample should be limited to those areas where the construction and operation of the proposed project would entail the disturbance of natural ground deeper than one meter below the present surface.

Response:

A geoarchaeological research design for the subsurface investigation of landforms and associated buried archaeological sensitivity in the Rio Mesa Project area will be prepared and submitted for CEC staff review and approval within 60 days. Per the specifications set forth in Data Request 97, as well as information garnered at the March 1, 2012 CEC Data Request and Issues Resolution Workshop , this plan will focus on areas where subsurface impacts (grading, foundations, etc.) are likely to exceed 1-meter in depth. As discussed during the workshop, the heliostat reflector field will be excluded from the research area, due to the nature of the subsurface impacts (which will not produce observable spoils that can be monitored during construction) and the nature of the prehistoric resources in the Project area (which are typically isolated lithic assay areas, lacking sensitive artifact/feature types, and which would be minimally impacted by the hollow pole heliostat supports).

Applicant concurs with staff's assessment that "…the quality of archaeological preservation is higher in relatively low energy depositional environments that have high depositional rates… than it is near the surface of paleosols…" but disagrees that this is the most likely place to encounter buried archaeology. Cumulic soils (landforms where deposition outpaces soil development; i.e., where paleosols are not formed) do not lend themselves to the accumulation of large complex archaeological sites. A constantly accreting landform is not conducive to long-term occupation--at most, one could expect very ephemeral sites, spread-out more or less randomly throughout the vertical and horizontal extent of the cumulic landform. In trying to reduce the "needle in the haystack" problem of identifying buried archaeological sites across a large project area, paleosols are the best option because they would have been exposed at the surface for a sufficient amount of time, thereby increasing the likelihood of site formation (and

subsequent burial). On any horizontal slice of a landform, a paleosol is more likely to have an archaeological site on it than an equivalent slice of unweathered alluvium. Applicant's geoarchaeological research plan will focus on areas that may contain paleosols of appropriate age (latest Pleistocene through Holocene) as well as those with fine-grain deposition that are more conducive to preservation.

Staff's request for "detailed descriptions for the landforms and geologic units that the Assessment cites as correlates of the landforms and geologic units in the proposed project area," is provided in the Draft Geoarchaeological Sensitivity Analysis and its associated figures that will be provided in response to Data Request 96 and filed under confidential cover. Specific textural and pedogenic characteristics of correlate landforms, used in the interpretation of the Project area landforms, will be included in the results of the geoarchaeological investigation (Data Request 98).

Data Request:

98. Implement the approved research design and prepare, for staff review and approval, a report of the research results that includes, at a minimum:

a. complete graphic, photographic, and prose presentations of the new data;
b. refinements of the processual and historical geomorphology of the portions of each constituent landform sampled by the new investigation; and
c. the refinement of the preliminary analysis in the Assessment of the portions of landforms that may contain buried archaeological deposits, and the potential age, type, and relative density of such deposits.

Response:

After acceptance of the geoarchaeological research design (Data Request 97) by CEC staff, the plan will be implemented and a report compiled that includes all results of the subsurface investigation, including: stratigraphic profiles, age assignments, and refinements of the geomorphic history and geoarchaeological sensitivity of the Project landforms, based on the newly acquired data.

Data Request:

99. Please provide a map at a scale of at least 1:24,000 and sufficient to show the project area and the adjacent vicinity. Label places and historic features including, but not limited to, the Bradshaw Trail; the Mule Mountains Mining District; Hodges Mine; Opal Hill Mine; the powerplant(s), substation(s) and transmission lines associated with the Parker and Davis Dams; and any other places or historic features that are important in the history of the project area and vicinity. For the Hodges and Opal Hill mines, please include any associate features, such as access roads and structures.

Response:

A 1:24,000 scale map depicting the locational information for the places and historic features within the PAA, such as the Bradshaw Trail (RMS-ML-003/CA-RIV-5191), Hodges Mine Access Road (RMS-ML-005), Opal Hill Mine Access Road (RMS-ML-006), transmission lines associated with Parker and Davis Dams (RMS-ML-001/P-33-011110 and RMS-ML-002), and other resources (RMS-ML-004, RMS-ML-

007, RMS-ML-008, RMS-ML-009, RMS-ML-010, RMS-ML-011, RMS-ML-012, and RMS-ML013), was provided as Figure 5-4 in Appendix E of the CRTR. Locational information for the places and historic features in the general vicinity are shown on the maps that were provided in Appendix C of the CRTR and described in Section 2.6.5.2 American Period (pages 2-32 to 2-48) of the CRTR and Section 5.3.3.4 (pages 5.3-28 to 5.3-45) of the AFC. Applicant has prepared a map (Attachment DR-99C) which consolidates information previously provided and will file this information under confidential cover as Attachment DR-99C[5].

Also, there is no historical resource known as the Mule Mountains Mining District. This term, which is used on pages 77 of the CRTR, page 5.3-41 of the AFC, and page 4 of the DPRs for the Open Pit Mines, Hodges Mine Access Road, Opal Hill Mine Access Road, and the Borrow Pit, is a term used by William Clark in his 1970 California Division of Mines and Geology, Bulletin 193: Gold Districts of California. In the introduction to Bulletin 193, Clark describes mining districts as follows:

> The word "district" as used in this publication is an area or zone of gold mineralization. The location and extent of these districts are determined by the occurrence of deposits that have yielded gold in commercial amounts. Often the limits of the individual districts are not well defined, because the boundaries between rocks that have yielded commercial ore and those that have not are indefinite. Except in portions of the desert regions, the limits of the named mining districts in California often are uncertain. Commonly, what has been referred to as an organized mining district actually has been nothing more than a center of mining operations with an appropriate geographic name.

Here, Clark refers to the Mule Mountains Mining District to describe the general geographic Mule Mountains area, which contains a concentration of mining-related properties. Intensive research described in Section 4.3, Architectural History Survey Methods, of the CRTR (review of California Historical Resources Information System (CHRIS) record search requests at the Eastern Information Center(EIC) and South Coastal Information Center (SCIC) and research at Palo Verde Historical Museum, Palo Verde Public Library, Black History Museum, Fort Gaston Historical Society, Palo Verde Irrigation District, Imperial Irrigation District, General Patton Memorial Museum, Palm Springs Air Museum, Palm Springs Historical Society, Quartzite Museum, Pioneer Museum, Bureau of Land Management, University of California Riverside, University of California San Diego, University of San Diego, San Diego Public Library History Room, and numerous online resources [e.g., Calisphere – A World of Digital Resources, Online Archive of California, California Historic Topographic Map Collection], historic-period aerial photographs of the project area, historic maps [e.g., USGS maps] and photographs, newspaper articles, general histories, journal articles, master theses) did not reveal a detailed description of the boundaries recognized as the Mule Mountains Mining District. Since there is no evidence of definitive district boundaries, the extent of the Mule Mountains Mining District could not be defined and has not been included on any of the locational maps.

[5] "C" denotes Attachment is being submitted under separate confidential cover to the CEC.

Data Request:

100. Please provide a more detailed discussion of the history of the area as it relates to the types of resources (e.g., mining, irrigation/agriculture, transportation, and energy infrastructure) found on and in the vicinity of the project site. Include a discussion of types and locations of features associated with these activities, as well as a more comprehensive list and discussion of resources beyond the project site that are associated with these activities to allow a better understanding of the context and interrelationship of these resources. Please provide any photos or figures that would help to illustrate how the resources on the project site relate to those outside of the project site.

Response:

The research and evaluation methods described in Section 4.3, Architectural History Survey Methods, of the CRTR demonstrate the thoroughness and completeness of the research effort, which was then faithfully reported in Section 2.6.5 Regional Historic Context (pages 2-31 to 2-48) of the CRTR. In addition to the CHRIS record search requests at the EIC and SCIC, Applicant conducted site-specific and general primary and secondary research at the Palo Verde Historical Museum, Palo Verde Public Library, Black History Museum, Fort Gaston Historical Society, Palo Verde Irrigation District, Imperial Irrigation District, General Patton Memorial Museum, Palm Springs Air Museum, Palm Springs Historical Society, Quartzite Museum, Pioneer Museum, Bureau of Land Management, University of California Riverside, University of California San Diego, University of San Diego, San Diego Public Library History Room, and numerous online resources (e.g., Calisphere – A World of Digital Resources, Online Archive of California, California Historic Topographic Map Collection). Applicant also obtained historic-period aerial photographs of the project area from Environmental Data Resources, Inc. for select years between 1948 and 1975. The research provided insight into the historic contexts and themes of the area and specific information concerning any built environment resources within the project area (e.g., date of construction, architect/builder, and historic landownership). As part of this research, Applicant reviewed historic maps (e.g., USGS maps) and photographs, newspaper articles, general histories, journal articles, master theses, and other relevant data, and also coordinated with local governments, historical societies, and museums.

A detailed discussion of the types of resources that are found on and in the vicinity of the project site based on the research effort described above was provided in Section 2.6.5 Regional Historic Context (pages 2-31 to 2-48) of the CRTR and Section 5.3.3.4 (pages 5.3-28 to 5.3-45) of the AFC. Specifically, within the CRTR, a list of the specific types of resources associated with mining can be found on pages 2-34 and 2-44, with discussion of the location and detail of those resources and those in the vicinity in the paragraphs immediately preceding; a list of resources associated with irrigation/agriculture can be found on pages 2-36, 2-40, and 2-41, with discussion of the location and detail of those resources and those in the vicinity in the paragraphs immediately preceding; a list of resources associated with transportation can be found on pages 2-34 and 2-43, with discussion of the location and detail of those resources and those in the vicinity in the paragraphs immediately preceding; and a list of resources associated with energy infrastructure can be found on page 2-41, with discussion of the location and detail of those resources and those in the vicinity in the paragraphs immediately preceding. Maps illustrating the locations of the resources in the project site and vicinity were provided as Figure 5-4 and shown in Appendix C of the CRTR.

Data Request:

101. There are mining roads on or adjacent to the project site, but no clear picture has been provided concerning their relationship, if any, to the larger Mule Mountains Mining District (District). The District is only mentioned in passing in the Department of Parks and Recreation (DPR) 523 forms provided with the AFC and is not addressed at all in the September 2011 Cultural Resources Technical Report. Please provide a discussion of the Mule Mountains Mining District, along with a map or maps showing the locations of the mines and major roads and other associated features.

Response:

Please see Data Response 99 above starting at the second paragraph.

Data Request:

102. Please provide specific information that characterizes the nature and substance of consultation with tribal representatives as it related to the ethnogeographic parameters of the project area.

Response:

The ethnogeographic parameters of the project area were taken directly from the Draft Chuckwalla Valley Prehistoric Trails Network Cultural Landscape, Native American Ethnographic Context prepared by Lowell John Bean and James Toenjes for the CEC. Please refer to Section 2.6.4, Ethnographic Context, in the CRTR. The following is a brief summary of the information provided in this section. A summary of the ethnographic groups likely to have been active in the vicinity of the Project, based on the available published literature, was included. Each subsection described how each discrete ethnographic group may have ordered and used the landscape in their respective territory to promote social cohesion. Available information was used to reconstruct the ethnogeography of the each group's territory, including territory boundaries defined by the landforms that each group may have imbued with particular significance, and to identify primary routes of travel. Applicant's consultant, URS, has not coordinated any consultation activities in support of CEC or BLM consultation specifically regarding the ethnogeographic parameters of the project area has been conducted, and any statement to that effect in the CRTR was in error and likely a carryover from the Native American Ethnographic Context prepared by Lowell John Bean and James Toenjes for the CEC. However, Section 2.9.2 Native American Heritage Commission Results in the CRTR (page 2-104) describes URS's tribal coordination efforts in support of CEC and BLM Tribal Consultation. As a result of these efforts, three properties of traditional cultural or religious importance have been identified to date—two are inside the PAA and one is outside. The CEC initiated its consultation efforts on March 7, 2012 and no properties of traditional cultural or religious importance have been identified to date. Applicant is not aware if BLM has initiated consultation efforts to date.

Data Request:

103. Please explain the absence of or provide the following reports missing from Appendix F:

- *RI-00160 – Archaeological Resources Survey – West Coast – Mid-Continent Pipeline Project, Long Beach to Colorado River prepared by Greenwood and Associates (1977).*

- *RI-01022 - Archaeological Examination of the Sundesert Nuclear Plant Site, Final Report prepared by Imperial Valley College Museum (1975)*
- *RI-02481 – An Archaeological Inventory and Evaluation of the Pebble Terraces in Riverside County, California prepared by the BLM (1989)*
- *RI-06999 – A Class III Cultural Resource Inventory, and Evaluation for the Coachella Canal, Lining Project: Prehistoric and Historic, Sites Along the Northeastern Shore of, Ancient Lake Cahuilla, Imperial and Riverside Counties, California prepared by ASM Affiliates, Inc. (2003)*
- *RI-07204 – Overview and Cultural Resources Survey for the De Anza Natural Gas Pipeline prepared by KEA Environmental, Inc.*
- *RI-07348 – Overview and Cultural Resources Survey for the De Anza Natural Gas Pipeline prepared by KEA Environmental, Inc.*
- *RI-07349 – Chocolate Mountains Aerial Gunnery Range: Cultural Resources Survey of 12 Targets and Monitoring of 14 Archaeological Sites prepared by EDAW, Inc. (2005)*

Response:

According to the CEC Rules of Practices and Procedures of Power Plant Siting Section (g)(2)(B) "…Copies also shall be provided of all technical reports whose survey coverage is wholly or partly within .25 mile of the area surveyed for the project under Section (g)(2)(C), or which report on any archaeological excavation or architectural surveys within the literature search area." Because of these requirements, reports without corresponding locational data were intentionally omitted from the Applicant's original confidential filing. A brief response is included below as to why each item was originally omitted. Those reports found to meet CEC Section (g)(2)(B) and (C) requirements or those that were inadvertently omitted have been provided under confidential cover as marked with a "*" below.

RI-00160* was not included because it falls outside the .25 mile record search radius and does not contain archaeological excavation or architectural history survey information. This report was reviewed again in response to staff's data request and found to contain limited information and no formal evaluations or eligibility recommendations. The report is very brief; however, because the title contains the word "evaluation" it will be provided for Staff reference under confidential cover as Attachment DR-103C RI-00160.

RI-01022* was inadvertently omitted from the CRTR and has been provided in response to this data request under confidential cover as Attachment DR-103C-RI-01022.

RI-02481* was not included because it falls outside the .25 mile record search radius and does not contain archaeological excavation or architectural history survey information. This report does contain research and evaluations for similar archaeological resources found within the PAA; therefore, it has been provided for Staff reference under confidential cover as Attachment DR-103C RI-02481.

RI-06999 was not included in the CRTR because it falls outside the .25 mile record search radius and is over 50 miles away from the PAA. This report was mistakenly included by the EIC in the record search results data for this project. As a result, this report is not provided in response to DR-103.

RI-07204 * was not included because it falls outside the .25 mile radius by several miles and was mistakenly included by the EIC in the record search results for this project. This report does contain research, architectural history information, and similar archaeological resources found within the PAA, therefore. it has been provided for Staff reference under confidential cover as Attachment DR-103C RI-07204.

RI-07348 appears to be the exact same report as RI-07204 and was likely filed with the IC at two different times and as a result this report was assigned two different RI numbers. URS reviewed each side by side and found no differences between the two copies; therefore, it is not included in this response. Additionally, it is outside the .25 mile record search radius (as stated above for RI-07204).

RI-07349 was not included in CRTR because it falls outside the .25 mile record search radius and is over 10 miles away from the PAA. This report was mistakenly included by the EIC in the record search results for this project. As a result, this report is not provided in response to DR-103.

Data Request:

103(a). Since a number of these reports indicate that "[L]ocational data was not available from EIC" (Table 2.8-1, page 2-54), please explain how they were included in the records search or reviewed by the applicant.

Response:

The reports that are included in Table 2.8-1, page 2-54 of the CRTR represent the record search results completed by the EIC on the CHRIS. The EIC houses cultural resources data for Riverside County. The reports provided by the EIC represent overview reports for the area and did not involve a pedestrian survey; these include RI-0002, RI-0161, and RI-1211. One report (RI-06999) is included in Table 2.8-1 of the CRTR as having missing locational data, which is because this report was mistakenly included by the EIC in the record search results. Previous investigation RI-06999 is over 50 miles east of the PAA and therefore beyond the record search radius for this project, and should be disregarded. The remaining reports in Table 2.8-1 with missing locational data are for previous investigations which the EIC does not have survey coverage information on file (RI-00991, RI-1022, RI-1038, RI-2481, RI-5520, RI-7204, and RI-7349).

According to the CEC Rules of Practices and Procedures of Power Plant Siting Section (g)(2)(B) "…Copies also shall be provided of all technical reports whose survey coverage is wholly or partly within .25 mile of the area surveyed for the project under Section (g)(2)(C), or which report on any archaeological excavation or architectural surveys within the literature search area." Because of these requirements, reports without corresponding locational data were omitted. In reviewing staff's Data Requests 103, 104-105, and 112, reports found to meet CEC Section (g)(2)(B) and (C) requirements are provided in their respective data response under confidential cover.

Data Request:

104. Please provide report RI-05520 (Draft Southern California Gas Company Natural Gas Transmission Line 6902 Project, Riverside and Imperial Counties, CA, The Bradshaw Trail: Recommendation for National Register Eligibility prepared by LSA Associates, Inc. in 1993). It is directly relevant as it includes the evaluation of Bradshaw Trail which traverses the project site.

Response:

This report was inadvertently omitted from Appendix F of the CRTR and is provided under a confidential cover as Attachment DR-104C.

Data Request:

105. Please provide Survey Report RI-06707 (Cultural Resources Survey of Alternative Routes within California for the proposed Devers-Palo Verde 2 Transmission Project prepared by ICF Jones & Stokes in 2008). Only the DPR forms were provided.

Response:

Table 2.8-1 in the CRTR listed the incorrect date and author for Report RI-06707. The correct date is 2006 and the correct author is Applied Earth Works, Inc. The portion of the table has been revised and is included as Attachment DR-105). A copy of survey report RI-06707 "Cultural Resources Survey of Alternative Routes within California for the proposed Devers-Palo Verde 2 Transmission Line Project" by Applied Earthworks, Inc. is provided under confidential cover as Attachment DR-105C. The report was inadvertently omitted from Appendix F of the Cultural Resources Technical Report.

Data Request:

106. Regarding Table 2.8-1, Report RI-08410 – Please provide the correct report or correct Table 2.8-1 to reflect the report actually provided in Appendix F under that number.

Response:

Table 2.8-1 of the CRTR listed the incorrect date for Report RI-08410, which was included in Appendix F. The correct date is 2005. The portion of the table has been revised and is attached (see Attachment DR-106).

Data Request:

107. Regarding Table 2.8-1, Report RI-08411 – The date in Table 2.8-1 does not match the report in Appendix F. Please provide the correct report or correct Table 2.8-1 to reflect the report actually provided in Appendix F under that number.

Response:

Table 2.8-1 of the CRTR listed the incorrect date for Report RI-08411, which was included in Appendix F. The correct date is 2008. The portion of the table has been revised and is attached (see Attachment DR-106).

Data Request:

108. *Regarding Appendix F, Volume 5 – The coversheet for RI-06186 says "RI- 06168." Please provide the correct report or correct the cover sheet to reflect the report actually provided in Appendix F under that number.*

Response:

The coversheet for RI-06186 was mistyped as RI-06168. The cover sheet has been corrected and is attached (see Attachment DR-108).

Data Request:

109. *Appendix F includes multiple copies of some of the DPRs contained in the records search (e.g., CA-RIV-1095). Please provide a revised Appendix F. Remove any duplicate DPRs and confirm all DPRs obtained during the records search were included in Appendix F of the Cultural Resources Technical Report.*

Response:

The reports that have been provided in Appendix F of the CRTR are in accordance with the CEC Rules of Practices and Procedures of Power Plant Siting Section (g)(2)(B) "…Copies also shall be provided of all technical reports whose survey coverage is wholly or partly within .25 mile of the area surveyed for the project under Section (g)(2)(C), or which report on any archaeological excavation or architectural surveys within the literature search area." These reports are in the format provided by the EIC and/or author of the report (ex. Applied Earthworks, ASM Affiliates, and AECOM). Changes to these reports would not accurately present what the EIC and SCIC, or what the author provided to URS. Therefore, no modification to the previously conducted investigation report found in Appendix F of the CRTR will be conducted.

The following DPR forms were inadvertently omitted from Appendix F of the CRTR: P-33-10908, P-33-10905, P-33-14175, P-33-17512, and CA-RIV-5187. P-33-10908, P-33-14175, P-33-10905, P-33-10908, and CA-RIV-5187 and are provided under confidential cover as Attachment DR-109C.

Data Request:

110. *The bibliography is incomplete; many parenthetical citations referenced throughout the report are not contained in the bibliography. Please review the completeness and accuracy of the bibliography and provide a revised bibliography.*

Response:

The bibliography has been revised and is provided as Attachment DR-110.

Data Request:

111. *Please provide the National Register Evaluation of the Blythe-Knob 161kV Transmission Line that was prepared by Kurt Schweigert of Associated Cultural Resource Experts under contract with Western Area Power Administration. Several DPRs from the early 2000s note that it is being prepared.*

Response:

The Archaeological Determination of Eligibility (ADOE) list provided by the EIC did not list the Blythe-Knob 161kV Transmission Line (P-33-011110) as eligible and no formal evaluation was included in the record search results. The only reference related to the NRHP evaluation of this site is found in the 2001 (Dolan) updated site record, which states, "This line is one of the 350 currently being evaluated for the National Register by Kurt Schweigert from Associated Cultural Resource Experts (ACRE), under contract with Western Area Power Administration (WAPA). Results of that investigation are pending." No further information was provided in the site record or technical reports. Applicant refers staff to pages 5-1328 through 5-1330 of the CRTR for additional information regarding this resource. The ADOE list is attached for reference as Attachment DR-111.

Data Request:

112. *Please provide the following reports. Staff has determined that they are necessary in preparing the Ethnographic portion of our analysis.*

a. *Report RI-00991 - Persistence and Power: A Study of Native American Peoples in the Sonoran Desert and the Devers-Palo Verde High Voltage Transmission Line prepared by Cultural Systems Research, Inc. in 1978).*
b. *RI-01038 – An Aboriginal Trail Complex in the Big Maria, McCoy and Mule Mountains of the Central Colorado Desert prepared by William D. Alderson (1977).*
c. *RI-01300 – Mule Mountains – Area of Critical Environmental Concern – Management Plan prepared by the BLM (1981).*
d. *Riverside County Integrated Project: Existing Setting Report prepared by LSA Associates, Inc. in 2000.*

Response:

As requested, RI-00991, RI-01038, RI-1300, and LSA 2000 reports have been provided under confidential cover as Attachment DR-112C. The LSA 2000 reference is from the Riverside County General Plan and is a publicly available at: http://www.rctlma.org/genplan/content/eir/volume1.html.

Data Request:

113. Please provide a U.S. Geological Survey quadrangle map at a scale of 1:24,000, depicting the locations of all previously known and newly identified cultural resources, with separate overlays of prehistoric and historic resources, compiled during the course of the applicant's efforts to construct a cultural resources inventory for the proposed project area. For historic resources, please distinguish WWII era resources from other historic resources. The historic components of multi-component sites should be included.

Response:

Applicant has created and will provide under confidential cover as Attachment Dr-113C, three figures, using U.S. Geological Survey quadrangle maps at a scale of 1:24,000, to depict the locations of all previously known (Figure 2) and newly recorded (Figure 3) cultural resources, as well as isolated cultural finds (Figure 4). Each of these figures depicts the cultural resources types by different symbol color shades, which includes prehistoric, historic, historic WWII, multi-component, multi-component WWII and modern.

Data Request:

114. Please review the completeness and accuracy of all URS prepared DPR 523 forms in the PAA, correct any absent data or incorrect data, and correct all discrepancies for each resource identified in the cultural resources section of the AFC, the technical report, and the DPR 523 forms applicable to this project. Staff found that basic information was frequently missing from the forms, such as location, owner, a photo of the site or feature, date ranges for each site, and a sketch map or equivalent GIS map. In addition, citations in the text were often not included in the bibliography. In particular, the significance recommendations were unclear and unsupported, and in some cases inconsistent between the AFC and the Technical Report. Please provide corrected versions of all DPR forms requiring clarification or further information and a brief summary of the corrections made.

Response:

A preliminary review of the DPR 523 series forms confirmed some forms contained minor technical errors. Applicant will identify, revise, and submit corrected electronic forms to Staff within 30 days.

Data Request:

115. Table 5-1 – many of the site designations and descriptions are incorrect. For example, many multi-component sites with both prehistoric and historic components lack the "/H" notation.

Please review the completeness and accuracy of all of the information provided in Table 5-1, make any necessary corrections, and provide a revised table that includes a column that notes the NRHP/CRHR criteria for recommended eligibility of the resource.

Response:

A revised version of Table 5-1 which includes denoting the NRHP/CRHR criteria for recommended eligibility of resources is included as Attachment DR-115. The EIC has recently instructed consultants to not include "/H or H" on the newly recorded and updated multi-component sites and historic sites. As a result, newly recorded sites and updates do not include this nomenclature. If any did include such designations, it was a mistype and has been corrected in the revised table.

Data Request:

116. *Please provide a list of all of the NRHP, CRHR, Arizona Register of Historical Places (ARHP), and locally-listed historic resources for a 10-mile radius around the project boundary. Also provide a map depicting the location of these resources in relation to the project site and major project elements, such as the power towers.*

Response:

In response to this request, an additional review of prior documentation and online sources was conducted, including record search results completed for the project and a review of the National Park Service (NPS) Focus website on which National Register of Historic Places (NRHP) are listed. Additionally, downloadable spatial data from the NPS Focus website showing the location of listed NRHP properties was reviewed as was the California Office of Historic Preservation listing of state resources revisited. A review of the Arizona Register of Historical Places through the AZSITE website was also completed. Access to the AZSITE database was limited to the public access level for the research, as special permissions are required to view detailed information pertaining to cultural resources contained within.[6] At the time of this data response, permission access was not available.

Upon review of the record search results received from the SCIC and the EIC, for the PAA, six previously recorded cultural resources were indicated on the Archeological Determinations of Eligibility list (CA-RIV-5191; CA-RIV-5531; CA-RIV-5533; CA-RIV-5534; CA-RIV-5540; CA-RIV-5541) (also refer to Attachment DR-111 herein). Based on the available data, the nearest National Register listed cultural resource to the PAA is the Mule Tank Discontiguous Rock Art District (CA-RIV-504 and CA-RIV-773). Also indicated was the Ripley Intaglios (National Register District #75000368). The location of this district could not be confidently identified; however, a general position for this district was obtained from a California Department of Boating and Waterways publication titled *Colorado River Boating Trail Guide*.[7] The review of the California Office of Historic Preservation listing of state resources identified

[6] The Applicant also used the following reference in its response to DR 116:
Hoover, Mildred B, and Douglas E. Kyle. 2002. *Historic Spots in California*. Stanford, California: Stanford University Press.

[7] California Department of Boating and Waterways. No Date. *Colorado River Boating Trail Guide: Blythe to Imperial Dam*. Accessed March 13, 2012 at: http://www.dbw.ca.gov/Pubs/BlythetoImperial/BlythetoImperial.pdf.

Wiley's Well, a California Point of Interest (POI #P77). The review of the AZSITE public web portal indicated increased resource sensitivity in the vicinity of the general location for the Ripley Intaglios, as identified by the Department of Boating and Waterways.

Through the NPS Focus website, a downloadable KML (Keyhole Markup Language) file is available, which can be viewed using Google Earth or ArcExplorer GIS Viewer software. This KML file shows the location of registered NRHP properties; however, the regularity with which this file is updated is not known. No properties contained within this KML file retrieved from the NPS, as downloaded on March 13, 2012, are within 10 miles of the PPA.

Each of the resources listed above represent properties eligible for listing on the NRHP and are discussed in brief below:

CA-RIV-504 and CA-RIV-773 (Mule Tank Discontiguous Rock Art District, National Register Site #03000121) are immediately adjacent to the proposed Project area and are within a BLM-designated ACEC. In 1981, J. Reed (affiliation unknown) drafted the "Mule Mountains – Area of Critical Environmental Concern – Management Plan: which is on file at the EIC, accessible upon request to qualified individuals. The SHPO concurred with the nomination of this resource on July 5, 2002 and recognized it as meeting National Register Criteria C and D.

Ripley Intaglios, a.k.a "Indian Intaglio's" (National Register District #75000368; Arizona) this district is located in La Paz County, Arizona and represents a Prehistoric/Historic – Aboriginal locality culturally affiliated with the Yuman and a Period of Significance dating between 1500-1874 AD.

CA-RIV-5191 or P-33-5191 represents the Bradshaw Trail, a resource which has been described and documented extensively throughout the CRTR, the National Register Status for which is designated as "2S2," indicating an "individual property determined eligible for NR by a consensus through Section 106 process. Listed in the CR." This resource crosses through the PPA and continues west beyond the PPA.

CA-RIV-5531 is a prehistoric lithic scatter with 16 flaking stations and a refuse deposit consisting of historic refuse intermixed with modern refuse. This resource has a National Register Status designation of "2S2," indicating an "individual property determined eligible for NR by a consensus through Section 106 process. Listed in the CR."

CA-RIV-5533 represents a light to moderate lithic scatter and a sparse tin scatter with a National Register Status designation of "2S2," indicating an "individual property determined eligible for NR by a consensus through Section 106 process. Listed in the CR."

CA-RIV-5534 consists of 22 flaking stations within an overall moderate lithic scatter and a low-density historic debris scatter and a status code of "2S2," indicating an "individual property determined eligible for NR by a consensus through Section 106 process. Listed in the CR."

CA-RIV-5540 represents a dense concentration of reduced cobbles and debitage where over 2,000 lithics, mainly unifacially reduced cobble cores, were found. Flaking stations, ceramics, and trail segments were

recorded. National Register Status designation of "2S2," indicating an "individual property determined eligible for NR by a consensus through Section 106 process. Listed in the CR."

CA-RIV-5541 is a large, moderate density lithic scatter with two flaking stations. Unifacial cobble cores, split pebbles, and sparse flakes were tallied in the scatter. National Register Status designation of "2S2," indicating an "individual property determined eligible for NR by a consensus through Section 106 process. Listed in the CR."

California Point of Interest #P77 (Wiley's Well) is also recognized as a County of Riverside landmark, representing the location of a natural watering spot or well in the desert. It is located west of Blythe California, positioned near the junction of Wiley Well Road and the Bradshaw Trail and was named for "the storekeeper and postmaster A. P. Wiley" (Hoover and Kyle 2002: 294).

Figure 5 shows the locations of the eligible properties and has been filed under confidential cover as Attachment DR-116C.

Data Request:

117. Please provide an ethnobotanical and ethnozoological analysis of the plants and animals within the PAA.

Response:

Please refer to Sections 2.1.2 Flora and Fauna in the CRTR (page 2-1).

Data Request:

118. Assess project impacts to traditional and current access to and use of plants and animals located within the PAA and identified as central to Native American cultural and spiritual practices, including project impacts that would substantially minimize tribal members' abilities to maintain their cultural practices (including intergenerational knowledge transmission) as they relate to the identified plant and animal populations.

Response:

To date, no plants or animals have been identified through CEC or BLM Tribal Consultation, or URS coordination in support of CEC and BLM efforts, as traditionally or currently being collected and/or used within the PAA. Therefore, to the best of our knowledge the Project will not impact traditional or current cultural use or access to plants or animals central to Native American cultural and spiritual practices.

Data Request:

119. Please provide a map that only shows trail segments documented in and near the project area with an overlay of the other trails that are shown in various ethnographic sources for the area.

Response:

Attachment DR-119C (Figure 6) showing only trail segments in and near the project area has been created and will be filed under confidential cover.

Data Request:

120. Please evaluate all trail segments documented in or near the PAA for Criteria A and D of the California Register of Historical Resources, and revise DPR trail site forms accordingly.

Response:

All trail segments documented in or near the PAA have been evaluated for all criteria of the California Register of Historical Resources (Criteria 1-4) as well as the National Register of Historic Places (Criteria A-D) and are found in the CRTR (see Table 5-1, Section 5 pp.5-3 through 5-104). Attachment DR-120 provides a quick reference to the evaluation recommendations set forth within the CRTR.

The DPR 523 series forms appended to the CRTR are not final. Including eligibility recommendations on draft DPR 523 series forms at this point is not advised due to a lack of BLM review and State Historic Preservation Officer (SHPO) concurrence with these recommendations.

Data Request:

121. Please conduct an aerial photography/remote sensing study as necessary to locate trail segments in the PAA not otherwise evident in pedestrian surveys, using aerial images and historic maps of the area in rectified GIS layers to determine which trails segments are connected to one another. Provide strategic dating of associated trail features along trail segments within the PAA to identify use dates. Trail segments should be identified and mapped by prehistoric, historic, and modern era formation and use. Provide maps and overlays as an element of the resulting report identifying findings and discussion of trail connectivity and significance.

Response:

On March 19, 2012 Applicant issued a notice pursuant to 20 Cal. Code Reg. Sec. 1716(f), objecting to this data request. Without waiving its objection, Applicant provides the following response. During the intensive pedestrian URS cultural staff mapped all trails within the PAA (and beyond the PAA, if necessary) to their full extent. URS cultural staff also worked in the office for several weeks when preparing the DPR 523 series forms reviewing these trails over aerial images to determine if any trail segments were associated with other cultural resources, ascertain the approximate age of trails, and to identify trails that appeared to link with one another. It should be noted that URS has experience using remote sensing in search of trails, trail segments, and connecting trails and found remote sensing data to be and advise against this additional expense and effort. The method which URS cultural staff employed during the preparation of this report provided a robust set of results that were used to differentiate prehistoric, historic period, and animal trails.

Section 6 of the CRTR discusses trail connectivity and significance. Attachment DR 119C, in conjunction with the CRTR, addresses trail connectivity and significance. Applicant refers staff to the following sections in the CRTR for more information: 6.2.2 Intrasite Spatial Organization (pages 6-3/4), 6.2.4 Settlement and Subsistence (page 6-7), 6.2.4.2 Trade and Economic Exchange (pages 6-9 through 6-11), 6.2.4.4 Ritual and Ceremony (pages 6-12/13), and 6.2.4.6 Prehistoric Conclusions (pages 6-14 through 6-17.

Data Request:

122. Please conduct and provide an expanded record search of trail segments, associated trail features, and petroglyph sites (regardless of proximity to a trail) in a five mile radius of the project boundaries. This data will establish trail trends that will assist staff in determining connectivity to trail segments within the project area.

Response:

On March 19, 2012 Applicant issued a notice pursuant to 20 Cal. Code Reg. Sec. 1716(f), objecting to this data request. Without waiving its objection, Applicant provides the following response. Current data includes all trails within a one mile radius and has been depicted in the figure created for Data Request 119. Staff's request for "an expanded record search of trail segments, associated trail features, and petroglyph sites (regardless of proximity to a trail) in a five mile radius of the project boundaries", will incur undue additional cost on behalf of the Applicant. The current records search results are considered sufficient per CEC requirements; and there are no regulatory requirements under CEC or CEQA that stipulate doing an expanded records search beyond a one-mile of the Project area and as result one has not been completed for this response. In addition, no other permitted projects to our knowledge have required this additional research. This includes Calico Solar and Imperial Valley Solar projects. However, trail data provided by the BLM/CEC landscape studies team with regards to ethnographic references of which some are on file with the EIC (ex. Coco-Maricopa and Bradshaw trails), and are provided in Attachment DR-119C.

Additional information regarding the vicinity of this project may be found in existing CEC documents such as the PTNCL and Cultural Technical reports completed for various projects located in proximity to the PAA.

Data Request:

123. Please provide a clear, consistent, and substantiated discussion of the entire Xam Kwatcan (Quechan Dream) Trail, including a general discussion of setting and integrity, as well as a detailed discussion of integrity for the segments within and adjacent to the PAA or that may be in view of the project infrastructure. In terms of NRHP or CRHR eligibility, integrity is a measure of the degree to which a property retains or is able to convey the significance defined under one of the four eligibility criteria. There is specific guidance in National Register Bulletin VIII – How to Evaluate the Integrity of a Property, which outlines the seven aspects of integrity that should be used when assessing the integrity of a resource. As this is a joint document, both NRHP and CRHR evaluations must be completed; therefore, the integrity assessment of resources should

discuss all seven aspects as directed by the National Park Service. Specific detailed research should be presented for the length of the trail that parallels the project area and should identify any encroachment onto or immediately adjacent to the trail and any light/glow that may result from the project activities and be visible from the trail. Include any previous documentation or evaluations of the resource. Please complete any evaluations, provide copies of completed DPR 523 forms for the resource, and ensure that it contains a discussion of the significance of the resource under CEQA Section 15064.5(a)(3), (A)(B)(C) & (D). Please evaluate whether the integrity will be significantly impacted by construction of the proposed project such that the significance of the resource will be materially impaired. In addition, please assess impacts to the trail segments that cross the project area and other impacts to Native Americans that utilize the trail, including aesthetic considerations such as, but not solely limited to, visual impacts. All trail research should be closely coordinated with affiliated tribes.

Response:

On March 19, 2012 Applicant issued a notice pursuant to 20 Cal. Code Reg. Sec. 1716(f), objecting to this data request. Without waiving its objection, Applicant provides the following response. The CRTR includes information regarding the Xam Kwatcan (Quechan Dream) Trail in the (see page 2-43), as shown below.

> *According to a historic dedication plaque erected in the community of Imperial Gables in Imperial County, the course of State Route 78 parallels an "old Indian trail" which connected the Imperial and Palo Verde Valleys in the prehistoric/pre-Columbian/pre-contact era and was still visible in 1964 when the plaque was erected. However, no evidence of this prehistoric trail or historic route is on file with the California Historical Resources Information System's (CHRIS) Eastern Information Center (EIC) or South Coastal Information Center (SCIC) for Riverside and Imperial Counties.*

In addition, URS cultural staff studied USGS maps, Confidential Figures 2.8-2, 5-1 and 5-2 of the CRTR and a published article by James Cleland (2007)[8] that focuses specifically on the Xam Kwatcan Trail. Additional information relating to the trail has been filed under confidential cover as Attachment DR-123C.

Data Request:

124. Please review the completeness and accuracy of all DPR 523 forms for the built environment sites in the PAA, correct any absent data or incorrect data, correct all discrepancies for each resource identified in the cultural resources section of the AFC and the technical report and provide the revised documents. Also, please provide corrected versions of all the DPR 523 forms and a brief summary of the corrections made.

[8] Cleland, James. 2007 Ethnographic Trail Systems as Large-Scale Cultural Landscapes: Preservation and Management Issues. *Proceedings of the Alliance for Historic Landscape Preservation* 29:41-55. Electronic Document http://www.clemson.edu/caah/cedp/cudp/pubs/alliance/04_cleland.pdf, accessed February 19, 2012.

Response:

The DPR 523 forms for the built environment sites (RMS-ML-001 through RMS-ML-013) have been reviewed for completeness and accuracy. No absent data or incorrect data was identified in the DPR 523 forms. The DPR 523 forms were compared against the CRTR and AFC and no incorrect data was identified. The only evidence of absent data was found in the site summaries in the CRTR, which omitted a sentence present in the DPR 523 forms (Section B6 or B8 of the DPR Form) that contained information that had already been provided earlier in the site summary. These minor differences in the CRTR are detailed in the Table DR 124-1. As no revisions were made to the DPR 523 forms, a summary of corrections is not provided.

Table DR 124-1. Description of DPR 523 Form Text Omitted from Technical Report

Resource	Description of DPR 523 Form Text Omitted from Technical Report	Page Number in Technical Report
RMS-ML-003	Related features (B8 on DPR form) text omitted from Technical Report. (One sentence: "The resource is part of a larger network of roads used to traverse the Colorado Desert")	5-1332
RMS-ML-004	Related features (B8 on DPR form) text omitted from Technical Report. (One sentence: "A road to access the Open Pit Mines No. 1 and No. 2 was established between 1959 and 1976 (1959 USDA aerial, 1976 USGS aerial)")	5-1335
RMS-ML-005	Related features (B8 on DPR form) text omitted from Technical Report. (One sentence: "The segment of the property extends approximately three-quarters of a mile northwest from the access road to the open pit mines to the southeast")	5-1337
RMS-ML-007	Construction History (B6 on DPR form) text is omitted from Technical Report. (Text: "The resource was constructed in 1964 per Resolution Relative to the Ben Hulse Highway 1964 on existing roads. Non-historic period traffic lane delineator paint, tar joint filler and roadside signage have been added since the property was originally constructed.")	5-1341
RMS-ML-008	Related features (B8 on DPR form) text omitted from Technical Report. (One sentence: "The property connects to Bradshaw Trail to the north.")	5-1343
RMS-ML-012	Related features (B8 on DPR form) text missing from CTR section. (Text: "The resource is part of a larger irrigation network (Palo Verde Irrigation District) of drains, canals, pumping stations and gates that distributes water to agricultural fields throughout the Palo Verde Valley.")	5-1349

Data Request:

125. Please provide a clear, consistent, and substantiated recommendation of eligibility for the following resources:

- *The entire Bradshaw Trail (RMS-ML-003/CA-RIV-5191), including a general discussion of setting and integrity of the 100+ mile trail, as well as a detailed discussion of integrity for the segment in the PAA.*
- *The Pilot Knob to Blythe 161 kV Transmission Line (RMS-ML-001/P-33- 011110) as it relates to the system of powerplant(s), substation(s) and transmission lines associated with the Parker and Davis Dams.*
- *The Niland to Blythe 161 kV Transmission Line (RMS-ML-002) as it relates to the system of powerplant(s), substation(s) and transmission lines associated with the Parker and Davis Dams.*
- *The Open Pit Mines 1 and 2 (RMS-ML-004), Hodges Mine Access Road (RMS-ML-005), and Opal Hill Mine Access Road (RMS-ML-006) as they relate to the Mule Mountain Mining District.*
- *SR 78 (RMS-ML-007) as it relates to "larger network of roads and highways throughout the Pal Verde Valley and southeastern California," as stated in the Technical Report. Include a general discussion of the larger network of roads and highways it is a part of to provide context and a detailed discussion of the history and significance within the context of that larger network. Also provide a detailed discussion of the integrity for the segment of SR 78 in the PAA.*
- *The Bradshaw Trail Borrow Pit (RMS-ML-008) as it relates to the mining operations in the Palo Verde Mesa. Include a general discussion of the mining operations in the Palo Verde Mesa to provide context and a detailed discussion of the history and significance of the Bradshaw Trail Borrow Pit within the context of the mining operations in the Palo Verde Mesa.*
- *The Hodges Drain (RMS-ML-009) as it relates to the "larger network of drains, canals, pumping stations and gates" in the Palo Verde Irrigation District. Include a general discussion of the history of the Palo Verde Irrigation District and its components to provide context and a detailed discussion of the history and significance of the Hodges Drain within the context of the irrigation district.*
- *The C-03 Canal (RMS-ML-010), Palo Verde Drain (RMS-ML-011), Estes Drain (RMS-ML-012), and Private Drain #1 (RMS-ML-013) as they relate to the larger Palo Verde Irrigation District. Include a general discussion of the history of the Palo Verde Irrigation District and its components to provide context and a detailed discussion of the history and significance of these resources within the context of the irrigation district.*

The discussions of integrity should discuss all seven aspects as outlined in National Register Bulletin VIII – How to Evaluate the Integrity of a Property. Include any previous documentation or evaluations of the resources. Please have an architectural historian complete any evaluations, provide copies of completed DPR 523 forms for the resources, and ensure that they contain a discussion of the significance of the resource under CEQA Section 15064.5(a)(3), (A)(B)(C) & (D). Please have the architectural historian evaluate whether the integrity of setting will be significantly impacted by construction of the proposed project such that the significance of the resource(s) will be materially impaired.

Response:

A clear, consistent, and substantiated recommendation of eligibility for each of the 13 resources listed in DR 125 (RMS-ML-001 through RMS-ML-013) was provided in their respective DPR 523 forms included in Appendix G, Volume 4, and summarized in Section 5.2.1 Summary Site Descriptions (pages 5.3-1328 to 5.3-1352) of the CRTR, as well as Section 5.3.3.8 Architectural Research and Reconnaissance Results (pages 5.3-102 to 5.3-103) of the AFC. The eligibility evaluations may be found in section B10 of the DPR 523 Building, Structure, and Object form (usually the second page of the record), which clearly and thoroughly discuss the significance of the resource under CEQA Section 15064.5(a)(3), (A)(B)(C) & (D) based on a context provided in the same section. Each resource evaluation includes an integrity analysis of all seven aspects of integrity, which can be found in the final paragraph of B10 of the DPR 523 Building, Structure, and Object form and in the final paragraph of each of the site summary in the CRTR.

Of the 13 historic-period architectural history resources recorded within the Project Area, three resources were identified and evaluated as having retained their integrity of setting (RMS-ML-001, RMS-ML-002, and RMS-ML-003). The three resources are linear resources, and extend numerous miles outside of the project area, ultimately spanning the area. While these resources have been evaluated as significant as a whole (meaning as one large linear resource), the segments of these resources within the project area were recommended in Section 7.0 Management Considerations/ Recommendations of the CRTR and in 5.3.4 Environmental Analysis of the AFC as not eligible and, therefore, were not evaluated for impacts from construction of the proposed project. Since these segments of the resources are not significant, any impacts to them from the construction of the project would not materially impair the significance of any resources. Additionally, though the general setting of these resources may change from the project's construction, the project would not materially impair the entire linear resource; and, as a result, would not diminish or substantially change the historic significance of those resources. Rather, the overall character of the area, would not change through the project's construction, and the resources' (as a whole) would retain overall their relationship to the area's surroundings. Even after construction, the resources would continue to reflect the basic physical conditions which a property (like a transmission line or roadway) and the functions they were intended to serve.

Responses to the individual resource comment bullets are provided below:

- *Bradshaw Trail (RMS-ML-003/CA-RIV-5191)*: A general discussion of the setting of the entire trail was provided in paragraphs 3 through 6 of section B10 of the DPR 523 Building, Structure, and Object form (second page of the record) in Appendix G, Volume 4 of the CRTR, and in the final two paragraphs of page 5-1333 and first four paragraphs on page 5-1334 of Section 5.2.1 Summary Site Descriptions of the CRTR. The detailed discussion of integrity for the segment of the Bradshaw Trail in the PAA can be found in the final paragraph of B10 of the DPR 523 Building, Structure, and Object form and in the final paragraph of the site summary in the CRTR (page 5-1335).
- *The Pilot Knob to Blythe 161 kV Transmission Line (RMS-ML-001/P-33-011110)*: The relationship of RMS-ML-001 to the system of powerplant(s), substation(s) and transmission lines associated with the Parker and Davis Dams is provided in paragraphs 3 through 5 of section B10 of the DPR 523 Building, Structure, and Object form (second page of the record) in Appendix G,

Volume 4 of the CRTR, and in the final paragraph of page 5-1329 and first two paragraphs on page 5-1330 of Section 5.2.1 Summary Site Descriptions of the CRTR.

- The Niland to Blythe 161 kV Transmission Line (RMS-ML-002): The relationship of RMS-ML-002 to the system of powerplant(s), substation(s) and transmission lines associated with the Parker and Davis Dams is provided in paragraphs 3 through 5 of section B10 of the DPR 523 Building, Structure, and Object form (second page of the record) in Appendix G, Volume 4 of the CRTR, and in the final three paragraphs of page 5-1331 and first paragraph on page 5-1332 of Section 5.2.1 Summary Site Descriptions of the CRTR.
- The Open Pit Mines 1 and 2 (RMS-ML-004), Hodges Mine Access Road (RMS-ML-005), and Opal Hill Mine Access Road (RMS-ML-006): The relationship of these resources to a Mule Mountain Mining District was not evaluated since such a resource does not exist (see response to Data Requests 99 and 101); however, historic context related to mining in the region was provided in paragraphs 3 and 4 of section B10 of the DPR 523 Building, Structure, and Object form (second page of the record) in Appendix G, Volume 4 of the CRTR for each of the resources. In the CRTR, the mining context related to each of these resources is provided in the last paragraph of page 5-1335 and first two paragraphs on page 5-1336 (RMS-ML-004), the last paragraph of page 5-1337 and first two paragraphs on page 5-1338 (RMS-ML-005), and the last paragraph of page 5-1339 and first two paragraphs on page 5-1340 (RMS-ML-006) of Section 5.2.1 Summary Site Descriptions of the CRTR.
- SR 78 (RMS-ML-007): The relationship of RMS-ML-007 to the "larger network of roads and highways throughout the Palo Verde Valley and southeastern California" and a general discussion of larger network of roads and highways is provided in the third paragraph of section B10 of the DPR 523 Building, Structure, and Object form (second page of the record) in Appendix G, Volume 4 of the CRTR; in paragraph 6 of page 5-1341 of Section 5.2.1 Summary Site Descriptions of the CRTR; and on pages 2-41 through 2-43 of Section 2.6.5 Regional Historic Context of the CRTR. The detailed discussion of integrity for the segment of SR 78 in the PAA can be found in the final paragraph of B10 of the DPR 523 Building, Structure, and Object form and in the final paragraph of the site summary in the CRTR (page 5-1342).
- The Bradshaw Trail Borrow Pit (RMS-ML-008): The relationship of RMS-ML-008 as it relates to the mining operations in the Palo Verde Mesa, including a detailed discussion of the historic and significance of RMS-ML-008 within the context of the mining operations in the Palo Verde Mesa, is provided in paragraphs 2 through 4 of section B10 of the DPR 523 Building, Structure, and Object form (second page of the record) in Appendix G, Volume 4 of the CRTR; and in paragraphs 4 through 6 of page 5-1343 and the first paragraph of page 5-1344 of Section 5.2.1 Summary Site Descriptions of the CRTR.
- The Hodges Drain (RMS-ML-009): The relationship of RMS-ML-009 to the larger network of drains, canals, pumping stations and gates in the Palo Verde Irrigation District is provided in the second paragraph of section B10 of the DPR 523 Building, Structure, and Object form (second page of the record) in Appendix G, Volume 4 of the CRTR; in paragraph 4 of page 5-1 of Section 5.2.1 Summary Site Descriptions of the CRTR; and on pages 2-36 and 2-38 to 2-40 of Section 2.6.5 Regional Historic Context of the CRTR.

The C-03 Canal (RMS-ML-010), Palo Verde Drain (RMS-ML-011), Estes Drain (RMS-ML-012), and Private Drain #1 (RMS-ML-013): The relationship of these resources to the larger network of drains,

canals, pumping stations and gates in the Palo Verde Irrigation District is provided in the second paragraph of section B10 of the DPR 523 Building, Structure, and Object form (second page of the record) in Appendix G, Volume 4 of the CRTR for each of the resources; paragraph 1 of page 5-1347 (RMS-ML-010), paragraph 5 of page 5-1348 (RMS-ML-011), final paragraph of page 5-1349 (RMS-ML-012), and paragraph 4 of page 5-1351 (RMS-ML-013) of Section 5.2.1 Summary Site Descriptions of the CRTR; and pages 2-36 and 2-38 through 2-40 of Section 2.6.5 Regional Historic Context of the CRTR.

Paleontological Resources (Nos. 126-130, WQ PAL-1)

Data Request:

126. Please provide a plan for review and approval that will be used to adequately delineate the recently discovered paleontological resource.

Response:

On March 19th, Applicant objected to this data request. Without waiving it's objection, Applicant provides the following response. In response to Data Request 126, we have provided a map (see Attachment DR-126C) under confidential cover which adequately delineates known exposures within the project area of the recently discovered paleontological resource (i.e., paleosols producing fossils and paleosols not known to produce fossils). This map contains confidential paleontological resources locational information; report distribution should be restricted to those with a need to know. Paleontological resources are nonrenewable, and their scientific, cultural and aesthetic values can be significantly impaired by disturbance. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the locations of cultural resources should be kept confidential. The legal authority to restrict cultural resources information is in California Government Code 625. Because the map adequately delineates known resources, no further "plan" to delineate such resources is required.

Data Request:

127. Please provide a map at a scale of 1:24,000 that delineates the areal extent of the recently discovered paleontological resource within the project perimeter.

Response:

On March 19th, Applicant objected to this data request. Without waiving its objection, Applicant provides the following response. Please see the response to Data Request 126 above.

Data Request:

128. Please provide a map at a scale of 1:24,000 that shows the thickness of the recently discovered paleontological resource within the project perimeter.

Response:

On March 19th, Applicant objected to this data request. Without waiving its objection, Applicant provides the following response. The thickness of the recently discovered paleontological resource within the project perimeter is unknown. A map (see Data Response 126 above) has been provided under confidential cover to show the general surficial extent of the resource. The Applicant objects to the idea of mass excavation to understand wholly the thickness and extent of the paleosol in the area. Applicant's construction practice for installation of pylons in the solar field minimizes impacts to biological, soil/water, and cultural resources. At the March 1, 2012 Workshop, Applicant described that mass excavation would cause potentially significant impacts to soil/water, biological resources and cultural resources. However, in an effort to help further define the thickness and extent of the paleosol, the Applicant has agreed to do additional paleontological testing in several areas throughout the site. The work will be concentrated on the four areas of known grading (the three power block areas and the common area). In addition, the Applicant will also test several areas within the BLM and MWD lands (approximately one dozen areas in total). Furthermore, the Applicant proposes to further analyze the exposed erosional or surficial cut areas (approximately 40 cut areas) of the paleosol where thickness could potentially be determined. The Applicant will prepare a map showing all areas to be further analyzed within 30 days and provide to the Commission under confidential cover. A confidential letter report summarizing testing results for all areas would be prepared and submitted within 30 days after work is complete

Data Request:

129. Please describe the density of the fossils throughout the paleontological resource using both the areal extent and thickness of the deposit.

Response:

On March 19th, Applicant objected to this data request. Without waiving its objection, Applicant provides the following response. Please see the response to Data Request 128.

Data Request:

130. Please provide an assessment of the potential impacts to paleontological resources caused by heliostat pedestal installation.

Response:

Please see the response to Data Request 128.

Data Request:

WQ PAL-1. Provide a description of proposed mitigation measures that could reduce the potential impacts to paleontological resources caused by heliostat pedestal installation to less than significant.

Response:

Please see the response to Data Request 128. Mitigation measures, if needed, will be provided in the confidential letter report identified in Data Response 128.

Soil and Water Resources (Nos. 131-142, BLM 1-11)

Data Request:

131. Please identify what other agencies would have jurisdiction over the proposed project water supply other than the Bureau of Reclamation.

Response:

The proposed project water supply is discussed in Section 3 of the *Assessment of Existing Groundwater Conditions Report* that was included in the AFC as Appendix 5.15D. As stated in that report, a water supply under an existing groundwater right has been secured for the project. The project proposes to pump groundwater from beneath property to be leased from the Metropolitan Water District (MWD) for its construction and operating water supply. This pumping would occur under an "overlying water right", which is a vested property right that is part and parcel to the land. The site is not located in or tributary to an adjudicated groundwater basin or a groundwater basin managed by a special district, so there are presently no agencies that assert permitting jurisdiction over this right. BLM, as the administrator of a portion of the land that makes up the site, holds the overlying water rights for that portion of the site. If a temporary construction water well is installed in that portion of the site, it would pump water under this overlying water right pursuant to the Right-of-Way Grant.

Although no agencies have permitting jurisdiction over the groundwater right itself, section 4999 of the California Water Code (CWC) requires all persons within Riverside County with wells with aggregate extractions of more than 25 acre-feet per year (or 10 acre-feet per year or more from a single source) to file an annual report of their extraction, known as a "Notice of Extraction and Diversion of Water" by June 30 each year with the State Water Resources Control Board's Division of Water Rights. The filing of a Notice of Extraction and Diversion of Water does not confer permitting jurisdiction over the groundwater pumped at the site to the State Water Resources Control Board.

The Bureau of Reclamation (BOR) has proposed to regulate groundwater hydrologically connected to the Colorado River but has not adopted any regulations applicable to the proposed water supply for the project. In 2006, the Bureau published an Advanced Notice of Proposed Rulemaking in the Federal Register,[9] to formally adopt the Accounting Surface methodology. This notice was followed in 2008 by publication of an Official Notice of Proposed Rulemaking in the Federal Register.[10] The Proposed Rulemaking would have added the Accounting Surface Methodology to the Code of Federal Regulations and the Law of the River; however, the Proposed Rule was never adopted. It is possible that the Accounting Surface Methodology could be adopted in the future; however, it is not a law, regulation, standard, or plan that currently applies to any project. Although USGS is working to construct an inventory of wells in the Colorado River Aquifer that could be subject to the Accounting Surface if it

[9] 71 FR 47763, Regulating Non-Contract Use of Colorado River Water in the Lower Basin
[10] 73 FR 40916, Regulating the Use of Lower Colorado River Water Without an Entitlement

were to become law or policy, there is presently no regulatory requirement for well owners to register their wells with USGS or to report water level or pumping data. Until a method such as the Accounting Surface Method becomes law or policy it has no force of law relative to present extractions of groundwater and such extractions are governed according to California groundwater law.

The groundwater underlying the site is considered Waters of the State under the Porter Cologne Water Quality Control Act. Water quality of the groundwater basin is regulated by the California Regional Water Quality Control Board, Colorado River Basin Region. The California Regional Water Quality Control Board, and the Colorado River Basin Region does not regulate the pumping of groundwater at the site, but it does have authority over the discharge of wastes to land that can affect the Waters of the State.

Data Request:

132. Please discuss whether any determinations have been made that the proposed water use will or will not result in the need for the applicant to participate in MWD's Mitigation Program, or whether any are anticipated.

Response:

Since the project is not anticipated to have an adverse or even a measurable impact on Colorado River water resources, no mitigation is proposed. The project's lease agreement with MWD requires that "[i]n the event that the BOR, or any other agency with jurisdiction over the water, determines that the groundwater pumping constitutes a diversion or use of Colorado River water, Tenant shall retroactively and thereafter purchase the groundwater pumped from the site by exchange for an equal amount Owner's non-Colorado River water in accordance with the Owner's authority to deliver water to Tenant for electric power generation purposes." As discussed in the *Existing Groundwater Conditions Report*, the proposed pumping for the project may cause static groundwater levels to fall below the proposed Accounting Surface; however, the Accounting Surface Rule has not been adopted as a regulation. Therefore, it has not been determined that the project will be required to purchase a Colorado River water allotment from MWD; but the lease agreement does provide for mitigation if such a determination is made in the future.

Data Request:

133. Should the project be required to participate in the MWD mitigation program, please provide a detailed description of the MWD mitigation program. The description should include but not be limited to the following:

a. How the 'accounting surface rule' would be used as the threshold for application of MWD's mitigation requirements.

b. How water pumped from above the 'accounting surface' but nonetheless in hydraulic connection to the Colorado River will be mitigated.

c. Identification of the source of water that would be used as an exchange for an equal volume of MWD non-Colorado River water.

d. A copy of the environmental impact analysis for the non-Colorado River exchange water.

e. Demonstration that the exchange water benefits the Colorado River in equal volume to the Colorado River water used by the project.

Response:

Since the project is not anticipated to have an adverse or even a measurable impact on Colorado River water resources, no mitigation is proposed.[11] Rather the project's lease agreement with MWD stipulates that "[i]n the event that the BOR, or any other agency with jurisdiction over the water, determines that the groundwater pumping constitutes a diversion or use of Colorado River water, Tenant shall retroactively and thereafter purchase the groundwater pumped from the site by exchange for an equal amount Owner's non-Colorado River water in accordance with the Owner's authority to deliver water to Tenant for electric power generation purposes." This means that the project will have an entitlement to use the groundwater pumped at the site, even if a determination is made that the project is diverting or using Colorado River water.

If the water purchase clause in the lease agreement is triggered, the water purchase and exchange will work as follows. MWD will account for the water pumped at the site in its annual accounting of Colorado River water to the Bureau, and will decrease its diversion of Colorado River water at Parker Dam by an amount equal to the amount of pumped groundwater. The downstream water demand that is ordinarily met by the Colorado River water that is now allocated to the site and no longer diverted, would instead be met by using an equal amount of non-Colorado River water. This exchange water would be derived from non-Colorado River sources within MWD's authority and existing operating system, such as the State Water Project. MWD currently derives more than half of its water supply from State Water Project deliveries.[12] No new water sources would be developed. Under this program, there would be a slight increase in Colorado River flow because the decrease in diversion would be greater than the project's effect on return flows in Palo Verde Irrigation District's ("PVID') drain system.

a. Under the project's lease agreement, purchase of a Colorado River water allotment would be required if the Bureau were to determine that the project is diverting or using Colorado River water. Such a determination could be made if the Bureau were to adopt the Accounting Surface Methodology or a similar regulation. Under the proposed Accounting Surface Methodology, if steady state groundwater levels fall below the designated Accounting Surface in the area of the project's proposed water supply wells, all of the water pumped from those wells would be accounted as Colorado River water use or diversion. Conversely, as long as steady state groundwater levels remained above the Accounting Surface, the water used would be deemed "tributary water" that is not subject to being considered Colorado River water and the water purchase clause of the lease agreement would not be triggered. However, under the lease

[11] Note that groundwater beneath the site is not Colorado River water and drawdown of groundwater levels therefore does not by itself constitute an impact to Colorado River water resources. Colorado River water resources would be impacted if the project were to result in a change in flow in the river or in PVID's drain system, which is presumed to carry Colorado River water. However, groundwater impact modeling indicates that such changes will not be measurable or observable, and we therefore conclude the project's impact on Colorado River water resources will be less than significant.

[12] MWD Annual Report 2011. Available at: http://www.mwdh2o.com/mwdh2o/pages/about/AR/AR11.html.

agreement, once the purchase of exchange water is required, it would be applied retroactively to include all groundwater pumped at the site for the project.

b. As discussed in the *Groundwater Impact Assessment Report* prepared by WorleyParsons and dated September 2011 (included as Appendix 5-15G of the AFC) the project will have no effect on flows in the Colorado River and have no measurable or adverse effect on Colorado River water flows in the PVID drainage ditch at the foot of Palo Verde Mesa. No mitigation is warranted or proposed.

c. The lease agreement for the project site states that if the requirement for water purchase is triggered, "Tenant shall retroactively and thereafter purchase the groundwater pumped from the site by exchange for equal amount Owner's non-Colorado River water in accordance with the Owner's authority to deliver water to Tenant for electric power generation purposes." As such, MWD would require the project to purchase an equal volume of non-Colorado River exchange water that MWD would use at another location in its water delivery system. This exchange water would be derived from non-Colorado River sources within MWD's authority and existing operating system, such as the State Water Project. MWD currently derives more than half of its water supply from State Water Project deliveries.[13] The water exchange would occur within the confines of MWD's authority and existing water supply and distribution system; that is, no new water supply would be developed for the purpose of this exchange.

d. The entire water transfer would occur within the confines of MWD's existing water supply and distribution system. Since this water sale or exchange is being conducted under MWD's existing authority and no new water supplies are being developed as part of this agreement, there is no requirement for a separate environmental review.

e. As discussed in the *Groundwater Impact Assessment Report*, the proposed project pumping will not result in changes to Colorado River water flows, measurable changes in the PVID drain system or adverse impacts to the drains or Colorado River system. Furthermore, if purchase of Colorado River water or non-Colorado River replacement water is required in the future under terms of the lease agreement, this purchase will occur within MWD's approved authority and within its allocated rights to divert and distribute Colorado River water. Since MWD's diversion of Colorado River water would be decreased by an amount equal to project pumping, while at the same time the pumped groundwater would be taken from storage, local recharge and intercepted discharge to the PVID drain system, the net effect of the program would be a slight increase in Colorado River flows.

Data Request:

134. If MWD would be a water supplier to the Rio Mesa Solar Electric Generating Facility (Rio Mesa SEGF) project for the purposes of Water Code section 10910, please provide a copy of the MWD's water supply assessment for the proposed project.

Response:

As discussed in the response to DR 131, the project proposes to pump groundwater from beneath property under an overlying water right. This right will be exercised under the project's lease agreement with

[13] MWD Annual Report 2011. Available at: http://www.mwdh2o.com/mwdh2o/pages/about/AR/AR11.html.

MWD, but MWD will not be delivering water to the site or acting as water supplier. The project's lease agreement with MWD stipulates that "[i]n the event that the BOR, or any other agency with jurisdiction over the water, determines that the groundwater pumping constitutes a diversion or use of Colorado River water, Tenant shall retroactively and thereafter purchase the groundwater pumped from the site by exchange for an equal amount Owner's non-Colorado River water in accordance with the Owner's authority to deliver water to Tenant for electric power generation purposes."

The exchange would take place within MWD's existing system and authority, and under the MWD *Regional Urban Water Management Plan*, dated November 2010.[14] The project would continue to rely on groundwater it pumps from beneath the site as a water supply, and would not be connected to a public water supply system. MWD's sole responsibility in this endeavor would be to provide a Colorado River water allotment for the pumped groundwater via exchange with an equal volume of non-Colorado River water elsewhere in MWD's water supply system.

Based on the above, a new Water Supply Assessment would not be required for the project. Nevertheless, the *Groundwater Impact Assessment Report* prepared by WorleyParsons and dated September 2011 (included as Appendix 5-15G of the AFC) contains and addresses the technical elements required in a Water Supply Assessment for a project that relies on groundwater for its water supply, as discussed further below.

SB 610 makes changes to the Urban Water Management Planning Act to require additional information in Urban Water Management Plans if groundwater is identified as a source available to the supplier. The information required includes a copy of any groundwater management plan adopted by the supplier, a copy of the adjudication order or decree for adjudicated basins, and if non-adjudicated, whether the basin has been identified as being overdrafted or projected to be overdrafted in the most current California Department of Water Resources (DWR) publication on that basin. If the basin is in overdraft, that plan must include current efforts to eliminate any long-term overdraft. A key provision in SB 610 requires that any project subject to the California Environmental Quality Act supplied with water from a public water system be provided a specified water supply assessment, except as specified in the law. Included in the assessment is an evaluation of impacts resulting from use of groundwater in dry and critically dry years (defined as three drought years in succession).

The above requirements are addressed as follows:

- No agency has adopted or is required to prepare an Urban Water Management Plan or a Groundwater Management Plan that encompasses the Palo Verde Mesa Groundwater Basin (PVMGB).
- The PVMGB is not an adjudicated groundwater basin.
- The PVMGB has not been identified as being in overdraft or projected to be overdrafted by DWR.

[14] MWD Regional Urban Water Management Plan, November 2010. Available at: http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf

- Evaluation of baseline water level trends, including comparison of hydrographs for wells in the basin to precipitation records does not indicate distinct trends indicative of climatic influence during dry or critically dry years.
- Evaluation of groundwater resources impacts, including modeling, do not project overdraft conditions or limitations on projected groundwater pumpage during dry or critically dry years.

Data Request:

135. If MWD is not a water supplier for the purposes of Water Code section 10910, please provide documentation from MWD that explains why MWD would not be a water supplier for the Rio Mesa SEGF project.

Response:

Please see response above under DR 134.

Data Request:

136. Please provide an electronic copy of the groundwater model used for the project.

Response:

Applicant has provided (via CD) an electronic copy of the groundwater model used for the project. A copy of this CD will be provided to the CEC and all parties on the Proof of Service list.

Data Request:

137. Please provide an electronic copy of the groundwater model input and output files for each model run presented in the AFC.

Response:

Applicant has provided (via CD) an electronic copy of the groundwater model input and output files for the project. A copy of this CD will be provided to the CEC and all parties on the Proof of Service list.

Data Request:

138. Please provide an electronic copy of the precipitation data used in the Flo-2d modeling and the references for the source of the precipitation data used.

Response:

Applicant has provided (via CD) an electronic copy of the precipitation data used in the Flo-2d modeling and the references for the source of the precipitation data used. A copy of this CD will be provided to the CEC and all parties on the Proof of Service list.

Data Request:

139. Please conduct an analysis of the RO system to determine the average and maximum salt production rates on a monthly basis.

Response:

Please see the Table DR 139-1 for preliminary RO analysis Table DR 139-2 for preliminary salt production rates.

Table DR 139-1. Preliminary RO Analysis

Constituent List	Maximum Concentration Raw Water Quality[1] (mg/L or ppm)	RO Reject Concentration w/ 80% Recovery Rate[2] (mg/L or ppm)	RO Reject Concentration w/ 95% Recovery Rate[3] (mg/L or ppm)
Title 22 Metals:			
Antimony	<0.000380	0.002	0.009
Arsenic	0.0129	0.08	0.31
Barium	0.0845	0.6	2.1
Beryllium	< 0.000131	0.0008	0.0031
Cadmium	< 0.000266	0.002	0.006
Chromium	0.00351	0.02	0.08
Cobalt	< 0.000618	0.004	0.015
Copper	0.05	0.32	1.18
Lead	< 0.0483	0.002	0.008
Mercury	< 0.0000348	0.0002	0.0008
Molybdenum	0.0589	0.4	1.4
Nickel	0.0117	0.077	0.283
Selenium	0.00461	0.029	0.109
Silver	< 0.000120	0.001	0.003
Thallium	< 0.000498	0.003	0.012
Vanadium	< 0.000790	0.005	0.019
Zinc	0.350	2.2	8.2
Base Cations			
Calcium	89.8	575	2,120
Magnesium	19.1	128	471
Sodium	615	3,931	14,484
Potassium	11	70	259
Other Metals:			
Aluminum	< 0.0105	0.067	0.247
Iron	0.321	1.9	7.1
Manganese	0.0188	0.13	0.47
Anions:			
Fluoride	4.2	27	99
Chloride	740	4,730	17,428
Nitrate, ppm as N	<0.017[5]	0.03	0.12
Total Alkalinity, ppm as $CaCO_3$	140	1,023	3,768
Sulfate	450	2,876	10,598

Table DR 139-1. Preliminary RO Analysis

Constituent List	Maximum Concentration Raw Water Quality[1] (mg/L or ppm)	RO Reject Concentration w/ 80% Recovery Rate[2] (mg/L or ppm)	RO Reject Concentration w/ 95% Recovery Rate[3] (mg/L or ppm)
o-Phosphate, ppm as P	< 0.047	0.30	1.11
Bicarbonate, ppm as $CaCO_3$	140	895	3,297
Hydroxide, ppm as $CaCO_3$	< 0.85	5.4	20
Silica:			
Total Silica	37	236	871
Dissolved Silica	35	224	824
Colloidal Silica (reactive)	N/A	192	707
General Water Quality Parameters:			
Specific Conductivity (SC), umhos/cm	2,900	TBD	TBD
Total Dissolved Solids[4]	**2,162**	**13,816**	**50,906**
pH, s.u.[4]	5.4 - 8.9	6 - 8	6 - 8
Turbidity, NTU	< 0.1	N/A	N/A
Total Suspended Solids (TSS)	9	58	212
Phosphorus	0.35	2.2	8.2
Carbon Dioxide	12	N/A	N/A
Total Organic Carbon (TOC)	0.12	0.77	2.83
Other Priority Pollutants:			
Cyanide	< 0.050	0.32	1.18
SVOCs [Bis (2-Ethylhexyl) Phthalate]	< 10	TBD	TBD
OCPs	ND	TBD	TBD
PCBs	ND	TBD	TBD
VOCs (toluene)	1.4	TBD	TBD

Notes:

1. Maximum concentration raw water quality was extrapolated from available well water analysis and is consistent with data provided in AFC.
2. RO projections will be developed during detailed design once a water treatment supplier is determined. 100 percent salt rejection by the RO membranes is provided in the columns above; however, based on the valence and permeability through the membrane during operation, the concentration could be lower (i.e. salt could pass through the membrane into the permeate). To account for variations in raw water concentrations, a design margin of 30 percent was added.
3. Current raw water treatment configuration has a chemistry limited recovery rate of 80 percent. Through additional optimization of the raw water treatment system design, the recovery rate could increase to as high as 95 percent; however, this recovery rate cannot be guaranteed to operate at this time. The concentration of the raw water treatment reject at 95 percent is for reference only. To account for variations in raw water concentrations, a design margin of 30 percent was added.
4. pH and TDS of any of the treatment streams will be dependent on the operation (i.e. which train is in backwash, cleaning modes, etc.). A range of 6-8 is considered to envelope all operating conditions. For purposes of calculations, the TDS is provided as a calculated number based on constituent concentrations.
5. Nitrate concentration of 2 ppm as N in the well water was observed in 1976; however, during recent testing nitrate has not been observed in the ground water (non-detectable). The 1976 (highest) concentration is considered to be representative of nitrate levels at that time, but has since decreased to undetectable levels.

Table DR 139-2. Preliminary Salt Production Rates

Constituent List	Salt Production Rates[1] (lbm/day)	Salt Production Rates[2] (lbm/year)	Average Monthly Salt Production[2] (lbm/month)	Maximum Monthly Salt Production[3] (lbm/month)
Title 22 Metals:				
Antimony	0.0015	0.35	0.029	0.046
Arsenic	0.05	11.9	1.0	1.56
Barium	0.35	83	6.9	10.8
Beryllium	0.0005	0.120	0.010	0.0157
Cadmium	0.0010	0.24	0.02	0.032
Chromium	0.014	3.2	0.27	0.42
Cobalt	0.0024	0.57	0.047	0.074
Copper	0.20	46	3.8	6.0
Lead	0.0013	0.30	0.025	0.040
Mercury	0.00014	0.032	0.0027	0.0042
Molybdenum	0.23	54	4.5	7.1
Nickel	0.05	11.0	0.92	1.44
Selenium	0.018	4.2	0.35	0.55
Silver	0.0005	0.110	0.0092	0.0144
Thallium	0.0020	0.46	0.038	0.060
Vanadium	0.003	0.73	0.061	0.095
Zinc	1.4	322	27	42
Base Cations:				
Calcium	354	82,719	6,893	10,780
Magnesium	79	18,382	1,532	2,396
Sodium	2,422	565,246	47,104	73,665
Potassium	43	10,110	843	1,318
Other Metals:				
Aluminum	0.041	9.7	0.80	1.26
Iron	1.181	276	23	36
Manganese	0.079	18	1.5	2.4
Anions:				
Fluoride	17	3,860	322	503
Chloride	2,914	680,133	56,678	88,638
Nitrate, ppm as N	0.020	4.6	0.38	0.60
Total Alkalinity, ppm as $CaCO_3$	630	147,056	12,255	19,165
Sulfate	1,772	413,594	34,466	53,901
o-Phosphate, ppm as P	0.19	43	3.6	5.6
Bicarbonate, ppm as $CaCO_3$	551	128,674	10,723	16,769
Hydroxide, ppm as $CaCO_3$	3	N/A	N/A	N/A
Silica:				
Total Silica	146	34,007	2,834	4,432
Dissolved Silica	N/A	N/A	N/A	N/A
Colloidal Silica (reactive)	TBD	TBD	TBD	TBD
General Water Quality Parameters:				
Specific Conductivity (SC), umhos/cm	TBD	TBD	TBD	TBD
Total Dissolved Solids (TDS)[2]	8,512	1,986,677	165,556	258,913

Table DR 139-2. Preliminary Salt Production Rates

Constituent List	Salt Production Rates[1] (lbm/day)	Salt Production Rates[2] (lbm/year)	Average Monthly Salt Production[2] (lbm/month)	Maximum Monthly Salt Production[3] (lbm/month)
pH, s.u.[2]	N/A	N/A	N/A	N/A
Turbidity, NTU	N/A	N/A	N/A	N/A
Total Suspended Solids (TSS)	35	8,272	689	1,078
Phosphorus	1.4	322	27	42
Carbon Dioxide	N/A	N/A	N/A	N/A
Total Organic Carbon (TOC)	0.47	110	9.2	14.4
Other Priority Pollutants:				
Cyanide	0.20	46	3.8	6.0
SVOCs [Bis (2-Ethylhexyl) Phthalate]	TBD	TBD	TBD	TBD
OCPs	TBD	TBD	TBD	TBD
PCBs	TBD	TBD	TBD	TBD
VOCs (toluene)	TBD	TBD	TBD	TBD

Notes:

1. Column provides salt production in lbm per day and month based on each of the three (3) plants requiring a maximum well withdrawal rate of 363,000 gallons for Raw Water Treatment makeup during peak summer conditions.
2. Columns provides salt production in lbm per day and month based on Rio Mesa SEGF requiring a total of 260 acre-feet per year of well water for makeup. To account for variations in raw water concentrations, a design margin of 30 percent was added.
3. pH and TDS of any of the treatment streams will be dependent on the operation (i.e. which train is in backwash, cleaning modes, etc.). A range of 6-8 is considered to envelope all operating conditions. For purposes of calculations, the TDS is provided as a calculated number based on constituent concentrations.

Data Request:

140. *Please provide a discussion of potential salt accumulation using the longest period the salt may have to be stored on site.*

Response:

Currently Rio Mesa is designed to have two (2) two-acre evaporation ponds (with wildlife mitigation). Based on a dried sludge density close to that of dried gypsum (70-100 lbm/ft^3), each pond can hold approximately 3,050-4,360 tons per foot of sludge. 1,000 tons per year of sludge will be produced based on RMSEGF using 260 acre-feet/year of 2,162 ppm TDS.[15] This value also includes a 30 percent design margin to account for variations in raw water quality. At this rate, each pond will be able to hold 3-4 years' worth of water usage before sludge will need to be removed. The current area of the ponds is based on providing enough evaporation area so that no substantial accumulation of water is experienced during operation. During operation, the concentration of each constituent will meet its respective solubility limits and begin to fall out of the water, along with the precipitation of salts such as $NaHSO_4$, $CaCO_3$, $CaPO_4$, $CaSO_4$, and NaH_2PO_4. Table DR 139-2 provides each constituent's estimated maximum daily salt production rate (in lbm/day), annual salt production rate (in lbm/year), maximum monthly salt production rate (in lbm/month) and average monthly salt production rate (in lbm/month).

[15] 260 acre-feet/year * 325,851 gallons/acre-feet * 8.345 lbm/gal * 2,162 ppm *1.3 / 1,000,000 = 1,000 tons

Data Request:

141. Please provide an analysis showing all the constituents potentially detrimental to flora and fauna that may be present in the reject of the RO system and plans to mitigate such constituents.

Response:

The Applicant assumes there will be no detrimental effects on flora or fauna because the RO reject water will be discharged directly to a newly constructed netted evaporation pond.

Data Request:

142. Please provide all information necessary to file a Report of Waste Discharge to the Regional Water Quality Control Board (RWQCB) and Energy Commission staff, and include the appropriate application fee to the RWQCB. This should include design details for evaporation ponds where generated salts will be stored.

Response:

Please see Supplement 1A to the Application for Certification docketing December 9, 2011, for answers to this data request.

Data Request:

BLM 1. Please provide a detailed description of the MWD mitigation program. The description should include but not be limited to the following:

f. Demonstration that returning the exchange water to the Colorado River has no negative environmental consequences.
g. With regard to Part 2.4(d) of the Agreement for Environmental Review and Option to Lease land from MWD, how paying the owner the purchase price of water from an alternative source that still involves the use of Colorado River Water would mitigate impacts of that water use on the Colorado River.
h. With regard to item (g) above, how water from an alternate source would be delivered to and stored at the project site.

Response:

f. If it is determined by the BOR that RMSEGF groundwater pumping constitutes a diversion or use of Colorado River water, such diversion would be offset through the exchange described in the lease agreement (provided as Appendix 5.15B of the Application for Certification). No water would be added or returned to the Colorado River or otherwise supplied to the project. As such, no negative environmental consequences will occur.
g. The BOR letter (see Response to Data Adequacy Review, Attachment 5.15-1) states there is no expected impact to the Colorado River. However, in the event that is incorrect, the lease agreement describes the mechanism through which impacts to the Colorado River will be eliminated.

h. The project proposes to use groundwater pumped from directly beneath the project site. There is no plan, proposal, or intention to deliver or store water from an alternate source. Any payment to MWD for water from an alternate source will be used by MWD to offset Colorado River water attributed to the project.

Data Request:

BLM 2. During the NEPA process, the applicant will need to prepare a plan for monitoring project impacts to groundwater, including a map of existing and proposed monitoring wells and what data would be recorded from each, at what time intervals, and to whom and how often the data and analyses would be presented. At a minimum, results should be sent regularly to relevant CEC and BLM staff.

Response:

The Applicant expects to prepare a groundwater level and quality monitoring plan for approval by the CEC and BLM in accordance with the Conditions of Certification that will be developed for the project as a result of the AFC and NEPA process.

Data Request:

BLM 3. The Groundwater Impact Assessment Report (GIAR) assumes that three wells, drilled side-by-side near the center of the project area, would be providing project water; yet the applicant's Plan of Development (POD) states that the three wells would be spaced out, one per plant site. There should be some assessment as to how this could affect the depth and extent of the pumping cones of depression.

Response:

There will be two production wells in the Common Area which will provide water for project construction and operation, and a third well in the Common Area will provide water to the Administration and Maintenance complex. Applicant also is considering small domestic-water-only wells at each plant. Total water usage and waste streams would not increase by addition of these three wells.

Data Request:

BLM 4. Both in accordance to modeling results and the response to item 2 above, the applicant should provide an estimate of the percent and volume of drawdown occurring beneath BLM-administered land vs. MWD land.

Response:

Applicant has calculated the volume between the initial groundwater level and the predicted groundwater level at the end of project pumping as shown on Table BLM 4-1. The result is an estimate of the decrease in groundwater storage resulting from the project. The approximate volume of the aquifer based on a

Department of Water Resources (DWR) estimate from 2004 is in excess of 6.8 million acre-feet in storage. The results are summarized as follows:

Table BLM 4-1. Estimate of Decrease in Groundwater Storage Resulting from Project

Surface Owner	Approx. Decrease in Storage (acre-feet)	Percent Decrease in Storage (based on 6.8 million acre-feet volume)
MWD and other Private Land	1,533	0.02254%
BLM Land	336	0.00494%
Total	1,869	0.02748%

The above analysis was based on the modeled location of the pumping wells in the common area of the project, which is located on MWD-owned land. As indicated in the response to BLM 5, below, one temporary groundwater production well may be installed beneath the northernmost solar field, though still on MWD land, to provide water during construction. If this were done, a small amount of the total storage decrease would shift from beneath MWD land to beneath BLM land as shown in Table BLM 4-2. Groundwater pumping from this temporary well would not exceed 100 acre-feet per year during the first two years of construction, and would likely be less.

Table BLM 4-2
Estimate of Decrease in Groundwater Storage Resulting from Project and Temporary Groundwater Production Well

Surface Owner	Approx. Decrease in Storage (acre-feet)	Percent Decrease in Storage (based on 6.8 million acre-feet volume)
MWD and other Private Land	1,333	0.01960%
BLM Land	536	0.00788 %
Total	1,869	0.02748%

Data Request:

BLM 5. The GIAR models pumping of 400 AFY during construction, dropping to 260 AFY during operations. However, according to the POD (Section 3.2.5.2), this does not appear to include water needed for dust abatement on roads and graded surfaces. If so, this additional water usage, which appears to be up to 200 AFY (second paragraph of Section 3.2.5), needs to be addressed in both the POD (Table 3-2) and the model. Based on comparison to proposed water usage from other solar thermal projects in the area such as the Solar Millennium Blythe project (0.117 AFY/acre) and the NextEra Genesis Ford Dry Lake project (0.452 AFY/acre), the proposed water usage during construction of this project (0.055 AFY/acre) appears surprisingly low, suggesting that overall construction water usage for this project may have been underestimated, as well as the potential impacts of associated pumping.

Response:

There is a major difference among the referenced projects and the Rio Mesa SEGF project. Both the Solar Millennium Blythe and NextEra Genesis Ford Dry Lake projects require large-scale grading of the entire sites, and large amounts of water for dust control as a result. BSE's installation method results in minimal disturbance in the solar field and the preservation of most flora and fauna. The Ivanpah SEGS project in San Bernardino County will result in more than 66 percent, of the site being left undisturbed and similar construction practices are anticipated for Rio Mesa SEGF. Also, as stated in Table 3-2, Section 3.2.5.1 of the revised POD (February 10, 2012), water required for dust control during operations is expected to be minimal. One of the greatest benefits of BSE's power tower technology is the lack of trenching and grading over the majority of the project site, resulting in vastly decreased water requirements during construction.

Data Request:

BLM 6. It is also unclear from the POD the amount of water that would be required for wet cooling during times when ambient temperatures exceed 85 degrees F, nor whether this volume has been incorporated into the water usage estimates in Section 3.2.5. If it has not, this volume also needs to be addressed in both the POD and the GIAR.

Response:

Rio Mesa SEGF will require approximately 100 acre-feet/year of water for WSAC evaporation alone for all three plants, which was included in the 260 acre-feet/year annual usage rate provided in the AFC, revised POD and GIAR.

During operation, the ambient dry bulb will raise above 85°F. When this occurs, the dry fin-fan cooling section of the auxiliary cooler will be unable to adequately provide cooling to the close cooling water system. When this occurs the Wet Surface Air Cooler (WSAC) will operate. The WSAC operates by inducing air to move downward over a set of tubes. Circulating water is sprayed over the tubes and flows downward along with the air. Heat from the CCW system is released to the falling water where vaporization transfers the heat to the air stream. The air stream makes a 180° turn inside the WSAC basin to provide maximum free water removal (lower PM_{10} emission). Fans on top of the outlet of the WSAC discharge the air stream. Through this action, water is evaporated to provide the cooling effect.

Approximately 4,000 gpm of circulating spray water is recycled within the WSAC system during operation. Due to the air stream turning 180°, drift is negligible; but will be maintain below a maximum of 0.0005 percent. This results in 0.02 gpm (14 gallons per day / 0.006 acre-feet/year) of drift.

Based on preliminary design of the WSAC, approximately 100 gpm will be evaporated while the system is in operation. The WSAC is designed to run while the plant is in operation (12 hours per day). Approximately 72,000 gallons per day of water is evaporated per plant. A total 216,000 gallons will be evaporated per day in Rio Mesa SEGF.

In addition, the WSAC will blowdown approximately 1.4 gpm (1,000 gallons per day) to maintain non-scaling chemistry in the WSAC circulating water, which will be recovered by the wastewater treatment system located in each power block. The WSAC will operate for 1,805 hours per year at 100 gpm evaporation rate; therefore, the annual evaporation rate will be 33.3 acre-feet/year,[16] which for three facilities is 100 acre-feet/year.

Data Request:

BLM 7. If further analysis concludes that the 600 AFY allowed to be pumped from MWD land may be insufficient for water needs during construction, an alternate source needs to be identified—in particular, the applicant needs to state whether it would seek to drill any wells beneath BLM-administered portions of the project area.

Response:

We are confident the construction and operational water demand for the project will not exceed 600 AFY (see response to BLM-5 above). Whether or not additional temporary water supply wells will be installed to support the construction water demand is currently being evaluated. Temporary wells being considered would not cause water demand to exceed 600 AFY.

Data Request:

BLM 8. The applicant will need to provide to BLM a set of detailed 30 percent design maps and diagrams. These should include locations of water wells, locations and dimensions of reverse osmosis waste stream storage basins, stormwater diversion basins, berms, water tanks, pipelines, etc. Without these, the storm flow and scour analyses may not provide adequate results for the areas where those facilities or structures would be sited or for areas downslope.

Response:

The Applicant provides the following individual drawings and diagrams to address the specific items requested above:

- *Location of water wells* – Drawing number 25755-000-C2K-0000-00001 Rev A (Attachment BLM 8-1) shows the Site Plan with three 50 percent capacity production wells in the common area. In addition, there is one domestic water well per plant located within each power block of units 1 and 2 and the solar field of unit 3.

- *Locations and dimensions of reverse osmosis waste stream storage basins (Evaporation ponds),* drawing number 25755-009-P1K-0910-00001 (Attachment BLM 8-1) shows the Evaporation ponds location at the Common facilities are relative to the facility general arrangement . See also Drawing number 25755-000-C2K-0000-00001 (Attachment BLM 8-1) for location in the overall site

[16] 1,805 hrs/year * 60 min/hr * 100 gal/min / 325,851 gal/acre-feet = 33.3 acre-feet/year

- *Location and dimensions of stormwater retention ponds.* Stormwater retention ponds will not be used in this project.

- Diversion berms: the following drawings (see Attachment DR 91-1) show the rough grading for each of the power blocks and the common area showing the storm water diversion berms and channels.

    - 25670-001-CG-0010-00001 Unit 1 Rough Grading and Drainage Plan

    - 25670-002-CG-0010-00001 Unit 2 Rough Grading and Drainage Plan

    - 25670-003-CG-0010-00001 Unit 3 Rough Grading and Drainage Plan

    - 25670-009-CG-0010-00001 Common Area Rough Grading Plan

- *Location of water tanks*, See Drawing number 25755-001-P1K-00001 (Attachment BLM 8-1) shows the specific location of each tank relative to the Power block equipment and structures general arrangement. Note that the entire power block is oriented differently for each unit, drawing number 25755-009-P1K-0910-00001 (Attachment BLM 8-1) shows the tanks location at the Common facilities are relative to the facility general arrangement.

- *Location of Pipelines, etc.* drawings showing underground pipelines, electrical duct banks (that may be underground) are not available until shortly before construction begins, nor is detailed design required at this stage of the certification process. That being said, the pipelines and electrical duct banks that are not within the power blocks themselves will follow currently planned roadways, and not result in additional ground disturbance.

Data Request:

BLM 9. Color coding in the legends for the scour maps is non-intuitive and confusing, making it difficult to review the results. The colors should be graded similar to those presented in the stormflow flow depth maps.

Response:

The color coding for the scour and deposition maps have been adjusted to match the color schemes within the storm flow depth maps. Attachment BLM 9-1 includes the revised scour and deposition maps: 7323-Flo2d-dep.pdf and 7323-Flo2d-scour.pdf.

Data Request:

BLM 10. The results of scour modeling appear to show fairly extensive scour in some areas where the applicant proposes to place heliostats, in particular the northernmost portion of the central solar field. There should some discussion as to whether the results of the storm flow and scour models, as well as areas of potential headcutting, may require adjustment of the overall solar project footprint. If no adjustment is proposed, the applicant should propose mitigation measures that would ensure project design would not enhance the natural scour and deposition occurring in portions of washes and headcut areas to be occupied by project components.

Response:

As discussed in the Appendix 5.11B of the AFC, "Final Erosion, Scour, and Sediment Transport Report," the primary mitigation concept being used within the solar field is to determine a suitable design scour depth that is rational and practical. The 99th percentile scour depth was chosen as the scour depth that will provide adequate flood protection for the vast majority of the heliostat fields. Embedment depth to accommodate the maximum scour depth, as determined in the analysis, isn't warranted and is impractical as all the heliostats onsite must be embedded to a uniform depth and considering that the maximum scour depth potentially affects a very small percentage of the total heliostats. The pylons are designed to remain stable under the recommended design scour depth of approximately 3 feet in combination with other applicable code requirements such as wind load. Hence, the heliostat can be scoured nearly 3 feet and still survive the design wind load event. Per the sediment analysis completed, the calculated 99th percentile 100 year scour depth envelops 41,896 onsite FLO-2D grid cells. Based on the 75'x75' grid cell dimensions this equates to approximately 5410 acres of onsite area. Of the 41,896 grid cells, FLO-2D determined 71 grid cells (9.2 acres) to have scour depths above the 99th percentile scour depth. The head cut analysis determined an additional 51.3 acres of area above the 99th percentile scour depths. However, it should be noted that no head cutting potential was observed in the northernmost portion of the central solar field referred to in the comment. Hence, only the FLO-2D analysis determined any scour depths above the 99th percentile for this area which was determined to be 27 grid cells or 3.5 acres. When this relatively small area is coupled with the 22 percent probability of the 100-year storm event occurring during a 25-year permitting life Applicant believes the level of protection being recommended is adequate.

In conjunction with the embedment design depth, the report recommends that the owner develop a regular maintenance procedure after storm events as an important part of an ongoing erosion mitigation plan. The maintenance program could be adjusted to take into account the results of actual storm event impacts to provide the needed mitigation measures for different areas of the solar field. The Final Erosion, Scour, and Sediment Transport Report provides an analysis for a potential scour mitigation measure using riprap within trenches in the northwest areas predicted to have high scour potential. This can be used to augment routine maintenance after storm events. Implementing these measures into the maintenance program will provide a practical erosion control plan during the life of the facility.

Scour and deposition is a natural process that occurs continuously within the washes of the Rio Mesa site during storm events. Although the construction of the heliostats may cause local scour to occur around the pylons, most of the additional sediment will be deposited at nearby points within the solar field. This can be seen on the deposition map in Attachment BLM 9-1 that shows that sour and deposition processes occur adjacent to each other throughout the storm event. It is not uncommon for a scour hole developed at one point in a storm event to be filled during a later stage due to the decreased velocities within the scour area which causes sediment deposition to occur. A maintenance program is recommended to protect heliostats from accumulated scour as well as removal of deposited sediment that may interfere with regular heliostat maintenance. This regular maintenance program should provide adequate mitigation of scour and deposition of the solar fields after storm events.

Data Request:

BLM 11. The Overall Existing Condition Hydrologic and Hydraulic Analysis for the project models the large majority of offsite runoff during a 100-year storm (7,018 cubic feet per second[cfs]) occurring in the watershed that feeds into onsite basin ONA, compared with 523 cfs in the watershed feeding into onsite basin ONB. Yet it models the largest component of onsite flow occurring through onsite basin ONB (459 cfs) rather than basin ONA (176 cfs). This discrepancy is not discussed, nor whether it has affected the resulting maps of flow depth, velocity, etc.

Response:

The flow reported for ONA and ONB of 176 cfs and 459 cfs respectively, represents the 100-year storm flow runoff from those two onsite hydrologic basins. Basin ONB is 2.83 square miles in size while basin ONA is smaller at 0.87 square miles in size. The size difference of the basins is the reason that ONB produces more onsite runoff than ONA.

The upstream offsite basins are routed through basins ONA and ONB and reported as the flows at the combination points shown on Figure 7323HYD100 in Attachment BLM 9-1. Offsite tributary flows for the area upstream of basin ONB are reported at two locations. Combination point CP8 combines basins M5A, M5B and M6 producing 410 cfs during the 100-year storm event. CP9 combines CP8 and basins M5 producing 487 cfs during the 100-year storm event. CP10 combines CP9 with basin ONB at the downstream end of basin ONB producing 918 cfs during the 100-year storm event. This is the total discharge from basin ONB including all offsite tributary area during the 100-year storm event.

Offsite tributary flows for ONA are reported at several locations. CP11 is the combination of basins M3 and M4 producing 721 cfs in the 100-year storm event. CP12A combines CP11 and basin M2 producing 5,192 cfs during the 100-year storm event. CP12 combines the basins M13 and M1 producing 960 cfs during the 100-year storm event. CP12B combines CP12 and CP12A producing 6,070 cfs during the 100-year storm event. CP13 combines CP12B with ONA at the downstream end of basin ONA producing 6,232 cfs during the 100-year storm event. This is the total discharge from basin ONA and all offsite tributary area during the 100-year storm event.

The HEC-1 hydrographs are used in the FLO-2D analysis to determine flow depths and velocities for the site. No discrepancies were found and no revisions are required for the analysis.

Traffic and Transportation (Nos. 143-147)

Data Request:

143. Please provide observer incident luminous energies that would be experienced by workers, civilians, and motorists at representative viewing distances (e.g. for workers – distances from within heliostat fields, for civilians – distances from nearest residential areas, and for motorists – distances from State Route 10 and other nearby public roads).

Response:

The ocular impact on an observer, whether on- or off-site, from the SRSG and the heliostats is calculated as the retinal irradiance (Er). The calculation of Er takes under consideration the size of the light emitting object (SRSG), the intensity in W/m^2 (flux) at the observer location, and the parameter of the human eye. The level of exposure which is considered as the limit between safe and harmful is called Maximum Permissible Exposure (MPE) limit. The MPE which can be tolerated by the human eye is defined by Sliney and Freasier & el. they differentiated between two types: momentary exposure, correlated with the human blinking instinct, and continuous exposure.

- MPE for a momentary exposure (0.15s) is 1W/cm2 = 10,000W/m^2.
- MPE for continuous exposure is 0.1W/cm2 = 1,000W/m^2.

Personnel and others within the plant boundaries will not exceed the MPE. The intensity of light emitted from the SRSG is lower (by three orders of magnitude) than that of the sun (70 W/m^2 vs. 80,000 W/m^2). In order to model the worst case scenario, our calculations do not include the air attenuation. As a result the Er emitted on the retina under our calculations varies proportionally with distance only. Under worst case conditions, the irradiance to which an observer at 250 m from the SRSG is exposed is not greater than 50 W/m^2, and it decreases over distance (i.e., at 400 m it is less than 20 W/m^2.)

Residents and motorists outside the plant boundaries will not be exposed to Er levels beyond the MPE. The nearest public right of way is the rerouted Bradshaw Trail which is more than 0.5 miles from the nearest SRSG at its closest point. The nearest residence is 2.6 miles from the closest tower and the nearest highway, SR 78, is 2.8 miles from the nearest tower. At these distances the level of retinal irradiance exposure is less than 2 percent of the MPE for continuous exposure,

In normal operation, only the area of the SRSG (near the top of the tower) will receive concentrations of solar radiation. Locations on the ground, areas surrounding the footprint of the plant or airspace will not receive solar radiation concentrations above that of direct sunlight. Therefore, in normal plant operation, there is no potential for any plant sourced solar radiation exposure hazard to motorists, residents or any member of the public outside the boundary of the project.

In this case, since the human eye is affected by the full light spectrum, Flux (W/m^2) is the appropriate measurement to use rather than luminance measurements. Luminance measurements calculate light radiant energy that differs from the natural spectrum (limited to the energy in the visual spectrum).

Locations on the ground, areas surrounding the footprint of the plant, and the surrounding airspace, will not receive solar radiation concentrations above that of direct sunlight. This safe operation will be achieved with the following design and precautions:

- *Safe orientation as default orientation* – heliostats default to the safe orientation common to the whole field in all cases of malfunctions detected by the heliostat's controller, which ensures protection in most cases of malfunctions;

- *Safe path from any orientation to any other orientation* – when heliostats change their orientation, they choose a "path" which avoids reflected sunrays on all unintended areas (at least the tower and power block, and other designated sensitive areas).

- *Normal operation* - all the sunlight is reflected either on the receiver or the "standby" areas – located near the receiver – so that no other location receives solar radiation

- *Removal of flux due to high winds and all other known scenarios* – These are considered normal operation and covered by the operations mentioned above.

The project design will add any known sensitive point, such as a road or residence to the list of forbidden areas within each heliostat's controller. This way, each heliostat individually will avoid aiming reflected sunrays at the sensitive area which ensures that there will be no concentration of solar radiation on it. Therefore, there is no potential solar radiation exposure hazards and the reflected luminance for normal and emergency operation modes to motorists and residents.

To ensure that the heliostats will be operated in a way that avoids the possibility for inadvertent direction of unacceptable levels of light toward ground level locations surrounding the project site, Applicant will prepare a Heliostat Positioning Plan (HPP) similar to that implemented for the Ivanpah Solar Electric Generating System. The HPP will identify heliostat movements and positions, including those that would occur during reasonably possible malfunctions, which could lead to potential exposure of observer s at locations outside the site. The HPP will include a description of how the programmed heliostat operation would avoid potential exposure of viewers outside the site to unacceptable levels of reflected light. The HPP will also include a monitoring plan that would obtain field measurements in response to legitimate complaints, verify that the plan would avoid creation of hazards related to reflected light, and provide requirements and procedures to document, investigate, and resolve legitimate complaints.

Data Request:

144. Given the predicted observer incident luminous energies experienced by workers, civilians, and motorists at representative viewing distances, please address the impacts of apparent brightness, glare and visual disruption to these parties.

Response:

Workers, motorists and the public will not experience any adverse impacts from the apparent brightness of the SRSG or the heliostats. Residents and motorists will be no closer than 0.5 miles (Bradshaw Trail), 2.6 miles (nearest residence), and 2.8 miles (SR-78), respectively, from the closest SRSG. The apparent brightness of the SRSG is viewed in the context of a bright sunny day. Hence the apparent brightness of the SRSG will be in the context of observers' eyes being fully adapted to a bright environment and therefore will not create visual disruption or distraction. Even motorists that travel along roads adjacent the surrounding security fence of the project are at no risk for eye hazard as they will not experience solar irradiance greater than the MPE.

Similarly, workers that perform activities for extended periods of time in the close-in solar field and on the solar tower will not experience visual disruption or other harmful effects because they will be utilizing prescribed PPE as described in the response DR 145.

At all distances the Er is lower than the safe retinal irradiance (Ers) values (Figure DR144-1). As can be seen from the ray tracing results in Figure DR144- 2, the beam intensity does not exceed the 4.8 kW/m^2 and decreases to less than 1 kW/m^2 after 500 m; the retinal irradiance (Er) decreases quickly.

In addition, the heliostats are designed to reflect sunlight toward the SRSG at the top of the tower and are programmed such that reflectivity would never be directed toward ground level viewers located outside of the project site. Even under some infrequent circumstances where a heliostat that is not in operation might reflect sunlight onto ground level areas within the project site, the level of light concentration and beam size will not be high because the heliostat surfaces will be blocked to some degree by surrounding heliostats, reducing the amount of light that is actually reflected.

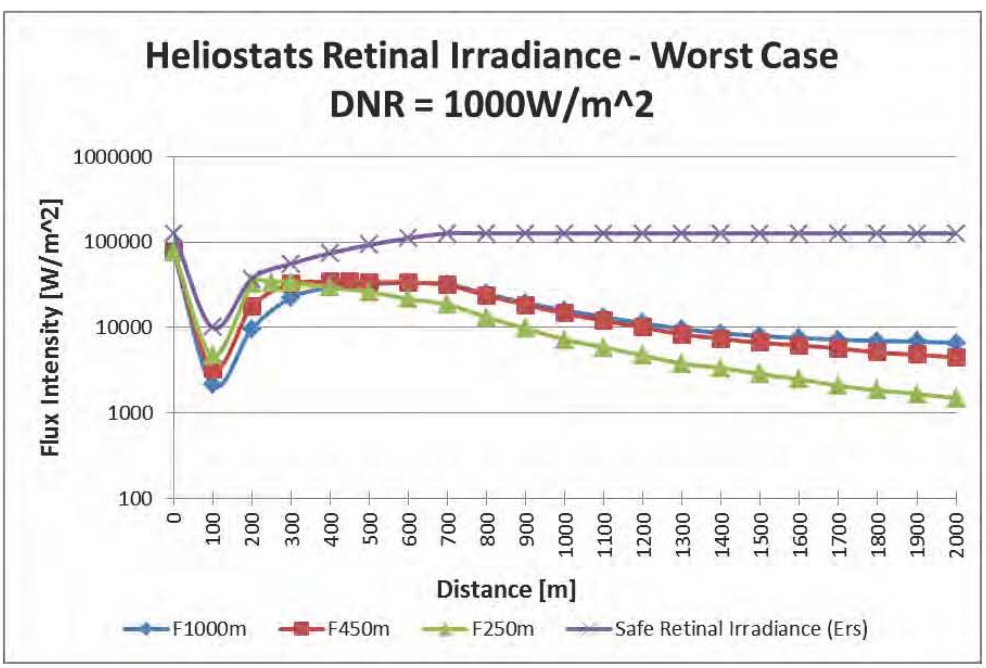


Figure DR144-1: Heliostats Retinal Irradiance (worst case)

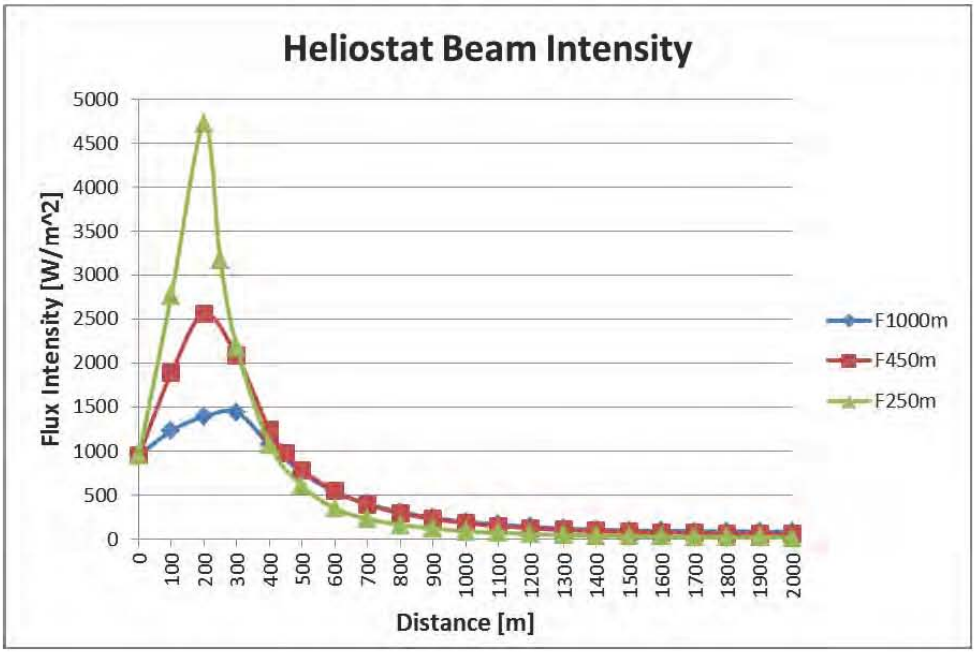


Figure DR144- 2: Heliostat beam intensity

Data Request:

145. Please address the potential for photochemical retinal damage to the public (both resident and non-resident) and project workers given the cumulative exposure effects of the combined terrestrial ambient and solar field/ tower exposure levels. Additionally, if found to be significant, please address any potential mitigating methodologies for both the general public and workers(e.g., worker sunglasses).

Response:

The potential for photochemical retinal damage to the public is not significant. Residents and most motorists will be 2.6 to 2.8 miles from the nearest tower. Motorists utilizing the re-routed Bradshaw Trail will be no closer than 0.5 miles from the nearest SRSG. At these distances and because these individuals will not experience long duration exposure, there is no risk for photochemical damage. At these distances the level of retinal irradiance exposure is less than 2 percent of the MPE for continuous exposure.

When evaluating the implications of these effects on the viewer of the tower or the heliostats, it must be noted that the effect is directly related to the ambient and background light conditions. The RMSEGF is located in a bright desert environment thereby reducing the potential chance for photochemical retinal damage. Nevertheless, to ensure the safety of the workers and others within the project boundaries, protective glasses will be provided. Protective glasses have been developed for workers engaged in intense solar field work, tower work, and intense close viewing of the SRSG.

Special safety glasses have been issued to the operators at SEDC, and the Coalinga and Ivanpah plants. The potential photochemical retinal hazards are calculated according to IEC 62471 standard (same as CIE S 009: 2002), titled: "*Photobiological Safety of Lamps and Lamp Systems*", where the spectral values

were taken from "ASTM G173-03 Reference Spectra Derived from SMARTS v. 2.9.2 (AM1.5)" and are the same as the "ISO 9845-1-1992."

Since the first standard is taken from laser safety it deals with 5 groups of wavelengths, 2 for far- and near-UV, (200-400nm, and 315-400nm, respectively), blue light hazard (300-700nm), and near- and far-infrared (380-1400nm and 780-3000nm, respectively).

In order to protect against injury of the eye (and skin) from radiation produced by the broadband spectrum of the sun, the effective integrated spectral irradiance, of the light source will not exceed the levels defined by the following equations.

$$\mathrm{Es}\cdot\mathrm{t} = \sum_{200}^{400}\sum_{\mathrm{t}} \mathrm{E}_{\lambda}(\lambda,\mathrm{t})\cdot\mathrm{Suv}\cdot\Delta\mathrm{t}\cdot\Delta\lambda \leq 30\ \mathrm{J/m^2}$$

Where **Es** is integrated spectral irradiance of the sun spectrum at this band; $\mathbf{E_\lambda}$ is the spectral irradiance in $W/m^2/nm$; $\boldsymbol{\Delta\lambda}$ is the bandwidth in nm; **Suv** is the actinic ultraviolet hazard weighting function; and **t** is the exposure time in seconds.

$$\mathrm{E_{uva}} = \sum_{315}^{400} \mathrm{E}_{\lambda}\cdot\Delta\lambda \leq 10\mathrm{W/m^2}$$

Where $\mathbf{E_{UVA}}$ is the near UV exposure limit. The equation is valid for t > 1000 sec. Since we are calculating exposure greater than 1000 sec we did not add the time dependency (working day is ~30,000 sec).

$$E_B = \sum_{300}^{700} E_{\lambda}\cdot\mathrm{B}(\lambda)\cdot\Delta\lambda \leq 1\ W/m^2$$

Where $\mathbf{E_B}$ is the blue light exposure limit, **B(λ)** is the blue light hazard weighting function. This is not an accumulated function; therefore, time exposure should not exceed 100 seconds.

$$L_R = \sum_{380}^{1400} L_{\lambda}\cdot R(\lambda)\cdot\Delta\lambda \leq 50000/\alpha\cdot t^{0.25}\ W/m^2/sr$$

Where $\mathbf{L_R}$ is the retinal thermal hazard exposure limit, $\mathbf{L_\lambda}$ is the spectral radiance in $\mathbf{W/m^2/sr/nm}$, **R(λ)** is the burn hazard weighting function, $\boldsymbol{\Delta\lambda}$ is the bandwidth in nm, **t** is the viewing duration at each friction, which is 10 seconds for our case, **α** is the angular subtends of the source. $\mathbf{L_\lambda}$ is achieved by dividing $\mathbf{E_\lambda}$ by the solid angle.

The infrared radiation hazard exposure limits (E_{IR}) are:

$$E_{IR} = \sum_{780}^{3000} E_{\lambda} \cdot \Delta\lambda \leq 100\ W/m^2$$

After processing the results from the last five irradiance equations, we developed protective sunglasses for the workers engaged in intense solar field work, tower work, and intense close viewing of the SRSG.

Data Request:

146. Please describe any strategy in the heliostat positioning algorithms to address the intermittent presence of aircraft for either known or unknown flight paths. Also, please address the amount of energy from the heliostats which spills beyond the tower and its potential for negative impacts on aviation safety.

Response:

The operation modes of the heliostat are described in the following paragraphs:

The heliostats have two drives that allow them to rotate along two degrees of freedom (azimuth and elevation). The azimuthal range is the full rotation along the vertical axis. The elevation range is from 0 (vertical mirrors, heliostat pointing horizontally) to 90 degrees (horizontal mirrors, heliostat pointing to the zenith). Heliostat movements cannot stray from these.

The wind protection and default position, called the "safe" position, is the 90 degrees elevation - the mirrors being in horizontal position facing the sky. This position minimizes the risk of damage from large wind loads and is also the default orientation of the heliostats in case of loss of communication with the plant's control system or dysfunction of the plant's control system. With the solar field in "safe" position, no higher flux concentrations will be obtained than that caused by the reflection of the sun on a reflective horizontal surface. Night stowage ("sleep") position is a vertical position.

As requested by Staff, Applicant is investigating whether the heliostat positions could be randomized in the safe position to look less like a water feature. It is important to note, however, that the solar fields have spaces between heliostats in the same row and access roads between rows of heliostats. Further, the heliostat fields tend to be denser closer to the tower and less dense moving out to the outer edges of the heliostat fields. Thus, given the breaks in heliostats in the same row, the breaks between heliostat rows, and the decreasing density moving from the power towers toward the outer edges of the heliostat fields, rather than being uniform and unbroken, the field will appear to be broken by such spacing and is unlikely to look like a large, continuous surface of a water body except from a great distance.

For normal operation, the heliostats will orient themselves according to their position in the field, day of the year, and time of day, in order to reflect the sun rays either on the SRSG ("tracking" orientation) or on an area (standby ring) nearby (far enough from the tower and SRSG to free them from radiation but close enough to allow the heliostats to quickly enter tracking mode, called "standby" orientation). All transitions from orientation to orientation are along a safe "path" that prevents reflected sunrays from reaching any forbidden area.

For morning startup, each heliostat will rotate along its two axes before sunrise in order to reach the "standby" position, which is specific to its position in the field and the day of the year. This can also be performed safely during daylight hours using a safe path as described in the previous paragraph.

In the evening, after sunset, the converse movement is performed, in which the heliostat rotates along its two axes from its last position (either a "standby" position or a "tracking" position) to its "sleep" position. The same remark applies: the field can be shut down before sunset if necessary, as its heliostats will use the safe path to reach their sleep position without reflecting sunrays on forbidden areas.

Reducing solar input to avoid overheating the receiver is performed by reorienting the heliostats from their "tracking" orientation to their "standby" orientation. This operation takes between a few seconds up to a minute, depending on the position of the heliostat in the field, day of the year, and time of day.

Load reduction can be performed by the heliostats by reducing solar input as described in the previous paragraph (switching the appropriate number of heliostats from "tracking" to "standby").

Based on this operating philosophy the standby ring will experience the most use in the morning hours to control overheating the receiver during load ramp up. The other period when a standby ring may be more intensely used is during a boiler trip event, however these events are expected to be seldom. During a large portion of each day, the number of heliostats aimed at the standby ring will be limited, and in the late afternoon, there may be no heliostats aimed at the ring area since the desire is to maintain maximum available generation as long as possible.

The heliostats are powered by a super-capacitor connected to an individual photovoltaic panel and are therefore unaffected by loss of AC Station Power in their capacity to move and to power their individual controller. If the control system of the plant is affected by the loss of power despite its uninterruptible power supply, the heliostats will react as in the same fashion as any other control system failure, by moving to safe orientation.

Washing is performed at night with the heliostats in orientation within the range appropriate to the washing machine chosen for the project. Typically, in terms of elevation, the heliostat will either be in a vertical position (like in sleep orientation) or in a horizontal position (like in safe orientation) for washing. The azimuth of the heliostats will be dependent on the path of the washing machine within the solar field.

Each heliostat has autonomous power and controller, allowing it to respond to loss of communication with the plant's control system or failure of the plant's control system by moving autonomously to the appropriate safe orientation.

The size of the site is defined according to the FAA regulations is the volume that encompasses the perimeter of the site and a height of 500 feet above the tower. This imaginary volumetric body is the control volume that the tracking system takes under consideration. In this volume the heliostats are programmed to concentrate flux in certain positions that will cause the flux leaving the imaginary control volume to scatter to a level that will cause no impact on aviation safety. The control system is designed so that solar flux will not exceed the MPE ($10 kW/m^2$) above this control volume.

Data Request:

147. Please address the frequency that the heliostats are in such standby positions, the amount of luminous energy that pilots could experience, and the potential for negative impacts on aviation safety from a glint and glare perspective.

Response:

BSE will not utilize standby points at the RMSEGF. RMSEGF will employ use of a standby zone, or ring that is located slightly above the SRSG. This strategy allows BSE to control the flux within the standby ring to be no more than 500 kW/m^2 and most times as described in DR 146, much less.

The McCrary study indicated that bird mortality from singeing and burning occurred when birds flew through the standby points at the Solar One project. The standby points for Solar One have been estimated by RMSEGF engineers based on knowledge of its operation and aiming controls to be approximately 1500 kW/m^2. No mortality was attributed to birds coming into contact or close proximity to the solar receiver, which was controlled at approximately 500-600 kW/m^2. The SRSG at RMSEGF will be limited to no more than 600 kW/m^2, and the standby ring will not exceed 500 kW/m^2.

Please see responses to DR 143, 144 and 146 for descriptions of heliostat positioning and activity, DR 143 and 144 for a description of the amount of luminous energy that pilots could experience, and DR 143 and 146 for a discussion of the potential for negative impacts on aviation safety from a glint and glare perspective.

Visual Resources (Nos. 148-154)

Data Request:

148. Please provide additional description of required night lighting. For example, would night lighting be restricted to the power block area? Would night lighting be required at the common area or any other locations? What specific night lighting requirements are needed for the mirror washing? Would night lighting be installed around perimeter fencing? What operations would require lighting, and could some of these be restricted to lighting during use only? Where would roadway lighting be introduced and of what type?

Response:

Night lighting would be required at each of the power blocks and the common area facilities. All lighting at the power blocks is provided for the safe operation of equipment and worker safety. It is anticipated that the CEC will require that light fixtures must be equipped with hoods to direct light downwards and minimize any night sky pollution. Applicant will comply with this anticipated requirement. Except for paved plant access roads, which will feature ground-based lighting, no night lighting is currently proposed for the perimeter fences, roadways or solar fields. Mirror washing operations would use portable and vehicle-mounted lights and will only be lighted during use for personnel and equipment safety.

A detailed temporary/construction lighting plan is being developed and will be submitted for approval prior to start of construction. A detailed operations lighting plan will be developed and submitted for approval prior to purchasing of permanent lighting fixtures.

Data Request:

149. Please provide a description of anticipated FAA-required lighting and marking.

Response:

The RMSEGF will employ a dual medium-intensity lighting system per FAA Advisory Circular AC 70/7460-1K, Obstruction Marking and Lighting. This dual lighting system includes red lights for nighttime and medium-intensity flashing white lights for daytime and twilight use. Both systems will not be operated at the same time; however, there will not be more than a 2-second delay when changing from one system to the other. Outage of one of two lamps in the uppermost red beacon or outage of any uppermost red light shall cause the white obstruction light system to operate in its specified “night” step intensity.

The light system will be controlled by a device that changes the system when the ambient light changes. The system should automatically change steps when the northern sky illumination in the Northern Hemisphere on a vertical surface is as follows:

a. Twilight-to-Night. This should not occur before the illumination drops below 5 foot-candles (53.8 lux), but should occur before it drops below 2 foot-candles (21.5 lux).
b. Night-to-Day. The intensity changes listed in subparagraph 83 above should be reversed when changing from the night to the day mode.

Four sets of lights will be installed at both 250' and 500', and one set will be installed at the height of the lightning antenna (760'). The lights at the 250' and 500' levels will be installed at opposite sides of the towers, such that at least two sets will be visible at any given time. Lights on all three towers will be synchronized.

Non-luminous marking is not typically required on structures lighted with medium-intensity flashing white lights for daytime and twilight use. However, due to the height of the towers, FAA may require either high-intensity flashing white lights or non-luminous marking in addition to medium-intensity flashing white lights. In such a case, BSE would propose increasing the lighting system to high-intensity flashing lights, rather than adding non-luminous marking, which could potentially result in significant adverse impacts to visual resources.

Data Request:

150. Please provide high-resolution image files of individual photos in the AFC visual discussion, including simulations and character photos, in jpg or tif format. Please do not provide "paired" before and after page layouts, but rather the individual photo image files at a resolution suitable from printing in ledger-size (11"x 17") format.

Response:

Applicant has provided (via CD) individual photos in jpg format from the AFC visual discussion, including simulations and character photos, requested in Data Request 150. A copy of this CD will be provided to the CEC and all parties on the Proof of Service list.

Data Request:

151. Please discuss the expected frequency, extent, brightness and appearance of visual scattering effects to the public during power generating operations.

Response:

Visual scattering will take place at high relative humidity, e.g., above 40 percent (see Figure DR 151-1 for an illustration of visual scattering at the Coalinga Solar-to-Steam Facility). Since the plant is located in a desert area and does not run when raining, this condition is quite rare when operating. We have examined the Rio Mesa site and the weather measurements of 2011 to determine typical occurrence of such conditions. See Table DR 151-1 and Figure DR 151-2.

Figure DR 151-1. Visual scattering at the Coalinga Solar-to-Steam Facility

On a yearly basis, out of the 8,760 hours of the year, half are night time and so are irrelevant; but for the other half, fewer than 3,500 daylight hours of the year are operational hours of the solar tower power plant, and potentially relevant to the RMSEGF. Only 300 hours (less than 10 percent of the total yearly operating hours) exceed 40 percent humidity and accordingly could produce visual scattering. As stated those hours are typical to the early morning and cooler periods of the year (i.e., winter) as can be seen in Table DR 151-1 and Figure DR 151-2. Meteorological analysis is based on actual site data (1 minute resolution) collected in 2011.

Table DR 151-1. 2011 Number of Days For Each Hour where DNI > 300 watts/ sqm & RH > 40 percent

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
Jan	0	0	0	0	0	0	0	11	9	5	3	3	0	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	3	9	6	6	4	3	1	1	1	1	1	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	10	11	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	1	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	5	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jun	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jul	0	0	0	0	0	4	3	2	3	1	0	0	1	1	1	1	1	2	0	0	0	0	0	0
Aug	0	0	0	0	0	1	4	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sep	0	0	0	0	0	0	8	6	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	4	20	15	10	7	6	5	2	1	1	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	12	9	7	6	5	5	4	5	5	0	0	0	0	0	0	0	0

Notes:
DNI – direct normal incidence
RH = relative humidity

Figure DR 151-2. Percent of Maximum Operating Hours with DNI greater than 300 W/m2 and RH greater than 40 Percent.

Data Request:

152. Please discuss the expected frequency and deleterious visual impact of visual scattering effects to the public during power generation operations in terms of any direct or cumulative adverse visual resource impact on the desert visual landscape.

Response:

No adverse impacts due to visual scattering are expected.

Data Request:

153. Please discuss the expected frequency, extent, brightness and appearance of visual scattering effects to the public during heliostat standby operations.

Response:

No anticipated differences between generating and standby operations. See response to DR 151.

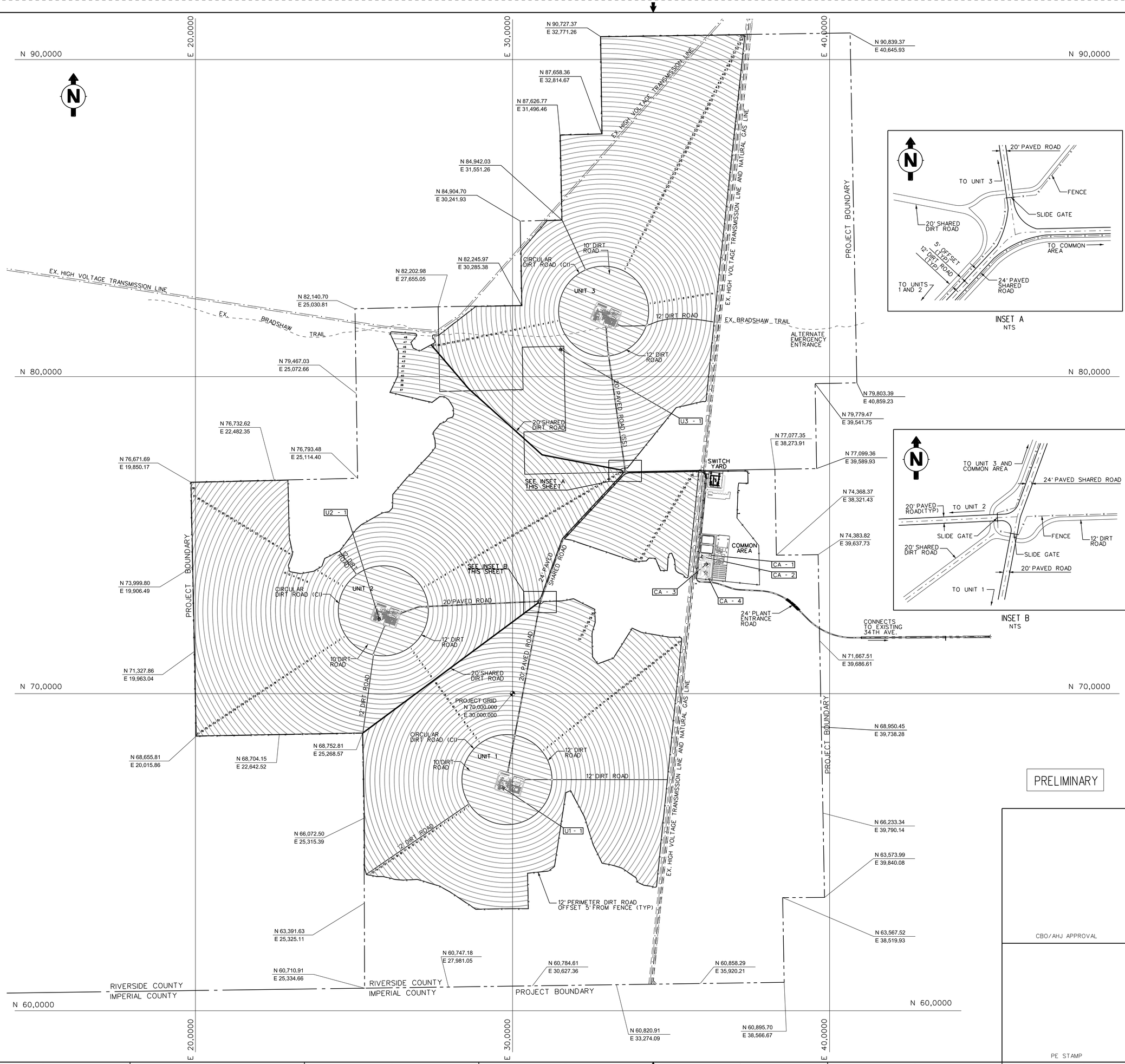
Data Request:

154. Please discuss the expected frequency and deleterious visual impact of visual scattering effects to the public during heliostat standby operations in terms of any direct or cumulative adverse visual resource impact on the desert visual landscape.

Response:

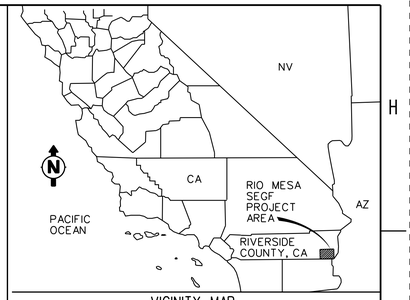
No adverse impacts due to visual scattering are expected.

ATTACHMENT BLM 8-1

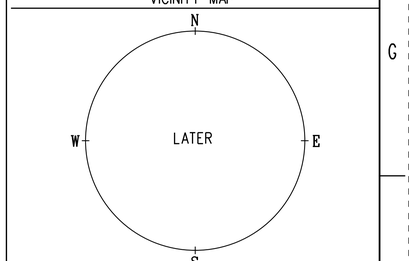


INSET A
NTS

INSET B
NTS



VICINITY MAP



ANNUAL WIND ROSE

NOTES:

1. SOLAR TOWER LOCATIONS:

PROJECT GRID COORDINATES			
UNIT	EASTING	NORTHING	COMMENTS
1	29,824.27	67,289.63	
2	25,924.66	72,612.47	
3	32,873.15	82,063.26	

COORDINATES GIVEN TO CENTERLINE POWER TOWER.

2. TOTAL NUMBER OF HELIOSTATS TO BE BETWEEN 80,000 AND 100,000 EACH UNIT.
3. HELIOSTAT MAINTENANCE PATHS TO BE 10' DIRT ROAD.
4. DISTANCE BETWEEN HELIOSTAT MAINTENACE PATHS TO BE 152.6 FT.
5. HELIOSTAT PYLON DENSITY:
   - NEAR TOWER (UP TO 400-500 METERS): 0.03-0.04 PYLONS PER SQUARE METER.
   - 1,000 METERS FROM TOWER: 0.01-0.02 HELIOSTATS PER SQUARE METER.
   - 2,000 METERS FROM TOWER: 0.005-0.01 HELIOSTATS PER SQUARE METER.

WELL LOCATION TABLE			
POINT NO	EASTING	NORTHING	DESCRIPTION
CA - 1	36242.385	74369.165	COMMON AREA WELL
CA - 2	35990.068	74316.427	COMMON AREA WELL
CA - 3	36110.095	74084.615	COMMON AREA WELL
CA - 4	36093.291	73824.986	CA MONITORING WELL
U1 - 1	29703.975	67027.062	UNIT 1 WELL
U2 - 1	25794.375	72354.714	UNIT 2 WELL
U3 - 1	31520.554	80858.585	UNIT 3 WELL

LEGEND:

PROJECT BOUNDARY

0 1000 2000 3000
1" = 1000'

PRELIMINARY

CBO/AHJ APPROVAL

PE STAMP

NO.	DATE	REVISIONS	BY	CHK	EGS				PE
A	27-MAR-12	ISSUED FOR REVIEW	LAP	VAW	DWF	-	-	-	TWA

SCALE: 1" = 1000' DRAWN: 27/03/2012 DATE: LAP

BECHTEL POWER CORP.
FREDERICK, MARYLAND
Dedicated to Zero Accident Safety and Quality Excellence

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RIO MESA SOLAR ELECTRIC GENERATING FACILITY

SITE PLAN WITH WELL LOCATIONS

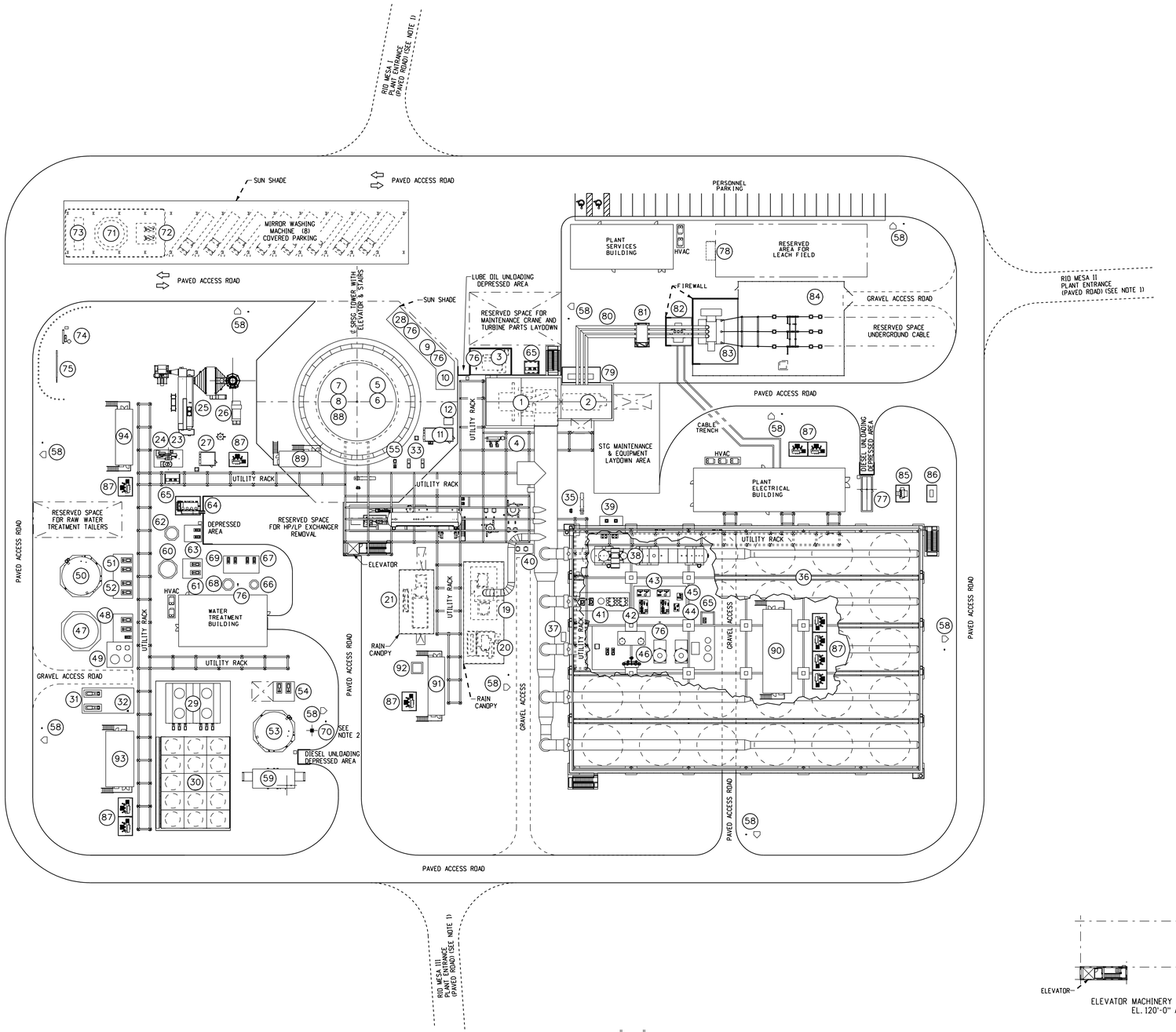
JOB NO.	DRAWING NO.	REV.
25755	000-C2K-0000-00001	A

34"X44" E SIZE

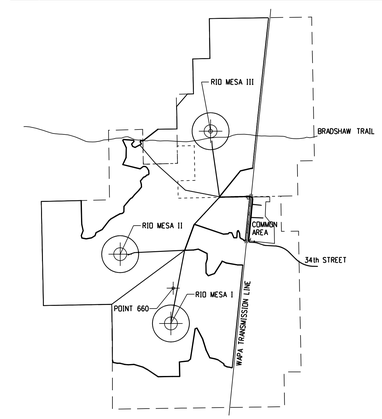
NOTES:

1. POWER BLOCK ARRANGEMENT FOR RIO MESA I, II AND III TO BE IDENTICAL WITH THE EXCEPTION OF PLANT ENTRANCE AND RADIAL DIRT ROAD LOCATIONS. SEE APROPRIATE CIVIL DRAWINGS.

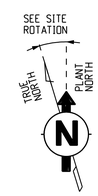
2. WELL LOCATION SHOWN IS FOR RIO MESA I AND RIO MESA II ONLY. FOR RIO MESA III WELL LOCATION SEE APROPRIATE CIVIL DRAWINGS.



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	STEAM TURBINE	31	CLOSED COOLING WATER (CCW) PUMPS (2)
2	GENERATOR	32	CCW CHEMICAL ADDITION TANK
3	LUBE OIL UNIT	33	CCW BOOSTER PUMPS (2)
4	GLAND STEAM CONDENSER	34	CCW HEAD TANK
5	SOLAR RECEIVER STEAM GENERATOR (SRSG)	35	BLOWDOWN / CONDENSATE HEAT EXCHANGER
6	BOILER CIRCULATION PUMPS (4) (SRSG)	36	AIR COOLED CONDENSER (ACC)
7	SRSG FLASH TANK (TOWER)	37	ACC WASH WATER SYSTEM SKID
8	SRSG BLOWDOWN TANK (TOWER)	38	CONDENSATE COLLECTION TANK
9	SRSG CHEMICAL FEED EQUIPMENT	39	CONDENSATE PUMPS (2)
10	NITROGEN STORAGE	40	STEAM DUCT DRAIN PUMPS (2)
11	STEAM & WATER ANALYSIS SAMPLING SYSTEM (SWAS) - SRSG	41	PLANT AIR EQUIPMENT
12	BYPASS VALVE HYDRAULIC SKID	42	CONDENSER VACUUM PUMPS (2)
13	SRSG BLOWDOWN COOLER	43	CONDENSER VACUUM PUMPS FIN FAN COOLERS (2)
14	INTERNAL DRAIN TANK & PUMPS (2)	44	NIGHT TIME VACUUM PUMP
15	EXTERNAL DRAIN TANK & PUMPS (2)	45	NIGHT TIME VACUUM PUMP FIN FAN COOLER
16	HP FEEDWATER HEATERS (3)	46	CONDENSATE POLISHER EQUIPMENT
17	LP FEEDWATER HEATERS (4)	47	DEMINERALIZED WATER STORAGE TANK
18	DEAERATOR	48	DEMINERALIZED WATER TRANSFER PUMPS (2)
19	MAIN BOILER FEEDWATER PUMP (TURBINE DRIVEN)	49	DEMINERALIZER SPENT & FRESH RESIN STORAGE TANKS (2)
20	MAIN BOILER FEEDWATER PUMP L.O. PACKAGE	50	TREATED WATER STORAGE TANK
21	BACKUP BOILER FEEDWATER PUMP (MOTOR DRIVEN)	51	TREATED WATER TRANSFER PUMPS (2)
22	STARTUP BOILER FEEDWATER PUMP (MOTOR DRIVEN)	52	DEMINERALIZER FEED PUMPS (2)
23	NIGHT PRESERVATION BOILER (NPB)	53	SERVICE / FIRE WATER STORAGE TANK
24	NIGHT PRESERVATION BOILER FEEDWATER PUMPS (2)	54	SERVICE WATER TRANSFER PUMPS (2)
25	AUXILIARY BOILER	55	SERVICE WATER BOOSTER PUMP (1)
26	AUXILIARY BOILER FEEDWATER PUMPS (2)	56	RESERVED
27	STEAM & WATER ANALYSIS SAMPLING SYSTEM (SWAS) - AUX BOILER	57	RESERVED
28	NPB & AUX BOILER CHEMICAL FEED EQUIPMENT	58	FIRE HYDRANT & HOSE HOUSE (10)
29	WET SURFACE AIR COOLER (WSAC)	59	FIRE PUMPS MODULE (ELECTRIC, DIESEL & JOCKEY)
30	DRY FIN-FAN COOLERS	60	WASTEWATER COLLECTION TANK
		61	WASTEWATER FEED PUMPS (2)
		62	WASTEWATER RESIDUE TANK
		63	WASTEWATER RESIDUE PUMPS (2)
		64	OILY WATER SEPARATOR
		65	SUMP PUMPS
		66	POTABLE WATER STORAGE TANK
		67	POTABLE WATER SUPPLY PUMPS (2)
		68	POTABLE WATER TREATMENT SYSTEM FEED TANK
		69	POTABLE WATER FEED PUMPS (2)
		70	WELL PUMP (SEE NOTE 2)
		71	MIRROR WASH WATER STORAGE TANK
		72	MIRROR WASH WATER FILLING PUMPS (2)
		73	DIESEL FUEL STORAGE TANK
		74	FUEL GAS FILTRATION/HEATING EQUIPMENT
		75	FUEL GAS PIG RECEIVER / LAUNCHER (BY SUBCONTRACTOR)
		76	EMERGENCY EYEWASH & SHOWER
		77	EMERGENCY DIESEL GENERATOR
		78	SEWAGE SEPTIC TANK & LEACH FIELD
		79	EXCITATION CONTAINER
		80	ISOPHASE BUS DUCT
		81	GENERATOR CIRCUIT BREAKER
		82	UNIT AUXILIARY TRANSFORMER
		83	GENERATOR STEP-UP TRANSFORMER
		84	220KV PLANT SUB-STATION
		85	STATION SERVICE TRANSFORMER
		86	33kV BREAKER
		87	MCC OIL FILLED TRANSFORMER (11)
		88	ELECTRICAL EQUIPMENT MODULE FOR SRSG (TOWER)
		89	ELECTRICAL EQUIPMENT MODULE FOR SRSG
		90	ELECTRICAL EQUIPMENT MODULE FOR ACC
		91	ELECTRICAL EQUIPMENT MODULE FOR BFP
		92	LIQUID TO AIR REMOTE HEAT EXCHANGER (VFD)
		93	ELECTRICAL EQUIPMENT MODULE FOR FIN FAN/WSAC & WATER TREATMENT AREA
		94	ELECTRICAL EQUIPMENT MODULE FOR AUXILIARY BOILER



KEY PLAN

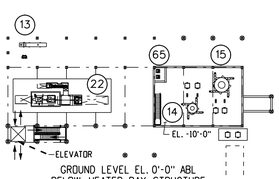


SITE LOCATION & ROTATION

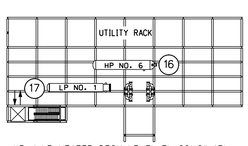
RIO MESA I
TOWER LOCATION: N. 67,289.63 E. 29,824.27
ROTATION: 16.8° CLOCKWISE

RIO MESA II
TOWER LOCATION: N. 72,612.47 E. 25,924.66
ROTATION: 19.0° CLOCKWISE

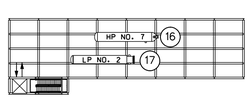
RIO MESA III
TOWER LOCATION: N. 82,063.26 E. 32,873.15
ROTATION: 22.5° CLOCKWISE



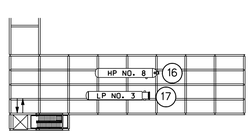
GROUND LEVEL EL. 0'-0" ABL
BELOW HEATER BAY STRUCTURE



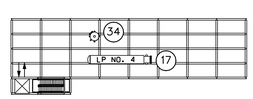
HP / LP HEATER DECK LEVEL EL. 20'-0" ABL
(OPERATING DECK LEVEL)



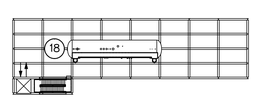
HP / LP HEATER DECK LEVEL EL. 50'-0" ABL



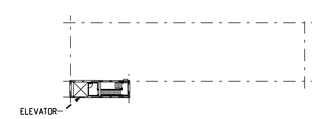
HP / LP HEATER DECK LEVEL EL. 70'-0" ABL



LP HEATER DECK LEVEL EL. 90'-0" ABL



DEAERATOR DECK LEVEL EL. 110'-0" ABL



ELEVATOR MACHINERY DECK LEVEL
EL. 120'-0" ABL

0 60 120 180 240FT

NO.	DATE	REVISIONS	BY	CHK	EGS				PE
A	26MAR12	ISSUED FOR INFORMATION	AKS	RPT	RPT	-	-	-	TWA

SCALE: AS SHOWN DRAWN: AKS DATE: 01FEB12

BECHTEL POWER CORP.
FREDERICK, MARYLAND
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CBO/AHJ APPROVAL

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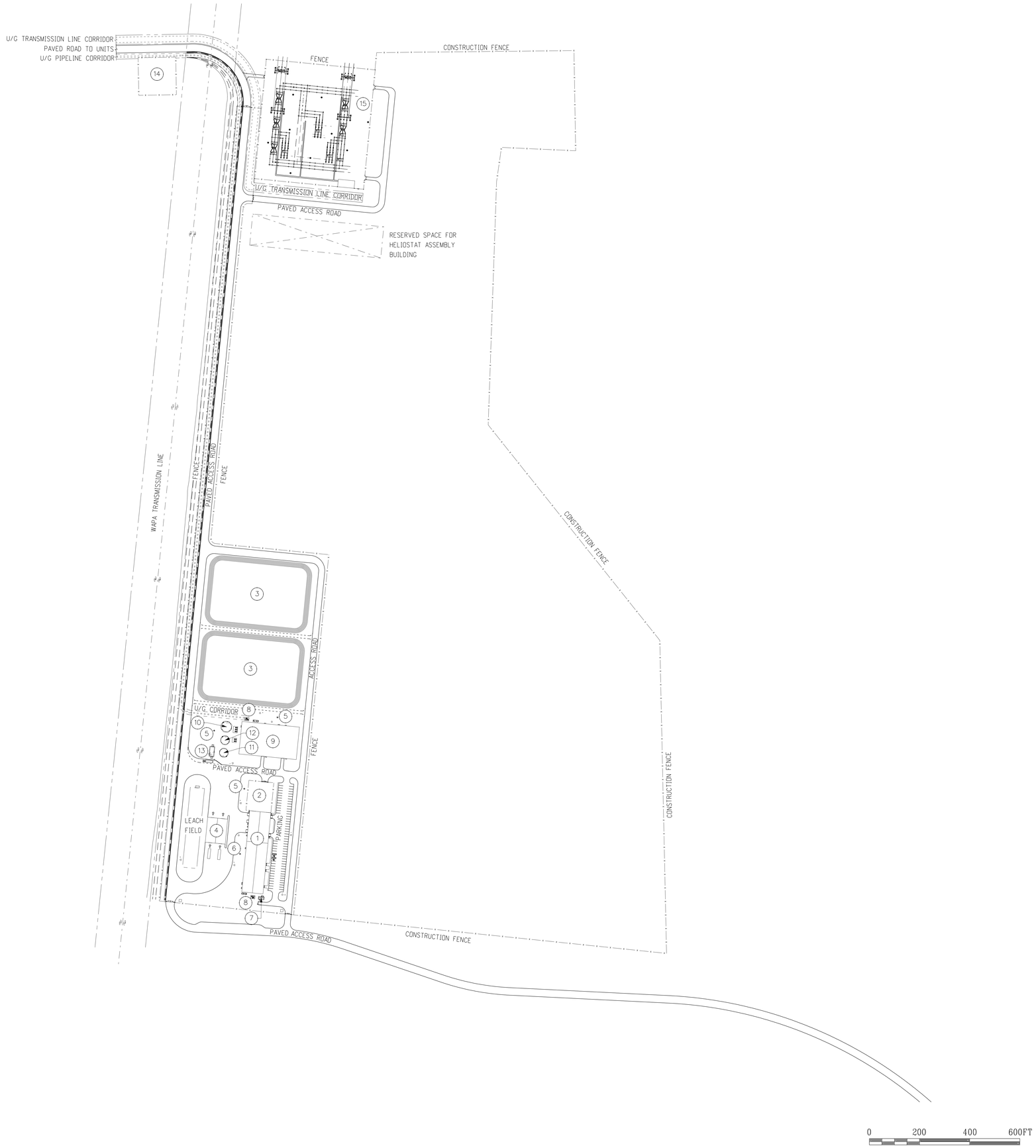
RIO MESA
SOLAR ELECTRIC GENERATING FACILITY

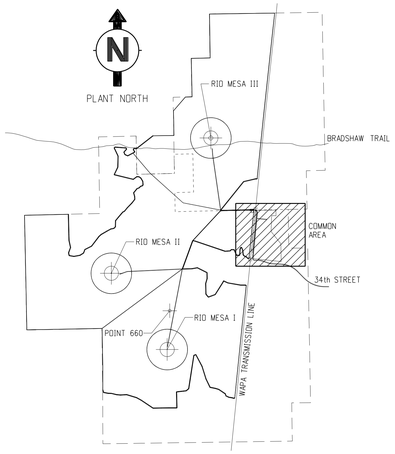
TYPICAL POWER BLOCK
PLOT PLAN

JOB NO.	DRAWING NO.	REV.
25755	000-P1K-0010-00001	A

34"X44" E SIZE

ITEM	DESCRIPTION
1	ADMINISTRATION / CONTROL BUILDING (325' x 85')
2	OUTDOOR STORAGE AREA (120' x 100' FENCED)
3	EVAPORATION POND (2) (2 ACRES EACH)
4	MIRROR WASH MACHINE MAINTENANCE SHED (100' x 80')
5	WATER WELL / WATER SUPPLY (3)
6	PERMANENT MONITORING WELL
7	EMERGENCY DIESEL GENERATOR
8	MCC TRANSFORMER (2)
9	WATER TREATMENT BUILDING (230' x 130')
10	TREATED WATER STORAGE TANK & TRANSFER PUMPS (3)
11	FIRE WATER STORAGE TANK
12	WASTEWATER COLLECTION TANK & FEED PUMPS (2)
13	FIRE PUMP MODULE (ELECTRIC, DIESEL & JOCKEY)
14	FUEL GAS CUSTODY METERING / PIGGING STATION (150 x 150')
15	SWITCHYARD (478' x 436' FENCED)





KEY PLAN

NO.	DATE	REVISIONS	BY	CHK	EGS				PE
A	27MAR12	ISSUED FOR INFORMATION	AKS	RPT	RPT	-	-	-	TWA

SCALE: AS SHOWN DRAWN: AKS DATE: 06FEB12

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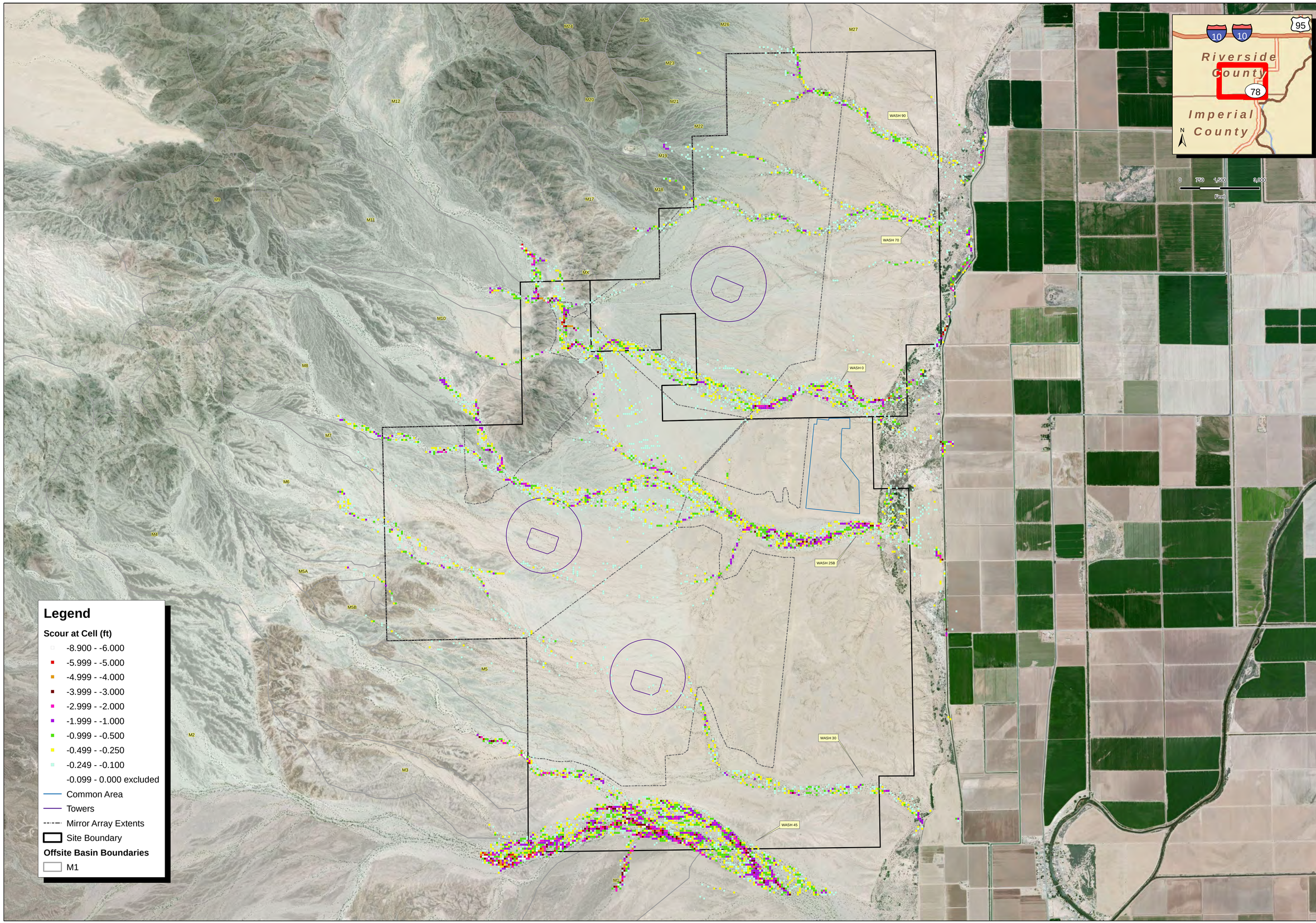
RIO MESA SOLAR ELECTRIC GENERATING FACILITY

COMMON AREA PLOT PLAN

JOB NO.	DRAWING NO.	REV.
25755	009-P1K-0910-00001	A

34"X44"E SIZE

ATTACHMENT BLM 9-1



REV.	DATE	BY	REVISION
	3/07/12	SB	Revised legend colors for scour per CEC comment

RIVERSIDE COUNTY, CA

BrightSource

2727 S. Rainbow Boulevard
Las Vegas, NV 89146
Tel (702) 362-2599
Fax (702) 362-2597
www.atmx.com

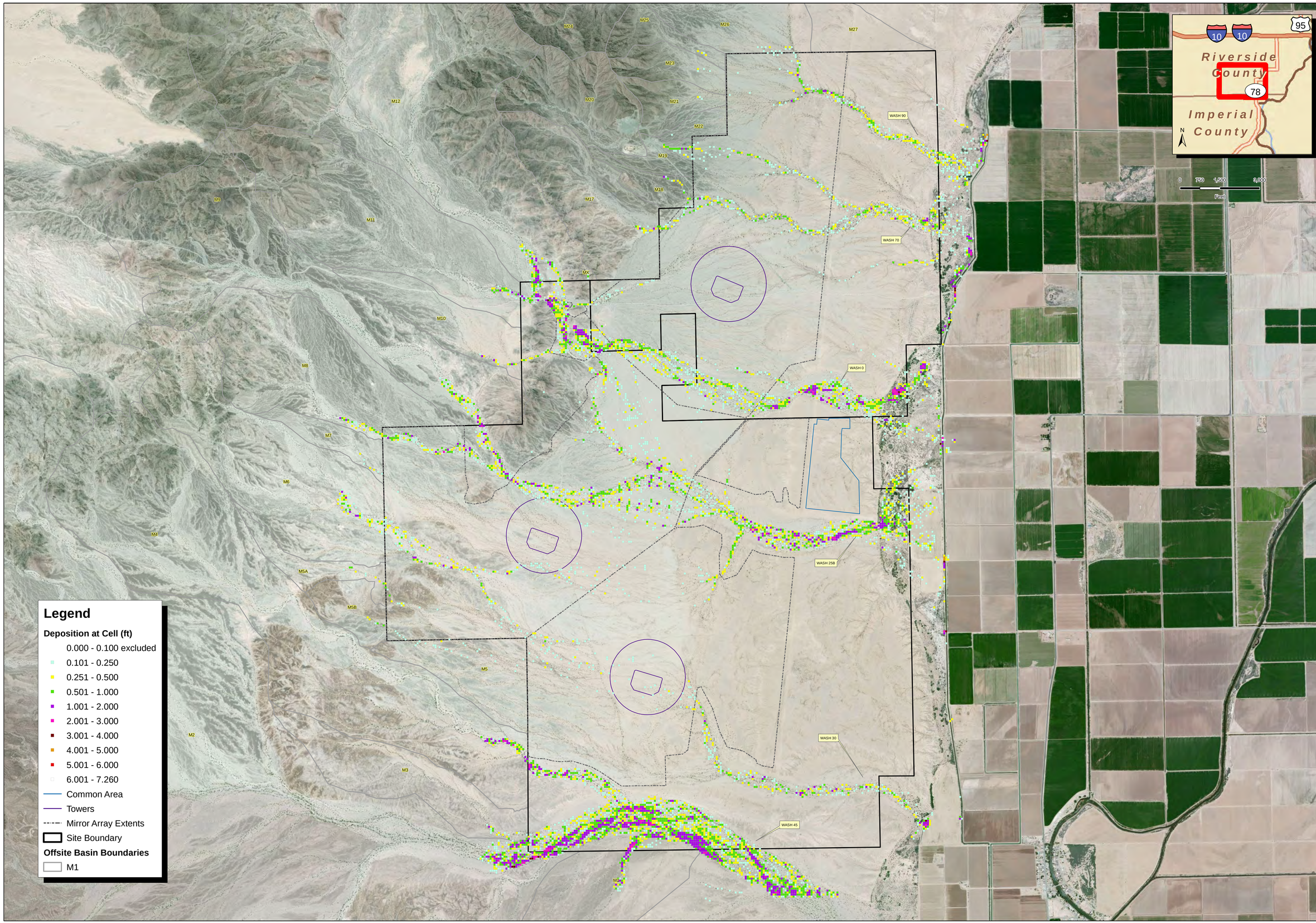
FLO-2D SCOUR MAP 24HR-100YR ZELLER-FULLERTON METHOD

RIO MESA SOLAR

PROJECT NO: 7323
DRAWN BY: SB
DATE: 3/07/2012
SCALE: 1 " = 1,500 '

SHEET
7323SCOUR

DATE: 3/7/2012 File: \\atmx.com\fs\hydrology\7323-BrightPower\Preliminary Site Investigation\GIS\MXD\7323-Flo2d-scour.mxd By: shaunb



N
W E
S

REV.	DATE	BY	REVISION
	3/07/12	SB	Revised legend colors for scour per CEC comment

RIVERSIDE COUNTY, CA

BrightSource

2727 S. Rainbow Boulevard
Las Vegas, NV 89146
Tel (702) 382-2500
Fax (702) 382-2597
www.atmx.com

FLO-2D DEPOSITION MAP
24HR-100YR
ZELLER-FULLERTON METHOD

RIO MESA SOLAR

PROJECT NO: 7323
DRAWN BY: SB
DATE: 3/07/2012
SCALE: 1 " = 1,500 '

SHEET
7323DEP

DATE: 3/7/2012 File: \\atmx.com\fs\hydrology\7323-BrightPower\Preliminary Site Investigation\GIS\MXD\7323-Flo2d-dep.mxd By: sbaurb

ATTACHMENT DR 91-1

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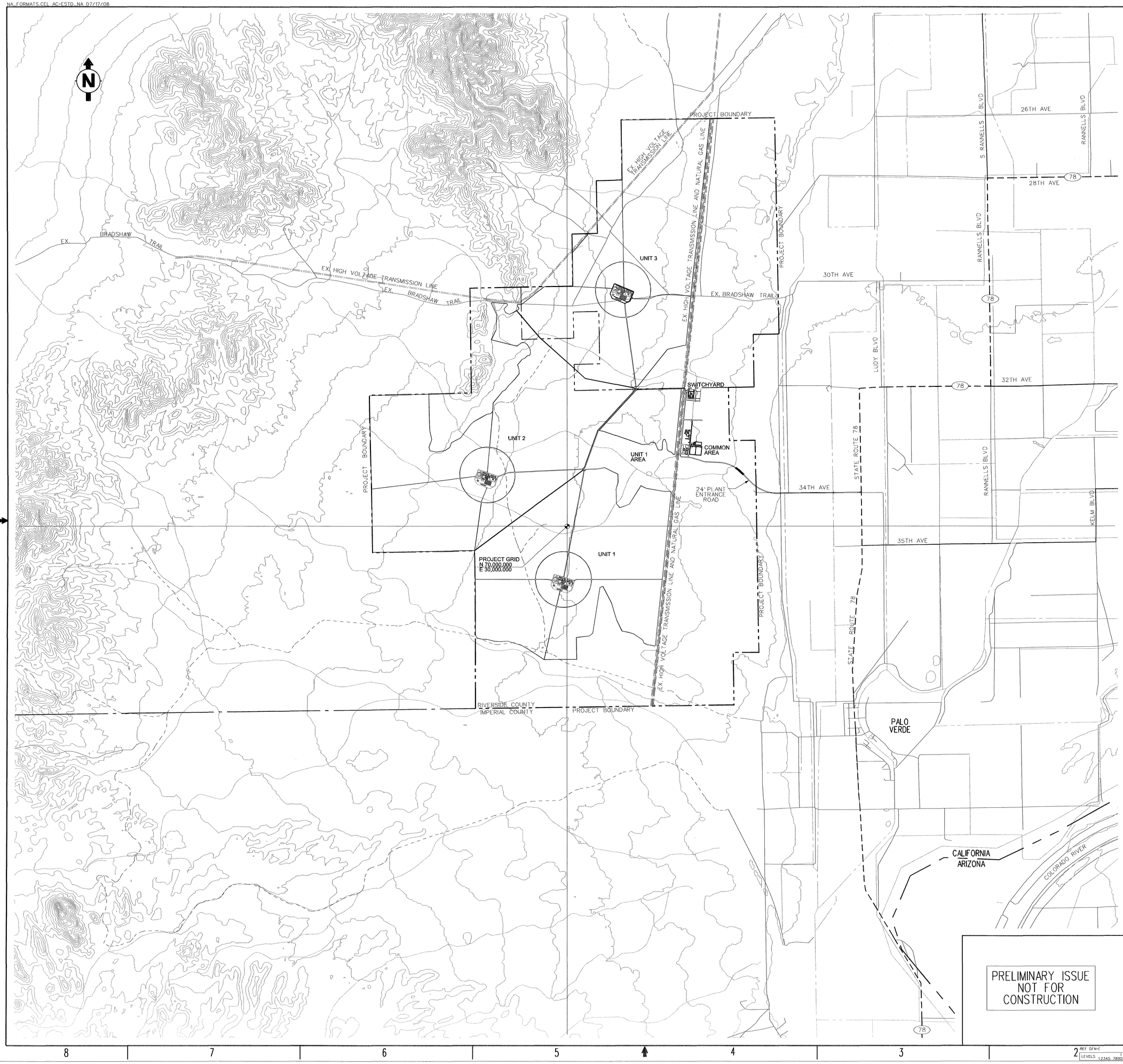
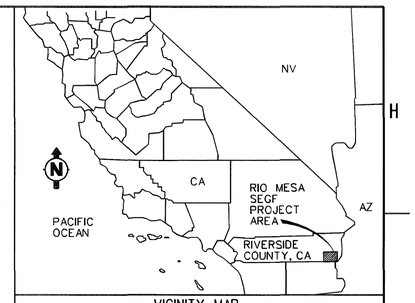
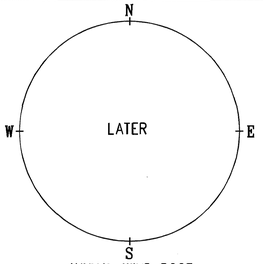




VICINITY MAP



ANNUAL WIND ROSE

LEGEND:

- PROJECT BOUNDARY
- CITY LIMITS
- HIGHWAY
- MAJOR ROAD
- LOCAL ROAD
- MINOR ROAD
- STREAM
- CANAL

0 1600 3200 4800

1" = 1600'

PRELIMINARY ISSUE NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS	BY	CHK	DES SUPV.	ENGR.	PROJ ENGR	APPR
A	9/26/11	ISSUED FOR REVIEW	LAP		-			

SCALE 1"=1600' DATE 9/26/11 DESIGNED LAP DRAWN 9/26/11 CHIEF ENGR.

BrightSource

BECHTEL POWER CORP.

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FREDERICK, MARYLAND

RIO MESA
SOLAR ELECTRIC GENERATING FACILITY

VICINITY MAP

BSII (Ltd.)

OWNER DRAWING NO.: TBD

JOB NO.	DRAWING NO.	REV.
25670	000-C2-0000-00002	A

34"X44"E SIZE

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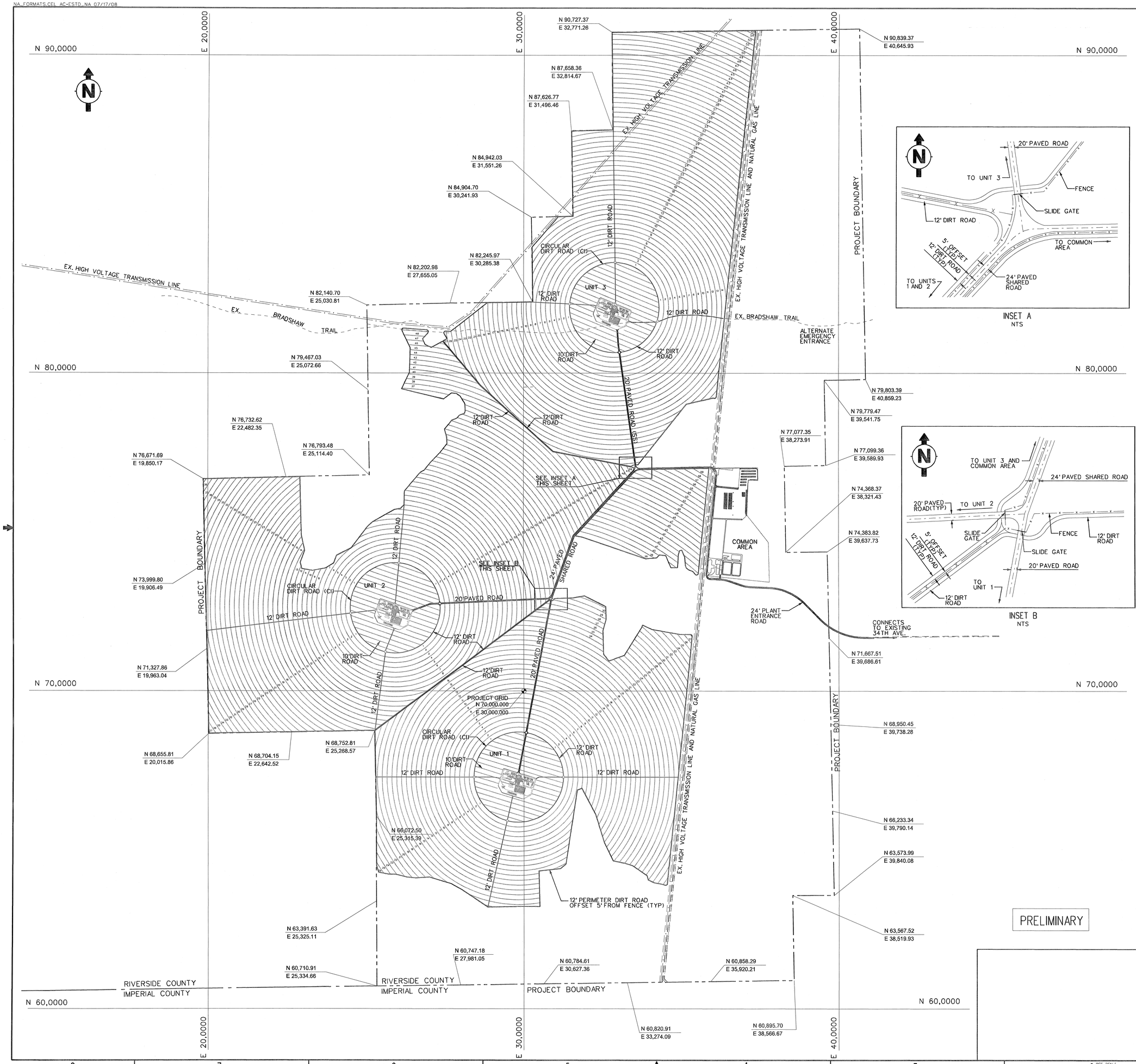
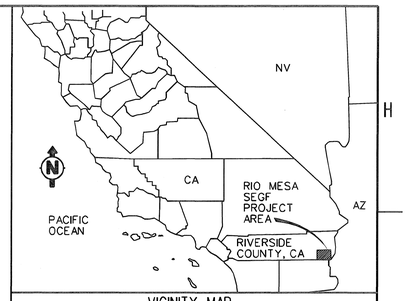
NA_FORMATS.CEL AC-ESTD_NA 07/17/08

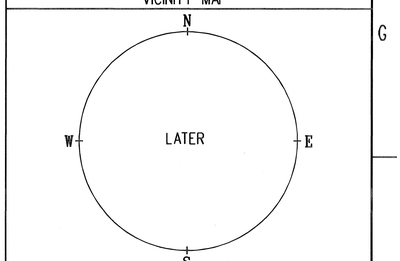


INSET A
NTS

INSET B
NTS



VICINITY MAP



ANNUAL WIND ROSE

NOTES:

1. SOLAR TOWER LOCATIONS:

PROJECT GRID COORDINATES			
UNIT	EASTING	NORTHING	COMMENTS
1	29,824.27	67,289.63	
2	25,924.66	72,612.47	
3	32,873.15	82,063.26	

COORDINATES GIVEN TO CENTERLINE POWER TOWER.

2. TOTAL NUMBER OF HELIOSTATS TO BE BETWEEN 80,000 AND 100,000 EACH UNIT.
3. HELIOSTAT MAINTENANCE PATHS TO BE 10' DIRT ROAD.
4. DISTANCE BETWEEN HELIOSTAT MAINTENACE PATHS TO BE 152.6 FT.
5. HELIOSTAT PYLON DENSITY:
   - NEAR TOWER (UP TO 400-500 METERS): 0.03-0.04 PYLONS PER SQUARE METER.
   - 1,000 METERS FROM TOWER: 0.01-0.02 HELIOSTATS PER SQUARE METER.
   - 2,000 METERS FROM TOWER: 0.005-0.01 HELIOSTATS PER SQUARE METER.

LEGEND:

PROJECT BOUNDARY

0 1000 2000 3000
1" = 1000'

NO.	DATE	REVISIONS	BY	CHK	DES. SUPV.	ENGR.	PROJ ENGR	APPR
D	29 SEPT. 11	ADDED HELIOSTAT PATHS WITHIN CIRCULAR ROAD.	LAP	DWF	-			
C	27 SEPT. 11	ADDED NOTES AND HELIOSTAT PATHS.	LAP	DWF	-	DWF	TWA	
B	8/3/11	ROTATED UNITS 1,2, AND 3. ADJUSTED UNIT ACCESS ROADS AND ISSUED FOR AFC	LAP	DWF	-	DWF	TWA	
A	7/13/11	ISSUED FOR REVIEW	LAP	DWF	-	DWF	TWA	

SCALE 1"=1000' DATE 7/13/11 DESIGNED LAP DRAWN 7/13/11 CHIEF ENGR.

BrightSource

BECHTEL POWER CORP.
DEDICATED TO SAFETY EXCELLENCE - ZERO ACCIDENTS
FREDERICK, MARYLAND

RIO MESA
SOLAR ELECTRIC GENERATING FACILITY

SITE PLAN

BSII (Ltd.) | OWNER DRAWING NO. TBD

JOB NO.	DRAWING NO.	REV.
25670	000-C2-0000-00001	D

34"X14"E SIZE

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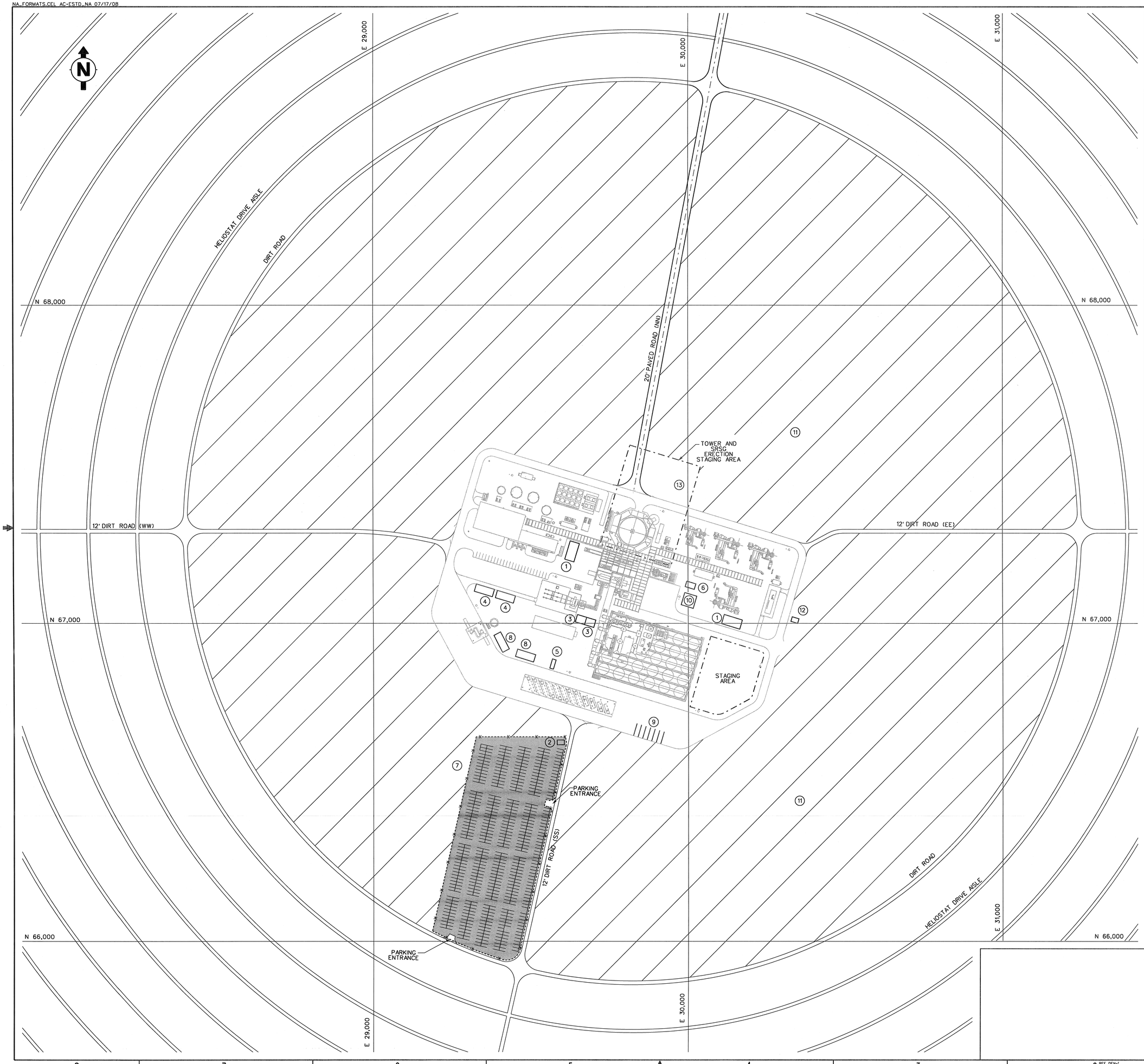
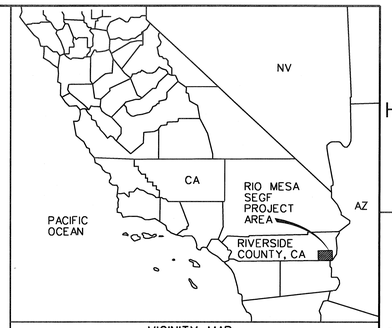
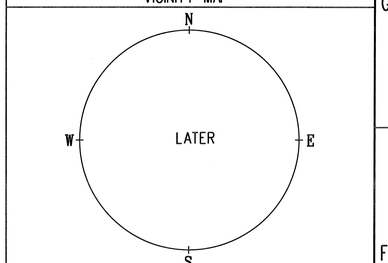




VICINITY MAP



ANNUAL WIND ROSE

ITEM NO.	DESCRIPTION
1	COOL DOWN STATION (20' x 40') 2 EACH
2	BRASS ALLEY REMOTE (25' x 20') BADGE PORTAL
3	TOOL ROOM - (8' x 20') 2 EACH C VANS
4	POWER BLOCK CONSTRUCTION OFFICE (24' x 60') 2 EA
5	POWER BLOCK SAFETY OFFICE (8' x 20')
6	ROD ROOM (12' x 20')
7	CRAFT PKG (STONE) AREA (4.44 Ac-500 SPCS-10'x20')
8	CRAFT CHANGE HOUSE (24' x 60') 2 EACH
9	EQUIPMENT PARKING AREA - 6 SPCS (15' x 40')
10	HAZARDOUS WASTE/MATERIAL STORAGE AREA (40'x40')
11	POWER BLOCK STAGING & FAB. AREA (121.55 Ac.)
12	33KV/4160 TRANSFORMER AREA (15' x 15') 1 EA PB
13	TOWER AND SRSG ERECTION STAGING AREA

NOTES:

1. STAGING AND FABRICATION AREA TO BE CLEARED, GRADED, AND SURFACED WITH AGGREGATE AS REQUIRED. SEE TYPICAL DETAIL (LATER). AREAS TO BE SURFACED WILL BE DETERMINED IN THE FIELD.
2. CRAFT TOILET FACILITIES WILL BE PROVIDED LATER.
3. FOR COMMON AREA CONSTRUCTION FACILITIES, SEE DWG 24560-009-C2-0010-00001

REFERENCE DRAWINGS:

25670-009-C2-0010-00001 CONSTRUCTION FACILITIES LAYOUT ARRANGEMENT COMMON AREA

25670-000-P1-0010-00001 POWER BLOCK PLOT PLAN

LEGEND:

--*--------*-- TEMPORARY CONSTRUCTION FENCING. 6' HIGH CHAIN LINK FENCE.

EXTENTS OF POWER BLOCK STAGING AND FAB. AREA (11)

0 100 200 300
1" = 100'

NO.	DATE	REVISIONS	BY	CHK	DES. SUPV.	ENGR.	PROJ ENGR	APPR
B	8/5/11	ISSUED FOR AFC	LAP	DWF	-	DWF	TWA	
A	7/27/11	ISSUED FOR REVIEW	LAP	DWF	-	DWF	TWA	

SCALE 1"=100' DATE JUL 25, 2011 DESIGNED LAP DRAWN LAP CHIEF ENGR.

BrightSource

BECHTEL POWER CORP.
DEDICATED TO SAFETY EXCELLENCE - ZERO ACCIDENTS
FREDERICK, MARYLAND

RIO MESA
SOLAR ELECTRIC GENERATING FACILITY

CONSTRUCTION FACILITIES
LAYOUT ARRANGEMENT
UNIT 1

BSII (Ltd.)

OWNER DRAWING NO.
TBD

JOB NO.	DRAWING NO.	REV.
25670	001-C2-0010-00001	B

34"X44"E SIZE

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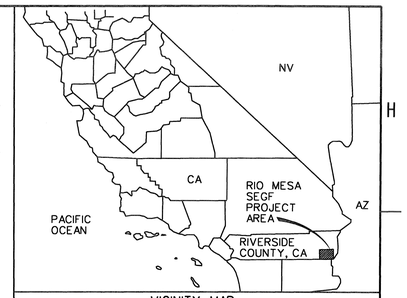
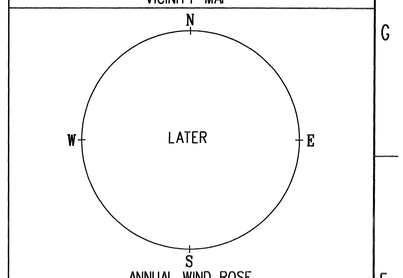


VICINITY MAP



ANNUAL WIND ROSE

ITEM NO.	DESCRIPTION
1	COOL DOWN STATION (20' x 40') 2 EACH
2	EQUIPMENT MAINTENANCE AREA (80'x100')
3	HAZARDOUS WASTE/MATERIAL STORAGE AREA (40'x50')
4	EQUIPMENT AND VEHICLE FUELING FACILITY (40'x50')
5	DRINKING WATER PREPARATION STATION (40'x20')
6	BRASS ALLEY MAIN (25' x 20') - BADGE PORTAL
7	FIELD PROCUREMENT TRAILER
8	TOILET TRAILER - COMMON AREA (10' x 20')
9	HELIOSTAT BUILDING AND STAGING AREA 20Ac.)
10	COMMON AREA CONSTRUCTION OFFICE (120' x 60') 2 EA
11	BSE COMMON MGMT AREA CONST/ENV OFFICE(36' x 60')
12	ORIENTATION, BADGING AND TRAINING FACILITY (48'x60')
13	WELD TEST SHOP (20' x 40')
14	MATERIAL RECEIVING AREA (200'x300')-FENCED
15	INDOOR STORAGE AREA AND WAREHOUSE (120'x210')
16	CRAFT PARKING - (STONE) (4.6 Ac - 527 SPCS).
17	TEMPORARY FIRE WATER STORAGE TANKS (36'x60')
18	COMMON AREA STAGING & FAB. AREA (55.31 Ac.)
19	33KV/4160 TRANSFORMER AREA (15' x 15') 2 EA
20	CBO OFFICE (12'x60')
21	CONFERENCE TRAILER (24'x60')
22	NEW HIRE/HEALTH SAFETY TRAILER (30'x40')
23	SWITCHYARD CONSTRUCTION AREA (8.5Ac.)

NOTES:

1. STAGING AND FABRICATION AREA TO BE CLEARED, GRADED, AND SURFACED WITH AGGREGATE AS REQUIRED. SEE TYPICAL DETAIL (LATER). AREAS TO BE SURFACED WILL BE DETERMINED IN THE FIELD.
2. CRAFT TOILET FACILITIES WILL BE PROVIDED LATER.

REFERENCE DRAWINGS:

25670-001-C2-0010-00001 CONSTRUCTION FACILITIES LAYOUT ARRANGEMENT TYPICAL POWER BLOCK

25670-009-P1-0910-00001 COMMON AREA PLOT PLAN

LEGEND:

— x — x — PERMANENT CONSTRUCTION FENCING. 6' HIGH CHAIN LINK FENCE.

---x-------x--- TEMPORARY CONSTRUCTION FENCING. 6' HIGH CHAIN LINK FENCE.

EXTENTS OF COMMON AREA STAGING AND FAB. AREA (18)

PROJECT BOUNDARY

NO.	DATE	REVISIONS	BY	CHK	DES. SUPV.	ENGR.	PROJ. ENGR	APPR
B	11/16/11	ISSUED FOR AFC	LAP					
A	7/27/11	ISSUED FOR REVIEW	LAP	DWF	-	DWF	TWA	

SCALE 1"=100' DATE JUL 25, 2011 DESIGNED LAP DRAWN LAP CHIEF ENGR.

BrightSource

BECHTEL POWER CORP.

DEDICATED TO SAFETY EXCELLENCE - ZERO ACCIDENTS

FREDERICK, MARYLAND

RIO MESA SOLAR ELECTRIC GENERATING FACILITY

CONSTRUCTION FACILITIES LAYOUT ARRANGEMENT COMMOM AREA

BSII (Ltd.)

OWNER DRAWING NO.

TBD

JOB NO.	DRAWING NO.	REV.
25670	009-C2-0010-00001	B

34"X44" E SIZE

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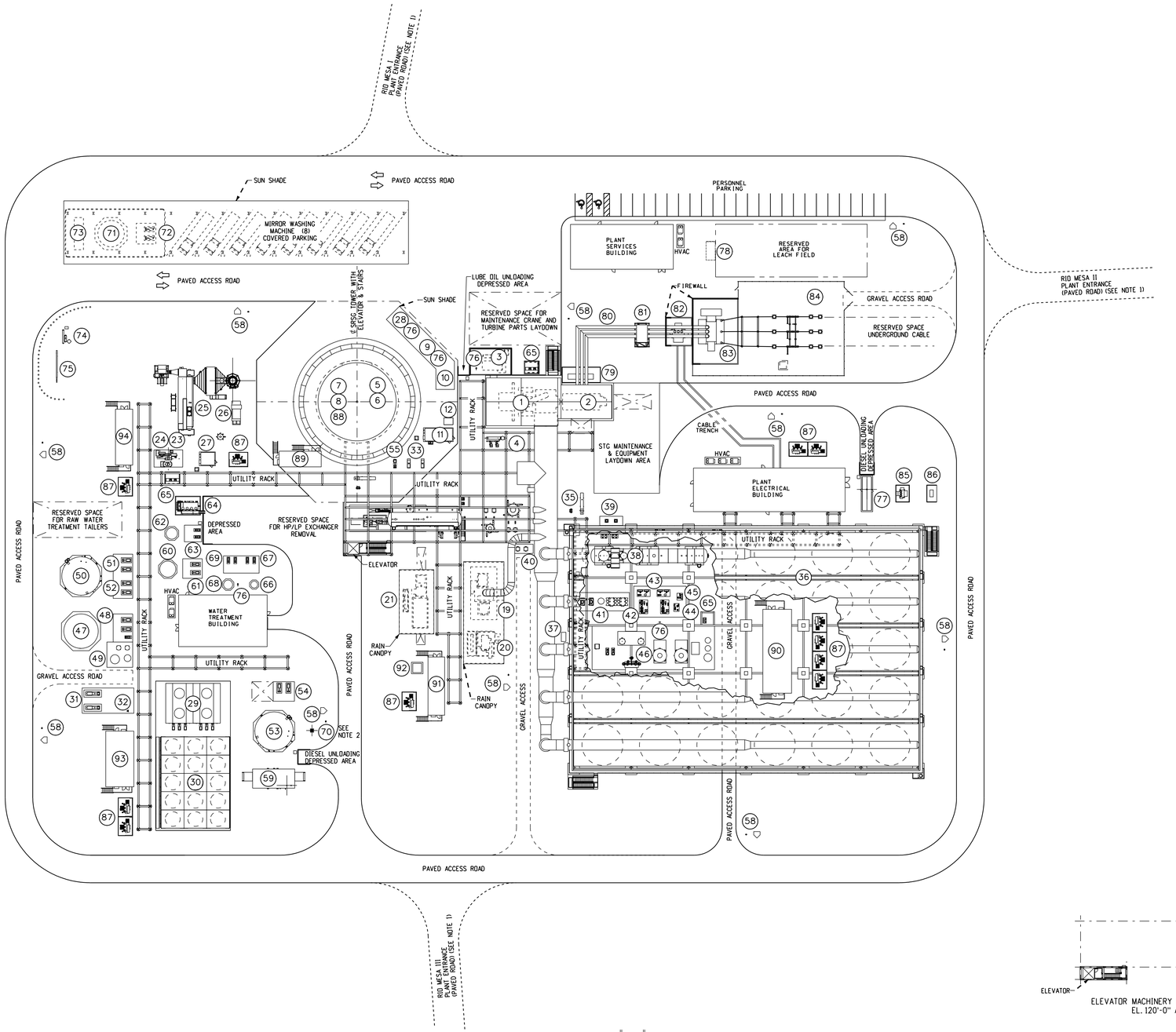
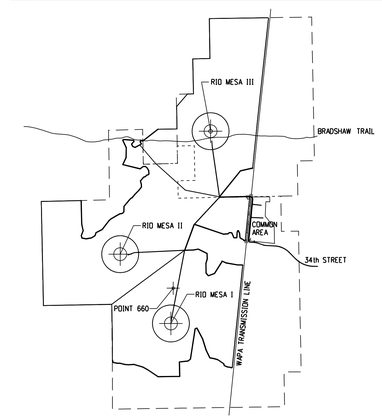
NOTES:

1. POWER BLOCK ARRANGEMENT FOR RIO MESA I, II AND III TO BE IDENTICAL WITH THE EXCEPTION OF PLANT ENTRANCE AND RADIAL DIRT ROAD LOCATIONS. SEE APROPRIATE CIVIL DRAWINGS.

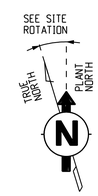
2. WELL LOCATION SHOWN IS FOR RIO MESA I AND RIO MESA II ONLY. FOR RIO MESA III WELL LOCATION SEE APROPRIATE CIVIL DRAWINGS.



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	STEAM TURBINE	31	CLOSED COOLING WATER (CCW) PUMPS (2)
2	GENERATOR	32	CCW CHEMICAL ADDITION TANK
3	LUBE OIL UNIT	33	CCW BOOSTER PUMPS (2)
4	GLAND STEAM CONDENSER	34	CCW HEAD TANK
5	SOLAR RECEIVER STEAM GENERATOR (SRSG)	35	BLOWDOWN / CONDENSATE HEAT EXCHANGER
6	BOILER CIRCULATION PUMPS (4) (SRSG)	36	AIR COOLED CONDENSER (ACC)
7	SRSG FLASH TANK (TOWER)	37	ACC WASH WATER SYSTEM SKID
8	SRSG BLOWDOWN TANK (TOWER)	38	CONDENSATE COLLECTION TANK
9	SRSG CHEMICAL FEED EQUIPMENT	39	CONDENSATE PUMPS (2)
10	NITROGEN STORAGE	40	STEAM DUCT DRAIN PUMPS (2)
11	STEAM & WATER ANALYSIS SAMPLING SYSTEM (SWAS) - SRSG	41	PLANT AIR EQUIPMENT
12	BYPASS VALVE HYDRAULIC SKID	42	CONDENSER VACUUM PUMPS (2)
13	SRSG BLOWDOWN COOLER	43	CONDENSER VACUUM PUMPS FIN FAN COOLERS (2)
14	INTERNAL DRAIN TANK & PUMPS (2)	44	NIGHT TIME VACUUM PUMP
15	EXTERNAL DRAIN TANK & PUMPS (2)	45	NIGHT TIME VACUUM PUMP FIN FAN COOLER
16	HP FEEDWATER HEATERS (3)	46	CONDENSATE POLISHER EQUIPMENT
17	LP FEEDWATER HEATERS (4)	47	DEMINERALIZED WATER STORAGE TANK
18	DEAERATOR	48	DEMINERALIZED WATER TRANSFER PUMPS (2)
19	MAIN BOILER FEEDWATER PUMP (TURBINE DRIVEN)	49	DEMINERALIZER SPENT & FRESH RESIN STORAGE TANKS (2)
20	MAIN BOILER FEEDWATER PUMP L.O. PACKAGE	50	TREATED WATER STORAGE TANK
21	BACKUP BOILER FEEDWATER PUMP (MOTOR DRIVEN)	51	TREATED WATER TRANSFER PUMPS (2)
22	STARTUP BOILER FEEDWATER PUMP (MOTOR DRIVEN)	52	DEMINERALIZER FEED PUMPS (2)
23	NIGHT PRESERVATION BOILER (NPB)	53	SERVICE / FIRE WATER STORAGE TANK
24	NIGHT PRESERVATION BOILER FEEDWATER PUMPS (2)	54	SERVICE WATER TRANSFER PUMPS (2)
25	AUXILIARY BOILER	55	SERVICE WATER BOOSTER PUMP (1)
26	AUXILIARY BOILER FEEDWATER PUMPS (2)	56	RESERVED
27	STEAM & WATER ANALYSIS SAMPLING SYSTEM (SWAS) - AUX BOILER	57	RESERVED
28	NPB & AUX BOILER CHEMICAL FEED EQUIPMENT	58	FIRE HYDRANT & HOSE HOUSE (10)
29	WET SURFACE AIR COOLER (WSAC)	59	FIRE PUMPS MODULE (ELECTRIC, DIESEL & JOCKEY)
30	DRY FIN-FAN COOLERS	60	WASTEWATER COLLECTION TANK
		61	WASTEWATER FEED PUMPS (2)
		62	WASTEWATER RESIDUE TANK
		63	WASTEWATER RESIDUE PUMPS (2)
		64	OILY WATER SEPARATOR
		65	SUMP PUMPS
		66	POTABLE WATER STORAGE TANK
		67	POTABLE WATER SUPPLY PUMPS (2)
		68	POTABLE WATER TREATMENT SYSTEM FEED TANK
		69	POTABLE WATER FEED PUMPS (2)
		70	WELL PUMP (SEE NOTE 2)
		71	MIRROR WASH WATER STORAGE TANK
		72	MIRROR WASH WATER FILLING PUMPS (2)
		73	DIESEL FUEL STORAGE TANK
		74	FUEL GAS FILTRATION/HEATING EQUIPMENT
		75	FUEL GAS PIG RECEIVER / LAUNCHER (BY SUBCONTRACTOR)
		76	EMERGENCY EYEWASH & SHOWER
		77	EMERGENCY DIESEL GENERATOR
		78	SEWAGE SEPTIC TANK & LEACH FIELD
		79	EXCITATION CONTAINER
		80	ISOPHASE BUS DUCT
		81	GENERATOR CIRCUIT BREAKER
		82	UNIT AUXILIARY TRANSFORMER
		83	GENERATOR STEP-UP TRANSFORMER
		84	220KV PLANT SUB-STATION
		85	STATION SERVICE TRANSFORMER
		86	33kV BREAKER
		87	MCC OIL FILLED TRANSFORMER (11)
		88	ELECTRICAL EQUIPMENT MODULE FOR SRSG (TOWER)
		89	ELECTRICAL EQUIPMENT MODULE FOR SRSG
		90	ELECTRICAL EQUIPMENT MODULE FOR ACC
		91	ELECTRICAL EQUIPMENT MODULE FOR BFP
		92	LIQUID TO AIR REMOTE HEAT EXCHANGER (VFD)
		93	ELECTRICAL EQUIPMENT MODULE FOR FIN FAN/WSAC & WATER TREATMENT AREA
		94	ELECTRICAL EQUIPMENT MODULE FOR AUXILIARY BOILER



KEY PLAN

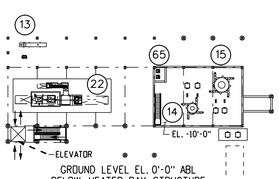


SITE LOCATION & ROTATION

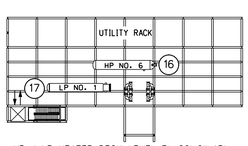
RIO MESA I
TOWER LOCATION: N. 67,289.63 E. 29,824.27
ROTATION: 16.8° CLOCKWISE

RIO MESA II
TOWER LOCATION: N. 72,612.47 E. 25,924.66
ROTATION: 19.0° CLOCKWISE

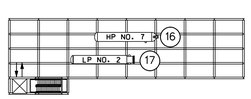
RIO MESA III
TOWER LOCATION: N. 82,063.26 E. 32,873.15
ROTATION: 22.5° CLOCKWISE



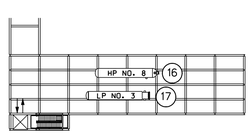
GROUND LEVEL EL. 0'-0" ABL
BELOW HEATER BAY STRUCTURE



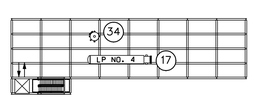
HP / LP HEATER DECK LEVEL EL. 20'-0" ABL
(OPERATING DECK LEVEL)



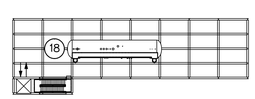
HP / LP HEATER DECK LEVEL EL. 50'-0" ABL



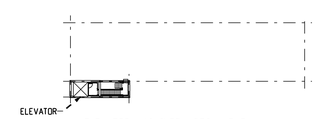
HP / LP HEATER DECK LEVEL EL. 70'-0" ABL



LP HEATER DECK LEVEL EL. 90'-0" ABL



DEAERATOR DECK LEVEL EL. 110'-0" ABL



ELEVATOR MACHINERY DECK LEVEL
EL. 120'-0" ABL

0 60 120 180 240FT

NO.	DATE	REVISIONS	BY	CHK	EGS				PE
A	26MAR12	ISSUED FOR INFORMATION	AKS	RPT	RPT	-	-	-	TWA

SCALE: AS SHOWN DRAWN: AKS DATE: 01FEB12

BECHTEL POWER CORP.
FREDERICK, MARYLAND
Dedicated to Zero Accident Safety and Quality Excellence

CBO/AHJ APPROVAL

PE STAMP

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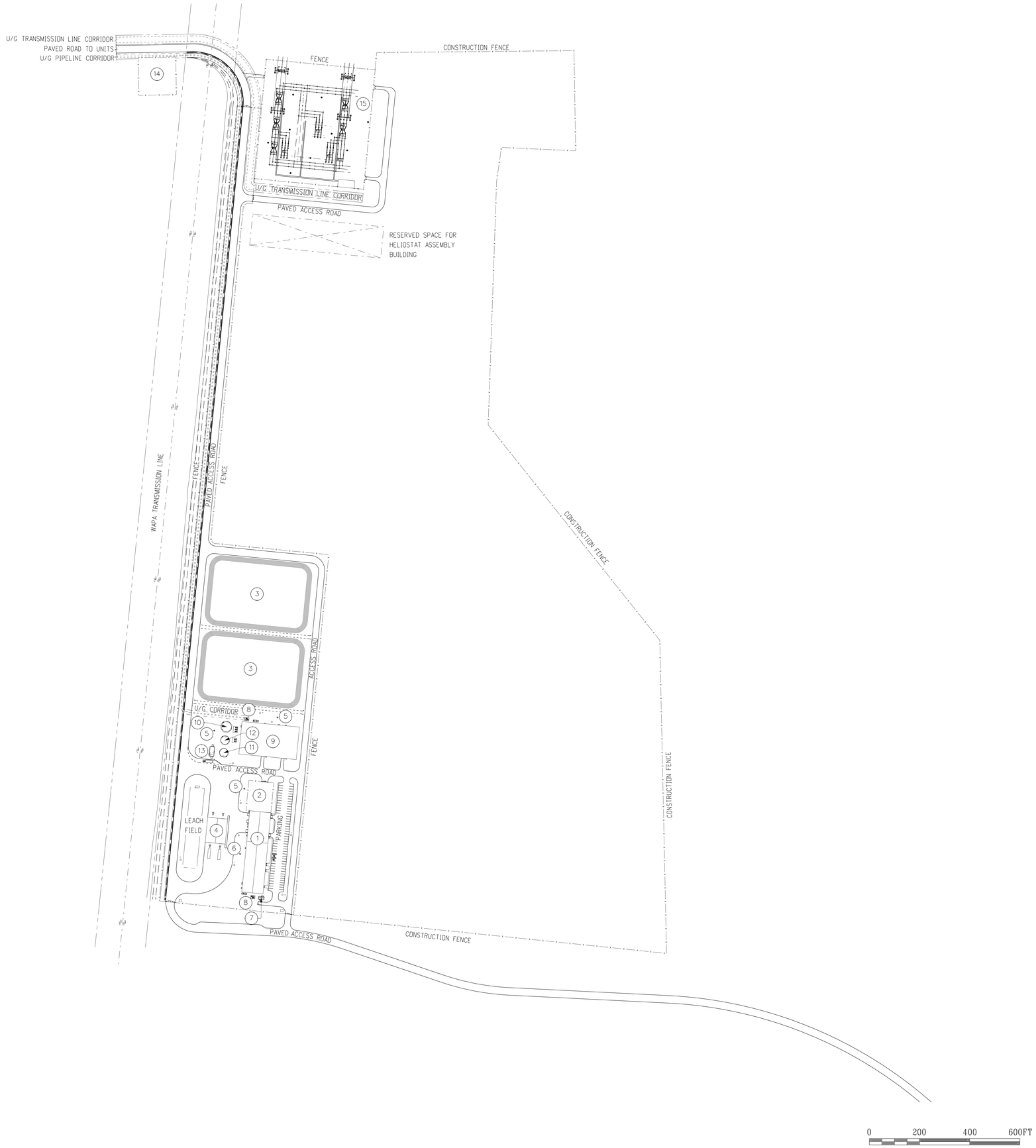
RIO MESA
SOLAR ELECTRIC GENERATING FACILITY

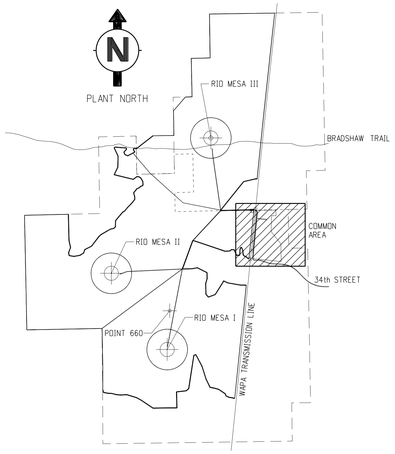
TYPICAL POWER BLOCK
PLOT PLAN

JOB NO.	DRAWING NO.	REV.
25755	000-P1K-0010-00001	A

34"X44" E SIZE

ITEM	DESCRIPTION
1	ADMINISTRATION / CONTROL BUILDING (325' x 85')
2	OUTDOOR STORAGE AREA (120' x 100' FENCED)
3	EVAPORATION POND (2) (2 ACRES EACH)
4	MIRROR WASH MACHINE MAINTENANCE SHED (100' x 80')
5	WATER WELL / WATER SUPPLY (3)
6	PERMANENT MONITORING WELL
7	EMERGENCY DIESEL GENERATOR
8	MCC TRANSFORMER (2)
9	WATER TREATMENT BUILDING (230' x 130')
10	TREATED WATER STORAGE TANK & TRANSFER PUMPS (3)
11	FIRE WATER STORAGE TANK
12	WASTEWATER COLLECTION TANK & FEED PUMPS (2)
13	FIRE PUMP MODULE (ELECTRIC, DIESEL & JOCKEY)
14	FUEL GAS CUSTODY METERING / PIGGING STATION (150 x 150')
15	SWITCHYARD (478' x 436' FENCED)





KEY PLAN

NO.	DATE	REVISIONS	BY	CHK	EGS				PE
A	27MAR12	ISSUED FOR INFORMATION	AKS	RPT	RPT	-	-	-	TWA

SCALE: AS SHOWN DRAWN: AKS DATE: 06FEB12

BECHTEL POWER CORP.
FREDERICK, MARYLAND
Dedicated to Zero Accident Safety and Quality Excellence

CBO/AHJ APPROVAL

PE STAMP

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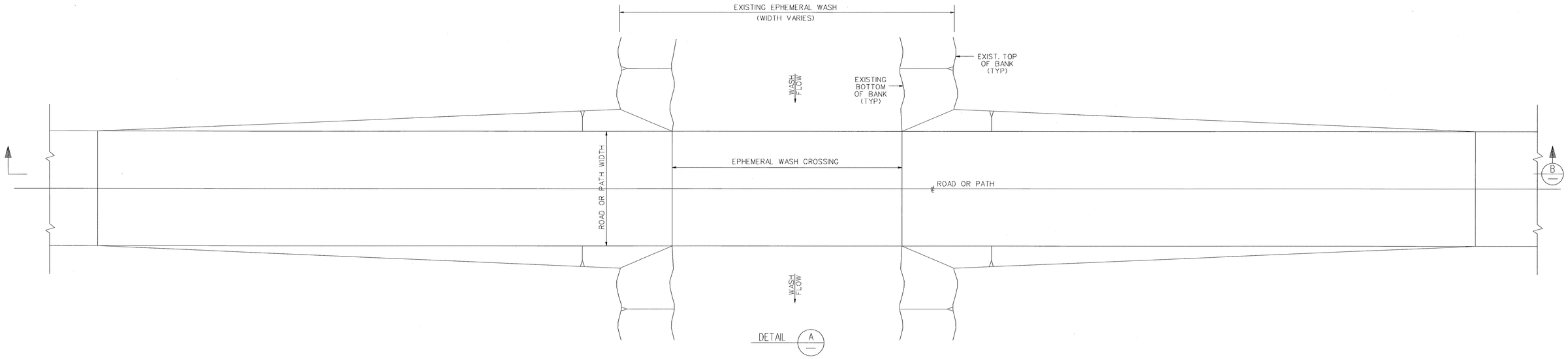
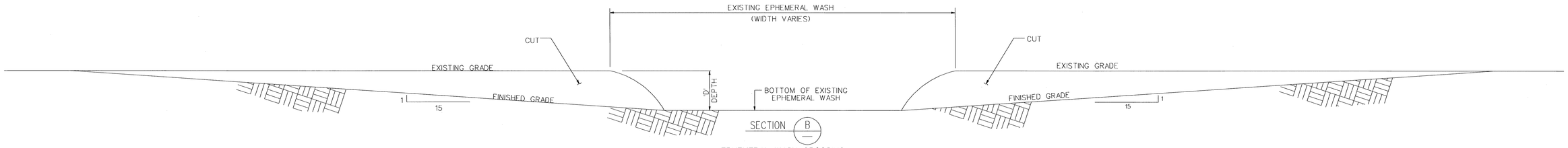
RIO MESA SOLAR ELECTRIC GENERATING FACILITY

COMMON AREA PLOT PLAN

JOB NO.	DRAWING NO.	REV.
25755	009-P1K-0910-00001	A

34"X44"E SIZE





EPHEMERAL WASH CROSSING

APPLICABLE TO DIRT ROADS AND HELIOSTAT MAINTAINENCE PATHS

NOTES:

1. THE EPHEMERAL WASH CROSSING APPLIES TO ALL WASH INTERSECTIONS WITH 12' WIDE DIRT ROADS AND 10' WIDE HELIOSTAT MAINTENANCE PATHS.
2. ALL CROSSING RAMP EXCAVATION WILL HAVE SIDE SLOPES AT 3:1 TO MEET EXISTING GRADE.
3. SIDE SLOPES AND ROAD/PATH EXCAVATION SHALL BE TREATED WITH A CHEMICAL SOIL STABILIZER UPON COMPLETION OF GRADING AT EACH LOCATION.

NOTE:
DETAILS ON THIS DRAWING
TO BE APPLIED BASED ON
DETAILED DESIGN REQUIREMENTS
TO BE DETERMINED

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS	BY	CHK	DES SUPV.	ENGR.	PROJ ENGR	APPR.
1	8/15/11	ISSUED FOR REVIEW	LAP					

SCALE NTS | DATE 8/15/11 | DESIGNED | DRAWN LAP | CHIEF ENGR.

BrightSource

BECHTEL POWER CORP.
DEDICATED TO SAFETY EXCELLENCE - ZERO ACCIDENTS
FREDERICK, MARYLAND

RIO MESA
SOLAR ELECTRIC GENERATING FACILITY

GRADING & SURFACING DETAILS
FOR EPHEMERAL WASH CROSSING

BSII (Ltd.)

OWNER DRAWING NO.
TBD

JOB NO.	DRAWING NO.	REV.
25670	000-CG-0090-00001	A

34"X44"E SIZE

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NA_FORMATS.CEL AC-ESTD_NA 07/17/08

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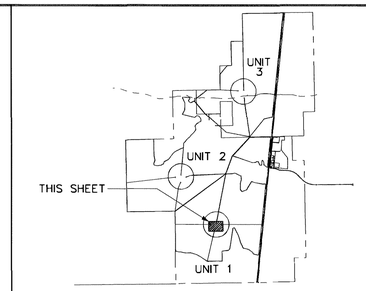
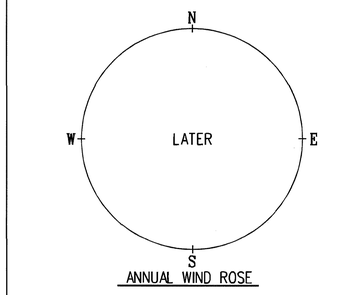


KEY MAP



ANNUAL WIND ROSE

NOTES:

1. FOR COORDINATE SYSTEM, COORDINATES OF PROJECT BOUNDARY & VERTICAL DATUM, SEE SITE PLAN DRAWING 000-C2-0000-00001.
2. FOR STANDARD FENCING TYPES, DETAILS AND NOTES, SEE DWG. 000-C0-0090-00003 & 000-C0-0090-00006.
3. FOR GROUNDING DETAILS, SEE BECHTEL ENGINEERING DESIGN STANDARD FOR GROUNDING NOTES, SYMBOLS AND DETAILS NO. 000-EGJ-0000-00001.
4. ALL GATES WITH AN OPENING 8' OR LARGER SHALL BE DOUBLE SWING GATES.
5. SEE DRAWING NOS. 000-EG-0000-00001 AND 000-EG-0000-00002 FOR CONNECTION DETAILS BETWEEN FENCING AND THE ELECTRICAL GROUNDING SYSTEM.
6. THE COORDINATES SHOWN ON THIS DRAWING ARE BASED ON A LOCAL COORDINATE GRID REFERENCING THE CENTER OF POINT 660 AS 30,000 E, 70,000 N IN THE CALIFORNIA VI STATE PLANE COORDINATE SYSTEM (NAD 83, FEET).

A. HORIZONTAL DATUM:
NORTH AMERICAN DATUM 1983

B. UNIT OF MEASUREMENT
U.S. SURVEY FEET

C. GRID ORIGIN:
BASED ON THE CENTER OF POINT 660:
PLANT NORTHING: 70,000.0000 FEET
PLANT EASTING: 30,000.0000 FEET
STATE PLANE, CA VI NORTHING: 2,113,820.697 FEET
STATE PLANE, CA VI EASTING: 7,009,888.916 FEET
LATITUDE: 33° 27' 32.640" NORTH
LONGITUDE: 114° 46' 49.220" WEST

D. GRID PARAMETERS:
MODIFIED FALSE NORTHING: -418222.24933334 FEET
MODIFIED FALSE EASTING: -403404.03033334 FEET
CENTRAL MERIDIAN AT 116° 15'0" WEST
CENTRAL MERIDIAN OF STATE PLANE, CA VI (FIPS 0406)

7. FOR SECTIONS & DETAILS, SEE DWG. (LATER)
8. ALL EARTHWORK SHALL BE IN ACCORDANCE WITH SPECIFICATION 25670-000-3PS-CE01-00001.
8. OIL/WATER SEPARATOR SHALL BE (LATER).
9. FOR STORM DRAIN SECTIONS & DETAILS, SEE DWG. (LATER).

LEGEND:

PROJECT BOUNDARY

WATER FLOW

0 50 100 150
1" = 50'

NO.	DATE	REVISIONS	BY	CHK	DES. SUPV.	ENGR.	PROJ ENGR	APPR
A	20 OCT 11	ISSUED FOR REVIEW	LAP					

SCALE | DATE | DESIGNED | DRAWN | CHIEF ENGR.

BrightSource

BECHTEL POWER CORP.
DEDICATED TO SAFETY EXCELLENCE - ZERO ACCIDENTS
FREDERICK, MARYLAND

RIO MESA
SOLAR ELECTRIC GENERATING FACILITY

UNIT 1
ROUGH GRADING AND
DRAINAGE PLAN

PRELIMINARY ISSUE
NOT FOR
CONSTRUCTION

BSII (Ltd.)

OWNER DRAWING NO.
TBD

JOB NO.	DRAWING NO.	REV.
25670	001-CG-0010-00001	A

34"X44"E SIZE

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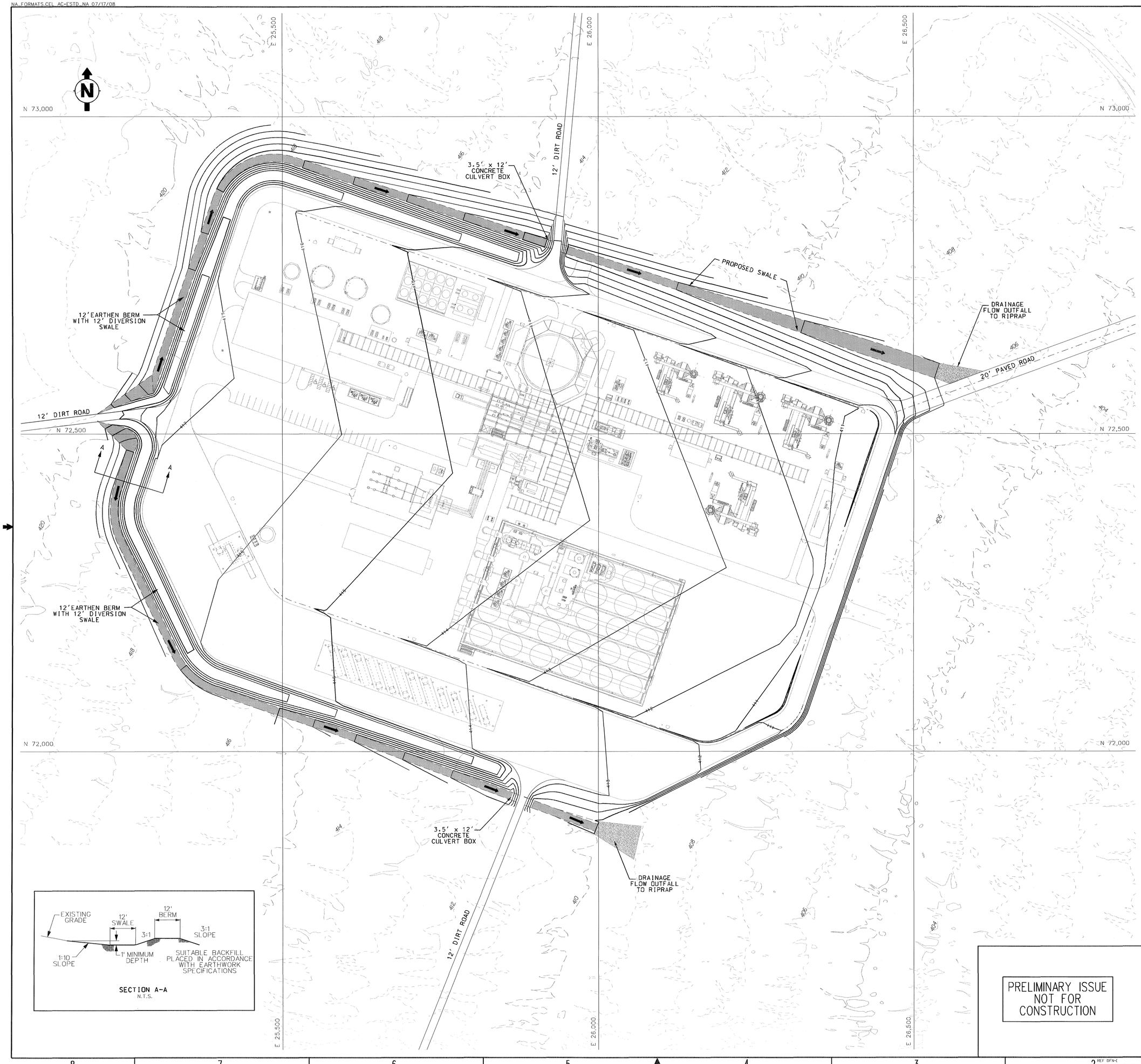
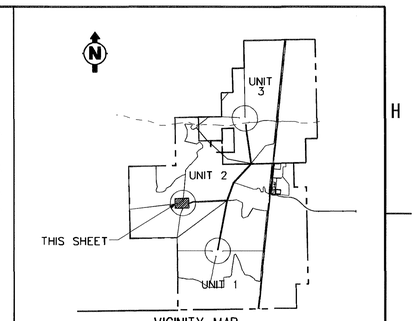
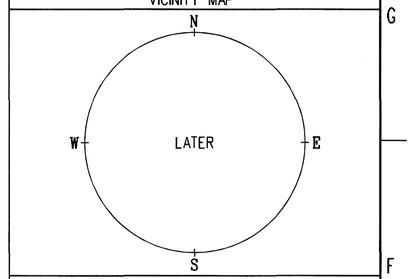




VICINITY MAP



ANNUAL WIND ROSE

NOTES:

1. FOR COORDINATE SYSTEM, COORDINATES OF PROJECT BOUNDARY & VERTICAL DATUM, SEE SITE PLAN DRAWING 000-C2-0000-00001.
2. FOR STANDARD FENCING TYPES, DETAILS AND NOTES, SEE DWG. 000-C0-0090-00003 & 000-C0-0090-00006.
3. FOR GROUNDING DETAILS, SEE BECHTEL ENGINEERING DESIGN STANDARD FOR GROUNDING NOTES, SYMBOLS AND DETAILS NO. 000-EGJ-0000-00001.
4. ALL GATES WITH AN OPENING 8' OR LARGER SHALL BE DOUBLE SWING GATES.
5. SEE DRAWING NOS. 000-EG-0000-00001 AND 000-EG-0000-00002 FOR CONNECTION DETAILS BETWEEN FENCING AND THE ELECTRICAL GROUNDING SYSTEM.
6. THE COORDINATES SHOWN ON THIS DRAWING ARE BASED ON A LOCAL COORDINATE GRID REFERENCING THE CENTER OF POINT 660 AS 30,000 E, 70,000 N IN THE CALIFORNIA VI STATE PLANE COORDINATE SYSTEM (NAD 83, FEET).

A. HORIZONTAL DATUM:
NORTH AMERICAN DATUM 1983

B. UNIT OF MEASUREMENT
U.S. SURVEY FEET

C. GRID ORIGIN:
BASED ON THE CENTER OF POINT 660:
PLANT NORTHING: 70,000.0000 FEET
PLANT EASTING: 30,000.0000 FEET
STATE PLANE, CA VI NORTHING: 2,113,820.697 FEET
STATE PLANE, CA VI EASTING: 7,009,888.916 FEET
LATITUDE: 33° 27' 32.640" NORTH
LONGITUDE: 114° 46' 49.220" WEST

D. GRID PARAMETERS:
MODIFIED FALSE NORTHING: -418222.24933334 FEET
MODIFIED FALSE EASTING: -403404.03033334 FEET
CENTRAL MERIDIAN AT 116° 15'0" WEST
CENTRAL MERIDIAN OF STATE PLANE, CA VI (FIPS 0406)

7. FOR SECTIONS & DETAILS, SEE DWG. (LATER)
8. ALL EARTHWORK SHALL BE IN ACCORDANCE WITH SPECIFICATION 25670-000-3PS-CE01-00001.
8. OIL/WATER SEPARATOR SHALL BE (LATER).
9. FOR STORM DRAIN SECTIONS & DETAILS, SEE DWG. (LATER).

LEGEND:

PROJECT BOUNDARY

WATER FLOW

0 50 100 150
1" = 50'

PRELIMINARY ISSUE NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS	BY	CHK	DES SUPV.	ENGR.	PROJ ENGR	APPR
A	26 OCT 11	ISSUED FOR REVIEW	LAP		-			

SCALE | DATE | DESIGNED | DRAWN | CHIEF ENGR.

BrightSource

BECHTEL POWER CORP.
DEDICATED TO SAFETY EXCELLENCE - ZERO ACCIDENTS
FREDERICK, MARYLAND

RIO MESA SOLAR ELECTRIC GENERATING FACILITY

UNIT 2 ROUGH GRADING AND DRAINAGE PLAN

BSII (Ltd.)

OWNER DRAWING NO.: TBD

JOB NO.	DRAWING NO.	REV.
25670	002-CG-0010-00001	A

34"X44"E SIZE

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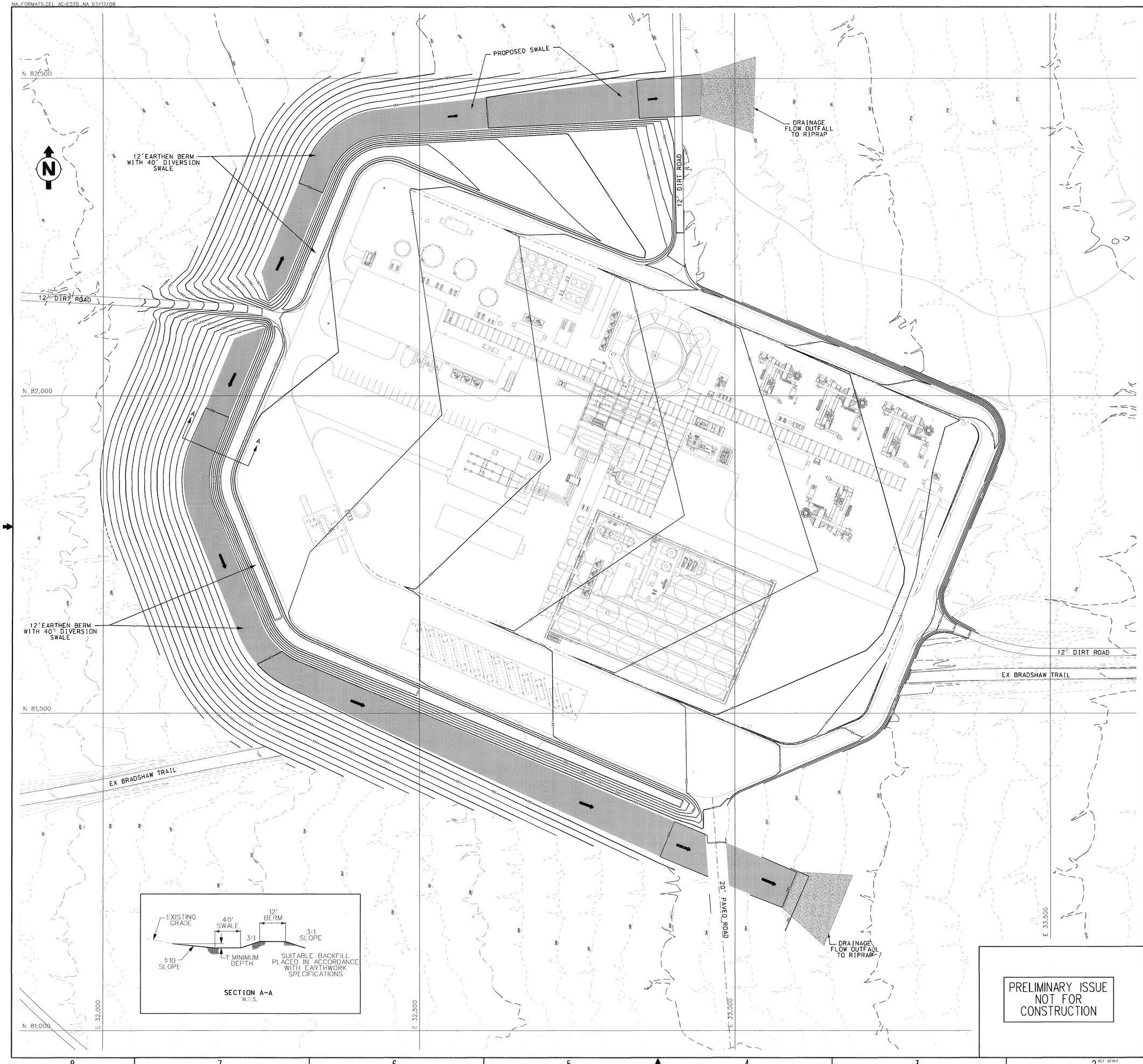
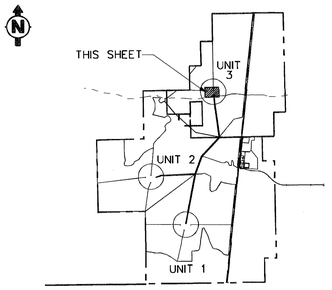
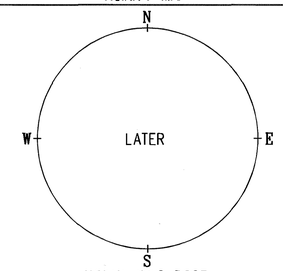




VICINITY MAP



ANNUAL WIND ROSE

NOTES:

1. FOR COORDINATE SYSTEM, COORDINATES OF PROJECT BOUNDARY & VERTICAL DATUM, SEE SITE PLAN DRAWING 000-C2-0000-00001.
2. FOR STANDARD FENCING TYPES, DETAILS AND NOTES, SEE DWG. 000-C0-0090-00003 & 000-C0-0090-00006.
3. FOR GROUNDING DETAILS, SEE BECHTEL ENGINEERING DESIGN STANDARD FOR GROUNDING NOTES, SYMBOLS AND DETAILS NO. 000-EGJ-0000-00001.
4. ALL GATES WITH AN OPENING 8' OR LARGER SHALL BE DOUBLE SWING GATES.
5. SEE DRAWING NOS. 000-EG-0000-00001 AND 000-EG-0000-00002 FOR CONNECTION DETAILS BETWEEN FENCING AND THE ELECTRICAL GROUNDING SYSTEM.
6. THE COORDINATES SHOWN ON THIS DRAWING ARE BASED ON A LOCAL COORDINATE GRID REFERENCING THE CENTER OF POINT 660 AS 30,000 E, 70,000 N IN THE CALIFORNIA VISTATE PLANE COORDINATE SYSTEM (NAD 83, FEET).

A. HORIZONTAL DATUM:
NORTH AMERICAN DATUM 1983

B. UNIT OF MEASUREMENT
U.S. SURVEY FEET

C. GRID ORIGIN:
BASED ON THE CENTER OF POINT 660:
PLANT NORTHING: 70,000.0000 FEET
PLANT EASTING: 30,000.0000 FEET
STATE PLANE, CA VI NORTHING: 2,113,820.697 FEET
STATE PLANE, CA VI EASTING: 7,009,888.916 FEET
LATITUDE: 33° 27' 32.640" NORTH
LONGITUDE: 114° 46' 49.220" WEST

D. GRID PARAMETERS:
MODIFIED FALSE NORTHING: -418222.24933334 FEET
MODIFIED FALSE EASTING: -403404.03033334 FEET
CENTRAL MERIDIAN AT 116° 15' 0" WEST
CENTRAL MERIDIAN OF STATE PLANE, CA VI (FIPS 0406)

7. FOR SECTIONS & DETAILS, SEE DWG. (LATER)
8. ALL EARTHWORK SHALL BE IN ACCORDANCE WITH SPECIFICATION 25670-000-3PS-CE01-00001.
8. OIL/WATER SEPARATOR SHALL BE (LATER).
9. FOR STORM DRAIN SECTIONS & DETAILS, SEE DWG. (LATER).

LEGEND:

PROJECT BOUNDARY

WATER FLOW

0 50 100 150
1" = 50'

PRELIMINARY ISSUE NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS	BY	CHK	DES. SUPV.	ENGR.	PROJ ENGR	APPR
A	7/29/08	ISSUED FOR REVIEW	LAP		-			

SCALE | DATE | DESIGNED | DRAWN | CHIEF ENGR.

BrightSource

BECHTEL POWER CORP.
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FREDERICK, MARYLAND

RIO MESA
SOLAR ELECTRIC GENERATING FACILITY

UNIT 3
ROUGH GRADING AND DRAINAGE PLAN

BSII (Ltd.)

OWNER DRAWING NO.
TBD

JOB NO.	DRAWING NO.	REV.
25670	003-CG-0010-00001	A

34"X44" E SIZE

NA_FORMATS.CEL AC-ESTD_NA 07/17/08

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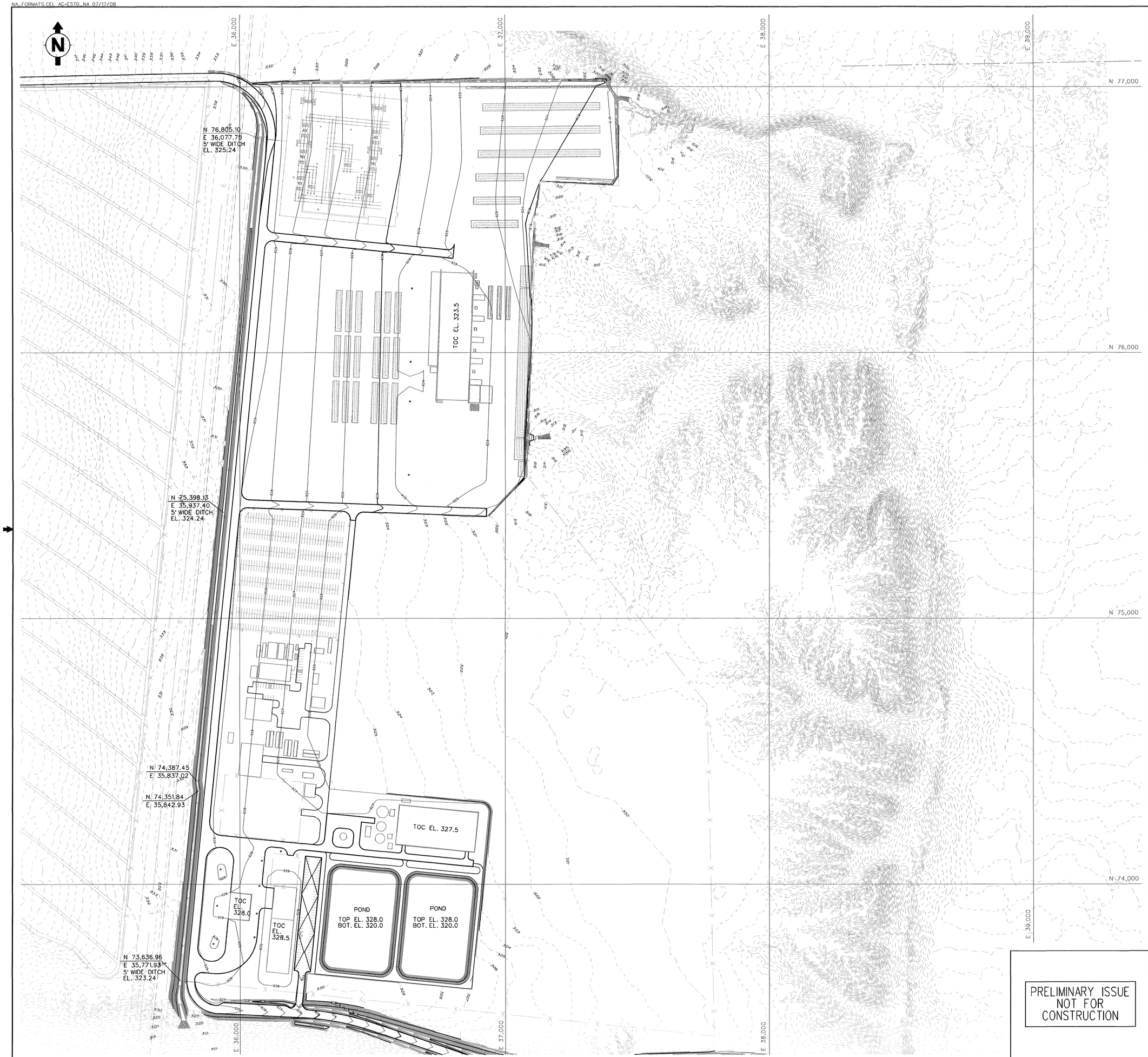
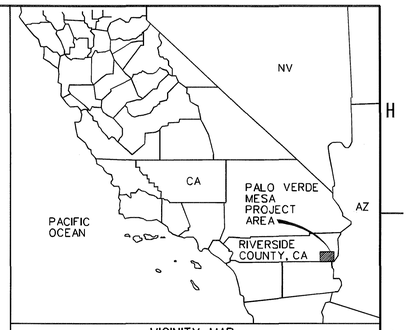
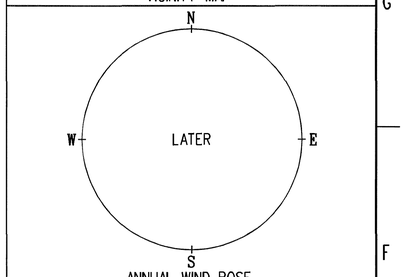




VICINITY MAP



ANNUAL WIND ROSE

NOTES:

1. FOR COORDINATE SYSTEM, COORDINATES OF PROJECT BOUNDARY & VERTICAL DATUM, SEE SITE PLAN DRAWING 000-C2-0000-00001.
2. FOR STANDARD FENCING TYPES, DETAILS AND NOTES, SEE DWG. 000-C0-0090-00003 & 000-C0-0090-00006.
3. FOR GROUNDING DETAILS, SEE BECHTEL ENGINEERING DESIGN STANDARD FOR GROUNDING NOTES, SYMBOLS AND DETAILS NO. 000-EGJ-0000-00001.
4. ALL GATES WITH AN OPENING 8' OR LARGER SHALL BE DOUBLE SWING GATES.
5. SEE DRAWING NOS. 000-EG-0000-00001 AND 000-EG-0000-00002 FOR CONNECTION DETAILS BETWEEN FENCING AND THE ELECTRICAL GROUNDING SYSTEM.
6. THE COORDINATES SHOWN ON THIS DRAWING ARE BASED ON A LOCAL COORDINATE GRID REFERENCING THE CENTER OF POINT 660 AS 30,000 E, 70,000 N IN THE CALIFORNIA VI STATE PLANE COORDINATE SYSTEM (NAD 83, FEET).

A. HORIZONTAL DATUM:
NORTH AMERICAN DATUM 1983

B. UNIT OF MEASUREMENT
U.S. SURVEY FEET

C. GRID ORIGIN:
BASED ON THE CENTER OF POINT 660:
PLANT NORTHING: 70,000.0000 FEET
PLANT EASTING: 30,000.0000 FEET
STATE PLANE, CA VI NORTHING: 2,113,820.697 FEET
STATE PLANE, CA VI EASTING: 7,009,888.916 FEET
LATITUDE: 33° 27' 32.640" NORTH
LONGITUDE: 114° 46' 49.220" WEST

D. GRID PARAMETERS:
MODIFIED FALSE NORTHING: -418222.24933334 FEET
MODIFIED FALSE EASTING: -403404.03033334 FEET
CENTRAL MERIDIAN AT 116° 15' 0" WEST
CENTRAL MERIDIAN OF STATE PLANE, CA VI (FIPS 0406)

7. FOR SECTIONS & DETAILS, SEE DWG. (LATER)
8. ALL EARTHWORK SHALL BE IN ACCORDANCE WITH SPECIFICATION 25670-000-3PS-CE01-00001.
8. OIL/WATER SEPARATOR SHALL BE (LATER).
9. FOR STORM DRAIN SECTIONS & DETAILS, SEE DWG. (LATER).

LEGEND:

PROJECT BOUNDARY

0 60 120 240 360
1" = 120'

PRELIMINARY ISSUE
NOT FOR
CONSTRUCTION

NO.	DATE	REVISIONS	BY	CHK	DES. SUPV.	ENGR.	PROJ ENGR	APPR
A	7/28/11	ISSUED FOR REVIEW	LAP					

SCALE | DATE | DESIGNED | DRAWN | CHIEF ENGR.

BrightSource

BECHTEL POWER CORP.
DEDICATED TO SAFETY EXCELLENCE - ZERO ACCIDENTS
FREDERICK, MARYLAND

RIO MESA
SOLAR ELECTRIC GENERATING FACILITY

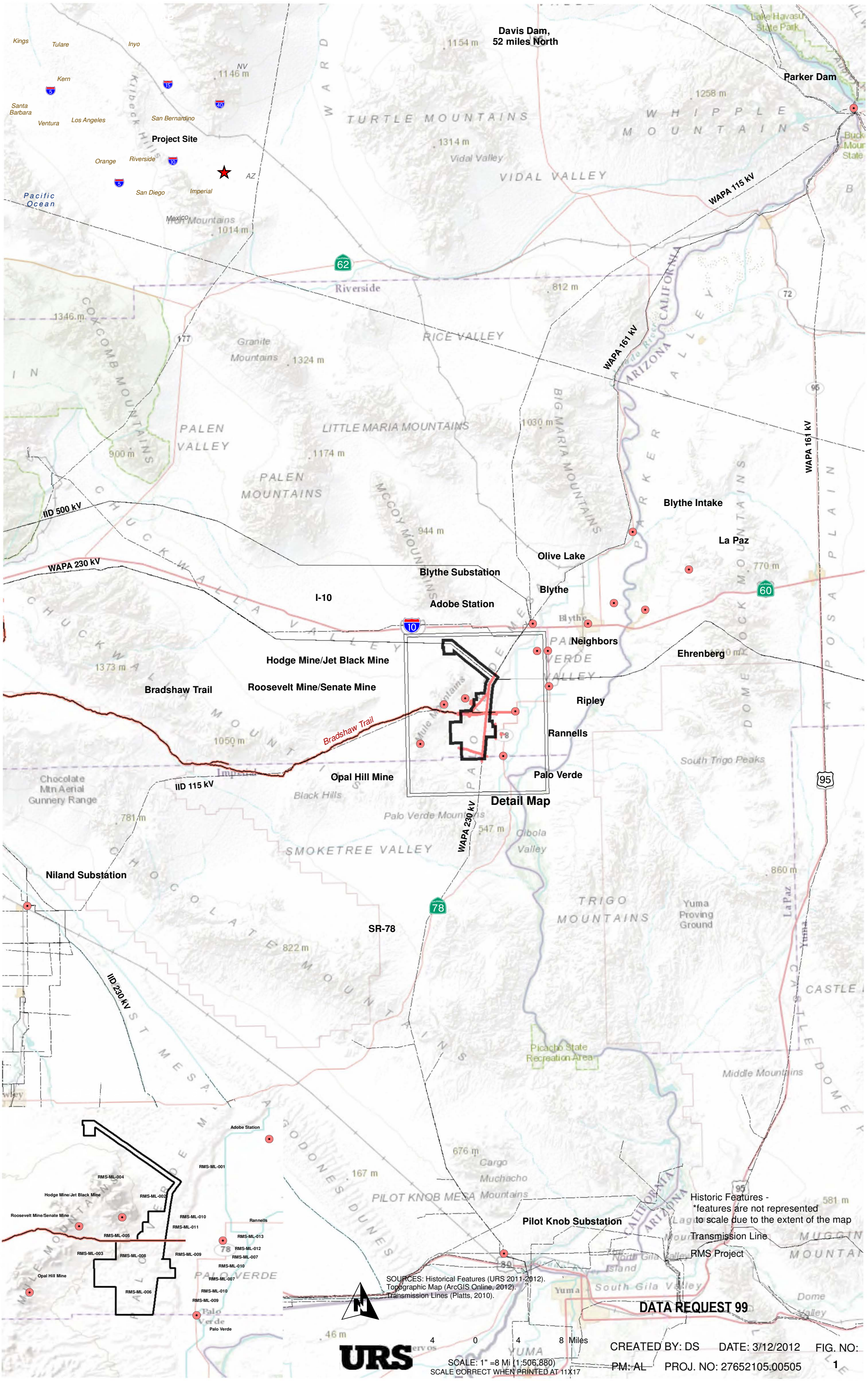
COMMON AREA
ROUGH GRADING PLAN

BSII (Ltd.) | OWNER DRAWING NO. TBD

JOB NO.	DRAWING NO.	REV.
25670	009-CG-0010-00001	A

34"X44" E SIZE

ATTACHMENT DR 99-1



Path: G:\gisprojects\1577\27651002\map_docs\mxd\Arc_History\Arch_Hist_Data_Request.mxd, diana_smith, 3/12/2012, 9:50:36 AM

NOTE: Locations are approximate and based on historic research reported in the Draft Final Cultural Resources Technical Report for the Rio Mesa Electric Generating Facility, Riverside County, California (September 2011).

ATTACHMENT DR 105-1

Table 2.8-1
Previously Conducted Cultural Resources Investigations
(Continued)

Survey Report Number	Report Title	Date	Author	Within Project Area	Within ¼-mile Radius	Within 1-mile Radius
RI-06187	Cultural Resources Evaluation for the North Baja Gas Pipeline	2001	EDAW, Inc.	X		
RI-06707	Cultural Resources Surveys of Alternative Routes within California for the proposed Devers-Palo Verde 2 Transmission Project	2006	Applied Earthworks, Inc.	X		
RI-06999	A Class III Cultural Resource Inventory, and Evaluation for the Coachella Canal, Lining Project: Prehistoric and Historic, Sites Along the Northeastern Shore of, Ancient Lake Cahuilla, Imperial and Riverside Counties, California	2003	ASM Affiliates, Inc.	Locational data was not Available from EIC		
RI-07204	Overview and Cultural Resources Survey for the De Anza Natural Gas Pipeline	2000	KEA Environmental, Inc.	Locational data was not Available from EIC		
RI-07348	Overview and Cultural Survey for the De Anza Natural Gas Pipeline	2000	KEA Environmental, Inc.	Locational data was not Available from EIC		
RI-07349	Chocolate Mountain Aerial Gunnery Range: Cultural Resources Survey of 12 Targets and Monitoring of 14 Archaeological Sites	2005	EDAW, Inc.	Locational data was not Available from EIC		
RI-07790	A Class II Cultural Resources Assessment for the Desert-Southwest Transmission Line, Colorado Desert, Riverside and Imperial Counties, California	2003	ASM Affiliates, Inc.	X		
RI-07967	A Class III Cultural Resources Survey for the Proposed Mesa Ranch Water Pipeline Right-of-Way Project, Palo Verde Mesa, Eastern Riverside County, California	2009	BLM, Palm Springs-South Coast Field Office, North Palm Springs, CA	X		

ATTACHMENT DR 106-1

Table 2.8-1
Previously Conducted Cultural Resources Investigations
(Continued)

Survey Report Number	Report Title	Date	Author	Within Project Area	Within ¼-mile Radius	Within 1-mile Radius
RI-08373	Final Cultural Resources Inventory of the Proposed DPV2 Colorado River Switchyard Project, Riverside County California	2009	ICF Jones & Stokes	X		
RI-08410	Draft Cultural Resources Inventory of the Proposed Devers to Palo Verde II 500-kV Transmission Line, Riverside County, California	2005	Mooney/Hayes Associates, LLC	X		
RI-08411	Final Amendment to Cultural Resources Inventory of the Proposed Blythe Energy Project Transmission Line, Riverside County, California	2008	Tetra Tech EC, Inc.	X		
(Not Yet Assigned)	Cultural Resources Class III Survey Draft Report for the Proposed Blythe Solar Power Project	2010	AECOM	X		
(Not Yet Assigned)	Class III Cultural Resources Survey Draft for the Colorado River	2011	Applied Earthworks	X		
(Not Yet Assigned)	Cultural Resources Inventory of the Proposed Colorado River Substation Expansion Project, Riverside, California	2010	ASM Affiliates, Inc.	X		
NADB 1100139	Archaeological Examinations Of A Utility Site In Palo Verde Valley	1978	Von Werlhof, Sherilee			X
NADB 1100695	Intensive Cultural Resource Inventory for the Western Area Power Administration Blythe-Knob 161-kV Transmission Line, Riverside and Imperial Counties, California for U.S. Department of Energy Western Area Power Administration	1995	Moreno, Jerry L et al.	X		

ATTACHMENT DR 108-1

RI-06186

ATTACHMENT DR 110-1

SECTION 8 REFERENCES

AECOM Environment.
2009a *Preliminary Draft Cultural Resources Technical Report for the Proposed Blythe Solar Power Project, Riverside County, California.*

2009b *Blythe Solar Power Project, Application for Certification*. Submitted to the California Energy Commission and Bureau of Land Management. Copies available at the Eastern Information Center c/o Department of Anthropology, University of California Riverside, Riverside, California.

Ahlstrom, Richard and Heidi Roberts.
2001 Desert Pavement and Buried Archaeological Features in the Arid West: A Case Study from Southern Arizona. *Journal of California and Great Basin Anthropology*. 23(1): 1-26.

Alford, Alice Jean.
1987 The Growth and Development of the Palo Verde Valley, 1860-1936. M.A. thesis, Department of History, University of San Diego.

Altschul, Jeffery H., and Joseph A. Ezzo .
1994 The Expression of Ceremonial Space Along the Lower Colorado River. In *Recent Research Along the Lower Colorado River*, edited by Joseph A. Ezzo, pp. 51-68. Statistical Research Technical Series No. 51, Tucson, Arizona.

1995 Ceremony and Warfare along the Lower Colorado River during the Protohistoric Period. In the *Proceedings of the Society for California Archaeology*, Vol. 8, pp. 133-14S. Society for California Archaeology. Available online at www.scahome.org/publications/proceedings/ Proceedings.08Altschul.pdf. Accessed on 11 July 2011.

American Energy Fields, Inc. (AEFI).
2010 Coso & Blythe Uranium Projects acquired by American Energy Fields, Inc. 12 April. Available online at http://coalgeology.com/coso-blythe-uranium-projects-aquired-by-american-energy-fields-inc/ 4459. Accessed on 11 July 2011.

Anderson, Diana E. and Stephen G. Wells.
2003 Latest Pleistocene lake high stands in Death Valley, California. In *Paleoenvironments and Paleohydrology of the Mojave and Southern Great Basin Deserts*, Edited by Yehouda Enzel, Stephen G. Wells, and Nicholas Lancaster, pp. 115-128. Geological Society of America Special Paper 368. Boulder, Colorado.

Andrefsky, W. Jr.

2008. *Lithics, Macroscopic Approaches to Analysis – Second Edition in Cambridge Manuals of Archaeology Series*. Cambridge University Press, United Kingdom.

Apple, Rebecca and Andrew York.
1993 *Kern River Gas Transmission Company, Kern River Pipeline: Cultural Resources Data Recovery Report, California*. Report submitted by Dames and Moore to the Kern River Gas Transmission Company, Salt Lake City, Utah.

ASM Affiliates, Inc.
1998 *Cultural Resources Inventory of 1,542 Acres of Palo Verde Mesa and Palo Verde Valley Catellus/Bureau of Land Management Land Exchange Area*. Submitted to the Bureau of Land Management. Copies available at the Eastern Information Center c/o Department of Anthropology, University of California Riverside, Riverside, California.

2003 *A Class II Cultural Resources Assessment for the Desert-Southwest Transmission Line, Colorado Desert, Riverside and Imperial Counties, California*. Submitted to the Bureau of Land Management. Copies available at the Eastern Information Center c/o Department of Anthropology, University of California Riverside, Riverside, California.

Barker, J. P.
1976 Ethnographic Sketch of the Yuha Desert Region. In *Background to Prehistory of the Yuha Desert Region*, edited by P. J. Wilke, pp. 21–41. Ballena Press, Ramona, California.

Barker, James P. and Leslie Wildesen.
1975 *An Archaeological Survey of the Proposed HTGR Nuclear Power Plant and Associated Transmission Lines, Vidal Valley, California*. Prepared for Southern California Edison Co. Copies on file at the Eastern Information Center c/o Department of Anthropology, University of California Riverside, Riverside, California.

Basgall, Mark E.
2000 The Structure of the Archaeological Landscapes in the North Central Mojave Desert. In *Archaeological Passages: A Volume in Honor of Claude Nelson Warren*, edited by J. Schneider, R. Yohe, and J. Gardner. Western Center for Archaeology and Paleontology: Hemet, California.

2003 *Further Archaeological Assessments in Deadman Lake Basin, Marine Corps Air Ground Combat Center, Twenty Nine Palms, California*. Report submitted to the United States Army Corps of Engineers, Sacramento.

Baxter, R. S., R. A. Allen, and M. C. Bischoff.
2010 Field Manual for Documenting the Desert Training Center and California-Arizona Maneuver Area Cultural Landscape (DRAFT). Prepared for the California Energy Commission.

Bean, Lowell J.
1972 *Mukat's People: The Cahuilla Indians of Southern California*. University of California Press, Berkeley.

1976 California Indian Shamanism and Folk Curing. In American Folk Medicine: A Symposium. Wayland Hand, ed. Berkeley and Los Angles: University of California Press.

1978 Cahuilla. In *The Handbook of North American Indians, Vol 8, California*, R.F. Heizer, Ed, pp. 575-587. Smithsonian Institute, Washington D.C.

Bean, L.J. and L. Bourgeault.
1989 The Cahuilla. In Indians of North America Series, edited by Frank W. Porter III. Chelsea House. New York, New York.

Bean, L.J., and J. Toenjes.
2010 *Native American Ethnographic Context. Draft Section for the Chuckwalla Valley Prehistoric Trails Network Cultural Landscape: Historic Context, Research Questions, and Resource Evaluation Criteria*. ASM Affiliates, Inc. Submitted to The Aspen Energy Group. Copies available from ASM Affiliates, Inc. California.

Bean, L.J., and S.B. Vane (editors).
1978 *ANTAP – California Indian Political and Economic Organization*. Ballena Press: Ramona, CA.

Bean, L. J., Sylvia Brakke Vane, and Jackson Young.
1991 *The Cahuilla Landscape: The Santa Rosa and San Jacinto Mountains*. Ballena Press: Menlo Park, California.

Bean, L. J., J. Schaefer, and S. Vane.
1995 *Archaeological, Ethnographic and Ethnohistoric Investigations at Tahquitz Canyon, Palm Springs, California.* Cultural Systems Research Inc. Submitted to Riverside County Flood Control and Water Conservation District.

Bee, Robert L.
1983 Quechan. In *Southwest* edited by Alfonso Ortiz, pp. 86-98; Handbook of North American Indians, Vol. 10, William C Sturevant, general editor, Smithsonian Institution, Washington, D.C.

Becker, K.B. and J.H. Altschul.

2008. Path Finding: The Archaeology of Trails and Trail Systems. In *Fragile Patterns, The Archaeology of the Western Papagueria*, edited by Jeffrey H. Altschul and Andrianne G. Rankin, pp.419-446. SRI Press, Tucson Arizona.

Binford, L. R.
1980 Willow Smoke and Dogs' Tails: Hunter-Gatherer Settlement Systems and Archaeological Site Formation. *American Antiquity. 45:4-20*.

1983 Long-Term Land-Use Patterning: Some Implications for Archaeology. In *Working at Archaeology*. Edited by L. R. Binford, pp. 155-188. Academic Press: New York, NY.

Birkeland, Peter W., Michael N. Machette, and Kathleen M. Haller.
1991 *Soils as a Tool for Applied Quaternary Geology*. Utah Geological and Mineral Survey Miscellaneous Publications 91-3. Utah Department of Natural Resources: Salt Lake City.

Bischoff, Matt C., R. Scott Baxter, and Rebecca Allen.
2010 *Documenting the Desert Training Center and California-Arizona Maneuver Area Cultural Landscape - Draft*. Prepared for the California Energy Commission. 1 November.

Bull, W.B.
1991 *Geomorphic Responses to Climate Change*. Oxford University Press, New York.

CH2MHill.
2008 Ivanpah Solar Electric Generating System (ISEGS) (07-AFC-5), Data Response, Set 1B. Submitted to the California Energy Commission. Available online at http://www.energy.ca.gov/sitingcases/ivanpah/documents/applicant/.

California Energy Commission.

1992. *Instructions to the California Energy Commission Staff for the Review of and Information Requirements for an Application for Certification*.

2007a *Regulations Pertaining to the Rules of Practice and Procedure and Power Plant Site Certification*.

2007b *Rules of Practice and Procedure and Power Plant Site Regulations Revisions*.

California's Groundwater Bulletin 118 for Colorado River Hydrologic Region, Palo Verde Mesa Groundwater Basin and Palo Verde Valley Groundwater Basin, dated 27 February 2004.

California Highways.
N.d. State Route 78. Available online at http://www.cahighways.org/073-080.html. Accessed on 23 May 2011.

California State Military Museum.
N.d. Historic California Posts, Fort Gass. Available online at http://www.militarymuseum.org/FtGass.html. Accessed on 8 June 2011.

Campbell, Paul D.
1999 Southern California Pottery. Available online at http://www.primitiveways.com/pottery1.html. Accessed on July 2011.

Campbell, E. W., and W. H. Campbell.
1935 *The Pinto Basin Site: An Ancient Aboriginal Camping Ground in the California Desert.* Southwest Museum Papers. 9:1-51.

Carrico, Richard L. and Dennis K. Quillen.
1982 *Cultural Resources Inventory and National Register of Historic Places Assessment of the Southern California Edison Palo Verde to Devers Transmission Line Corridor (Arizona Portion).* Report submitted to Southern California Edison, Rosemead, California, by WESTEC Services Inc.: San Diego.

Castetter, Edward F. and Willis H. Bell.
1951 *Yuman Indian Agriculture: Primitive Subsistence on the Lower Colorado and Gila Rivers.* University of New Mexico Press, Albuquerque.

Chartkoff, J., and K. K. Chartkoff.
1984 *The Archaeology of California.* Stanford University Press, Stanford, California.

City of Blythe.
N.d. General Information About the City of Blythe. Available online at http://cityofblythe.ca.gov/index.aspx?NID=10. Accessed on 11 July 2011.

Clark, William.
1970 California Division of Mines and Geology, Bulletin 193: Gold Districts of California. Sacramento. Available online at http://archive.org/stream/golddistrictsofc00clarrich/golddistrictsofc00clarrich djvu.txt. Accessed on 11 July 2011.

Cleland, J. H.
2005 "The Sacred and the Mundane - Cultural Landscape Concepts and Archaeological Interpretation in the Colorado Desert," *Proceedings of the Society for California Archaeology.* 18:130-135.

Cleland, J.H. and R. McC. Apple.
2003 *A View Across the Cultural Landscape of the Lower Colorado Deser: Cultural Resource Investigations for the North Baja Pipeline Project*. Copies available from EDAW: San Diego, California.

Cooke, Ronald.
1970 Stone Pavements in Deserts. *Annals of the Association of American Geographers* 60(3), pp. 560-577.

Cowan, Richard A. and Kurt Wallof.
1977 *Cultural Resource Survey of the Proposed Southern California Edison Palo Verde – Devers 500 Kv Transmission Line*. Prepared for Southern California Edison Co. Copies on file at the Eastern Information Center c/o Department of Anthropology, University of California, Riverside.

Crabtree, R. H.
1981 Archaeology. In E. von Till Warren, R. H. Crabtree, C. N. Warren, M. Knack, and R. McCarty, eds., A cultural resources overview of the Colorado Desert Planning Units: 25-54. Riverside: U.S. Bureau of Land Management, Cultural Resources Publications, Anthropology-History.

Davis, Emma Lou.
1970 *Archaeology* of the North Basin of Panamint Valley, Inyo County, California. Part 3. In *Five Papers on the Archaeology of the Desert West*, edited by Donald R. Tuohy, Doris L. Rendall and Pamela A. Crowell, pp. 83-141. Nevada State Museum Anthropological Papers No. 15.

1978 *The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country*. Natural History Museum of Los Angeles County Science Series 29. Los Angeles.

Davis, James.T.

1974. Trade Routes and Economic Exchange among the Indians of California. *Reports of Archaeological Survey* 54. Berkeley, CA: University of California Press.

Dekens, Camiel.
1962 *Riverman Desertman: Recollections of Camiel Dekens as told to Tom Patterson*. Press-Enterprise Company, Riverside, CA.

Dibblee, Thomas W. Jr.
2008 *Geologic map of the Newberry & Cady Mountains 15 Minute Quadrangles: San Bernardino County, California*. Santa Barbara Museum of Natural History: Santa Barbara.

Digital Globe.
2009 1-meter resolution imagery, accessed through ESRI ArcMap via online subscription.

Dohrenwend, John C., William B. Bull, Leslie D. McFadden, George I. Smith, Roger S.U. Smith, and Stephen G. Wells

1991 Quaternary geology of the Basin and Range Province in California. In Roger B. Morrison ed., *The Geology of North America, Vol. K-2, Quaternary Nonglacial Geology: Conterminous U.S.* The Geological Society of America, Boulder, Colorado.

Dunne, Peter M.
1955 *Jacobo Sedelmayr: Missionary, Frontiersman, Explorer in Arizona and Sonora; 1744-1751*. Tucson: Arizona Pioneers' Historical Society.

Earle, D.
1996 *Ethnohistoric Overview of the Edwards Air Force Base Region and the Western Mojave Desert.* Brian Mooney and Associates, San Diego, Ca. for Environmental Management Office, Edwards Air Force Base, California.

2005 The Mojave River and the Central Mojave Desert: Native Settlement, Travel, and Exchange in the Eighteenth and Nineteenth Centuries. *Journal of California and Great Basin Anthropology.* 25(1):1–38.

2009 *Ethnohistorical Overview and Cultural Affiliation Study of the Mojave National Preserve*. Prepared for National Park Service, Barstow, Ca. Earle and Associates, Palmdale, CA.

Eckhardt, W. T. and S. Wilson.
2009 *Final Cultural Resources Inventory of the Proposed DPV2 Colorado River Switchyard Project, Riverside County, California.* ICF Jones & Stokes Submitted to the Bureau of Land Management – Palms Springs –South Coast Field Office.

Eppes, M.C., E.V. McDonald, and L.D. McFadden.
2003 Soil Geomorphological Studies in the Mojave Desert: Impacts of Quaternary Tectonics, Climate, and Rock Type on Soils, Landscapes, and Plant-Community Ecology. In *INQUA 2003 Field Guide Volume: Quaternary Geology of the United States*, edited by Don Easterbrook, pp. 105-122. Desert Research Institute (DRI): Reno.

Euler, Robert C.
1966 *Southern Paiute Ethnohistory*. Anthropological Papers. Salt Lake city: University of Utah Press.

Fagan, Brian.
2003 *Before California: An Archaeologist Looks at Our Earliest Inhabitants*. Altamira Press, Walnut Creek, California.

Flenniken, Jeffrey and Philip J. Wilke
1989 Typology, Technology, and Chronology of Great Basin Dart Points. *American Anthropologist* 91 (1):149-158.

Forbes, Jack D.
1965 *Warriors of the Colorado: the Yumas of the Quechan Nation and their Neighbors*. University of Oklahoma Press, Norman.

Forde, C. Darryl.
1931 Ethnography of the Yuma Indians. *University of California Publications in American Archaeology and Ethnology.* 28(4);83-278. Berkeley.

Gallegos, D. R. (editor)
1980 *Class II Cultural Resource Inventory of the East Mesa and West Mesa regions, Imperial Valley, California.* Prepared by WESTEC Services for the USDI, Bureau of Land management, Riverside, California. Report on file at the South Coastal Information Center.

Giambastiani, Mark A.

2009 Understanding Pavement Quarries in the Mojave Desert. In *Avocados to Millingstones: Papers in Honor of Delbert L. True*, edited by G.Waugh and M.E. Basgall. Monographs in California and Great Basin Anthropology No.3

Gifford, E. W.
1931 The Kamia of Imperial Valley. *Smithsonian Institution Bureau of American Ethnology Bulletin* No. 97. U.S. Government Printing Office, Washington, D.C.

Gobalet, K. W., T. A. Wake, and K. L. Hardin.
2005 Archaeological Record of Native Fishes of the Lower Colorado River: How to Identify their Remains. Western North American Naturalist 65(3), p. 335–344. Available online at https://ojs.lib.byu.edu/ojs/index.php/wnan/article/viewFile/1336/1193. Accessed on 11 July 2011.

Goodman II, J.D.

2002. *Historical Artifacts Dating Guide*. San Bernardino National Forest, San Bernardino, California.

Grove, J.M.
1988 *The Little Ice Age*. Methuen, New York.

Hamilton, Warren.
1984. *Generalized geologic map of the Big Maria Mountains region, northeastern Riverside County, southeastern California*: U.S. Geological Survey Open-File Report 84-407, scale 1:48,000.

Harrington, J. P.
1986 *The Papers of John Peabody Harrington in the Smithsonian Institution, 1907-1957, Vol.3: Native American History, Language, and Culture of Southern California/Basin*. White Plains: Kraus International Publications.

Harris, Jack.
N.d. The Bradshaw Trail. From Palaver Invitations 51-75, Appendix C. Available online at http://www.jaeger.ws/ memorial/bradshaw.html. Accessed on 9 June 2011.

Hartill, Russell, Gary Shumway, Larry Vrendenburgh.
1980 *An Overview of Mining in the California Desert Conservation Area.* Riverside, CA: U.S. Department of the Interior, Bureau of Land Management. Available online at http://blm.gov/pgdata/etc/medialib/blm/ca/pdf/cdd/aml.Par.54155.File.dat/Desert%20Fever%20%20History%20of%20Mining%20in%20the%20CDCA.pdf. Accessed on 11 July 2011.

Harvey, Adrian M. and Steven G. Wells.
2003 Late Quaternary Variations in Alluvial Fan Sedimentologic and Geomorphic Processes, Soda Lake Basin, Eastern Mojave Desert, California. In *Paleoenvironments and Paleohydrology of the Mojave and Southern Great Basin Deserts*, Edited by Yehouda Enzel, Stephen G. Wells, and Nicholas Lancaster, pp. 207-230. Geological Society of America Special Paper 368. Boulder, Colorado.

Hayes, Allan; Carol Hayes and John Blom
2006 *The Desert Southwest: Four Thousand Years of Life and Art*. Ten Speed Press. Berkeley, CA

Hicks, F.
1974 The Influence of Agriculture on Aboriginal Socio-Political Organization in the Lower Colorado River Valley. In the *Journal of California Anthropology* 1 (2). Kelly, W. H. 1977. Cocopa Ethnography. *University of Arizona Anthropological Papers* No. 29. Tucson, Arizona.

Hietala, H. J and P. A. Larson.
1984 Intrasite Spatial Analysis in Archaeology. *New Directions in Archaeology Series*. Cambridge University Press: New York.

Howard, George
1985 The Desert Training Center /California – Arizona Maneuver Area. *Journal of Arizona History* 26:273-294.

Hoyt, Franklyn
1952 The Bradshaw Road. *Pacific Historical Review* 21, No.3(3).

Hunt, Alice.
1960 *Archaeology of the Death Valley Salt Pan, California.* Anthropological Papers of the University of Utah, No. 47. Salt Lake City.

ICF Jones & Stokes. (SCE)
2009 *Final Cultural Resources Inventory of the Proposed DPV2 Colorado River Switchyard Project, Riverside County, California.* Submitted to the Bureau of Land Management – Palms Springs – South Coast Field Office. Copies available at the Eastern Information Center c/o Department of Anthropology, University of California Riverside, Riverside California.

James, H.C.
1960 *The Cahuilla Indians.* Malki Museum Press, Riverside, California.

Jennings, C.W.
1967. Geologic map of California : Salton Sea Sheet. California Division of Mines and Geology, scale 1:250000. Accessed online March 12, 2011, at: http://ngmdb.usgs.gov/Prodesc/proddesc_333.htm

Jones, T.L. and K.A. Klar (general editors).
2007 *California Prehistory: Colonization, Culture, and Complexity.* Altamira Press: Lanham, Maryland.

Johnston, Francis J.
1977 *The Bradshaw Trail*. Riverside County Historical Commission Press, Riverside CA.

Jorgensen, Joseph G.
1980 *Western Indians: Comparative Environments, Languages and Cultures of 172 Western Indian Tribes*. W.H. Freeman. San Francisco, CA

Justice, Noel D.
2002 *Stone Age Spear and Arrow Points of California and the Great Basin*. Indiana University Press, Bloomington.

Kaijnkoski, Philip.
2008 Chapter 2: Overview of Geoarchaeological Research Issues for Joshua Tree National Park. In *Eighty Years of Archaeology in the California Desert: A New Indigenous Archaeological Overview of Joshua Tree National Park*, by Michael Newland, Anthropological Studies Center, Sonoma State University. Prepared for Joshua Tree National Park, Twenty nine Palms, California.

KEA Environmental, Inc.
2000 Cultural Resources Overview and Survey for the Proposed Alignment of the North Baja Gas Pipeline. Submitted to the Bureau of Land Management.

Kelly, I.T.
1953 Notebooks of Las Vegas Band, Southern Paiute and Chemehuevi field notes. Anthropology Documents 17–18. *University of California, Archives No*. 138.1m.

Kelly, I.T. and C. S., Fowler.
1986 Southern Paiute. Handbook of North American Indians, vol. 11, Great Basin, William C. Sturtevant, Ed, pp.368-399. Smithsonian Institution, Washington D.C.

King, C. and D.G., Casebier.
1976 *Background to Historic and Prehistoric Resources of the East Mojave Desert Region*. Prepared for the United States Department of Interior Bureau of Land Management, California Desert Planning Program. Archaeological Research Unit, University of California, Riverside.

Kintigh, Kieth.
1990 *Intrasite Spatial Analysis: A Commentary on Major Methods, in Mathematics and Information Science in Archaeology: A Flexible Framework, ed.* Albertus Voorrips (1990), pp. 165–200.

Knack, M.C.
1980 *Life is with People: Household Organization of the Contemporary Southern Paiute Indians*. Ballena Press Anthropological Papers No.19. Socorro, New Mexico.

Kroeber, Alfred L.
1907 Chimariko. P.270 in Volume 1 of Handbook of American Indians North of Mexico. Frederick W. Hodge, ed. 2 vols. *Bureau of American Ethnology Bulletin* 30 Washington.

1925 *Handbook of the Indians of California*. Unabridged 1976 republication of 1925 original. Dover Publications, New York. Pp. 781-803.

1959 Ethnographic Interpretations 7-11. *University of California Publications in American Archaeology and Ethnology*. 47(3):235-310.

Laird, C.
1976 *The Chemehuevis*. Malki Museum, Banning, California.

Las Vegas Review Journal (LVRJ).
1985 Patton's Camps: Desert Reclaims 12 Camps Where Troops Trained in WWII. 24 March:4A.

Lawton, H and L.J. Bean.
1968 A Preliminary Reconstruction of Aboriginal Agricultural Technology among the Cahuilla. *The Indian Historian.* 1(5): 18-24, 29.

Laylander, Don.
1997 The Last Days of Lake Cahuilla: The Elsinore Site. Pacific Coast in *Archaeological Society Quarterly.* 33(1/2):1–138.

Laylander, Don, and Jerry Schaefer.
2007 The Colorado Desert: Ancient Adaptations to Wetlands and Wastelands. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 247-257. Altamira Press, Blue Ridge Summit, Pennsylvania.

2010 Chuckwalla Valley Prehistoric Trails Network Cultural Landscape: Historic Context, Research Questions, and Resource Evaluation Criteria (DRAFT). Contributions by L. J. Bean and J. Toenjes. Prepared for the California Energy Commission.

Lech, Steve.
2004 *Along the Old Roads: A History of the Portion of Southern California That Became Riverside County, 1772-1893*. Steve Lech, Riverside, CA.

Leonard, R. D and G. T. Jones.
1989 Quantifying Diversity in Archaeology. *New Directions in Archaeology Series*. Cambridge University Press, New York.

Lerch, M.K.
N.d. *Another Look at the Desert Mojave*. Manuscript.

Linenberger, Toni Rae.
1997 *Parker-Davis Project*. Bureau of Reclamation.

Lockhart, B.

2004. "*The Dating Game: Owens-Illinois Glass Company*" Bottles and Extras 15(3):24-27. This article also available on this site at: http://www.sha.org/bottle/pdffiles/OwensIll_BLockhart.pdf

Love, B. and M. Dahdul.
2002 Desert Chronologies and the Archaic Period in the Coachella Valley. *Pacific Coast Archaeology Society Quarterly*.

LSA Associates, Inc.
2000 *Riverside County Integrated Project: Existing Setting Report.* Available online at http://www.tlma.co.riverside.ca.us/genplan/content/documents/RCIP_Existing_Setting_Report.pdf. Accessed on 22 December 2010.

McAuliffe, Joseph and Eric McDonald.
1995 A Piedmont Landscape in the Eastern Mojave Desert: Examples of Linkages between Biotic and Physical Components. *San Bernardino County Museum Association Quarterly* 42(3), pp. 35-42.

McCarthy, Daniel F.
1982 The Coco-Maricopa Trail Network. In *Cultural Resource Inventory and National Register Assessment of the Southern California Edison Palo Verde to Devers Transmission Line Corridor (California Portion)*, by Richard L. Carrico, Dennis K. Quillen, and Dennis R. Gallegos, Appendix C. WESTEC Services, San Diego. Prepared for Southern California Edison.

1993 Prehistoric Land-Use at McCoy Spring: An Arid-Land Oasis in Eastern Riverside County, California. Unpublished Master's thesis, Department of Anthropology, University of California, Riverside.

McDonald, A.
1992 Indian Hill Rockshelter and Aboriginal Cultural Adaptation in Anza-Borrego Desert State Park, Southeastern California. Unpublished Ph.D. dissertation, University of California, Riverside.

McDonald, Eric V., Leslie D. McFadden, and Stephen G. Wells.
2003 Regional Response of Alluvial Fans to the Pleistocene-Holocene Climatic Transition, Mojave Desert, California. In *Paleoenvironments and Paleohydrology of the Mojave and Southern Great Basin Deserts*, Edited by Yehouda Enzel, Stephen G. Wells, and Nicholas Lancaster, pp. 189-205. Boulder, Colorado.

McDonald, M. and J. Schaefer.
1998 Cultural Resources Inventory of 1,542 Acres of Palo Verde Mesa and Palo Verde Valley Catellus/Bureau of Land Management Land Exchange Area. ASM Affiliates, Inc. Submitted to the Bureau of Land Management.

McDougall, Dennis P., Joan George and Susan K. Goldberg
2009 *Cultural resources Surveys of Alternative Routes within California for the Proposed Devers-Palo Verde 2 Tranmission Project*. Applied Earthworks, Inc. Submitted to Aspen Environmental Group. Copies available from the Eastern Information Center – Report N. RIV-6707.

McFadden, Leslie D., Stephen G. Wells, and Michael J. Jercinovich.
1987 Influence of eolian and pedogenic processes on the origin and evolution of desert pavements. *Geology* 15, pp. 504-508.

McGuire, Randall H. and Michael Schiffer (editors).
1982 *Hohokam and Patayan: Prehistory of Southwest Arizona*. Academic Press, New York. Moratto, Michael. 1984. California Archaeology. Academic Press, San Diego.

Metzger, D.G., O.J. Loeltz, and Burdge Irelna.
1973 Geohydrology of the Parker-Blythe-Cibola Area, Arizona and California. Water Resources of Lower Colorado River-Salton Sea Area. *Geological Survey Professional Paper 486-G*. Accessed on-line May 12, 2011, at: http://ngmdb.usgs.gov/Prodesc/proddesc_4492.htm

Meyer, Jack, Jeffrey Rosenthal, and D. Craig Young.
2009. *A Geoarchaeological Overview and Assessment of Caltrans Districts 6/9 Rural Conventional Highways*. Far Western anthropological Research Group, Davis, California. Prepared for California Department of Transportation, District 6, Fresno, California.

Microsoft Corporation.
2010 "Bing" aerial imagery, accessed through ESRI ArcMap via online subscription.

Moore, C. B. and C. D. Elvidge.
1982 Desert Varnish. In *Reference Handbook on the Deserts of North American*. G. L. Bender, Editor. Pp. 527-536. Greenwood Press, Westport, Connecticut.

Moratto, Michael.
1984 *California Archaeology*. Academic Press, San Diego.

Myers, William A.
1986 *Iron Men and Copper Wires: A Centennial History of the Southern California Edison Company*. Trans-Anglo Books, Glendale, CA.

Native Sons of the Golden West De Anza Parlor.
1964 Ben Hulse Highway Dedication Plaque No. 312. 21 March. Fort Gaston Historical Society holdings.

Nixon, Rachael A., K.Erickson, B.Glenn, G.Fink, J.rehor, M.Neal, K.Maeyama and S. Mattiussi. (URS)
2008 *Preliminary Geotechnical and Geologic Hazards Evaluation, Solar One Project, San Bernardino* County, *California*. Prepared for Sterling Energy Systems, Inc., 2920 E. Camelback Road, Suite 150, Phoenix, Arizona by URS Corporation, San Diego CA.

2009 Volume 1, Class III Confidential Cultural Resources Cultural Technical Report–Revised Draft: Application for Certification (08-AFC-5), SES Solar One, LLC. Report submitted to Bureau of Land Management, Barstow Field Office, September 2008.

2010 Response to CEC Data Request 94. Available on file at CEC website http://www.energy.ca.gov/ sitingcases/calicosolar/documents/index.html#applicant.

Norton, Ellen Decker.
1994 *Memoirs of a School Ma'am*. Palo Verde Historical Museum and Society, Blythe, CA.

Odell, G.H.

2004. *Lithic Analysis in Manuals in Archaeological Method, Theory and Technique Series*. Edited by Charles E. Orser, Jr. and Michael, B. Schiffer. Springer Science, New York

Palo Verde Historical Museum and Society.
2005 *Images of America: Blythe and the Palo Verde Valley.* Arcadia Publishing, San Francisco, CA.

Palo Verde Irrigation District.
N.d. History of the Palo Verde Valley. Available online at http://www.pvid.org/history.aspx.

Palo Verde Irrigation District Report.
c. 1930 Palo Verde Historical Society holdings.

Palo Verde Irrigation District, Blythe, California, Report.
c. 1989 Palo Verde Historical Society Holdings.

Palo Verde Valley Land Ownership Map.
1908 Palo Verde Historical Society Holdings.

Pelphrey, Stephen.
1993 Opal Hill Mine Provides Quality Time. *Palo Verde Valley Times* 9 July.

Pendleton, Lorann.
1986 *The Archaeology of the Picacho Basin, Southeast California*. Wirth Environmental Services, San Diego.

Peterson, Frederick F.
1981 *Landforms of the Basin and Range Province: Defined for Soil Survey*. Technical Bulletin 28. Nevada Agricultural Experiments Station, University of Nevada Reno.

Phillips, Steven J., and Patricia Wentworth Comus, eds.
2000 *A Natural History of the Sonoran Desert*. Arizona-Sonora Desert Museum, Tucson, Arizona.

Powell, Robert.
2002 Geologic Map and Digital Database of the Pinto Mountain 7.5 Minute Quadrangle, Riverside County, California. U.S. Geological Survey, Open File Report 02-491.

Resolution Relative to the Ben Hulse Highway.
1964 *HR 68.* California Legislature, 1st Extraordinary Session.

Roberts, Heidi, Elizabeth Warren, and Suzanne Eskenazi.
2007 *Coyote Named this Place Pakonapanti: Corn Creek National Register Archaeological District, Desert National Wildlife Refuge, Clark County, Nevada.* Report submitted to the U.S. Fish and Wildlife Service, Desert National Wildlife Refuge.

Rock, J.

1988. *Tin Canisters and Their Identification*. Unpublished manuscript available from the author.

Rogers, Malcom J.
1939 Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas. *San Diego Museum Papers*, Vol. 3.

1945 An Outline of Yuman Prehistory. *Southwestern Journal of Anthropology. 1:167-198.*

1966 *Ancient Hunters of the Far West*. Edited by Richard F. Pourade, Copley Press, San Diego.

Rondeau, Michael F., Jim Cassidy, and Terry L. Jones.
2007 Colonization Technologies: Fluted Projectile Points and the San Clemente Island Woodworking/Microblade Complex. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 63-70. Altamira Press, Lanham, Maryland.

Ross, Delmer G.
1992 *Gold Road to La Paz: An Interpretative Guide to the Bradshaw Trail.* Trails of the Mojave Road Pubblication Company, Essex, CA.

Roth, George E.
1976 Incorporation and Changes in Ethnic Structure: The Chehuevi Indians/ Ph.D. Dissertation. Department of Anthropology, Northwestern University: Evanston, Illinois.

Rumage, Kennard W.
1956 The Palo Verde Valley: A Geographic Analysis of Land-Use Development in the Lower Colorado River valley, California. M.A. thesis, University of California, Los Angeles.

Sample, Laetitia.

1950. *Trade and Trails in Aboriginal California*. Berkeley, CA: University of California Archaeological Survey.

SCE 2009 – See ICF Jones & Stokes 2009

Schaefer, Jerry.
1994 The Challenge of Archaeological Research in the Colorado Desert: Recent Approaches and Discoveries. Journal of California and Great Basin Anthropology. (1) 16:60-80.

2003 A Class II Cultural Resources Assessment for the Desert-Southwest Transmission Line,Colorado Desert, Riverside and Imperial Counties, California. ASM Affiliates, Inc. Submitted to the Bureau of Land Management.

Schaefer, Jerry and Don Laylander.
2007 The Colorado Desert: Ancient Adaptations to Wetlands and Wastelands. *In California Prehistory: Colonization, Culture, and Complexity*. Terry L. Jones and Kathryn A. Klar general editors. Altamira Press: Lanham, Maryland.

Setzler, Grady.
1967 *Another* Wilderness *Conquered: An Informal History of Blythe and Palo Verde Valley, California*. Palo Verde Museum Historical Society, Blythe, CA.

Sherer, Lorraine M.
1968 The Name Mojave, Mohave: A History of its Origin and Meaning. *Southern California Quarterly* 49(1):1-36.

Spaulding, W. Geofferey.
1990 Vegetational and Climatic Development of the Mojave Desert: The Last Glacial Maximum to the Present. In Julio L. Betancourt, Thomas R. Van Devender, and Paul S. Martin eds., *Packrat Middens, the Last 40,000 years of Biotic Change*, pp. 166-199. University of Arizona Press. Tucson, Arizona.

Spier, Leslie.
1933 Yuman *Tribes* of the Gila River. University of Chicago Press, Chicago.

Soil Survey Staff.
2006 *Keys to Soil Taxonomy*, 10th edition. USDA-Natural Resources Conservation Service, Washington.

Southern California Edition.
2009 *Revised Resource Report 4: Cultural Resource*. Devers-Palo Verde No. 2 Project, Docket No. PT08-1-00. Pre-filing Draft. Submitted 6 February 2009.

Stone, Connie L.
1991 The Linear Oasis: Managing Cultural Resources Along the Lower Colorado River. *Cultural Resource Series* No. 6. Arizona State Office of the Bureau of Land Management: Phoenix, Arizona.

Stone, Paul.
1990 *Preliminary geologic map of the Blythe 30' by 60' quadrangle, California and Arizona*: U.S. Geological Survey Open-File Report 90-497, scale 1:100,000.

2006 *Geologic Map of the West Half of the Blythe 30' by 60' Quadrangle, Riverside County, California and La Paz County, Arizona. U.S.* Department of the Interior, U.S. Geological Survey, Menlo Park, California. Scientific Investigations Map 2922. Accessed on-line March 12, 2011, at: http://pubs.usgs.gov/sim/2006/2922/

Strong, William D.
1929 Aboriginal Society of Southern California. *University of California Publications in American Archaeology and Ethnology* 26. Pp. 1-349. University of California Publications in American Archaeology: Berkley, California. Available online at http://dpg.lib.berkeley.edu/webdb/anthpubs/search?all=&volumeid=10&item=1 ; Accessed on 31 August 2011.

Sturm, Brad.
1993 Draft Southern California Gas Company Natural Gas Transmission Line 6902 Project, Riverside and Imperial Counties, California, The Bradshaw Trail: Recommendation for National Register Eligibility. Submitted to the Bureau of Land Management /Palms Springs –South Coast Field Office. Copies available at the Eastern Information Center c/o Department of Anthropology, University of California Riverside, Riverside, California.

Sutton, Mark.Q. (ed.).

1987. *Papers on the Archaeology of the Mojave Desert*. Coyote Press, Salinas CA.

Sutton, Mark Q.
1996 The Current Status of Archaeological Research in the Mojave Desert. *Journal of California and Great Basin Anthropology* 18, pp. 221-257.

Sutton, M.Q. and R.E. Parr.

1989a. An Archaeological Survey of Hidden Valley, Central Mojave Desert, California. Paper presented at the 1989 SCA Fall Data Sharing Meeting, Santa Barbara.

1989b. *A Cultural Resource Inventory for the Proposed Hidden Valley Hazardous Waste Disposal Facility, San Bernardino County, California*. On file at the Archaeological Information Center, San Bernardino County Museum. Report#1061940.

Taylor, R.E., L.A. Payen, C.A. Prior, P.J. Slota Jr., R. Gillespi, J.A. J. Gowlett, R.E.M. Hedges, A. Jull, T.H. Zabel, D.J. Donahue, and R. Berger.
1985 Major Revisions in the Pleistocene Age J. T. Assignment for North American Human Skeletons by C-14 Accelerator Mass Spectrometry: None Older Than 11, 000 C-14 Years, *American Antiquity*. 50:136-140.

URS 2010 – See Nixon et al. 2010

USGS.
1983 *McCoy Peak, California.* 7.5 Minute Series Topographic Map.

Van Valkenburgh, R. F.
1976 *Chemehuevi Notes* [transcribed typescript]. Indian Claims Commission Docket 88-330. In: *American Indian Ethnohistory*, California and Basin-Plateau Indians, Paiute Indians II, pp. 225-253. Garland Publishing, Inc., New York.

Von Werlhof, Jay.
1977 Archaeological *Survey of the Yuha Basin, Imperial County*. 20 June 1977.

Wallace, William.
1962 Prehistoric Cultural Development in the Southern California Deserts. *American Antiquity*. 28 (2): pp. 172-180.

Warren, C. N.
1984 *The Desert Region. In California Archaeology*, edited by M. J. Moratto. Academic Press, New York.

Waters, M. R.
1982 Ceramic Data from Lowland Patayan Sites. In *Hohokam and Patayan: Prehistory of Southwestern Arizona*, edited by Randall H. McGuire and Michael B. Schiffer, pp. 571-580. Academic Press, New York.

Weaver, Richard A.
1977 *Cultural Resource Identification – Sundesert Nuclear Project*. Submitted to the Bureau of Land Management. Copies available at the Eastern Information Center c/o Department of Anthropology, University of California Riverside, Riverside, California.

Weide, M. L.
1976 A Cultural Sequence for the Yuha Desert. In *Background to Prehistory of the Yuha Desert* Region, edited by P. J. Wilke, pp. 81–94. Ballena Press, Ramona, California.

Welch, Patrick.
1983 *Cultural* Resources *Inventory for Thirty Proposed Asset Management Parcels in Imperial Valley California*. Bureau of Land Management.

Wells, S.G., L.D. McFadden, J. Poths and C.T. Olinger.
1995 Cosmogenic 3He surface-exposure dating of stone pavements: implications for landscape evolution in deserts. *Geology*. 23(7) pp. 613-116.

Western Regional Climate Center.
2011 LCD Summaries for the Western United States. Climatological Summary, Blythe Airport (KBLH), CA. Available online at http://www.wrcc.dri.edu/summary/blh.ca.html. Accessed on 5 May 2011.

Whittaker, J.C.

1994. *Flintknapping: Making and Understanding Stone Tools.* University of Texas Press. Austin, Texas

Wilke, P. J., and A. B. Schroth.
1989 Lithic Raw Material Prospects in the Mojave Desert, California. *Journal of California and Great Basin Anthropology. 11(2):146-174.*

Wilson, Art.
2008 *Runways in the Sand: The History of Blythe Army Air Base in World War II*. Art Wilson, Blythe, CA.

Yohe II, R.M. and M.Q. Sutton.
1991 *An Archaeological Assessment of Eight Alternative Access Routes into the Proposed Hidden Valley Hazardous Waste Disposal Facility, San Bernardino County, California*. On file at the Archaeological Information Center, San Bernardino County Museum. Report #1062234.

Figures

ATTACHMENT DR 111-1

SITE-NUMBER.	PRIMARY-NUM	NRS	EVL-DATE	PROGRAM REF.....	EVAL	OTHER NAMES AND NUMBERS.....
RIV-000010	33-000010	1S	06/13/72	NPS-72000247	KPNP	COACHELLA VALLEY FISH TRAPS
RIV-000014H	33-000014	1S	08/22/75	NPS-75000452-9999	KPNP	BLYTHE INTAGLIOS
		7L		SHL-0101		
			03/29/33			
RIV-000032	33-000032	1S	10/30/98	NPS-98001286-0000	CHRG	CORN SPRINGS
		1S	10/30/98	33-0061	CHRG	CA-RIV-32
RIV-000045/H	33-000045	7L	01/01/81	629.0-81-HPF-33-02		TAHQUITZ CANYON
		7L	01/01/77	629.0-77-HPF-33-03		
		7L	01/01/75	629.0-75-HPF-33-01		
		1S	10/31/72	72000246	KPNP	
RIV-000046H	33-000046	1S	08/22/75	NPS-75000452-0001	KPNP	BLYTHE INTAGLIOS
		7L	03/29/33	SHL-0101		
RIV-000050/H	33-000050	1D	04/24/73	73000424	KPNP	TEMEKU
						MURRIETA CREEK ARCH. AREA
RIV-000052H	33-000052	1S	08/22/75	NPS-75000452-0002	KPNP	BLYTHE INTAGLIOS
		7L	03/29/33	SHL-0101		
RIV-000068/H	33-000068	1D	01/08/73	73000422	KPNP	
RIV-000092	33-000092	2S2	12/06/99	ADOE-33-99-002-000	SGPR	RIV-27,28
		2S2	12/06/99	NPS991004A	SGPR	
RIV-000101/H	33-000101	6Y	11/03/97	ADOE-33-97-006-00	JWPR	
		6Y	11/03/97	BUR971010A	JWPR	
RIV-000114	33-000114	1S	05/03/76	76000509	KPNP	BUTTERCUP FARMS PICTOGRAPH
		7L	01/01/79	HPF-06-10577		ROCK SHELTER AREA
RIV-000119	33-000119	2D	11/28/78	078 0050122		LA QUINTA EVAC. CH. AD.
RIV-000132	33-000132	1S	05/10/82	NPS-82002226	KPNP	MC COY SPRING ARCHAEOLOGICAL SITE
						MC COY SPRING PETROGLYPHS
RIV-000158	33-000158	2D	11/28/78	078 0050122		LA QUINTA EVAC. CH. AD.
RIV-000193	33-000193	2S2	01/08/04	ADOE-33-04-002-000	JDPR	
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RIV-000208	33-000208	2D	11/28/78	078 0050122		LA QUINTA EVAC. CH. AD.
RIV-000269	33-000269	2	12/15/86	COE860411A		J-74
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RIV-000270/H	33-000270	1D	04/24/73	73000424	KPNP	ARU#13
						MURRIETA CREEK ARCH. AREA
RIV-000271/H	33-000271	2S2	02/06/95	ADOE-33-95-001-00	SGPR	VILLAGE OF TENAJA
		2S2	02/06/95	USFS941212C	SGPR	
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		3S		33-0078		
RIV-000515/H	33-000515	7L	01/01/81	629.0-81-HPF-33-02		TAHQUITZ CANYON
		7L	01/01/77	629.0-77-HPF-33-03		
		7L	01/01/75	629.0-75-HPF-33-01		
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		6Y	09/20/93	FHWA930722A	NDPR	
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		2S2	12/06/99	NPS991004A	SGPR	
RIV-000981	33-000981	1S	03/12/03	NPS-03000118-0000	KPNP	GUS LEDERER SITE, THE, RIV-981
		3S	11/21/02	33-0075	HKRG	
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001018	33-001018	6Y2	02/11/09	WAPA060221A	WSPR	CERAMIC SCATTER
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		2S2	04/17/03	COE030210A	JDPR	
RIV-001039H	33-001039	2S2	06/11/97	COE911223A	NDPR	ASHCROFT RANCH
RIV-001044H	33-001044	2S2	06/11/97	COE911223A	NDPR	PATE RANCH SITE
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J01178	33-001178	2D	11/28/78	078 0050122		LA QUINTA EVAC. CH. AD.
RIV-001180	33-001180	2D	11/28/78	078 0050122		LA QUINTA EVAC. CH. AD.
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RIV-001292	33-001292	1D	05/01/73	73000425	KPNP	
RIV-001327	33-001327	6Y	01/16/91	BLM901219A	TVPR	
RIV-001383	33-001383	1S	09/03/81	NPS-81000166-0000	KPNP	NORTH CHUCKWALLA MOUNTAINS PETROGLYPH DISTRICT
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RIV-001650		2S2	09/05/08	FHWA080215T	DDPR	PREHISTORIC QUARRY SITE, CA-RIV-8739, P-33-16687
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		6Y	11/12/97	WAPA960619A	GRPR	
RIV-001811	33-001811	6Y2	02/11/09	WAPA060221A	WEPR	PREHISTORIC LITHIC SCATTER
RIV-001814	33-001814	1S	08/24/81	NPS-81000165-0000	KPNP	NORTH CHUCKWALLA MOUNTAIN QUARRY DISTRICT
RIV-001819	33-001819	6Y2	02/11/09	WAPA060221A	WEPR	CERAMIC FRAGMENTS
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RIV-002629/H	33-002629	1D	01/08/73	73000422	KPNP	A-75
						76
RIV-002630/H	33-002630	1D	01/08/73	73000422	KPNP	A-23
RIV-002631/H	33-002631	1D	01/08/73	73000422	KPNP	A-7
RIV-002632/H	33-002632	1D	01/08/73	73000422	KPNP	A-184
RIV-002633/H	33-002633	1D	01/08/73	73000422	KPNP	A-215
RIV-002634/H	33-002634	1D	01/08/73	73000422	KPNP	A-208
						223
RIV-002635/H	33-002635	1D	01/08/73	73000422	KPNP	A-203
RIV-002637/H	33-002637	1D	01/08/73	73000422	KPNP	A-204A
						204B
[illegible]002638/H	33-002638	1D	01/08/73	73000422	KPNP	A-207
[illegible]-002778	33-002778	2S2	12/12/91	ADOE-33-91-002-00	NDPR	AROS-SERRANO ADOBE S
		2S2	12/12/91	COE900312A	NDPR	
RIV-002784/H	33-002784	1D	01/08/73	73000422	KPNP	
RIV-002785/H	33-002785	1D	01/08/73	73000422	KPNP	
RIV-002798	33-002798	2	06/16/87	COE870305A		

SITE-NUMBER.	PRIMARY-NUM	NRS	EVL-DATE	PROGRAM REF.....	EVAL	OTHER NAMES AND NUMBERS.....
RIV-003973	33-003973	2S2	02/06/95	ADOE-33-95-002-00	SGPR	VILLAGE OF TENAJA
		2S2	02/06/95	USFS941212C	SGPR	
[illegible]04039	33-004039	6Y	01/16/91	BLM901219A	TVPR	
[illegible]04067	33-004067	6Y	03/26/97	USAF960405A	SGPR	
RIV-004068	33-004068	6Y	03/26/97	USAF960405A	SGPR	
RIV-004069	33-004069	6Y	03/26/97	USAF960405A	SGPR	
RIV-004073	33-004073	6Y	12/27/90	COE900618B	TVPR	
RIV-004074	33-004074	6Y	12/27/90	COE900618B	TVPR	WB-B
RIV-004088	33-004088	6Y	01/02/91	ADOE-33-91-0001-00	LHPR	
				00		
		6Y	01/02/91	BLM901218A	LHPR	
RIV-004089	33-004089	6Y	12/06/90	BLM901204A	LHPR	
RIV-004112H	33-004112	2S2	11/03/97	ADOE-33-97-010-00	JWPR	P.J. WEISEL/OWENS-ILLINOIS GLASS/SAND PLANT
		2S2	11/03/97	BUR971010A	JWPR	
RIV-004174/H	33-004174	6Y	07/21/94	ADOE-33-92-009-00	GRPR	
		7J	09/13/91	FHWA860324A	LHPR	
RIV-004176H		1S	12/14/99	NPS-99001471-0000	KPNP	MARTINEZ ROCK HOUSE/JACK MILLER CABIN, RIV-4176
		3S	01/13/99	33-0064	CHRG	
RIV-004293H	33-004293	6Y	12/06/99	ADOE-33-99-006-000	SGPR	
		6Y	12/06/99	NPS991004A	SGPR	
RIV-004313	33-004313	6Y	02/06/92	USFS901017D	GRPR	
RIV-004361	33-004361	6Y	02/01/95	COE950105A	NDPR	
RIV-004495/H	33-004495	2S2	05/01/97	ADOE-33-97-033-00	CCPR	RIVERSIDE UPPER CANAL
		2S2	05/01/97	FHWA970331B	CCPR	
RIV-004707/H	33-004707	6Y	03/26/97	FHWA970307A	SGPR	
RIV-004727H	33-004727	6Y	08/25/94	ADOE-33-94-001-000	NDPR	MCCARTHY HOG FARM
		6Y	08/25/94	COE911223A	NDPR	
RIV-004728H	33-004728	6Y	08/25/94	ADOE-33-94-002-000	NDPR	REYNOLDS RANCH
		6Y	08/25/94	COE911223A	NDPR	CHINO GUN CLUB
RIV-004760H		6Y	02/16/00	COE980309B	SGPR	
RIV-004967	33-004967	6Y	02/01/95	COE950105A	NDPR	
RIV-004968	33-004968	6Y	02/01/95	COE950105A	NDPR	
RIV-004969	33-004969	6Y	02/01/95	COE950105A	NDPR	
RIV-005048	33-005048	6Y	04/25/94	COE940131B	NDPR	
RIV-005121H	33-005121	6Y	01/18/94	BLM940110A	NDPR	
RIV-005124H	33-005124	6Y	01/18/94	BLM940110A	NDPR	
[illegible]05191/H	33-005191	2S2	11/12/97	ADOE-33-97-020-00	GRPR	BRADSHAW TRAIL
		2S2	11/12/97	WAPA960619A	GRPR	WBK 14
RIV-005253H	33-005253	6Y	08/25/94	ADOE-33-94-003-000	NDPR	ROBLES HOME
		6Y	08/25/94	COE911223A	NDPR	
RIV-005328/H	33-005328	2D2	12/15/97	ADOE-33-97-013-00	GRPR	DALE MINING DISTRICT
RIV-005407	33-005407	6Y	06/15/98	ADOE-33-98-001-00	SGPR	
		6Y	06/15/98	USAF980601A	SGPR	
RIV-005411	33-005411	6Y	06/15/98	ADOE-33-98-002-00	SGPR	
		6Y	06/15/98	USAF980601A	SGPR	
RIV-005419	33-005419	6Y	06/15/98	ADOE-33-98-003-00	SGPR	
		6Y	06/15/98	USAF980601A	SGPR	
RIV-005421	33-005421	6Y	06/15/98	ADOE-33-98-004-00	SGPR	
		6Y	06/15/98	USAF980601A	SGPR	
RIV-005439	33-005439	6Y	06/15/98	ADOE-33-98-005-00	SGPR	
		6Y	06/15/98	USAF980601A	SGPR	
RIV-005447	33-005447	6Y	03/14/96	USAF960228A	SGPR	
RIV-005448H	33-005448	6Y	06/15/98	ADOE-33-98-006-00	SGPR	
		6Y	06/15/98	USAF980601A	SGPR	
RIV-005450	33-005450	6Y	03/14/96	USAF960228A	SGPR	
RIV-005495		6Y	02/01/95	COE950105A	NDPR	
RIV-005496		2S2	03/22/95	BUR941220A	SGPR	
RIV-005497		6Y	01/12/95	BUR941220A	SGPR	
RIV-005500		6Y	02/01/95	COE950105A	NDPR	
RIV-005501		6Y	02/01/95	COE950105A	NDPR	
RIV-005520H		6Y	06/22/95	BIA950607A	SGPR	
RIV-005521H		6Y	06/11/97	COE911223A	NDPR	PB-9
RIV-005522H		6Y	06/11/97	COE911223A	NDPR	PB-97
RIV-005523H		6Y	06/11/97	COE911223A	NDPR	SAR-H2B
RIV-005524H		6Y	06/11/97	COE911223A	NDPR	PB-11
RIV-005530	33-005800	2S2	11/12/97	ADOE-33-97-014-00	GRPR	WBK 1
			11/12/97	WAPA960619A	GRPR	
RIV-005531	33-005801	2S2	11/12/97	ADOE-33-97-015-00	GRPR	WBK 2
		2S2	11/12/97	WAPA960619A	GRPR	
[illegible]05532	33-00580[illegible] 2	6Y	11/12/97	ADOE-33-97-016-00	GRPR	WBK 122
		6Y	11/12/97	WAPA960619A	GRPR	
RIV-005533	33-005803	2S2	11/12/97	ADOE-33-97-017-00	GRPR	WBK 21
		2S2	11/12/97	WAPA960619A	GRPR	
RIV-005534	33-005804	2S2	11/12/97	ADOE-33-97-018-00	GRPR	WBK 22
		2S2	11/12/97	WAPA960619A	GRPR	

SITE-NUMBER.	PRIMARY-NUM	NRS	EVL-DATE	PROGRAM REF.....	EVAL	OTHER NAMES AND NUMBERS.....
RIV-005535	33-005805	6Y	11/12/97	ADOE-33-97-019-00	GRPR	WBK 11
		6Y	11/12/97	WAPA960619A	GRPR	
005536	33-005807	6Y	11/12/97	ADOE-33-97-021-00	GRPR	WBK 135
		6Y	11/12/97	WAPA960619A	GRPR	
RIV-005537	33-005808	6Y	11/12/97	ADOE-33-97-022-00	GRPR	WBK 188
		6Y	11/12/97	WAPA960619A	GRPR	
RIV-005538	33-005809	6Y	11/12/97	ADOE-33-97-023-00	GRPR	WBK 51
		6Y	11/12/97	WAPA960619A	GRPR	
RIV-005539	33-005810	6Y	11/12/97	ADOE-33-97-024-00	GRPR	WBK 123
		6Y	11/12/97	WAPA960619A	GRPR	
RIV-005540	33-005811	2S2	11/12/97	ADOE-33-97-025-00	GRPR	WBK 3
		2S2	11/12/97	WAPA960619A	GRPR	
RIV-005541	33-005812	2S2	11/12/97	ADOE-33-97-026-00	GRPR	WBK 5
		2S2	11/12/97	WAPA960619A	GRPR	
RIV-005542	33-005813	6Y	11/12/97	ADOE-33-97-027-00	GRPR	WBK 125
		6Y	11/12/97	WAPA960619A	GRPR	
RIV-005543	33-005814	6Y	11/12/97	ADOE-33-97-028-00	GRPR	WBK 12
		6Y	11/12/97	WAPA960619A	GRPR	
RIV-005544	33-005814	6Y	11/12/97	ADOE-33-97-030-00	GRPR	WBK 136
		6Y	11/12/97	WAPA960619A	GRPR	
RIV-005545H	33-005816	6Y	11/12/97	ADOE-33-97-031-00	GRPR	WBK 56
		6Y	11/12/97	WAPA960619A	GRPR	
RIV-005551	33-005824	6Y	11/12/97	ADOE-33-97-032-00	GRPR	WBK 124
		6Y	11/12/97	WAPA960619A	GRPR	
RIV-005573H	33-005848	6Y	08/25/94	ADOE-33-94-004-000	NDPR	BRITSKI RANCH
		6Y	08/25/94	COE911223A	NDPR	
RIV-005805H	33-007539	6Y	11/17/97	ADOE-33-97-005-00	JWPR	HOLE LAKE DAM COMPLEX
		6Y	11/17/97	FHWA971110A	JWPR	ACS-95-6-1
RIV-005808H	33-007585	6Y	06/09/97	ADOE-33-97-0002-0	NDPR	PB-3
		6Y	06/09/97	COE960318C	NDPR	WILLIAM FISHER FARM
RIV-005809H	33-007586	6Y	06/09/97	ADOE-33-97-0001-0	NDPR	PB-117/PRADO BASIN EFFLUENT PONDS MODIFICATION,CORONA,RIV
		6Y	06/09/97	COE960318C	NDPR	
RIV-005810		6Y	03/05/96	USAF951204A	SGPR	
RIV-005811		6Y	03/05/96	USAF951204A	SGPR	
RIV-005812		6Y	03/05/96	USAF951204A	SGPR	
005813		6Y	03/14/96	USAF960228A	SGPR	
-005814		6Y	03/14/96	USAF960228A	SGPR	
RIV-005815		6Y	03/14/96	USAF960228A	SGPR	
RIV-005816		6Y	03/14/96	USAF960228A	SGPR	
RIV-005817		6Y	03/14/96	USAF960228A	SGPR	
RIV-005818		6Y	03/14/96	USAF960228A	SGPR	
RIV-005819		6Y	03/14/96	USAF960228A	SGPR	
RIV-005823		6Y	04/08/96	USAF951204A	SGPR	
RIV-005824		6Y	05/16/96	USAF960430A	SGPR	
RIV-005825		6Y	05/16/96	USAF960430A	SGPR	
RIV-005826H		6Y	05/16/96	USAF960430A	SGPR	
RIV-005870H	33-007918	6Y	11/03/97	ADOE-33-97-011-00	JWPR	33-7918
		6Y	11/03/97	BUR971010A	JWPR	
RIV-005871H	33-007919	6Y	11/03/97	ADOE-33-97-012-00	JWPR	33-7919
		6Y	11/03/97	BUR971010A	JWPR	
RIV-005919/H		2S2	11/12/97	ADOE-33-97-020-00	GRPR	BRADSHAW TRAIL
		2S2	11/12/97	WAPA960619A	GRPR	
RIV-005978H	33-007926	6Y	09/16/97	ADOE-33-97-003-00	LWPR	REMAINS OF THE EL MIRADOR GOLF COURSE
		6Y	09/16/97	HUD970620C	LWPR	
RIV-006130H	33-008401	6Y	12/23/98	ADOE-33-98-008-00	JWPR	FS# 05-12-55-0210, FOSTER #1
		6Y	12/23/98	USFS981123A	JWPR	P-33-8401
RIV-006131H	33-008402	6Y	12/23/98	ADOE-33-98-009-00	JWPR	FS# 05-12-55-0211, FOSTER 2
		6Y	12/23/98	USFS981123A	JWPR	P-33-8402
RIV-006152		6Y	02/22/01	ADOE-33-01-011-000	JWPR	
		6Y	02/22/01	COE000131A	JWPR	
RIV-006246		6Y	04/17/03	ADOE-33-03-004-000	JDPR	
		6Y	04/17/03	COE030210A	JDPR	
RIV-006247		6Y	04/17/03	ADOE-33-03-005-000	JDPR	
		6Y	04/17/03	COE030210A	JDPR	
RIV-006248		6Y	04/17/03	ADOE-33-03-006-000	JDPR	
		6Y	04/17/03	COE030210A	JDPR	
RIV-006366		6Y	02/15/01	ADOE-33-01-012-000	CWPR	BE-S-1
		6Y	02/15/01	WAPA000102A	CWPR	
006367		6Y	02/15/01	ADOE-33-01-013-000	CWPR	BE-S-2
		6Y	02/15/01	WAPA000102A	CWPR	
RIV-006368		6Y	02/15/01	ADOE-33-01-014-000	CWPR	BE-S-3
		6Y	02/15/01	WAPA000102A	CWPR	
RIV-006369		6Y	02/15/01	ADOE-33-01-015-000	CWPR	BE-S-4
		6Y	02/15/01	WAPA000102A	CWPR	

ATTACHMENT DR 115-1

Table 5-1
Newly Recorded and Updated Archaeological Sites in the Project Area

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
CA-RIV-343T UPDATE	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
CA-RIV-672 UPDATE	Multi-component	Prehistoric Trails (PTN)[see PVM-CB-016 and PVM-CB-018]; Historic Buildings and/or Linear Structure (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
CA-RIV-673T UPDATE	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
CA-RIV-1095 UPDATE	Multi-component	Lithic Scatter (PTN), Historical Refuse (DTC)	Low	Not Eligible	Non-Contributing to PTNCL; Contributing to DTCCL
CA-RIV-1746 UPDATE	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ground Stone Scatter (PTN), Ceramic Scatter Pot Drop (PTN), Prehistoric Thermal Cobble Feature (PTN), Historical Refuse (Both)	None	Eligible	Contributing to PTNCL; Non-Contributing to a District or Landscape
CA-RIV-1747 UPDATE	Prehistoric	Prehistoric Trails (PTN)	Very Low to Moderate	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
CA-RIV-1748 UPDATE	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Cremation and Human Remains (None), Ground Stone Quarry (PTN), Ground Stone Scatter (PTN), Ceramic Scatter Pot Drop (PTN), Prehistoric Thermal Cobble Feature (PTN), Cleared Circles (PTN), Historical Refuse (Both)	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL
CA-RIV-1819 UPDATE	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
CA-RIV-1821 UPDATE	Prehistoric	Ceramic Scatter Pot Drop (PTN), Prehistoric Thermal Cobble Feature (PTN)	Moderate	Eligible	Contributing to PTNCL
CA-RIV-1822 UPDATE	Prehistoric	Ceramic Scatter Pot Drop (PTN), Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
CA-RIV-5533/5534/6616 UPDATE; PVM-SM-120	Multi-component	Lithic Scatter (PTN), Prehistoric Thermal Cobble Feature (PTN), Historical Refuse (Both), DTC Maneuver Features	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL
CA-RIV-5540/5541 UPDATE	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
CA-RIV-6533/5531 UPDATE; PVM-MK-104	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (Non-Military)	Low	Eligible; Not Eligible	Contributing to PTNCL; Historic Refuse Non-Contributing to a District to Landscape
CA-RIV-6535 UPDATE	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
CA-RIV-6538/P-33-10825 UPDATE; PVM-JR-051	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC), Historic Rock Feature/Clearing (DTC), DTC Maneuver Features	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
CA-RIV-6613 UPDATE; PVM-MN-120	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Cleared Circles (PTN), Historical Refuse (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
CA-RIV-6614 UPDATE; PVM-CB-009	Prehistoric	Ceramic Scatter Pot Drop (PTN)	Moderate	Eligible	Contributing to PTNCL
CA-RIV-6615 UPDATE	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Contributing to PTNCL
CA-RIV-6677 UPDATE	Multi-component	Lithic Scatter (PTN), Prehistoric Thermal Cobble Feature (PTN), Historical Refuse (Non-Military)	Low	Eligible; Not Eligible	Contributing to PTNCL; Historic Refuse Non-Contributing to a District to Landscape
CA-RIV-9009 UPDATE	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
CA-RIV-9012 UPDATE	Prehistoric	Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
CA-RIV-9100	Historic	Historical Buildings and/or Linear Structures (Non-Military)	Very Low to Moderate	Not Eligible (6Z)	Non-Contributing to a District or Landscape
CA-RIV-9991	Prehistoric	Ceramic Scatter Pot Drop (PTN)	Very Low to Moderate	Eligible	Contributing to PTNCL
CA-RIV-10004H	Historic	Historical refuse (Non-Military)	Very Low to Moderate	Not Eligible	Non-Contributing to a District or Landscape
CA-RIV-10005H	Historic	Historical refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
CA-RIV-10013H	Historic	Historical refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
CA-RIV-10016H	Historic	Historical refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
CA-RIV-10017H	Historic	Historical refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
CA-RIV-10018H	Historic	Historical refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
CA-RIV-10019H	Historic	Historical refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
CA-RIV-10020H	Historic	Historical refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
CA-RIV-10025H	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (Non-Military), DTC Maneuver Features	Low	Eligible; Not Eligible	Non-Contributing to PTNCL; Maneuver Features Contributing to DTCCL; Historic Refuse Non-Contributing to a District or Landscape
CA-RIV-10026H	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Contributing to PTNCL
CA-RIV-10027H	Multi-component	Isolated Find (Non-Military), Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Thermal Cobble Feature (PTN) , DTC Maneuver Features	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
CA-RIV-10028H	Multi-component	Lithic Scatter (PTN), Historical Refuse (DTC)	Low	Not Eligible	Non-Contributing to PTNCL; Contributing to DTCCL
CA-RIV-10030H	Historic	Historical Refuse (DTC)	Very Low to Moderate	Not Eligible	Contributing to DTCCL
CA-RIV-10033H	Prehistoric	Lithic Scatter (PTN)	Very Low to Moderate	Not Eligible	Non-Contributing to PTNCL
CA-RIV-10034H	Historic	Historical Refuse (DTC)	Very Low to Moderate	Not Eligible	Contributing to DTCCL
CA-RIV-10038	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Very Low to Moderate	Eligible	Contributing to PTNCL
CA-RIV-10039	Prehistoric	Lithic Scatter (PTN)	Very Low to Moderate	Not Eligible	Non-Contributing to PTNCL
CA-RIV-10040	Prehistoric	Lithic Scatter (PTN)	Very Low to Moderate	Not Eligible	Non-Contributing to PTNCL
CA-RIV-10041	Prehistoric	Lithic Scatter (PTN), Prehistoric Thermal Cobble Feature (PTN)	Very Low to Moderate	Eligible	Contributing to PTNCL
CA-RIV-10058H	Historic	Historical Refuse (Non-Military); associated with CA-RIV-9100	Very Low to Moderate	Not Eligible	Contributing to DTCCL
CA-RIV-10059H	Historic	Historical Refuse (DTC)	Very Low to Moderate	Not Eligible	Contributing to DTCCL
CA-RIV-10068	Prehistoric	Ceramic Scatter Pot Drop (PTN)	Very Low to Moderate	Eligible	Contributing to PTNCL
CA-RIV-10072	Prehistoric	Lithic Scatter (PTN)	Very Low to Moderate	Not Eligible	Non-Contributing to PTNCL
DTC 2-Track Vehicles	Historic	Historic Buildings and/or Linear Structure (DTC)	Low	Not Eligible	Contributing to DTCCL
DTC Tank Tracks	Historic	Historic Buildings and/or Linear Structure (DTC)	Low	Not Eligible	Contributing to DTCCL
P-33-14148	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
P-33-14149	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
P-33-14151	Prehistoric	Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
P-33-14385	Historic	Historic Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-CB-001	Prehistoric	Lithic Scatter (PTN), Ground Stone Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-CB-006	Prehistoric	Lithic Scatter (PTN), Ground Stone Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-CB-008	Prehistoric	Isolated Find (DTC), Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-CB-010	Historic	Isolated Find (PTN), Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-CB-011	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-CB-013	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-CB-016 (also within PVM-CB-672)	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
PVM-CB-018 (also within PVM-CB-672)	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
PVM-CB-020	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-CB-021	Prehistoric	Isolated Find (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-CB-028	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Cremation and Human Remains (PTN), Ceramic Scatter Pot Drop (PTN), Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-CB-029	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-CB-030	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (Non-Military), DTC Maneuver Features	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-CB-031	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-CB-033	Prehistoric	Isolated Find (Non-Military), Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-CB-034	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-CB-035	Multi-component	Lithic Scatter (PTN), Historical Refuse (DTC)	Low	Not Eligible	Non-Contributing to PTNCL; Contributing to DTCCL
PVM-CB-037	Historic	DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-CB-038	Historic	DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-CB-039	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-CB-041	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-CB-042	Historic	Isolated Find (PTN), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-CB-043	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-CB-044	Multi-component	Lithic Scatter (PTN), Historical Refuse (Non-Military), DTC Maneuver Features	Low	Not Eligible	Non-Contributing to PTNCL; Contributing to DTCCL
PVM-CB-045	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-CB-046	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-CB-047	Historic	Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-CB-048	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC)	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-CB-049	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-CB-050	Prehistoric	Isolated Find (Non-Military), Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-DK-003	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (Both)	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-DK-006	Prehistoric	Isolated Find (Non-Military), Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-DK-011	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-DK-014	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-DK-015	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-DK-017	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-DK-018	Prehistoric	Prehistoric Trails (PTN)	Very Low	Eligible	Contributing to PTNCL
PVM-DK-020	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-DK-023	Historic	Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-DK-025	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-DK-026	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-DK-027	Prehistoric	Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-DK-029	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-DK-033	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-DK-039	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-DK-040	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-DK-044	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-DK-045	Multi-component	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN), Prehistoric Thermal Cobble Feature (PTN), Historical Refuse (Both)	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-DK-046	Prehistoric	Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-DK-047	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-DK-048	Prehistoric	Prehistoric Trails (PTN)	Very Low to Moderate	Eligible	Contributing to PTNCL
PVM-DK-049	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-DK-050	Prehistoric	Prehistoric Trails (PTN)	Very Low	Eligible	Contributing to PTNCL
PVM-DK-051	Prehistoric	Prehistoric Trails (PTN)	Very Low to Moderate	Eligible	Contributing to PTNCL
PVM-DT-001	Historic	Historic Buildings and/or Linear Structure (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-DT-002	Historic	Historic Buildings and/or Linear Structure (DTC)	None	Not Eligible	Contributing to DTCCL
PVM-DT-003	Historic	Historic Buildings and/or Linear Structure (DTC)	Very Low to Moderate	Not Eligible	Contributing to DTCCL
PVM-EK-030	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-EK-031	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-EK-032	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-EK-033	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-EK-035	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-EK-036	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-EK-038	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-EK-039	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-EK-040	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN), Historical Refuse (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-EK-042	Historic	Historical Refuse (Both)	Low	Not Eligible	Contributing to DTCCL
PVM-EK-043	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-EK-046	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-EK-051	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-EK-053	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-EK-057	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-EK-058	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-JR-001	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-JR-004	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-JR-005	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-JR-007	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-JR-008	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-JR-012	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN), Historical Refuse (Non-Military), Historic Buildings and/or Linear Structure (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-JR-014	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-JR-015	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-JR-016	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-JR-018	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-JR-019	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-JR-020	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-JR-026	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN), Historical Refuse (Non-Military)	Low	Eligible; Not Eligible	Contributing to PTNCL; Historic Refuse Non-Contributing to a District to Landscape
PVM-JR-027	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-JR-028	Historic	Isolated Find (PTN), Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-JR-029	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-JR-032	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-JR-033	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-JR-038	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-JR-039	Historic	Historical Refuse (Both)	Low	Not Eligible	Contributing to DTCCL
PVM-JR-042	Historic	Historical Refuse (Both)	Low	Not Eligible	Contributing to DTCCL
PVM-JR-043	Historic	Historical Refuse (Both)	Low	Not Eligible	Contributing to DTCCL
PVM-JR-045	Historic	Historical Refuse (Both)	Low	Not Eligible	Contributing to DTCCL
PVM-JR-046	Historic	Historical Refuse (Both)	Low	Not Eligible	Contributing to DTCCL
PVM-JR-047	Historic	Historical Refuse (Non-Military), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-JR-048	Historic	Historical Refuse (Both)	Low	Not Eligible	Contributing to DTCCL
PVM-JR-049	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-JR-050	Historic	Isolated Find (PTN), Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-JR-055	Historic	Isolated Find (PTN), Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Maneuver Features Contributing to DTCCL; Historical Refuse Non-Contributing to a District or Landscape
PVM-JR-057	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN), Historical Refuse (DTC), DTC Maneuver Features	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-JR-058	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-JR-059	Historic	DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-JR-060	Multi-component	Lithic Scatter (PTN), Maneuver Features (DTC)	Low	Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-JR-061	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-JR-062	Multi-component	Lithic Scatter (PTN), Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing PTNCL; Non-Contributing to a District or Landscape
PVM-JR-063	Prehistoric	Isolated Find (Non-Military), Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-JR-064	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-JR-065	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC)	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-JR-066	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-JR-067	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-003	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-004	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-006	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-007	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-008	Historic	Isolated Find (PTN), Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-009	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-012	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-013	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-014	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Rock Feature Cairn (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-015	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-016	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-017	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MK-018	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-019	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-020	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-021	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-022	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-023	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-024	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-025	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-026	Historic	Historical Refuse (Both)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-027	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-028	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-029	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-033	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-034	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-035	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ground Stone Scatter (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MK-037	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-038	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-039	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-040	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-045	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-049	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-050	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-051	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL
PVM-MK-052	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-053	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-055	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-056	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ground Stone Quarry (PTN), Ceramic Scatter Pot Drop (PTN), Historical Survey Mapping Feat (Non-Military)	Low	Eligible; Not Eligible	Contributing to PTNCL; Historic Feature Non-Contributing to District or Landscape
PVM-MK-059	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-060	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MK-061	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-062	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-066	Prehistoric	Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-067	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-070	Historic	Isolated Find (PTN), Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-071	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-075	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-077	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-078	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-080	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-082	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-083	Prehistoric	Isolated Find (Non-Military), Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-084	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-089	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MK-090	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-091	Prehistoric	Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-092	Prehistoric	Isolated Find (Non-Military), Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-095	Historic	DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-MK-096	Prehistoric	Isolated Find (Non-Military), Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-097	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-098	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-099	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-100	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-101	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-102	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-103	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN), Historical Refuse (DTC)	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MK-106	Historic	Isolated Find (PTN), Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-108	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-109	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-113	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-114	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-115	Prehistoric	Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-116	Prehistoric	Prehistoric Thermal Cobble Feature (PTN)	Moderate	Eligible	Contributing to PTNCL
PVM-MK-117	Prehistoric	Ceramic Scatter Pot Drop (PTN), Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-119	Prehistoric	Prehistoric Thermal Cobble Feature (PTN)	Moderate	Eligible	Contributing to PTNCL
PVM-MK-121	Prehistoric	Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MK-122	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MK-124	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Thermal Cobble Feature (PTN), Historical Refuse (DTC)	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MK-126	Prehistoric	Prehistoric Thermal Cobble Feature (PTN)	Moderate	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MK-127	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MK-128	Historic	Historical Refuse (DTC), Historic Rock Feature/Clearing (Non-Military)	Moderate	Not Eligible	Contributing to DTCCL
PVM-MK-129	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MK-130	Historic	Historical Refuse (Non-Military), Historic Rock Feature/Clearing (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-131	Historic	Isolated Find (PTN), Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MK-132	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MK-134	Prehistoric	Lithic Scatter (PTN), Prehistoric Thermal Cobble Feature (PTN)	Moderate	Eligible	Contributing to PTNCL
PVM-MN-002	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-004	Multi-component	Lithic Scatter (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MN-005	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-006	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MN-007	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-010	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-011	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-013	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN), Historical Refuse (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MN-015	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-016	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MN-017	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-018	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-019	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-020	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-021	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-023	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-024	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MN-026	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-027	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-028	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-029	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-031	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN), Historical Refuse (DTC)	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MN-032	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-033	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-034	Multi-component	Isolated Find (PTN), Historical Refuse (DTC), Historic Rock Feature/Clearing (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-035	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-036	Multi-component	Ceramic Scatter Pot Drop (PTN), Historical Refuse (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MN-038	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-039	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MN-041	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MN-055	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-059	Historic	DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-MN-060	Historic	Isolated Find (PTN), Cleared Circles (Other), DTC Maneuver Features	Low	Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MN-061	Historic	Historic Rock Feature/Clearing (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-062	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-063	Historic	Historic Rock Feature/Clearing (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-064	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-066	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-067	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-068	Historic	Cleared Circles (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-069	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-070	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-074	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MN-075	Multi-component	Lithic Scatter (PTN), Ground Stone Scatter (PTN), Historic Rock Feature/Clearing (Non-Military)	Low	Eligible	Contributing to PTNCL
PVM-MN-076	Prehistoric	Prehistoric Rock Feature Cairn (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-077	Prehistoric	Lithic Scatter (PTN), Ground Stone Quarry (PTN), Ground Stone Scatter (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-078	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-080	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ground Stone Scatter (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-081	Historic	Historic Buildings and/or Linear Structure (Military)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-082	Prehistoric	Lithic Scatter (PTN), Prehistoric Rock Feature Cairn (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-083	Historic	Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-MN-086	Historic	Historical Refuse (DTC)	Moderate	Not Eligible	Contributing to DTCCL
PVM-MN-087	Historic	Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-MN-089	Historic	Historical Refuse (non-military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-090	Prehistoric	Prehistoric Rock Feature Cairn (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-091	Prehistoric	Prehistoric Rock Feature Cairn (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MN-092	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (Non-Military)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MN-094	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-096	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MN-097	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MN-098	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MN-099	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MN-100	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ground Stone Scatter (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-101	Prehistoric	Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-102	Historic	Historic Rock Feature/Clearing (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-MN-103	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-105	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-106	Historic	Historical Refuse (DTC), Historic Rock Feature/Clearing (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-MN-108	Prehistoric	Lithic Scatter (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MN-112	Historic	Historic Rock Feature/Clearing	Low	Not Eligible	Contributing to DTCCL
PVM-MN-116	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-117	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-118	Historic	Historical Refuse (DTC), Historic Rock Feature/Clearing (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-121	Multi-component	Cleared Circles (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-122	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-124	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to DTCCL
PVM-MN-126	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-127	Prehistoric	Lithic Scatter (PTN), Ground Stone Scatter (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-128	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-131	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ground Stone Quarry (PTN), Ground Stone Scatter (PTN), Ceramic Scatter Pot Drop (PTN), Prehistoric Thermal Cobble Feature (PTN)	High	Eligible	Contributing to PTNCL
PVM-MN-132	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
PVM-MN-133	Prehistoric	Lithic Scatter (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MN-135	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ground Stone Scatter (PTN), Ceramic Scatter Pot Drop (PTN), Historical Refuse (Non-Military)	Low	Eligible; Not Eligible	Contributing to PTNCL; Historic Refuse Non-Contributing to a District to Landscape
PVM-MN-138	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ground Stone Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MN-139	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-141	Multi-component	Lithic Scatter (PTN), Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing PTNCL; Non-Contributing to a District or Landscape
PVM-MN-144	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-MN-146	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-148	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-149	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-150	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-152	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-MN-153	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Thermal Cobble Feature (PTN)	Moderate	Eligible	Contributing to PTNCL
PVM-MN-154	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-MN-155	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-156	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC)	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MN-157	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-MN-159	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-160	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-161	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-162	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-MN-163	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-PM-001	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-002	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-003	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-004	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-005	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-007	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-008	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-PM-009	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-PM-010	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-011	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-012	Prehistoric	Lithic Scatter (PTN), Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-013	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-014	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), DTC Maneuver Features	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-PM-015	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-017	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-018	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-019	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-020	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-021	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-PM-022	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-PM-023	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-024	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-PM-025	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-026	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-027	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-028	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-029	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-PM-030	Historic	Historical Rock Feature/Clearing (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-PM-032	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-033	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-PM-034	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-035	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-036	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-037	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-038	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-040	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-PM-041	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-PM-042	Prehistoric	Lithic Scatter (PTN)	Very Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-PM-042B-	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-043	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-044	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-045	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-046	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-048	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-051	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-055	Prehistoric	Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-056	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-PM-058	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Thermal Cobble Feature (PTN), Historical Refuse (Non-Military), Historic Rock Feature/Clearing (Non-Military)	Low	Eligible; Not Eligible	Contributing to PTNCL; Historic Feature and Refuse Non-Contributing to a District or Landscape
PVM-PM-061	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-063	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-064	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-065	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-066	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-069	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-070	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-071	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-074	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-076	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-PM-079	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-PM-082	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-083	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-084	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-089	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-090	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Moderate	Eligible	Contributing to PTNCL
PVM-PM-091	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-092	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-PM-093	Prehistoric	Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-096	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-097	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-098	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-100	Prehistoric	Lithic Scatter (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-102	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-PM-103	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-104	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-107	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-108	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-109	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-110	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-111	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-112	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-113	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN), Prehistoric Thermal Cobble Feature (PTN), Historical Refuse (Non-Military)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-PM-114	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-PM-115	Prehistoric	Isolated Find (PTN), Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-116	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-118	Historic	Historical Refuse (Both)	Low	Not Eligible	Contributing to DTCCL
PVM-PM-119	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-PM-120	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-125	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-127	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC)	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-PM-131	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-132	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-133	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-PM-136	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-PM-138	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-PM-140	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-PM-142	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-143	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-PM-144	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-146	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-147	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-PM-149	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-PM-150	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-PM-151	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-154	Prehistoric	Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-156	Prehistoric	Isolated Find (Non-Military), Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-158	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-PM-159	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-PM-163	Prehistoric	Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-164	Prehistoric	Lithic Scatter (PTN), Ceramic Scatter Pot Drop (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-166	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-PM-167	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-SM-001	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-SM-009	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-SM-010	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-SM-011	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-SM-013	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-SM-014	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-SM-016	Historic	Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL
PVM-SM-018	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-019	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-020	Prehistoric	Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-021	Historic	Historic Rock Feature/Clearing (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-SM-022	Historic	Historic Rock Feature/Clearing (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-SM-023	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-024	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-025	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-SM-027	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ground Stone Scatter (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-028	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-029	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-032	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-037	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-049	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-051	Historic	Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-SM-053	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-SM-054	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-SM-057	Historic	Historic Rock Feature/Clearing (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-SM-058	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-060	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Ground Stone Quarry (PTN), Ground Stone Scatter (PTN), Ceramic Scatter Pot Drop (PTN), Prehistoric Thermal Cobble Feature (PTN), Historical Refuse (DTC), DTC Maneuver Features	Low	Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-SM-061	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-071	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (Non-Military)	Low	Eligible; Not Eligible	Contributing to PTNCL; Historic Refuse Non-Contributing to a District to Landscape
PVM-SM-073	Prehistoric	Prehistoric Trails (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-075	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-076	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-077	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-SM-079	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-080	Historic	Isolated Find (PTN), Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-SM-083	Historic	Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-SM-084	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Thermal Cobble Feature (PTN), Historical Refuse (Non-Military)	Low	Eligible; Not Eligible	Contributing to PTNCL; Historic Refuse Non-contributing to a District to Landscape
PVM-SM-085	Historic	Isolated Prehistoric Find (PTN), Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Non-Contributing to PTNCL; Contributing to DTCCL
PVM-SM-086	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-SM-087	Prehistoric	Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-088	Historic	Historical Survey Mapping Feature (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-SM-092	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-SM-097	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-SM-098	Historic	Isolated Find (PTN), Historical Refuse (DTC)	Low	Not Eligible	Contributing to DTCCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-SM-105	Historic	DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-SM-106	Historic	DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-SM-109	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (DTC), DTC Maneuver Features	Low	Eligible; Not Eligible	Contributing to PTNCL; Contributing to DTCCL
PVM-SM-117	Historic	Historical Buildings and/or Linear Structures (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-SM-118	Historic	Historical Buildings and/or Linear Structures (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-SM-119	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-121	Historic	Historical Refuse (Both), Historic Rock Feature/Clearing (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-SM-122	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-123	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-124	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Prehistoric Thermal Cobble Feature (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-128	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL

Site Designation	Cultural Context	Site Taxonomy	Potential for Buried Deposits	NRHP/ CRHR Eligibility Recommendations or Determinations (eligibility code)	Contributing or Non-contributing
PVM-SM-129	Historic	Historical Refuse (DTC), DTC Maneuver Features	Low	Not Eligible	Contributing to DTCCL
PVM-SM-131	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Eligible	Contributing to PTNCL
PVM-SM-132	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-SM-134	Prehistoric	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN)	Low	Not Eligible	Non-Contributing to PTNCL
PVM-SM-135	Historic	Historical Refuse (Non-Military)	Low	Not Eligible	Non-Contributing to a District or Landscape
PVM-SM-136	Multi-component	Lithic Scatter (PTN), Cobble Pavement Quarry (PTN), Historical Refuse (Non-Military)	Low	Eligible; Not Eligible	Contributing to PTNCL; Historic Refuse Non-Contributing to a District to Landscape

Acronyms:
DTC = Desert Training Center
DTCCL = Desert Training Center Cultural Landscape
GLO = General Land Office
PTN = Prehistoric Trails Network
PTNCL = Prehistoric Trails Network Cultural Landscape

ATTACHMENT DR 120-1

Data Request:

120. Please evaluate all trail segments documented in or near the PAA for Criteria A and D of the California Register of Historical Resources, and revise DPR trail site forms accordingly.

Table 1
Quick reference to URS evaluation recommendations within the Technical Report

Prehistoric Trail Site ID	**NRHP and CRHR evaluations (all criteria) Page number in technical report**
CA-RIV-343T (Update)	5-105
CA-RIV-373T (Update)	5-140
CA-RIV-1747 (Update)	5-182
CA-RIV-6535 (Update)	5-312
PVM-CB-016 (also within CA-RIV-672)	5-401
PVM-CB-018 (also within CA-RIV-672)	5-402
PVM-DK-018	5-514
PVM-DK-048	5-536
PVM-DK-050	5-539
PVM-DK-051	5-540
PVM-MN-066	5-864
PVM-MN-078	5-884
PVM-MN-094	5-903
PVM-MN-132	5-953
PVM-PM-042B	5-1047
PVM-SM-018	5-1192
PVM-SM-029	5-1207/1208
PVM-SM-049	5-1212
PVM-SM-073	5-1260

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
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APPLICATION FOR CERTIFICATION
FOR THE *RIO MESA SOLAR ELECTRIC GENERATING FACILITY*

DOCKET NO. 11-AFC-04
PROOF OF SERVICE
(Revised 2/27/12)

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DECLARATION OF SERVICE

I, Andrew Martin declare that on March 28, 2012, I served and filed copies of the attached, dated March 28, 2012. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at: [http://www.energy.ca.gov/sitingcases/riomesa/index.html].

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 or Chief Counsel, as appropriate, in the following manner:

(*Check all that Apply*)

For service to all other parties:

X Served electronically to all e-mail addresses on the Proof of Service list;

X Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses NOT marked "e-mail preferred."

AND

For filing with the Docket Unit at the Energy Commission:

X by sending electronic copies to the e-mail address below (preferred method); *OR*

___ by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT
Attn: Docket No. 11-AFC-4
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

___ Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
Michael J. Levy, Chief Counsel
1516 Ninth Street MS-14
Sacramento, CA 95814
mlevy@energy.state.ca.us

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Original Signed by Andrew Martin

*indicates change

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

TO: *All Parties* *Date: February 27, 2012*

RE: ***RIO MESA SOLAR ELECTRIC GENERATING FACILITY***
Proof of Service List
Docket No. 11-AFC-04

Attached is the ***newly revised*** Proof of Service List for the above-mentioned project, current as of February 27, 2012. Please pay particular attention to the ***new*** filing instructions.

Energy Commission regulations (Cal. Code Regs., tit. 20, § 1210) require, in addition to any electronic service, that a paper copy be served in person or by first class mail except where a party requests to receive an electronic copy when one is available. Individuals and groups on the Proof of Service list who prefer to receive filings by e-mail and do not require a paper copy shall inform the Hearing Adviser assigned to the proceeding.

The Proof of Service list for this matter will delineate those individuals and groups and it is sufficient to serve those individuals with an e-mailed copy only. Those not so delineated must be served with a paper copy in addition to any e-mailed copy that the filing party chooses to provide. Signatures may be indicated on the electronic copy by **"*Original Signed By*"** or similar words. The original signed copy or an electronic copy shall be filed with the Energy Commission's Dockets Unit.

Unless otherwise specified in a regulation, all materials filed with the Commission must also be filed with the Docket Unit. (Cal. Code Regs., tit. 20, § 1209(d).) Some regulations require filing with the Commission's Chief Counsel instead of the Docket Unit. For example, Section 1720 requires a petition for reconsideration to be filed with the Chief Counsel and served on the parties. Service on the attorney representing Commission staff does not satisfy this requirement. This Proof of Service form is not appropriate for use when filing a document with the Chief Counsel under Title 20, sections 1231 (Complaint and Request for Investigation) or 2506 (Petition for Inspection or Copying of Confidential Records). The Public Advisor can answer any questions related to filing under these sections.

New addition(s) to the Proof of Service are indicated in **bold font** and marked with an asterisk (*). Additionally, if two or more persons are listed on a Proof of Service List with a single address, only one physical copy of a document need be mailed to the address.

Use this newly revised list for all future filings and submittals. This Proof of Service List will also be available on the Commission's Project Web Site at:

[http://www.energy.ca.gov/sitingcases/riomesa/index.html]

Please review the information and contact me at sharris@energy.state.ca.us or (916) 654-3893, if you would like to be removed from the Proof of Service or if there are any changes to your contact information.

_____

Sandra Harris
Hearing Adviser's Office

Attachment