DOCKET
08-AFC-9
DATE JUL 31 2009
RECD AUG 04 2009

Palmdale Hybrid Power Project

Supplemental Responses from July 9, 2009 Committee Conference, including requests from the July 29, 2009 Workshop

Docket 08-AFC-9
July 31, 2009

The enclosed documents, one on responses related to Visual, Water and Biological Resources and one on Transmission System Engineering, were docketed electronically on July 31, 2009. As an electronic submittal, only one paper hard copy is required to be provided to the Dockets Unit and no hard copies to others on the POS list. However, for ease of review, 13 hard copies are being provided to the Dockets Unit and one each to the PHPP POS list (except for those who have listed email service preferred).

A prior set of responses from the July 9, 2009 Committee Conference was mailed on July 22, 2009. This set of responses includes a complete copy of the Facility Studies Agreement; the July 22, 2009 submittal was meant to include this agreement, but only included the first 10 pages and the rest of the agreement was inadvertently missing. This submittal includes all the pages. Rather than send a new binder with this submittal, it is suggested that the enclosed submittal be incorporated into the binders sent on July 22, 2009.

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STATE OF CALIFORNIA
ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:	)	Docket No. 08-AFC-09
	)	
APPLICATION FOR CERTIFICATION, FOR THE PALMDALE HYBRID POWER PROJECT BY THE CITY OF PALMDALE	)	JULY 28, 2009 WORKSHOP DATA REQUESTS – VISUAL, WATER AND BIOLOGICAL RESOURCES

During the Workshop held by teleconference on July 28, 2009, which was a follow-up to the Scheduling Conference held on July 9, 2009, California Energy Commission Staff clarified remaining information required to complete the Preliminary Staff Assessment (PSA). This submittal provides the information requested in the areas of Visual, Water and Biological Resources.

Visual Resources

Staff requested a conceptual site layout that included more detail regarding the proposed berm to be located along East Avenue M, including the dimensions of the berm. The requested site layout, which includes a cross-section of the berm, is attached. The minimum distance between the southernmost edge of East Avenue M and the solar field will be 150 feet. Given this distance, the height of the berm (approximately 8 feet), and the height of the solar arrays (approximately 20 feet), the berm will effectively shield the solar field from the view of motorists and pedestrians on E Avenue M, as depicted in the visual simulation attached to the Applicant's Responses to Staff Status Report 4 docketed June 30, 2009.

Staff also requested that the Applicant modify Key Observation Point-1 (KOP-1) and KOP-4, as presented in the Application for Certification, and eliminate KOP-2 and KOP-3. As expressed during the Workshop, the Applicant is concerned about the timing of this request. However, based on assurances from CEC Staff that this item will not result in delay of the issuance of the PSA, the Applicant agrees to prepare revised visual simulations from the modified KOPs. The Applicant will work with CEC Staff to ensure that the locations of the modified KOPs are acceptable prior to preparation of the revised simulations. With these changes, KOP-1, as

modified, will remain KOP-1; KOP-4, as modified, will become KOP-2; and KOP-5, as it currently exists, will become KOP-3.

Water Resources

CEC Staff requested clarification of the drainage facilities associated with the proposed berm along East Avenue M. The attached conceptual site layout includes the existing and proposed drainage facilities.

Biological Resources

CEC Staff and California Department of Fish & Game (CDFG) staff requested additional information in support of the Streambed Alteration Agreement notification submitted by the Applicant to CDFG on July 10, 2009. Specifically, the Applicant was requested to provide additional information regarding construction methodologies that would be employed to avoid impacts to potentially jurisdictional waters. It is Applicant's understanding that during a site visit conducted on July 29, 2009 with CEC Staff and CDFG staff, it was agreed that the PHPP would not require a Streambed Alteration Agreement. The Applicant is awaiting concurrence from CDFG staff regarding this issue. Nevertheless, the Applicant is providing the information that was requested during the Workshop.

Construction of the Reclaimed Water Pipeline, Natural Gas Supply Pipeline and Sanitary Wastewater Pipeline would avoid jurisdictional waters by installing them beneath existing culverts in roadways. The conventional method of pipeline installation involves trench excavation and pipeline placement using backhoes, graders, excavators, and side boom tractors as well as potentially a trenching machine. Typically, a 6-foot-deep, 3-foot-wide trench is excavated and soil stockpiled adjacent to the trench. Conventional trenching would be used to excavate beneath existing culverts where water flowing in a stream channel is directed under a roadway or other crossing. Trenching would occur in the roadway itself, placing the pipeline beneath the culvert without disturbing the bed, channel, or bank of the adjacent waterway.

Construction of the Transmission Line along existing roadways would avoid jurisdictional waters by siting transmission line pole locations (including 50 foot radius for work area), line pulling, and staging areas so they avoid jurisdictional waters. Construction areas would employ standard Best Management Practices (BMPs) to avoid potential stormwater discharges. Existing roadways along the proposed Transmission Line would be used to access the pole locations. Spur road construction to pole locations would be sited so they avoid impacts to waters. Therefore, no new Arizona Crossings would be required for spur road construction.

Disturbance to existing Arizona Crossings would be minimized by avoidance of crossing during periods when the wash is actively flowing. If it is determined that crossing cannot be avoided during flowing periods, BMPs would be installed to minimize disturbance. BMPs at Arizona Crossings would include:

- Installation of a temporary railroad flatcar bridge in locations where high flow levels occur.

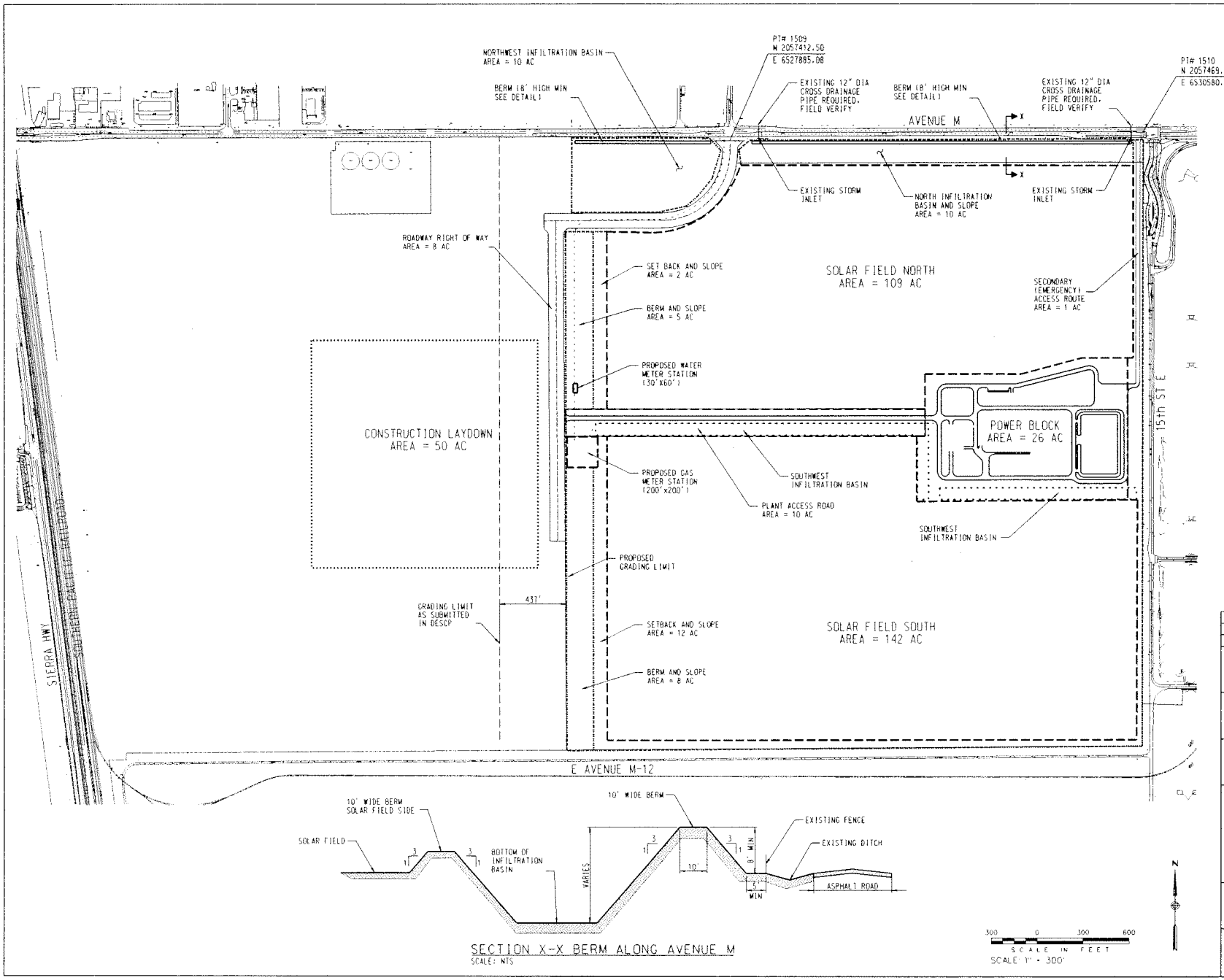
- Installation of gravel or sand bags along the upstream and downstream edge of the Arizona Crossing to limit potential for downstream sediment flow.

Attached is a table which specifies the measures to be implemented at each crossing to avoid impacts to potentially jurisdictional waters.

DATED: July 31, 2009

Respectfully submitted,

Michael J. Carroll
LATHAM & WATKINS LLP
Counsel to Applicant



NOTES:

1. STACK COORDINATES-

HRSG 1:
STATE PLANE GROUND COORDINATE
N: 2055300.000
E: 6529671.000

GEOGRAPHIC COORDINATE (NAD 83)
LATITUDE: 35 38 23.91803
LONGITUDE: 118 06 22.94693

BASE ELEVATION: 2517

HRSG 2:
STATE PLANE GROUND COORDINATE
N: 2055435.000
E: 6529671.000

GEOGRAPHIC COORDINATE (NAD 83)
LATITUDE: 34 38 25.25346
LONGITUDE: 118 06 22.94864

BASE ELEVATION: 2517

- PRELIMINARY -
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DWN	CHK	APP	DATE
B	ADDED BERM DETAIL	MTW			07-30-09
A	ISSUE FOR REVIEW	MTW			04-15-09

CITY OF PALMDALE

PALMDALE HYBRID
POWER PROJECT

Kiewit

Kiewit Power
8455 Lenexa Drive
Lenexa, Kansas 66214

CONCEPTUAL SITE LAYOUT

	by	date
DESIGNED	MDM	01-06-09
DRAWN	MDM	01-06-09
CHECKED		
APPROVED		

DRAWING NUMBER
2007-021-CM-500

Measures to be Implemented During Construction to Avoid Impacts to Jurisdictional Waters as Identified in Table 1 of the Preliminary Jurisdictional Determination Report.

Wash (Figure Number in Appendix A)	Potential Jurisdictional Status	Description	Avoidance Measure
1a (1-A)	WSC	10' wide - unnamed ephemeral wash - routed through culverts to 1b and 1c	Pipeline installation beneath existing culvert in roadway
1b (1-A)	WSC	4' wide - unnamed ephemeral wash - routed through culvert to 1c	Pipeline installation beneath existing culvert in roadway
1c (1-A)	WSC	25' wide - unnamed ephemeral wash - flows to the northeast.	Pipeline installation beneath existing culvert in roadway
2 (1-B)	WSC	6' wide – roadside ditch that passes through culvert flowing to the north	Pipeline installation beneath existing culvert in roadway
3 (1-B)	WSC	10' wide - roadside ditch that passes through culvert flowing to the north	Pipeline installation beneath existing culvert in roadway
4 (1-C)	WSC	6' wide – unnamed ephemeral wash - flowing to north and east through culvert to 5.	Pipeline installation beneath existing culvert in roadway
5 (1-C)	WSC	25' wide constructed channel borders property boundary commercial/industrial facility.	No impact, pipeline not crossing waterway
6 (1-C)	WSC	25' wide constructed channel borders property boundary commercial/industrial facility. No connection to 5 through culvert.	Pipeline installation beneath existing culvert in roadway
7 (1-D)	WSC	30' wide constructed channel provides stormwater drainage into catchment basin northwest of the project boundary.	No impact, pipeline not crossing waterway
8a (1-E)	WSC	6' wide - unnamed ephemeral wash - routed through culvert to 8b	Pipeline installation beneath existing culvert in roadway
8b (1-E)	WSC	20' wide concrete lined constructed channel follows railway line to the north.	No impact, pipeline not crossing waterway
8c (1-F)	WSC	30' wide unnamed ephemeral wash flowing under railway trestle to the north, then through culvert to 8d.	Pipeline installation beneath existing culvert in roadway
8d (1-F)	WSC	30' wide constructed channel collects water from 8c and passes it through a culvert beneath and industrial facility to an unknown location.	Pipeline installation beneath existing culvert in roadway
9-Little Rock Wash (1-G)	WSC	530' Segment of ephemeral Little Rock Wash	Transmission pole and construction area siting outside wash. Access through paved crossing.

Wash (Figure Number in Appendix A)	Potential Jurisdictional Status	Description	Avoidance Measure
10 (1-H)	WSC	6' wide unnamed ephemeral wash routed along eastern edge of roadway flowing to the north. No outlet observed.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
11 (1-I)	WSC	12' wide unnamed ephemeral wash routed along eastern edge of roadway flowing to the north. No outlet observed.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
12 (1-J)	WSC	40' wide constructed channel provides stormwater drainage along railroad to the west.	Transmission pole and construction area siting outside wash. No crossing required.
13 (1-K)	WSC	4' wide unnamed ephemeral wash flowing to the northwest.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
14 (1-K)	WSC	4' wide unnamed ephemeral wash flowing to the northwest.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
15 (1-K)	WSC	4' wide unnamed ephemeral wash flowing to the northwest.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
16-California Aqueduct (1-L)	WSC and WUS	135' wide California Aqueduct. Relatively permanent water with potential connection to navigable waters with link to interstate or foreign commerce	Transmission pole and construction area siting outside waterway. Access on paved crossing.
17 (1-M)	WSC	3' wide unnamed ephemeral wash flowing to the northeast.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
18 (1-M)	WSC	10' wide unnamed ephemeral wash flowing to the north.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.

Wash (Figure Number in Appendix A)	Potential Jurisdictional Status	Description	Avoidance Measure
19 (1-M)	WSC	30' wide unnamed ephemeral wash flowing to the north.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
20 (1-N)	WSC	20' wide unnamed ephemeral wash flowing to the north.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
21 (1-N)	WSC	20' wide unnamed ephemeral wash flowing to the north. No outlet observed.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
22 (1-N)	WSC	10' wide unnamed ephemeral wash flowing to the north.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
23 (1-O)	WSC	6' wide unnamed ephemeral wash flowing to the northwest.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
24 (1-P)	WSC	20' wide unnamed ephemeral wash flowing to the north.	Transmission pole and construction area siting outside wash. Crossing on existing culverted maintenance road.
25 (1-P)	WSC	25' wide unnamed ephemeral wash with deeply incised channel flowing to the northwest.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
26 (1-P)	WSC	30' wide unnamed ephemeral wash flowing to the north at the base of a canyon.	Transmission pole and construction area siting outside wash. Crossing on existing culverted maintenance road.
27 (1-Q)	WSC	35' wide unnamed ephemeral wash with deeply incised channel flowing to the north at the base of a canyon.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water

Wash (Figure Number in Appendix A)	Potential Jurisdictional Status	Description	Avoidance Measure
			or installation of BMPs.
28 (1-Q)	WSC	12' wide unnamed ephemeral wash flowing to the northwest at the base of a canyon.	Transmission pole and construction area siting outside wash. Crossing on existing culverted maintenance road.
29 (1-R)	WSC	12' wide unnamed ephemeral wash flowing to the northwest. Flows into existing dirt road and into Little Rock Wash.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
30 (1-R)	WSC	645' wide segment of Little Rock Wash.	Transmission pole and construction area siting outside wash. Crossing on existing paved road.
31 (1-S)	WSC	Ephemeral wash with riparian corridor (of varying widths) that flows to the east into Little Rock Wash. Riparian habitat contains mulefat and cottonwood. Source of water is likely runoff from roadways.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
32-Palmdale Ditch (1-S)	WSC and WUS	25' wide Palmdale Ditch. A constructed channel with earth bottom and concrete sidewalls. Ephemeral drainage that connects Little Rock Reservoir and Lake Palmdale.	Transmission pole and construction area siting outside wash. Crossing on existing bridge.
33 (1-T)	WSC	9' wide unnamed ephemeral wash flowing to the northeast, partially within existing roadway.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
34 (1-U)	WSC	4' wide unnamed ephemeral wash flowing to the north at the base of a canyon.	Transmission pole and construction area siting outside wash. Crossing on existing culverted maintenance road.
35 (1-U)	WSC	8' wide unnamed ephemeral wash flowing to the north at the base of a canyon.	Transmission pole and construction area siting outside wash. Crossing on existing culverted maintenance road.
36 (1-U)	WSC	30' wide unnamed ephemeral wash flowing to the north at the base of a canyon.	Transmission pole and construction area siting outside wash. Crossing on existing culverted maintenance road.

Wash (Figure Number in Appendix A)	Potential Jurisdictional Status	Description	Avoidance Measure
37 (1-V)	WSC	25' wide unnamed ephemeral wash flowing to the north at the base of a canyon. Desert wash riparian scrub habitat.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
38 (1-V)	WSC	20' wide unnamed ephemeral wash flows to the north, partially within existing roadway.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
39 (1-V)	WSC	8' wide unnamed ephemeral wash flows to the north, partially within existing roadway.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
40a (1-W)	WSC	8' wide unnamed ephemeral wash flowing to the northeast at the base of a canyon.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
40b (1-W)	WSC	4' wide upper reaches of 39a flows to the southeast through a deep canyon.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
41 (1-X)	WSC	6' wide unnamed ephemeral wash flows to the northwest.	Transmission pole and construction area siting outside wash. No crossing required.
42 (1-Y)	WSC	8' wide unnamed ephemeral wash flows to the west through a residential property.	Transmission pole and construction area siting outside wash. Existing Arizona Crossing minimized by avoidance of flowing water or installation of BMPs.
43 (1-Y)	WSC	30' wide unnamed ephemeral wash flows out of industrial facility to the west.	Transmission pole and construction area siting outside wash. No crossing required.

WSC – Water of the State of California. Jurisdictional to California Department of Fish and Game under Section 1602 of the California Fish and Game Code.

WUS – Water of the United States. Jurisdictional to U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of: **APPLICATION FOR CERTIFICATION for the *PALMDALE HYBRID POWER PROJECT***	**Docket No. 08-AFC-9** **PROOF OF SERVICE** ***(Revised 6/30/2009)***

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DECLARATION OF SERVICE

I, Sara Head, declare that on, July 31, 2009, I served and filed copies of the attached Palmdale Hybrid Power Project: July 28, 2009 Workshop Data Requests – Visual, Water, and Biological Resources. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
[http://www.energy.ca.gov/sitingcases/palmdale/index.html]. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

For service to all other parties:

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

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

AND

For filing with the Energy Commission:

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

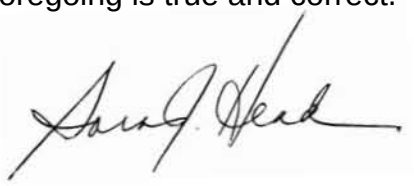
OR

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

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-9
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

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



_____

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STATE OF CALIFORNIA
ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:	)	Docket No. 08-AFC-9
	)	
APPLICATION FOR CERTIFICATION, FOR THE PALMDALE HYBRID POWER PROJECT BY THE CITY OF PALMDALE	)	JULY 28, 2009 WORKSHOP DATA REQUESTS – TRANSMISSION SYSTEM ENGINEERING

During the Workshop held by teleconference on July 28, 2009, which was a follow-up to the Scheduling Conference held on July 9, 2009, California Energy Commission Staff clarified remaining information that it requires to complete its Preliminary Staff Assessment (PSA) for the Palmdale Hybrid Power Project (PHPP). This submittal provides the information requested in the area of Transmission System Engineering.

Interconnection Facilities Study Agreement and Draft Facilities Study

During the Workshop, it became apparent that the hard copy of the Interconnection Facilities Study Agreement submitted to the Staff on July 22, 2009 was not complete (although the electronic version on the compact disk (CD) that accompanied the hard copy is complete). Attached is a complete copy of the Agreement. Staff's primary interest in reviewing the Agreement was to confirm that the transmission line route being analyzed by Southern California Edison (SCE) and the Independent System Operator (ISO) is consistent with the route presented in the Application for Certification. The route depicted in the two documents is substantially the same. During the Workshop, Staff pointed out that Attachment C, page 4, of the Agreement indicates 15.7 miles of transmission line. We note that there is an identical figure on the first page after the text (page 11) in Attachment C, which indicates "34 miles (Approx.)", which is consistent with the 35.6 miles depicted in the AFC. Applicant believes that the figure on page 4 is simply an error. We also note that the maps in the Agreement do not reflect the following minor adjustments to the route which Applicant has previously made Staff aware of:

- Extrusion to 105th st E.
- Extrusion to 126th st E.
- Lone Oak Rd. re-alignment near Pearblossom
- Enter Vincent from the South

In addition, Applicant has received confirmation from Mr. Drew Brabb, Project Manager--Grid Interconnection (TDBU) at SCE, that the draft Facilities Study (TOT154 Palmdale Power Project) was submitted to the ISO on July 30, 2009.

Scope of Reconductoring

CEC Staff asked Applicant to confirm that the proposed plan is to leave as-is the California Department of Water Resources (CDWR) cross-under at the 500 kV line (just north of the CDWR pumping plant). The CEC Staff assumption is correct. There is no technical basis to reconductor the existing CDWR line, and the proposed plan is to simply leave as-is the existing infrastructure at the crossing immediately north of the CDWR pumping plant.

Transmission Line Crossings

CEC Staff asked the Applicant to confirm clearance from conductor-to-ground and from conductor-to-conductor at the transmission line crossings, and to confirm that G.O. 95 Table 2 – Case 13 and Table 1 – Case 4 were used in the calculation.

The required clearance pursuant to G.O. 95 between the 500 kV and 230 kV is 19.16 feet and that distance is based on Table 2 – Case 13 of G.O. 95. The equation is 150 inches + 0.40 inches for anything over 300 kV, which in this case is an additional 200 kV. [200 x 0.40 inches = 80 inches] 150 inches + 80 inches = 230 inches or 19.16 feet. PHPP will design the line at 20 foot clearance. The detailed engineering phase will account for the maximum sag on the 500 kV line and the project will use the results from the lidar map showing the exact elevations. The 19.16 feet starts at the top conductor or static line (if there is one) of the 230 kV line and goes up to the maximum perpendicular sag point of the 500 kV conductor. The distance between them must be 19.16 feet. The distance below the top conductor or static line (if there is one) does not matter.

For the ground clearance on a 230 kV line, PHPP will use 30 feet for the engineering, which is based on Table 1 – Case 4 of G.O. 95.

Attached are the two applicable G.O. 95 codes that will be used for the engineering phase of the project. Also attached are the revised crossing diagrams showing the clearance that will be used for the crossings.

Los Angeles Department of Water and Power

CEC Staff asked that the Applicant conduct additional outreach to the Los Angeles Department of Water and Power (LADWP) regarding the proposal for the PHPP transmission line to cross LADWP lines. As reported in the Applicant's Supplemental Responses from the July 9, 2009 Committee Conference, dated July 22, 2009, Mr. Tom Barnett, of Inland Energy, has already made LADWP aware of the proposed crossing. CEC Staff desires confirmation from LADWP that the proposed crossing is feasible. In an effort to obtain additional concurrence from LADWP, Mr. Barnett had a follow up conversation with Mr. James Gokey of LADWP on July

30, 2009. Mr. Barnett shared the CEC Staff's desire to obtain concurrence from LADWP that the proposed crossing is acceptable. As he previously communicated to Mr. Barnett, Mr. Gokey indicated that it was too early in the process for LADWP to provide the desired concurrence prior to having conducted a thorough review of the PHPP proposal. Mr. Gokey indicated that LADWP has a formal process for undertaking review of such a crossing and he will be initiating that process shortly.

DATED: July 31, 2009

Respectfully submitted,

Michael J. Carroll
LATHAM & WATKINS LLP
Counsel to Applicant

Table 1: Basic Minimum Allowable Vertical Clearance of Wires above Railroads, Thoroughfares, Ground or Water Surfaces; Also Clearances from Poles, Buildings, Structures or Other Objects (nn) (Letter References Denote Modifications of Minimum Clearances as Referred to in Notes Following This Table)

Case No.	Nature of Clearance	Wire or Conductor Concerned						
		A Span Wires (Other than Trolley Span Wires) Overhead Guys and Messengers	B Communication Conductors (Including Open Wire, Cables and Service Drops), Supply Service Drops of 0 - 750 Volts	C Trolley Contact, Feeder and Span Wires, 0 - 5,000 Volts	D Supply Conductors of 0 - 750 Volts and Supply Cables Treated as in Rule 57.8	E Supply Conductors and Supply Cables, 750 - 22,500 Volts	F Supply Conductors and Supply Cables, 22.5 - 300 kV	G Supply Conductors and Supply Cables, 300 - 550 kV (mm)
1	Crossing above tracks of railroads which transport or propose to transport freight cars (maximum height 15 feet, 6 inches) where not operated by overhead contact wires. (a) (b) (c) (d)	25 Feet	25 Feet	22.5 Feet	25 Feet	28 Feet	34 Feet	34 Feet (kk)
2	Crossing or paralleling above tracks of railroads operated by overhead trolleys. (b) (c) (d)	26 Feet (e)	26 Feet (e) (f) (g)	22.5 Feet (h) (i) (eee)	27 Feet (e) (g)	30 Feet (g)	34 Feet (g)	34 Feet (g) (kk)
3	Crossing or along thoroughfares in urban districts or crossing thoroughfares in rural districts. (c) (d)	18 Feet (j) (k) (ii)	18 Feet (j) (l) (m) (ii) (aa)	19 Feet (hh) (eee)	20 Feet (ii)	25 Feet (o) (ii)	30 Feet (o) (ii)	30 Feet (o) (ii) (kk)
4	Above ground along thoroughfares in rural districts or across other areas capable of being traversed by vehicles or agricultural equipment.	15 Feet (k)	15 Feet (m) (n) (p)	19 Feet (eee)	19 Feet	25 Feet (o)	30 Feet (o) (p)	30 Feet (o) (kk)
5	Above ground in areas accessible to pedestrians only	8 Feet	10 Feet (m) (q)	19 Feet (eee)	12 Feet	17 Feet	25 Feet (o)	25 Feet (o) (kk)
6	Vertical clearance above walkable surfaces on buildings, (except generating plants or substations) bridges or other structures which do not ordinarily support conductors, whether attached or unattached.	8 Feet (r)	8 Feet (r)	8 Feet	8 Feet	12 Feet	12 Feet	20 Feet (ll)
6a	Vertical clearance above non-walkable surfaces on buildings, (except generating plants or substations) bridges or other structures, which do not ordinarily support conductors, whether attached or unattached	2 Feet	8 Feet (yy)	8 Feet	8 Feet (zz)	8 Feet	8 Feet	20 Feet
7	Horizontal clearance of conductor at rest from buildings (except generating plants and substations), bridges or other structures (upon which men may work) where such conductor is not attached thereto (s) (t)	-	3 Feet (u)	3 Feet	3 Feet (u) (v)	6 Feet (v)	6 Feet (v)	15 Feet (v)
8	Distance of conductor from center line of pole, whether attached or unattached (w) (x) (y)	-	15 inches (s) (aa)	15 inches (aa) (bb) (cc)	15 inches (o) (aa) (dd)	15 or 18 inches (o) (dd) (ee) (jj)	18 inches (dd) (ee)	Not Applicable
9	Distance of conductor from surface of pole, crossarm or other overhead line structure upon which it is supported, providing it complies with case 8 above (x)	-	3 inches (aa) (ff)	3 inches (aa) (cc) (gg)	3 inches (aa) (dd) (gg)	3 inches (dd) (gg) (jj)	1/4 Pin Spacing Shown in Table 2 Case 15 (dd)	1/2 Pin Spacing Shown in Table 2 Case 15 (dd)

Table 1 (Continued)

Case No.	Nature of Clearance	Wire or Conductor Concerned						
		A Span Wires (Other than Trolley Span Wires) Overhead Guys and Messengers	B Communication Conductors (Including Open Wire, Cables and Service Drops), Supply Service Drops of 0 - 750 Volts	C Trolley Contact, Feeder and Span Wires, 0 - 5,000 Volts	D Supply Conductors of 0 - 750 Volts and Supply Cables Treated as in Rule 57.8	E Supply Conductors and Supply Cables, 750 - 22,500 Volts	F Supply Conductors and Supply Cables, 22.5 - 300 kV	G Supply Conductors and Supply Cables, 300 - 550 kV (mm)
10	Radial centerline clearance of conductor or cable (unattached) from non-climbable street lighting or traffic signal poles or standards, including mastarms, brackets and lighting fixtures, and from antennas that are not part of the overhead line system.	-	1 Foot (u) (rr) (ss)	15 inches (bb) (cc)	3 Feet (oo)	6 Feet (pp)	10 Feet (qq)	10 Feet (ll)
11	Water areas not suitable for sailboating (tt) (uu) (ww) (xx)	15 Feet	15 Feet	-	15 Feet	17 Feet	25 Feet	25 Feet (kk)
12	Water areas suitable for sailboating, surface area of: (tt) (vv) (ww) (xx)							
	(A) Less than 20 acres	18 Feet	18 Feet	-	18 Feet	20 Feet	27 Feet	27 Feet (kk)
	(B) 20 to 200 acres	26 Feet	26 Feet	-	26 Feet	28 Feet	35 Feet	35 Feet (kk)
	(C) Over 200 to 2,000 acres	32 Feet	32 Feet	-	32 Feet	34 Feet	41 Feet	41 Feet (kk)
	(D) Over 2,000 acres	38 Feet	38 Feet		38 Feet	40 Feet	47 Feet	47 Feet (kk)
13	Radial clearance of bare line conductors from tree branches or foliage (aaa) (ddd)	-	-	18 inches (bbb)	-	18 inches (bbb)	1/4 pin spacing shown in table 2, Case 15 (bbb) (ccc)	1/2 pin spacing shown in table 2, Case 15

References to Rules Modifying Minimum Clearances in Table 1

	Rule
(a) Shall not be reduced more than 5% because of temperature or loading	37
1 Supply lines	54.4–B1
2 Communication lines	84.4–B1
(b) Shall be increased for supply conductors on suspension insulators, under certain conditions	37
(c) Special clearances are provided for traffic signal equipment	58.4–C
(d) Special clearances are provided for street lighting equipment	58.5–B
(e) Based on trolley pole throw of 26 feet. may be reduced where suitably protected	56.4–B2
1 Supply guys	56.4–B2
2 Supply cables and messengers	57.4–B2
3 Communication guys	86.4–B2
4 Communication cables and messengers	87.4–B2
(f) May be reduced depending on height of trolley contact conductors	
1 Supply service drops	54.8–C5
2 Communication service drops	84.8–D5
(g) May be reduced and shall be increased depending on trolley throw	
1 Supply conductors (except service drops)	54.4–B2
2 Communication conductors (except service drops)	84.4–B2
(h) May be decreased where freight cars are not transported.	
1. Trolley contact and feeder conductors.	74.4-B1
2. Trolley span wires	77.4-A
(i) May be reduced for trolley contact and span wires in subways, tunnels, under bridges and in fenced areas	
1 Trolley contact conductors	74.4–E
2 Trolley span wires	77.4–B
(j) May be reduced at crossings over private thoroughfares and entrances to private property and over private property	
1 Supply service drops	54.8–B2
2 Supply guys	56.4–A
3 Communication service drops	84.8–C2
4 Communication guys	86.4–A
(k) May be reduced along thoroughfares where not normally accessible to vehicles	
1 Supply guys	56.4–A1
2 Communication guys	86.4–A1
(l) May be reduced where within 12 feet of curb line of public thoroughfares	
1 Supply service drops	54.8–B1
2 Communication service drops	84.8–C1
(m) May be reduced for railway signal cables under special conditions	84.4–A4
(n) May be reduced in rural districts	
1 Intentionally left blank	
2 Intentionally left blank	
3 Communication conductors along roads	84.4–A2

Table 2: Basic Minimum Allowable Clearance of Wires from Other Wires at Crossings, in Midspans and at Supports (Letter References Denote Modifications of Minimum Clearances as Referred to in Notes Following This Table) All Clearances are in Inches

		Other Wire, Cable or Conductor Concerned										
					Supply Conductors (Including Supply Cables)							
Case No.	Nature of Clearance and Class and Voltage of Wire, Cable or Conductor Concerned	A Span Wires, Guys and Messengers	B Trolley Contact Conductors 0 – 750 Volts	C Communication Conductors (Including Open Wire, Cables and Service Drops)	D 0 – 750 Volts (Including Service Drops) and Trolley Feeders (a)	E 750 - 7,500 Volts	F 7,500 - 20,000 Volts	G 20,000 - 35,000 Volts	H 35,000 - 75,000 Volts	I 75,000 - 150,000 Volts	J 150,000 - 300,000 Volts	K (kk) 300,000 - 550,000 Volts
	Clearance between wires, cables and conductors not supported on the same poles, vertically at crossings in spans and radially where colinear or approaching crossings											
1	Span wires, guys and messengers (b)	18 (c)	48 (d, e)	24 (e)	24 (e)	36 (f)	36	72	72	78	78 (gg)	138 (hh)
2	Trolley contact conductors, 0 - 750 volts	48 (d, e)	-	48 (d)	48 (d, h)	48	72	96	96	96	96 (gg)	156 (hh)
3	Communication conductors	24 (e)	48 (d)	24	48 (i)	48 (dd)	72	96	96	96	96 (gg)	156 (hh)
4	Supply conductors, service drops and trolley feeders, 0 - 750 volts (qq)	24 (e)	48 (d, h)	48 (i)	24	48	48	96 (oo)	96	96	96(gg)	156 (hh)
5	Supply conductors, 750 - 7,500 volts (qq)	36 (f)	48	48 (dd)	48	48 (h)	72	96 (oo)	96	96	96(gg)	156 (hh)
6	Supply conductors, 7,500 - 20,000 volts (qq)	36	72	72	48	72	72	96 (oo)	96	96	96 (gg)	156 (hh)
7	Supply conductors, more than 20,000 volts (qq)	72 (g)	96 (g)	96 (g)	96 (g, oo)	96 (g, oo)	96 (g, oo)	96 (g, oo)	96 (g)	96	96 (gg)	156 (hh)
	Vertical separation between conductors and/or cables, on separate crossarms or other supports at different levels (excepting on related line and buck arms) on the same pole and in adjoining midspans											
8	Communication Conductors and Service Drops	-	-	12 (j, rr)	48 (k, l, m, n, pp)	48 (k)	72 (m n)	72 (m)	72	78	87 (gg)	147 (hh)
9	Supply Conductors Service Drops and Trolley Feeders, 0 - 750 Volts	-	-	48 (k, l, m, n, pp)	24 (h, k, m, o)	48 (k, m, p)	48 (k, m, q)	72 (m, nn)	72	78	87 (gg)	147 (hh)

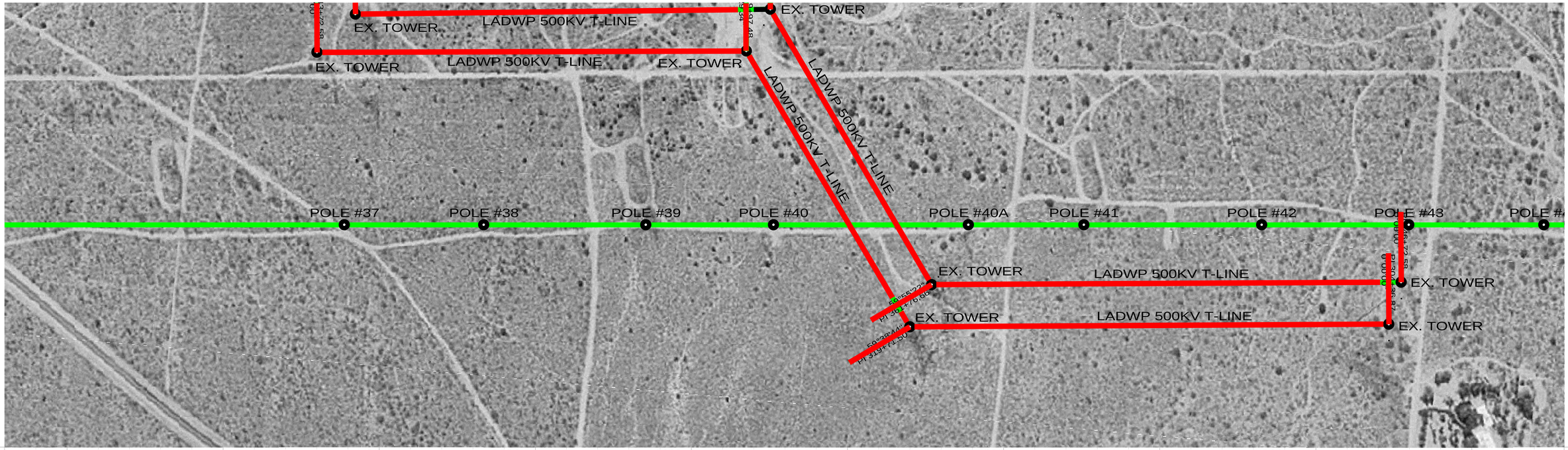
Table 2 (Continued)

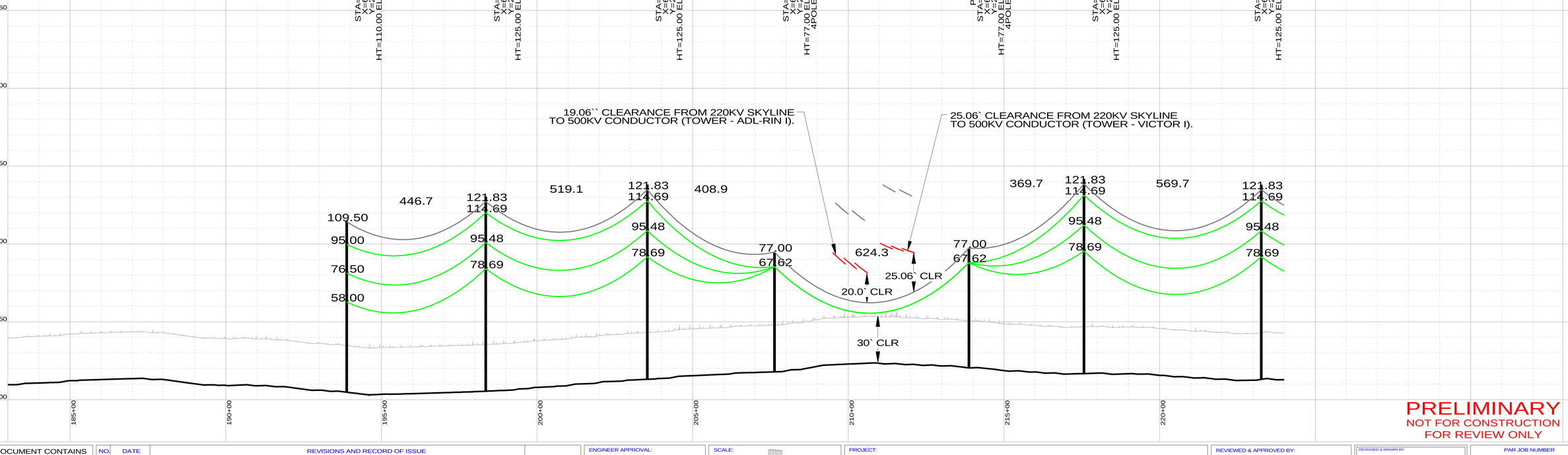
		Other Wire, Cable or Conductor Concerned										
					Supply Conductors (Including Supply Cables)							
Case No.	Nature of Clearance and Class and Voltage of Wire, Cable or Conductor Concerned	A Span Wires, Guys and Messengers	B Trolley Contact Conductors 0 – 750 Volts	C Communication Conductors (Including Open Wire, Cables and Service Drops)	D 0 – 750 Volts (Including Service Drops) and Trolley Feeders (a)	E 750 - 7,500 Volts	F 7,500 - 20,000 Volts	G 20,000 - 35,000 Volts	H 35,000 - 75,000 Volts	I 75,000 - 150,000 Volts	J 150,000 - 300,000 Volts	K (kk) 300,000 - 550,000 Volts
10	Supply conductors, 750 – 7,500 volts	-	-	48 (k)	48 (k, m, p)	48 (m, o, r, ee)	48 (m, q)	48 (m, q)	48 (q)	60 (ff)	90 (gg)	150 (hh)
11	Supply conductors, 7,500 – 20,000 volts	-	-	72 (m, n)	48 (k, m, q)	48 (m, q)	48 (m, o, q, r, ee)	48 (m, q)	48 (q)	60 (ff)	90 (gg)	150 (hh)
12	Supply conductors, 20,000 – 75,000 volts	-	-	72 (m)	72 (m)	48 (m, q)	48 (m, q)	48 (o, q)	48 (o, q)	60 (ff)	90 (gg)	150 (hh)
13	Supply conductors, more than 75,000 volts	-	-	72	72	60 (q)	60 (q)	60 (q)	60 (q)	60 (ff)	90 (gg)	150 (hh)
	Vertical clearance between conductors on related line arms and buck arms											
14	Line arms above or below related buck arms (s, t)	-	-	6	12 (u)	18 (u)	18 (u)	24	48	60 (ff)	90 (gg)	150(hh)
	Horizontal separation of conductors on same crossarm											
15	Pin spacing of longitudinal conductors vertical conductors and service drops (v, w)	-	-	3 (x)	11–1/2 (h, x)	11 1/2 (x)	17–1/2 (x)	24 (x)	48	60 (ff)	90 (gg)	150 (hh)
	Radial separation of conductors on same crossarm, pole or structure—incidental pole wiring											
16	Conductors, taps or lead wires of different circuits (v, y, s)	-	-	3 (x)	11–1/2 (h, x)	11 1/2 (x)	17–1/2 (x)	24 (x)	48	60 (ff)	90 (gg)	150 (hh)
16a	Uncovered, grounded, non-dielectric fiber optic cables on metallic structures, in transition (ss)	-	15	15	15	18	18	18	18	24	36	120
17	Conductors, taps or lead wires of the same circuit (v, s, aa)	-	-	3	3	6	6	12	24	60 (ff)	90 (gg)	150 (hh)
	Radial separation between guys and conductors											
18	Guys passing conductors supported on other poles, or guys approximately parallel to conductors supported on the same poles	-	-	3	11–1/2	11–1/2	17–1/2	24	36	36 (ff)	78 (gg)	138 (hh)

References to Rules Modifying Minimum Clearances in Table 2

		Rule
(k)	Special Clearances for 0 – 750 Volts in Rack Configuration and Messengers and Cables Attached to Poles	
1	Supply Conductors of 0 – 750 Volts in Rack Configuration	54.9
2	Supply Cables and Messengers Attached to Poles	57.4-F
3	Communication Cables and Messengers Attached to Poles	87.4-C3
4	On Jointly Used Poles	92.1
(l)	May Be Reduced for Service Drops and Police and Fire-Alarm Conductors, Under Special Conditions	
1	Supply Service Drops and Communication Line Conductors	54.8-C1b
2	Supply Service Drops on Clearance Arms	54.8-C2
3	Supply Service Drops on Pole-Top Extensions	54.8-C3
4	Supply Service Drops and Communication Service Drops	54.8-C4
5	Communication Service Drops and Police, Fire-Alarm or Supply Line Conductors	84.8-D1b
6	Communication Service Drops on Clearance Arms	84.8-D2
7	Communication Service Drops on Pole-Top Extensions	84.8-D3
8	Communication Service Drops and Supply Service Drops	84.8-D4
9	Police or Fire-Alarm Conductors	92.2
(m)	May Be Reduced for Lead Wires	
1	Supply Lead Wires Above Supply Conductors	54.4-C6
2	Supply Drip Loops Above Communication Conductors	92.1-F3
(n)	May Be Reduced for Supply Conductors and Private Communication Conductors of the Same Ownership	89.2-B
(o)	May Be Reduced or Shall Be Increased for Triangular or Vertical Configuration or for Pole-Top Construction	
1	Triangular or Vertical Configuration on Crossarms	54.4-C1c
2	Dead-Ended on Pole in Vertical Configuration	54.4-C4
(p)	May Be Reduced for Supply Service Drops of 0 – 750 Volts	54.8-C6
(q)	Shall Be Increased Between Circuits Where Conductors are at Pole Top	54.4-L3
(r)	May Be Reduced Under Special Conditions	
1	Supply Conductors of 750 – 7,500 Volts	54.4-C1a
2	Supply Conductors of 7,500 – 20,000 Volts	54.4C1b
(s)	Does Not Apply Where Conductors Do Not Cross	
1	Supply Conductors of Different Phase or Polarity	54.4-C2a
2	Communication Conductors	84.4-C1a
(t)	Shall Not Be Applied Consecutively Both Above and Below the Same Supply Conductors	54.4-C2a
(u)	Shall Be Increased Where Conductors of Different Classification are Supported on the Same Crossarm	
1	Supply Conductors of 0 – 750 Volts and Conductors of 7,500 – 22,500 Volts	32.4-A2
2	Supply Conductors of 0 – 750 Volts and Conductors of 750 – 7,500 Volts	32.4-A3
(v)	Not Applicable to Certain Kinds of Conductors	
1	Supply Conductors of Same Phase or Polarity	54.4-C3c
2	Insulated Supply Conductors in Multiple-Conductor Cables	57.4-C
3	Communication Insulated Conductors or Multiple-Conductor Cables	87.4-C3
(w)	Shall Apply Radially to Conductors on Brackets Attached to Crossarms	
1	Supply Conductors	54.4-C3b
2	Communication Conductors	84.4-C1b
(x)	Shall Be Increased Between Conductors of Different Classification Supported on the Same Crossarm	
1	Supply Conductors of Different Voltage Classification	32.4-A
2	Supply circuits of 0 – 750 Volts and Communication Circuits	32.4-B
3	Supply Circuits and Private Communications Circuits	89.2-A
(y)	Special Clearances for Unprotected Supply Conductors from One Level to Another Level	54.6-A 58.2-B3 92.1-F5
(z)	Not Applicable to the Following:	
1	Clearances Between Conductors at Different Levels Specified in Cases 8 to 13 Inclusive	N/A
2	Supply Lateral Conductors, Suitably Protected	54.6-C
3	Supply Vertical Runs, Suitably Protected	54.6-D
4	Supply Risers, Suitably Protected	54.6-E
5	Communication Conductor	87.4-C1
(aa)	Not Applicable Between Cables and Their Supporting Messengers	
1	Supply	57.4-D
2	Communication	87.4-F
(bb)	May Be Reduced for Guys and Communication Conductors Supported on the Same Pole	
1	Supply	56.4-C4
2	Communication	86.4-C
(cc)	Clearance Required Between Guys	
1	Supply Guys, Crossing	56.4-D2
2	Supply Guys, Approximately Parallel	56.4-D3
3	Communication Guys, Crossing	86.4-D2
4	Communication Guys, Approximately Parallel	86.4-D3
(dd)	Shall Be Increased Where within 6 Feet of a Pole	103.5
(ee)	May Be Decreased in Partial Underground Distribution	54.4-C4c
(ff)	Shall Be Increased by 0.40" per kV in Excess of 75 kV	
(gg)	Shall Be Increased by 0.40" per kV in Excess of 150 kV	
(hh)	Shall Be Increased by 0.40" per kV in Excess of 300 kV	
(ii)	Shall Be Increased by 0.25" per kV in Excess of 150 kV	
(jj)	Shall Be Increased by 0.25" per kV in Excess of 300 kV	
(kk)	Proposed Clearances to Be Submitted to the CPUC Prior to Construction for Circuits in Excess of 550 kV	
(ll)	36" Clearance Applies 35 kV to 68 kV48" Clearance Applies Over 68 kV	
(mm)	Vertical Clearances Shall Be Increased by 1/2" for Each kV over 68 kV	
(nn)	The Vertical Separation Between Supply Conductors and Service Drops of 0 – 750 Volts and Supply Conductors of 20,000 – 22,500 Volts May Be Reduced to 48"	
(oo)	May Be Reduced to 72" for Conductors of 20,000 – 22,500 Volts	
(pp)	May Be Reduced to 36" Vertically at Midspan Only When the Supply Conductors Consist of Abrasion Resistant Cable with a Grounded Metallic Sheath or Neutral-Supported Cable as Specified in	57 & 54.10
(qq)	Vertical Clearances May Be Reduced Between Supply Conductors of the Same Circuit at Crossings in Spans	54.4-C7

Note: Revised February 7, 1964 by Decision No. 66707; September 18, 1967 by Decision No. 72984; March 30, 1968 by Decision No. 73813; July 22, 1968 by Decision No. 74342; September 11, 1974 by Decision No. 83420; March 9, 1988 by Resolution E-3076; November 6, 1992 by Resolution No. SU-15, January 19, 1994 by Resolution SU-25 and October 9, 1996 by Resolution SU-40.





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NO.	DATE	REVISIONS AND RECORD OF ISSUE

ENGINEER APPROVAL:

SCALE:
150.0 FT. HORIZ. SCALE
30.0 FT. VERT. SCALE

PROJECT:

PHPP / SCE CDWR 230KV T-LINES

FIGURE B-2

PALMDALE, CALIFORNIA

REVIEWED & APPROVED BY:
SIGNATURE: DATE:
REVIEWED & APPROVED BY:
SIGNATURE: DATE:

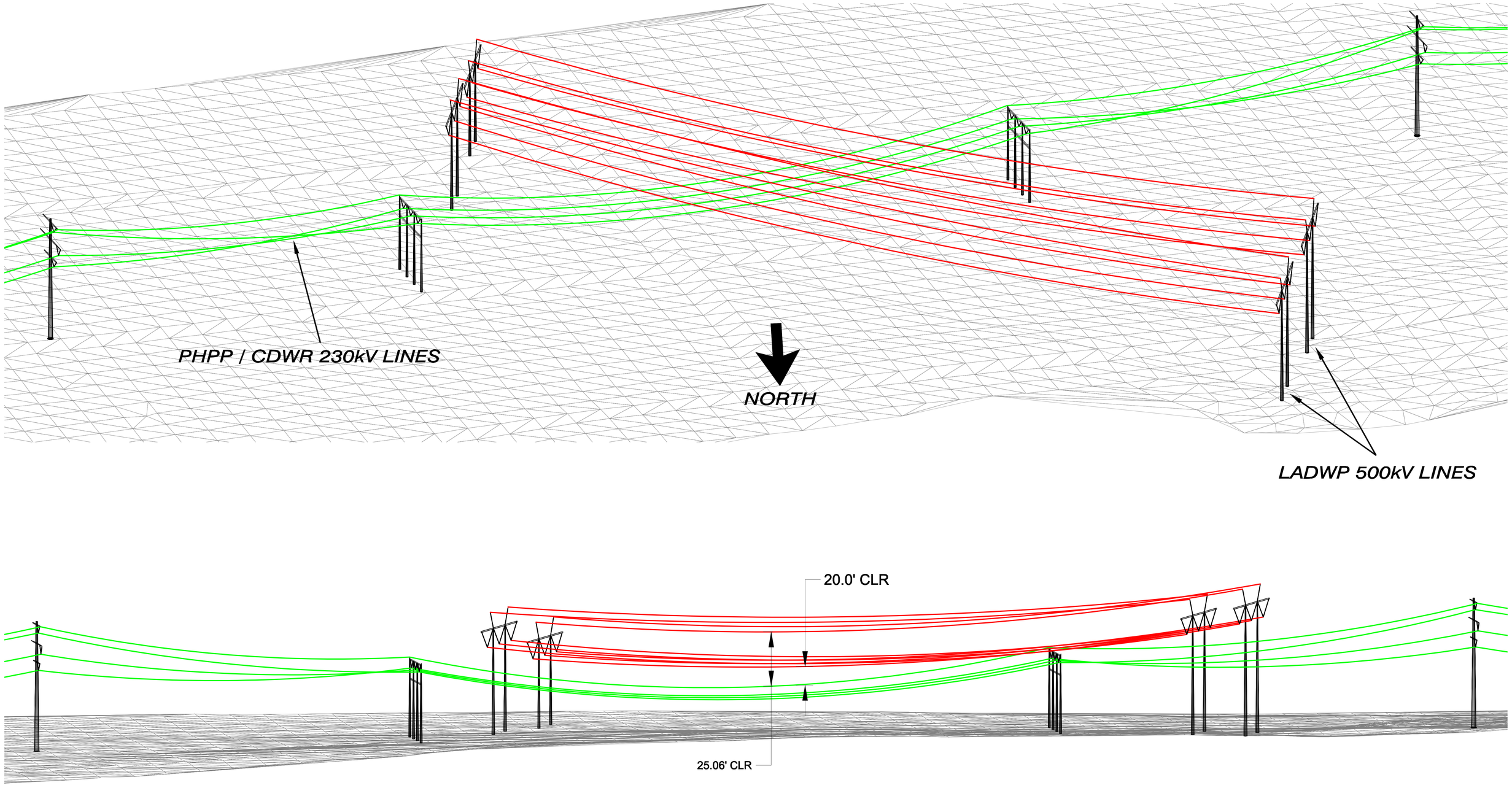
DESIGNED & DRAWN BY:
PAR
ELECTRICAL CONTRACTORS, INC.
2315 W. FOOTHILL BLVD.
UPLAND, CA 91786
(909) 982-9450

PAR JOB NUMBER		REV
ENGINEER:	DRAWN: A.R.	CODE:
CHECKED:	DATE: 07/16/09	AREA:

STA. 183+00 TO STA. 224+00

SHEET 1 OF SHEET 1

Figure B-3



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PAR ELECTRICAL CONTRACTORS, INC.
2315 W. Foothill Blvd.
Upland, CA 91786
Tel. (909) 982-9450

JOB TITLE, DESCRIPTION & LOCATION:

PHPP / SCE CDWR 230kV T-LINES

Figure B-3

PALMDALE, CALIFORNIA

SCALE: NTS

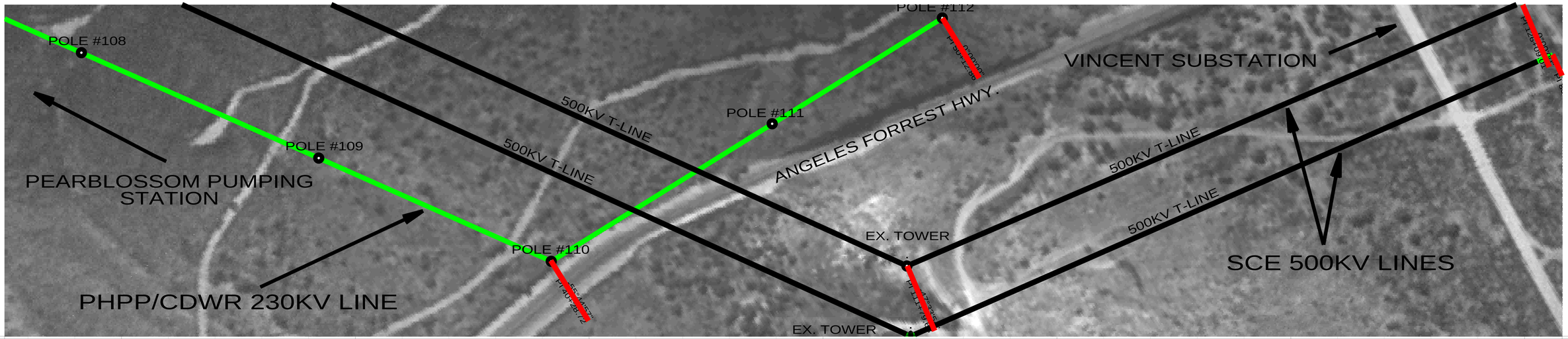
PAR JOB No.:

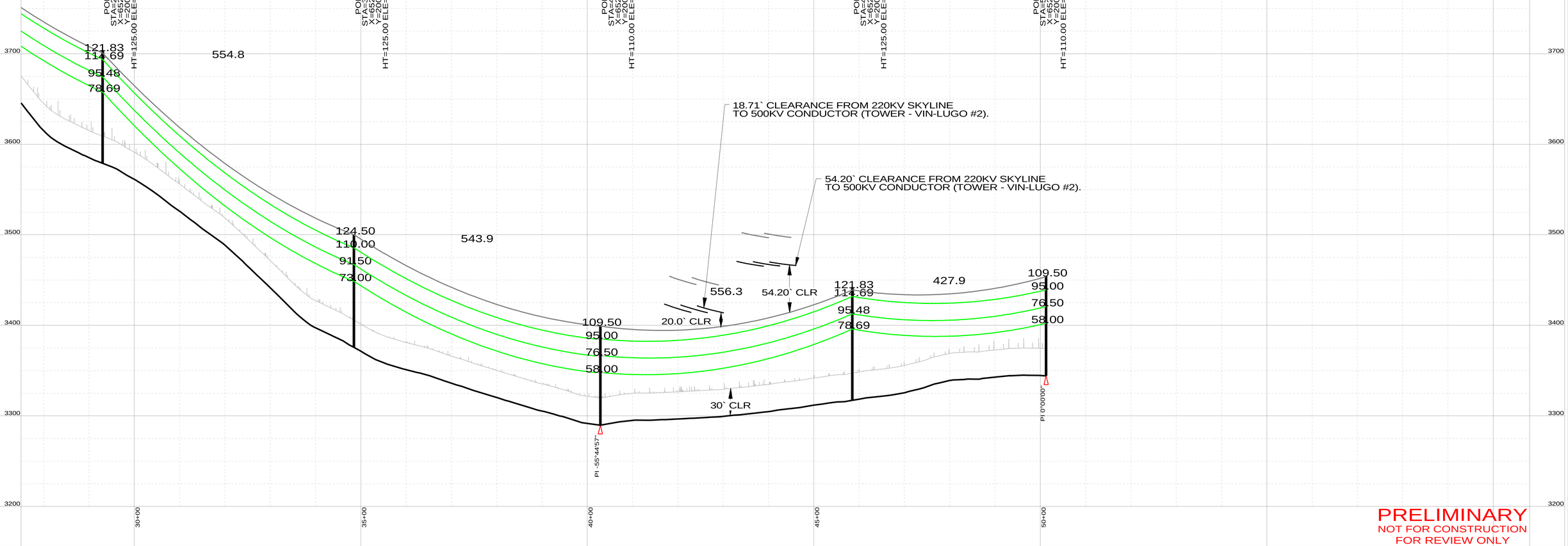
Date: 07-16-09

Sheet No.

1 of 1

PLS-CADD DRAWING





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NO.	DATE	REVISIONS AND RECORD OF ISSUE

ENGINEER APPROVAL:

SCALE:
100.0 FT. HORIZ. SCALE
50.0 FT. VERT. SCALE

PROJECT:

PHPP / SCE CDWR 230KV T-LINES

FIGURE C-2

PALMDALE, CALIFORNIA

REVIEWED & APPROVED BY:
SIGNATURE: DATE:
REVIEWED & APPROVED BY:
SIGNATURE: DATE:

DESIGNED & DRAWN BY:
PAR ELECTRICAL CONTRACTORS, INC.
2315 W. FOOTHILL BLVD.
UPLAND, CA 91786
(909) 982-9450

PAR JOB NUMBER		REV
ENGINEER:	DRAWN: A.R.	CODE:
CHECKED:	DATE: 07/16/09	AREA:

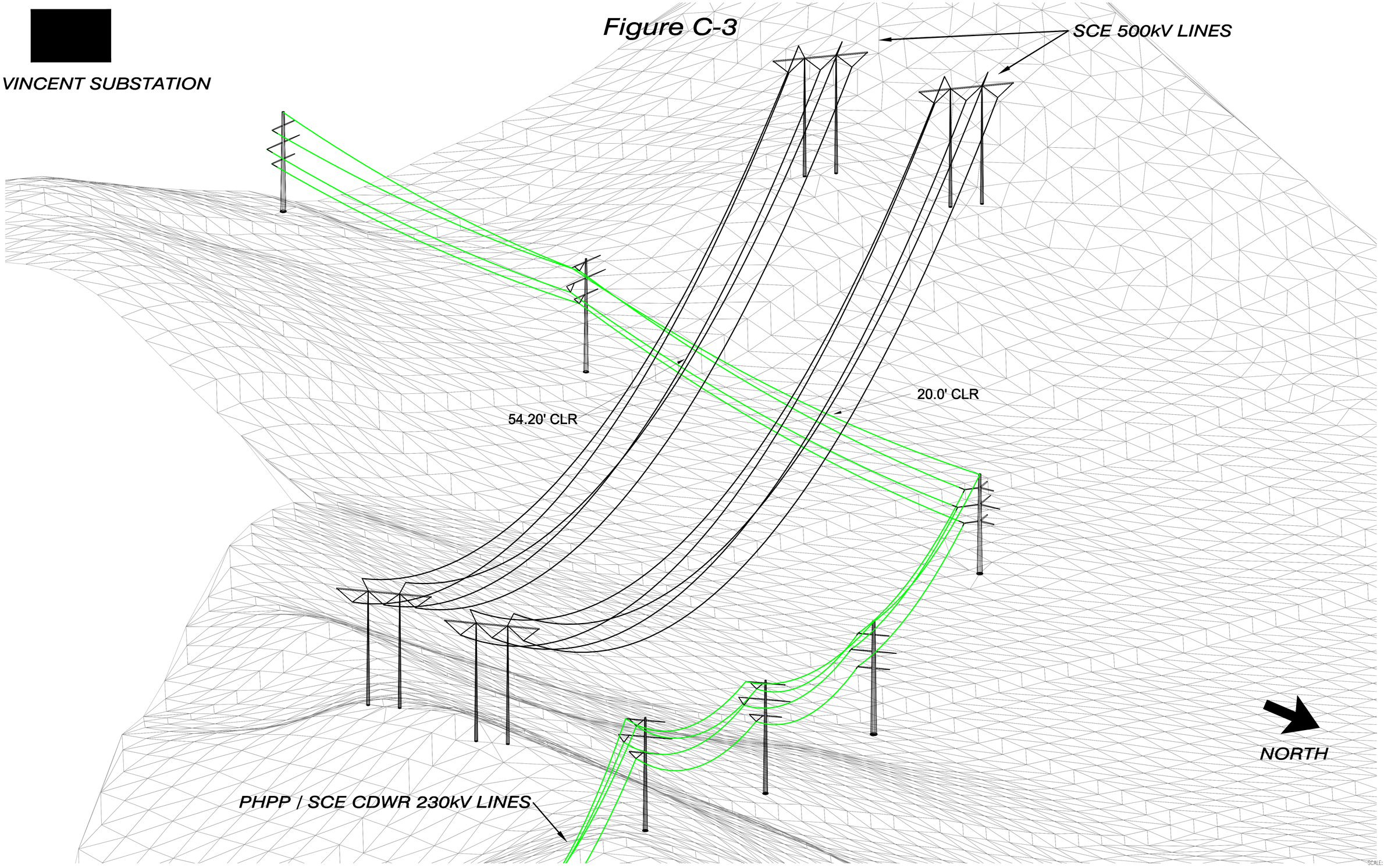
STA. 27+50 TO STA. 51+00

SHEET 1 OF SHEET 1

[redacted]

VINCENT SUBSTATION

Figure C-3



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PAR ELECTRICAL CONTRACTORS, INC.
2315 W. Foothill Blvd.
Upland, CA 91786
Tel. (909) 982-9450

JOB TITLE, DESCRIPTION & LOCATION:

PHPP / SCE CDWR 230kV T-LINES

Figure C-3

PALMDALE, CALIFORNIA

PAR JOB No.:

Date: 07-16-09

Sheet No.

1 of 1

STUDY AGREEMENT RECEIVED BY NEW RESOURCE INTERCONNECTIONS

DOCUMENT: Three executed originals of the Interconnection Facilities Study Agreement

IC: City of Palmdale

PROJECT: Palmdale Power Plant

RECEIVED:

RECEIVED

MAR 25 2008

CALIFORNIA ISO
NEW RESOURCE INTERCONNECTION

INTERCONNECTION FACILITIES STUDY AGREEMENT

THIS AGREEMENT is made and entered into this 24th day of March, 2008 by and between the City of Palmdale, a municipal corporation of the State of California, which owns and operates a municipal electric utility system engaged in the Generation, transmission, distribution, purchase and sale of electric power and Energy at wholesale and retail, organized and existing under the laws of the State of California, ("Interconnection Customer,") and the California Independent System Operator Corporation, a California nonprofit public benefit corporation existing under the laws of the State of California, ("ISO"). The Interconnection Customer and the ISO each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, the Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated February 24, 2006; and

WHEREAS, the Interconnection Customer desires to interconnect the Large Generating Facility with the ISO Controlled Grid;

WHEREAS, the ISO has completed an Interconnection System Impact Study (the "System Impact Study") and provided the results of said study to the Interconnection Customer; and

WHEREAS, the Interconnection Customer has requested the ISO to conduct or cause to be performed an Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed on the Participating TO's electric system to implement the conclusions of the Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the ISO Controlled Grid.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the ISO's FERC-approved Standard Large Generation Interconnection Procedures ("LGIP") or the Master Definitions Supplement, Appendix A to the ISO Tariff, as applicable.

2.0 The Interconnection Customer elects and the ISO shall conduct or cause to be performed an Interconnection Facilities Study consistent with the LGIP in accordance with the ISO Tariff.

3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A and the data provided in Attachment B to this Agreement.

4.0 The Interconnection Facilities Study report (i) shall provide a description, estimated cost, including, if applicable, the cost of remedial measures that address the financial impacts, if any, on Local Furnishing Bonds, of (consistent with Attachment A), and schedule for required facilities or for effecting remedial measures that address the financial impacts, if any, on Local Furnishing Bonds within each Participating TO's electric system to interconnect the Large Generating Facility to the ISO Controlled Grid and (ii) shall address the short circuit, instability, and power flow issues identified in the Interconnection System Impact Study.

5.0 The Interconnection Customer shall provide a deposit of the greater of $100,000 or the Interconnection Customer's portion of the estimated monthly cost for the performance of the Interconnection Facilities Study. The time for completion of the Interconnection Facilities Study is specified in Attachment A. For studies where the estimated cost exceed $100,000, the ISO may invoice Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection Facilities Study for the remaining balance of the estimated Interconnection Facilities Study cost. The Interconnection Customer shall pay invoiced amounts within thirty (30) Calendar Days of receipt of invoice. The ISO shall continue to hold the amounts on deposit until settlement of the final invoice.

Following the issuance of the Interconnection Facilities Study, the ISO shall charge and the Interconnection Customer shall pay the actual costs of the Interconnection Facilities Study, inclusive of any re-studies and amendments to the Interconnection Facilities Study, pursuant to Section 9 of this Agreement.

Any difference between the deposit made toward the Interconnection Facilities Study and the actual cost of the study, inclusive of any re-studies and amendments thereto, shall be paid by or refunded to the Interconnection Customer, as appropriate in accordance with Section 13.3 of the LGIP.

6.0 The Interconnection Facilities Study will be based upon the results of the Interconnection System Impact Study and the technical information provided by the Interconnection Customer in the Interconnection Request, subject to any modifications in accordance with Section 4.4 of the LGIP. The ISO reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary

consistent with Good Utility Practice during the course of the Interconnection Facilities Study.

If the Interconnection Customer modifies its Interconnection Request or the technical information provided therein is modified, the time to complete the Interconnection Facilities Study may be extended.

7.0 Pursuant to Section 3.7 of the LGIP, the ISO will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems. The ISO may provide a copy of the Interconnection Facilities Study results to an Affected System Operator and the Western Electricity Coordinating Council. Requests for review and input from Affected System Operators or the Western Electricity Coordinating Council may arrive at any time prior to interconnection, and a revision of the Interconnection Facilities Study or re-study may be required in such event.

8.0 Substantial portions of technical data and assumptions used to perform the Interconnection Facilities Study, such as system conditions, existing and planned generation, and unit modeling, may change after the ISO provides the Interconnection Facilities Study results to the Interconnection Customer. Study results will reflect available data at the time the ISO provides the Interconnection Facilities Study to the Interconnection Customer. The ISO shall not be responsible for any additional costs, including, without limitation, costs of new or additional facilities, system upgrades, or schedule changes, that may be incurred by the Interconnection Customer as a result of changes in such data and assumptions.

9.0 In the event that a re-study or amendment of the Interconnection Facilities Study is required, the ISO shall provide notification of the need for such re-study or amendment, and the Interconnection Customer shall provide direction as to whether to proceed with the re-study or amendment and any associated deposit payment pursuant to Section 8.5 or Section 12.2.4 of the LGIP, as applicable.

10.0 The ISO shall maintain records and accounts of all costs incurred in performing the Interconnection Facilities Study, inclusive of any re-studies or amendments thereto, in sufficient detail to allow verification of all costs incurred, including associated overhead. The Interconnection Customer shall have the right, upon reasonable notice, within a reasonable time at the ISO offices and at its own expense, to audit the ISO's records as necessary and as appropriate in order to verify costs incurred by the ISO. Any audit requested by the Interconnection Customer shall be completed, and written notice of any audit dispute provided to the ISO within one hundred eighty (180) Calendar Days following receipt by the

Interconnection Customer of the ISO's notification of the final costs of the Interconnection Facilities Study, inclusive of any re-study or amendment thereto.

11.0 In accordance with Section 3.8 of the LGIP, the Interconnection Customer may withdraw its Interconnection Request at any time by written notice to the ISO. Upon receipt of such notice, this Agreement shall terminate.

12.0 Pursuant to Section 8.1 of the LGIP, this Agreement shall become effective upon the date the fully executed Agreement and deposit specified in Section 6 of this Agreement are received by the ISO. If the ISO does not receive the fully executed Agreement and payment pursuant to Section 8.1 of the LGIP, then the Interconnection Request will be deemed withdrawn upon the Interconnection Customer's receipt of written notice by the ISO pursuant to Section 3.8 of the LGIP.

13.0 Miscellaneous.

13.1 Dispute Resolution. Any dispute, or assertion of a claim, arising out of or in connection with this Interconnection Facilities Study Agreement, shall be resolved in accordance with Section 13.5 of the LGIP.

13.2 Confidentiality. Confidential Information shall be treated in accordance with Section 13.1 of the LGIP.

13.3 Binding Effect. This Interconnection Facilities Study Agreement and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

13.4 Conflicts. In the event of a conflict between the body of this Interconnection Facilities Study Agreement and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this Interconnection Facilities Study Agreement shall prevail and be deemed the final intent of the Parties.

13.5 Rules of Interpretation. This Interconnection Facilities Study Agreement, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this Interconnection Facilities Study Agreement, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this Interconnection Facilities Study Agreement), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time

in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any applicable laws and regulations means such applicable laws and regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article or Section of this Interconnection Facilities Study Agreement or such Appendix to this Interconnection Facilities Study Agreement, or such Section to the LGIP or such Appendix to the LGIP, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this Interconnection Facilities Study Agreement as a whole and not to any particular Article, Section, or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including".

13.6 Entire Agreement. This Interconnection Facilities Study Agreement, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Interconnection Facilities Study Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this Interconnection Facilities Study Agreement.

13.7 No Third Party Beneficiaries. This Interconnection Facilities Study Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

13.8 Waiver. The failure of a Party to this Interconnection Facilities Study Agreement to insist, on any occasion, upon strict performance of any provision of this Interconnection Facilities Study Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by either Party of its rights with respect to this Interconnection Facilities Study Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Interconnection Facilities Study

Agreement. Termination or default of this Interconnection Facilities Study Agreement for any reason by the Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Participating TO or ISO. Any waiver of this Interconnection Facilities Study Agreement shall, if requested, be provided in writing.

Any waivers at any time by any Party of its rights with respect to any default under this Interconnection Facilities Study Agreement, or with respect to any other matter arising in connection with this Interconnection Facilities Study Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or other matter arising in connection with this Interconnection Facilities Study Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Interconnection Facilities Study Agreement shall not constitute or be deemed a waiver of such right.

13.9 Headings. The descriptive headings of the various Articles and Sections of this Interconnection Facilities Study Agreement have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this Interconnection Facilities Study Agreement.

13.10 Multiple Counterparts. This Interconnection Facilities Study Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

13.11 Amendment. The Parties may by mutual agreement amend this Interconnection Facilities Study Agreement by a written instrument duly executed by both of the Parties.

13.12 Modification by the Parties. The Parties may by mutual agreement amend the Appendices to this Interconnection Facilities Study Agreement by a written instrument duly executed by both of the Parties. Such amendment shall become effective and a part of this Interconnection Facilities Study Agreement upon satisfaction of all applicable laws and regulations.

13.13 Reservation of Rights. The ISO shall have the right to make a unilateral filing with FERC to modify this Interconnection Facilities Study Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Interconnection Facilities Study Agreement pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder;

provided that each Party shall have the right to protest any such filing by another Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Interconnection Facilities Study Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

13.14 No Partnership. This Interconnection Facilities Study Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, another Party.

13.15 Assignment. This Interconnection Facilities Study Agreement may be assigned by a Party only with the written consent of the other Party; provided that a Party may assign this Interconnection Facilities Study Agreement without the consent of the other Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Interconnection Facilities Study Agreement; and provided further that the Interconnection Customer shall have the right to assign this Interconnection Facilities Study Agreement, without the consent of the other Party, for collateral security purposes to aid in providing financing for the Large Generating Unit, provided that the Interconnection Customer will require any secured party, trustee or mortgagee to notify the other Party of any such assignment. Any financing arrangement entered into by the Interconnection Customer pursuant to this Article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify the other Party of the date and particulars of any such exercise of assignment right(s). Any attempted assignment that violates this Article is void and ineffective. Any assignment under this Interconnection Facilities Study Agreement shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

California Independent System Operator Corporation

By: _____

Title: CFO

Date: 2/1/2008

City of Palmdale

By: _____

Title: City Manager

Date: 3-24-08

Attachment A

Interconnection Facilities Study Agreement

INTERCONNECTION CUSTOMER SCHEDULE ELECTION FOR CONDUCTING THE INTERCONNECTION FACILITIES STUDY

The ISO shall use Reasonable Efforts to complete the study and issue a draft Interconnection Facilities Study report to the Interconnection Customer. Prior to issuing draft study results to the Interconnection Customer, the Participating TO and ISO shall share results for review and incorporate comments within the following number of days after of receipt of an executed copy of this Interconnection Facilities Study Agreement:

☒ one hundred twenty (120) Calendar Days with no more than a +/- 20 percent cost estimate contained in the report, or

☐ two hundred ten (210) Calendar Days with no more than a +/- 10 percent cost estimate contained in the report.

Attachment B

Interconnection Facilities Study Agreement

DATA FORM TO BE PROVIDED BY THE INTERCONNECTION CUSTOMER WITH THE INTERCONNECTION FACILITIES STUDY AGREEMENT

Provide two copies of this completed form and other required plans and diagrams in accordance with Section 8.1 of the LGIP.

Provide location plan and one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc. Attached

note: Attached oneline diagram has revised T-Line route mileage

One set of metering is required for each generation connection to the new bus or existing ISO Controlled Grid station. Number of generation connections: 1

On the one line indicate the generation capacity attached at each metering location. (Maximum load on CT/PT) Completed on oneline diagram

On the one line indicate the location of auxiliary power. (Minimum load on CT/PT)

Completed on oneline diagram

Will an alternate source of auxiliary power be available during CT/PT maintenance?
_____Yes __X__No

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? _____Yes __X__No
(Please indicate on one line).

What type of control system or PLC will be located at the Interconnection Customer's Large Generating Facility?

G.E. Mark VIe DCS (Distributed Control System)

What protocol does the control system or PLC use?

MODBUS protocol

Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.

Attached

Physical dimensions of the proposed interconnection station:

Vincent Facility 1590' x 1050'

Bus length from generation to interconnection station:

GSU 1 to SY (CTG1)= 225' GSU 3 to SY (STG)= 300'
GSU 2 to SY (CTG2)= 225'

Line length from interconnection station to the Participating TO's transmission line.

Approx. 34 miles, subject to Final Design

Tower number observed in the field. (Painted on tower leg)*

NA

Number of third party easements required for transmission lines*: See Attached

* To be completed in coordination with the Participating TO or ISO.

Is the Large Generating Facility in the Participating TO's service area?

__X__ Yes _____ No

Local service provider for auxiliary and other power: SCE

Please provide proposed schedule dates:

Begin Construction	Date:	Sept. 15th 2009
Generator step-up transformer receives back feed power	Date:	August 2011
Generation Testing	Date:	Dec. 2011
Commercial Operation	Date:	March 2012

Level of Deliverability: Choose one of the following:

_____ Deliverability with no Network Upgrades

__X__ 100% Deliverability

Attachment C

Interconnection Facilities Study Agreement

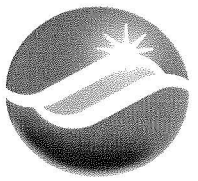
INTERCONNECTION FACILITIES STUDY PLAN

Facilities Study

Study Plan

City of Palmdale

Palmdale Power Plant Project



California ISO

Your Link to Power

February 1, 2008

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CHAPTER 1 - PROJECT SUMMARY

The City of Palmdale (Palmdale) applied for interconnection of the Palmdale Power Plant Project ("Project") a new 570 MW (net) combined-cycle generation facility consisting of two combustion gas turbines feeding a single steam turbine generator and an integrated solar thermal system used for duct firing. The Project will be interconnected to the California Independent System Operator ("CAISO") Controlled Grid at Southern California Edison Company's ("SCE") Vincent Substation 230 kV bus via a customer owned 230 kV generation tie line.

CHAPTER 2 - SUMMARY OF FACILITIES STUDY SCOPE

The Interconnection Facilities Study ("Facilities Study") shall include the following scope of work, as further detailed in Chapter 10: (i) the identification of the PTO's Interconnection Facilities, Distribution Upgrades and Network Upgrades necessary to accommodate the Project, (ii) the estimated cost of such required facilities and upgrades, and (iii) the estimated time to complete the required facilities and upgrades.

CHAPTER 3 - FACILITIES STUDY SCHEDULE AND ESTIMATED COST

Ref #	Milestones	Target Date
1.	CAISO tenders assigned Facilities Study Agreement to the IC.	February 1, 2008
2.	The IC returns the signed Facilities Study Agreement, (including completion of IFSA Attachments A & B) data and a study deposit of $100,000 to CAISO.	+30 CD from receipt
3.	CAISO issues Interconnection Facilities Study Draft Report [assuming 120 CD schedule & +/- 20 % cost estimate] to IC for comments.	+120 CD
4.	Facilities Study Results meeting.	+10 BD
5.	CAISO receives written comments to draft report or written notice of no comments from the IC.	+30 CD from issues of draft IFSA
6.	CAISO issues Final Facilities Study Report to IC	+ 15 BD

The schedule provided above assumes a +/- 20 percent cost estimate. The estimated cost to perform the Facilities Study is $120,000.

Material modifications to the Project, as permitted under Section 4.4.2 of the Large Generator Interconnection Procedures ("LGIP"), are due prior to the return of the executed Facilities Study Agreement.

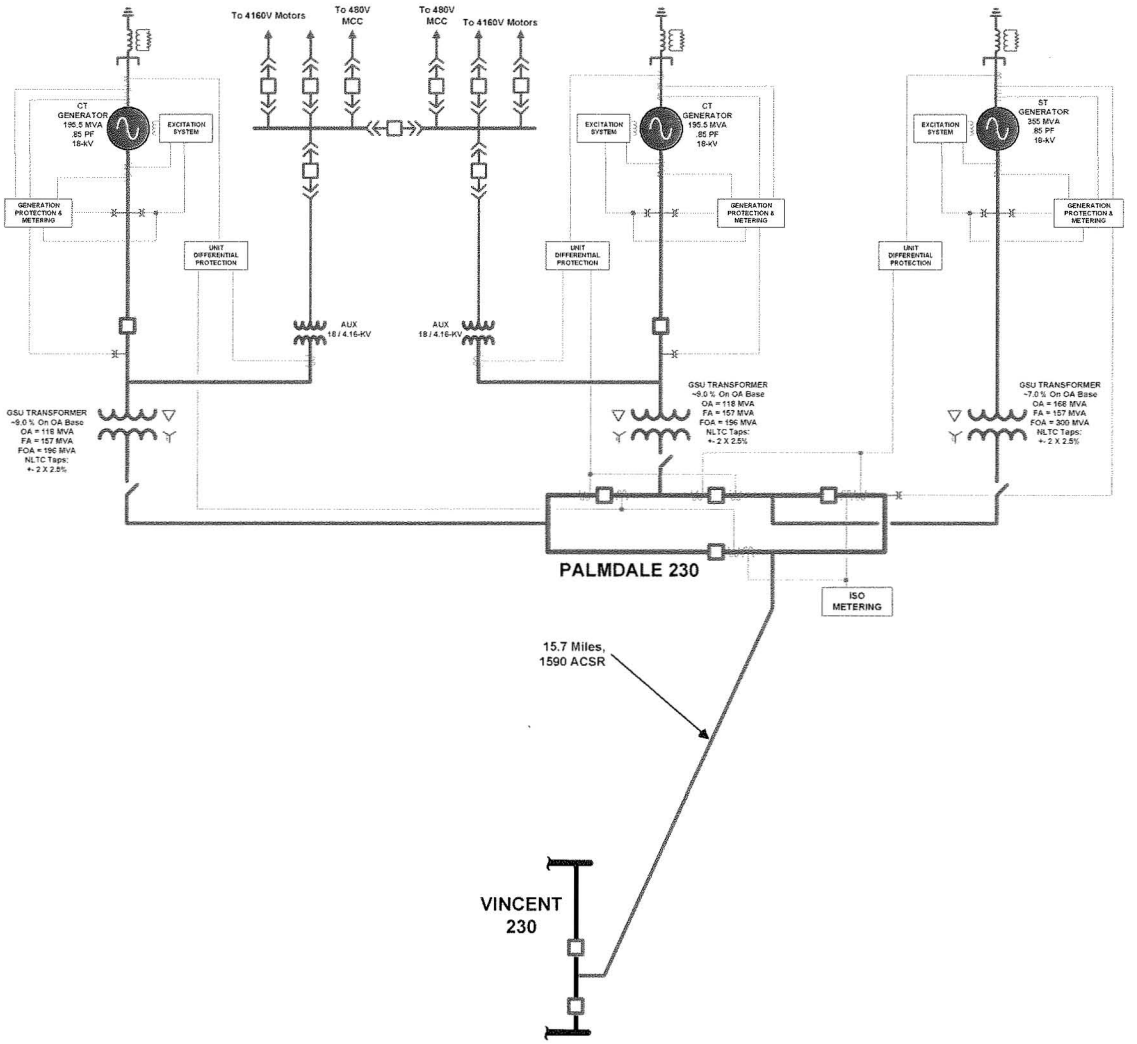
CHAPTER 4 - COST ESTIMATES SUMMARY

The estimated costs for the PTO's Interconnection Facilities will include the costs associated with Interconnection at Vincent Substation, which do not include Distribution Upgrades or Network Upgrades, to accommodate the Project. Such facilities include those required to terminate the 230 kV generation tie-line at Vincent Substation and any protection equipment, communication equipment, controls and other facilities associated with such termination.

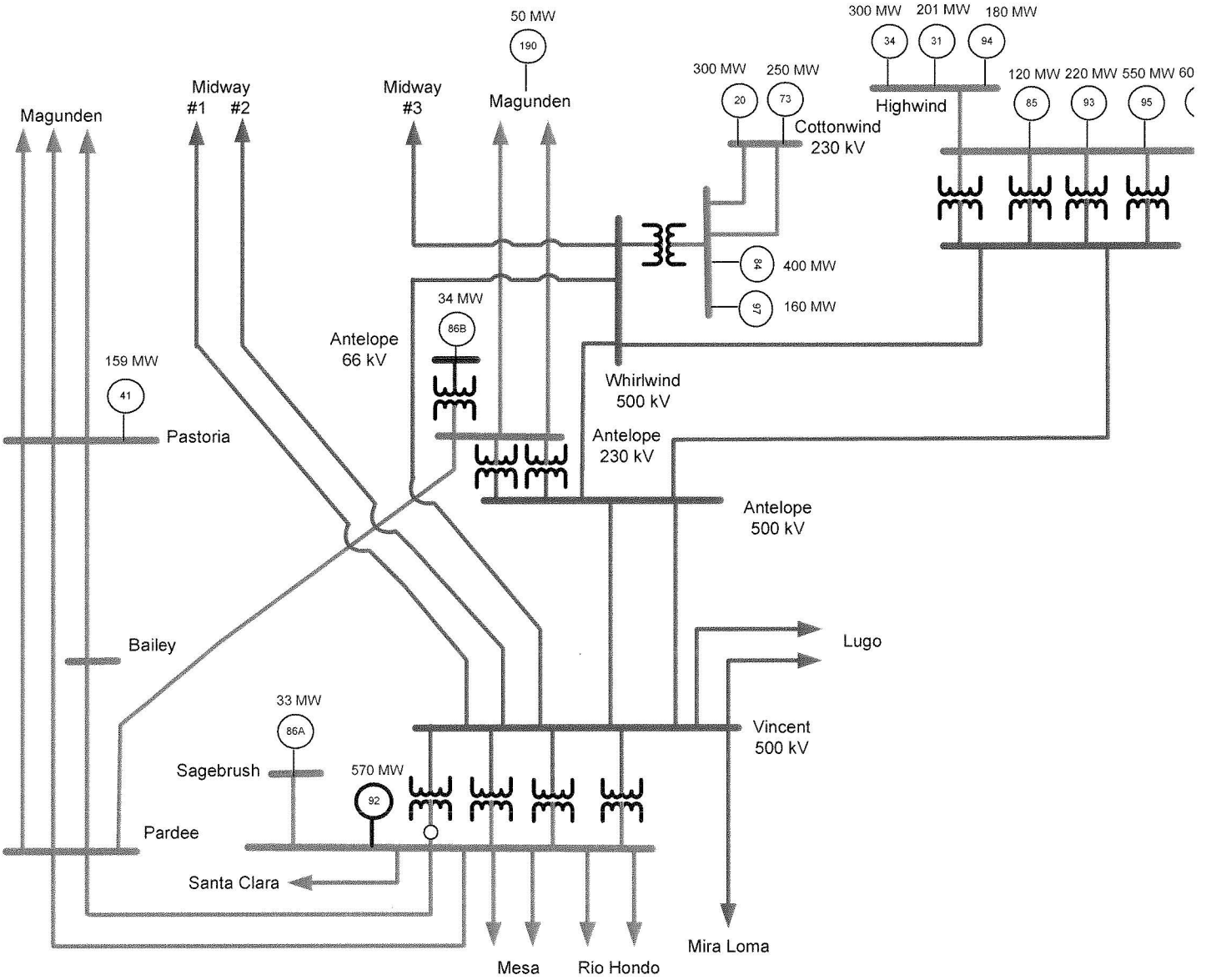
The estimated costs for Network Upgrades will include the facilities and upgrades required at or beyond the Point of Interconnection, including substation facilities at Vincent Substation; transmission facilities, protection equipment, communication equipment, and controls at Vincent Substation; and facilities required beyond Vincent Substation, such as at other substations and on other transmission lines in the CAISO Controlled Grid to accommodate the interconnection of the Project.

The estimated costs for Distribution Upgrades will include the facilities and upgrades, including substations and sub-transmission and distribution lines, required on SCE's Distribution System to accommodate the interconnection of the Project.

CHAPTER 5 - ONE-LINE OF PROJECT



CHAPTER 6 - TEHACHAPI WIND RESOURCE AREA SYSTEM DIAGRAM WITH PROJECT



SOUTHERN CALIFORNIA EDISON PROTECTED MATERIALS, CONFIDENTIAL: Contains Critical Energy Infrastructure Information (CEII)

CHAPTER 7 - FACILITIES STUDY ASSUMPTIONS

The Facilities Study will be based on the results of the SIS and upon the following assumptions:

1) A Palmdale requested In-Service date, Trial Operation date, and Commercial Operation date as transmitted with the Facilities Study Agreement; however, such assumptions shall be subject to change after study results, permitting requirements, design, land issues and material lead times are known, so that a more accurate determination can be made.

2) The technical data supplied by Palmdale for the Project are accurate and complete.

3) The maximum interconnection capacity requested by Palmdale is 570 MW.

4) Palmdale will install, own, operate and maintain all CAISO metering equipment. The CAISO metering equipment will be located on Palmdale' side of the Point of Interconnection.

5) Palmdale shall design the Project to provide up to 0.95 boost power factor as metered at the Point of Interconnection (i.e., the Vincent Substation 230 kV bus).

6) The Facilities Study results will reflect the CAISO Tariff, rules and protocols and SCE's Interconnection Handbook in effect at the time SCE provides the Facilities Study results to Palmdale.

CHAPTER 8 - SUMMARY OF THE SIS RESULTS & MITIGATION PLAN

The results and mitigation plan identified in the SIS are as follows:

1) Interconnection of the Project into Vincent Substation:

The Project will require a position at the Vincent Substation to connect its 230 kV generation tie-line.

2) Power Flow Study

With both the Antelope Transmission Project (ATP) and Tehachapi Renewable Transmission Project (TRTP) in service, the Palmdale Project can be integrated in the system. However, additional project specific facilities will be required to satisfy the requested Palmdale Project interconnection plan of service. These upgrades are not part of the Antelope Transmission Project (ATP) or Tehachapi Renewable Transmission Project (TRTP).

3) Post-Transient Voltage Stability

The Queue Cluster Window Interconnection System Impact Study determined that under specific outage conditions, a Special Protection System to automatically trip generation resources may be needed. The amount of generation tripping for post-transient voltage conditions was determined to be highly dependant on the amount of power factor correction installed at each of the wind generation projects. With all TWRA Queue Cluster wind generation providing for up to 0.95 power factor correction as metered at the point of interconnect, such need is mitigated. In any event, since the Palmdale Project is capable of providing dynamic reactive support, the project would not participate in any need for possible SPS participation to mitigate post-transient voltage problems.

4) Transient Stability

With both the Antelope Transmission Project and Tehachapi Renewable Transmission Project in service, the Palmdale Project did not result in any transient stability problems with the dynamic models utilized in this study.

5) Short-Circuit Duty

The short-circuit duty study identified four 500 kV and thirty-nine 230 kV substation locations under the three-phase-to-ground short-circuit duty that require specific breaker evaluation for replacement. Under the single-phase-to-ground short-circuit duty, the study identified three
500 kV substation and twenty-seven 230 kV substation locations that require specific breaker evaluation for replacement.

Table 1
Three-Phase-to-Ground (3PH) Short-Circuit Duty Study Results

Bus Name	Bus KV	PRE CASE		POST CASE		DELTA KA
		X/R	KA	X/R	KA	
LUGO	500	22.0	48.7	22.2	49.1	0.4
MIRA LOMA	500	23.7	38.8	23.8	39.0	0.2
SERRRANO	500	24.3	32.8	24.4	32.9	0.1
VINCENT	500	17.5	39.2	18.1	41.5	2.3
ALAMITOS(E)	230	17.0	30.6	17.0	30.7	0.1
ALAMITOS(W)	230	24.0	35.2	23.9	35.3	0.1
ANTELOPE	230	21.7	36.6	22.1	36.9	0.3
BARRE	230	19.0	50.4	18.9	50.5	0.1
CENTER	230	16.2	41.4	16.2	41.9	0.5
CHINO	230	16.8	50.2	16.8	50.3	0.1
DELAMO	230	16.4	44.2	16.3	44.6	0.4
EL NIDO	230	21.3	42.3	21.1	42.5	0.2
EL SEGUNDO	230	22.4	37.9	22.3	38.0	0.1
ETIWANDA	230	25.8	60.3	25.9	60.4	0.1
GOULD	230	15.5	15.6	12.9	23.1	7.5

HARBOR	230	15.0	33.6	15.0	33.8	0.2
HINSON	230	23.3	51.1	23.1	51.4	0.3
HUNTINGTON	230	14.8	30.2	14.8	30.3	0.1
LA FRESA	230	27.3	49.0	27.1	49.3	0.3
LAGUNA BELL	230	19.2	40.0	18.7	41.2	1.2
LONG BEACH	230	14.4	31.3	14.3	31.5	0.2
LEWIS	230	21.4	45.3	21.4	45.4	0.1
LIGHTHIPE	230	17.6	46.8	17.6	47.4	0.6
LUGO	230	30.3	49.7	30.5	49.8	0.1
MESA	230	16.4	47.6	17.0	51.7	4.1
MIRA LOMA (E)	230	23.0	64.9	23.0	65.0	0.1
MIRA LOMA (W)	230	20.1	52.6	20.1	52.7	0.1
MOORPARK	230	22.0	35.1	21.8	35.4	0.3
OLINDA	230	15.0	30.1	14.9	30.3	0.2
ORMOND BEACH	230	35.5	32.0	35.2	32.1	0.1
PARDEE	230	16.6	54.8	16.1	57.0	2.2
PASTORIA	230	14.6	33.4	14.5	33.5	0.1
PISGAH	230	20.7	27.1	20.7	27.2	0.1
REDONDO	230	26.9	47.4	26.8	47.7	0.3
RIO HONDO	230	16.0	31.8	16.0	32.2	0.4
SANTA CLARA	230	15.4	22.4	15.4	22.5	0.1
SERRANO	230	25.6	54.7	25.6	54.8	0.1
SYLMAR	230	19.2	58.3	19.0	59.3	1.0
VICTOR	230	16.9	29.8	16.9	29.9	0.1
VILLA PARK	230	22.6	47.5	22.5	47.6	0.1
VINCENT	230	25.4	48.5	23.0	59.0	10.5
VISTA	230	18.8	49.7	18.8	49.8	0.1
WALNUT	230	16.8	35.0	16.8	35.5	0.5

Table 2
Single-Phase-to-Ground (1PH) Short-Circuit Duty Study Results

Bus Name	Bus KV	PRE CASE		POST CASE		DELTA KA
		X/R	KA	X/R	KA	
LUGO	500	13.0	40.3	13.0	40.5	0.2
MIRA LOMA	500	10.8	35.5	10.8	35.6	0.1
VINCENT	500	14.2	30.3	14.6	31.8	1.5
ALAMITOS(E)	230	12.7	31.7	12.7	31.8	0.1
ALAMITOS(W)	230	14.0	30.0	13.9	30.1	0.1
ANTELOPE	230	24.7	39.6	25.0	39.9	0.3
ARCOGEN	230	17.1	37.0	17.1	37.2	0.2
CENTER	230	14.7	33.5	14.7	33.8	0.3
CHINO	230	12.5	40.2	12.5	40.3	0.1
DELAMO	230	9.5	38.9	9.5	39.1	0.2
EL NIDO	230	18.1	40.0	18.0	40.1	0.1
EL SEGUNDO	230	21.5	36.4	21.5	36.5	0.1
ETIWANDA	230	16.7	60.2	16.7	60.3	0.1
HINSON	230	22.1	49.0	22.0	49.2	0.2
LA FRESA	230	20.9	45.1	20.9	45.3	0.2
LAGUNA BELL	230	14.5	38.6	14.0	39.4	0.8
LIGHTHIPE	230	11.3	42.1	11.2	42.5	0.4
LUGO	230	25.2	51.4	25.3	51.5	0.1
MESA	230	11.0	39.4	10.7	42.1	2.7
MIRA LOMA (E)	230	11.6	63.4	11.6	63.5	0.1

MOORPARK	230	23.4	27.1	23.2	27.2	0.1
PARDEE	230	14.0	39.8	13.6	40.9	1.1
PASTORIA	230	14.8	35.0	14.7	35.1	0.1
REDONDO	230	31.5	42.0	31.5	42.2	0.2
RIO HONDO	230	16.4	26.7	16.3	27.0	0.3
SANTA CLARA	230	14.6	20.0	14.6	20.1	0.1
SYLMAR	230	12.7	64.0	12.7	64.7	0.7
VILLA PARK	230	16.0	43.3	16.0	43.4	0.1
VINCENT	230	18.6	47.8	18.1	56.3	8.5
WALNUT	230	15.3	27.5	15.2	27.7	0.2

CHAPTER 9 - SUMMARY OF DELIVERABILITY STUDY RESULTS

CAISO performed the deliverability assessment for the Project, most recently, in its 2007Q3 Generation Deliverability Study. The Project was deemed fully deliverable with TRTP in service. For detailed assumptions and results of the deliverability assessment, please refer to http://www.caiso.com/1c44/1c44b5c31cce0.html.

CHAPTER 10 - DETAILED FACILITIES STUDY WORK SCOPE & COST ESTIMATES

With both the Antelope Transmission Project (ATP) and Tehachapi Renewable Transmission Project (TRTP) in service, the only additional upgrades excluding the circuit breaker upgrades or replacements to be identified as part of the Facilities Study are the facilities required to interconnect the Palmdale Project into the Vincent Substation. These upgrades include 230kV upgrades at the Vincent Substation. Cost estimates for the facilities required to expand the Vincent Substation are embedded within the total cost estimate for both the ATP and TRTP. This cost is currently estimated to be approximately $1.8 billion.

Based on the relative queue position and geographic location of the Palmdale Project, the portions of upgrades required to interconnect the Palmdale Project involve expansion of the Vincent 230 kV switchyard. Because the Palmdale Project is connecting to facilities that are required for the final segment of the TRTP project, the same system constraints that affect the timing of this segment also affects the Palmdale Project. System constraints south of Vincent will limit simultaneous deliveries from the entire TWRA Area to approximately 2200 MW until additional upgrades identified as part of the final segment of TRTP are constructed.

Cost estimates were developed based on the transmission facilities needed to support the full 2,519 MW in the Queue Cluster Window up to and including the Palmdale Project. These facilities involve the portions of the TRTP which allow for expansion of Vincent and which provide for additional south of Vincent capability. SCE has filed a CPCN application on June 29, 2007 seeking CPUC approvals for these facilities. Consequently, SCE anticipates upfront funding the costs associated with the portions of upgrades which support the Palmdale Project. Therefore, the cost estimates associated

with portions of Segment 9 and 11 as provided below in Table 3 are for informational purposes only and will only become the responsibility of the Palmdale Project if rate recovery assurances under P.U. Code 399.25 are challenged at court and the decision is reversed. Since SCE would have been pursuing development of Segment 6, 7, and 8 (Vincent-Mira Loma 500 kV T/L), irrespective of generation development in the TWRA, costs associated with these segments are not provided and would not be the responsibility of the Palmdale Project for up-front funding.

Table 3
Cost Estimates* Provided in Millions

	Triggering Generator		
Facility Upgrade			Palmdale Project
TRTP 9: Replace Vincent AA-Bank and Gould Substation Upgrades			$49.5
TRTP 11: New Vincent-Mesa No.2 500/230 kV T/L			$91.6
Possible Circuit-Breaker Replacements			Unknown
Totals:			$141.1***

Notes:

* These costs were extracted from the total cost developed for the Antelope Transmission Project and Tehachapi Renewable Transmission Project and are subject to change if assignment of up-front funding for specific elements is ultimately required (i.e. project estimates may include specific equipment that is not part of the cost estimates derived for ATP and TRTP). Under such conditions, a restudy of the System Impact Study is recommended to clearly identify exactly which facilities within each Segment is required on an individual project basis. In addition, these costs are also subject to change based on detailed engineering review, environmental mitigations, and ultimate routing and do not include the cost of new right-of-way, if required.

** Excluding any required circuit breaker upgrade/replacement costs and direct assign facility costs

*** Excluding any required circuit breaker upgrade/replacement costs, direct assign facility, and interconnection facility costs

CHAPTER 11 - ESTIMATED TIME TO CONTRUCT (CONSTRUCTION SCHEDULE)

The estimated time to construct the required Participating TO's Interconnection Facilities, Distribution Upgrades and Network Upgrades will be provided in the Facilities Study. Palmdale had originally requested a December 31, 2009 operating date with its Interconnection application. Based on the information provided by generator developers with projects in the Queue Cluster Window, a significant number of projects desire to be interconnected in advance of completing the construction of the required facility upgrades. Consequently, operating protocols and/or exceptions to established planning criteria will need to be developed if all projects are to be interconnected by the requested in-service date, assuming that the facilities required to interconnect the projects can be constructed in time. Furthermore, congestion management, subject to the approval of the CAISO would be required if more than 700 MW of new generation in the TWRA is interconnected with the completion of Segments 1 and 2 of the ATP and if more than 1,150 MW is interconnected with the completion of Segment 3 of the ATP. Palmdale is required to provide its revised

requested in-service date, Trial Operation date, and Commercial Operation date with its transmittal of the FSA.

The proposed Project interconnection date cannot be satisfied for this interconnection point because the interconnection point requires substation expansion at Vincent which is part of the Tehachapi Renewable Transmission Project and the current timeline for completing the construction of such expansion is late 2012. Consequently, it should be understood that the proposed commercial operating date for this project should be modified to reflect a 2012 in-service date consistent with the in-service date for the Vincent Substation Expansion which is part of Segment 9 of the Tehachapi Renewable Transmission Project.

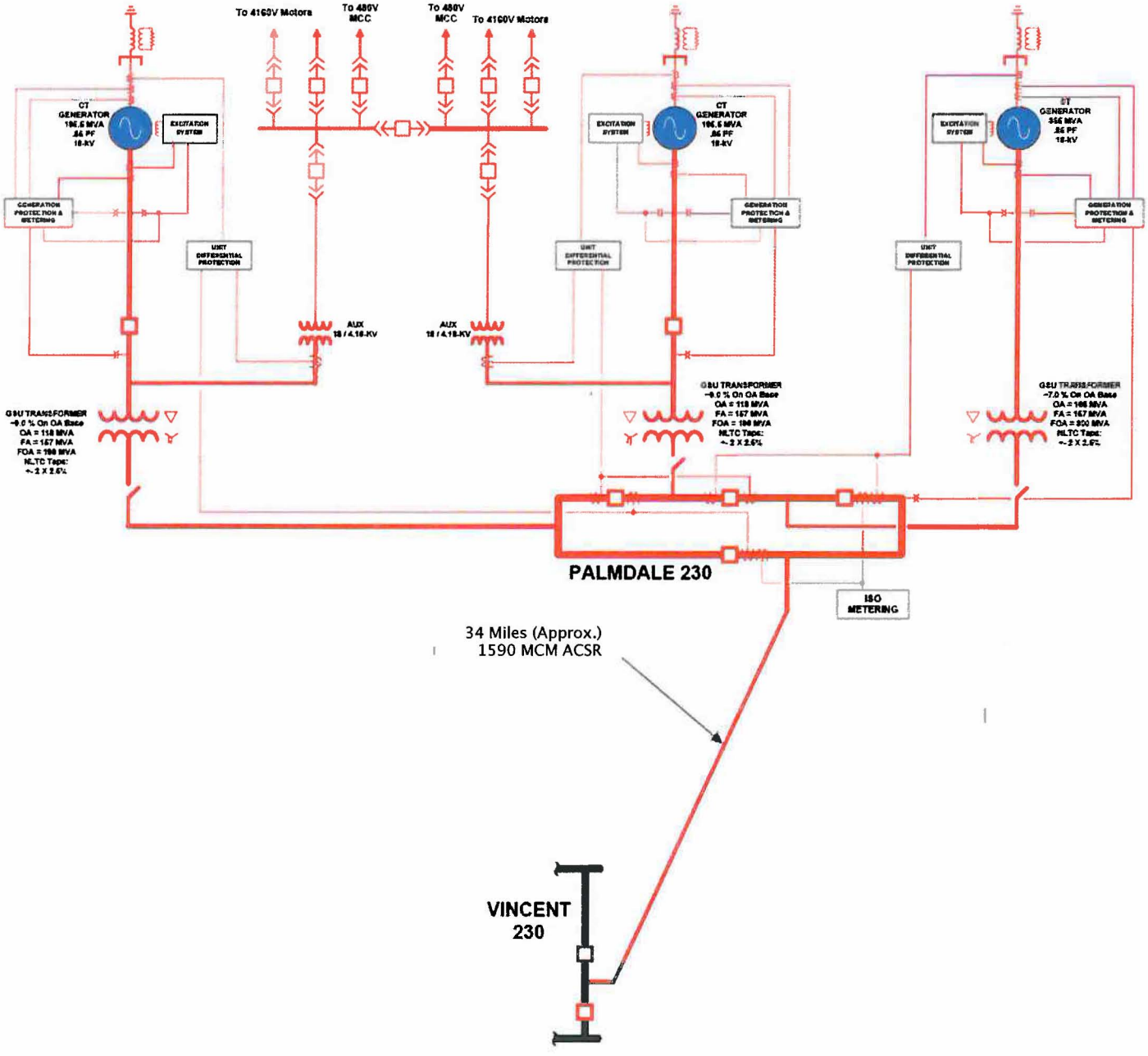
CHAPTER 12 - OPERATIONAL STUDY

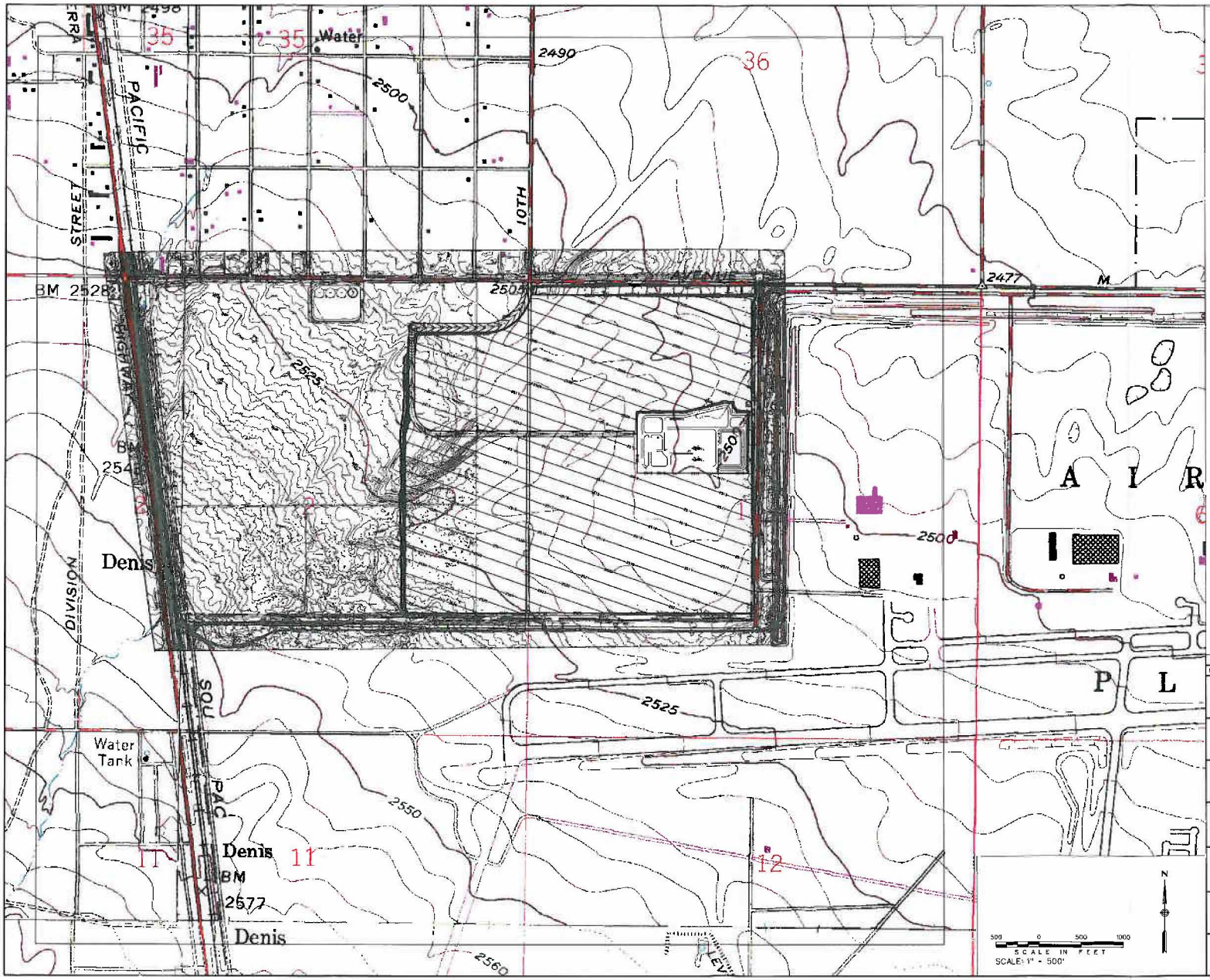
As identified in the SIS, a detailed operational evaluation ("Operational Study") will be required to determine the exact nature of potential system problems in order to identify the minimum mitigation measures required to allow interconnection of specific projects in a specific order. The Operational Study will address how much generation could be interconnected without deteriorating the system reliability before all the TRTP segments are in service. The methodology is currently under development and will be provided to the Tehachapi Holdings prior to the commencement of the study.

Before the Project's Operational Study can commence, the CAISO and SCE will need to obtain the current requested Commercial Operation Date from each project contained in the TWRA Queue Cluster and any revised technical data (as both are required to be provided with an executed Facilities Study Agreement under the LGIP). The estimated date to complete the Operational Study will be provided prior to the study's commencement.

CHAPTER 13 - REASONS THAT A RE-STUDY MAY BE NEEDED

Pursuant to Section 8.5 of the LGIP, a re-study of the Facilities Study may be needed due to a higher queued project dropping out of the queue or a modification of a higher queued project pursuant to LGIP Section 4.4, or any other effective change in information which necessitates a re-study.


To 4160V Motors
To 480V MCC
To 480V MCC
To 4160V Motors
GENERATOR
EXCITATION SYSTEM
GENERATION PROTECTION & METERING
UNIT DIFFERENTIAL PROTECTION
AUX
GSU TRANSFORMER
PALMDALE 230
ISO METERING
34 Miles (Approx.)
1590 MCM ACSR
VINCENT
230



- PRELIMINARY -
NOT FOR CONSTRUCTION

REV.	DESCRIPTION	DWN	CHK	APP	DATE
A	ISSUED FOR REVIEW	MTW	ROD	ROD	03-11-07

INLAND ENERGY

PALMDALE COMBINED CYCLE HYBRID POWER PROJECT

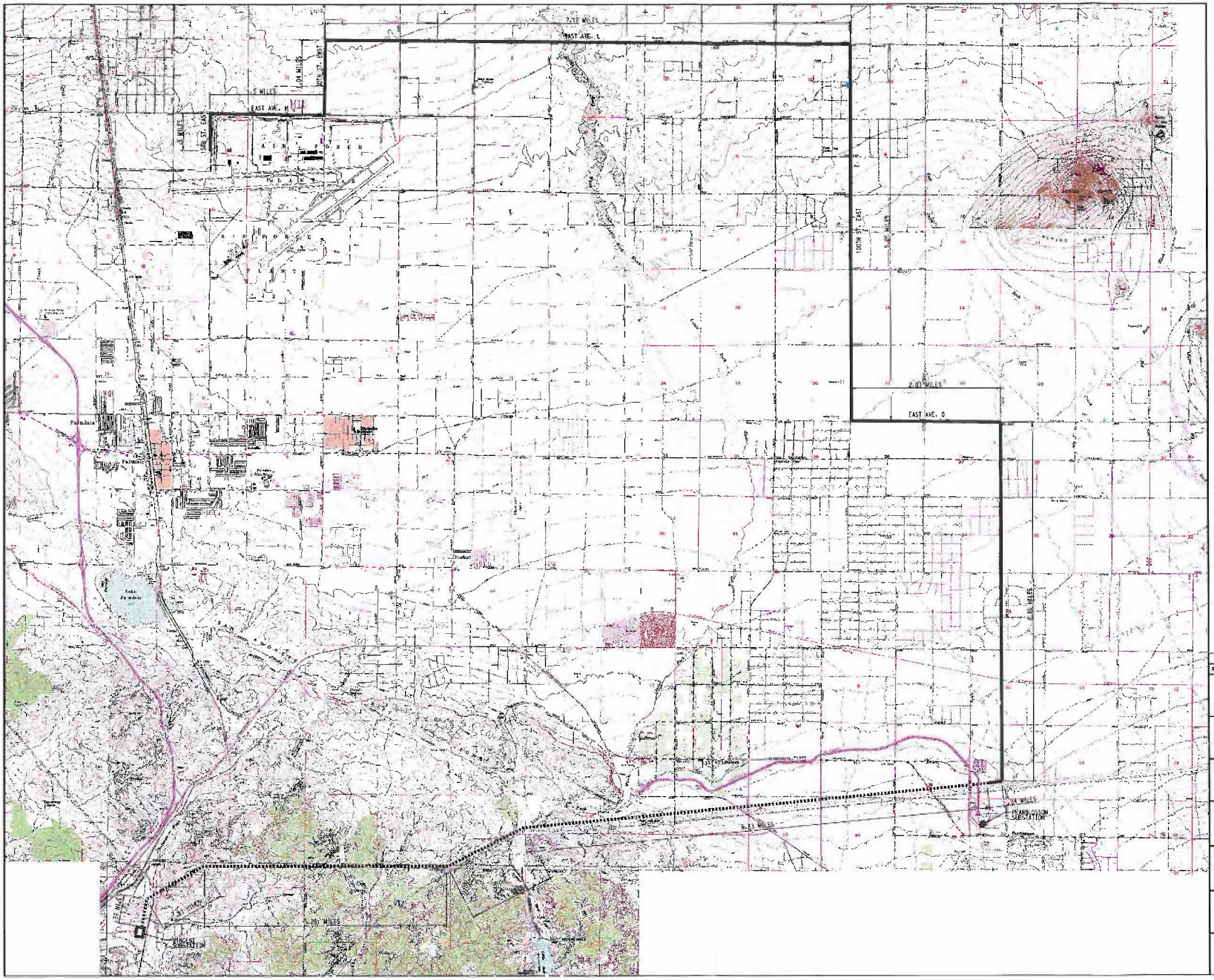
Kiewit

Kiewit Power
8405 Lenexa Drive
Lenexa, Kansas 66214

SITE PLAN

	by	date
DESIGNED	ROD	03-11-07
DRAWN	MTW	03-11-07
CHECKED		
APPROVED		

DRAWING NUMBER
2007-021-SP-001



NEW LINE, NEW TOWERS, NEW RIGHT OF WAY

NEW LINE, NEW TOWERS, EXISTING RIGHT OF WAY

– PRELIMINARY –
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DWN	CHK	APP	DATE
A	ISSUE FOR REVIEW	MTW	ROD	ROD	03-11-08

INLAND ENERGY

PALMDALE COMBINED CYCLE HYBRID POWER PROJECT

Kiewit

Kiewit Power
8450 Lenexa Drive
Lenexa, Kansas 66214

PLANT LOCATION ON U.S.G.S. 24K QUADMAP

	by	date
DESIGNED	ROD	03-11-08
DRAWN	MTW	03-11-08
CHECKED		
APPROVED		

DRAWING NUMBER

2007-021-QD-001

Proposed Route: Palmdale Project to Vincent - 2/10/2008

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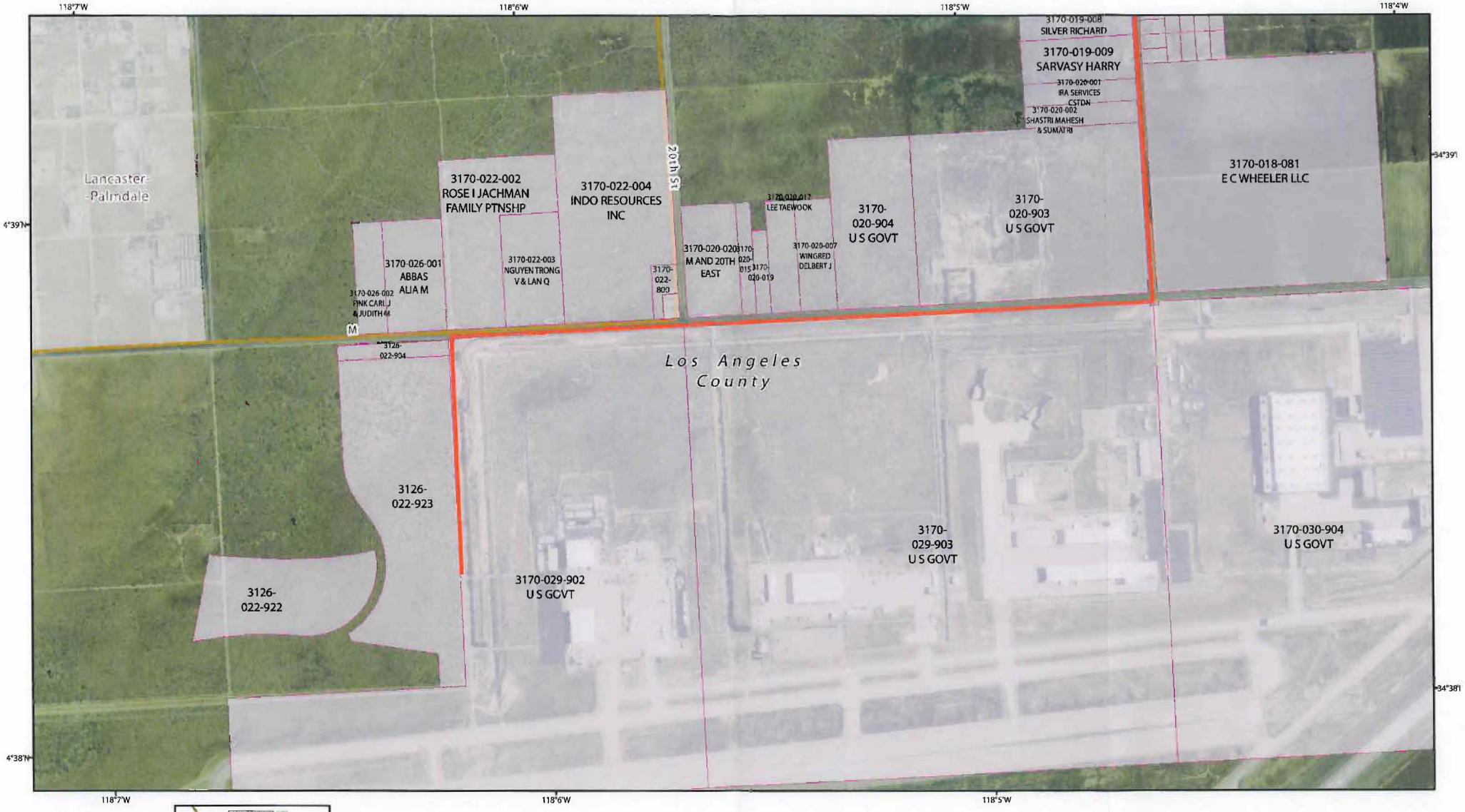

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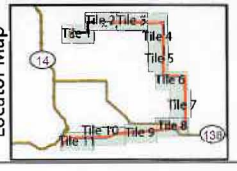


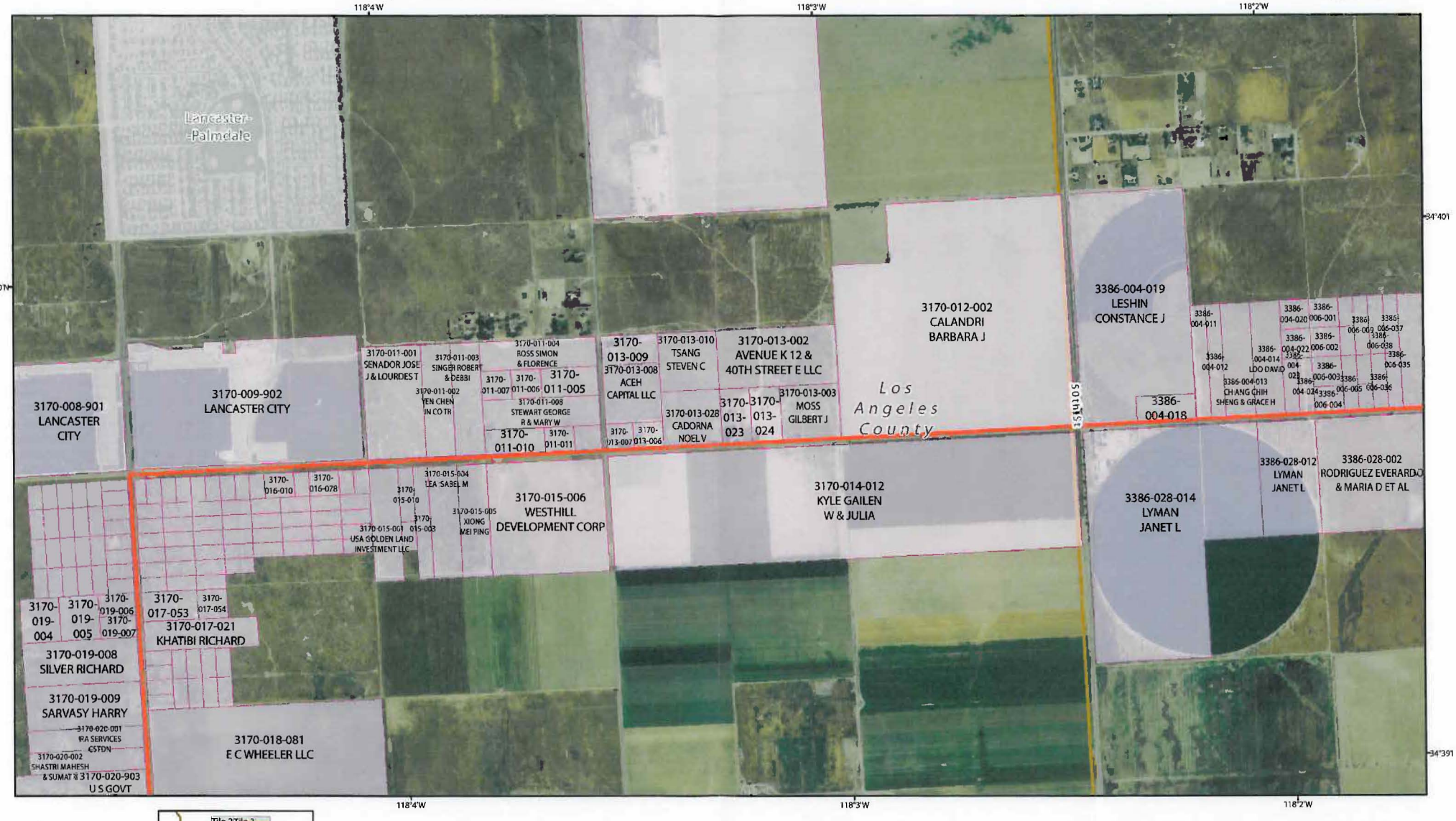
Air Photograpy - Summer 2005 1-Meter NAIP
Parcel Data - Los Angeles County and Parcelquest (February 2008)

Legend

- Palmdale Project - Vincent Proposed Route
- Los Angeles County Parcel Boundaries
- Rai roads
- Major Highway
- Highway
- Major Road
- Urban Areas
- County Boundaries

Proposed Route: Palmdale Project to Vincent - 2/10/2008

Tile: 2



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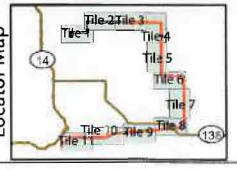


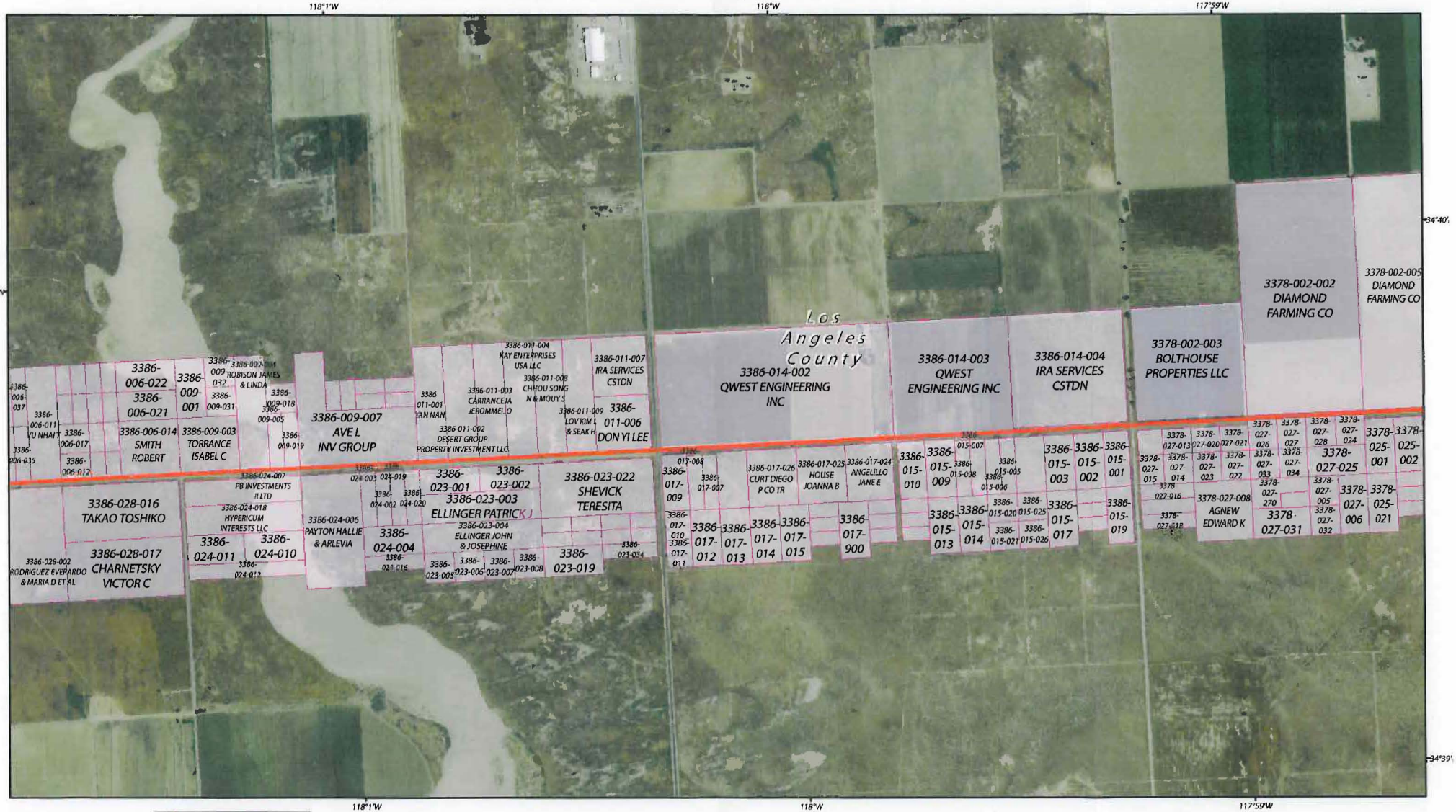
Air Photograpy - Summer 2005 1-Meter NAIP
Parcel Data - Los Angeles County and Parcelquest (February 2008)

Legend

- Palmdale Project - Vincent Proposed Route
- Los Angeles County Parcel Boundaries
- Railroads
- Major Highway
- Highway
- Major Road
- Urban Areas
- County Boundaries

Proposed Route: Palmdale Project to Vincent - 2/10/2008

Tile: 3



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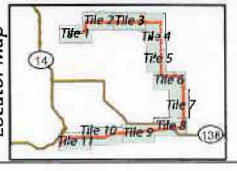
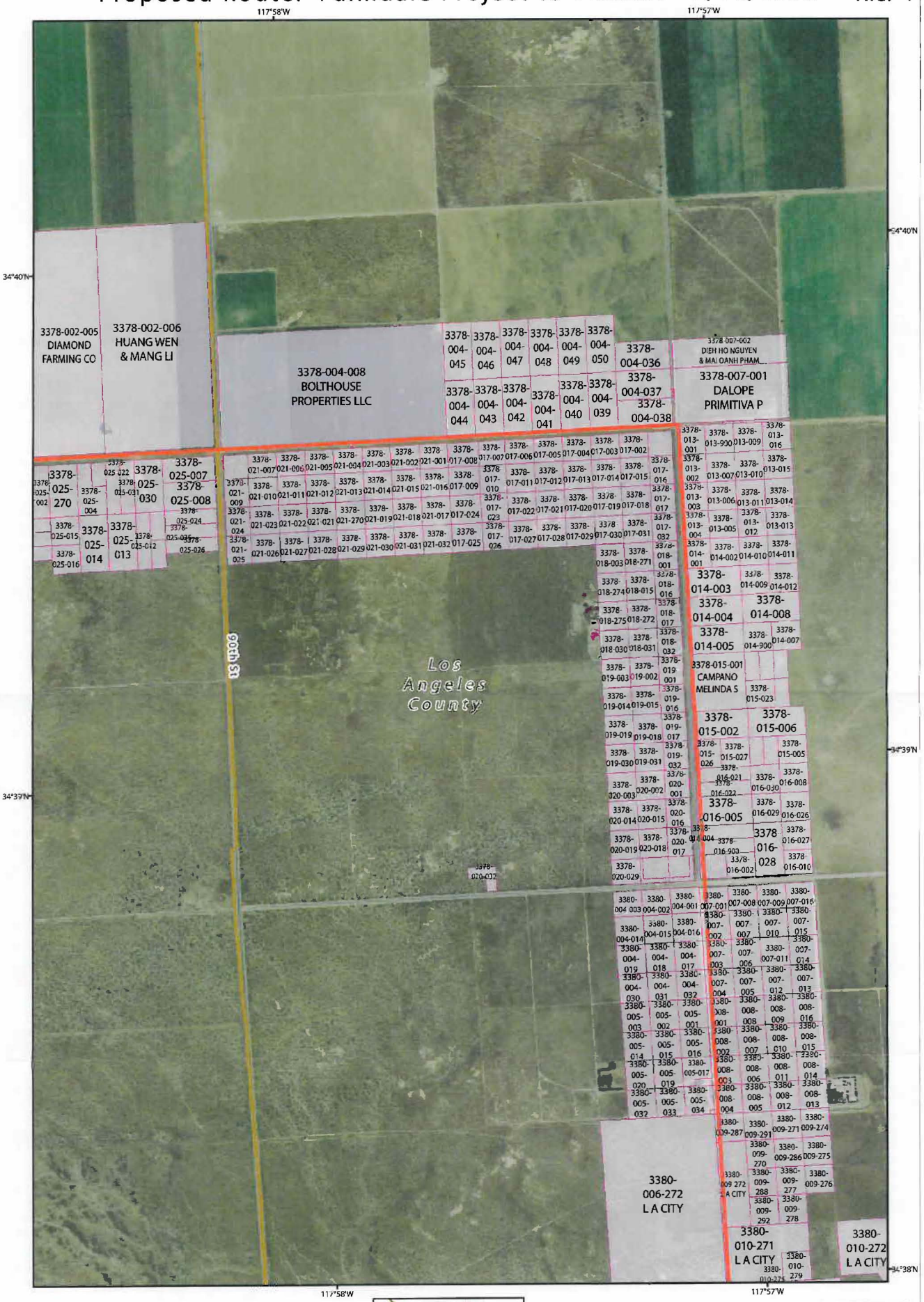


Air Photograpy - Summer 2005 1-Meter NAIP
Parcel Data - Los Angeles County and Parcelquest (February 2008)

Legend

- Palmdale Project - Vincent Proposed Route
- Los Angeles County Parcel Boundaries
- Railroads
- Major Highway
- Highway
- Major Road
- Urban Areas
- County Boundaries

Proposed Route: Palmdale Project to Vincent - 2/10/2008 Tile: 4



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Air Photograpy - Summer 2005 1-Meter NAIP
Parcel Data - L.A, County and Parcelquest (2/08)

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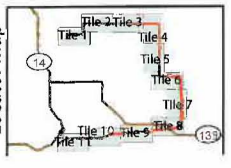
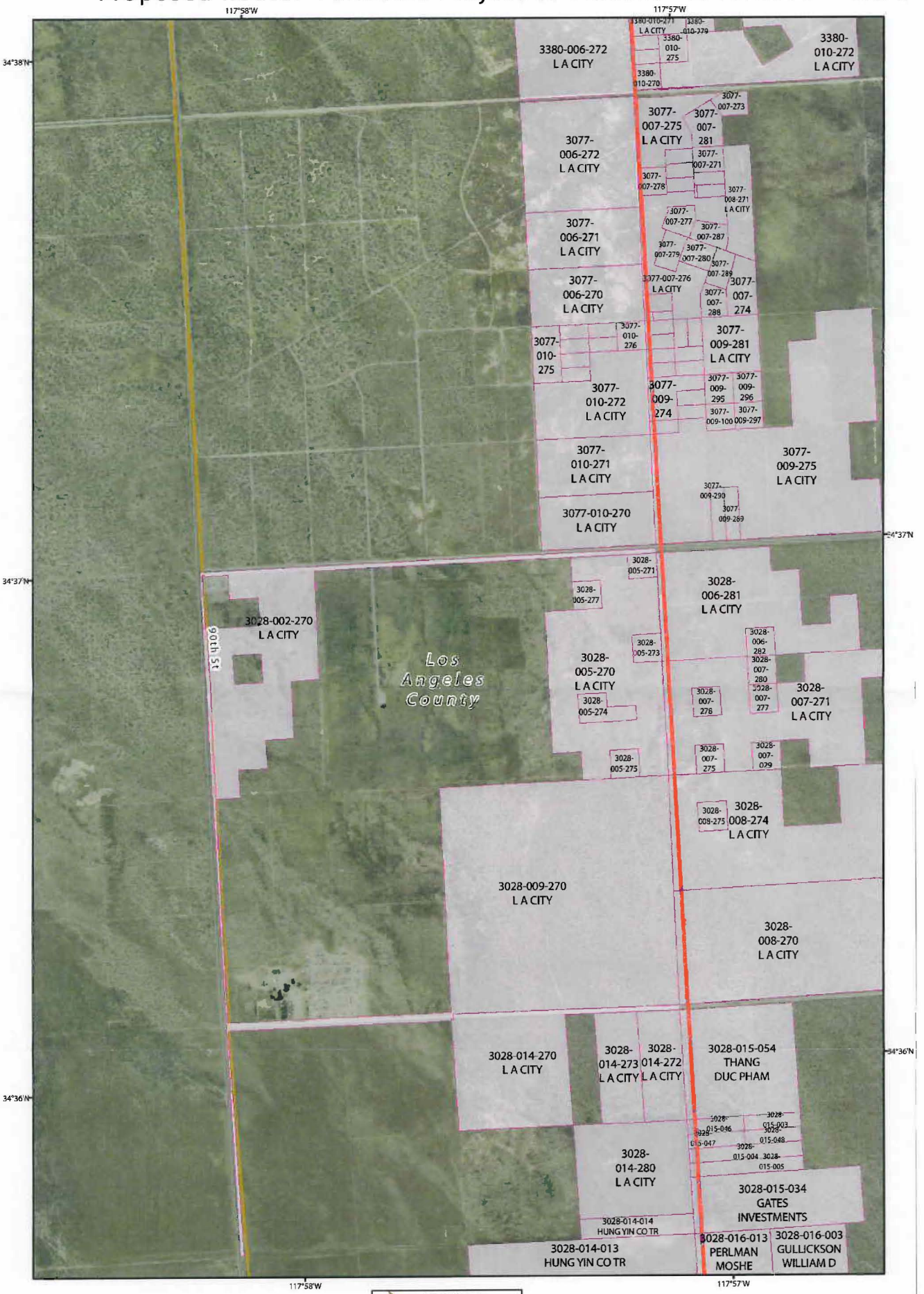


Legend

- Palmdale Project - Vincent Proposed Route
- Los Angeles County Parcel Boundaries
- Railroads
- Major Highway
- Highway
- Major Road
- Urban Areas
- County Boundaries

Proposed Route: Palmdale Project to Vincent - 2/10/2008 Tile: 5



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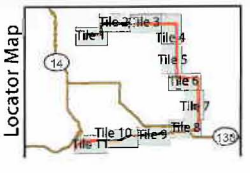
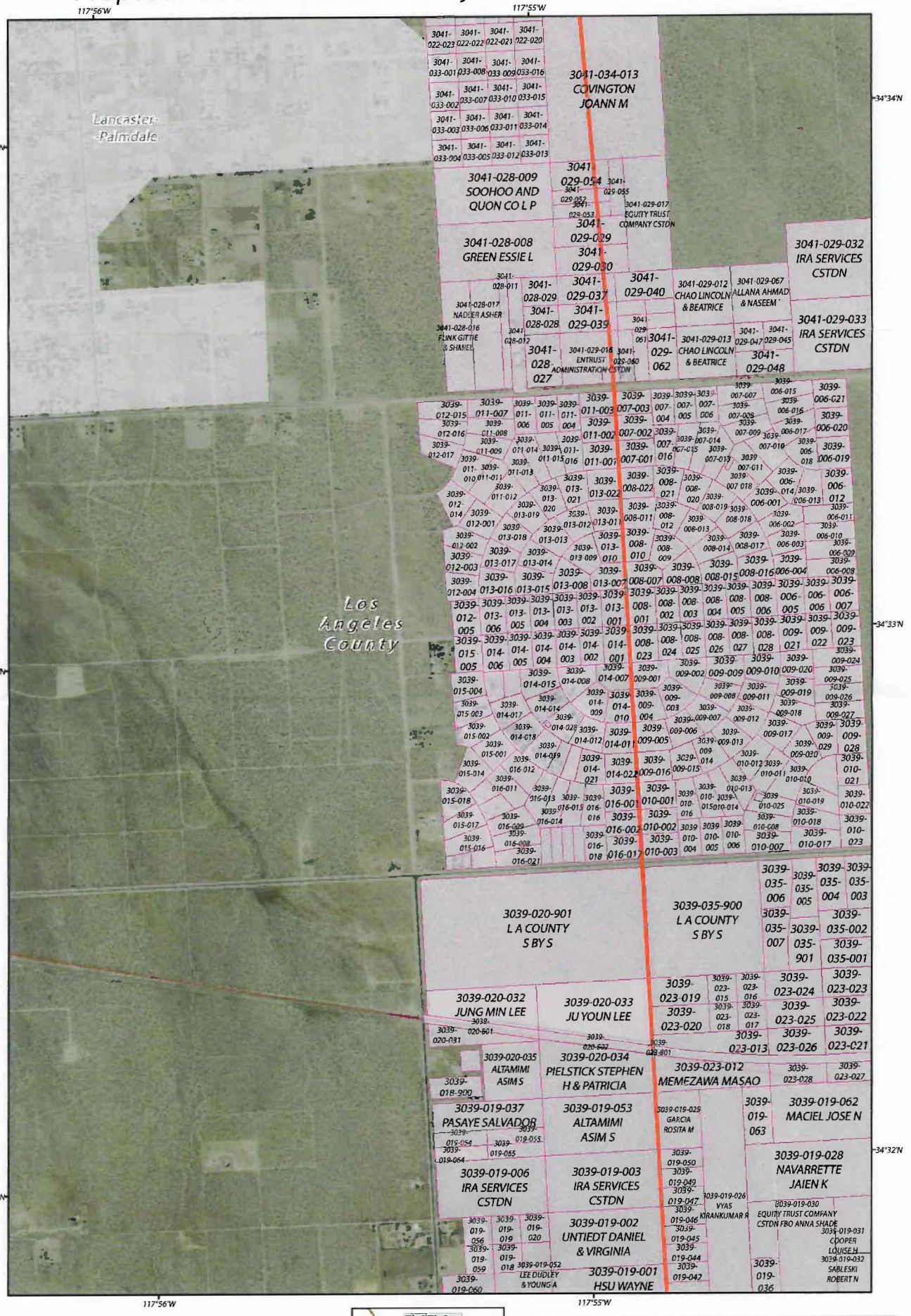


Legend

- Palmdale Project - Vincent Proposed Route
- Los Angeles County Parcel Boundaries
- Railroads
- Major Highway
- Highway
- Major Road
- Urban Areas
- County Boundaries

Proposed Route: Palmdale Project to Vincent - 2/10/2008 Tile: 7



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Parcel Data - L.A, County and Parcelquest (2/08)

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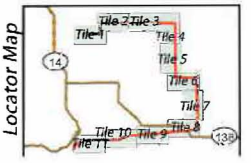
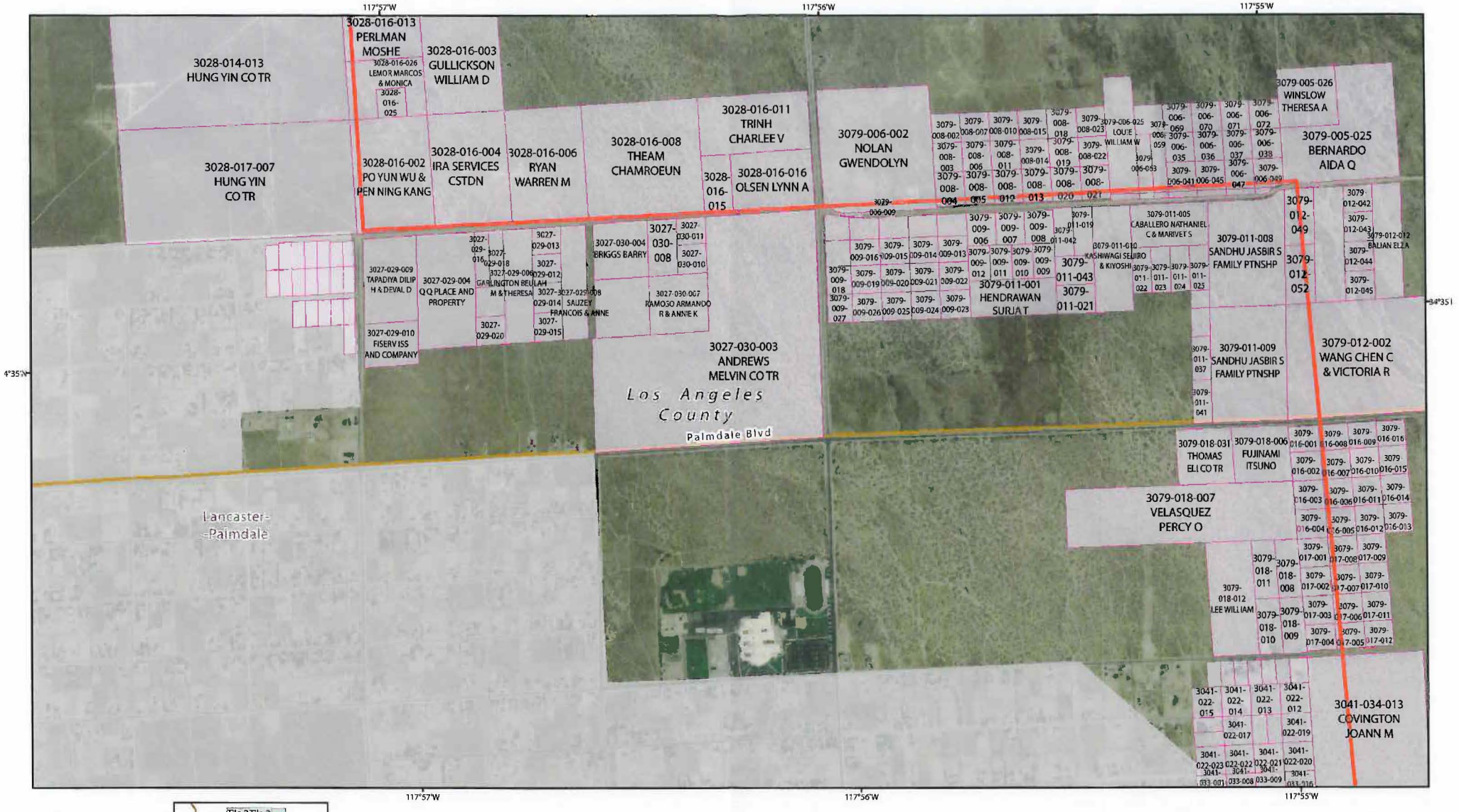


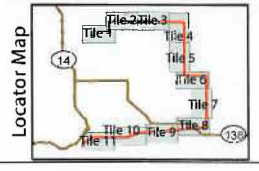
Legend

- Palmdale Project - Vincent Proposed Route
- Los Angeles County Parcel Boundaries
- Railroads
- Major Highway
- Highway
- Major Road
- Urban Areas
- County Boundaries

Proposed Route: Palmdale Project to Vincent - 2/10/2008

Tile: 6





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Air Photograpy - Summer 2005 1-Meter NAIP
Parcel Data - Los Angeles County and Parcelquest (February 2008)

Legend

- Palmdale Project - Vincent Proposed Route
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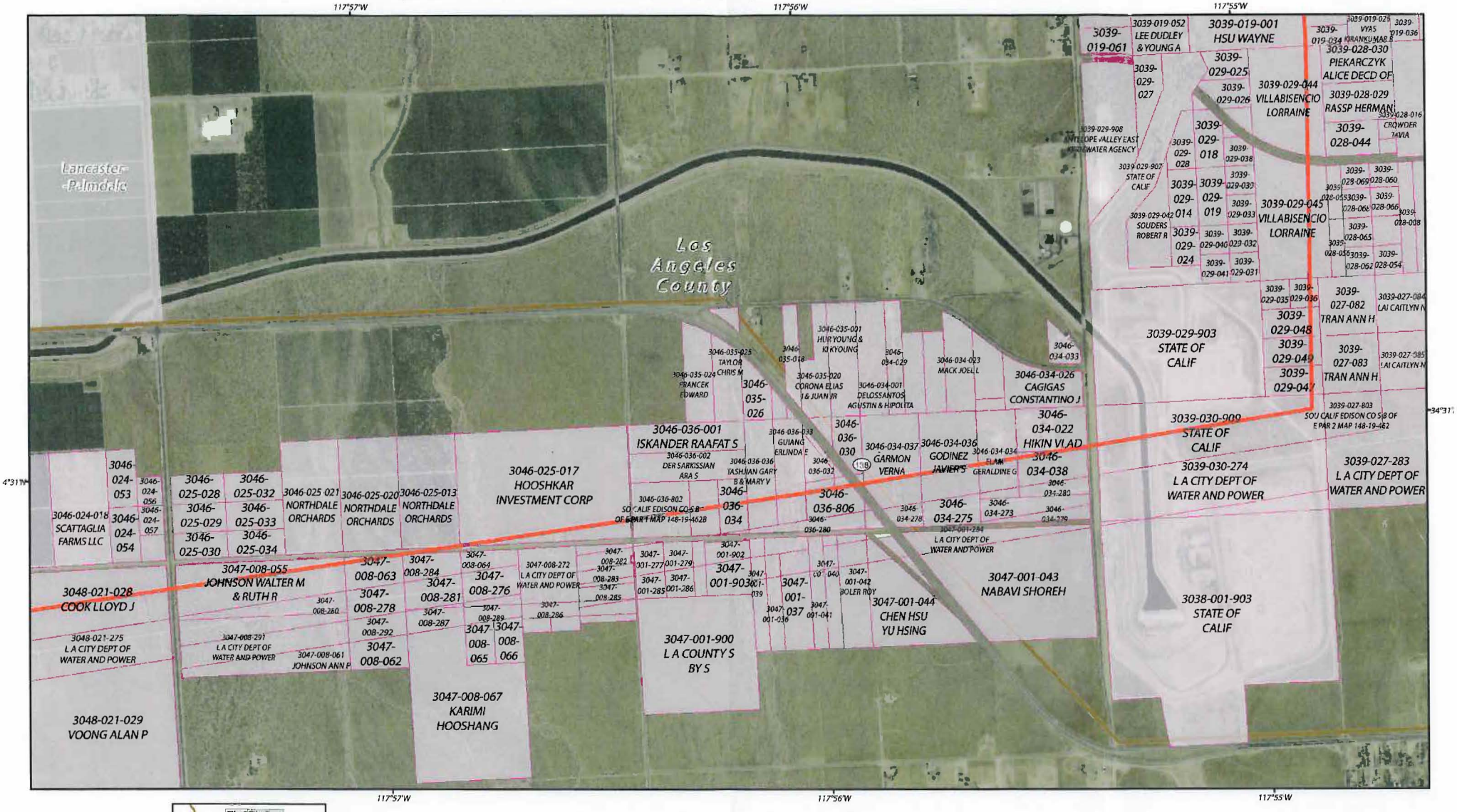
Proposed Route: Palmdale Project to Vincent - 2/10/2008

Tile: 8



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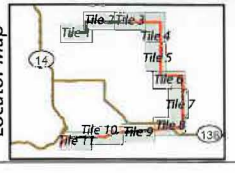

Air Photograpy - Summer 2005 1-Meter NAIP
Parcel Data - Los Angeles County and Parcelquest (February 2008)

Legend

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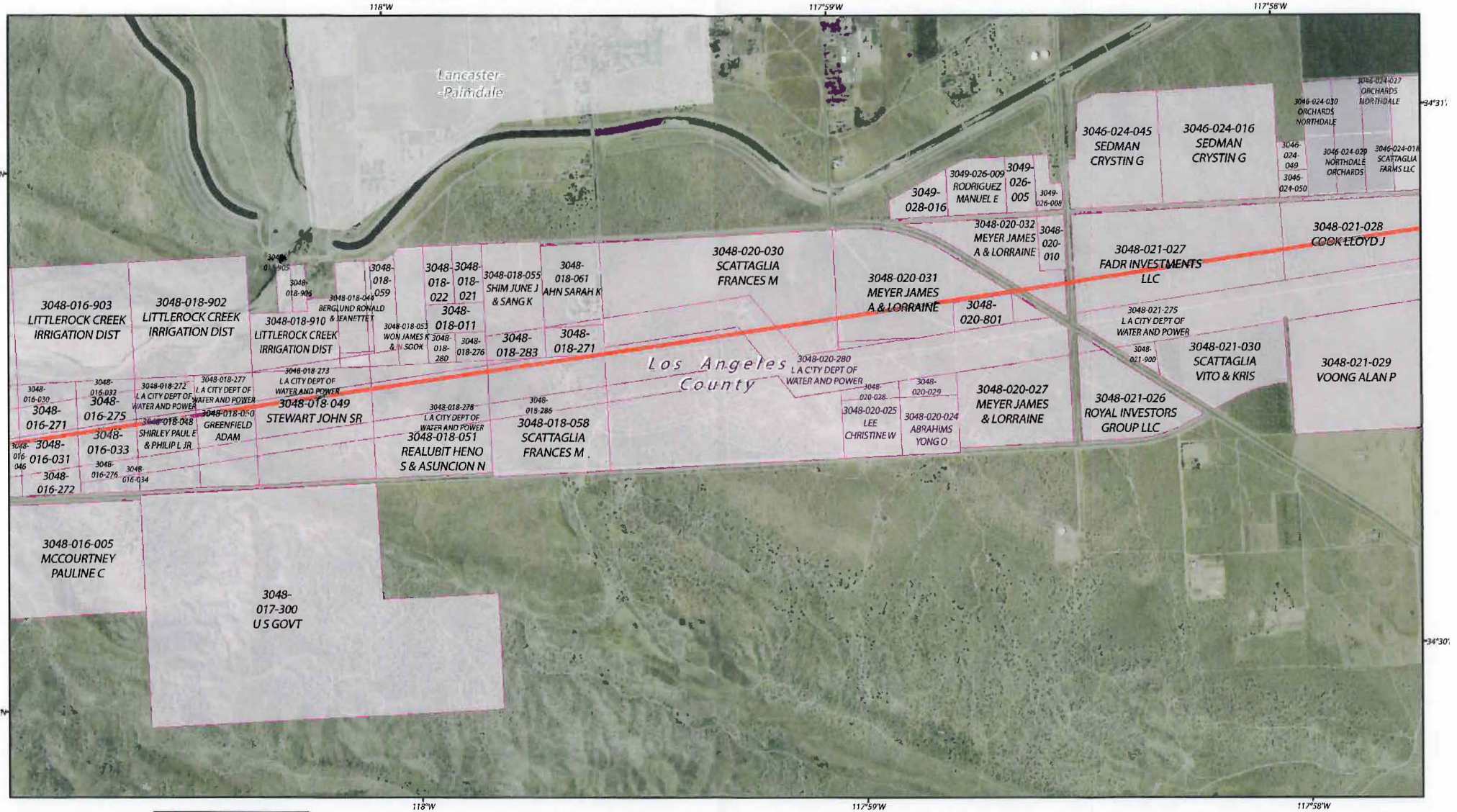
Proposed Route: Palmdale Project to Vincent - 2/10/2008

Tile: 9



Proposed Route: Palmdale Project to Vincent - 2/10/2008

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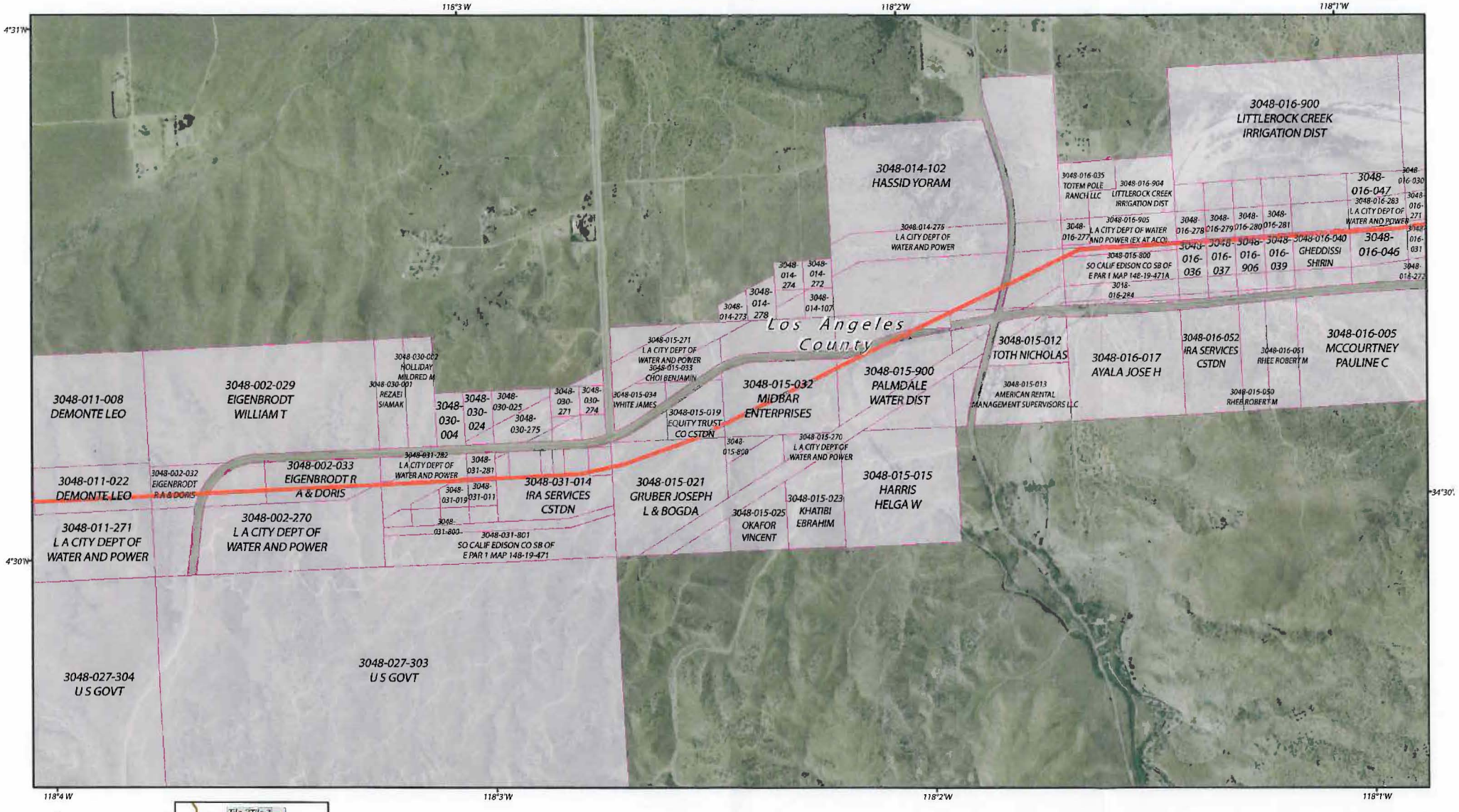
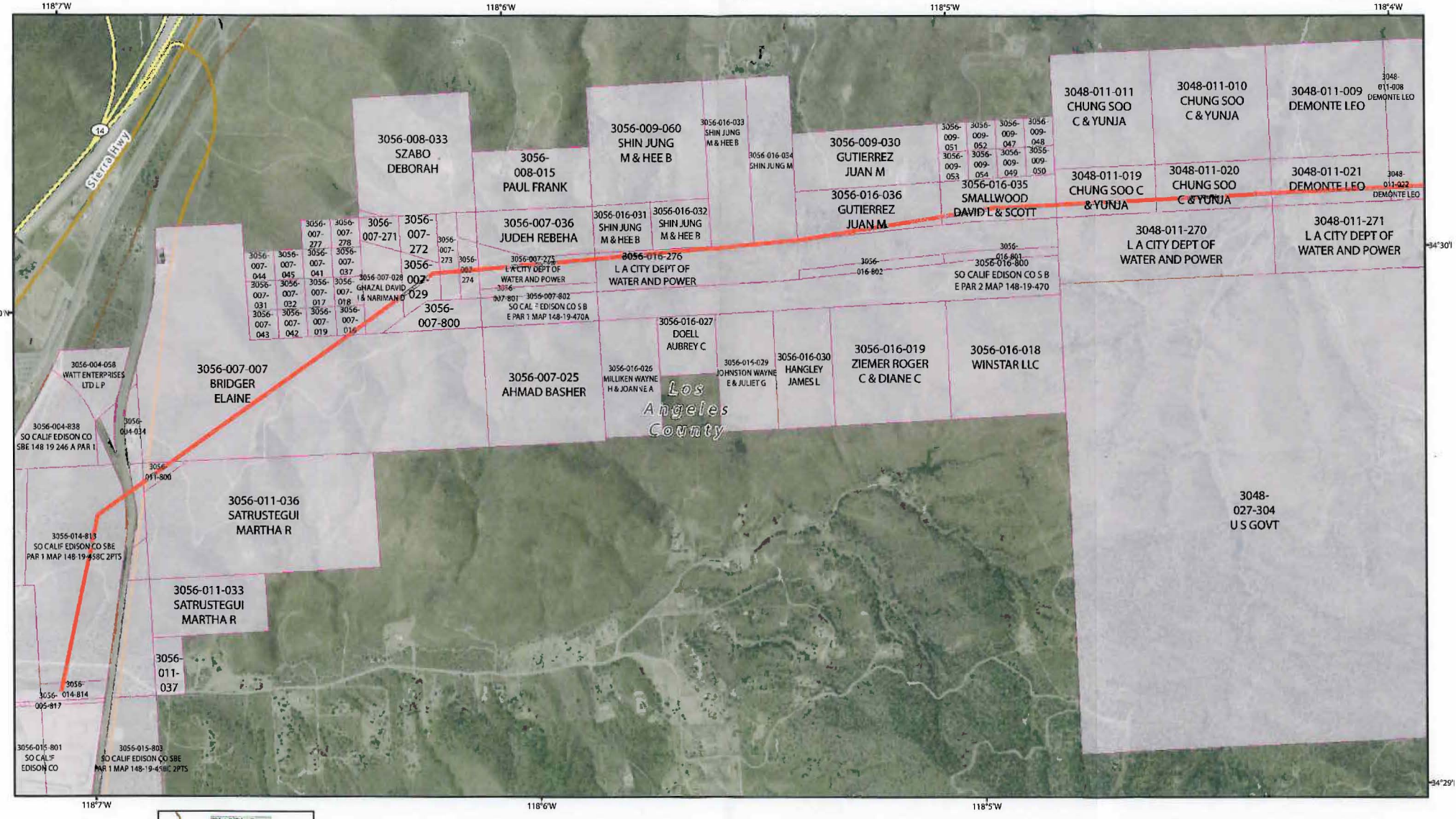


Proposed Route: Palmdale Project to Vincent - 2/10/2008

Tile: 11



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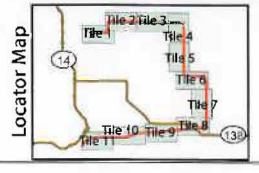

Air Photograpy - Summer 2005 1-Meter NAIP
Parcel Data - Los Angeles County and Parcelquest (February 2008)

Legend

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Transmission ROW parcel numbers and Land Owners

Tile No.	APN	Owner Name
5	3028-006-281	L A CITY
5	3028-007-271	L A CITY
5	3028-008-270	L A CITY
5	3028-008-274	L A CITY
5	3028-015-004	PHILLIPS MARIE E
5	3028-015-005	BTC PROPERTIES LLC
5	3028-015-034	GATES INVESTMENTS
5	3028-015-046	LINDEN HENRY N & SIV E
5	3028-015-047	SLATER WILLIAM
5	3028-015-054	THANG DUC PHAM
6	3028-016-002	PO YUN WU & PEN NING KANG
6	3028-016-004	IRA SERVICES CSTDN
6	3028-016-006	RYAN WARREN M
6	3028-016-008	THEAM CHAMROEUN
5 & 6	3028-016-013	PERLMAN MOSHE
6	3028-016-015	VOGES BRADLEY L
6	3028-016-016	OLSEN LYNN A
6	3028-016-026	LEMOR MARCOS & MONICA
7	3039-007-003	NAPIERSKIE GLENN P
7	3039-011-001	IRA SERVICES CSTDN FBO XIANG Y LIU
7	3039-011-002	KHAKI HOUSHANG
7	3039-011-003	OLIVER ODIS
7	3039-013-001	ASHBY DELLA
7	3039-013-007	ORTLIEB RICHARD
7	3039-013-010	MENDOZA CUAUHTEMOC & JULIA
7	3039-013-011	GUZMAN MARGARITO M & REYNA E
7	3039-013-022	MASON VIOLA J
7	3039-014-001	ASHBY DELLA
7	3039-014-007	HAYS PARIS
7	3039-014-010	YOUNG TRACY
7	3039-014-011	GONZALEZ JULIO P & MARTHA J
7	3039-014-022	BELKNAP MICHAEL R & LORI L
7	3039-016-001	WALLS ANA M
7	3039-016-002	GOMEZ ALONSO & MACRINA J
7	3039-016-017	MCHUGH FRANK
7	3039-019-025	GARCIA ROSITA M
8	3039-019-034	LEWIS AUDREY
7 & 8	3039-019-041	ONDROZECK RONALD D
7	3039-019-042	CHIANG SOONG T & SYLVIA B
7	3039-019-044	TAYLOR TOMMY T
7	3039-019-045	PADOR DOMINICA D
7	3039-019-046	IRA SERVICES CSTDN FBO DAVID M LU
7	3039-019-047	MILLER DAVID L

Tile No.		APN	Owner Name
7		3039-019-049	MARCH MARK A
7		3039-019-050	WOLFE ROSE
7		3039-019-053	ALTAMIMI ASIM S
7		3039-020-033	JU YOUN LEE
7		3039-020-034	PIELSTICK STEPHEN H & PATRICIA
7		3039-020-802	SOU PAC CO S B E PAR 4 MAP 872-19-140
7		3039-020-901	L A COUNTY S BY S
8		3039-029-036	VU KEVIN
8		3039-029-044	VILLABISENCIO LORRAINE
8		3039-029-045	VILLABISENCIO LORRAINE
8		3039-029-047	IRA SERVICES CSTDN FBO DAVID LIN SHENG
8		3039-029-048	HYUN CHUL LEE
8		3039-029-049	HENDERSON ORSON R
8		3039-030-909	STATE OF CALIF
7		3041-029-015	HORN HENRIETTE A
7		3041-029-016	ENTRUST ADMINISTRATION CSTDN
7		3041-029-029	BUCHAK EDWARD C
7		3041-029-030	PHANN ANN
7		3041-029-037	LE DAVID
7		3041-029-039	DROOZ FRANCES C
7		3041-029-052	LEONG DICK K & SHERON W
7		3041-029-053	MOREMAN HARRY J & LOIS C
7		3041-029-054	DO DU VAN
6 & 7		3041-034-013	COVINGTON JOANN M
8		3046-025-013	NORTHDALE ORCHARDS
8		3046-025-017	HOOSHKAR INVESTMENT CORP
8		3046-034-022	HIKIN VLAD
8		3046-034-034	ELAM GERALDINE G
8		3046-034-036	GODINEZ JAVIER S
8		3046-034-037	GARMON VERNA
8		3046-034-038	POPE JEWELL V
8		3046-036-033	GUIANG ERLINDA E
8		3046-036-034	LEAKS JUANITA
8		3046-036-035	COX ALVIN E
8		3046-036-036	TASHJIAN GARY B & MARY V
8		3046-036-802	SO CALIF EDISON CO S B OF E PAR 1 MAP 148-19-462B
8		3046-036-804	SO CALIF EDISON CO S B OF E PAR 6 MAP 148-19-500
8		3046-036-806	SO CALIF EDISON CO SBE PAR 1 MAP 148-19-462C
8		3047-008-055	JOHNSON WALTER M & RUTH R
8		3047-008-063	JOHNSON W KEITH
8		3047-008-284	L A CITY DEPT OF WATER AND POWER
10		3048-002-032	EIGENBRODT R A & DORIS
10		3048-002-033	EIGENBRODT R A & DORIS

Transmission ROW parcel numbers and Land Owners

Tile No.	APN	Owner Name
10	3048-002-270	L A CITY DEPT OF WATER AND POWER
11	3048-011-019	CHUNG SOO C & YUNJA
11	3048-011-020	CHUNG SOO C & YUNJA
11	3048-011-021	DEMONTE LEO
10	3048-011-022	DEMONTE LEO
10	3048-014-102	HASSID YORAM
10	3048-015-012	TOTH NICHOLAS
10	3048-015-019	EQUITY TRUST CO CSTDN
10	3048-015-021	GRUBER JOSEPH L & BOGDA
10	3048-015-032	MIDBAR ENTERPRISES
10	3048-015-900	PALMDALE WATER DIST
9	3048-016-031	PIVOVAROFF THIRD FAMILY LTD PARTNERSHIP
9	3048-016-033	EAST WEST ASSET MANAGEMENT LLC
10	3048-016-036	AMERICAN GENERAL FINANCE INC
10	3048-016-037	RASSAMNI AJ
10	3048-016-039	SAID ADEL
10	3048-016-040	GHEDDISSI SHIRIN
9	3048-016-046	CONSUMERS HOLDING CO
10	3048-016-800	SO CALIF EDISON CO SB OF E PAR 1 MAP 148-19-471A
10	3048-016-904	LITTLEROCK CREEK IRRIGATION DIST
10	3048-016-906	LITTLEROCK CREEK IRRIGATION DIST
9	3048-018-048	SHIRLEY PAUL E & PHILIP L JR
9	3048-018-049	STEWART JOHN SR
9	3048-018-050	GREENFIELD ADAM
9	3048-018-051	REALUBIT HENO S & ASUNCION N
9	3048-018-058	SCATTAGLIA FRANCES M
9	3048-018-271	L A CITY DEPT OF WATER AND POWER
9	3048-020-030	SCATTAGLIA FRANCES M
9	3048-020-031	MEYER JAMES A & LORRAINE
9	3048-020-032	MEYER JAMES A & LORRAINE
9	3048-020-280	L A CITY DEPT OF WATER AND POWER
9	3048-021-027	FADR INVESTMENTS LLC
9	3048-021-028	COOK LLOYD J
10	3048-031-011	BILL PAPOTTA MINISTRIES INC
10	3048-031-014	IRA SERVICES CSTDN
10	3048-031-015	MIKAELIAN ARMENOUHI
10	3048-031-016	REILLY CHARLES J
10	3048-031-018	POLITES GARY & JOSEPHINE
10	3048-031-019	RIVERA RAFAEL & GRISELDA
10	3048-031-282	L A CITY DEPT OF WATER AND POWER
10	3048-031-901	PALMDALE WATER DISTRICT
11	3056-007-007	BRIDGER ELAINE
11	3056-007-016	PONCE JUAN

Tile No.		APN	Owner Name
11		3056-007-028	GHAZAL DAVID I & NARIMAN D
11		3056-007-029	LESH DARLA R
11		3056-007-273	L A CITY DEPT OF WATER AND POWER
11		3056-007-274	L A CITY DEPT OF WATER AND POWER
11		3056-007-275	L A CITY DEPT OF WATER AND POWER
11		3056-011-800	SO CALIF EDISON CO S B OF E PAR 1 MAP 148-19-500
11		3056-014-813	SO CALIF EDISON CO SBE PAR 1 MAP 148-19-458C 2PTS
11		3056-014-814	SO CALIF EDISON CO
11		3056-016-034	SHIN JUNG M
11		3056-016-035	SMALLWOOD DAVID L & SCOTT
11		3056-016-036	GUTIERREZ JUAN M
11		3056-016-276	L A CITY DEPT OF WATER AND POWER
5		3077-006-273	L A CITY
5		3077-006-274	L A CITY
5		3077-007-275	L A CITY
5		3077-007-276	L A CITY
5		3077-007-278	L A CITY
5		3077-009-274	L A CITY
5		3077-009-275	L A CITY
5		3077-009-280	L A CITY
5		3077-009-283	L A CITY
5		3077-009-287	L A CITY
5		3077-009-288	L A CITY
5		3077-009-291	L A CITY
6		3079-005-025	BERNARDO AIDA Q
6		3079-006-002	NOLAN GWENDOLYN
6		3079-006-009	NOLAN GWENDOLYN
6		3079-006-025	LOUIE WILLIAM W
6		3079-006-041	ARANA ANTHONY
6		3079-006-045	DOUST ABDUL W
6		3079-006-047	KAM BRADLEY Y
6		3079-006-049	KAM BRADLEY Y
6		3079-006-059	INOUYE ALLEN S & CHI W
6		3079-006-063	LUM SPENCER J & JERRY A
6		3079-008-004	JONES ROBERT J & FRANCES I
6		3079-008-005	PADILLA LAURA DEC'D OF
6		3079-008-012	ROBLES MARTHA I
6		3079-008-013	BROADBENT ELIZABETH C
6		3079-008-020	HOLLIDAY JONNIE J DECD OF
6		3079-008-021	LEE JOHN D
6		3079-012-002	WANG CHEN C & VICTORIA R
6		3079-012-049	TRAN MY V

Transmission ROW parcel numbers and Land Owners

Tile No.	APN	Owner Name
6	3079-012-052	TRAN TIMOTHY
6	3079-016-005	LEE SOOK J
6	3079-016-006	MAGANA ALBINO J
6	3079-016-007	ACOSTA ELPIDIO E
6	3079-016-008	LE TAM H & MARIE H
6	3079-017-005	CASTANEDA RAMON A
6	3079-017-006	CASTANEDA RAMON A
6	3079-017-007	MIKHAIL ADEL & ROSE
6	3079-017-008	BERCILLA HENRY C & MARGARITA A
2	3170-012-002	CALANDRI BARBARA J
1	3170-029-902	U S GOVT
1	3170-029-903	U S GOVT
4	3378-004-008	BOLTHOUSE PROPERTIES LLC
4	3378-013-001	LIM HENRY T & SIU T
4	3378-013-002	YANG HAI CHING J
4	3378-013-003	FERNANDO JOE P & PETER D
4	3378-013-004	RYAN WILLIAM J & CAROL D
4	3378-014-001	LEBOWE SAM
4	3378-014-003	KUNIMOTO TOKI
4	3378-014-004	JINQ SHIAN C & LI CHEM
4	3378-014-005	IRA SERVICES CSTDN FBO ZHAOHONG LI
4	3378-015-001	CAMPANO MELINDA S
4	3378-015-002	SIERRA CENTURY CORP
4	3378-015-026	BOYACK WALLACE T
4	3378-016-001	PACIFIC STATES LAND CORP
4	3378-016-004	TOM EDWARD J & ELIZABETH A
4	3378-016-005	WELTE ELISABETH
4	3378-016-021	QUINTERO GARTNER ANA M
4	3378-016-022	CAMPOS NARDITO I & NIMFA N
4	3378-016-900	CO SANITATION DIST NO 20
4	3380-007-001	MAIER FRANCES J
4	3380-007-002	NOR OR PUBLISHING ASSN INC
4	3380-007-003	ACHEE MARION E
4	3380-007-004	AUDELL HARRY & LILLIAN P
4	3380-008-001	THOMSEN DOUGLAS F
4	3380-008-002	TRAN JONATHAN
4	3380-008-003	POLZIN KAY A
4	3380-008-004	ROBLES JOAQUIN C & MARIA R
4	3380-009-272	L A CITY
4	3380-009-287	L A CITY
4	3380-010-270	L A CITY
4	3380-010-271	L A CITY
4	3380-010-277	L A CITY

Tile No.		APN	Owner Name
4		3380-010-278	L A CITY
2		3386-004-019	LESHIN CONSTANCE J
3		3386-014-002	QWEST ENGINEERING INC
3		3386-014-003	QWEST ENGINEERING INC

Transmission ROW parcel numbers and Land Owners

Tile No.	APN	Owner Name
5	3028-006-281	L A CITY
5	3028-007-271	L A CITY
5	3028-008-270	L A CITY
5	3028-008-274	L A CITY
5	3028-015-004	PHILLIPS MARIE E
5	3028-015-005	BTC PROPERTIES LLC
5	3028-015-034	GATES INVESTMENTS
5	3028-015-046	LINDEN HENRY N & SIV E
5	3028-015-047	SLATER WILLIAM
5	3028-015-054	THANG DUC PHAM
6	3028-016-002	PO YUN WU & PEN NING KANG
6	3028-016-004	IRA SERVICES CSTDN
6	3028-016-006	RYAN WARREN M
6	3028-016-008	THEAM CHAMROEUN
5 & 6	3028-016-013	PERLMAN MOSHE
6	3028-016-015	VOGES BRADLEY L
6	3028-016-016	OLSEN LYNN A
6	3028-016-026	LEMOR MARCOS & MONICA
7	3039-007-003	NAPIERSKIE GLENN P
7	3039-011-001	IRA SERVICES CSTDN FBO XIANG Y LIU
7	3039-011-002	KHAKI HOUSHANG
7	3039-011-003	OLIVER ODIS
7	3039-013-001	ASHBY DELLA
7	3039-013-007	ORTLIEB RICHARD
7	3039-013-010	MENDOZA CUAUHTEMOC & JULIA
7	3039-013-011	GUZMAN MARGARITO M & REYNA E
7	3039-013-022	MASON VIOLA J
7	3039-014-001	ASHBY DELLA
7	3039-014-007	HAYS PARIS
7	3039-014-010	YOUNG TRACY
7	3039-014-011	GONZALEZ JULIO P & MARTHA J
7	3039-014-022	BELKNAP MICHAEL R & LORI L
7	3039-016-001	WALLS ANA M
7	3039-016-002	GOMEZ ALONSO & MACRINA J
7	3039-016-017	MCHUGH FRANK
7	3039-019-025	GARCIA ROSITA M
8	3039-019-034	LEWIS AUDREY
7 & 8	3039-019-041	ONDROZECK RONALD D
7	3039-019-042	CHIANG SOONG T & SYLVIA B
7	3039-019-044	TAYLOR TOMMY T
7	3039-019-045	PADOR DOMINICA D
7	3039-019-046	IRA SERVICES CSTDN FBO DAVID M LU
7	3039-019-047	MILLER DAVID L

Tile No.	APN	Owner Name
7	3039-019-049	MARCH MARK A
7	3039-019-050	WOLFE ROSE
7	3039-019-053	ALTAMIMI ASIM S
7	3039-020-033	JU YOUN LEE
7	3039-020-034	PIELSTICK STEPHEN H & PATRICIA
7	3039-020-802	SOU PAC CO S B E PAR 4 MAP 872-19-140
7	3039-020-901	L A COUNTY S BY S
8	3039-029-036	VU KEVIN
8	3039-029-044	VILLABISENCIO LORRAINE
8	3039-029-045	VILLABISENCIO LORRAINE
8	3039-029-047	IRA SERVICES CSTDN FBO DAVID LIN SHENG
8	3039-029-048	HYUN CHUL LEE
8	3039-029-049	HENDERSON ORSON R
8	3039-030-909	STATE OF CALIF
7	3041-029-015	HORN HENRIETTE A
7	3041-029-016	ENTRUST ADMINISTRATION CSTDN
7	3041-029-029	BUCHAK EDWARD C
7	3041-029-030	PHANN ANN
7	3041-029-037	LE DAVID
7	3041-029-039	DROOZ FRANCES C
7	3041-029-052	LEONG DICK K & SHERON W
7	3041-029-053	MOREMAN HARRY J & LOIS C
7	3041-029-054	DO DU VAN
6 & 7	3041-034-013	COVINGTON JOANN M
8	3046-025-013	NORTHDALE ORCHARDS
8	3046-025-017	HOOSHKAR INVESTMENT CORP
8	3046-034-022	HIKIN VLAD
8	3046-034-034	ELAM GERALDINE G
8	3046-034-036	GODINEZ JAVIER S
8	3046-034-037	GARMON VERNA
8	3046-034-038	POPE JEWELL V
8	3046-036-033	GUIANG ERLINDA E
8	3046-036-034	LEAKS JUANITA
8	3046-036-035	COX ALVIN E
8	3046-036-036	TASHJIAN GARY B & MARY V
8	3046-036-802	SO CALIF EDISON CO S B OF E PAR 1 MAP 148-19-462B
8	3046-036-804	SO CALIF EDISON CO S B OF E PAR 6 MAP 148-19-500
8	3046-036-806	SO CALIF EDISON CO SBE PAR 1 MAP 148-19-462C
8	3047-008-055	JOHNSON WALTER M & RUTH R
8	3047-008-063	JOHNSON W KEITH
8	3047-008-284	L A CITY DEPT OF WATER AND POWER
10	3048-002-032	EIGENBRODT R A & DORIS
10	3048-002-033	EIGENBRODT R A & DORIS

Transmission ROW parcel numbers and Land Owners

Tile No.	APN	Owner Name
10	3048-002-270	L A CITY DEPT OF WATER AND POWER
11	3048-011-019	CHUNG SOO C & YUNJA
11	3048-011-020	CHUNG SOO C & YUNJA
11	3048-011-021	DEMONTE LEO
10	3048-011-022	DEMONTE LEO
10	3048-014-102	HASSID YORAM
10	3048-015-012	TOTH NICHOLAS
10	3048-015-019	EQUITY TRUST CO CSTDN
10	3048-015-021	GRUBER JOSEPH L & BOGDA
10	3048-015-032	MIDBAR ENTERPRISES
10	3048-015-900	PALMDALE WATER DIST
9	3048-016-031	PIVOVAROFF THIRD FAMILY LTD PARTNERSHIP
9	3048-016-033	EAST WEST ASSET MANAGEMENT LLC
10	3048-016-036	AMERICAN GENERAL FINANCE INC
10	3048-016-037	RASSAMNI AJ
10	3048-016-039	SAID ADEL
10	3048-016-040	GHEDDISSI SHIRIN
9	3048-016-046	CONSUMERS HOLDING CO
10	3048-016-800	SO CALIF EDISON CO SB OF E PAR 1 MAP 148-19-471A
10	3048-016-904	LITTLEROCK CREEK IRRIGATION DIST
10	3048-016-906	LITTLEROCK CREEK IRRIGATION DIST
9	3048-018-048	SHIRLEY PAUL E & PHILIP L JR
9	3048-018-049	STEWART JOHN SR
9	3048-018-050	GREENFIELD ADAM
9	3048-018-051	REALUBIT HENO S & ASUNCION N
9	3048-018-058	SCATTAGLIA FRANCES M
9	3048-018-271	L A CITY DEPT OF WATER AND POWER
9	3048-020-030	SCATTAGLIA FRANCES M
9	3048-020-031	MEYER JAMES A & LORRAINE
9	3048-020-032	MEYER JAMES A & LORRAINE
9	3048-020-280	L A CITY DEPT OF WATER AND POWER
9	3048-021-027	FADR INVESTMENTS LLC
9	3048-021-028	COOK LLOYD J
10	3048-031-011	BILL PAPOTTA MINISTRIES INC
10	3048-031-014	IRA SERVICES CSTDN
10	3048-031-015	MIKAELIAN ARMENOUHI
10	3048-031-016	REILLY CHARLES J
10	3048-031-018	POLITES GARY & JOSEPHINE
10	3048-031-019	RIVERA RAFAEL & GRISELDA
10	3048-031-282	L A CITY DEPT OF WATER AND POWER
10	3048-031-901	PALMDALE WATER DISTRICT
11	3056-007-007	BRIDGER ELAINE
11	3056-007-016	PONCE JUAN

Tile No.	APN	Owner Name
11	3056-007-028	GHAZAL DAVID I & NARIMAN D
11	3056-007-029	LESH DARLA R
11	3056-007-273	L A CITY DEPT OF WATER AND POWER
11	3056-007-274	L A CITY DEPT OF WATER AND POWER
11	3056-007-275	L A CITY DEPT OF WATER AND POWER
11	3056-011-800	SO CALIF EDISON CO S B OF E PAR 1 MAP 148-19-500
11	3056-014-813	SO CALIF EDISON CO SBE PAR 1 MAP 148-19-458C 2PTS
11	3056-014-814	SO CALIF EDISON CO
11	3056-016-034	SHIN JUNG M
11	3056-016-035	SMALLWOOD DAVID L & SCOTT
11	3056-016-036	GUTIERREZ JUAN M
11	3056-016-276	L A CITY DEPT OF WATER AND POWER
5	3077-006-273	L A CITY
5	3077-006-274	L A CITY
5	3077-007-275	L A CITY
5	3077-007-276	L A CITY
5	3077-007-278	L A CITY
5	3077-009-274	L A CITY
5	3077-009-275	L A CITY
5	3077-009-280	L A CITY
5	3077-009-283	L A CITY
5	3077-009-287	L A CITY
5	3077-009-288	L A CITY
5	3077-009-291	L A CITY
6	3079-005-025	BERNARDO AIDA Q
6	3079-006-002	NOLAN GWENDOLYN
6	3079-006-009	NOLAN GWENDOLYN
6	3079-006-025	LOUIE WILLIAM W
6	3079-006-041	ARANA ANTHONY
6	3079-006-045	DOUST ABDUL W
6	3079-006-047	KAM BRADLEY Y
6	3079-006-049	KAM BRADLEY Y
6	3079-006-059	INOUYE ALLEN S & CHI W
6	3079-006-063	LUM SPENCER J & JERRY A
6	3079-008-004	JONES ROBERT J & FRANCES I
6	3079-008-005	PADILLA LAURA DEC'D OF
6	3079-008-012	ROBLES MARTHA I
6	3079-008-013	BROADBENT ELIZABETH C
6	3079-008-020	HOLLIDAY JONNIE J DECD OF
6	3079-008-021	LEE JOHN D
6	3079-012-002	WANG CHEN C & VICTORIA R
6	3079-012-049	TRAN MY V
6	3079-012-052	TRAN TIMOTHY

Transmission ROW parcel numbers and Land Owners

Tile No.	APN	Owner Name
6	3079-016-005	LEE SOOK J
6	3079-016-006	MAGANA ALBINO J
6	3079-016-007	ACOSTA ELPIDIO E
6	3079-016-008	LE TAM H & MARIE H
6	3079-017-005	CASTANEDA RAMON A
6	3079-017-006	CASTANEDA RAMON A
6	3079-017-007	MIKHAIL ADEL & ROSE
6	3079-017-008	BERCILLA HENRY C & MARGARITA A
2	3170-012-002	CALANDRI BARBARA J
1	3170-029-902	U S GOVT
1	3170-029-903	U S GOVT
4	3378-004-008	BOLTHOUSE PROPERTIES LLC
4	3378-013-001	LIM HENRY T & SIU T
4	3378-013-002	YANG HAI CHING J
4	3378-013-003	FERNANDO JOE P & PETER D
4	3378-013-004	RYAN WILLIAM J & CAROL D
4	3378-014-001	LEBOWE SAM
4	3378-014-003	KUNIMOTO TOKI
4	3378-014-004	JINQ SHIAN C & LI CHEM
4	3378-014-005	IRA SERVICES CSTDN FBO ZHAOHONG LI
4	3378-015-001	CAMPANO MELINDA S
4	3378-015-002	SIERRA CENTURY CORP
4	3378-015-026	BOYACK WALLACE T
4	3378-016-001	PACIFIC STATES LAND CORP
4	3378-016-004	TOM EDWARD J & ELIZABETH A
4	3378-016-005	WELTE ELISABETH
4	3378-016-021	QUINTERO GARTNER ANA M
4	3378-016-022	CAMPOS NARDITO I & NIMFA N
4	3378-016-900	CO SANITATION DIST NO 20
4	3380-007-001	MAIER FRANCES J
4	3380-007-002	NOR OR PUBLISHING ASSN INC
4	3380-007-003	ACHEE MARION E
4	3380-007-004	AUDELL HARRY & LILLIAN P
4	3380-008-001	THOMSEN DOUGLAS F
4	3380-008-002	TRAN JONATHAN
4	3380-008-003	POLZIN KAY A
4	3380-008-004	ROBLES JOAQUIN C & MARIA R
4	3380-009-272	L A CITY
4	3380-009-287	L A CITY
4	3380-010-270	L A CITY
4	3380-010-271	L A CITY
4	3380-010-277	L A CITY
4	3380-010-278	L A CITY

Tile No.	APN	Owner Name
2	3386-004-019	LESHIN CONSTANCE J
3	3386-014-002	QWEST ENGINEERING INC
3	3386-014-003	QWEST ENGINEERING INC

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of: **APPLICATION FOR CERTIFICATION for the *PALMDALE HYBRID POWER PROJECT***	**Docket No. 08-AFC-9** **PROOF OF SERVICE** ***(Revised 6/30/2009)***

APPLICANT

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Christian Anderson
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DECLARATION OF SERVICE

I, Sara Head, declare that on, July 31, 2009, I served and filed copies of the attached **Palmdale Hybrid Power Project: July 28, 2009 Workshop Data Requests – Transmission System Engineering**. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: **[http://www.energy.ca.gov/sitingcases/palmdale/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, in the following manner:

(*Check all that Apply*)

For service to all other parties:

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

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

AND

For filing with the Energy Commission:

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

OR

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

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-9
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

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

_____