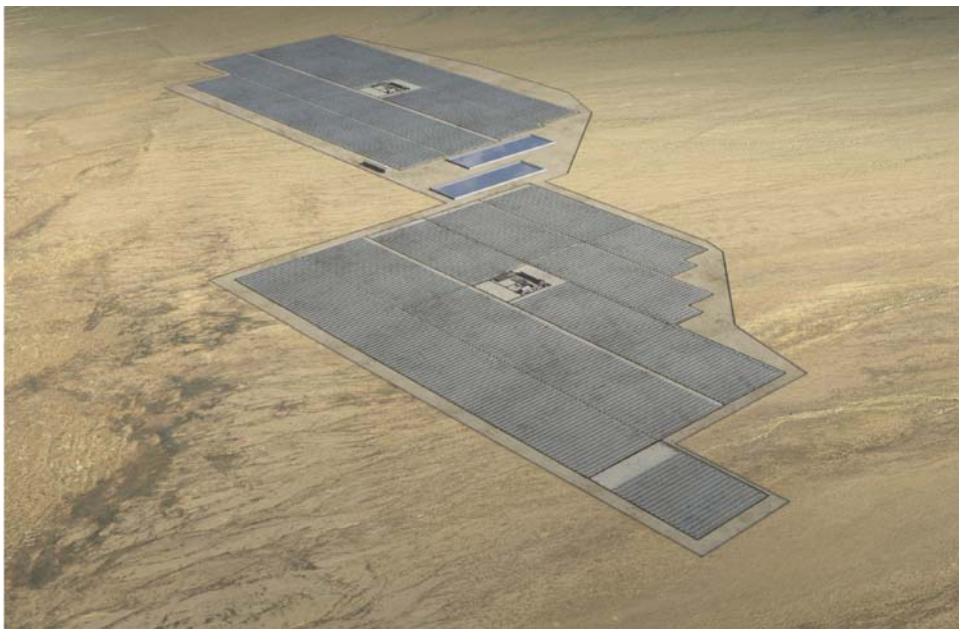
BLM

Bureau of Land Management

PLAN AMENDMENT/FINAL EIS FOR THE GENESIS SOLAR ENERGY PROJECT

Volume 2 of 3



August 2010

APPENDIX A
Figures

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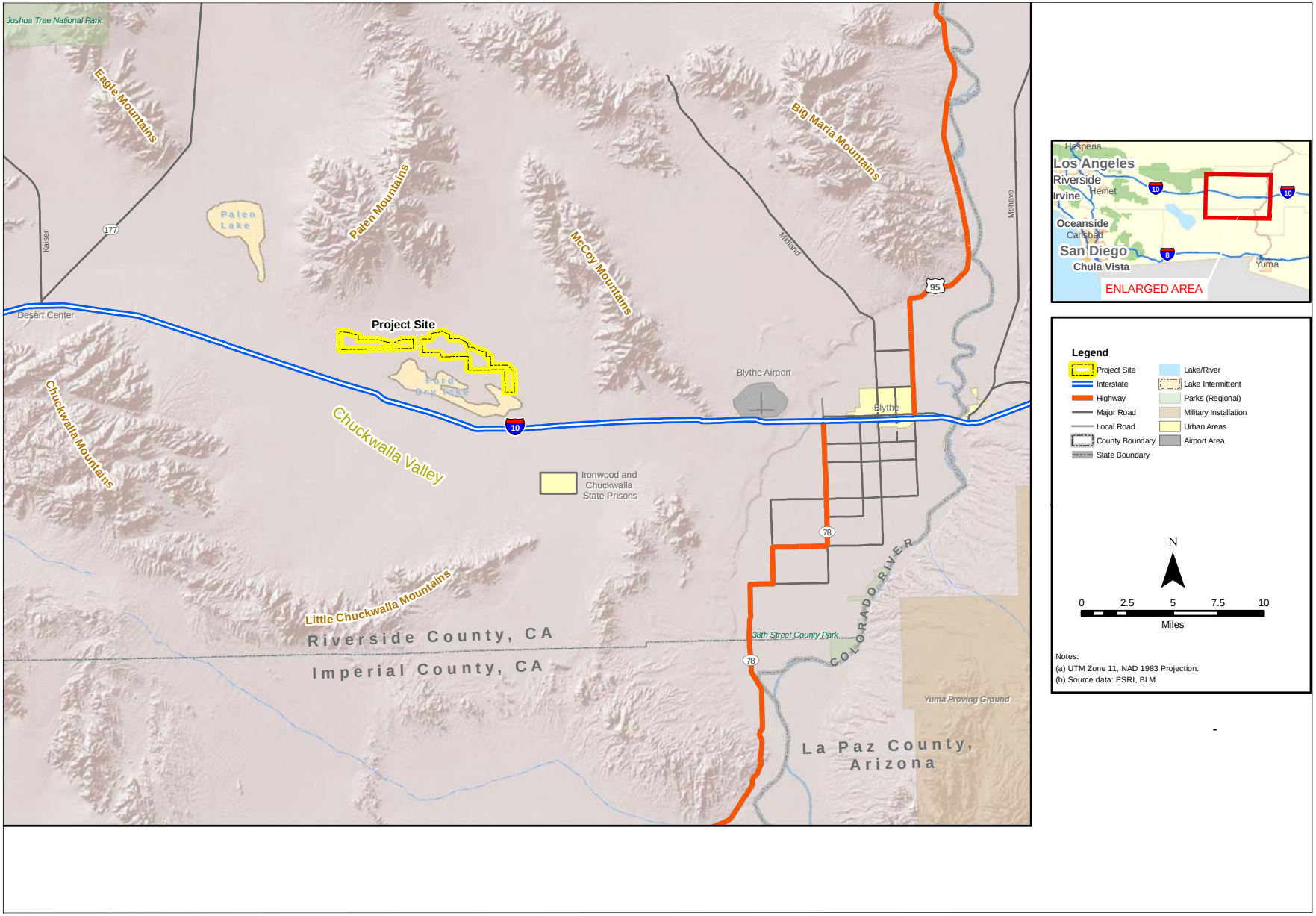
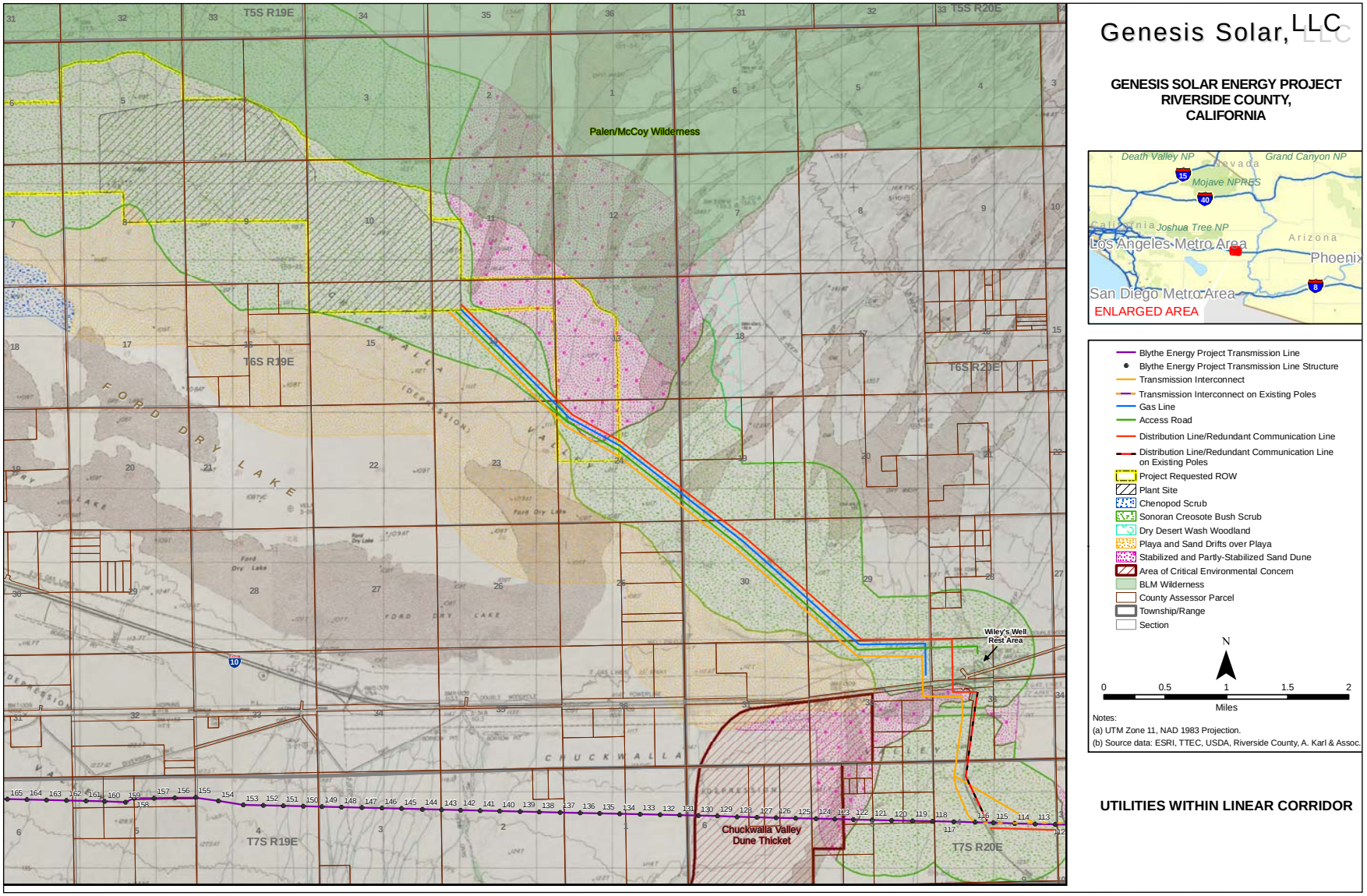


SOURCE: CEC Genesis RSA, June 2010

Figure 1-1
Location Map

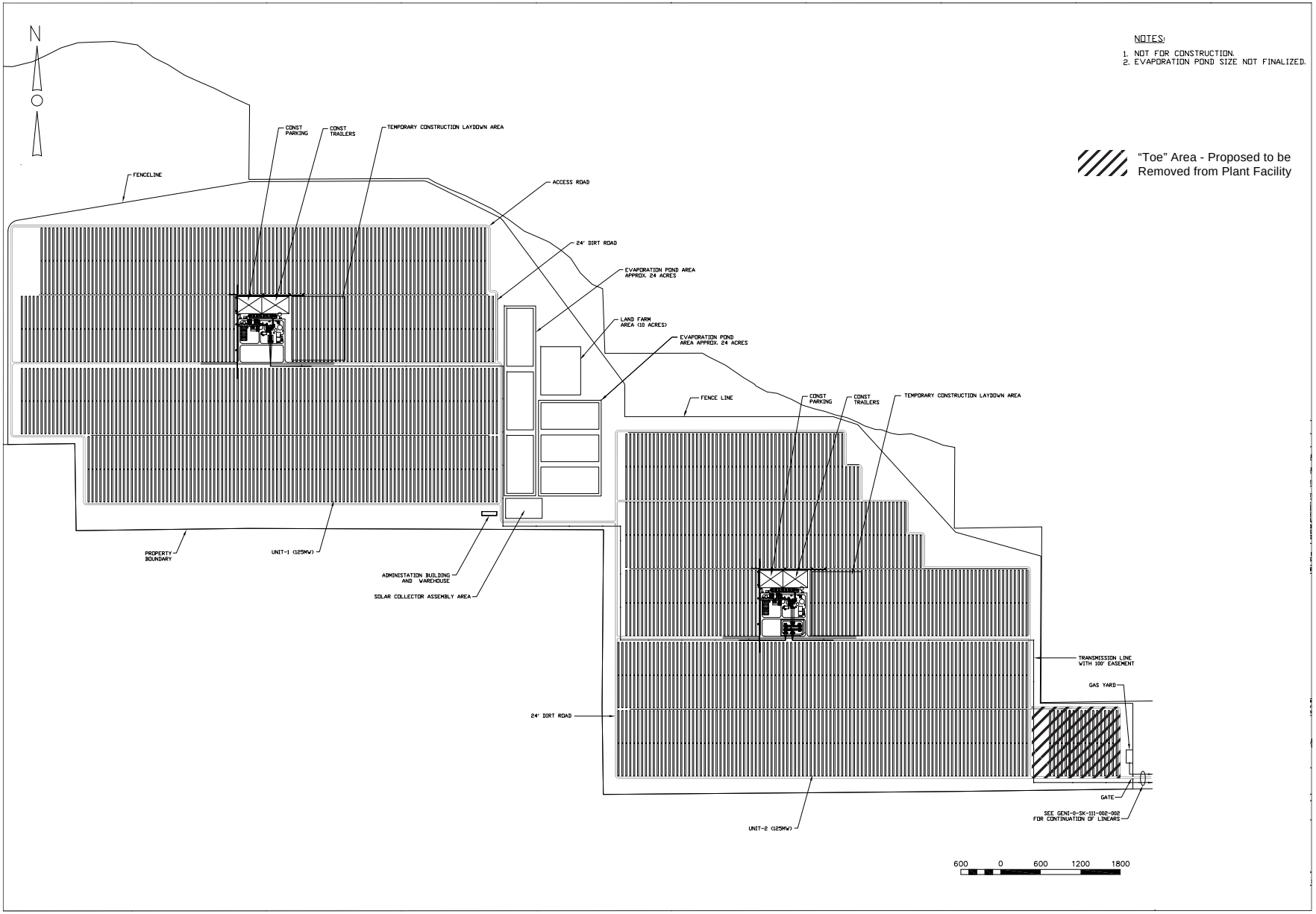


A-4

SOURCE: California Energy Commission, August 6, 2010

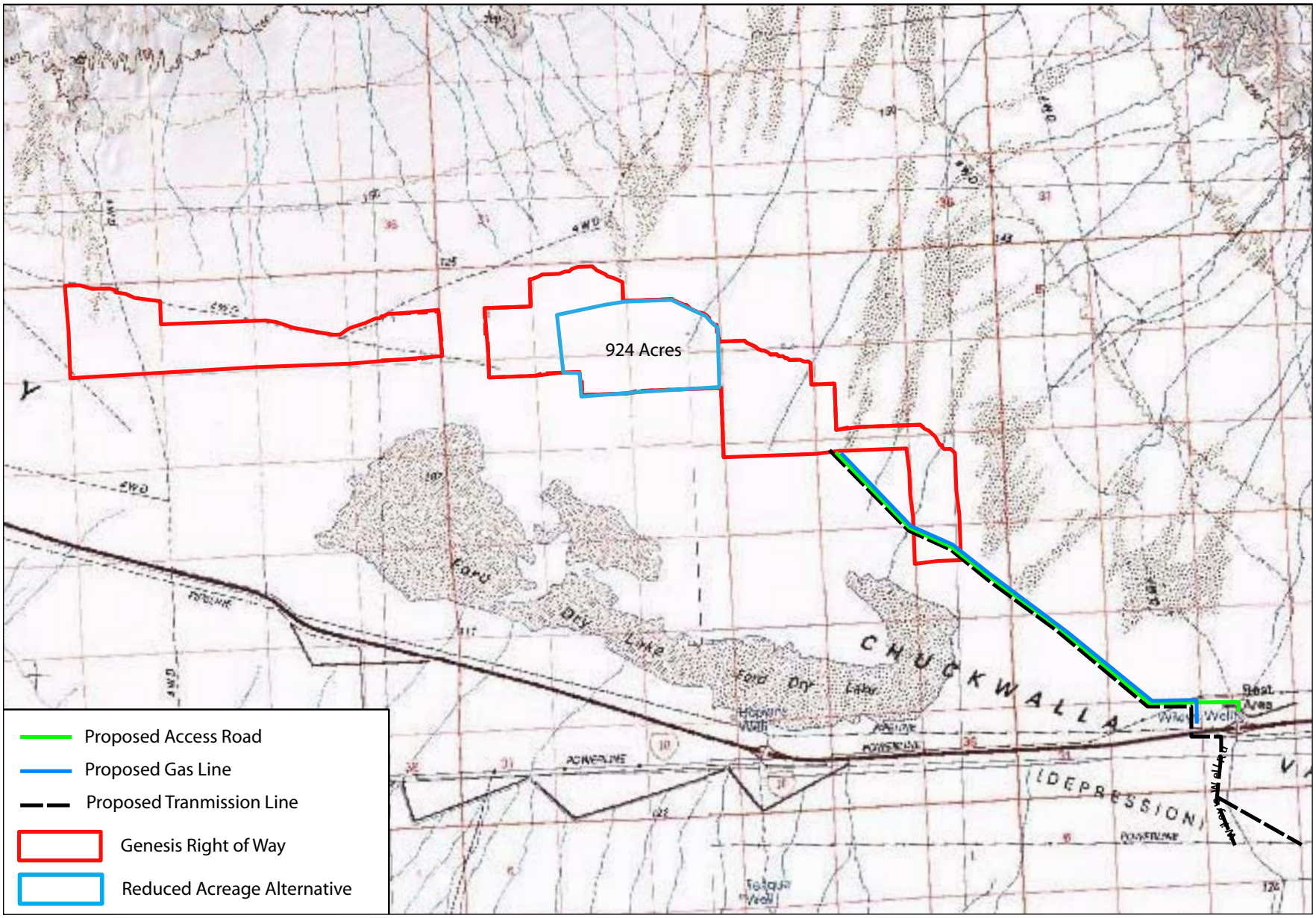
Figure 2-1

Facility Footprint and Linear Corridor Revision - December 2009



SOURCE: Genesis AFC, August 2009

Figure 2-2
Overall Site Plan



SOURCE: California Energy Commission, August 9, 2010

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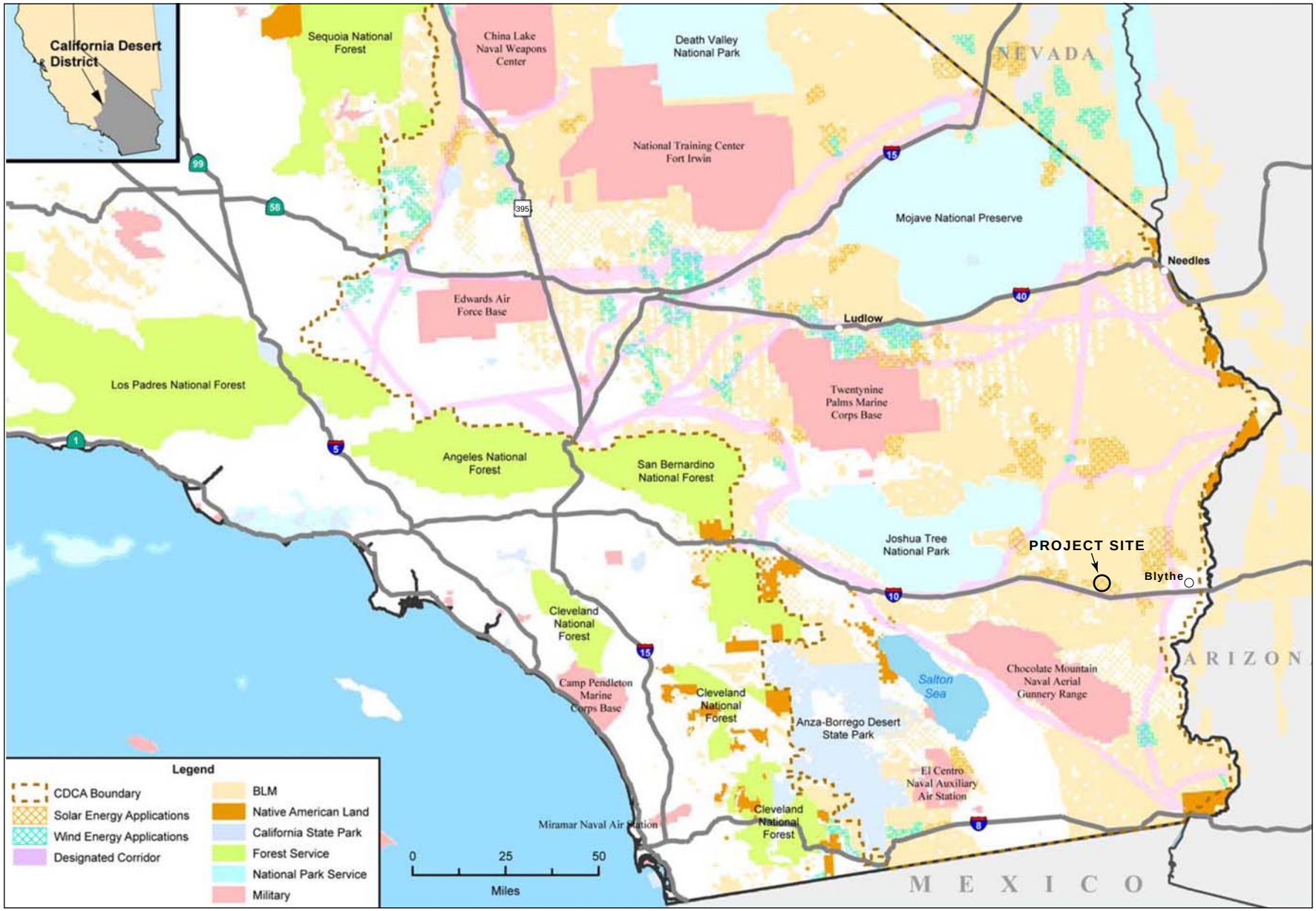
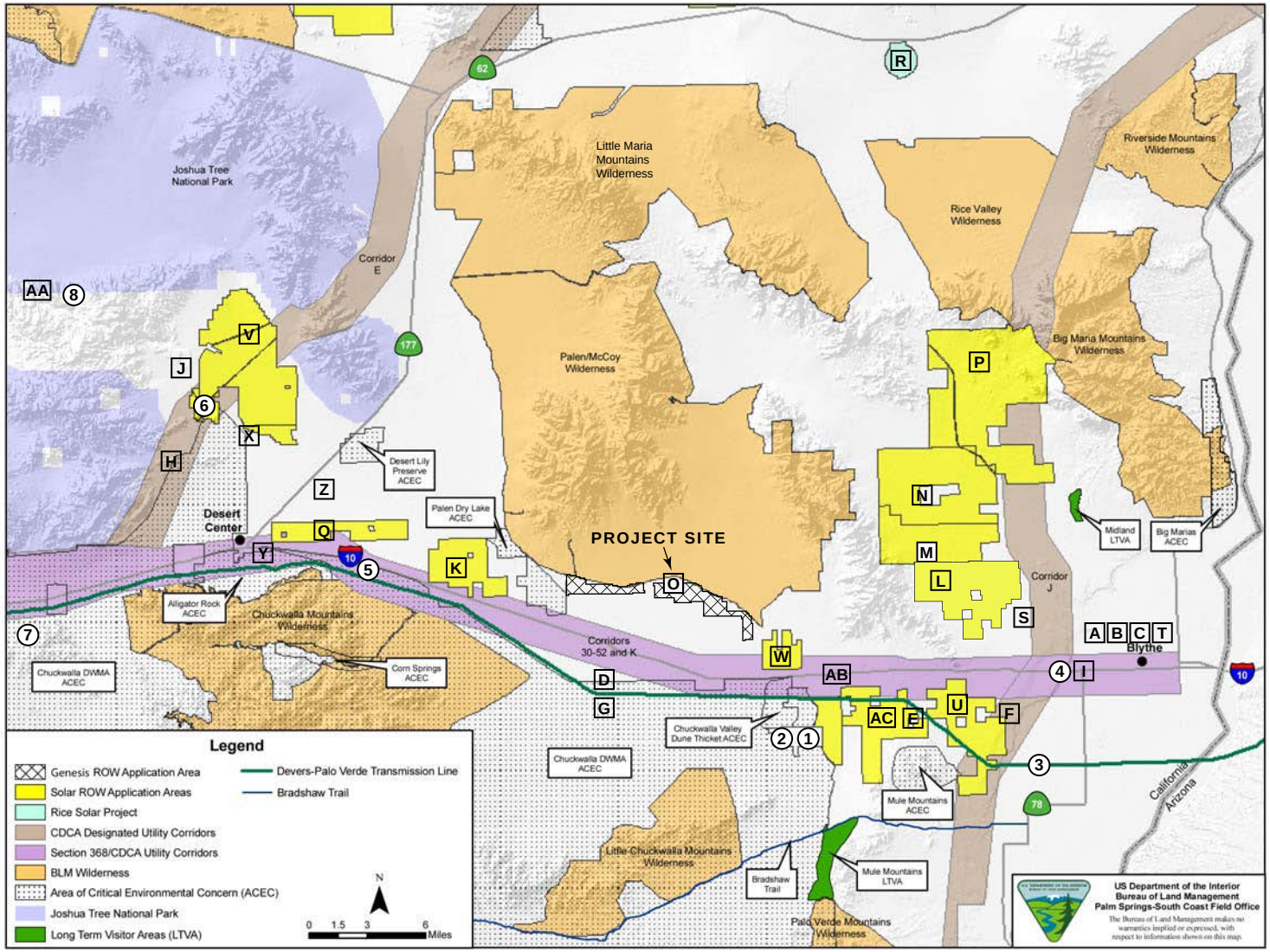
Figure 2-3
Reduced Acreage Alternative



SOURCE: CEC Genesis RSA, June 2010

Figure 2-4

Regional Land Use and Renewable Energy Applications



Proposed Projects

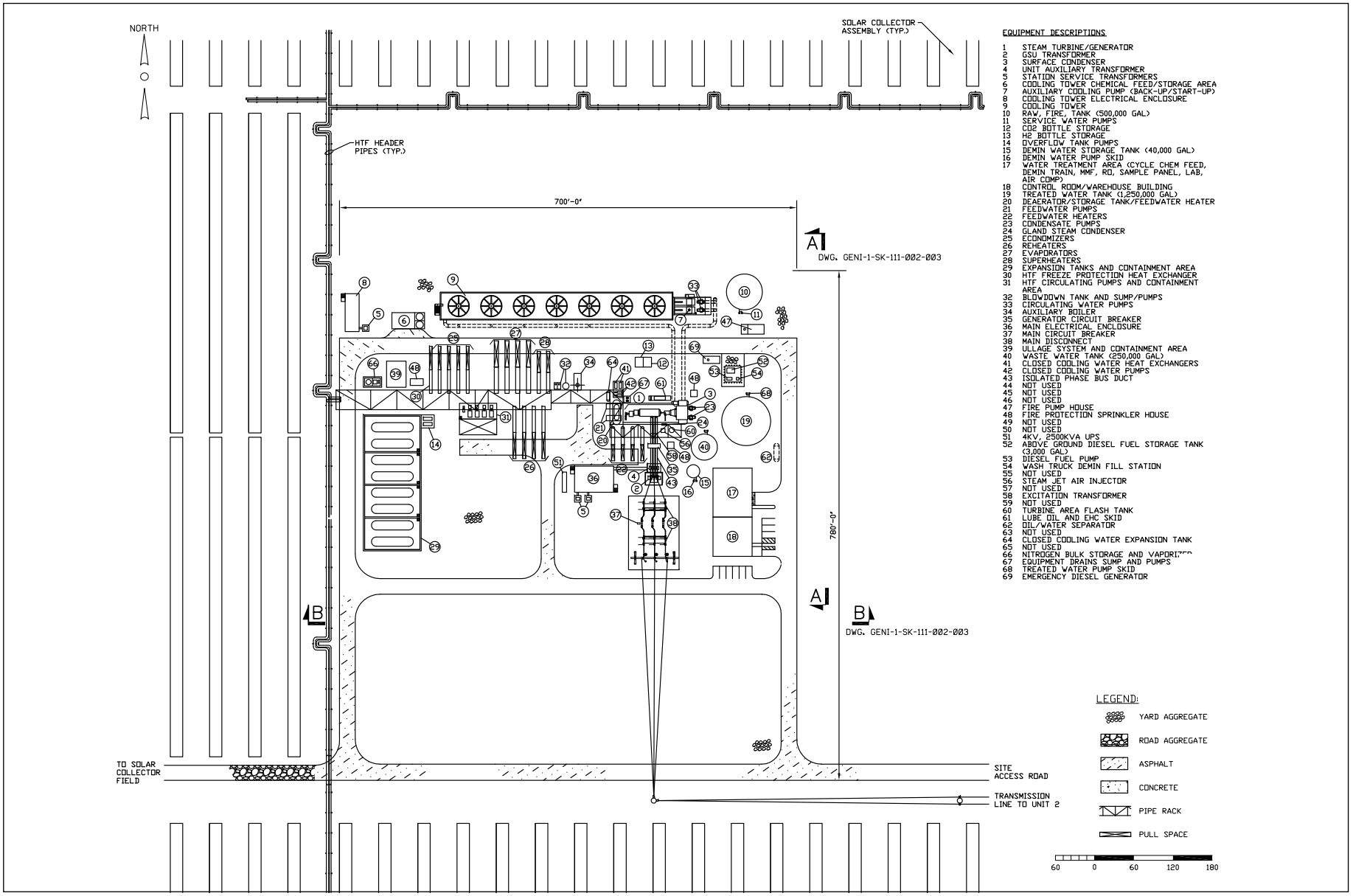
- **A** Four Commercial Projects
- **B** Intake Shell
- **C** Fifteen Residential Developments
- **D** Devers-Palo Verde 2 Transmission Line Project
- **E** Colorado Substation and Expansion
- **F** Blythe Energy Project Transmission Line
- **G** Desert Southwest Transmission Line
- **H** Green Energy Express Transmission Line Project
- **I** Blythe Energy Project II
- **J** Eagle Mountain Pumped Storage Project
- **K** Palen Solar Power Project
- **L** Blythe Solar Power Project
- **M** NextEra (FPL) McCoy
- **N** McCoy Soleil Project
- **O** Genesis Solar Energy Project
- **P** Big Maria Vista Solar Project
- **Q** Chuckwalla Solar I
- **R** Rice Solar Energy Project
- **S** Blythe Airport Solar I Project
- **T** Blythe PV Project
- **U** Desert Quartzite
- **V** Desert Sunlight
- **W** Mule Mountain Soliel Project
- **X** Eagle Mountain Soleil
- **Y** Red Bluff Substation (Location is unknown)
- **Z** Chuckwalla Valley Raceway
- **AA** Eagle Mountain Landfill Project
- **AB** Wileys Well Communication Tower
- **AC** Mule Mountain Solar Project

Existing Projects

- **1** Chuckwalla Valley State Prison
- **2** Ironwood State Prison
- **3** Devers-Palo Verde 1 Transmission Line
- **4** Blythe Energy Project
- **5** West-wide Section 368 Energy Corridors
- **6** Eagle Mountain Pumping Plant
- **7** Recreational Opportunities
- **8** Kaiser Mine

SOURCE: CEC Genesis RSA, June 2010.

Figure 2-5
BLM Rights of Way with Existing and Future/Foreseeable Projects

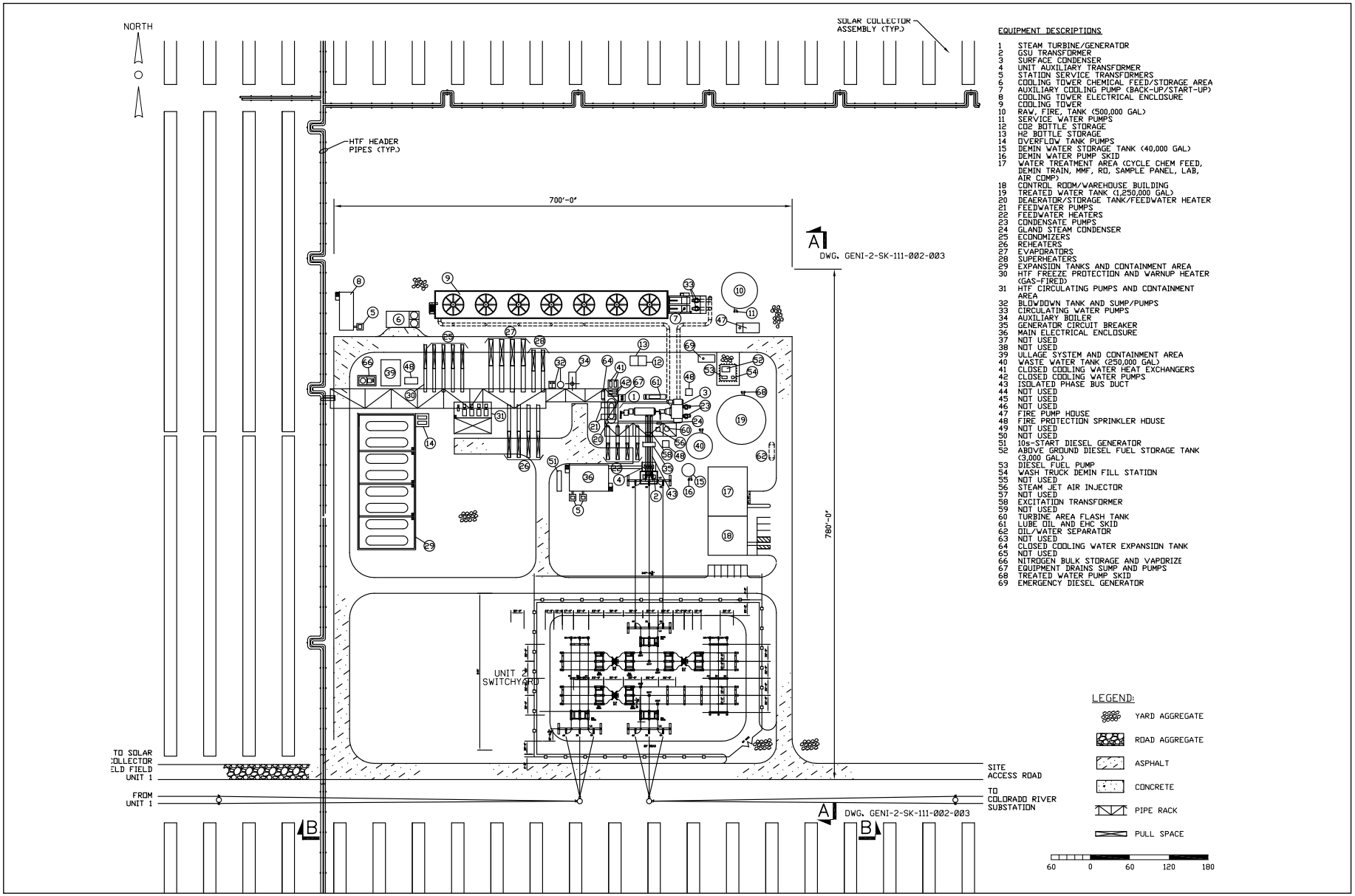


A-2

SOURCE: Genesis AFC, August 2009

Figure 2-6

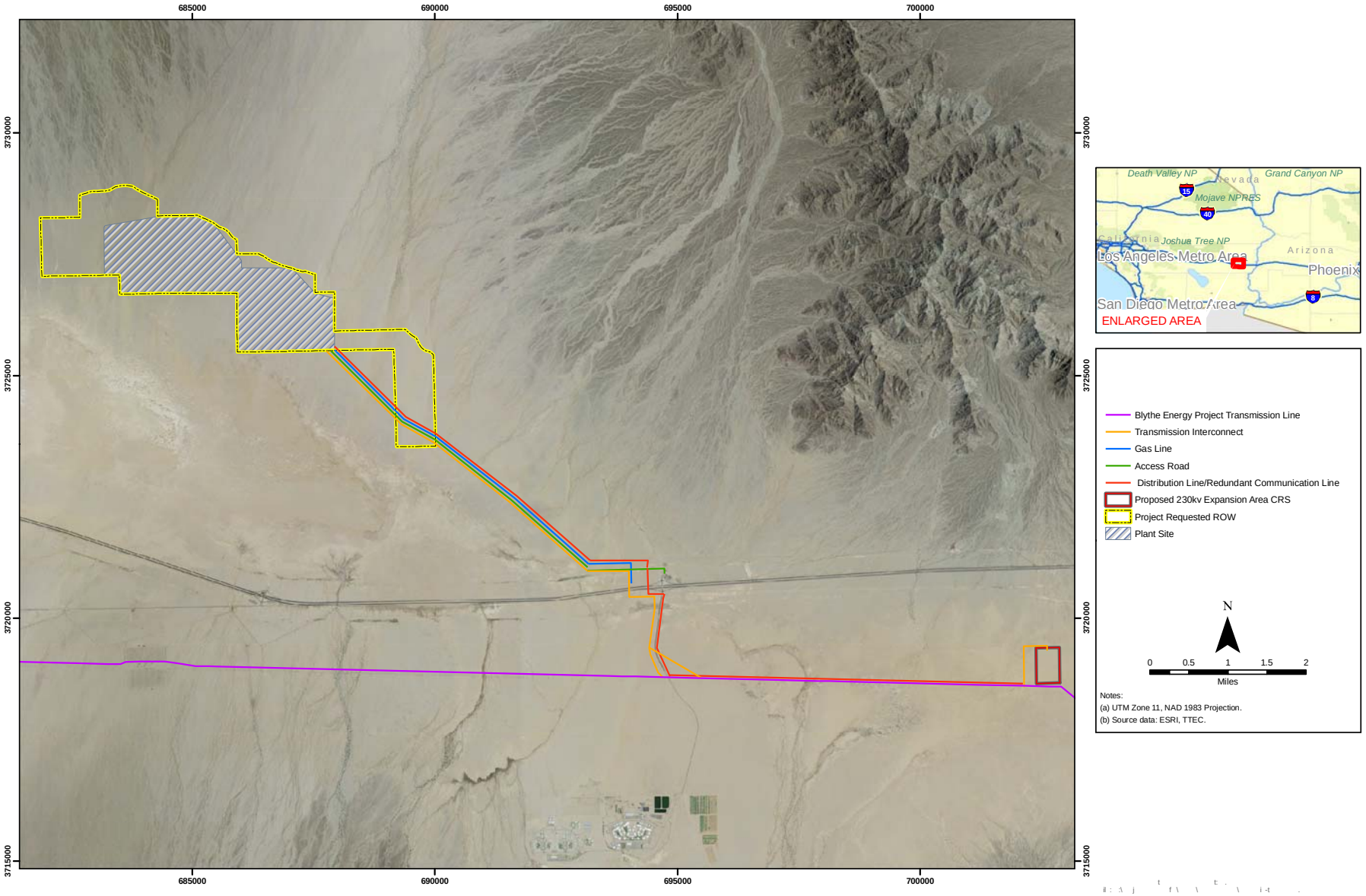
Conceptual Power Block Layout, Unit 1



SOURCE: Genesis AFC, August 2009

Figure 2-7

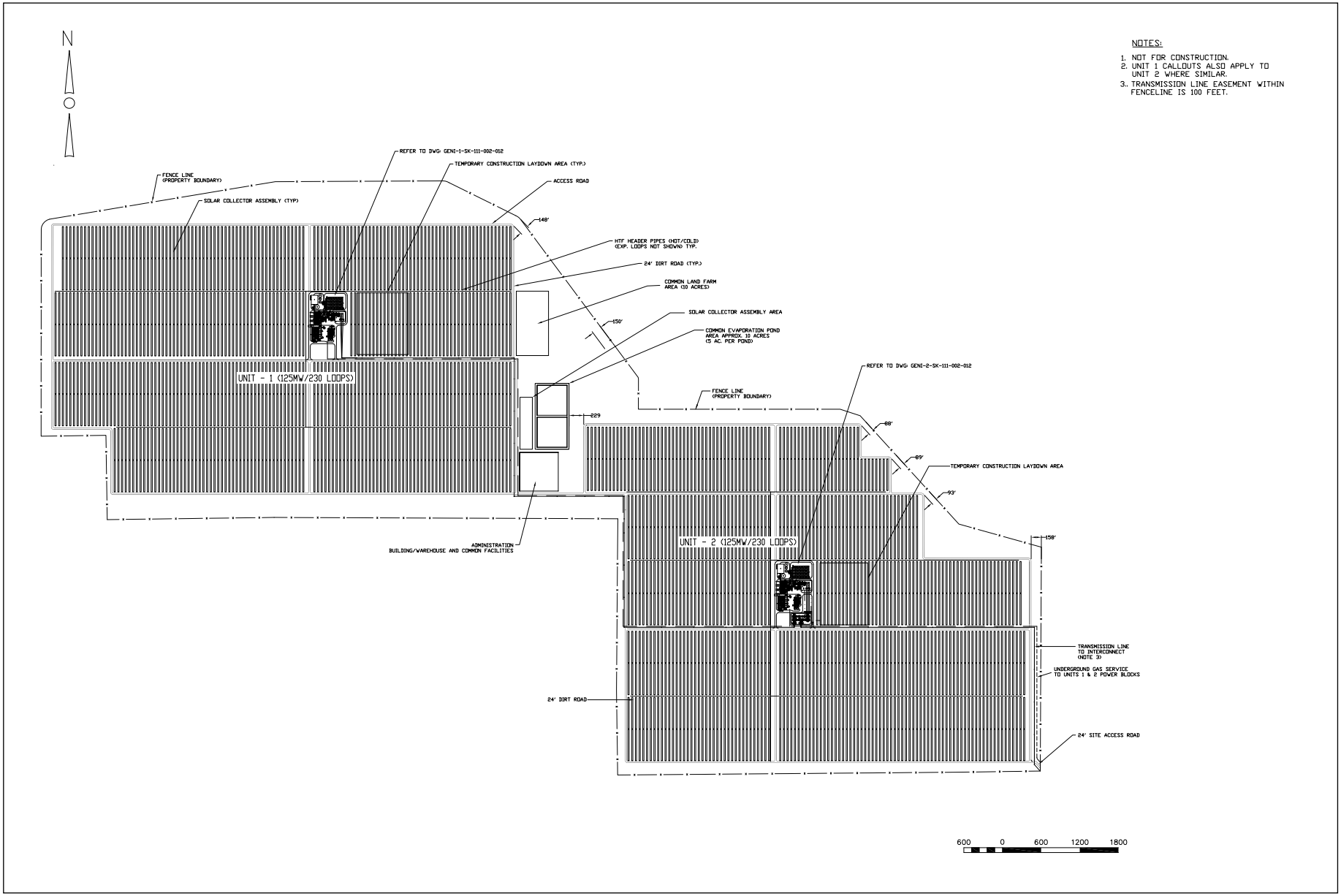
Conceptual Power Block Layout, Unit 2



SOURCE: Tetra Tech EC Inc., August 4, 2010

Figure 2-8

Telecommunications and Distribution Line Routes

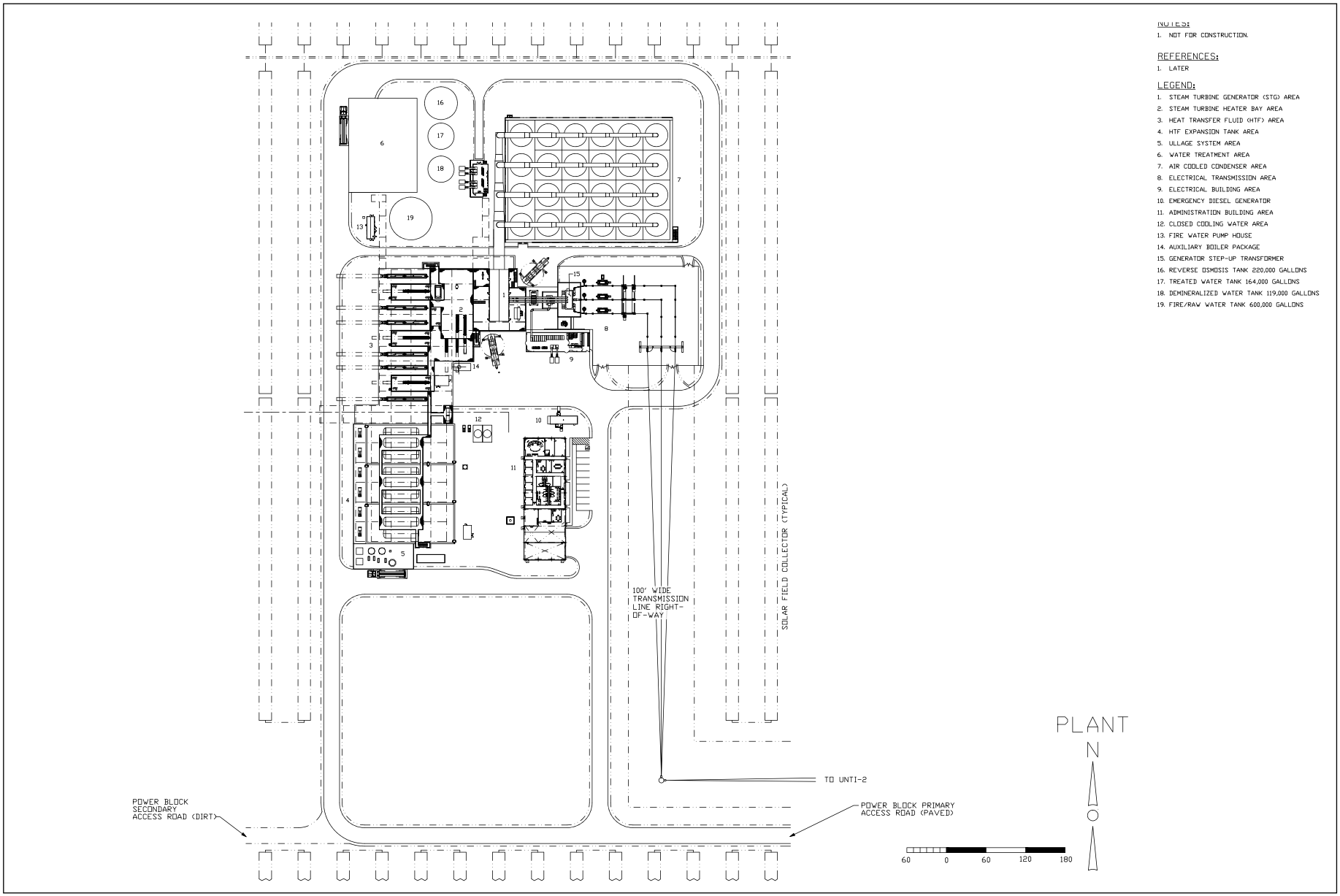


A-5

SOURCE: Tetra Tech EC Inc., July 13, 2010

Figure 2-9

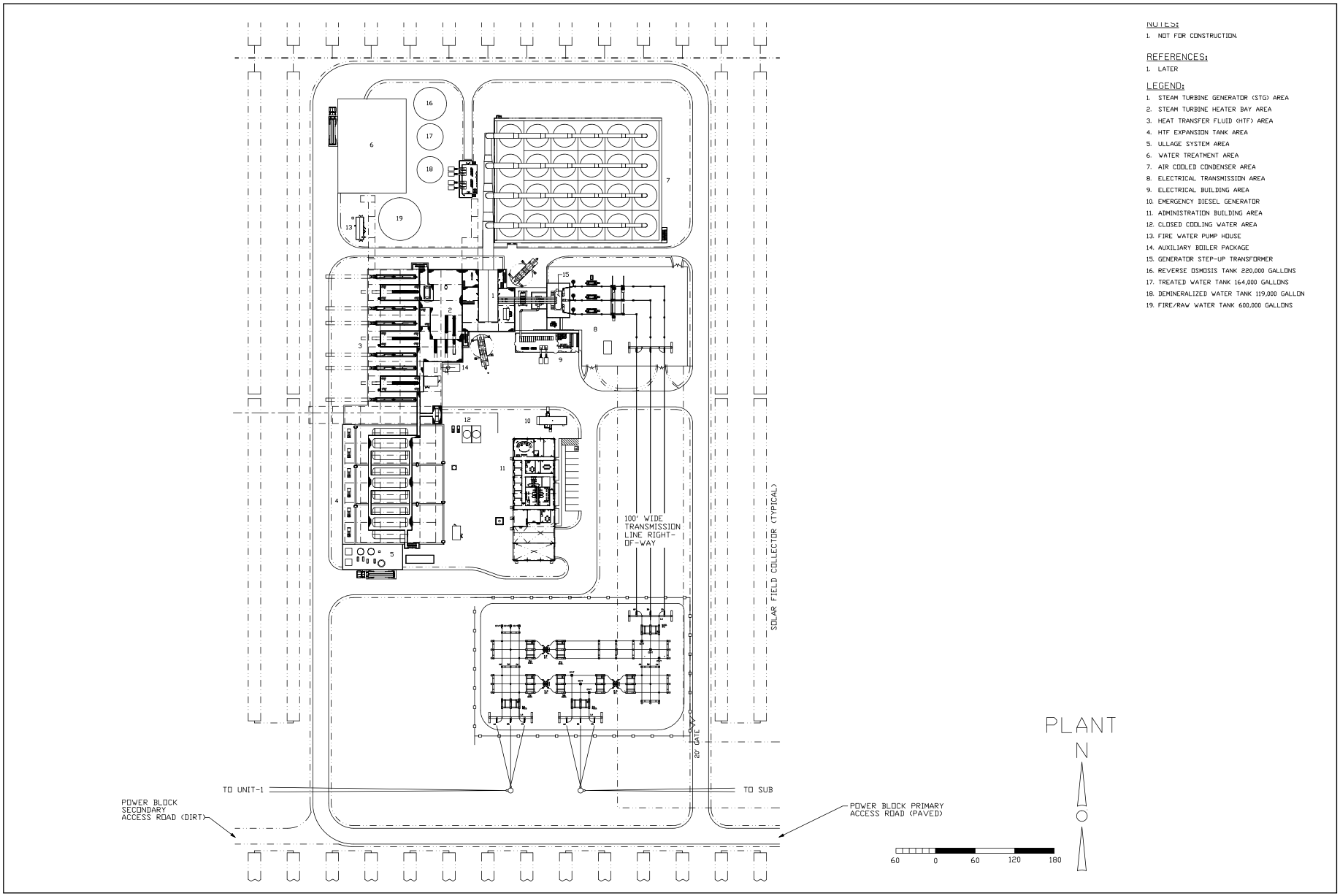
Dry Cooling Alternative: Overall Site Plan



SOURCE: Tetra Tech EC Inc., July 13, 2010

Figure 2-10

Dry Cooling Conceptual Power Block Layout, Unit 1



SOURCE: Tetra Tech EC Inc., July 13, 2010

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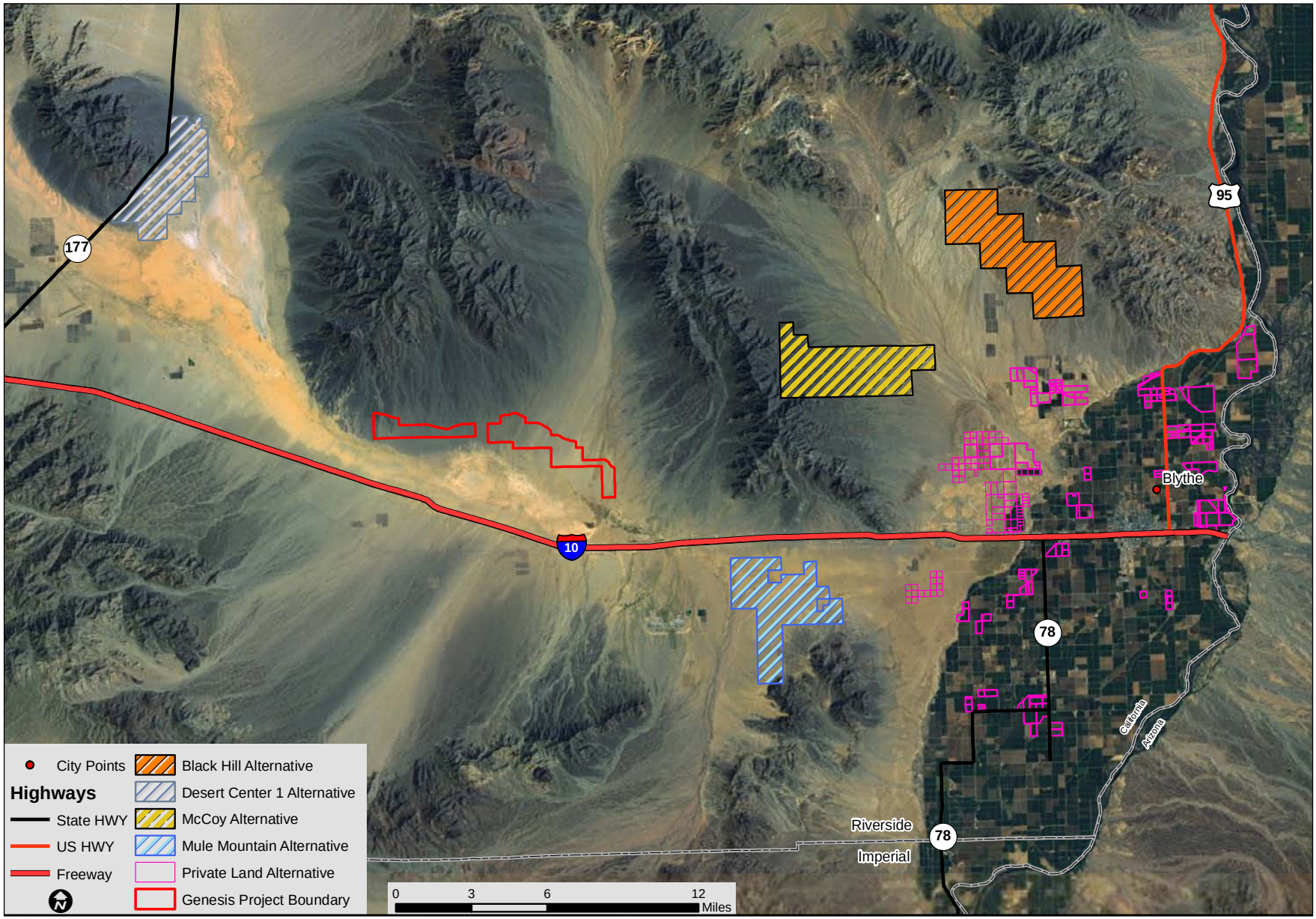
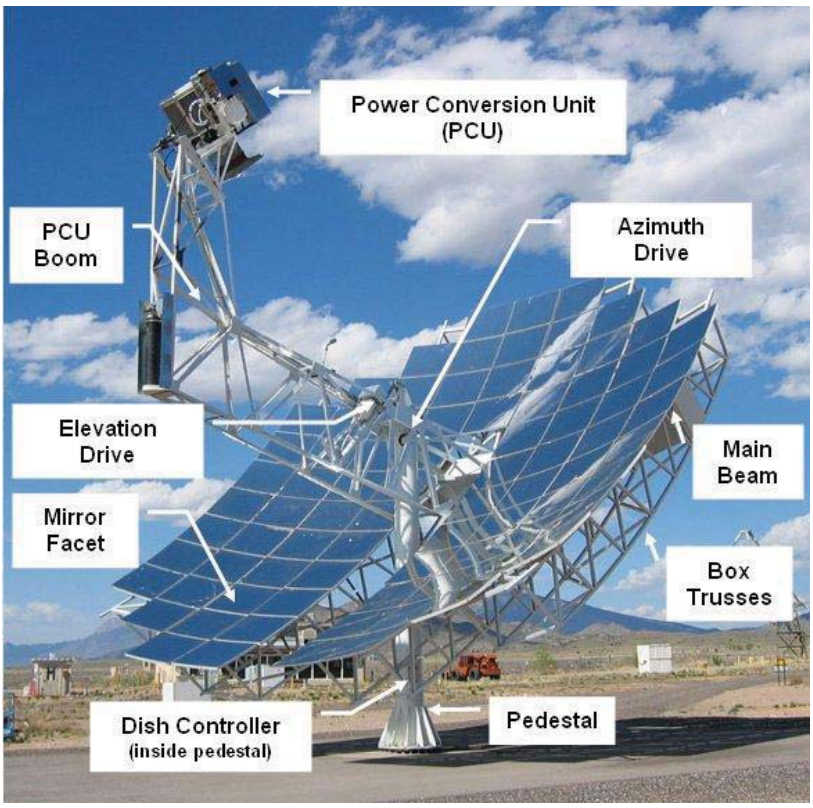
Figure 2-11

Dry Cooling Conceptual Power Block Layout, Unit 2



SOURCE: CEC Genesis RSA, June 2010

Figure 2-12
Alternatives Considered but Eliminated
From Detailed Analysis – Alternative Sites



Stirling dish (from Stirling Energy Systems website)

Solar Power Tower (from ISEGS PSA, 2008)

SOURCE: CEC Genesis RSA, June 2010

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Figure 2-13
Alternatives Considered but Eliminated From Detailed Analysis – Alternative Solar Generation Technologies

Linear Fresnel technology
(Wikipedia.org, Fresnel_reflectors_ausra.jpg)

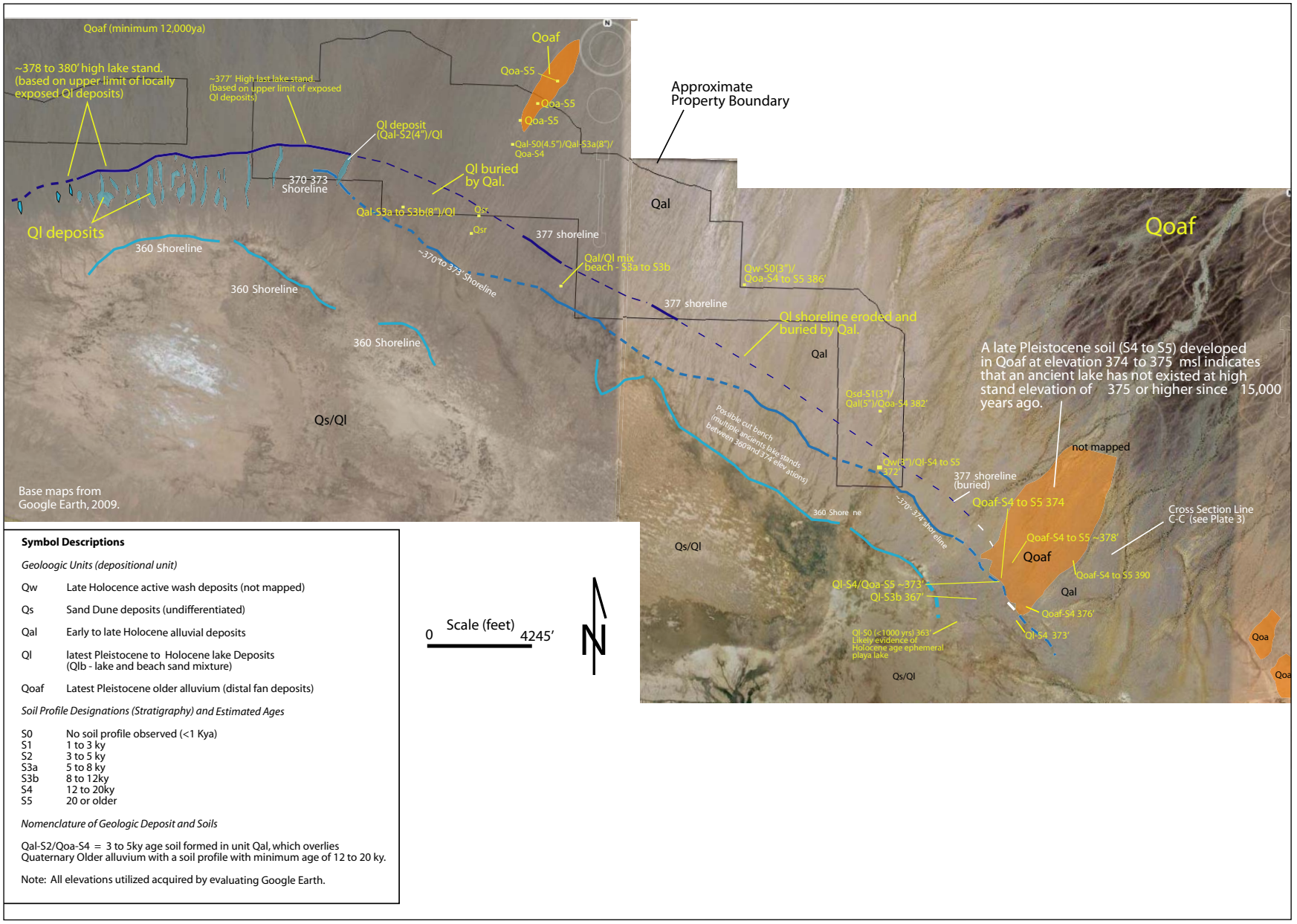
First Solar's thin film solar photovoltaic field
(Photo: Susan Lee)

Canon Solar Partners proposes to use the 35 kW Amonix system
(Canon 2008)

SunPower's PowerTracker Solar in Gwangju City Power Plant, South Korea - 1 MW
http://www.sunpowercorp.com/For-Power-Plants.aspx

SOURCE: CEC Genesis RSA, June 2010

Figure 2-14
Alternatives Considered but Eliminated From Detailed Analysis –
Linear Fresnel and Photovoltaic Technologies



Symbol Descriptions

Geoloogic Units (depositional unit)

Qw	Late Holocence active wash deposits (not mapped)
Qs	Sand Dune deposits (undifferentiated)
Qal	Early to late Holocene alluvial deposits
Ql	latest Pleistocene to Holocene lake Deposits (Qlb - lake and beach sand mixture)
Qoaf	Latest Pleistocene older alluvium (distal fan deposits)

Soil Profile Designations (Stratigraphy) and Estimated Ages

S0	No soil profile observed (<1 Kya)
S1	1 to 3 ky
S2	3 to 5 ky
S3a	5 to 8 ky
S3b	8 to 12ky
S4	12 to 20ky
S5	20 or older

Nomenclature of Geologic Deposit and Soils

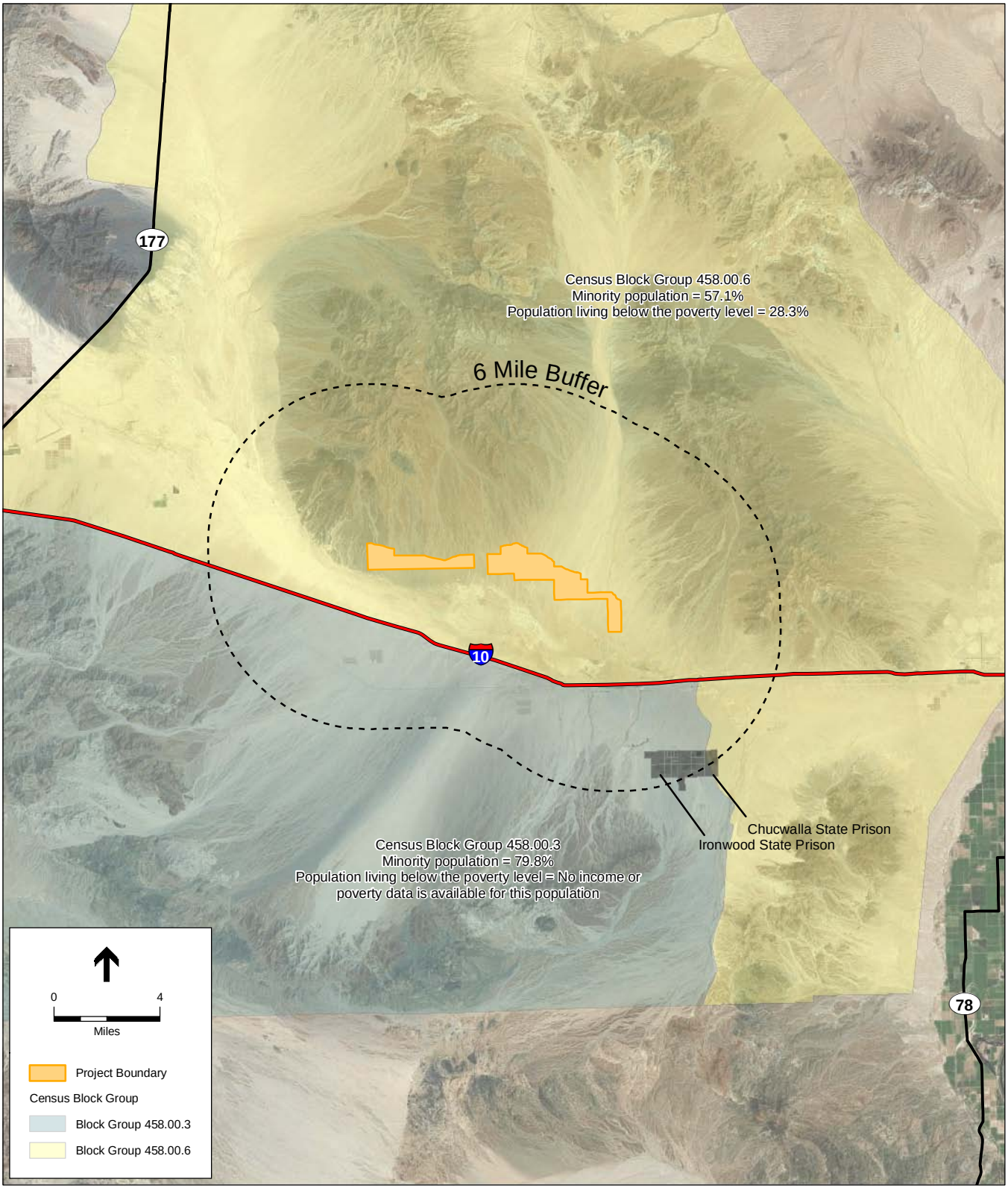
Qal-S2/Qoa-S4 = 3 to 5ky age soil formed in unit Qal, which overlies Quaternary Older alluvium with a soil profile with minimum age of 12 to 20 ky.

Note: All elevations utilized acquired by evaluating Google Earth.

SOURCE: CEC Genesis SA, March 2010

Figure 3.4-1

Geomorphic Ancient Lake Shoreline Evaluation Map with Limited Geology, Ford Dry Lake, California



SOURCE: Census, 2000; CEC Genesis RSA, 2010

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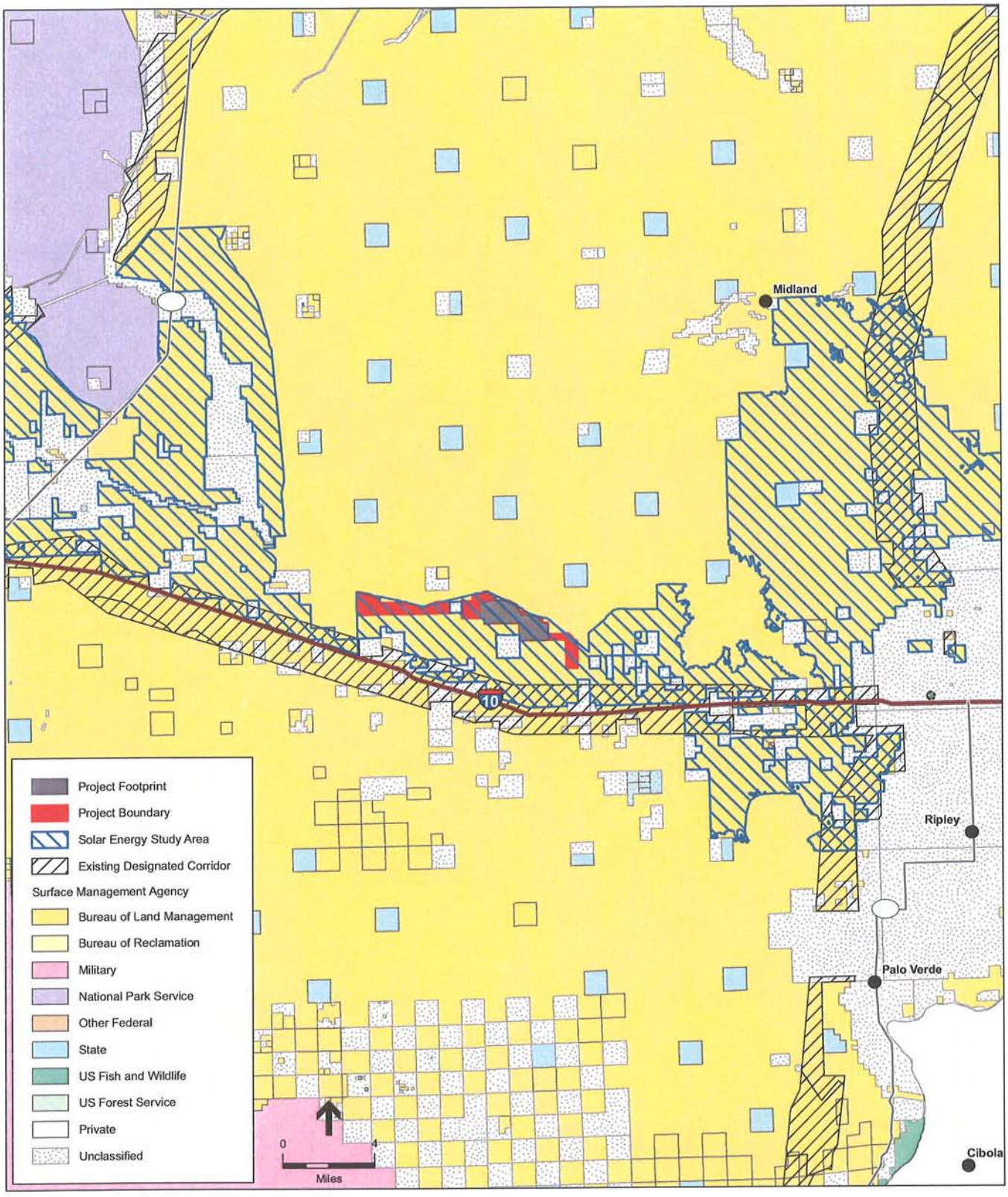
Figure 3.5-1
Census Block Groups within 6 Miles
of Project Site



SOURCE: CEC Genesis RSA, June 2010; ESA, 2010

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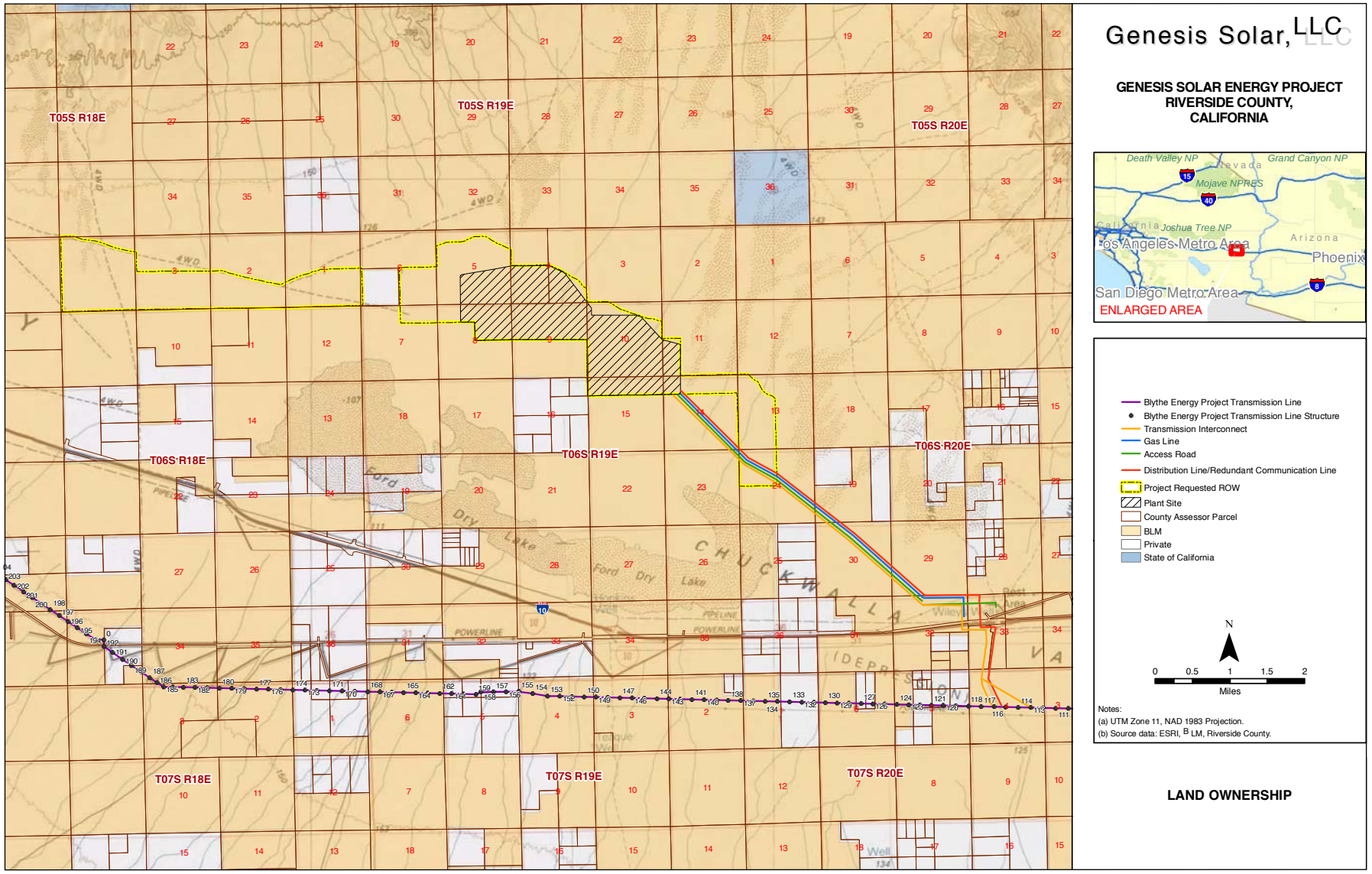
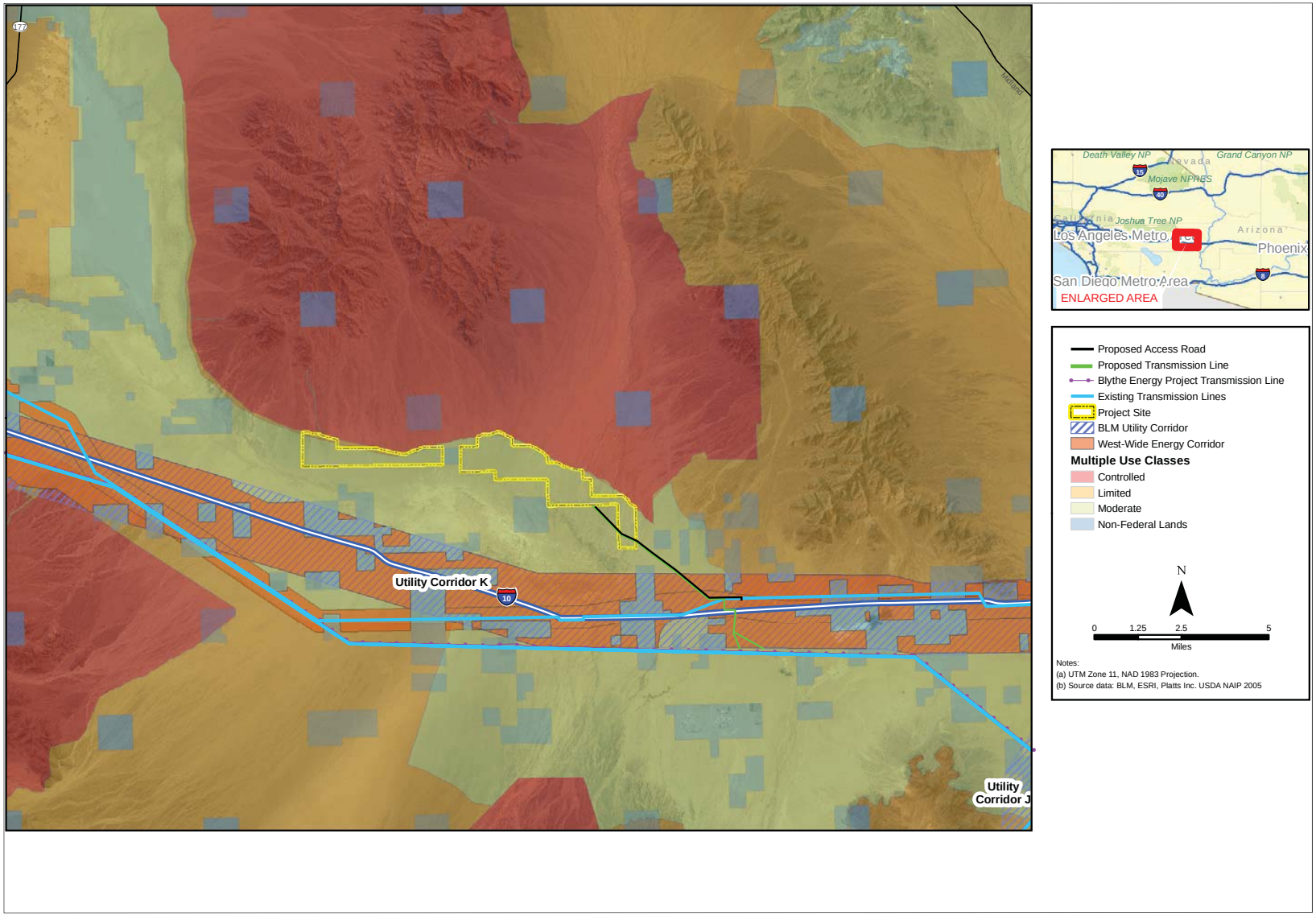
Figure 3.06-1

Solar Energy Study Areas and Land Use



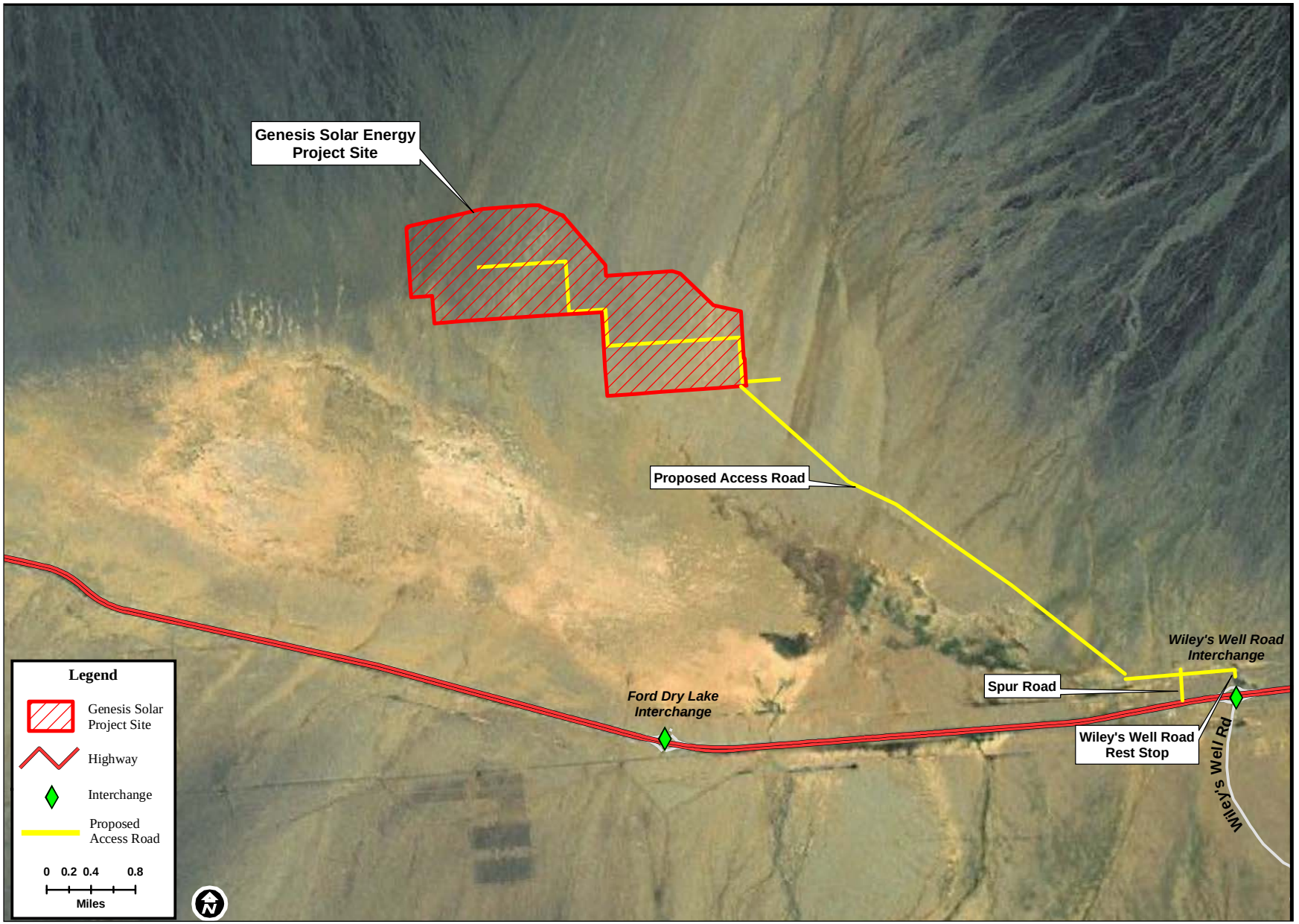
SOURCE: Tetra Tech EC Inc., August 4, 2010

Figure 3.6-2
Proposed Ancillary Facilities and Land Ownership



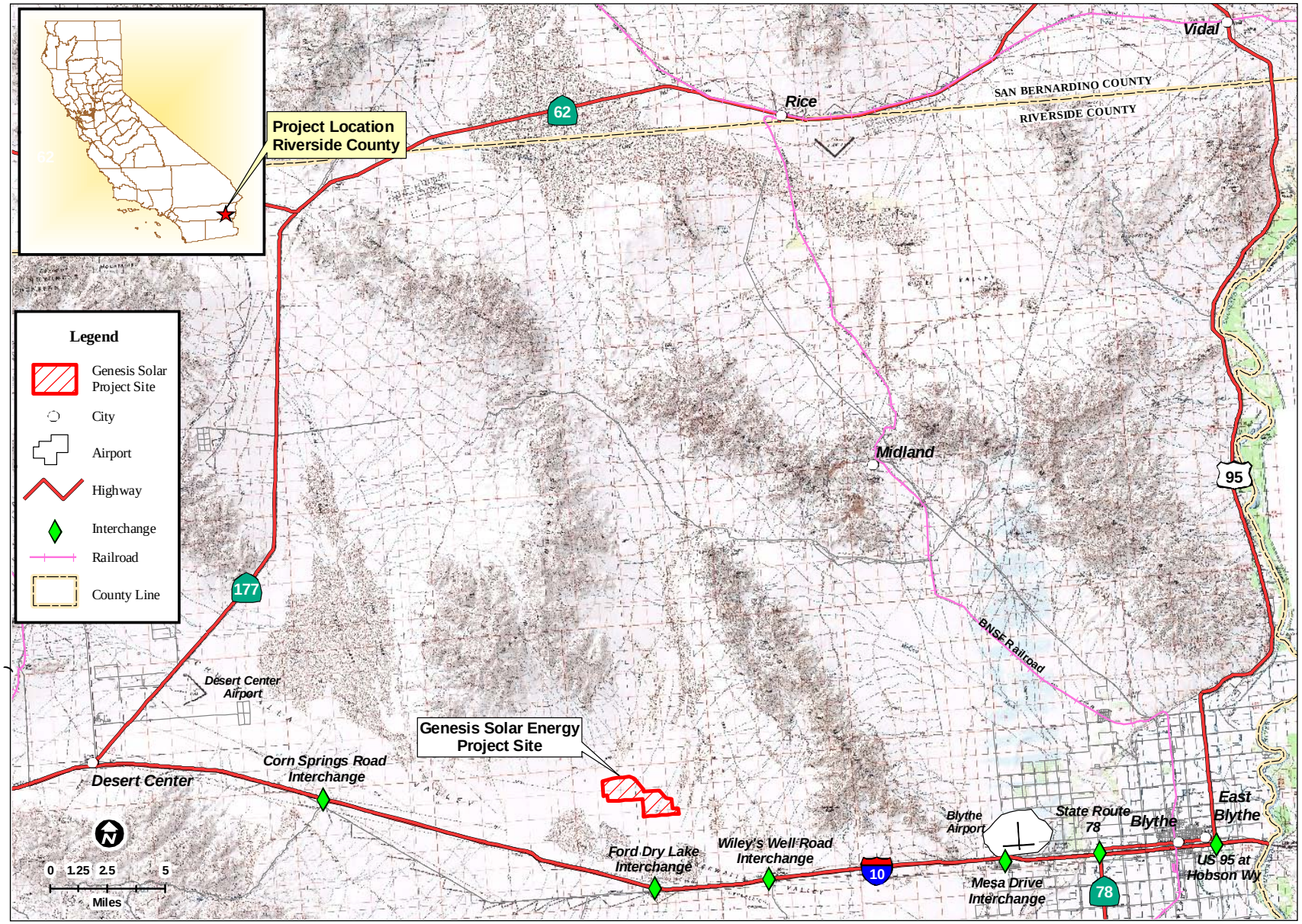
SOURCE: California Energy Commission, August 6, 2010

Figure 3.9-1
Map of CDCA Multiple Use Classes
in Eastern Riverside County



SOURCE: California Energy Commission, August 10, 2010

Figure 3.12-1
Local Transportation Network



SOURCE: CEC Genesis RSA, June 2010

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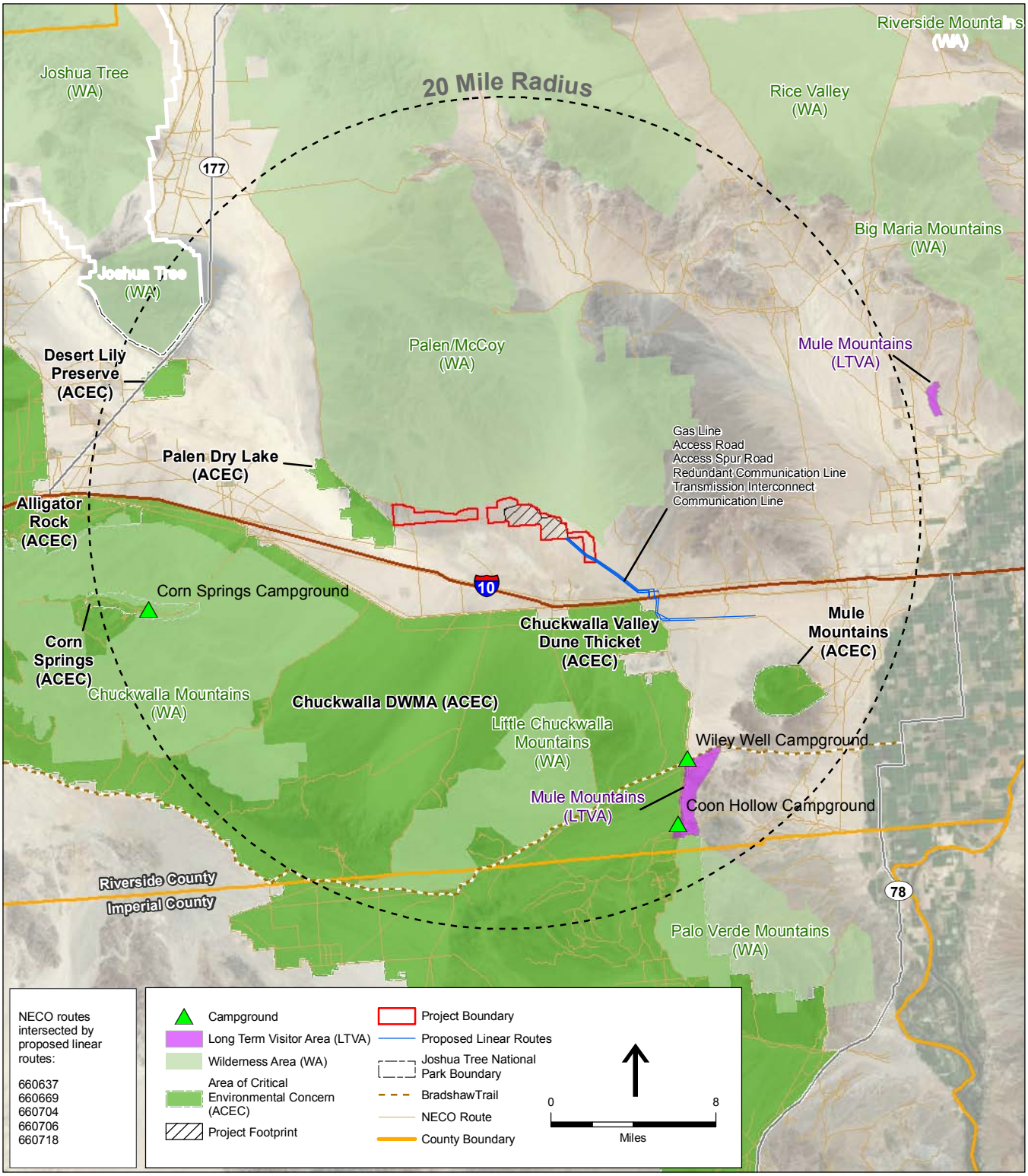
Figure 3.12-2

Regional Transportation Network



SOURCE: CEC Genesis RSA, June 2010; ESA, 2010

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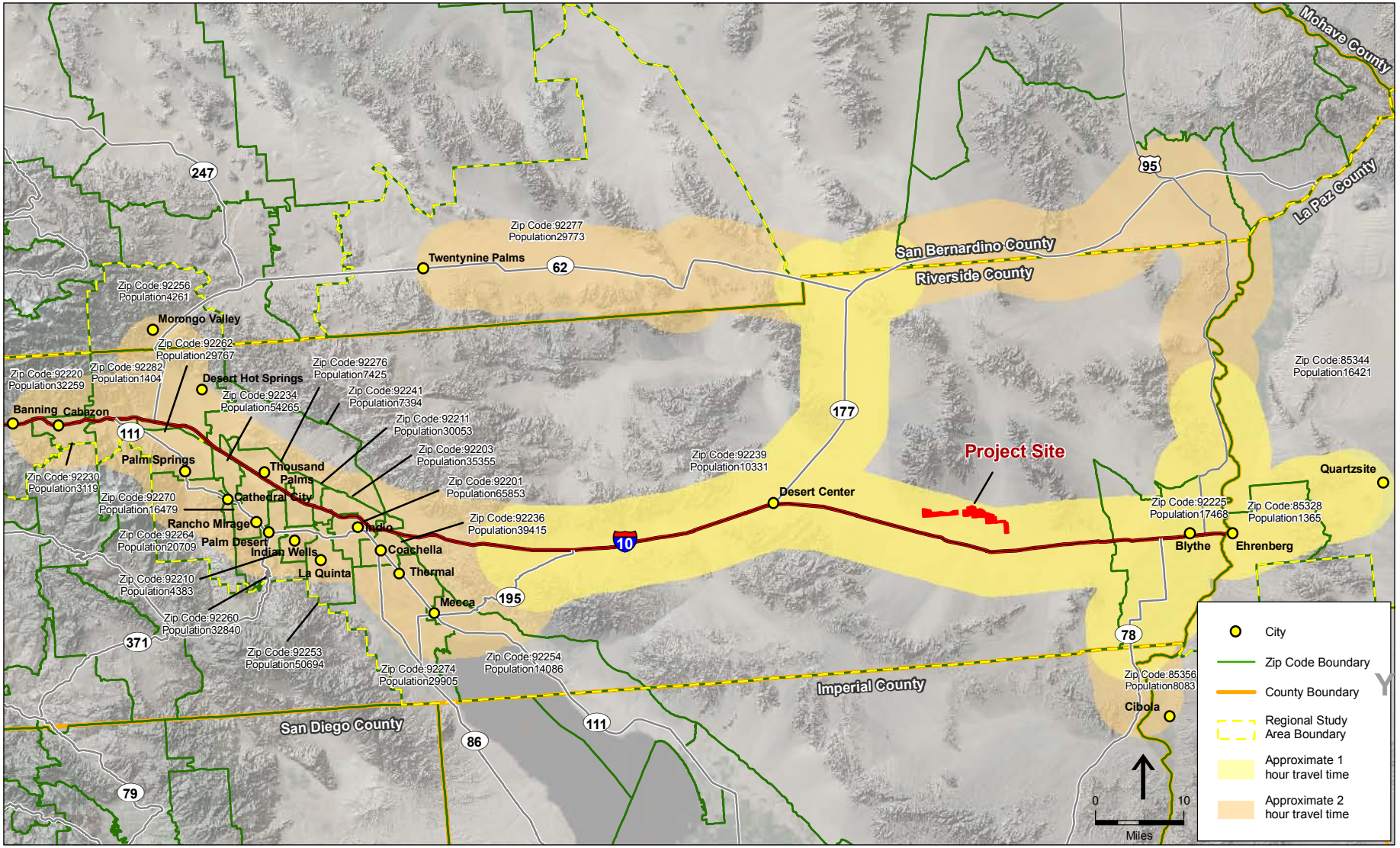
Figure 3.13-1

Special Designations within 20 Miles of Project Site



SOURCE:ESRI, 2010; Tele Atlas North America Inc., 2010; Census, 2000; Google Maps, 2010

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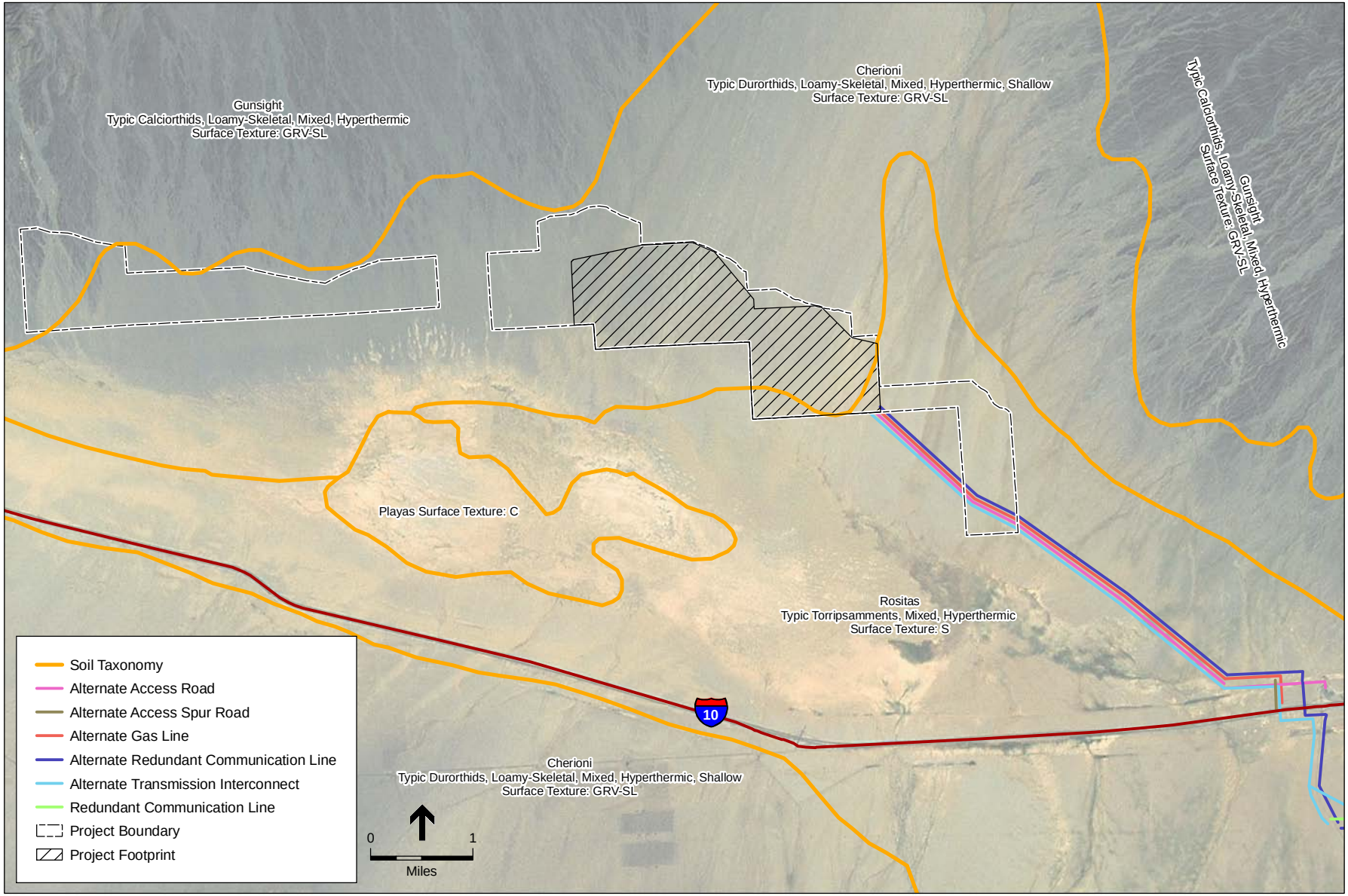
Figure 3.14-1

Regional Study Area
by Zip Code and Travel Distance



SOURCE: ESRI; SSURGO Soils Database; ESA, 2010.

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Figure 3.15-1
Soils

SOURCE: CEC Genesis RSA, June 2010

Figure 3.19-1
Panoramic View of Site
(Looking North from Ford Dry Lake Road Interchange)

Dry Lake Bed

Ironwood Tree

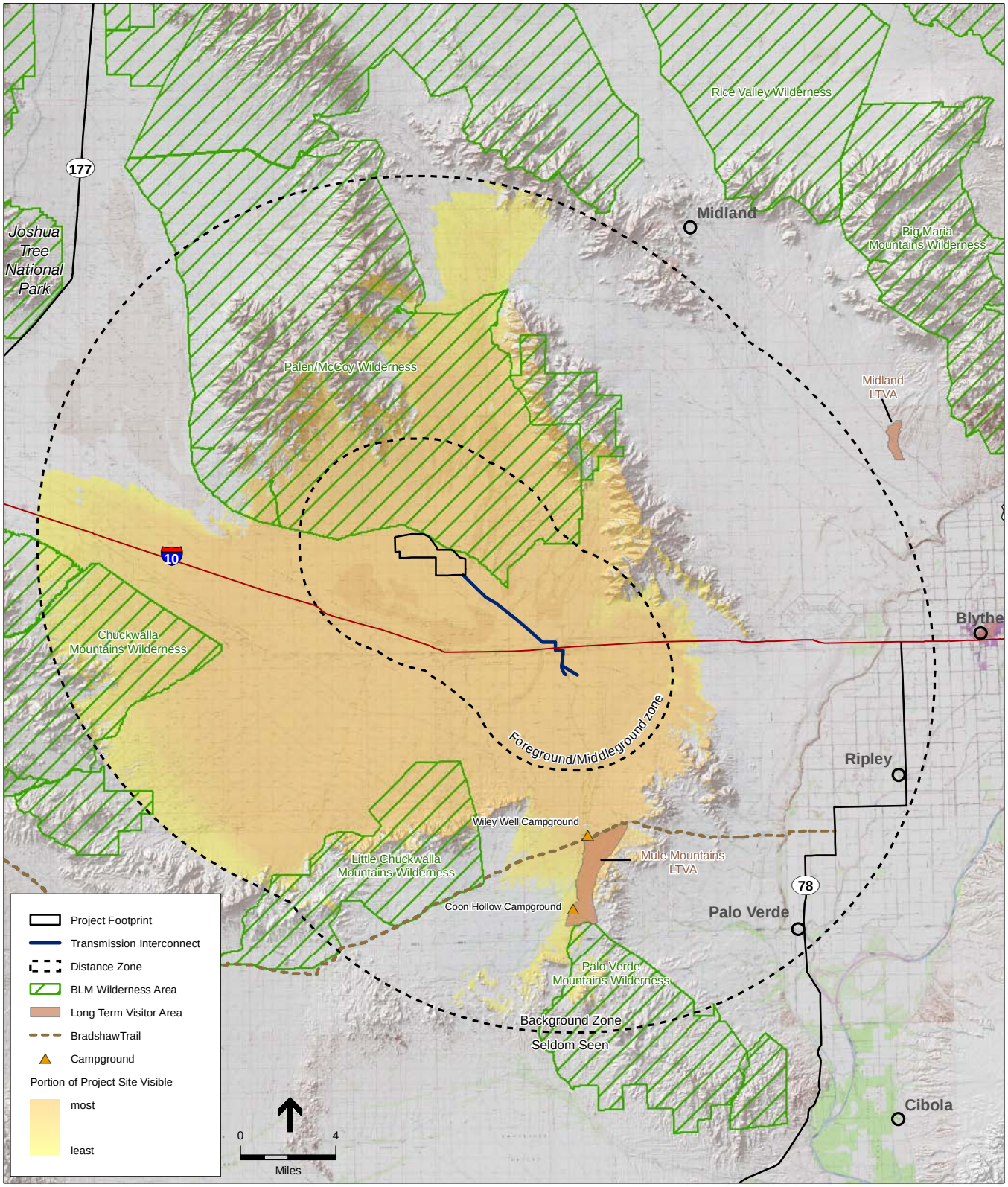
Creosote Scrub

Chuckwalla and Ironwood Prisons, Looking South from Wiley's Well Road, I-10

Devers-Palo Verde Transmission Line, Looking Southwest from Wiley's Well Road

SOURCE: CEC Genesis RSA, June 2010

Figure 3.19-2
Landscape Context Photographs



SOURCE: CEC Genesis RSA, 2010 ESA, 2010

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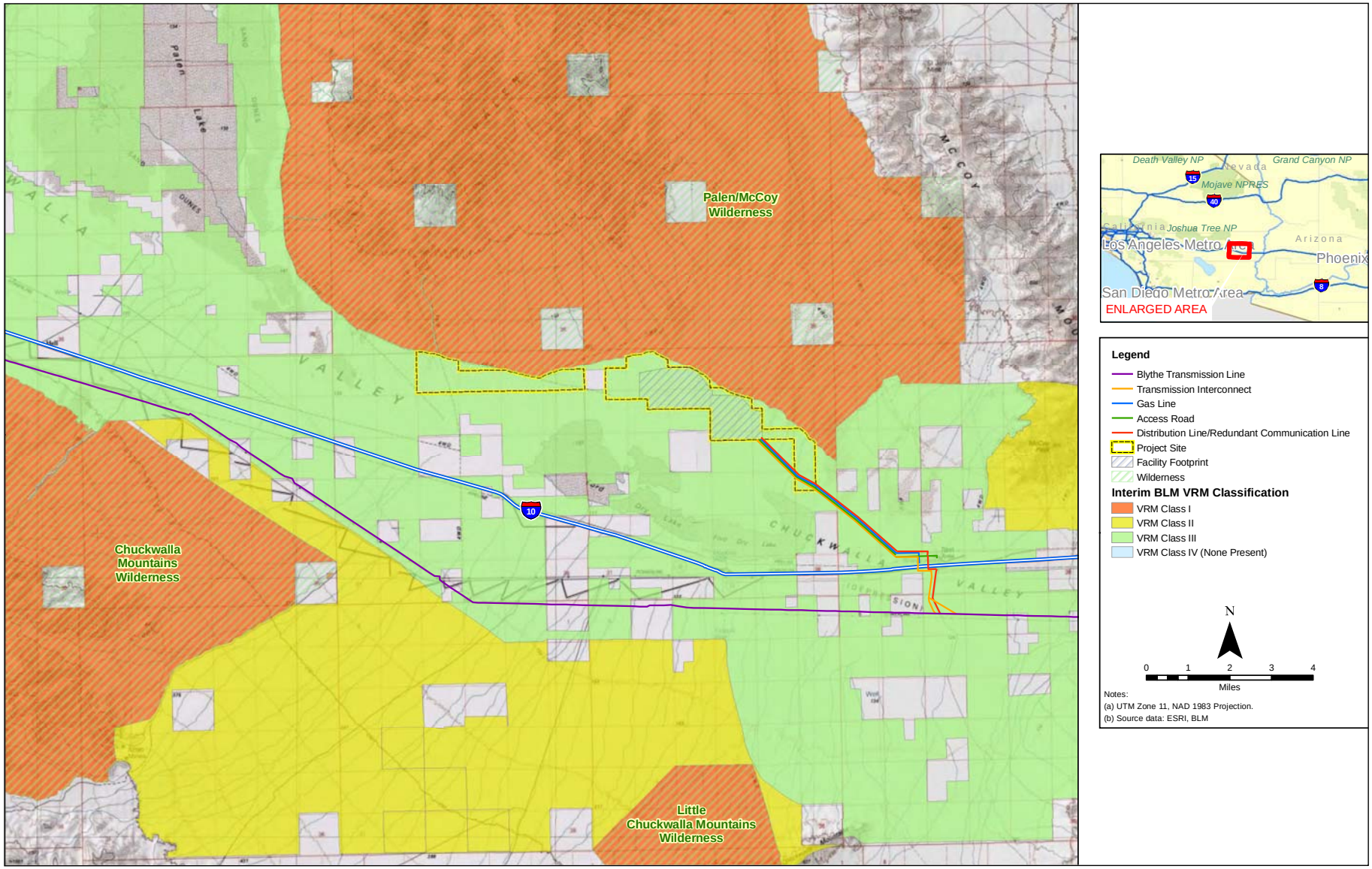
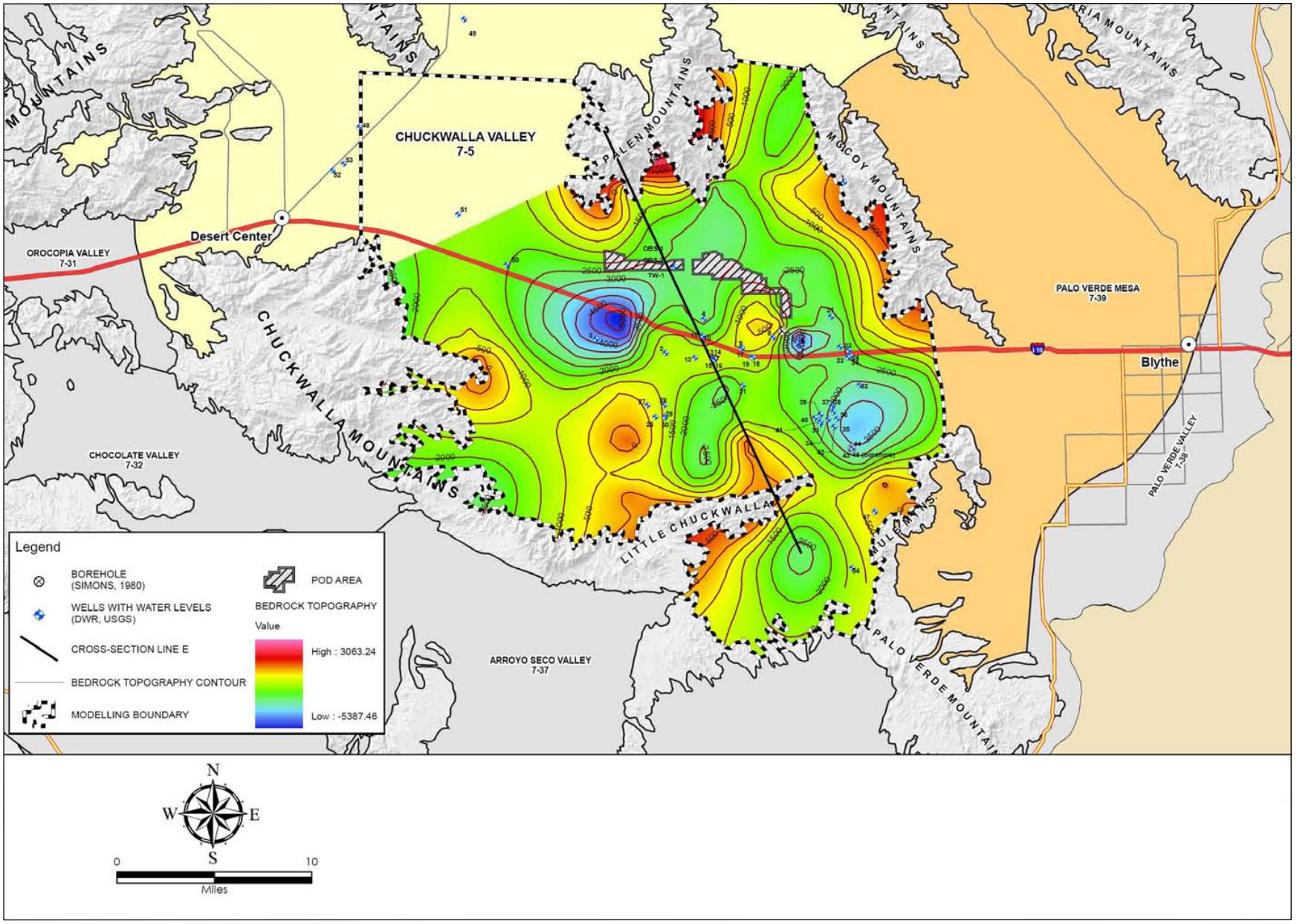
Figure 3.19-3
Project Viewshed



SOURCE: Tetra Tech EC Inc., August 4, 2010

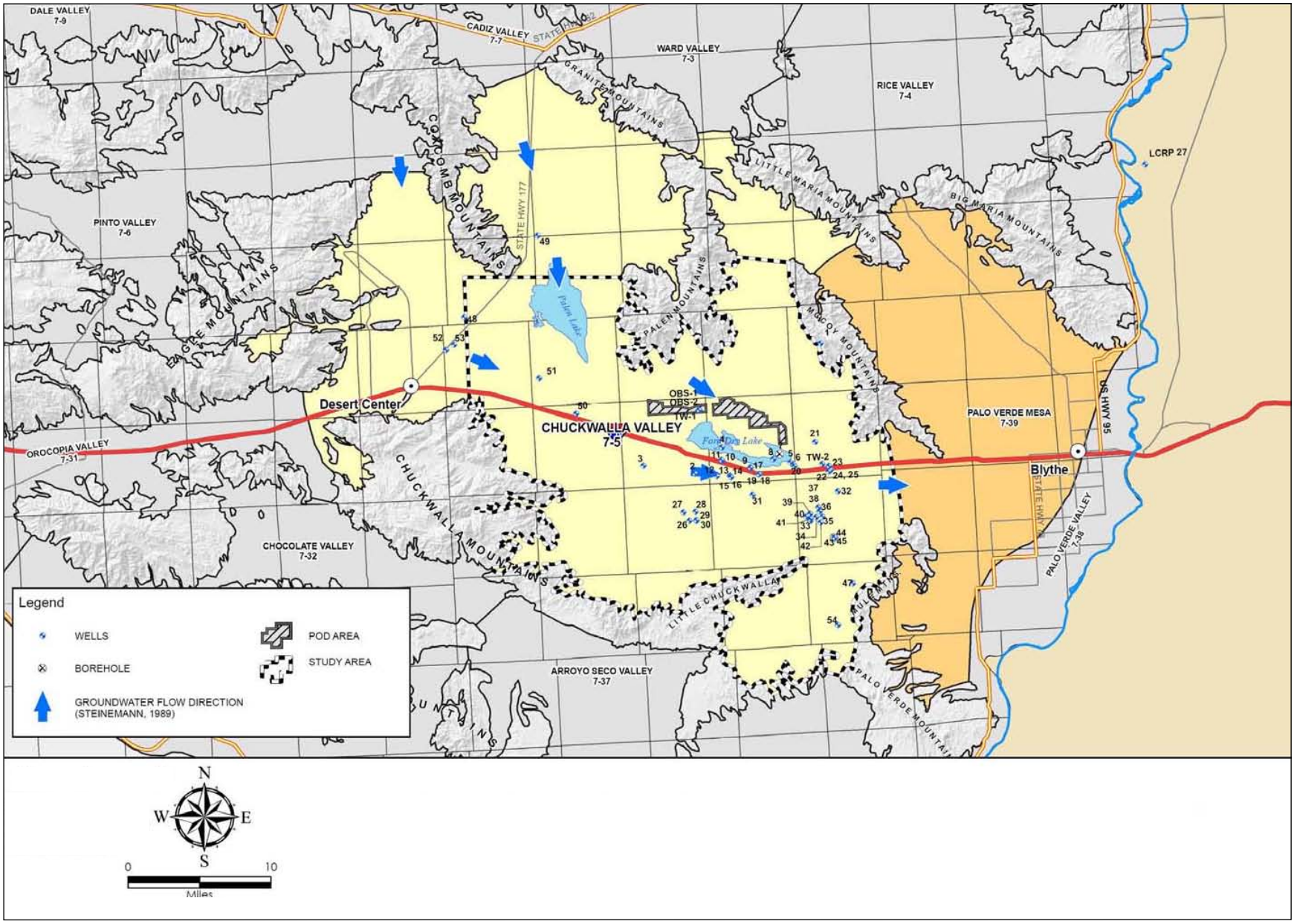
Figure 3.19-4
Interim VRM Classes



SOURCE: CEC Genesis RSA, June 2010

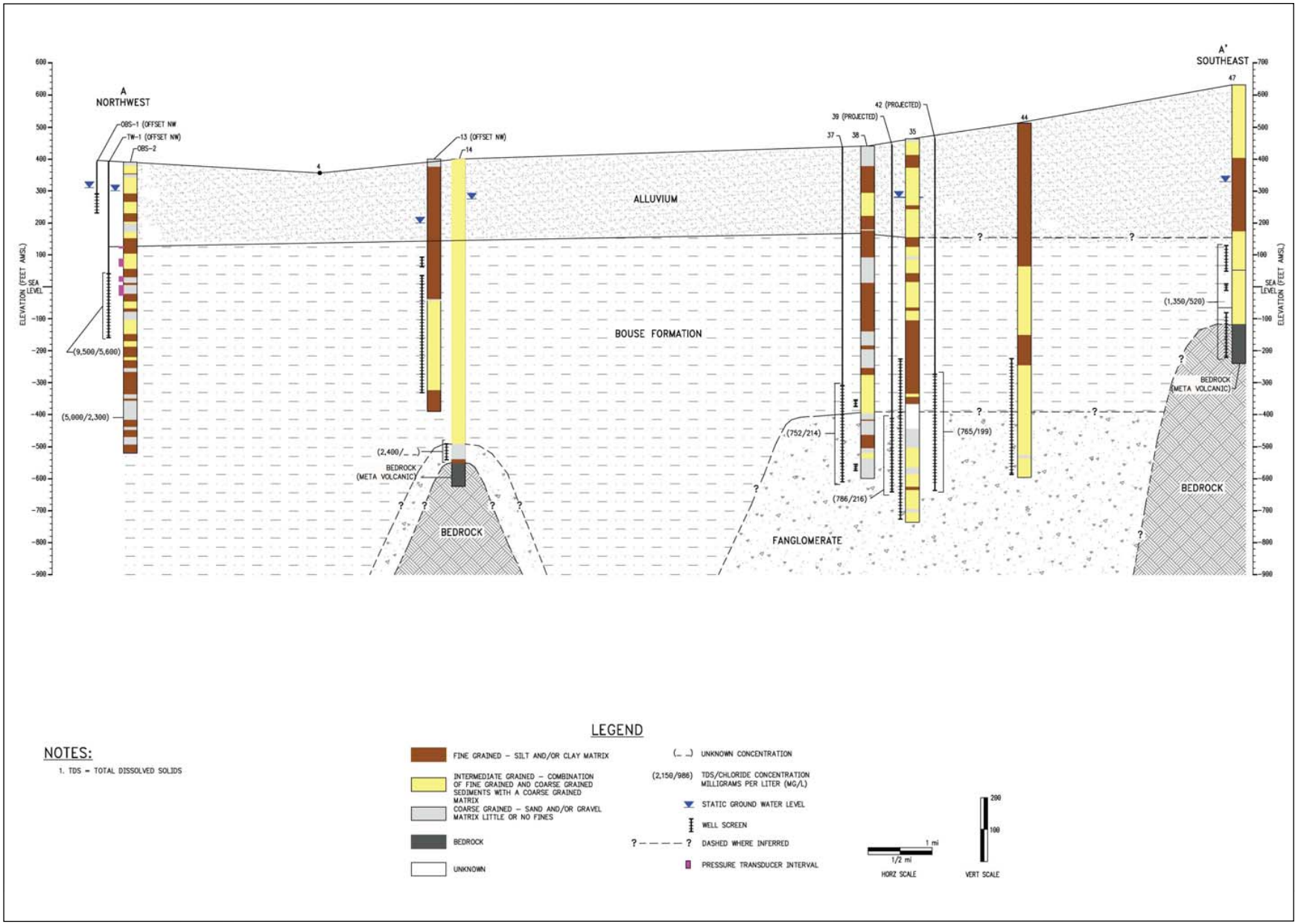
Figure 3.20-1

Chuckwalla Valley Groundwater Basin Bedrock Topography Map - Ford Dry Lake Area



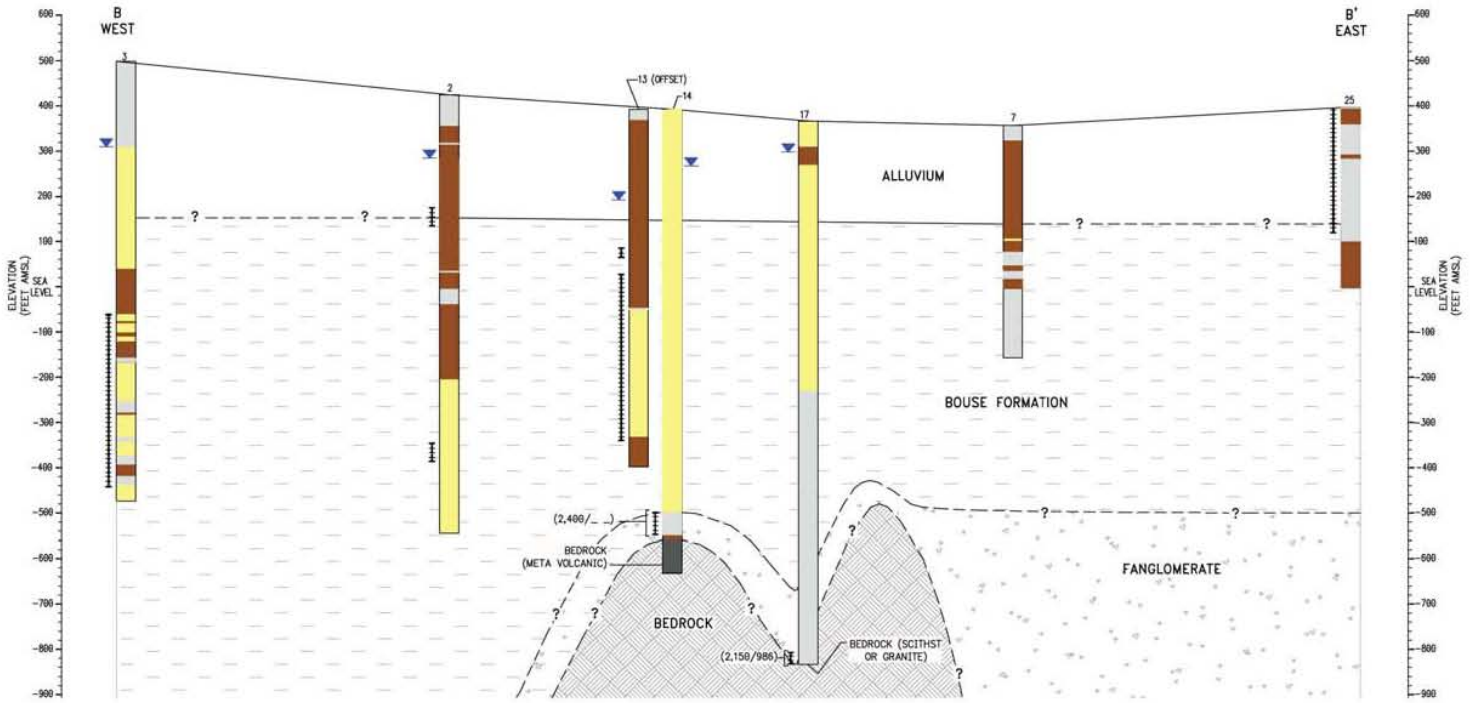
SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-2
Hydrogeologic Setting



SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-3
Hydrostratigraphic Cross-Section A-A'



NOTES:

1. TDS = TOTAL DISSOLVED SOLIDS

LEGEND

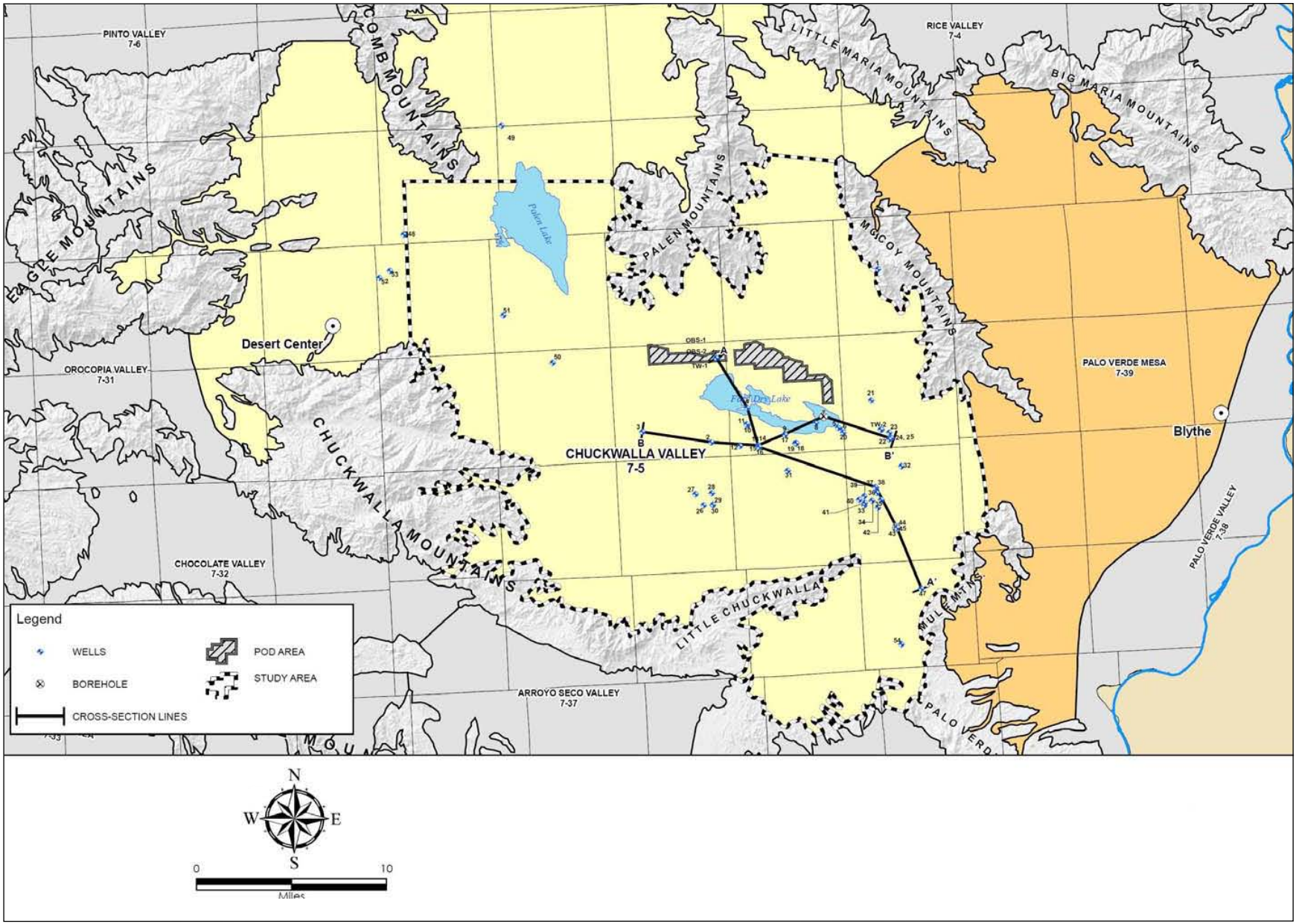
- FINE GRAINED – SILT AND/OR CLAY MATRIX
- INTERMEDIATE GRAINED – COMBINATION OF FINE GRAINED AND COARSE GRAINED SEDIMENTS WITH A COARSE GRAINED MATRIX
- COARSE GRAINED – SAND AND/OR GRAVEL MATRIX LITTLE OR NO FINES
- BEDROCK
- (_ _) UNKNOWN CONCENTRATION
- (2,150/986) TDS/CHLORIDE CONCENTRATION MILLIGRAMS PER LITER (MG/L)
- STATIC GROUND WATER LEVEL
- WELL SCREEN
- ? – – – – ? DASHED WHERE INFERRED

1 mi
1/2 mi
HORZ SCALE

200
100
VERT SCALE

SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-4
Hydrostratigraphic Cross-Section B-B'



SOURCE: CEC Genesis RSA, June 2010

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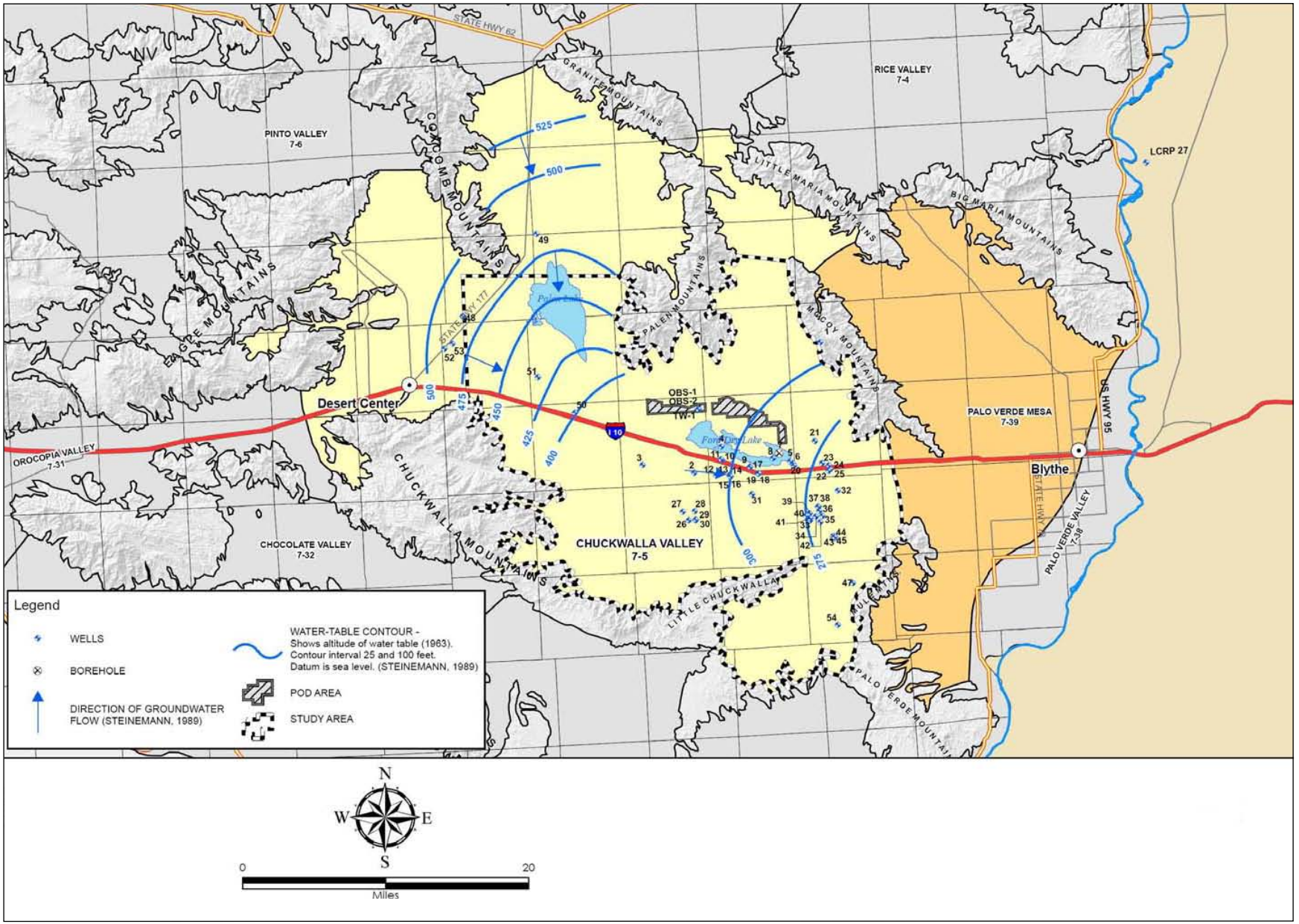
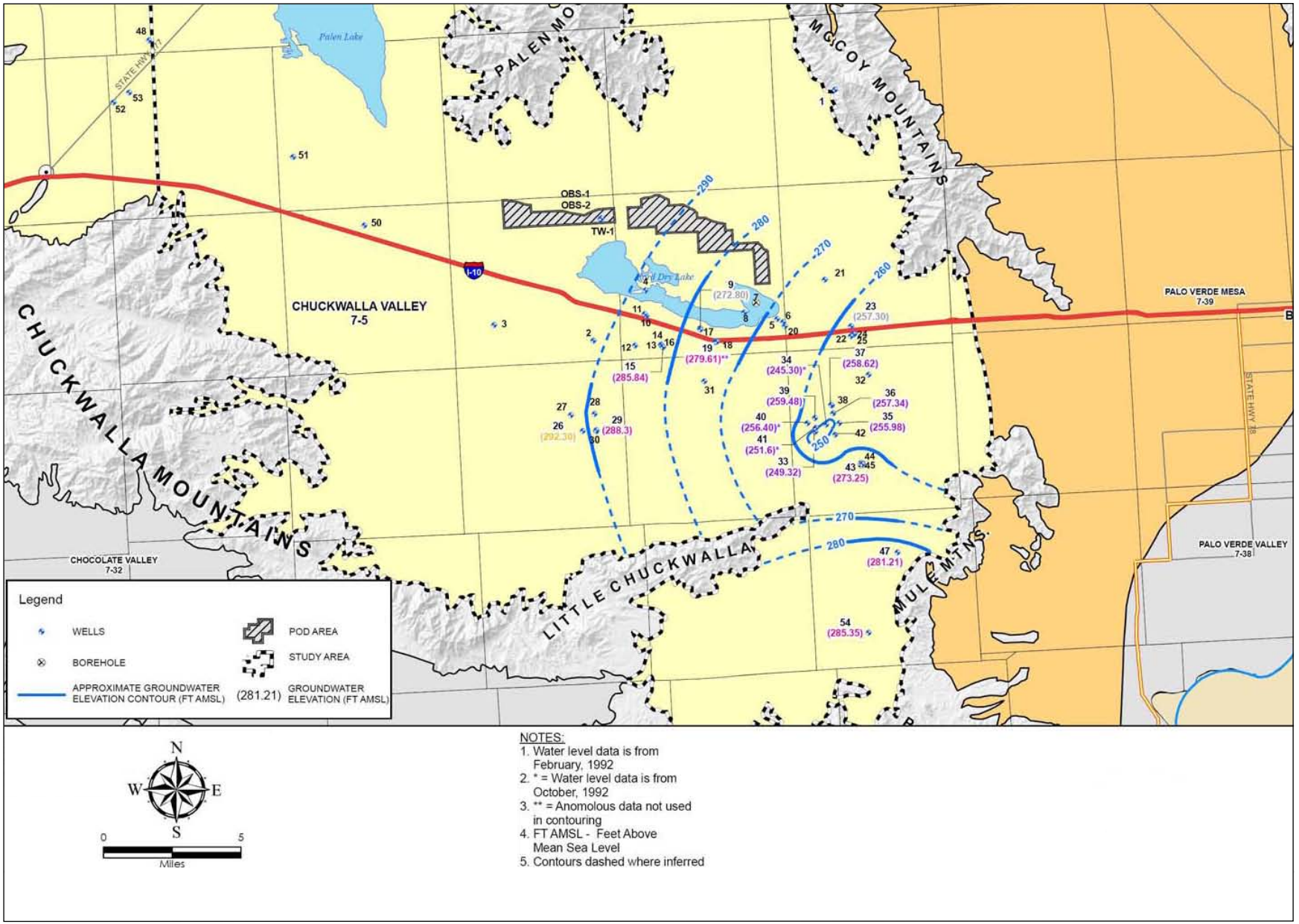
Figure 3.20-5

Hydrostratigraphic Cross-Section Lines



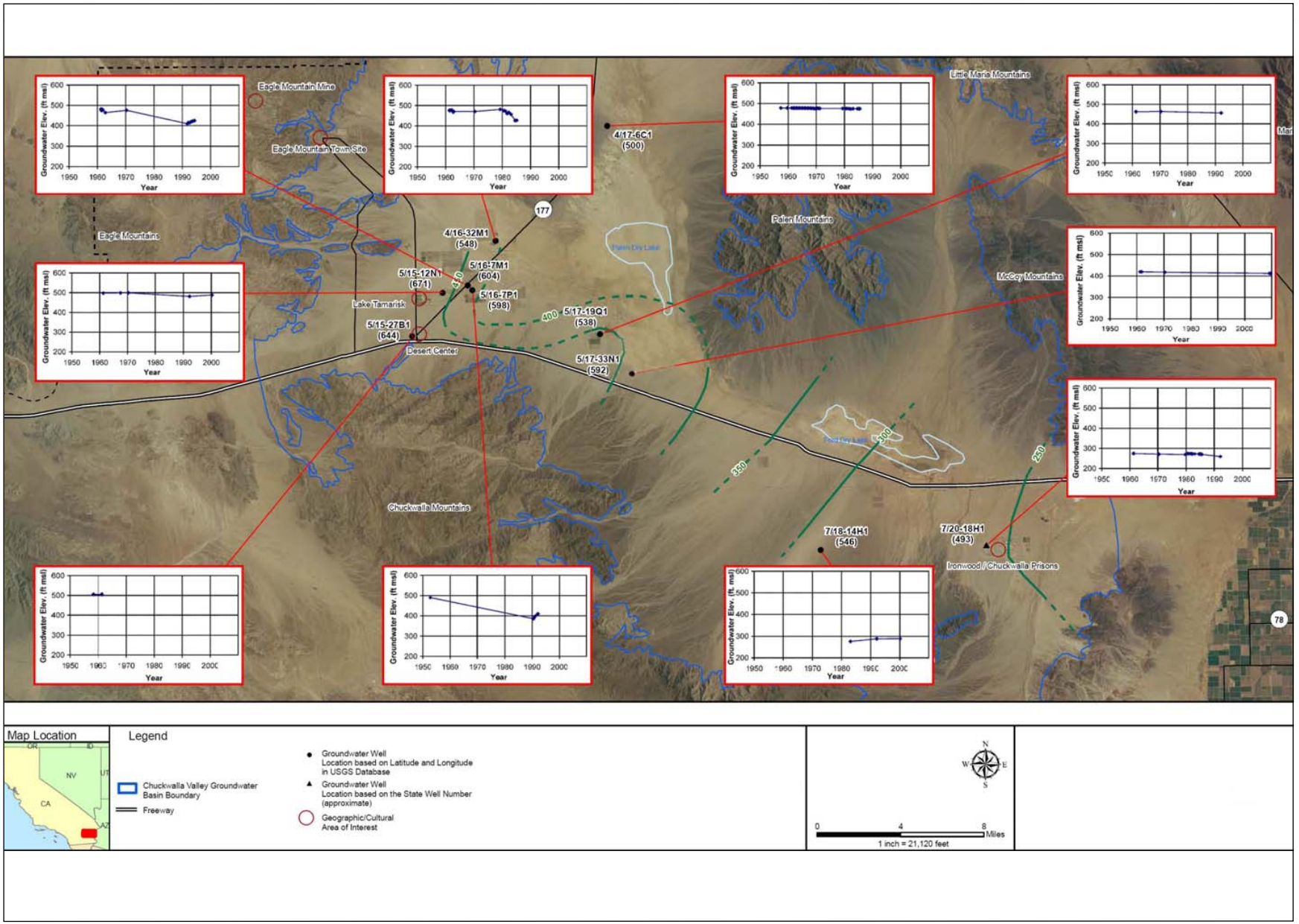
SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-6
Groundwater Level Contour Map (1963)



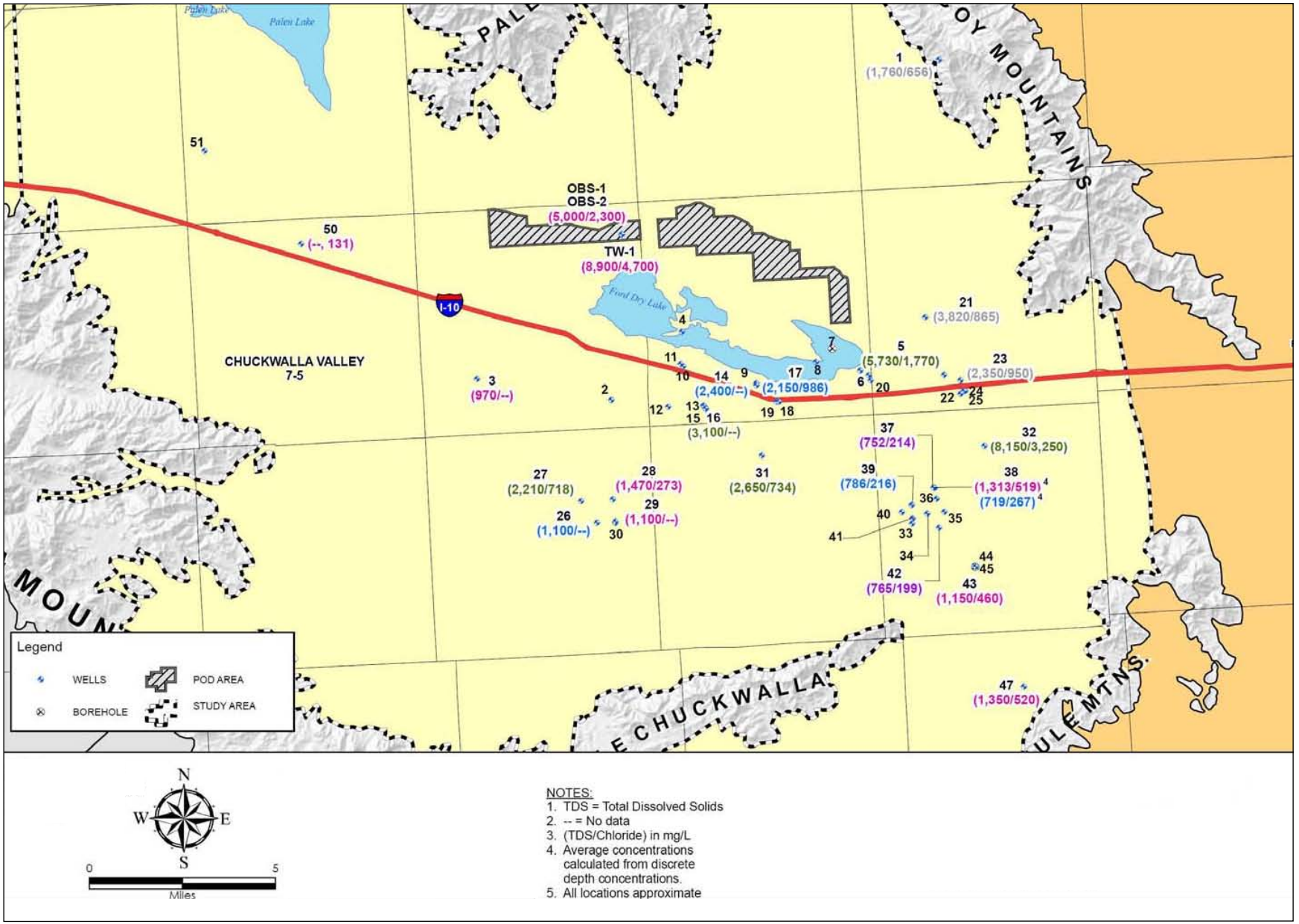
SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-7
Groundwater Level Contour Map (1992)



SOURCE: CEC Genesis RSA, June 2010

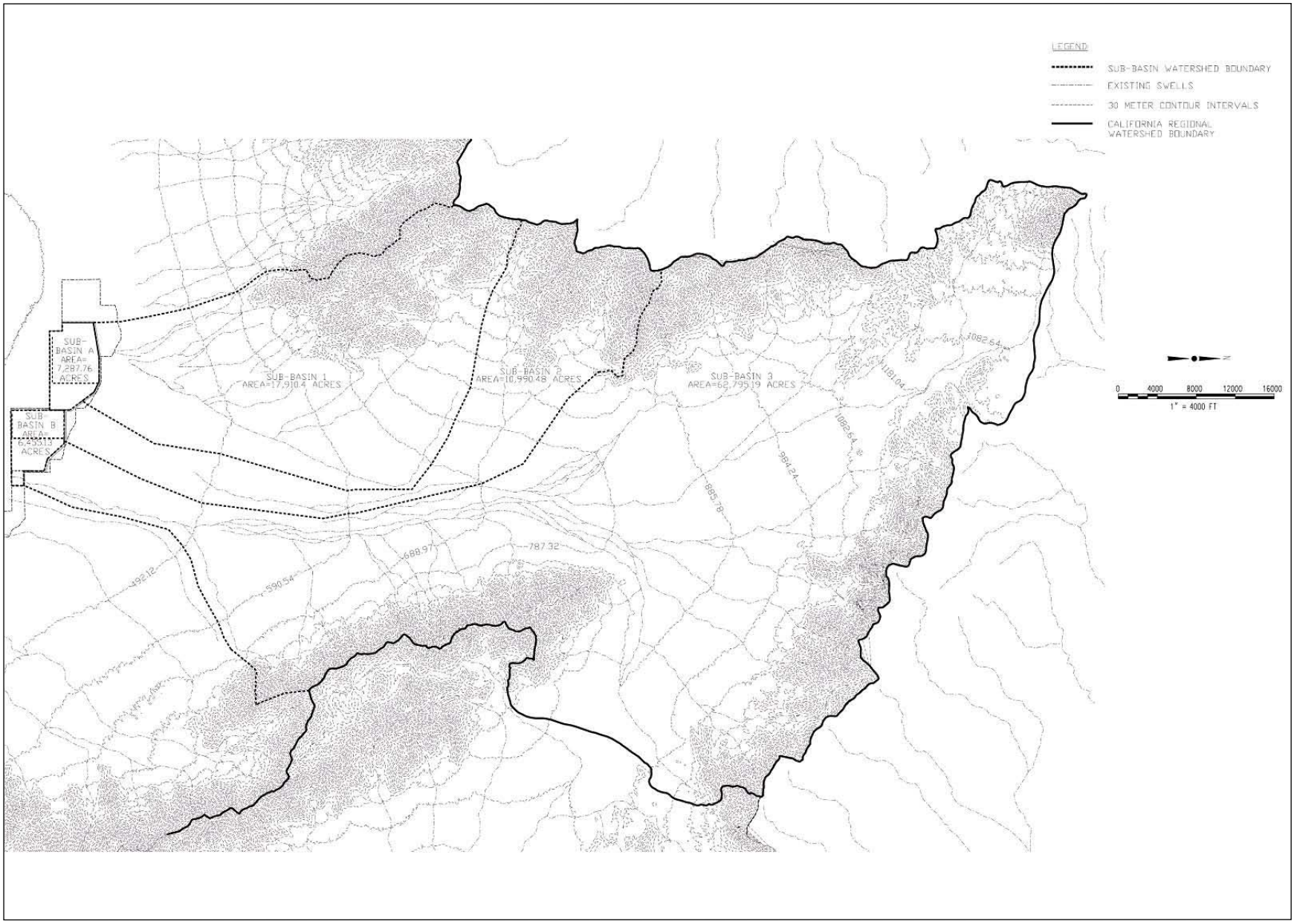
Figure 3.20-8
Basin Wide Hydrographs -
Chuckwalla Valley Groundwater Basin



SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-9

TDS and Chloride Concentrations Detected in Wells in the Eastern Chuckwalla Valley Groundwater Basin



SOURCE: CEC Genesis RSA, June 2010

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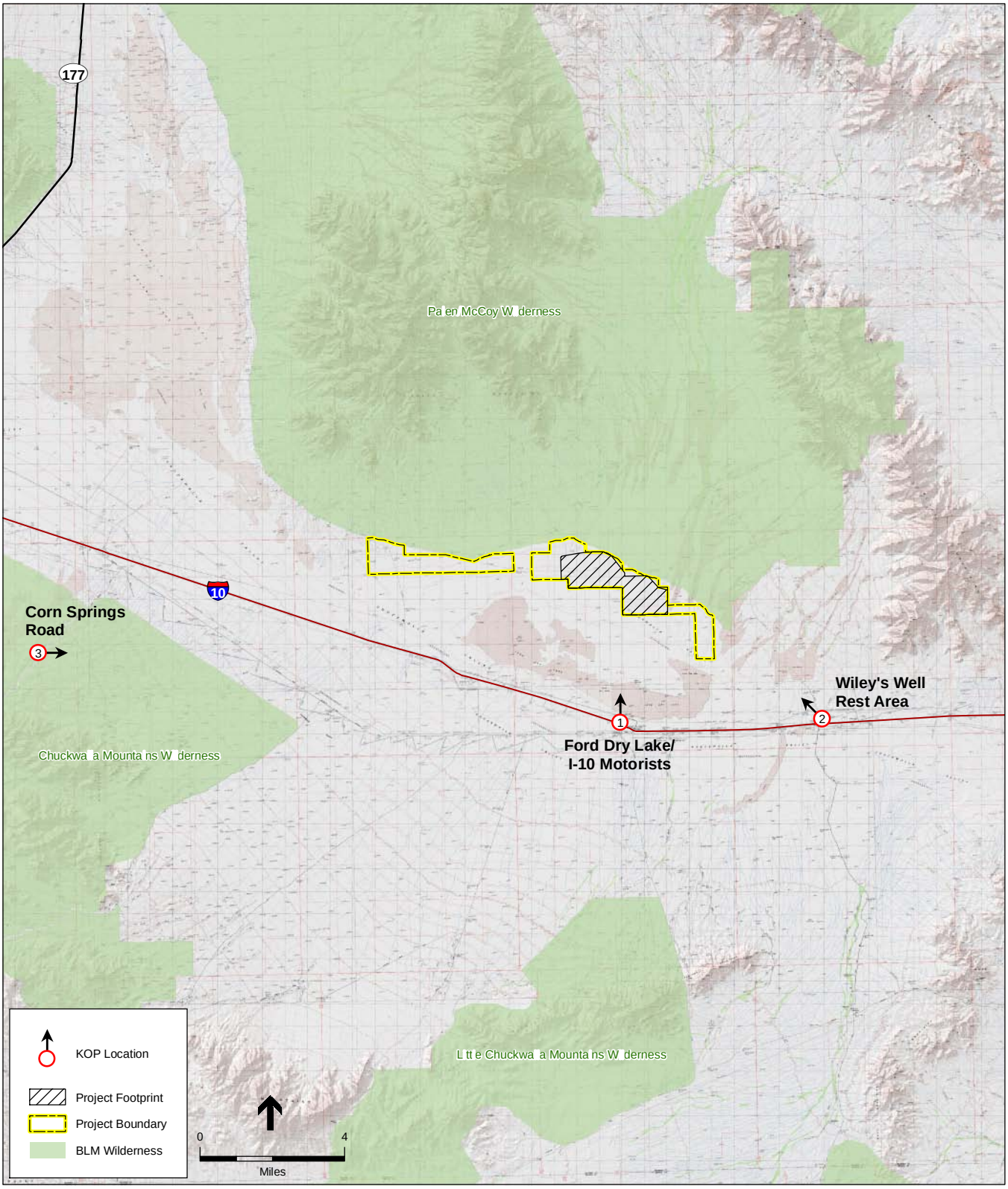
Figure 3.20-10
Sub-Basin Watershed Boundaries



Genesis Solar Energy Project FEIS . 210290

SOURCE: CEC Genesis RSA, 2010, ESA, 2010

Figure 4.18-1
Location of Key Observation Points

SOURCE: CEC Blythe RSA , June 2010

Figure 4.18-2
Foreground View of an Existing Solar Energy Facility
(Kramer Junction SEGS Project)

Unidentified trough project under different lighting conditions

Acciona Nevada Solar One

Acciona Nevada Solar One

SOURCE: Genesis AFC, August 2009

Figure 4.18-3
Aerial Views of Existing Solar Trough Projects

Kramer Junction

Nevada Solar One

SOURCE: Genesis AFC, August 2009

Genesis Solar Energy Project FEIS . 210290

Figure 4.18-4

Examples of Solar Trough Spread Glare

SOURCE: Genesis AFC, August 2009

Figure 4.18-5A
View from KOP-1, Ford Dry Lake Bridge Over I-10, Looking North (Existing)

SOURCE: Genesis AFC, August 2009

Figure 4.18-5B
View from KOP-1, Ford Dry Lake Bridge Over I-10, Looking North
(Simulated)

SOURCE: Genesis AFC, August 2009

Figure 4.18-6A
View from KOP-2, Wiley's Well Bridge Over I-10, Looking Northwest
(Existing)

SOURCE: Genesis AFC, August 2009

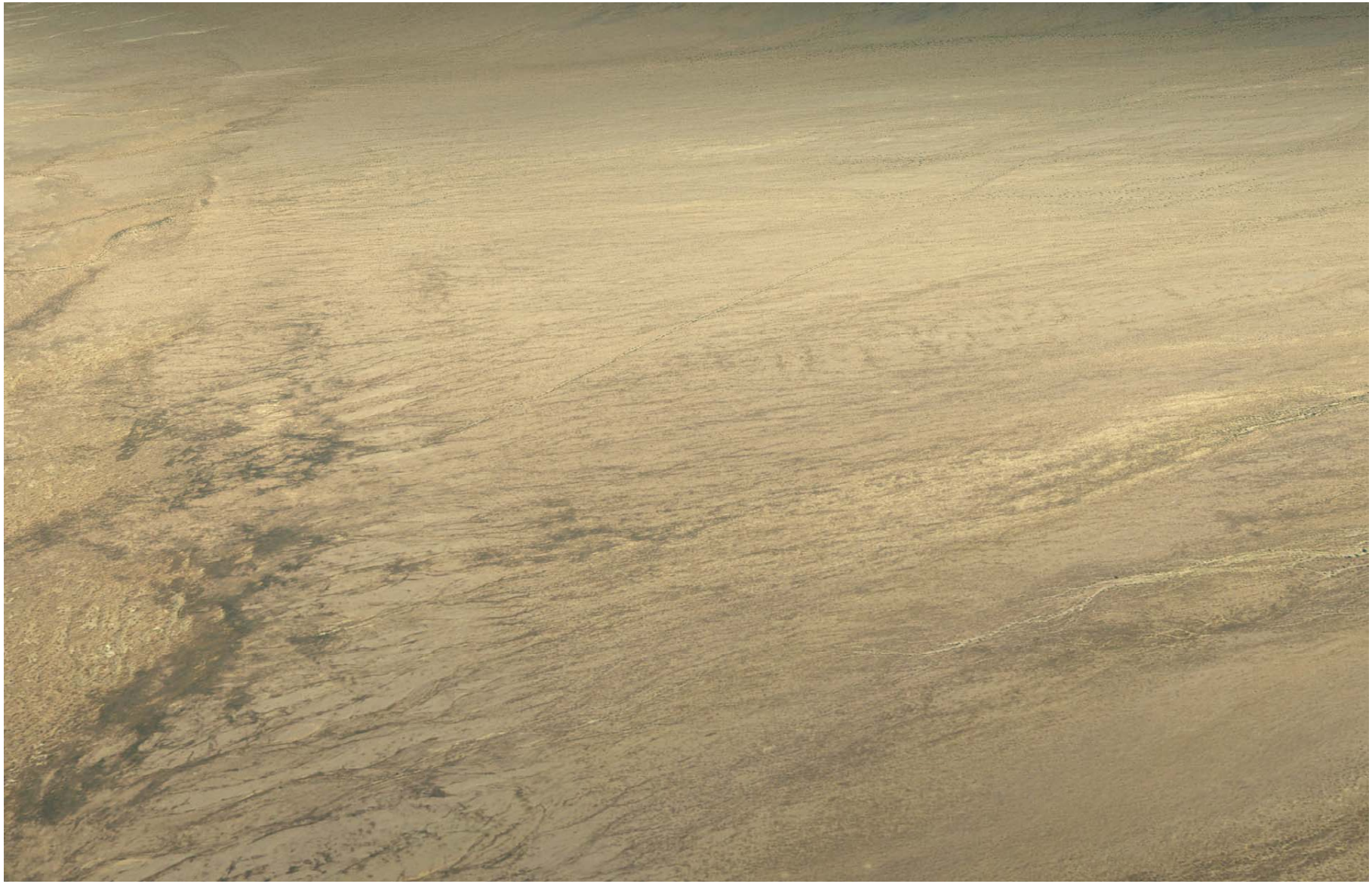
Figure 4.18-6B
View from KOP-2, Wiley's Well Bridge Over I-10, Looking Northwest
(Simulated)

SOURCE: Genesis AFC, August 2009

Figure 4.18-7A
View from KOP-3, Corn Springs BLM Road, Looking East
(Existing)

SOURCE: Genesis AFC, August 2009

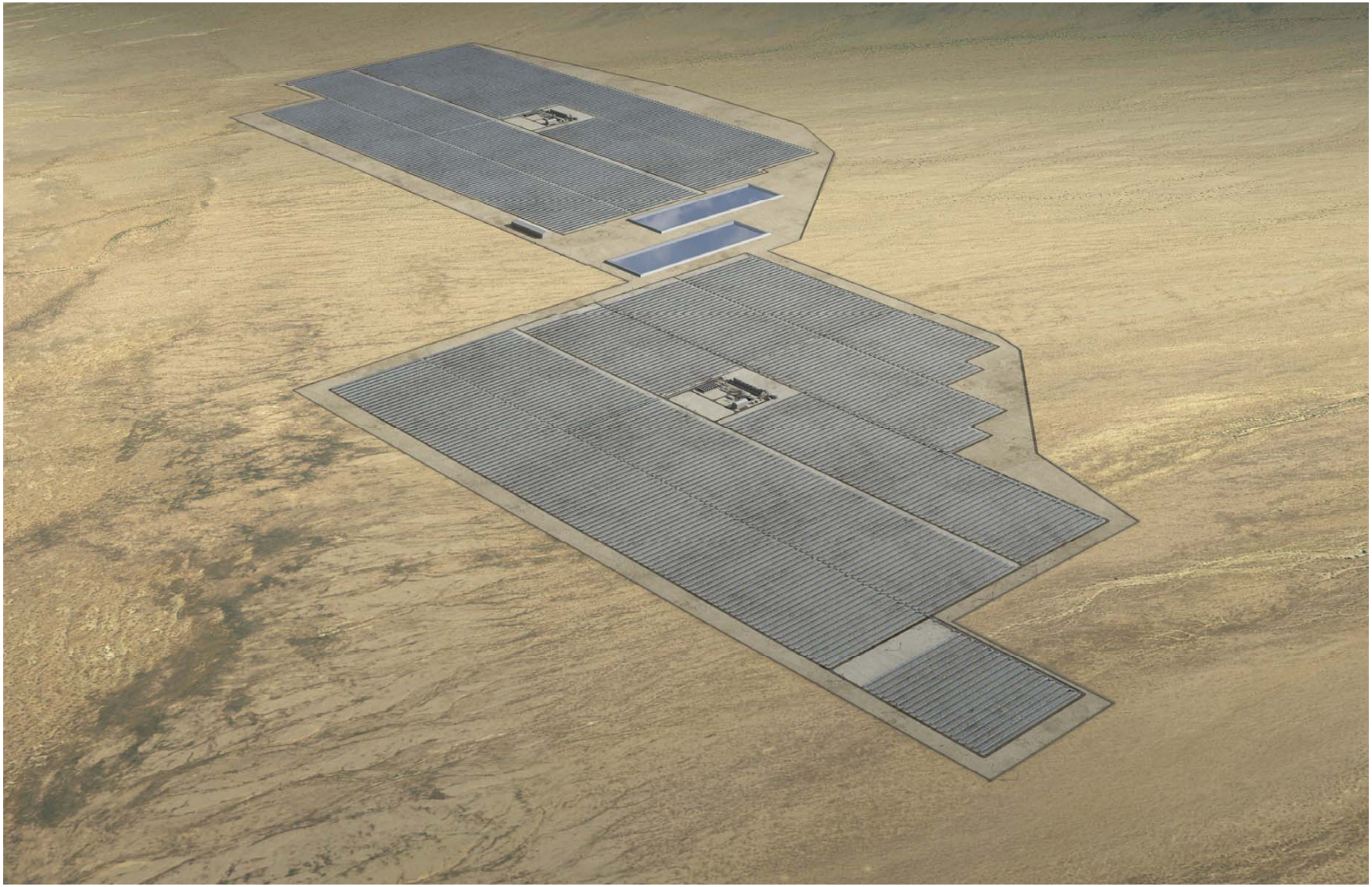
Figure 4.18-7B
View from KOP-3, Corn Springs BLM Road, Looking East
(Simulated)



SOURCE: Genesis AFC, August 2009

Genesis Solar Energy Project FEIS . 210290

Figure 4.18-8A
Oblique Aerial View of GSEP
(Existing)



SOURCE: Genesis AFC, August 2009

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Figure 4.18-8B
Oblique Aerial View of GSEP
(Simulated)

Existing Condition

Simulated Condition

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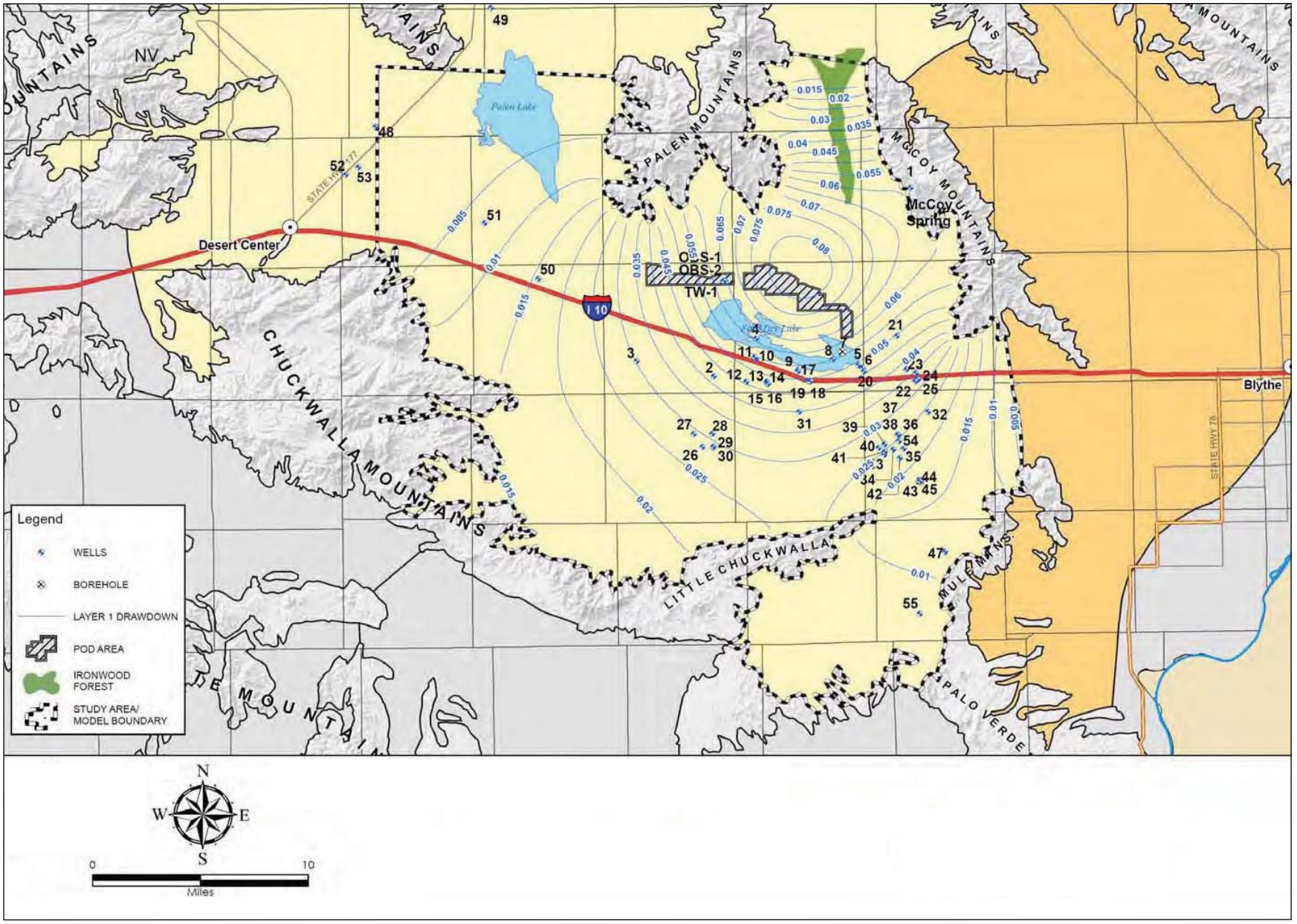
SOURCE: Palo Verde Solar I AFC August 2009

Figure 4.18-9

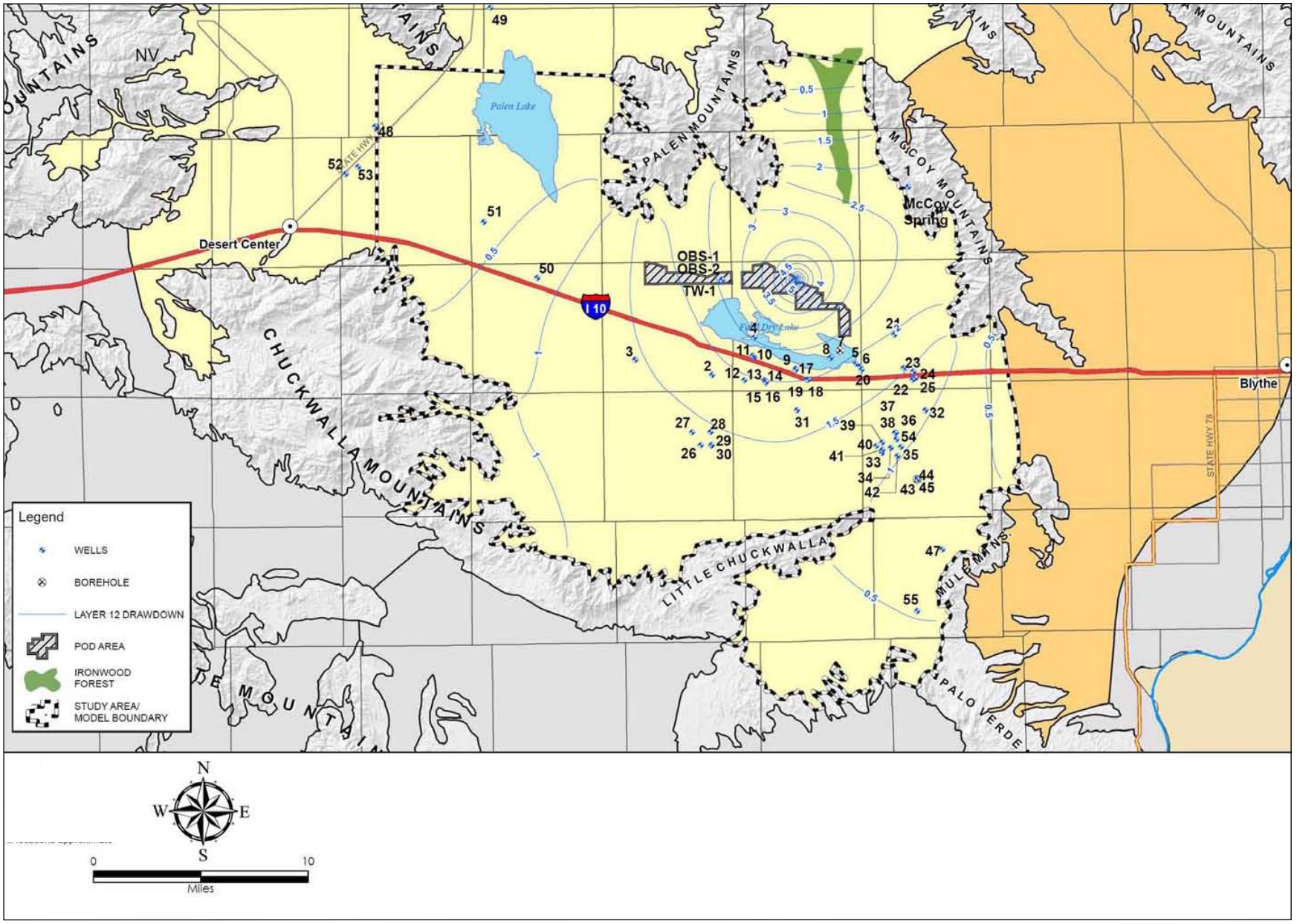
View from Eastbound I-10 Looking East Toward
Blythe Solar Power Plant Transmission Line



SOURCE: CEC Genesis RSA, June 2010

Figure 4.19-1

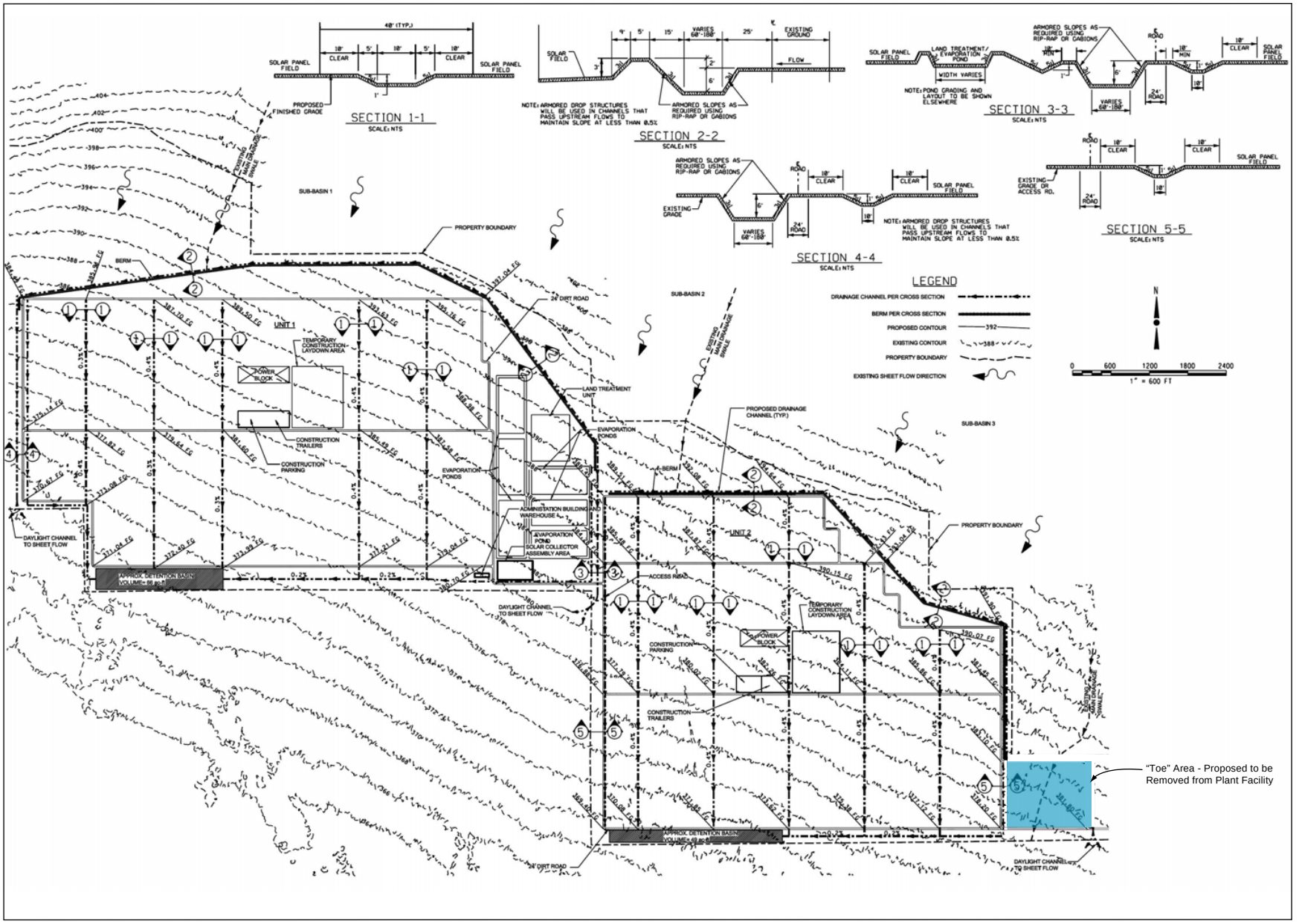
Predicted Drawdown at the Water Table (Layer 1) after 33 Years



SOURCE: CEC Genesis RSA, June 2010

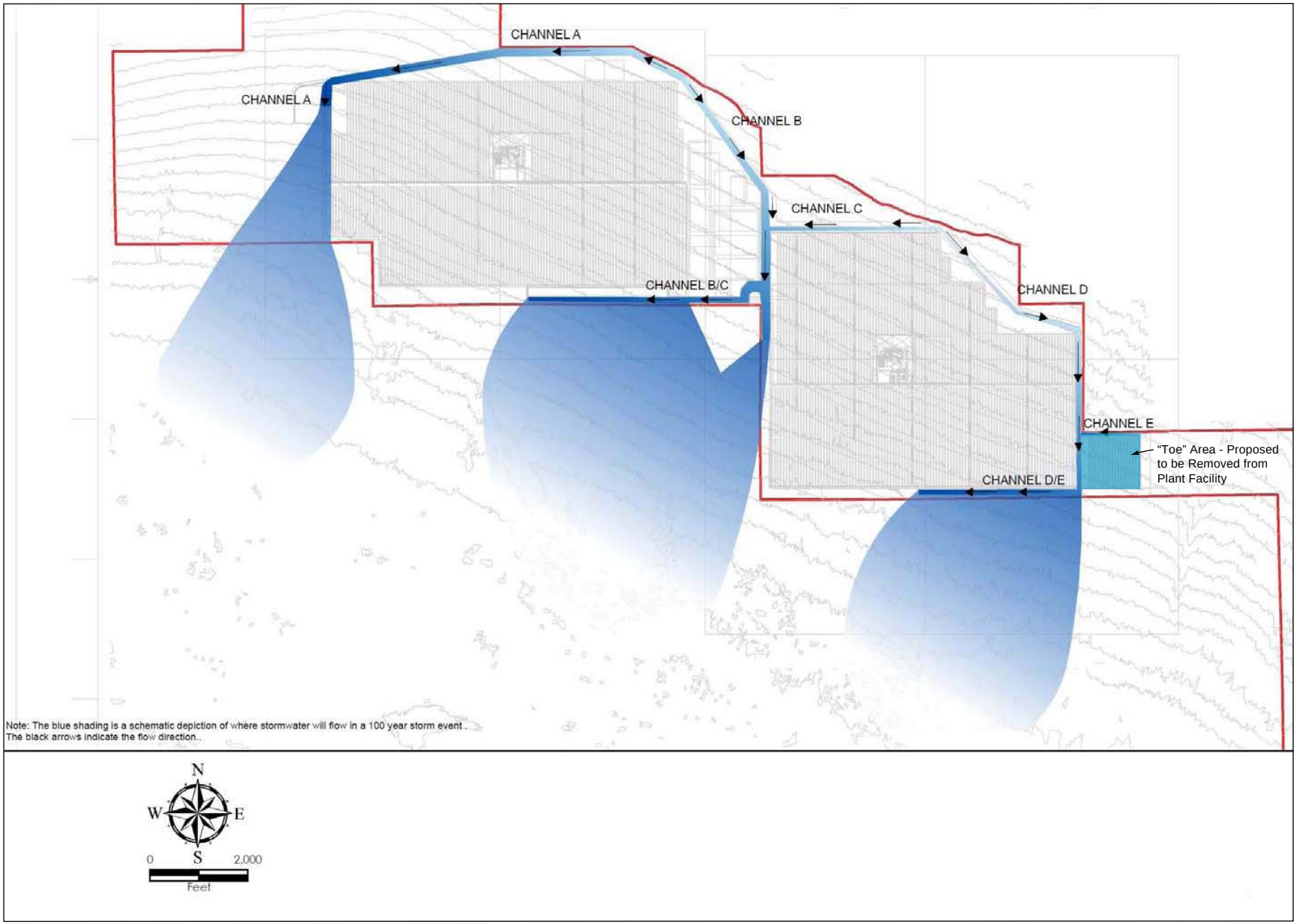
Figure 4.19-2

Predicted Drawdown in the Pumped Aquifer (Layer 12) after 33 Years



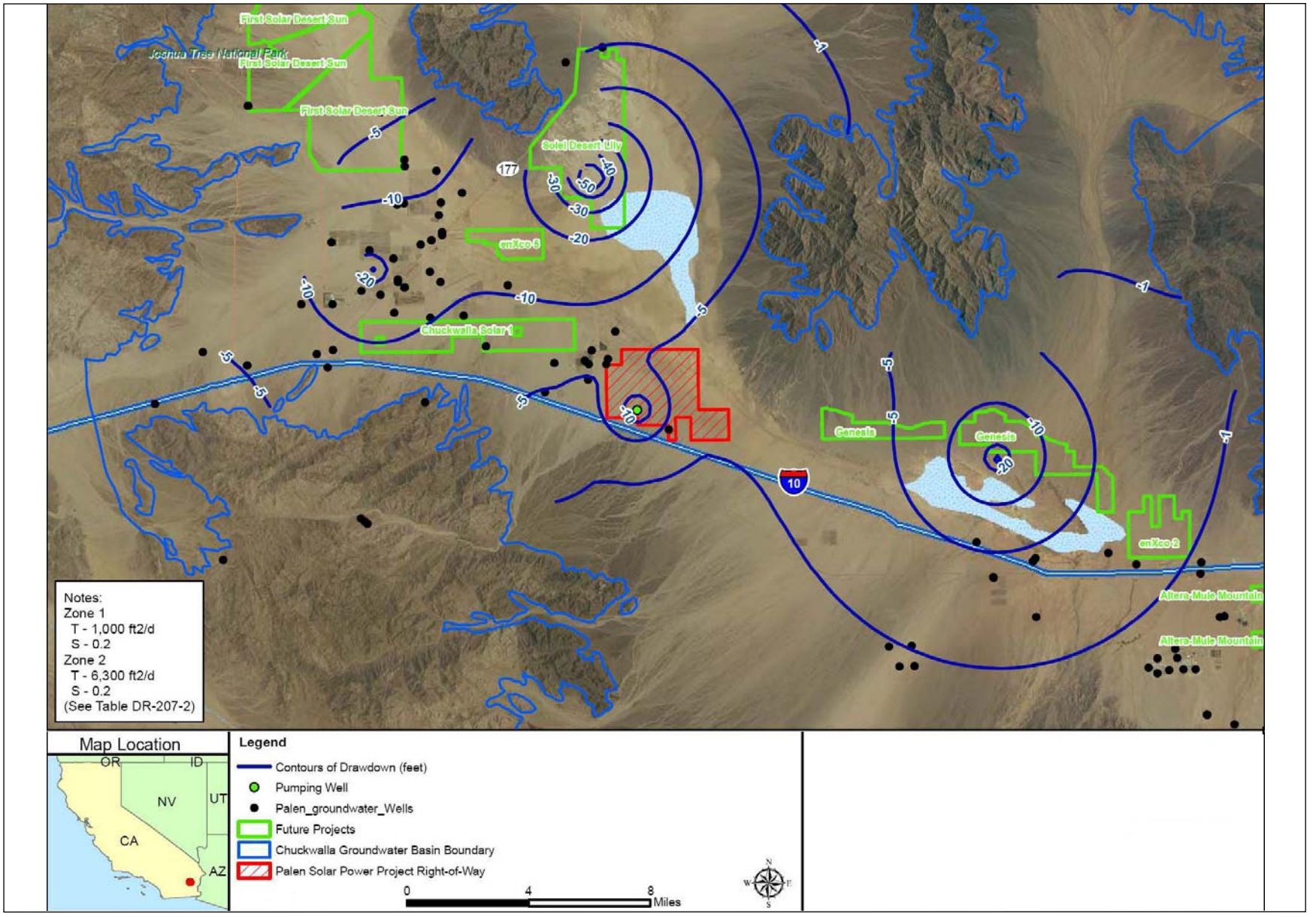
SOURCE: CEC Genesis RSA, June 2010

Figure 4.19-3
Drainage Concept Map



SOURCE: SOURCE: CEC Genesis RSA, June 2010

Figure 4.19-4
Post Development Flow Patterns



SOURCE: CEC Genesis RSA, June 2010

Figure 4.19-5
Predicted Drawdown for Cumulative Foreseeable Projects after 33 Years