JURISDICTIONAL STREAM CROSSING CALCULATION TABLE

ERP Key Note	Jurisdiction	Road Location	Total Project Impact to Stream² (ft²)	Roadway & Drainage Feature Impact to Stream (ft²)	Drainage Area (Ac)	c	Tc (min.)	100-Yr Storm				Crossing Type	Length of Crossing (ft)	Length of Bridge or Culvert (ft)	Length of LWC (ft)	Width of LWC (ft)
								I (in/hr)	Q (cfs)	d (ft)	v (ft/s)					
1	Federal	West Perimeter	-	896.0	6214	0.5	30	1	3107.00	-	-	Single Span Bridge	56	-	56	-
2	Federal	South of West Perimeter	-	896.0	27102.0	0.5	30	1	13551.00	-	-	Single Span Bridge	56	-	56	-
3	State	East Perimeter	24175.20	-	-	-	-	-	-	-	-	Low Water Crossing (LWC)	300	-	170	28
4	State	South of West Perimeter	6553.72	-	473.0	0.5	30	0.7	165.55	1.01	4.90	Low Water Crossing (LWC)	155	-	80	28
5-6	State	Valley Conservation Area	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
7	State	East Perimeter	1422.04	190.1	8.30	0.5	5	2.54	10.54	0.14	0.60	Low Water Crossing (LWC)	50	-	25	20
8	State	East Perimeter	11327.13	267.8	34.1	0.5	15	1.47	25.04	0.29	0.74	Low Water Crossing (LWC)	100	-	90	20
9	State	East Perimeter	12334.17	258.2	41.0	0.5	15	1.47	30.14	0.38	0.82	Low Water Crossing (LWC)	235	-	80	20
10	State	East Perimeter	2346.71	181.3	1.55	0.5	5	2.54	1.97	-	-	Low Water Crossing (LWC)	50	-	25	20
11	State	East Perimeter	18262.37	85.5	13.2	0.5	10	1.83	12.06	-	-	Low Water Crossing (LWC)	50	-	30	20
12	State	East Perimeter	16855.21	1104.0	104.3	0.5	30	1	52.16	-	-	Low Water Crossing (LWC)	125	-	50	20
13	State	East Perimeter	33008.77	191.4	6.8	0.5	5	2.54	8.64	0.18	0.65	Low Water Crossing (LWC)	50	-	25	20
13A	State	Site Interior		712.9	93.6	0.5	30	1	46.81	0.2	0.5	Low Water Crossing (LWC)	40	-	35	12
14	State	East Perimeter	4952.33	557.7	81.6	0.5	30	1	40.81	-	-	Culvert	-	82	-	-
15	State	East Perimeter	32122.45	707.5	58.2	0.5	30	1	29.10	0.23	0.64	Low Water Crossing (LWC)	100	-	90	20
15A	State	Site Interior		337.9	60.5	0.5	30	1	30.26	0.2	0.7	Low Water Crossing (LWC)	40	-	35	12
16	State	East Perimeter	44884.96	1478.6	213.9	0.5	30	1	106.94	-	-	Culvert	-	127	-	-
16A	State	Site Interior		375.9	217.9	0.5	30	1	108.93	0.2	0.4	Low Water Crossing (LWC)	50	-	40	12
16B	State	Site Interior		133.9	218.4	0.5	30	1	109.20	0.3	0.8	Low Water Crossing (LWC)	50	-	40	12
16.1	State	East Perimeter	2708.02	528.7	1.64	0.5	5	2.54	2.09	-	-	Low Water Crossing (LWC)	50	-	25	20
17	State	East Perimeter	7771.80	699.5	9.21	0.5	5	2.54	11.69	0.29	1.04	Low Water Crossing (LWC)	50	-	30	20
18	State	East Perimeter	12015.49	741.7	31.4	0.5	15	1.47	23.11	-	-	Culvert	-	77	-	-
19	State	East Perimeter	3541.31	163.7	3.4	0.5	5	2.54	4.38	-	-	Low Water Crossing (LWC)	40	-	20	20
20	State	East Perimeter	22163.15	516.5	98.5	0.5	30	1	49.26	0.36	1.48	Low Water Crossing (LWC)	260	-	72	20
20A	State	Site Interior		616.9	98.7	0.5	30	1	49.36	0.6	1.5	Low Water Crossing (LWC)	50	-	40	12
20.1	State	East Perimeter	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
21	State	East Perimeter	4729.33	344.5	71.7	0.5	30	1	35.85	0.21	0.92	Low Water Crossing (LWC)	100	-	70	20
22	State	East Perimeter	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
23	State	East Perimeter	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
24	State	East Perimeter	5253.37	1341.0	264.1	0.5	30	1	132.05	0.56	1.94	Low Water Crossing (LWC)	275	-	125	20
25	State	East Perimeter	16842.55	440.7	145.5	0.5	30	1	72.74	-	-	Culvert	-	194	-	-
25.1	State	East Perimeter	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
26	State	East Perimeter	983.01	141.0	23.1	0.5	10	1.83	21.09	0.29	0.61	Low Water Crossing (LWC)	150	-	65	20
26.1	State	East Perimeter	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
26.2	State	East Perimeter	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
26.3	State	East Perimeter	704.15	154.2	11.3	0.5	10	1.83	10.36	0.14	0.96	Low Water Crossing (LWC)	50	-	40	20
26.4	State	East Perimeter	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
26.5	State	East Perimeter	882.97	112.7	65.1	0.5	30	1	32.53	0.31	1.43	Low Water Crossing (LWC)	100	-	40	20
26.6	State	East Perimeter	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7	State	East Perimeter	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
27-28-29	State	East Perimeter	No Impact	-									-	-	-	-
30	State	East Perimeter	2788.83	946.1	31.7	0.5	15	1.47	23.28	0.22	0.56	Low Water Crossing (LWC)	250	-	150	20
31	State	Switchyard	4947.69	-	-	-	-	-	-	-	-	-	-	-	-	-
32	Federal	Valley Conservation Area	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
33	Federal	Valley Conservation Area	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
34	State	Site Interior	13209.95	-	-	-	-	-	-	-	-	-	-	-	-	-
35	State	Site Interior	16308.10	-	-	-	-	-	-	-	-	-	-	-	-	-
36	State	Site Interior	No Impact	-	-	-	-	-	-	-	-	-	-	-	-	-
37	State	West Perimeter	3858.38	613.22	129.3	0.5	30	1	64.65	0.3	0.42	Low Water Crossing (LWC)	100	-	100	20

LIST OF DESIGN STANDARDS/REFERENCES	
ITEM NO.	DESIGN STANDARDS/REFERENCES
1	CALTRANS STANDARD PLAN DETAILS (STEEL POST GUARDRAIL)
2	CALTRANS STANDARD PLAN DETALS (CONSTRUCTION LOAD ON CULVERTS)
3	CALTRANS STANDARD PLAN DETALS (PIPE CULVERT HEADWALLS, ENDWALLS AND WARPED WINGWALLS)
4	WHPACIFIC SINGLE SPAN BRIDGE
5	STANDARD LARGE-OPEN CLASS 50L
6	ARMORFLEX VEHICULAR LOADING SPEC
7	CONCRETE CUT-OFF WALL #552
8	USDA: LOW-WATER CROSSINGS_GEOMORPHIC-BIOLOGICAL&ENGINEERING-DESIGN-CONSIDERATIONS

NOTES

1. INTERNAL ROAD DEPTHS AND VELOCITIES TAKEN FROM DRAWINGS D-000-C-0109 AND 0110.
2. DRAINAGE SURVEY AREA IS THE MEASURED DRAINED SURVEY AREA TAKEN FROM LSSA FIGURE 4_PV_DRAINAGESURVEY_V7 THAT INCLUDES UP TO 10-FT OUTSIDE THE PERIMETER FENCE TO ACCOUNT FOR CONSTRUCTION VARIABILITY.
3. KEY NOTES CORRESPOND TO DWG D-000-C-0931.
4. NO HYDROLOGICAL DATA HAS BEEN DETERMINED FOR 8A, 9A, 11A, 11B, 12A, 18A, 24A, AND 25A. (B)
5. ALL CULVERT HEAD WALLS SHALL BE IN ACCORDANCE WITH ITEM NO. 3 IN THE LIST OF ATTACHMENTS, UNLESS OTHERWISE NOTED.
6. ALL CULVERT CROSSINGS SHALL HAVE GUARDRAIL, UNLESS OTHERWISE NOTED. CULVERTS AT DRIVEWAYS WILL NOT HAVE GUARDRAIL. SEE ATTACHMENT LIST ITEM NO. 1.
7. HYDROLOGIC AND HYDRAULIC CALCULATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE.
8. ALL STREAMS ARE DETERMINED TO BE EPHMERAL STREAMS WITH NO BASE FLOW.
9. THE TOTAL PROJECT IMPACT TO STREAM VALUE INCLUDES CONTINGENCY TO ACCOUNT FOR POTENTIAL DESIGN CHANGES AND OTHER UNACCOUNTED FOR DISTURBANCES.

WORK SAFELY

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REV	DDMMMYY	REVISION / ISSUE DESCRIPTION	DRN	CHK	APP	APP	APP	APP
B	04AUG14	REMOVED "1A" FROM NOTE 4, ADDED ERP KEY NOTES 34, 35, 36, & 37, & REVISED CROSSING 30 & 31 INFORMATION	JTW	MTG	LEC	HRM		
A	21JUL14	ISSUED FOR INFORMATION	JTW	MTG	LEC	HRM		

REF	NUMBER	TITLE
REFERENCES		

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STAMP/SEAL
CONCEPTUAL DESIGN REVIEW
NOT FOR CONSTRUCTION
PRELIMINARY

APPROVED FOR INFORMATION
CLIENT PROJECT MGR. DEPARTMENT MGR. HRM PROJECT MGR.

PROJECT PHASE: PANOCHE VALLEY SOLAR PROJECT

PROJECT NO.	ACTIVITY NO.		BY	DDMMMYY
176055		DES	JTW	17JUL14
SCALE	PACKAGE CODE	DRN	JTW	17JUL14
NTS		CHK	MTG	18JUL14
		APP	LEC	21JUL14

PANOCHE VALLEY SOLAR LLC

SUBJECT: JURISDICTIONAL STREAM CROSSING CALCULATION TABLES

AREA

CLIENT DWG. NO.

DRAWING NO. D-000-C-0932 REV. B

amec

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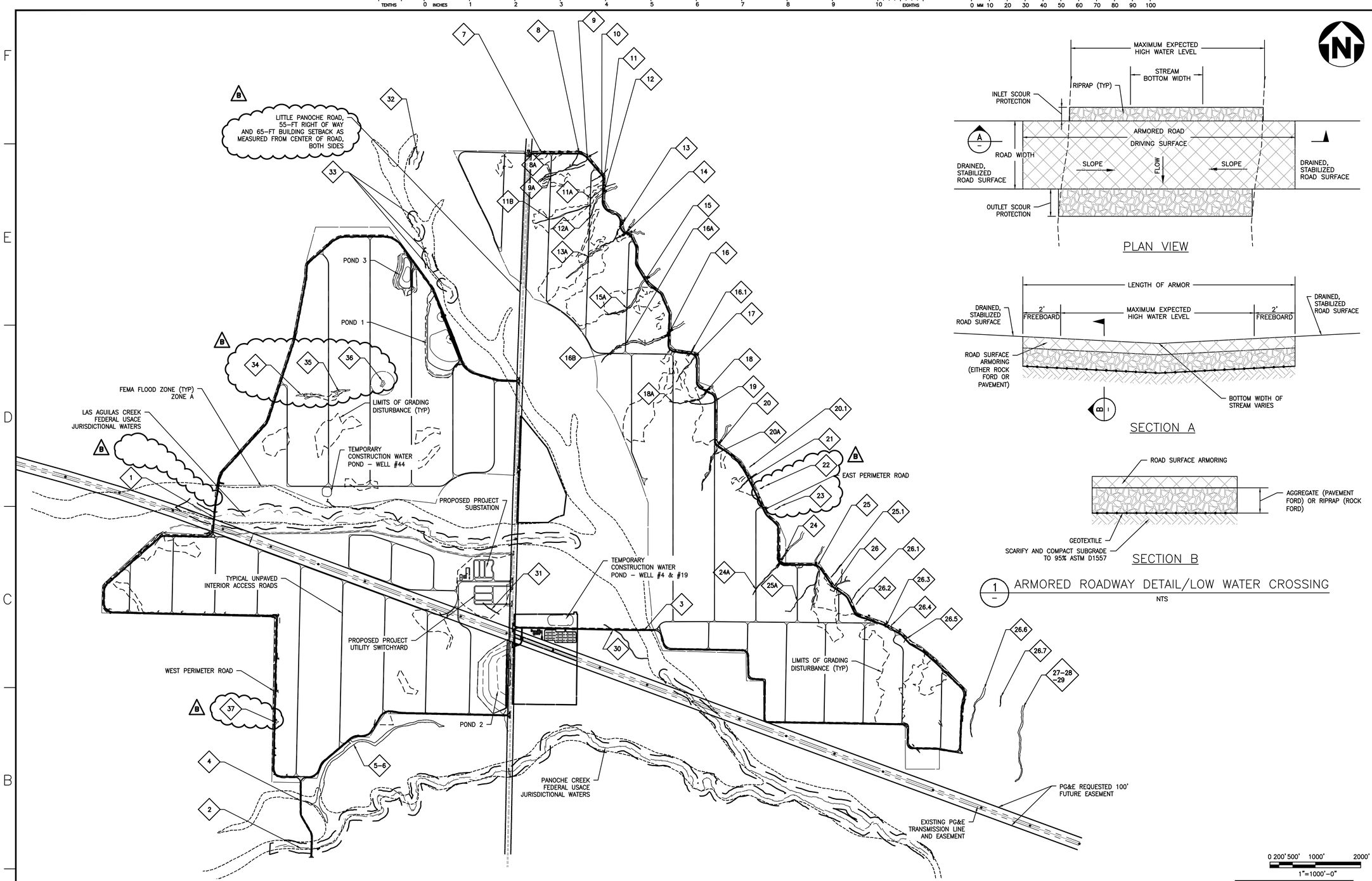


PLAN VIEW

SECTION A

SECTION B

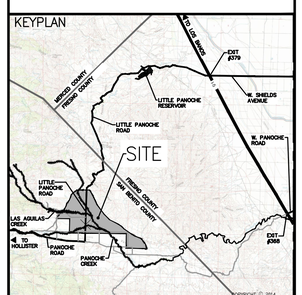
1 ARMORED ROADWAY DETAIL/LOW WATER CROSSING

NTS

NOTES

1. KEY NOTES IN DIAMOND REFER TO DRAINAGE CROSSINGS AS LISTED ON LSSA FIGURE 4_PV_DRAINAGESURVEY_v7.
2. SEE DWG D-000-C-0932 FOR JURISDICTIONAL STREAM CROSSING CALCULATION TABLE.
3. FEMA ZONE A IS ANY AREA WITH A 1% ANNUAL CHANCE OF FLOODING AND A 26% CHANCE OF FLOODING OVER THE LIFE OF A 30-YEAR MORTGAGE. BECAUSE DETAILED ANALYSES ARE NOT PERFORMED FOR SUCH AREAS NO DEPTHS OR BASE FLOOD ELEVATIONS ARE SHOWN WITHIN THESE ZONES. MANDATORY FLOOD INSURANCE REQUIREMENTS APPLY. SEE FEMA FLOOD INSURANCE MAPS (FIRM) 06069C0425D, 06069C0450D, 06069C0550D, 06069C0575D.
4. OVERALL GRADING AREAS:
   PERMANENT DISTURBANCE (LIMITS OF GRADING) = 391.67 ACRES
   TEMPORARY DISTURBANCE (REMAINDER INSIDE FENCE) = 1,861.26 ACRES
5. OVERALL SITE LIMITS OF DISTURBANCE SHALL BE NO MORE THAN 10-FT OUTSIDE PERIMETER FENCE. ANY DISTURBANCE OUTSIDE SITE LIMIT OF DISTURBANCE MUST BE FIRST APPROVED BY CLIENT, ENGINEER, BIOLOGIST, CDFW, AND COUNTY.
6. LOCATIONS OF CONTINGENCY PV AREAS NOT SHOWN ON THIS DRAWING FOR SIMPLICITY.

KEYPLAN



WORK SAFELY

REV	DDMMMYY	REVISION / ISSUE DESCRIPTION	DRN	CHK	APP	APP	APP	APP
B	04AUG14	REMOVED/REVISED TEXT & ADDED NEW STATE DRAINAGES	JTW	MTG	LEC	HRM		
A	21JUL14	ISSUED FOR INFORMATION	JTW	MTG	LEC	HRM		

REF	NUMBER	TITLE

REFERENCES

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CONCEPTUAL DESIGN REVIEW
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PRELIMINARY

APPROVED FOR INFORMATION

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR. HRM

PROJECT PHASE
PANOCHE VALLEY SOLAR PROJECT

PROJECT NO.	ACTIVITY NO.		BY	DDMMMYY
176055		DES	JTW	17JUL14
SCALE	PACKAGE CODE	DRN	JTW	17JUL14
1" = 1000'		CHK	MTG	18JUL14
		APP	LEC	21JUL14

PANOCHE VALLEY SOLAR LLC

SUBJECT
CIVIL
OVERALL SITE – CDFW PERMITTING ASSISTANCE REFERENCE DRAWING

amec

AREA

CLIENT DWG. NO.

DRAWING NO. D-000-C-0931 REV. B

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