

PHASE V DEVELOPMENT PRELIMINARY GRADING PLANS

FREEPORT-MCMORAN OIL & GAS
1821 PRICE CANYON ROAD, SAN LUIS OBISPO COUNTY, CA 93401

SITE PROTOCOL

ACCESS TO THE SITE IS CONTROLLED THROUGH THE OWNER'S REPRESENTATIVE. MINIMUM PERSONAL PROTECTIVE EQUIPMENT FOR ACCESS TO THE SITE INCLUDES FIRE-RETARDANT CLOTHING (PANTS & LONG-SLEEVE SHIRT), FIRE-RETARDANT SAFETY VEST, HARD HAT, SAFETY GLASSES, AND STEEL-TOE BOOTS. INDIVIDUALS MUST CARRY OR BE ESCORTED BY AN INDIVIDUAL WITH A PERSONAL HYDROGEN SULFIDE MONITOR WHENEVER ON SITE. FURTHER SITE ACCESS CONTROLS WILL BE IMPLEMENTED AS CONSTRUCTION CONDITIONS WARRANT. SAFETY AND ENVIRONMENTAL CONDITIONS AWARENESS TRAINING CONDUCTED BY THE OWNER'S REPRESENTATIVE FOR THIS SITE IS REQUIRED PRIOR TO ACCESS TO THE PROJECT AREA.

CODE COMPLIANCE

2010 CALIFORNIA BUILDING CODE VOLS. 1 & 2 (2009 IBC).
SECTIONS 4 TO 22 OF CALIFORNIA STATE STANDARDS SPECIFICATIONS.
COUNTY ORDINANCE(S) TITLE 19, 22, 23.

CONTACT INFORMATION

OWNER: FREEPORT-MCMORAN OIL & GAS
1821 PRICE CANYON RD.
SAN LUIS OBISPO, CA 93401
T: (805) 547-8969 X4911

OWNER'S REPRESENTATIVE: PAUL DELORENZO
FREEPORT-MCMORAN OIL & GAS
1821 PRICE CANYON RD.
SAN LUIS OBISPO, CA 93401
T: (805) 547-8969 X4911

OWNER'S PROJECT MGR: MICHELLE GIBBS
FREEPORT-MCMORAN OIL & GAS
201 S. BROADWAY
ORCUTT, CA 93455
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ENGINEER OF RECORD: JOHN W. EVANS, SR., PE
CANNON
1050 SOUTHWOOD DR.
SAN LUIS OBISPO, CA 93401
T: (805) 544-7407

GEOTECHNICAL ENGINEER: JUDD KING, GE
EARTH SYSTEMS PACIFIC
4378 OLD SANTA FE RD.
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T: (805) 544-3276

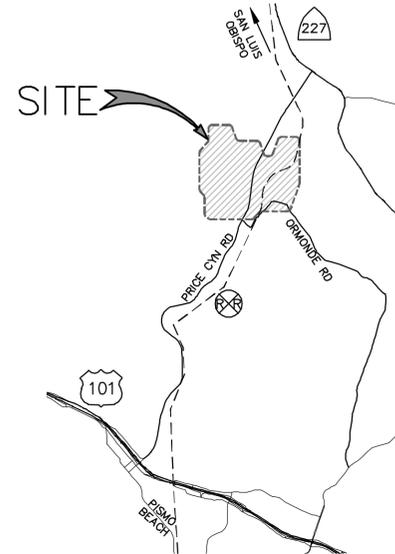
PROJECT SURVEYOR: STUART SOLES, PLS
SOLES SURVEYING
442 ORCAS ST.
MORRO BAY, CA. 93442
T: (805) 771-8915

SPECIAL STUDIES COORDINATOR: ROBERT RAY
URS CORP.
130 ROBIN HILL RD.
SANTA BARBARA, CA 93117
T: (805) 964-6010

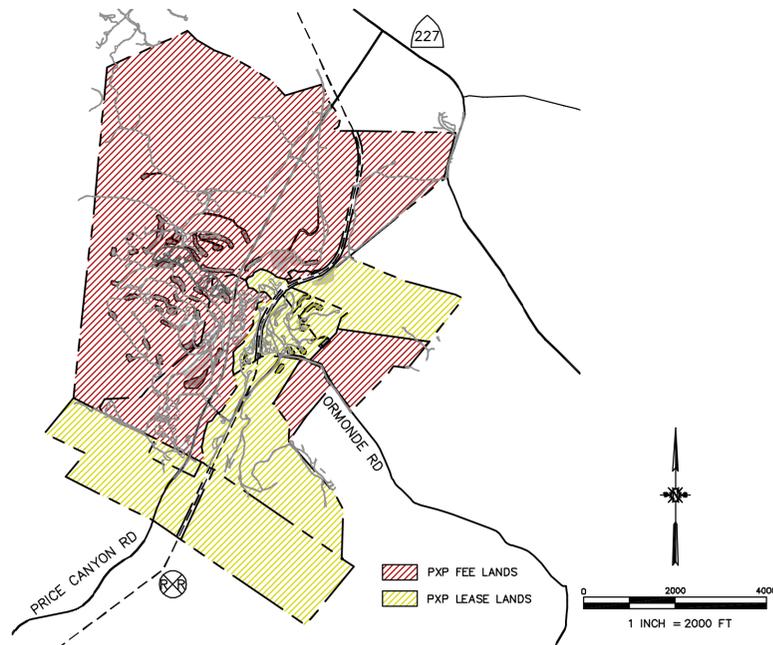
PLANNING CONSULTANT: JEFF OLIVEIRA
OLIVEIRA ENVIRONMENTAL CONSULTING
1645 HILLCREST PL
SAN LUIS OBISPO, CA 93401
T: (805) 234-7393

SHEET INDEX

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14	F	GRADING PLAN
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17	F	LAYDOWN AND STORAGE AREA
18	F	PIPE BRIDGE PLAN & PROFILE
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VICINITY MAP
SCALE: 1" = 5,000'



UNIT FEE/LEASE MAP
SCALE: 1" = 2,000'



SITE MAP
SCALE: 1" = 1,000'

SITE INFORMATION

BENCHMARK:
TOPOGRAPHIC SURVEY BY EDA ON 06-25-2007
CP-111, N 624016.346, E 1216627.42, EL. 264.97,
SCRIBED X

BASIS OF BEARING:
CONTROL POINTS
POINT # NORTHING EASTING ELEVATION DESCRIPTION
112, 624463.18, 1216714.56, 308.24, PK/TIN
113, 624056.48, 1216233.42, 287.86, 3/8 RB

TOTAL SITE AREA:
TOTAL SIZE OF SITE: 1,605± ACRES

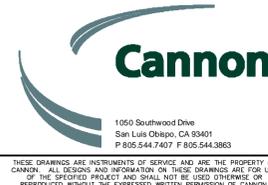
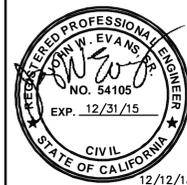
SITE DESCRIPTION

THE SITE, 1821 PRICE CANYON ROAD, IS THE 'PISMO CANYON UNIT' OF THE ARROYO GRANDE OILFIELD OPERATED IN WHOLE BY FREEPORT-MCMORAN OIL & GAS UNDER A 'UNIT AGREEMENT' DATED JULY 23, 1986, (SLO CO. OR VOL. 2861 PGS 382-442) AND ENCOMPASSES THE FOLLOWING CONTIGUOUS LEASED AND FEE SURFACE PARCELS:

044-141-001	044-241-001
044-151-013	044-241-002
044-191-004	044-241-027
044-191-005	POR. 079-281-025
044-201-002	POR. 079-281-026
044-241-031	POR. 079-281-027
044-241-006	

NOTES

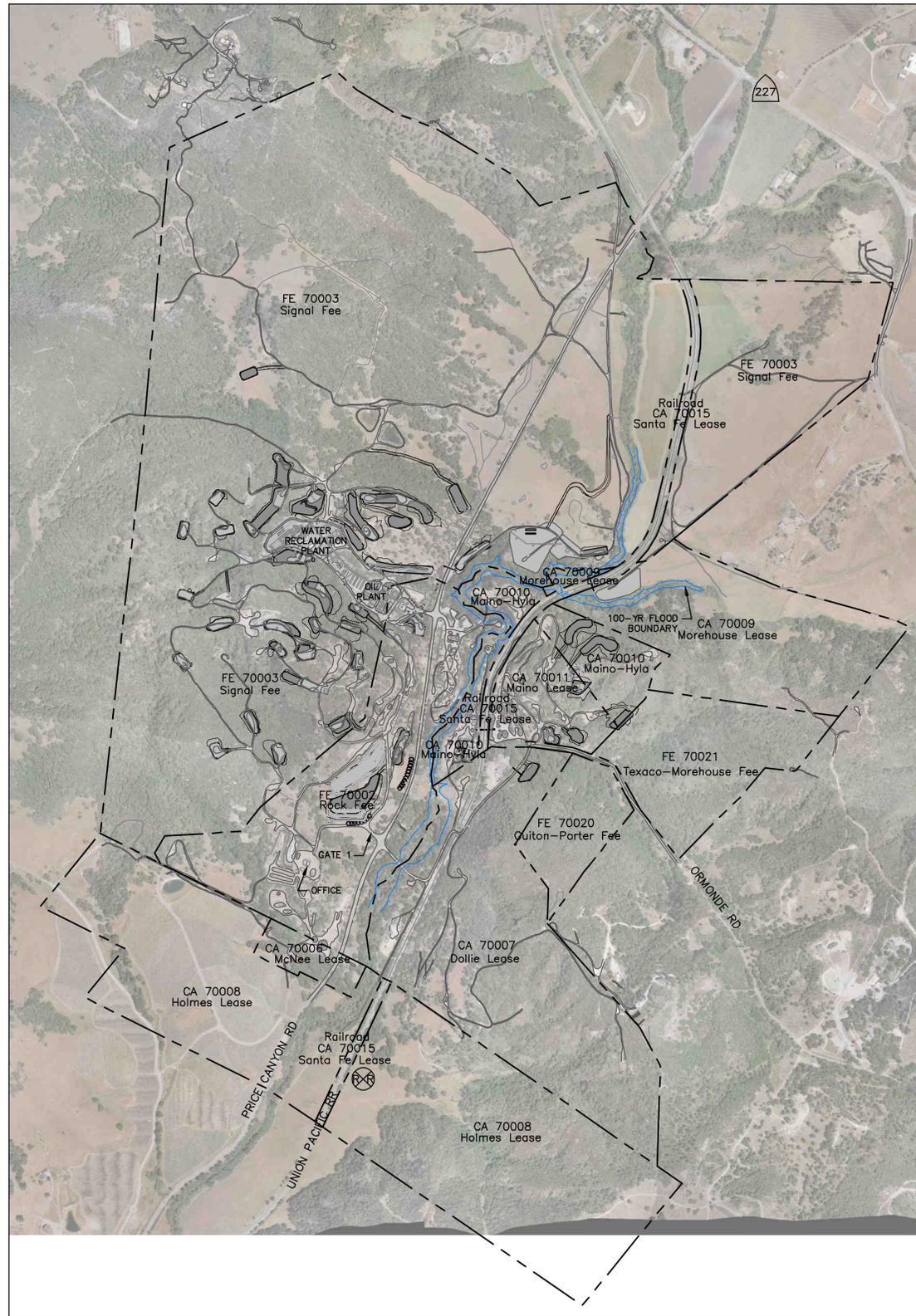
PROJECT SITE IS LOCATED WITHIN AREA OF POTENTIAL H2S GAS CONCENTRATIONS. ALL PERSONNEL, CONTRACTORS AND VISITORS, MUST BE EQUIPPED WITH AN APPROPRIATE MONITORING DEVICE OR ACCOMPANIED BY COMPANY PERSONNEL.



REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CHK. BY	APP'D	DRAWN BY	WT/CM/PM
F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE			
E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE			
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB			
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB			
B	5/3/13	ISSUED FOR REVIEW		PM	CB			
A	4/11/13	ISSUED FOR REVIEW		PM	CB			

TITLE SHEET			
PRELIMINARY GRADING PLANS			
FM O&G PHASE V DEVELOPMENT			
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401			
LEASE NAME:	FACILITY TYPE:	DRAWING NUMBER	REV.
ARROYO GRANDE	PETROLEUM PRODUCTION	CE130130AA0001	F
PROJECT NUMBER	SHEET NO.		
130130	1	OF 19	

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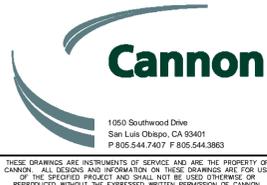
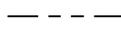
BOUNDARY MAP
SCALE: 1" = 800'

NOTES

1. TOPOGRAPHY PER EDA, 2008. THE CONTOURS SHOWN ARE AT 10-FOOT INTERVALS.
2. FEE BOUNDARY PER EDA, 2001.
3. AERIAL IMAGE PER GOLDEN STATE AERIAL, 2013.
4. 100-YR FLOODPLAIN DELINEATION PER EDA FLOOD STUDY ANALYSIS, 2007.

LEGEND

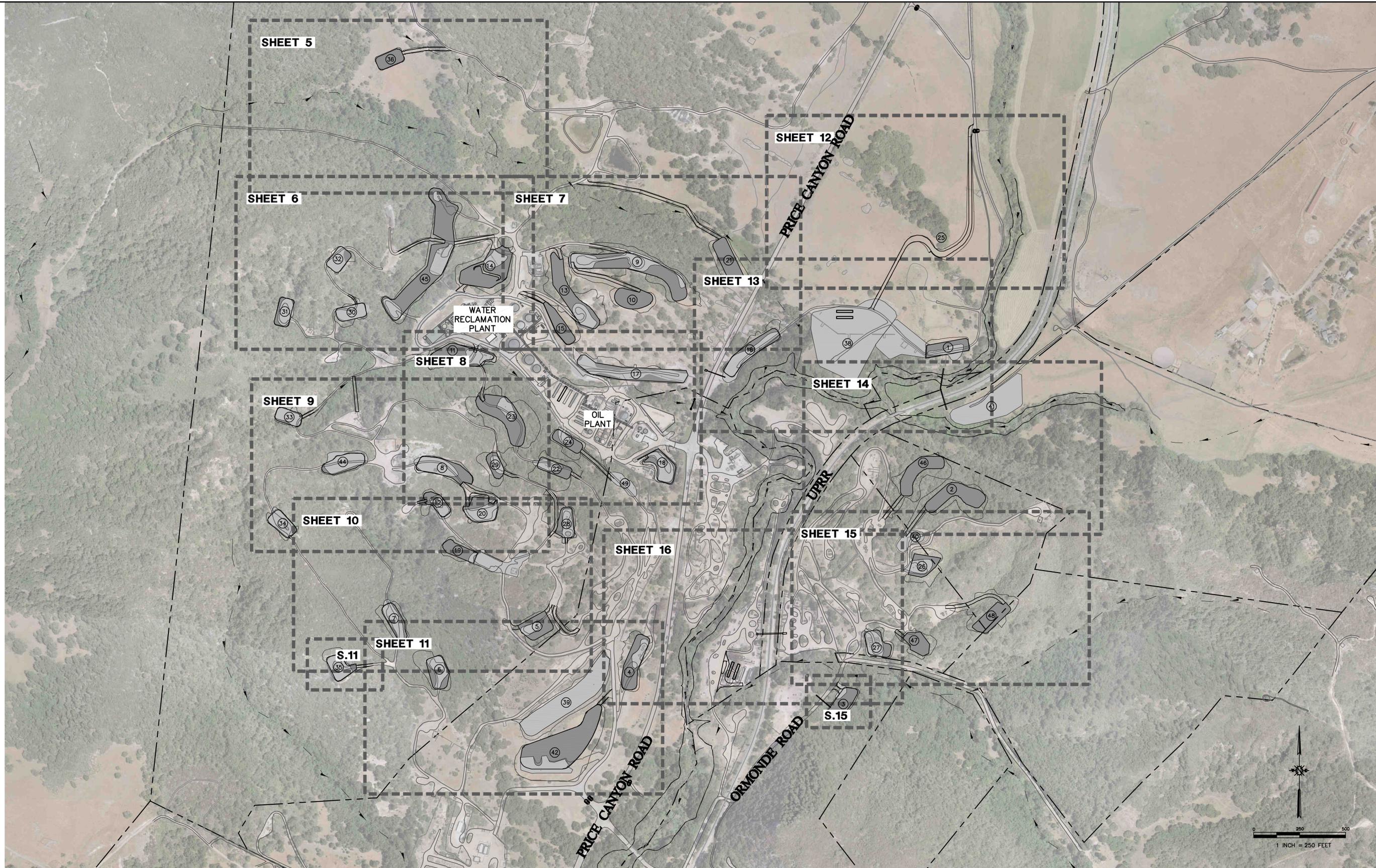
FEE BOUNDARY
100-YR FLOODPLAIN BOUNDARY



REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY	WT/CM/PM
F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE	[Signature]		
E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE			
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB			
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB			
B	5/3/13	ISSUED FOR REVIEW		PM	CB			
A	4/11/13	ISSUED FOR REVIEW		PM	CB			

FEE BOUNDARY MAP			
PRELIMINARY GRADING PLANS FM O&G PHASE V DEVELOPMENT			
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401			
LEASE NAME:	FACILITY TYPE:	DRAWING NUMBER:	REV.
ARROYO	PETROLEUM	CE130130SP0002	F
GRANDE	PRODUCTION	PROJECT NUMBER 130130	SHEET NO. 2 OF 19

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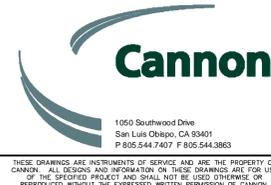
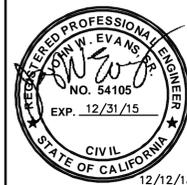
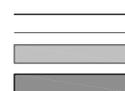


NOTES

1. TOPOGRAPHY PER EDA, 2008. THE CONTOURS SHOWN ARE AT 10-FOOT INTERVALS.
2. FEE BOUNDARY PER EDA, 2001.
3. AERIAL IMAGE PER GOLDEN STATE AERIAL, 2010.

LEGEND

- PROPOSED PAD BOUNDARY
- CUT/FILL DAYLIGHT OF PROPOSED WELL PAD
- EXISTING WELL PAD
- PROPOSED NEW/EXPANDED WELL PAD



REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY
F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE		WT
E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE		CM
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB		
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB		
B	5/3/13	ISSUED FOR REVIEW		PM	CB		
A	4/11/13	ISSUED FOR REVIEW		PM	CB		

KEY MAP

PRELIMINARY GRADING PLANS
FM O&G PHASE V DEVELOPMENT
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401

LEASE NAME:	ARROYO GRANDE	FACILITY TYPE:	PETROLEUM PRODUCTION	DRAWING NUMBER:	CE130130SP0003	REV.:	F
PROJECT NUMBER:	130130	SHEET NO.:	3 OF 19	DATE:	04/11/2013		

WELL PAD SUMMARY TABLE

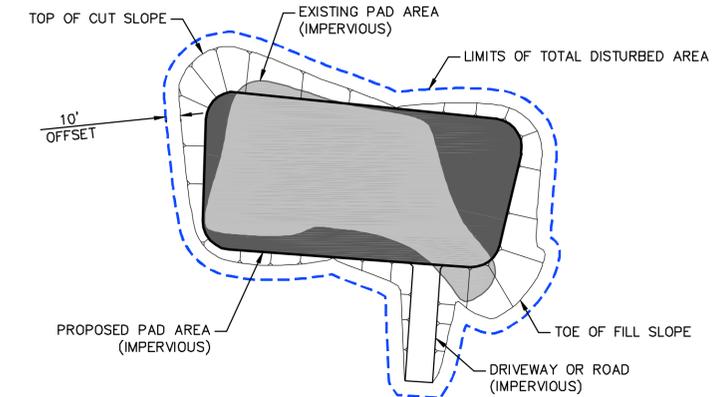
PAD No.	PAD NAME	NEW OR EXIST. PAD	EXIST. PAD ELEV (FT)	PROP'D PAD ELEV (FT)	EARTHWORK VOLUMES				PROP'D PAD AREA (SFx1000)	PROP'D IMPERVIOUS AREA (SFx1000)	ESTIM'D STORM-WATER RETENTION AREA (SFx1000)	TOTAL DIST'D AREA (SFx1000)	EXIST. PAD AREA (SFx1000)	FUEL MGMT AREA (SFx1000)	NEWLY DIST'D AREA (SFx1000)	BIO/ ARCH SURVEY AREA (SFx1000)	DRAWING NO.	
					CUT (CY)	FILL (CY)	NET BANK (CY): (-) CUT, (+) FILL	TOTAL = CUT + FILL (CY)										
1	Signal 113 A Extension	EXIST	173	171.0	5500	100	-5400	5600	22.3	22.3	2.2	45.1	12.7	0	32.4	92.6	CE130130GP0013	
2	Maino 16 NW Upper	NEW	--	354.3	16300	9600	-6700	25900	39.2	43.6	4.4	99.8	0	5.7	99.8	138.8	CE130130GP0014	
3	Dollie 108 G	EXIST	--	172.2	1200	700	-500	1900	22.4	23.8	2.4	40.2	4.9	1.4	35.3	73.4	CE130130GP0015	
4	Rock 12 N	EXIST	195	195.0	4900	2200	-2700	7100	35.0	35	3.5	66.4	10.6	0.0	55.8	105.0	CE130130GP0011	
5	Signal 9N-1	EXIST	329	328.5	1300	6400	5100	7700	25.3	28.7	2.9	69.6	8.4	10.3	61.2	85.8	CE130130GP0010	
6	Signal 306 / Signal 303	EXIST	287	287.5	3000	1100	-1900	4100	23.9	23.9	2.4	53.9	16.0	0.0	37.9	84.2	CE130130GP0011	
7	Signal 161	EXIST	348	347.5	1600	600	-1000	2200	21.7	21.7	2.2	42.9	19.2	0.0	23.7	70.3	CE130130GP0010	
8	Pulas 2 / Signal 143	EXIST	472	470.3	2200	700	-1500	2900	33.1	37.8	3.8	61.0	24.3	12.2	36.7	93.5	CE130130GP0008	
9	Signal 195-301 Connector	EXIST	--	354.0	22400	19600	-2800	42000	77.4	82.1	8.2	154.2	42.6	5.2	111.6	217.1	CE130130GP0007	
10	Signal 8 Abandoned	NEW	--	417.5	19400	1800	-17600	21200	26.5	36.6	3.7	67.5	0	12.9	67.5	93.7	CE130130GP0007	
11	Signal 117	EXIST	282	287.6	3600	4900	1300	8500	41.0	60.3	6.0	78.0	27.5	8.5	50.5	115.7	CE130130GP0008	
12	Pulas 3	EXIST	423	422.0	1200	900	-300	2100	15.9	15.9	1.6	30.4	14	0.0	16.4	56.4	CE130130GP0009	
13	Signal 171, Gas Plant Upper	EXIST	339	335.0	19200	10800	-8400	30000	48.7	51.5	5.2	115.7	16.8	2.2	98.9	151.3	CE130130GP0007	
14	Signal 125	EXIST	310	311.8	7800	6100	-1700	13900	51.8	59	5.9	103.8	10.7	9.9	93.1	141.0	CE130130GP0006	
15	B-Lo Signal 171	NEW	--	290.5	8700	3400	-5300	12100	20.4	23.8	2.4	51.5	0	4.5	51.5	71.9	CE130130GP0007	
16	Signal 149	EXIST	--	171.0	2600	1100	-1500	3700	34.8	34.8	3.5	59.9	30.9	0.0	29.0	100.4	CE130130GP0013	
17	Signal 113-114-115 Connector	EXIST	--	228.0	10000	11000	1000	21000	57.4	57.4	5.7	113.7	47.0	0.0	66.7	173.6	CE130130GP0008	
18	Rock 12 J	EXIST	186	187.5	1900	1400	-500	3300	24.5	26.8	2.7	44.1	17.9	0.0	26.2	73.5	CE130130GP0008	
19	Signal 66 C Extension / Pulas 4	EXIST	379	379.0	2700	1400	-1300	4100	17.3	17.3	1.7	32.4	2.5	0.0	29.9	57.6	CE130130GP0010	
20	Signal 162	EXIST	444	446.5	2500	1400	-1100	3900	29.5	33.1	3.3	42.5	21.0	7.1	21.5	65.5	CE130130GP0009	
21	Signal 20 Abandoned	NEW	--	231.6	4700	4500	-200	9200	29.7	50.4	5.0	114.6	0	28.1	114.6	173.2	CE130130GP0007	
22	Signal P1 11	EXIST	310	310.3	12000	2600	-9400	14600	17.5	18.9	1.9	66.7	9.9	1.9	56.8	92.6	CE130130GP0008	
23	Signal 129	EXIST	316	314.0	27800	14600	-13200	42400	53.3	53.3	5.3	141.0	10.5	0	130.5	187.0	CE130130GP0008	
24	Cutshack Demo	EXIST	230	232.5	3500	2300	-1200	5800	15.4	21	2.1	32.7	6.8	7.3	25.9	53.1	CE130130GP0008	
25	Signal Extension Road	NEW	--	--	900	6200	5300	7100	0	35.1	3.5	99.2	0	43.5	99.2	146.5	CE130130GP0012	
26	Maino 20 K	EXIST	318	320.0	5300	2300	-3000	7600	22.8	25.4	2.5	51.2	13.7	2.7	37.5	89.4	CE130130GP0015	
27	Maino 19 N	EXIST	195	196.5	1500	500	-1000	2000	21.1	21.1	2.1	34.4	18.5	0	15.9	57.2	CE130130GP0015	
28	Signal 9 J 2	EXIST	365	366.3	5700	1100	-4600	6800	19.0	25.4	2.5	61.3	14.8	10.4	46.5	79.4	CE130130GP0010	
29	Signal 131 / B-Lo Pulas 2	EXIST	398	402.1	4400	1400	-3000	5800	12.9	14.7	1.5	39.6	6.4	2.8	33.2	64.2	CE130130GP0008	
30	Signal 123	EXIST	397	394.8	900	600	-300	1500	16.8	17.7	1.8	38.5	18.4	2.2	20.1	61.5	CE130130GP0006	
31	Pulas 8	EXIST	410	411.0	400	400	0	800	17.1	17.1	1.7	26.9	13.8	0	13.1	49.4	CE130130GP0006	
32	Signal 124	EXIST	449	445.8	1600	1000	-600	2600	15.8	15.8	1.6	28.2	14.6	0	13.6	51.9	CE130130GP0006	
33	Pulas 6	EXIST	409	408.0	300	0	-300	300	15.2	16	1.6	33.0	13.6	3.2	19.4	52.4	CE130130GP0009	
34	Signal 135	EXIST	496	495.0	900	200	-700	1100	18.7	18.9	1.9	33.1	19.0	0.4	14.1	57.4	CE130130GP0009	
35	Signal 180	EXIST	362	361.0	1600	300	-1300	1900	19.2	20.7	2.1	44.2	19.1	2.9	25.1	71.3	CE130130GP0011	
36	Signal 48	NEW	--	348.3	200	100	-100	300	15.9	22	2.2	41.1	0	7.5	41.1	70.0	CE130130GP0005	
38	Signal 150	EXIST	170	--	--	--	--	0	0	0	0	192.8	0	0	0	0	CE130130GP0013	
39	Rock 401	EXIST	223	--	--	--	--	0	0	0	0	91.4	0	0	0	0	CE130130GP0011	
40	Maino 16 NW	EXIST	338.5	--	--	--	--	0	0	0	0	14.6	0	0	0	0	CE130130GP0015	
41	Maino Morehouse 303	EXIST	161	--	--	--	--	0	0	0	0	77.7	0	0	146.6	0	CE130130GP0014	
42	Gate 1 Pad	EXIST	185	201.0	200	48800	48600	49000	102.5	105.2	10.5	202.0	26.7	3.3	175.3	270.0	CE130130GP0011	
44	Signal 141	EXIST	465	465.0	0	1300	1300	1300	25.8	25.8	2.6	38.4	29.6	0	8.8	65.2	CE130130GP0009	
45	Signal 121 AWT Connection	EXIST	--	350.0	14100	12500	-1600	26600	113.9	124.7	12.5	191.0	31.5	8.2	159.5	282.0	CE130130GP0006	
46	Maino 19J	NEW	--	271.0	22600	1000	-21600	23600	31.6	35.5	3.6	87.7	0	5.0	87.7	123.0	CE130130GP0014	
47	Maino 6 Abandoned	NEW	--	230.0	2900	1700	-1200	4600	17.6	20.8	2.1	38.7	0	6.7	38.7	92.1	CE130130GP0015	
48	B-Lo Morehouse 3	NEW	--	330.5	7200	9400	2200	16600	28.2	36.7	3.7	85.8	0	10.9	85.8	148.4	CE130130GP0015	
49	Rock 98 Expansion	EXIST	228.7	228.7	--	--	--	0	0	0	0	13.6	0	0	0	0	CE130130GP0008	
--	Price Canyon Road Crossing	EXIST	--	--	20	100	80	120	--	0	0	4.6	4.6	0	0	21.4	CE130130GP0008	
--	Ormonde Road Crossing	EXIST	--	--	50	0	-50	50	--	0	0	2.9	0.7	0	2.2	10.1	CE130130GP0015	
--	N. Pismo Pipe Bridge & UPRR Xing	EXIST	--	--	160	120	-40	280	--	0	0	2.2	2.2	0	0	23.6	CE130130GP0013	
--	UPRR UnderXing: Hyla to Maino	EXIST	--	--	100	0	-100	100	--	0	0	3.2	3.2	0	0	17.5	CE130130GP0016	
--	Pipe Rack Corridor: Signal 140 to Rd. 5	EXIST	--	--	20	20	0	40	--	0	0	10	1.1	0	8.9	31.2	CE130130GP0008	
--	Signal Extension Stream Crossing	EXIST	--	--	60	60	0	120	--	0	0	0.8	0.8	0	0	12.5	CE130130GP0008	
--	Steam Generator AG-7	EXIST	232.5	232.5	600	600	0	1200	0	0	0	2.9	2.9	0	0	12.7	CE130130GP0008	
					CUMULATIVE:	257710	198900	-58810	456610	1298	1478	148	2929	1000	227	2319	4664	
					CUMULATIVE (Acres):	--	--	--	--	29.8	33.9	3.4	67.2	22.9	5.2	53.2	107.1	

NOTES

- EARTHWORK NUMBERS ARE BASED ON THE DIFFERENCE BETWEEN EXISTING GRADE AND PRELIMINARY FINISHED GRADE. SHRINKAGE, CONSOLIDATION, AND LOSSES DUE TO CLEARING AND GRUBBING ARE NOT INCLUDED IN EARTHWORK NUMBERS. VOLUMES ARE ROUNDED TO THE NEAREST 100 CUBIC YARDS.
- PADS 37 AND 43 WERE REMOVED FROM THE PROPOSED PHASE V WORK.

TERMS & EQUATIONS

	TERMS	EQUATION	DESCRIPTION
(A)	Proposed Pad Area		The pad surface area, as delineated by the proposed pad boundary.
(B)	Proposed Road Area		The road surface added or improved in conjunction with the pad improvements.
(C)	Proposed Impervious Area	= A + B	The proposed pad and any new road and/or driveway surfaces.
(D)	Estimated Storm Water Retention Area	= 0.1 * C	10% of the Proposed Impervious Area. The estimated area that may be required for LID storm water management and control structures.
(E)	Total Disturbed Area		Established by a 10' offset from the daylight line of all graded areas. Includes the proposed pad area, new roads, and all associated cut and fill.
(F)	Existing Pad Area		Existing graded areas which are limited here to include only the existing pad surface areas.
(G)	Net Disturbed Area	= E - F	The new areas disturbed due to grading, fuel management, and drainage improvements.
(H)	Fuel Management Area		A zone 13' from each edge of new roadways and driveways per Cal Fire requirements.



TYPICAL WELL PAD DIAGRAM
NTS

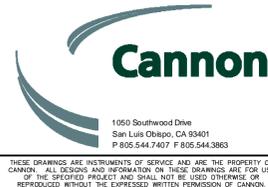
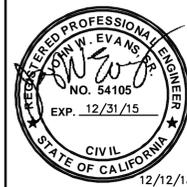
DIAGRAM NOTES

- PADS ARE GRADED FLAT PRELIMINARILY AND WILL BE SLOPED DURING DETAILED DESIGN.
- STORM DRAIN INLETS SHOWN ARE APPROXIMATE AND PRELIMINARY. FINAL LOCATIONS AND SIZES WILL BE DETERMINED DURING DETAILED DESIGN.

DIAGRAM LEGEND

	EXISTING	PROPOSED
PAD BOUNDARY	—————	—————
WELL PAD		
DAYLIGHT LINE	—————	—————
ROAD	—————	—————
TOTAL DISTURBED AREA		—————

NOTES



REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY	WT/CM/PM
F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE			
E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE			
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB			
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB			
B	5/3/13	ISSUED FOR REVIEW		PM	CB			
A	4/11/13	ISSUED FOR REVIEW		PM	CB			

WELL PAD SUMMARY
PRELIMINARY GRADING PLANS
FM O&G PHASE V DEVELOPMENT
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401

LEASE NAME:	ARROYO	FACILITY TYPE:	PETROLEUM	DRAWING NUMBER:	CE130130NN0004	REV.:	F
PROJECT NUMBER:	130130	PRODUCTION:	GRANDE	SHEET NO.:	4	OF	19

GENERAL NOTES

1. SEE DETAIL 1, SHEET 19 FOR WELL PAD STORM DRAIN INLET.
2. ALL PADS REQUIRE A PERIMETER BERM PER DETAIL 2, SHEET 19. SEE DETAIL 3, SHEET 19 FOR TYPICAL PAD SECTION.
3. ALL SLOPES REQUIRING TERRACING ARE SHOWN WITHOUT TERRACING BUT DAYLIGHT SIMILARLY. SEE DETAIL 4, SHEET 19 FOR TYPICAL TERRACED SLOPE.
4. SEE DETAIL 5, SHEET 19 FOR TYPICAL SECTION FOR IMPROVEMENTS TO EXISTING ROADS.
5. SEE DETAIL 6, SHEET 19 FOR TYPICAL SECTION OF NEW ROAD.
6. ALL ROADS LONGER THAN 800-FT REQUIRE A TURNOUT AT THE MIDPOINT AND AT NO MORE THAN 400-FT INTERVALS. SEE DETAIL 7, SHEET 19 FOR TYPICAL TURNOUT DETAIL. EXACT LOCATION TO BE DETERMINED IN THE FIELD.
7. ALL ROADS LONGER THAN 300-FT REQUIRE A STANDARD CAL FIRE TURNAROUND.

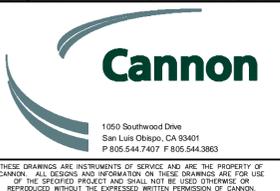
LEGEND

	EXISTING	PROPOSED
PAD BOUNDARY		
DAYLIGHT LINE		
ROAD		
BLUELINE CREEK		
TOTAL DISTURBED AREA		
CONTOURS (2' MIN, 10' MAJ)		
WELL PAD		
STORM DRAIN INLET AND DISCHARGE PIPE		



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NOTES

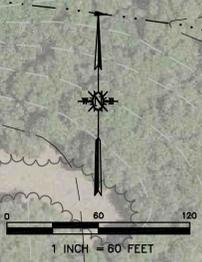


REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY	WT/CM/PM
F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE			
E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE			
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB			
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB			
B	5/3/13	ISSUED FOR REVIEW		PM	CB			
A	4/11/13	ISSUED FOR REVIEW		PM	CB			

GRADING PLAN

PRELIMINARY GRADING PLANS
FM O&G PHASE V DEVELOPMENT
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401

LEASE NAME: ARROYO GRANDE	FACILITY TYPE: PETROLEUM PRODUCTION	DRAWING NUMBER: CE130130GP0005	REV. NO. F
PROJECT NUMBER: 130130	SHEET NO. 5	OF 19	



GENERAL NOTES

- SEE DETAIL 1, SHEET 19 FOR WELL PAD STORM DRAIN INLET.
- ALL PADS REQUIRE A PERIMETER BERM PER DETAIL 2, SHEET 19. SEE DETAIL 3, SHEET 19 FOR TYPICAL PAD SECTION.
- ALL SLOPES REQUIRING TERRACING ARE SHOWN WITHOUT TERRACING BUT DAYLIGHT SIMILARLY. SEE DETAIL 4, SHEET 19 FOR TYPICAL TERRACED SLOPE.
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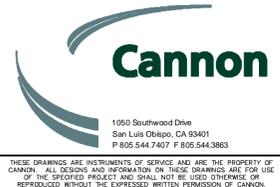
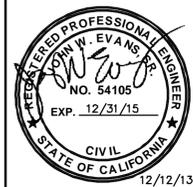
LEGEND

	EXISTING	PROPOSED
PAD BOUNDARY		
DAYLIGHT LINE		
ROAD		
BLUELINE CREEK		
TOTAL DISTURBED AREA		
CONTOURS (2' MIN, 10' MAJ)		
WELL PAD		
STORM DRAIN INLET AND DISCHARGE PIPE		



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NOTES



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D	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE			
E	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB			
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB			
B	5/3/13	ISSUED FOR REVIEW		PM	CB			
A	4/11/13	ISSUED FOR REVIEW		PM	CB			

GRADING PLAN
PRELIMINARY GRADING PLANS
FM O&G PHASE V DEVELOPMENT
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401

LEASE NAME: ARROYO GRANDE	FACILITY TYPE: PETROLEUM PRODUCTION	DRAWING NUMBER: CE130130GP0006	REV. F
PROJECT NUMBER: 130130	SHEET NO.: 6 OF 19	DATE: 04/11/2013	SCALE: AS SHOWN

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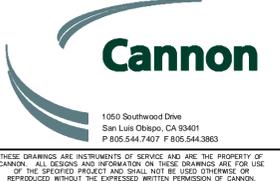
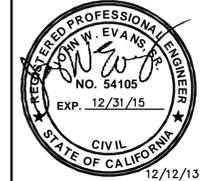
GENERAL NOTES

- SEE DETAIL 1, SHEET 19 FOR WELL PAD STORM DRAIN INLET.
- ALL PADS REQUIRE A PERIMETER BERM PER DETAIL 2, SHEET 19. SEE DETAIL 3, SHEET 19 FOR TYPICAL PAD SECTION.
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- SEE DETAIL 5, SHEET 19 FOR TYPICAL SECTION FOR IMPROVEMENTS TO EXISTING ROADS.
- SEE DETAIL 6, SHEET 19 FOR TYPICAL SECTION OF NEW ROAD.
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- ALL ROADS LONGER THAN 300-FT REQUIRE A STANDARD CAL FIRE TURNAROUND.

LEGEND

	EXISTING	PROPOSED
PAD BOUNDARY		
DAYLIGHT LINE		
ROAD		
BLUELINE CREEK		
TOTAL DISTURBED AREA		
CONTOURS (2' MIN, 10' MAJ)		
WELL PAD		
STORM DRAIN INLET AND DISCHARGE PIPE		

NOTES



REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY
F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE		
E	12/6/13	ISSUED FOR LAND USE PERMITTING		PM	JWE		
D	8/16/13	ISSUED FOR LAND USE PERMITTING		PM	CB		
C	7/15/13	ISSUED FOR LAND USE PERMITTING		PM	CB		
B	5/3/13	ISSUED FOR REVIEW		PM	CB		
A	4/11/13	ISSUED FOR REVIEW		PM	CB		

GRADING PLAN

PRELIMINARY GRADING PLANS
FM O&G PHASE V DEVELOPMENT
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401

LEASE NAME: ARROYO	FACILITY TYPE: PETROLEUM	DRAWING NUMBER: CE130130GP0007	REV. F
GRANDE	PRODUCTION	PROJECT NUMBER: 130130	SHEET NO. 7 OF 19



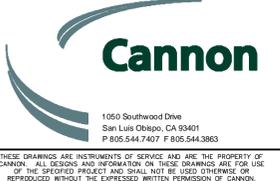
GENERAL NOTES

1. SEE DETAIL 1, SHEET 19 FOR WELL PAD STORM DRAIN INLET.
2. ALL PADS REQUIRE A PERIMETER BERM PER DETAIL 2, SHEET 19. SEE DETAIL 3, SHEET 19 FOR TYPICAL PAD SECTION.
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7. ALL ROADS LONGER THAN 300-FT REQUIRE A STANDARD CAL FIRE TURNAROUND.

LEGEND

	EXISTING	PROPOSED
PAD BOUNDARY		
DAYLIGHT LINE		
ROAD		
BLUELINE CREEK		
TOTAL DISTURBED AREA		
CONTOURS (2' MIN, 10' MAJ)		
WELL PAD		
STORM DRAIN INLET AND DISCHARGE PIPE		

NOTES

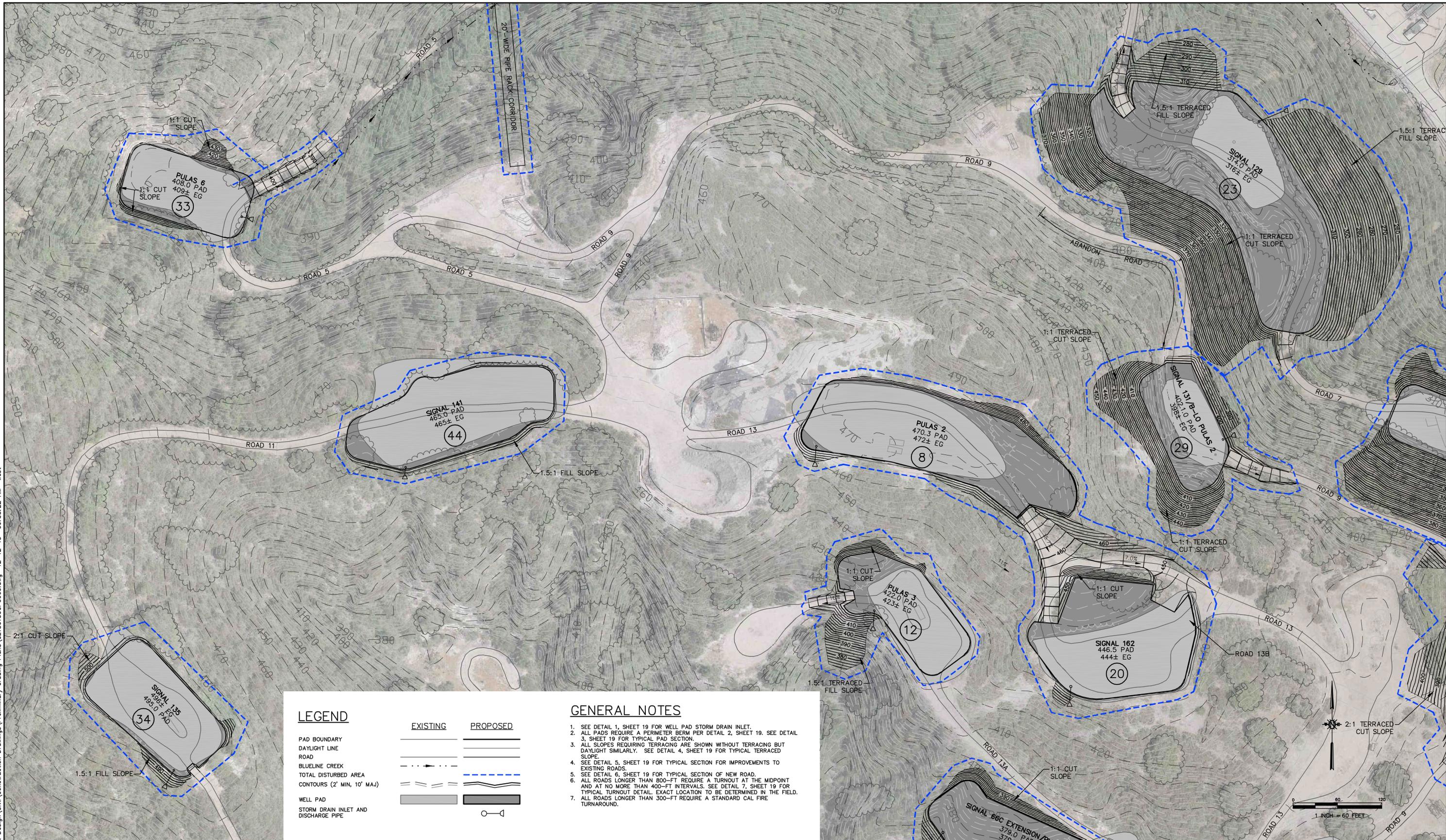


REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY: WT/CM/PM
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E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE		TRACED BY:
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB		TRAC'G. CKD:
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB		APP'D:
B	5/3/13	ISSUED FOR REVIEW		PM	CB		APP'D:
A	4/11/13	ISSUED FOR REVIEW		PM	CB		SCALE: AS SHOWN

GRADING PLAN			
PRELIMINARY GRADING PLANS			
FM O&G PHASE V DEVELOPMENT			
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401			
LEASE NAME:	FACILITY TYPE:	DRAWING NUMBER:	REV.
ARROYO GRANDE	PETROLEUM PRODUCTION	CE130130GP0008	F
PROJECT NUMBER:	SHEET NO.		
130130	8 OF 19		

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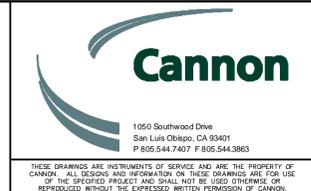
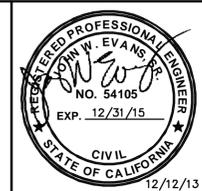


LEGEND

PAD BOUNDARY	EXISTING	PROPOSED
DAYLIGHT LINE		
ROAD		
BLUELINE CREEK		
TOTAL DISTURBED AREA		
CONTOURS (2' MIN, 10' MAJ)		
WELL PAD		
STORM DRAIN INLET AND DISCHARGE PIPE		

- GENERAL NOTES**
- SEE DETAIL 1, SHEET 19 FOR WELL PAD STORM DRAIN INLET.
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 - ALL ROADS LONGER THAN 300'-FT REQUIRE A STANDARD CAL FIRE TURNAROUND.

NOTES



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F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE		CHECKED BY:
E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE		TRACED BY:
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB		TRAC'G. CKD:
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB		APP'D:
B	5/3/13	ISSUED FOR REVIEW		PM	CB		APP'D:
A	4/11/13	ISSUED FOR REVIEW		PM	CB		SCALE: AS SHOWN

GRADING PLAN

PRELIMINARY GRADING PLANS
FM O&G PHASE V DEVELOPMENT
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401

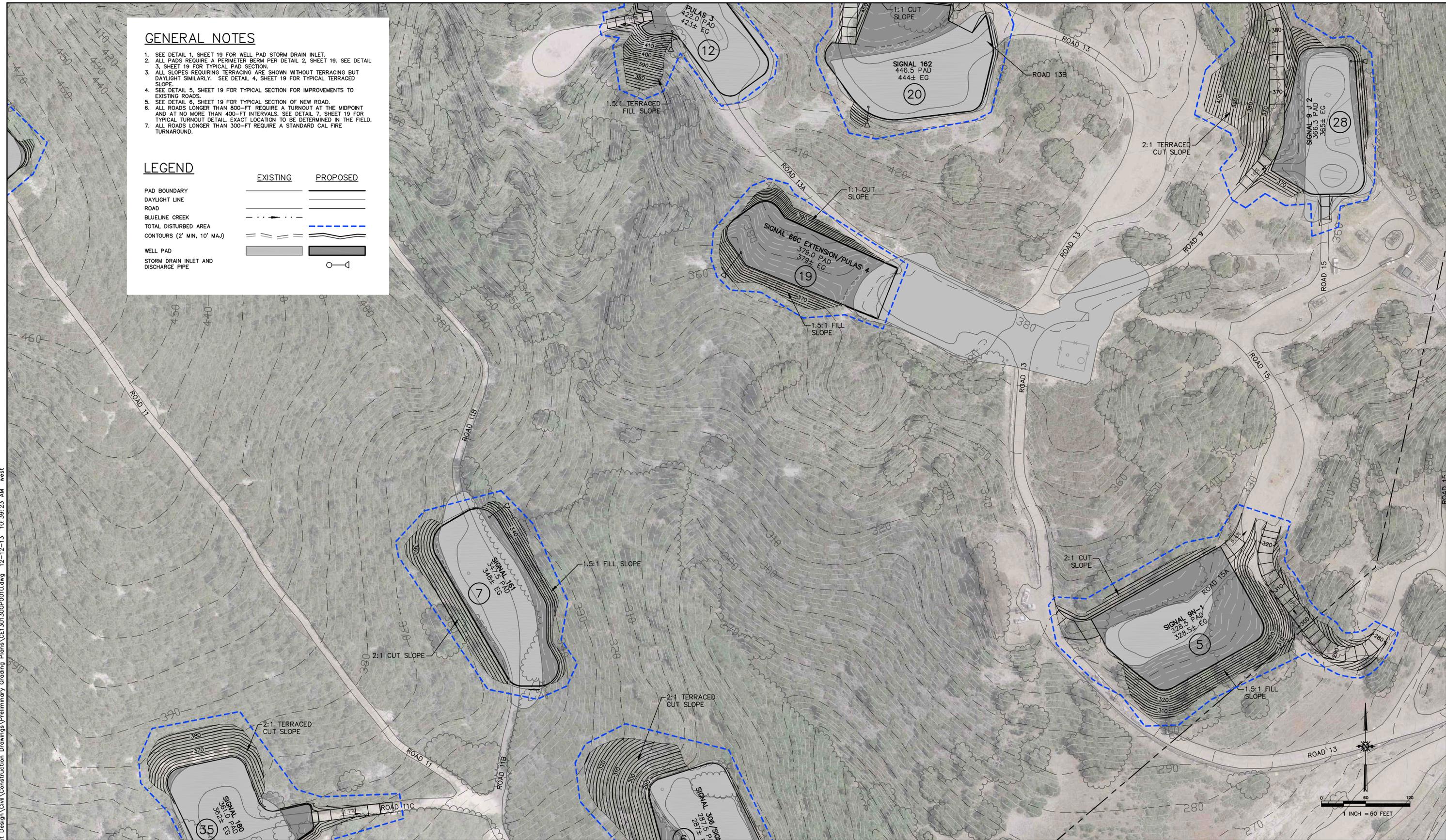
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GENERAL NOTES

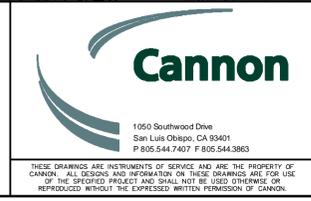
1. SEE DETAIL 1, SHEET 19 FOR WELL PAD STORM DRAIN INLET.
2. ALL PADS REQUIRE A PERIMETER BERM PER DETAIL 2, SHEET 19. SEE DETAIL 3, SHEET 19 FOR TYPICAL PAD SECTION.
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LEGEND

	EXISTING	PROPOSED
PAD BOUNDARY		
DAYLIGHT LINE		
ROAD		
BLUELINE CREEK		
TOTAL DISTURBED AREA		
CONTOURS (2' MIN, 10' MAJ)		
WELL PAD		
STORM DRAIN INLET AND DISCHARGE PIPE		



NOTES



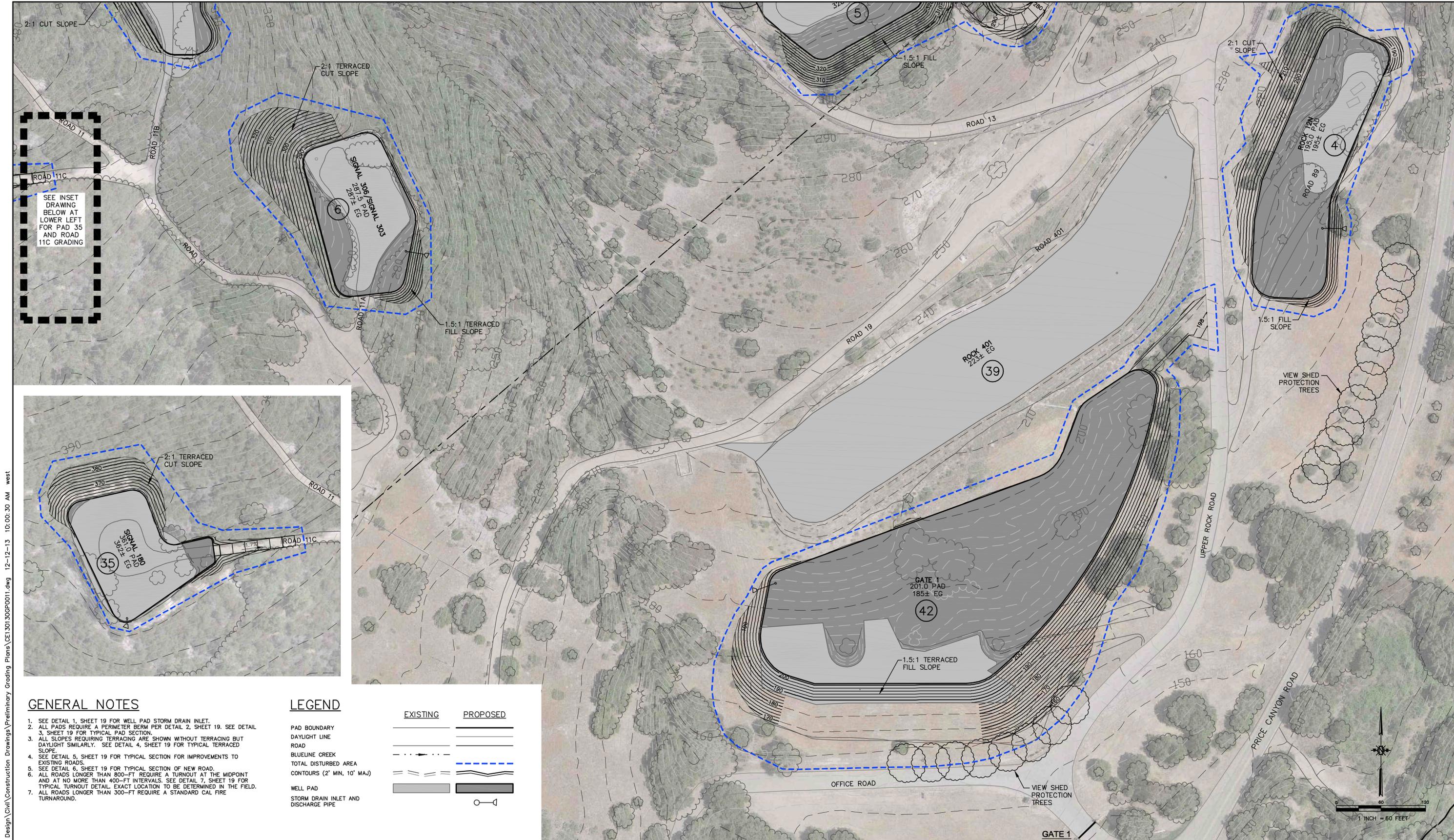
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E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE		CM
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C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB		
B	5/3/13	ISSUED FOR REVIEW		PM	CB		
A	4/11/13	ISSUED FOR REVIEW		PM	CB		

GRADING PLAN

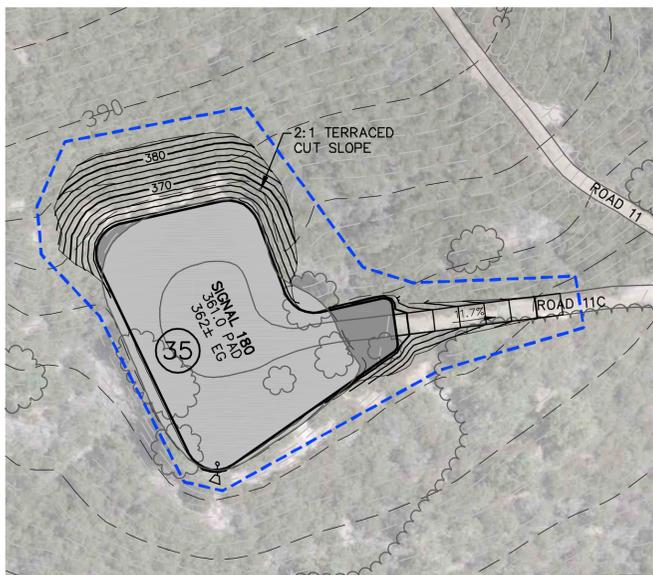
PRELIMINARY GRADING PLANS
FM O&G PHASE V DEVELOPMENT
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401

LEASE NAME: ARROYO GRANDE	FACILITY TYPE: PETROLEUM PRODUCTION	DRAWING NUMBER: CE130130GP0010	REV. F
PROJECT NUMBER: 130130	SHEET NO.: 10 OF 19	DATE: 04/11/2013	

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SEE INSET DRAWING BELOW AT LOWER LEFT FOR PAD 35 AND ROAD 11C GRADING



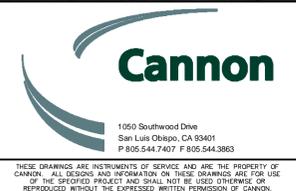
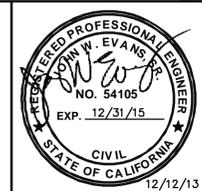
GENERAL NOTES

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LEGEND

EXISTING	PROPOSED

NOTES



REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY: WT/CM/PM
F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE		CHECKED BY:
E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE		TRACED BY:
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB		TRAC'G. OKD
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB		APP'D
B	5/3/13	ISSUED FOR REVIEW		PM	CB		APP'D
A	4/11/13	ISSUED FOR REVIEW		PM	CB		SCALE: AS SHOWN

GRADING PLAN			
PRELIMINARY GRADING PLANS			
FM O&G PHASE V DEVELOPMENT			
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401			
LEASE NAME:	FACILITY TYPE:	DRAWING NUMBER	REV.
ARROYO GRANDE	PETROLEUM PRODUCTION	CE130130GP0011	F
DATE: 04/11/2013		PROJECT NUMBER: 130130	SHEET NO.: 11 OF 19

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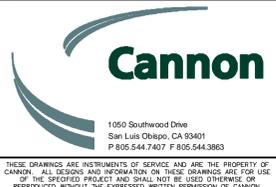
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LEGEND

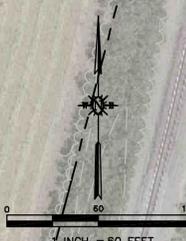
	EXISTING	PROPOSED
PAD BOUNDARY		
DAYLIGHT LINE		
ROAD		
BLUELINE CREEK		
TOTAL DISTURBED AREA		
CONTOURS (2' MIN, 10' MAX)		
WELL PAD		
STORM DRAIN INLET AND DISCHARGE PIPE		

NOTES



REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY
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B	5/3/13	ISSUED FOR REVIEW		PM	CB		
A	4/11/13	ISSUED FOR REVIEW		PM	CB		

GRADING PLAN			
PRELIMINARY GRADING PLANS FM O&G PHASE V DEVELOPMENT			
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401			
LEASE NAME:	FACILITY TYPE:	DRAWING NUMBER:	REV.
ARROYO GRANDE	PETROLEUM PRODUCTION	CE130130GP0012	F
PROJECT NUMBER:	SHEET NO.:		
130130	12 OF 19		





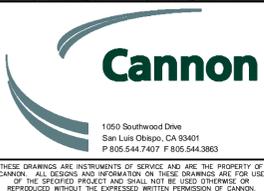
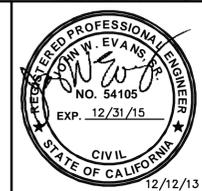
- ### GENERAL NOTES
- SEE DETAIL 1, SHEET 19 FOR WELL PAD STORM DRAIN INLET.
 - ALL PADS REQUIRE A PERIMETER BERM PER DETAIL 2, SHEET 19. SEE DETAIL 3, SHEET 19 FOR TYPICAL PAD SECTION.
 - ALL SLOPES REQUIRING TERRACING ARE SHOWN WITHOUT TERRACING BUT DAYLIGHT SIMILARLY. SEE DETAIL 4, SHEET 19 FOR TYPICAL TERRACED SLOPE.
 - SEE DETAIL 5, SHEET 19 FOR TYPICAL SECTION FOR IMPROVEMENTS TO EXISTING ROADS.
 - SEE DETAIL 6, SHEET 19 FOR TYPICAL SECTION OF NEW ROAD.
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 - ALL ROADS LONGER THAN 300-FT REQUIRE A STANDARD CAL FIRE TURNAROUND.

LEGEND

	EXISTING	PROPOSED
PAD BOUNDARY	—	—
DAYLIGHT LINE	—	—
ROAD	—	—
BLUELINE CREEK	—	—
TOTAL DISTURBED AREA	—	—
CONTOURS (2' MIN, 10' MAX)	—	—
WELL PAD	—	—
STORM DRAIN INLET AND DISCHARGE PIPE	—	—

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NOTES



REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY: WT/CM/PM
F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE		CHECKED BY:
E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE		TRACED BY:
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB		TRAC'G. CKD:
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB		APP'D:
B	5/3/13	ISSUED FOR REVIEW		PM	CB		APP'D:
A	4/11/13	ISSUED FOR REVIEW		PM	CB		SCALE: AS SHOWN

GRADING PLAN

PRELIMINARY GRADING PLANS
FM O&G PHASE V DEVELOPMENT
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401

LEASE NAME: ARROYO GRANDE	FACILITY TYPE: PETROLEUM PRODUCTION	DRAWING NUMBER: CE130130GP0013	REV. F
PROJECT NUMBER: 130130	SHEET NO. 13 OF 19		

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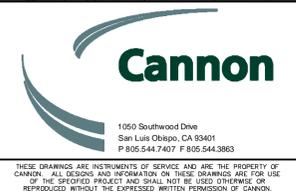
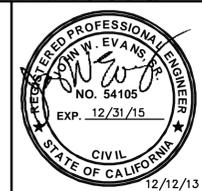
GENERAL NOTES

- SEE DETAIL 1, SHEET 19 FOR WELL PAD STORM DRAIN INLET.
- ALL PADS REQUIRE A PERIMETER BERM PER DETAIL 2, SHEET 19. SEE DETAIL 3, SHEET 19 FOR TYPICAL PAD SECTION.
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LEGEND

	EXISTING	PROPOSED
PAD BOUNDARY	—	—
DAYLIGHT LINE	—	—
ROAD	—	—
BLUELINE CREEK	—	—
TOTAL DISTURBED AREA	—	—
CONTOURS (2' MIN, 10' MAJ)	—	—
WELL PAD	—	—
STORM DRAIN INLET AND DISCHARGE PIPE	—	—

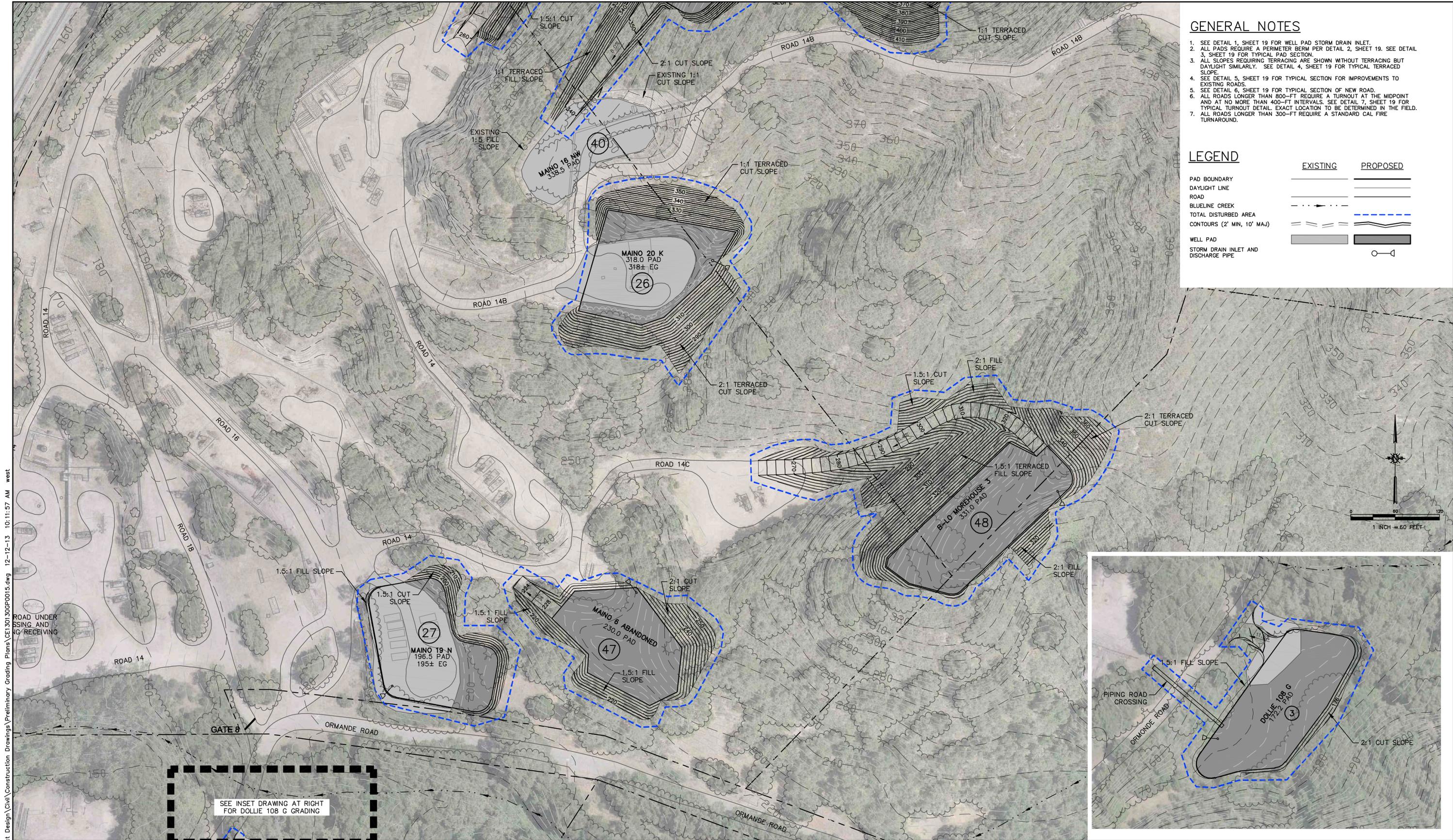
NOTES



REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY	WT/CM/PM
F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE			
D	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE			
C	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB			
B	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB			
B	5/3/13	ISSUED FOR REVIEW		PM	CB			
A	4/11/13	ISSUED FOR REVIEW		PM	CB			

GRADING PLAN
PRELIMINARY GRADING PLANS
FM O&G PHASE V DEVELOPMENT
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401

LEASE NAME: ARROYO GRANDE	FACILITY TYPE: PETROLEUM PRODUCTION	DRAWING NUMBER: CE130130GP0014	REV. F
PROJECT NUMBER: 130130	SHEET NO.: 14 OF 19		



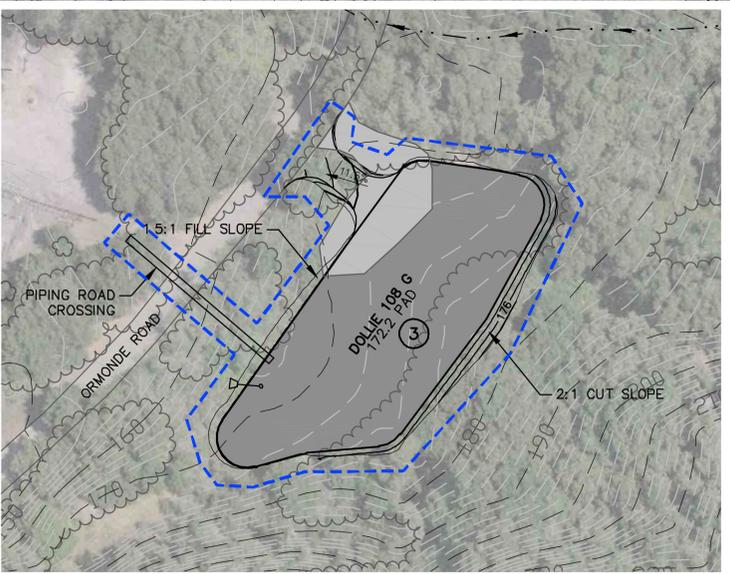
GENERAL NOTES

1. SEE DETAIL 1, SHEET 19 FOR WELL PAD STORM DRAIN INLET.
2. ALL PADS REQUIRE A PERIMETER BERM PER DETAIL 2, SHEET 19. SEE DETAIL 3, SHEET 19 FOR TYPICAL PAD SECTION.
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7. ALL ROADS LONGER THAN 300-FT REQUIRE A STANDARD CAL FIRE TURNAROUND.

LEGEND

	EXISTING	PROPOSED
PAD BOUNDARY		
DAYLIGHT LINE		
ROAD		
BLUELINE CREEK		
TOTAL DISTURBED AREA		
CONTOURS (2' MIN, 10' MAJ)		
WELL PAD		
STORM DRAIN INLET AND DISCHARGE PIPE		

SEE INSET DRAWING AT RIGHT FOR DOLLIE 108 G GRADING



NOTES



REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY
F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE		
E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE		
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB		
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB		
B	5/3/13	ISSUED FOR REVIEW		PM	CB		
A	4/11/13	ISSUED FOR REVIEW		PM	CB		

GRADING PLAN
PRELIMINARY GRADING PLANS
FM O&G PHASE V DEVELOPMENT
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401

LEASE NAME: ARROYO	FACILITY TYPE: PETROLEUM	DRAWING NUMBER: CE130130GP0015	REV. F
GRANDE	PRODUCTION	PROJECT NUMBER: 130130	SHEET NO. 15 OF 19

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GENERAL NOTES

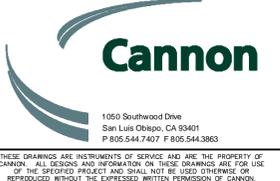
1. SEE DETAIL 1, SHEET 19 FOR WELL PAD STORM DRAIN INLET.
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7. ALL ROADS LONGER THAN 300-FT REQUIRE A STANDARD CAL FIRE TURNAROUND.

LEGEND

	EXISTING	PROPOSED
PAD BOUNDARY		
DAYLIGHT LINE		
ROAD		
BLUELINE CREEK		
TOTAL DISTURBED AREA		
CONTOURS (2' MIN, 10' MAJ)		
WELL PAD		
STORM DRAIN INLET AND DISCHARGE PIPE		

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NOTES

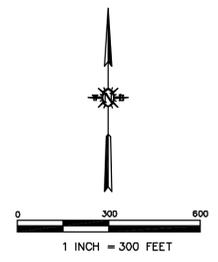


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F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE		
E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE		
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB		
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB		
B	5/3/13	ISSUED FOR REVIEW		PM	CB		
A	4/11/13	ISSUED FOR REVIEW		PM	CB		

GRADING PLAN
PRELIMINARY GRADING PLANS
FM O&G PHASE V DEVELOPMENT
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401

LEASE NAME: ARROYO GRANDE	FACILITY TYPE: PETROLEUM PRODUCTION	DRAWING NUMBER: CE130130GP0016	REV. NO.: 16 OF 19
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NOTE:
THE EXISTING WELL PADS MAY BE USED FOR SHORT-TERM CONSTRUCTION LOGISTICAL SUPPORT.



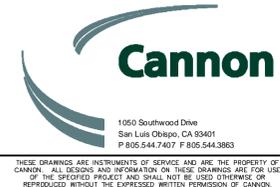
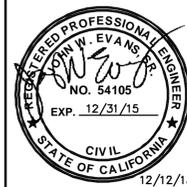
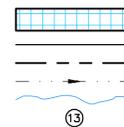
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NOTES

1. TOPOGRAPHY PER EDA, 2008. THE CONTOURS SHOWN ARE AT 10-FOOT INTERVALS.
2. FEE BOUNDARY PER EDA, 2001.
3. AERIAL IMAGE PER GOLDEN STATE AERIAL, 2010.

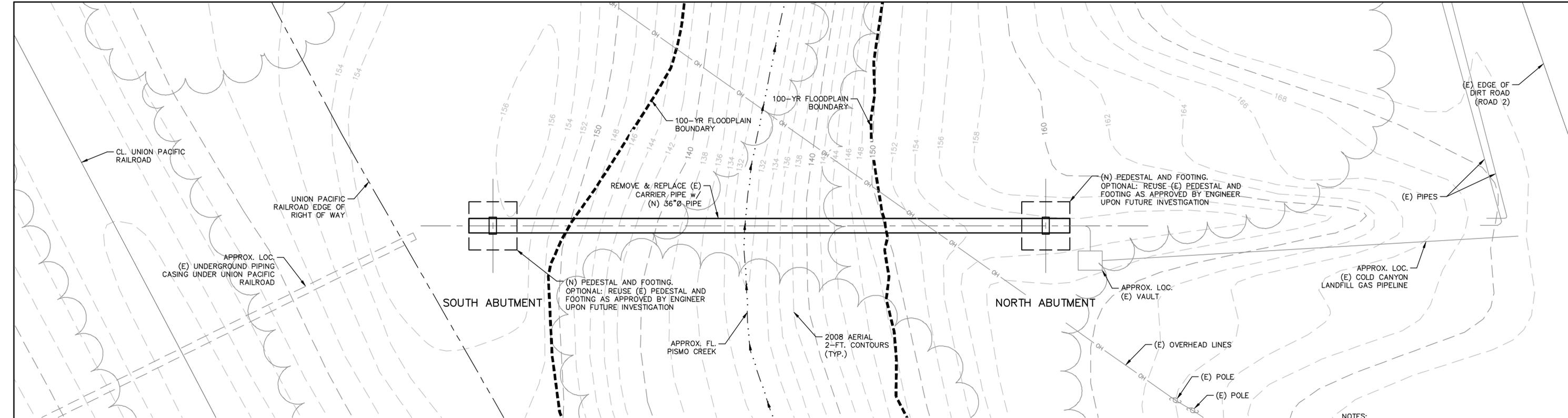
LEGEND

LAYDOWN AND STORAGE AREA
PROPOSED PAD BOUNDARY
PROPERTY FEE BOUNDARY
USGS BLUE-LINE CREEK
100-YEAR FLOODPLAIN
PAD NUMBER



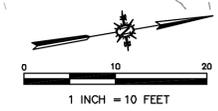
REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY	WT/CM/PM
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A	4/11/13	ISSUED FOR REVIEW		PM	CB			

LAYDOWN AND STORAGE AREA		PRELIMINARY GRADING PLANS	
FM O&G PHASE V DEVELOPMENT		1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401	
LEASE NAME:	ARROYO GRANDE	FACILITY TYPE:	PETROLEUM PRODUCTION
DRAWING NUMBER:	CE130130CX0001	PROJECT NUMBER:	130130
DATE:	04/11/2013	SHEET NO.:	17 OF 19

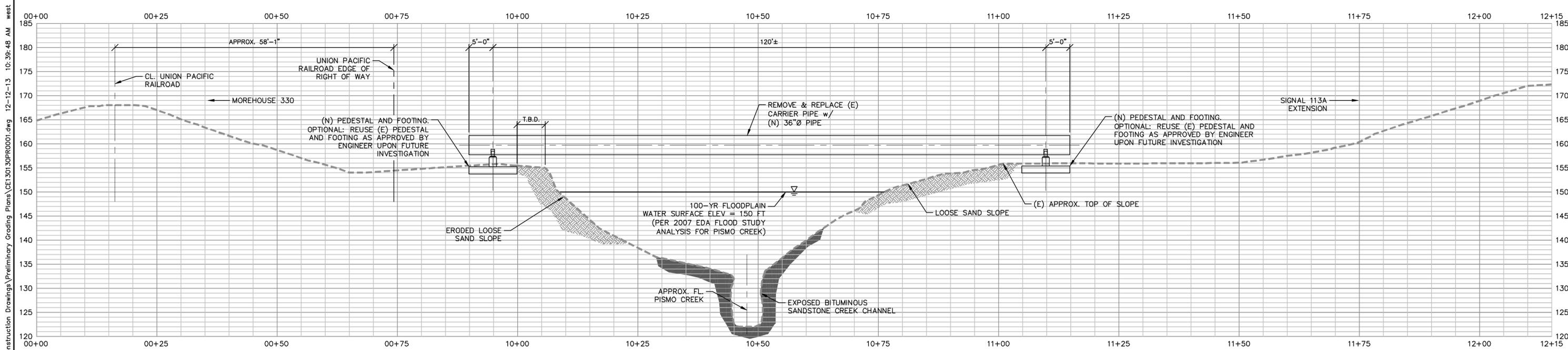


NORTH PISMO CREEK PIPE BRIDGE PLAN

SCALE: 1" = 10'



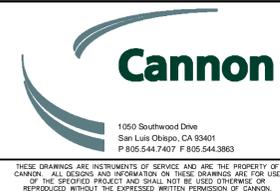
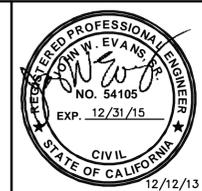
- NOTES:**
- DIMENSIONS AND LINE-WORK CONTAINED ON THIS SHEET ARE APPROXIMATE AND FOR DIAGRAMMATIC PURPOSES ONLY.
 - VISIBILITY OF EXISTING PIPE BRIDGE FOUNDATIONS IS INACCESSIBLE AND OBSCURED BY FOLIAGE. FURTHER INVESTIGATION IS REQUIRED UPON CLEARING OF FOLIAGE TO DETERMINE THE DIMENSIONS AND ADEQUACY OF EXISTING FOUNDATIONS.
 - A SITE VISIT OF THE NORTH PIPE BRIDGE WAS PERFORMED BY CANNON ON 6/27/2013.



NORTH PISMO CREEK PIPE BRIDGE PROFILE

SCALE H: 1" = 10' V: 1" = 10'

NOTES

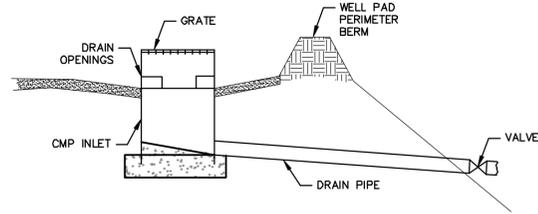


REV.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D	DRAWN BY
F	12/12/13	ISSUED FOR LAND USE PERMITTING		PM	JWE	JWE	WT
E	12/6/13	ISSUED FOR LAND USE PLANNING		PM	JWE	JWE	CM
D	8/16/13	ISSUED FOR LAND USE PLANNING		PM	CB	CB	CM
C	7/15/13	ISSUED FOR LAND USE PLANNING		PM	CB	CB	CM
B	5/3/13	ISSUED FOR REVIEW		PM	CB	CB	CM
A	4/11/13	ISSUED FOR REVIEW		PM	CB	CB	CM

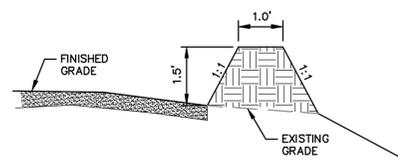
PIPE BRIDGE PLAN & PROFILE			
PRELIMINARY GRADING PLANS			
FM O&G PHASE V DEVELOPMENT			
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401			
LEASE NAME:	FACILITY TYPE:	DRAWING NUMBER:	REV.
ARROYO GRANDE	PETROLEUM PRODUCTION	CE130130PR0001	F
PROJECT NUMBER:	SHEET NO.:		
130130	18 OF 19		

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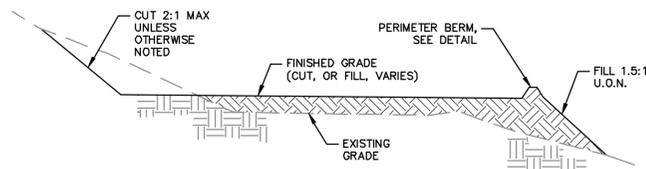
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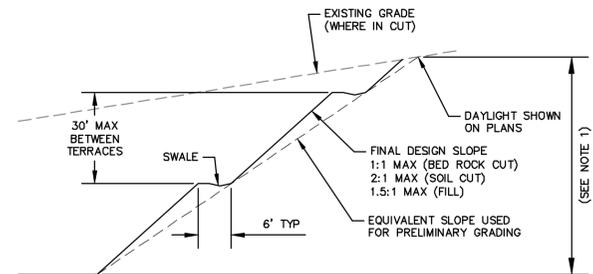
WELL PAD STORM DRAIN INLET
N.T.S. 1



WELL PAD PERIMETER BERM
N.T.S. 2



TYPICAL PAD GRADING
N.T.S. 3



TYPICAL TERRACED SLOPE GRADING
N.T.S. 4

NOTES
1. TERRACES WERE ASSUMED FOR ALL CUTS AND FILLS GREATER THAN 30 FT TALL

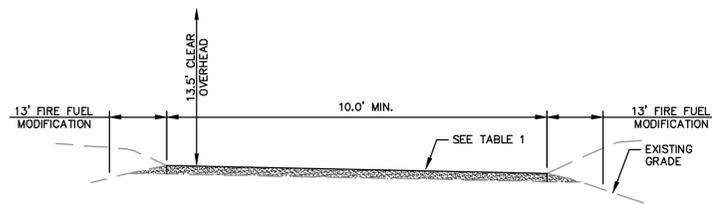
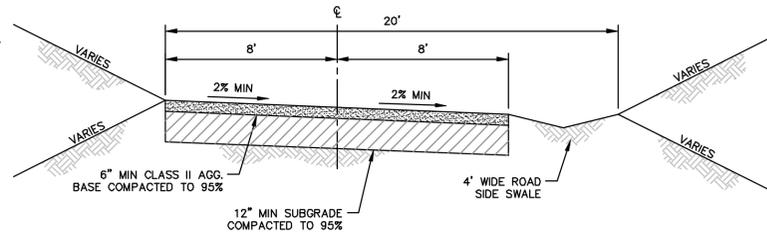


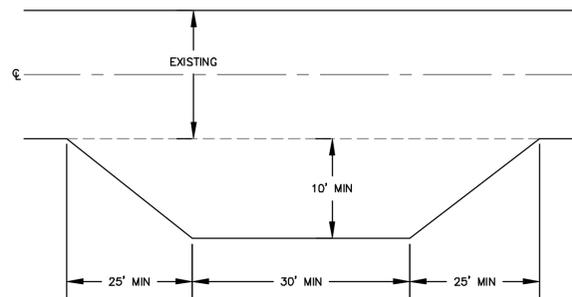
TABLE 1
LONGITUDINAL SLOPE

LONGITUDINAL SLOPE	SURFACE TYPE
1% - 11.9%	ALL WEATHER AGGREGATE BASE
12.0% - 15.9%	NON-SKID SURFACE AND DETAILED BY ENGINEER
16% - 20%	NO ROADS TO EXCEED 20%

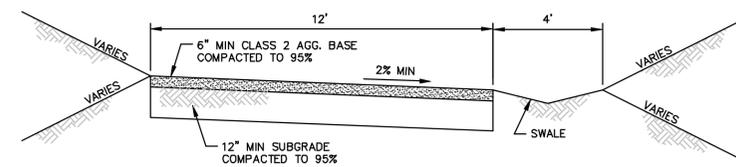
TYPICAL ROAD IMPROVEMENT
N.T.S. 5



TYPICAL NEW ROAD
N.T.S. 6

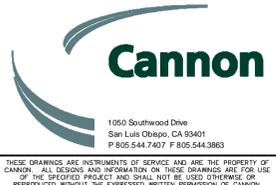


TURNOUT
N.T.S. 7



TYPICAL NEW DRIVEWAY
N.T.S. 8

NOTES



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DETAILS			
PRELIMINARY GRADING PLANS			
FM O&G PHASE V DEVELOPMENT			
1821 PRICE CANYON RD., SAN LUIS OBISPO, CA 93401			
LEASE NAME:	FACILITY TYPE:	DRAWING NUMBER	REV.
ARROYO GRANDE	PETROLEUM PRODUCTION	CE130130DS0016	F
PROJECT NUMBER	SHEET NO.		
130130	19 OF 19		