REPLACE ANODE & RECTIFIER
LINE 108, MP 43.80
LODI, CA

BTU AREA • X-05
CP AREA • T1-08C
WALL MAP 2807
PLAT J5
SAN JOAQUIN COUNTY

SCHEDULE OF SHEETS

SHEET 1 -- GENERAL / CONSTRUCTION NOTES
SHEET 2 -- CONSTRUCTION PLANS
SHEET 3 -- CONSTRUCTION SECTIONS & DETAILS

VICINITY SKETCH
NOT TO SCALE

SUMMARY OF PROPOSED WORK:

1. INSTALL DEEP WELL ANODE PER CCV 0-13.5.
2. REPLACE EXISTING RECTIFIER.
3. INSTALL 2 GROUND RODS.
4. INSTALL APPROX. 20' FEET OF GROUNDING WIRE.
5. INSTALL APPROX. 60 FEET OF PVC SCHED-40 CONDUIT WITH SOLID COPPER CATHODE AND ANODE WIRES.

CONTACT INFORMATION:

T&R SUPERVISOR ---- <NAME> <PHONE>
CONSTRUCTION SUPERVISOR ---- <NAME> <PHONE>
PROJECT MANAGER ---- LOREN ROTHMAN 415-819-1707
ENGINEER ---- BRYON WINGET 925-974-4081
ESTIMATOR / DESIGNER ---- DEAN SCHMITZ 925 244-3493

SEQUENCE OF OPERATIONS:

DEEP WELL ANODE -- L108 MP 43.80
OPERATING DIA *283644 SHT 1

1. BORE 200' DEEP, 8" DIAMETER HOLE FOR ANODE
2. INSTALL 5-AMP MATCOR ANODE APPROX. 5'-0" FROM POLE-MOUNTED RECTIFIER.
3. REPLACE EXISTING POLE-MOUNTED RECTIFIER.
4. RETIRE EXISTING BARE PIPE ANODE IN PLACE.

NOTES:

1. UTILIZE THE EXISTING POLE-MOUNTED MONITORING UNIT.
2. ANODE WIRE MUST NOT BE SPLICED UNLESS SITUATIONS FORCE IT TO BE. IF SO, REFER TO GS&S 0-12 FOR PROCEDURE.
3. KEEP NEGATIVE CABLE FROM THE PIPELINE TO THE IN-SERVICE RECTIFIER INTACT.

CONSTRUCTION NOTES:

1) **WELDING REQUIREMENTS:**
ALL ARC WELDING IS TO BE PERFORMED IN ACCORDANCE WITH GAS STANDARD D-22. ALL CANS AND SPOOLS SHALL BE A MINIMUM OF ONE PIPE DIAMETER, WHENEVER POSSIBLE
WELDING VALVES AND FITTINGS:
WHEN 16" AND LARGER VALVES AND FITTINGS ARE WELDED TO EACH OTHER OR TO PIPE, THE JOINT SHALL HAVE A TWO PASS WELD ON THE INSIDE, AS WELL AS THE OUTSIDE WELD, IF THE INTERNAL MISALIGNMENT EXCEEDS $^{3}/_{32}$". THIS REQUIREMENT ALSO APPLIES TO SMALLER DIAMETER VALVES AND FITTINGS WHEN IT IS PRACTICAL.
WELD SOAP TEST:
ALL WELDS THAT HAVE NOT BEEN HYDRO TESTED AND ALL FITTINGS SHALL BE SOAP TESTED AT 100PSI AND OPERATING PRESSURE.

2) **HYDROSTATIC TEST REQUIREMENTS**
HYDROSTATIC TESTING SHALL MEET PRESSURE AND DURATION REQUIREMENTS OF GAS STANDARD A-34 AND SHALL BE CONDUCTED IN ACCORDANCE WITH GAS STANDARD A-37. SEE ATTACHED STPR.

3) **PAINTING AND COATING REQUIREMENTS**
ALL EXPOSED PIPE AND FITTINGS ARE TO BE PAINTED IN ACCORDANCE WITH GAS STANDARD E-30.
ALL COATING ON BURIED PIPE AND FITTINGS ARE TO BE APPLIED IN ACCORDANCE WITH GAS STANDARD E-35. FOR COATING SELECTIONS ON BURIED PIPE SEE DIRECT BURIAL SELECTIONS TABLE.

4) CALL USA AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION (811).

5) LOCATION OF EXISTING SUBSTRUCTURES ARE APPROXIMATE. BEFORE POWER OR HEAVY EQUIPMENT IS USED FOR EXCAVATION, THE EXACT DEPTH AND LOCATION OF SUBSTRUCTURES SHALL FIRST BE DETERMINED BY HAND EXCAVATION, IF NECESSARY.

6) ALL BENDS ARE SMOOTH FIELD BENDS EXCEPT WHERE ELBOWS ARE NOTED. FIELD BEND SHALL BE MADE IN ACCORDANCE WITH GAS STANDARD A-36 SECTION 4-D.

7) ALL ANGLES SHOWN IN THE PLAN AND PROFILE ARE APPROXIMATE AND SHALL BE CUT TO SUIT FIELD CONDITION.

8) THIS PIPELINE MUST BE INSTALLED WITH AT LEAST 12 INCHES OF CLEARANCE FROM ANY OTHER UNDERGROUND STRUCTURE NOT ASSOCIATED WITH THE PIPELINE.

9) **COATING REMOVAL**
BEFORE REMOVING THE PIPE COATING ON PRE-1972 PIPE (DOES NOT INCLUDE PLASTIC TAPE OR FUSIONBONDED EPOXY COATINGS) THE FOLLOWING STEPS SHALL BE TAKEN:
A) FOR ALL NON-EMERGENCY WORK, PRE-1972 PIPE WRAP MUST BE EVALUATED TO DETERMINE IF IT CONTAINS ASBESTOS PRIOR TO REMOVAL.
B) FOR EMERGENCY WORK ON PRE-1972 PIPE, ASSUME THE WRAP CONTAINS > 1% ASBESTOS UNTIL THE WRAP CAN BE TESTED.
C) OBTAIN SAMPLES OF THE WRAP, AND HAVE SAMPLES TESTED FOR ASBESTOS IN ACCORDANCE WITH S-4711.
D) TEST RESULTS ARE TO BE INCLUDED WITH AS-BUILTS.
E) FOLLOW PROCEDURE IN S-4711 FOR REMOVAL OF PIPE WRAP.

10) IN ORDER THAT THE CP DEPARTMENT CAN CONDUCT A REVIEW OF THE INTERNAL CONDITION OF THE PIPELINE, APPROXIMATELY TWO DAYS PRIOR TO THE TIE-IN, NOTIFY GLEN RIDDLE AT 760-954-3274 OR BILL GRAVES AT 805-423-7924 IN THE CP DEPARTMENT.

11) DEACTIVATION AND/OR RETIREMENT OF UNDERGROUND GAS FACILITIES SHALL BE DONE IN ACCORDANCE WITH UTILITY PROCEDURE TD-9500P-16

DESIGN & CONSTRUCTION REVIEW FOR INTERNAL CORROSION

DESCRIPTION	ACTION SELECTED	INITIAL	DATE
CORROSION ENGINEER HAS REVIEWED THIS LOCATION AND THERE IS NO KNOWN THREAT OF INTERNAL CORROSION. NO INTERNAL CORROSION DESIGN OR CONSTRUCTION CONSIDERATIONS ARE NECESSARY.			
INTERNAL CORROSION MAY BE A THREAT AND THE CONSTRUCTION DESIGNS HAVE BEEN REVIEWED WITH CORROSION ENGINEERING. DOCUMENTATION OF THE REVIEW AND ACTIONS TAKEN ARE IN THE JOB PACKAGE AND INCORPORATED IN THIS DESIGN.			

DIRECT BURIAL COATING SELECTIONS
LISTED IN ORDER OF PREFERENCE

MAIN LINE COATING: EBE
MINOR REPAIRS: PROTAL 7200, POWERCRETE J
TIE-IN WELDS: PROTAL 7200, POWERCRETE J
GIRTH WELDS: PROTAL 7200, POWERCRETE J
BUTT WELDED FITTINGS: PROTAL 7200, POWERCRETE J
VALVE ASSEMBLIES: PROTAL 7200, POWERCRETE J
SHORT SEGMENTS OF PIPE: PROTAL 7200, POWERCRETE J
AIR-TO-SOIL TRANSITIONS: DEVGRIP 238, POWERCRETE J
PRESSURE CONTROL FITTINGS
BODY: PROTAL 7200
FLANGE: WAX TAPE

BORED COATING SELECTIONS
LISTED IN ORDER OF PREFERENCE

MAIN LINE COATING: ARC APPLIED OVER FBE
MINOR REPAIRS: PROTAL 7200, POWERCRETE J
GIRTH WELDS: PROTAL 7200, POWERCRETE J

NOTES:
1) CONTACT THE RESPONSIBLE PIPELINE ENGINEER TO REQUEST A VARIANCE FROM THE ABOVE COATING SELECTIONS
2) ALL COATINGS ARE TO BE APPLIED IN ACCORDANCE WITH GS&S E-30 AND E-35

Installation Tested or Inspected and Noted on Drawing. All Levels Satisfactory per PG&E GS&S 0-16
Qualified Employee ____ Date ____
Corrosion mechanic's signature is required when a CPA boundary is within the scope of the project

NOTIFIED U.S.A.
DATE
TICKET NUMBER
BY

CALL: 811

ENVIRONMENTAL ISSUES
☐ NONE APPARENT (IF PROJECT DESIGN CHANGES, CONTACT RESPONSIBLE ENGR)
☒ PERMITS ☐ TAILBOARD ☐ OTHER
☐ APPLICANT DESIGN/RESPONSIBILITY (CHECK PERMITS BOX IF PERMIT CONDITIONS APPLY TO PG&E ACTIONS)
BY: ____ Signature, name, (Corporate ID), date

SAFETY PLEDGE
I ALWAYS PUT SAFETY FIRST.
I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS.
I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

WELDING INSPECTED PER PG&E GAS STANDARD D-40
VISUAL ☐
MAGNETIC PARTICLE ☐
INSPECTOR ____
DATE ____

REFERENCE DRAWINGS:

283644 - - - - OPERATING DIAGRAM

PRELIMINARY

PSRS* 29207

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0	01-03-13	ISSUED FOR CONSTRUCTION					

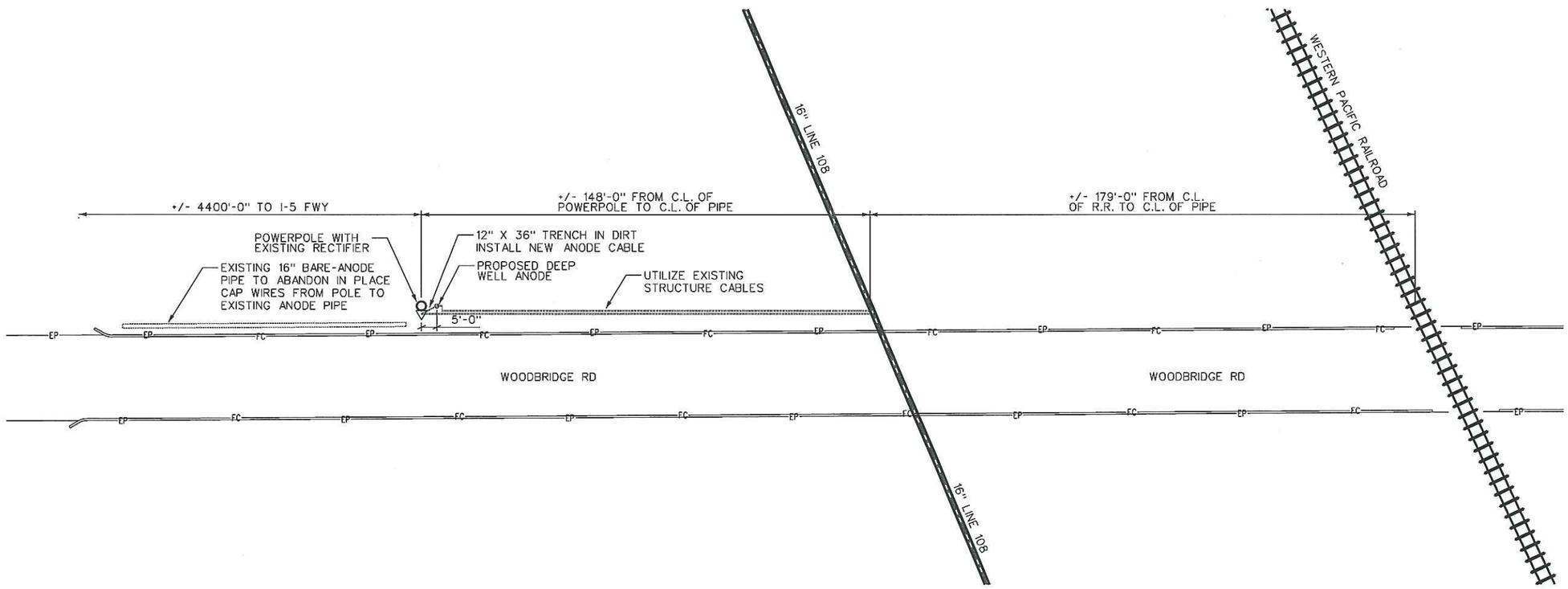
REVISIONS

APPROVED BY
GM 30929277
SUPV R. SOSA
DSGN D. SCHMITZ
DWN D. SCHMITZ
CHKD S. WATERS
DK
DATE 1/2/2013
SCALES AS SHOWN

GENERAL / CONSTRUCTION NOTES
REPLACE ANODE & RECTIFIER
LINE 108, MP 43.80
LODI, CA
PACIFIC GAS AND ELECTRIC COMPANY
WALNUT CREEK, CALIFORNIA

MICROFILM
BILL OF MATL SEE SHEET 03
DWG LIST SEE SHEET 01
SUPSOS
SUPSD BY
SHEET NO. 01 OF 03 SHEETS
30929277

BTU AREA • X-05
CP AREA • T1-08C
WALL MAP 2807
PLAT J5
SAN JOAQUIN COUNTY



SAFETY

SAFETY PLEDGE

I ALWAYS PUT SAFETY FIRST.
I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS.
I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

LEGEND:

- PROPOSED GAS LINE
- EXISTING GAS LINE
- E — ELECTRIC LINE
- T — TELEPHONE LINE
- TIE-IN WELD
- EXISTING TOWER
- ELECTRIC VAULT
- GAS LINE MARKER
- GAS VALVE
- WATER VALVE
- TREE
- TEL VAULT
- STORM DRAIN
- SEWER MANHOLE
- CITY/COUNTY MON
- AS NOTED
- FENCE
- (E) ETS
- CABLE TV BOX
- COMM VAULT
- -EP- EDGE OF PAVEMENT
- -FC- FACE OF CURB
- -SD- STORM LINE
- -SS- SEWER LINE
- -GS- GAS SERVICE LINE
- -W- WATER LINE

STA. _____
JOB NO. _____
B/M ITEM NO. _____
DESIGN CRITERIA
LOCATION CLASS _____
DESIGN FACTOR _____
FDP _____ PSIG _____ % SMYS
MAOP _____ PSIG _____ % SMYS
STRENGTH TEST PRESSURE
MAX. _____ PSIG _____ % SMYS
MIN. _____ PSIG _____ % SMYS
_____ PSIG-90% SMYS
TEST MEDIUM _____
PIPE SPEC _____
O.D. _____
W.T. _____
WELD INSPECTION (GAS STD.D-40)*
☐ RADIOGRAPHIC:
☐ 20% MIN. (% OF EACH WELDER'S DAILY WORK)
☐ 100%
*VISUALLY INSPECT 100% OF ALL WELDS THAT ARE NOT RADIOGRAPHICALLY INSPECTED. (THIS REQUIREMENT APPLIES EVEN IF NO RADIOGRAPHIC INSPECTION IS REQUIRED.)

STA. _____
JOB NO. _____
B/M ITEM NO. _____
DESIGN CRITERIA
LOCATION CLASS _____
DESIGN FACTOR _____
FDP _____ PSIG _____ % SMYS
MAOP _____ PSIG _____ % SMYS
STRENGTH TEST PRESSURE
MAX. _____ PSIG _____ % SMYS
MIN. _____ PSIG _____ % SMYS
_____ PSIG-90% SMYS
TEST MEDIUM _____
PIPE SPEC _____
O.D. _____
W.T. _____
WELD INSPECTION (GAS STD.D-40)*
☐ RADIOGRAPHIC:
☐ 20% MIN. (% OF EACH WELDER'S DAILY WORK)
☐ 100%
*VISUALLY INSPECT 100% OF ALL WELDS THAT ARE NOT RADIOGRAPHICALLY INSPECTED. (THIS REQUIREMENT APPLIES EVEN IF NO RADIOGRAPHIC INSPECTION IS REQUIRED.)

PSRS* 29207

PRELIMINARY

UNDERGROUND SERVICE ALERT USA CALL BEFORE YOU DIG. CALL:811

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD	BY
0	01-03-13	ISSUED FOR CONSTRUCTION						

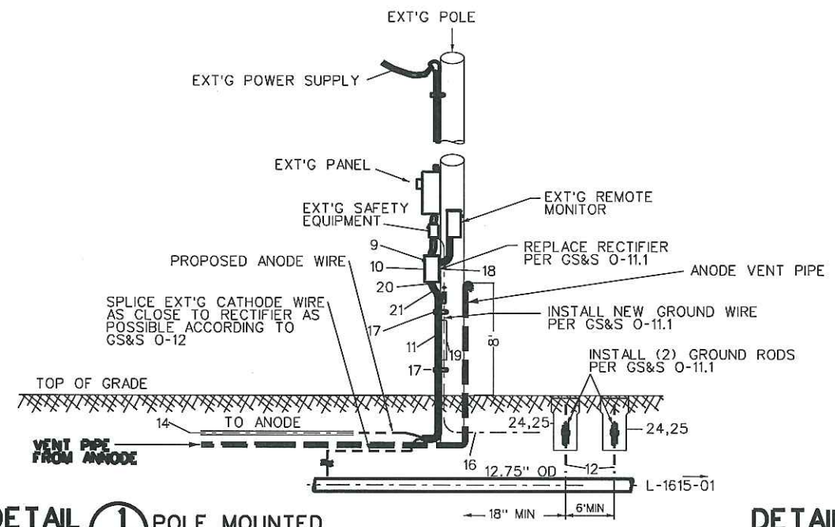
REVISIONS

APPROVED BY
GM 30929277
SUPV B. SOSA
DSGN D. SCHMITZ
DWN D. SCHMITZ
CHKD S. WATERS
OK
DATE 1/2/2013
SCALES AS SHOWN

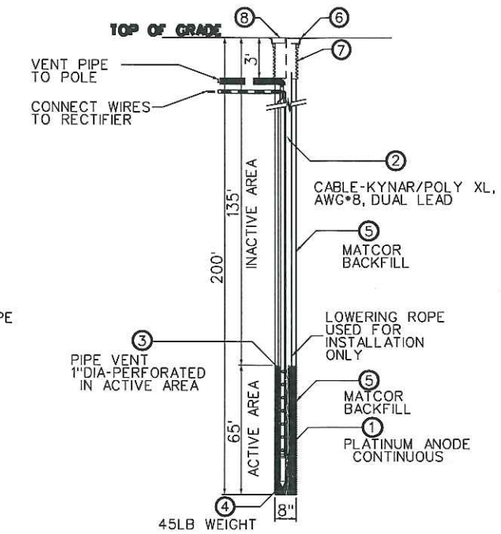
CONSTRUCTION PLANS
REPLACE ANODE & RECTIFIER
LINE 108, MP 43.80
LODI, CA

PACIFIC GAS AND ELECTRIC COMPANY
WALNUT CREEK, CALIFORNIA

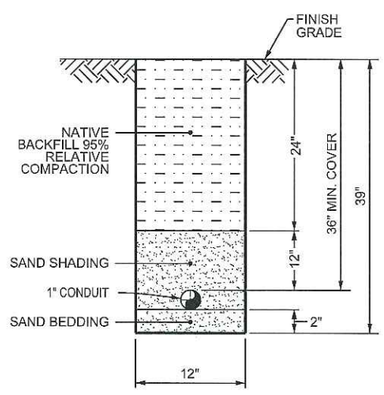
MICROFILM
BILL OF MATL SEE SHEET 03
DWG LIST SEE SHEET 01
SUPSDS
SUPSD BY
SHEET NO. 02 OF 03 SHEETS
30929277



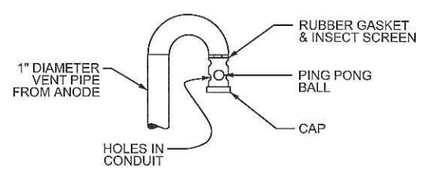
DETAIL 1 NTS — POLE MOUNTED RECTIFIER



DETAIL 2 NTS — DEEP WELL ANODE



DETAIL 3 NTS — TYPICAL TRENCH



DETAIL 4 NTS — BACK-FLOW PREVENTER FIELD FABRICATION

PG&E CODE	ITEM NO.	QNTY.	ORDER NO. 30929277 DESCRIPTION	CATALOG OR DWG REF.	OTHER DATA
561443		1	5-AMP MATCOR MODEL PL-SP-40-200-SBW DEEP WELL ANODE	GS&S O-13.5	
INCLD'D	1	40'	PLATINUM ANODE, CONTINUOUS	GS&S O-13.5	
INCLD'D	2	50'	CABLE, KYNAR POLY XL, AWG #8, DUAL LEAD	GS&S O-13.5	
INCLD'D	3	10'	PIPE VENT, 1" DIAMETER, PERFORATED IN ACTIVE AREA	GS&S O-13.5	
INCLD'D	4	1	BOTTOM WEIGHT WITH EYEBOLT 4" EMT, LENGTH: 2' WEIGHT: 45 POUNDS (NOMINAL)	GS&S O-13.5	
INCLD'D	5	35	MATCOR BACKFILL SUPPLIED IN 50-POUND BAGS (1750 POUNDS TOTAL)	GS&S O-13.5	
04-3271	6	1	CONCRETE BOX BODY	GS&S K-41.1	
01-6063	7	1	12" FRAME EXTENSION	GS&S K-41.1	
04-3225	8	1	VALVE BOX COVER	GS&S K-41.1	
M-041066	9	1	RECTIFIER POLE MOUNTED GOODALL VARIAC	GS&S O-11.1	
016583	10	1	PADLOCK, CORPORATION	GS&S O-11.1	
360305	11	60'	1" PVC SCHED-40 CONDUIT	GS&S O-11.1	
187013	12	2	GROUND ROD, ⅝" X 8' LONG	GS&S O-11.1	
187012	13	2	GROUND ROD CLAMP, ⅝"	GS&S O-11.1	
294991	14	AS NEEDED	WIRE, 500 FOOT COIL, #10, HMWPE W/ 47 MIL., SOLID COPPER, 600 VOLT, BLACK INSULATION	GS&S O-11.1	
294107	15	AS NEEDED	WIRE, 500 FOOT COIL, #10, HMWPE W/ 47 MIL., SOLID COPPER, 600 VOLT, WHITE INSULATION	GS&S O-11.1	
290072	16	AS NEEDED	WIRE, GROUNDING, AWG #6, BARE COPPER	GS&S O-11.1	
176004	17	AS NEEDED	AS REQUIRED STRAPS, PIPE, GALVANIZED, 1"	GS&S O-11.1	
196214	18	AS NEEDED	LAG SCREWS, STEEL, GALVANIZED, 1/4" X 2-1/2"	GS&S O-11.1	
360698	19	AS NEEDED	SCHED-40 PVC CONDUIT, ½"	GS&S O-11.1	
390269	20	2	LOCKNUT, CONDUIT, GALVANIZED, T & B #143, 1"	GS&S O-11.1	
374785	21	1	FLEX CONNECTOR TUBING, 1 ID X 1/16 WT	GS&S O-11.1	
170115	22	1	SAFETY EQUIPMENT LOCK	GS&S O-11.1	
490123	23	AS NEEDED	CRC MINIMAL EXPANSION FOAM	GS&S O-11.1	
043498	24	2	VALVE BOX	GS&S K-40	
043141	25	2	CONCRETE COVER	GS&S K-40	
N/A	26	3	1" PVC SCHED-40, 90 BENDS	GS&S O-11.1	

SAFETY

SAFETY PLEDGE

I ALWAYS PUT SAFETY FIRST.
I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS.
I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

PRELIMINARY

UNDERGROUND SERVICE ALERT — CALL BEFORE YOU DIG — CALL:811

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
	-- -- --						
0	01-03-13	ISSUED FOR CONSTRUCTION					

REVISIONS

PSRS# 29207

APPROVED BY
GM 30929277
SUPV R. SOSA
DSGN D. SCHMITZ
DWN D. SCHMITZ
CHKD S. WATERS
OK
DATE 1/2/2013
SCALES AS SHOWN

CONSTRUCTION SECTIONS & DETAILS

REPLACE ANODE & RECTIFIER
LINE 108, MP 43.80
LODI, CA

PACIFIC GAS AND ELECTRIC COMPANY
WALNUT CREEK, CALIFORNIA

MICROFILM
BILL OF MATL SEE SHEET 03
DWG LIST SEE SHEET 01
SUPSDS
SUPSD BY
SHEET NO. 03 OF 03 SHEETS

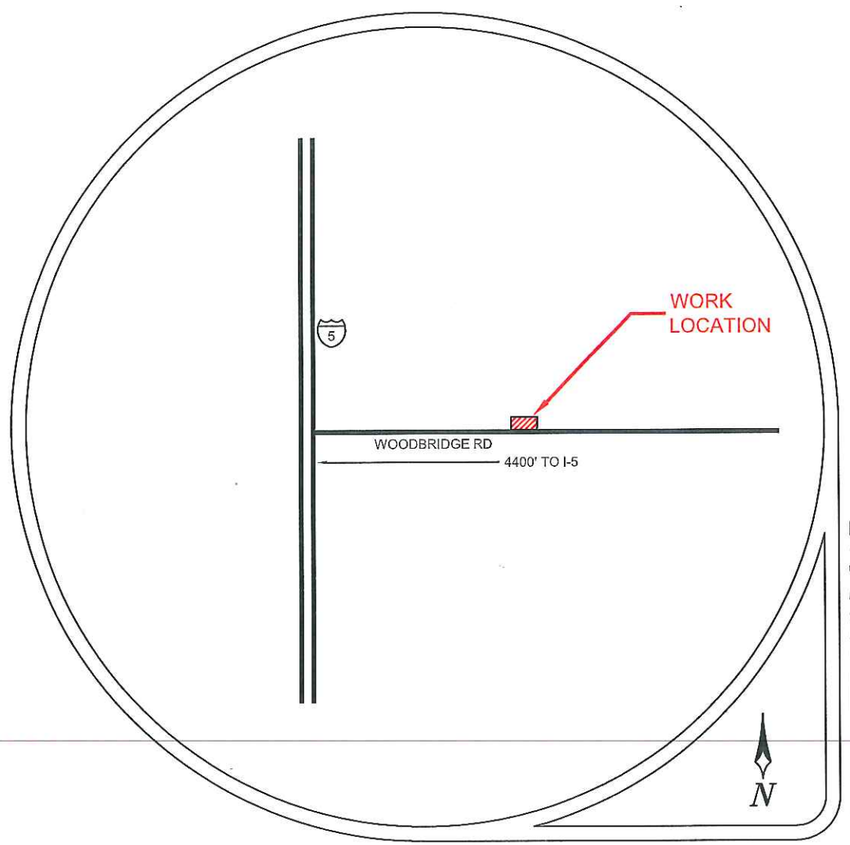
30929277

TRAFFIC CONTROL PLANS

W WOODBRIDGE RD

LODI, CALIFORNIA

PM30929277



LOCATION MAP

CONTRACTOR

Pacific Gas and Electric Company

CONTACT DEAN SCHMITZ

PHONE# (925) 244-3493

WORKING HOURS 800AM-400PM MON-FRI

CONSULTANT

ALMENDARIZ CONSULTING INC

ALMENDARIZ CONSULTING, INC.
1144 SUNCAST LN STE 1
EL DORADO HILLS, CA 95762
(888) 306-1211 OFFICE
(888) 768-7022 FAX
CA C31 LIC #979806

REVISIONS			
REV.	DESCRIPTION	BY	DATE

PROJECT NO. 13163
DRAWN CAA
DESIGNED CAA
CHECKED MAA

DATE
FEBRUARY 26, 2013

SHEET COVER

GENERAL NOTES

1. NOTHING ALLOWED IN THE BUFFER AND TRANSITION AREAS AT ALL TIMES.
2. SIGNS ARE ONLY SHOWING TO THE PUBLIC WHEN IN USE.
3. SIGNS AND CHANNELIZING DEVICES MUST BE RETROREFLECTIVE OR ILLUMINATED DURING NIGHT OPERATIONS.
4. SIGN PANEL SIZES: 36"X36" MIN. ON ROADS <50mph, 48"x48" ON ROADS ≥ 50mph.
5. SIGNS ARE SPACED PER THE CALIFORNIA MUTCD MANUAL..
6. CHANNELIZING DEVICES SPACING AND TAPER LENGTHS ARE BASED ON THEIR RESPECTIVE CHARTS. (SEE CHARTS THIS PAGE)
7. NOTIFY THE LOCAL LAW ENFORCEMENT, FIRE, AND AMBULANCE COMPANIES WITHIN 24 HOURS BEFORE CONSTRUCTION BEGINS.
8. CONTRACTOR TO MAKE SURE ALL TRAFFIC CONTROL EQUIPMENT MEETS ALL AGENCY REQUIREMENTS.
9. REMOVE ALL CONFLICTING MARKINGS FOR LONG TERM OPERATIONS (3 DAYS OR LONGER).
10. THE LOCATION OF THE SIGNS AS SHOWN ON THE ILLUSTRATIONS ARE GUIDELINES AND ACTUAL LOCATIONS WILL DEPEND UPON ALIGNMENT, GRADE, LOCATION OF STREET INTERSECTIONS AND 85TH % TILE/POSTED SPEED LIMITS/OR PRIMA FACIE.
11. WHILE CROSSING INTERSECTIONS DURING MOBILE WORK, WORK MUST FOLLOW THE FLOW OF TRAFFIC AND PROCEED ON A GREEN LIGHT.
12. FULL COMPLIANCE IS REQUIRED WITH THE COUNTY AGENCY.(AFFECTS NOTES #20 THRU 22, BELOW)
13. PEDESTRIAN ACCESS BE MAINTAINED AS PER THE COUNTY CONST SPECS.
14. C30 SIGNS ARE PERMITTED IN BUFFER AREAS.
15. SIGN SPACING IS PROVIDED IN THE MUTCD 2012 EDITION, PART 6. TRAFFIC SPEEDS ARE BASED UPON RADAR MEASUREMENTS OF MOTORISTS. THE MUTCD ALLOWS FOR A "RANGE" IN SIGN PLACEMENT AND WILL BE PROVIDED BY DOT. THE 85TH% TILE IS USED WHEN AVAILABLE TO PROVIDE A MORE ACCURATE REPRESENTATION OF MOTORISTS SPEEDS.
16. ANY WORK WITHIN 200 FT OF A SIGNALIZED INTERSECTION WILL REQUIRE CONTACT AND COORDINATION WITH COUNTY AGENCY PRIOR TO ANY WORK.
17. QUALITY STANDARD TO MEET REQUIREMENTS OF SECTION 1A-2 OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
18. ALL TRAFFIC CONTROL DEVICES INCLUDING: SIGNS, BARRICADES, VERTICAL PANELS, DRUMS, WARNING LIGHTS, ARROWBOARDS, CHANGEABLE MESSAGE SIGNS, CONES AND TUBULAR MARKERS THAT MEET THE REQUIREMENTS OF AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA). "CA MUTCD 2012" SHALL BE USED ON THIS PROJECT/THIS WORK.
19. THE NCHRP REPORT 476 PROVIDES GUIDELINES FOR DESIGN AND OPERATION OF NIGHTTIME TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE AND CONSTRUCTION. SEE TYPICAL APPLICATIONS NWTA-1 THROUGH NWTA-7. COMPLY WITH ANSI 107-2004 FOR APPAREL. HIGHWAY CONSTRUCTION WORK LIGHTING SHALL BE PER CONSTRUCTION SAFETY ORDER 1523 (CALIFORNIA CODE OF REGULATIONS TITLE 8, DIVISION1, CHAPTER 4, SUBCHAPTER 4, ARTICLE 3, SECTION 1523 - ILLUMINATIONS).
20. SIDEWALKS AT THE CONSTRUCTION LOCATION MAY BE CLOSED WITH ADEQUATE DETOURS. SIDEWALKS MAY ONLY BE CLOSED TO THROUGH TRAFFIC AND SHALL NOT PREVENT LOCAL PEDESTRIANS ACCESS. DETOURS SHALL NOT INCREASE THE PATH OF TRAVEL BY MORE THAN 500 FT. DETOUR ROUTES SHALL BE LIMITED TO EXISTING SIDEWALKS, PRIVATE PROPERTIES (SEE BELOW REQUIREMENTS) AND CROSSINGS AT ROADWAY INTERSECTIONS. TO THE MAXIMUM EXTENT FEASIBLE, THE ALTERNATE CIRCULATION PATH SHALL BE PROVIDED ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE. WHERE IT IS FEASIBLE TO PROVIDE A SAME-SIDE ALTERNATE CIRCULATION PATH AND PEDESTRIANS WILL BE DETOURED. SECTION 6D.02 OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS 2012 EDITION (MUTCD) APPROVED FOR CALIFORNIA, SPECIFIES THAT THE ALTERNATE PATH PROVIDE A SIMILAR LEVEL OF ACCESSIBILITY TO THAT OF THE EXISTING DISRUPTED ROUTE . THIS MAY INCLUDE THE INCORPORATION OF ACCESSIBLE PEDESTRIAN SIGNALS (APS), CURB RAMPS, OR OTHER ACCESSIBILITY FEATURES.
21. PEDESTRIANS MAY BE DETOURED ONTO PRIVATE PROPERTY ONLY IF WRITTEN PERMISSION FROM THE PROPERTY OWNER IS OBTAINED ALONG WITH DOCUMENTATION INDICATING THAT THE COUNTY WOULD NOT BE LIABLE (HOLD HARMLESS) IN THE EVENT OF AN ACCIDENT.
22. DURING WORK HOURS, AT LEAST ONE WORKER SHALL BE ASSIGNED WITH THE RESPONSIBILITY TO ESCORT ELDERLY, DISABLED OR ANY OTHER PEDESTRIANS IN NEED OF ASSISTANCE THROUGH THE CONSTRUCTION SITE. A WORKER ASSIGNED WITH THIS RESPONSIBILITY MAY ALSO PARTICIPATE IN OTHER CONSTRUCTION ACTIVITIES; HOWEVER, THE ASSIGNED WORKER SHALL BE AWARE OF HIS OR HER RESPONSIBILITIES FOR PROVIDING THIS ASSISTANCE. MEASURES THAT SIMPLY CLOSE THE SIDEWALK, WITH THE EXCEPTION THAT PEDESTRIANS WILL CROSS SOMEWHERE ELSE DOES NOT ADEQUATELY SATISFY PEDESTRIAN ACCESS. PEDESTRIANS SHOULD NEVER BE DIRECTED/ EXPECTED TO CROSS A MULTI-LANE ROADWAY AT ANY LOCATION OTHER THAN AT A SIGNAL (OR ALL-WAY STOP). ACCOMMODATIONS SHOULD BE MADE ON THE SAME SIDE OF ROADWAY AS WORK.

TABLES CHART

Posted Speed	Formula	Buffer Space	Minimum Taper Lengths									Maximum *Cone Spacing	Sign Spacing
			10' Offset			11' Offset			12' Offset				
			L Merge	1/2 L Shift	1/3 L Shoulder	L Merge	1/2 L Shift	1/3 L Shoulder	L Merge	1/2 L Shift	1/3 L Shoulder		
25		155'	104'	52'	35'	115'	57'	38'	125'	63'	42'	25'	100' - 200'
30		200'	150'	75'	50'	165'	83'	55'	180'	90'	60'	30'	120' - 240'
35	$L = \frac{WS^2}{60}$	250'	204'	102'	68'	225'	112'	75'	245'	123'	82'	35'	140' - 280'
40		305'	267'	133'	89'	293'	147'	98'	320'	160'	107'	40'	160' - 320'
45		360'	450'	225'	150'	495'	248'	165'	540'	270'	180'	45'	350' - 500'
50		425'	500'	250'	167'	550'	275'	183'	600'	300'	200'	50'	400' - 600'
55	L = WS	495'	550'	275'	183'	605'	303'	202'	660'	330'	220'	50'	440' - 660'
60		570'	600'	300'	200'	660'	330'	220'	720'	360'	240'	50'	480' - 720'
65		645'	650'	325'	217'	715'	358'	238'	780'	390'	260'	50'	520' - 780'
70		730'	700'	350'	233'	770'	385'	257'	840'	420'	280'	50'	560' - 840'

Both are based on.
1.) 85th % Tile or if not available, then use
2.) Posted Speed Limit (PSL)

L = Taper Length
S = Speed
W = Width (Offset from path of travel

*Cones shown on the templates are illustration purposes only. Exact number of cones required shall be based on cone spacing, taper lengths, actual field conditions, etc..

MUTCD 2012 TABLE 6C-1

MEANING OF LETTER CODES ON TYPICAL APPLICATION DIAGRAMS

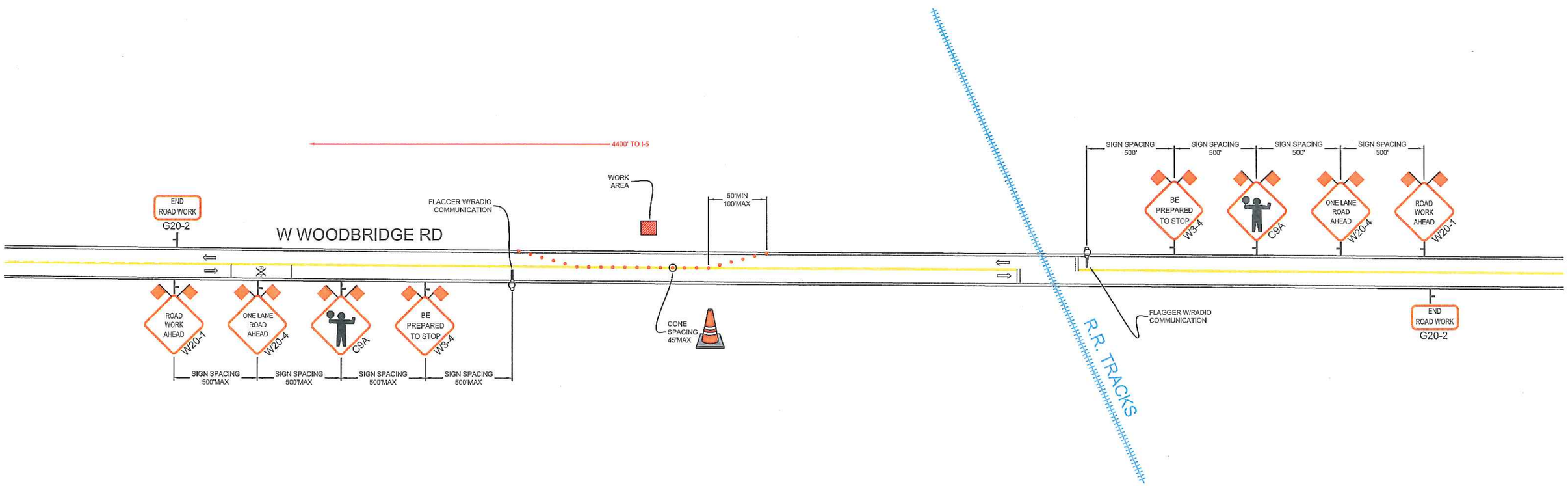
ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (LOW SPEED) - 25 MPH OR LESS	100 FEET	100 FEET	100 FEET
URBAN (LOW SPEED) - MORE THAN 25 MPH TO 40 MPH	250 FEET	250 FEET	250 FEET
URBAN (HIGH SPEED) - MORE THAN 40 MPH	350 FEET	350 FEET	350 FEET
RURAL	500 FEET	500 FEET	500 FEET
EXPRESSWAY / FREEWAY	1,000 FEET	1,500 FEET	2,640 FEET

REVISIONS			
REV.	DESCRIPTION	BY	DATE

PROJECT NO. 13163
DRAWN CAA
DESIGNED CAA
CHECKED MAA

DATE
FEBRUARY 26, 2013

SHEET NOTES



REVISIONS			
REV.	DESCRIPTION	BY	DATE

PM30929277

ROADS < 50 MPH:
MINIMUM 36" SIGN PANELS
(48" SIGNS MAY BE USED)

ROADS ≥ 50 MPH:
MINIMUM 48" SIGN PANELS

ALMENDARIZ CONSULTING
1144 SUNCAST LN STE 1
EL DORADO HILLS, CA 95762
(888) 306-1211 OFFICE (888) 768-7022 FAX
CA C31 LIC #979806

LOCATION W WOODBRIDGE RD, LODI, CA

Pacific Gas and Electric Company

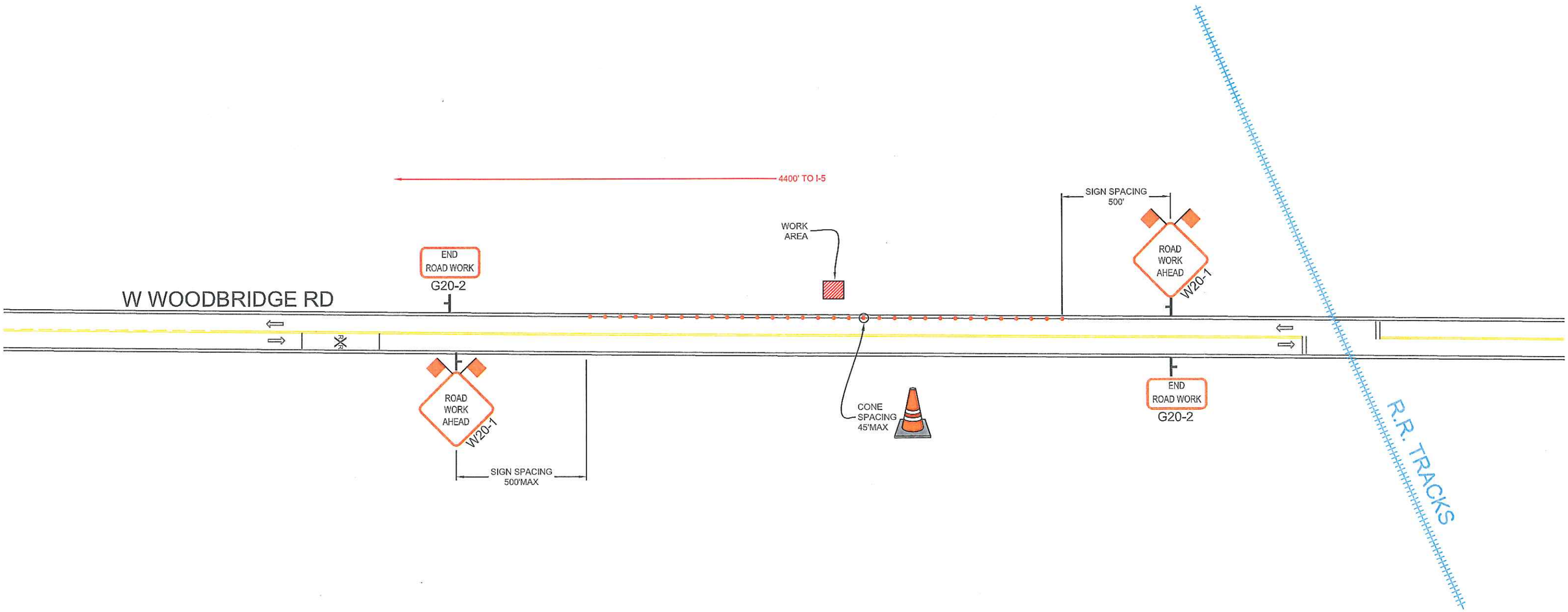
CONTACT DEAN SCHMITZ
PHONE# (925) 244-3493
WORKING HOURS 800AM-400PM MON-FRI

PROJECT NO. 13163
DRAWN CAA
DESIGNED CAA
CHECKED MAA

DATE
FEBRUARY 26, 2013

N

SHEET NO. 1 OF 2



REVISIONS			
REV.	DESCRIPTION	BY	DATE

PM30929277

ROADS < 50 MPH:
MINIMUM 36" SIGN PANELS
(48" SIGNS MAY BE USED)

ROADS ≥ 50 MPH:
MINIMUM 48" SIGN PANELS

ALMENDARIZ CONSULTING INC
1144 SUNCAST LN STE 1
EL DORADO HILLS, CA 95762
(888) 306-1211 OFFICE (888) 768-7022 FAX
CA C31 LIC #979806

LOCATION W WOODBRIDGE RD, LODI, CA

Pacific Gas and Electric Company

CONTACT DEAN SCHMITZ
PHONE* (925) 244-3493
WORKING HOURS 800AM-400PM MON-FRI

PROJECT NO. 13163
DRAWN CAA
DESIGNED CAA
CHECKED MAA

DATE
FEBRUARY 26, 2013

N

SHEET NO. 2 OF 2