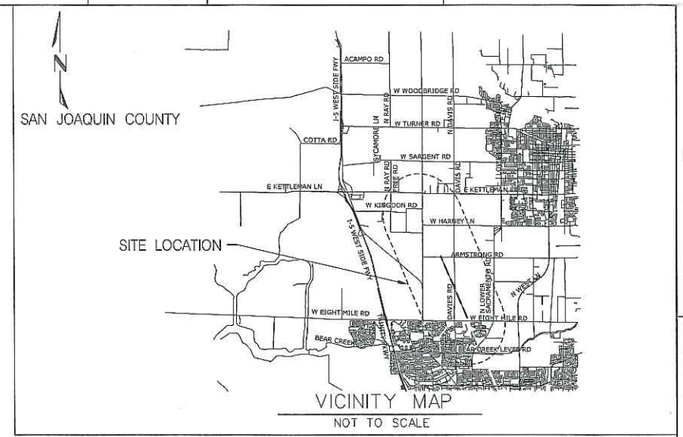
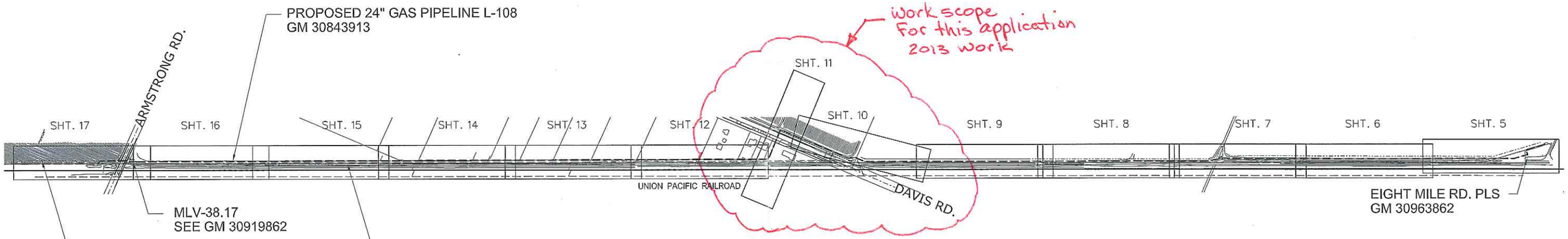
24–inch L–108 REPLACEMENT
MP 37.14 TO MP 38.17
COUNTY OF SAN JOAQUIN

BTU AREA * X02
CP AREA * T-108-C
WALL MAP: 2946, 2869
PLAT: 2946C4, 2946B4, 2946B3, 2946A3, 2869J3, 2869J2
SAN JOAQUIN COUNTY





Note:
Work bubbled in red is the work extent under this permit application, 2013 work.

SCHEDULE OF SHEETS

SHEET 1 -- COVER SHEET
SHEET 2-4 -- STAMPS / CONSTRUCTION NOTES
SHEET 5-17 -- PIPELINE CONSTRUCTION DRAWINGS (PLAN AND PROFILE)
SHEET 18 -- BILL OF MATERIALS
SHEET 19-20 -- CONSTRUCTION DETAILS
SHEET 21 -- TYPICAL DETAILS
SHEET 22 -- DEACTIVATION SHEET

0 400' 800' 1200'
SCALE : 1"= 400'

REFERENCE DRAWINGS:

385160 ---------- OPERATING MAP
0802402, REV. 3 --- OPERATING DIAGRAM, EIGHT MILE ROAD PLS
30919862 ---------- L-108 MLV-38.17 AND BRIDLE SET
4800919, REV. 2 ---- PIPING-PLAN, EIGHT MILE ROAD PLS
30712773 ---------- L-108 REPLACEMENT MP 38.17 - MP 40.27
GM 30963862 ------ EIGHT MILE ROAD PLS PIG LAUNCHER
381330, SHTS. 21-22- TRANSMISSION PLAT

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

SAFETY
SAFETY PLEDGE
I ALWAYS PUT SAFETY FIRST.
I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS.
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CIE * 1581-108_1-DG-7000-00 PSRS* 24077

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02	04-05-13	REISSUE FOR 60% REVIEW	30843913	RP	VK	JR	
01	02-15-13	ISSUE FOR 60% REVIEW	30843913	RP	VK	JR	
00	12-19-12	ISSUE FOR 30% REVIEW	30843913	RP	VK	JR	

REVISIONS

APPROVED BY
JN 30843913
SUPV
DSGN
DWN
CHKD
OK
DATE 11-14-12
SCALES AS SHOWN

COVER SHEET
INSTALL 11,745' OF 24" PIPE
L-108 REPLACEMENT
MP 37.14 - MP 38.17
SAN JOAQUIN COUNTY
PACIFIC GAS AND ELECTRIC COMPANY
WALNUT CREEK, CALIFORNIA

MICROFILM
BILL OF MATL SHEET 18
DWG LIST SHEET
SUPSDS
SUPSD BY
SHEET NO. 1 OF 22 SHEETS

30843913 | 03

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SUMMARY OF PROPOSED WORK:

1. INSTALL APPROX. 11,750 FEET OF 24" STEEL PIPE.
2. CONVENTIONAL BORE AT ARMSTRONG ROAD.
3. TRENCH AND BACKFILL.
3. HYDROTEST NEW MAIN LINE.
4. RETIRE APPROX. 11,750 FEET OF 16" STEEL PIPE.
5. INSTALL 22 PIPELINE MARKERS.
6. INSTALL 10 ETS/CATS STATIONS.

CONTACT INFORMATION:

T&R SUPERVISOR	DAVID DURHAM (925) 383-6468
CONSTRUCTION SUPERVISOR	NORMAN SOARES (209) 495-7429
PROJECT MANAGER	BEN KIMBALL (925) 459-6063
PIPELINE ENGINEER	WAYNE GILBERT (925) 244-3349
ESTIMATOR / DESIGNER	JED ROLLINS (713) 850-3468
PSEP ENGINEER	DREW KELLY (408) 960-5921
OWNERS ENGINEER	BILL HARRIS (510) 815-4374
LOCAL TRANSMISSION ENGINEER	HALL HACKNEY (925) 737-3258

SEQUENCE OF OPERATIONS

OPERATING MAP #385160

1. INSTALL TWO SEGMENTS OF NEW 24" LINE AND NEW ¾" CONNECTION TO THE REG STATION AT DAVIS ROAD.
2. INSTALL ARMSTRONG ROAD CROSSING BY CONVENTIONAL BORE METHOD.
3. INSTALL TEST LEAD WIRES AND EXTEND THEM TO THE PLANNED TEST STATION LOCATIONS.
4. HYDROTEST NEW LINE. DEWATER, DRY AND CALIPER PIG.
5. CLOSE VALVE V-14 AT EIGHT MILE ROAD PLS AND MLV-38.17 AND V-1 AT ARMSTRONG ROAD TO ISOLATE FIRST SECTION OF PIPE TO BE REPLACED.
6. DEPRESSURIZE AND PURGE GAS FROM THE EXISTING LINE.
7. PERFORM TIE-INS OF NEW 24" LINE NEAR V-14 AT EIGHT MILE ROAD PLS AND AT MLV-38.17 NEAR ARMSTRONG ROAD.
8. PURGE EXISTING LINE WITH NITROGEN GAS: PERFORM DEACTIVATION PROCEDURES.
9. OPEN VALVE V-14 AT EIGHT MILE ROAD PLS AND MLV-38.17 AND V-1 AT ARMSTRONG ROAD AND PRESSURIZE NEW LINE L-108.
10. ALL WELDS THAT HAVE NOT BEEN HYDRO TESTED AND ALL FITTINGS SHALL BE SOAP TESTED AT 100 PSI AND OPERATING PRESSURE.
11. REESTABLISH FLOW IN LINE L-108.
12. CLOSE MLV-38.17 AND V-3 AT ARMSTRONG ROAD AND MLV-42.72 AND V-2 AT TURNER ROAD TO ISOLATE SECOND SECTION OF PIPE TO BE REPLACED.
13. DEPRESSURIZE AND PURGE GAS FROM THE EXISTING LINE.
14. PERFORM TIE-INS OF NEW 24" LINE AT MLV-38.17 NEAR ARMSTRONG ROAD AND M.P. 38.18.
15. PURGE EXISTING LINE WITH NITROGEN GAS: PERFORM DEACTIVATION PROCEDURES.
16. OPEN MLV-38.17 AND V-3 AT ARMSTRONG ROAD AND MLV-42.72 AND V-2 AT TURNER ROAD AND PRESSURIZE LINE L-108.
17. ALL WELDS THAT HAVE NOT BEEN HYDRO TESTED AND ALL FITTINGS SHALL BE SOAP TESTED AT 100 PSI AND OPERATING PRESSURE.
18. REESTABLISH FLOW IN LINE L-108.
19. INSTALL PIPELINE MARKERS AND TEST STATIONS.
20. CLEAN UP AND RESTORE CONSTRUCTION ROW.

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

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

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.	Record any IC if found.	MB	4/19/13

DIRECT BURIAL COATING SELECTIONS
LISTED IN ORDER OF PREFERENCE

MAIN LINE COATING	FBE
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

LEGEND:

- PROPOSED GAS LINE
- G/L EXISTING GAS LINE
- GAS MAIN TO RETIRE
- E ELECTRIC LINE
- T TELEPHONE LINE
- TIE-IN WELD
- EXISTING TOWER
- ELECTRIC VAULT
- GAS LINE MARKER
- GAS VALVE
- WATER VALVE
- (W) WATER METER
- 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
- (T) TELEPHONE MANHOLE
- [T] TELEPHONE BOX
- STREET LIGHT BOX
- PG&E PG&E MANHOLE
- MANHOLE
- GAS VENT
- (CATS) COUPON AUTOMATED TEST STATION
- (ETS) ELECTROLYSIS TEST STATION
- [R] POLE-MOUNTED RECTIFIER
- (A) DEEPWELL ANODE

"H" PIPELINE HORIZONTAL STA

"P" PIPELINE FOOTAGE

B/M ITEM NO.

(NOTE: B/M ITEM NO. FOR PIPING SHOWN ON PIPELINE STATIONING.)

SAFETY

SAFETY PLEDGE

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I LOOK FOR AND ACT TO
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PG&E

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APPROVED BY	
JN	30843913
SUPV	
DSGN	
DWN	
CHKD	
OK	
DATE	11-14-12
SCALES	NO SCALE

GENERAL - CONSTRUCTION NOTES
INSTALL 11,745' OF 24" PIPE
L-108 REPLACEMENT
MP 37.14 - MP 38.17
SAN JOAQUIN COUNTY
PACIFIC GAS AND ELECTRIC COMPANY
WALNUT CREEK, CALIFORNIA

MICROFILM	
BILL OF MATL	SHEET 18
DWG LIST	SHEET
SUPSDS	
SUPSD BY	
SHEET NO.	2 OF 22 SHEETS

30843913 03

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POTHOLE TABLE

POTHOLE IDENTIFYING NUMBER	UTILITY TYPE	PIPE DIAMETER	UTILITY OWNER	"H" PIPELINE STATION	DISTANCE LEFT OR RIGHT OF PREFERRED CL	DEPTH OF COVER TO TOP UTILITY	NOTES
PH-1	GAS	16"	PG&E	0+23	0.0' RT.	36"	MOVED TO CORNER OF FENCE ON THE SE CORNER OUTSIDE FENCE WHERE LAUNCHER IS LOCATED.
PH-2	GAS	16"	PG&E	4+06	10.0' RT.	35"	
PH-3	GAS	16"	PG&E	5+07	20.3' LT.	6"	PIPE HAS 6" OF COVER IT IS IN A DITCH THAT LOOKS LIKE FARMER USES FOR IRRIGATION.
PH-4	WATER	54" (72" TO 84" STEEL CASING)	UNKNOWN	26+54	13.3' LT.	20'+	PIPE IS OVER 20' IN DEPTH
PH-5	WATER	54" (72" TO 84" STEEL CASING)	UNKNOWN	26+71	10.1' LT.	20'+	PIPE IS OVER 20' IN DEPTH
PH-6	GAS	16"	PG&E	27+31	10.7' LT.	49"	
PH-7	GAS	16"	PG&E	33+22	10.4' LT.	33"	
PH-8	GAS	16"	PG&E	40+50	9.5' LT.	38"	
PH-9	GAS	16"	PG&E	113+87	15.8' LT.	24"	
PH-10	GAS	3/4"	PG&E	114+93	0.0' RT.	71"	3/4" LINE AS MARKED ON LOCATION
PH-11	GAS	6"	PG&E	115+63	3.8' RT.	80"	THIS IS A 6" STEEL LINE ON AN EAST AND WEST AXIS. THIS LINE RUNS ACROSS THE DRIVEWAY THAT LEADS TO THE VINEYARD.
PH-12	GAS	16"	PG&E	116+81	15.2' LT.	22"	7.5' WEST OF PPL C/L IS THE EXISTING MAIN LINE IT CONNECTS TO A VALVE THAT IS THERE SEE PICTURES.
PH-12A	GAS	8"	PG&E	116+82	23.6' LT.	108"	THIS IS A 8" LINE THAT WAS LOCATED 108" IN DEPTH AND IS 6' EAST OF THE VALVE AT THE GIVEN COORDINATES.
PH-13	GAS	16"	PG&E	117+40	0.4' LT.	17"	ED VERIFIED

TAP CONNECTIONS STATION LOCATIONS

"H" STA.	PLAN/PROFILE SHEET	TAP DETAIL SHEET	SIZE	DESCRIPTION	WORK REQUIRED	SERVICE ORDER NUMBER
57+55	11	20	3/4"	TO REG STATION		N/A

Tap to be installed 2013

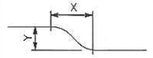
MAX. WEIGHT OF CONSTRUCTION EQUIPMENT PER HALF-AXLE (LBS)

DEPTH OF COVER (FT)	EXISTING PIPE		
	16" OD X 0.250" WT, 33,000 SMYS	24" OD X 0.375" WT, API-5L X-60, SAWL (MLV-38.17)	16" OD X 0.375" WT, API-5L GR B, SMLS (EIGHT MILE ROAD PLS)
2	1,680	19,500	8,200
3	2,500	37,500	16,500
4	2,760	56,600	25,500
5	2,480	79,000	36,500

NO EQUIPMENT SHOULD BE ALLOWED TO WORK OVER EXISTING PIPELINE WITH DEPTH OF COVER LESS THAN 2 FEET.

ROPING TABLE

MIN DISTANCE REQUIRED TO ROPE AN OFF-SET OF 24.000" OD PIPE. MINIMUM ROPING RADIUS=3000'-0"



Y FT.	X FT.
1.0	110
1.5	134
2.0	155
2.5	173
3.0	190
3.5	205
4.0	219
5.0	245
6.0	268
7.0	290
8.0	310

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

SAFETY

SAFETY PLEDGE

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I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

PG&E

UNDERGROUND SERVICE ALERT
U.S.A.
CALL BEFORE YOU DIG
CALL:1-811

NOTIFIED U.S.A.

DATE TICKET NO. BY

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

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SUPV
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CHKD
OK
DATE 11-14-12
SCALES NO SCALE

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MICROFILM

BILL OF MATL	SHEET 18
DWG LIST	SHEET
SUPSDS	
SUPSD BY	
SHEET NO. 3	OF 22 SHEETS

30843913 03

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GENERAL REQUIREMENTS:

1. CALL 811 (1-800-227-2600) A MINIMUM OF 2 BUSINESS DAYS (NOT INCLUDING INITIAL DAY OF CONTACT) IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES.

2. UTILITY NOTES
   A. EXISTING UTILITIES AS SHOWN ON THESE DRAWINGS ARE FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES THAT MAY BE IMPACTED BY THE PROJECT.
   B. THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.
   C. PROSPECTING IS REQUIRED AHEAD OF WORK. ALL OFFSETS OR ROPING WILL NEED TO BE APPROVED BY PG&E ENGINEER, AND ASBUILT DETAILS SHOWN ON PROFILE AND CONSTRUCTION DETAIL SHEETS.

3. ELBOWS AND FIELD BENDS
   A. ALL BENDS ARE SMOOTH FIELD BENDS, EXCEPT WHERE ELBOWS ARE SHOWN. FIELD BENDS SHALL BE MADE IN ACCORDANCE WITH GAS STANDARD A-36 SECTION 4-D. FOR SPIRAL PIPE (SAWH) FIELD BENDS SHALL NOT EXCEED 1° PER INCH OF PIPE DIAMETER.
   B. IN ORDER TO AVOID EXCESSIVE STRAIN ON THE PIPELINE, THERE SHALL BE A MINIMUM SEPARATION OF 5' BETWEEN A ROPED SECTION OF PIPELINE AND ANY ELBOWS OR FIELD BENDS
   C. ALL ANGLES SHOWN IN THE PLAN AND PROFILE ARE APPROXIMATE AND SHALL BE CUT TO SUIT FIELD CONDITION.

4. SEPARATION FROM OTHER STRUCTURES
   A. CROSSING UNDERGROUND FACILITIES: THIS PIPELINE MUST BE INSTALLED WITH AT LEAST 24 INCHES OF CLEARANCE FROM ANY OTHER UNDERGROUND STRUCTURE/UTILITY NOT ASSOCIATED WITH THE PIPELINE UNLESS NOTED ON THE DRAWINGS.
   B. PARALLELING UNDERGROUND FACILITIES: THIS PIPELINE MUST BE INSTALLED WITH AT LEAST 5 FEET OF CLEARANCE FROM ANY OTHER UNDERGROUND STRUCTURE/UTILITY NOT ASSOCIATED WITH THE PIPELINE UNLESS NOTED ON THE DRAWINGS.

5. RESTORATION AND CLEAN UP
   A. RESTORATION OF PUBLIC STREETS, SIDEWALKS, CURBS, ETC. ABOVE PIPE BEDDING SHALL BE IN ACCORDANCE WITH THE LATEST CITY STANDARDS.
   B. WHERE EVER THERE ARE ROW CROPS, THE TOPSOIL SHALL BE REMOVED TO A DEPTH OF 12" AND STORED ON SITE. UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHALL BE RESTORED. TAKE CARE TO PREVENT MIXING OF TOPSOIL AND SUBSOIL.

6. EXISTING TIE-IN WELDS SHALL BE IDENTIFIED AND REMOVED IF PRACTICAL.

7. WELDING REQUIREMENTS
   A. ALL ARC WELDING IS TO BE PERFORMED IN ACCORDANCE WITH GAS STANDARD D-22. ALL CANS OR SPOOLS SHALL BE A MINIMUM LENGTH OF ONE PIPE DIAMETER, WHENEVER POSSIBLE.
   B. INSTALL TEST STATIONS WITH THERMITE WELD CONNECTION IN ACCORDANCE WITH GAS T & D MANUAL O-10, O-10.1 AND O-10.2.

8. 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.

9. HYDROSTATIC TEST REQUIREMENTS
   A. HYDROSTATIC TESTING SHALL MEET PRESSURE AND DURATION REQUIREMENTS OF GAS STANDARD A-34 AND SHALL BE CONDUCTED IN ACCORDANCE WITH GAS STANDARD A-37.
   B. ALL WELDS THAT HAVE NOT BEEN HYDRO TESTED AND ALL FITTINGS SHALL BE SOAP TESTED AT 100 PSIG AND AT OPERATING PRESSURE.

10. PAINTING AND COATING REQUIREMENTS
    A. 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.
    B. FOR COATING SELECTIONS ON BURIED PIPE SEE DIRECT BURIAL COATING SELECTIONS TABLE.

COATING REMOVAL:

BEFORE REMOVING THE PIPE COATING ON PRE-1972 PIPE (DOES NOT INCLUDE PLASTIC TAPE OR FUSION BONDED EPOXY COATINGS) THE FOLLOWING STEPS SHALL BE TAKEN:

-FOR ALL NON-EMERGENCY WORK, PRE-1972 PIPE WRAP MUST BE EVALUATED TO DETERMINE IF IT CONTAINS ASBESTOS PRIOR TO REMOVAL.

-FOR EMERGENCY WORK ON PRE-1972 PIPE, ASSUME THE WRAP CONTAINS > 1% ASBESTOS UNTIL THE WRAP CAN BE TESTED.

-OBTAIN SAMPLES OF THE WRAP, AND HAVE SAMPLES TESTED FOR ASBESTOS IN ACCORDANCE WITH RP 4711.

-TEST RESULTS ARE TO BE INCLUDED WITH AS-BUILTS.

-FOLLOW PROCEDURE IN WP 4711-01 FOR REMOVAL OF PIPE WRAP.

CATHODIC PROTECTION NOTES:

1. 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 BRYON WINGET AT 925-324-3602 OR BILL GRAVES AT 805-423-7924 IN THE CP DEPARTMENT.

2. UPON COMPLETION OF BORINGS, CONTACT BRYON WINGET AT 925-324-2602 OR BILL GRAVES AT 805-423-7924 IN THE CP DEPTARTMENT, TO PERFORM CURRENT DRAIN TESTS ON THE PIPELINE SEGMENT THAT WAS INSTALLED IN THE BORE, PRIOR TO WELDING PIPE ON EITHER SIDE OF THE BORE.

3. INSTALLATION OF THE OMNIMETRIX RECTIFIER REMOTE MONITOR, PRIOR TO ENERGIZING THE RECTIFIER CONTACT BRYON WINGET AT 925-324-2602 OR BILL GRAVES AT 805-423-7924 IN THE CP DEPARTMENT.

DEACTIVATION PROCEDURE FOR EXISTING PIPE

1. GT&D UTILITY WORK PROCEDURE TD 9500P-16 SHALL BE FOLLOWED.
2. THE EXISTING PIPELINE SHALL BE 100% PURGED WITH NITROGEN GAS AS PER STANDARD A-38.
3. AT INTERVALS SPECIFIED IN TD 9500P-16 THE EXISTING MAIN WILL BE CUT AND PLATED. SEE DEACTIVATION SHEET.
4. AT EACH SUCH LOCATION, A PIECE OF PIPE AT LEAST 24" LONG SHALL BE REMOVED. THE OPEN ENDS OF DEACTIVATED MAIN SHALL BE SEALED BY THE MOST APPROPRIATE METHOD OUTLINED IN GT&D UTILITY WORK PROCEDURE TD 9500P-16. BACKFILL MUST BE THOROUGHLY COMPACTED IN PLACE OF THE REMOVED SECTION OF PIPE.
5. SERVICE CONNECTIONS TO BE DEACTIVATED AS INDICATED ON THE DRAWINGS SHALL BE CUT AND PLATED.
6. VALVES AND CURB COCKS MAY BE REMOVED AND SALVAGED IF THE COST OF REMOVAL IS JUSTIFIED. THE OPEN ENDS OF PIPE SHALL BE SEALED AS NOTED ABOVE.

2013 work from Sta. 0+00 - Sta. 114+26

GENERAL NOTES:

NOTE
ALL FIELD CHANGES REQUIRE APPROVAL BY PIPELINE ENGINEER OR PSEP ENGINEER.

TIE-IN AND CLEARANCE PROCEDURE

TIE-IN AND CLEARANCE PROCEDURE TO BE PREPARED AND PERFORMED IN ACCORDANCE WITH THE FOLLOWING WORK PROCEDURES:

1. WP4100-01, HOT AND COLD WORK METHODS FOR NATURAL GAS TRANSMISSION PIPELINE SHUTDOWN AND TIE-IN.
2. WP4100-10, GAS CLEARANCE PROCEDURES FOR FACILITIES OPERATING OVER 60 PSIG.

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

SAFETY

SAFETY PLEDGE

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I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS.
I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

PPSEA

UNDERGROUND SERVICE ALERT USA
CALL TOLL FREE BEFORE YOU DIG
CALL:1-811

NOTIFIED U.S.A.
DATE TICKET NO. BY

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

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GIE # 1581-108_1-DG-7001-00 PSRS# 24077

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
03	05-09-13	ISSUE FOR 90% REVIEW	30843913	RP	VK	JR	
02	04-05-13	REISSUE FOR 60% REVIEW	30843913	RP	VK	JR	
01	02-15-13	ISSUE FOR 60% REVIEW	30843913	RP	VK	JR	
00	12-19-12	ISSUE FOR 30% REVIEW	30843913	RP	VK	JR	

REVISIONS

APPROVED BY
JN 30843913
SUPV
DSGN
DWN
CHKD
OK
DATE 11-14-12
SCALES NO SCALE

GENERAL - CONSTRUCTION NOTES
INSTALL 11,745' OF 24" PIPE
L-108 REPLACEMENT
MP 37.14 - MP 38.17
SAN JOAQUIN COUNTY
PACIFIC GAS AND ELECTRIC COMPANY
WALNUT CREEK, CALIFORNIA

MICROFILM
BILL OF MATL SHEET 18
DWG LIST SHEET
SUPSDS
SUPSD BY
SHEET NO. 4 OF 22 SHEETS
30843913 03

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EASEMENT/ WORK SPACE
- PULL BACK TEMPORARY WORKSPACE
- DRILL RIG FOOTPRINT WORKSPACE
- TEMPORARY WORKSPACE
- PERMANENT EASEMENT

ENVIRONMENTAL: GENERAL | CLASS LOC | CULTURAL | BIOLOGICAL | WATERBODIES | EXCLUSIONS

RIGHT OF WAY
TRACT NUMBER
OWNERSHIP/AGENCY
PROPERTY SKETCH NO.
PERMIT DWG. NO

HOLD LOG FOR SHEET 11

11A) PG&E LAND TO ADD LOCATION OF 4" DISTRIBUTION GAS LINE TO SURVEY FILE.

DAVIS ROAD
80' ROW
62+00 61+00 60+00 59+00 58+00 57

30' TEMPORARY WORKSPACE
50' PERMANENT EASEMENT
PROPOSED L-108 CL

63+00 DOUGLAS MCCAULEY APN: 055-220-20 62+70 SAN JOAQUIN COUNTY 61+90 TBD 57+00

SURVEY PLAN SCALE: 1"= 40'

DETAIL 11/20

90° ANGLE POINT STA. 61+62 P/L MKR., DET. 8, SHT. 21

TEMPORARY WORKSPACE LIMIT

PROPOSED 24" GAS PIPELINE L-108

PROPOSED 50' PERMANENT EASEMENT

INSTALL 2-8# STRANDED HMWPE CATHODE WIRES IN 2" PVC CONDUIT

DETAIL 10/21

DETAIL 4/21

P/L MKR., DET. 8, SHT. 21

¾" TAP SEE DETAIL 3 ON SHEET 20

TOP OF BANK

ROAD R.O.W.

11' 12' 10' 12'

61+00 60+00 59+00 58+00

DAVIS RD

80' ROW

62+00

EXISTING 4" GAS PIPELINE GM 30873856 (FIELD VERIFY)

MATCH LINE SEE SHEET 12

CHRIS TROTTER APN: 055-220-44

E LUCRETIA YARBER APN: 055-220-45

DOUGLAS MCCAULEY APN: 055-220-20

INSTALL 17" x 30" PULL BOX AT BASE OF POLE. LEAVE 10' OF WIRE IN BOX FOR CONNECTION TO RECTIFIER BY CATHODIC PROTECTION PERSONNEL.

EXISTING RECTIFIER ON POLE

MATCH LINE SEE SHEET 10

Main Line Pipe Crossing #2 TCP pgs. 3 and 4

3/4" Tap Line Crossing #1 TCP pgs. 1 and 2

SURVEY PROFILE
ELEVATION DATUM:
LOCATION OF BENCH MARK:
VERTICAL SCALE: 1"=10' HORIZONTAL SCALE: 1"= 40'

30 20 10 0 -10 -20

FIELD VERIFY LOCATION/ DEPTH OF 4" GAS LINE

2" GAS LINE

2' MIN. CLR.

5' MIN. CLR.

15° ELL.

DETAIL 11/20

BEGIN ROPING STA. 62+42

TOP OF PROPOSED 24" PIPE

TOP OF GROUND

5' MIN. COVER

END ROPING STA. 57+40

63 62 61 60 59 58 57

MINIMUM COVER: 60"

PIPELINE DETAILS
STATIONING

MATCH LINE H STA. 63+00 P STA. 63+00

STA. 61+62, ELL 90° ITEM #4 (SAG), ROLLED 15° STA. 61+57, ELL 15° ITEM #3 (OB)

600' OF 24.000" API-5L, X-60, SAWL (DSAW), 0.375" W.T. ITEM# 1

STA. 57+55, ¾" TAP

MATCH LINE H STA. 57+60 P STA. 57+00

GIE # 1581-108_1-DG-7002-00 PSRS# 24077

STA. 57+00 - 63+00
JOB NO. 30843913
B/M ITEM NO. 1
DESIGN CRITERIA
LOCATION CLASS 3 (PER PGE)
DESIGN FACTOR 0.5
FDP 720 PSIG 38.40 % SMYS
MAOP 720 PSIG 38.40 % SMYS
STRENGTH TEST PRESSURE
MAX. 1744 PSIG 93.01 % SMYS
MIN. 1688 PSIG 90.03 % SMYS
1688 PSIG=90% SMYS
TEST MEDIUM WATER
PIPE SPEC API-5L X-60 SAWL (DSAW)
O.D. 24.000"
W.T. 0.375"
WELD INSPECTION (GAS STD.D-40)*
☒RADIOGRAPHIC:
☐20% MIN. (% OF EACH WELDER'S
☒100% DAILY WORK)
*VISUALLY INSPECT 100% OF ALL WELDS THAT ARE NOT RADIOGRAPHICALLY INSPECTED. (THIS REQUIREMENT APPLIES EVEN IF NO RADIOGRAPHIC INSPECTION IS REQUIRED.)

STA. 57+55
JOB NO. 30843913
B/M ITEM NO. 6
DESIGN CRITERIA
LOCATION CLASS 3 (PER PGE)
DESIGN FACTOR 0.5
FDP 720 PSIG 7.01 % SMYS
MAOP 720 PSIG 7.01 % SMYS
STRENGTH TEST PRESSURE
MAX. 1744 PSIG 16.99 % SMYS
MIN. 1688 PSIG 16.44 % SMYS
9240 PSIG=90% SMYS
TEST MEDIUM WATER
PIPE SPEC API-5L GR B SMLS
O.D. 1.050"
W.T. 0.154"
WELD INSPECTION (GAS STD.D-40)*
☐RADIOGRAPHIC:
☐20% MIN. (% OF EACH WELDER'S
☐100% DAILY WORK)
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INSPECTOR
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REVISIONS

APPROVED BY
JN 30843913
SUPV
DSGN
DWN
CHKD
OK
DATE 11-14-12
SCALES 1"= 40'

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SAN JOAQUIN COUNTY
PACIFIC GAS AND ELECTRIC COMPANY
WALNUT CREEK, CALIFORNIA

MICROFILM
BILL OF MATL SHEET 18
DWG LIST SHEET
SUPSDS
SUPSD BY
SHEET NO. 11 OF 22 SHEETS
30843913 03

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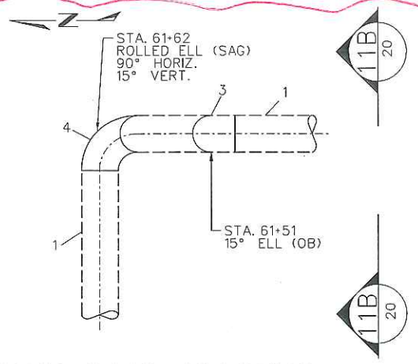
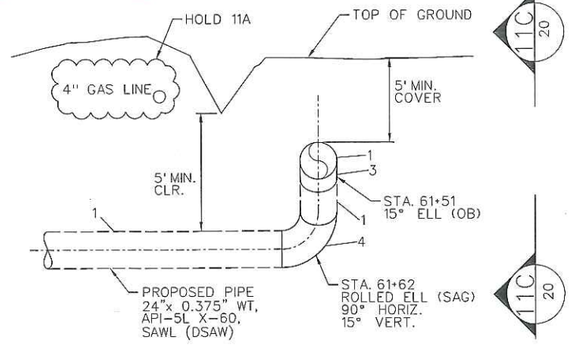
DAVIS ROAD CROSSING
STA. 61+51

DETAIL 11 / NO SCALE



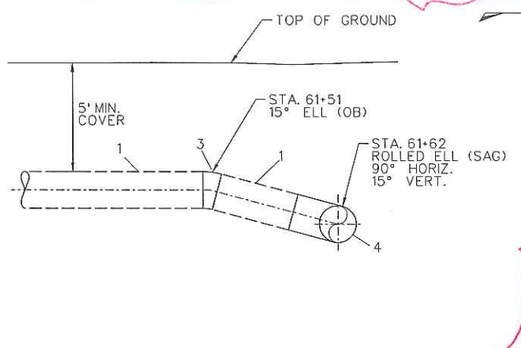
DAVIS ROAD CROSSING
PLAN VIEW
STA. 61+51

DETAIL 11A / NO SCALE



DAVIS ROAD CROSSING
ELEVATION
STA. 61+51

DETAIL 11B / NO SCALE

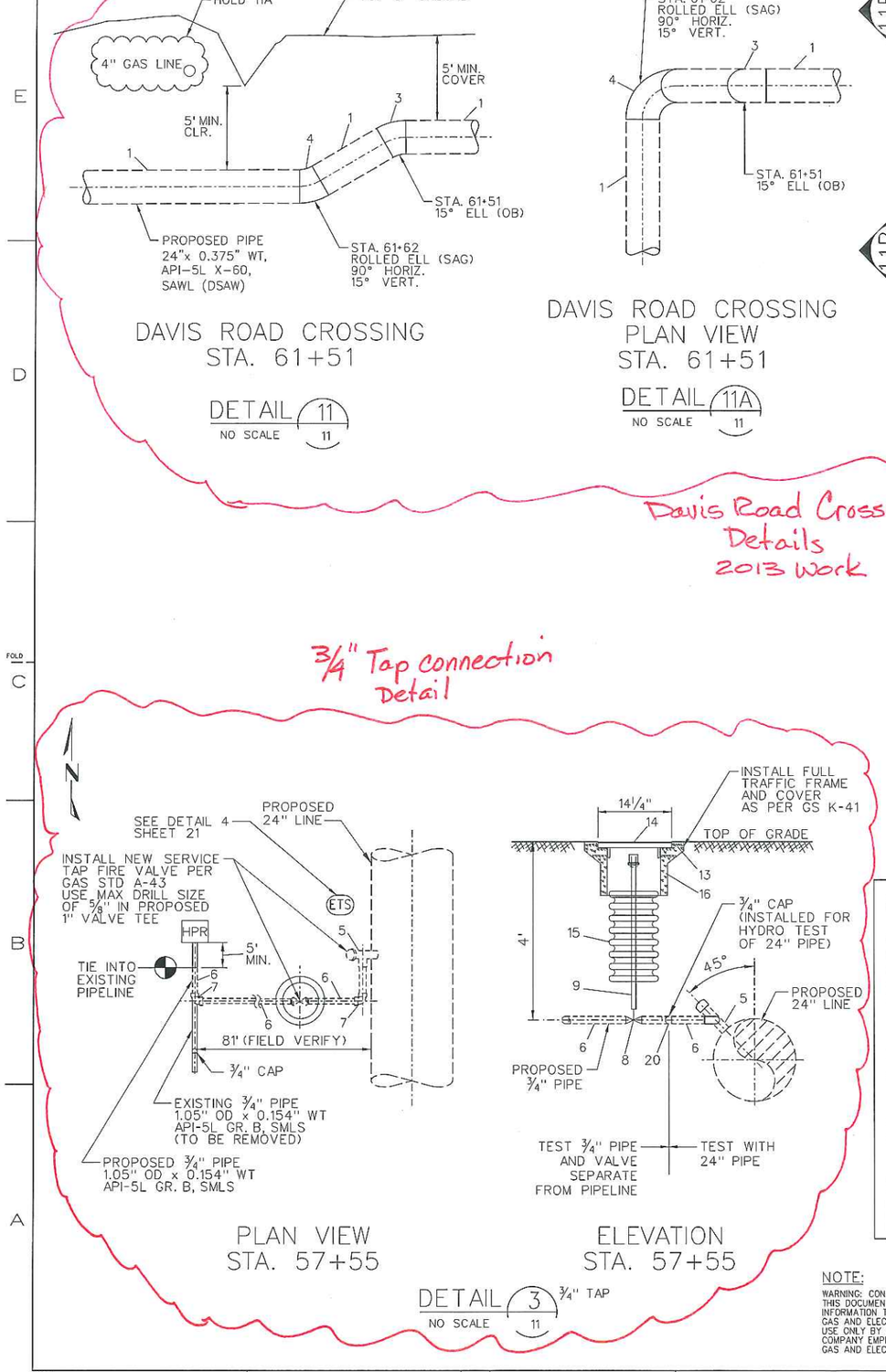


DAVIS ROAD CROSSING
ELEVATION
STA. 61+51

DETAIL 11C / NO SCALE

Davis Road Crossing
Details
2013 Work

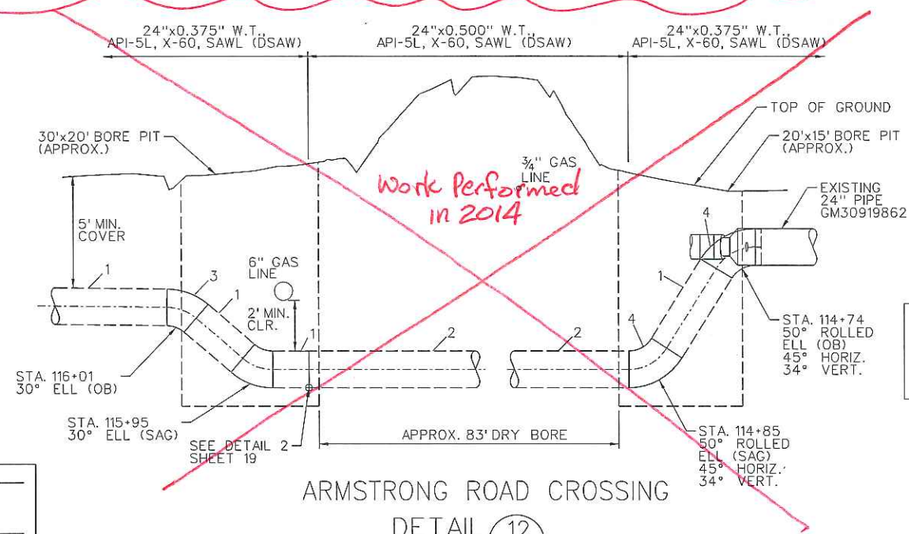
3/4" Tap connection
Detail



PLAN VIEW
STA. 57+55

ELEVATION
STA. 57+55

DETAIL 3 / NO SCALE — 3/4" TAP



Work Performed in 2014

ARMSTRONG ROAD CROSSING

DETAIL 12 / NO SCALE

JOB NO. 30843913	
B/M ITEM NO. 6	
DESIGN CRITERIA	
LOCATION CLASS 3 (PER PGE)	
DESIGN FACTOR 0.5	
FDP 720 PSIG 7.01 % SMYS	
MAOP 720 PSIG 7.01 % SMYS	
STRENGTH TEST PRESSURE	
MAX. 1125 PSIG 10.96 % SMYS	
MIN. 1080 PSIG 10.52 % SMYS	
9240.0 PSIG-90% SMYS	
TEST MEDIUM WATER	
PIPE SPEC API-5L GR B SMLS	
O.D. 1.050"	
W.T. 0.154"	
WELD INSPECTION (GAS STD.D-40)*	
☐RADIOGRAPHIC:	
☐20% MIN. (% OF EACH WELDER'S	
☐100% DAILY WORK)	
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EXIST PIPE SPECS (FIELD VERIFY)
HEADER SIZE: 1.050"
PIPE SPECS: API-5L GR. B, SMLS
WALL THICKNESS: 0.154"
PRESENT MAOP: 412 PSIG
% SMYS @ MAOP: 4.01%
INSTAL JN: 30873856 YEAR: 2012
MAXIMUM ALLOWABLE PRESSURE DURING WELDING (G.S.&S. D-22)
EVALUATE THE FOLLOWING OPERATING PRESSURE LIMITATIONS TO DETERMINE THE MAXIMUM OPERATING PRESSURE PERMITTED DURING WELDING
A) (412 PSIG) WHEN WELDING ON BODY OF THE PIPE, UNLESS,
B) (412 PSIG) WHEN WELDING WITHIN 3" OF THE LONGITUDINAL SEAM (EXCEPT DSAW PIPE), THE CIRCUMFERENTIAL, AND ANY BRANCH WELD, OR WITHIN 3" OF ANY DEFECT (GOUGES, CORROSION, LAMINATIONS, ETC.) IN THE PIPE WHICH EXCEEDS 1/3 OF THE NOMINAL WALL THICKNESS IN DEPTH AND/OR 1/4 OF THE NOMINAL PIPE DIAMETER IN LENGTH.

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00	12-19-12	ISSUE FOR 30% REVIEW	30843913	RP	VK	JR	

REVISIONS

APPROVED BY	
JN 30843913	
SUPV	
DSGN	
DWN	
CHKD	
OK	
DATE 11-14-12	
SCALES AS SHOWN	

PIPELINE - SECTIONS & DETAILS
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MP 37.14 - MP 38.17
SAN JOAQUIN COUNTY
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WALNUT CREEK, CALIFORNIA

MICROFILM	
BILL OF MATL	SHEET 18
DWG LIST	SHEET
SUPSDS	
SUPSD BY	
SHEET NO.	20 OF 22 SHEETS

30843913 03

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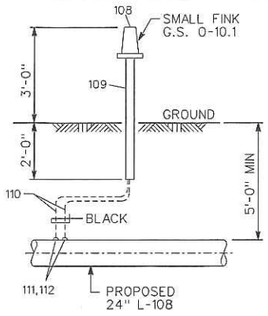
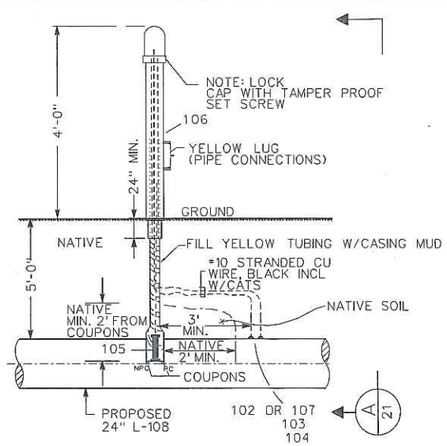


DETAIL 4
NO SCALE

SMALL FINK "TYPE A" ETS
INSTALL TYPE "A" ETS
PER GAS STD 0-10.1

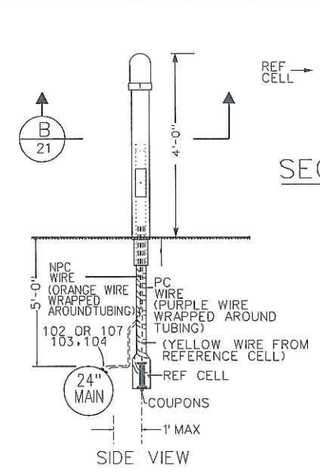
CP STATION LOCATIONS			
"H"	SHEET	TYPE	PG&E GAS STD.
0+00	5	ETS TYPE A	0-10.1
33+00	8	ETS TYPE A	0-10.1
57+07	11	ETS TYPE A BIG FINK	0-10.1
57+55	11	ETS TYPE A	0-10.1
88+00	14	ETS TYPE A	0-10.1
114+00	17	ETS TYPE A	0-10.1

ACRONYM
ETS = ELECTROLYSIS TEST STATION



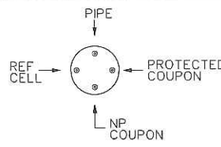
NOTES:
1. MONITOR CATS OMNIMETRIX # 504RMFFP10 (PG&E CODE M233259)
2. INSTALL ABOVE GROUND POST NEXT TO P/L MARKER OR POWER POLE OUTSIDE OF DRIVING LANE.
3. COUPONS SHALL BE INSTALLED TO THE DEPTH OF THE CENTERLINE OF THE PIPELINE.
4. COUPONS SHALL BE INSTALLED SUCH THAT EACH COUPON IS EQUIDISTANT FROM THE PIPE.
5. BACKFILL WITHIN 1'-6" (RADIUS) OF THE COUPONS MUST BE NATIVE SOIL COMPACTED TO MINIMUM 95% COMPACTION.

DETAIL 5 TYPICAL CATS INSTALLATION
NO SCALE REMOTE PIPE TO SOILS MONITOR



**COUPONS MUST BE INSTALLED IN NATIVE SOIL.
**NATIVE SOIL WITHIN TWO FEET OF ELECTRODE. TAMP TO ACHIEVE A MINIMUM 85% COMPACTION.

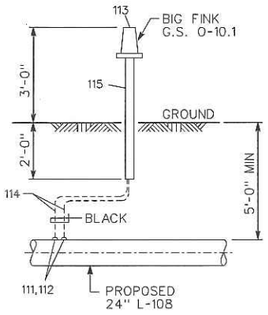
ELEVATION A 21



SECTION B 21

CP STATION LOCATIONS			
"H"	SHEET	TYPE	PG&E GAS STD.
0+00	5	CATS	N/A
54+45	10	CATS	N/A
106+00	16	CATS	N/A
117+07	17	CATS	N/A

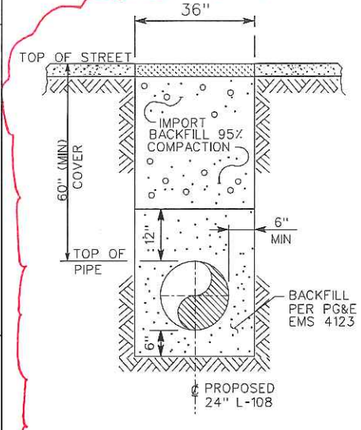
ACRONYM
CATS = COUPON AUTOMATED TEST STATION



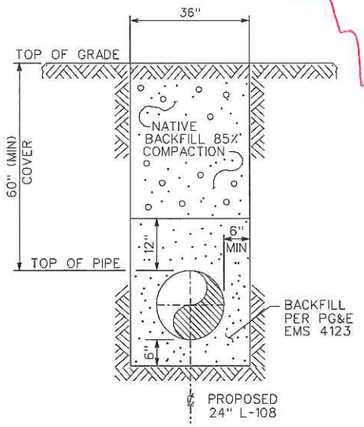
DETAIL 10
NO SCALE 11

BIG FINK "TYPE A" ETS
INSTALL TYPE "A" ETS
PER GAS STD 0-10.1

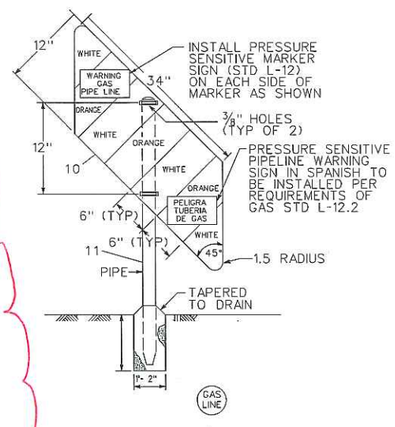
Backfill Details for the two Crossings



DETAIL 6 TYP TRENCH
NOT TO SCALE PAVED AREA



DETAIL 7 TYP TRENCH
NOT TO SCALE NON PAVED AREA



DETAIL 8
NO SCALE
PIPELINE MARKER

LINE MARKER LOCATIONS							
"H"	SHEET	TYPE	PG&E GAS STD.	"H"	SHEET	TYPE	PG&E GAS STD.
0+00	5	PL	L-10	57+55	11	PL	L-10
1+57	5	PL	L-10	61+62	11	PL	L-10
1+96	5	PL	L-10	64+17	12	PL	L-10
3+03	5	PL	L-10	77+40	13	PL	L-10
12+00	6	PL	L-10	88+00	14	PL	L-10
25+97	7	PL	L-10	101+20	15	PL	L-10
27+25	7	PL	L-10	106+00	16	PL	L-10
33+00	8	PL	L-10	114+00	17	PL	L-10
46+20	9	PL	L-10	114+74	17	PL	L-10
54+45	10	PL	L-10	114+85	17	PL	L-10
55+26	10	PL	L-10	117+07	17	PL	L-10
55+78	10	PL	L-10	117+40	17	PL	L-10

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WALNUT CREEK, CALIFORNIA

MICROFILM	
BILL OF MATL	SHEET 18
DWG LIST	SHEET
SUPSDS	
SUPSD BY	
SHEET NO. 21	OF 22 SHEETS

30843913 03

N1808
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5/8/2013
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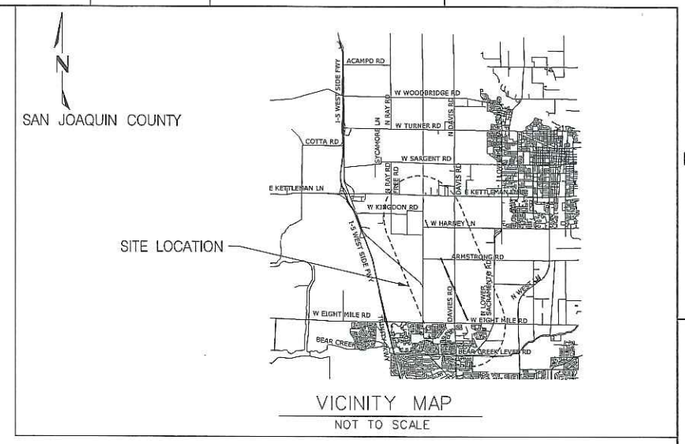
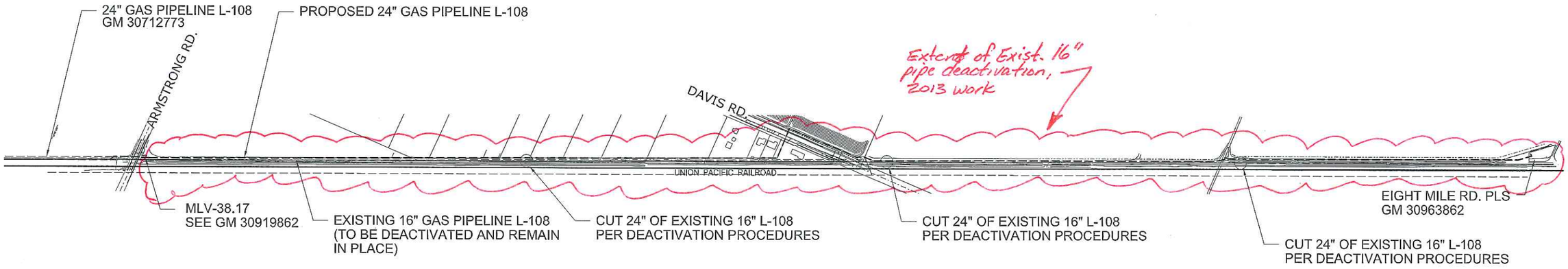
24–inch L–108 DEACTIVATION
MP 37.14 TO MP 38.17
COUNTY OF SAN JOAQUIN

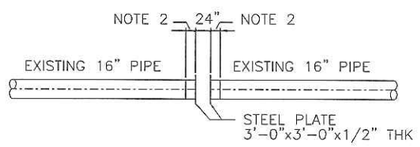
BTU AREA * X02
CP AREA * T-108-C
WALL MAP: 2946, 2869
PLAT: 2946C4, 2946B4, 2946B3, 2946A3, 2869J3, 2869J2
SAN JOAQUIN COUNTY



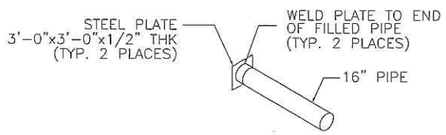
VICINITY MAP
NOT TO SCALE



DEACTIVATION DETAIL



PLAN VIEW
N.T.S.



ISOMETRIC VIEW
N.T.S.

NOTES:
1. REMOVE A MINIMUM OF 24" OF PIPE.
2. PER PG&E WORK PROCEDURE TD 9500P–16

DEACTIVATION PROCEDURE FOR EXISTING PIPE:

1. GT&D UTILITY WORK PROCEDURE TD 9500P–16 SHALL BE FOLLOWED.
2. THE EXISTING 16" GAS MAIN SHALL BE 100% PURGED WITH NITROGEN GAS AS PER STANDARD A–38.
3. AT THE INTERVALS OF APPROXIMATELY TWO BLOCKS OR A MAXIMUM OF APPROXIMATELY 3200 FT., THE 16" MAIN SHALL BE CUT AND PLATED.
4. AT EACH SUCH LOCATION NOTED ABOVE, A PIECE OF PIPE AT LEAST 18" LONG SHALL BE REMOVED. THE OPEN ENDS OF DEACTIVATED MAIN SHALL BE SEALED BY THE MOST APPROPRIATE METHOD OUTLINED IN GT&D UTILITY WORK PROCEDURE TD 9500P–16. BACKFILL MUST BE THOROUGHLY COMPACTED IN PLACE OF THE REMOVED SECTION OF PIPE.
5. SERVICE CONNECTIONS TO BE DEACTIVATED AS INDICATED ON THE DRAWINGS SHALL BE CUT AND PLATED.
6. VALVES AND CURB COCKS MAY BE REMOVED AND SALVAGED IF THE COST OF REMOVAL IS JUSTIFIED. THE OPEN ENDS OF PIPE SHALL BE SEALED AS NOTED ABOVE.

0 400' 800' 1200'
SCALE : 1"= 400'

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.

PG&E

REFERENCE DRAWINGS:

385160 ---------- OPERATING MAP
0802402, REV. 3 --- OPERATING DIAGRAM, EIGHT MILE ROAD PLS
30919862 ---------- L-108 MLV-38.17 AND BRIDLE SET
4800919, REV. 2 ---- PIPING-PLAN, EIGHT MILE ROAD PLS
30712773 ---------- L-108 REPLACEMENT MP 38.17 - MP 40.27
GM 30963862 ------ EIGHT MILE ROAD PLS PIG LAUNCHER
381330, SHTS. 21-22- TRANSMISSION PLAT

NOTE:
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GIE * 1581-108_1-DG-7005-00 PSRS* 24077

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
03	05-09-13	ISSUE FOR 90% REVIEW	30843913	RP	VK	JR	
02	04-05-13	REISSUE FOR 60% REVIEW	30843913	RP	VK	JR	
01	02-15-13	ISSUE FOR 60% REVIEW	30843913	RP	VK	JR	
00	12-19-12	ISSUE FOR 30% REVIEW	30843913	RP	VK	JR	

REVISIONS

APPROVED BY	
JN	30843913
SUPV	
DSGN	
DWN	
CHKD	
OK	
DATE	11-14-12
SCALES	AS SHOWN

DEACTIVATION SHEET
INSTALL 11,745' OF 24" PIPE
L-108 REPLACEMENT
MP 37.14 - MP 38.17
SAN JOAQUIN COUNTY
PACIFIC GAS AND ELECTRIC COMPANY
WALNUT CREEK, CALIFORNIA

MICROFILM	
BILL OF MATL	SHEET 18
DWG LIST	SHEET
SUPSDS	
SUPSD BY	
SHEET NO.	22 OF 22 SHEETS

30843913 03

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