COUNTY OF SAN JOAQUIN

DEPARTMENT OF PUBLIC WORKS

P.0. BOX 1810-1810 E. HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
(209) 468-3000
FAX # (209) 468-9324

Permit No: **PS-1301526**
Date Issued: 06/07/2013
Exp. Date: 07/15/2013
Project No: PWP730052
Quad: SW

UE/CR/PM NO:41748975

ENCROACHMENT PERMIT

To: PACIFIC GAS & ELECTRIC - SAN RAMON
6121 BOLLINGER CANYON ROAD
SAN RAMON, CA 94583

Encroachment Type:

Bell Hole			

Location:
N/S OF GRANT LINE RD. 300' W/O BANTA RD.

In compliance with your request of **06/07/2013**, permission is hereby granted to do work in County right-of-way as shown on attached application and subject to all the terms, conditions and restrictions written below or printed as general or special provisions on any part of this form. See reverse side and attached sheet, if any.

Trench excavations for service connections will not be permitted within ten feet (10') of pavement centerline unless otherwise approved by the Director. Surface of trench patches shall match in kind and be smooth and even with that of abutting surface. Special attention shall be given to depth of utilities through roadside area in anticipation of future drainage facilities, road profile and/or frontage development. All underground utility facilities are to be established and accurately dimensioned on sketches from surveyed centerline of road right of way, or from right of way (border) lines.

rmittee shall call the Department of Public Works, Field Engineering Division (Permit Inspections) at (209)953-7421 at least ty-eight hours prior to beginning any work within the County right of way. All work performed under this permit shall conform to the rules and regulations pertaining to safety established by the California Division of Industrial Safety and Cal-OSHA.

The jobsite shall be kept in a safe condition at all times by the daily removal of any excess dirt or debris which might be a hazard to either pedestrian or automobile traffic. All necessary traffic convenience and warning devices and personnel shall be provided, placed and maintained by and at the sole expense of the Permittee in accordance with the latest edition of the CALTRANS Manual of Traffic Control.

After completion of the work permitted herein, all debris, lumber, barricades, or any excess material shall be removed and the jobsite left in a neat workmanlike manner. Immediately following completion of construction permitted herein, Permittee shall fill out and mail notice of completion (see attached post card) provided by Grantor.

Special Comments:

Traffic Control Per MUTCD*****Hydrostatic Testing*****

FORMS:	SS/WW, R-29		

Est. Permit Fee: $413.00

THOMAS M. GAU, Director
Department of Public Works

By: _____
Permit Section

WHITE	-Permitee
GOLDENROD	-PWD Central File
YELLOW	-Field Inspection
PINK	-Permit Section

ENCROACHMENT PERMIT GENERAL PROVISIONS

13-1

1. This permit is issued under and subject to a11 1aws and ordinances of agencies governing the encroachment herein permitted. See the following references:
   STREETS AND HIGHWAYS CODE
   1. Division 1, Chapter 3
   2. Division 2, Chapter 2, Section 942
   3. Division 2, Chapter 4, Section 1126
   4. Division 2, Chapter 5.5 and Chapter 6

   SAN JOAQUIN COUNTY ORDINANCES NUMBERED: 324, 441, 648, 662, 672, 695, 700, 860, 892, 3359, and 3675.

2. It is understood and agreed by the Permittee that the performance of any work under this permit shall constitute an acceptance of all the provisions contained herein and failure on the Permittee's part to comply with any provision will be cause for revocation of this permit. Except as otherwise provided for public agencies and franchise holders, this permit is revocable on five days notice.

3. All work shall be done subject to the supervision of and the satisfaction of the grantor. The Permittee shall at all times during the progress of the work keep the County Highway in as neat and clean condition as is possible and upon completion of the work authorized herein, shall leave the County Highway in a thoroughly neat, clean and usable condition.

4. The Permittee also agrees by the acceptance of this permit to properly maintain any encroachment structure placed by the Permittee on any part of the County Highway and to immediately repair any damage to any portion of the highway, which occurs as a result of the maintenance of the said encroachment structure, until such time as the Permittee may be relieved of the responsibility for such maintenance by the County of San Joaquin.

5. The Permittee also agrees by the acceptance of this permit to make, at its own expense, such repairs as may be deemed necessary by the County Department of Public Works.

6. It is further agreed by the Permittee that whenever construction, reconstruction or maintenance work upon the highway is necessary, the installation provided for herein shall, upon request of the County Department of Public Works, be immediately moved or removed by and at the sole expense of the Permittee.

7. No material used for fill or backfill in the construction of the encroachment shall be borrowed or taken from within the County right of way.

8. All work shall be planned and carried out with as little inconvenience as possible to the traveling public. No material shall be stacked within eight feet (8') of the edge of the pavement or traveled way unless otherwise provided herein. Adequate provision shall be made for the protection of the traveling public. Traffic control standards shall be utilized including barricades; approved signs and lights; and flagmen, as required by the particular work in progress.

9. The Permittee, by the acceptance of this permit, shall assume full responsibility for all liability for personal injury or damage to property which may arise out of the work herein permitted or which may arise out of the failure of the part of the Permittee to properly perform the work provided under this permit. In the event any claim of such liability is made against the County of San Joaquin or any department, official or employee thereof, the Permittee shall defend, indemnify, and hold each of them harmless for such claim.

10. All backfill material is to be moistened as necessary and thoroughly compacted with mechanical means. If required by the County Director of Public Works, such backfill shall consist of gravel or crushed rock. The Permittee shall maintain the surface over structures placed hereunder as may be necessary to insure the return of the roadway to a completely stable condition and until relieved of such responsibility by the County Department of Public Works. Wherever a gravel, crushed rock or asphalt surface is removed or damaged in the course of work related to the permitted encroachment, such material shall either be separately stored and replaced in the roadway as nearly as possible in its original state or shall be replaced in kind, and the roadway shall be left in at least as good a condition as it was before the commencement of operations of placing the encroachment structure.

11. Whenever it becomes necessary to secure permission from abutting property owners for the proposed work, such authority must be secured by the Permittee prior to starting work.

12. The current and future safety and convenience of the traveling public shall be given every consideration in the location and methods of construction utilized.

13. The Permittee is responsible for the preservation of survey monuments within the work herein permitted. If any are disturbed, the Permittee is required to tie out each location and re-establish them after completion of work, using a licensed land surveyor. A corner record must be filed in accordance with state law for any re-set monuments.

APPLICATION FOR ENCROACHMENT PERMIT

PLEASE PRINT:

Date 5/29/13

To: San Joaquin County
Department of Public Works

PG+E CHRIS JENNINGS
(Applicant Name)

6121 BOLLINGER CANYON RD 1ST FLOOR
(Mailing Address)

SAN RAMON, CA 94583
(City, State, Zip Code)

925 324-5219
(Area Code - Telephone Number)

OFFICE USE ONLY

JOB #	730052-10	REF #	
APN		CR #	
EXP. DATE	7/15/13		
VALID	6/10/13 TO 7/15/13		DRIVEWAYS:
STREET	GRANT LINE RD.		*
AREA	TRACY QUAD SW		*
TYPE	BELL HOLE, TRAFFIC CONTROL DEVICES		
FORMS	~~EE~~/WW, R-29		
NOTES			

Sketch (Detailed plans may be submitted)

SEE ENCLOSED PROJECT PLANS + TRAFFIC CONTROL PLANS

The undersigned hereby applies for permission to excavate, construct and/or otherwise encroach on County Highway Right-of-Way on the N side of E. GRANT LINE ROAD approximately 300 (feet/mile) W of BANTA RD, by performing the following work (description of work): SET UP TRAFFIC CONTROL TO CLOSE SHOULDER IN ORDER TO EXCAVATE AND INSTALL TEST HEAD FOR HYDROSTATIC TESTING OF EXISTING PG+E GAS LINE L-162A.

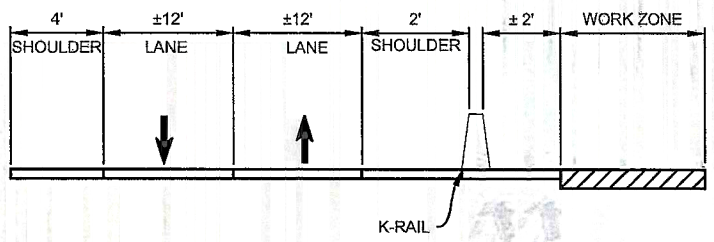
Work will commence on or about JUNE 3 for approximately 60 days.

I, the undersigned, certify that I am the owner of the respective property, or am qualified to represent the owner and agree to do the work described above in accordance with the rules and regulations of San Joaquin County and subject to inspection and approval.

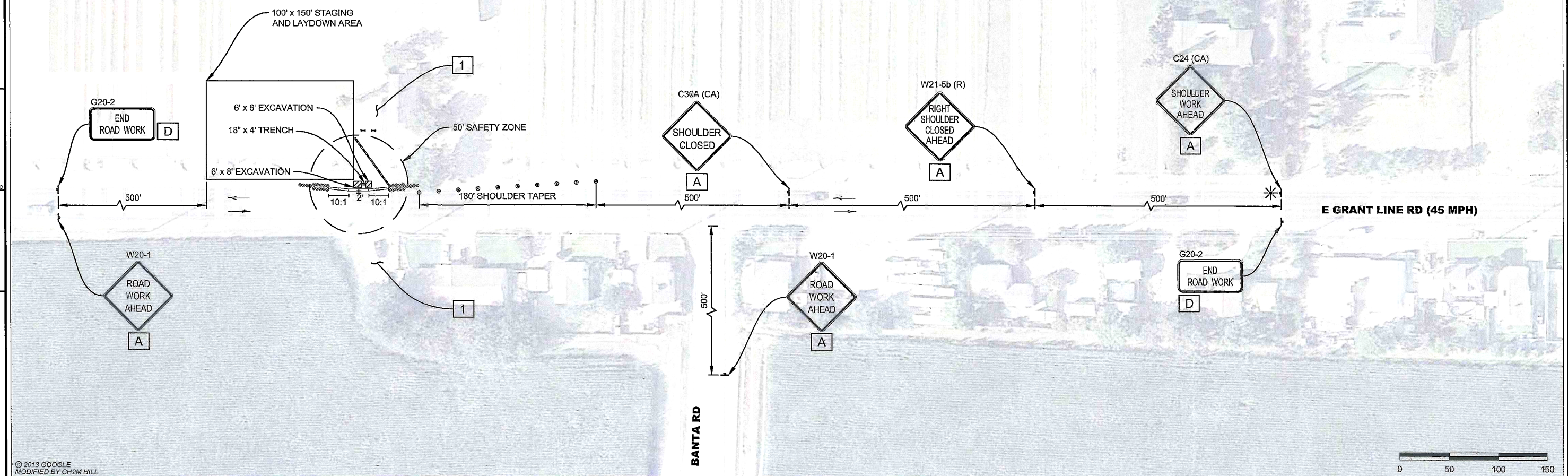
Signature of Applicant - Title

5/29/13
Date

E:\PUB-SV.WKM\MASTER.PS\ENCROACHMENT PERMIT APPLICATION.DOC (01/08)



CROSS SECTION OF E GRANT LINE RD
(LOOKING WEST)
NOT TO SCALE



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MODIFIED BY CH2M HILL

CONTRACTOR NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND CALTRANS STANDARD PLANS AND SPECIFICATIONS.
2. THE LOCAL FIRE DEPARTMENT, SHERIFF/POLICE DEPARTMENT, CALIFORNIA HIGHWAY PATROL, LOCAL SCHOOL DISTRICT, TRANSIT SERVICE PROVIDERS AND UNITED STATES POSTAL SERVICE SHALL BE NOTIFIED 72 HOURS IN ADVANCE OF CONSTRUCTION WORK, BY CONTRACTOR.
3. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE TO EXISTING IMPROVEMENTS RESULTING FROM THE CONTRACTOR'S OPERATION. THIS REPAIR SHALL INCLUDE ALL CONSTRUCTION AND MATERIALS TO RESTORE THE SITE TO EXISTING CONDITIONS.
4. EACH ADVANCED WARNING SIGN ON EACH SIDE OF THE ROADWAY SHALL BE EQUIPPED WITH AT LEAST TWO FLAGS. FLASHING BEACONS SHALL BE PLACED AT THE LOCATION INDICATED FOR LANE CLOSURE DURING HOURS OF DARKNESS.
5. ALL WORKERS SHALL BE EQUIPPED WITH A REFLECTIVE VEST AND HARD HAT. ALL FLAGGERS SHALL ALSO BE EQUIPPED WITH A C28 "STOP/SLOW" PADDLE AND SHALL BE TRAINED IN THE PROPER FUNDAMENTALS OF FLAGGING TRAFFIC.
6. NO PARKING SIGNS SHALL BE PLACED 72 HOURS PRIOR TO SET UP. SIGNS SHALL BE POSTED EVERY 20 LINEAR FEET OF OCCUPIED SPACE WITH AT LEAST ONE SIGN AT EACH END OF OCCUPIED SPACE.
7. ANY CONFLICTING SIGNS WILL BE COVERED FOR THE LENGTH OF THE JOB.
8. CONTRACTOR SHALL MAINTAIN EMERGENCY VEHICLE AND DRIVEWAY ACCESS AT ALL TIMES.
9. Y&C TRANSPORTATION CONSULTANTS, INC. ASSUMES NO LIABILITY WHEN CONTRACTOR DOES OWN SET UP OR MAKES CHANGES TO THE ORIGINAL TRAFFIC CONTROL PLAN.
10. CITY/COUNTY ENGINEER OR HIS REPRESENTATIVE HAS THE AUTHORITY TO INITIATE FIELD CHANGES TO ASSURE PUBLIC SAFETY.
11. CONTRACTOR SHALL FENCE AROUND EXCAVATED AREA IF NOT PLATED DURING NON-WORKING HOURS TO PROTECT AGAINST PEDESTRIAN ACCESS.

LEGEND

- = PLASTIC TRAFFIC DRUM (20' SPACING O.C.)
- = TEMPORARY SIGN POST
- = PORTABLE FLASHING BEACON
- = TRAFFIC FLOW DIRECTION
- = TEMPORARY 30' RAIL (TYPE K)
- = CRASH CUSHION (ARRAY 'T14)
- = PLASTIC WATER-FILLED BARRIER (NCHRP 350 TL-2)
- = TYPE III BARRICADE WITH FLASHING YELLOW BEACON

PROJECT NOTES

1 COORDINATE WITH RESIDENT ABOUT 50' SAFETY ZONE. NO STATIONARY VEHICLES AND PEDESTRIANS WITHIN 50 FEET OF THE EXCAVATION.

SIGN PANEL SIZE

A	48" X 48"
D	48" X 24"

REGISTERED PROFESSIONAL ENGINEER
K. DANIEL YAU
No. 44611
Exp. 3/31/14
CIVIL
STATE OF CALIFORNIA
06/07/13

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
2	06/07/13	REVISED FOR PERMIT	41748975	DOC	ET	KDY	
1	05/23/13	REVISED FOR PERMIT	41748975	DOC	ET	KDY	
0	04/24/13	ISSUED FOR PERMIT	41748975	DOC	ET	KDY	

REVISIONS

APPROVED BY: DOC, ET, KDY

GM	41748975
SUPV	
DSGN	ET
DWN	DOC
CHKD	ET
OK	KDY
DATE	06/07/13
SCALES	AS SHOWN

HYDROTEST T-240-13
L-162A, LOCATION B (TEST HEAD)
MP 7.77 – 9.03
SAN JOAQUIN COUNTY, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

MICROFILM
BILL OF MATL
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. 2 OF 3 SHEETS
41748975 0

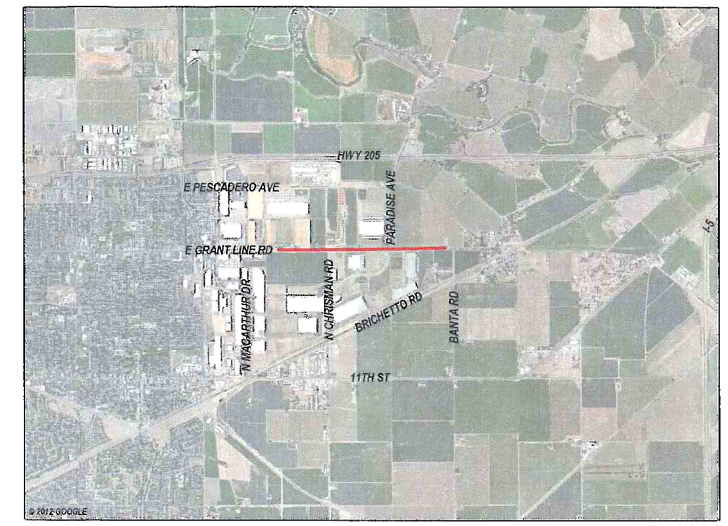
CP AREA # T-162
WALL MAP 3114
PLAT G2-G5
SAN JOAQUIN COUNTY

HYDROTEST T-240-13
L-162A, MP 7.77 - 9.03

EXPENSE ORDER # 41748975
CAPITAL ORDER # 30994765

SCHEDULE OF SHEETS

SHEET 1 GENERAL / CONSTRUCTION NOTES
SHEET 2 - HYDROTEST PLAN VIEW / TEST LOCATIONS
SHEET 3 - HYDROTEST PROFILE VIEW / PIPELINE FEATURES
SHEET 4 - CONSTRUCTION DETAILS
SHEET 5 - CONSTRUCTION DETAILS / MATERIAL OF RECORD / BILL OF MATERIALS



VICINITY MAP
NOT TO SCALE

TRACY, CA

SUMMARY OF PROPOSED WORK:

HYDROSTATICALLY TEST 4.500" L-162A FROM MP 7.77 TO MP 9.03 PER DRAWINGS AND STRENGTH TEST PRESSURE REPORTS (#41748975) AND MATERIAL OF RECORD DRAWING #41748975 SHEET 5 OF 5.

EXPENSE ORDER: #41748795:

1. INSTALL 4'-0" OF 4.500" OD x 0.237" WT, API 5L, GR B, SMLS. BARE PIPE.
2. INSTALL THREE (3) COUPON TEST STATIONS (CTS) PER GS&S O-10.2.
3. REMOVE 4'-0" OF 4.500" OD x 0.148" WT, API 5L, GR B, ERW PIPE INSTALLED ON GM 114574 (1952)

CAPITAL ORDER: #30994765:

1. INSTALL ONE 4" OD BALL VALVE, ANSI 300, WE, BEVELED TO MATCH 0.237" WT, GR B.
2. INSTALL 14'-6" OF 4.500" OD x 0.237" WT, API 5L, GR B, SMLS, BARE PIPE.
3. INSTALL 3'-5" OF 2.375" OD x 0.154" WT, API 5L, GR B, SMLS, BARE PIPE.
4. REMOVE ONE 4" OD GATE VALVE, 720 PSI, WE INSTALLED ON GM 10909760 (1996).
5. REMOVE ONE 4" MUELLER BOTTOM TAP FITTING, ANSI 300 INSTALLED ON GM 30337105 (2004).
6. REMOVE 10'-0" OF 4.500" OD x 0.148" WT, API 5L, GR B, ERW PIPE INSTALLED ON GM 114574 (1952).
7. REMOVE 4'-6" OF 4.500" OD x 0.237" WT, API 5L, GR B, SMLS PIPE INSTALLED ON GM 10909760 (1996).
8. REMOVE 3'-5" OF 2.375" OD x 0.154" WT, API 5L, GR B, SMLS PIPE INSTALLED ON PM 30337105 (2004).

SEQUENCE OF OPERATIONS:

1. PRIOR TO TAKING PIPELINE CLEARANCE THE FOLLOWING MUST BE PERFORMED:
   A PG&E T&R TO CHECK ANY DRIPS IN SHUT-IN SEGMENT FOR PRESENCE OF PIPELINE LIQUIDS.
   B CONTRACTOR TO REMOVE PIPE WRAP FROM CUT OUT SECTIONS EXTENDING 1' BEYOND EACH END OF THE CUT-OUT AND SANDBLAST TO NEAR WHITE WHERE DESIGNATED ON DRAWINGS FOR H-FORM INSPECTION.
   C H-FORM INSPECTION TO BE PERFORMED ON PIPELINE BY PG&E APPROVED VENDOR. PERFORM H-FORM INSPECTION PRIOR TO REMOVAL OF CUT-OUT SECTION.
   D. PERFORM H-FORM INSPECTION AS DESIGNATED ON DRAWINGS AT LOCATION A. IF UT W.T. MEASUREMENTS IN SECTION 2.5 DO NOT MATCH EXISTING PIPE SPECIFICATIONS AS SHOWN ON DRAWINGS, IMMEDIATELY NOTIFY ENGINEER.
   E. COMPLETE A-FORMS ON ALL EXPOSED PIPE AND INCLUDE IN AS-BUILT PACKAGE.
   F G.C. GAS TO INSTALL SAVE-A-VALVES FOR OIL TESTING AND SNIFF HOLES WHERE DESIGNATED IN THE TIE-IN PROCEDURE. G.C. GAS FOREMAN TO CONFIRM LOCATION AND NUMBER OF SAVE-A-VALVE LOCATIONS AND ENSURE WELD PRESSURE CALCULATIONS ARE PROVIDED BY ENGINEERING PRIOR TO WELDING SAVE-A-VALVES ON PIPELINE.
2. AFTER CLEARANCE CONTRACTOR TO TRANSPORT 3' OF EACH H-FORM TESTED PIPE SEGMENT TO 2000 CROWS LANDING RD., MODESTO. UTILIZE CHAIN OF CUSTODY PROCESS FOR ALL SHIPMENTS.
3. UPON ARRIVAL AT MODESTO, ATS TO PERFORM FURTHER TESTING AND ANALYSIS OF CUT-OUT SECTIONS.
4. SEE T-240-13 HYDROSTATIC TEST PROCEDURE FOR SEQUENCING OF HYDROSTATIC TEST TASKS.

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 LENGTH OF ONE DIAMETER, WHEREVER POSSIBLE.
   -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 FITTING WHEN IT IS PRACTICAL.
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 AND SITE SPECIFIC TEST PROCEDURE.
3. ALL WELDS THAT HAVE NOT BEEN HYDROTESTED AND ALL NON-WELDED FITTINGS SHALL BE SOAP TESTED AT 100 PSIG AND OPERATING PRESSURE.
4. 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.
5. CALL USA AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION (811)
6. 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.
7. ALL BELLHOLES SHALL BE EXCAVATED TO THE FOLLOWING MINIMUM DIMENSIONS: BELLHOLE SHALL EXTEND MINIMUM 4' LONGITUDINALLY BEYOND WELD/CUT LINES ON EITHER SIDE; BELLHOLE SHALL EXTEND MINIMUM 2.5' BEYOND SIDE WALL OF PIPE AND SHALL PROVIDE FOR MINIMUM 2' CLEARANCE BELOW BOTTOM OF PIPE WALL FOR ENTIRE EXPOSED LENGTH. ANY DEVIATION TO THESE DIMENSIONS MUST BE APPROVED BY PG&E CONSTRUCTION MANAGER.
8. 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.
9. ALL ANGLES SHOWN IN THE PLAN AND PROFILE ARE APPROXIMATE AND SHALL BE CUT TO SUIT FIELD CONDITION.
10. THIS PIPELINE MUST BE INSTALLED WITH AT LEAST 12 INCHES OF CLEARANCE FROM ANY OTHER UNDERGROUND STRUCTURE NOT ASSOCIATED WITH THE PIPELINE.
11. 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 RP 4711 FOR REMOVAL OF PIPE WRAP.
12. BONDING CABLES TO BE INSTALLED ACROSS PIPELINE CUT-OUTS AT ALL LOCATIONS THE PIPELINE IS SEVERED PRIOR TO REMOVAL. CHAIN CLAMPS, MAGNETIC CLAMPS, OR OTHER CONSTRUCTION MANAGEMENT APPROVED CLAMPS AND #6 (MIN.) STRANDED COPPER CABLE SHALL BE UTILIZED. CLAMPS TO REMAIN IN PLACE UNTIL PIPELINE IS TIED IN.
13. ALL BALL VALVES USED FOR TAPS IN HYDROTEST SECTION ARE TO BE CLOSED 50% FROM FULL OPEN POSITION PRIOR TO FILL AND FOR DURATION OF HYDROTEST. ALL PLUG VALVES USED FOR TAPS/BLOWOFFS IN HYDROTEST SECTION ARE TO BE IN FULL OPEN POSITION PRIOR TO FILL AND FOR DURATION OF HYDROTEST UNLESS SPECIFICALLY CALLED OUT TO BE IN CLOSED POSITION ON DRAWING.
14. ALL EXCAVATIONS WITHIN EXISTING STATIONS SHALL BE HAND DUG OR EXCAVATED USING SOFT DIG METHODS (e.g. VACUUM EXCAVATIONS OR SIMILAR).
15. COPIES OF REFERENCE DRAWINGS ARE AVAILABLE TO FIELD PERSONNEL (PG&E, INSPECTION OR CONTRACTOR) ON AN AS NEEDED BASIS. CONTACT THE ASSIGNED ENGINEER IDENTIFIED IN CONTACTS TO OBTAIN COPIES OF ANY REFERENCE DRAWINGS.
16. RETIRED PIPE SHALL BE PURGED ACCORDING TO A-38. FIELD TO VERIFY IF LIQUIDS ARE PRESENT IN PIPE. IF LIQUIDS ARE PRESENT, RETIRED PIPE SHALL BE PIGGED.

GENERAL NOTES:

1. THIS DRAWING HAS BEEN CREATED BY REVIEW OF THE AS-BUILT DRAWINGS & RECORDS. ACCURACY IS DEPENDENT UPON THE SOURCE DOCUMENTS LISTED ON THE REFERENCE DRAWINGS.
2. "R" STATIONING ON THIS DRAWING DENOTES "REFERENCE" STATIONING AND IS A RESULT OF PG&E GIS SHAPEFILE OVERLAID UPON GOOGLE EARTH IMAGERY AND MIGHT NOT ACCURATELY DEPICT EXACT DISTANCES. FIELD VERIFY ALL DISTANCES.
3. DISTANCES TO ALL UTILITIES SHOWN ON DRAWING ARE APPROXIMATE BASED UPON REVIEW OF PG&E & OTHER UTILITY/AGENCY DRAWINGS & AS-BUILTS. CONTRACTOR TO CALL USA TO HAVE LOCATION OF THESE FACILITIES MARKED AND POTHOLE TO EXPOSE/VERIFY LOCATION.

CONTACT INFORMATION:

CONSTRUCTION MANAGER ---------- NORMAN SOARES (209) 495-7429
T&R SUPERVISOR ---------- DAVE DURHAM (925) 383-6468
CLEARANCE SUPERVISOR ---------- DAVE KURYLA (209) 603-4673
PROJECT COORDINATOR ---------- CURTIS GUERRA (510) 325-1940
LEAD ENGINEER ---------- IAN HOM (925) 408-9888
ENGINEER ---------- GARRETT WILKERSON (209) 201-9965
H-FORM ---------- ANDRE FILIATRAULT, GE (832) 457-1252
MATERIALS (PIPE) ---------- MICHAEL LACHINA (510) 468-1924
MATERIALS (FITTINGS) ---------- MICHAEL DE HART (209) 728-4603
MATERIALS CHAIN OF CUSTODY ---------- MICHAEL PAINTER (209) 275-7241
CORROSION ENGINEER ---------- JONATHAN RIGOTTI (530) 902-0147

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.	X	JR	5/20/13
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.			

CONTRACTOR

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

G.C. GAS

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

NOTIFIED U.S.A.
DATE _____
TICKET NUMBER _____
BY _____

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

DIRECT BURIAL COATING SELECTIONS
LISTED IN ORDER OF PREFERENCE

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

REFERENCE DRAWINGS:

3845071	-	OPERATING MAP, LATHROP-TRACY AREA, LINES 2, 162, 304, 401
087213	-	BANTA RD. REGULATOR STATION
TY HP 19	-	WO 4706 H, DISTRICT REGULATOR STATION, GRANT LINE RD. W/O BANTA RD.
0731G978830	-	GM 1090976, INSTALL DISTRICT REGULATOR STATION, GRANT LINE RD. W/O BANTA RD.
30847284	-	INSTALL 4" PL MAIN AND TRANSFER SERVICES
30847285	-	INSTALL 4" PL MAIN AND TRANSFER SERVICES
30337105	-	INSTALL DISTRICT REGULATOR STATION, GRANT LINE RD. & PARADISE RD.

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.

GTS
575 Lennon Ln. #250
Walnut Creek, CA (925) 478-8530
www.gtsinc.us
Project No. 13027

REGISTERED PROFESSIONAL ENGINEER
MARK A. CABRAL
No. M26602
Exp. 9-30-14
MECHANICAL
STATE OF CALIFORNIA

COPY

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

EXPENSE PSRS# 27622
CAPITAL PSRS# 30473

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0	5/21/13	ISSUED FOR CONSTRUCTION	41748975	CXL	GW	IGH	DF MAC

REVISIONS

APPROVED BY	GM 41748975
IGH	SUPV
	DSGN
	DWN FJC
	CHKD GW
	OK IGH IGH
	DATE 5-21-13
MAC	SCALES AS SHOWN

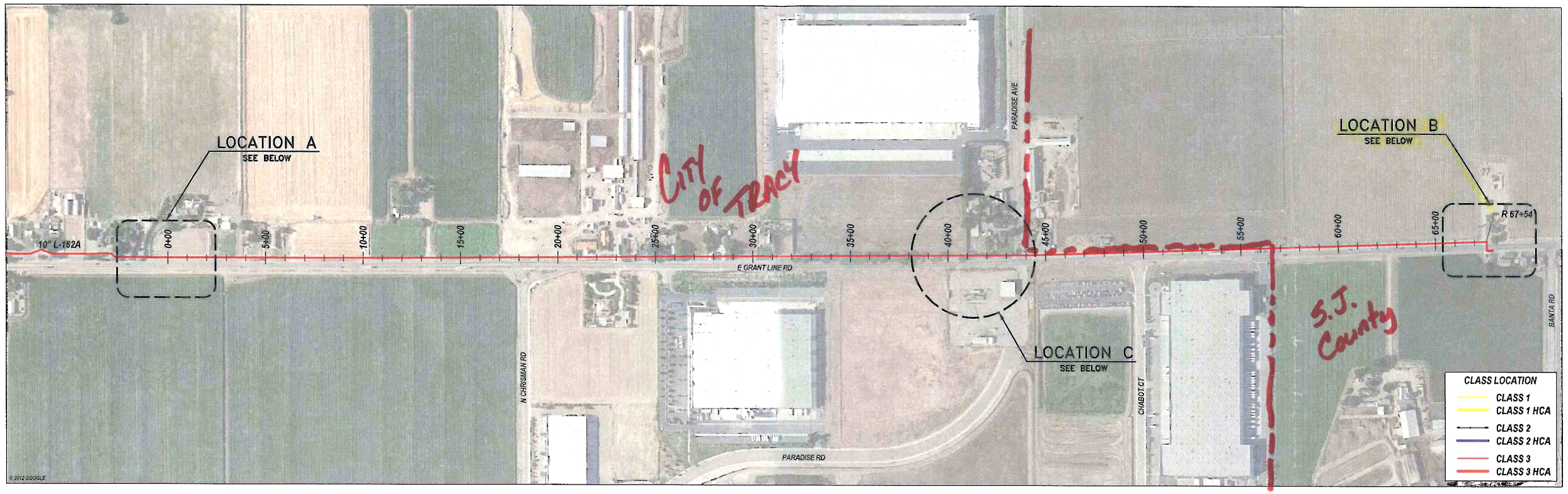
HYDROTEST T-240-13
L-162A
MP 7.77 - 9.03
TRACY, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

BILL OF MATL SHEET 05
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. 01 OF 05 SHEETS

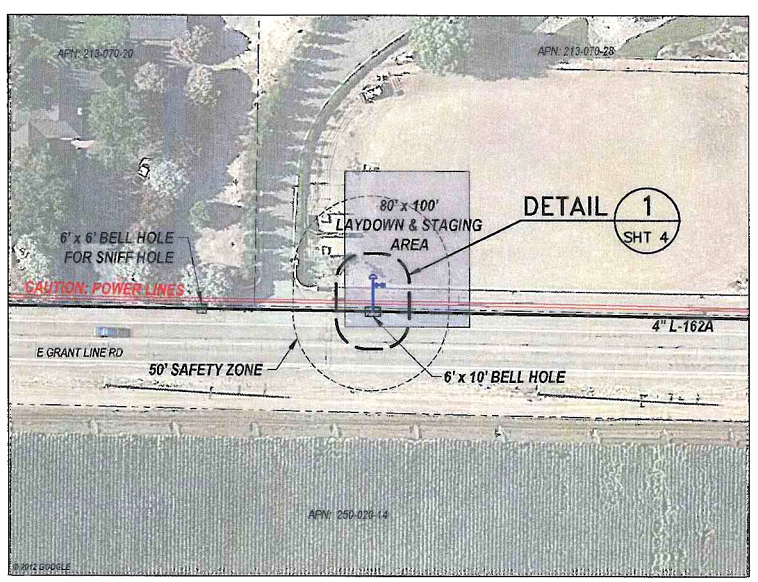
41748975 | 0

PLAN VIEW
(SCALE: 1" = 300')

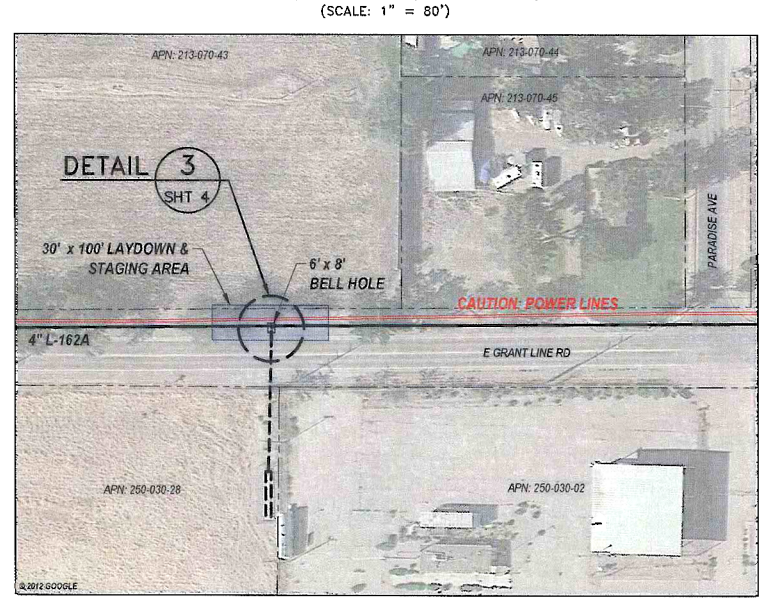


ESTIMATED VOLUME OF WATER
LOCATION A TO B TEST: 4,900 GALLONS.

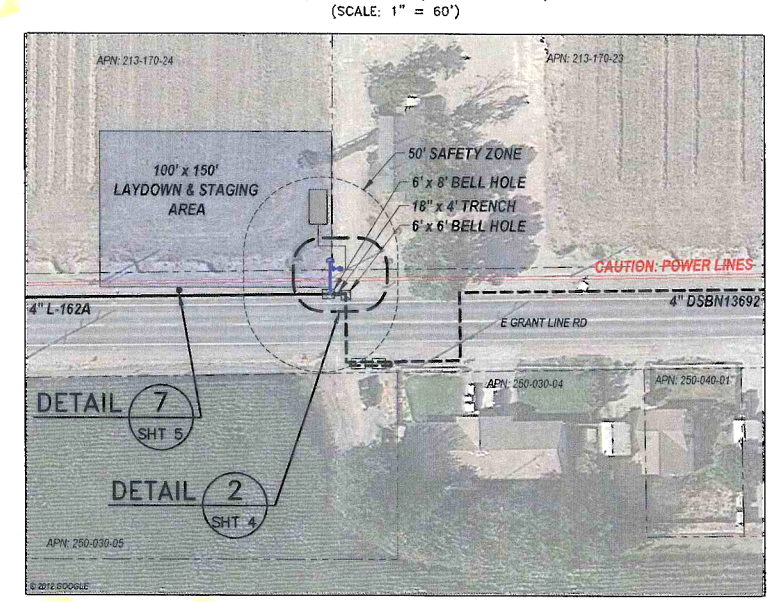
LOCATION A
1363 E GRANT LINE RD
WALL MAP – 3114; PLAT – G2; BLOCK – 1; MP – 7.77
(SCALE: 1" = 60')



LOCATION C
GRANT LINE & PARADISE REGULATOR STATION
WALL MAP – 3114; PLAT – G4; BLOCK – 4; MP – 8.51
(SCALE: 1" = 80')



LOCATION B
BANTA RD REGULATOR STATION
WALL MAP – 3114; PLAT – G5; BLOCK – 2; MP – 9.03
(SCALE: 1" = 60')



COPY

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REVISIONS

APPROVED BY	GM 41748975
IGH	SUPV
	DSGN
	DWN FJC
	CHKD GW
	OK IGH IGH
	DATE 5-21-13
MAC	SCALES AS SHOWN

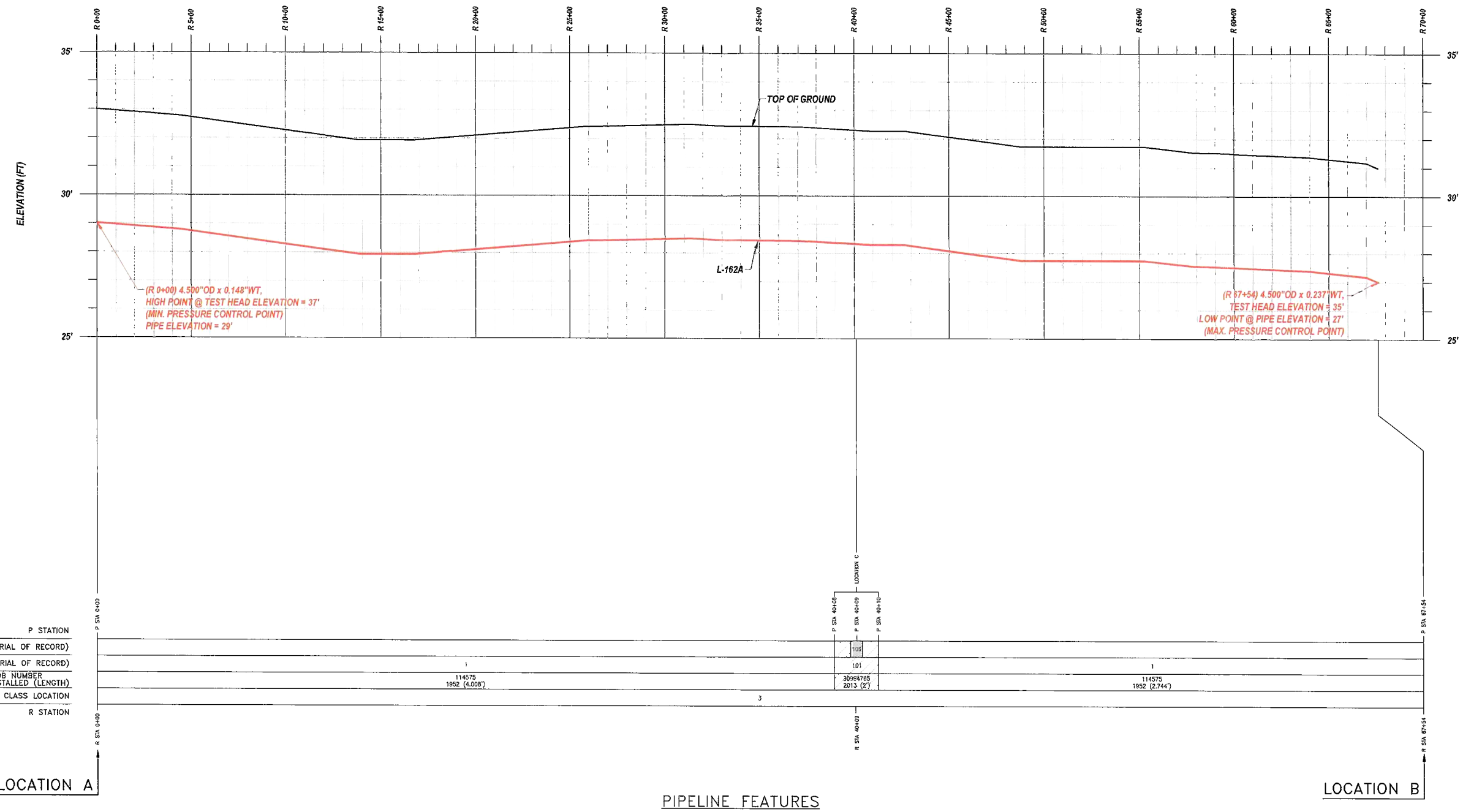
HYDROTEST T-240-13
L-162A
MP 7.77 – 9.03
TRACY, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

BILL OF MATL SHEET 05
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. 02 OF 05 SHEETS
41748975 0

PROFILE VIEW

(HORIZONTAL SCALE: 1" = 300')
(VERTICAL SCALE: 1" = 2')



TO BE INSTALLED PRIOR TO HYDROTEST

PIPELINE FEATURES

SEE MATERIAL OF RECORD ON SHEET 5 OF 5
(NOT TO SCALE)

LOCATION	R STA.	ELEV.	SPIKE PRESSURE	MIN. PRESS	MAX. PRESS
MIN. PRESSURE CONTROL POINT	0+00	37'	1188 psig	1080 psig	
MAX. PRESSURE CONTROL POINT	67+54	27'	1193 psig		1133 psig
LOCATION A	0+00	37'	1188 psig	1080 psig	1128 psig
LOCATION B (TEST LOCATION)	**67+54**	**35'**	**1189 psig**	**1081 psig**	**1129 psig**

NOTE: ELEVATIONS AT TEST LOCATIONS ASSUME TOP OF HYDROTEST PIPING IS 4' ABOVE GROUND ELEVATION

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

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REVISIONS

APPROVED BY	
IGH	GM 41748975
	SUPV
	DSGN
	DWN FJC
	CHKD GW
	OK IGH / IGH
	DATE 5-21-13
MAC	SCALES AS SHOWN

HYDROTEST T-240-13
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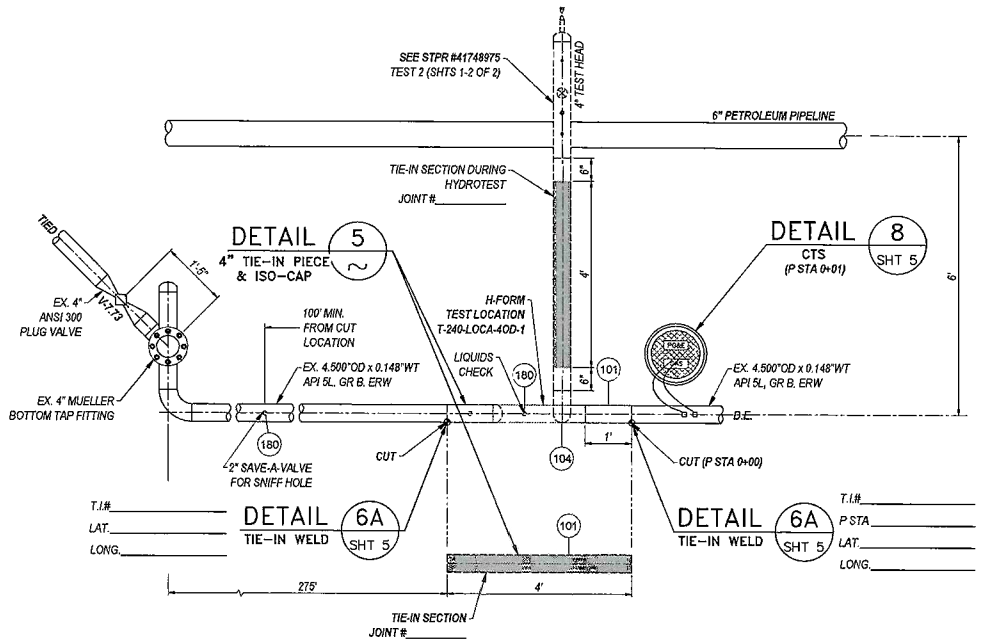
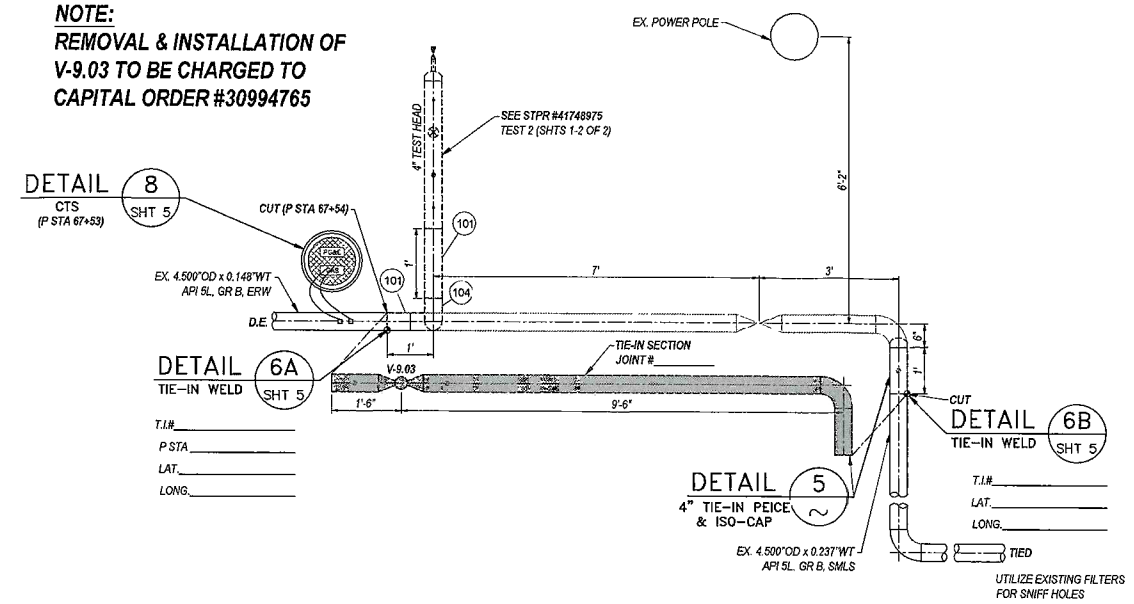
BILL OF MATL SHEET 05	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO. 03 OF 05 SHEETS	
41748975	0



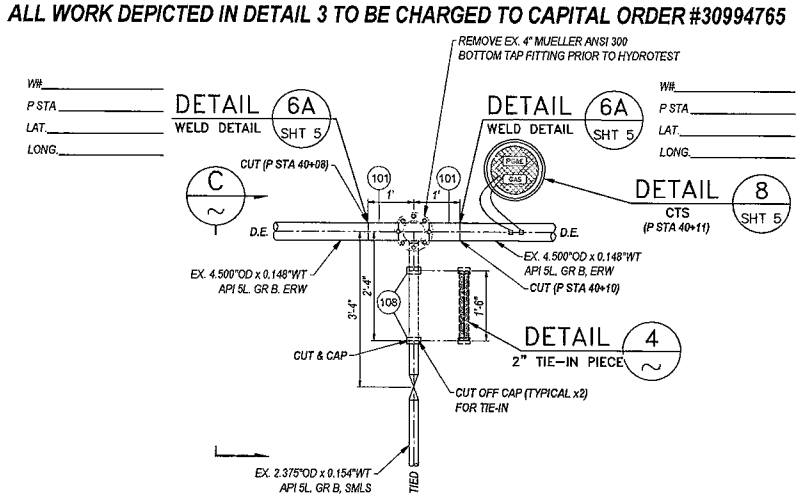
DETAIL 1 SHT 2 — HYDROTEST CONFIGURATION
SCALE: 1/2" = 1'
LOC A: 1363 E GRANT LINE RD

NOTE:
REMOVAL & INSTALLATION OF V-9.03 TO BE CHARGED TO CAPITAL ORDER #30994765

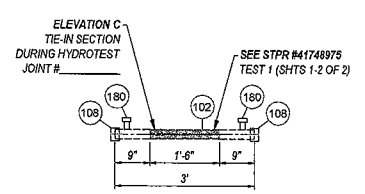


DETAIL 2 SHT 2 — HYDROTEST CONFIGURATION
SCALE: 1/2" = 1'
LOC B: BANTA RD REGULATOR STATION

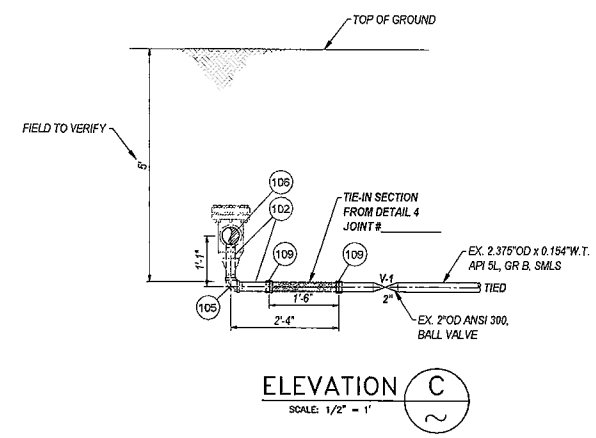
NOTE:
ALL WORK DEPICTED IN DETAIL 3 TO BE CHARGED TO CAPITAL ORDER #30994765



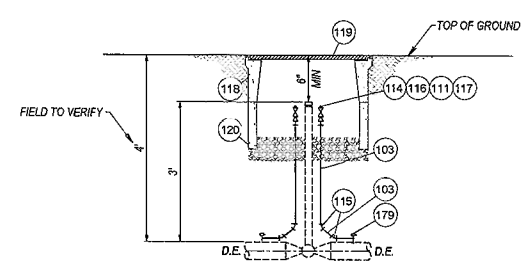
DETAIL 3 SHT 2 — REMOVE 4" PCF & ISOLATE DREG 8441
SCALE: 1/2" = 1'
LOC C: E GRAND LINE RD & PARADISE REG STATION



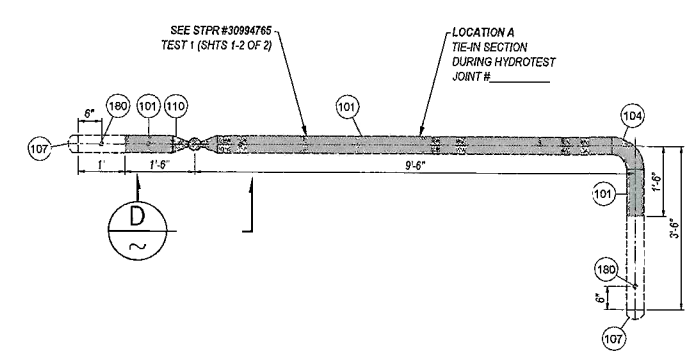
DETAIL 4 SHT 2 — 2" TIE-IN PIECE
SCALE: 1/2" = 1'
HYDROTEST CONFIGURATION



ELEVATION C SHT 2
SCALE: 1/2" = 1'



ELEVATION D SHT 2
SCALE: 1/2" = 1'



DETAIL 5 SHT 2 — 4" TIE-IN PIECES & ISO-CAPS
SCALE: 3/8" = 1'
HYDROTEST CONFIGURATION

JOB NO. 40748975/30994765
BOM # 101
DESIGN CRITERIA
LOCATION CLASS 3
DESIGN FACTOR 0.5
FDP 720 PSIG 19.53 % SMYS
MAOP 720 PSIG 19.53 % SMYS
STRENGTH TEST PRESSURE
MAX. 1200 PSIG 32.55 % SMYS
MIN. 1080 PSIG 29.29 % SMYS
3318 PSIG=90% SMYS
TEST MEDIUM WATER
PIPE SPEC API 5L, GR B, SMLS
O.D. 4.500"
W.T. 0.237"
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.)

JOB NO. 40748975/30994765
BOM # 102
DESIGN CRITERIA
LOCATION CLASS 3
DESIGN FACTOR 0.5
FDP 720 PSIG 15.86 % SMYS
MAOP 720 PSIG 15.86 % SMYS
STRENGTH TEST PRESSURE
MAX. 1200 PSIG 26.44 % SMYS
MIN. 1080 PSIG 23.79 % SMYS
4085 PSIG=90% SMYS
TEST MEDIUM WATER
PIPE SPEC API 5L, GR B, SMLS
O.D. 2.375"
W.T. 0.154"
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.)

JOB NO. 30994765
BOM # 103
DESIGN CRITERIA
LOCATION CLASS 3
DESIGN FACTOR 0.5
FDP 720 PSIG 7.01 % SMYS
MAOP 720 PSIG 7.01 % SMYS
STRENGTH TEST PRESSURE
MAX. 1200 PSIG 11.69 % SMYS
MIN. 1080 PSIG 10.52 % 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 DAILY WORK)
☐ 100%
*VISUALLY INSPECT 100% OF ALL WELDS THAT ARE NOT RADIOGRAPHICALLY INSPECTED. (THIS REQUIREMENT APPLIES EVEN IF NO RADIOGRAPHIC INSPECTION IS REQUIRED.)

GM 30337105 (2004)

EXIST PIPE SPECS
HEADER SIZE: 2.375"
PIPE SPECS: API 5L, GR B, SMLS
WALL THICKNESS: 0.154"
PRESENT MAOP: 365
% SMYS @ MAOP: 8.04
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) (365 PSIG) WHEN WELDING ON BODY OF THE PIPE, UNLESS. B) (365 PSIG) WHEN WELDING WITHIN 3" OF THE LONGITUDINAL SEAM (EXCEPT SEAM PIPE), THE CIRCUMFERENTIAL SEAM OF ANY BRANCH WELD, OR WITHIN 4" OF ANY DEFECT (SEIGER, 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.

GM 10909760 (1996)

EXIST PIPE SPECS
HEADER SIZE: 4.500"
PIPE SPECS: API 5L, GR B, SMLS
WALL THICKNESS: 0.237"
PRESENT MAOP: 365
% SMYS @ MAOP: 9.90
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) (365 PSIG) WHEN WELDING ON BODY OF THE PIPE, UNLESS. B) (365 PSIG) WHEN WELDING WITHIN 3" OF THE LONGITUDINAL SEAM (EXCEPT SEAM PIPE), THE CIRCUMFERENTIAL SEAM OF ANY BRANCH WELD, OR WITHIN 4" OF ANY DEFECT (SEIGER, 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.

GM 114574 (1952)

EXIST PIPE SPECS
HEADER SIZE: 4.500"
PIPE SPECS: API 5L, GR B, ERW
WALL THICKNESS: 0.148"
PRESENT MAOP: 365
% SMYS @ MAOP: 13.85
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) (365 PSIG) WHEN WELDING ON BODY OF THE PIPE, UNLESS. B) (365 PSIG) WHEN WELDING WITHIN 3" OF THE LONGITUDINAL SEAM (EXCEPT SEAM PIPE), THE CIRCUMFERENTIAL SEAM OF ANY BRANCH WELD, OR WITHIN 4" OF ANY DEFECT (SEIGER, 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.

VALVE DATA STAMP
BOM# 110 VALVE SIZE 4"
TECH ID (VALVE #) V-9.03
VALVE TYPE ANSI 300 BALL VALVE
MANUFACTURER
MODEL/FIGURE #
SERIAL #

COMMISSIONING
VALVE TO BE COMMISSIONED BY GAS T&R OR DISTRICT PERSONEL DURING 100 PSIG SOAP TEST AND PRIOR TO PLACING VALVE IN SERVICE
COMMISSIONED BY
DATE
NUMBER OF TURNS OF HANDWHEEL (IF APPROPRIATE)

SAFETY
SAFETY PLEDGE
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COPY

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0	5/21/13	ISSUED FOR CONSTRUCTION	41748975	CXL	GW	IGH	DF	MAC

REVISIONS

APPROVED BY: IGH
MAC
GM 41748975
SUPV
DSGN
DWN FJC
CHKD GW
OK IGH IGH
DATE 5-21-13
SCALES AS SHOWN

HYDROTEST T-240-13
L-162A
MP 7.77 – 9.03
TRACY, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

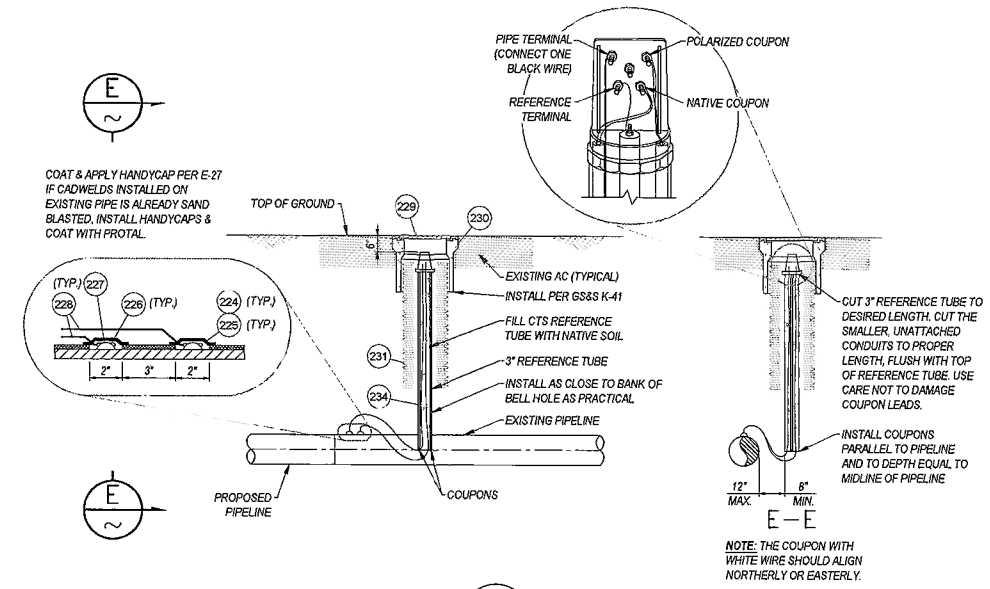
BILL OF MATL SHEET 05
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. 04 OF 05 SHEETS
41748975 0

MATERIAL OF RECORD

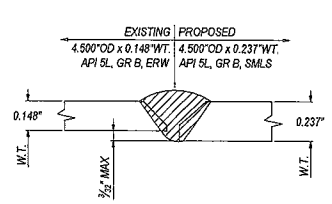
Item Number	Description	Units	Quantity
1	Pipe 4.500" OD x 0.148" WT, API 5L, GR B, ERW	Ft.	6752

BILLS OF MATERIAL

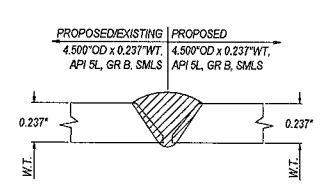
Item Number	Description	PG&E Material Code	Units	Quantity	Catalog or Drawing Reference	Heat Number (As-Built for pipe & HY fittings)	Serial Number (As-Built for pipe & HY fittings)
EXPENSE ITEMS ORDER #41748975							
101	Pipe, 4.500" OD x 0.237" WT, API 5L, GR B, SMLS, Bare	M011693	Ft.	26	GS&S A-15		
104	Elbow, 4.500" OD x 0.237" WT, GR B, 90°	M022039	Ea.	4	GS&S B-20		
180	Save-A-Valve Nipple, 1"	M022287	Ea.	2	GS&S C-14		
224	Royston 4" x 4" Handy Cap, 24 Carton	M562324	Ea.	6	GS&S E-27		
225	Liquid Adhesive, Royston Roybond 747, 16 oz Spray Can, 12 Per Carton	M130850	Ea.	6	GS&S E-27		
226	Sleeve, Copper, Thermoweld A200 or Equivalent	M303755	Ea.	6	GS&S O-10		
227	Cartridges, Cadweld CA-15, or Thermoweld 15P, 15-Gram, 20 Per Box	M159260	Ea.	6	GS&S O-10		
228	Wire, 500' Coil, #10, HMWPE With 47 Mil Thickness, Solid Copper, Black Insulation	M294991	Ft.	500	GS&S O-10		
229	Cover, Valve, Cast Iron Christy # C-275, Full Traffic, 11-1/8" DIA	M043225	Ea.	3	GS&S K-41		
230	Body, Concrete Valve Frame, Christy # G5	M043271	Ea.	3	GS&S K-41		
231	Valve Box Extension, 8' Corrugated Plastic, ADS #851 or Equivalent	M016063	Ft.	24	GS&S K-41		
234	Coupon Test Station	M560691	Ea.	3	GS&S O-10.2		
CAPITAL ITEMS ORDER #30994765							
101	Pipe, 4.500" OD x 0.237" WT, API 5L, GR B, SMLS, Bare	M011693	Ft.	16	GS&S A-15		
102	Pipe, 2.375" OD x 0.154" WT, API 5L, GR B, SMLS, Bare	M011578	Ft.	7	GS&S A-15		
103	Pipe, 1.050" OD x 0.154" WT, API 5L, GR B, SMLS, Bare	M011951	Ft.	20	GS&S A-15		
104	Elbow, 4.500" OD x 0.237" WT, GR B, 90°	M022039	Ea.	1	GS&S B-20		
105	Elbow, 2.375", Socket Weld, 3000#, 90°	M022560	Ea.	1	GS&S B-21		
106	Tee, Reducing, 4.500" x 2.375" OD, 0.237" x 0.154" WT, GR B	M022138	Ea.	1	GS&S B-20		
107	Cap, 4.500" OD x 0.237" WT, GR B	M022079	Ea.	2	GS&S B-20		
108	Cap, 2.375", Socket Weld, 3000#	M022224	Ea.	4			
109	Coupling, 2.375", Socket Weld, 3000#	M022556	Ea.	2	GS&S B-21		
110	Valve, Ball, 4.500" OD, ANSI 300, WE, Beveled to Match 0.237" WT, GR B, For Buried Service, per GS&S F-21.1, Fig. 4, A=3'	M032033	Ea.	1	GS&S F-21.1		
111	Valve, 1/2", Ball, 2000# MWP, Threaded, KF, Contramatics	M034408	Ea.	2	GS&S F-20		
114	Coupling, 3/4", Socket Weld, 3000#	M022553	Ea.	2	GS&S B-21		
115	Elbow, 3/4", Socket Weld, 3000#, 45°	M022587	Ea.	4	GS&S B-21		
116	Nipple, Swage, 3/4" x 1/2", EH, 6000#	M021936	Ea.	2	GS&S B-13.3		
117	Plug, 1/2" Forged Steel, Hex Head, Threaded	M021249	Ea.	2	GS&S B-10.1		
118	Valve Box, Concrete, 24" x 36"	M043100	Ea.	1	GS&S K-42		
119	Valve Box Cover, Steel, 1/4" Thick, Slip Resistant	M043664	Ea.	1	GS&S K-42		
120	Valve Box Extension, 10"	M043170	Ea.	1	GS&S K-42		
179	Valve Tee, 1", Mueller H-17656, 1440#	M022445	Ea.	2	GS&S C-11		
180	Save-A-Valve Nipple, 1"	M022287	Ea.	4	GS&S C-14		



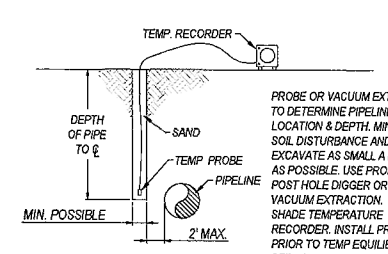
DETAIL 8 (SHT 4) COUPON TEST STATION
NOT TO SCALE — GS&S O-10.2 & K-41



DETAIL 6A (SHT 4) WELD DETAIL
NOT TO SCALE — GS&S D-22, FIG. 2

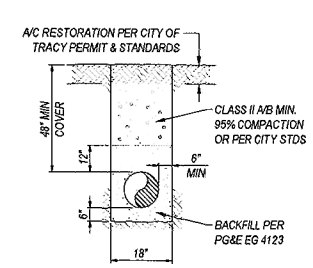


DETAIL 6B (SHT 4) WELD DETAIL
NOT TO SCALE — GS&S D-22, FIG. 2

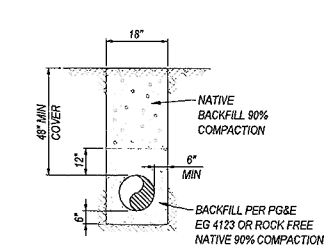


PROBE OR VACUUM EXTRACT TO DETERMINE PIPELINE LOCATION & DEPTH. MINIMIZE SOIL DISTURBANCE AND EXCAVATE AS SMALL A HOLE AS POSSIBLE. USE PROBE BAR, POST HOLE DIGGER OR VACUUM EXTRACTION. SHADE TEMPERATURE RECORDER. INSTALL PROBE PRIOR TO TEMP EQUILIBRIUM PERIOD.

DETAIL 7 (SHT 2) TEMPERATURE PROBE
NOT TO SCALE — MIN. 100' FROM TEST STATION



DETAIL — TYPICAL TRENCH
NOT TO SCALE — PAVED AREAS



DETAIL — TYPICAL TRENCH
NOT TO SCALE — NON-PAVED AREA

COPY

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

GTS
575 Lennon Ln. #250
Walnut Creek, CA (925) 478-8530
www.gtsinc.us
Project No. 13027

REGISTERED PROFESSIONAL ENGINEER — MARK A. CABRAL — No. M26602 — Exp. 9-30-14 — MECHANICAL — STATE OF CALIFORNIA

UNDERGROUND SERVICE ALERT — USA — CALL 811 BEFORE YOU DIG

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD	BY
0	5/21/13	ISSUED FOR CONSTRUCTION	41748975	CXL	GW	ICH	DF	MAC

REVISIONS

APPROVED BY	GM 41748975
ICH	SUPV
	DSGN
	DWN FJC
	CHKD GW
	OK IGH / IGH
	DATE 5-21-13
MAC	SCALES AS SHOWN

HYDROTEST T-240-13
L-162A
MP 7.77 - 9.03
TRACY, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

BILL OF MAT'L SHEET 05
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. 05 OF 05 SHEETS

41748975 | 0