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-1803763**
Date Issued: 10/29/2018
Start Date: 10/29/2018
Exp. Date: 01/01/2019
Project No: PWP730052
Quad: NW

UE/CR/PM NO:74015830

ENCROACHMENT PERMIT

To: PACIFIC GAS & ELECTRIC - STOCKTON
PO BOX 930
STOCKTON, CA 95201

Encroachment Type:

Trench			

Location:
NEW HOPE RD & NOWELL RD

In compliance with your request of **10/29/2018** , 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.

Permittee shall call the Department of Public Works, Field Engineering Division (Permit Inspections) at (209)953-7421 at least forty-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

FORMS:

SS/WW, R-29		

Est. Permit Fee: $1,006.00

KRIS BALAJI, Director
Department of Public Works

By: _____
Permit Section

WHITE	-Permittee
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 all laws 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, 3339, 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 located within the area of work herein permitted. Prior to the start of construction, survey monuments that potentially may be disturbed shall be located and referenced by a Licensed Land Surveyor, and a Corner Record filed with the County Surveyor. Any Survey Monuments disturbed during the course of construction shall be reestablished by a Licensed Land Surveyor and another Corner Record filed with the County Surveyor. (Land Surveyors' Act Section 8771)

14. Prior to any excavation, the Permittee shall notify USA North (Underground Service Alert of Northern California and Nevada) at 811 or 800-227-2600 forty-eight (48) hours in advance.

APPLICATION FOR ENCROACHMENT PERMIT

PLEASE PRINT:

Date 9/26/2018

To: San Joaquin County
Department of Public Works

PG&E PM 74015830
(Applicant Name)

4040 West Lane
(Mailing Address)

Stockton, CA 95204
(City, State, Zip Code)

(209) 470 - 2300
(Area Code - Telephone Number)

s6pz@pge.com
(Email Address)

OFFICE USE ONLY

JOB # 730052 REF #
APN CR #
EXP. DATE
VALID TO
STREET New Hope
AREA QUAD
TYPE
FORMS
NOTES

DRIVEWAYS:
*
*
*

Sketch (Detailed plans may be submitted)

Crew to call SJ County Inspector at (209) 953-7421 48 to 72 hours **before** work starts.
When calling, crew shall request "rain clearance" for any work during winter months
November through March

The undersigned hereby applies for permission to excavate, construct and/or otherwise encroach on County Highway Right-of-Way on New Hope Rd and Nowell Rd,
by performing the following work (description of work):

Approximately 1020' of trench for gas pipeline replacement, installation of two coupon test stations and traffic control on New Hope Rd and Nowell Rd - 6 day work week

Work will commence on or after 10/01/2018 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.

Sam Potts Permit Facilitator
Signature of Applicant - Title

9/26/2018
Date

Y:\FORMS & TEMPLATES\ENCROACHMENT PERMIT APPLICATION.doc (08/08)

SAN JOAQUIN COUNTY

Public Works
Working for YOU

Department of Public Works
Kris Balaji, Director of Public Works
Fritz Buchman, *Deputy Director/Development*
Michael Selling, *Deputy Director/Engineering*
Jim Stone, *Deputy Director/Operations*
Kristi Rhea, *Manager of Strategic Initiatives*

Acknowledgement of Monument Preservation

I, Timothy Kelly, a duly Licensed Land Surveyor or a Professional Engineer
(Please print)

authorized to perform Land Surveying in the State of California, Registration No. L-7089,

hereby acknowledge and accept all responsibility for the monument preservation as required per Section 8771(a-f) of the Business and Professions Code within the bounds of the construction activity permitted by San Joaquin County Permit No._____.

I further acknowledge that I am hereby responsible for the Acknowledgement of Monument Preservation prior to final acceptance of the construction activity.

Timothy Kelly
Signature

Seal

LICENSED LAND SURVEYOR
TIMOTHY KELLY
No. 7089
STATE OF CALIFORNIA

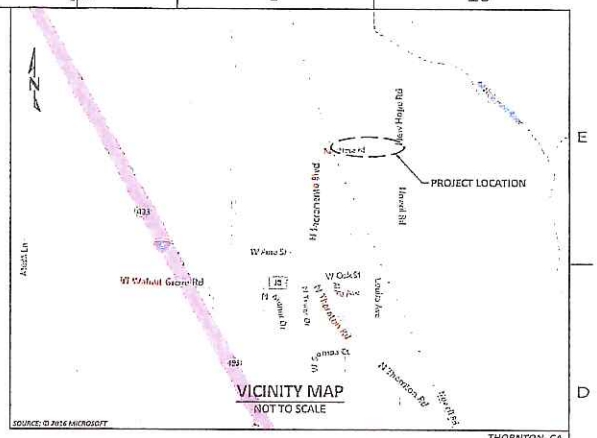
10/11/2018
Date

PS-MONUMENT PRESERVATION

BTU AREA #: P78
CP AREA #: CPA 06 S11
WALL MAP: 2806, 2807
PLAT: D1, D8
SAN JOAQUIN COUNTY

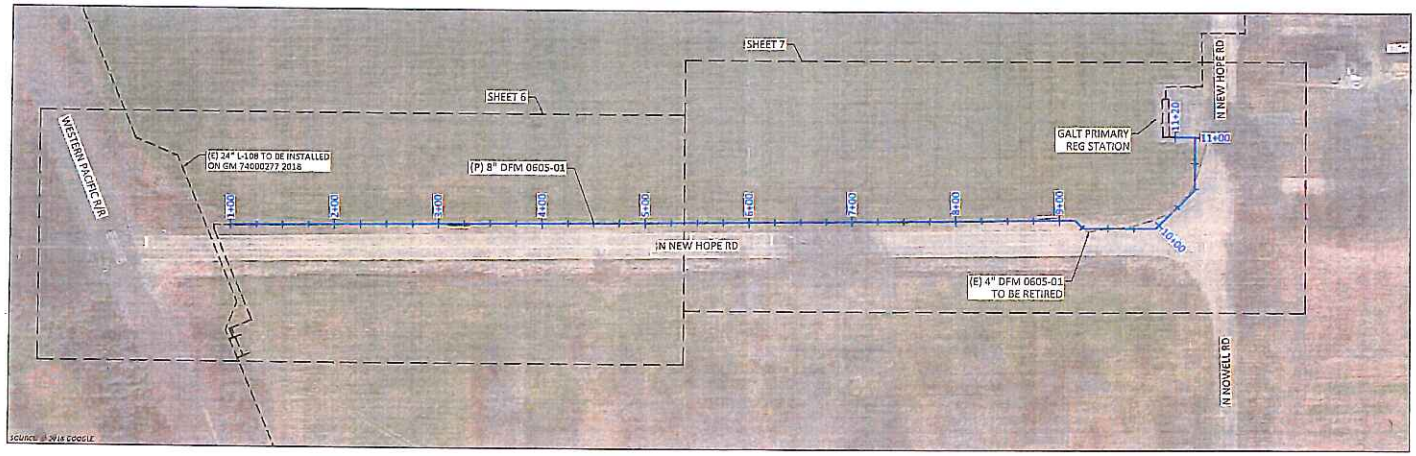
R-1113, DFM 0605-01, MP 0.00 - 0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

CAPITAL ORDER # 74015830



THORNTON, CA

PLAN VIEW
(SCALE: 1" = 60')



SCHEDULE OF SHEETS

SHEET 1	--	TITLE / PLAN VIEW
SHEET 2	--	CONSTRUCTION NOTES
SHEET 3	--	CONSTRUCTION STAMPS / LEGEND
SHEET 4	--	POTHOLE DATA
SHEET 5	--	POTHOLE DATA
SHEET 6	--	PLAN & PROFILE
SHEET 7	--	PLAN & PROFILE
SHEET 8	--	CONSTRUCTION DETAILS
SHEET 9	--	CONSTRUCTION DETAILS
SHEET 10	--	CONSTRUCTION DETAILS
SHEET 11	--	CONSTRUCTION DETAILS / WHEEL LOAD TABLE / BILL OF MATERIAL
SHEET 12	--	RETIREMENT PLAN

COPY

WARNING:
THIS DOCUMENT CONTAINS CONFIDENTIAL, PROPRIETARY INFORMATION THAT IS THE SOLE PROPERTY OF PACIFIC GAS AND ELECTRIC COMPANY AND IS INTENDED FOR USE ONLY BY AUTHORIZED PACIFIC GAS AND ELECTRIC COMPANY EMPLOYEES AND ITS AGENTS.
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811 Know what's below. Call before you dig.

ZERO IN ON SAFETY

NO.	DATE	DESCRIPTION	PM/SPEC	DWN	CHKD	SUPV	APVD BY
1	09/26/18	CHANGED "A" DIM FOR VALVE V-1	74015830	BS	PD	JQ	JQ
0	03/19/18	ISSUED FOR CONSTRUCTION	74015830	GW	PD	JQ	JQ

REVISIONS

APPROVED BY	
PS/AS	
SUPV J.QUIN	
DSGN P.DANIELS	
DWN G.WILKERSON	
CHKD P.DANIELS	
OK	
DATE 09/19/18	
SCALES AS SHOWN	

TITLE / PLAN VIEW
DFM 0605-01 MP 0.00-0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

SAFETY PASSPORT
ALWAYS PUT SAFETY FIRST. STOP & THINK AND ACT TO REDUCE UNSAFE SITUATIONS. HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

GTS
Gas Transmission Systems, Inc.
Project No. 13075

REGISTERED PROFESSIONAL ENGINEER
JOANNA L. QUIN
RCE 75608
Exp. 06-30-2020
CIVIL
STATE OF CALIFORNIA

BILL OF MATL	SHEET 9
DWG LIST	
TRACKING NUMBER	R-1113
SHEET NO. 1 OF 12 SHEETS	
74015830	1

SUMMARY OF PROPOSED WORK

REPLACE APPROXIMATELY 1031' OF EXISTING 4" DFM 0605-01 FROM MP 0.00 TO MP 0.21 WITH NEW 8" PIPELINE.

CAPITAL ORDER # 74015830
1. INSTALL 1002' OF 8.625" OD X 0.188" WT, API 5L, X-52, HFW PIPE.
2. INSTALL 5' OF 8.625" OD X 0.250" WT, API 5L, X-52, HFW PIPE.
3. INSTALL 10' OF 6.625" OD X 0.280" WT, API 5L, SMLS PIPE.
4. INSTALL 8'-5" OF 1.050" OD x 0.154" WT API 5L, GR B, SMLS
5. INSTALL ONE (1) 8" BALL VALVE, ANSI 600.
6. INSTALL ONE (1) 6" INSULATING JOINT, ANSI 600.
7. INSTALL TWO (2) CTS STATIONS.
8. REMOVE 1'-6" OF 8.625" OD X 0.322" WT, API 5L, GR B, SMLS PIPE, INSTALLED ON GM 74000277 (2018).
9. REMOVE 1'-6" OF 4.500" OD X 0.237" WT, API 5L, GR B, SMLS PIPE, INSTALLED ON 74000277 (2018).
10. REMOVE 950' OF 4.500" OD X 0.156" WT, 30,000 SMYS*, SMLS PIPE, INSTALLED ON GM 40759 (1930).
11. REMOVE 23' OF 4.500" OD X 0.237" WT, API 5L, GR B, SMLS PIPE, INSTALLED ON GM 30733635 (2011).
12. REMOVE 1' OF 6.625" OD X 0.280" WT, API 5L, GR B, SMLS PIPE, INSTALLED ON GM 30733635 (2011).
13. RETIRE 69' OF 4.500" OD X 0.156" WT, 30,000 SMYS*, SMLS PIPE, INSTALLED ON GM 40759 (1930).
14. RETIRE 12' OF 4.500" OD X 0.237" WT, API 5L, GR B, SMLS PIPE, INSTALLED ON GM 30733635 (2011).
15. RETIRE ONE (1) 4" GATE VALVE INSTALLED ON GM 30733635 (2011).
16. RETIRE ONE (1) PCF FITTING INSTALLED ON GM 30733635 (2011).
17. RETIRE ONE (1) BLOWDOWN INSTALLED ON GM 40759 (1930).

* ASSUMED VALUES PER PG&E TD-4125P-09, PROCEDURE FOR RESOLVING UNKNOWN PIPELINE FEATURES

SEQUENCE OF OPERATIONS

1. EXCAVATE AND SHORE.
2. ASSESS QUALITY OF EXISTING PIPE AT TIE-IN LOCATIONS.
3. FABRICATE, INSPECT, AND TEST NEW 8" PIPE AND NEW 8" VALVE.
4. ISOLATE, BLOWDOWN, AND REMOVE PIPE PER APPROVED CLEARANCE.
5. INSTALL NEW 8" PIPE AND NEW 8" VALVE.
6. SOAP TEST AT 100 PSI AND NORMAL OPERATING PRESSURE.
7. BACKFILL.
8. INSTALL PIPELINE MARKERS.
9. RESTORE SITE.

CONSTRUCTION NOTES:

GENERAL REQUIREMENTS:

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

2. UTILITY NOTES:
   A. DIMENSIONS SHOWN ON THESE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION FROM SEVERAL SOURCES, AND SHALL BE VERIFIED IN THE FIELD BY CONSTRUCTION PERSONNEL PRIOR TO FABRICATION.
   B. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES, PROPERTY LINES, AND OTHER SUBSTRUCTURES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE, UNLESS OTHERWISE NOTED. CONSTRUCTION PERSONNEL ARE RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AND OTHER SUBSTRUCTURES AS NECESSARY TO AVOID DAMAGE OR ENCROACHMENTS.
   C. PROSPECTING IS REQUIRED AHEAD OF WORK. ALL OFFSETS OR ROPING WILL NEED TO BE APPROVED BY THE PG&E PROJECT ENGINEER (PED), AND REDLINED DETAILS SHOWN ON PROFILE AND CONSTRUCTION DETAIL SHEETS OF EACH ADDITIONAL SUBSTRUCTURE.
   D. ALL EXCAVATIONS WITHIN EXISTING STATIONS SHALL BE HAND DUG OR EXCAVATED USING SOFT DIG METHODS (e.g. VACUUM EXCAVATIONS OR SIMILAR).

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 A-36, SECTION 4D. FIELD BENDS MAY BE USED IN LIEU OF ELBOWS WHEN PRE-APPROVED BY THE PG&E PROJECT ENGINEER (PED).
   B. IN ORDER TO AVOID EXCESSIVE STRAIN ON THE PIPELINE, THERE SHALL BE A MINIMUM SEPARATION OF 5 FEET 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 CONDITIONS.

4. SEPARATION FROM OTHER STRUCTURES:
   A. CROSSING UNDERGROUND FACILITIES: PG&E PIPELINE MUST BE INSTALLED WITH AT LEAST 24 INCHES OF CLEARANCE FROM ANY OTHER SUBSTRUCTURE/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, COUNTY, OR AGENCY 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. 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.

7. WELDING REQUIREMENTS:
   A. ALL ARC WELDING IS TO BE PERFORMED IN ACCORDANCE WITH THE GAS WELDING CONTROL MANUAL TD-4160M. 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 CORROSION CONTROL MANUAL O-10, O-10.1 AND O-10.2.

8. WELDING:
WHEN INTERNAL MISALIGNMENT EXCEEDS 0.094", BACKWELD ANY GIRTH WELD WHERE THERE IS ACCESS TO THE INSIDE OF THE WELD. WHERE THERE IS NO ACCESS TO THE INSIDE OF THE WELD, MACHINE BORING OR GRINDING IS REQUIRED. BACKWELDING, GRINDING, OR BORING MUST BE DONE IN ACCORDANCE WITH THE APPROPRIATE UTILITY PROCEDURE IN THE GAS WELDING CONTROL MANUAL TD-4160M.

9. STRENGTH TEST REQUIREMENTS:
   A. STRENGTH TESTING SHALL MEET PRESSURE AND DURATION REQUIREMENTS OF GAS STANDARD A-34 AND SHALL BE CONDUCTED IN ACCORDANCE WITH UTILITY PROCEDURE TD-41375.
   B. ALL WELDS THAT HAVE NOT BEEN STRENGTH TESTED AND ALL FITTINGS SHALL BE SOAP TESTED AT 100 PSI AND AT OPERATING PRESSURE BEFORE COATING CAN OCCUR.

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.

11. DOCUMENTATION OF INSPECTION OF EXISTING PIPELINE:
   A. WHENEVER EXISTING BURIED GAS FACILITIES ARE EXCAVATED DURING ENGINEERING OR DURING CONSTRUCTION, FOLLOW TD-5100P-01 TO DOCUMENT PIPE INSPECTION. THIS APPLIES TO EXISTING AND TO BE RETIRED FACILITIES.
   B. EXISTING GIRTH WELDS, AT TIE-IN LOCATIONS, SHALL BE IDENTIFIED AND REMOVED IF PRACTICAL.
   C. PRIOR TO TIE-IN, INSPECT COATING AND PIPE FOR DEFECTS. IF DEFECTS ARE FOUND, CONTACT PED FOR GUIDANCE.

12. TIE-IN AND CLEARANCE PROCEDURE TO BE PREPARED AND PERFORMED IN ACCORDANCE WITH THE FOLLOWING WORK PROCEDURES:
   A. TD-4100P-01, HOT AND COLD WORK METHODS FOR NATURAL GAS TRANSMISSION PIPELINE SHUTDOWN AND TIE-IN.
   B. TD-4441S, GAS CLEARANCE PROCEDURES FOR FACILITIES OPERATING OVER 60 PSIG.

13. COATING REMOVAL:
   A. PERFORM THE FOLLOWING STEPS, IN ACCORDANCE WITH TD-4711P-01, BEFORE REMOVING ASPHALTIC PIPE WRAP ON PIPELINES INSTALLED PRIOR TO 1972 (BASED ON PG&E ANALYSIS, PIPE INSTALLED IN 1972 OR LATER DOES NOT HAVE PIPE WRAP THAT CONTAINS ASBESTOS):
      1. REFER TO THE "EXISTING PIPE SPECS (PRE-1972)" STAMP TO DETERMINE IF A SAMPLE HAS BEEN COLLECTED OR IF A SAMPLE IS REQUIRED:
         a. "YES" REPRESENTS HISTORICAL RESULTS ARE AVAILABLE SHOWING THAT PIPE WRAP CONTAINS ASBESTOS. NO SAMPLE IS REQUIRED.
         b. "NO" REPRESENTS HISTORICAL RESULTS ARE AVAILABLE AND THE PIPE WRAP DOES NOT CONTAIN ASBESTOS (CONTENT WAS NON DETECT). NO SAMPLE IS REQUIRED.
         c. "UNKNOWN" REPRESENTS NO HISTORICAL RESULTS ARE AVAILABLE. A SAMPLE IS REQUIRED IF THE PIPE INSTALLATION DATE IS PRIOR TO 1972.
      2. WHEN A PIPE WRAP SAMPLE IS REQUIRED TO BE ANALYZED FOR ASBESTOS:
         a. COLLECT SAMPLE PER TD-4711P-01 AND COMPLETE CHAIN OF CUSTODY FORM TD-4711P-01-F01.
         b. FILE PINK COPY OF THE CHAIN OF CUSTODY FORM AND FINAL LABORATORY RESULTS WITH THE AS-BUILTS.
      3. WHEN REMOVING PIPE WRAP THAT CONTAINS ASBESTOS, OR FOR EMERGENCY WORK, FOLLOW TD-4711P-01 "PIPE WRAP REMOVAL, HANDLING AND DISPOSAL".

CATHODIC PROTECTION NOTES:

1. THE PERSON FILLING OUT THE A-FORM (TD-4110P-03-F01) IS RESPONSIBLE FOR BOTH THE INTERNAL CORROSION AND EXTERNAL CORROSION INSPECTION OF THE PIPELINE.
2. UPON COMPLETION OF BORINGS, CONTACT THE CORROSION SUPERVISOR FOR THE LOCAL AREA/DIVISION TO PERFORM CURRENT DRAIN TESTS ON THE PIPELINE SEGMENT THAT WAS INSTALLED IN THE BORE. THE CURRENT DRAIN TEST MUST BE PERFORMED PRIOR TO WELDING PIPE ON EITHER SIDE OF THE BORE.
3. FOR THE INSTALLATION OF THE OMNIMETRIX RECTIFIER REMOTE MONITOR, CONTACT THE CORROSION SUPERVISOR FOR THE LOCAL AREA/DIVISION.
4. 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 CABLE SHALL BE UTILIZED. CLAMPS TO REMAIN IN PLACE UNTIL PIPELINE IS TIED IN.

RETIREMENT PROCEDURE FOR EXISTING PIPE:

1. GT&D UTILITY WORK PROCEDURE TD 9500P-16, "DEACTIVATION AND/OR RETIREMENT OF UNDERGROUND GAS FACILITIES," SHALL BE FOLLOWED.
2. THE EXISTING PIPE SECTIONS SHALL HAVE FREE LIQUIDS REMOVED AND BE 100% PURGED PER GAS DESIGN STANDARD A-38, "PROCEDURES FOR PURGING GAS FACILITIES."
3. THE PIPE SHALL BE SECTIONALIZED AT INTERVALS AS SPECIFIED IN THE RETIREMENT PLAN. THE LOCATIONS CALLED OUT ARE APPROXIMATE AND ARE SUBJECT TO FIELD VERIFICATION TO IDENTIFY THE MOST OPTIMUM LOCATION IN THAT VICINITY. ACCURATE SURVEY DATA MAY NOT BE AVAILABLE FOR THESE LOCATIONS SO USE CAUTION DURING EXCAVATION AND WHEN IDENTIFYING THE PIPELINE TO BE RETIRED. OTHER ACTIVE PIPELINES MAY BE IN THE AREA.
4. AT EACH SUCH LOCATION NOTED ABOVE, A PIECE OF PIPE AT LEAST 24" LONG SHALL BE REMOVED. INSTALL A 2" HIGH PRESSURE SAVE-A-VALVE (H-17491, M022289) TO CHECK FOR PRODUCT AND PRESSURE PRIOR TO CUTTING INTO THE PIPELINE. THE OPEN ENDS OF THE RETIRED PIPE 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.

DESIGN CHANGE PROCEDURE:

MAINTENANCE AND CONSTRUCTION PERSONNEL MUST OBTAIN APPROVAL FROM THE PROJECT ENGINEER (PED) BEFORE MAKING ANY DESIGN CHANGE TO GAS FACILITIES PER TD-4014P-01.

JOB SPECIFIC NOTES:

1. "H" STATIONING ON THIS DRAWING DENOTES "HORIZONTAL" STATIONING.
2. DISTANCES TO ALL UTILITIES SHOWN ON DRAWING ARE APPROXIMATE BASED UPON REVIEW OF PG&E AND OTHER UTILITY/AGENCY DRAWINGS & AS-BUILTS. CONTRACTOR TO CALL USA TO HAVE LOCATION OF THESE FACILITIES MARKED AND POTHOLED TO EXPOSE/VERIFY LOCATION.
3. COPIES OF REFERENCE DRAWINGS ARE AVAILABLE TO FIELD PERSONNEL (PG&E, INSPECTION OR CONTRACTOR) ON AN AS NEEDED BASIS. CONTACT THE PROJECT ENGINEER (PED) IDENTIFIED IN CONTACTS TO OBTAIN COPIES OF ANY REFERENCE DRAWINGS.
4. ALL BELL HOLES SHALL BE EXCAVATED TO THE FOLLOWING MINIMUM DIMENSIONS: BELL HOLE SHALL EXTEND MINIMUM 4' LONGITUDINALLY BEYOND WELD/CUT LINES ON EITHER SIDE; BELL HOLE 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 FROM THESE DIMENSIONS MUST BE APPROVED BY PG&E CONSTRUCTION MANAGER.

CONTACT INFORMATION

CONSTRUCTION MANAGER	---	PAUL NELSON	(209) 300-4837
GPOM SUPPORT	---	RICK MUOK	(209) 406-7926
PROJECT MANAGER	---	CHRISTINE MIER	(925) 558-5786
PROJECT ENGINEER (PED)	---	VILNEY OCHOA	(925) 448-7265
PIPELINE ENGINEER (PLE)	---	MIKE ARONOFF	(916) 307-9472
CONTRACT ENGINEER	---	PETE DANIELS	(530) 514-5483
ESTIMATOR / DESIGNER	---	TONY LA RUSSA	(925) 328-5581
MATERIALS (PIPE)	---	MICHAEL LACHINA	(510) 468-1924
MATERIALS (FITTINGS)	---	ROMI CEREGHINO	(510) 299-8648
MATERIALS (CHAIN OF CUSTODY)	---	RIGO ORTIZ	(209) 857-0097
CORROSION SUPERVISOR	---	MIKE LUMM	(209) 534-3182
CORROSION ENGINEER	---	GEORGE LEON	(916) 402-3623
TRANSMISSION PLANNER	---	JEN CELLUCCI	(916) 472-2190
DISTRIBUTION PLANNER	---	DAVE RYMERS	(209) 406-7782

REFERENCE DRAWINGS:

OPERATING MAP
385160 --- WATERLOO RD & "D" ST REG STA (STKN) TO THORNTON REG STA LINE 108 (REV 80)

OPERATING DIAGRAM
0800438 --- GALT PRIMARY REGULATOR STATION (REV 6)

AS-BUILTS
2787G5_DPLAT_201208260321 --- GAS DISTRIBUTION MAP 2787G7 DATE PRINTED 06/21/2011

30733635 --- GALT PRIMARY DIST REG B-22 REBUILD STATION, SHT 1-7

74000277 --- R-515 L-108 MP 45.93 - 49.21 REPLACEMENT OF 16-INCH THORNTON, SAND JOAQUIN COUNTY, CA

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ZERO IN ON SAFETY

NO.	DATE	DESCRIPTION	PM/SPEC	DWN	CHKD	SUPV	APV'D BY
1	03/26/19	CHANGED "A" DIM FOR VALVE V-1	74015830	BS	PD	JQ	JQ
0	09/19/18	ISSUED FOR CONSTRUCTION	74015830	GW	PD	JQ	JQ

REVISIONS

APPROVED BY	
PSRS	
SUPV	J.QUIN
DSGN	P.DANIELS
DWN	G.WILKERSON
CHKD	P.DANIELS
OK	
DATE	09/19/18
SCALES	AS SHOWN

COPY

GTS Gas Transmission Systems, Inc.

RCE 75608 Exp. 06-30-2020

CONSTRUCTION NOTES
DFM 0605-01 MP 0.00-0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

BILL OF MAT'L SHEET 9
DWG LIST
TRACKING NUMBER R-1113
SHEET NO. 2 OF 12 SHEETS
74015830 1

DIRECT BURIAL COATING SELECTIONS
LISTED IN ORDER OF PREFERENCE

MAIN LINE COATING	FBE (E-35.4)
MINOR REPAIRS	LIQUID EPOXY (E-35.3) OR FBE PATCH STICK (E-35.4)
TIE-IN WELDS	LIQUID EPOXY (E-35.1)
GIRTH WELDS	LIQUID EPOXY (E-35.1)
BUTT WELDED FITTINGS	LIQUID EPOXY (E-35.1)
VALVE ASSEMBLIES	LIQUID EPOXY (E-35.7), WAX TAPE (E-35.7)
SHORT SEGMENTS OF PIPE	LIQUID EPOXY (E-35.1)
AIR-TO-SOIL TRANSITIONS	LIQUID EPOXY/PSX 700 (E-35.8)
PRESSURE CONTROL FITTINGS	LIQUID EPOXY (E-35.7), WAX TAPE (E-35.7)
TIE-INS/COATING TRANSITIONS	LIQUID EPOXY (E-35.3)

BORED COATING SELECTIONS
LISTED IN ORDER OF PREFERENCE

MAIN LINE COATING	ARO APPLIED OVER FBE
MINOR REPAIRS	LIQUID EPOXIES (E-35.2)
TIE-IN WELDS	LIQUID EPOXIES (E-35.2)

NOTES:
1) CONTACT THE PIPELINE ENGINEER (PLE) TO REQUEST A VARIANCE FROM THE ABOVE COATING SELECTIONS.
2) THE REFERENCED E-35 SERIES DOCUMENTS CONTAIN THE APPROVED PRODUCTS FOR EACH APPLICATION.
3) ALL COATINGS ARE TO BE APPLIED IN ACCORDANCE WITH GDS E-35 AND THE E-35 SERIES DOCUMENTS REFERENCED.
4) FOR ALL ABOVE GROUND PIPE COATINGS, SEE GDS E-30.

INTERNAL CORROSION (IC)
DESIGN & CONSTRUCTION REVIEW

IC THREAT (PER RMP-16)	YES	NO
	X	
IC REVIEW COMPLETED BY (CORROSION ENGINEER OR DESIGNATE)	LAN ID	DATE
CORROSION ENGINEERING HAS REVIEWED THIS DESIGN AND INCORPORATED ANY NECESSARY IC DESIGN AND CONSTRUCTION CONSIDERATIONS. DOCUMENTATION OF THE REVIEW AND ACTIONS TAKEN ARE IN THE JOB PACKAGE AND INCORPORATED IN THIS DESIGN.	GXLA	7/12/18
EDRS ROUTING NUMBER:	2018-54094	

INSTALLATION TESTED OR INSPECTED AND NOTED ON DRAWING.
ALL CORROSION LEVELS SATISFACTORY PER PG&E GAS UTILITY STANDARD TD-4181S.

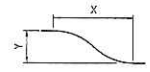
QUALIFIED EMPLOYEE DATE

CORROSION MECHANIC'S SIGNATURE IS REQUIRED WHEN A CPA BOUNDARY IS WITHIN THE SCOPE OF THE PROJECT.

ROPING TABLE

MINIMUM DISTANCE REQUIRED TO ROPE AN OFFSET OF 8.625-INCH X 0.188-INCH WT API-5L, X-52, HFW PIPE

MINIMUM ROPING RADIUS = 950 FEET



Y	X	Y	X
1.0	62	3.0	107
1.5	75	3.5	115
2.0	87	4.5	131
2.5	97	5.0	138

LEGEND:

- PROPOSED GAS LINE
- EXISTING GAS LINE
- RETIRE GAS LINE
- GAS TRANSMISSION LINE
- GAS DISTRIBUTION LINE
- GAS SERVICE LINE
- OE — O/H ELECTRIC LINE
- E — U/G ELECTRIC LINE
- OCOM — O/H COMM LINE
- COM — U/G COMM LINE
- FO — U/G FIBER OPTIC LINE
- SD — STORM DRAIN LINE
- SS — SEWER LINE
- W — WATER LINE
- FOREIGN UTILITY
- EASEMENT
- R/W LINE
- PROPERTY BOUNDARY
- EDGE OF ROAD
- FOG LINE
- ROAD CENTERLINE
- x — FENCE
- GAS LINE MARKER (ALL)
- GAS LINE MARKER (PADDLE DUAL)
- GAS LINE MARKER (PADDLE SINGLE)
- GAS LINE MARKER (POST)
- GAS LINE INDICATOR (DISC)
- CATS — COMPUTER AUTOMATED TEST STATION
- ACCTS — AC COUPON TEST STATION
- CTS — COUPON TEST STATION
- ETS — ELECTROLYSIS TEST STATION
- GAS METER
- GAS VAULT
- PG&E GAS MANHOLE
- STREET LIGHT BOX
- PG&E — PG&E ELECTRIC MANHOLE
- ELECTRIC BOX
- ELECTRIC VAULT
- JOINT POLE
- ELECTRIC TOWER
- CABLE TV BOX
- TELECOMM BOX
- TELECOMM VAULT
- TELECOMM MANHOLE
- STORM DRAIN INLET
- STORM DRAIN INLET GRATE
- STORM DRAIN MANHOLE
- SEWER MANHOLE
- SEWER CLEANOUT
- WATER VALVE
- WATER METER
- WATER VAULT
- FIRE HYDRANT
- FOREIGN VALVE
- LIGHT POLE
- STREET LIGHT
- STREET LAMP
- TRAFFIC SIGNAL
- FOREIGN MANHOLE
- ACCESS ROAD
- LAYDOWN / STAGING / CONSTRUCTION IMPACT AREA
- EXCAVATION / BELL HOLE
- SAFETY ZONE LIMITS
- ENVIRONMENTALLY SENSITIVE AREAS

DETAIL LEGEND:

- PROPOSED GAS TRANSMISSION LINE
- EXISTING GAS TRANSMISSION LINE
- GAS TRANSMISSION LINE (TO BE DEACTIVATED)
- GAS TRANSMISSION LINE (TO BE RETIRED)
- GAS TRANSMISSION LINE (TO BE REMOVED)
- PIPE END CUT (SIDE)
- PIPE END CUT
- GAS VALVE
- FLOW — FLOW ARROW
- TIE-IN WELD
- 150 — BILL OF MATERIAL ASSET
- 77 — MATERIAL OF RECORD ASSET

Acronym	Definition
(E)	Existing
(P)	Proposed
API	American Petroleum Institute
APN	Assessor's Parcel Number
ARC	Abrasion Resistant Coating
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing Materials
ATM	Atmosphere
B	Bare Steel
BBCL	Bell Bell Chill Ring
BC	Back of Curb
BD	Blowdown
BLDG	Building
BOM	Bill of Materials
BTU	British Thermal Units
BW	Back of Walk
BYP	Bypass
CATS	Computer Automated Test Station
CCV	Corrosion Control Volume
CI	Cast Iron
CL	Centerline
CNG	Compressed Natural Gas
CONTR	Contractor
CP	Cathodic Protection
CROP	Conditional Reduction of Pressure
CTR	Center
CTS	Coupon Test Station
CU	Copper
DE	Dead End
DCUST	Distribution Customer
DEG	Degree
DET	Detail
DF	Design Factor
DFM	Distribution Feeder Main
DIST	Distribution
DP	Design Pressure
DPV	Damage Prevention Volume
DR	Distribution Regulator
DREG	District Regulator
DSAW	Double Submerged Arc-Welded
DWA	Deep Well Anode
ELE	Electric
ELEV	Elevation
EM	Electronic Marker
EMS	Engineering Material Specification
ER	Edge of Road
ERW	Electric Resistance Welded
ETS	Electrolysis Test Station
F	Filter
FBE	Fusion Bonded Epoxy
FC	Face of Curb
FDP	Future Design Pressure
FL	Fence Line
FLG	Flange
G	Natural Gas
GM	Natural Gas Main
GR	Grade
GS	Natural Gas Service
GS&S	Gas Standards and Specifications
GW	Natural Gas Well
H	Horizontal
HDD	Horizontal Directional Drill
HFW	High Frequency Welded
HPR	High Pressure Regulator
ILI	In-Line Inspection
JT	Joint Trench
L	Line Number
L/R	Left/Right
LAT	Latitude
LNG	Liquid Natural Gas
LN	Lane
LNW	Linear Non-Weldable
LONG	Longitude
M	Monitor
MAOP	Maximum Allowable Operating Pressure
MAX	Maximum
MH	Manhole
MIN	Minimum
MLV	Main Line Valve
MOP	Maximum Operating Pressure
MP	Mile Point
MW	Working Monitor
NDE	Non-Destructive Examination
NOP	Normal Operating Pressure
NPC	Non-Protected/Native Coupon
NTS	Not to Scale
OC	On Center
OD	Outside Pipe Diameter
OH	Overhead
P	Pipeline
P/L	Property Line
PC	Protected/Polarized Coupon
PCF	Pressure Control Fitting
PL	Plastic
PLC	Programmable Logic Controllers
PSI	Pounds per Square Inch
RAD	Radius
RE	Reference
REG	Regulator
ROW	Right of Way
S	Screwed
SAWH	Submerged Arc-Welded Helical
SAWL	Submerged Arc-Welded Longitudinal
SCADA	Supervisory Control and Data Acquisition
SD	Storm Drain
SHT	Sheet
SL	Sewer Lateral
SMLS	Seamless
SMYS	Specified Minimum Yield Strength
SPEC	Specification
SS	Sanitary Sewer
SSAW	Single Submerged Arc-Welded
STA	Station
STD	Standard
STL	Steel
STPR	Strength Test Pressure Report
T	Tied (Connected to System)
TCE	Temporary Construction Easement
TCP	Traffic Control Plan
TD	Technical Document
TDW	T. D. Williamson
TSP	Transmission System Planning
TT	Top Tap
TYP	Typical
UG	Underground
UON	Unless Otherwise Noted
USA	Underground Service Alert
UT	Ultra-Sonic Test
V	Valve
VIF	Verify in Field
VOL	Volume
W	Water
WT	Wall Thickness
W/	With
W/O	Without
WOW	Without Locating Wire
WP	Work Procedure
WS	Water Service

GTS
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575 Lennon Lane, Suite 200
Walnut Creek, CA
(925) 479-6330
www.gtsinc.com
Project No. 18075

REGISTERED PROFESSIONAL ENGINEER
JOANNA L. QUIN
RCE 75908
Exp. 06-30-2020
CIVIL
STATE OF CALIFORNIA

COPY

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ZERO IN ON SAFETY

NO.	DATE	DESCRIPTION	FM/SPEC	DWN	CHKD	SUPV	APVD BY
1	09/26/18	CHANGED "A" DIM FOR VALVE V-1	74015830	JS	FD	JQ	JQ
0	09/19/18	ISSUED FOR CONSTRUCTION	74015830	GVY	FD	JQ	JQ

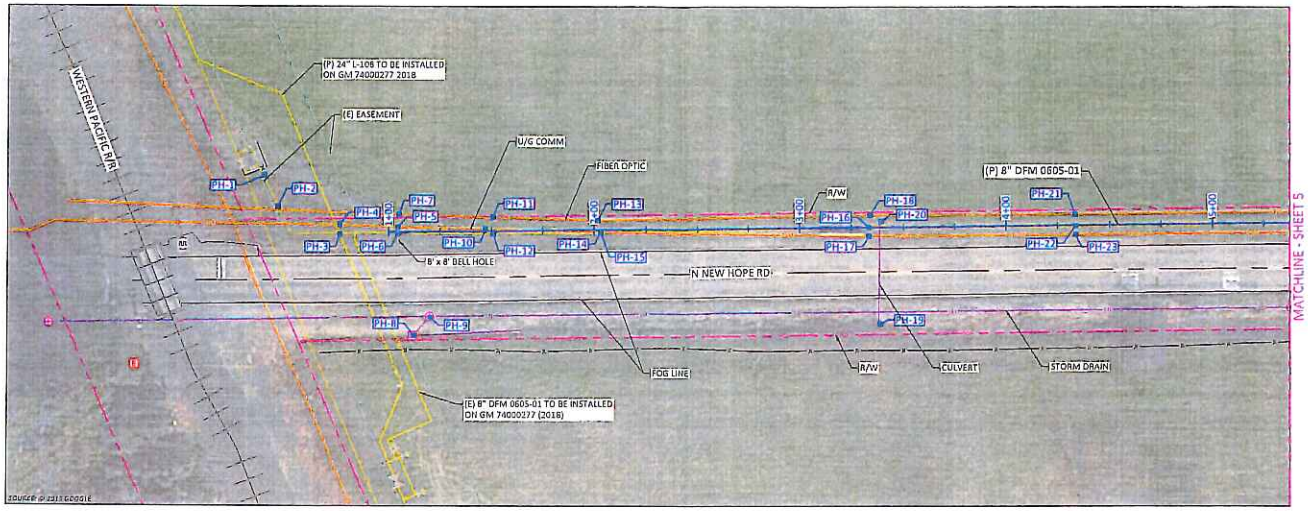
REVISIONS

APPROVED BY
PG&S
SUPV J.QUIN
DSGN P.DANIELS
DWN G.WALKERON
CHKD P.DANIELS
QK
DATE 09/27/18
SCALES AS SHOWN

CONSTRUCTION STAMPS / LEGEND
DFM 0605-01 MP 0.00-0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

BILL OF MATL SHEET 9
DWG LIST
TRACKING NUMBER R-1113
SHEET NO. 3 OF 12 SHEETS
74015830 1



POTHOLE DATA

POTHOLE IDENTIFYING NUMBER	UTILITY TYPE	UTILITY DIA (IN)	UTILITY OWNER	DISTANCE LEFT OR RIGHT OF CL	"H" PIPELINE STATION	LATITUDE	LONGITUDE	DEPTH OF COVER TO TOP OF UTILITY (IN)	PAVING		BASE MATERIAL		GROUND WATER DEPTH (FT)	NOTES
									TYPE	THICKNESS (IN)	TYPE	DEPTH (FT)		
1	GAS	4"	PG&E	N/A	N/A	38.232101	-121.422788	64.9	SOIL		SOIL			
2	GAS	4"	PG&E	N/A	N/A	38.232059	-121.422764	62.2	SOIL		SOIL			
3	GAS	4"	PG&E	7.5 L	N/A	38.232023	-121.422660	68.9	SOIL		SOIL			
4	COMM			N/A	N/A	38.232036	-121.422660	55.2	SOIL		SOIL			
5	COMM			2.4 L	1+04.6	38.232033	-121.422562	47.8	SOIL		SOIL			
6	GAS	4"	PG&E	0.5 R	1+04.8	38.232025	-121.422561	67.0	SOIL		SOIL			
7	FO			8.6 L	1+05.2	38.232050	-121.422560	75.5	SOIL		SOIL			
8	SD			50.6 R	1+11.7	38.231888	-121.422533	26.4	SOIL		SOIL			
9	SD			42.1 R	1+20.0	38.231912	-121.422505		SOIL		SOIL			
10	COMM			0.9 L	1+47.0	38.232051	-121.422414	34.2	SOIL		SOIL			
11	FO			6.9 L	1+50.8	38.232048	-121.422401	60.0	SOIL		SOIL			
12	GAS	4"	PG&E	1.4 R	1+50.9	38.232025	-121.422401	58.2	SOIL		SOIL			
13	FO			4.8 L	2+01.7	38.232045	-121.422224	57.4	SOIL		SOIL			
14	GAS	4"	PG&E	1.1 R	2+03.0	38.232029	-121.422219	65.4	SOIL		SOIL			
15	COMM			1.0 R	2+03.1	38.232029	-121.422219	32.2	SOIL		SOIL			
16	GAS	4"	PG&E	0.0 L	3+33.4	38.232040	-121.421766	51.4	SOIL		SOIL			
17	COMM			4.3 R	3+33.4	38.232028	-121.421765	26.4	SOIL		SOIL			
18	FO			6.0 L	3+34.0	38.232056	-121.421764	41.3	SOIL		SOIL			
19	SD			47.5 R	3+38.4	38.231909	-121.421745		SOIL		SOIL			
20	SD			2.9 L	3+39.2	38.232046	-121.421745	15.8	SOIL		SOIL			
21	FO			5.4 L	4+33.5	38.232060	-121.421417	48.0	SOIL		SOIL			
22	GAS	4"	PG&E	0.4 R	4+33.7	38.232044	-121.421416	52.4	SOIL		SOIL			
23	COMM			4.7 R	4+33.7	38.232032	-121.421416	32.6	SOIL		SOIL			

* FIELD TO VERIFY DURING CONSTRUCTION

COPY

GTS
Gas Transmission Systems, Inc.
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(925) 479-6530
www.gtsinc.us
Project No. 15973

REGISTERED PROFESSIONAL ENGINEER
JOHNNA L. QUIRK
REE 75608
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CIVIL
STATE OF CALIFORNIA

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1	09/26/19	CHANGED "A" DIM FOR VALVE V-1	74015830	BS	PD	JQ	JQ
0	09/19/18	ISSUED FOR CONSTRUCTION	74015830	GW	PD	JQ	JQ

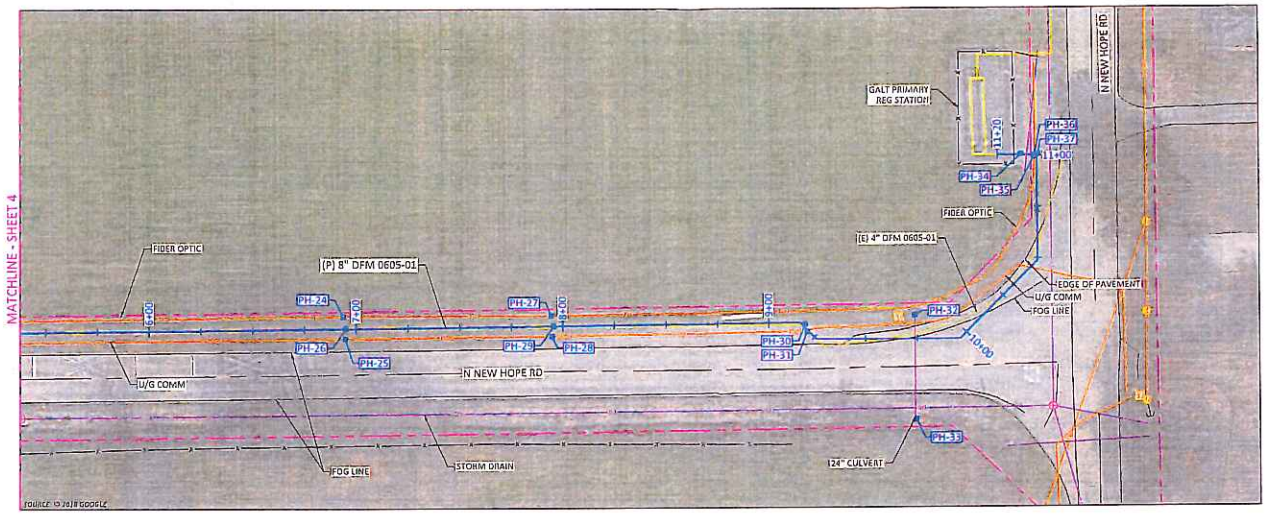
REVISIONS

APPROVED BY: HSRG
SUPV: J.QUIRK
DSGN: P.DANIELS
DWN: G.WHEELERSON
CHKD: P.DANIELS
DK:
DATE: 09/19/18
SCALES: AS SHOWN

POTHOLE DATA
DFM 0605-01 MP 0.00-0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

BILL OF MATL: SHEET 5
DWG LIST
TRACKING NUMBER: R-1113
SHEET NO. 4 OF 12 SHEETS
74015830 | 1



POTHOLE DATA

POTHOLE IDENTIFYING NUMBER	UTILITY TYPE	UTILITY DIA (IN)	UTILITY OWNER	DISTANCE LEFT OR RIGHT OF CL	"H" PIPELINE STATION	LATITUDE	LONGITUDE	DEPTH OF COVER TO TOP OF UTILITY (IN)	PAVING		BASE MATERIAL		GROUND WATER DEPTH (FT)	NOTES
									TYPE	THICKNESS (IN)	TYPE	DEPTH (FT)		
24	FO			5.9 L	6+93.9	38.232077	-121.420511	43.8	SOIL		SOIL			
25	COMM			4.7 R	6+94.7	38.232048	-121.420507	34.9	SOIL		SOIL			
26	GAS	4"	PG&E	0.2 L	6+95.0	38.232061	-121.420507	61.6	SOIL		SOIL			
27	FO			5.2 L	7+94.4	38.232080	-121.420161	45.0	SOIL		SOIL			
28	COMM			4.8 R	7+94.7	38.232053	-121.420159	33.8	SOIL		SOIL			
29	GAS	4"	PG&E	0.0 L	7+95.5	38.232066	-121.420157	56.2	SOIL		SOIL			
30	GAS	4"	PG&E	1.3 L	9+17.5	38.232071	-121.419732	47.4	SOIL		SOIL			
31	COMM			0.5 R	9+20.5	38.232052	-121.419729	31.9	SOIL		SOIL			
32	SD			11.4 L	9+73.8	38.232085	-121.419547		SOIL		SOIL			
33	SD			39.2 R	9+74.5	38.231946	-121.419543		SOIL		SOIL			
34	GAS	4"	PG&E	0.4 R	11+08.2	38.232301	-121.419370	58.1	SOIL		SOIL			
35	FO			0.8 L	11+02.1	38.232298	-121.419349	40.9	SOIL		SOIL			
36	FO			0.1 L	11+01.8	38.232299	-121.419348	42.7	SOIL		SOIL			
37	GAS	4"	PG&E	N/A	N/A	38.232301	-121.419341	52.2	SOIL		SOIL			

* FIELD TO VERIFY DURING CONSTRUCTION

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Project No. 18275

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0	03/19/18	ISSUED FOR CONSTRUCTION	74015830	GW	PD	JQ	JQ

REVISIONS

APPROVED BY
PERS
SUPV J.QUAY
DSGN P.DANIELS
DWN G.WOLKERSDH
CHKD P.DANIELS
OK
DATE 03/19/18
SCALES AS SHOWN

POTHOLE DATA
DFM 0605-01 MP 0.00-0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

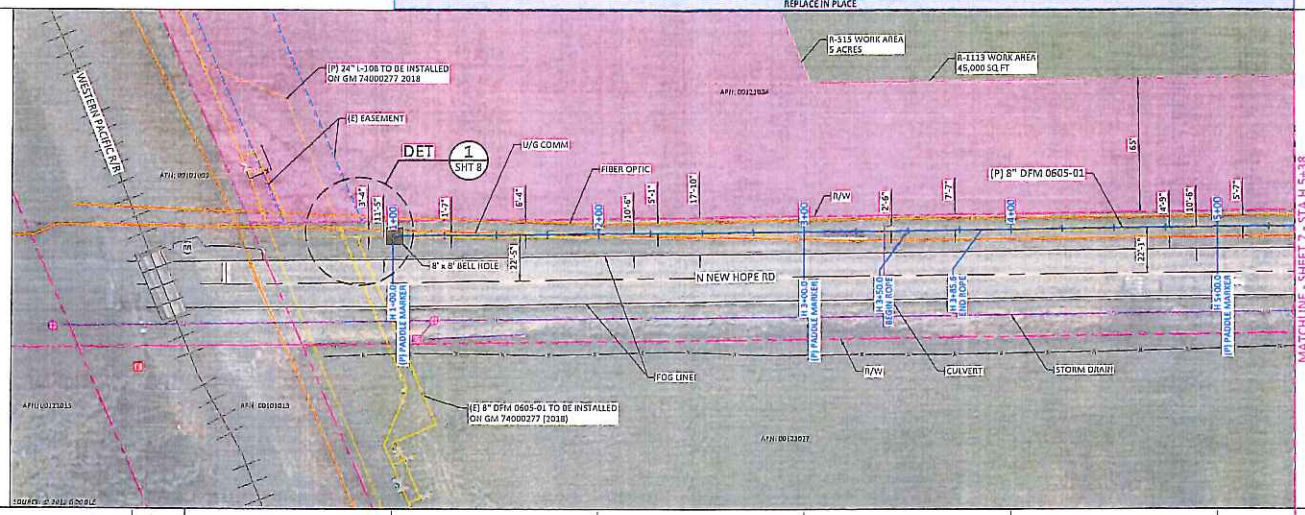
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

BILL OF MATL SHEET 9
DWG LIST
TRACKING NUMBER R-1113
SHEET NO. 5 OF 12 SHEETS
74015830 1

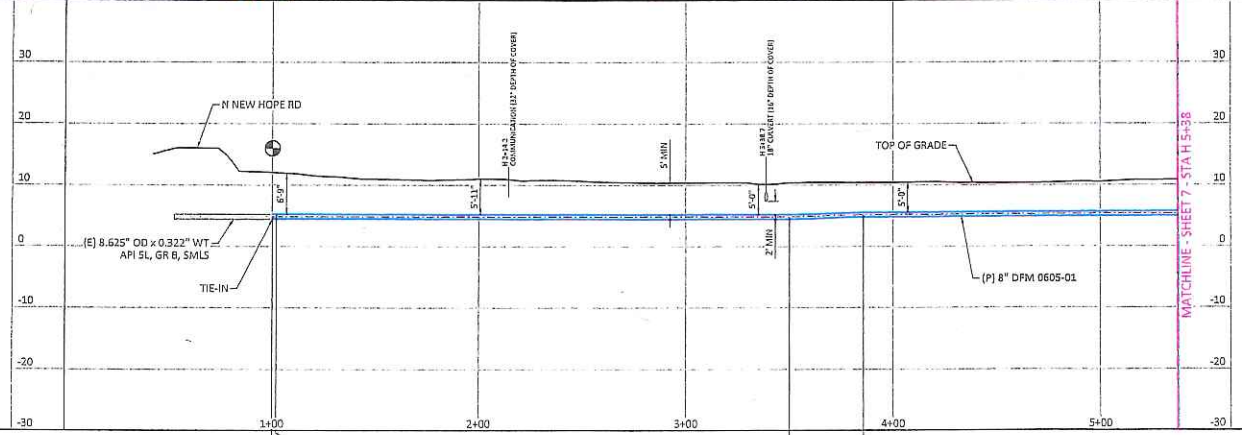
RIGHT OF WAY: FRANCHISE CITY OF THORNTON

CONSTRUCTION METHODOLOGY: LIMITS OF PIPE DEACTIVATION APPROX. 438' — REPLACE IN PLACE

SURVEY PLAN — SCALE: 1"=30'



SURVEY PROFILE — HORIZONTAL SCALE: 1"=30' — VERTICAL SCALE: 1"=10'



PIPELINE STATIONING

- H 1+00.0 - P 1+00.0 BEGIN REPLACEMENT
- H 1+02.0 - P 1+02.0 BEGIN 0.188" WT
- H 3+50.0 - P 9+15.1 BEGIN ROPE
- H 3+05.6 - P 9+15.1 END ROPE

	EXISTING	102	101
BOM# FITTING			
BOM# PIPE			
CLASS			2

DESIGN CRITERIA

BOM#	CLASS LOCATION	DESIGN FACTOR	FDP (PSIG)	FDP (% SMYS)	MAOP (PSIG)	MAOP (% SMYS)	MIN TEST PRESSURE (PSIG)	MIN TEST PRESSURE (% SMYS)	MAX TEST PRESSURE (PSIG)	MAX TEST PRESSURE (% SMYS)	PSIG @ 90% SMYS	TEST MEDIUM	PIPE SPEC.	O.D. (IN.)	W.T. (IN)
101	2	0.5	720	31.76	490	21.62	1080	47.64	1280	56.46	2041	WATER	API 5L, X-52, HFW	8.625	0.188
102	2	0.5	720	23.88	490	16.25	1080	35.83	1280	42.46	2714	WATER	API 5L, X-52, HFW	8.625	0.250

*VISUALLY INSPECT ALL WELDS. (THIS REQUIREMENT APPLIES EVEN IF NON-DESTRUCTIVE TESTING IS REQUIRED)

REVISIONS

NO.	DATE	DESCRIPTION	PM/SPEC	DWN	CHKD	SUPV	APVD BY
1		CHANGED "A" DIM FOR VALVE V-1	74015830				
0	09/19/18	ISSUED FOR CONSTRUCTION	74015830	GW	PD	JQ	JQ

APPROVED BY: PSRG; SUPV J.QUIN; DSGN P.DANIELS; DWN G.WAUNERSON; CHKD P.DANIELS; CK; DATE 09/19/18; SCALE AS SHOWN

PLAN & PROFILE
DFM 0605-01 MP 0.00-0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

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SAFETY FIRST — I ALWAYS PUT SAFETY FIRST. I LOOK FOR AND ACT TO RECEIVE UNSAFE CONDITIONS, AREAS AND ENCOUNTERS OFFERING TO ACT SAFELY

811 Know what's below. Call before you dig.

GTS Gas Transmission Systems, Inc.
675 Lawrence Lane, Suite 250
Walnut Creek, CA
(925) 479-8230
www.gtsinc.com
Project No. 18005

REGISTERED PROFESSIONAL ENGINEER — JOSHUA L. QUIN — RCE 75605 — Exp. 06-30-2020 — CIVIL — STATE OF CALIFORNIA

BILL OF MATL SHEET 9

DWG LIST

TRACKING NUMBER R-1113

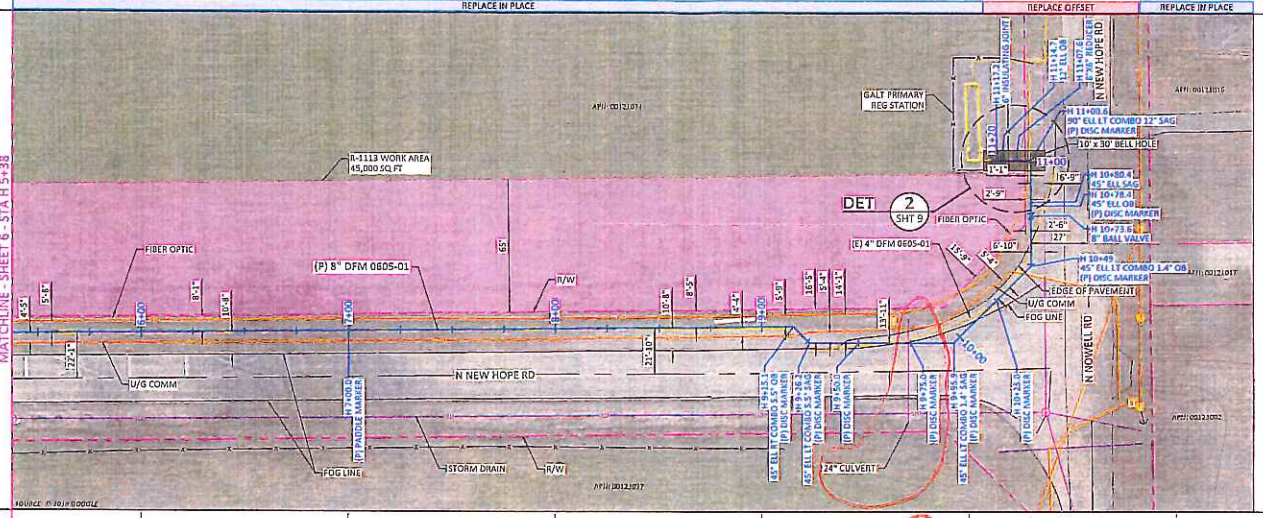
SHEET NO. 6 OF 12 SHEETS

74015830 | 1

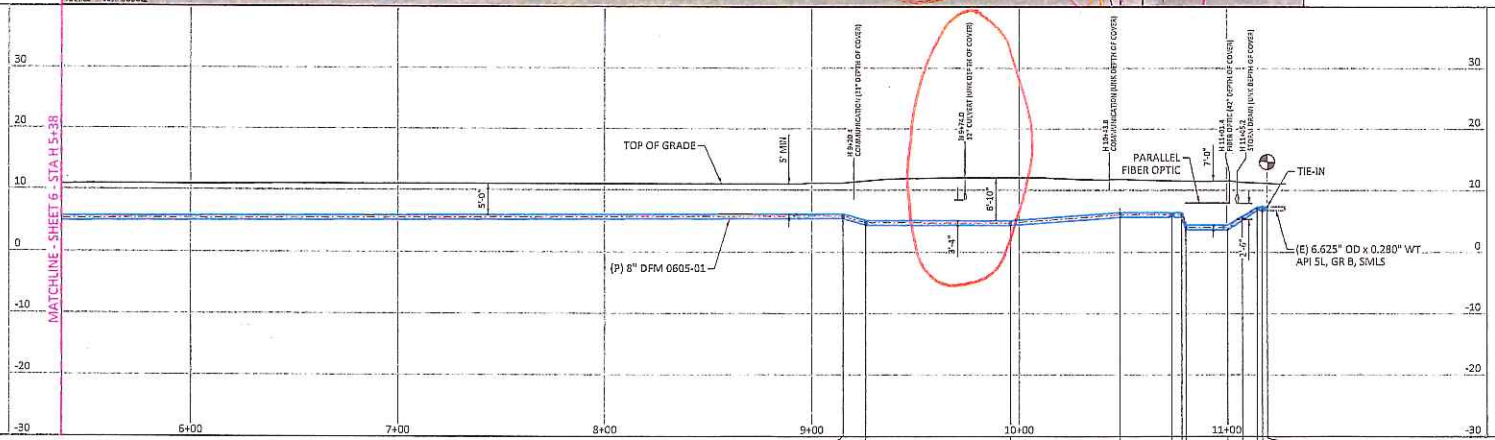
RIGHT OF WAY: FRANCHISE; CITY OF THORNTON

CONSTRUCTION METHODOLOGY: LIMITS OF PIPE REMOVAL APPROX. 480' — REPLACE IN PLACE; LIMITS OF PIPE DEACTIVATION APPROX. 69' — REPLACE OFFSET; LIMITS OF PIPE REMOVAL APPROX. 24' — REPLACE IN PLACE

SURVEY PLAN — SCALE: 1"=30'



SURVEY PROFILE — HORIZONTAL SCALE: 1"=30' — VERTICAL SCALE: 1"=10'



PIPELINE STATIONING

	H 9+15.1 - P 9+15.1 45° ELL LT COMBO 5.5° OB (P) DISC MARKER	H 9+26.2 - P 9+26.2 45° ELL LT COMBO 5.5° SAG (P) DISC MARKER	H 9+95.9 - P 9+95.9 45° ELL LT COMBO 1.4° SAG (P) DISC MARKER	H 10+49 - P 10+50 45° ELL LT COMBO 1.4° OB (P) DISC MARKER	H 10+73.6 - P 10+73.5 8" BALL VALVE	H 10+78.4 - P 10+78.3 45° ELL OB	H 10+80.4 - P 10+81.7 45° ELL SAG	H 11+00.6 - P 11+01.9 90° ELL LT COMBO 12" SAG (P) DISC MARKER	H 11+07.6 - P 11+09.1 8" MJ REDUCER	H 11+14.7 - P 11+16.3 12" ELL OB	H 11+17.2 - P 11+18.8 5" INSULATING JOINT	H 11+19.6 - P 11+21.2 END REPLACEMENT													
BOM# FITTING	110	110	110	110	110	110	110	112	120	112	190														
BOM# PIPE	101				102			101			104		EXISTING												
CLASS	2																								

DESIGN CRITERIA

BOM#	CLASS LOCATION	DESIGN FACTOR	FDP (PSIG)	FDP (% SMYS)	MAOP (PSIG)	MAOP (% SMYS)	MIN TEST PRESSURE (PSIG)	MIN TEST PRESSURE (% SMYS)	MAX TEST PRESSURE (PSIG)	MAX TEST PRESSURE (% SMYS)	PSIG @ 90% SMYS	TEST MEDIUM	PIPE SPEC.	O.D. (IN.)	W.T. (IN)
101	2	0.5	720	31.76	490	21.62	1080	47.64	1280	56.46	2041	WATER	API 5L, X-52, HFW	8.625	0.188
102	2	0.5	720	23.88	490	16.25	1080	35.83	1280	42.46	2714	WATER	API 5L, X-52, HFW	8.625	0.250
103	2	0.5	720	27.55	490	18.75	1080	41.33	1280	48.98	2352	WATER	API 5L, GR B, SMLS	8.625	0.322
104	2	0.5	720	24.34	490	16.56	1080	36.51	1280	43.27	2663	WATER	API 5L, GR B, SMLS	6.625	0.280
105	2	0.5	720	7.01	490	4.77	1080	10.52	1280	12.47	9240	WATER	API 5L, GR B, SMLS	1.05	0.154
130	2	0.5	720	22.96	490	15.63	1080	34.44	1280	40.82	2822	WATER	API 5L, X-42, SMLS	8.625	0.322

*VISUALLY INSPECT ALL WELDS. (THIS REQUIREMENT APPLIES EVEN IF NON-DESTRUCTIVE TESTING IS REQUIRED)

REVISIONS

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0	09/19/18	ISSUED FOR CONSTRUCTION	74015830	GW	PD	JQ	JQ

APPROVED BY: PSRS; SUPV J.QUIN; DSGN P.DANIELS; DWN G.WALKERDOFF; CHKD P.DANIELS; CK; DATE 09/19/18; SCALES AS SHOWN

PLAN & PROFILE
DFM 0605-01 MP 0.00-0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

BILL OF MATL SHEET 0
DWG LIST
TRACKING NUMBER R-1113
SHEET NO. 7 OF 12 SHEETS
74015830 | 1

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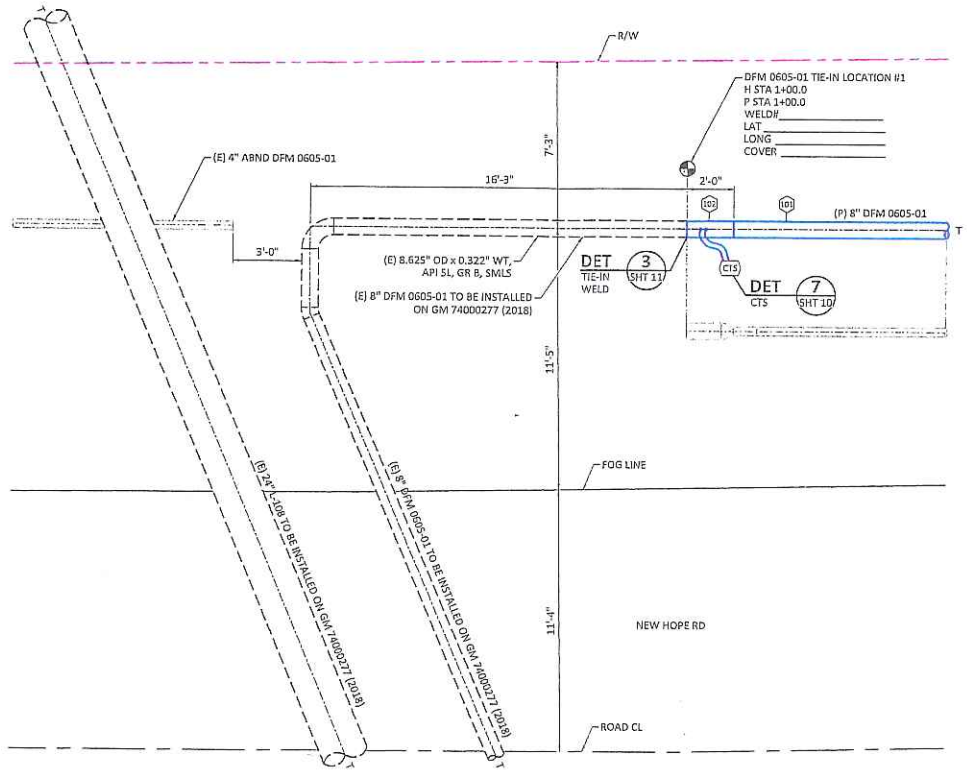
675 Lawrence Lane, Suite 202
Walnut Creek, CA
(925) 478-8030
www.gtsinc.net
Project No. 18275

REGISTERED PROFESSIONAL ENGINEER — JOHNNA L. QUIN — RCE 75508 — Exp. 06-30-2020 — CIVIL — STATE OF CALIFORNIA

JOB#	74015830
BOM ITEM#	101
DESIGN CRITERIA	
CLASS LOCATION	2
DESIGN FACTOR	0.50
FDP 720 PSIG	31.76 % SMYS
MAOP 490 PSIG	21.62 % SMYS
STRENGTH TEST PRESSURE	
MIN 1080 PSIG	47.64 % SMYS
MAX 1260 PSIG	55.66 % SMYS
2041 PSIG=90% SMYS	
TEST MEDIUM	WATER
PIPE SPEC.	API 5L, X-52, HFW
O.D. 8.625"	W.T. 0.188"

JOB#	74015830
BOM ITEM#	102
DESIGN CRITERIA	
CLASS LOCATION	2
DESIGN FACTOR	0.5
FDP 720 PSIG	23.88 % SMYS
MAOP 490 PSIG	16.25 % SMYS
STRENGTH TEST PRESSURE	
MIN 1080 PSIG	35.83 % SMYS
MAX 1260 PSIG	42.46 % SMYS
2716 PSIG=90% SMYS	
TEST MEDIUM	WATER
PIPE SPEC.	API 5L, X-52, HFW
O.D. 8.625"	W.T. 0.250"



DETAIL 1 SHT 6 — TIE-IN CONFIGURATION N NEW HOPE RD
SCALE: 3/8" = 1'

HEADER PIPE SPECS	
HEADER SIZE: 8.625"	WALL THICKNESS: 0.322"
PIPE SPECS: API 5L, GR B, SMLS	
PRESENT MAOP: 490	
% SMYS @ MAOP: 18.75	
INSTALL JO: GM 74000277	YEAR: 2018

MAXIMUM ALLOWABLE PRESSURE DURING WELDING (GSS S D-22)

EVALUATE THE FOLLOWING OPERATING PRESSURE LIMITATIONS TO DETERMINE THE MAXIMUM OPERATING PRESSURE PERMITTED DURING WELDING.

A) (490 PSIG) WHEN WELDING ON BODY OF THE PIPE, UNLESS,

B) (490 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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NO.	DATE	DESCRIPTION	PM/SPEC	DWN	CHKD	SUPV	APVD BY
1	09/26/18	CHANGED "A" DIM FOR VALVE V-1	74015830	DS	PD	JQ	JQ
0	09/19/18	ISSUED FOR CONSTRUCTION	74015830	GW	PD	JQ	JQ

REVISIONS

APPROVED BY	
PSR2	
SUPV J.QUIN	
DSGN P.DANIELS	
DWN G.WILKERSON	
CHKD P.DANIELS	
QC	
DATE 09/19/18	
SCALES AS SHOWN	

CONSTRUCTION DETAILS
DFM 0605-01 MP 0.00-0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

GTS Gas Transmission Systems, Inc.
875 Lawton Lane, Suite 250
Walnut Creek, CA
(925) 478-4632
www.gtsinc.us
Project No. 11075

REGISTERED PROFESSIONAL ENGINEER JOANNA L. QUIN RCE 75608 Exp. 06-30-2020 CIVIL STATE OF CALIFORNIA

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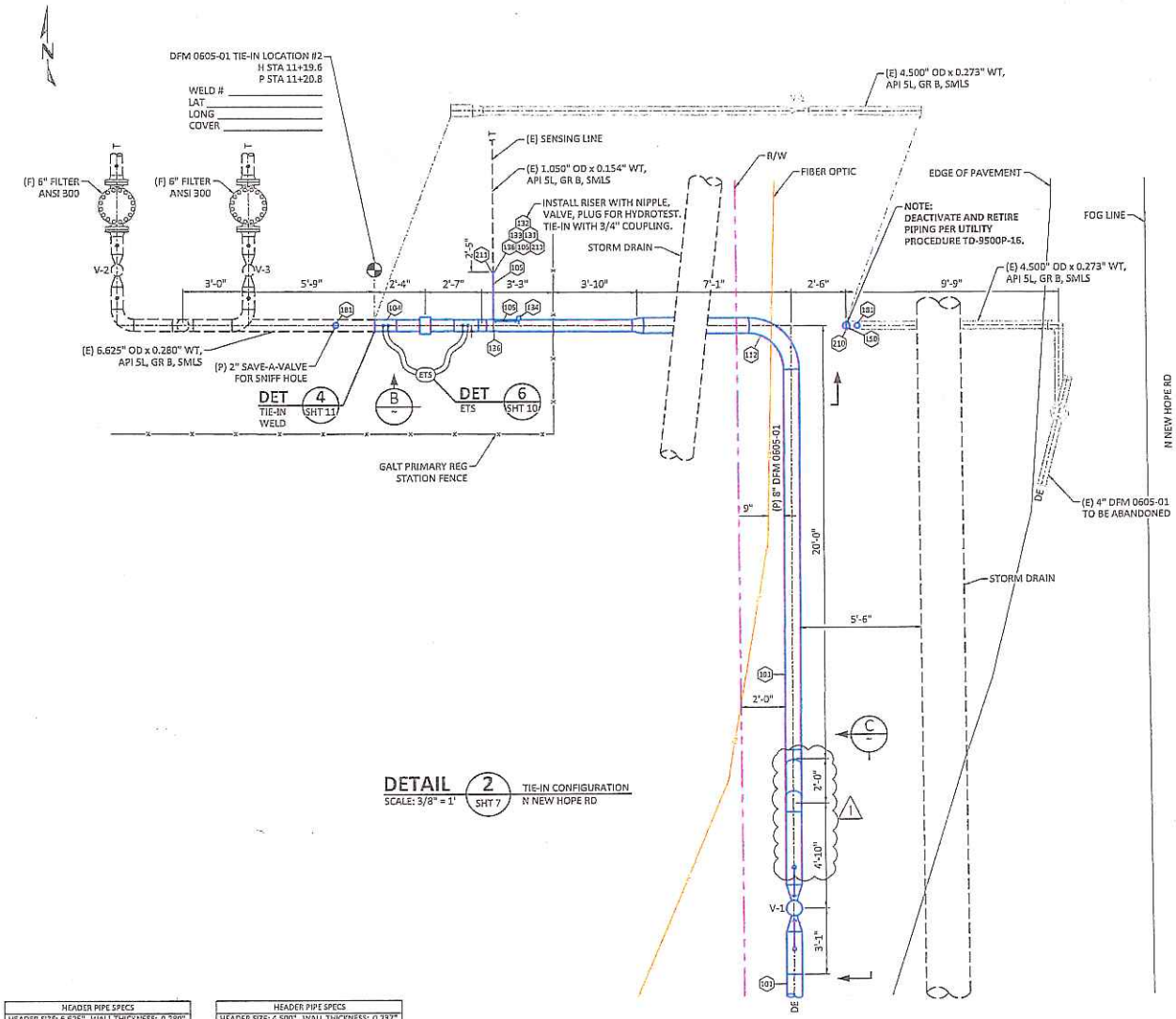
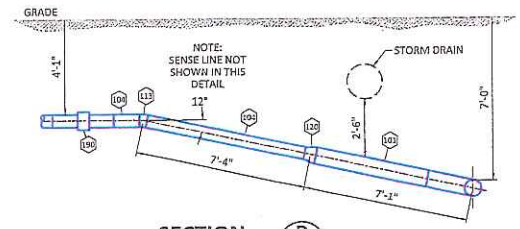
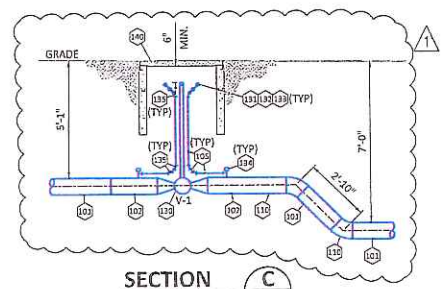
BILL OF MATL SHEET 9
DWG LIST
TRACKING NUMBER R-1113
SHEET NO. 8 OF 12 SHEETS
74015830 | 1



DETAIL 2 SHT 7 — TIE-IN CONFIGURATION N NEW HOPE RD
SCALE: 3/8" = 1'



SECTION B
SCALE: 3/8" = 1'



SECTION C
SCALE: 3/8" = 1'

HEADER PIPE SPECS
HEADER SIZE: 6.625" WALL THICKNESS: 0.280"
PIPE SPECS: API 5L, GR B, SMLS
PRESENT MAOP: 490
% SMYS @ MAOP: 16.56
INSTALL IN: GM 30733635 YEAR: 2011
MAXIMUM ALLOWABLE PRESSURE DURING WELDING (GS&S D-22)
EVALUATE THE FOLLOWING OPERATING PRESSURE LIMITATIONS TO DETERMINE THE MAXIMUM OPERATING PRESSURE PERMITTED DURING WELDING.
A) (490 PSIG) WHEN WELDING ON BODY OF THE PIPE, UNLESS,
B) (490 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.

HEADER PIPE SPECS
HEADER SIZE: 4.500" WALL THICKNESS: 0.237"
PIPE SPECS: API 5L, GR B, SMLS
PRESENT MAOP: 490
% SMYS @ MAOP: 13.39
INSTALL IN: GM 30733635 YEAR: 2011
MAXIMUM ALLOWABLE PRESSURE DURING WELDING (GS&S D-22)
EVALUATE THE FOLLOWING OPERATING PRESSURE LIMITATIONS TO DETERMINE THE MAXIMUM OPERATING PRESSURE PERMITTED DURING WELDING.
A) (490 PSIG) WHEN WELDING ON BODY OF THE PIPE, UNLESS,
B) (490 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.

VALVE DATA STAMP	
BOM# 130	VALVE SIZE 8"
TECH ID (VALVE #)	V-1
VALVE TYPE	ANSI-600 BALL
MANUFACTURER	
MODEL/FIGURE #	
SERIAL#	
COMMISSIONING	
VALVE TO BE COMMISSIONED BY GT IS A OR DISTRICT PERSONNEL DURING 100 PSIG SOAP TEST AND PRIOR TO PLACING VALVE IN SERVICE	
COMMISSIONED BY	
DATE	
NUMBER OF TURNS OF HANDWHEEL (IF APPROPRIATE)	

COPY

GTS
Gas Transmission Systems, Inc.
430 Lawrence Lane, Suite 200
Walnut Creek, CA
(925) 474-8500
www.gtsinc.us
Project No. 18275

REGISTERED PROFESSIONAL ENGINEER
JOSHUA L. QUIN
RCE 75606
Exp. 06-30-2020
CIVIL
STATE OF CALIFORNIA

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ZERO IN ON SAFETY

NO.	DATE	DESCRIPTION	PM/SPEC	DWN	CHKD	SUPV	APVD BY
1	09/26/18	CHANGED "A" DIM FOR VALVE V-1	74015830	BS	PD	JQ	JQ
0	05/15/18	ISSUED FOR CONSTRUCTION	74015830	GOY	PD	JQ	JQ

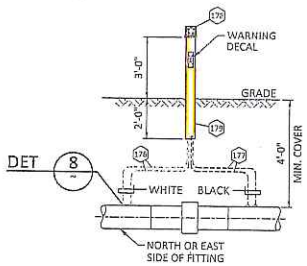
REVISIONS

APPROVED BY	PSRS
SUPV	J.QUIN
DSGN	P.DANIELS
DWN	G.WIJERSON
CHKD	P.DANIELS
OK	
DATE	07/19/18
SCALES	AS SHOWN

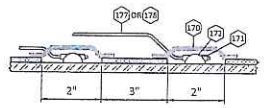
CONSTRUCTION DETAILS
DFM 0605-01 MP 0.00-0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

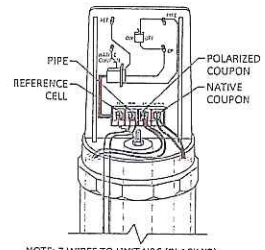
BILL OF MATL SHEET 9
DWG LIST
TRACKING NUMBER R-1113
SHEET NO. 9 OF 12 SHEETS
74015830 | 1



DETAIL 6 (SHT 9) — SCALE: NO SCALE — ETS TYPE D (BIG PINK) CCV O-10

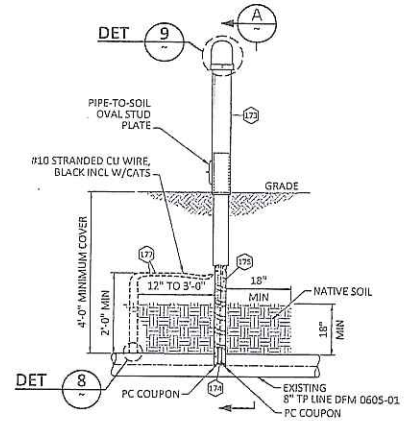


DETAIL 8 — SCALE: NO SCALE — ATTACHING THE WIRES TO THE GAS MAIN (CCV O-10) FIGURE 1



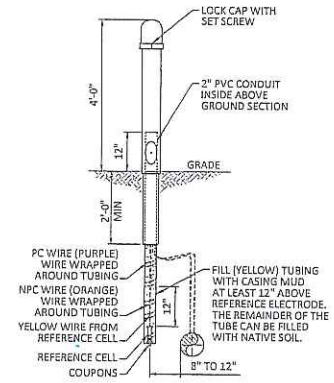
NOTE: 7 WIRES TO UNIT NPC (BLACK X2), WIRE PC (WHITE X2), WIRE REF CELL (YELLOW), PIPE #10 (BLACK X2) GAUGE SOLID WIRES

DETAIL 9 — SCALE: NO SCALE — COUPON TEST STATION HEAD CCV O-10.2



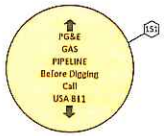
NOTE:
COUPONS MUST BE INSTALLED IN NATIVE SOIL. NATIVE SOIL MUST BE WITHIN 18" OF ELECTRODE. TAMP NATIVE SOIL AND ADD IMPORT TO ACHIEVE A MINIMUM 95% COMPACTION.

DETAIL 7 (SHT 8) — SCALE: NO SCALE — COMPUTER AUTOMATED TEST STATION CCV O-10.2

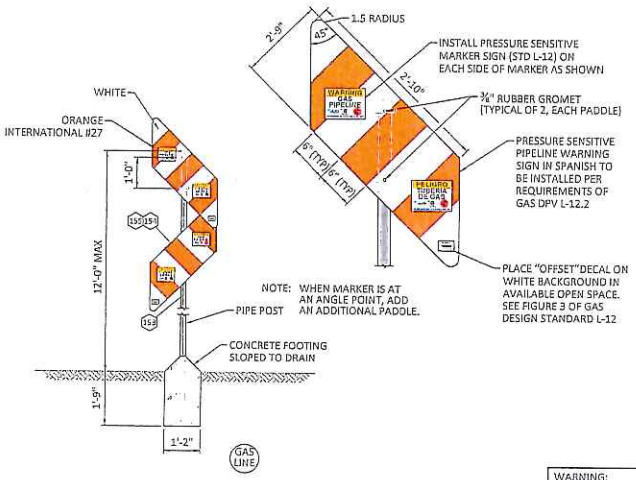


SECTION A — SCALE: NO SCALE

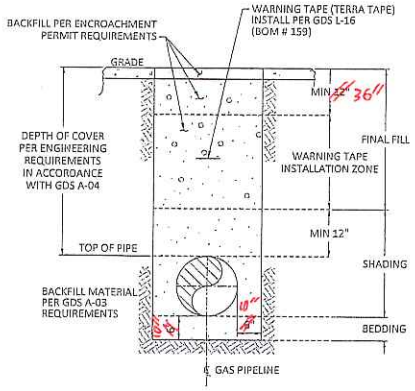
LINE MARKER LOCATIONS			
"H" STATION	SHEET	TYPE	PG&E GAS STD
1+00.0	6	PADDLE	L-11.1
3+00.0	6	PADDLE	L-11.1
5+00.0	6	PADDLE	L-11.1
7+00.0	7	PADDLE	L-11.1
9+15.1	7	PADDLE	L-11.1
9+26.2	7	DISC FIGURE 1	L-15
9+50.0	7	DISC FIGURE 1	L-15
9+75.0	7	DISC FIGURE 1	L-15
9+95.9	7	DISC FIGURE 1	L-15
10+25.0	7	DISC FIGURE 1	L-15
10+49.0	7	DISC FIGURE 1	L-15
10+75.0	7	DISC FIGURE 1	L-15
11+00.0	7	DISC FIGURE 8	L-15



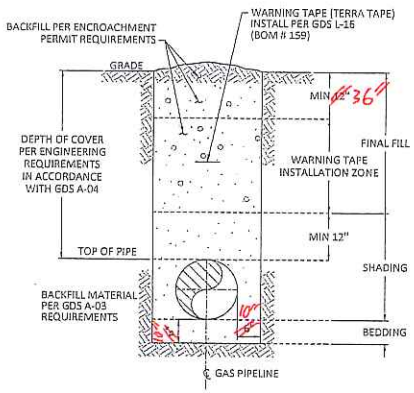
DETAIL — SCALE: NO SCALE — 4" RADIUS DISC MARKER (FIGURE 1) GS&S L-15 & TD-4412-09



TYPICAL — SCALE: NO SCALE — PIPELINE PADDLE MARKER GS&S STD L-11.1



TYPICAL — SCALE: NO SCALE — TRENCH PAVED AREA IMPORT BACKFILL



TYPICAL — SCALE: NO SCALE — TRENCH NON-PAVED AREA NATIVE BACKFILL

COPY

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REVISIONS

APPROVED BY

PERS
SUPV J.QUIN
DSGN P.DANIELS
DWN G.WILKERSON
CHKD P.DANIELS
QC
DATE 09/19/18
SCALE AS SHOWN

CONSTRUCTION DETAILS
DFM 0605-01 MP 0.00-0.21
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THORNTON, CALIFORNIA

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PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

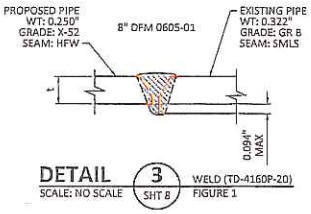
GTS GasTransmission Systems, Inc.
675 Lawver Lane, Suite 202
West Lodi, CA
(530) 478-8330
www.gtsinc.us
Project No. 17075

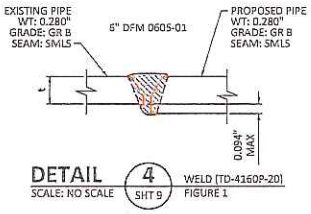
REGISTERED PROFESSIONAL ENGINEER — DONNA L. QUIN — RCE 75608 — Exp. 06-30-2020 — CIVIL — STATE OF CALIFORNIA

BILL OF MATL SHEET 9
DWG LIST
TRACING NUMBER R-1113
SHEET NO. 10 OF 12 SHEETS
74015830 | 1

BILL OF MATERIAL

ITEM NUMBER	DESCRIPTION	PG&E MATERIAL CODE	UNITS	QUANTITY	CATALOG OR DRAWING REFERENCE	NOTES
	CAPITAL ORDER # 74015830					
101	PIPE, 8.625" OD x 0.188" WT, API 5L, X-52, HFW, FBE COATED	M010718	FT	1,020	GS&S A-15	
102	PIPE, 8.625" OD x 0.250" WT, API 5L, GRADE X-52, HFW, BARE	M011186	FT	40	GS&S A-15	
104	PIPE, 6.625" OD x 0.280" WT, API 5L, GRADE B, SMLS, FBE COATED	M010014	FT	20	GS&S A-15	
105	PIPE,1.050", 0.154" WT, API 5L, GRADE B, SEAMLESS, PLAIN ENDS, PLASTIC TAPE WRAP	M011036	FT	20	GS&S A-15	
110	ELBOW, 8", 45 DEG, 0.219" WT, LONG RADIUS, BUTT WELD, CARBON STEEL, MSS-SP-75, Y-52	M021405	EA	6	GS&S B-20.2	
112	ELBOW, 8", 90 DEG, 0.219" WT, 3R, BUTT WELD, CARBON STEEL, MSS-SP-75, Y-52	M022351	EA	1	GS&S B-20.2	
113	ELBOW, 6", 45 DEG, 0.280" WT, 3R, BUTT WELD, CARBON STEEL, GRADE B	M024697	EA	1	GS&S B-20	
120	REDUCER, 8" x 6" OD, 0.322" x 0.280" WT, SCH 40, ASTM A234, GRADE B	M022042	EA	1	GS&S B-20.2	
130	VALVE BALL, 8", ANSI CLASS 600, WELD END, 0.322 W.T., GRADE X-42, BURIED SERVICE PER GS&S F21.1, FIG 5 VALVE EXTENSION, "A" DIMENSION = 54"	M036197 1	EA	1	GS&S F-21.1	
131	VALVE, BALL, 1/2", CARBON STEEL, APOLLO # 73-103-01, 1000 PSI WOG, FPT ENDS, TEFLON STEM SEAL/SEAT, 2000 SHELL TEST PRESSURE	M013836	EA	3	GS&S F-20	
132	PLUG, 1/2", HEX HEAD, VOGT # 2580 OR EQUAL, THREADED, FORGED STEEL, 6000 PSI	M021249	EA	3	GS&S B-10.1	
133	NIPPLE, CONCENTRIC, 3/4" X 1/2", BUTT WELD X THREAD, EXTRA HEAVY, BLACK, FORGED STEEL, 2160 PSI, ASTM A234, GRADE WPB	M022616	EA	3	GS&S B-13.3	
134	VALVE TEE, WELDING INLET, 1", MUELLER # H-17656, 1440 PSI	M022445	EA	3	GS&S A-43	
135	ELBOW, SOCKET WELD, VOGT # SW-2000 OR EQUAL, FORGED STEEL, 3/4", 45 DEG, 3000 PSI	M022587	EA	6	GS&S B-21	
136	ELBOW, SOCKET WELD, VOGT # SW-2000 OR EQUAL, FORGED STEEL, 3/4", 90 DEG, 3000 PSI	M022588	EA	3	GS&S B-22	
140	BOX, CONCRETE 24 X 36 X 36 ASSEMBLY	M042184	EA	1	GS&S K-42	
150	MARKER, EXTENDED RANGE BALL, EMS TYPE, YELLOW, 3M # 1405-XR, FOR MARKING BURIED GAS FACILITIES, MAXIMUM INSTALLED DEPTH IS 60"	M374944	EA	2	GS&S M-60	
151	MARKER, "PG&E GAS PIPELINE" 4", DAS MANUFACTURING # PGE 4.0-GP, WITH TWO ARROWS, NON-REFLECTIVE BLACK ON YELLOW POLYURETHANE, FIGURE 1	M372509	EA	6	GS&S L-15	
152	ADHESIVE, MARKER, DAS MANUFACTURING # RS-222, FOR APPLICATION OF DAS MARKERS, ONE 5 OZ. TUBE PROVIDES FOR 20 - 2-1/2" OR 10 - 4" MARKERS	M372505	QT.	1	GS&S L-15	
153	MARKER, SIGN, PIPELINE, COMPLETE ASSEMBLY, PIPE POST FOR UG GAS PIPELINE MARKERS, ASSEMBLY COMES WITH: COATED ALUMINUM MARKER SIGN (M018294) PIPE SUPPORT POST AND HARDWARE (M373464) 2" PRESS ON GALVANIZED CAP (M018757)	M018566	EA	6	GS&S L-11.1	
154	SIGN, PADDLE MARKER ONLY, COATED ALUMINUM, NO HARDWARE OR POST, 0.08" THICK ALUMINUM W/2 MIL CORROSION RESISTANT WHITE COATING FOR PIPELINE MARKER POST	M379959	EA	2	GS&S L-11.1	
155	BRACKET, U-BOLT ASSEMBLY, INCLUDES 1/4" GALVANIZED U-BOLT TO FIT 2.375" OD STEEL PIPE WITH NUTS, 1/8" THICK U-BRACKET, 5/16" X 3" MACHINE BOLT AND FIBER WASHER, FOR GAS PIPELINE MARKERS	M018704	EA	12	GS&S L-11.1	
156	SIGN, "WARNING GAS PIPELINE", IN ENGLISH, (800) 811-4111, SELF-ADHESIVE, DECAL STYLE	M379962	EA	16	GS&S L-12	
157	SIGN, "WARNING GAS PIPELINE", IN SPANISH, PELIGRO TUBERIA DE GAS (800) 811-4111, SELF-ADHESIVE DECAL STYLE	M379961	EA	16	GS&S L-12	
158	PIPELINE MARKER, SOIL INDICATOR, FIGURE 8	M379988	EA	3	GS&S L-15	
159	TAPE, WARNING, PIPELINE, GAS UNDERGROUND, REEF INDUSTRIES # 42-0084, YELLOW WITH BLACK WRITING, "CAUTION GAS LINE BURIED BELOW", 8 MILS THICK, 6" WIDE X 1000' LONG	M379947	QT.	2	GS&S L-16	
170	HANDY CAP, ROYSTON 4" X 4" PATCH WITH INTEGRATED PRIMER, 20 PER ROLL	M562324	EA	6	GS&S O-10	
171	SLEEVE, COPPER, THERMOWELD, A200 OR EQUIVALENT	M303755	EA	6	GS&S O-10	
172	CARTRIDGE, CADWELD CA-15, OR THERMOWELD 15P, 15-GRAM, 20 PER BOX	M159260	EA	6	GS&S O-10	
173	COUPON TEST STATION	M560691	EA	2	GS&S O-10.2	
174	ELECTRODE, REFERENCE, STELTH 2 CUCUSO4 BORIN MANUFACTURING #SRE-007-CUY WITH 50' OF WIRE	M241423	EA	2	GS&S O-70	
175	BORIN, BACKFILL, GELATIN (ELECTRIC MUD), 1 CONTAINER	M041192	EA	2	GS&S O-70	
176	WIRE, 500' COIL, 10 AWG, ELECTRICAL INSULATED, SOLID COPPER, WHITE INSULATION	M294107	FT.	500	GS&S O-10	
177	WIRE, 500' COIL, 10 AWG, ELECTRICAL INSULATED, SOLID COPPER, BLACK INSULATION	M294991	FT.	500	GS&S O-10	
178	TEST LEAD BOX, BIG FINK, 5-TERMINAL	M569390	EA	1	GS&S O-10.1	
179	CONDUIT, 3" PVC, SCHEDULE 80, FOR COMPONENT, WITH TOW GAS PIPELINE WARNING DECALS	M016071	EA	1	GS&S O-10.1	
181	SAVE-A-VALVE NIPPLE, 2"	M022289	EA	10	GS&S C-14	
190	INSULATING JOINT, 6", ANSI 600	M027690	EA	1	GS&S O-25	
210	STEEL PLATE	-	EA.	TO SUIT	- -	CONTRACTOR TO PROCURE
211	COUPLING, SOCKET WELD, VOGT# SW-4200 OR EQUAL, FORGED STEEL, 3/4", 3000 PSI	M022553	EA.	2	GS&S B-21	
	CONTINGENCY ORDER # 74009909					
103	PIPE, 8.625" OD x 0.322" WT, API 5L, GR B, SMLS, FBE COATED	M010029	FT	20	GS&S A-15	
110	ELBOW, 8", 45 DEG, 0.219" WT, LONG RADIUS, BUTT WELD, CARBON STEEL, MSS-SP-75, Y-52	M021405	EA	4	GS&S B-20.2	





MAXIMUM CONSTRUCTION LOAD PER HALF AXLE (LBS)

DEPTH OF COVER (FT)	(P) 8.625"OD x 0.188"WT, API 5L, X-52, HFW	(P) 8.625"OD x 0.322"WT, API 5L, GR B, SMLS	(P) 8.625"OD x 0.322"WT, API 5L, X-42, SMLS	(P) 8.625"OD x 0.250"WT, API 5L, X-52, HFW	(P) 6.625"OD x 0.280"WT, API 5L, GR-B, SMLS	(E) 4.500"OD x 0.156" WT, 30,000 SMYS, SMLS	(E) 4.500"OD x 0.237" WT, API 5L, GR-B, SMLS
4	48468	88292	119484	92046	89804	18279	102135
5	54460	102204	139599	106704	104017	18269	113800
6	60420	116532	160481	121821	118663	17885	136037
7	66036	130558	181094	136640	133008	17127	152986
8	70868	143245	199934	150067	145994	16005	168404

DESIGN CRITERIA

BOM #	OD (IN)	WT (IN)	SYMS (PSI)	CURRENT CLASS LOCATION	DESIGN FACTOR	FDP (PSIG)	FDP (%SMYS)	MAOP (PSIG)	MAOP (%SMYS)
101	8.625	0.188	52,000	2	0.5	720	31.76	490	21.62
102	8.625	0.250	52,000	2	0.5	720	23.88	490	16.25
104	6.625	0.280	35,000	2	0.5	720	24.34	490	16.56
105	1.050	0.154	35,000	2	0.5	720	7.01	490	4.77
130	8.625	0.322	42,000	2	0.5	720	22.95	490	15.63

COPY

GTS
Gas Transmission Systems, Inc.
876 Lower Lake, Suite 250
Stockton, CA
(925) 479-4532
www.gtsinc.net
Project No. 18075

REGISTERED PROFESSIONAL ENGINEER
JOSHUA L. QUIN
RCE 75608
Exp. 06-30-2020
CIVIL
STATE OF CALIFORNIA

WARNING:
THIS DOCUMENT CONTAINS CONFIDENTIAL, PROPRIETARY INFORMATION THAT IS THE SOLE PROPERTY OF PACIFIC GAS AND ELECTRIC COMPANY AND IS INTENDED FOR USE ONLY BY AUTHORIZED PACIFIC GAS AND ELECTRIC COMPANY EMPLOYEES AND ITS AGENTS.
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811 Know what's below. Call before you dig.

ZERO IN ON SAFETY

NO.	DATE	DESCRIPTION	PM/SPEC	DWN	CHKD	SUPV	APVD BY
1	03/26/18	CHANGED "A" DIM FOR VALVE V-1	74015830	DS	PD	JQ	JQ
0	03/19/18	ISSUED FOR CONSTRUCTION	74015830	GW	PD	JQ	JQ

REVISIONS

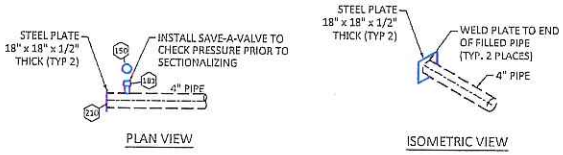
APPROVED BY	
PSHS	
SUPV J.QUIN	
DSGN P.DANIELS	
DWN G.WILKERSON	
CHKD P.DANIELS	
OK	
DATE 03/19/18	
SCALES AS SHOWN	

CONSTRUCTION DETAILS / BILL OF MATERIAL
DFM 0605-01 MP 0.00-0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

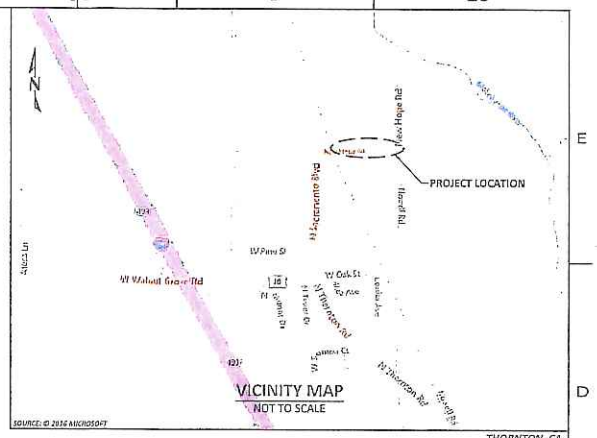
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

BILL OF MATL	SHEET 9
DWG LIST	
TRACKING NUMBER	R-1113
SHEET NO. 11 OF 12	SHEETS
74015830	1

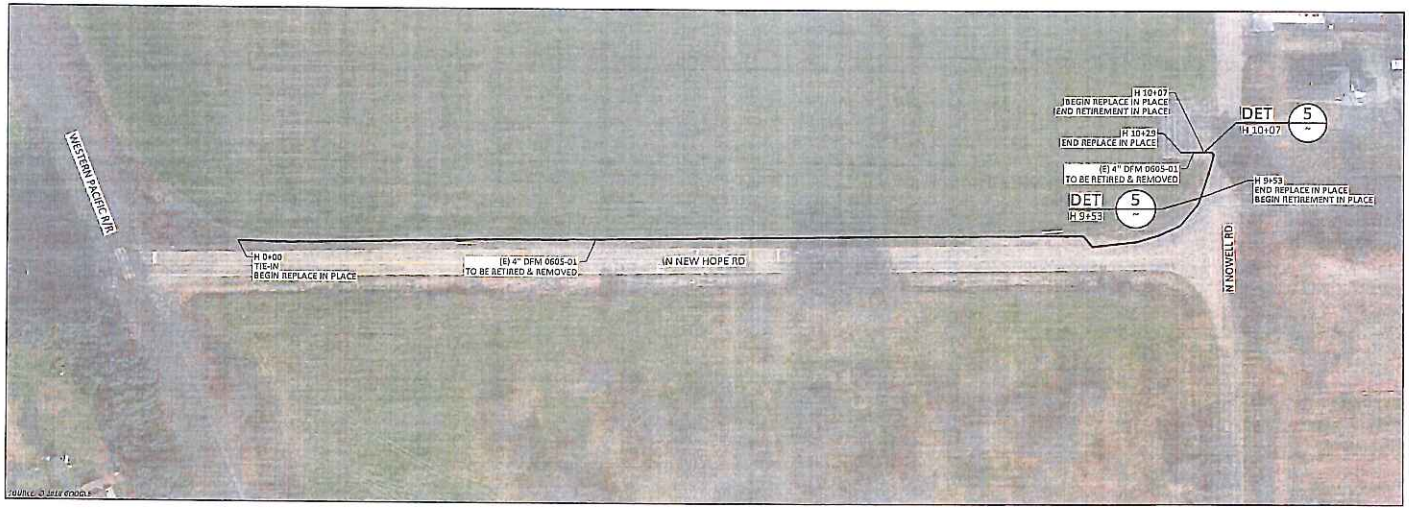
RETIREMENT PLAN
LOCATION & DETAILS



DETAIL 5 / ~ — TYPICAL RETIREMENT PROCEDURE BOTTOM
SCALE: NO SCALE



THORNTON, CA



PLAN VIEW
(SCALE: 1" = 60')

RETIREMENT PROCEDURE FOR EXISTING PIPE

1. GT&D UTILITY WORK PROCEDURE TD 9500P-16, "RETIREMENT AND/OR RETIREMENT OF UNDERGROUND GAS FACILITIES," SHALL BE FOLLOWED.
2. THE EXISTING PIPE SECTIONS SHALL HAVE FREE LIQUIDS REMOVED AND BE 100% PURGED PER GAS DESIGN STANDARD A-38, "PROCEDURES FOR PURGING GAS FACILITIES."
3. THE PIPE SHALL BE SECTIONALIZED AT INTERVALS AS SPECIFIED IN THE RETIREMENT PLAN. THE LOCATIONS CALLED OUT ARE APPROXIMATE AND ARE SUBJECT TO FIELD VERIFICATION TO IDENTIFY THE MOST OPTIMUM LOCATION IN THAT VICINITY. ACCURATE SURVEY DATA MAY NOT BE AVAILABLE FOR THESE LOCATIONS SO USE CAUTION DURING EXCAVATION AND WHEN IDENTIFYING THE PIPELINE TO BE RETIRED. OTHER ACTIVE PIPELINES MAY BE IN THE AREA.
4. AT EACH SUCH LOCATION NOTED ABOVE, A PIECE OF PIPE AT LEAST 24" LONG SHALL BE REMOVED. INSTALL A 2" HIGH PRESSURE SAVE-A-VALVE (H-17491, M022289) TO CHECK FOR PRODUCT AND PRESSURE PRIOR TO CUTTING INTO THE PIPELINE. THE OPEN ENDS OF THE RETIRED PIPE 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.

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811 Know what's below. Call before you dig.

ZERO IN ON SAFETY

NO.	DATE	DESCRIPTION	PM/SPEC	DWN	CHKD	SUPV	APVD BY
1	09/26/18	CHANGED "A" DIM FOR VALVE V-1	74015830	BS	PD	JQ	JQ
0	09/19/18	ISSUED FOR CONSTRUCTION	74015830	GW	PD	JQ	JQ

REVISIONS

APPROVED BY: PSRS
SUPV J.QUAN
DESIG P.DANIELS
DWN G.WILKERSON
CHKD P.DANIELS
CK
DATE 09/19/18
SCALES AS SHOWN

RETIREMENT PLAN
DFM 0605-01 MP 0.00-0.21
PIPELINE REPLACEMENT
THORNTON, CALIFORNIA

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

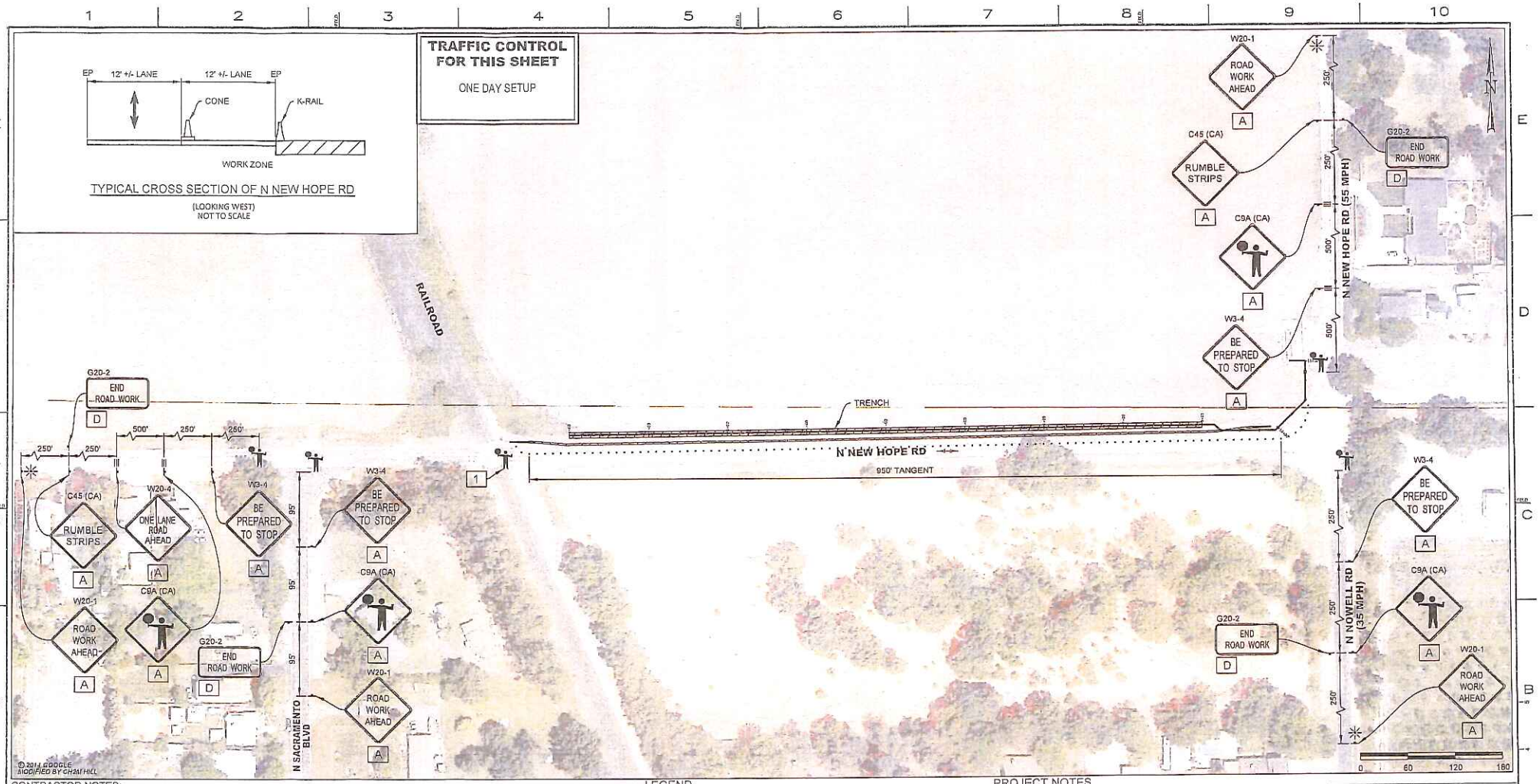
SAFETY FIRST
I ALWAYS PUT SAFETY FIRST. I LOOK FOR AND ACT TO RECOGNIZE UNSAFE SITUATIONS, STOP AND ENCOURAGE OTHERS TO ACT SAFELY.

GTS
Gas Transmission Systems, Inc.
Project No. 18-075

REGISTERED PROFESSIONAL ENGINEER
JOHN R. T. QUAN
RCE 75808
Exp. 06-30-2020
CIVIL
STATE OF CALIFORNIA

COPY

BILL OF MATL SHEET 3
DWG LIST
TRACKING NUMBER R-1113
SHEET NO. 12 OF 12 SHEETS
74015830 | 1



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.
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. YSC TRANSPORTATION CONSULTANTS ASSUMES NO LIABILITY WHEN CONTRACTOR DOES OWN SET UP OR MAKES CHANGES TO THE ORIGINAL TRAFFIC CONTROL PLAN.
10. COUNTY ENGINEER OR HIS REPRESENTATIVE HAS THE AUTHORITY TO INITIATE FIELD CHANGES TO ASSURE PUBLIC SAFETY.
11. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLAN FOR CONSTRUCTION AREAS WHICH ARE NOT COVERED BY THESE TRAFFIC CONTROL PLANS.
12. PLANS ARE ACCURATE FOR TRAFFIC CONTROL WORK ONLY. PIPELINE LOCATION IS APPROXIMATE AND FOR REFERENCE ONLY.
13. CONTRACTOR SHALL PLATE EXCAVATED AREA DURING NON-WORKING HOURS.

LEGEND

- = CHANNELIZER (SPACING PER TABLE 1 ON CALTRANS STD PLAN T9)
- = TEMPORARY SIGN POST
- = PORTABLE FLASHING BEACON
- = TRAFFIC FLOW DIRECTION
- = TEMPORARY 20' CONCRETE RAIL (TYPE K)
- = CRASH CUSHION (ABSORB NCHRP 350 TL-3 9-ELEMENT SYSTEM)
- = RUMBLE STRIP (SEE SHEET T13 ON CALTRANS STD PLAN)

PROJECT NOTES

1. CONTRACTOR SHALL PROVIDE RAILROAD FLAGGER TO WATCH OUT FOR APPROACHING TRAINS AND COORDINATE WITH OTHER FLAGGERS TO STOP TRAFFIC AND CLEAR ALL TRAFFIC FROM TRACK WHEN TRAIN IS APPROACHING.

SIGN PANEL SIZE

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

REGISTERED PROFESSIONAL ENGINEER
RICHARD STO CASTRO
No. 61211
CIVIL
STATE OF CALIFORNIA
07/10/18

K-RAIL INSTALLATION/REMOVAL

NO.	DATE	DESCRIPTION	G31/SPEC	DWN	CHKD	SUPV	APVD BY
0	07/10/18	ISSUED FOR PERMIT	74015830	TK	TK	EC	

REVISIONS

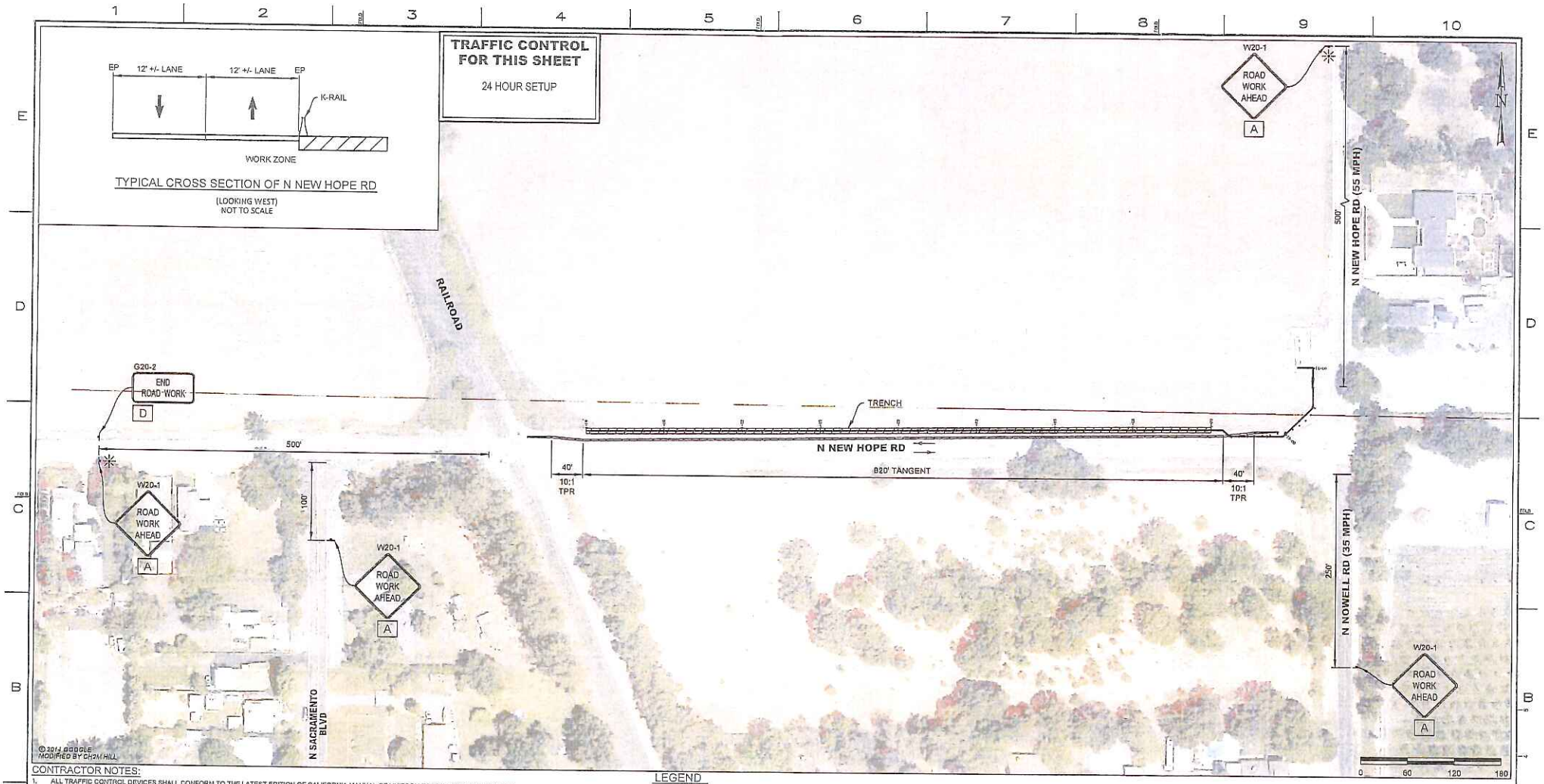
APPROVED BY	GM 74015830		
	SUPV		
	DESGN	TK	
TK	DWN	TK	
	CHKD	TK	
TK	CK	EC	
EC	DATE 07/10/18		
	SCALES AS SHOWN		

REPLACEMENT PROJECT (R-1113)
DFM 0605-01, MP 0.00 – 0.21
TRAFFIC CONTROL PLAN
SAN JOAQUIN COUNTY, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

MICROFILM

BILL OF MAT'L	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO. 1 OF 4	SHEETS
74015830	0



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.
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.
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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 ASSUMES NO LIABILITY WHEN CONTRACTOR DOES OWN SET UP OR MAKES CHANGES TO THE ORIGINAL TRAFFIC CONTROL PLAN.
10. COUNTY ENGINEER OR HIS REPRESENTATIVE HAS THE AUTHORITY TO INITIATE FIELD CHANGES TO ASSURE PUBLIC SAFETY.
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- = PORTABLE FLASHING BEACON
- = TRAFFIC FLOW DIRECTION
- = TEMPORARY 20' CONCRETE RAIL (TYPE K)
- = CRASH CUSHION (ABSORB NCHRP 350 TL-3 9-ELEMENT SYSTEM)

SIGN PANEL SIZE	
A	48" X 48"
D	48" X 24"

NO.	DATE	DESCRIPTION	CH/SPEC	DWN	CHKD	SUPV	APVD BY
0	07/10/18	ISSUED FOR PERMIT	74015830	TK	TK	EC	

REVISIONS

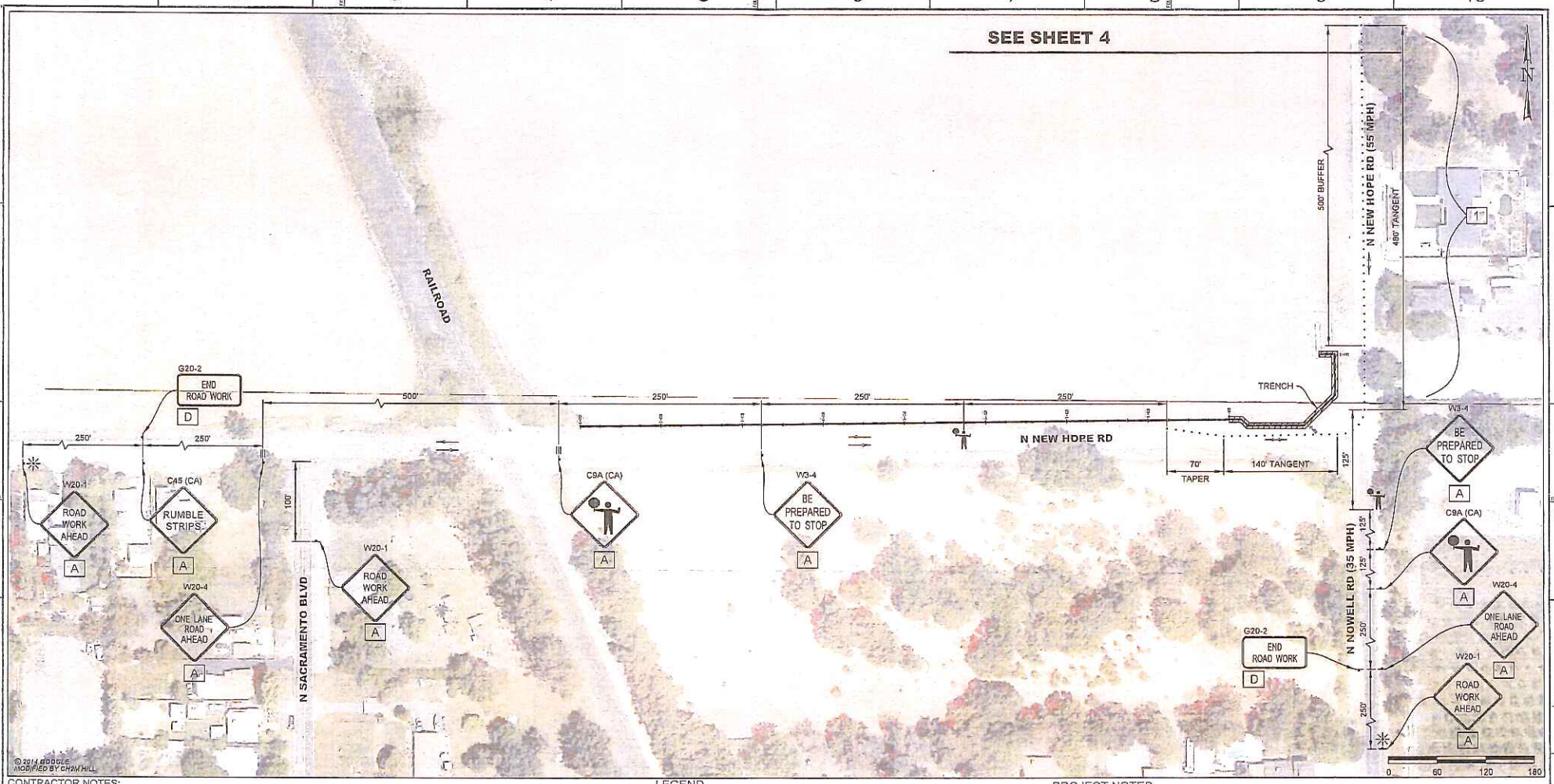
APPROVED BY	
GM	74015830
SUPV	
DSGN	TK
DWN	TK
CHKD	TK
QC	EC
DATE	07/10/18
SCALES	AS SHOWN

REPLACEMENT PROJECT (R-1113)
DFM 0605-01, MP 0.00 – 0.21
TRAFFIC CONTROL PLAN
SAN JOAQUIN COUNTY, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
ERNESTO CARDENAS
No. 82019
CIVIL
STATE OF CALIFORNIA
07/10/18

MICROFILM
BILL OF MATL
DWG LIST
SUPSUS
SUPSD BY
SHEET NO. 2 OF 4 SHEETS
74015830 0



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.
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 C26 "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&G TRANSPORTATION CONSULTANTS ASSUMES NO LIABILITY WHEN CONTRACTOR DOES OWN SET UP OR MAKES CHANGES TO THE ORIGINAL TRAFFIC CONTROL PLAN.
10. COUNTY ENGINEER OR HIS REPRESENTATIVE HAS THE AUTHORITY TO INITIATE FIELD CHANGES TO ASSURE PUBLIC SAFETY.
11. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLAN FOR CONSTRUCTION AREAS WHICH ARE NOT COVERED BY THESE TRAFFIC CONTROL PLANS.
12. PLANS ARE ACCURATE FOR TRAFFIC CONTROL WORK ONLY. PIPELINE LOCATION IS APPROXIMATE AND FOR REFERENCE ONLY.
13. CONTRACTOR SHALL PLATE EXCAVATED AREA DURING NON-WORKING HOURS.

LEGEND

- = CHANNELIZER (SPACING PER TABLE 1 ON CALTRANS STD PLAN T9)
- = TEMPORARY SIGN POST
- = PORTABLE FLASHING BEACON
- = TRAFFIC FLOW DIRECTION

PROJECT NOTES

1 PROVIDE ADDITIONAL FLAGGER AS NECESSARY.

SIGN PANEL SIZE

A 48" X 48"

D 48" X 24"

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0	07/10/18	ISSUED FOR PERMIT	74015830	TK	TK	EC	EC

REVISIONS

APPROVED BY: TK

GM 74015830
SUPV
DSGN TK
DWN TK
CHKD TK
DK EC
DATE 07/10/18
SCALES AS SHOWN

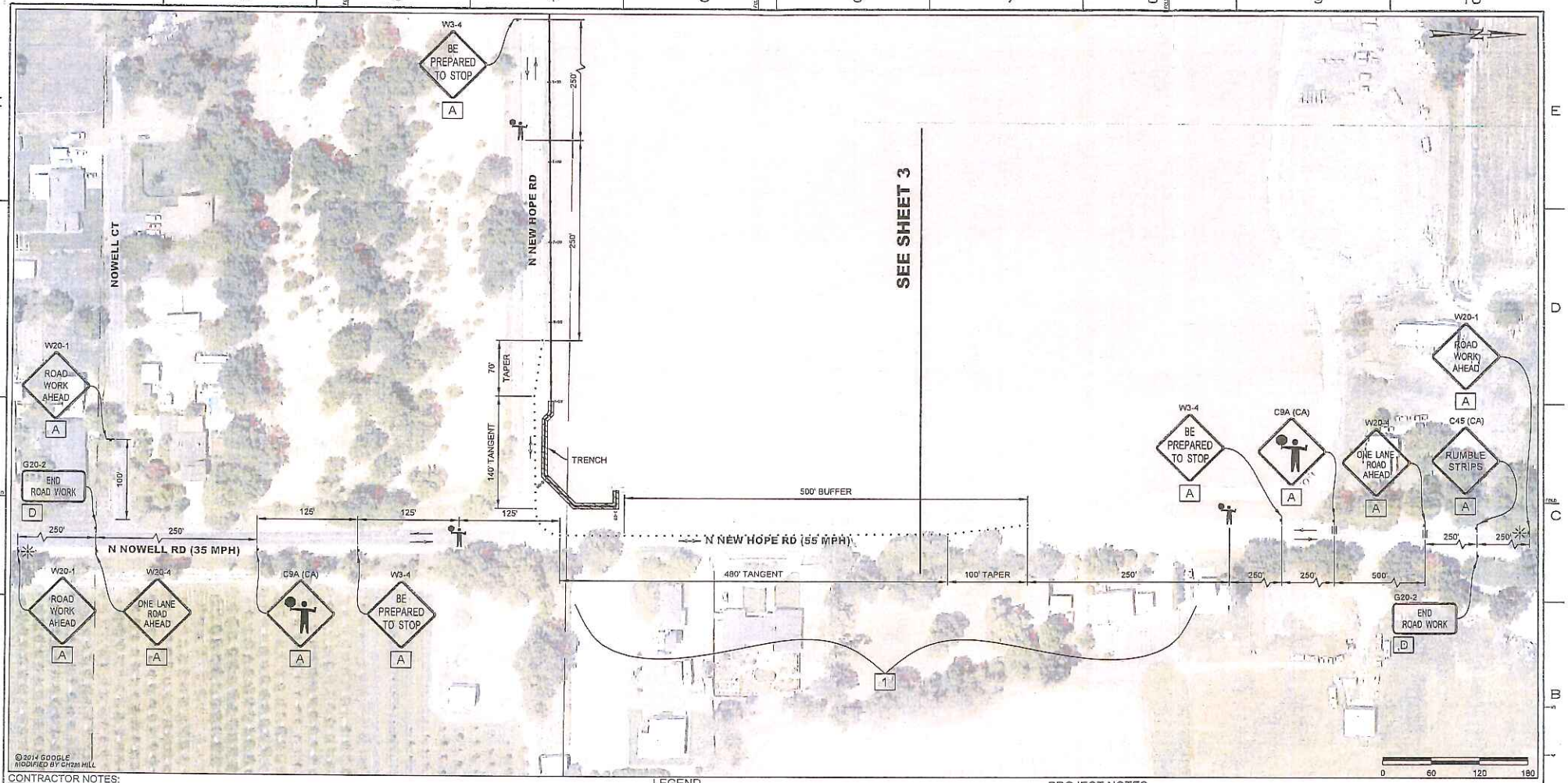
REPLACEMENT PROJECT (R-1113)
DFM 0505-01, MP 0.00 - 0.21
TRAFFIC CONTROL PLAN
SAN JOAQUIN COUNTY, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
ELIZABETH CARMONA
No. 81270
Exp. 12/31/19
CIVIL
STATE OF CALIFORNIA
07/10/18

MICROFILM

BILL OF MATL
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. 3 OF 4
SHEETS
74015830
0



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0	07/10/18	ISSUED FOR PERMIT	74015830	TK	TK	EC	

REVISIONS

APPROVED BY: TK EC

CD# 74015830
SUPV
DSGN TK
DWN TK
CHKD TK
QC EC
DATE 07/10/18
SCALES AS SHOWN

REPLACEMENT PROJECT (R-1113)
DFM 0505-01, MP 0.00 – 0.21
TRAFFIC CONTROL PLAN
SAN JOAQUIN COUNTY, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
ROSSITO CASTILLO
No. 81314
CIVIL
STATE OF CALIFORNIA
07/10/18

MICROFILM
BILL OF MATL
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. 4 OF 4 SHEETS

74015830 0

SPECIAL CONDITIONS FOR
ENCROACHMENT PERMIT

1. Maintain traffic controls for all roads. Traffic control delays shall not exceed 15 minutes. Two-way traffic shall be maintained during non-working hours with excavated areas backfilled or plated. During working hours, two-way traffic control shall be maintained with one lane open and appropriate flaggers.

2. Access to all properties shall be maintained at all times except when work is occurring at the access point. Minimal delays will be allowed to provide access within the work zone area. Driveway access shall be fully restored at the end of each workday. Driveways disturbed by the contractor shall be replaced with in-kind or better materials.

3. Residents and businesses shall be notified in writing, as approved by the County, 1 week in advance of any impacts to their access.

4. Any areas where parking is to be restricted shall have signs noting the restrictions in place at least 48 hours in advance.

5. Existing fences shall not be removed without written consent of the property owner. Such consent shall be submitted to the County prior to the removal. Fences removed shall be restored with in-kind or better materials. Restored fences shall not encroach into County right-of-way.

6. Work shall not be permitted within the San Joaquin County right-of-way between November 1 and March 31 without prior authorization from the San Joaquin County Department of Public Works Field Engineering Division, contact them at 209-953-7421.

7. All destroyed or obliterated pavement markings must be replaced in kind by the permittee. Typical pavement markings include but not limited to lane lines, centerlines, stop and stop ahead legends, limit lines, raised pavement markers and miscellaneous delineators.

8. The Permittee is responsible for the preservation of survey monuments located within the area of work herein permitted. Prior to the start of construction, survey monuments that potentially may be disturbed shall be located and referenced by a Licensed Land Surveyor, and a Corner Record filed with the County Surveyor. Any Survey Monuments disturbed during the course of construction shall be reestablished by a Licensed Land Surveyor and another Corner Record filed with the County Surveyor. (Land Surveyors' Act Section 8771)

9. All pipe and pipeline related facilities including, but not limited to, valves, utility boxes and vaults, and frames and covers shall be maintained by PACIFIC GAS & ELECTRIC, including any facilities that are abandoned in place. PACIFIC GAS & ELECTRIC shall be responsible for any and all costs associated with the removal, relocation and/or adjustment of these facilities as determined by the County at PACIFIC GAS & ELECTRIC's expense. (Streets and Highways Code Section 1463)

10. All future maintenance of the pipeline and related facilities within the County right-of-way will require a San Joaquin County Encroachment Permit.

11. Trenches shall be maintained in a smooth and even condition to the satisfaction of the County throughout the project limits at all times.

12. All trenches shall be completely backfilled or shored and plated at the end of each workday, and the roadway restored to two-way traffic. If plating is to be used, a trench shoring and plating plan suitable for traffic loadings shall be prepared by a registered civil engineer and submitted for prior approval by the County.

13. The contractor shall use San Joaquin County Improvement Standard R-29 when backfilling trenches within the County right-of-way. Where the existing road structural section is below standard, a minimum section of 3 inches of asphalt concrete over 8 inches of aggregate base shall be required.

14. Final paving for trench repair or road resurfacing shall be per Caltrans' specifications and shall not occur between November 1 and March 31, without prior authorization from the San Joaquin County Department of Public Works Field Engineering Division, contact them at 209-953-7421.

15. No paving joints are allowed within paved shoulder; contractor shall pave all the way to outer edge of paved shoulder.

16. Class II Aggregate Base shoulder backing is required from the edge of pavement, a minimum of 4-inches thick by 4-feet wide.

17. Contractor shall establish existing roadway and drainage grades within the construction area. Any repair to roadways and adjacent areas shall match existing grades. Any proposed grade changes shall receive prior approval from County.

18. Above ground vaults, panels and/or other similar facilities will be allowed within the right-of-way if located as far to the outside edge as possible. Utility vaults shall be located a minimum of 4'-0" from edge of pavement.

19. County roads shall be kept clean from mud and debris at all times along the access points and work zone areas during entire project. All standard roadway striping and signage shall be clearly visible, maintained and restored throughout the construction zone during and after the project.

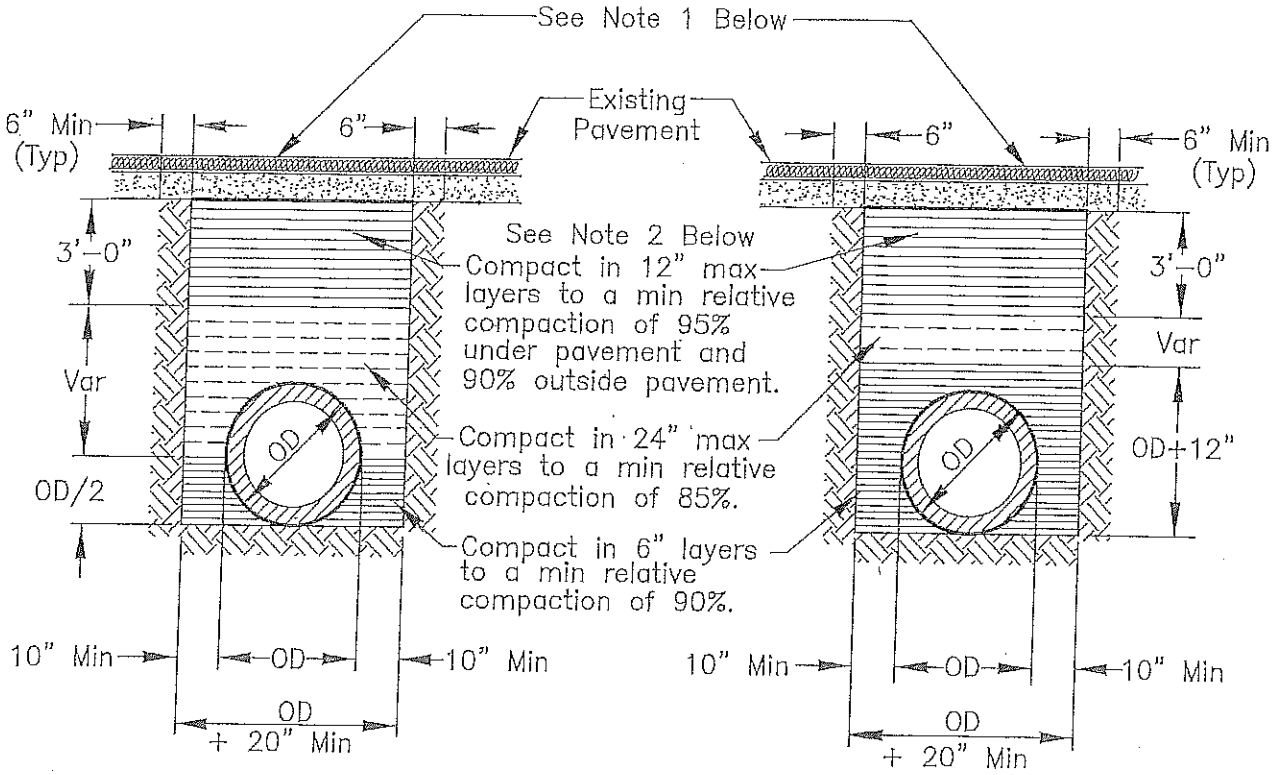
20. In addition to standard dust control measures, streets shall be maintained in a clean condition, free of dirt, mud and debris during construction activities. The contractor shall provide daily, or as needed, street sweeping using a modern mechanical or vacuum-assisted street sweeper.

21. Coordinate with Road Maintenance regarding conflicts with existing 12 inch culvert.

22. Work hours 8:30 am to 4:30 pm.

23. Place CMS 1 week in advance of work.

24. The contractor shall not conduct construction operations in rain or heavy fog conditions.



RIGID CONDUIT

FLEXIBLE CONDUIT

NOTES:

1. New pavement shall be 1" thicker than existing pavement, minimum of 0.25 Ft. New base shall be 1" thicker than existing base, min of 0.50 Ft.
2. Select native material or imported granular material as approved by the Director of Public Works. Backfill with materials equal to or better than the existing pavement and base in quality.
3. Relative compaction of materials shall be tested in accordance with the State of California, Dept. of Transportation Testing Manuals, test method No. California 216 or 231.
4. All existing pavement shall be neatly cut to line prior to trench excavation.
5. Jetting or ponding will be permitted within the street right-of-way with a 3 year bond, when approved by the Director of Public Works.
6. When shown by soil composition and compactability, ninety percent (90%) compaction may be used, when approved by the Director of Public Works.
7. Special bedding and backfill requirements may be shown on the plans or specified in the special provisions.

Public Works San Joaquin County
Working for YOU

TYPICAL TRENCH BACKFILL

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS

Date: DEC 2014

Approved by: Thomas M. Flow

No.	Revision Description	Date

Std. Dwg. No. **R-29**

GENERAL PROVISIONS
GOVERNING INSTALLATION OF SUBSURFACE STRUCTURES AND PIPELINES WITHIN COUNTY ROAD RIGHTS-OF-WAY

PUBLIC CONVENIENCE AND SAFETY:

A. Before obstructing any private driveway entrance or County road traveled way with a trench, spoil bank, equipment or other barrier permitted for any prolonged period of time, the Permittee shall notify the known users of the respective thoroughfare(s) involved, and shall provide access for vehicular and pedestrian traffic to and from the road.
   1. Unless otherwise permitted, all work shall be conducted in such a manner that no less than one lane of the existing County road traveled way will be maintained open to public traffic during working hours in a smooth and safe riding condition(s). Two lanes shall be open after working hours.
   2. In cases where road closure is permitted, the permission to close the road will be granted under the condition that the Permittee notify the following persons and/or agencies of the time, the period of closure, and the detour route at least twenty-four (24) hours prior to said road closure.
      a. The County of San Joaquin Public Works Department
      b. The County of San Joaquin Sheriff's Office
      c. The local postal service
      d. The local fire district
      e. The local school district
      f. The local residents involved

B. Should hazardous conditions relative to the installation operations warrant flagmen, as many capable flagmen as may be necessary shall be provided by the Permittee and stationed in advance of work to warn and direct traffic.

C. Lights, signs and barricades shall be furnished, erected and maintained by the Permittee for the adequate warning and convenience of the public, with particular attention to be taken in this regard after dark.

D. Any excess dirt and/or debris which might be a hazard to either automobile or pedestrian traffic, uncontrollable by lights, signs and barricades, shall be removed from the jobsite daily.

STRUCTURES:

A. Walls of structures shall be such quality and strength that they will resist all pressures and will not crack or be deformed in such a way as to create a hazard or maintenance problem at any time. Therefore, the minimum structural requirements for concrete pipe placed under county road rights-of-way shall conform to the following American Association of State Highway and transportation Officials (AASHTO) designations.
   1. For concrete pipe up to and including thirty-three inches (33") inside diameter, extra strength concrete conforming to AASHTO Designation M 170M.
   2. For concrete pipe thirty-six inches (36") inside diameter and larger, reinforced concrete pipe conforming to AASHTO Designation M 170M Class III.
   3. Plastic pipe conforming to AASHTO Designation M294.

B. All concrete pipe joints with County road rights-of-way shall be sealed against leakage and/or infiltration with rubber gasket in conformance with Section 65-1:06 of the California Standard Specifications, or with other methods as may be permitted under the Special Provisions.

C. Cast-in-place concrete pipe, vitrified clay pipe, spiral welded steel pipe, or corrugated aluminum alloy pipe shall not be installed within the County road rights-of-way unless specifically so stated in the Special Provisions, and only under the conditions as provided.

D. All structures to be buried within the County rights-of-way shall be set at such elevations as to allow minimum coverage of thirty inches (30") to the centerline of the roadways and twelve inches (12") at the bottoms of borrow ditches each side of the roadways. The depths of structures shall be established below a flat plane extending across the rights-of-way, no part of which shall extend above the elevations stated above; manholes, lampholes, valves, etc. not included. Future surface elevations shall be anticipated as nearly as possible and structure elevations shall be established for future adjustments accordingly.

E. The County hereby reserves the right to specify in the Special Provisions the gage and surface treatment of any galvanized corrugated metal pipe that is to be installed.

F. All longitudinal utility facilities are to be established (and dimensioned on sketches) from surveyed centerline of road right-of-way, not from right-of-way (border) lines.

REPAIRS OF THE COUNTY RIGHT-OF-WAY:

A. All excavations shall be backfilled and compacted immediately after work therein has been completed.

B. Trenched shall not be left open farther than 300 feet in advance of pipe laying operations, or 200 feet to the rear thereof, unless otherwise permitted by the Engineer.

C. Unless otherwise permitted under the Special Provisions, backfill shall be placed and mechanically compacted in such a manner that the relative compaction throughout the entire fill within the County road right-of-way shall conform to the percentages of compaction as shown on the Trench detail.

D. Backfill material shall be placed in horizontal uniform layers not to exceed in thickness, before compaction, 0.67 foot in the bedding region, one –foot where 90% compaction is required, and two-feet where 80% compaction is required.

E. No portion of the excavation(s) shall be compacted by ponding or jetting unless a maintenance bond is provided.

F. Gravel backfill material shall be utilized only where specifically so stated on the face of the permit. It shall be compacted by means of a high-frequency internal vibrator, the compactor to be a size and type approved by the Engineer. Points of compaction shall not be greater than 18" centers and to the full depth of the lift.

G. All pavements, curbs, gutters, sidewalks, borrow ditches, pipes, head walls, road signs, trees, shrubbery, and/or other permanent road facilities impaired by or as a result of construction operations at the construction site(s) occupied by materials and/or equipment, shall be restored immediately upon backfilling of the excavation to the original grades and cross sections, and to a condition as good as, or better than existing prior to construction.

H. All surfacing materials of roadways and driveway approaches cut or damaged by or as a result of construction operations, shall be replaced within ONE WEEK following the backfilling of excavation, weather permitting, with compacted layers of surfacing materials at least as thick as the existing, and no less than two inches (2") of asphalt concrete over six inches (6") of aggregate base, both as specified below.
   1. Asphalt Concrete: Combined mineral aggregate shall conform to the quality and gradation requirements for Type "B" one-half inch(1/2) maximum aggregate, coarse or medium gradation as specified in Section 39 of the California Standard Specifications. The bituminous binder to be mixed with mineral aggregate shall be paving asphalt having (Grade PG 64-10), unless otherwise directed by the Engineer. Placement of asphalt concrete surfacing shall conform to the applicable provisions of Section 39 of the California Standard Specifications.
   2. Aggregate Base: Combined mineral aggregates shall conform to the quality and the grading for three-quarter inch (3/4") maximum size aggregate Class 2 Aggregate Base specified in Section 26 of the California Standard Specifications.

I. Before acceptance of repairs to the County road rights-of-way, all unsightly and detrimental dirt, dust and/or debris shall be removed and the construction areas left in a neat and presentable condition(s).
   1. If necessary, County road traveled way and driveway pavements shall be washed with water to remove dirt and dust.
   2. Driveway approaches and field entrance pavements damaged by equipment or spoil banks shall be repaired as directed by the Engineer.

J. Upon request by the County, any settlement, sagging of surface, or cracking of pavement shall be repaired immediately by and at the sole expense of the Permittee for a period of one year following acceptance of the work.

SPECIAL PROVISIONS

Winter Weather Utility Work

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1. **SUPERVISION:** The utility company (**permittee**) shall furnish full-time supervision of all work to insure compliance with the permit provision.

2. **START OF WORK:** No work within the County right-of-way shall be started until the utility company representative has made an evaluation of weather conditions and has determined the work can be accomplished under the provisions of the permit.

3. **CLEAN PAVEMENT:** Dirt and mud shall not be deposited on the pavement outside the area of work, and if inadvertently tracked onto the road travel way shall be removed immediately.

4. **DAILY RESTORATION:** Private driveways and road intersections shall be restored daily.

5. **WEATHER-TIGHT CONDITIONS:** All trenches shall be filled and compacted, ditches and other drainage facilities regarded and opened, and the entire work area restored to weather-tight condition prior to any rain.