Work Variance Request Form

Groundwater Remedy Phase 1 Construction, PG&E Topock Compressor Station, Needles, California

PG&E TOPOCK GROUNDWATER REMEDIATION PROJECT

Work Variance Request #6 – Realignment of Pipeline F to Pipelines J and B

Request Prepared By: PG&E	Request Approval From: DTSC and DOI
Date Submitted: 5/3/19	Date Approval Required: 5/15/19
Variance Request No.: 6	Map Area: N/A
Location: Along National Trails Highway, near I-40 bridge	

Landowner/Land Manager: PG&E/HNWR (managed by USFWS) Land Owner Parcel No: 650-161-08/650-161-19

Current Vegetative Cover/Land Use: Minimal along Pipelines B and J, none inside TCS

Existing Sensitive Resource? ☐ No ☒ Yes, Specify: Palo verde plants/cacti/potential ringtail cat habitat along B/J

Variance From: ☐ Mitigation Measure ☐ Work Plan/Procedure ☐ Response to Comments

☒ Drawing ☐ Permit Condition ☐ Other

Detailed Description of Variance and Justification (Attach additional information if necessary):

Attachments: ☐ Photo ☒ Construction Drawing ☐ Aerial Photo Mark-Up ☐ Correspondence ☐ Other

Potential Impacts of Variance:

☐ Air Quality	☐ Hazardous Materials	☐ Aesthetic
☒ Biological Resources	☐ Noise	☐ Water Resources
☐ Soils	☐ Paleo Resources	
☐ Cultural Resources	☐ Hydrology and Water Quality	

Description and Justification:

In early October 2018, PG&E conducted a geotechnical investigation along the Pipeline F alignment on the entrance road to the Topock Compressor Station (TCS) and the adjacent hill side. Based on the geotechnical results, the construction contractor (PIVOX) indicated that soldier piles and lagging would be installed for temporary shoring. Over 40 soldier piles would be installed by drilling using a 330-sized excavator or larger. A 330-sized excavator has a general width of 11 feet, and counter weight clearance of approximately 4 feet. During operation, this rig would occupy a minimum 15 to 16 feet width of the TCS entrance road for about 12 days. The paved width of the road is between 22 to 24 feet in the area of shoring (per review of the location via Google Earth).

Assuming a minimum clearance of 1 foot (which is still less than the recommended clearance) from any operating equipment, there will be approximately 5 to 8 feet of available lane width for access by TCS traffic. Large vehicles (tractor-trailers, delivery trucks, construction equipment) will likely not be able to pass by the active operation, and passenger vehicles may also not be able to pass the active operation in locations where the road narrows. Also, the excavator cannot be repositioned while soldier piles are being drilled. In sum, access to TCS will be severely restricted for about 12 days. This is not acceptable for Compressor Station operations.

Therefore, PG&E proposes to realign Pipeline F (starting from segment F3) along the approved alignment of Pipelines B and J. Construction of Pipelines F, B, and J would occur in the same alignment and at the same time. The estimated net change in the excavated soil volumes and pipelines/conduits lengths are:

- Soil disturbance: a reduction of 1,590 cubic yards.
- Linear footage of trenches: a reduction of 1,250 feet.
- Linear footage of liquid conveyance piping: an increase of 7,832 feet (because the combined length of Pipelines J and B is 1,000 feet longer than Pipeline F)
- Linear footage of electrical conduits/communication lines: an increase of 979 feet (for same reason as above).

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Groundwater Remedy Phase 1 Construction, PG&E Topock Compressor Station, Needles, California

PG&E TOPOCK GROUNDWATER REMEDIATION PROJECT

Work Variance Request #6 – Realignment of Pipeline F to Pipelines J and B

Description and Justification (Continued):

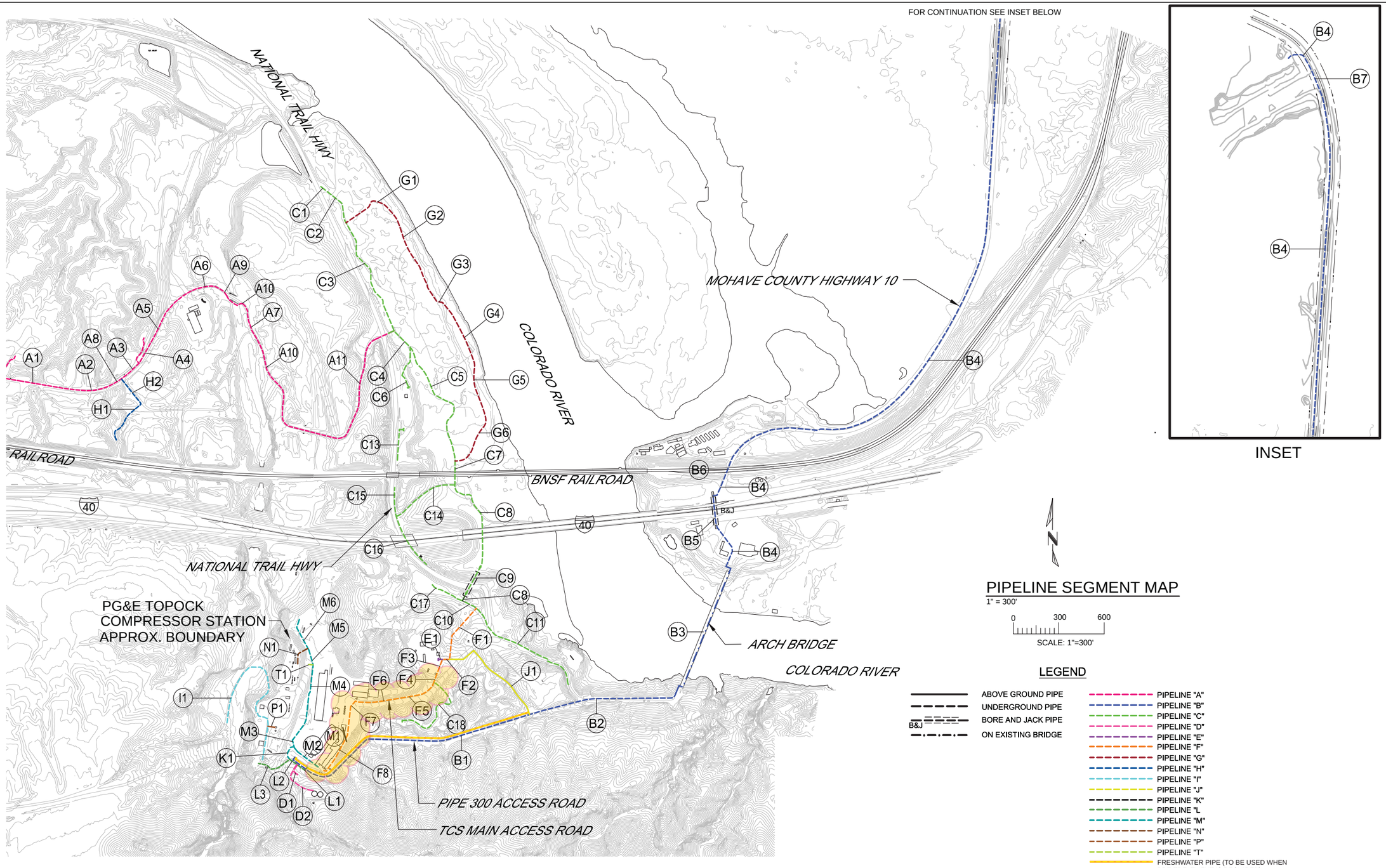
- Linear footage of liquid conveyance piping: an increase of 7,832 feet (because the combined length of Pipelines J and B is 1,000 feet longer than Pipeline F)
- Linear footage of electrical conduits/communication lines: an increase of 979 feet (for same reason as above).

There are no additional impacts to biology, historical, and cultural resources not already evaluated. Similar to previous construction work in this area, PG&E will install traffic cones to block access to the bluff above work area (see drawing C-07-69).

Approval Signatures:

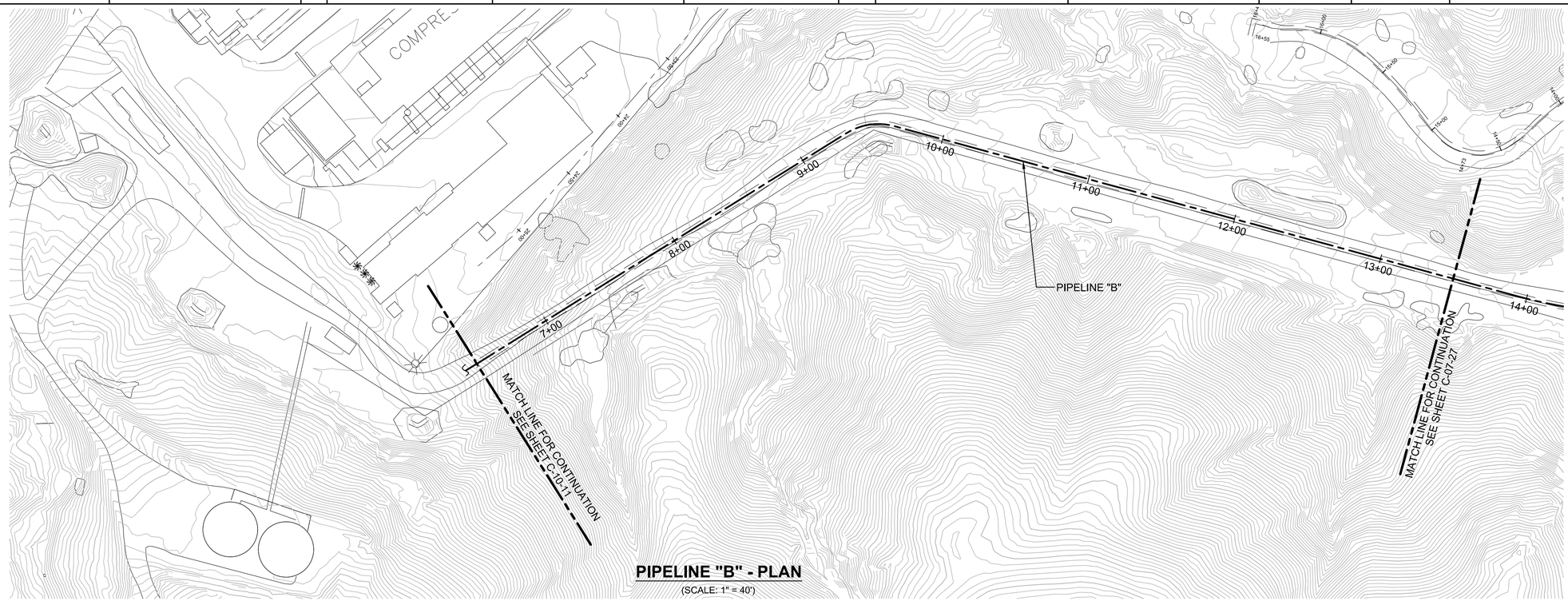
5/3/19		DTSC 5/22/2019	
PG&E Construction Manager	Date	Approving Agency	Date
05/02/19		Pamela Innis DOI 05/21/2019	
PG&E QA Manager	Date	Approving Agency	Date

Relevant Drawings from Approved Final Design (November 2015)



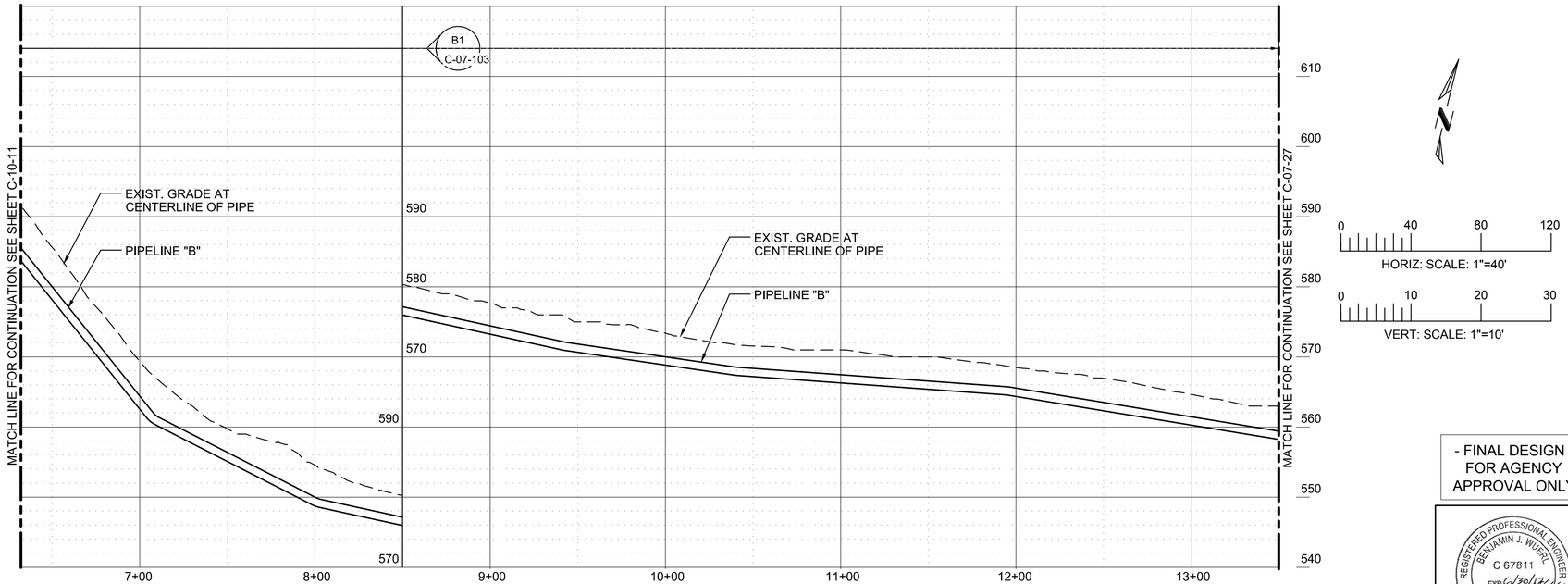
Segments of Pipeline F to be realigned to Pipelines B and J

FIGURE 3.3-1
KEY PIPELINE MAP
GROUNDWATER REMEDY CONSTRUCTION/REMEDIAL ACTION WORK PLAN
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA



PIPELINE "B" - PLAN

(SCALE: 1" = 40')



PIPELINE "B" - PROFILE

(SCALE: 1" = 40' H; 1" = 10' V)

- FINAL DESIGN - FOR AGENCY APPROVAL ONLY

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN J. WUGAL
C 67811
EXP 6/30/17
CIVIL
STATE OF CALIFORNIA

ETIC ENGINEERING

ARCADIS

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
3	11/18/15	FINAL DESIGN	AJW	WLM	BW	RAO	
2	8/5/15	90% RTC RESOLUTION	AJW	KLD	WLM	BJW	
1	9/8/14	PRE-FINAL (90%) DESIGN					
0	4/5/13	INTERMEDIATE (60%) DESIGN					

REVISIONS

APPROVED BY	
RAO	

SO	XXXXX
SUPV	PD
DSGN	GO
DWN	LD
CHKD	JM
OK	PD
DATE	9/8/14
SCALES	1" = 40'-0"

TOPOCK GROUNDWATER REMEDIATION PROJECT

PLAN AND PROFILE PIPELINE "B" STA 3+05 TO STA 13+50

GAS TRANSMISSION & DISTRIBUTION

PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
C-07-26	REV 3

N1808

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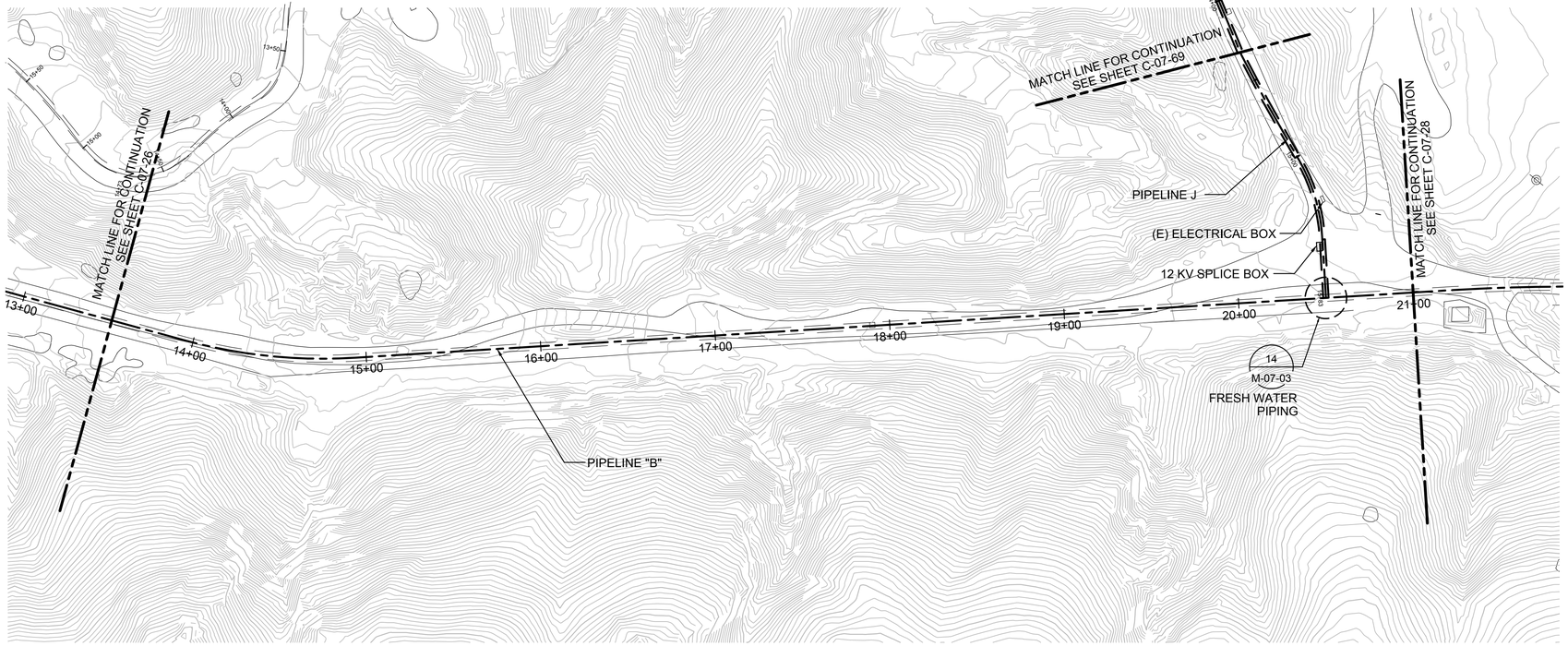
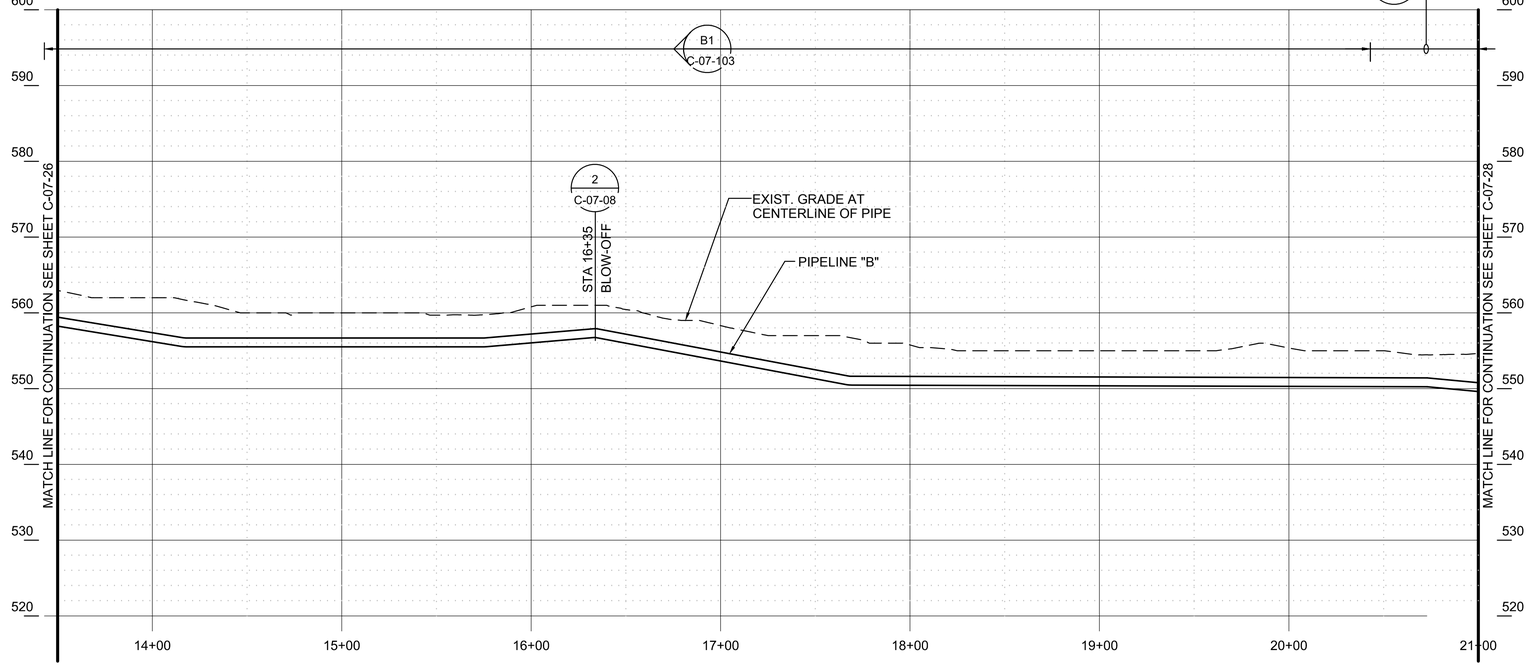


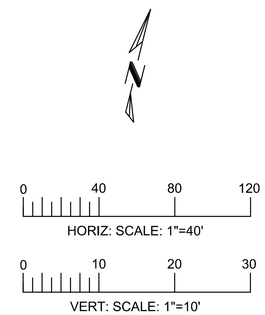
PIPELINE "B" - PLAN

(SCALE: 1" = 40')



PIPELINE "B" - PROFILE

(SCALE: 1" = 40' H; 1" = 10' V)



- FINAL DESIGN -
FOR AGENCY
APPROVAL ONLY

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BENJAMIN J. WUERL
C 67811
EXP 6/30/17
CIVIL
STATE OF CALIFORNIA

ETIC ENGINEERING

ARCADIS

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
3	11/18/15	FINAL DESIGN	AJW	WLM	BW	RAO	
2	8/5/15	90% RTC RESOLUTION	AJW	KLD	WLM	BJW	
1	9/8/14	PRE-FINAL (90%) DESIGN					
0	4/5/13	INTERMEDIATE (60%) DESIGN					

REVISIONS

APPROVED BY	
RAO	SO
	SUPV
	DSGN
	DWN
	CHKD
	OK
	DATE
	SCALES

TOPOCK GROUNDWATER REMEDIATION PROJECT

PLAN AND PROFILE
PIPELINE "B"
STA 13+50 TO STA 21+00

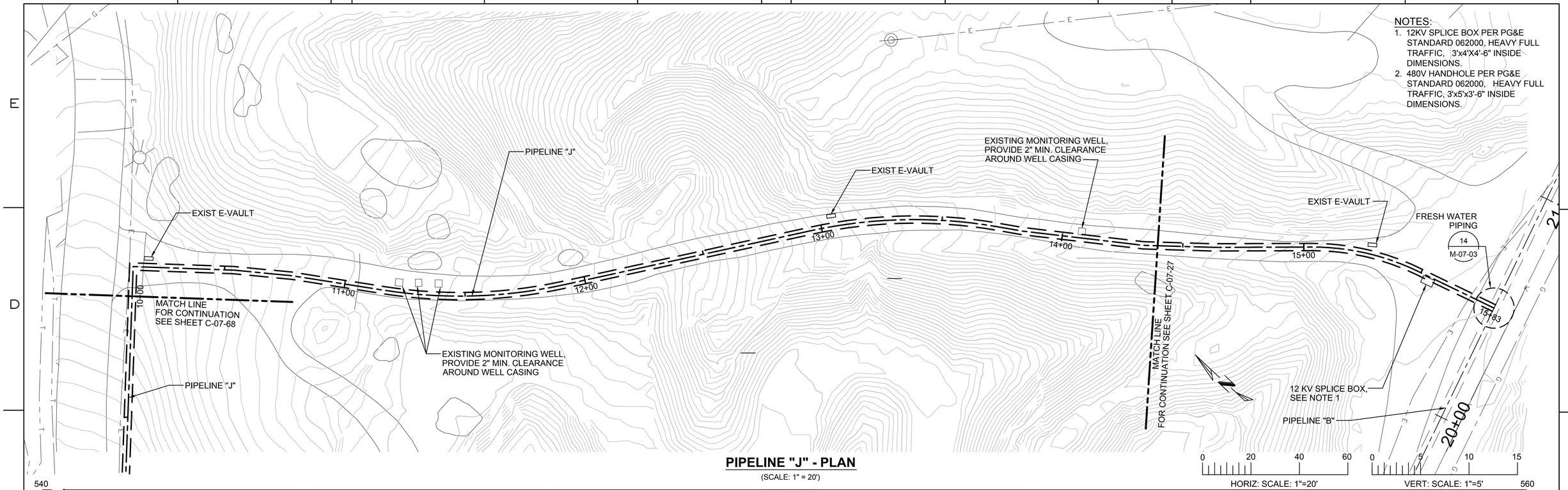
GAS TRANSMISSION & DISTRIBUTION

PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO. of SHEETS	
C-07-27	REV 3

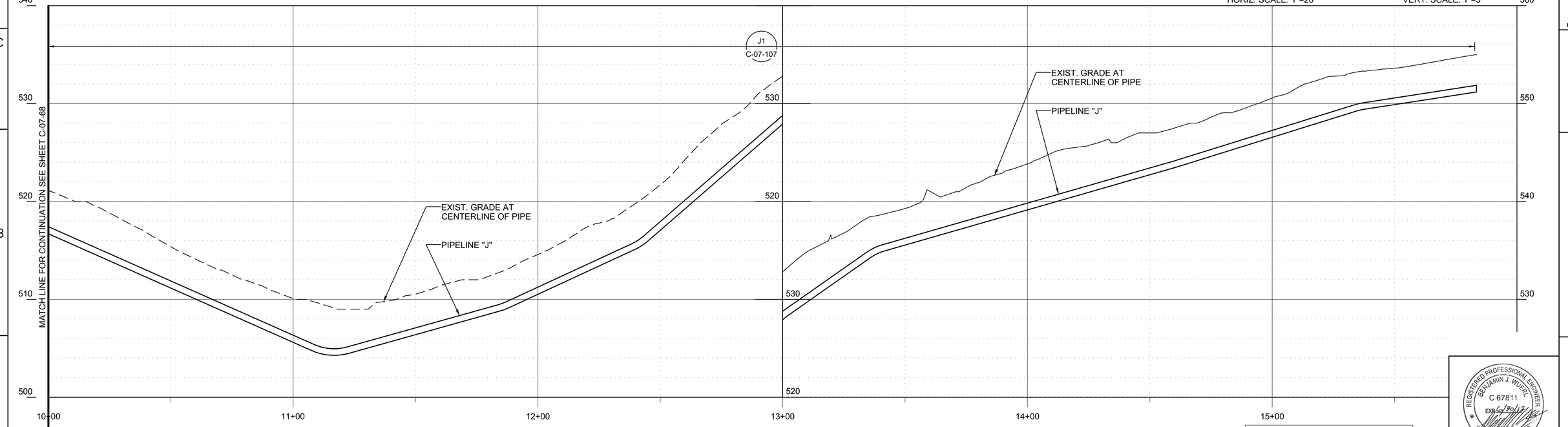
N1808

NOTES:
1. 12KV SPLICE BOX PER PG&E STANDARD 062000, HEAVY FULL TRAFFIC, 3'x4'X4'-6" INSIDE DIMENSIONS.
2. 480V HANDHOLE PER PG&E STANDARD 062000, HEAVY FULL TRAFFIC, 3'x5'x3'-6" INSIDE DIMENSIONS.



PIPELINE "J" - PLAN

(SCALE: 1" = 20')



PIPELINE "J" - PROFILE

(SCALE: 1" = 20' H; 1" = 5' V)

- FINAL DESIGN - FOR AGENCY APPROVAL ONLY

REGISTERED PROFESSIONAL ENGINEER BENJAMIN J. WUERL C 67811 EXP 6/30/17 CIVIL STATE OF CALIFORNIA

ETIC ENGINEERING

ARCADIS

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
3	11/18/15	FINAL DESIGN	AJW	WLM	BW	RAO	
2	8/5/15	90% RTC RESOLUTION	AJW	KLD	WLM	BJW	
1	9/8/14	PRE-FINAL (90%) DESIGN					
0	4/5/13	INTERMEDIATE (60%) DESIGN					

REVISIONS

APPROVED BY	
RAO	SO
	SUPV
	DSGN
	DWN
	CHKD
	OK
	DATE
	SCALES

TOPOCK GROUNDWATER REMEDIATION PROJECT

PLAN AND PROFILE
PIPELINE "J"
STA 10+04 TO STA 15+83
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
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SHEET NO. of SHEETS	
C-07-69	REV 3

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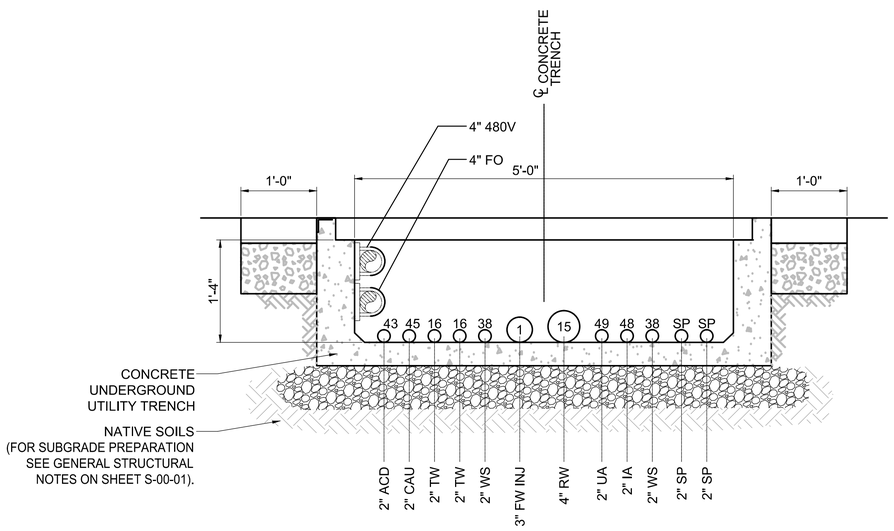
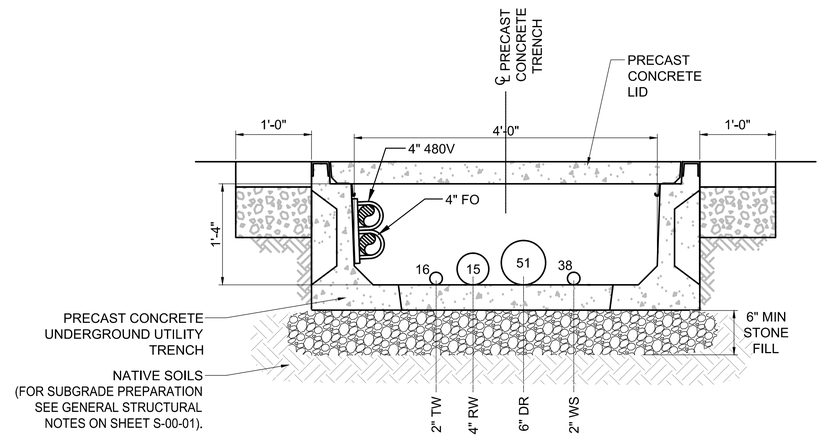


PIPELINE L

L3 SECTION
1"=1'-0"
C-07-74

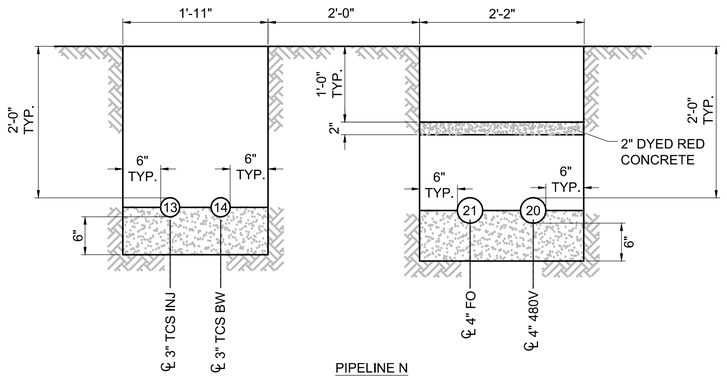


PIPELINE L

K1 SECTION
1"=1'-0"
C-07-73

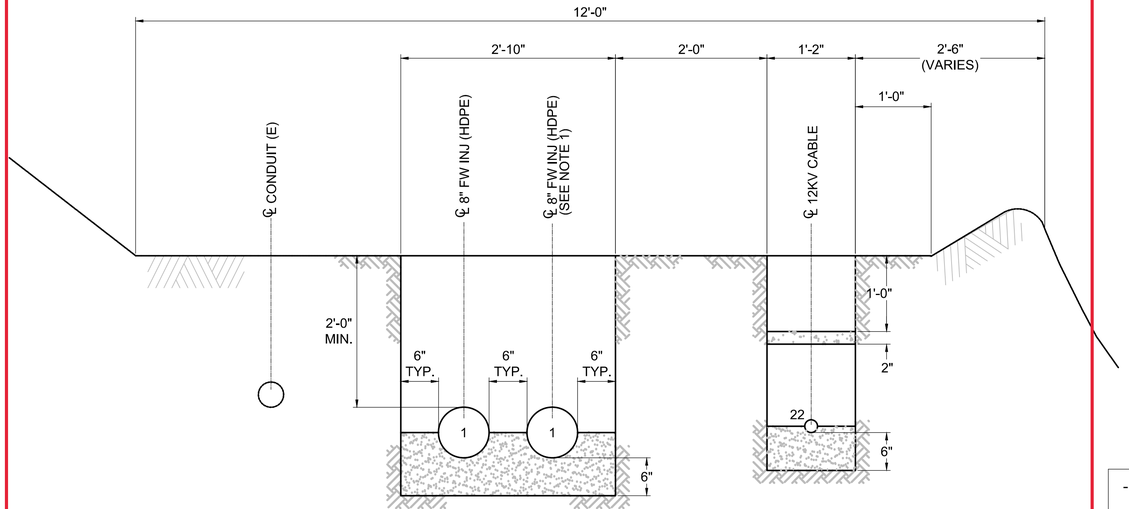
PRECAST CONCRETE UNDERGROUND UTILITY TRENCH NOTES:

1. PRECAST CONCRETE UTILITY TRENCH COMPONENTS (I.E. LIDS, WALLS, AND BASE SLAB) SHALL BE DESIGNED BY PRECAST MANUFACTURER WITH LOADING IN ACCORDANCE WITH AASHTO HS20-44 AND PER SPECIFICATION SECTION 03 40 00.
2. CONCRETE SHALL BE 5,000 P.S.I. COMPRESSIVE STRENGTH @ 28 DAYS. REINFORCING STEEL SHALL BE ASTM A-615.
3. ALL PIPING AND CONDUIT SHALL BE SECURED TO THE WALLS OR BASE SLAB OF THE CONCRETE TRENCH WITH ANCHOR BOLTS, UNISTRUT, OR CONCRETE PIPE SUPPORTS. CONTRACTOR SHALL INSTALL SUPPORTS WHEREVER NECESSARY TO PROPERLY SUPPORT PIPING AND CONDUIT PER SPECIFICATION 40 05 15.
4. CONTRACTOR RESPONSIBLE FOR LOCATING AND VERIFYING LOCATION OF ALL UTILITIES LOCATED WITHIN AREAS TO BE AFFECTED BY CONSTRUCTION.
5. ALL PIPE PENETRATIONS SHALL BE LINK SEALED IN ACCORDANCE WITH SPECIFICATIONS.
6. SEE MECHANICAL DRAWINGS FOR ALL PIPE PENETRATIONS.



PIPELINE N

N1 SECTION
1"=1'-0"
C-07-77



PIPELINE J

J1 SECTION
1"=1'-0"
C-07-69

0 1' 2' 3'
SCALE: 1" = 1'-0"

- FINAL DESIGN - FOR AGENCY APPROVAL ONLY

REGISTERED PROFESSIONAL ENGINEER BENJAMIN J. WUEST C 67811 EXP 6/30/17 STATE OF CALIFORNIA

ETIC ENGINEERING

ARCADIS

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
2	11/18/15	FINAL DESIGN	AJW	WLM	BW	RAO	
1	9/8/14	PRE-FINAL (90%) DESIGN					
0	4/5/13	INTERMEDIATE (60%) DESIGN					

REVISIONS

APPROVED BY	
RAO	SO
	SUPV
	DSGN
	DWN
	CHKD
	OK
	DATE
	SCALES

TOPOCK GROUNDWATER REMEDIATION PROJECT

PIPELINE SECTIONS

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

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
C-07-107	REV 2

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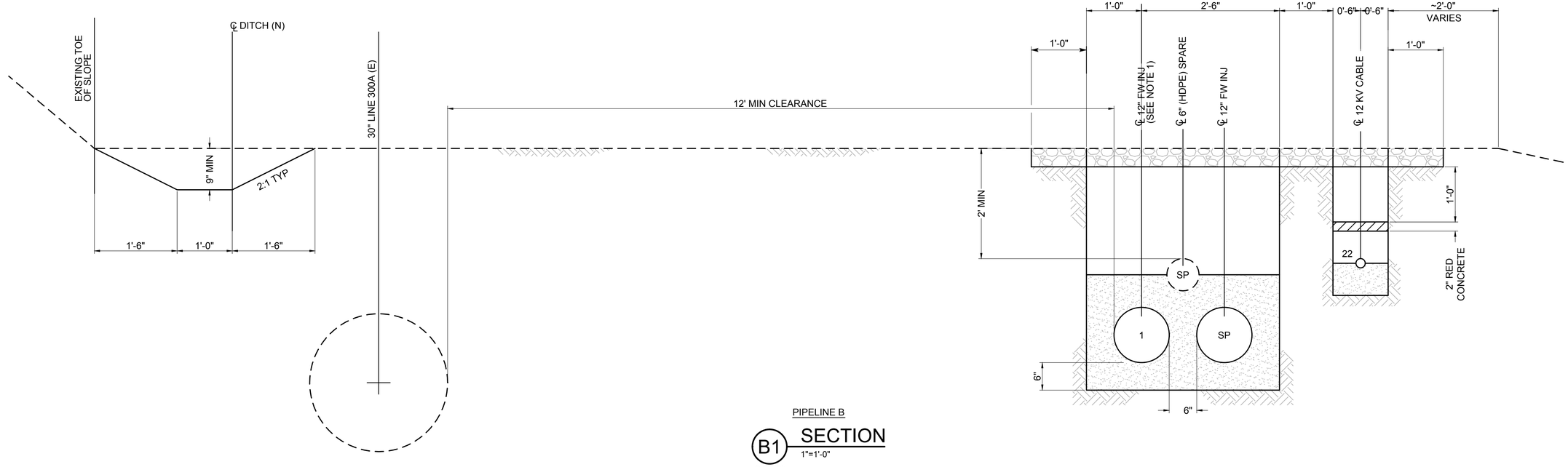
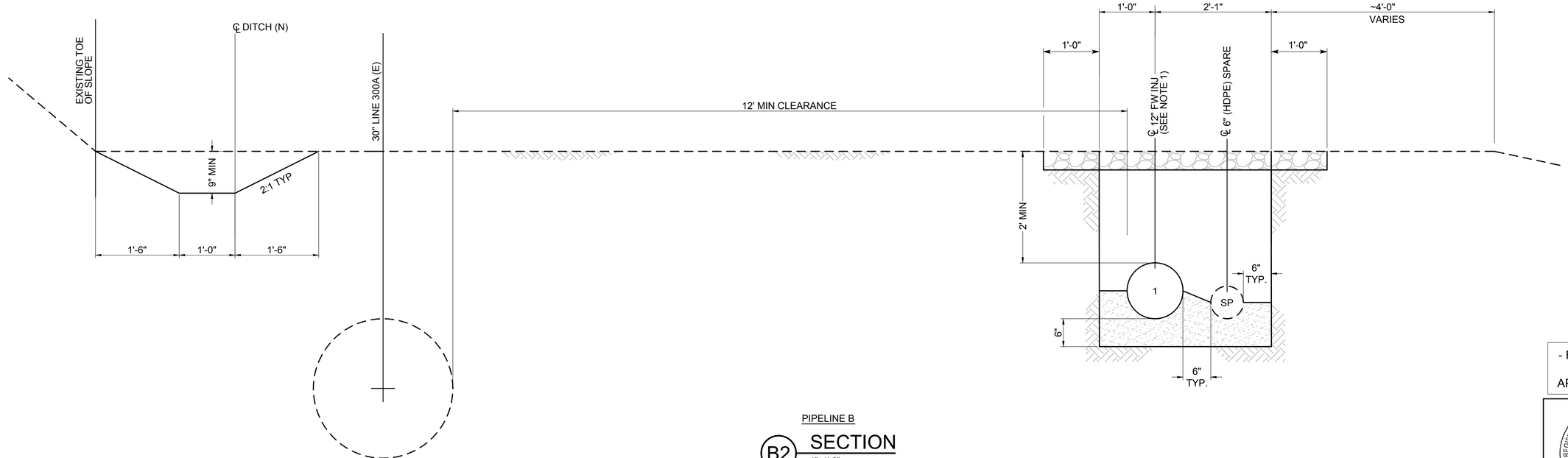


PIPELINE B

B1 SECTION

1"=1'-0"

C-07-26
C-07-27



PIPELINE B

B2 SECTION

1"=1'-0"

C-07-28,-29

- FINAL DESIGN - FOR AGENCY APPROVAL ONLY

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN J. WUERL
C 67811
EXP 6/30/17
STATE OF CALIFORNIA

ETIC ENGINEERING

ARCADIS

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
3	11/18/15	FINAL DESIGN		AJW	WLM	BW	RAO
2	8/5/15	90% RTC RESOLUTION		AJW	KLD	WLM	BJW
1	9/8/14	PRE-FINAL (90%) DESIGN		PC	PT	VMB	VMB
0	4/5/13	INTERMEDIATE (60%) DESIGN		PC	PT	VMB	VMB

REVISIONS

APPROVED BY	
RAO	SO
	SUPV
	DSGN
	DWN
	CHKD
	OK
	DATE
	SCALES

TOPOCK GROUNDWATER REMEDIATION PROJECT

PIPELINE SECTIONS

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

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
C-07-103	REV 3

N1808

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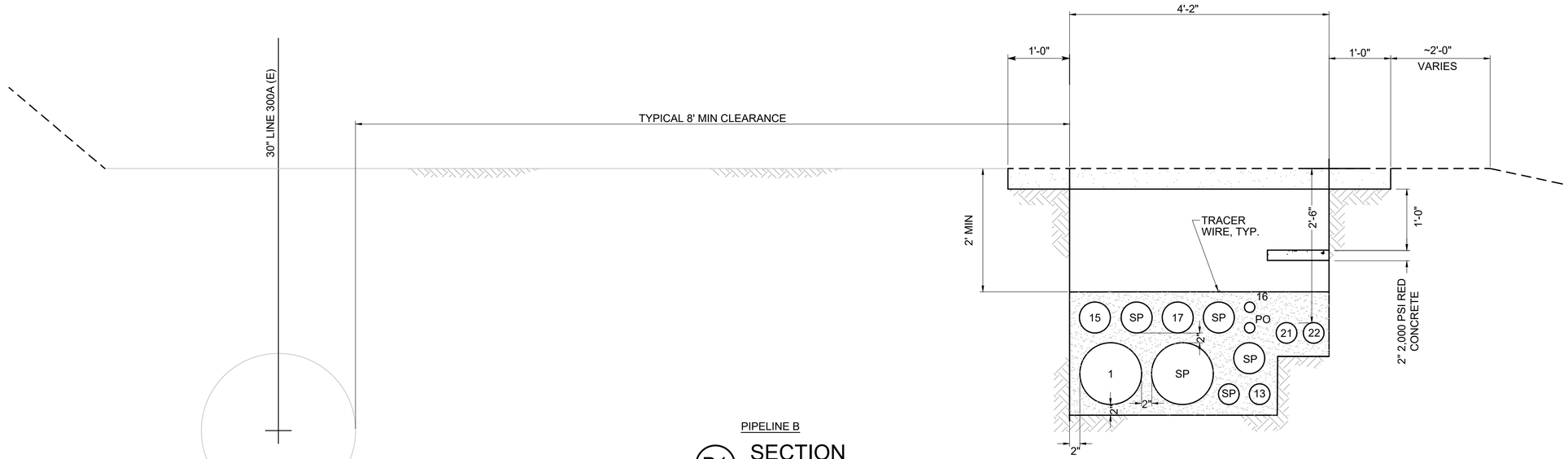
REVISED DRAWINGS FOR WORK VARIANCE REQUEST #6

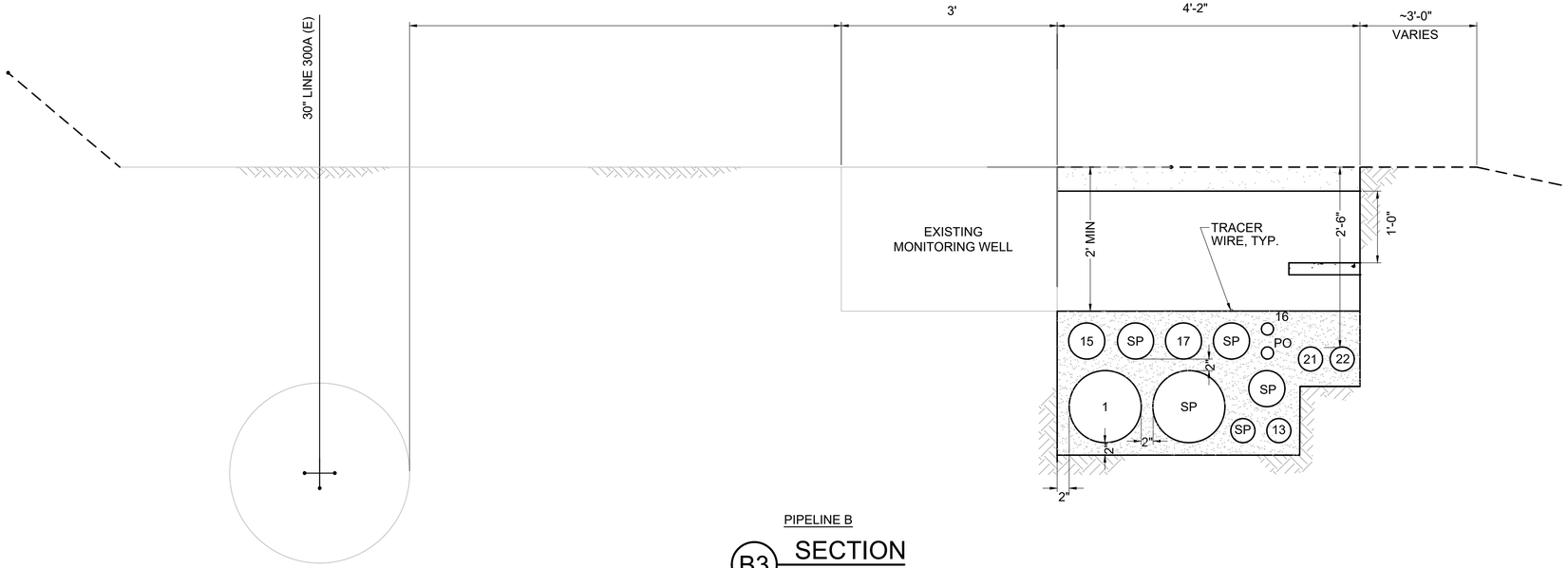


PIPELINE B

B1 SECTION

1"=1'-0"

C-07-26,-27



PIPELINE B

B3 SECTION

1"=1'-0"

C-07-27

- DRAFT - NOT FOR CONSTRUCTION

ARCADIS

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
6	04/03/19	PIPELINE B REVISION		NAK	JPB	MAG	RAO
5	12/7/18	ISSUED FOR CONSTRUCTION		NAK	JPB	MAG	RAO
4	6/16/17	ISSUED FOR BID		AJW	JPB	BW	RAO
3	11/18/15	FINAL DESIGN		AJW	WLM	BW	RAO
2	8/5/15	90% RTC RESOLUTION		AJW	KLD	WLM	BJW
1	9/8/14	PRE-FINAL (90%) DESIGN		PC	PT	VMB	VMB
0	4/5/13	INTERMEDIATE (60%) DESIGN		PC	PT	VMB	VMB

REVISIONS

APPROVED BY	
	SO
RAO	SUPV
	DSGN
	DWN
	CHKD
	OK
	DATE
	SCALES

TOPOCK GROUNDWATER REMEDIATION PROJECT

PIPELINE SECTIONS

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

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO. of SHEETS	
C-07-103	REV 6

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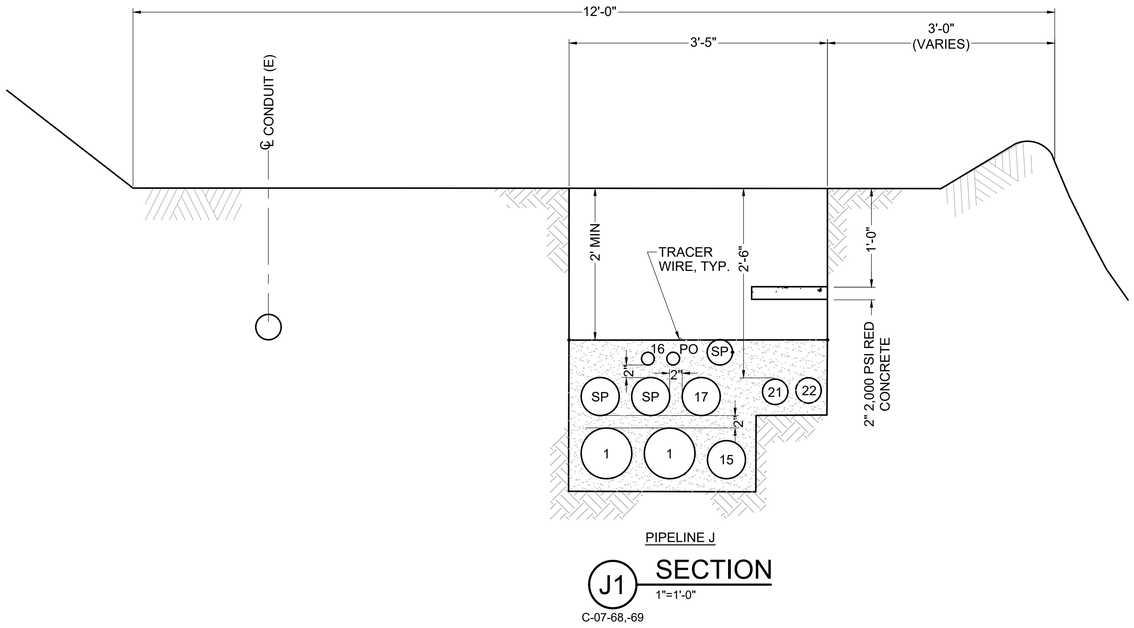
N180B



PIPELINE J

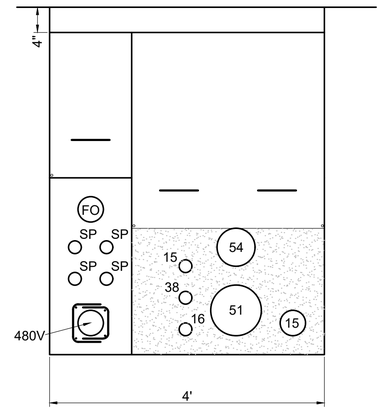
J1 SECTION

1"=1'-0"

C-07-68,-69

NOTE:

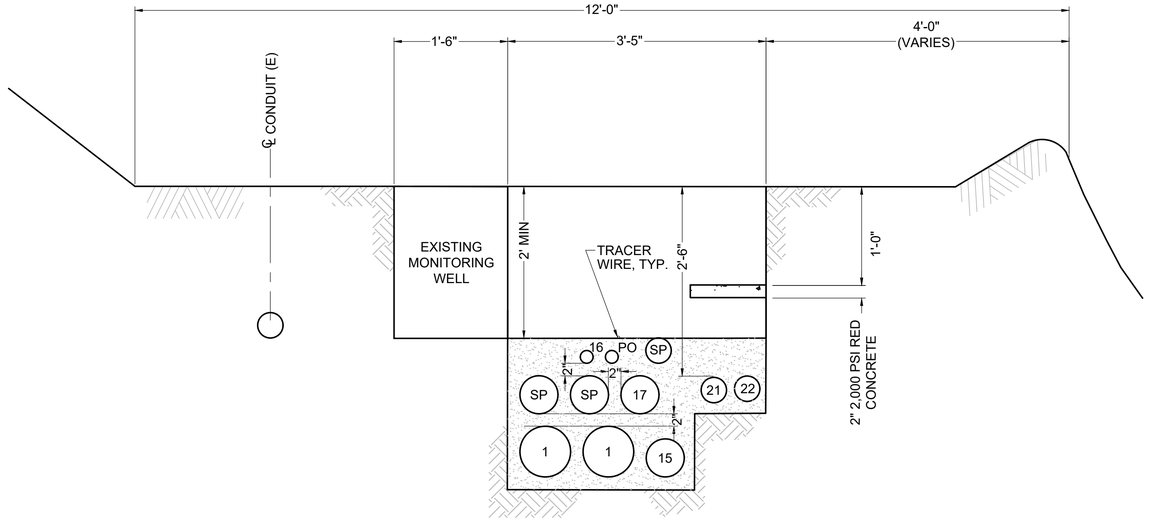
1. REFER TO DETAIL 1 ON SHEET C-07-102 FOR CONSTRUCTION DETAIL.



PIPELINE K

K1 SECTION

1"=1'-0" C-07-73

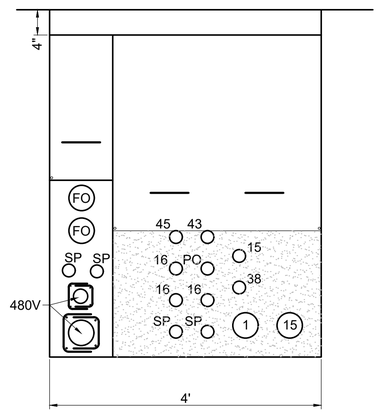


PIPELINE J

J2 SECTION

1"=1'-0"

C-07-69



PIPELINE L

L3 SECTION

1"=1'-0" C-07-74

- DRAFT - NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
5	04/03/19	PIPELINE J REVISION		VJM	JPB	MAG	RAO
4	12/07/18	ISSUED FOR CONSTRUCTION		NAK	JPB	MAG	RAO
3	6/16/17	ISSUED FOR BID		AJW	JPB	BW	RAO
2	11/18/15	FINAL DESIGN		AJW	WLM	BW	RAO
1	9/8/14	PRE-FINAL (90%) DESIGN					
0	4/5/13	INTERMEDIATE (60%) DESIGN					

REVISIONS

APPROVED BY	
RAO	SO
	SUPV
	DSGN
	DWN
	CHKD
	OK
	DATE
	SCALES

ARCADIS

TOPOCK GROUNDWATER REMEDIATION PROJECT

PIPELINE SECTIONS

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

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
C-07-107	REV 5

N1808

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Future Activity Allowance Determination Matrix for Work Variance Request (WVR)

Work Variance Request No. 6 Date: 5/3/19

Future Activity Allowance is an activity that is not considered in the remedy design but necessary to support the project objectives. Future Activity Allowance is a Material Deviation which is defined in the final groundwater remedy design as: Material Deviation means a change or correction required to prevent a condition that would (1) render the approved design non-compliant with codes, regulations, and /or engineering standard of practices, (2) render planned well locations and/or constructions fail to meet the project objectives, (3) cause significant schedule delay, and/or (4) cause a significant increase in costs. (CH2M Hill, 2015)

According to the SEIR Project Description, "The inclusion of the Future Activity Allowance is not intended to account for minor adjustments (work variances) of the remedy design during construction resulting from field conditions. DTSC's objective for the inclusion of the Future Activity Allowance is to consider the potential impacts of needing to take additional but previously unforeseen activities that were not contemplated as part of the Final Remedy Design but are activities that would improve the performance of the remedy, or are necessary to gather additional information on the remedy performance, and/or aid in the transition of the active remedy to monitored natural attenuation." (ESA, 2017)

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1. Are all components of the WVR in the approved final design as reviewed in the SEIR?
   ☒ Yes ☐ No

2. Are all components of the WVR staying within an infrastructure alignment in the approved final design?
   ☒ Yes ☐ No

If answers to both 1 and 2 are Yes, STOP – action is not Future Activity Allowance

3. For components not in approved final design, will the WVR require new access not identified for use in the final design and create new ground disturbance beyond those anticipated in final design?
   ☐ Yes ☐ No

If answer is No, STOP – action is not Future Activity Allowance. If Yes, proceed…

4. For components not in approved final design and require new access or new ground disturbance, will the ground disturbing activity be outside the 2018 SEIR project boundary?
   ☐ Yes ☐ No

If answer is Yes, STOP – action is subject to additional CEQA evaluation. WVR approval will be considered after DTSC completes CEQA determination.

5. For WVR requiring new access and/or new ground disturbance, but project components are in approved final design and within the 2018 SEIR project boundary, is the variance necessitated by field conditions which are outside the control of the operator (e.g. refusal during drilling, unstable ground, existing design jeopardizes health and safety, modification to avoid archaeological resource, existing design does not conform to engineering standards, etc.)?
   ☐ Yes ☐ No

If answer is No or otherwise explained in Section 7 below, action is Future Activity Allowance, follow Communication Protocol for Future Activities Allowance, Exhibit 3 to the Statement of Decision and Resolution of Approval. If the answer is Yes, action is Future Activity Allowance, and DTSC will work with

Tribes to meet the time sensitivity of the WVR. Regardless of response, because of new access and/or new ground disturbance, WVR action may be subject to Federal Consultation. Inquire with BLM to determine whether there is a need to follow Consultation during Construction protocol.

6. Does the addition of WVR cause an exceedance from infrastructure limits specified in the 2018 certified Final SEIR (Table 3-1 for well boreholes; Table 3-2 for pipeline trenches, electrical/ communication conduit, roadway improvements, or sizes of buildings and structures; Table 3-4 for volume of soil disturbance and Table 3-5 for water usage)?
   ☐ Yes ☐ No

If answer is Yes, STOP – action is subject to additional CEQA evaluation. WVR approval will be considered after DTSC completes a CEQA checklist to determine if there are new or substantially more significant environmental impacts than disclosed in the 2018 SEIR.

7. Other extenuating circumstances or information for FAA considerations: ☐ No
   ☐ Yes – provide information and/or justification

Conclusion: WVR No. 6 ☒ is not a FAA ☐ is a FAA

Signature of DTSC reviewer:  Date: 05/22/2019