



CALIFORNIA
AMERICAN WATER

TRANSMISSION MAINS FOR MONTEREY
PENINSULA WATER SUPPLY PROJECT (MPWSP)

PIPELINE DETAILS

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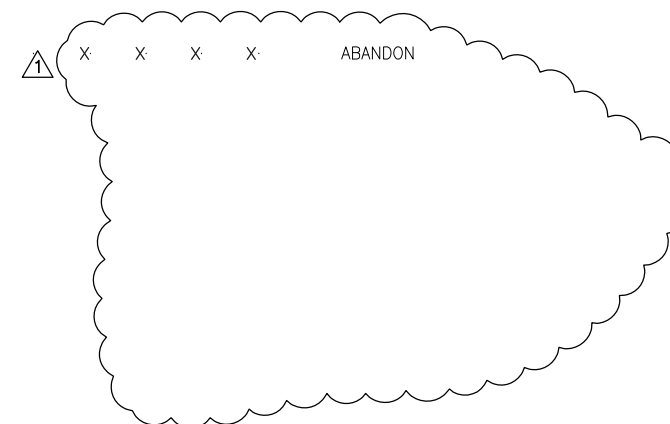


SEPTEMBER 2015

GENERAL LEGEND

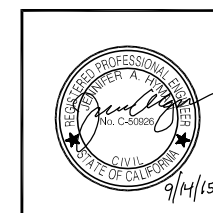
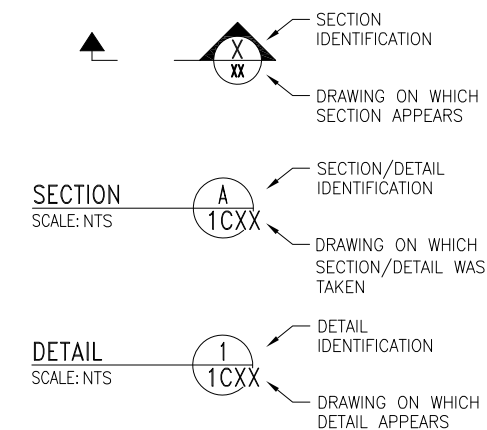
	WATER METER		CLEAN-OUT
	EXISTING CONTROL POINT		BUBBLE UP
	NEW CONTROL POINT/ ELEVATION POINT		STORM DRAIN MANHOLE
	TEST PITS		SEWER MANHOLE
	EXPLORATORY BORING		EXISTING WATER VALVE
	PIEZOMETERS		FIRE HYDRANT
	PIPE W/ CAP		WATER STRUCTURE
	SPOT ELEVATION		WELL
	TREE, SHRUB		WATER VAULT
	WATER LEVEL ELEVATION		CATCH BASIN
	SLOPE GRADIENT (HOR. : VERT.)		TRANSFORMER W/PAD
	FLOW LINE		TRANSFORMER SUBSURFACE
	CUT SLOPE		ELECTRICAL BOX
	FILL SLOPE		STREETLIGHT
	EXISTING GRADE CONTOUR		STREETLIGHT AND UTILITY POLE
	FINISHED GRADE CONTOUR		MANHOLE ELECTRICAL
	GATE POST		ELECTRIC TEST STATION
	GUY ANCHOR		ROCK SURFACE
	POWER POLE, STEEL		NATURAL GROUND OR GRADE
	WATER PIPE MANHOLE		BACKFILL
	BLOW OFF		AC BERM
	CHECK VALVE		CONCRETE
	REDUCER		STAGING AREA
	UTILITY POLE		(E) UTILITY REMOVED FROM SERVICE
	EXISTING INCLINOMETER		(E) UTILITY REMOVED FROM SERVICE AND FILLED WITH CONCRETE SLURRY
	TELEPHONE POLE		AGGREGATE / BALLAST
	BFV COVER AND CONCRETE PAD		HYDROSEED
	GAS VALVE		CLEAR & GRUB
	TELEPHONE MH OR BOX		EXISTING TO BE DEMOLISHED
	COMMUNICATION BOX		(N) ASPHALTIC CONCRETE
	TRANSMISSION TOWER		AGGREGATE BASE
	SANITARY SEWER RODDING INLET		(E) ASPHALTIC CONCRETE
	WATER VALVE		FOUNDATION STONE
	COMBINATION AIR RELEASE VALVE		INITIAL BACKFILL
			UNDISTURBED SOIL
			BUILDING

DEMOLITION LEGEND



	FENCE
	COASTAL BOUNDARY
	TAMC RIGHT OF WAY
	CALTRANS RIGHT OF WAY
	PARCEL BOUNDARY
	CITY LIMITS
	LIMITS OF WORK
	GAS LINE
	WATER LINE
	NEW WATER LINE
	RECYCLED WATER LINE
	SANITARY SEWER LINE
	STORM DRAIN LINE
	ELECTRICAL LINE
	ELECTRICAL OVERHEAD LINE
	TEL/AT&T LINE
	IRRIGATION LINE
	DRAIN SWALE
	COMCAST UNDERGROUND
	COMCAST OVERHEAD
	TELEPHONE LINE
	BRINE LINE WASTE WATER
	FIBER OPTIC
	SANITARY SEWER FORCED MAIN
	SANITARY OUTFALL

TYPICAL SECTION/DETAIL NUMBERING SYSTEM



REVISIONS			TRANSMISSION MAINS FOR MPWSP GENERAL PIPELINE DETAILS LEGEND	
	BID ADDENDUM 1	9/14/15	JAH	
CALIFORNIA AMERICAN WATER				
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612		AECOM CALIFORNIA AMERICAN WATER		
DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498		USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES				0000G01

GENERAL NOTES:

- HEAVY LINES AND SYMBOLS INDICATE WORK TO BE DONE BY THE CONTRACTOR. LIGHT LINES AND SYMBOLS INDICATE EXISTING FEATURES OR WORK TO BE DONE BY ANOTHER ENTITY.
- WHERE THERE IS A DISCREPANCY BETWEEN THE WRITTEN DIMENSION AND SCALED DIMENSION, WRITTEN DIMENSIONS SHALL GOVERN.
- ALL DISCREPANCIES BETWEEN THE INFORMATION SHOWN IN THE DRAWINGS AND THE ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- LEGEND SHEETS ARE PROVIDED FOR EACH DISCIPLINE. SYMBOLS MAY NOT BE CONSISTENT BETWEEN DIFFERENT DISCIPLINE LEGENDS. USE THE APPROPRIATE LEGEND SHEET WITH THE CORRESPONDING DISCIPLINE DRAWINGS.
- THE LOCATION AND GENERAL ARRANGEMENT OF UNDERGROUND UTILITIES, UNDERGROUND STRUCTURES, PIPES WITH FITTINGS, VALVES, AND APPURTENANCES WHERE SHOWN, ARE DIAGRAMMATIC AND SUBJECT TO VERIFICATION AND ADJUSTMENT IN THE FIELD.
- CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (U.S.A.) 811 AT LEAST ONE WEEK IN ADVANCE OF STARTING EXCAVATION TO PROVIDE FOR MARKING OF UTILITIES. ONLY TWO WEEKS OF WORK WILL BE LOCATED ON EACH REQUEST. THE CONTRACTOR SHALL MARK THE LIMITS OF EACH REQUEST.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR FIELD STAKING THE PROPOSED PIPELINES IN THE FIELD FOR OPEN TRENCH CONSTRUCTION.
- CONTRACTOR SHALL AT ALL TIMES COMPLY WITH THE RULES AND REGULATIONS ESTABLISHED BY CALOOSHA AND OTHER AGENCIES HAVING JURISDICTION OVER THE WORK.
- SHUT DOWN ANY WATER, LINE OWNED BY CAW SHALL ONLY BE PERFORMED BY CAW OPERATIONS SECTION. ADVANCE NOTICE OF 24 HOURS IS REQUIRED.
- CONTRACTOR SHALL PROVIDE UNINTERRUPTED UTILITY SERVICE THROUGHOUT THE LENGTH OF THE PROJECT.
- THE CONTRACTOR SHALL PROVIDE TRENCH DEWATERING AND THE BYPASSING OF WASTE WATER AS REQUIRED THROUGHOUT THE LIMITS OF THE PROJECT. PAYMENT FOR SUCH WORK SHALL BE INCLUDED IN THE PROJECT PAY ITEMS AND WILL NOT BE PAID SEPARATELY.
- THE APPROXIMATE LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES SHOWN ON THESE PLANS IS BASED UPON BEST AVAILABLE PUBLIC RECORDS. THE INFORMATION SHOWN ON THE PLANS MAY BE INCOMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE POSITION OF AND PROVIDE PROTECTION FOR SUCH UTILITIES AND STRUCTURES.
- CONTRACTOR SHALL TAKE EXTREME CAUTION WHEN EXCAVATING ADJACENT TO ACP WATER MAINS, ELECTRIC LINES AND GAS LINES. ANY DAMAGE TO WATER, SEWER AND OTHER UTILITIES INCLUDING ELECTRIC, GAS, FIBER AND TRAFFIC LOOPS SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER. ANY DAMAGE TO THE ELECTRIC OR GAS LINES WILL BE REPAIRED BY THE CITY AND THE COST WILL BE PAID BY THE CONTRACTOR. CONTACT CHIEF ELECTRICAL INSPECTOR AT 650-496-6965 PRIOR TO ANY EXCAVATION NEAR ELECTRICAL UNDERGROUND HIGH VOLTAGE LINES.
- ALL DISTANCES, DIMENSIONS AND QUANTITIES SHOWN ON THE DRAWINGS ARE ESTIMATED FROM PUBLIC RECORDS. CONTRACTOR SHALL VERIFY ALL INFORMATION.
- PRIOR TO EXCAVATION, HORIZONTAL DIRECTION DRILLING, JACK AND BORE OR OTHER METHODS OF PIPELINE CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS SHOWN.
- CONTRACTOR SHALL MAINTAIN A CURRENT, COMPLETE AND ACCURATE RECORD OF ANY CHANGES IN THE CONSTRUCTION OF IMPROVEMENTS AS PROPOSED IN THE DRAWINGS AND SPECIFICATIONS FOR THE PURPOSE OF PROVIDING THE ENGINEER WITH A BASIS FOR THE RECORD DRAWINGS. NO CHANGES SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE OWNER.
- CONTRACTOR SHALL NOTIFY CITY SURVEYOR PRIOR TO ANY EXCAVATION WORK WITHIN 5 FEET OF A SURVEY MONUMENT. CITY SURVEYOR MUST BE PRESENT DURING EXCAVATION WITHIN 5 FEET OF SURVEY MONUMENT.
- EXISTING UTILITY LINES/PIPELINES SHALL BE SUPPORTED AND PROTECTED

- DURING CONSTRUCTION, EXISTING UTILITIES WHICH WERE PROPERLY SHOWN ON THE PLANS OR FIELD LOCATED, BUT ARE DAMAGED DURING WORK BY THE CONTRACTOR, SHALL BE REPLACED TO CONFORM WITH CURRENT CITY STANDARDS AT THE CONTRACTOR'S EXPENSE.
- UNDERGROUND ELECTRIC LIGHTING, TELEPHONE AND TELECOMMUNICATION LINES, UNDERGROUND FIBER OPTIC LINES, CABLE TELEVISION LINES, OVERHEAD ELECTRIC LINES, UNDERGROUND SECONDARY ELECTRIC LINES ARE GENERALLY NOT SHOWN ON ALL DRAWINGS FOR CLARITY.
- THE CONTRACTOR IS CAUTIONED TO PROPERLY SUPPORT ALL EXCAVATIONS WHEN WORKING IN AND AROUND EXISTING PIPELINES AND CONDUITS. SOME OF THE TRENCHES FOR THESE FACILITIES HAVE GRANULAR SAND BACKFILL WHICH MAY COLLAPSE WHEN DISTURBED, CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY DAMAGE TO EXISTING PIPELINES AND CONDUITS.
- WHERE POSSIBLE, A MANHOLE IS TO BE CONSTRUCTED ON AN EXISTING STRAIGHT THROUGH STORM DRAIN. THE TOP PORTION OF THE STORM DRAIN PIPE SHALL NOT BE REMOVED UNTIL THE MANHOLE HAS BEEN COMPLETED AND TESTED.
- AS THE FIRST ORDER OF WORK, THE CONTRACTOR SHALL POTHOLE ALL LOCATIONS WHERE THE DRAWINGS SHOW UTILITY CROSSINGS.
- ALL TRAFFIC CONTROL SHALL BE CONDUCTED IN ACCORDANCE WITH THE CONTRACTOR'S SPECIFIC TRAFFIC CONTROL PLANS AS APPROVED BY THE CITIES AND COUNTY.
- WHERE SHOWN, FINISHED MANHOLE RIM ELEVATIONS ARE APPROXIMATE ONLY. ALL NEW AND EXISTING MANHOLE RIMS, UTILITY VAULTS, VALVE LIDS, AND UTILITY BOXES SHALL BE ADJUSTED TO MATCH ADJACENT TO MATCH ADJACENT GRADE UNLESS OTHERWISE NOTED ON PLANS.
- ALL EXISTING IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO IRRIGATION LINES, LANDSCAPING, DRIVEWAYS, CURB, GUTTER, SIDEWALK, CULVERTS, DRAINS, TRAFFIC CONDITION IN WHICH THEY WERE, OR BETTER, BEFORE THE IMPROVEMENTS SHALL BE CONSIDERED AS INCLUDED IN THE ITEMS OF THE WORK INVOLVED AND SEPARATE PAYMENT FOR RESTORATION WILL NOT BE MADE.
- POST "TOW AWAY NO PARKING" SIGNS A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE WITH THE CITY TRAFFIC SIGNAL AND COAX SHOP AT (650) 4966991, ANY WORK WITHIN 150 FEET OF ANY SIGNALIZED INTERSECTION. TRAFFIC SIGNAL FACILITIES (LLPS AND CONDUITS) DAMAGED SHALL BE REPLACED BY THE CONTRACTOR AT HIS/HER EXPENSE. REFER TO PROJECT SPECIFICATIONS, SECTION 02200.
- THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS TO CAUSE THE LEAST POSSIBLE OBSTRUCTION AND INCONVENIENCE TO THE PUBLIC. THROUGHOUT THE PERFORMANCE OF THE WORK THE CONTRACTOR SHALL CONSTRUCT AND ADEQUATELY MAINTAIN SUITABLE AND SAFE CROSSINGS OVER TRENCHES. DRIVEWAY ACCESS AND SUCH DETOURS AS ARE NECESSARY FOR PUBLIC PEDESTRIAN AND VEHICULAR TRAFFIC.

DEMOLITION NOTES:

- CLEAR AND REMOVE ALL ORGANIC MATTER, DEBRIS, AND RUBBISH FROM WITHIN THE LIMIT OF WORK. CONTRACTOR SHALL DISPOSE OF SAID MATERIAL IN A LEGAL MANNER AS HIS PROPERTY.
- CONTRACTOR MAY RE-USE MATERIAL SUBJECT TO SUBMITTALS PER SPECIFICATION AND REVIEW BY THE ENGINEER.
- ALL EXCAVATION WORK WITHIN DRIP LINE OF EXISTING TREES THAT ARE TO REMAIN SHALL BE DONE BY HAND PER SPECIFICATIONS AND PROJECT PERMITS. CLEANLY CUT ANY ROOT LARGER THAN ONE INCH DIAMETER. DO NOT TEAR ROOTS.

WATER GENERAL NOTES:

- ALL MATERIALS, CONSTRUCTION PROCEDURES AND APPURTENANCES SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE PROJECT SPECIFICATIONS, PROJECT DRAWINGS, UTILITIES STANDARDS AND STANDARD SPECIFICATIONS OF CAW.
- ALL EXISTING WATER VALVES AND FIRE HYDRANTS REMOVED FROM THE ABANDONED SYSTEM BY THE CONTRACTOR SHALL BE SALVAGED AND DELIVERED TO THE CAW CORPORATION YARD.
- CONTRACTOR SHALL CLOSE ALL VALVES OF ABANDONED PIPELINES, REMOVE VALVE BOX FOR EACH ABANDONED VALVE, FILL RISER WITH CDF, AND PLACE CONCRETE OR A.C. PATCH OVER EACH HOLE CREATED BY REMOVAL OF EXISTING VALVE BOX.
- SHUTDOWN OF ALL UTILITIES WILL BE PERFORMED BY OR UNDER THE DIRECTION OF CAW OPERATIONS DIVISION. ADVANCE NOTICE OF 5 WORKING DAYS IS REQUIRED FOR SHUTDOWNS.
- MINIMUM COVER OVER NEW WATER MAINS:

MAIN SIZE	MINIMUM COVER
8"	36"
≥10"	48"
- CONTRACTOR SHALL INSTALL APPROPRIATE 2" CORPORATION STOPS AND SADDLES TO BLEED AIR, PERFORM BACTERIOLOGICAL AND CHLORINATION TESTS.
- CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY.
- TRENCH BACKFILL STANDARD DETAIL FOR SHALLOW WATER MAINS SHALL APPLY AND GOVERN FOR ALL LOCATIONS WHERE DEPTH OF COVER OF NEW WATER MAINS IS LESS THEN 3 FEET.
- ALL FIRE SERVICES SHALL BE POTHOLED BY THE CONTRACTOR PRIOR TO RECONNECTION FOR POSSIBLE CONFLICTS, ALL FIRE SERVICE RECONNECTS SHALL HAVE RESTRAINED JOINTS FROM THE TEE TO THE FIRST FITTING AFTER THE VALVE. CONTRACTOR SHALL FURNISH SHOP DRAWINGS OF HOW RECONNECTION WILL BE CONSTRUCTED AND SHALL INFORM NEAREST CITY FIRE STATION AND CITY COMMUNICATIONS CENTER OF THE FIRE SERVICE WORK AND MAKE ANY NECESSARY SCHEDULE ARRANGEMENTS TO ACCOMMODATE CUSTOMER'S NEEDS.
- UNDER NO CIRCUMSTANCE SHALL PIPE MATERIAL BE INSTALLED DEFLECTED OTHER THAN AT THE JOINTS, PER PROJECT SPECIFICATIONS.
- UNLESS OTHERWISE NOTED, EACH ADDRESS SHALL HAVE A WATER SERVICE CONNECTION. EXISTING WATER SERVICES MAY NOT BE SHOWN ON THE DRAWINGS.
- ALL WATER SERVICES 2-IN AND SMALLER TO BE REPLACED SHALL NOT BE EXTENDED WITH UNIONS; THE LATERAL SHALL BE CONTINUOUS BETWEEN THE MAIN AND THE METER.
- CONTRACTOR SHALL ABANDON VALVES BY CLOSING VALVE, REMOVING VALVE BOX, RISER AND COVER TO 2-FT BELOW GRADE, AND FILLING VALVE STEM WITH COMPACTED MATERIAL TO JUST BELOW NEW PAVEMENT LEVEL.
- CONTRACTOR SHALL USE SERVICE SADDLES WITH STAINLESS STEEL STRAPS WITH DI WATER MAINS. THIS SUPERCEDES CAW STANDARD SPECIFICATIONS AND DRAWINGS.
- THE PLANS INDICATE HIGH POINTS WHERE CAVVS ARE TO BE INSTALLED AND LOW POINTS WHERE BLOWOFFS ARE TO BE INSTALLED. SHOULD THE CONTRACTOR CREATE ADDITIONAL HIGH OR LOW POINTS, HE SHALL, AFTER APPROVAL BY THE ENGINEER, INSTALL ADDITIONAL BLOWOFFS OR CAVVS AT THE APPROPRIATE LOCATION AT HIS OWN EXPENSE, UNLESS IT IS REQUIRED FOR A NEW PIPE ALIGNMENT DUE TO CHANGED CONDITIONS.
- CONTRACTOR SHALL MAINTAIN FLAT OR SLOPING GRADES AS SHOWN ON THE PLANS. REVERSE CHANGES IN GRADES ARE NOT ACCEPTABLE EXCEPT AS SHOWN.

RIGHT OF WAY IMPROVEMENT AND RESTORATION:

- ALL IMPROVEMENTS IN THE PUBLIC RIGHT OF WAY SHALL BE RESTORED IN KIND TO PRIOR CONDITION. UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL IMPROVEMENTS WITHIN THE PUBLIC EASEMENT SUCH AS STREETS SHALL MEET THE LOCAL CITY AND COUNTY STANDARDS.
- REFERENCE DRAWINGS MAY BE OBSOLETE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THE LATEST CAW STANDARDS.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING IMPROVEMENTS. ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR RECONSTRUCTED TO ORIGINAL DESIGN CONDITION AND/OR AS SPECIFIED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL LIMIT CONSTRUCTION OPERATIONS TO WITHIN THE RIGHT-OF-WAY AND EASEMENTS AND DESIGNATED WORK AREAS AS INDICATED. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DAMAGES OUTSIDE THE RIGHT-OF-WAY, EASEMENTS, AND DESIGNATED WORK AREAS SHOWN ON THE DRAWINGS.

EXISTING UTILITIES:

- CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (U.S.A.) 811 AT LEAST ONE WEEK IN ADVANCE OF STARTING EXCAVATION TO PROVIDE FOR MARKING OF UTILITIES. ONLY TWO WEEKS OF WORK WILL BE LOCATED ON EACH REQUEST. THE CONTRACTOR SHALL MARK THE LIMITS OF EACH REQUEST.
- LOCATIONS OF ALL UTILITY SERVICE LINES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY AND SHALL BE FIELD VERIFIED BY POT HOLING PRIOR TO COMMENCING ANY GRADING, TRENCHING OR TUNNEL EXCAVATION.
- UTILITIES, EXISTING AT THE TIME OF CONSTRUCTION, ARE SHOWN ON THESE PLANS FOR CONVENIENCE OF THE CONTRACTOR. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITY PIPES AND/OR STRUCTURES, AS SHOWN, ARE BASED ON INFORMATION OBTAINED FROM AVAILABLE RECORDS AND/OR IN ACCORDANCE WITH TYPICAL LOCATIONS NOTED IN AGENCY STANDARDS.
- THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT UTILITY LINES AND STRUCTURES SHOWN AS WELL AS ANY AND ALL OTHERS NOT OF RECORD OR NOT SHOWN ON THESE PLANS. EXISTING UTILITY SERVICE LATERALS ARE SPECIFICALLY NOT SHOWN ON THESE PLANS AND ARE TO BE PROTECTED BY THE CONTRACTOR DURING PIPELINE CONSTRUCTION.
- ALL CONTRACTOR WORK AROUND EXISTING UTILITIES SHALL BE IN CONFORMANCE WITH CALIFORNIA GOVERNMENT CODE 4216.
- THE CONTRACTOR SHALL PROTECT IN PLACE ALL OVERHEAD INTERFERENCE. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD OR UNDERGROUND POWER, GAS, AND/OR OTHER UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COSTS AND LIABILITY IN CONNECTION THEREWITH.
- CONTRACTOR SHALL CONTACT UTILITY POLE OWNER PRIOR TO WORKING IN AREA AND UTILITY POLE OWNER WILL DO ALL WORK ON UTILITY POLES. THE CONTRACTOR SHALL PAY ALL THE COSTS ASSOCIATED WITH UTILITY POLE MODIFICATIONS AND THE CONTRACTOR SHALL INCLUDE THE TIME NEEDED BY THE UTILITY POLE OWNER AS PART OF THE OVERALL WORK.

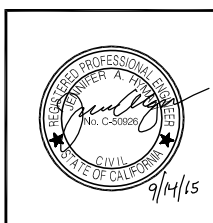
13. CONTRACTOR SHALL ABANDON VALVES BY CLOSING VALVE, REMOVING VALVE BOX, RISER AND COVER TO 2-FT BELOW GRADE, AND FILLING VALVE STEM WITH COMPACTED MATERIAL TO JUST BELOW NEW PAVEMENT LEVEL.

14. CONTRACTOR SHALL USE SERVICE SADDLES WITH STAINLESS STEEL STRAPS WITH DI WATER MAINS. THIS SUPERCEDES CAW STANDARD SPECIFICATIONS AND DRAWINGS.

15. THE PLANS INDICATE HIGH POINTS WHERE CAVVS ARE TO BE INSTALLED AND LOW POINTS WHERE BLOWOFFS ARE TO BE INSTALLED. SHOULD THE CONTRACTOR CREATE ADDITIONAL HIGH OR LOW POINTS, HE SHALL, AFTER APPROVAL BY THE ENGINEER, INSTALL ADDITIONAL BLOWOFFS OR CAVVS AT THE APPROPRIATE LOCATION AT HIS OWN EXPENSE, UNLESS IT IS REQUIRED FOR A NEW PIPE ALIGNMENT DUE TO CHANGED CONDITIONS.

16. CONTRACTOR SHALL MAINTAIN FLAT OR SLOPING GRADES AS SHOWN ON THE PLANS. REVERSE CHANGES IN GRADES ARE NOT ACCEPTABLE EXCEPT AS SHOWN.

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REVISIONS			TRANSMISSION MAINS FOR MPWSP GENERAL PIPELINE DETAILS GENERAL NOTES - 2	
△	BID ADDENDUM 1	9/14/15	JAH	
CALIFORNIA AMERICAN WATER AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612 DRAWN BY C. SOMERA PROJECT ENGR J. HYMAN APPROVED C. SMITH			DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN	
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES			0000G04	

PIPELINE GENERAL NOTES:

PIPELINE SUBMITTALS AND SURVEYS

1. CAW ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE FACILITIES SHOWN ON THE PLANS. DIMENSIONS, LOCATIONS, AND OTHER UTILITY DATA SHOWN ON THE PLANS ARE APPROXIMATE.
2. THE LOCATIONS AND ELEVATIONS OF THE POINTS OF CONNECTION TO EXISTING PIPELINES OWNED BY CAW ARE APPROXIMATE.
3. CONTRACTOR SHALL EMPLOY A LAND SURVEYOR TO CONDUCT ALL SITE SURVEYS INCLUDING, BUT NOT LIMITED TO, TOPOGRAPHICAL AND UTILITY SURVEYS. LAND SURVEYOR SHALL BE LICENSED IN THE STATE OF CALIFORNIA.
4. POT HOLE ALL EXISTING UTILITIES ADJACENT TO THE WORK AND PROVIDE UTILITY INFORMATION TO THE OWNER REPRESENTATIVE IN A TIMELY MANNER. PROVIDE COORDINATES, ELEVATIONS, AND DIMENSIONS OF EACH UTILITY. IMMEDIATELY NOTIFY THE OWNER REPRESENTATIVE IF ANY APPARENT UTILITY INTERFERENCES ARE DISCOVERED.
5. POT HOLE IN ADVANCE OF THE ALL OTHER RELATED WORK IN ACCORDANCE WITH APPROVED POT HOLE PLAN SUBMITTALS. SEQUENCE AND COORDINATE POT HOLE WORK WITH THE PREPARATION, REVISION, AND APPROVAL OF RELATED SUBMITTALS INCLUDING, BUT NOT LIMITED TO, PIPE FABRICATION DRAWINGS OR "LAY SHEETS," EXCAVATION SUBMITTALS, SHORING AND BRACING SUBMITTALS, DEWATERING PLANS, PERMITS, AND ALL OTHER SUBMITTALS REQUIRED TO PERFORM THE WORK.
6. POT HOLE ALL EXISTING WATER PIPELINES OWNED BY CAW ADJACENT TO THE WORK, AT CROSSINGS, AND AT POINTS OF CONNECTION AS SHOWN ON THE PLANS. PROVIDE WATER PIPELINE INFORMATION TO THE OWNER REPRESENTATIVE IN A TIMELY MANNER. CONTRACTOR SHALL PROVIDE COORDINATES, ELEVATIONS, CIRCUMFERENCES, AND JOINT TYPES OF EXISTING PIPELINES AT POINTS OF CONNECTION.
7. POT HOLE ALL POINTS OF CONNECTION WITH EXISTING WATER PIPELINES OWNED BY CAW. POT HOLE SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, SECURING PIPELINES IN-PLACE SO AS TO AVOID MOVEMENT OR DAMAGE, INITIAL EARTHWORK AT THE POINTS OF CONNECTION SHOWN ON THE DRAWINGS AND ALL SUBSEQUENT WORK REQUIRED TO DETERMINE LOCATIONS OF NEAREST EXISTING PIPE JOINT AS DIRECTED BY THE ENGINEER. ALL SUCH POT HOLE ACTIVITIES SHALL BE PERFORMED AT NO ADDITIONAL EXPENSE TO THE OWNER.
8. SUBMIT PLANS TO THE OWNER REPRESENTATIVE THAT DEMONSTRATE PHASED EXCAVATION, DEWATERING, SHORING, AND BRACING WORK PROTECTS EXISTING PIPELINE SYSTEMS.


COORDINATION OF WATER PIPELINE WORK

1. CONSTRUCT ALL PIPELINES WITH A MINIMUM COVER OF FOUR (4) FEET UNLESS SHOWN OTHERWISE ON THE PLANS. THERE SHALL BE A MINIMUM OF ONE (1) FOOT CLEARANCE BETWEEN OUTSIDE DIAMETER OF NEW PIPELINES (OR PIPELINE CONNECTIONS) AND OUTSIDE DIAMETER OF EXISTING UTILITY, OUTSIDE BOTTOM DIMENSION OF MANMADE CHANNEL, OR CONCRETE STRUCTURES. OTHER MINIMUM CLEARANCES ARE SHOWN ON THE PLANS.
2. CONSTRUCT PIPELINES IN ACCORDANCE WITH ANY PLANNED OUTAGES OF CAW PIPELINES OWNED AND OPERATED BY CAW AND AFFECTED WATER USERS.
3. COORDINATE WORK WITH OTHER CONCURRENT PROJECTS INCLUDING, BUT NOT LIMITED TO, THE MRWPCA GROUNDWATER RECHARGE INJECTION PIPELINE, THE CAW DESAL PLANT AND WELLS CONSTRUCTION, AND ALL THE OTHER PIPELINES IN THIS PROJECT, IF CONTRACTED SEPARATELY.
4. PROTECT EXISTING PIPELINE SYSTEMS OWNED BY CAW. PIPELINE SYSTEMS TO BE PROTECTED INCLUDE, BUT ARE NOT LIMITED TO, PIPELINES, BYPASS CONNECTIONS, VALVES, VAULTS, CATHODIC PROTECTION SYSTEMS, UNRESTRAINED PIPE JOINTS, AND THRUST RESTRAINT SYSTEMS. EXERCISE EXTREME CAUTION WHEN EXCAVATING IN THE VICINITY OF EXISTING WATER PIPELINES.
5. REMOVE AND DISPOSE OF ALL EXISTING IMPROVEMENTS THAT MAY AFFECT PIPELINE CONSTRUCTION. REPLACE ALL EXISTING IMPROVEMENTS IN-KIND AS DIRECTED BY THE OWNER REPRESENTATIVE UNLESS SHOWN OTHERWISE ON THE PLANS. SUCH IMPROVEMENTS INCLUDE, BUT ARE NOT LIMITED TO, TREES, PLANTS, BOX PLANTERS, SPRINKLERS, PIPING, ELECTRICAL WIRING, BENCHES, SHED, CONCRETE/ASPHALT MARKERS, CURBS, GUTTERS, GATES, FENCES, POSTS, SURVEY MONUMENTS, TRAFFIC DETECTORS, ETC.
6. CONSTRUCT SUPPORT SYSTEMS THAT PROTECT PIPELINES ON STEEP HILLSIDES OR ADJACENT TO DEEP EXCAVATIONS, AS REQUIRED. PREVENT DAMAGE FROM CONSTRUCTION EQUIPMENT LOADS AND INSTALLATION AND REMOVAL OF SHORING AND BRACING SYSTEMS. RESTRAIN ALL EXISTING PIPELINE FROM ANY MOVEMENT ASSOCIATED WITH THE WORK INCLUDING, BUT NOT LIMITED TO, POT HOLE WORK AND MAKING CONNECTIONS.
7. SEE PLANS AND SPECIFICATIONS FOR PIPELINE CORROSION PROTECTION REQUIREMENTS.
8. ALL WATER SERVICE RECONNECTIONS SHALL BE CARRIED OUT IN ACCORDANCE WITH CAW STANDARD DRAWINGS AND SPECIFICATIONS. SERVICE LATERALS 2-IN AND SMALLER SHALL HAVE ONE CONTINUOUS PIPE. BURIED UNIONS ARE PROHIBITED EXCEPT ON RIGID PIPE (GREATER THAN 2-IN) 

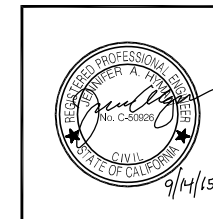
PREPARATION AND TESTING

1. VALVES WILL BE OPERATED BY THE OWNER. SCHEDULE THE WORK SUCH THAT ADEQUATE NOTICE IS GIVEN TO OPERATIONS STAFF (MINIMUM 1 WEEK NOTICE). CONTRACTOR SHALL NOTIFY ALL CUSTOMERS AFFECTED BY SHUTDOWN AT LEAST 48 HOURS IN ADVANCE BY HANGING DOOR HANGERS PROVIDED BY OWNER.
2. SUBMIT WORK PLANS FOR THE DISPOSAL OF WATER DRAINED FROM ALL PIPELINES AND THE PROCUREMENT AND HANDLING OF WATER FOR HYDROSTATIC PRESSURE TESTING.
3. SUBMIT WORK PLANS FOR HYDROSTATIC PRESSURE TESTS IN ACCORDANCE WITH THE SPECIFICATIONS. PERFORM HYDROSTATIC PRESSURE TESTS AND PROVIDE TEST BULKHEADS FOR EACH PHASE OF THE WORK. PERFORM HYDROSTATIC PRESSURE TEST FOR EACH PHASE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR QUANTITY TAKEOFF'S ASSOCIATED WITH PHASED HYDROSTATIC TESTING. WORK PLANS SHALL SPECIFY THE NUMBER OF BULKHEADS REQUIRED FOR EACH PHASE OF TESTING.
4. PERFORM HYDROSTATIC PRESSURE TESTS AGAINST BULKHEADS IN ACCORDANCE WITH APPROVED HYDROSTATIC PRESSURE TEST WORK PLANS. HYDROSTATIC TESTING AGAINST VALVES OR EXISTING WATER SYSTEMS SHALL NOT BE ALLOWED.
5. SUBMIT FABRICATION DRAWINGS THAT SHOW ALL DETAILS ASSOCIATED WITH EACH PHASE OF CONSTRUCTION AND TESTING OF ALL PIPELINE SYSTEMS INCLUDING, BUT NOT LIMITED TO, PIPE, VALVES, FLANGES, OUTLETS, CLOSURE PIECES, JOINT DETAILS, LINING, AND COATING.

PRESIDIO OF MONTEREY NOTES

1. CONTRACTOR SHALL ONLY USE THE POM CONSTRUCTION EASEMENT SHOWN IN THE APPENDIX TO THE SPECIFICATIONS.
2. CONTRACTOR SHALL INSTALL THE NEW PIPELINE WITHIN THE POM PIPELINE EASEMENT SHOWN IN THE APPENDIX TO THE SPECIFICATIONS. CONTRACTOR TO INSTALL (N) WATER LINE IN THE CENTER OF THE PIPELINE EASEMENT TO THE EXTENT PRACTICABLE.
3. ENTRY AND EXIT TO THE POM PROPERTY SHALL BE ONLY THROUGH PVT. BOLIO GATE.
4. EACH OF THE CONTRACTOR'S PERSONNEL AND ANY SUBCONTRACTORS SHALL FIRST COMPLETE AN APPLICATION FOR INSTALLATION ACCESS FORM 7 AND SUBMIT IT TO ANDREW STILLWELL (831) 601-1692 OR ANDREW.N.STILLWELL.CIV@MAIL.MIL FOR APPROVAL PRIOR TO ENTERING THE BASE. USE OF A DRIVER'S LICENSE AND LAST FOUR DIGITS OF THE INDIVIDUAL'S SOCIAL SECURITY NUMBER IS REQUIRED FOR ACCESS TO THE INSTALLATION.
5. CONTRACTOR SHALL NOT REMOVE OR MODIFY THE FENCES ENCLOSING THE POM PROPERTY. INSTALLATION OF THE PIPELINE AT TWO LOCATIONS UNDER THE POM FENCE SHALL BE COORDINATED WITH THE US ARMY TO MAINTAIN SECURITY AT POM AT ALL TIMES. 

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REVISIONS			TRANSMISSION MAINS FOR MPWSP GENERAL PIPELINE DETAILS GENERAL NOTES - 3	
	BID ADDENDUM 1	9/14/15	JAH	
			CALIFORNIA AMERICAN WATER	
			 	
			AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612 DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	
			DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN	
			USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES	
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TABLE 1. PIPING AND VALVE SCHEDULE

Pipe Name	Pipeline Length (ft)	Pipe Diameter (OD in inches unless noted)	Pipe Type	Pressure rating (psi)	Standard Dimension Ratio, HDPE	Standard Dimension Ratio, PVC	Iso valve Type	Iso valve Size (in)	Iso valve Body Material	CAVV Size (in)	CAVV material
Monterey Pipeline	34090	36	NOTE 1	250	9	14	Butterfly	36	CI	6	CI
Misc Water Line Replacements		8 and under	PVC	305	-	14	Gate	8 and under	CI	2	CI
Misc Water Line Replacements		10, 12	DI	150	-	-	Gate	10, 12	CI	2	CI
Misc Water Line Replacements		14 and over	DI	200	-	-	Butterfly	14 and over	CI	4	CI
Transfer Pipeline	49205	36	NOTE 1	250	9	14	Butterfly	36	DI	6	CI
ASR Extension Pipelines (3)	13300	16	NOTE 1	250	9	14	Butterfly	16	DI	3	CI
Feed Pipeline	13900	42 (ID)	HDPE OR PVC	150	13.5	26	Plug	42	Type 316 SS	6	SS
8" Water line to cemex	13900	8	NOTE 1	150	13.5	26	Gate	8	CI	2	CI
Salinas valley Return	5700	12	NOTE 1	250	9	14	Gate	12	CI	2	CI
Water main to WWTP	3200	8	PVC	305	-	14	Gate	8	CI	2	CI
Brine Line	3000	36 (ID)	HDPE OR PVC	150	13.5	26	Plug	36	Type 316 SS	6	SS
SSFm to WWTP	4400	3	HDPE OR PVC	150	13.5	26	Plug	3	CI	1	SS

TABLE 1 NOTES:

- CONTRACTOR MAY SELECT AWWA-APPROVED PIPE TYPE. (STEEL PIPE MIN. THICKNESS: 3/8")
- CONTRACTOR TO DESIGN PIPE CATHODIC PROTECTION SYSTEM AS NEEDED FOR PIPE TYPE AND APPURTENANCES.

TABLE 3. FLOW METER AND INSTRUMENTATION SCHEDULE

Item	Type	Diameter (in)	Operating range
HILBY FLOW METER - MONTEREY PIPELINE			
Flow	In line Mag meter	24	0-11 fps
Pressure transmitter	4-20mA OUT		0-100 psi
Pressure gage	Dial		0-160 psi
CREST PRS - MONTEREY PIPELINE			
Pressure Reducing Valve No. 1		8	Flow: min 2,500 gpm Upstream: 130 psi Downstream: 42 psi
Pressure Reducing Valve No. 2		12	Flow: min 1,000 gpm Upstream: 130 psi Downstream: 76 psi
Upstream Pressure Transmitter	4-20mA OUT		0-150 psi
Upstream Pressure gage	Dial		0-300 psi
Downstream Pressure Transmitter	Digital		0-150 psi
Downstream Pressure gage	Dial		0-300 psi
NORTH FLOW METER - TRANSFER PIPELINE			
Flow	In line Mag meter	24	0-10 fps
Pressure transmitter	4-20mA OUT		0-150 psi
Pressure gage	Dial		0-160 psi
ASR FLOW METER - ASR EXTENSIONS PIPELINES			
Flow	In line Mag meter	30	0-7 fps
Pressure transmitter	4-20mA OUT		0-70 psi
Pressure gage	Dial		0-160 psi

TABLE 3 NOTES:

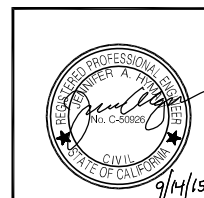
- OPERATING RANGE LISTED FOR PRV'S ARE APPROXIMATE. CONTRACTOR TO VERIFY FINAL CALIBRATION SETTINGS WITH OWNER.

TABLE 2. RESTRAINED PIPING SCHEDULE

Restrainted Joint Locations													
Monterey Pipeline		ASR Pipeline Extension		Salinas Valley Return Pipeline		Transfer Pipeline		8-inch Waterline to Cemex		Feedwater Pipeline		Brine Pipeline	
Station No.	Length of Pipeline in Restrainted Zone (LF)	Station No.	Length of Pipeline in Restrainted Zone (LF)	Station No.	Length of Pipeline in Restrainted Zone (LF)	Station No.	Length of Pipeline in Restrainted Zone (LF)	Station No.	Length of Pipeline in Restrainted Zone (LF)	Station No.	Length of Pipeline in Restrainted Zone (LF)	Station No.	Length of Pipeline in Restrainted Zone (LF)
8+77 - 19+08	1031	31+32 - 38+28	696	3+89 - 4+61	72	23+45 - 25+66	221	3+44 - 3+80	36	27+39 - 28+11	72	4+23 - 5+13	90
21+47 - 23+83	236	39+84 - 44+38	454	22+39 - 22+71	32	28+31 - 33+15	484	5+87 - 6+23	36	29+97 - 30+33	36	22+39 - 23+11	72
33+86 - 41+23	737			24+09 - 24+41	32	48+09 - 52+89	480	23+31 - 24+56	125	47+00 - 49+21	221	23+59 - 24+31	72
41+97 - 49+83	786			53+59 - 53+91	32	64+94 - 66+16	122	25+69 - 26+05	36	49+87 - 50+23	36	32+44 - 33+16	72
53+09 - 64+31	1122	Recirculation Pipeline		55+24 - 57+00	176	72+39 - 77+22	483	27+29 - 27+65	36	51+37 - 51+73	36	37+65 - 39+21	156
67+81 - 68+89	108	14+82 - 17+13	231			89+54 - 97+00	746	28+69 - 29+05	36	52+92 - 53+28	36		
69+77 - 73+94	417	31+02 - 37+78	676			97+71 - 102+54	483	66+44 - 66+85	41	90+16 - 91+39	123		
77+27 - 111+38	3411	40+54 - 44+38	384			109+57 - 114+92	535	81+69 - 82+05	36	105+69 - 106+41	72		
114+17 - 131+23	1706					115+28 - 120+32	504	90+59 - 90+95	36	114+54 - 116+26	172		
133+52 - 135+88	236	Pump to Waste Line				128+51 - 135+45	694	91+41 - 91+77	36	120+34 - 121+06	72		
138+52 - 140+93	241	30+82 - 37+58	676			152+90 - 154+70	180	96+39 - 96+75	36	127+66 - 128+74	108		
143+17 - 145+53	236	40+14 - 44+00	386			155+00 - 157+90	290	103+87 - 104+23	36	134+56 - 135+64	108		
153+00 - 161+00	800					158+74 - 169+46	1072	110+79 - 111+15	36	136+27 - 136+63	36		
169+27 - 188+13	1886					171+74 - 179+96	822	112+09 - 112+45	36				
196+12 - 197+63	151					185+82 - 188+18	236						
199+69 - 200+41	72					192+00 - 196+84	484						
215+00 - 219+00	400					215+60 - 226+44	1084						
221+89 - 222+61	72					275+70 - 277+90	220						
224+02 - 231+50	748					284+12 - 290+48	636						
232+47 - 237+23	476					317+07 - 324+58	751						
239+07 - 243+68	461					339+42 - 342+60	318						
244+92 - 257+78	1286					389+79 - 395+00	521						
260+77 - 265+98	521					429+64 - 430+36	72						
266+97 - 269+33	236					431+34 - 432+06	72						
277+52 - 283+68	616					432+64 - 433+36	72						
293+37 - 299+38	601					434+24 - 434+96	72						
299+57 - 307+93	836					486+86 - 488+14	128						
308+27 - 312+98	471					495+66 - 497+74	208						
317+47 - 329+53	1206					501+46 - 502+54	108						
333+72 - 338+98	526					508+70 - 510+50	180						
340+02 - 346+43	641					513+35 - 517+86	451						
348+82 - 350+21	139												
Total Restrainted Joint Length (LF)	22412		3503		344		12729		598		1128		462

TABLE 2 NOTES:

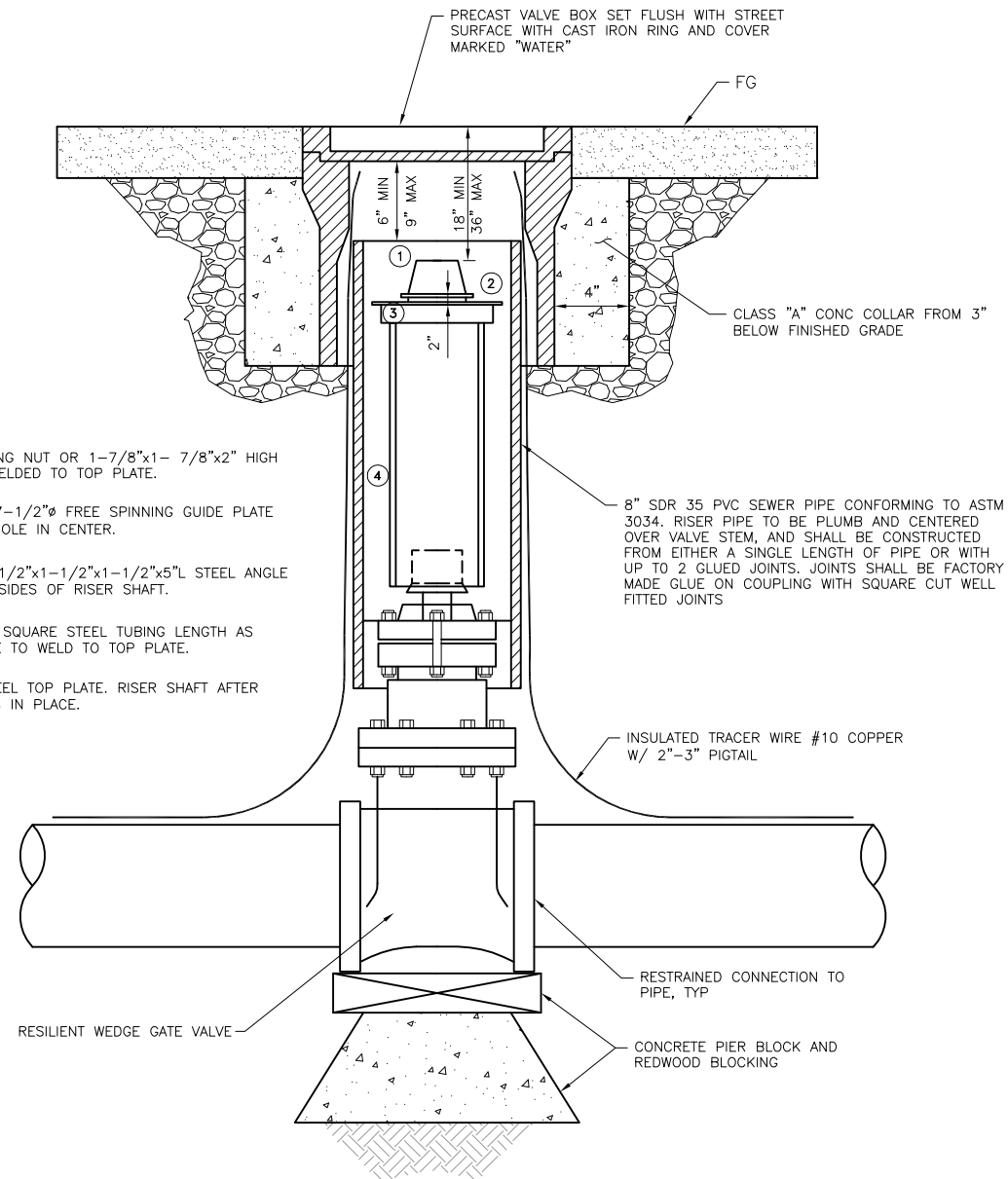
- ALL ELBOWS, TEES, CROSSES, AND VALVES SHALL BE RESTRAINED.



REVISIONS			TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS PIPING AND VALVE SCHEDULES		
1	BID ADDENDUM 1	9/14/15	JAH		
			CALIFORNIA AMERICAN WATER		
			AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612 DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH		
			DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN		
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STEM EXTENSION FABRICATION NOTES:

1. ALL WELDS TO RISER SHAFT SHALL BE FILLET WELD ALL AROUND AS SPECIFIED BELOW.
2. ALL STEEL REQUIRED FOR RISER FABRICATION SHALL BE STRUCTURAL STEEL PER ASTM A36.



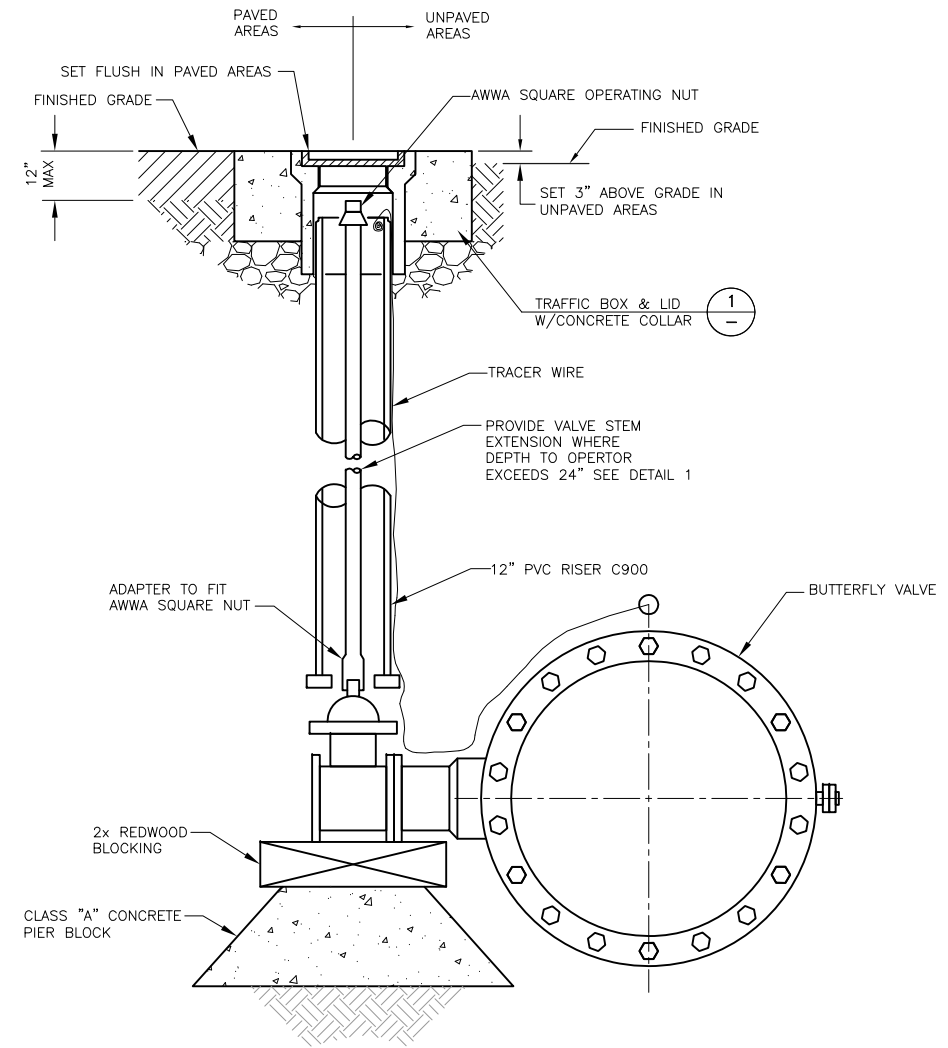
PARTS LIST:

- 1 VALVE OPERATING NUT OR 1-7/8"x1- 7/8"x2" HIGH SOLID STEEL WELDED TO TOP PLATE.
- 2 3/16" THK x 7-1/2"Ø FREE SPINNING GUIDE PLATE W/ 3-5/8"Ø HOLE IN CENTER.
- 3 TWO 3/16"x1-1/2"x1-1/2"x1-1/2"x5"L STEEL ANGLE WELD TO TWO SIDES OF RISER SHAFT.
- 4 2-1/2"x3/16" SQUARE STEEL TUBING LENGTH AS REQUIRED EDGE TO WELD TO TOP PLATE.
- 5 3"x3"x1/4" STEEL TOP PLATE. RISER SHAFT AFTER GUIDE PLATE IS IN PLACE.

VALVE NOTES:

1. ALL EXTERNAL BOLTS AND NUTS ON VALVES SHALL BE 304 STAINLESS STEEL AND THE ENTIRE VALVE SHALL BE WRAPPED TIGHTLY WITH POLYETHYLENE FILM HELD SECURELY WITH ADHESIVE TAPE.
2. IF VALVE IS INSTALLED SO THAT THE TOP OF THE OPERATING NUT IS LESS THAN 30" BELOW FINISHED GRADE, THE VALVE STEM RISER IS NOT REQUIRED.

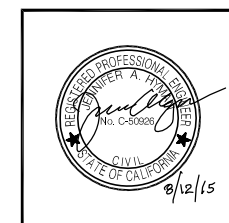
TYPICAL VALVE INSTALLATION, 12 INCHES AND SMALLER 1
SCALE: NTS



NOTES:

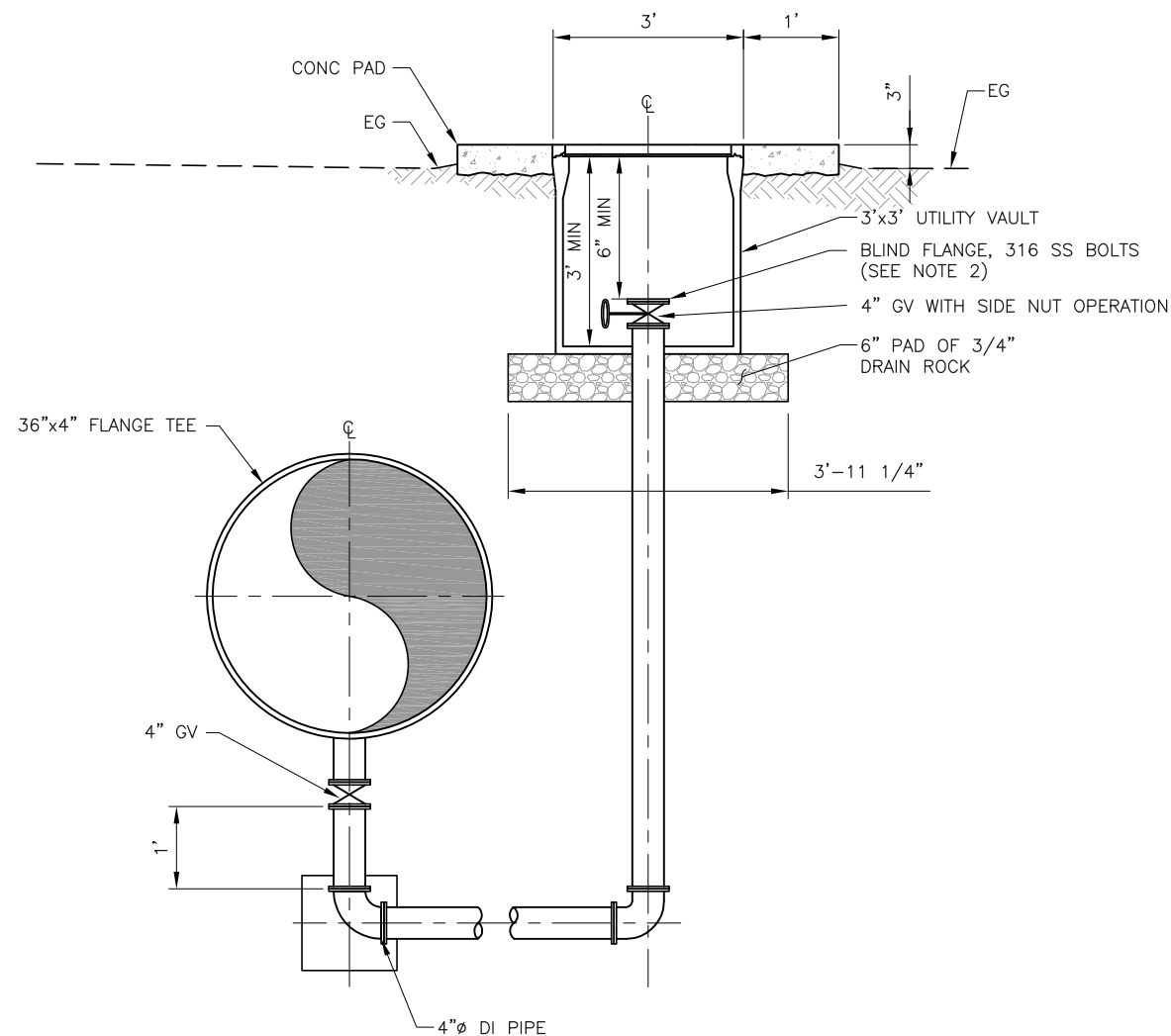
1. PROVIDE PROTECTIVE COATING TO EXTERIOR SURFACE OF VALVE BODY. WRAP WITH WAX TAPE WRAPPING SYSTEM.
2. INSTALL 2-IN BYPASS LINE AROUND EACH BVF.
 - a. USE 2-IN AWWA RESILIENT WEDGE GATE VALVE INSTALLED PER DETAIL 1.
 - b. USE STAINLESS STEEL THREADED OUTLET TAPPING SLEEVE ON DI PIPE. USE HDPE IPS MOLDED BRANCH SADDLE, PRESSURE CLASS 200 AWWA COMPLIANT ON HDPE PIPE (REQUIRES SPECIAL HEATERS AND EQUIPMENT TO INSTALL). LOCATE SADDLES MIN 1-FT FROM BVF. INSTALL 2-IN CORP STOP ON SERVICE SADDLES.
 - c. INSTALL 2-IN PVC SCH. 80 PIPE BETWEEN 2-IN CORP AND 2-IN GATE VALVE ON EACH SIDE IN CONFORMANCE WITH CAW STANDARD DRAWING No. 8A FOR A 2-IN WATER SERVICE.

TYPICAL VALVE INSTALLATION, LARGER THAN 12 INCHES 2
SCALE: NTS



REVISIONS		TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS VALVE DETAILS	
		CALIFORNIA AMERICAN WATER	
		AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
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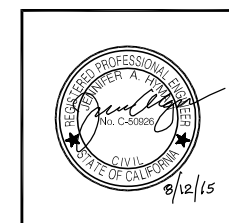
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PUMP OUT BLOWOFF DETAIL 1
SCALE: NTS

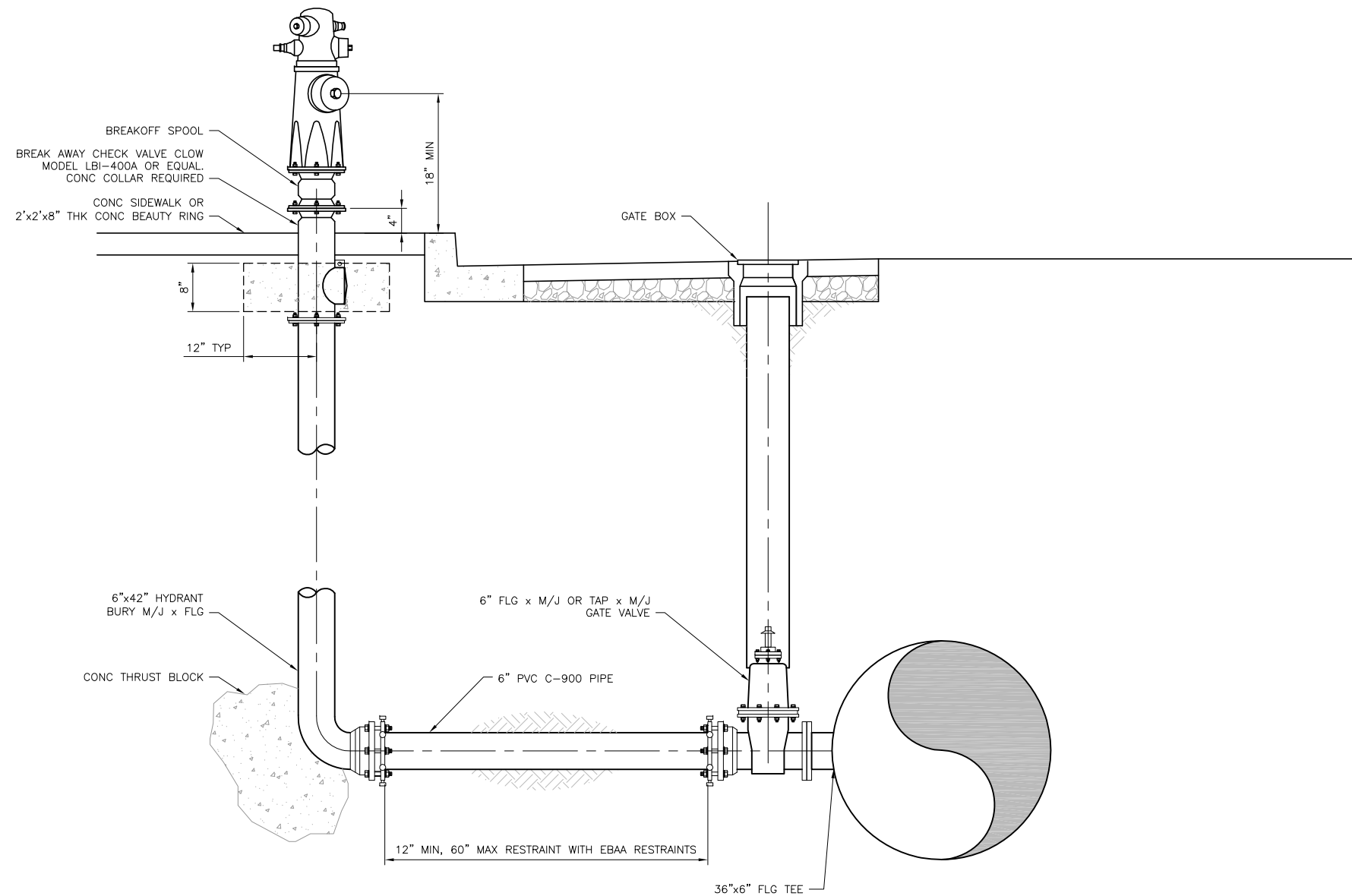
NOTES:

1. INSTALL PUMP OUT BLOWOFF OUTSIDE OF CAW SERVICE AREA, (ALL PIPELINES EXCEPT MONTEREY PIPELINE).
2. ALL HARDWARE TO BE 316 SS.



REVISIONS	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS PUMP OUT BLOWOFF DETAILS	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498
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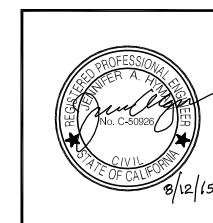
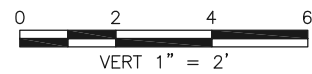
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6 INCH FIRE HYDRANT INSTALLATION DETAIL (1)
SCALE: 1"=2'

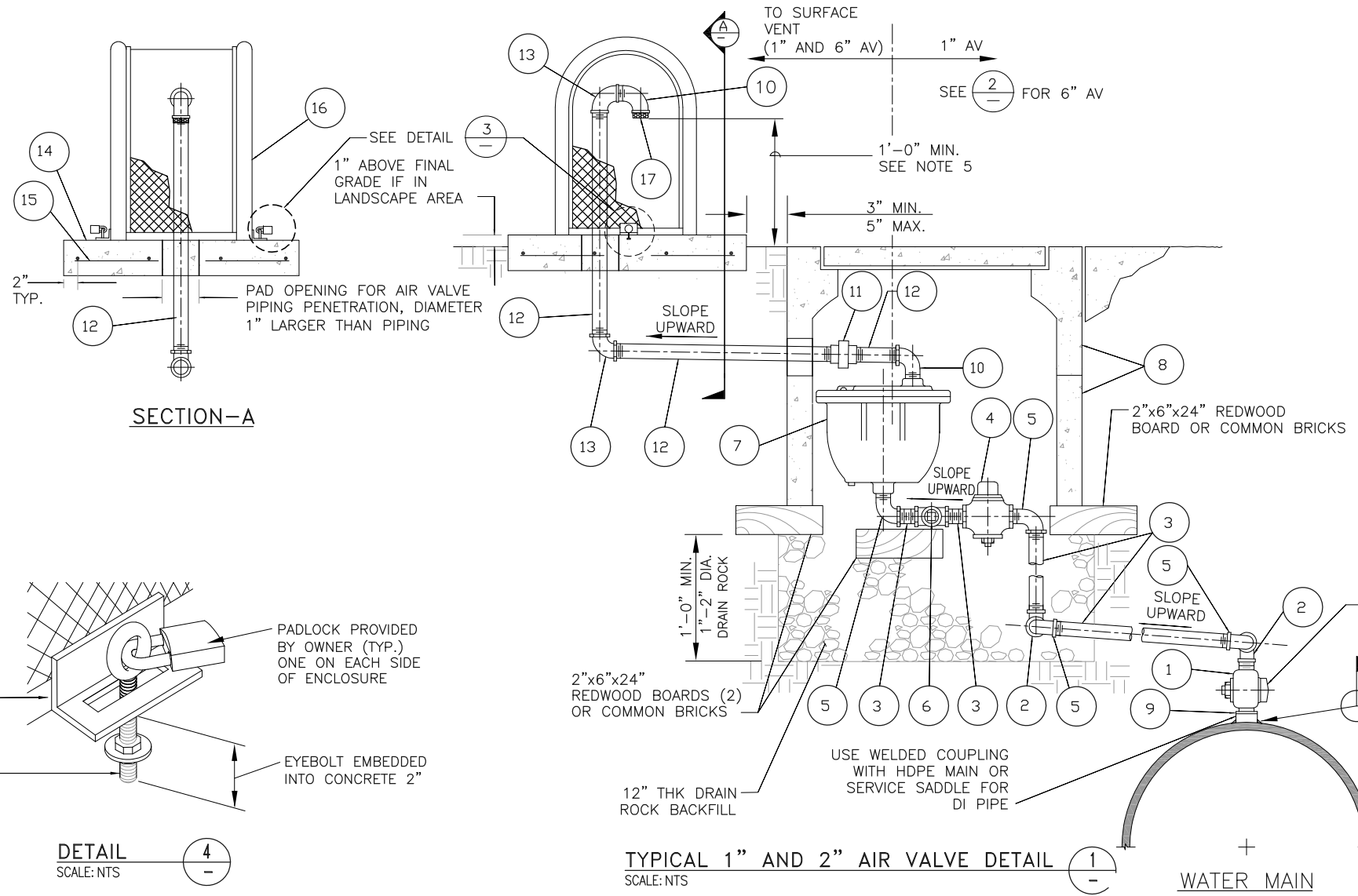
NOTES:

1. HYDRANT LOCATION TO VARY. CONTRACTOR SHALL VERIFY LOCATION PRIOR TO INSTALLATION BASED ON THE FOLLOWING CONDITIONS:
 - WHEN SIDEWALKS ARE ADJACENT TO CURB, HYDRANTS SHALL BE CENTERED AT BACK OF SIDEWALK.
 - WHEN SIDEWALKS ARE CONSTRUCTED WITH WIDTHS GREATER THAN 6' FROM CURB FACE TO OUTSIDE EDGE OF SIDEWALK HYDRANTS SHALL BE PLACED 24" FROM THE CURB FACE.
 - WHEN INVERTED SHOULDER SECTION IS PERMITTED AND CURB, GUTTER AND SIDEWALKS ARE WAIVED, THE HYDRANT SHALL BE CENTERED 24" BEHIND THE EDGE OF PAVEMENT.
2. REQUIREMENT OF LOCAL AUTHORITY HAVING JURISDICTION SHALL PREVAIL. IN THEIR ABSENCE, THE INSTALLATION SHOWN MAY BE USED.
3. EXACT HYDRANT LOCATION TO BE FIELD DETERMINED BY LOCAL AUTHORITY HAVING JURISDICTION.
4. FIRE HYDRANT CENTERLINE TO EDGE OF CURB IS 24" WHEN PROPERTY LINE IS 6' OR GREATER. FIRE HYDRANT CENTERLINE TO EDGE OF CURB VARIES WHEN PROPERTY LINE IS 24" OR LESS.
5. BAG FIRE HYDRANT UNTIL PLACED INTO SERVICE.
6. INSTALL FIRE HYDRANT PROTECTION BOLLARDS WHEN DIRECTED BY CAL-AM OR FIRE DEPARTMENT.
7. INSTALL FH BLOWOFFS WITHIN CAW SERVICE AREA ONLY.



REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS FIRE HYDRANT BLOWOFF DETAIL	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498
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- NOTES:**
1. MAINTAIN AN UPWARD SLOPE TO PIPE FROM AV AT MAIN TO AIR VALVE VENT.
 2. CURB STOP TO BE EXPOSED IN METER BOX AND ACCESSIBLE TO OPERATE.
 3. PROVIDE WEATHERPROOF LABEL ON ENCLOSURE WITH AV AND STATION NUMBER.
 4. OUTLET SHALL BE A MINIMUM 1'-0" ABOVE FINISHED GRADE OR 1'-0" ABOVE THE CALCULATED 100-YEAR FLOOD WATER LEVEL OR HIGHEST RECORDED WATER LEVEL, WHICHEVER IS HIGHER.
 5. GALVANIZED AIR VALVE PIPING ABOVE GRADE SHALL BE COATED WITH TWO COATS OF RUST-OLEUM PAINT COLORED TO MATCH ENCLOSURE COLOR.
 6. CONTRACTOR TO FIELD WRAP RISER PIPE AND FITTINGS PER ACWD STD. SPECIFICATIONS.
 7. LOCATE AV BOX AS SHOWN ON PLAN AND PROFILE DRAWINGS.
 8. INLET PIPING, FITTINGS AND VALVES SHALL BE THE SAME DIAMETER AS THE CAVV SIZE.

TABLE A	
ITEM	DESCRIPTION
1	VALVE
2	90° STRAIGHT ELBOW (RED BRASS) (2)
3	RED BRASS PIPE (4)
4	CURB STOP
5	90° STREET ELBOW (RED BRASS) (4)
6	FIPTxFIPTxFIPT BRASS TEE WITH BRASS PLUG**
7	COMBINATION AIR VACUUM RELIEF VALVE (CAVV)
8	UTILITY BOXES. SEE TABLE B
9	NYLON BUSHING (STEEL MAIN ONLY)**
10	90° STREET ELBOW (GALVANIZED)** (2). SEE NOTE 5
11	UNION (GALVANIZED)**
12	GALVANIZED STEEL PIPE** (3). SEE NOTE 5
13	90° STRAIGHT ELBOW (GALVANIZED)** (2). SEE NOTE 5
14	CONCRETE BASE 20"Wx20"Lx3"D
15	6"/6"x#10/10 WELDED WIRE MESH
16	ENCLOSURE BPGI CGS-1. COLOR SHALL BE GREEN
17	STAINLESS STEEL MESH INSECT SCREEN CAP**
18	THREADED EYEBOLT (GALVANIZED) WITH 7/16" MIN. I.D. (2)

** SIZED THE SAME DIAMETER AS THE AIR VALVE

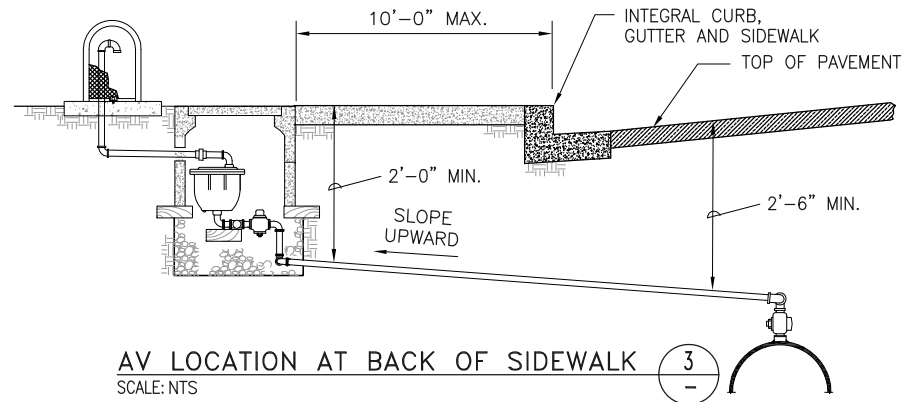
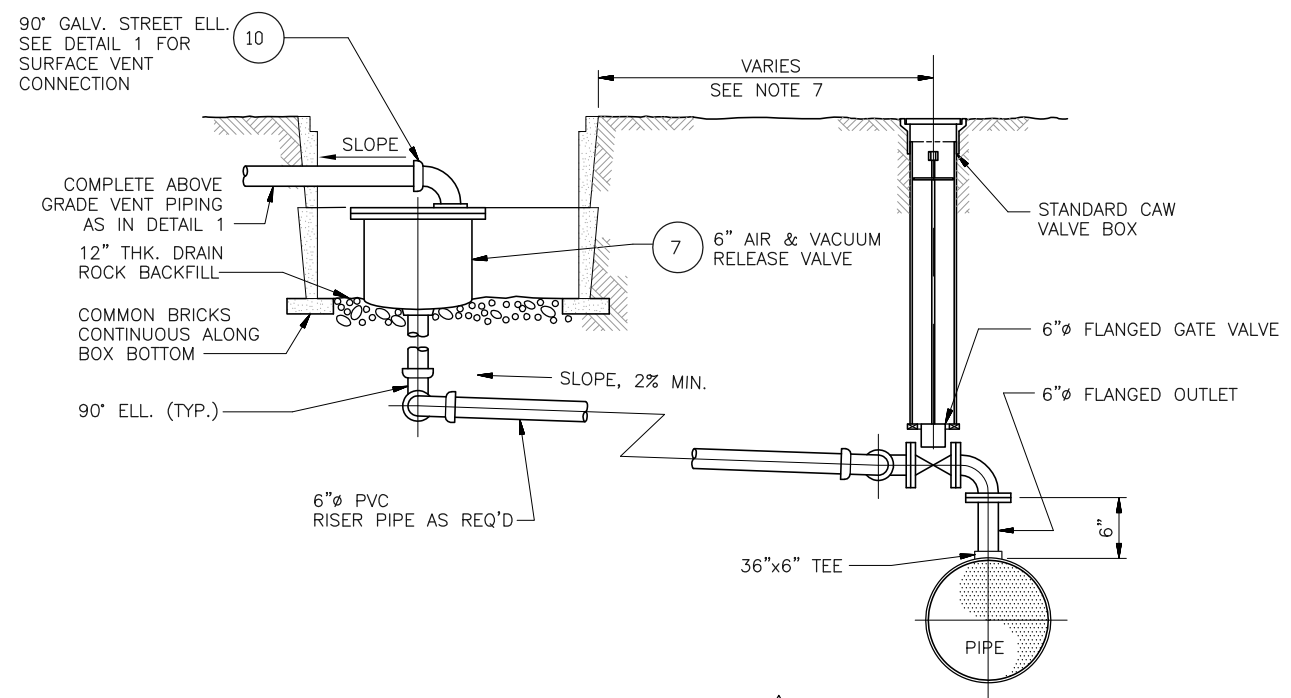
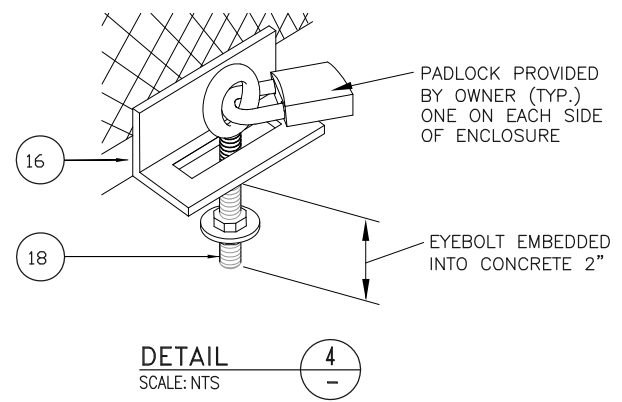
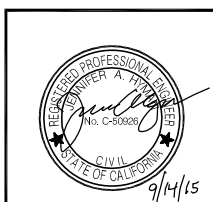


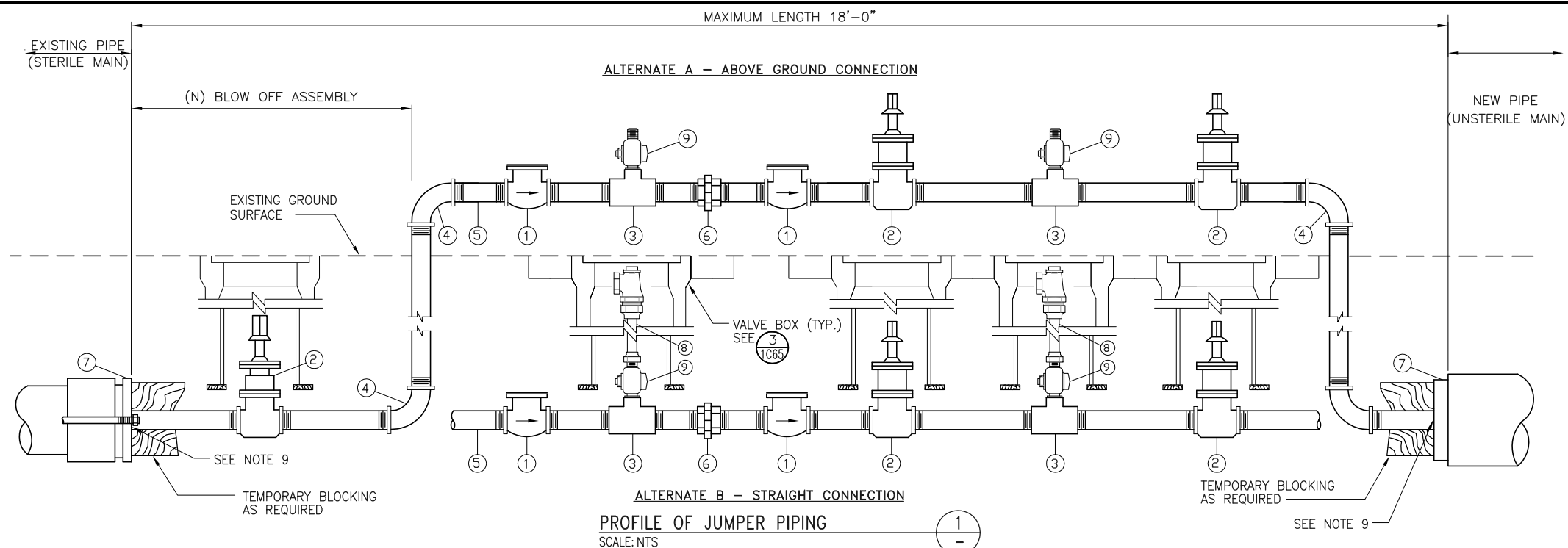
TABLE B		
UTILITY BOXES FOR AIR VALVES		
A.V. SIZE	CHRISTY OR APPROVED EQUAL METER BOX	LID
1" CAVV	B24BOX (BOX) W/ B24BOX (EXTENSION)	B24D
4", 6" AND 8" CAVV	N48T BOX W/ REINFORCED BOX (2 EXTENSIONS FOR 4") (3 EXTENSIONS FOR 6" AND 8")	N48-62J GALV. STEEL CHECKER PLATE

TYPICAL 4", 6" AND 8" AIR VALVE DETAIL 2
SCALE: NTS



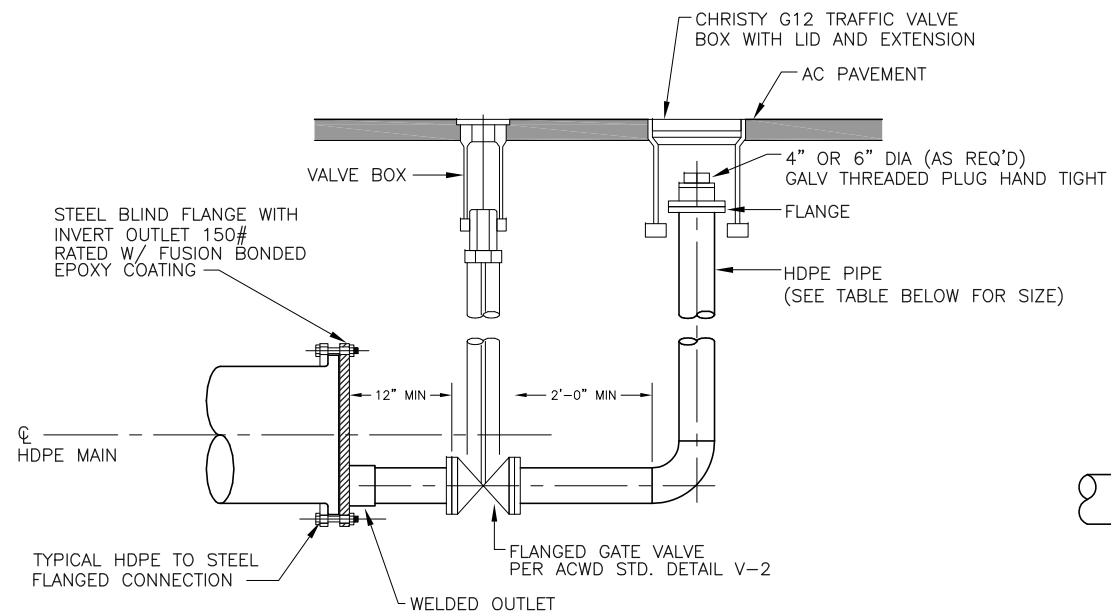
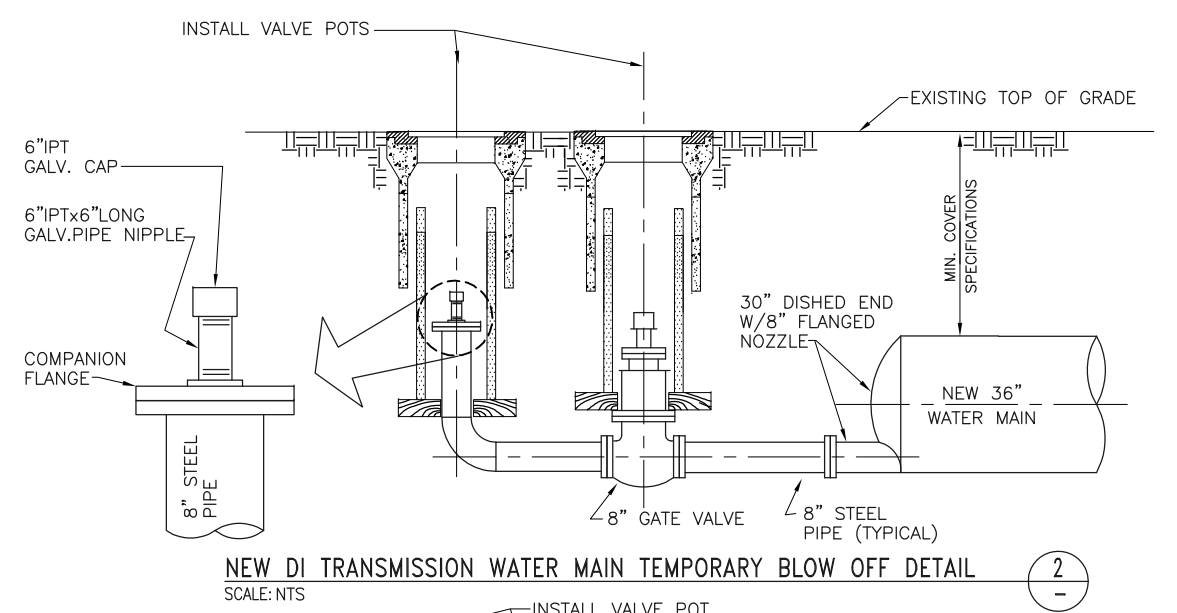
REVISIONS		TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS COMBINATION AIR RELEASE VALVE
Δ	BID ADDENDUM 1 9/14/15 JAH	
		CALIFORNIA AMERICAN WATER
		AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612 PROJECT ENG'R J. HYMAN APPROVED C. SMITH
		AECOM CALIFORNIA AMERICAN WATER DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
		USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES

\\1575SR-PR01\Projects\CAW_Design\6000_Design\6100_CAD\Work\Kevin\2015-04-29_Details\1000000M14.dwg Kevin lee Aug 14, 2015 11:21am

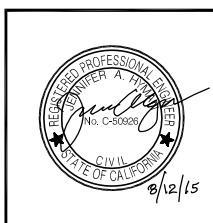
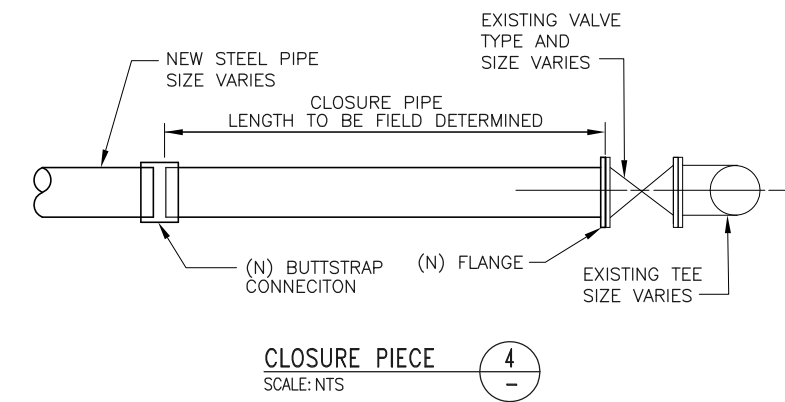
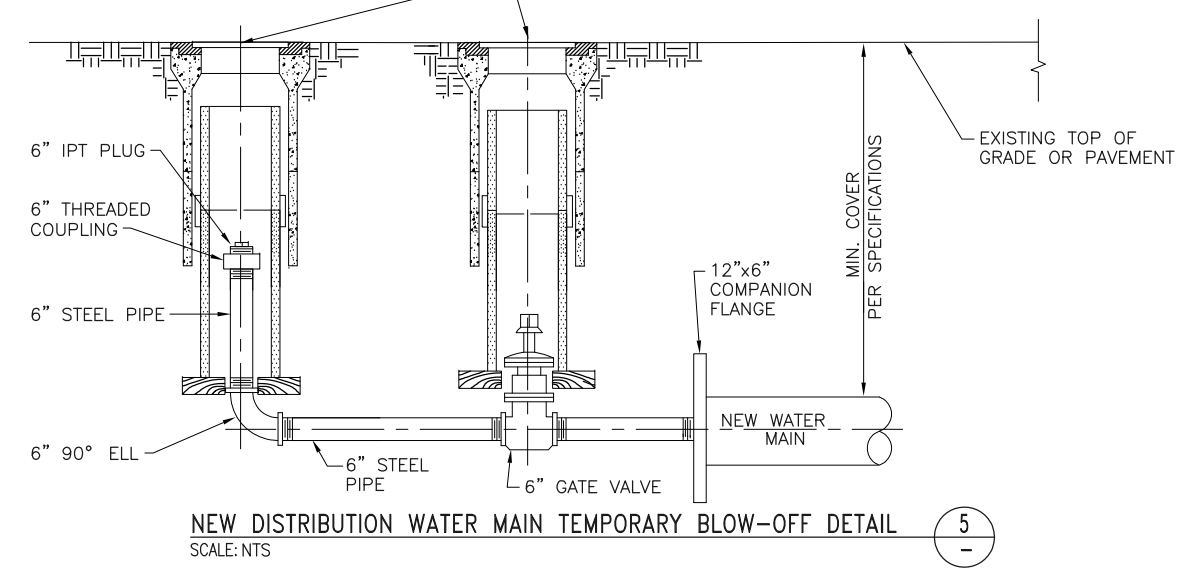


ITEM	JUMPER PIPE MATERIAL DESCRIPTION. SEE NOTES
1	CHECK VALVE
2	GATE VALVE
3	TEE
4	90° ELL
5	PIPE
6	UNION OR FLEX COUPLING
7	TEST BULKHEAD
8	1" COPPER TUBING WITH 1" BRASS ANGLE METER STOP
9	1" BRASS CORP STOP

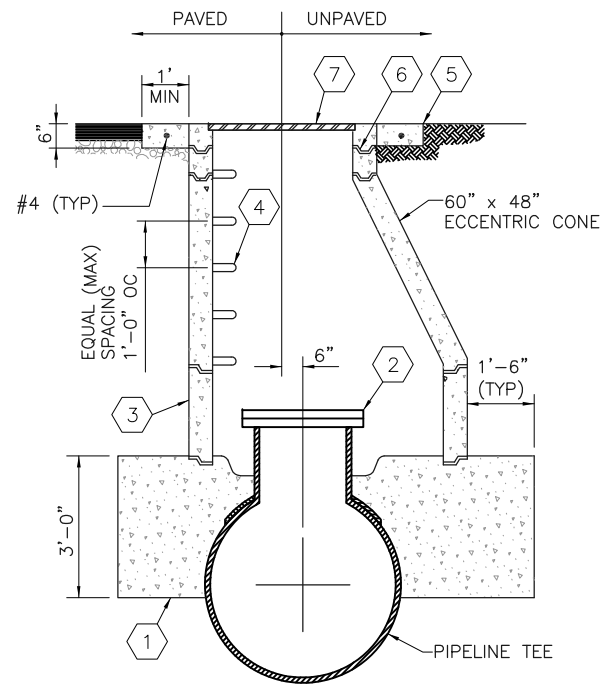
- NOTES**
- JUMPER PIPING AND MATERIALS TO BE THOROUGHLY CLEANED AND DISINFECTED WITH 5% HYPOCHLORITE SOLUTION PRIOR TO INSTALLATION.
 - JUMPER CONSTRUCTION OTHER THAN SHOWN AND SPECIFIED WILL NOT BE ALLOWED WITHOUT PERMISSION OF CAW.
 - | MAIN SIZE | MINIMUM JUMPER PIPE SIZE |
|---------------|--------------------------|
| 6" AND 8" | 2" |
| 10" AND 12" | 4" |
| 14" AND 16" | 6" |
| 18" OR LARGER | 8" |
 - JUMPER PIPE SIZE MUST CORRESPOND WITH LARGEST DIAMETER SIZED PIPE ON PROJECT.
 - JUMPER PIPING MAY BE INSTALLED EITHER ABOVE GROUND OR IN A DIRECT ALIGNMENT, AS INDICATED ABOVE ON PROFILE.
 - JUMPER PIPING MATERIAL SHALL BE STEEL (OR IRON) UNLESS OTHERWISE NOTED.
 - FOR VALVE BOX INSTALLATION, SEE CAW STD DWG.
 - JUMPER PIPING SHOWN WITH THREADED CONNECTIONS, HOWEVER, FLANGED CONNECTIONS ARE ALSO ACCEPTABLE.
 - JUMPER PIPING TO HAVE FLANGED CONNECTIONS AT BOTH ENDS.



HDPE MAIN SIZE (NOMINAL OD)	BLOW OFF SIZE (HDPE)
14" OR UNDER	6" (5.81" ID)
18" OR OVER	8" (7.57" ID)



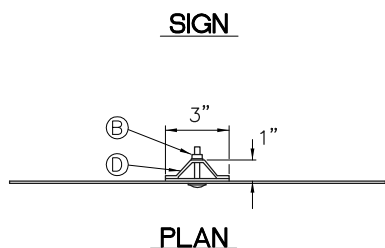
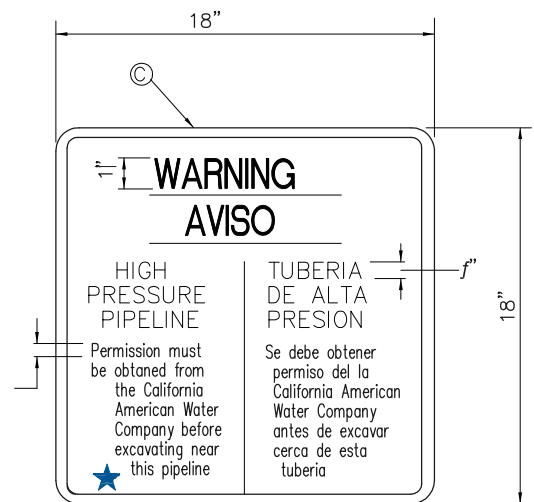
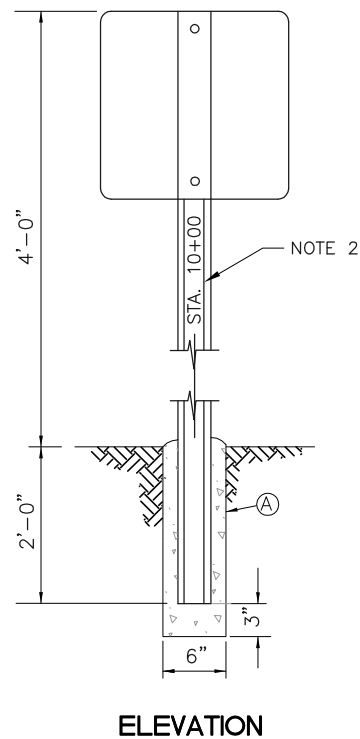
REVISIONS	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS TEMPORARY TESTING PIPING DETAILS			
	CALIFORNIA AMERICAN WATER			
	<table style="width: 100%; font-size: small;"> <tr> <td>AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612</td> <td> DATE AUGUST 2015 PROJECT 60424498 </td> <td> USE DIMENSIONS ONLY SCALE AS SHOWN </td> </tr> </table>	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	DATE AUGUST 2015 PROJECT 60424498	USE DIMENSIONS ONLY SCALE AS SHOWN
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	DATE AUGUST 2015 PROJECT 60424498	USE DIMENSIONS ONLY SCALE AS SHOWN		
	USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES			
	0000M14			



DETAIL KEY NOTES:

- 1 8'-0" LONG (BOTH WAYS)
3000 PSIG CONCRETE
- 2 36" ACCESS MANWAY BLIND FLANGE WITH 316 SS BOLTS
- 3 VERTICAL
MANHOLE SECTION
- 4 EMBEDDED STEEL STEP,
POLYPROPYLENE ENCASED
- 5 CONCRETE RING
- 6 36" MANHOLE FRAME
WITH BOLT DOWN COVER
- 7 MANHOLE COVER

INSPECTION MANWAY DETAIL (1)
SCALE: NTS



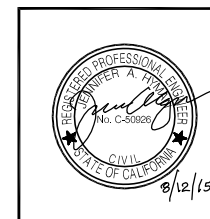
WARNING SIGN DETAIL (2)
SCALE: NTS

A	CONCRETE FOOTING
B	TWO BOLTS x 2", TWO NUTS, TWO FIBER WASHERS, TWO 1" x 3" x" PLATES
C	PERMA SIGN REFLECTIVE - 18" x 18", RED ON WHITE
D	6'-0" PAINTED PRESSURE TREATED 4" x 4" WOOD

NOTES:

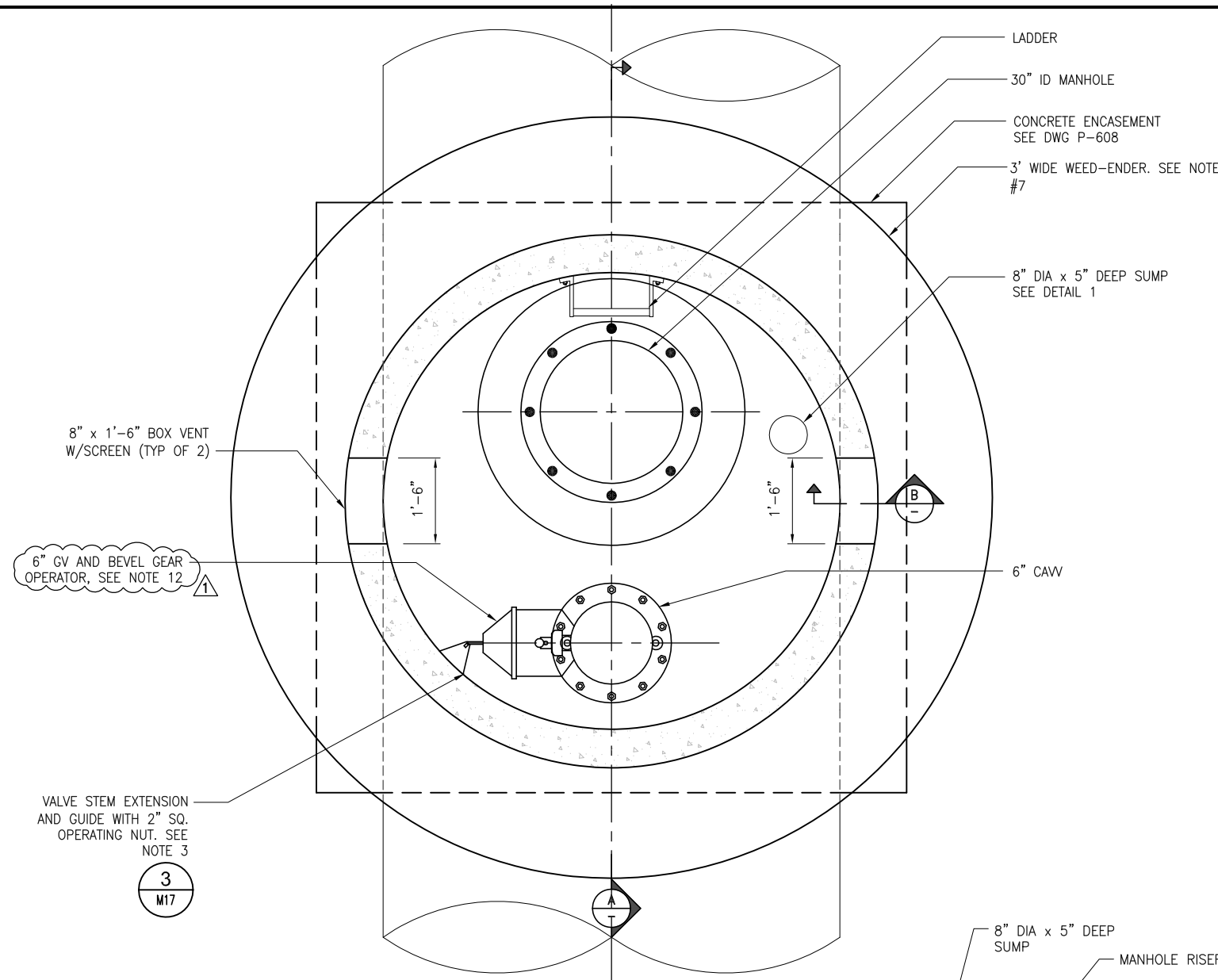
1. PLACE POST APPROXIMATELY AS INDICATED IN ALL UNPAVED AREAS AT STATION NUMBER MULTIPLES OF 20+00. FINAL LOCATION TO BE DETERMINED BY THE OWNER.
2. ON THE POST WRITE STATION NUMBERS IN WEATHER AND WATER PROOF PAINT.

REVISIONS	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS MANWAY AND SIGN DETAILS	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY N. HUTTON PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000M15



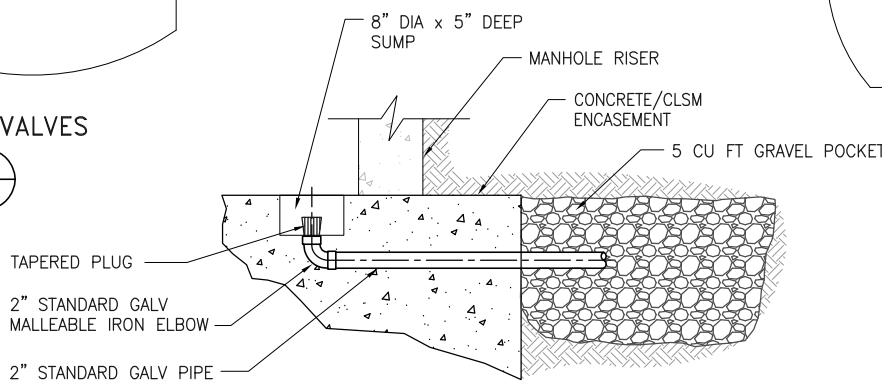
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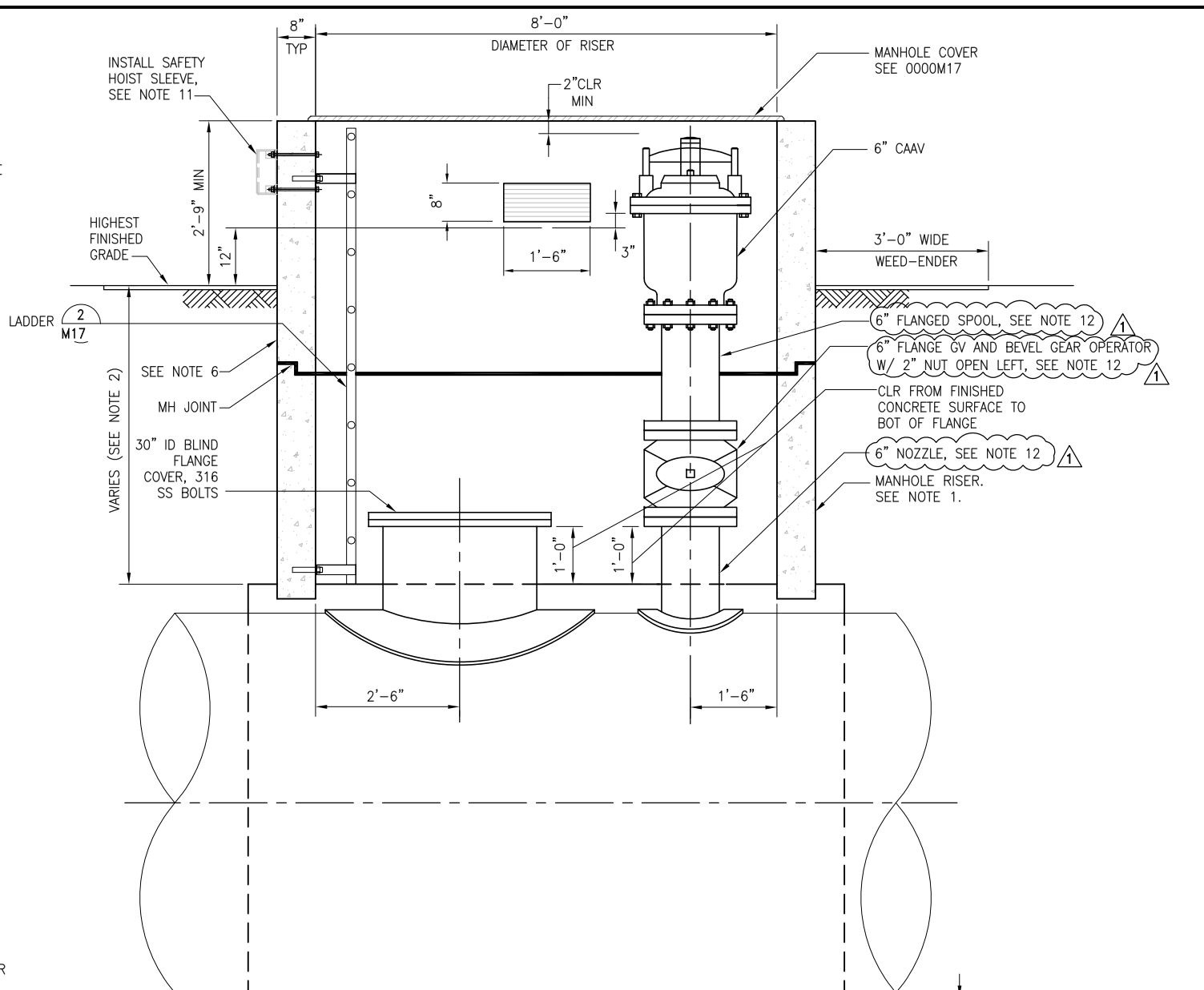


MANHOLE AND AIR VALVES

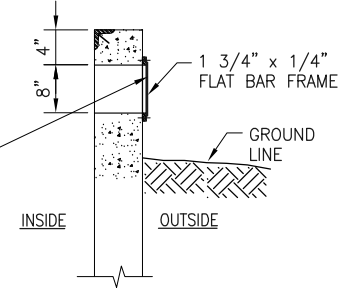
DETAIL 1
SCALE: NTS



SUMP DETAIL 1
SCALE: NTS



SECTION A
SCALE: NTS

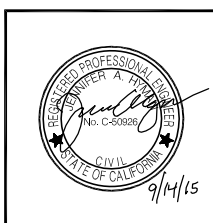


SECTION B
SCALE: NTS

NOTES:

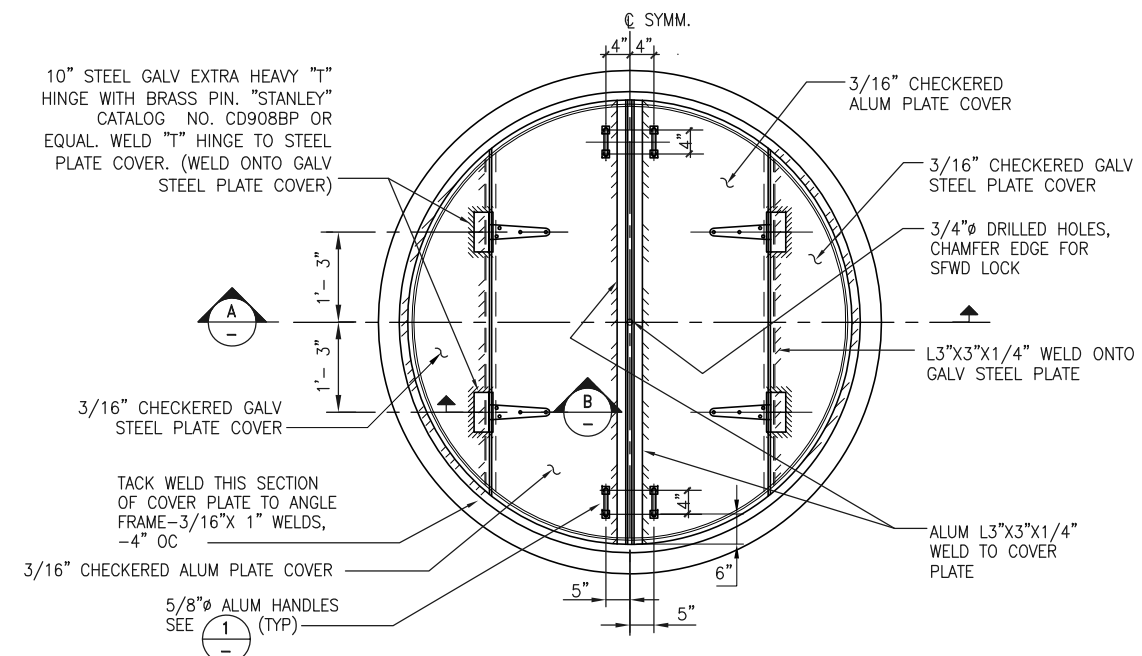
- ALL PRE-FABRICATED CONCRETE SHALL MEET ASTM C-478 SPECIFICATION, SUCH AS THE ONES OFFERED BY HANSON CONCRETE PRODUCTS.
- THE HEIGHT OF THE VACUUM VALVE RISER VAULT SHALL EXTEND 2'-9" ABOVE GRADE. THE TOTAL HEIGHT OF THE RISER SHALL DEPEND ON THE DEPTH OF THE PIPE BELOW THE SURFACE.
- LOOKING DOWNSTREAM, THE FLANGED ENCLOSED BEVEL GEAR GATE VALVE WITH 2" OPERATING NUT SHALL BE POSITIONED ON OPPOSITE SIDE OF THE AIR RELEASE VALVE.
- THE BOTTOM OF THE AIR VENT SCREEN SHALL BE PLACED 1'-0" ABOVE GRADE, AND IF LOCATED ON A HILL, IT SHALL FACE DOWN SLOPE.
- THE DISTANCE BETWEEN THE TOP OF THE VAULT TO THE TOP OF THE STEM EXTENSION OPERATING NUT SHALL BE NO MORE THAN 18".
- CONTRACTOR SHALL NOTIFY THE OWNER REPRESENTATIVE IN WRITING IF ANY PART OF THIS RISER STANDARD OR SPECIFICATION CAN NOT BE MET. ANY ALTERATION OR MODIFICATION OF INSTALLING THE RISER SHALL BE

- APPROVED BY THE OWNER REPRESENTATIVE.
- INSTALL 3' WIDE WEED-ENDER AROUND THE UNPAVED RISER. THE MANUFACTURER OF WEED-ENDER IS U-TECH. (WWW.UTECH.COM, 1-800-542-7011). FOLLOW MANUFACTURER'S RECOMMENDATIONS/ PROCEDURES TO INSTALL WEED-ENDER PRODUCT DESCRIPTION/NUMBER: WEED-ENDER MANHOLE MAT/8MHK12D
 - CHIP CEMENT MORTAR COATING TO ACCOMMODATE THE INSTALLATION OF THE MANHOLE RISER.
 - CONCRETE STRENGTH OF PIPE ENCASMENT SHALL MATCH THE CONCRETE STRENGTH OF THE RISER.
 - NOTE THAT THE FLANGE BOLT PATTERN OF 250 POUND GATE VALVE IS DIFFERENT FROM THE FLANGE BOLT PATTERN OF 125 POUND FLANGE.
 - 18348 UCL ADVANCED WALL MOUNT SLEEVE, 304 STAINLESS STEEL FINISH.
 - INLET PIPING, FITTINGS AND VALVES SHALL BE THE SAME DIAMETER AS THE CAVV SIZE SHOWN ON PLAN AND PROFILE DRAWINGS.

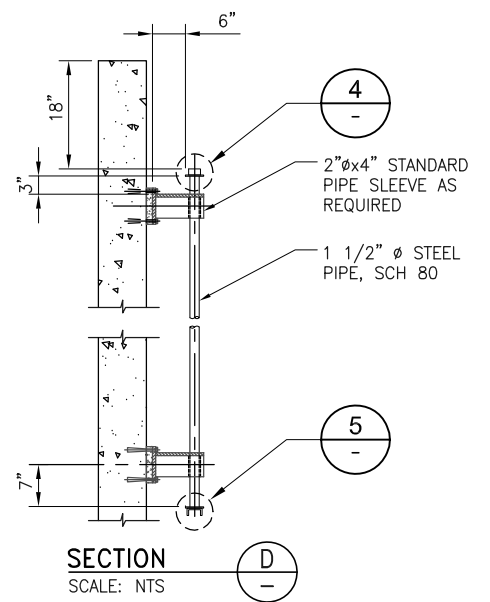
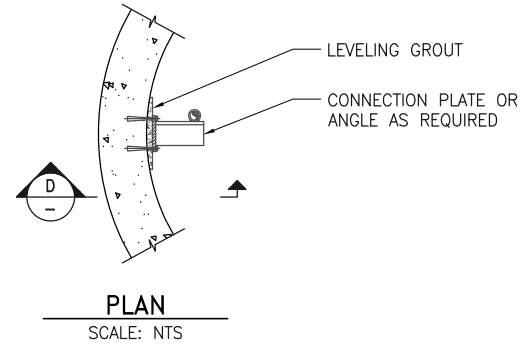


REVISIONS			TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS MANHOLE WITH AIR VALVE	
Δ	BID ADDENDUM 1	9/14/15	JAH	
CALIFORNIA AMERICAN WATER				
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612		AECOM CALIFORNIA AMERICAN WATER		
DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498		USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES				0000M16

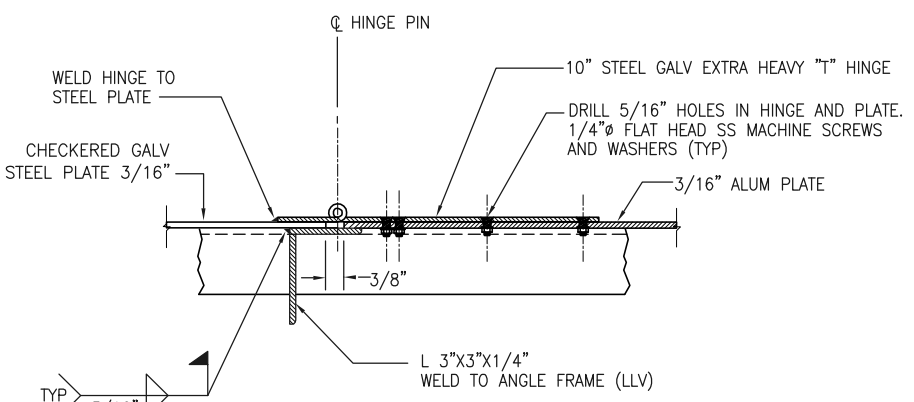
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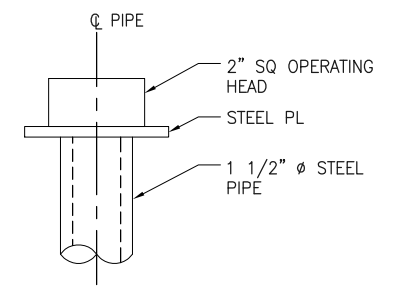
COVER FOR 96" I.D. BOX PLAN
SCALE: NTS



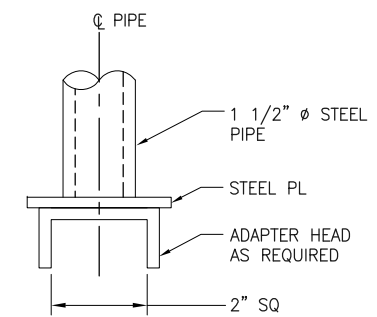
STANDARD VALVE STEM EXTENSION (3) M16
SCALE: NTS (TWO BRACKET REQUIRED)



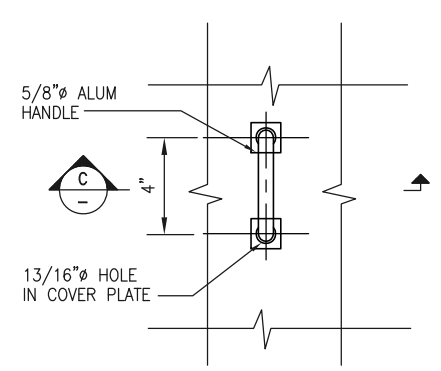
HINGE CONNECTION SECTION (B) SCALE: NTS



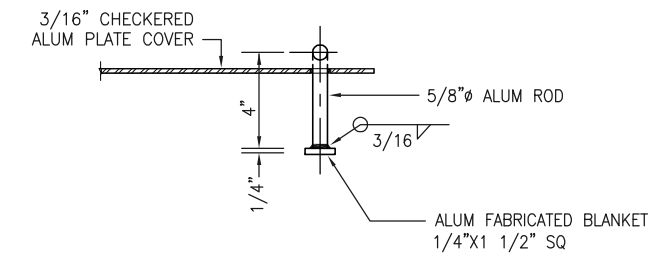
DETAIL (4) SCALE: NTS



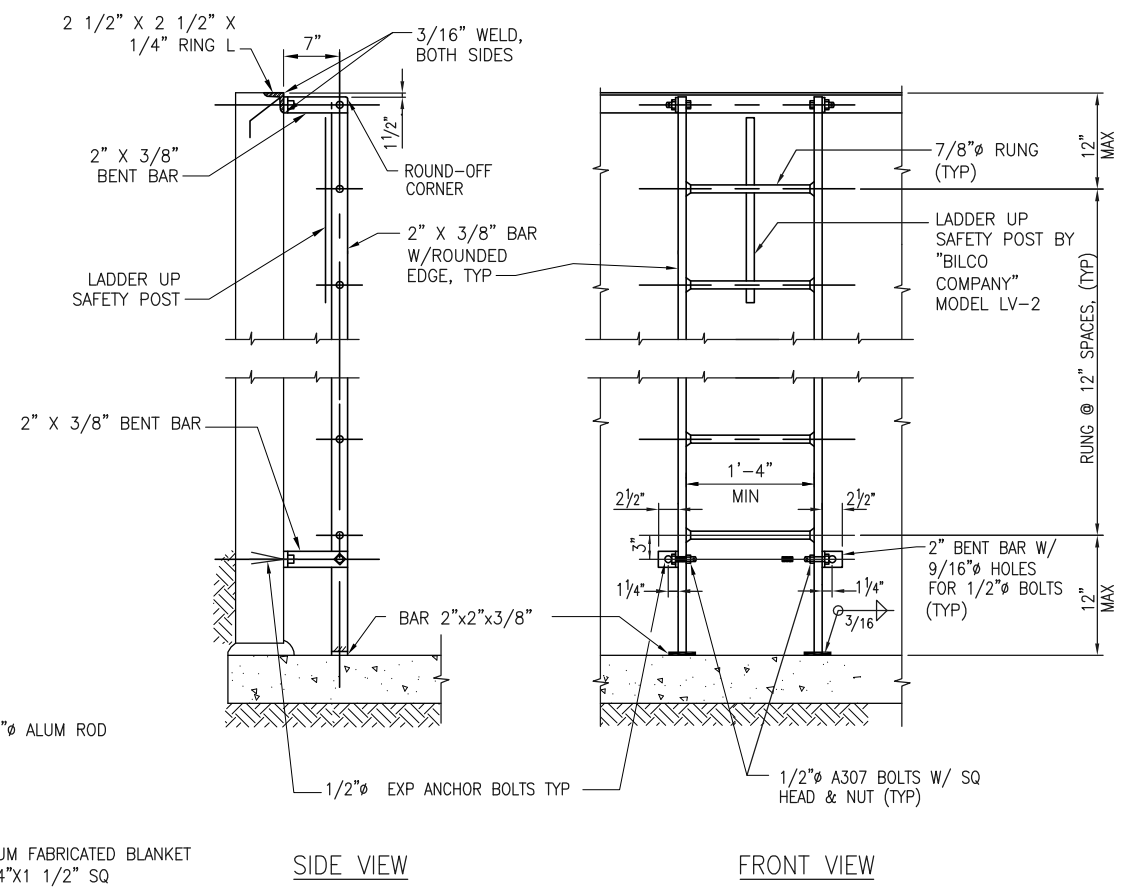
DETAIL (5) SCALE: NTS



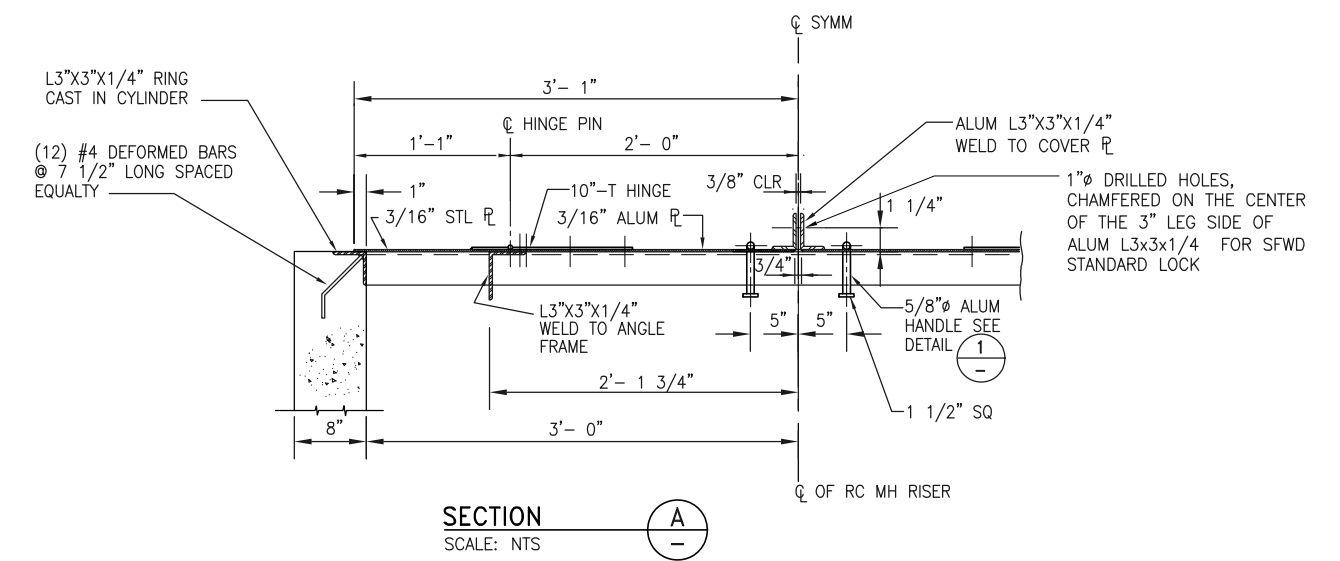
DETAIL (1) SCALE: NTS



SECTION (C) SCALE: NTS



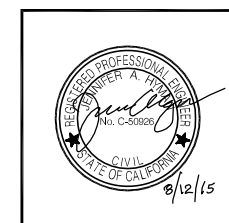
LADDER FOR RISERS DETAIL (2) M16 SCALE: NTS



SECTION (A) SCALE: NTS

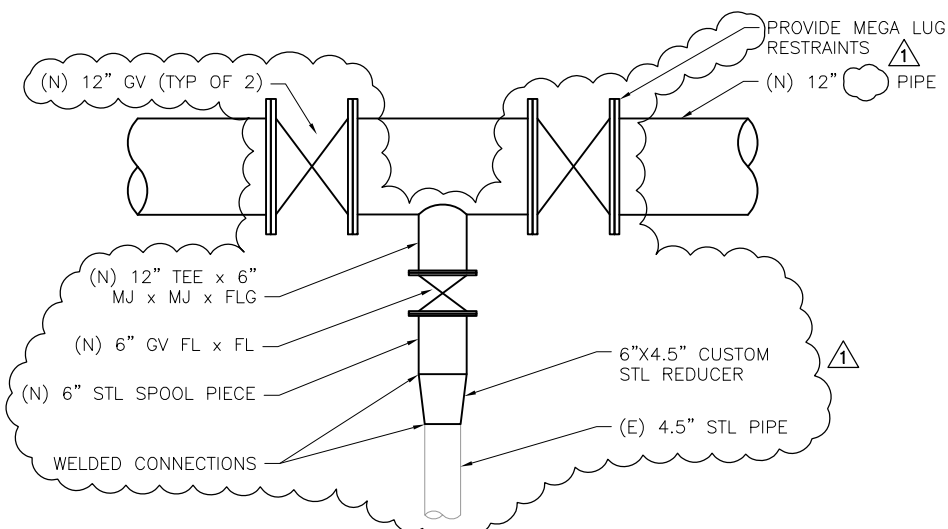
NOTES:

- ALL OPERATING NUTS SHALL BE 2" STD SQ NUT. THE "OPEN" DIRECTION SHALL BE INDICATED BY AN ARROW WITH THE WORD "OPEN" CAST ON THE SKIRT OF THE FLANGE OR AT THE TOP OF THE NUT.
- ALL WORK PERFORMED SHALL MEET LATEST EDITION OF CALIFORNIA BUILDING CODE AND AWWA CODE REQUIREMENTS.

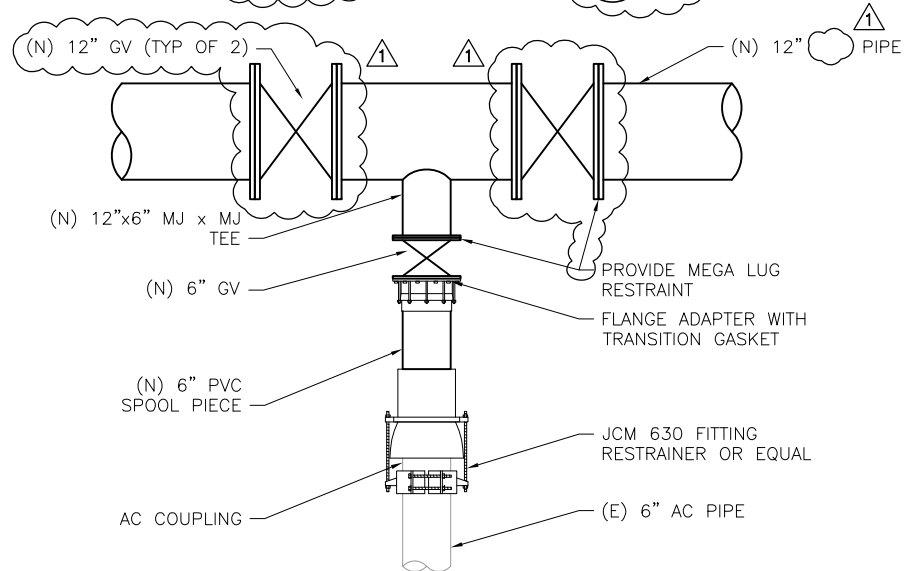


REVISIONS 	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS MANHOLE COVER-SECTIONS & DETAILS	
	CALIFORNIA AMERICAN WATER	
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612		
DRAWN BY C. SOMERA PROJECT ENGR J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000M17

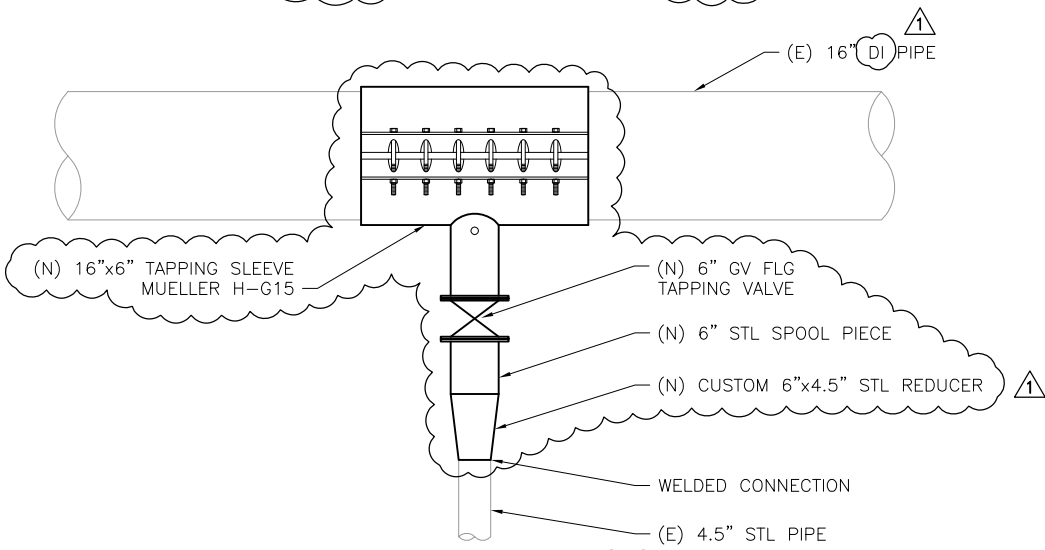
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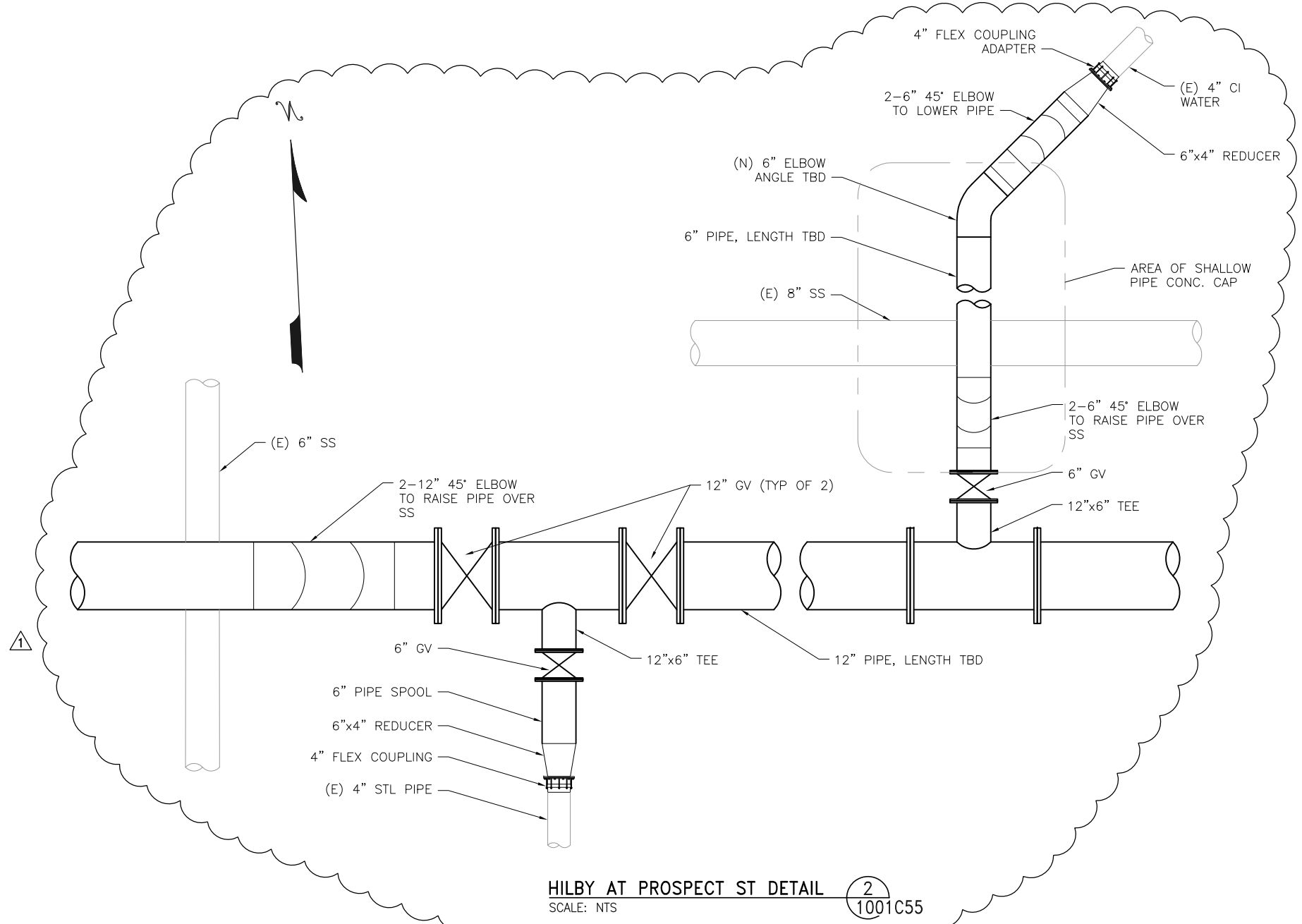
HILBY AT FARGO DETAIL 1
SCALE: NTS 1001C56



HILBY AT SAN LUCAS DETAIL 3
SCALE: NTS 1001C56



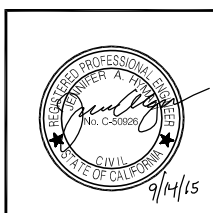
HILBY AND LUXTON DETAIL 4
SCALE: NTS 1001C58



HILBY AT PROSPECT ST DETAIL 2
SCALE: NTS 1001C55

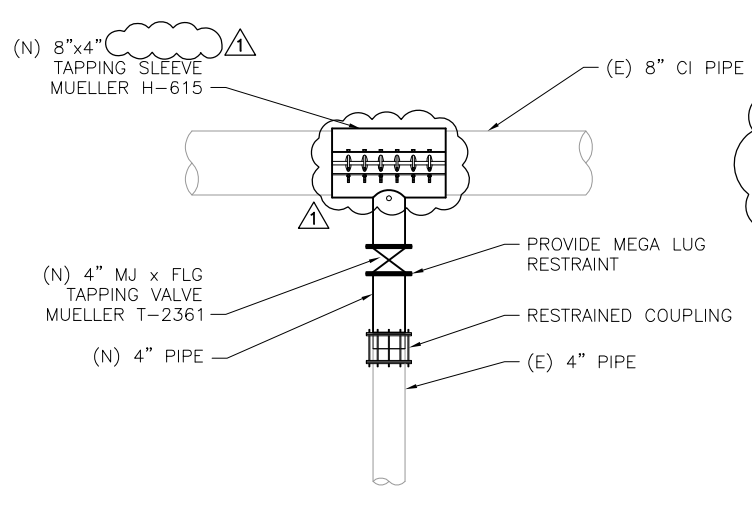
NOTES:

1. CONTRACTOR SHALL CONFIRM EXISTING PIPE SPACING, DIAMETERS, AND MATERIALS.
2. INSTALL ADDITIONAL CAPS ON (E) 12" STL PIPE AS NECESSARY TO MAKE THESE CONNECTIONS.
3. DO NOT INSTALL VALVES UNDER CONCRETE CAPS.

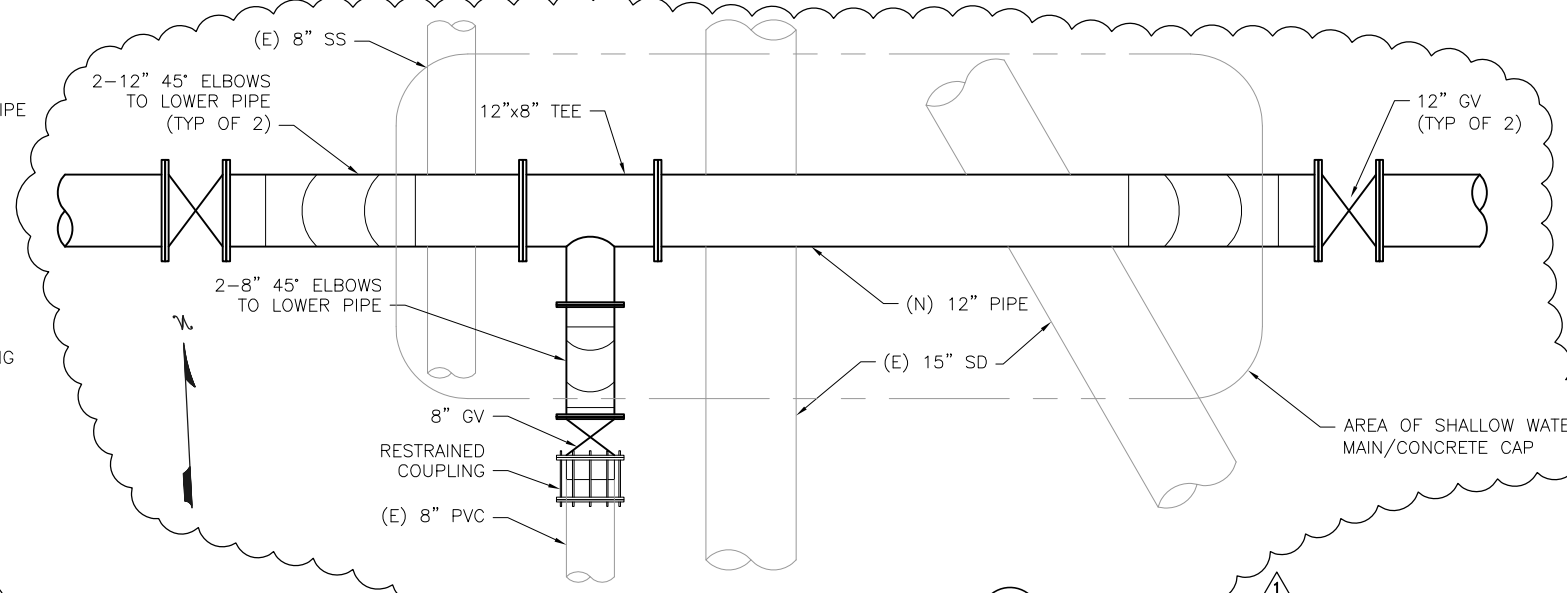


REVISIONS			TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS RETIREMENT AND REPLACEMENT DETAILS - 1	
1	BID ADDENDUM 1	9/14/15	JAH	
CALIFORNIA AMERICAN WATER				
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612		AECOM CALIFORNIA AMERICAN WATER		
DRAWN BY M. MONTES PROJECT ENG'R J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498		USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES				0000M18

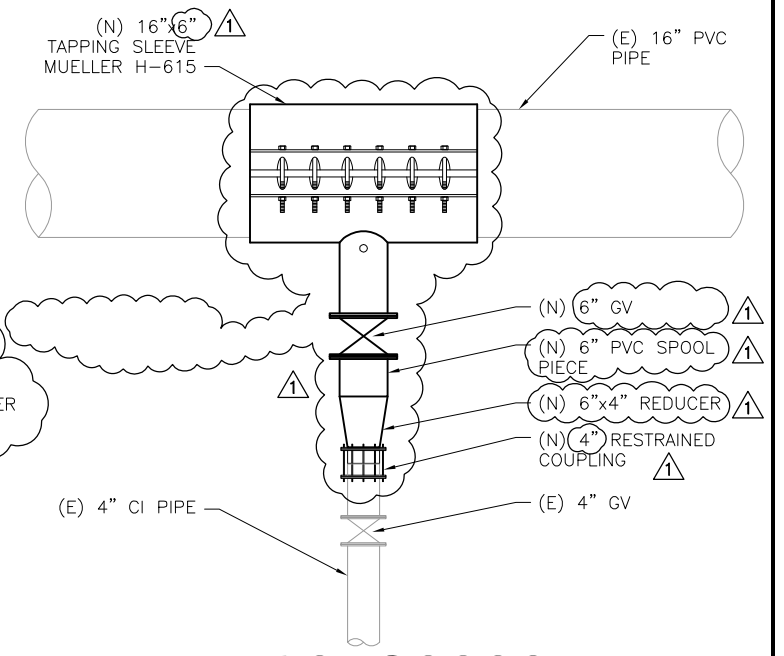
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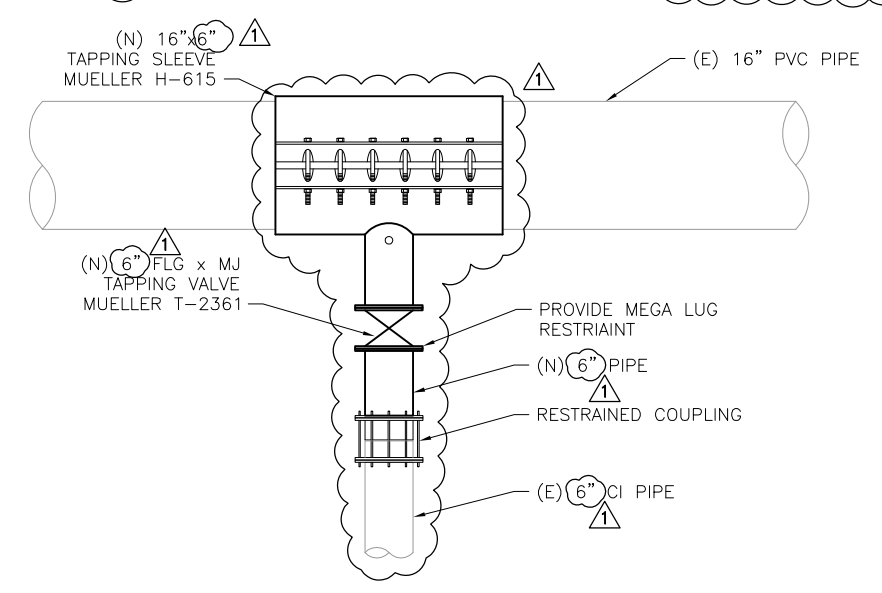
MADISON 4" WATER SERVICE RECONNECTION (1)
SCALE: NTS 1001C48, C49, C51



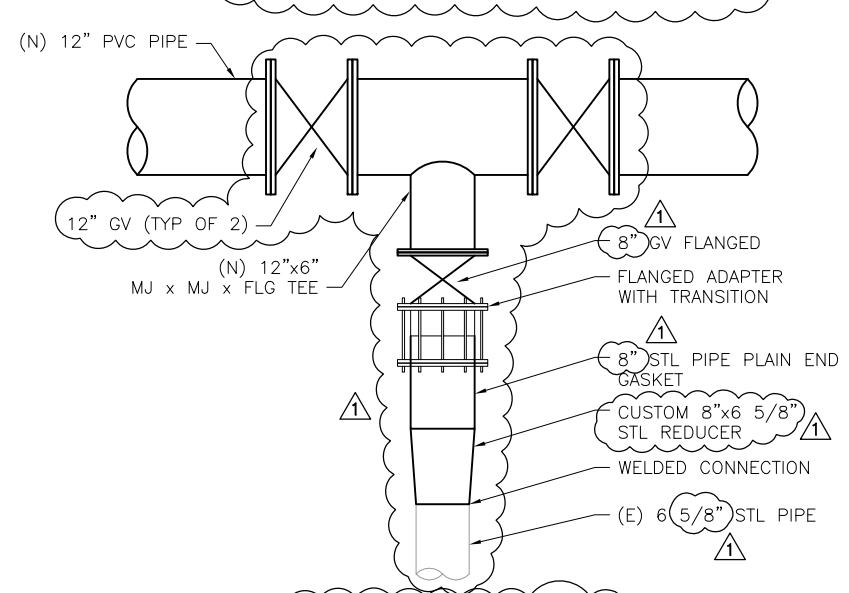
HILBY AT WHEELER DETAIL (4)
SCALE: NTS 1001C54



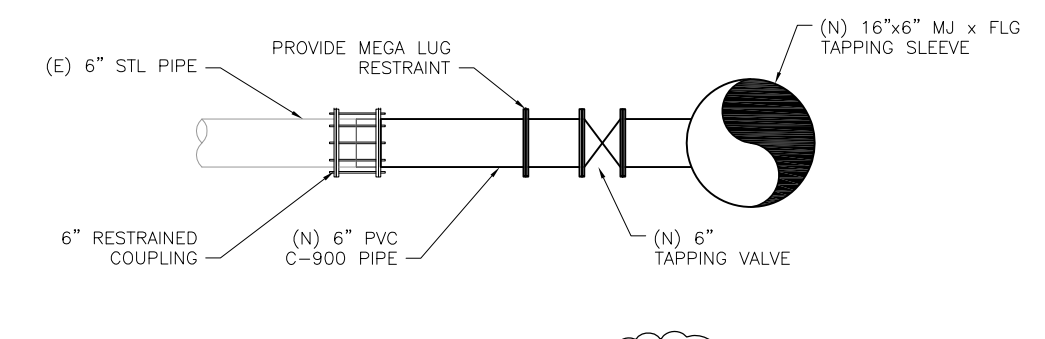
WEBSTER TO CASE ST TIE-IN DETAIL (7)
SCALE: NTS 1001C51



HARTNELL FH RECONNECTION DETAIL (2)
SCALE: NTS 1001C50

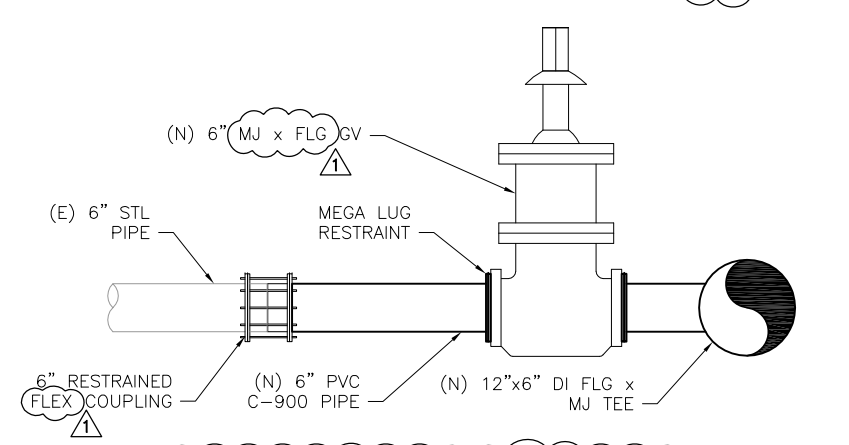


HILBY AT SHAFER ST (5)
SCALE: NTS 1001C55

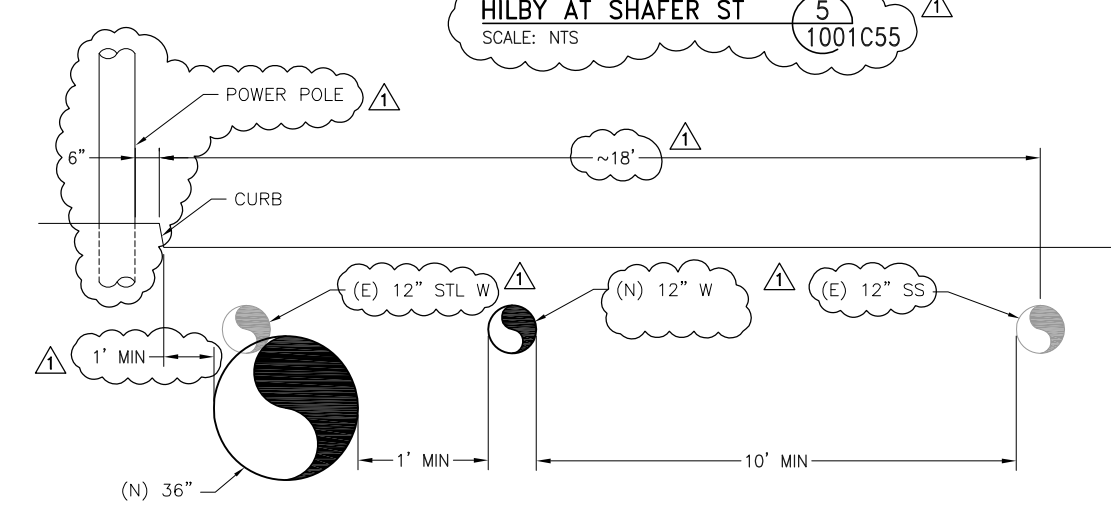


DETAIL (8)
SCALE: NTS 1001C57

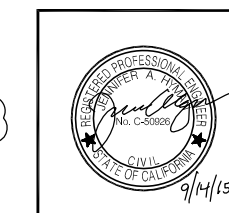
- NOTES:**
- CONTRACTOR SHALL CONFIRM EXISTING CONDITIONS, PIPE LOCATIONS, DIAMETERS, AND MATERIALS.
 - INSTALL ADDITIONAL CAPS ON (E) 12" STEEL PIPE AS NECESSARY TO MAKE THESE CONNECTIONS.
 - DO NOT INSTALL VALVES UNDER CONCRETE CAPS.



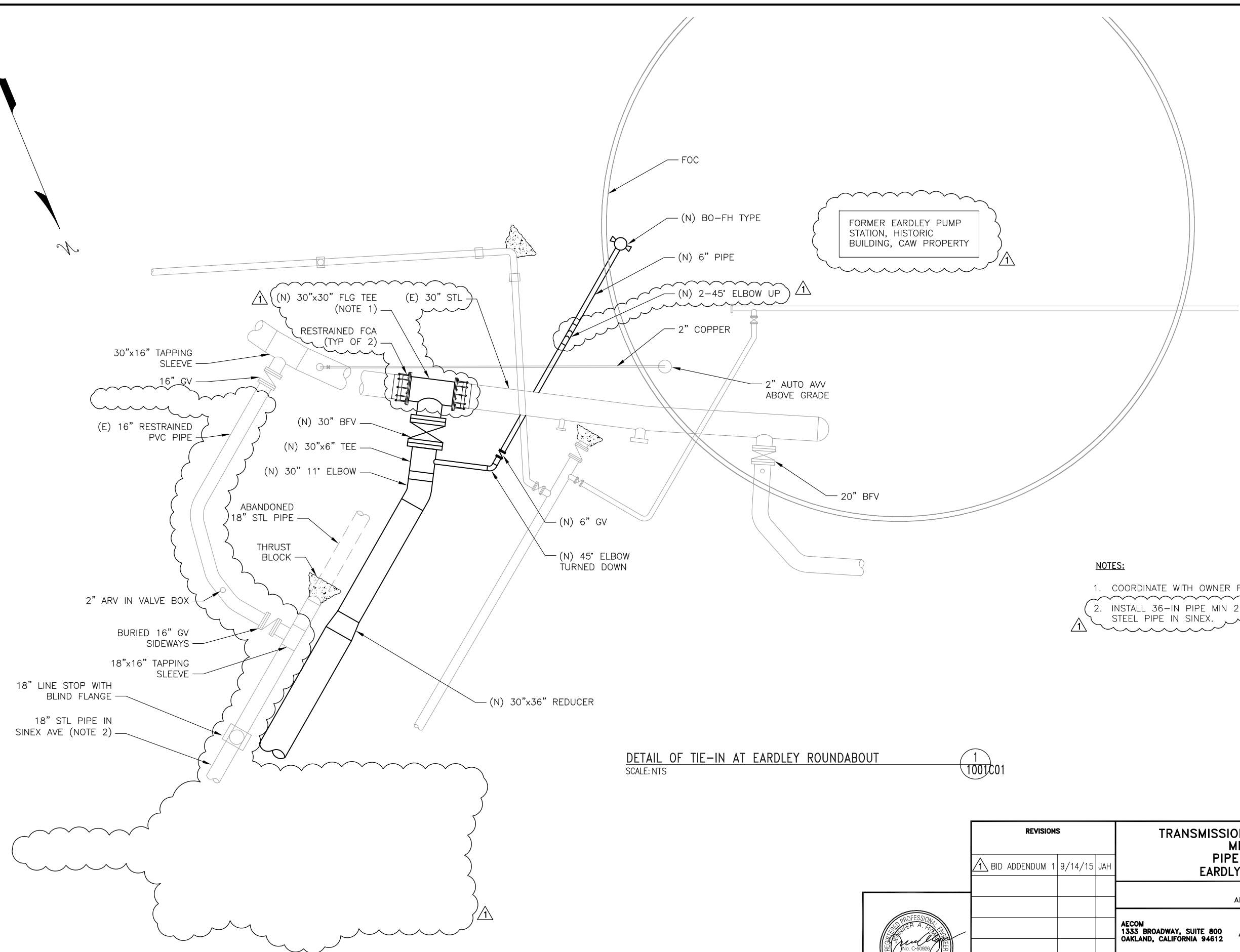
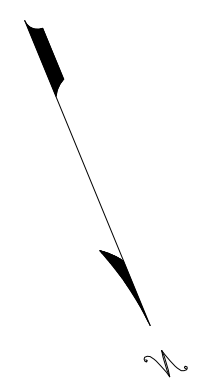
HILBY FH FS RECONNECTION DETAIL (3)
SCALE: NTS 1001C53, C54, C55



TYPICAL HILBY WATERMAIN REPLACEMENT CROSS-SECTION (6)
SCALE: NTS 1001C53



REVISIONS		TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS RETIREMENT AND REPLACEMENT DETAILS - 2	
1	BID ADDENDUM 1	9/14/15	JAH
CALIFORNIA AMERICAN WATER		AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498	USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000M19	

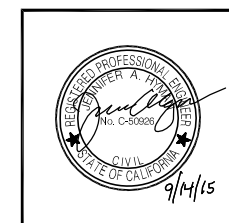


- NOTES:**
1. COORDINATE WITH OWNER FOR SHUTDOWN FOR TIE-IN.
 2. INSTALL 36-IN PIPE MIN 2-FT FROM EXISTING 18-IN STEEL PIPE IN SINEX.

DETAIL OF TIE-IN AT EARDLEY ROUNDABOUT
SCALE: NTS

1
100TC01

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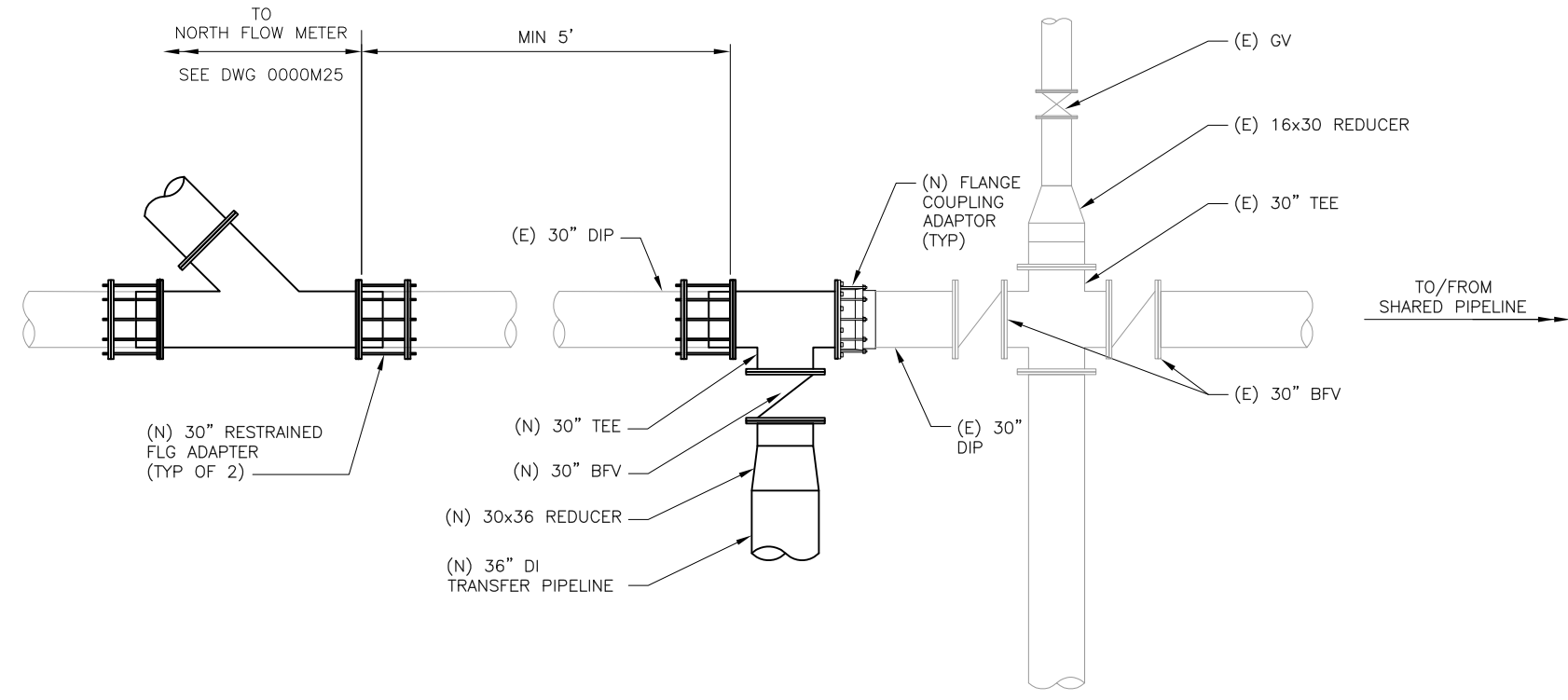


REVISIONS			TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS EARDLY TIE-IN DETAILS	
△	BID ADDENDUM 1	9/14/15	JAH	
CALIFORNIA AMERICAN WATER			AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH			DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN	
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES			0000M20	

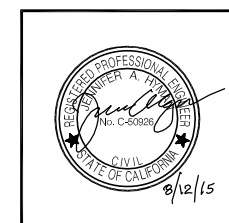
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NOTES:

1. COORDINATE SHUT DOWN OF (E) 30" PIPE WITH OWNER.
2. RESTRAIN ALL JOINTS.

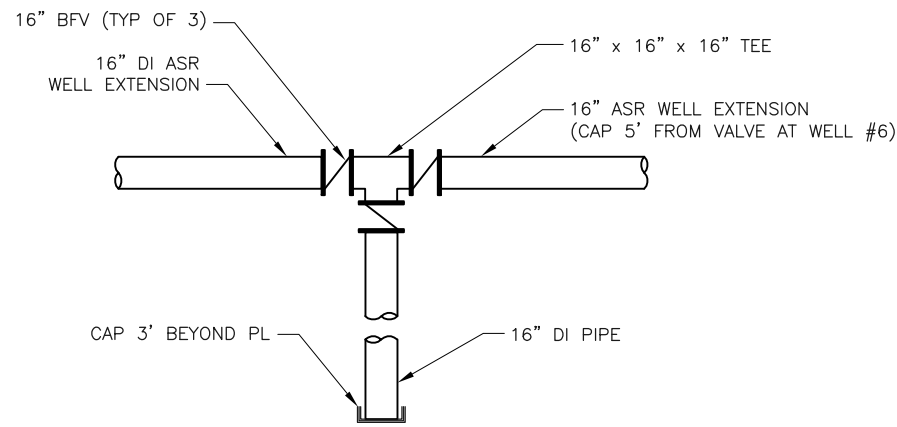


TIE-IN OF SOUTH END OF TRANSFER PIPELINE 1
 SCALE: NTS 3003C01

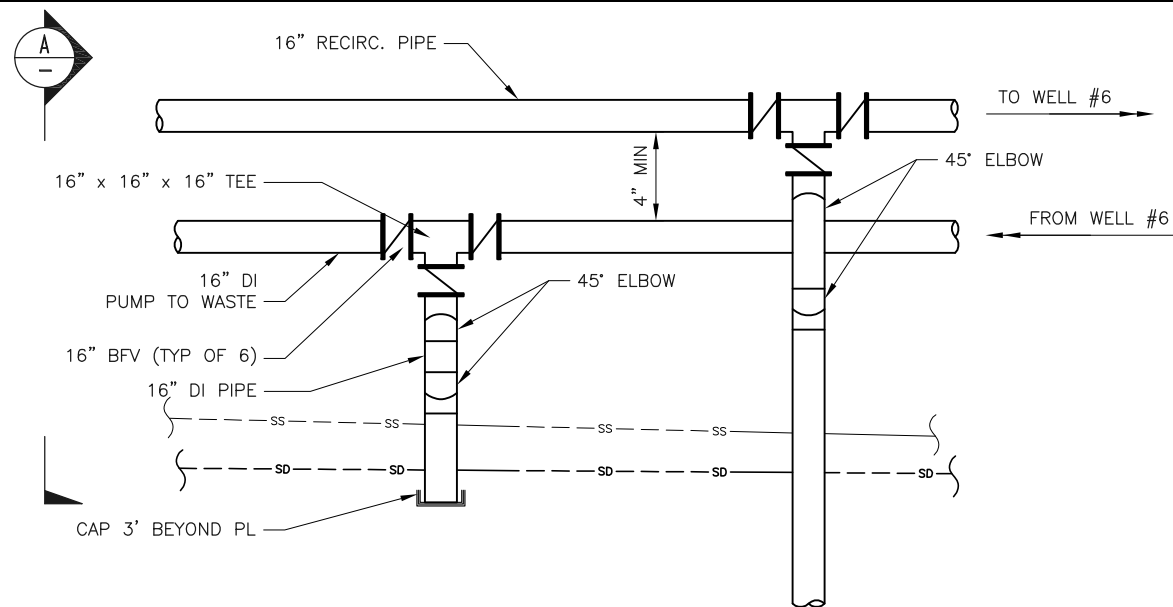


REVISIONS	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS TRANSFER TIE-IN DETAILS	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000M21

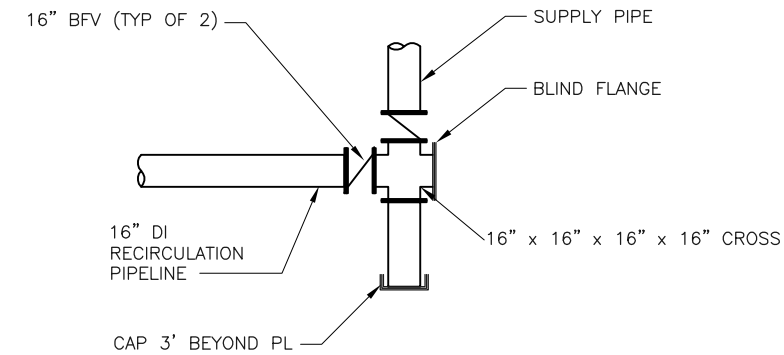
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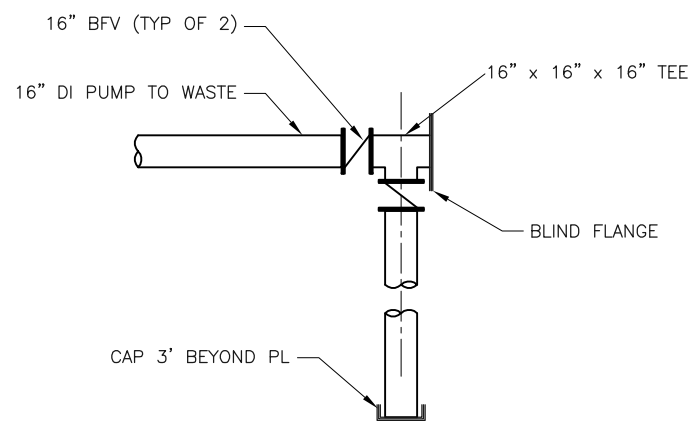
WELL #5 & #6 SUPPLY CONNECTION 1
SCALE: NTS 2002C15, 2002C16



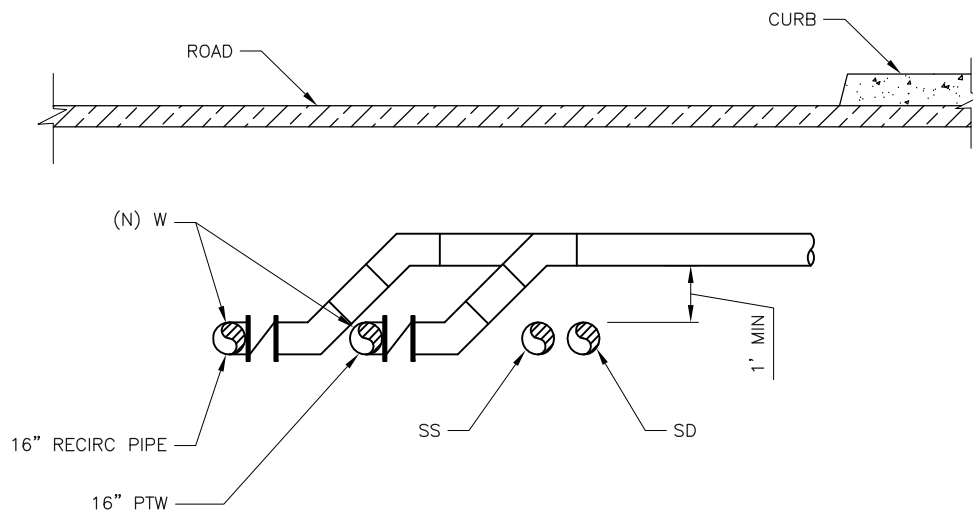
WELL #5 RECIRC AND PUMP TO WASTE CONNECTIONS 2
SCALE: NTS 2002C15



WELL #6-RECIRCULATION CONNECTION 3
SCALE: NTS 2002C16



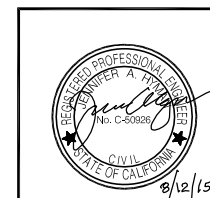
WELL #6-PUMP TO WASTE CONNECTION 4
SCALE: NTS 2002C16



SECTION THROUGH DETAIL 2 A
SCALE: NTS

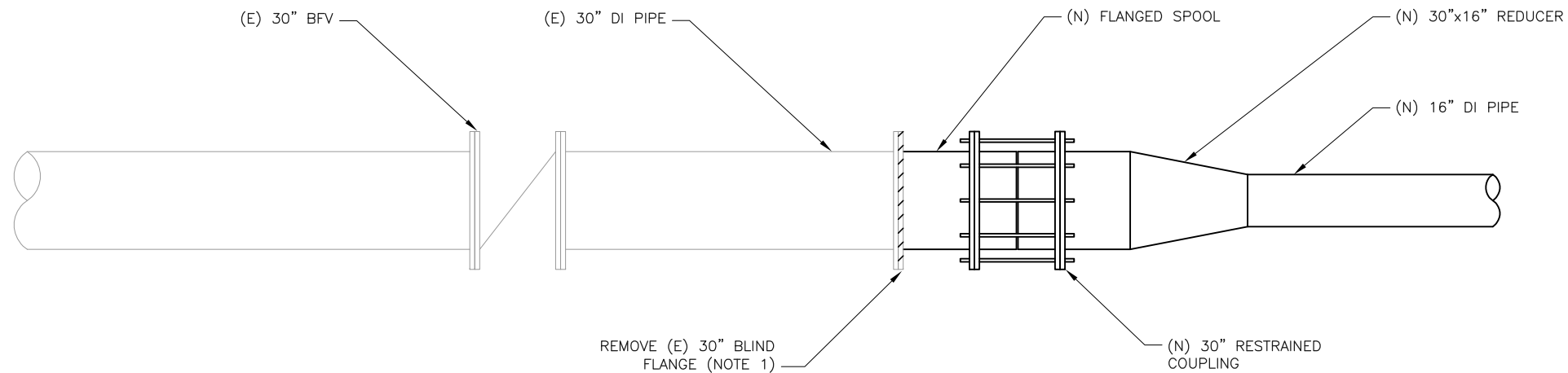
NOTES:

1. ALL CONNECTIONS SHALL BE RESTRAINED.

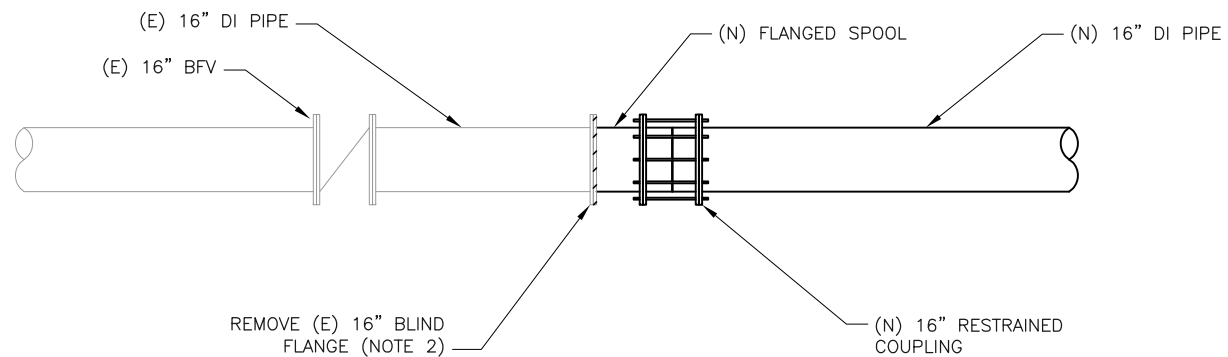


REVISIONS	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS ASR PIPELINE EXTENSION DETAILS - 1	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000M23

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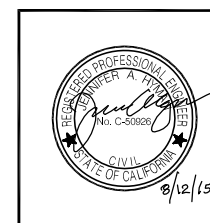
TIE-IN FOR EXTENSION TO WELLS 5 AND 6, FITCH PARK DETAIL 1
SCALE: NTS 2002C12



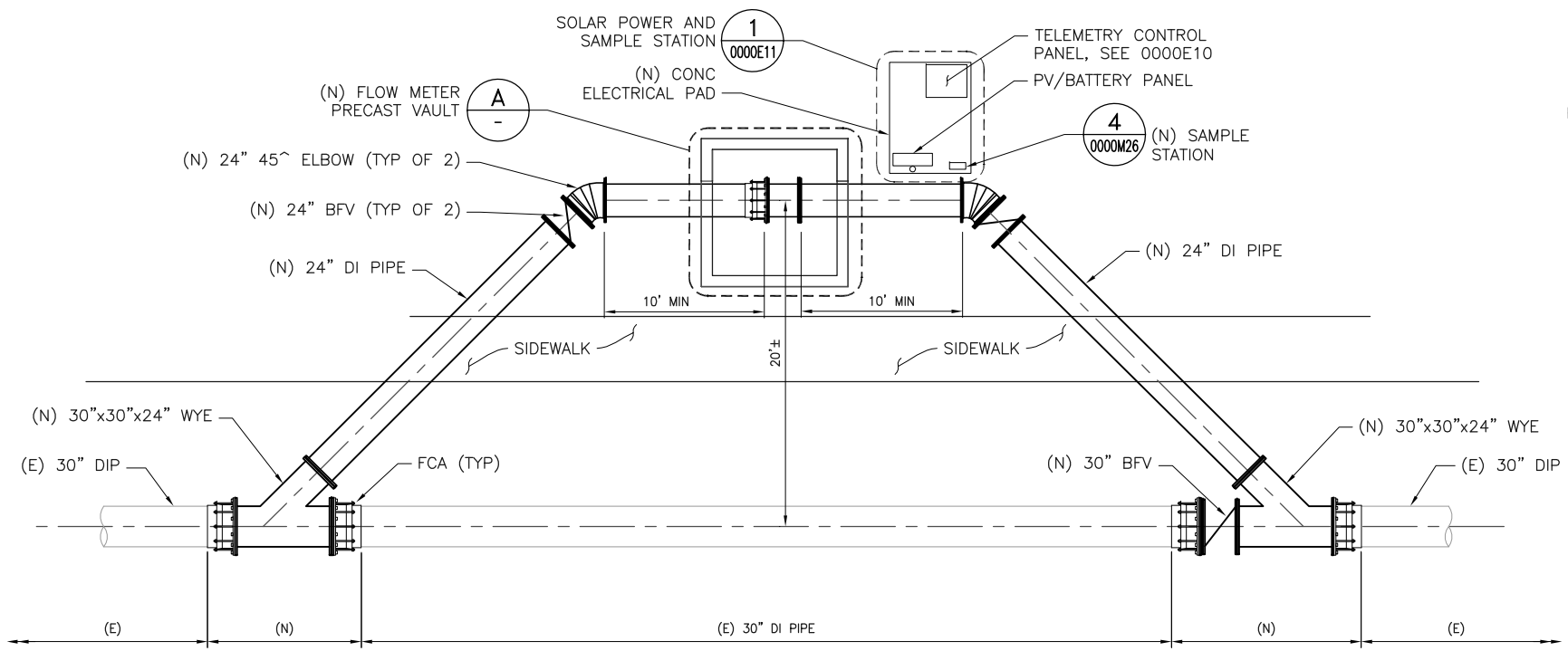
TIE-IN FOR PUMP-TO-WASTE AND RECIRCULATION PIPELINE DETAIL 2
SCALE: NTS 2002C12, 2002C17

NOTES:

1. ISOLATE END OF EXISTING 30-IN LINE BY CLOSING EXISTING 30-IN VALVE, REMOVE BLIND FLANGE, AND CONNECT TO NEW 16-IN PIPE WITH A RESTRAINED COUPLING OR CONNECT TO EXISTING FLANGE WITH A FLANGED REDUCER.
2. ISOLATE END OF EXISTING 16-IN LINE BY CLOSING EXISTING 16-IN VALVE. REMOVE BLIND FLANGE AND CONNECT TO NEW 16-IN PIPE WITH RESTRAINED COUPLING OR FLANGE COUPLING ADAPTER.



REVISIONS	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS ASR PIPELINE EXTENSION DETAILS - 2
	CALIFORNIA AMERICAN WATER
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612 DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
	USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES 0000M24



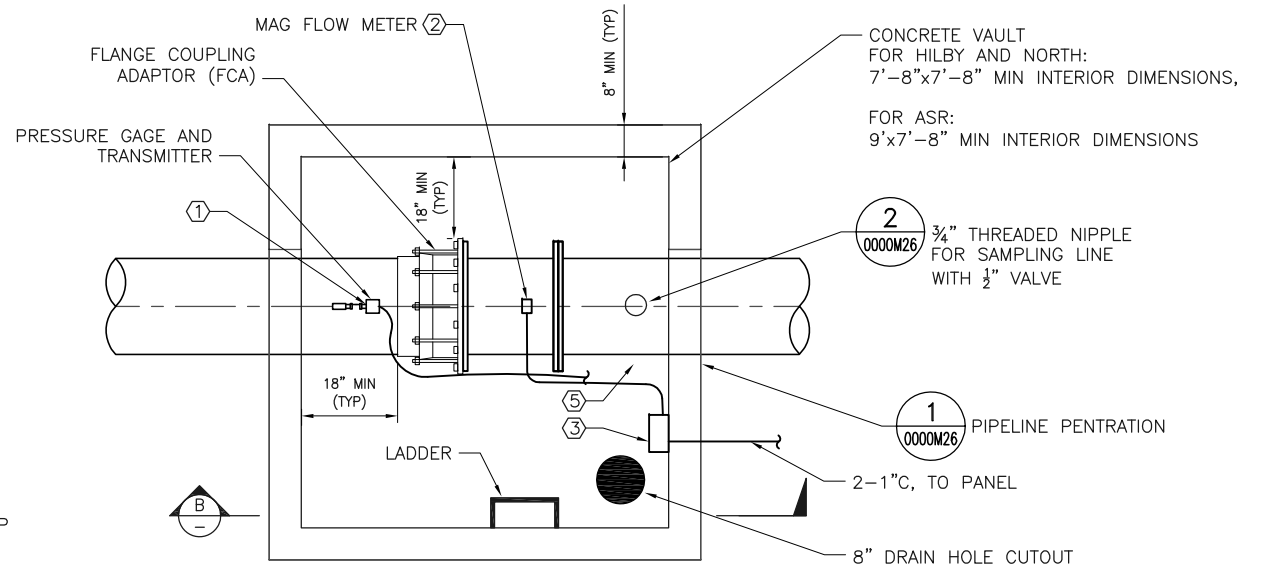
NORTH FLOW METER PIPING PLAN (TRANSFER PIPELINE)
SCALE: 3/16" = 1'-0" 1 3003C01

NOTES:

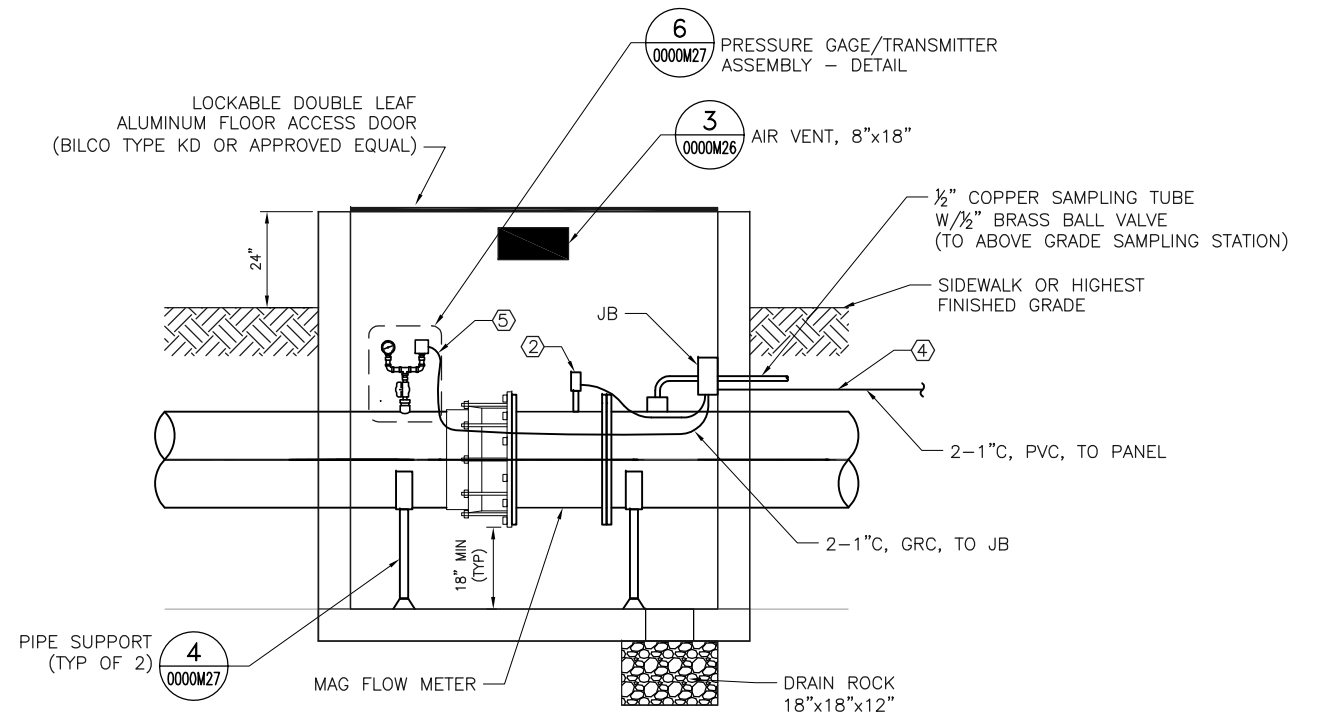
1. CONTRACTOR SHALL CONFIRM LOCATIONS WITH OWNER PRIOR TO STAKING.
2. THE BOTTOM OF THE AIR VENT SCREEN SHALL BE 12" ABOVE SIDEWALK, AND IF LOCATED ON A HILL, IT SHALL NOT FACE UP SLOPE.
3. THE LADDER SHALL HAVE A PERMANENTLY MOUNTED TELESCOPING SAFETY POST.
4. FLOW METER VAULT DETAILS APPLY TO BOTH NORTH AND ASR FLOW METERS.
5. SEE HILBY FLOW METER PIPING PLAN ON SHEET 0000M40.

NUMBERED NOTES:

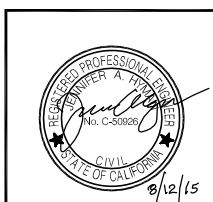
- ① CONNECT TO 2-WIRE PRESSURE TRANSMITTER WITH FLEX CONDUIT.
- ② MAGMETER SHALL BE DC POWERED. PROVIDE MFR SENSOR CABLE TO PANEL MOUNTED TRANSMITTER. PROVIDE GROUNDING PER MFR REQUIREMENTS.
- ③ PROVIDE NEMA 4X JUNCTION BOX, MOUNT TO CONCRETE WALL WITH STANDOFFS. SEAL ALL CONDUITS AFTER TESTING.
- ④ SEE ELECTRICAL SHEETS FOR ELECTRICAL CONTROL PANEL DETAILS.
- ⑤ PROVIDE LIQUID TIGHT FLEXIBLE METAL CONDUIT FOR ALL FIELD CONNECTIONS.



FLOW METER VAULT PLAN (A)
1/2"=1'



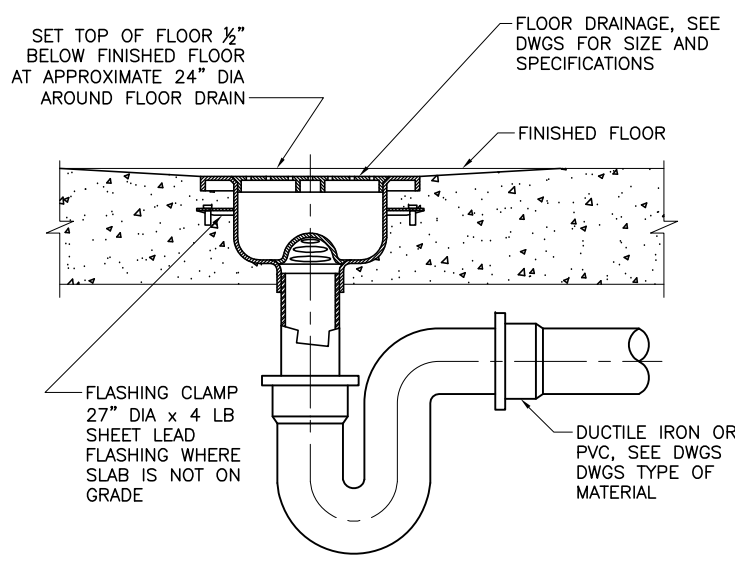
SECTION (B)
1/2"=1'



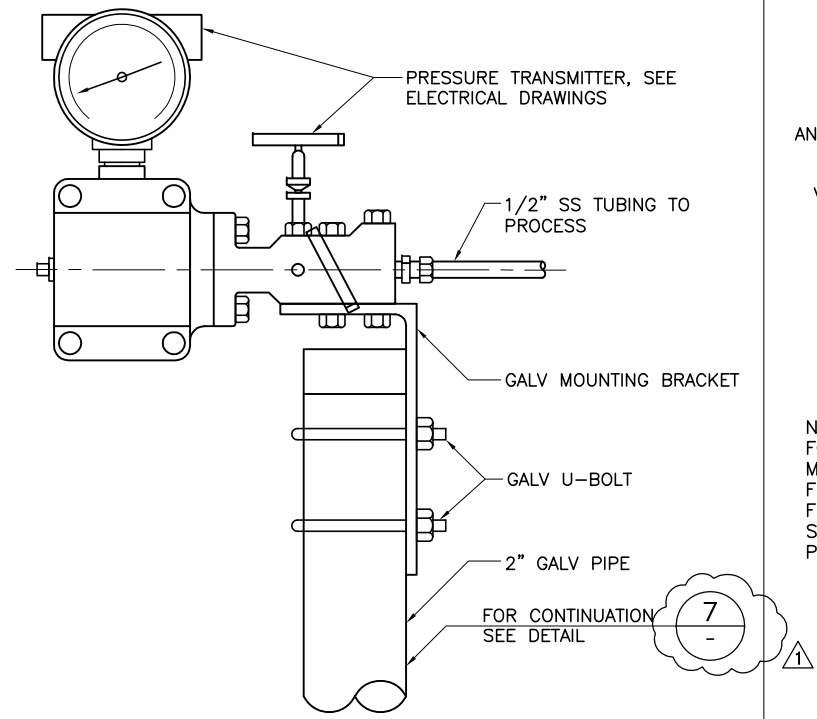
REVISIONS		TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS FLOW METER DETAILS -1	
		CALIFORNIA AMERICAN WATER	
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612		 	
DRAWN BY C. SOMERA PROJECT ENGR J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498	USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000M25	

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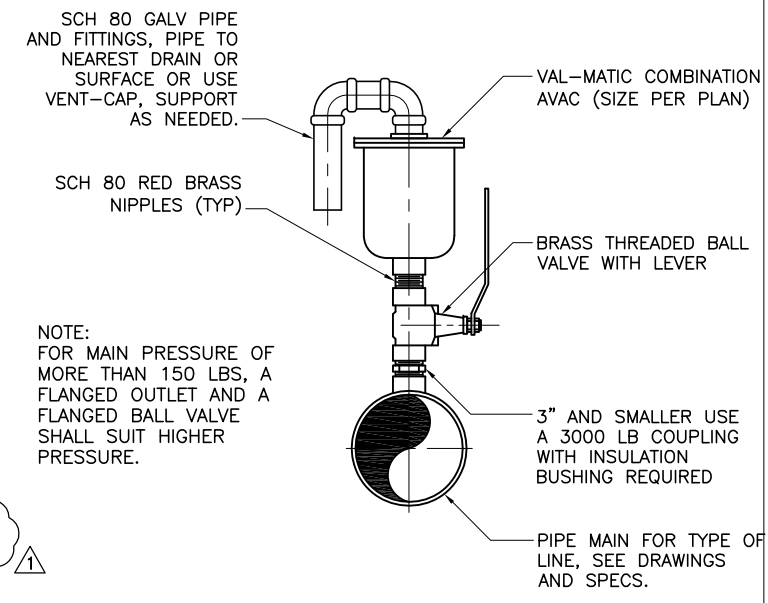
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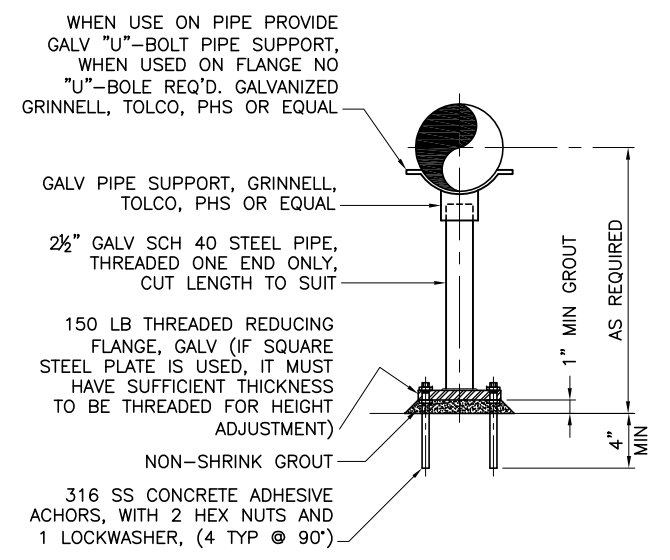
FLOOR DRAIN
SCALE: NTS



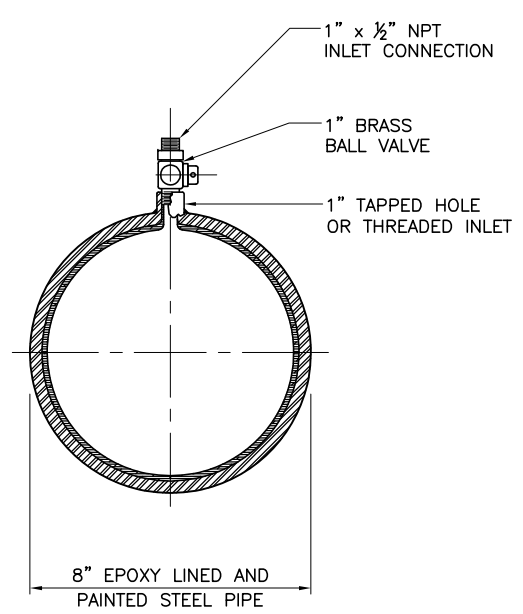
INSTRUMENTATION MOUNTING DETAIL
SCALE: NTS



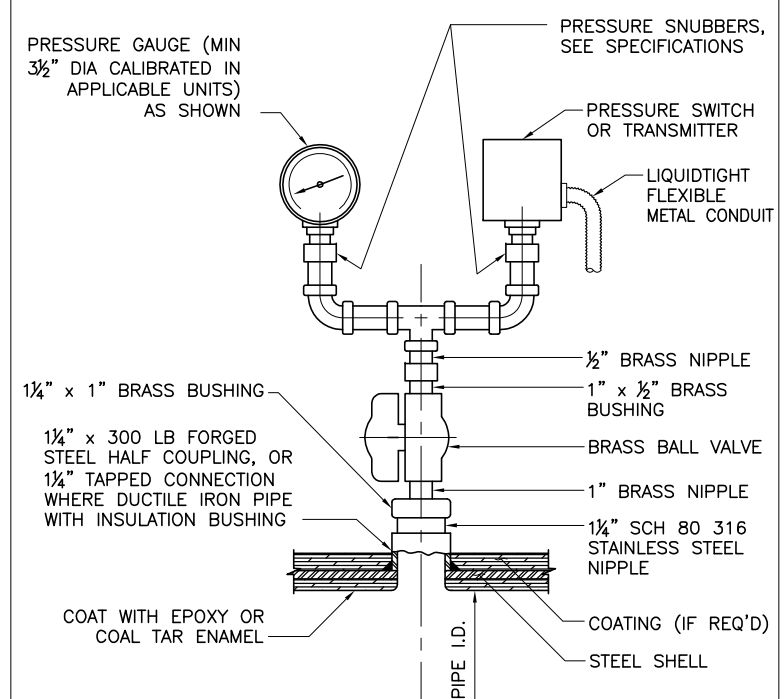
AIR VACUUM/ AIR RELEASE ASSEMBLY
SCALE: NTS



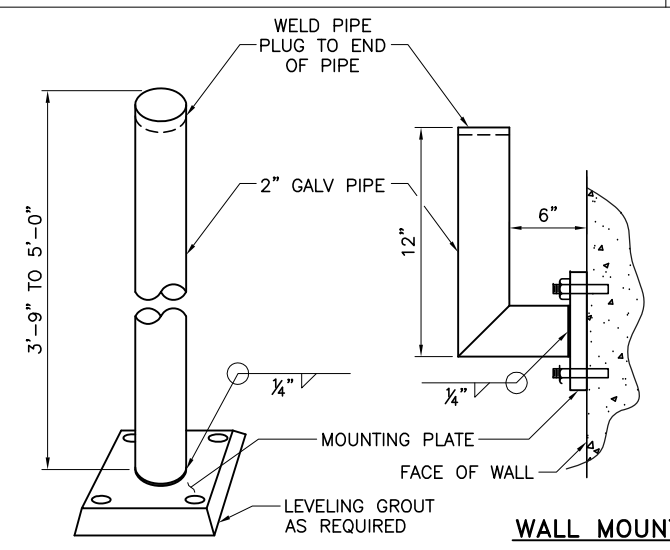
PIPE SUPPORT
SCALE: NTS



SAMPLE PORT
SCALE: NTS

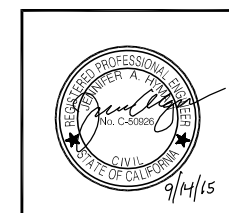


PRESSURE GAUGE/ TRANSMITTER ASSEMBLY WITH SEAL
SCALE: NTS



FLOOR STAND / WALL MOUNT
SCALE: NTS

- NOTE:
1. TYPICAL MOUNTING PLATE: 6" x 6" x 3/16" WITH FOUR 5/8" BOLT HOLES.
 2. PROVIDE FOUR 2" x 5/16" CAPSULE ANCHOR BOLTS.



REVISIONS		
1	BID ADDENDUM 1	9/14/15 JAH

**TRANSMISSION MAINS FOR MPWSP
MECHANICAL
PIPELINE DETAILS
MISCELLANEOUS VAULT DETAILS**

CALIFORNIA
AMERICAN WATER

AECOM
 1333 BROADWAY, SUITE 800
 OAKLAND, CALIFORNIA 94612

AECOM
 CALIFORNIA
 AMERICAN WATER

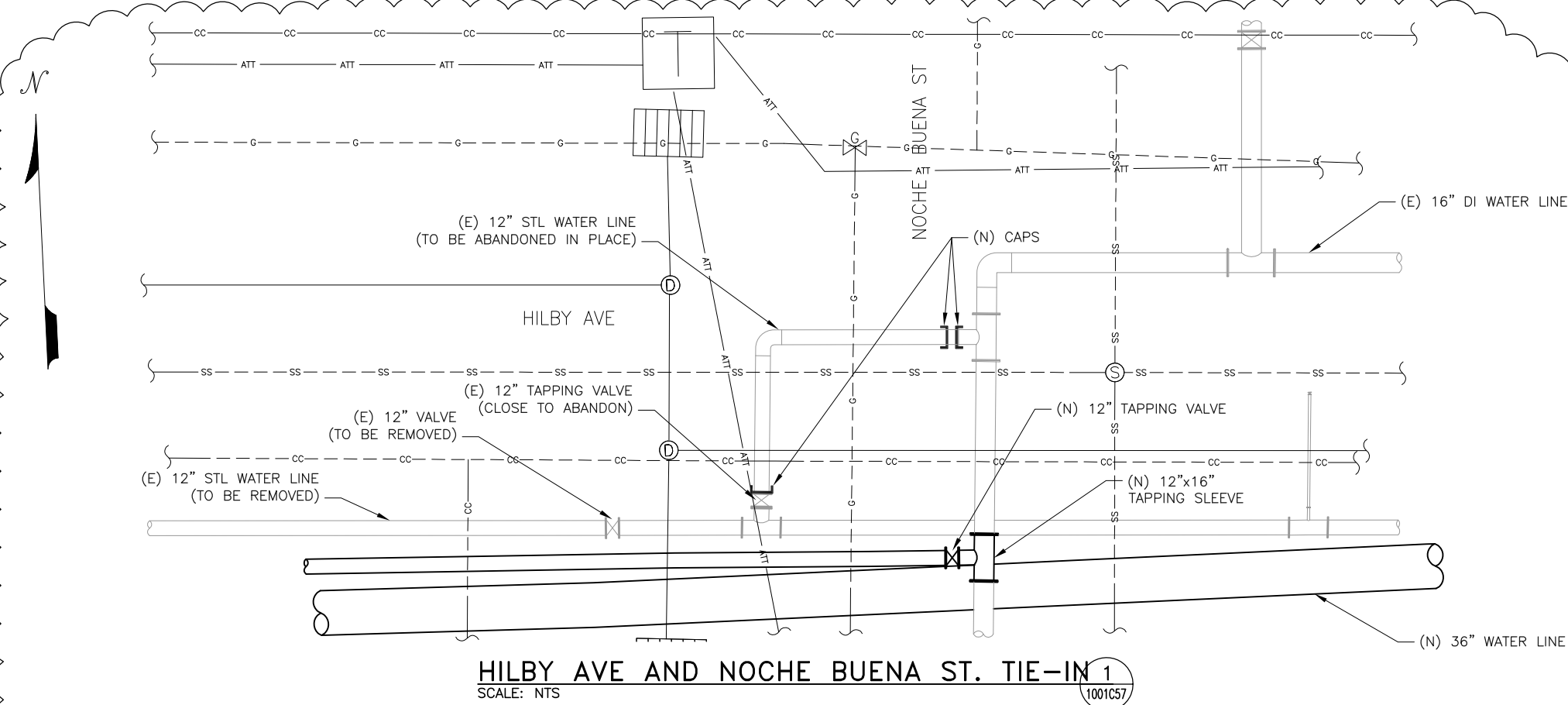
DRAWN BY C. SOMERA
 PROJECT ENG'R J. HYMAN
 APPROVED C. SMITH

DATE AUGUST 2015
 PROJECT 60424498

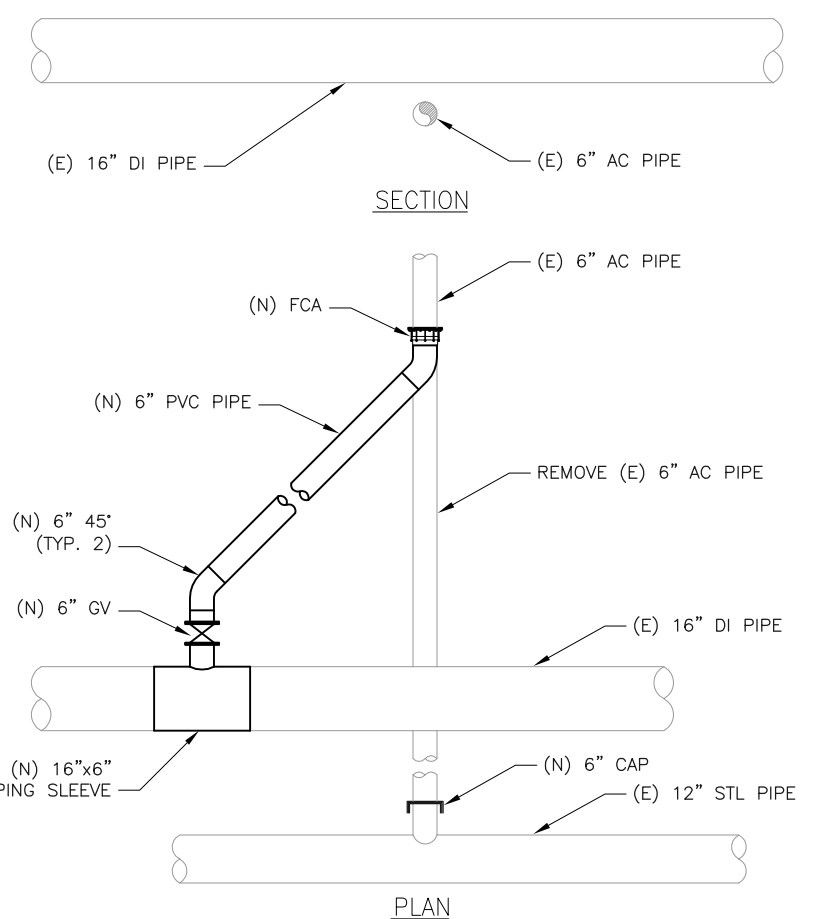
USE DIMENSIONS ONLY
 SCALE AS SHOWN

0000M27

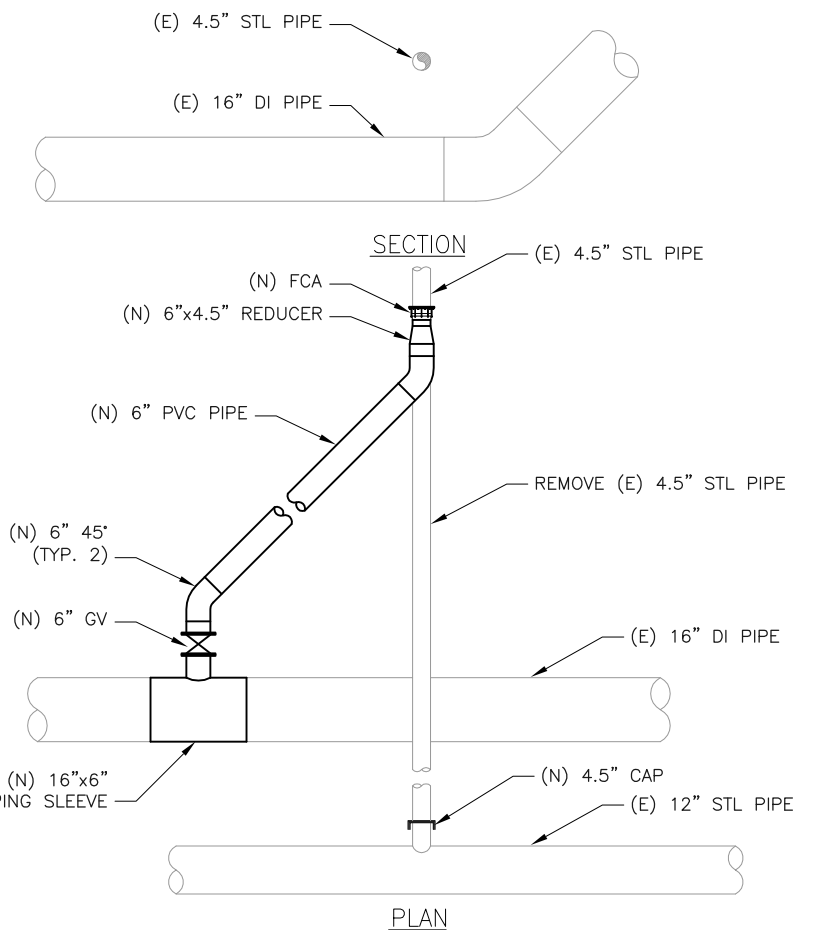
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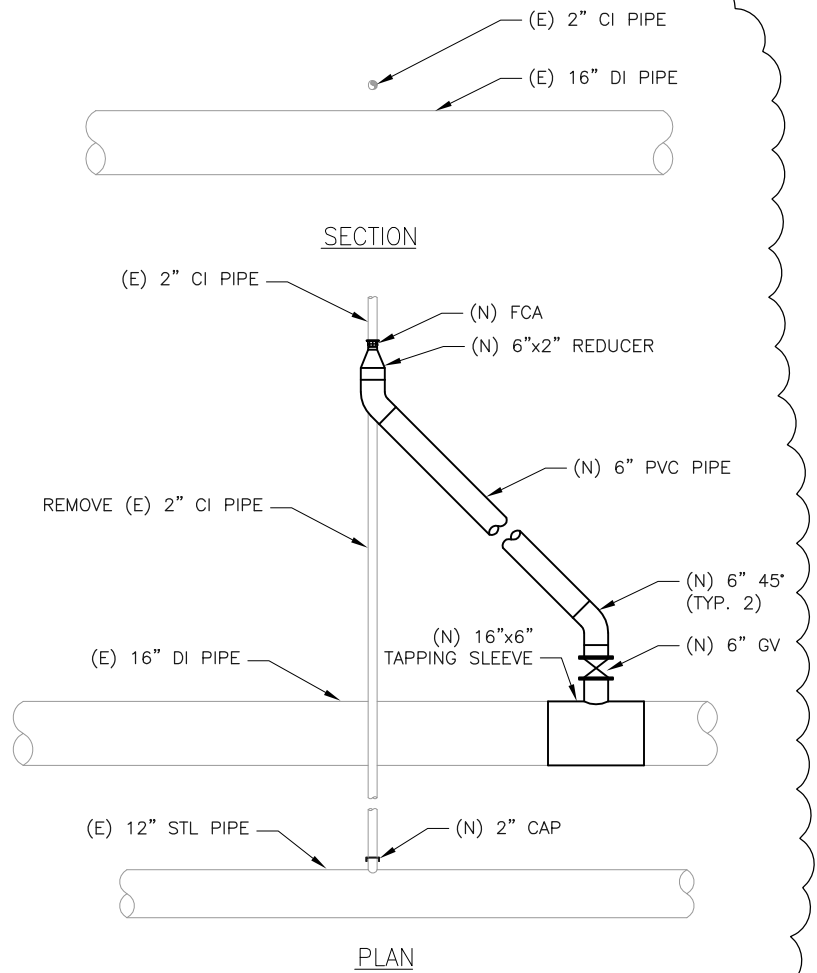
HILBY AVE AND NOCHE BUENA ST. TIE-IN 1
SCALE: NTS



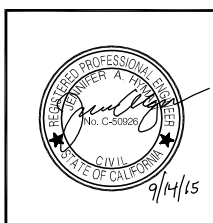
HILBY AVE AND KENNETH ST. TIE-IN 2
SCALE: NTS



HILBY AVE AND DARWIN ST. TIE-IN 3
SCALE: NTS



HILBY AVE AND VALLEJO ST. TIE-IN 4
SCALE: NTS



REVISIONS		
1	BID ADDENDUM 1	9/14/15 JAH

**TRANSMISSION MAINS FOR MPWSP
MECHANICAL
PIPELINE DETAILS
RETIREMENT AND REPLACEMENT DETAILS - 3**

CALIFORNIA
AMERICAN WATER

AECOM
 1333 BROADWAY, SUITE 800
 OAKLAND, CALIFORNIA 94612

AECOM
 CALIFORNIA
 AMERICAN WATER

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 PROJECT ENG'R J. HYMAN
 APPROVED C. SMITH

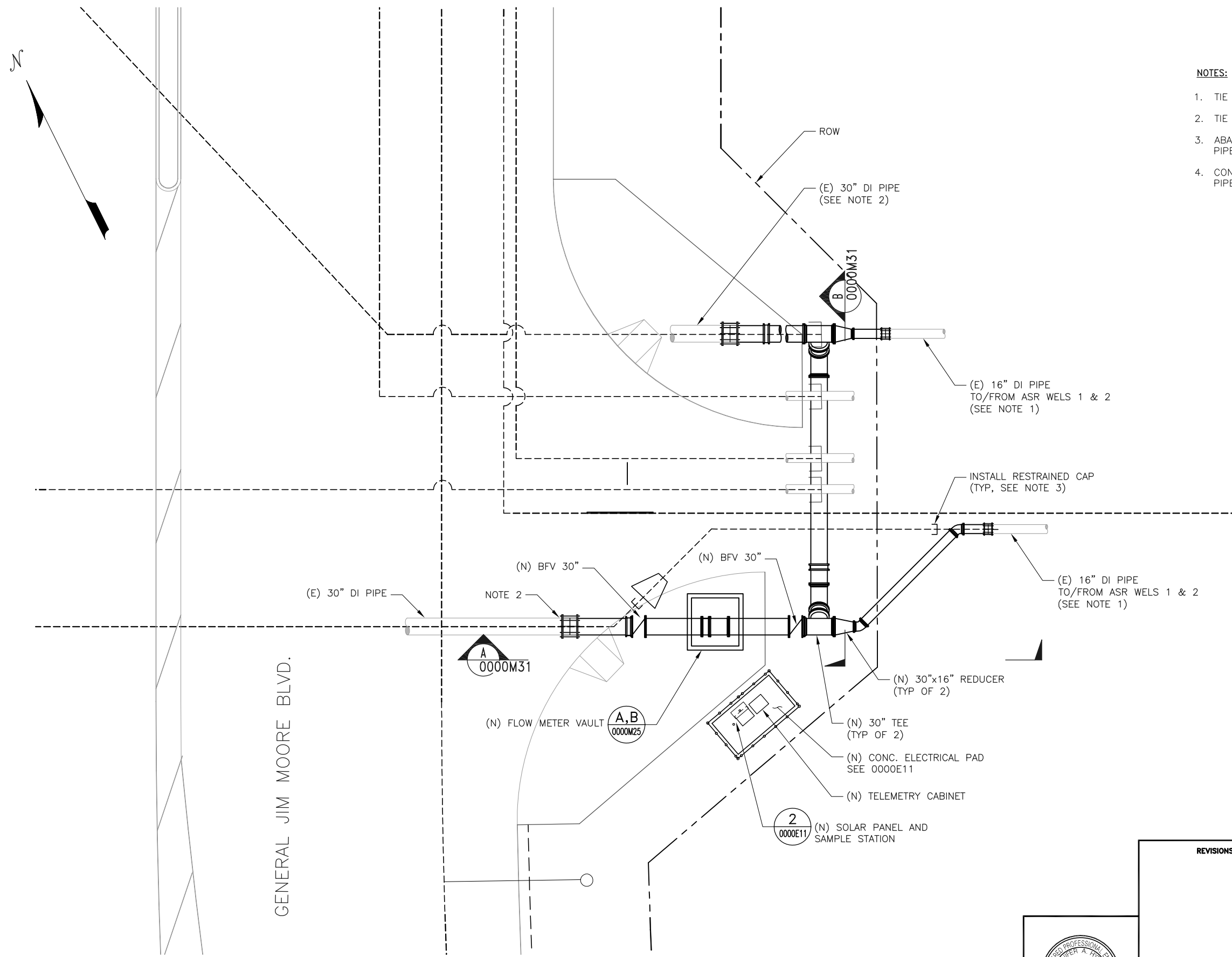
DATE AUGUST 2015
 PROJECT 60424498

USE DIMENSIONS ONLY
 SCALE AS SHOWN

USE APPROVED DRAWINGS ONLY
FOR CONSTRUCTION PURPOSES

0000M28

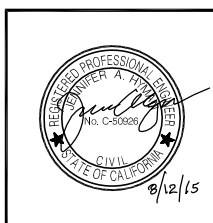
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1. TIE INTO EXISTING 16-IN PIPE WITH RESTRAINED FLEX COUPLING.
2. TIE INTO EXISTING 30-IN PIPE WITH RESTRAINED FLEX COUPLING.
3. ABANDON PIPE IN PLACE BY CAPPING EACH END. REMOVE EXISTING PIPE AS NECESSARY TO INSTALL NEW PIPE.
4. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND LAYOUT PIPELINES PRIOR TO ORDERING MATERIALS.

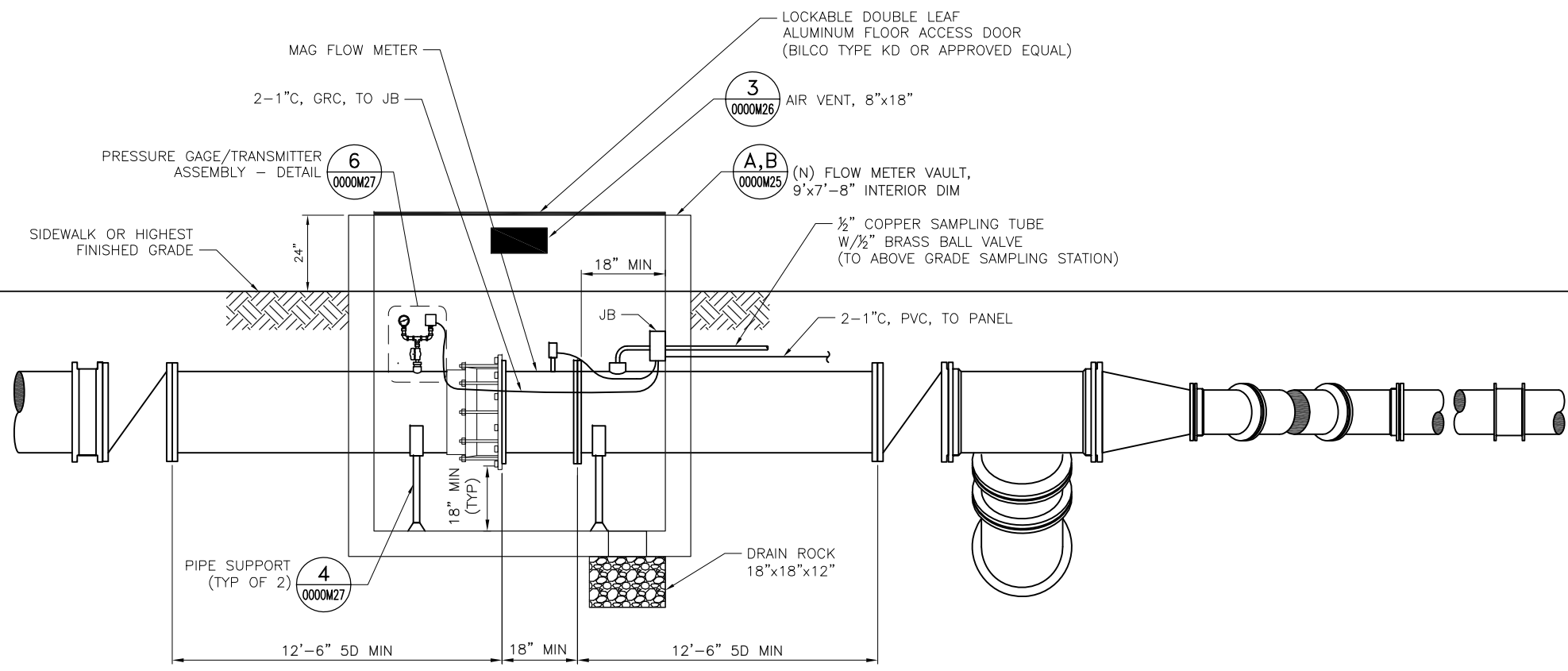
ASR FLOW METER AND PIPING PLAN (ASR PIPELINES EXTENSION)
SCALE: 1"=100'

1
2002C01

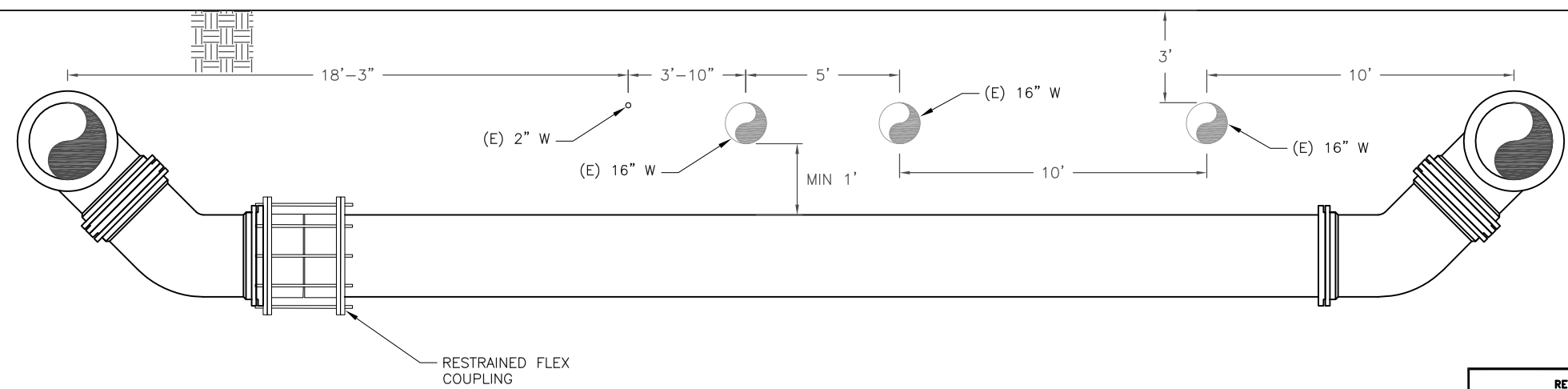


REVISIONS	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS ASR WELLS 1 & 2 PIPING UPGRADES	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000M30

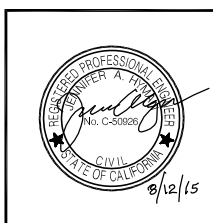
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SECTION A
SCALE: 1"=40' 0000M30

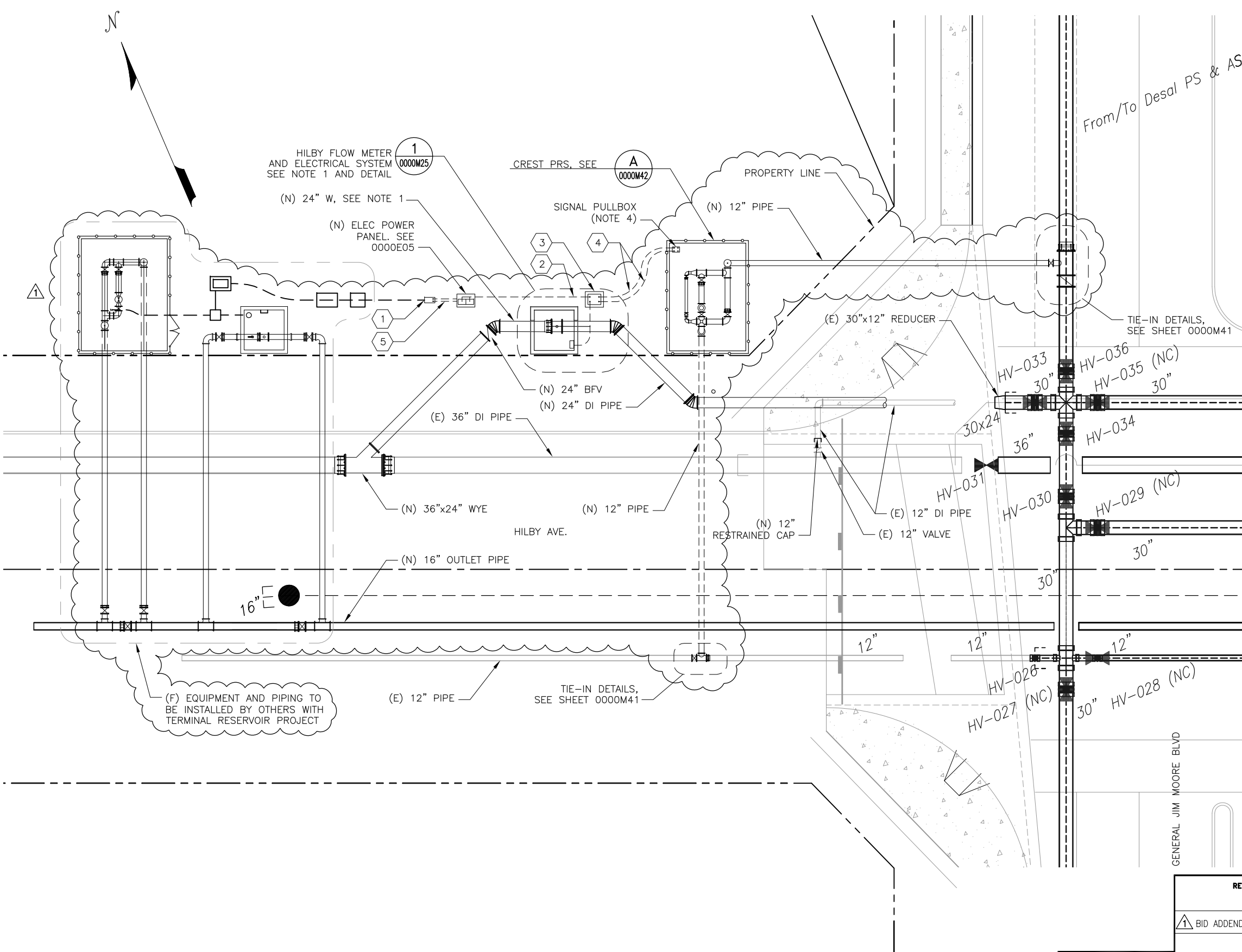


SECTION B
SCALE: 1"=30' 0000M30



REVISIONS	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS ASR WELLS 1 & 2 PIPING DETAILS	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000M31

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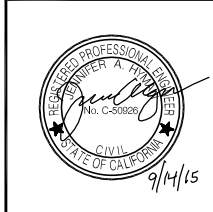
NOTES:

1. FOR HILBY FLOW METER PIPING:
 - a. REMOVE 30"x12" REDUCER AND TIE IN NEW 24" PIPE WITH NEW 30"x24" REDUCER.
 - b. REMOVE EAST - WEST PORTION OF EXISTING 12" PIPE AND LAY NEW 24" PIPE IN SAME LOCATION.
 - c. INSTALL NEW 24" PIPE TO NEW FLOW METER VAULT LOCATED JUST BEHIND SIDEWALK WITH POWER AND TELEMETRY AS SHOWN ON SHEET 0000M25 AND ASSOCIATED ELECTRICAL DRAWINGS.
 - d. TIE IN ON WEST END WITH 24"x36" TEE SIMILAR TO 0000M25 DETAIL 1.
 - e. ABANDON EXISTING 12" WATER LINE BY CAPPING END OF ABANDONED PIPE AND VALVE WITH RESTRAINED CAP.
2. COORDINATE WITH OWNER FOR THEM TO DO SHUTDOWNS FOR TIE-INS.
3. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND LAYOUT PIPING, VAULT AND ELECTRICAL FOR OWNER REVIEW BEFORE ORDERING EQUIPMENT AND PARTS.
4. AT PRS, PROVIDE PRESSURE TRANSMITTERS, WIRE TO CONTROL PANEL AT HILBY FLOW METER STATION. PROVIDE SPARE CONDUIT WITH PULLWIRE.

NUMBERED NOTES:

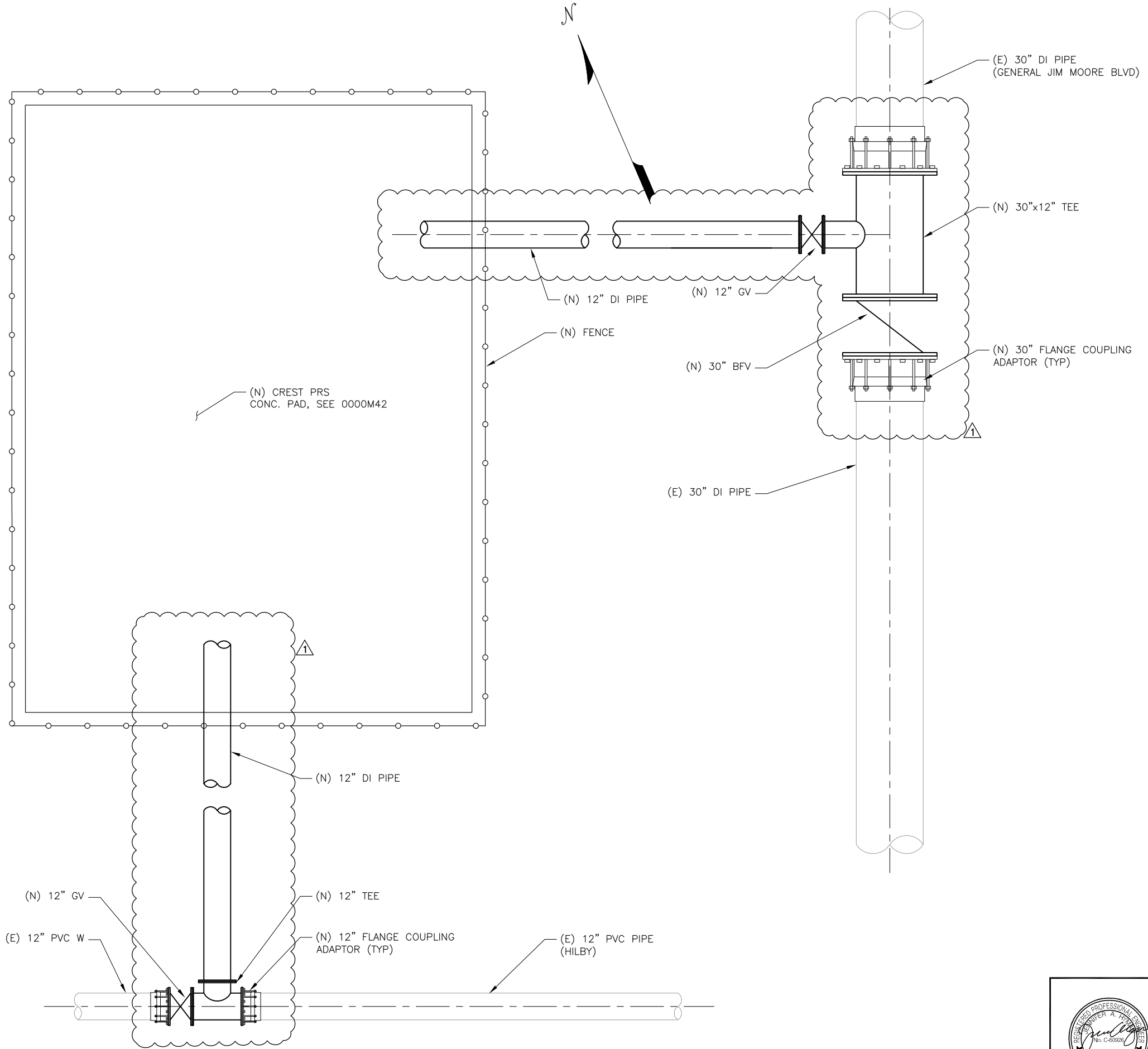
1. PROVIDE 13x24-INCH PULLBOX FOR POWER CONDUITS.
2. ROUTE 1" C TO NEW TELEMETRY CONTROL CABINET, 120V, 2#12, #12 GND.
3. HILBY PIPELINES TELEMETRY CONTROL CABINET. SEE SHEET E10.
4. PROVIDE 2, 1 1/2" C TO CREST PRS: 1 WITH 2-TSP#16; 1 CONDUIT AS SPARE, W/PULLWIRE.
5. ROUTE 2, 1 1/2" C FROM MINI POWER CENTER TO PULLBOX.

CREST PRS AND HILBY FLOW METER TIE-IN PLAN (MONTEREY PIPELINE) 1 1001C43
 SCALE: 1"=10'



REVISIONS			TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS CREST PRS AND HILBY FLOW METER PIPING PLAN	
1	BID ADDENDUM 1	9/14/15	JAH	
CALIFORNIA AMERICAN WATER				
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612		AECOM CALIFORNIA AMERICAN WATER		
DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498		USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES				0000M40

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REVISIONS		
△	BID ADDENDUM 1	9/14/15 JAH

**TRANSMISSION MAINS FOR MPWSP
MECHANICAL
PIPELINE DETAILS
CREST PRS TIE-IN DETAILS**

CALIFORNIA
AMERICAN WATER

AECOM
1333 BROADWAY, SUITE 800
OAKLAND, CALIFORNIA 94612

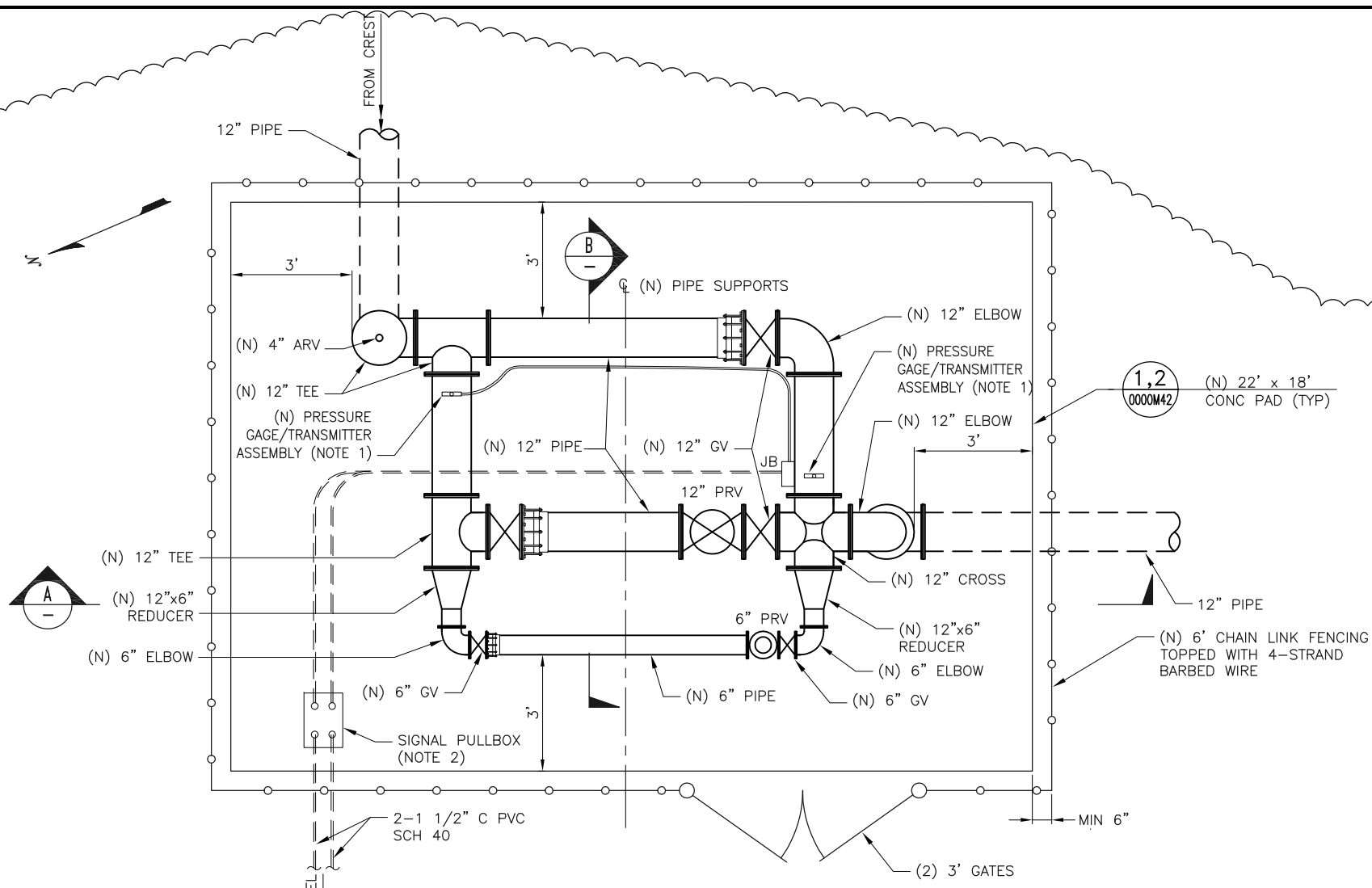
DRAWN BY C. SOMERA
PROJECT ENG'R J. HYMAN
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DATE AUGUST 2015
PROJECT 60424498

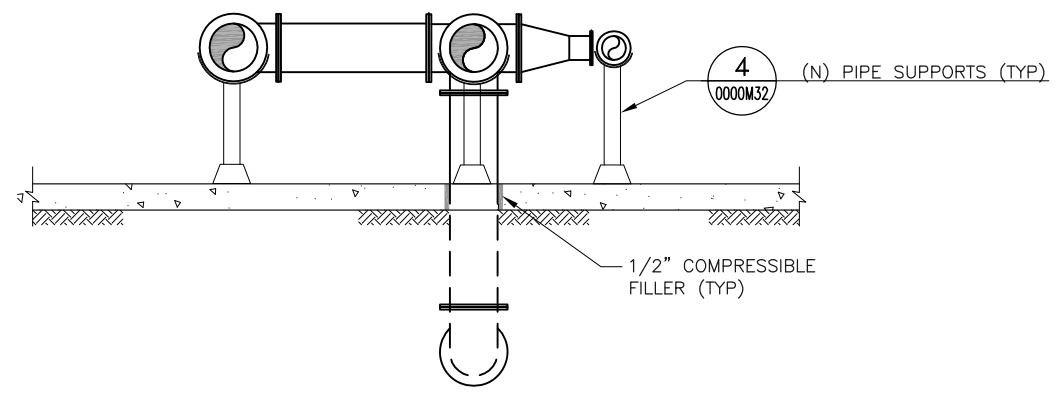
USE DIMENSIONS ONLY
SCALE AS SHOWN

0000M41

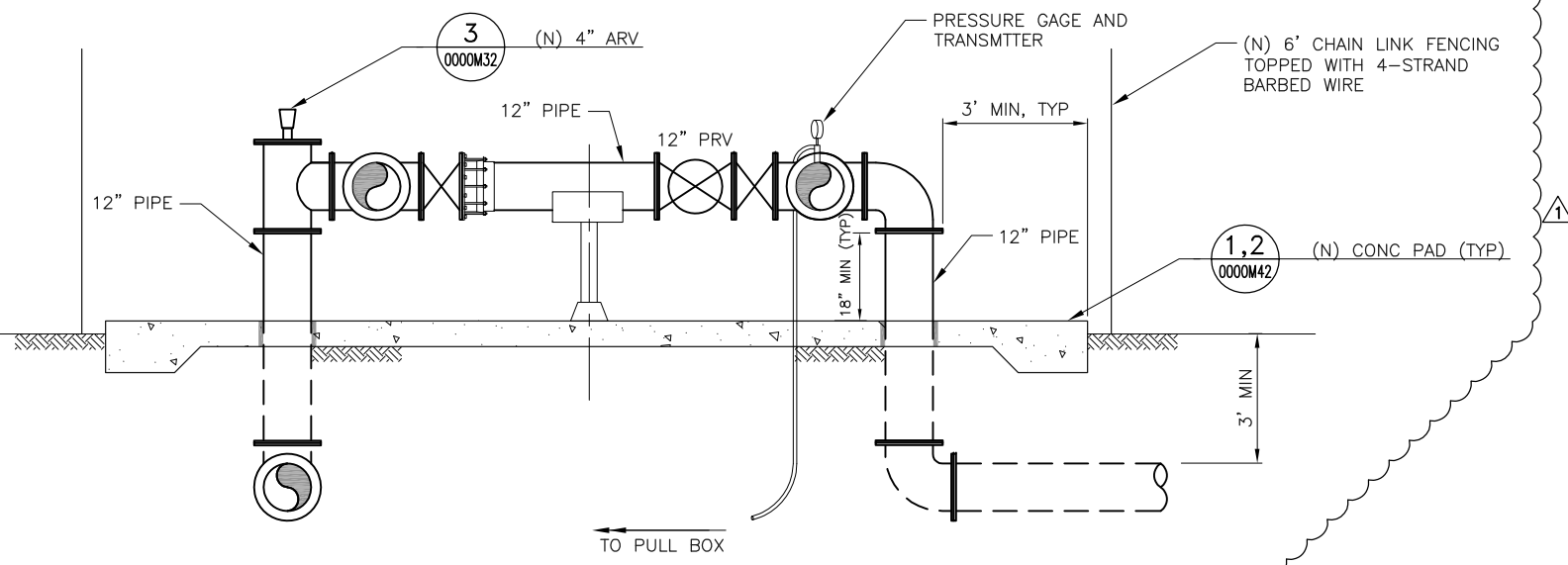
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CREST PRS PLAN
SCALE: NTS



SECTION B-B
SCALE: NTS

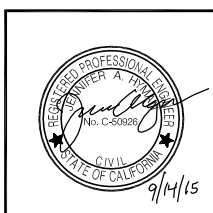


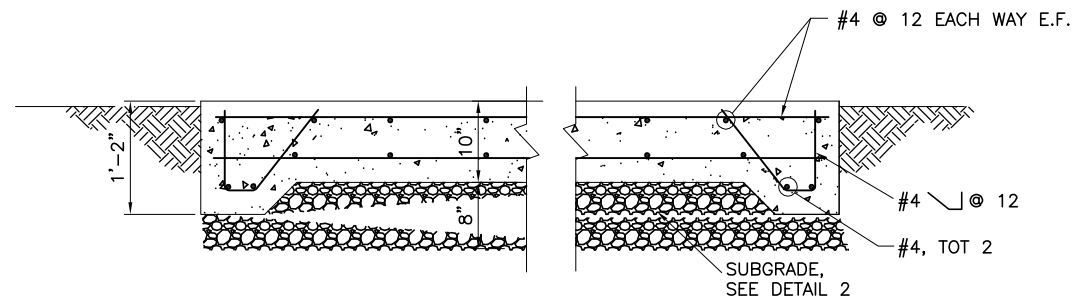
CREST PRS SECTION
SCALE: NTS

NOTES:

- WIRE UPSTREAM AND DOWNSTREAM PRESSURE TRANSMITTERS TO SEND THE DATA TO THE DESAL PLANT SCADA. INSTALL CONDUIT AND WIRING TO NORTH FLOW METER VAULT ACROSS THE STREET OR INSTALL NEW TELEMETRY AND ANTENNA AT THIS SITE. SUBMIT WIRING AND SCADA PLAN TO OWNER FOR REVIEW.
- PROVIDE 12"x17" PULLBOX FOR SIGNAL WIRING. SEE 0000M25 FOR TYPICAL CONSTRUCTION DETAILS.

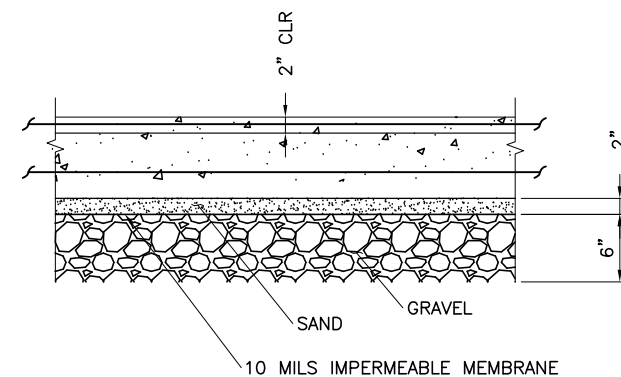
REVISIONS			TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS CREST PRS DETAILS - 1	
1	BID ADDENDUM 1	9/14/15	JAH	
CALIFORNIA AMERICAN WATER				
AECOM 1335 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612		AECOM		
DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498		USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES				0000M42





TYPICAL EQUIPMENT PAD

DETAIL 1
SCALE: NTS

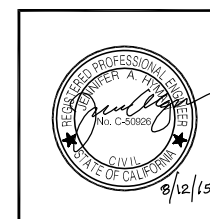


TYPICAL SUBGRADE FOR MAT FOUNDATION

DETAIL 2
SCALE: NTS

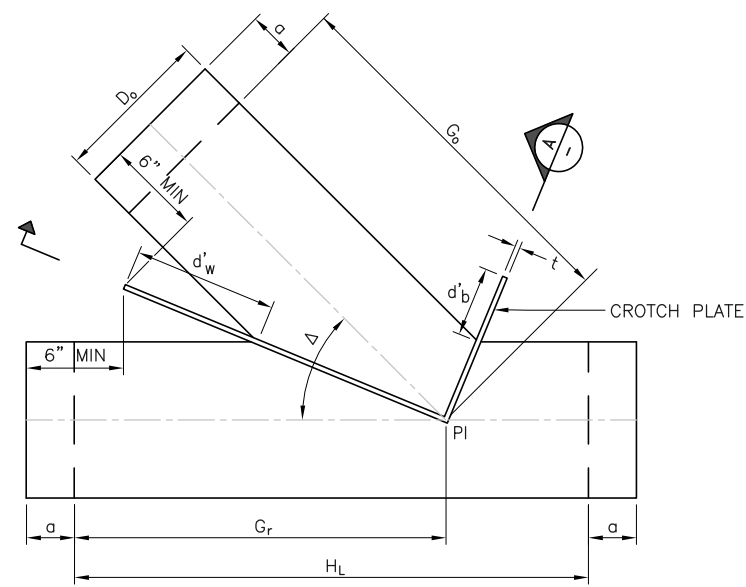
NOTES:

1. SLOPE PAD AWAY FROM CENTER ON ALL SIDES SO WATER DRAINS OFF EASILY.
2. PROVIDE 1-#4x4'-0" DIAGONAL TOP AND BOTTOM AT EACH PAD PENETRATION.

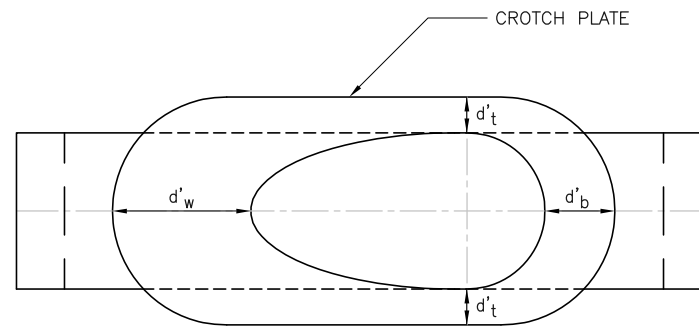


REVISIONS	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS CREST PRS DETAILS - 2	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENGR J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000M43

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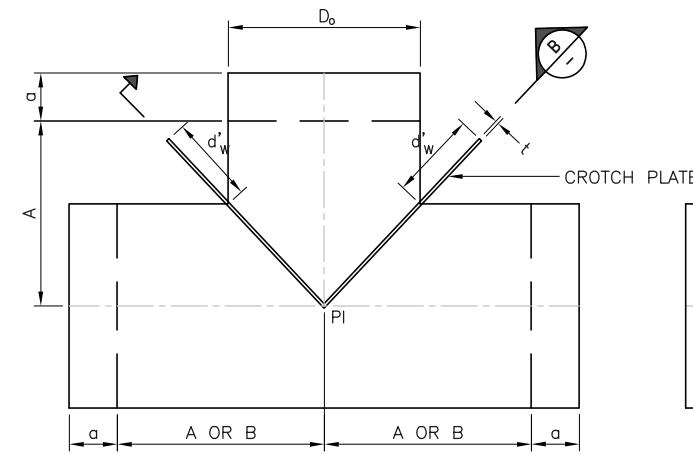


PLAN

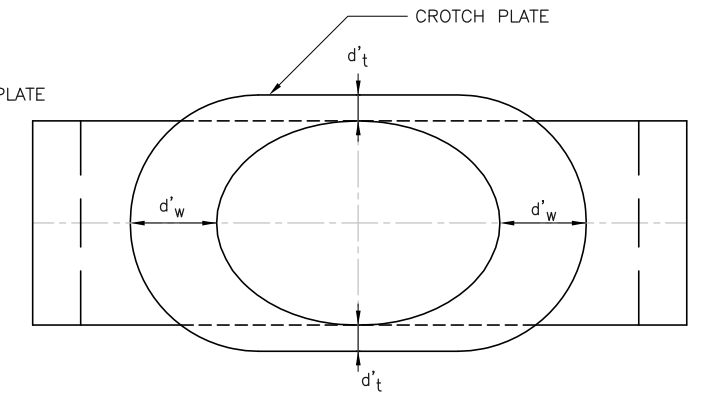


SECTION A-A
SCALE: NTS

WYE BRANCH



PLAN



SECTION B-B
SCALE: NTS

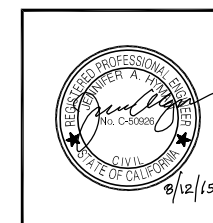
TEE

DEFINITIONS

- a ADDITIONAL LENGTH PER JOINT REQUIREMENTS (SEE NOTE 10)
- A LENGTH OF A TEE OR CROSS (SEE NOTE 10)
- B LENGTH OF REDUCING TEE OR CROSS (SEE NOTE 10)
- D_o OUTLET DIAMETER
- Δ ANGLE OF DEFLECTION (°)
- SL SPRINGLINE ELEVATION AT P.I. (FT)
- HGL HYDRAULIC GRADE LINE ELEVATION AT P.I. (FT)
- M MULTIPLIER OF CROSS-SECTIONAL AREA OF REPLACED STEEL
- PI POINT OF INTERSECTION (SEE NOTE 10)
- t_w MINIMUM THICKNESS OF CROTCH PLATE (IN)
- d_b MINIMUM DEPTH OF PLATE AT ACUTE CROTCH (IN)
- d_t MINIMUM DEPTH OF PLATE AT OBTUSE CROTCH (IN)
- d_o MINIMUM DEPTH OF PLATE AT TOP AND BOTTOM (IN)
- r MINIMUM OUTSIDE RADIUS OF PLATE AT BOTH CROTCHES (IN)
- G_o LENGTH OF OUTLET LEG (SEE NOTE 10)
- G_r LENGTH OF OUTLET RUN (SEE NOTE 10)
- H_L LENGTH OF LATERAL RUN (SEE NOTE 10)

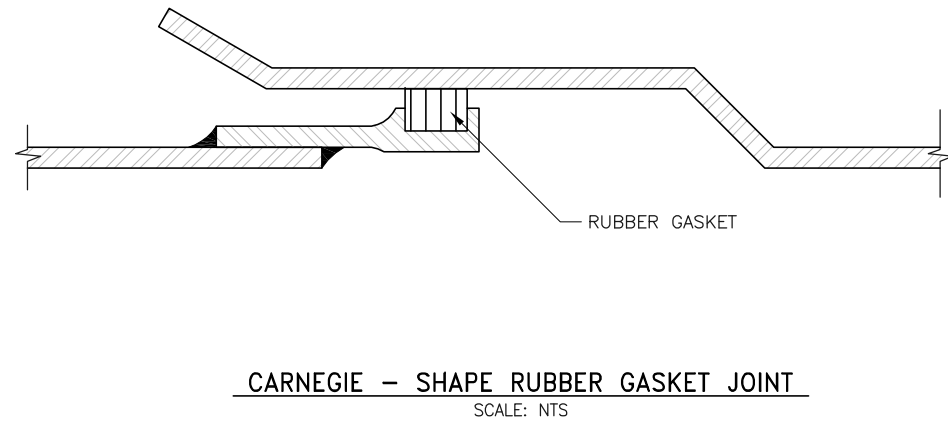
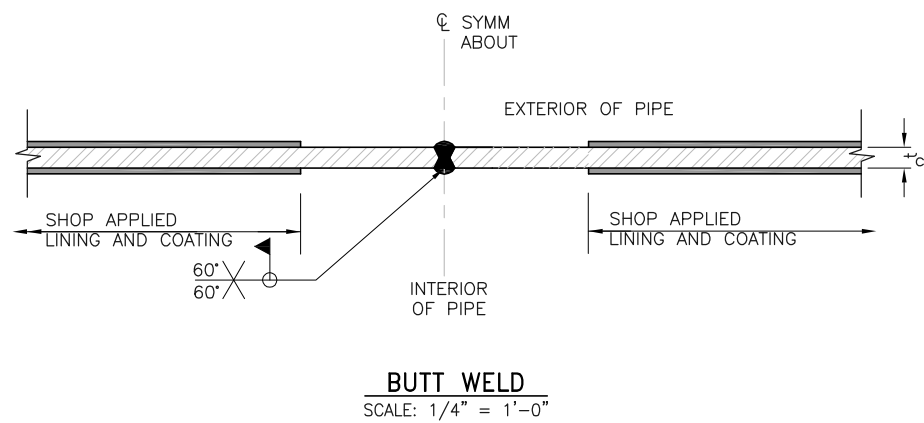
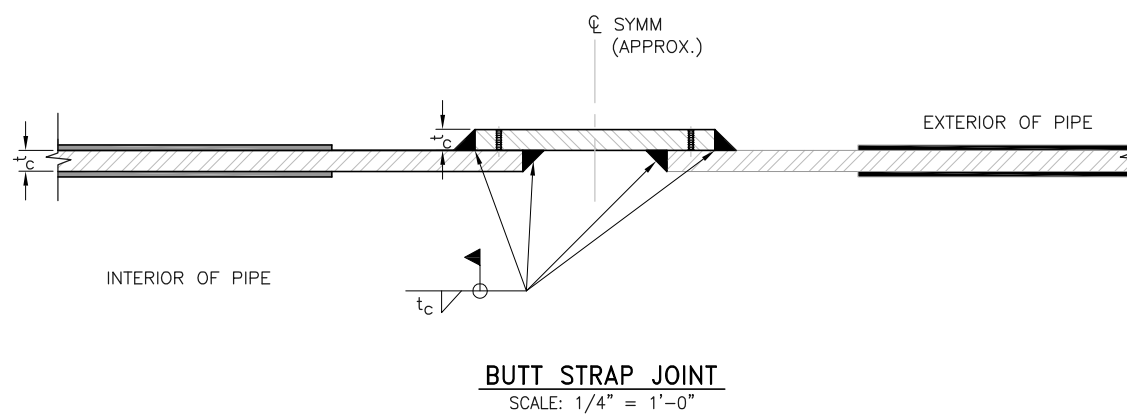
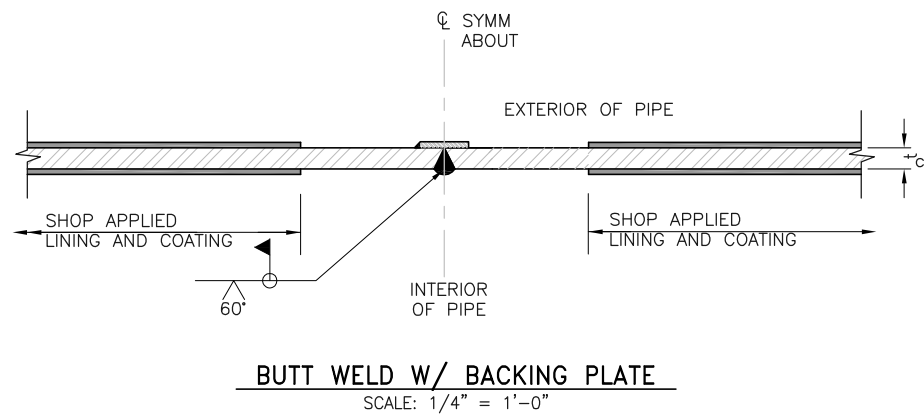
NOTES

1. DIMENSIONS OF CROTCH PLATES SHOWN ON THIS PLAN ARE MINIMUM VALUES AND ARE SHOWN FOR INFORMATION ONLY. SUBMIT DRAWINGS SHOWING CROTCH PLATE DIMENSIONS THAT ARE BASED UPON A TWO-PLATE CONFIGURATION.
2. COLLAR AND WRAPPER DIMENSIONS ARE NOT SHOWN ON THIS PLAN. SUBMIT COLLAR AND WRAPPER LAYOUTS IN ACCORDANCE WITH THE SPECIFICATIONS.
3. FABRICATE FITTINGS WITH OUTSIDE DIAMETERS THAT MATCH EXISTING PIPELINES AT ALL POINTS OF CONNECTION. ACTUAL OUTSIDE DIAMETERS AND FINISHED INSIDE DIAMETERS OF FITTINGS SHALL MATCH FABRICATED PIPELINES IN ACCORDANCE WITH RESULTS OF POTHOLING, APPROVED PIPELINE SUBMITTALS, AND APPROVED LINING AND COATING SYSTEMS.
4. SCHEDULE AND COORDINATE FABRICATION OF FITTINGS WITH POTHOLING AND CONSTRUCTION SEQUENCING.
5. SUBMIT FABRICATION DRAWINGS SHOWING DIMENSIONS OF WRAPPERS AND COLLARS FOR WYES AND TEES, AS REQUIRED.
6. WHERE BUTT STRAPS ARE REQUIRED THE LENGTH (OR RUN) SHALL BE INCREASED AS REQUIRED.
7. FITTING LENGTHS PER AWWA C208 AS MEASURED ALONG THE PIPE CENTERLINE.



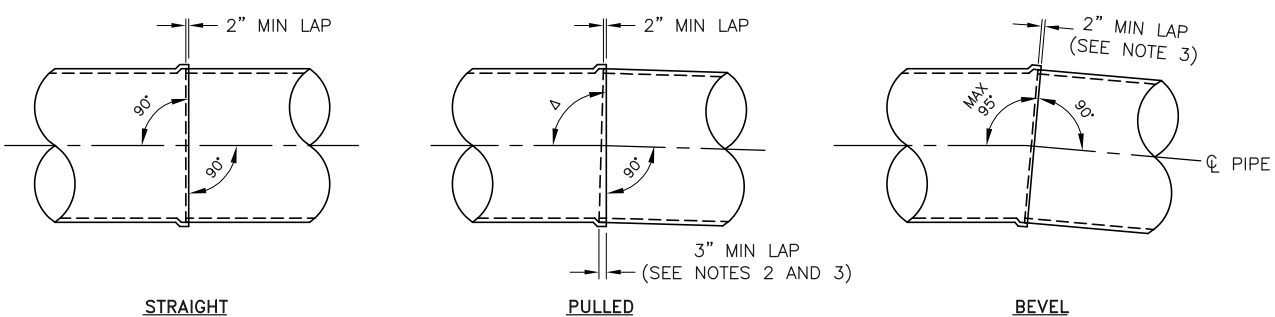
REVISIONS	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS FABRICATED STEEL FITTING DETAILS -1
	CALIFORNIA AMERICAN WATER
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612 AECOM
	CALIFORNIA AMERICAN WATER
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
	USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES
	0000M50

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NOTES:

1. EACH TEST HOLE SHALL BE 1/4-INCH NPT WITH A THREADED STEEL PLUG. EQUALLY SPACE EIGHT (8) TEST HOLES AROUND CIRCUMFERENCE OF PIPE FOR EACH BUTT STRAP CLOSURE.
2. REMOVE EXISTING LINING AND COATING AND OVERLAP NEW LINING AND COATING 3" MINIMUM.
3. FIELD APPLY HOLD LINING AND COATING AFTER INSTALLATION PER SPECIFICATIONS.



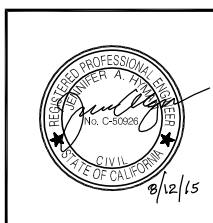
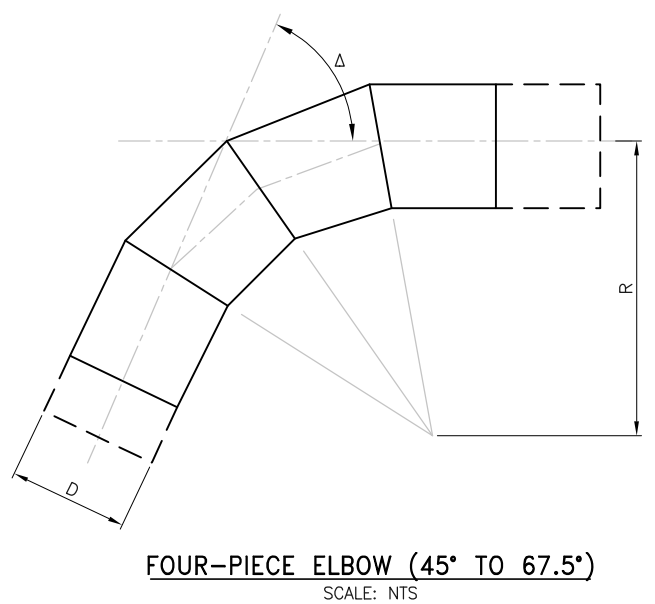
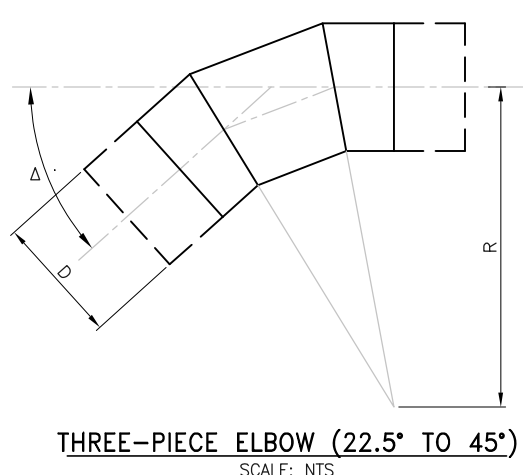
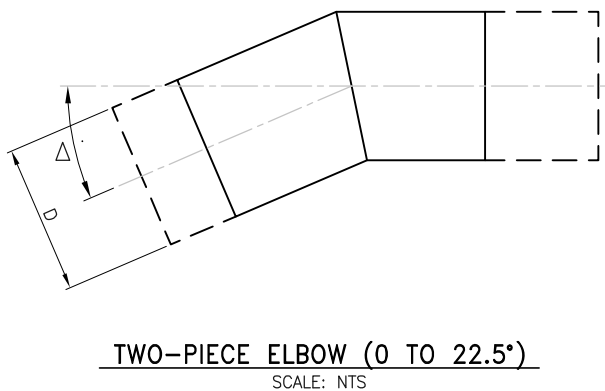
WELDED BELL AND SPIGOT JOINT
SCALE: NTS

DEFINITIONS

- D = NOMINAL PIPE SIZE (IN)
- OD = OUTSIDE DIAMETER OF STEEL CYLINDER (IN)
- Δ = ANGLE OF DEFLECTION (°)
- R = RADIUS OF CURVATURE (FT)

ELBOW NOTES

1. DEFLECTION ANGLES SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE SHOWN FOR INFORMATION ONLY. SUBMIT DRAWINGS THAT SHOW ELBOW DIMENSIONS THAT ARE BASED UPON OUTSIDE DIAMETERS OF FABRICATED PIPELINES AND ASSOCIATED RADII OF CURVATURE.
2. ACTUAL OUTSIDE DIAMETERS AND FINISHED INSIDE DIAMETERS OF FITTINGS SHALL MATCH FABRICATED PIPELINES IN ACCORDANCE WITH RESULTS OF POTHOLING, APPROVED PIPELINE SUBMITTALS, AND APPROVED LINING AND COATING SYSTEMS.
3. SCHEDULE AND COORDINATE FABRICATION OF PIPE AND APPURTENANCES WITH POTHOLING AND CONSTRUCTION SEQUENCING.



REVISIONS	TRANSMISSION MAINS FOR MPWSP MECHANICAL PIPELINE DETAILS FABRICATED STEEL FITTING DETAILS -2	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000M51

PAVING SCHEDULE

PAVEMENT REPLACEMENT NOTES

1. CONTRACTOR SHALL REPLACE PAVEMENT PER LOCAL STANDARD WITHIN ONE WEEK AFTER INSTALLATION OF PIPELINE. SEE SPECIFICATION APPENDIX F FOR TRENCH DETAILS FOR EACH LOCAL COMMUNITY.
2. NO MORE THAN 100' OF UNPAVED TRENCH SHALL BE ALLOWED AT ANY TIME.
3. PROVIDE TRAFFIC CONTROL AS REQUIRED BY EACH COMMUNITY.
4. PROVIDE TEMPORARY STRIPING AND MARKING UNTIL PERMANENT PAVMENT IS COMPLETE.
5. TEMPORARY PAVEMENTS SHALL BE REMOVED WITHIN 2 WEEKS AND REPLACED WITH PERMANENT PAVEMENT.
6. CONTRACTOR SHALL INSPECT PAVEMENTS WEEKLY AND MAKE NECESSARY REPAIRS IMMEDIATELY.
7. ANY TRENCH SETTLEMENT > 6" SHALL BE COMPLETELY EXCAVATED DOWN TO PIPELINE TO INSPECT FOR DAMAGE, THEN RESTORED.
8. AFTER 3 MONTHS, CONTRACTOR SHALL INSPECT PAVEMENT WITH ENGINEER AND REPAIR ANY SETTLED SECTIONS. REMOVE PAVEMENT, ADD NECESSARY SUBGRADE MATERIAL, COMPACT, TEST DENSITY, AND THEN RESTORE PAVEMENT.
9. AFTER 3 MONTHS, CONTRACTOR SHALL MILL PAVEMENT 1" AND INSTALL ASPHALT CONCRETE WEARING COURSE PER PAVEMENT REPLACEMENT TABLE BELOW.
10. AFTER MILLING AND PAVING, REPLACE STRIPING AND SIGNAL LOOPS.

MONTEREY PIPELINE

ROAD LOCATION	STATIONS	MILLING EXTENT	PAVEMENT DESCRIPTION
SINEX AVE. TO FREMONT ST.	8+70 TO 146+70	FULL ROAD WIDTH, CURB TO CURB	6" AC PAVEMENT 6" CLASS 2 AB
FREMONT ST.	146+70 TO 173+00	FULL ROAD WIDTH, WEST BOUND LANES ONLY	6" AC PAVEMENT 6" CLASS 2 AB
FREMONT ST.	173+00 TO 175+00	FULL ROAD WIDTH, EAST BOUND AND WEST BOUND LANES	6" AC PAVEMENT 6" CLASS 2 AB
AGUAJTO RD.	175+00 TO 187+00	FULL ROAD WIDTH, WEST BOUND LANES ONLY	6" AC PAVEMENT 6" CLASS 2 AB
MARK THOMAS DR.	187+00 TO 225+50	FULL ROAD WIDTH, CURB TO CURB	6" AC PAVEMENT 6" CLASS 2 AB
OLD SALINAS HWY	225+50 TO 226+50	FULL ROAD WIDTH, CURB TO CURB AND BRIDGE JOINT	6" AC PAVEMENT 6" CLASS 2 AB
GARDEN RD.	229+50 TO 230+30	FULL ROAD WIDTH, CURB TO CURB AND BRIDGE JOINT	6" AC PAVEMENT 6" CLASS 2 AB
FAIRGROUND RD. TO AIRPORT RD.	230+30 TO 253+00	FULL ROAD WIDTH, CURB TO CURB AND PARKING ZONES	6" AC PAVEMENT 6" CLASS 2 AB
AIRPORT RD.	253+00 TO 256+00	FULL ROAD WIDTH, CURB TO CURB	6" AC PAVEMENT 6" CLASS 2 AB
FREMONT ST.	256+00 TO 277+50	NO MILLING OR OVERLAY IN THIS AREA	8" CONCRETE PAVEMENT 8" CLASS 2 AB
FREMONT ST.	277+50 TO 297+00	FULL ROAD WIDTH, NORTH BOUND LANES ONLY	6" AC PAVEMENT 6" CLASS 2 AB
HILBY AVE.	297+00 TO 365+50	FULL ROAD WIDTH, CURB TO CURB	6" AC PAVEMENT 6" CLASS 2 AB
GENERAL JIM MOORE BLVD.	365+50 TO 366+70	FULL INTERSECTION AT HILBY, CURB TO CURB	8" AC PAVEMENT 8" CLASS 2 AB

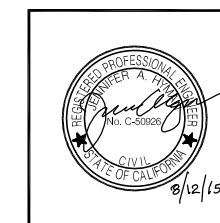
TRANSFER PIPELINE

ROAD LOCATION	STATIONS	MILLING EXTENT	PAVEMENT DESCRIPTION
GENERAL JIM MOORE	23+00 TO 80+00	FULL ROAD WIDTH, NORTH BOUND AND SOUTHBOUND LANES	5" AC PAVEMENT 8" CLASS 2 AB
GENERAL JIM MOORE	80+00 TO 92+50	FULL ROAD WIDTH, SOUTH BOUND LANES ONLY	5" AC PAVEMENT 8" CLASS 2 AB
GENERAL JIM MOORE	92+50 TO 132+50	FULL ROAD WIDTH, NORTH BOUND LANES ONLY	5" AC PAVEMENT 8" CLASS 2 AB
LIGHTFIGHTER	132+50 TO 153+50	FULL ROAD WIDTH, EAST BOUND LANES ONLY	5" AC PAVEMENT 12" CLASS 2 AB
LIGHTFIGHTER / 1ST AVE.	153+50 TO 155+00	FULL INTERSECTION, ALL LANES	5" AC PAVEMENT 12" CLASS 2 AB
DEL MONTE BLVD.	276+50 TO 287+45	FULL ROAD WIDTH, SOUTH BOUND LANES ONLY	8" CONC PAVEMENT, 8" CLASS 2 AB 2" AC WEARING COURSE
PALM AVE.	300+30 TO 300+75	TRENCH + 5' EACH SIDE	6" AC PAVEMENT, 12" AB
RESERVATION RD.	319+60 TO 320+20	TRENCH + 5' EACH SIDE	6" AC PAVEMENT, 12" AB
BEACH RD.	342+60 TO 343+70	TRENCH + 5' EACH SIDE	6" AC PAVEMENT, 12" AB
MARINA GREEN DR.	369+70 TO 370+20	TRENCH + 5' EACH SIDE	6" AC PAVEMENT, 12" AB
CEMEX DR.	420+20 TO 420+90	TRENCH + 5' EACH SIDE	6" AC PAVEMENT, 6" AB
DEL MONTE BLVD.	460+30 TO 461+10	FULL WIDTH OF TAMC ROW, EAST BOUND AND WEST BOUND LANES	8" CONC PAVEMENT, 8" CLASS 2 AB 2" AC WEARING COURSE
NEPONSET RD.	472+00 TO 473+00	FULL ROAD WIDTH AND DRIVEWAYS	6" AC PAVEMENT, 6" AB
NEPONSET RD.	473+00 TO 520+26	FULL ROAD WIDTH AND DRIVEWAYS	6" CLASS 2 AB

TREES

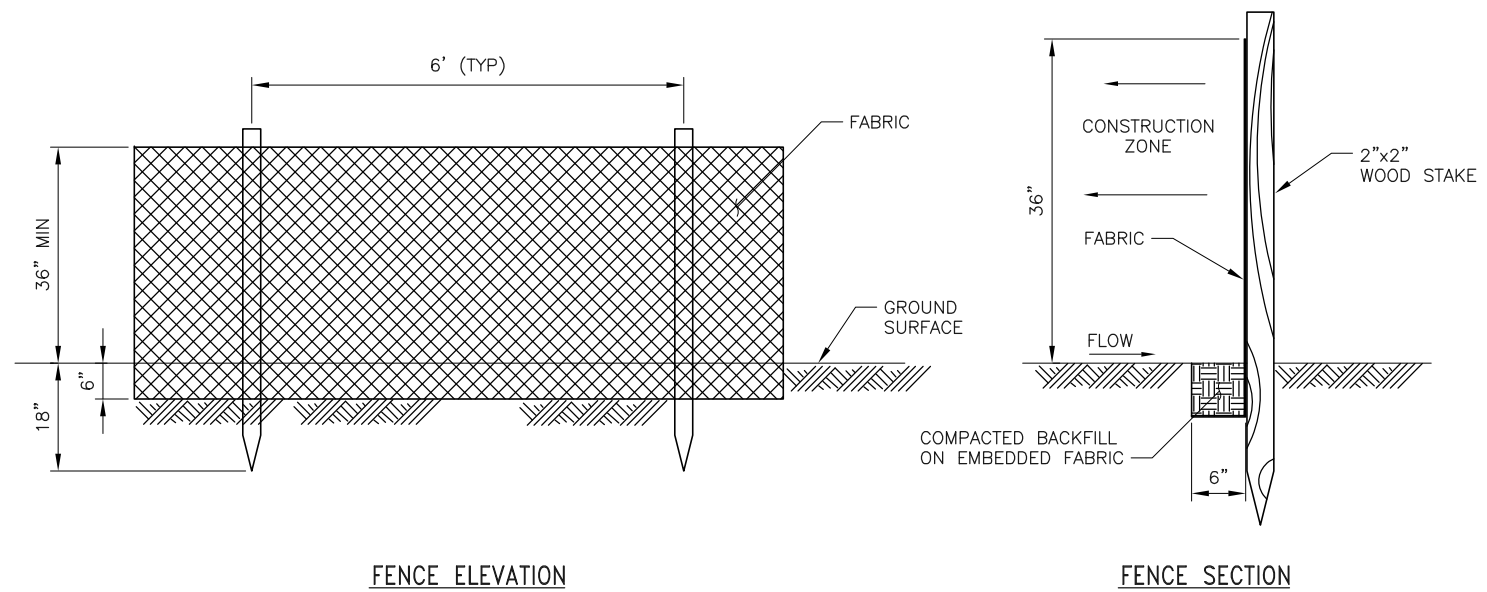
1. NO TREE REMOVAL OR PRUNING OR ROOT CUTTING IS ALLOWED WITHOUT OWNERS APPROVAL.
2. CONTRACTOR SHALL HIRE A LICENSED CA ARBORIST TO INSPECT LIMITS OF WORK AND IDENTIFY ALL TREES.
3. CONTRACTOR SHALL PROTECT ALL TREES WITH ENVIRONMENTAL FENCING AND ORANGE SAFETY FENCING.
4. CONTRACTOR'S ARBORIST SHALL EVALUATE PIPE ALIGNMENT AND ADVISE OWNER IF TRENCHING ACTIVITIES WILL BE HARMFUL TO TREE ROOT SYSTEMS. NOTIFY ENGINEER OF ANY DETREMENTAL IMPACTS SO THAT THE PIPE ALIGNMENT CAN BE ADJUSTED.

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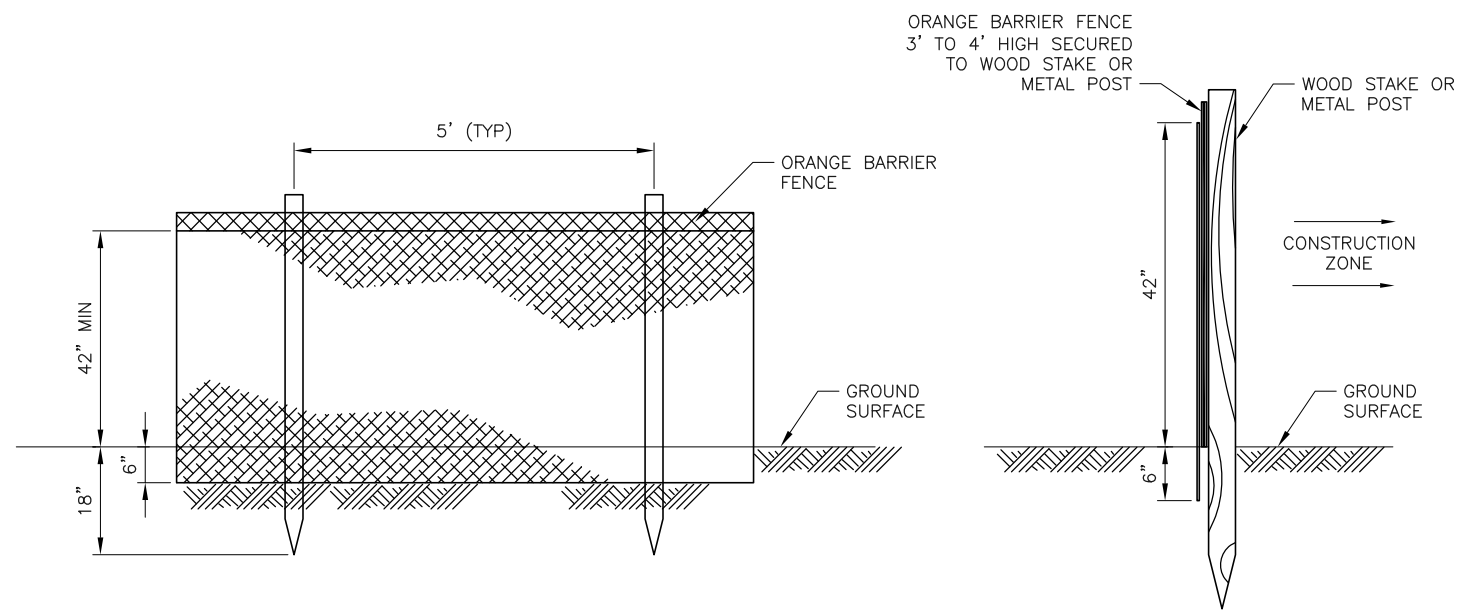
REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL TYPICAL DETAILS PAVEMENT SCHEDULE	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENGR J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
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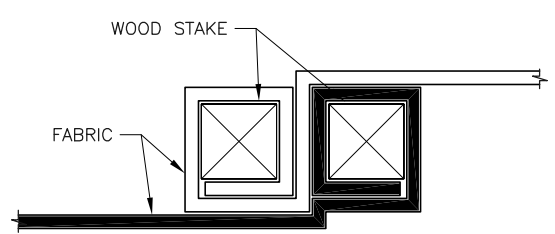
FENCE ELEVATION

FENCE SECTION

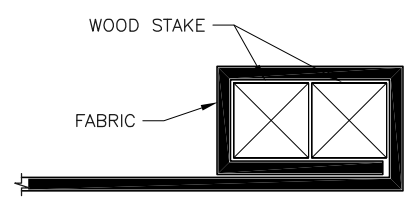


FENCE ELEVATION

FENCE SECTION



JOINT SECTION (TOP VIEW)



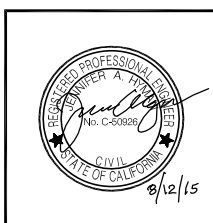
END SECTION (TOP VIEW)

SILT FENCE DETAIL
SCALE: NTS

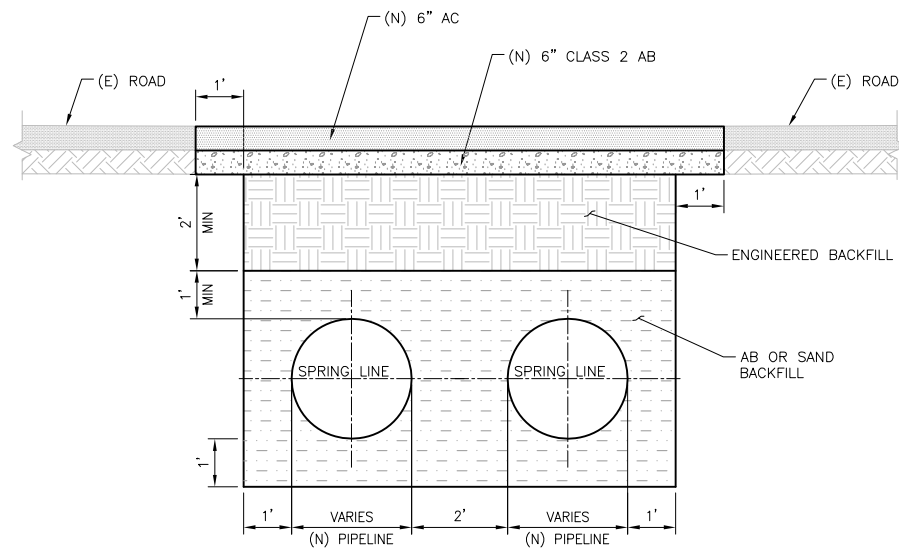
ORANGE BARRIER FENCE DETAIL
SCALE: NTS

NOTES

1. STAKES TO OVERLAP & FENCE FABRIC TO FOLD AROUND EACH STAKE ONE FULL TURN. SECURE FABRIC TO STAKE WITH 4 STAPLES.
2. STAKES SHALL BE DRIVEN TIGHTLY TOGETHER TO PREVENT POTENTIAL FLOW THROUGH OF SEDIMENT AT JOINT. THE TOPS OF THE STAKES SHALL BE SECURED WITH WIRE.
3. FOR END STAKE, FENCE SHALL BE FOLDED AROUND TWO STAKES ONE FULL TURN & SECURED WITH 4 STAPLES.
4. STAKE DIMENSIONS ARE NOMINAL.
5. CONTRACTOR SHALL PLACE SILT FENCE AND ORANGE BARRIER FENCE ALONG PERIMETER OF LIMITS OF WORK AS SHOWN IN THESE DRAWINGS AND IN ACCORDANCE WITH THE SPECIFICATIONS.
6. PLACE ORANGE BARRIER FENCE AT DRIP LINE OF ALL TREES WITHIN LIMITS OF WORK.
7. PLACE ORANGE BARRIER FENCE AROUND SPECIAL PLANT COMMUNITIES PER SPEC SECTION 01062.

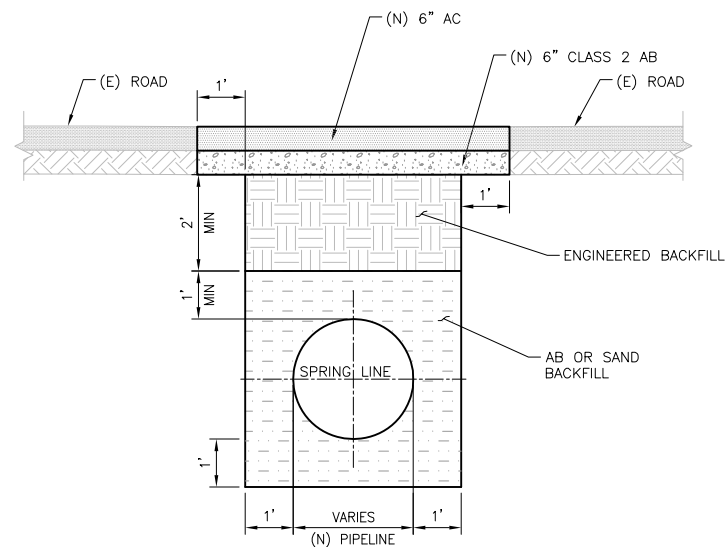


REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS EXCLUSION FENCE DETAILS	
	CALIFORNIA AMERICAN WATER	
	AECOM 1335 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	
		DATE AUGUST 2015 PROJECT 60424498
		USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000C40



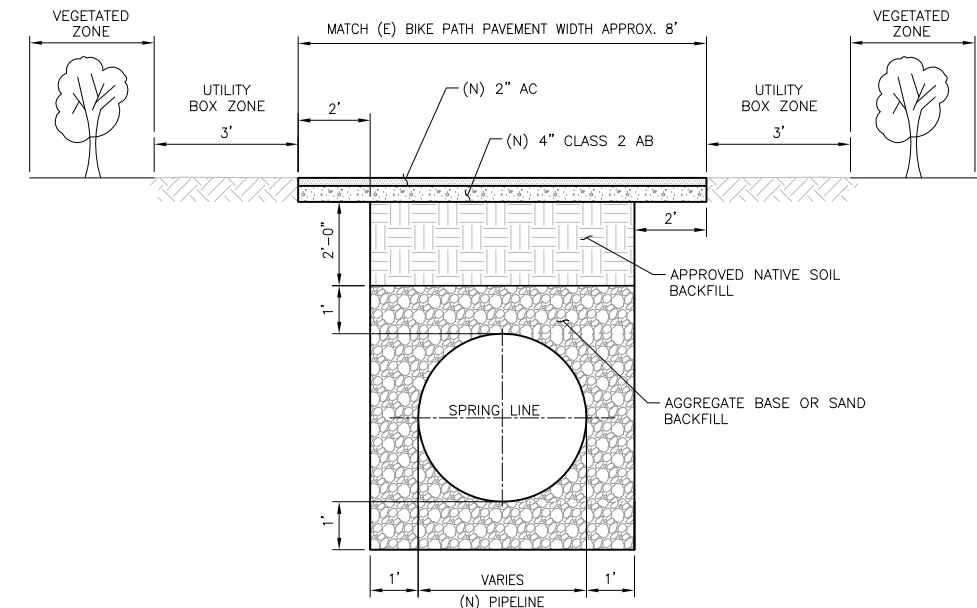
TYPICAL TRENCH BACKFILL FOR DUAL PIPELINES IN PAVED PRIVATE ACCESS ROAD

SCALE: 1"=2'



TYPICAL TRENCH BACKFILL FOR SINGLE PIPELINE IN PAVED PRIVATE ACCESS ROAD

SCALE: 1"=2'



TYPICAL TRENCH BACKFILL UNDER MONTEREY COUNTY BIKE PATH

SCALE: 1"=2'

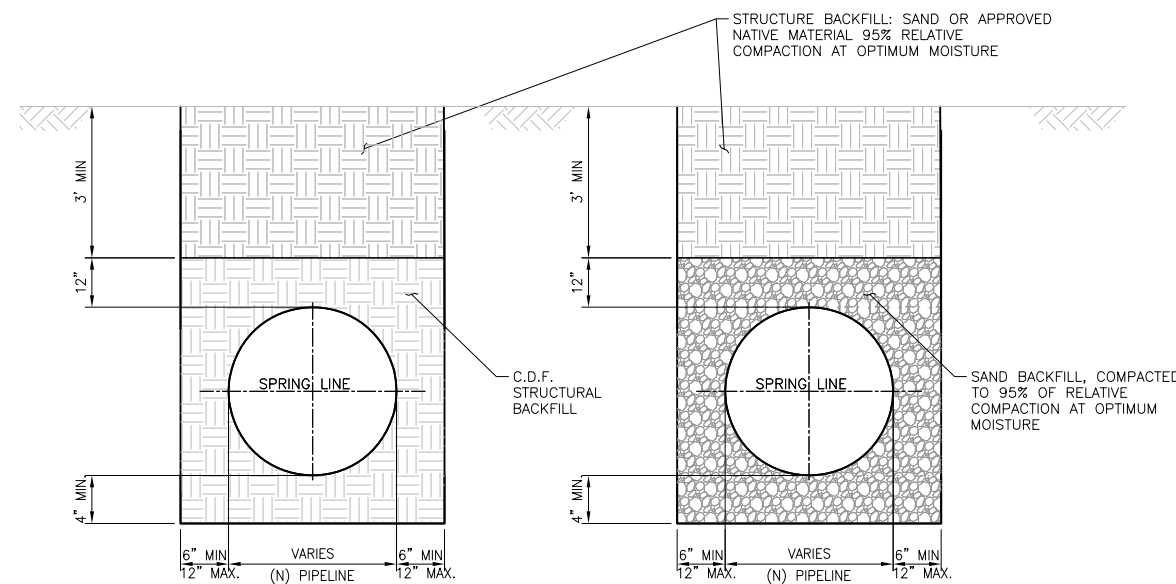


NOTES:

1. IF ONE OF THE PIPE IS TREATED (DRINKING) WATER, IT SHALL BE PLACED IN A SEPARATE TRENCH FROM NON-POTABLE PIPES.
2. ALL (N) PIPES SHALL BE INSTALLED WITH 10 GA. STRANDED COATED TRACER WIRE DUCTAPED TO THE TOP-CENTER OF PIPE AT 10-FT INTERVALS.
3. ALL WATER PIPES SHALL HAVE PLASTIC WARNING TAPE MARKED "WATER" INSTALLED AT TOP OF PIPE ZONE.
4. FOR OTHER TRENCH SECTIONS, SEE SPEC APPENDIX F.

TABLE 1 - TRENCH SECTION SCHEDULE

LOCALITY	TRENCH AND PAVING SPECIFICATIONS REFERENCE	DETAIL NO.	SHEET NO.
MONTEREY COUNTY COSTAL BIKE PATH	CALTRANS SPECIFICATIONS FOR BIKE PATHS - HIGHWAY DESIGN MANUAL, CHAPTER 1000	C	C50
CALTRANS	CALTRANS SPECIFICATIONS - HIGHWAY DESIGN MANUAL, CHAPTER 300	E	C50
COUNTY OF MONTEREY	SEE SPEC APPENDIX F		
SAND CITY	SEE SPEC APPENDIX F		
CITY OF SEASIDE	SEE SPEC APPENDIX F		
CITY OF PACIFIC GROVE	SEE SPEC APPENDIX F		
CITY OF MONTEREY	SEE SPEC APPENDIX F		
CITY OF MARINA	SEE SPEC APPENDIX F		
PRESIDIO OF MONTEREY	SEE SPEC APPENDIX F		
CEMEX ACCESS ROAD		A/B	C50
MONTEREY RWPCA ACCESS ROAD		A/B	C50
TAMC ROW		D	C50
NEPONSET RD.		A	C51

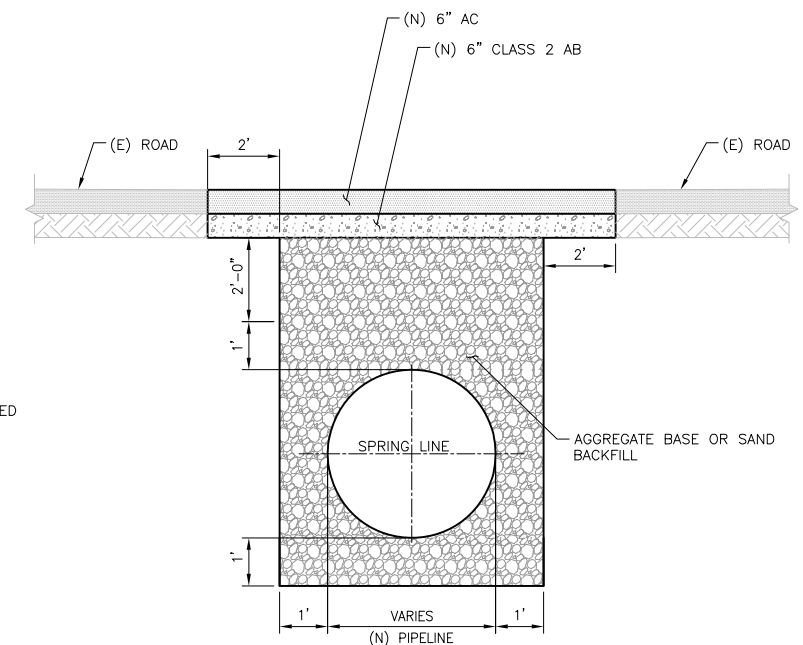


FOR HDPE PIPE

FOR DI, STEEL, AND PVC PIPE

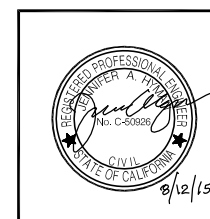
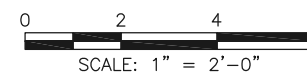
TAMC ROW - TRENCH EXCAVATION DETAILS

SCALE: NTS



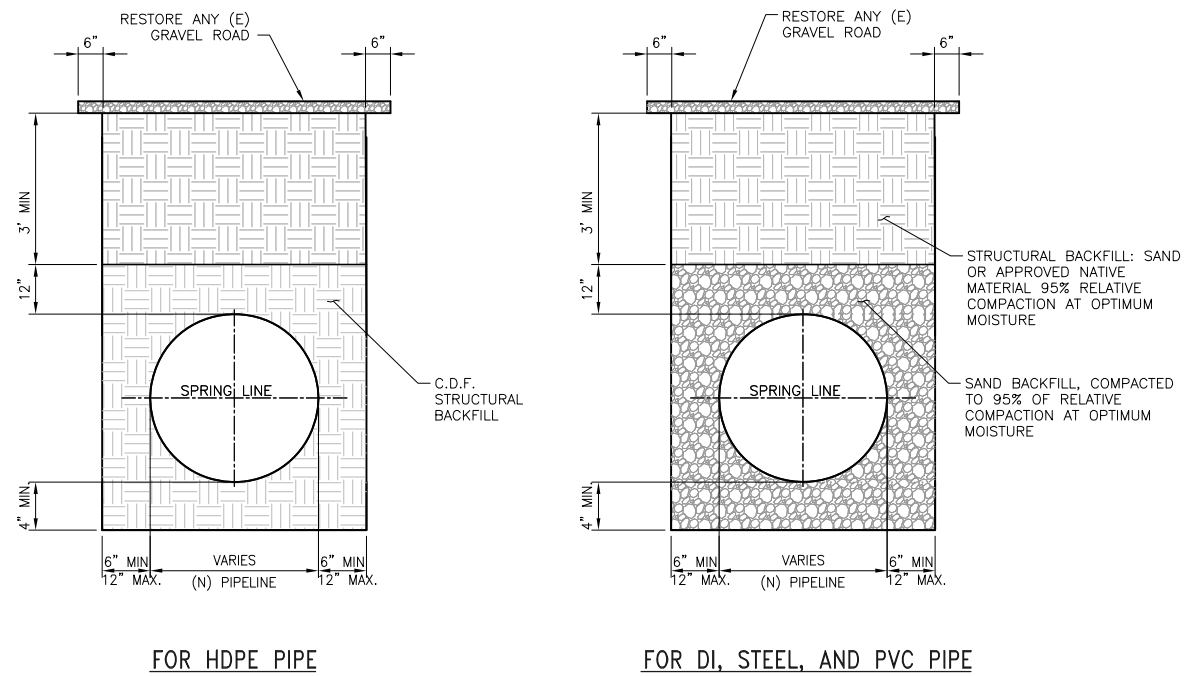
TYPICAL TRENCH BACKFILL UNDER CALTRANS ROADWAY

SCALE: 1"=2'



REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS TYPICAL TRENCH DETAILS	
	CALIFORNIA AMERICAN WATER	
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612		
DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000C50

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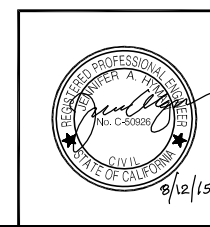
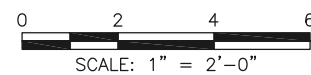


NEPONSET RD - TRENCH DETAILS
SCALE: NTS

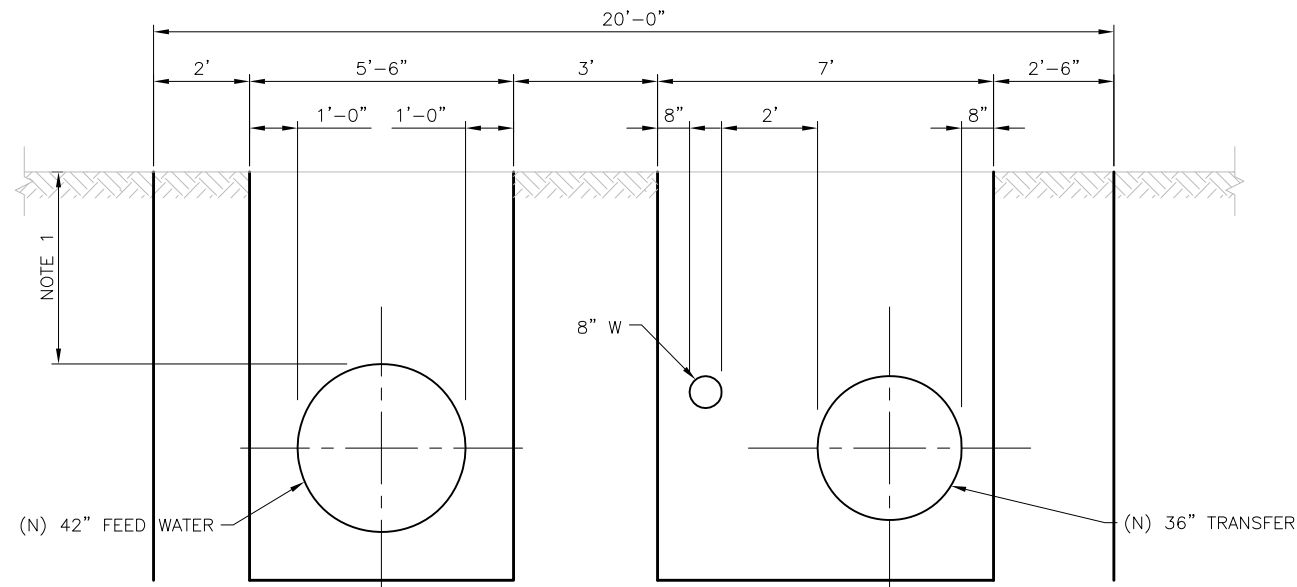


NOTES:

1. IF ONE OF THE PIPE IS TREATED (DRINKING) WATER, IT SHALL BE PLACED IN A SEPARATE TRENCH FROM NON-POTABLE PIPES.
2. ALL (N) PIPES SHALL BE INSTALLED WITH 10 GA. STRANDED COATED TRACER WIRE DUCT APED TO THE TOP-CENTER OF PIPE AT 10-FT INTERVALS.
3. ALL WATER PIPES SHALL HAVE PLASTIC WARNING TAPE MARKED "WATER" INSTALLED AT TOP OF PIPE ZONE.



REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS NEPONSET TRENCH DETAILS	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000C51



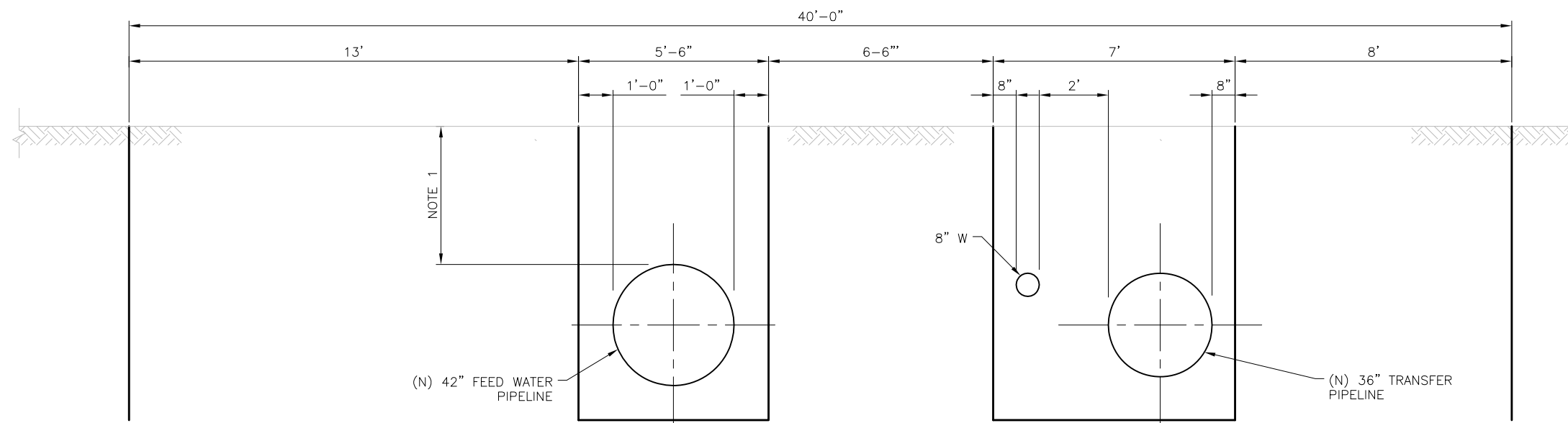
NOTES:

- 1. 4-FT TYPICAL MIN COVER OVER ALL PIPES.

TRENCH SECTION THROUGH 20 FT-WIDE EASEMENT IN NEPONSET

SCALE: 1"=2'

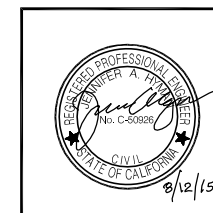
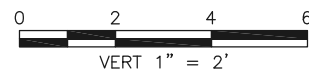
A
C09



TRENCH SECTION THROUGH 40 FT-WIDE EASEMENT IN NEPONSET

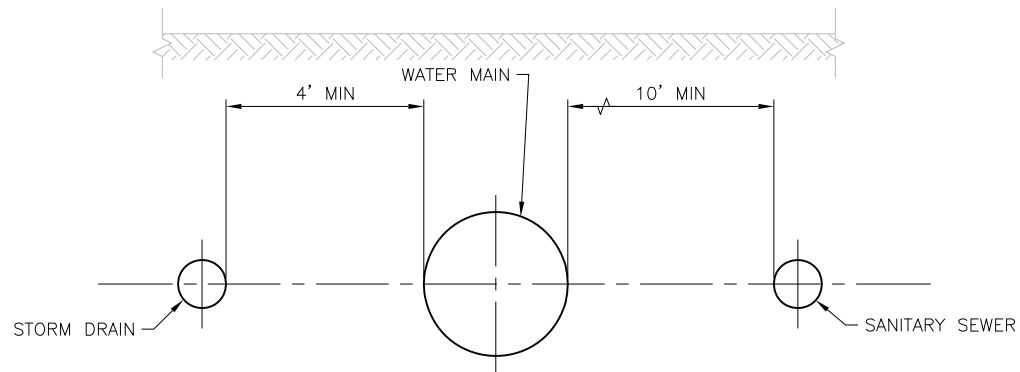
SCALE: 1"=2'

B
C10



REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS NEPONSET TRENCH SECTIONS	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000C53

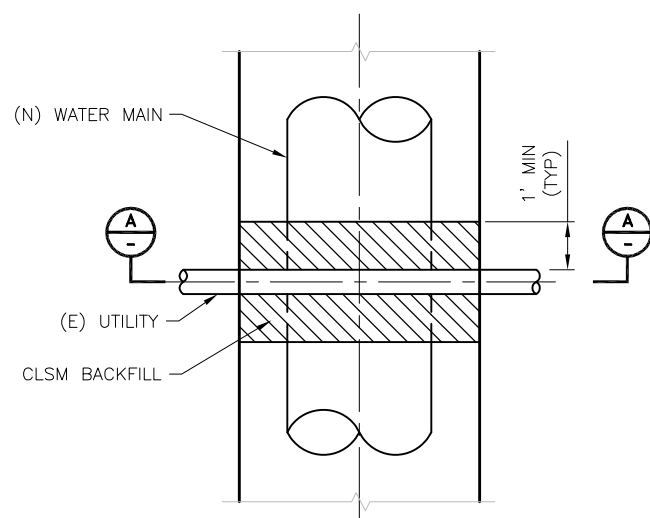
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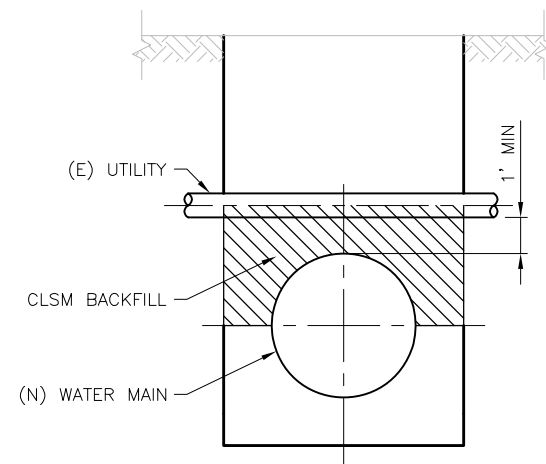
PARALLEL CONSTRUCTION

PARALLEL CONSTRUCTION DETAIL

SCALE: 1"=2'



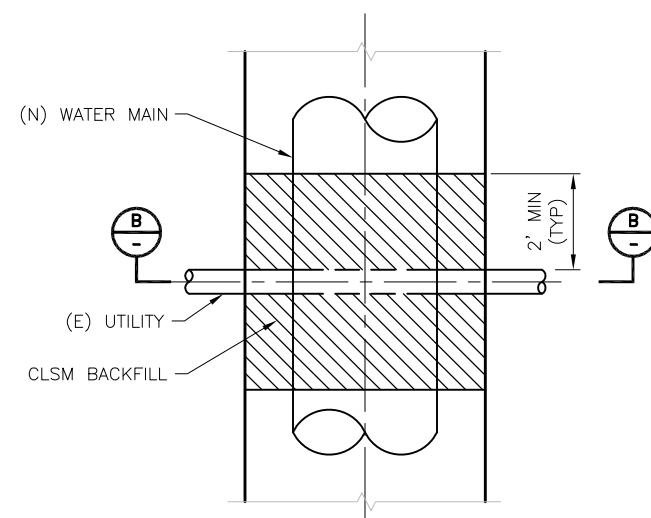
PLAN VIEW



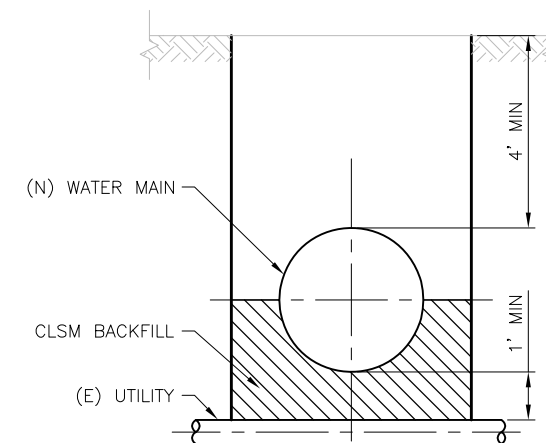
SECTION A

CLSM BACKFILL DETAIL AT CROSSING UNDER UTILITY

SCALE: 1"=2'



PLAN VIEW



SECTION B

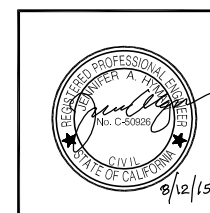
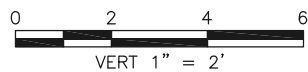
CLSM BACKFILL DETAIL AT CROSSING UNDER UTILITY

SCALE: 1"=2'



NOTES:

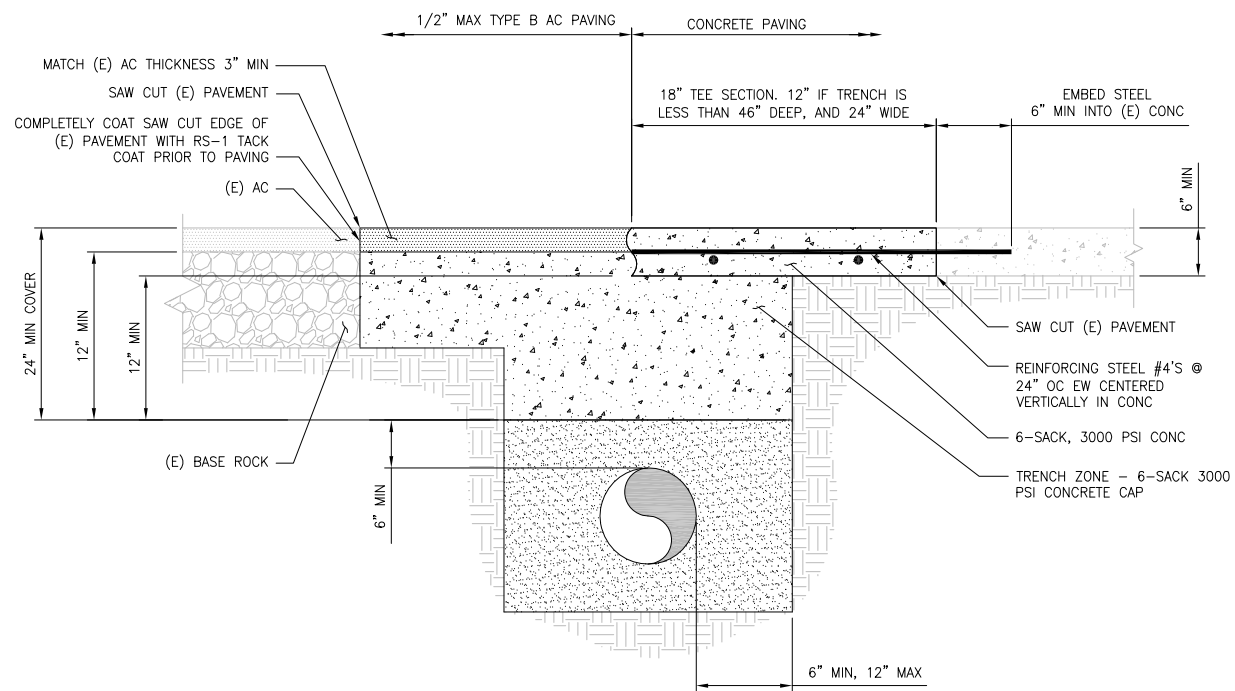
1. PIPELINE INSTALLATION SHALL COMPLY WITH 17 CCR AND 22 CCR UNLESS APPROVED BY CDPH.
2. WATER MAINS SHALL CROSS OVER SANITARY AND STORM DRAINS UNLESS APPROVED BY CDPH.
3. PARALLEL CONSTRUCTION: THE HORIZONTAL DISTANCE BETWEEN NEW WATER MAIN AND SANITARY SEWERS SHALL BE AT LEAST 10 FEET AND AT LEAST 4 FEET FROM STORM DRAINS UNLESS APPROVED BY CDPH.
4. PIPES FOR RAW WATER (SEA WATER INTAKE) AND TERTIARY TREATED RECYCLED WATER ARE CONSIDERED EQUIVALENT TO A STORM DRAIN. SECONDARY TREATED RECYCLED WATER PIPE IS EQUIVALENT TO A SANITARY SEWER.
5. RAW WATER (SEA WATER INTAKE) PIPE MAY NOT BE INSTALLED IN THE SAME TRENCH AS DRINKING WATER PRESSURE PIPE.
6. WHERE THE WATER MAIN CROSSES OVER OR UNDER AN EXISTING UTILITY, THE WATER MAIN SHALL HAVE CLSM BACKFILL BETWEEN THE SPRING LINE OF THE WATER MAIN AND THE SPRING LINE OF THE UTILITY WITHIN 2 FT OF THE EXISTING UTILITY. SEE DETAILS 2 AND 3. IN ADDITION, THE WATER MAIN SHALL BE CONSTRUCTED AT NO LESS THAN 45-DEGREES TO AND AT LEAST 1-FT ABOVE THAT PIPELINE. NO CONNECTION JOINTS SHALL BE MADE IN THE WATER MAIN WITHIN 8 HORIZONTAL FEET OF THE UTILITY.



REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS	
	DETAILS FOR SEPARATION BETWEEN WATER MAINS AND SEWERS	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	 CALIFORNIA AMERICAN WATER
DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498	USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000C54

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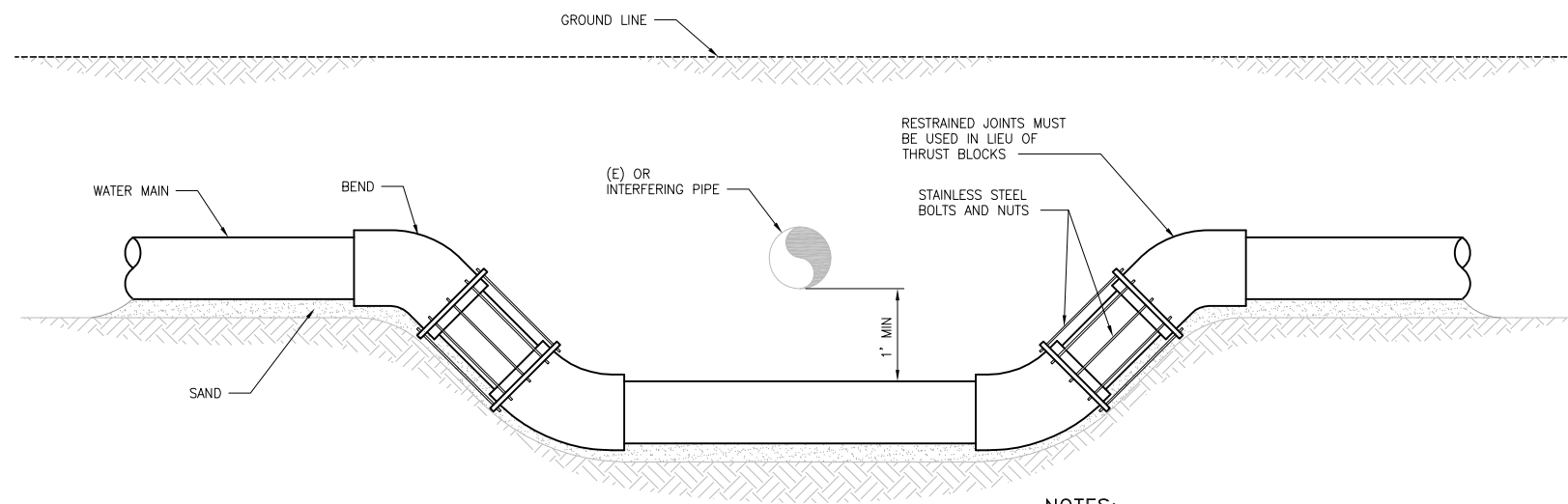


CONCRETE CAP FOR PIPE INSTALLED AT SUB-STANDARD DEPTH
 SCALE: NTS

1
-

NOTES:

- IF ANY PORTION OF (E) PAVEMENT WITHIN SAWCUT LIMITS IS CONCRETE AT THE SURFACE, ENTIRE TRENCH SHALL BE RE-PAVED WITH CONCRETE AS SHOWN.
- FOR UNPAVED AREAS, INSTALL 6-IN NATIVE TOP SOIL OVER CONCRETE CAP.
- INSTALL CONCRETE CAP WHERE COVER OVER 36-IN AND 42-IN PIPE IS LESS THAN PIPE DIAMETER, AND FOR PIPE SMALLER THAN 36-IN WHERE COVER IS LESS THAN 36-IN.



UNDER CROSSING DETAIL
 SCALE: NTS

2
-

NOTES:

- ALL MATERIAL SHALL BE DUCTILE IRON.
- RESTRAINED JOINT PIPE SHALL BE USED INSTEAD OF THRUST BLOCKS.
- WATER MAIN OFFSET MAY BE ACCOMPLISHED USING ALLOWABLE DEFLECTION AT PIPE JOINTS.

REVISIONS

TRANSMISSION MAINS FOR MPWSP
CIVIL
PIPELINE DETAILS
CONCRETE CAP AND UNDERCROSSING DETAILS

CALIFORNIA
AMERICAN WATER

AECOM
 1333 BROADWAY, SUITE 800
 OAKLAND, CALIFORNIA 94612

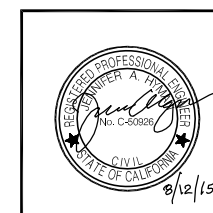
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DATE AUGUST 2015
 PROJECT 60424498

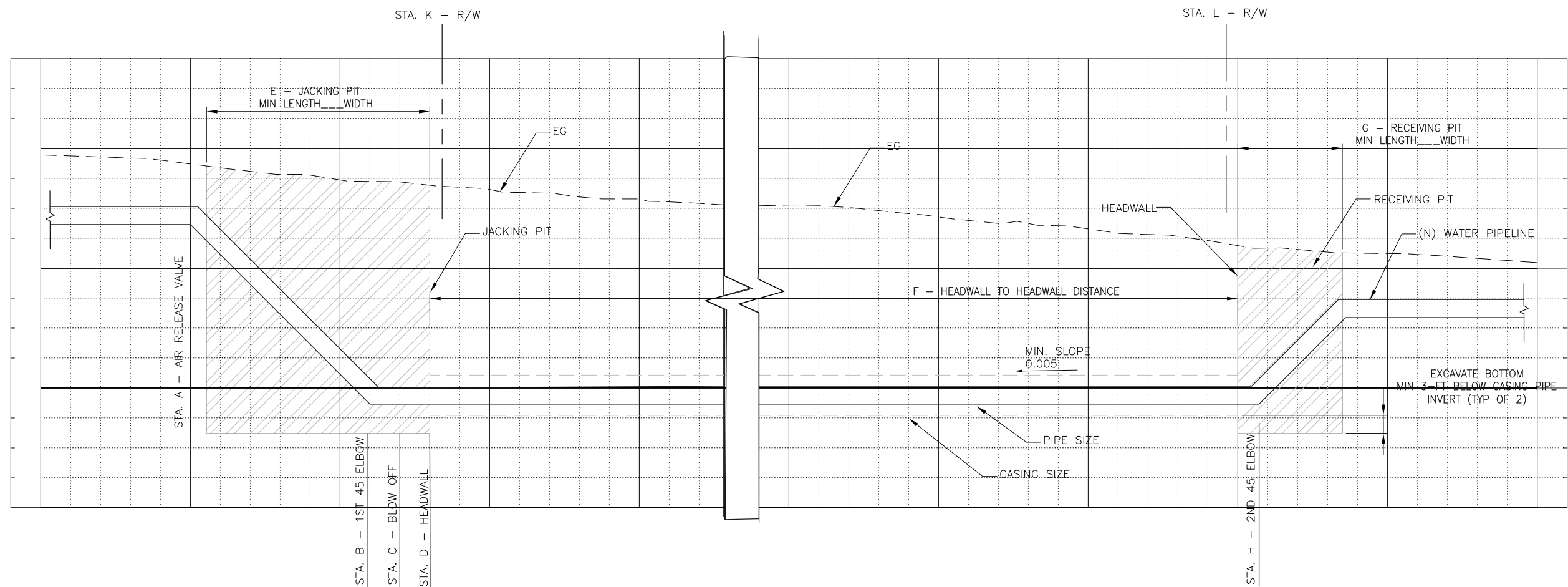
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 SCALE AS SHOWN



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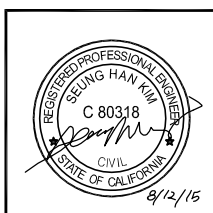


PROFILE
SCALE: NTS

SITE NO	LOCATION	STA A - AIR RELEASE VALVE	STA B - 1st 45 ELBOW	STA C - BLOW-OFF	STA D - HEADWALL	E - JACKING PIT MIN LENGTH WIDTH (FT)	F - HEADWALL TO HEADWALL DISTANCE	G - RECEIVING PIT MIN LENGTH WIDTH (FT)	STA H - 2nd 45 ELBOW	STA K - RIGHT OF WAY	STA L - RIGHT OF WAY	PIPE SIZE	CASING SIZE
1	HWY 1 CROSSING AT LIGHT FIGHTER RD.	166+34.64	161+98.75	165+97.28	162+01.66	35 (L) / 15 (W)	408.00	20 (L) / 35 (W)	166+11.83	162+05.33	165+84.52	36	48
2	RR SPUR CROSSING BY BEACH RANGE RD	184+56.44	N/A ⁽²⁾	186+90.69	186+75.66	35 (L) / 15 (W)	173.74	20 (L) / 15 (W)	N/A ⁽²⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾	36	48
3	RR CROSSING AT MARINA DR	287+03.06	N/A ⁽²⁾	286+95.63	288+52.43	35 (L) / 15 (W)	90.95	20 (L) / 15 (W)	287+59.83	N/A ⁽⁴⁾	287+45.36	36	48
4	RR CROSSING AT LAPIS RD.	392+52.73	393+61.78	393+58.34	393+55.82	30 (L) / 15 (W)	49.00	20 (L) / 15 (W)	393+00.14	N/A ⁽⁴⁾	N/A ⁽⁴⁾	36	48
5	RR CROSSING AT LAPIS RD. (DOUBLE IN FEED WATER)	48+20.22	N/A ⁽²⁾	47+77.67	47+08.44	35 (L) / 20 (W) ⁽³⁾	62.17	20 (L) / 20 (W) ⁽³⁾	47+62.90	46+61.43	N/A ⁽⁴⁾	42	60
		48+20.22	N/A ⁽²⁾	47+77.67					47+66.24			8	16

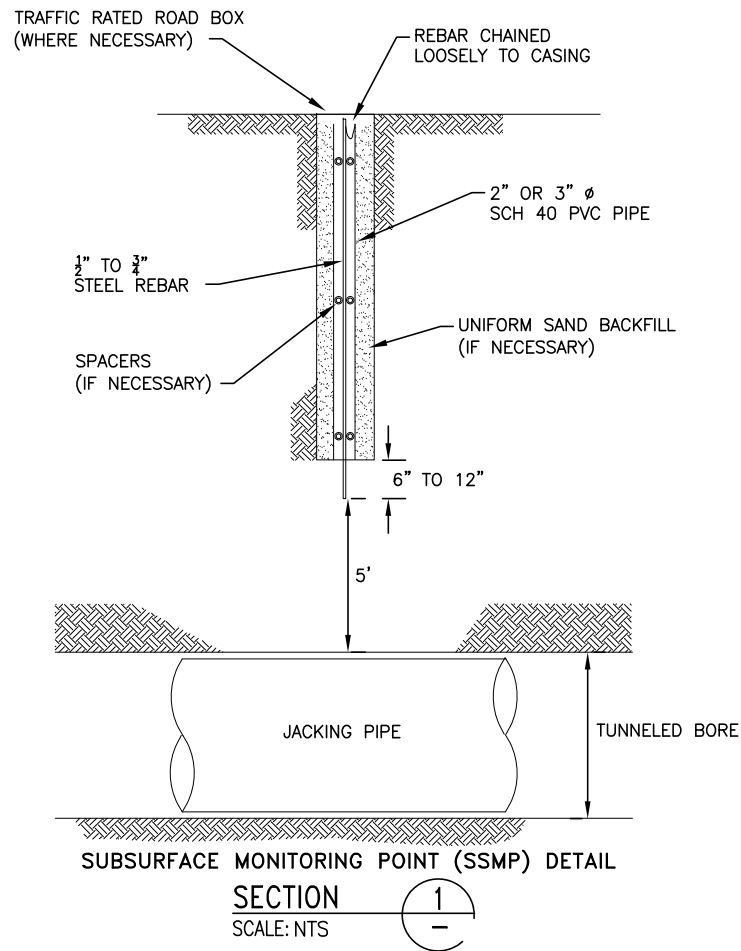
NOTES:

- INSTALL CASING PIPE WITH MIN. 5.5-FT COVER AT SITES 2-5 AND MIN. 15-FT COVER AT SITE 1.
- NO ELBOW CONNECTION AT THE STATION NOTED.
- TO ACCOMMODATE CONSTRUCTION OF TWO PARALLEL BORING-AND-JACKING OPERATIONS.
- PIPELINE ALIGNMENT DOES NOT TRAVERSE THE ROW LINE BOUNDARY AT THE STATION NOTED.
- ALL SITES ARE ON THE TRANSFER PIPELINE EXCEPT SITE 5.

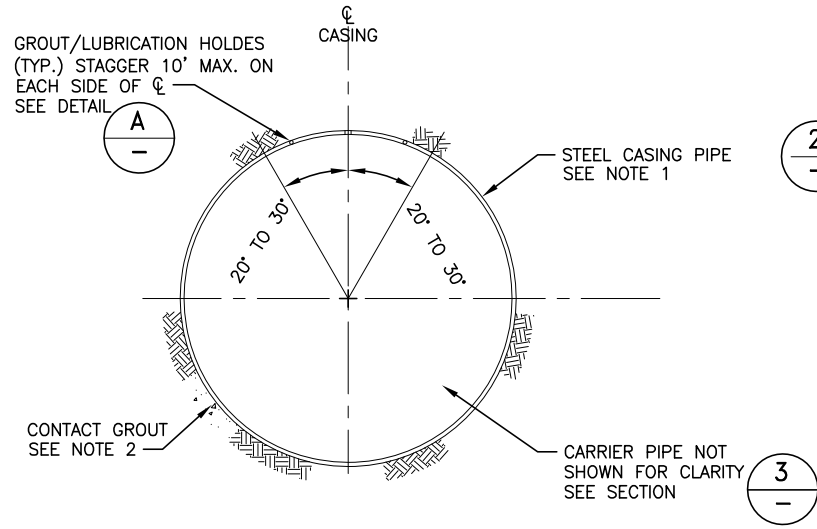


REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS JACK AND BORE SCHEDULE	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	CALIFORNIA AMERICAN WATER
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000C60

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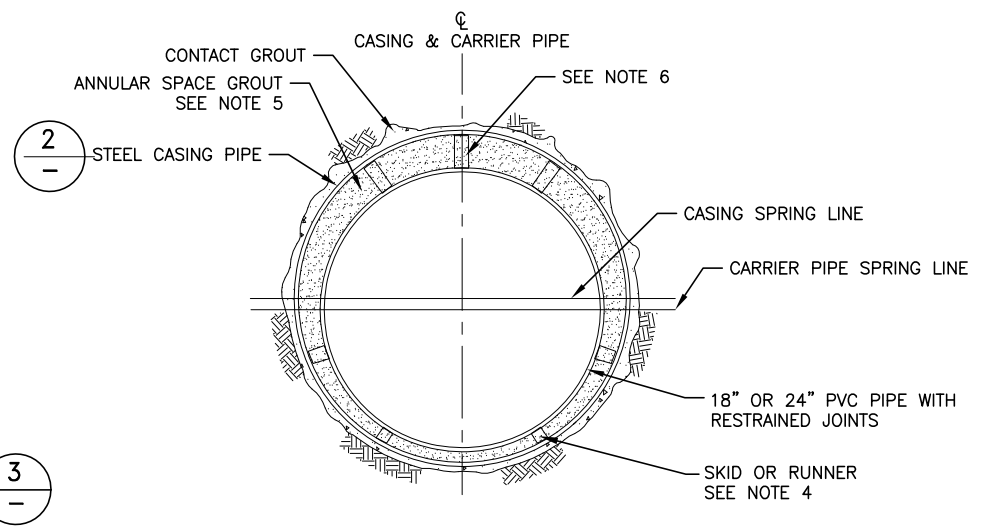


SECTION 1
 SCALE: NTS



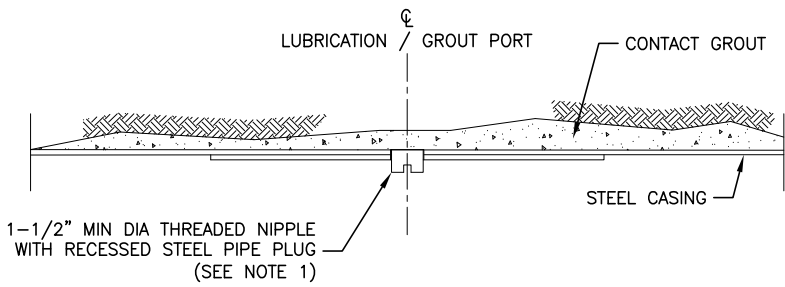
SECTION 2
 SCALE: NTS

- NOTES:**
- MINIMUM WALL THICKNESS FOR VARIOUS STEEL CASING SIZES SHALL BE:
 - 3/8" FOR 28" OR LESS
 - 1/2" FOR 30" TO 38"
 - 3/4" FOR 40" TO 60"
 - FILL VOID CREATED BY OVER CUT BETWEEN PIPE AND GROUND WITH CONTACT GROUT AFTER JACKING IN ACCORDANCE WITH SPECIFICATION SECTION 02330.



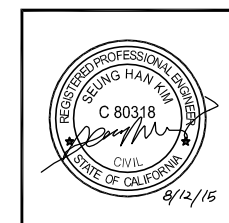
SECTION 3
 SCALE: NTS

- NOTES:**
- STEEL CASING JOINTS SHALL BE PERMALOK OR WELDED AND APPROVED IN ACCORDANCE WITH SECTION 02322 OF THE SPECIFICATIONS.
 - CASING INSULATION SPACING SHALL BE IN ACCORDANCE WITH INSULATING MANUFACTURER'S RECOMMENDATIONS.
 - STEEL CASING SHALL BE ELECTRICALLY DISCONTINUOUS FROM CARRIER PIPE.
 - ANNULAR CLEARANCE BETWEEN CASING AND CARRIER PIPE SHALL BE 3" MIN, AT THE LARGEST OUTSIDE DIAMETER OF THE CARRIER PIPE INCLUDING ANY ATTACHMENTS. PROVIDE 4 RUNNERS UNDER BOTTOM OF RECYCLED WATER LINE. (TYP)
 - ANNULAR SPACE GROUTING SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02330.
 - CASING INSULATORS SHALL BE INSTALLED TO BLOCK THE PIPE AGAINST THE CASING AND PREVENT FLOTATION DURING ANNULAR SPACE GROUTING.
 - CASING END SEALS SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATION SECTION 02322.



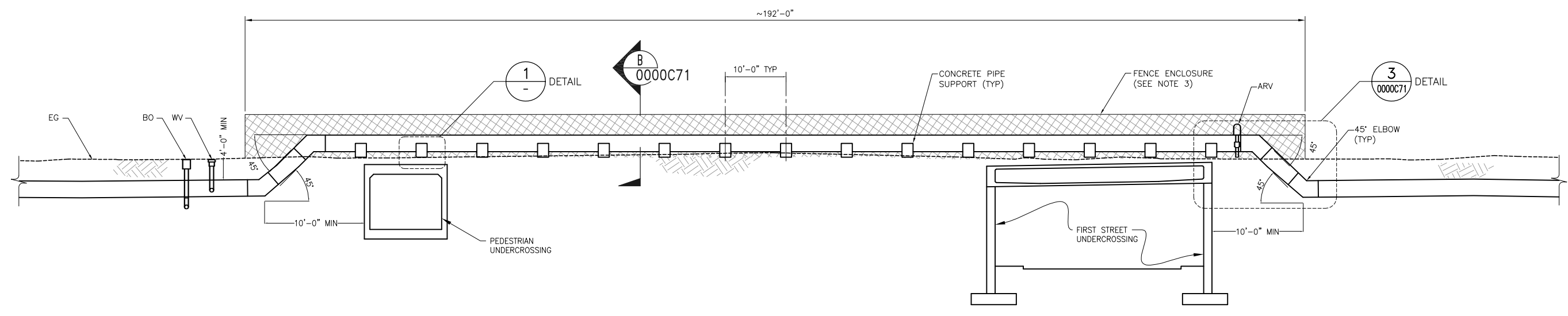
- NOTE:**
- AFTER CONTACT GROUTING, SEAL GROUT HOLE WITH RECESSED PLUG. INSTALL PLUG FLUSH WITH INSIDE OF PIPE.

DETAIL A
 SCALE: NTS

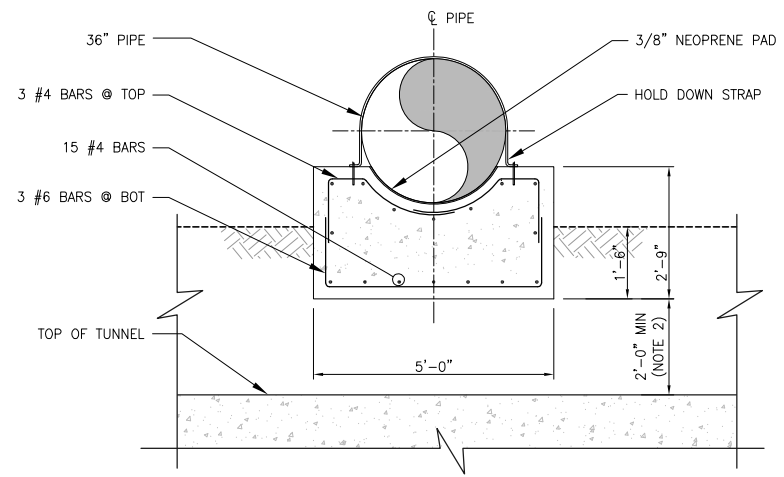


REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS PIPE CASING DETAIL	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENGR J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498
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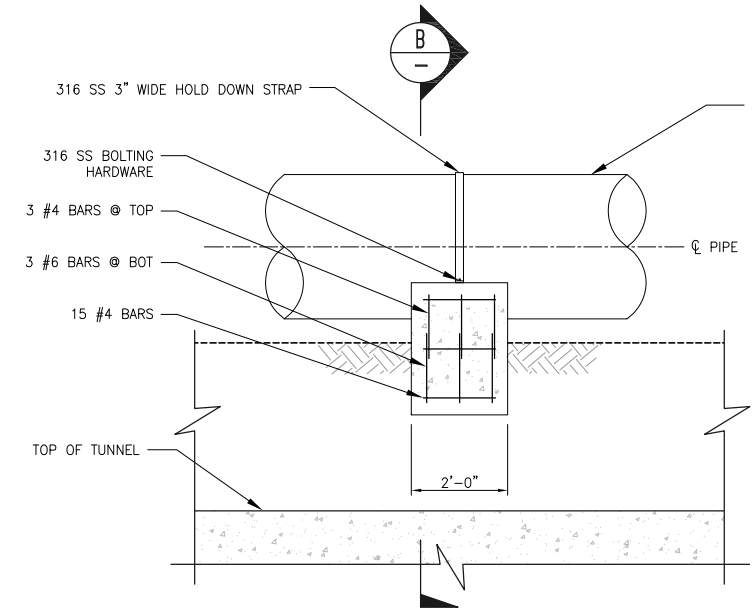
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SECTION OF PIPELINE CROSSING OVER 1ST STREET TUNNEL
 SCALE: 1"=10'
 A
 3003C17



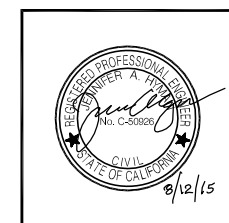
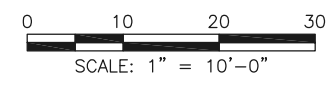
CONCRETE PIPE SUPPORT - SECTION B
 SCALE: N.T.S.



CONCRETE PIPE SUPPORT DETAIL 1
 SCALE: N.T.S.

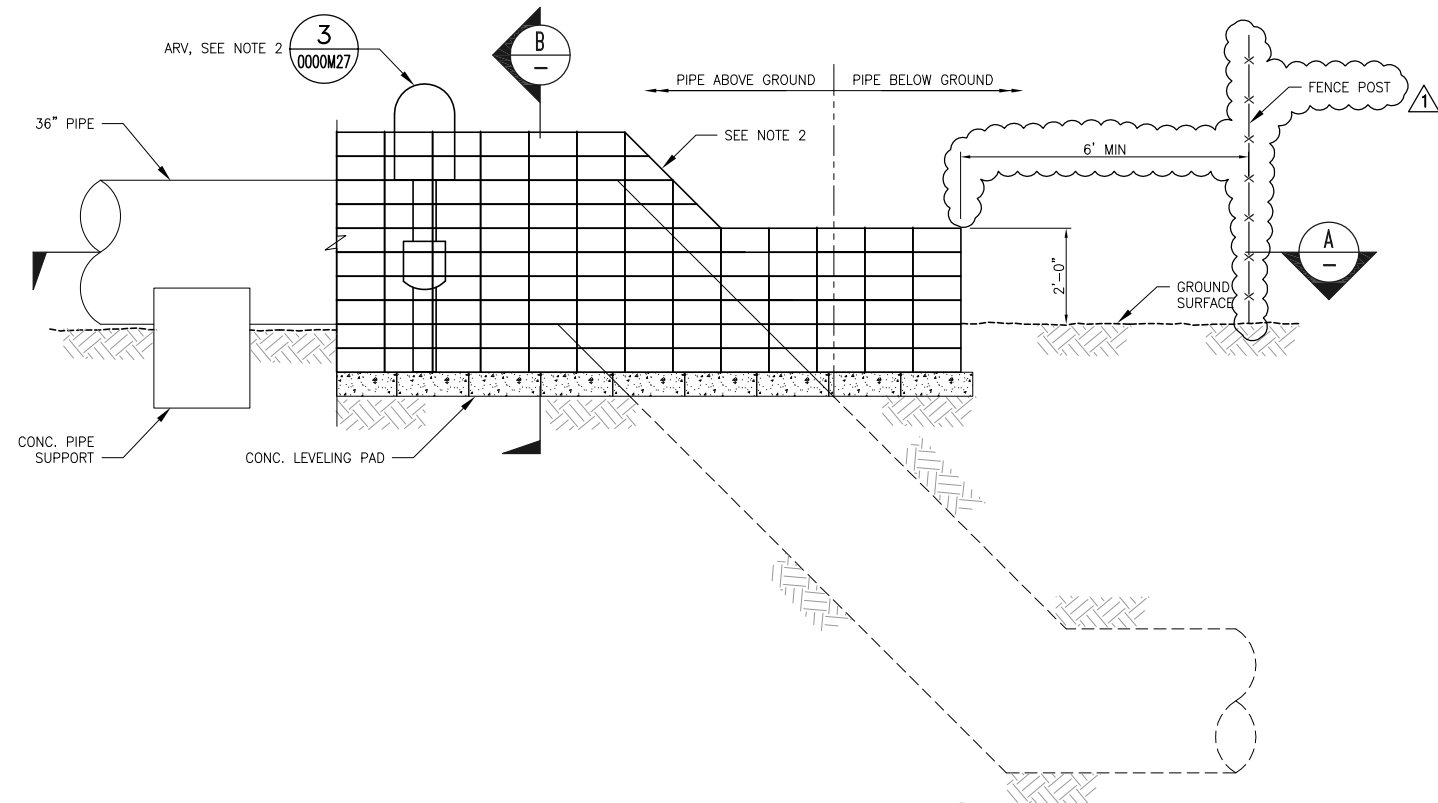
NOTES:

1. COMPACT SOIL TO 90% BELOW AND ADJACENT TO SUPPORT.
2. ADD STRUCTURAL FILL AS NEEDED FOR MIN 2-FT COMPACTED SOIL BETWEEN SUPPORT AND TOP OF TUNNEL.
3. FENCE ENCLOSURE SHALL:
 - a. BE 8-FT HIGH AND 18-FT WIDE
 - b. POLY-COATED CHAIN LINK
 - c. LOCKING 6-FT GATE ON EACH END
 - d. 4 STRANDS OF BARBED WIRE ON TOP ALL AROUND
4. INSTALL DECORATIVE RETAINING WALL AROUND ABOVE GROUND PIPE.
5. FOR SITE LAYOUT SHOWING EXTENT OF FENCE. SEE SHEET 3003C17.A IN THE TRANSFER PIPELINE PLAN SET.

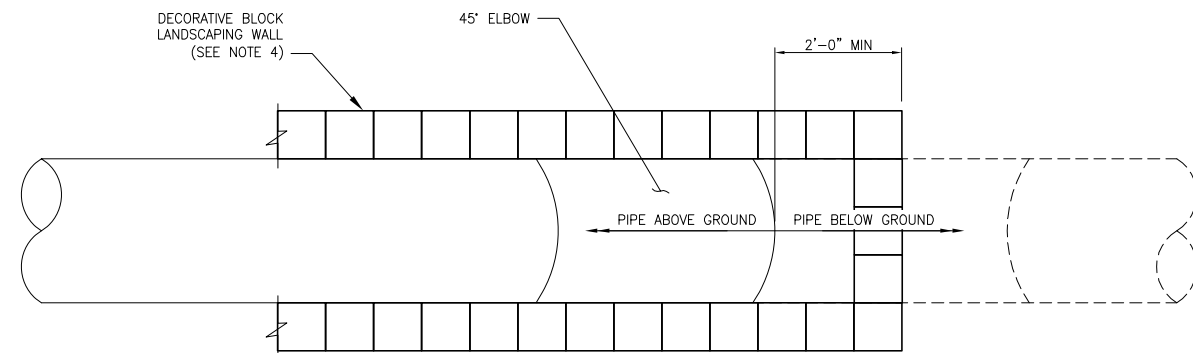
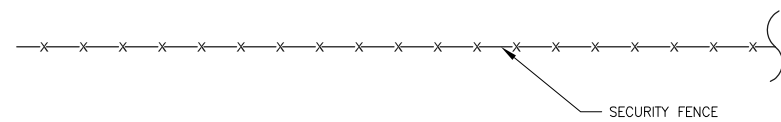


REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS 1ST STREET TUNNEL OVER CROSSING - 1
	CALIFORNIA AMERICAN WATER
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	
DATE AUGUST 2015 PROJECT 60424498	
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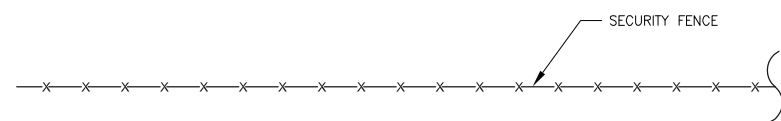
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DECORATIVE WALL TYPICAL END DETAIL
 SCALE: N.T.S.

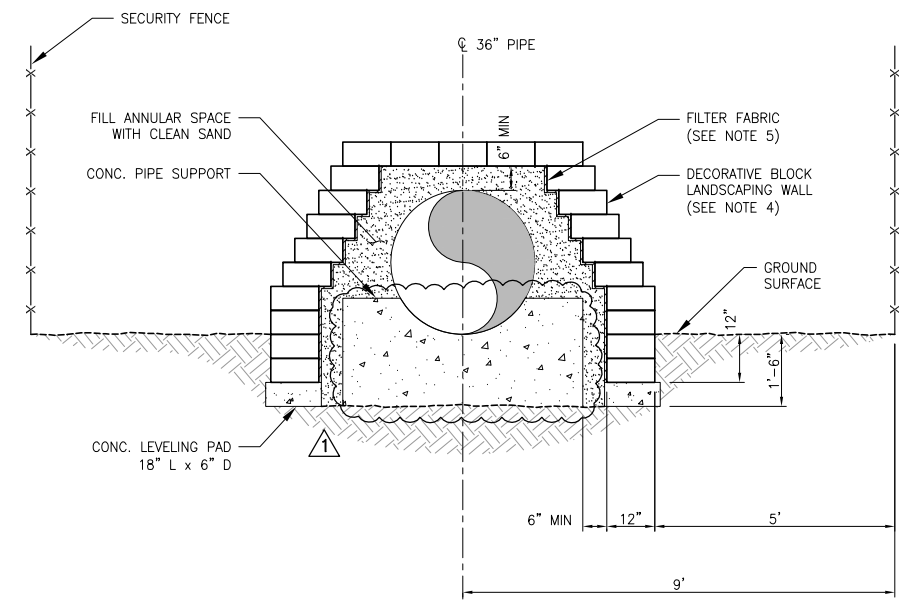


DECORATIVE WALL SECTION
 SCALE: N.T.S.

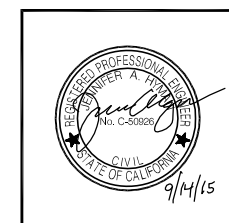


NOTES:

1. INSTALL LEVELING PAD A MIN 1'-0" FROM END OF ABOVE GRADE PIPE.
2. CUT BLOCKS TO MATCH SLOPE OF PIPELINE.
3. PROVIDE OPENING FOR AIR RELEASE VALVE. VALVE ASSEMBLY SHALL BE UNBURIED.
4. WALL SHALL BE ANCHOR BLOCK WALL, HIGHLAND STONE RETAINING WALL, 6" MEDIUM UNIT, SAND COLOR.
5. PLACE FILTER FABRIC DIRECTLY BEHIND THE WALL EXTENDING FROM BOTTOM OF THE BASE COURSE TO THE MIDDLE OF THE TOP COURSE.
6. FOR SITE LAYOUT SHOWING EXTENT OF FENCE. SEE SHEET 3003C17.A IN THE TRANSFER PIPELINE PLAN SET.

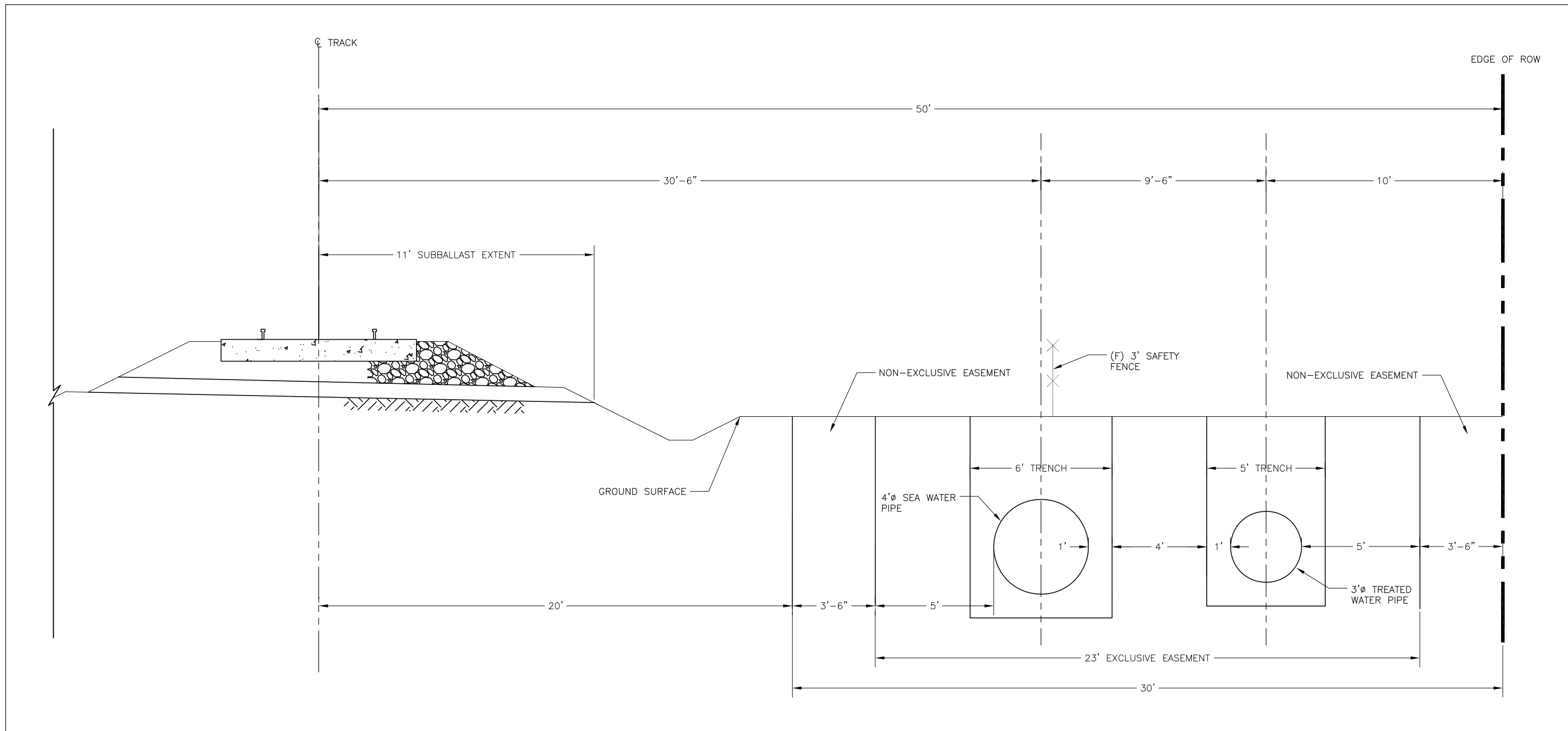


DECORATIVE WALL SECTION
 SCALE: N.T.S.



REVISIONS			TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS 1ST STREET TUNNEL OVER CROSSING - 2	
1	BID ADDENDUM 1	9/14/15	JAH	
CALIFORNIA AMERICAN WATER				
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612		AECOM		
DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498		USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES				0000C71

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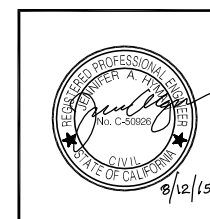


TYPICAL TAMC SECTION - DUAL PIPES

SECTION A
SCALE: NTS

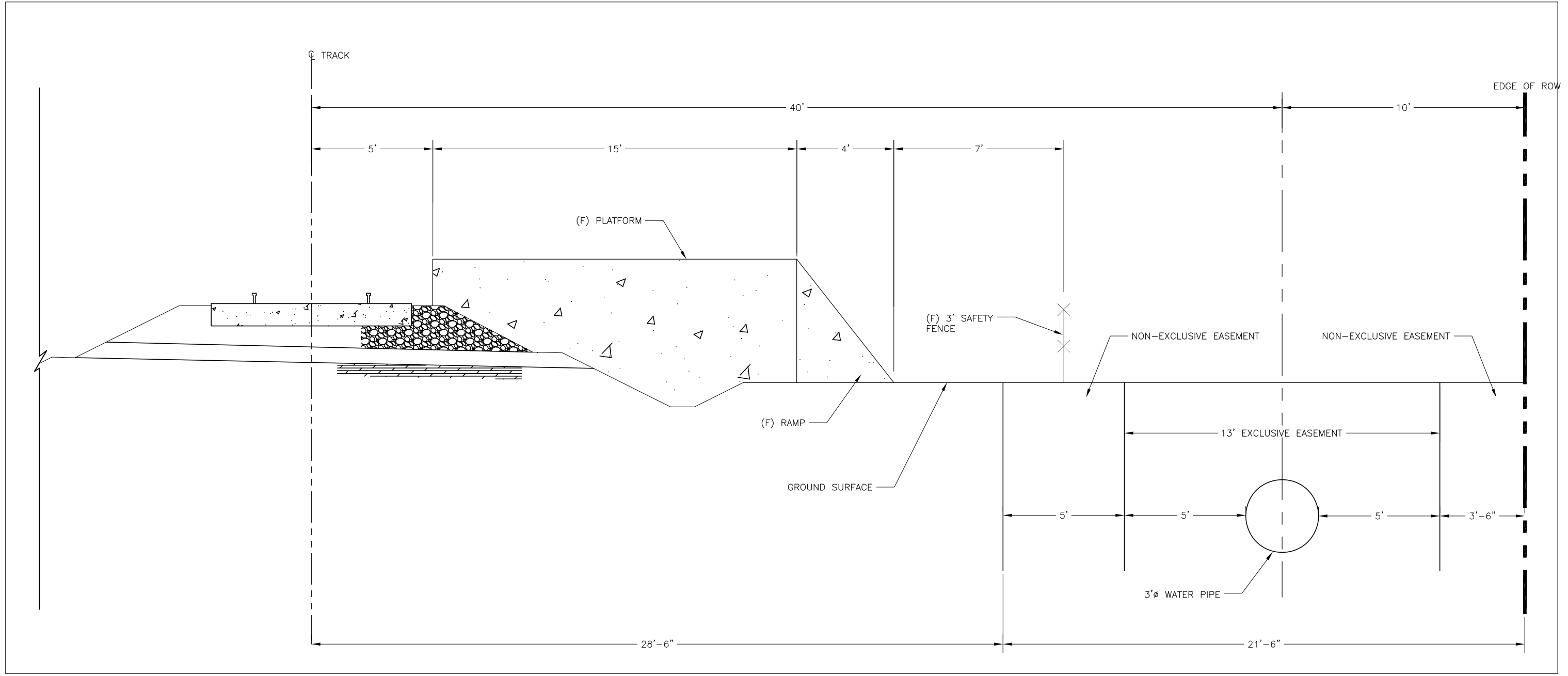
NOTES:

1. 4 FEET TYPICAL COVER OVER PIPE
2. PIPES MUST BE INSTALLED IN SEPARATE TRENCHES PER CDPH REQUIREMENTS.



REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS TYPICAL TAMC SECTION DUAL PIPES	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENGR J. HYMAN APPROVED C. SMITH	
		DATE AUGUST 2015 PROJECT 60424498
		USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000C81

\\1575SR-PR01\Projects\CAW_Design\26818629\6000_Design\6100_CAD\Work\Kevin\2015-04-29_Details\10000000C82.dwg Kevin Lee Aug 14, 2015 - 11:19am

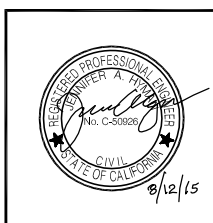


TYPICAL TAMC RAIL STATION PLATFORM

NOTES:

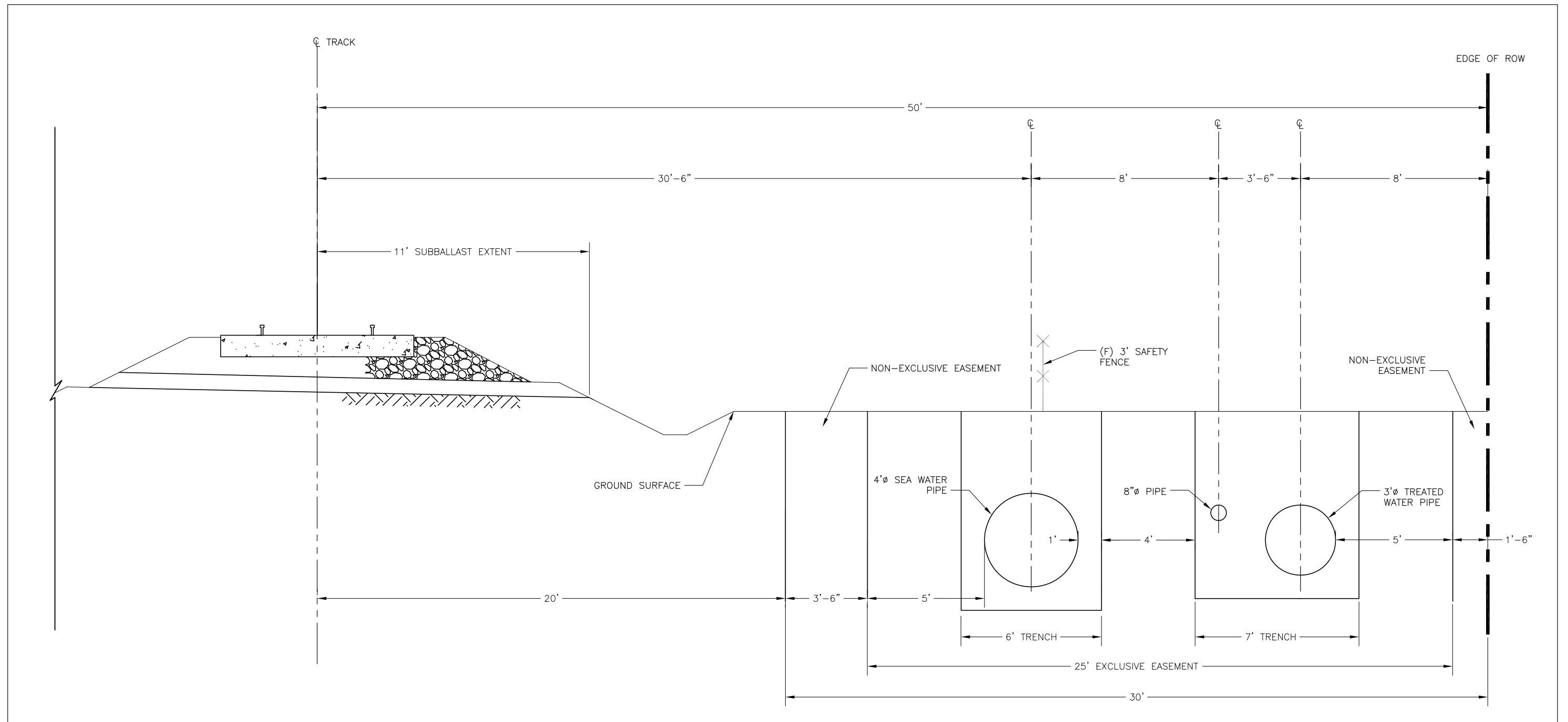
- 1. 4 FEET TYPICAL COVER OVER PIPE

SECTION A
SCALE: NTS



	TRANSMISSION MAINS FOR MPWSP CIVIL PIPELINE DETAILS TYPICAL TAMC RAIL STATION PLATFORM
	CALIFORNIA AMERICAN WATER
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH
	DATE AUGUST 2015 PROJECT 60424498
	USE DIMENSIONS ONLY SCALE AS SHOWN
REVISIONS	USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES
	0000C82

\\1575SR-PRJ01\Projects\CAW_Design\26818629\6000_Design\6100_CAD\Work\Kevin\2015-04-29_Details\10000000C83.dwg Kevin Lee Aug 14, 2015 - 11:19am

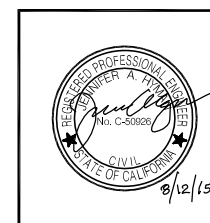


TYPICAL TAMC SECTION - THREE PIPES

SECTION A
SCALE: NTS

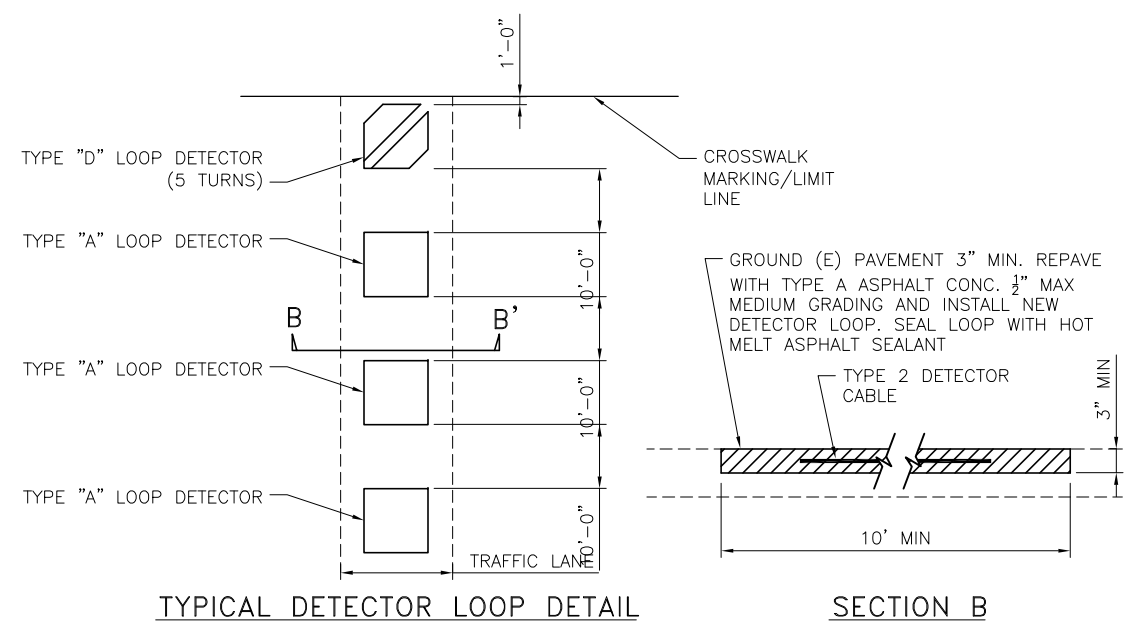
NOTES:

1. 4 FEET TYPICAL COVER OVER PIPE
2. SEA WATER PIPE MUST BE INSTALLED IN A SEPARATE TRENCH FROM POTABLE WATER PER CDPH REQUIREMENTS.



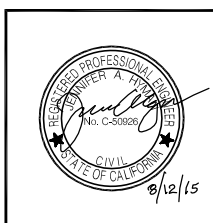
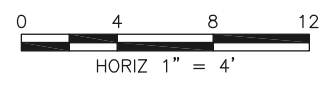
REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL TAMC ROW DETAIL TYPICAL TAMC SECTION THREE PIPES
	CALIFORNIA AMERICAN WATER
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH
DATE AUGUST 2015 PROJECT 60424498	USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES	
0000C83	

\\1575SR-PR01\Projects\CAW_Desig_26818629\6000_Design\6100_CAD\Work\Kevin\2015-04-29_Details\10000000C90.dwg Kevin Lee Aug 14, 2015 - 11:19am



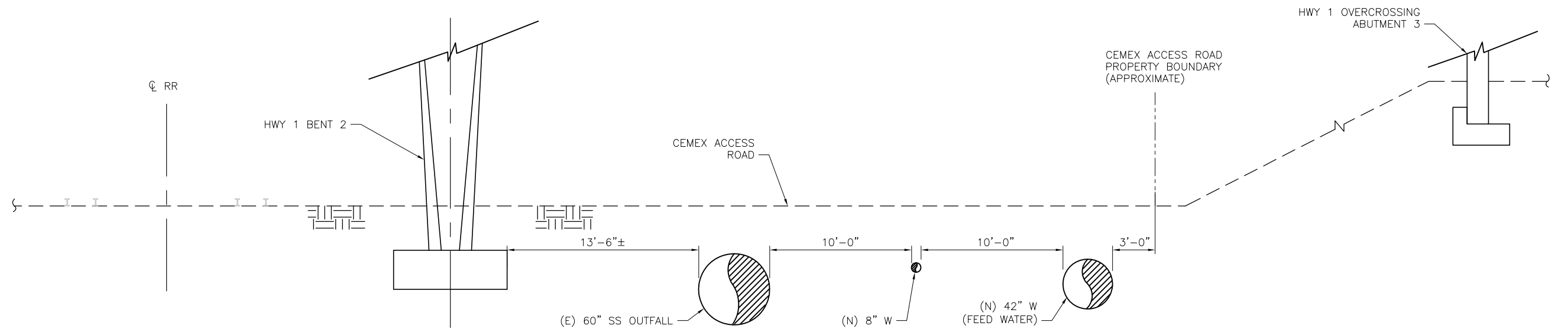
NOTES:

1. DEPTH OF EXISTING UTILITIES UNKNOWN AT THIS TIME.



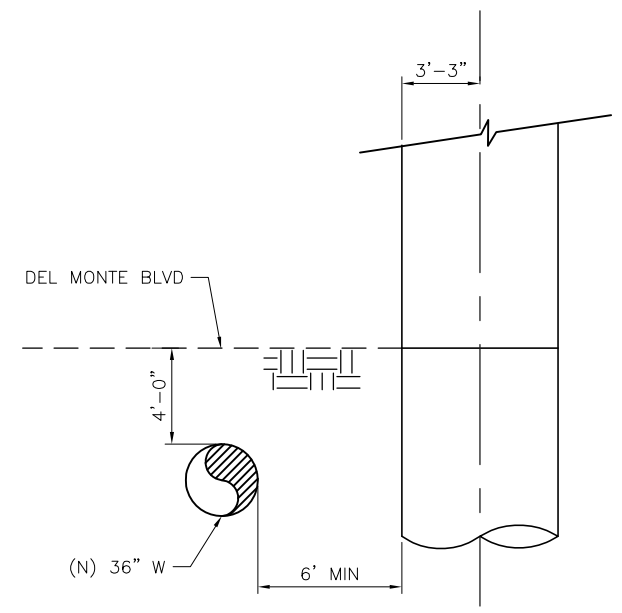
REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL TYPICAL DETAILS CALTRANS CROSSING DETAILS-1	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY C. SOMERA PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000C90

\\1575SR-PR01\Projects\CAW_Design\6000_Design\6100_CAD\Work\Kevin\2015-04-29_Details\1000000C91.dwg Kevin Lee Aug 14, 2015 - 11:19am



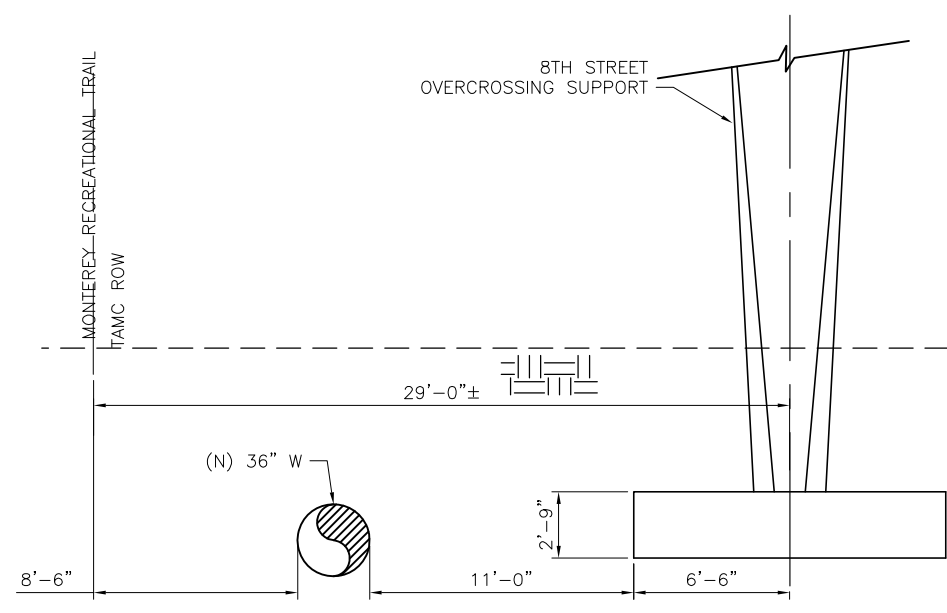
FEED WATER PIPELINE, HWY 1 OC
 SECTION (SITE 1) 1
 SCALE: HORIZ 1"=4' 6006C02

SECTION DETAIL OF WATERLINE INSTALLATION NEAR CALTRANS HWY 1 OVERCROSSING ON CEMEX ACCESS RD.



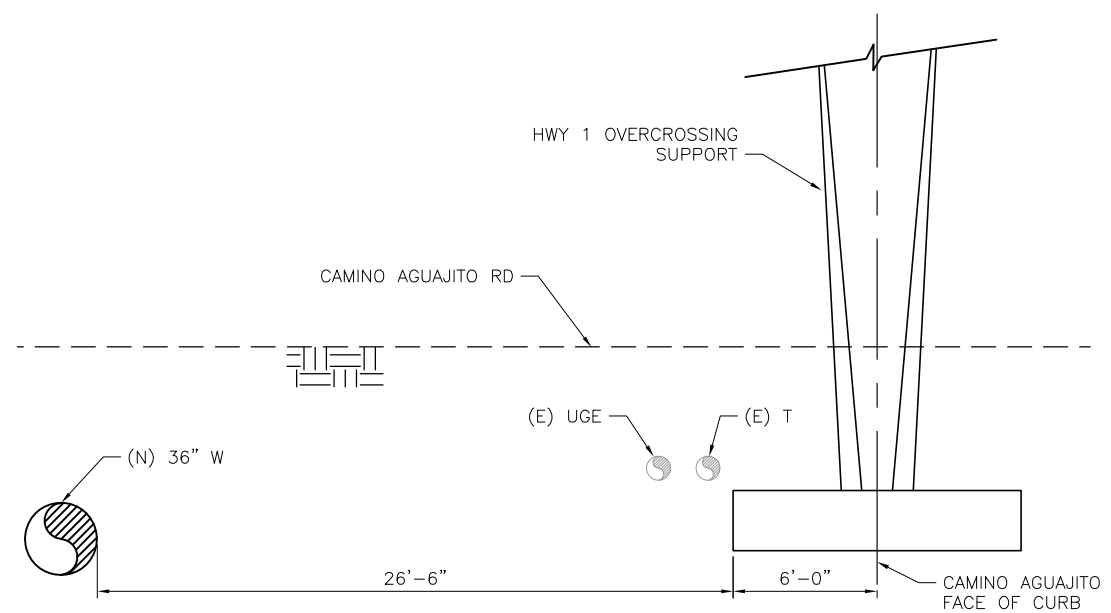
TRANSFER PIPELINE, HWY 1 OC
 SECTION (SITE 2) 2
 SCALE: HORIZ 1"=4' 3003C12

SECTION DETAIL OF WATERLINE INSTALLATION NEAR CALTRANS SOUTH MARINA OVERHEAD HWY 1 BRIDGE SUPPORT FOOTING (TYP)



TRANSEER PIPELINE, 8TH ST OC
 SECTION (SITE 3) 3
 SCALE: HORIZ 1"=4' 3003C04

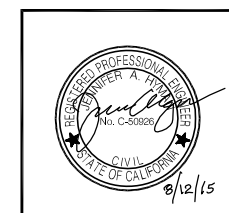
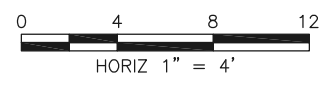
SECTION DETAIL OF WATERLINE INSTALLATION NEAR CALTRANS 8TH STREET OVERCROSSING SUPPORT FOOTING.



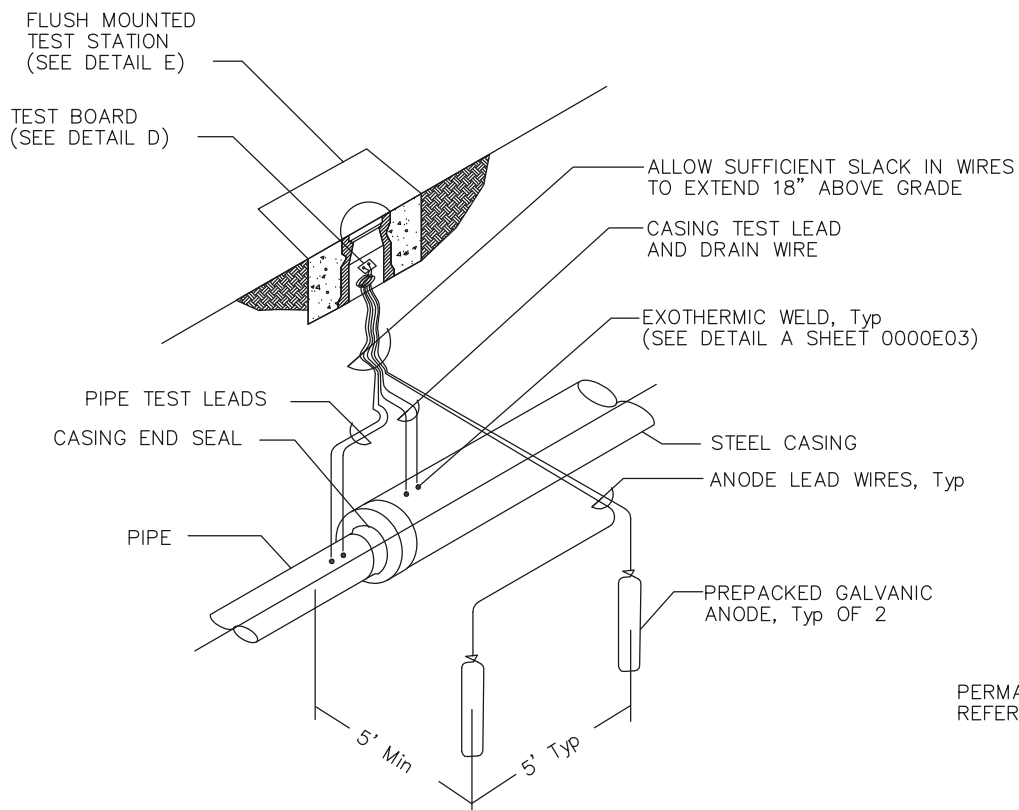
MONTEREY PIPELINE, HWY 1 AT CAMINO AGUAJITO RD SECTION (SITE 9) 4
 SCALE: HORIZ 1"=4' 1001C23

SECTION DETAIL OF WATERLINE INSTALLATION NEAR CALTRANS AGUAJITO ROAD UNDERCROSSING SUPPORT FOOTING.

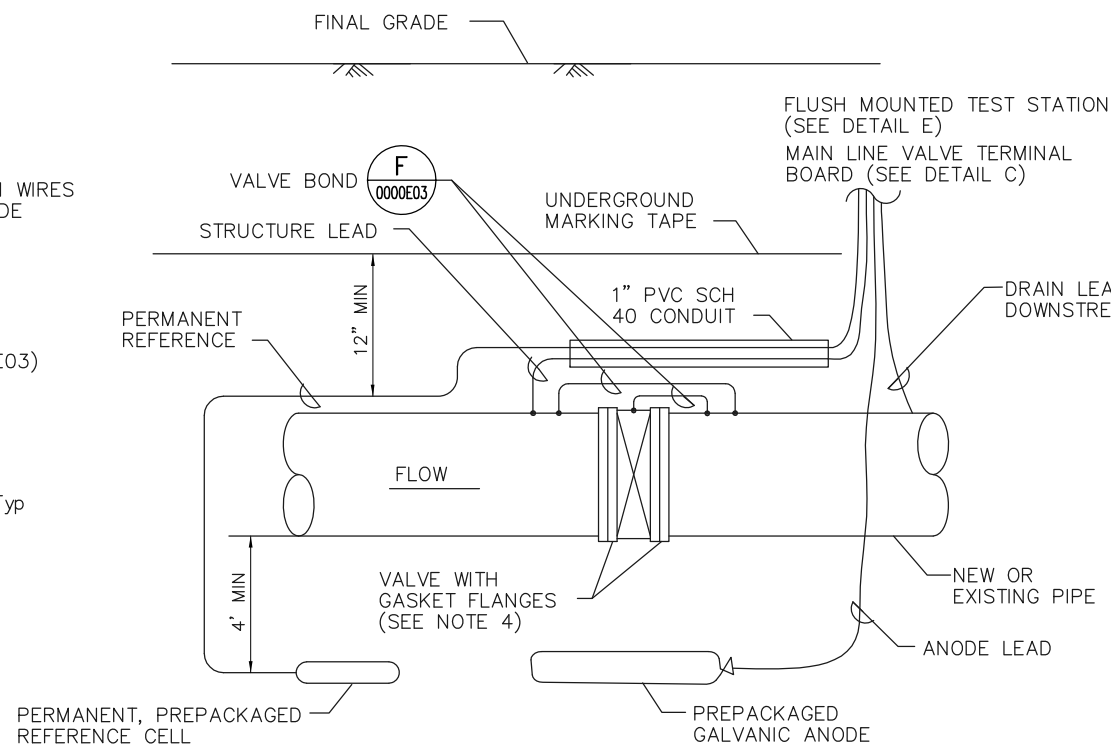
- NOTES:**
- DEPTH OF EXISTING UTILITIES UNKNOWN AT THIS TIME.



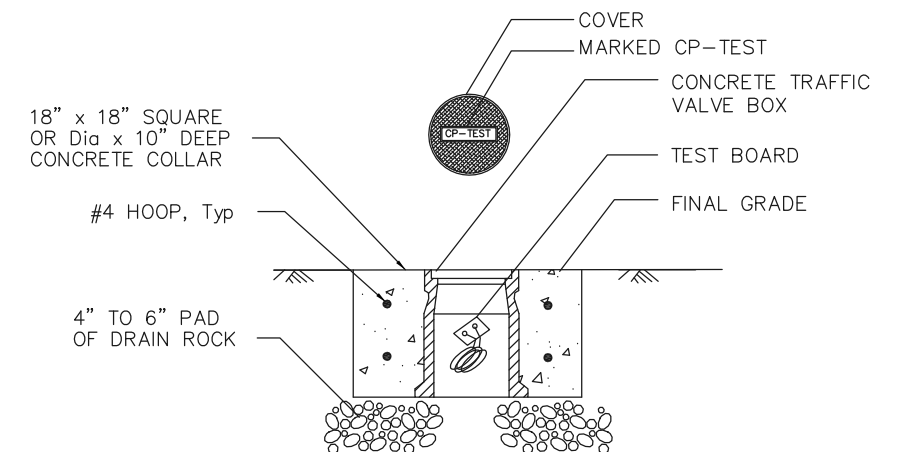
REVISIONS	TRANSMISSION MAINS FOR MPWSP CIVIL TYPICAL DETAILS CALTRANS CROSSING DETAIL - 2	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	AECOM
	DRAWN BY C. SOMERA PROJECT ENGR J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000C91



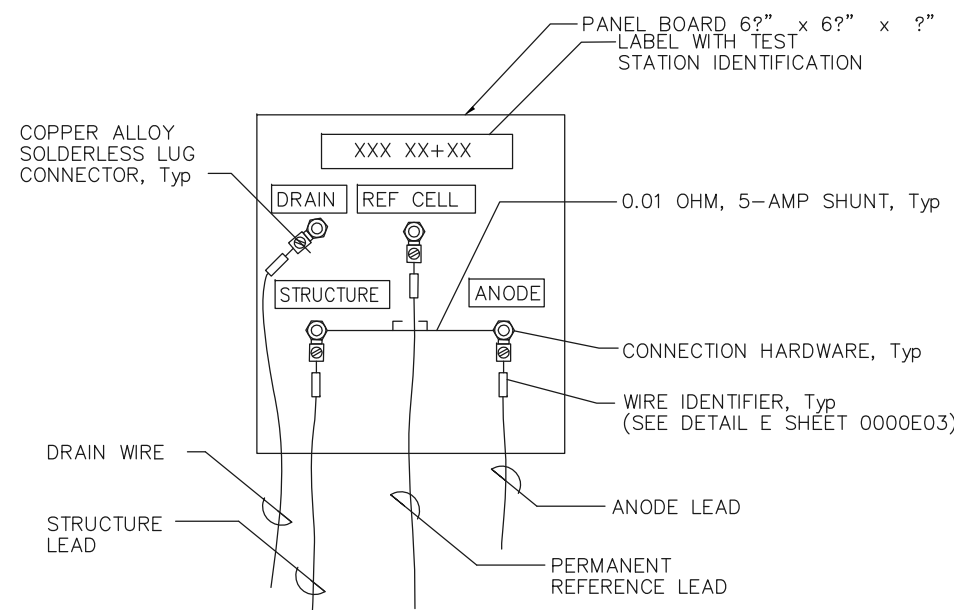
CASING ANODE TEST STATION (A)
SCALE: NTS



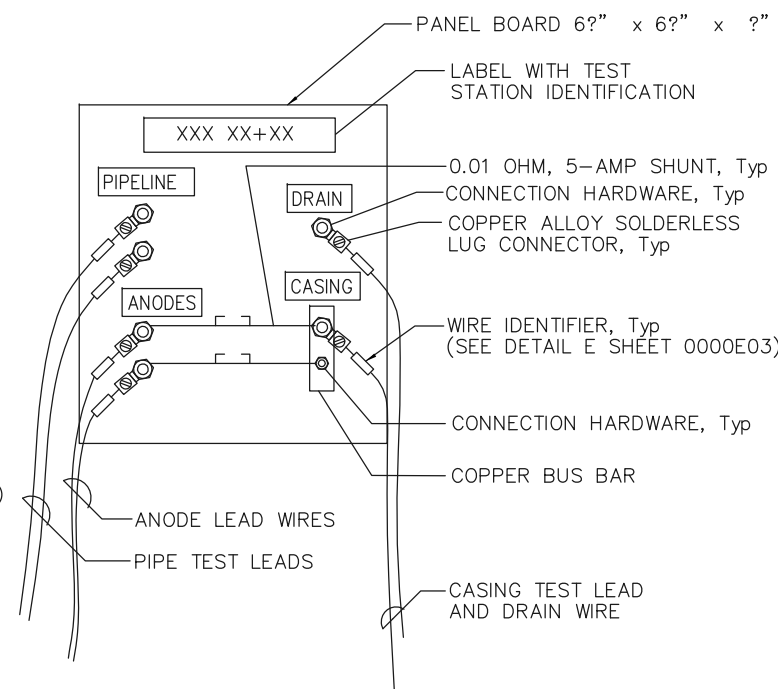
MAINLINE VALVE PIPELINE AND ANODE TEST STATION (B)
SCALE: NTS



FLUSH MOUNTED TEST STATION (E)
SCALE: NTS



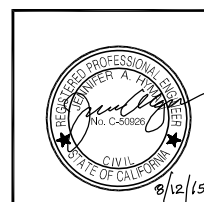
MAINLINE VALVE TEST BOARD (C)
SCALE: NTS



CASING ANODE TEST STATION TEST BOARD (D)
SCALE: NTS

NOTES:

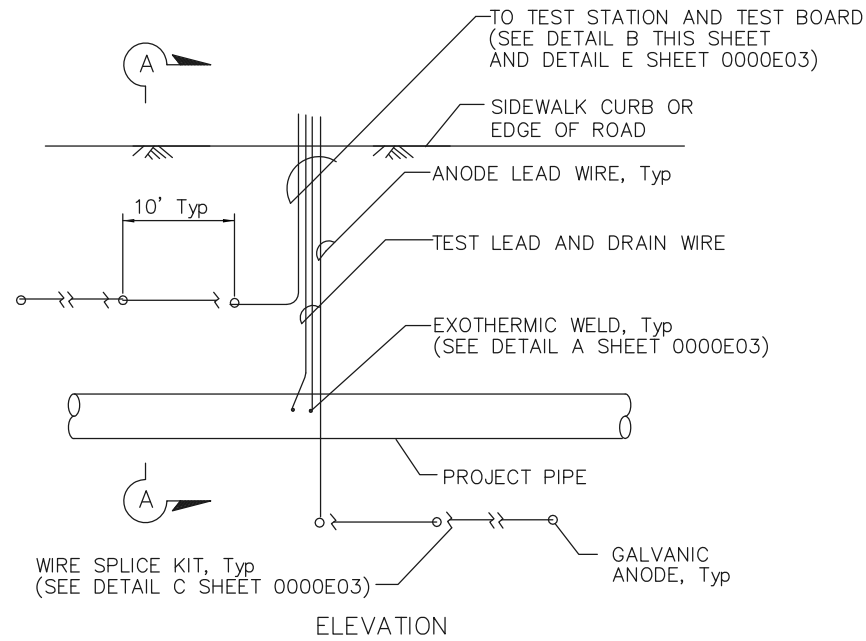
1. PLACE LEADS IN SCHEDULE 40 PVC CONDUIT IF RUN HORIZONTALLY AND/OR INSTALLED LESS THAN 48" BELOW FINISHED GRADE.
2. LOCATIONS OF ANODES AND TEST STATIONS MAY BE ALTERED TO AVOID BELOW-GRADE OBSTRUCTIONS. ANODES SHALL NOT BE PLACED WITHIN TEN FEET OF FOREIGN METALLIC STRUCTURES.
3. FLOOD ANODE WITH MINIMUM OF 10 GALLONS OF WATER BEFORE BACKFILLING WITH NATIVE SOIL ONLY.
4. PROVIDE POLYWRAP TO VALVE PER SPEC 02565.



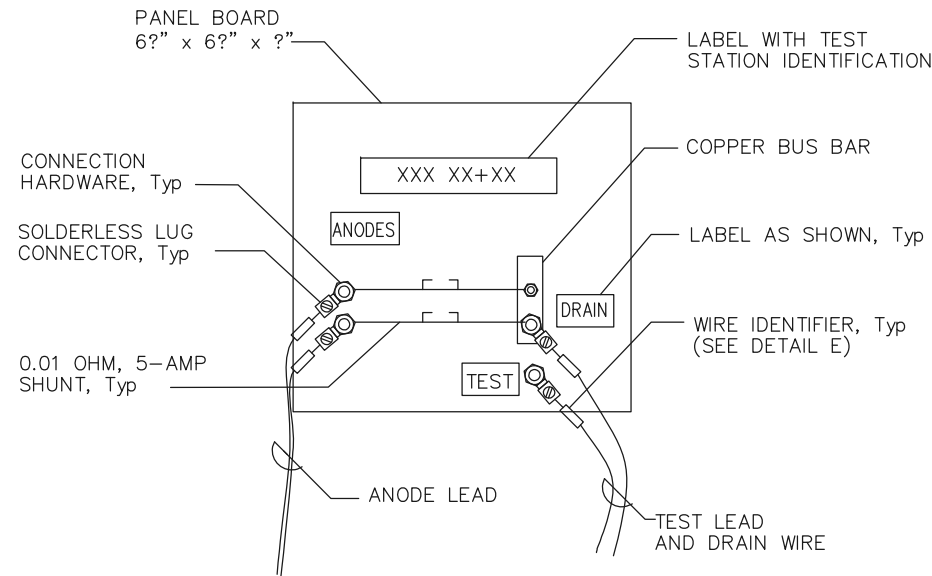
REVISIONS	TRANSMISSION MAINS FOR MPWSP ELECTRICAL PIPELINE DETAILS CORROSION CONTROL DETAILS-1	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	AECOM <small>CALIFORNIA AMERICAN WATER</small>
	DRAWN BY N. HUTTON PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
	USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES	
	0000E01	

NOTES:

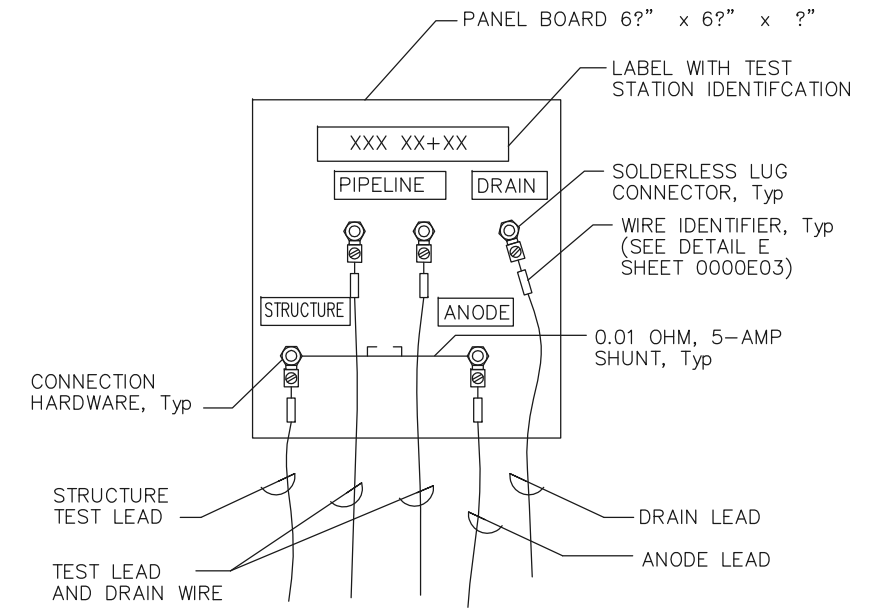
1. PLACE LEADS IN SCHEDULE 40 PVC CONDUIT IF RUN HORIZONTALLY AND/OR INSTALLED LESS THAN 48" BELOW FINISHED GRADE.
2. LOCATIONS OF ANODES AND TEST STATIONS MAY BE ALTERED TO AVOID BELOW-GRADE OBSTRUCTIONS. ANODES SHALL NOT BE PLACED WITHIN TEN FEET OF FOREIGN METALLIC STRUCTURES.
3. FLOOD ANODE WITH MINIMUM OF 10 GALLONS OF WATER BEFORE BACKFILLING WITH NATIVE SOIL ONLY.
4. PROVIDE POLYWRAP TO VALVE PER SPEC SECTION 02565.



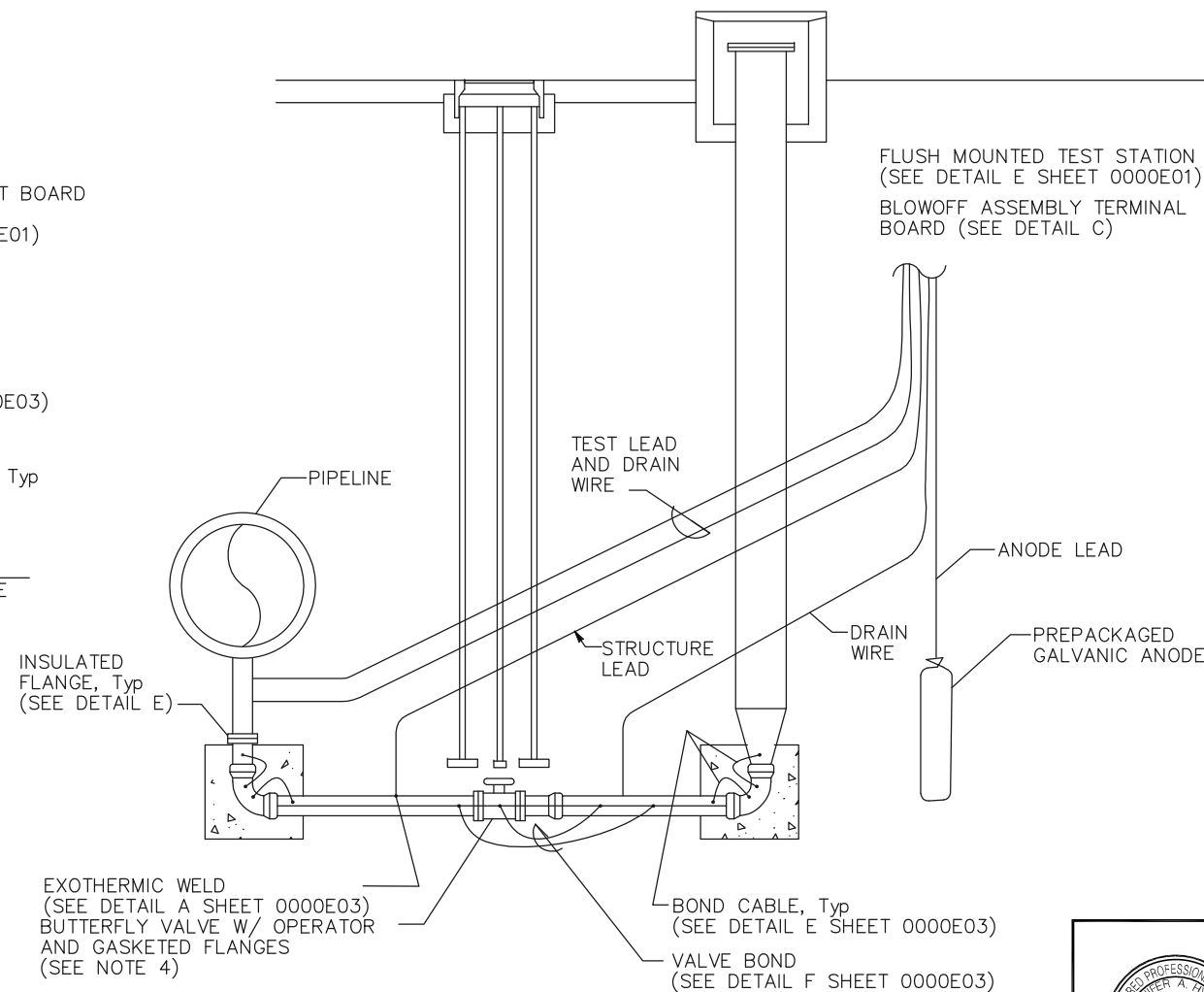
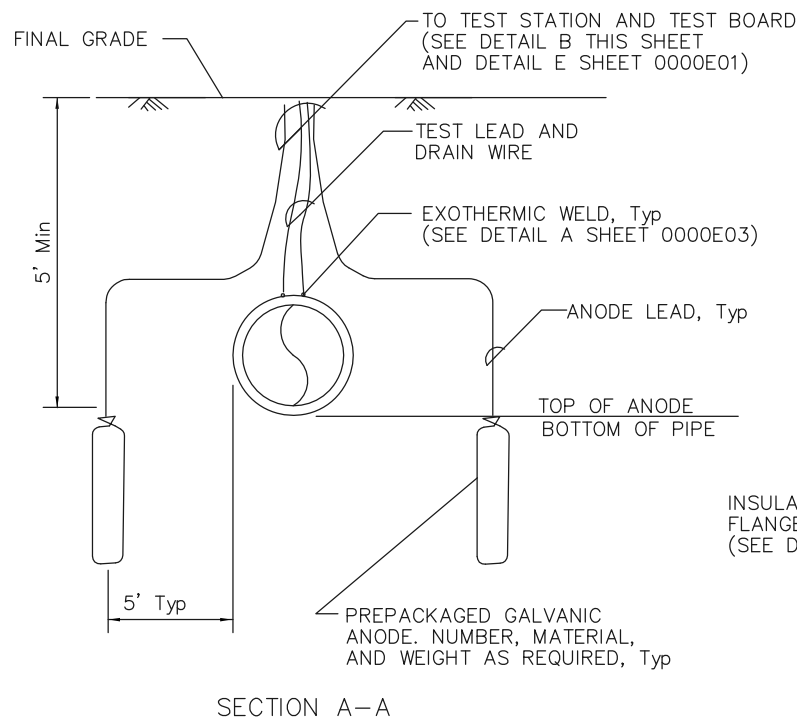
ANODE TEST STATION
SCALE: NTS



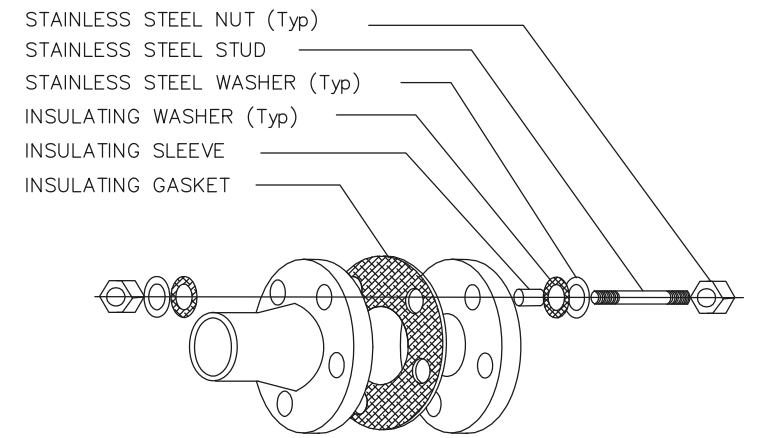
ANODE TEST STATION TEST BOARD
SCALE: NTS



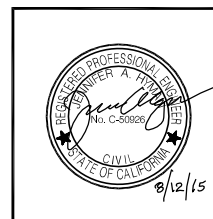
BLOWOFF ASSEMBLY TEST BOARD
SCALE: NTS



BLOWOFF ASSEMBLY TEST STATION
SCALE: NTS

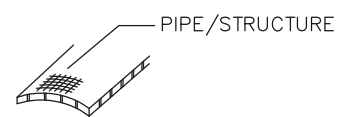


DIELECTRIC INSULATING FLANGE KIT
SCALE: NTS

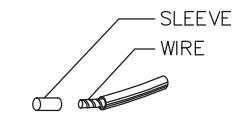


REVISIONS	TRANSMISSION MAINS FOR MPWSP ELECTRICAL PIPELINE DETAILS CORROSION CONTROL DETAILS-2	
	CALIFORNIA AMERICAN WATER	
	AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	AECOM
	DRAWN BY N. HUTTON PROJECT ENG'R J. HYMAN APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
	USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES	0000E02

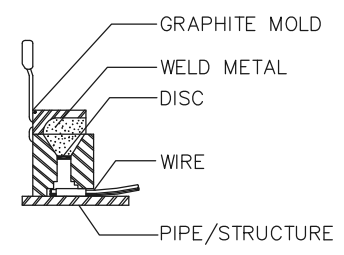
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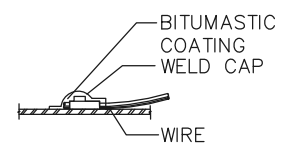
1. FILE PIPE/STRUCTURE TO BARE METAL AND CLEAN SURFACE.



2. STRIP INSULATION FROM WIRE AND ATTACH SLEEVE.

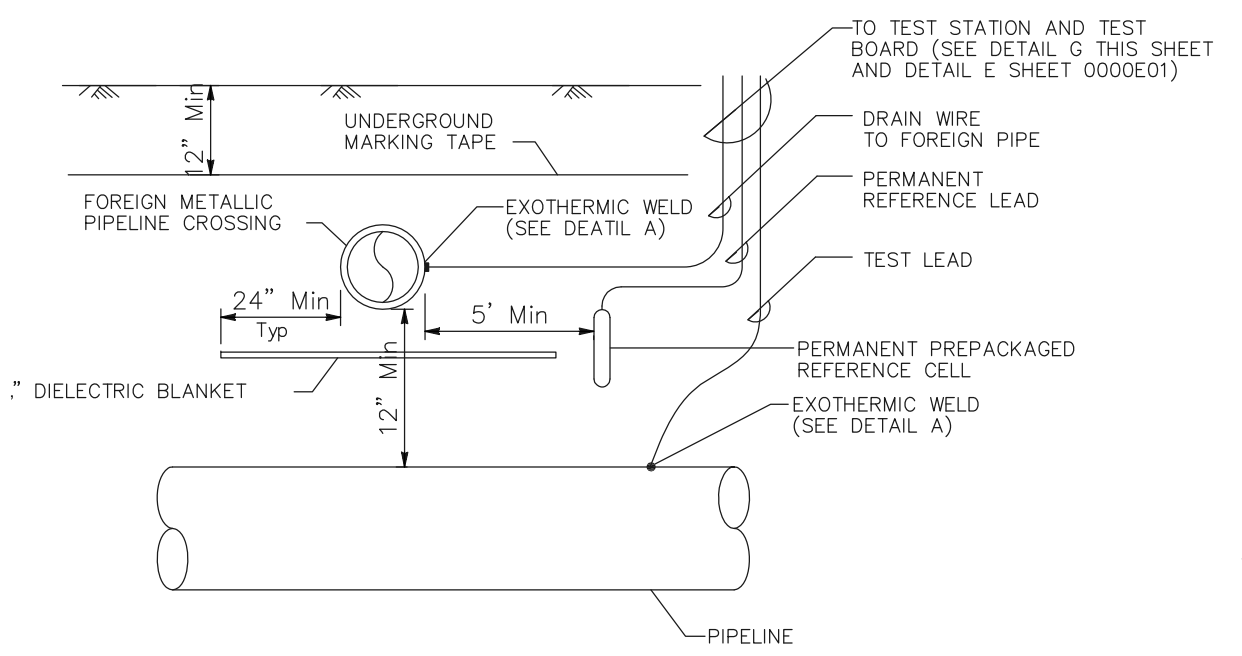


3. HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR. IGNITE WITH FLINT GUN. REMOVE SLAG FROM CONNECTION WITH CHIPPING HAMMER.

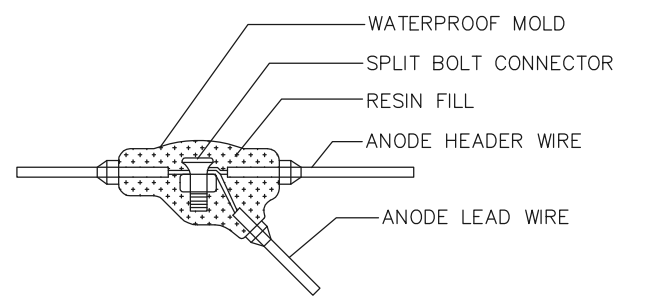


4. COVER CONNECTION WITH BITUMASTIC COATING OVER ALL EXPOSED METAL, PLACE WELD CAP OVER CONNECTION. REPAIR ALL DAMAGE TO COATING AND LINING IN ACCORDANCE WITH MFG RECOMMENDATIONS.

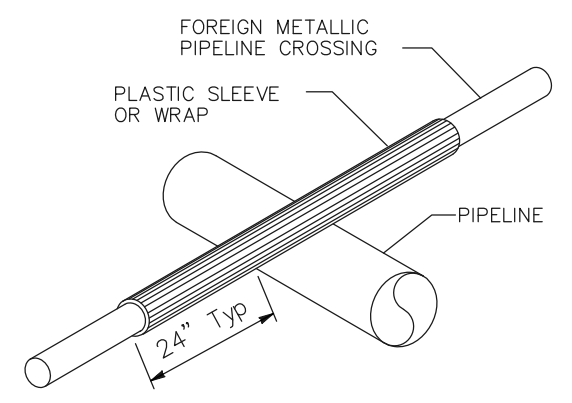
EXOTHERMIC WELD
SCALE: NTS



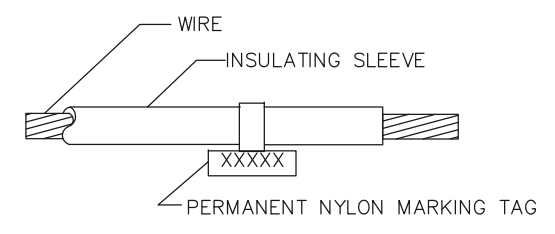
PIPE CROSSING TEST STATION
SCALE: NTS



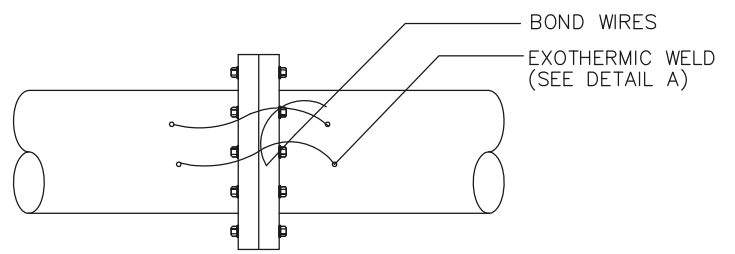
WIRE SPLICE KIT
SCALE: NTS



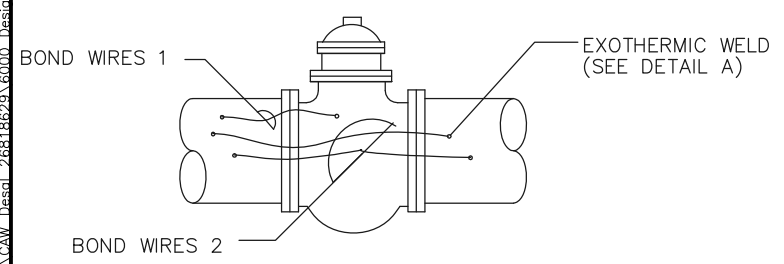
DIELECTRIC SLEEVE/WRAP
SCALE: NTS



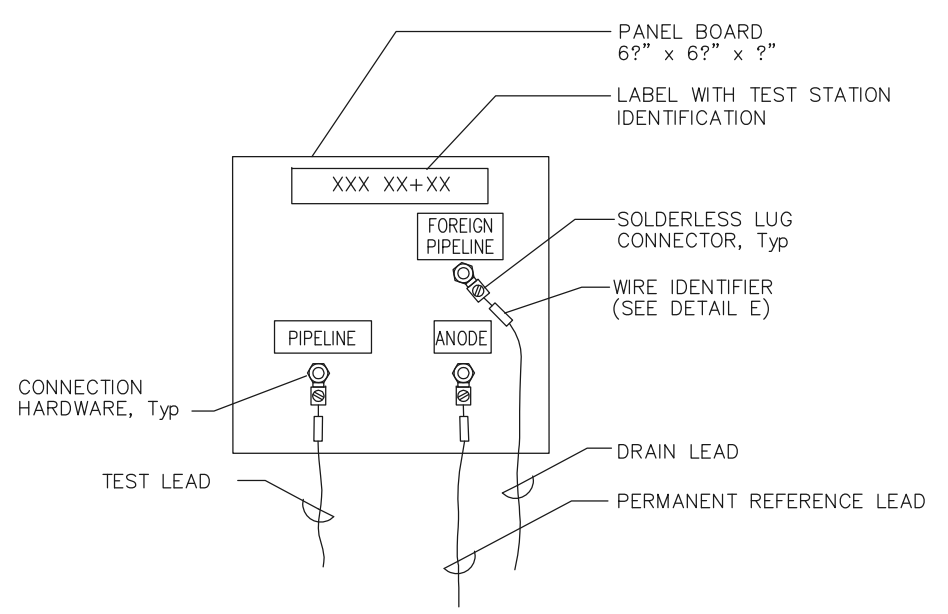
WIRE IDENTIFIER
SCALE: NTS



FLANGE JOINT BOND
SCALE: NTS



VALVE BOND
SCALE: NTS

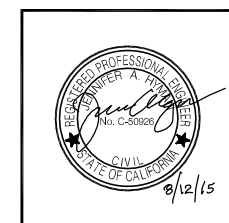


PIPE CROSSING TEST BOARD
SCALE: NTS



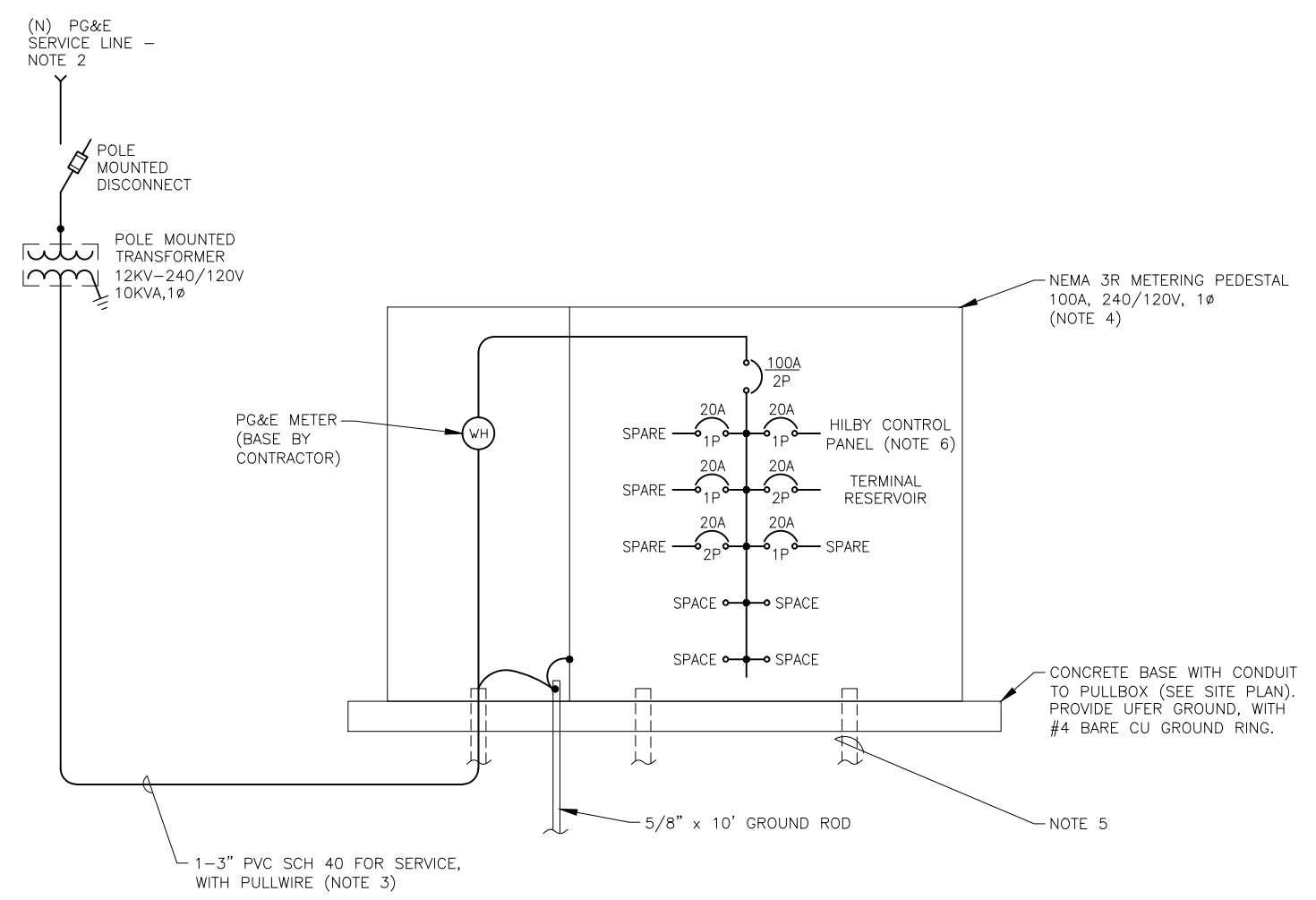
NOTES:

1. PLACE LEADS IN SCHEDULE 40 PVC CONDUIT IF RUN HORIZONTALLY AND/OR INSTALLED LESS THAN 48" BELOW FINISHED GRADE.
2. LOCATIONS OF ANODES AND TEST STATIONS MAY BE ALTERED TO AVOID BELOW-GRADE OBSTRUCTIONS. ANODES SHALL NOT BE PLACED WITHIN TEN FEET OF FOREIGN METALLIC STRUCTURES.
3. FLOOD ANODE WITH MINIMUM OF 10 GALLONS OF WATER BEFORE BACKFILLING WITH NATIVE SOIL ONLY.
4. DIELECTRIC BLANKET SHALL BE INSTALLED AS CLOSE TO THE MID-POINT BETWEEN THE TWO LINES AS POSSIBLE.
5. EXTEND DIELECTRIC BLANKET 24" BEYOND THE DIAMETER OF THE LARGEST PIPELINE.
6. ANY FOREIGN METALLIC PIPE, COATED, UNCOATED, OR CONCRETE PIPE WITH STEEL REINFORCING CROSSING THE AQUEDUCT WITHIN A DISTANCE OF 5 FEET MUST PROVIDE THE PROTECTION AS SHOWN.
7. FOREIGN PIPELINES INCLUDE SEWER, NMWD PIPE, GAS, POWER, OR OTHER UTILITY LINES.



REVISIONS		TRANSMISSION MAINS FOR MPWSP ELECTRICAL PIPELINE DETAILS CORROSION CONTROL DETAILS-3	
		CALIFORNIA AMERICAN WATER	
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612		AECOM	
DRAWN BY N. HUTTON PROJECT ENG'R J. HYMAN APPROVED C. SMITH		DATE AUGUST 2015 PROJECT 60424498	USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES			0000E03

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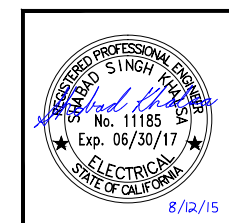


ELECTRICAL NOTES

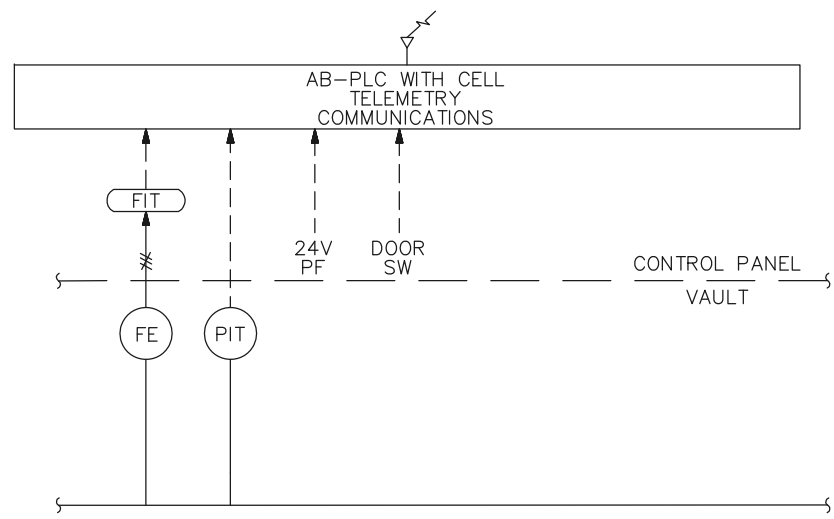
1. SEE SITE PLAN ON SHEET 0000M40 FOR GENERAL ELECTRICAL NOTES.
2. ELECTRICAL SERVICE AND METERING PANEL DRAWINGS SHALL BE SUBMITTED TO OWNER AND PG&E FOR REVIEW AND APPROVAL BEFORE PLACING EQUIPMENT ORDER.
3. CONTRACTOR TO CONFIRM SERVICE CONDUIT SIZE AND ROUTING WITH PG&E. PROVIDE SERVICE CONDUIT AND TRENCH IN ACCORDANCE WITH PG&E REQUIREMENTS.
4. CONTRACTOR SHALL PROVIDE SERVICE PEDESTAL WITH TOTALLY BLANK OUTER PANEL, INTERNAL WATTHOUR METER PROVISIONS, AND DISTRIBUTION PANEL PER PG&E REQUIREMENTS FOR OUTDOOR PANELS. PANEL RATINGS SHALL MEET PG&E FAULT RATING REQUIREMENTS.
5. CONTRACTOR SHALL PROVIDE CONCRETE PANEL BASE, WITH DESIGN FOR SEISMIC AND OVERTURNING CALCULATIONS. PROVIDE 2-1 1/2" PVC SCHEDULE 40 CONDUITS TO 13 x 24-INCH PULLBOX WITH PULLWIRE AND CONDUCTORS AS REQUIRED.
6. HILBY TELEMETRY CABINET CABLE REQUIREMENT: PROVIDE 2#12, #12 GND CU CONDUCTORS. USE 1" CONDUIT FROM PULLBOX TO CABINET.
7. CONDUITS SHALL BE PVC SCHEDULE 40 BELOW GRADE AND RIGID GALVANIZED STEEL ABOVE GRADE, WITH LIQUDTIGHT FLEXIBLE METAL CONDUIT TO FIELD DEVICES (E.G., FLOW METER, PRESSURE TRANSMITTER).

PROJECT POWER PANEL AND METER AT HILBY FLOW METER
SCALE: NONE
SINGLE LINE DIAGRAM

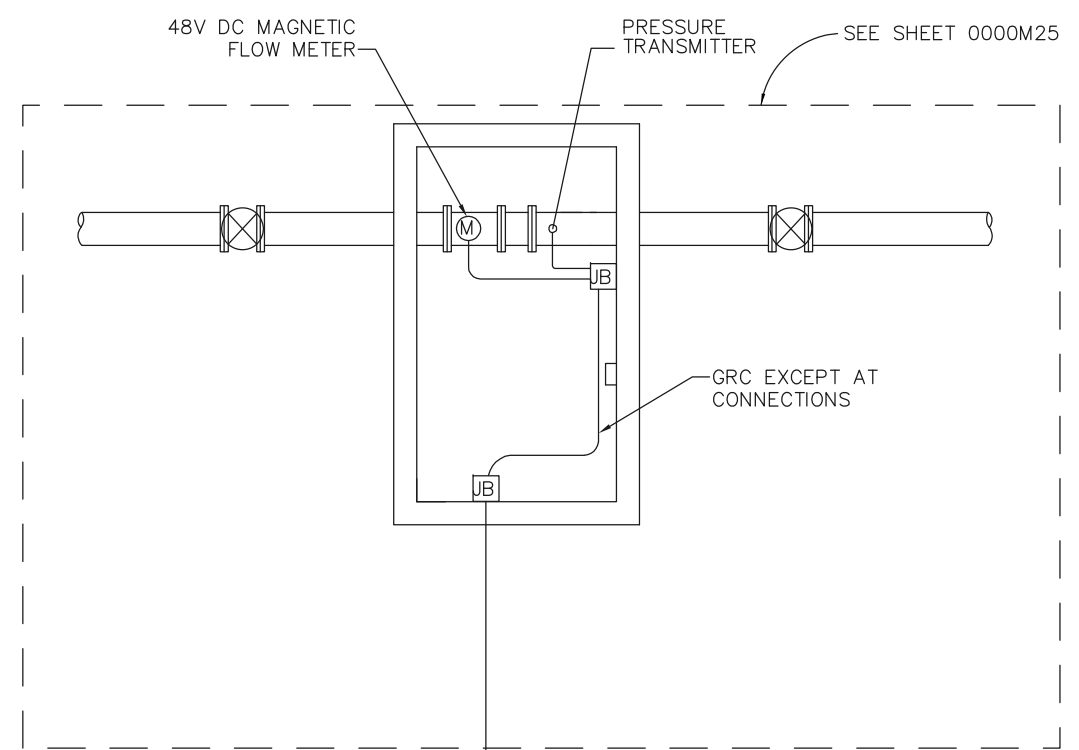
1
0000M40



REVISIONS	TRANSMISSION MAINS FOR MPWSP ELECTRICAL PIPELINE DETAILS SINGLE LINE DIAGRAM	
	CALIFORNIA AMERICAN WATER	
	URS CORPORATION 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612	
	DRAWN BY R. MORRISON PROJECT ENG'R S. SHALSA APPROVED C. SMITH	DATE AUGUST 2015 PROJECT 60424498 USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000E05

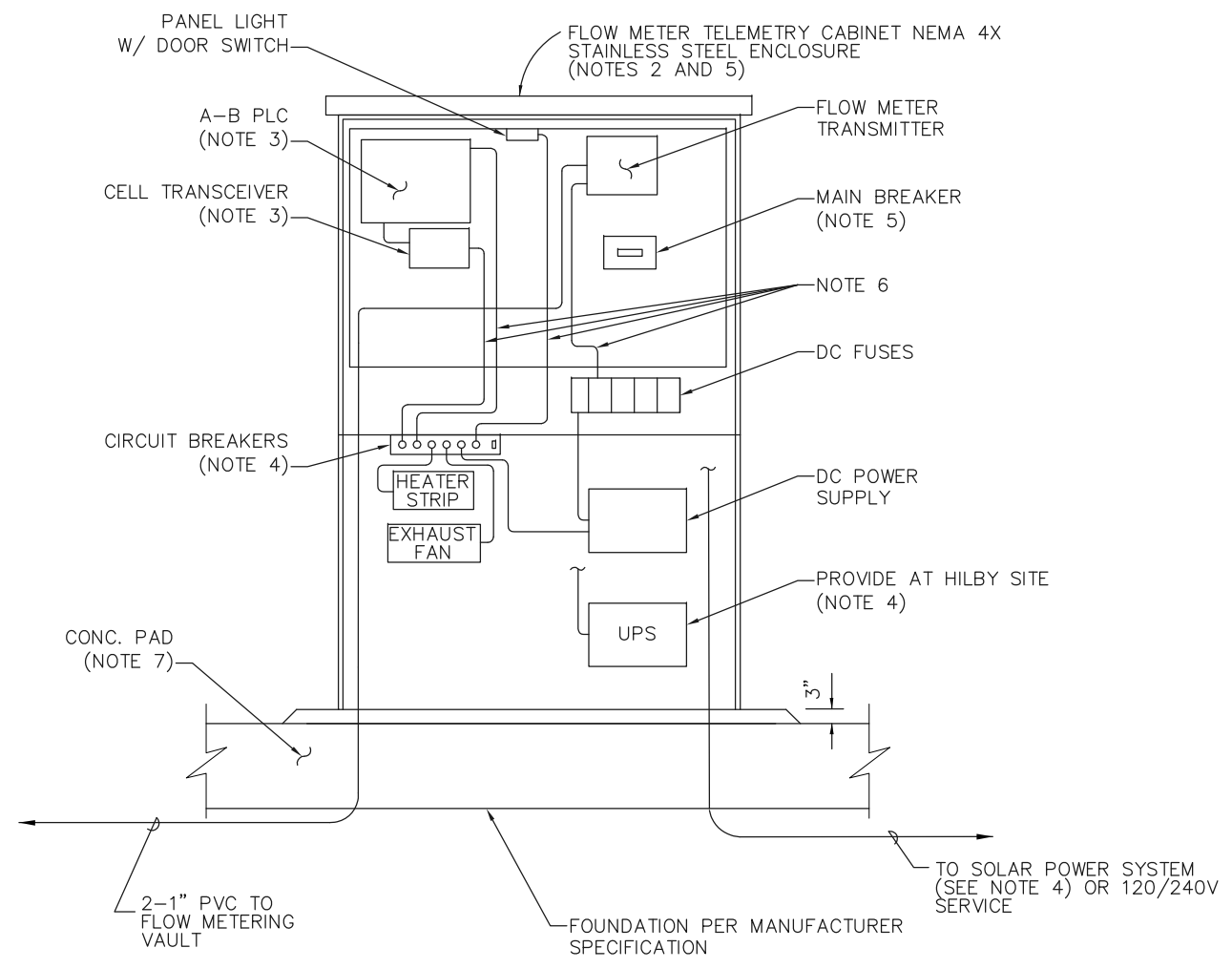


FLOW METERING VAULT P&ID (TYP)
SCALE: NTS



2-1" PVC SCH 40
1: SIGNAL CABLE (BY FLOW METER MFR)
1: 1-TSP #16 (TO PRESSURE TRANSMITTER)

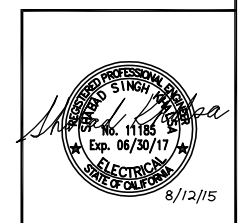
METERING VAULT PLAN
SCALE: NTS



TELEMETRY CABINET ELEVATION
SCALE: NTS

NOTES:

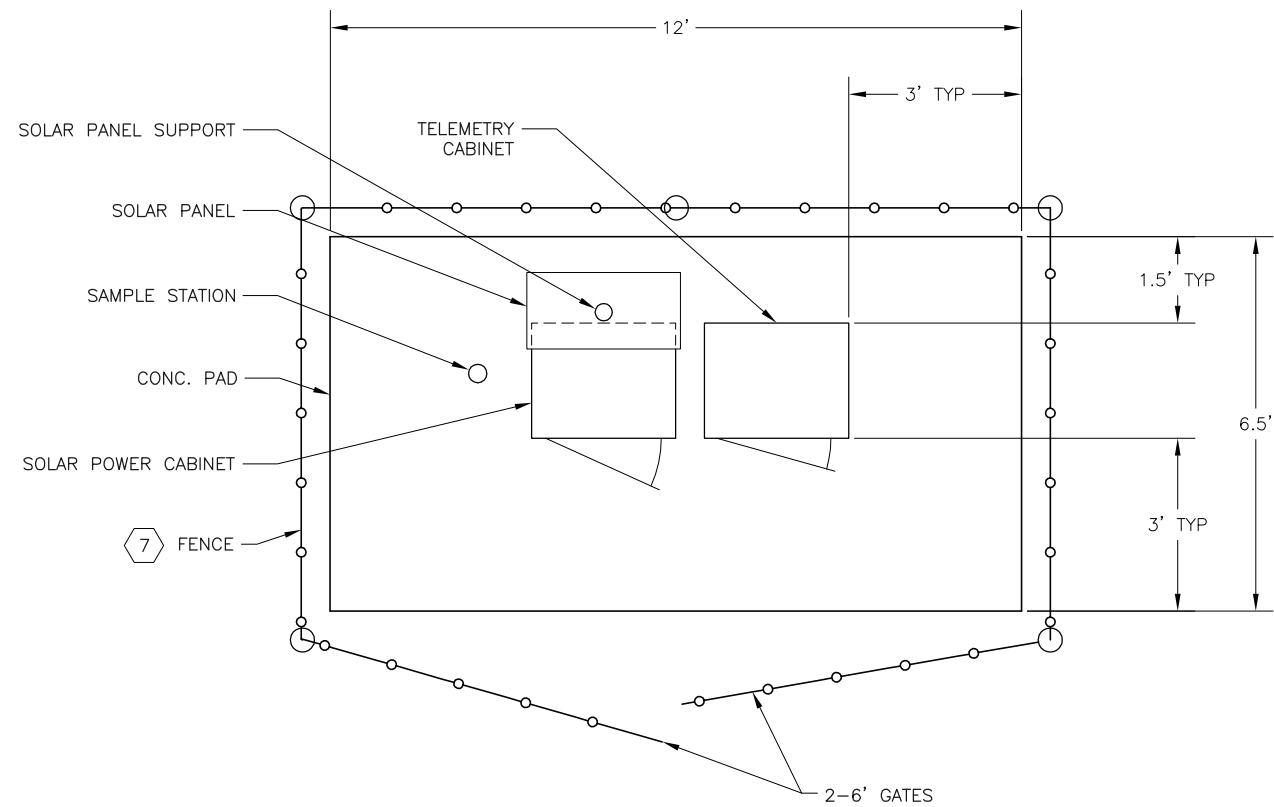
- WHERE REQUIRED, THE SOLAR ELECTRIC GENERATOR SYSTEM SHALL INCLUDE SOLAR MODULES, BATTERY ENCLOSURE FOR CHARGE CONTROLLER AND BATTERIES, MOUNTING HARDWARE, ALL OTHER NECESSARY MATERIALS, AND BE PROVIDED BY A SINGLE SOURCE VENDOR. THE SYSTEM OUTPUT SHALL BE 80 WATTS MINIMUM. THE SOLAR POWER ENCLOSURE SHALL BE FULLY HINGED, NEMA 3R, PADLOCKABLE, CORROSION RESISTANT, AND VENTED.
- THE TELEMETRY ENCLOSURE SHALL BE LOCKABLE, WEATHERPROOF, CORROSION RESISTANT, VENTED, MEASURE APPROXIMATELY 60"H x 30"W x 24"D, AND CONTAIN THE FLOW METER REMOTE TRANSMITTER AND DISPLAY, PANEL MOUNTED LED LIGHT FIXTURE WITH DOOR ACTIVATED SWITCH, AND TRANSFORMER, CONVERTER, AND ALL OTHER EQUIPMENT REQUIRED TO MONITOR FIELD PROCESS AND TRANSMIT SIGNAL OUT.
- CONTRACTOR SHALL PROVIDE ALLEN-BRADLEY PLC FOR FIELD I/O AND COMMUNICATION OUTPUT. CELLULAR TRANSCEIVER SHALL BE SIERRA WIRELESS AIRLINK GX400, BASE MODEL. PROVIDE MOUNTING HARDWARE, POWER SUPPLIES, AND CELLULAR ANTENNA ON ENCLOSURE. SEE SPECIFICATIONS.
- NORTH FLOW METER AND ASR WELLS SHALL HAVE SOLAR PV POWER SYSTEM. HILBY AND CREST PRS SHALL USE 120V POWER FROM NEW PG&E SERVICE. SOLAR POWER SITES MAY USE 48V OR 24V DC FOR PANEL DEVICE POWER. SITES WITH 120V POWER SHALL HAVE UPS FOR BACKUP POWER SUPPLY FOR DC LOADS, E.G., FLOW METER AND CONTROL DEVICES.
- TELEMETRY PANEL SHALL BE PROVIDED WITH BLANK FRONT OUTER PANEL, BLANK INNER PANEL WITH PADLOCKABLE MAIN DISCONNECT, AND INNER BACK PANEL. PROVIDE ALL NFPA WARNING SIGNS AND LABELS. PROVIDE SCREENED VENTS AND HIGH TEMP SWITCH CONTROLLED VENTILATION FAN.
- CONTRACTOR SHALL PROVIDE INTERNAL WIRING AND DEVICES AS REQUIRED. TYPICAL WIRING SHOWN IS FOR DEVICE CALLOUTS AND NOT FOR FINAL WIRING SCHEME.
- AT HILBY FLOW METER, INSTALL CABINET ON CONCRETE PAD EXTENDING 6-IN BEYOND BASE OF CABINET, AND 3-IN ABOVE GRADE.



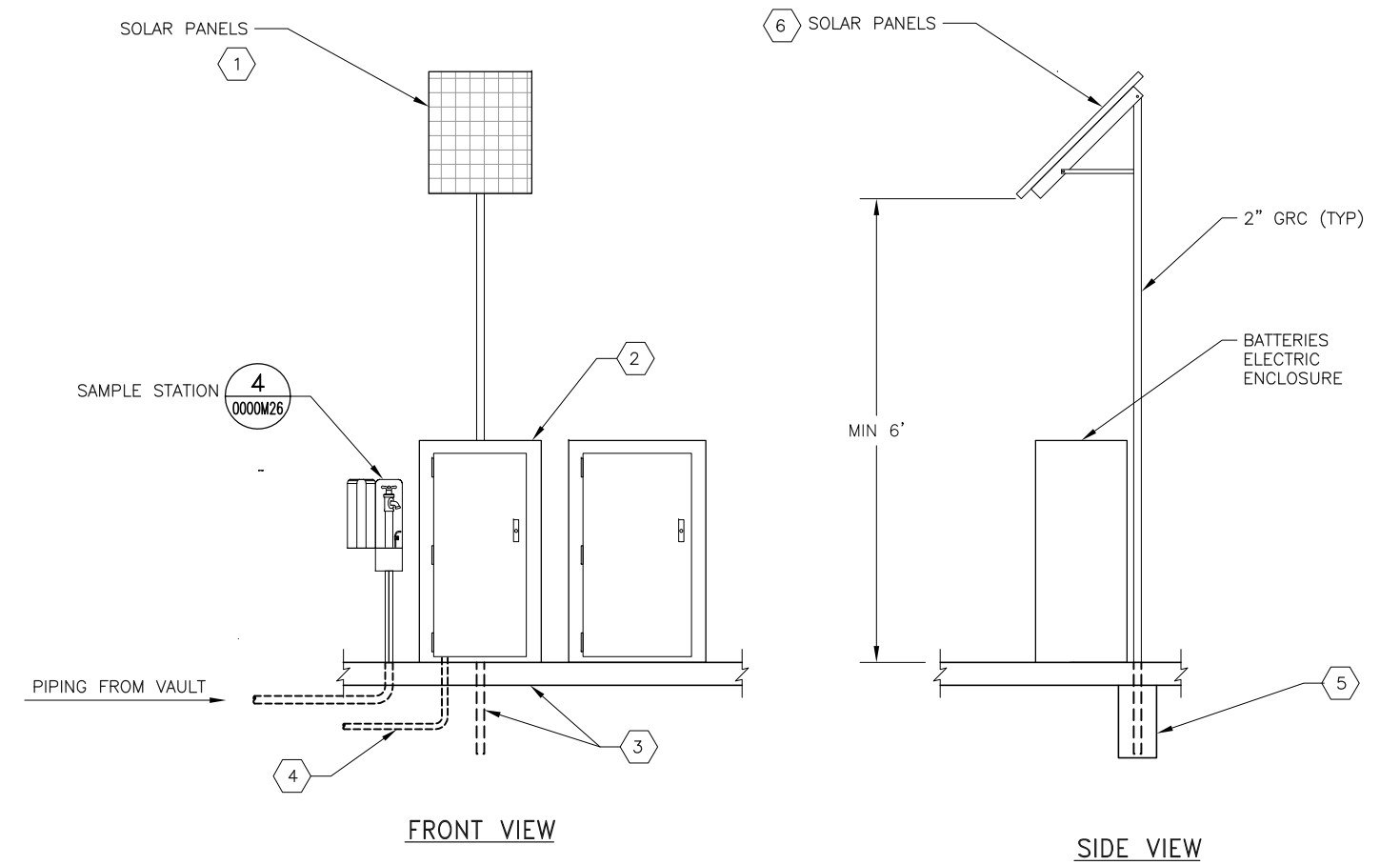
REVISIONS 	TRANSMISSION MAINS FOR MPWSP ELECTRICAL PIPELINE DETAILS CONTROL PANEL AND DETAILS	
	CALIFORNIA AMERICAN WATER	
AECOM 1333 BROADWAY, SUITE 800 OAKLAND, CALIFORNIA 94612		
DRAWN BY N. HUTTON PROJECT ENGR J. HYMAN APPROVED C. SMITH		
DATE AUGUST 2015 PROJECT 60424498		USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0000E10

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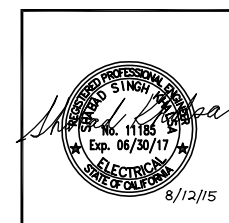
ELECTRICAL PAD WITH SOLAR SYSTEM LAYOUT 1
 SCALE: NTS 0000M25, 0000M30



SOLAR POWER SYSTEM AND SAMPLE STATION DETAIL 2
 SCALE: NTS 0000M25, 0000M30

SHEET NOTES:

- 1 PV PANELS AND BATTERIES TO BE SIZED BY CONTROL PANEL VENDOR BASED ON LOCAL IRRADIANCE EXPECTATIONS.
- 2 PROVIDE DC CHARGE CONTROLLER, BATTERIES, AND INVERTER FOR 120V SUPPLY TO FLOW METER PANEL IN NEMA 3R PANEL. (SEE OPTION, NOTE 4, ON SHEET 0000E10).
- 3 CONTRACTOR SHALL DESIGN SOLAR PANEL SUPPORT AND FOUNDATIONS FOR PANELS.
- 4 PROVIDE MAIN 120V AC OR DC CIRCUITS TO FLOW METER PANEL.
- 5 PROVIDE PV PANEL POLE CONCRETE SUPPORT AND GROUNDING AS REQUIRED.
- 6 TILT PANEL TO OPTIMAL ANGLE TOWARDS THE SUN.
- 7 INSTALL (N) CHAIN LINK FENCE TOPPED WITH 4-STRAND BARBED WIRE.



REVISIONS	TRANSMISSION MAINS FOR MPWSP ELECTRICAL PIPELINE DETAILS SOLAR PV ELECTRICAL DETAILS
CALIFORNIA AMERICAN WATER	
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