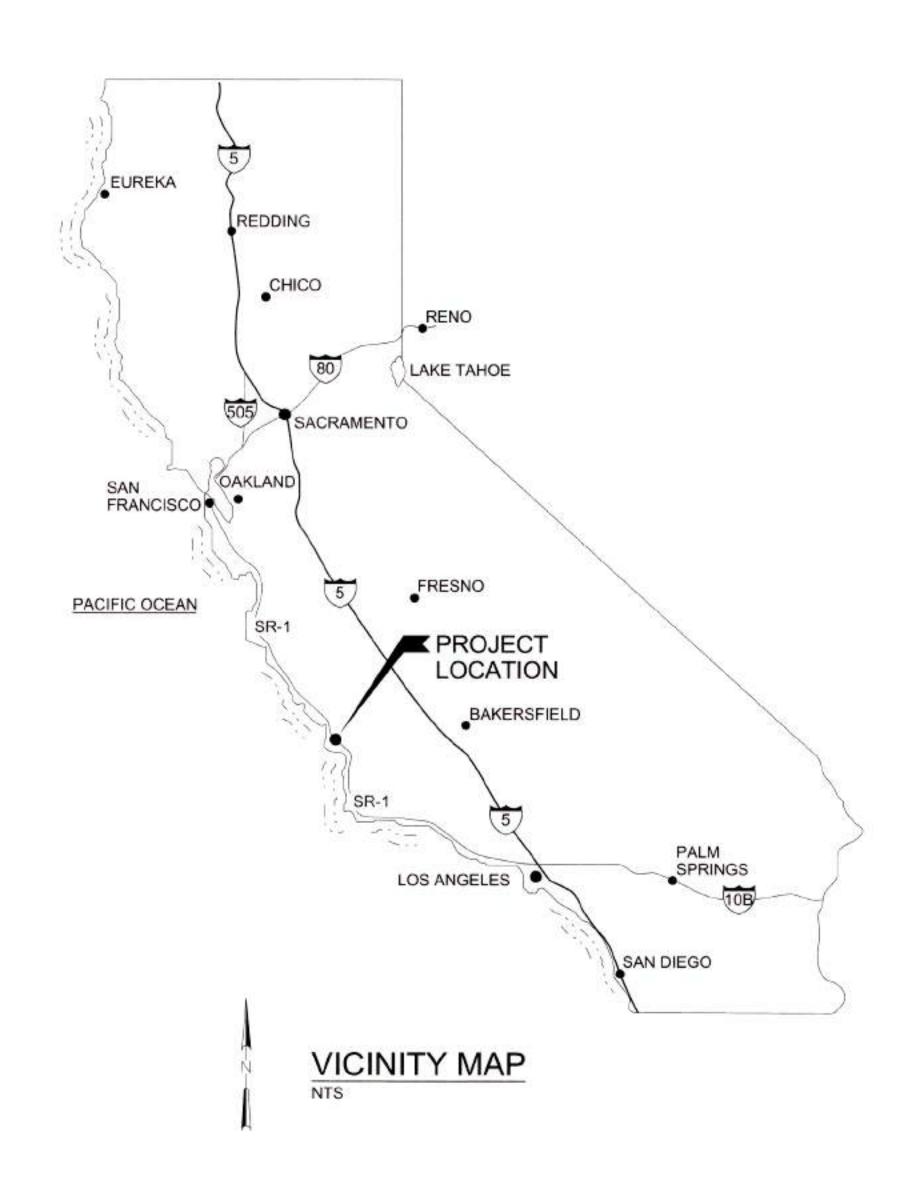
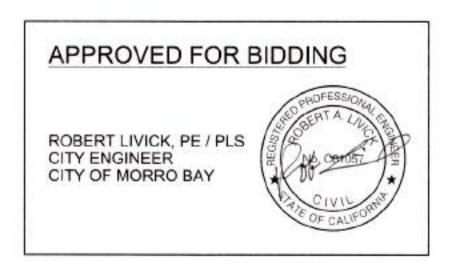
CITY OF MORRO BAY

WATER RECLAMATION FACILITY PROJECT LIFT STATIONS AND OFFSITE PIPELINES

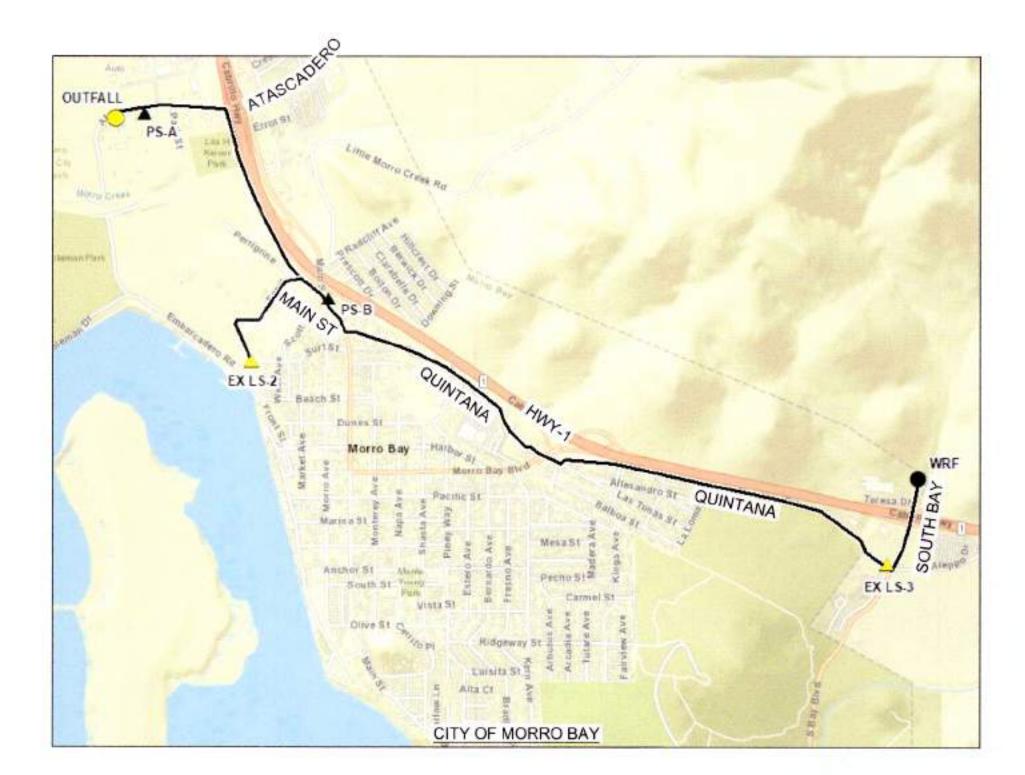
BID SET VOLUME 3 - DRAWINGS







MAY 2020







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	05-PP-10	FORCEMAIN PLAN AND PROFILE STA 45+00 TO STA 49+00	107	05-CD-15	CASING AND GEOTECHNICAL INSTRUMENTATION DETAILS	164	20-AS-3	ELECTRICAL BUILDING ROOF FRAMING PLAN	
	05-PP-11	FORCEMAIN PLAN AND PROFILE STA 49+00 TO STA 53+00				165	20-AS-4	ELECTRICAL BUILDING SECTION	
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CITY OF MORRO BAY WATER RECLAMATION FAC LIFT STATIONS AND OFFS PIPELINES

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				ABBR	REVIATIO	<u>NS</u>					
AIR	CMU	CONCRETE MASONRY UNIT	FI	FLOW INDICATOR	LR	LONG RADIUS	PVMT	PAVEMENT	TOW	TOP OF WALL	
AT	CO	CLEANOUT	FIG	FIGURE	LS	LIFT STATION	PVI	POINT OF VERTICAL INTERSECTION	TOF	TOP OF FOOTING	
ANCHOR BOLT, AGGREGATE BASE	COL	COLUMN	FIL	FILTRATE		LOW PRESSURE STREAM	PVT	POINT OF VERTICAL TANGENCY, PRIVATE	TP	TURNING POINT, TEST PIT	 ⊞8
ASPHALTIC CONCRETE, ASBESTOS CEMENT	СОМ	COMMUNICATION	FL	FLOOR, FLOW LINE	LT	LEVEL TRANSMITTER	PW	POTABLE WATER, PROCESS WATER	TRANS	TRANSITION	DESIGNED K ALACON DRAWN
AMERICAN CONCRETE INSTITUTE	COMB	COMBINED	FLG	FLANGE	LSH	LEVEL SWITCH HIGH			TRANSV	TRANSVERSE	A A BESI
AIR CONDITIONING UNIT	CONC	CONCRETE	FLH	FLAT HEAD	LSL	LEVEL SWITCH LOW	R, RAD	RADIUS	TS	TUBE STEEL	
ADDITIONAL	CONN	CONNECTION	FLL	FLOW LINE	LWL	LOW WATER LEVEL	RC	REINFORCED CONCRETE	TST	TOP OF STEEL	
ADHESIVE ANCHOR BOLT	CONT	CONTINUOUS, CONTINUATION	FLTR	FILTER			RCP	REINFORCED CONCRETE PIPE	Π	THRUST TIE	
ADJACENT, ADJUSTABLE	COORD	COORDINATE	FM	FLOW METER	MAX	MAXIMUM	RD	ROAD, ROOF DRAIN	TURB	TURBIDITY	
ANALYZER ELEMENT	CPLG	COUPLING	FNSH	FINISH	MCC	MOTOR CONTROL CENTER	RDCG	REDUCING	TW	TREATED GROUND WATER	
ABOVE FINISH FLOOR	CTRD, CTD	CENTERED	FO	FUEL OIL	MCJ	MASONRY CONTROL JOINT	RDCR	REDUCER	TWS	TRACER WIRE STATION	
ABOVE FINISH GRADE	CTR	CENTER	FOC	FACE OF CONCRETE	MECH	MECHANICAL	REF	REFER, REFERENCE	TYP	TYPICAL	
AIR: HIGH PRESSURE	CU	COPPER	FOE	FLANGED ONE END	MFR	MANUFACTURER	REINF	REINFORCED, REINFORCING, REINFORCE			
COMPRESSED AIR	CU FT	CUBIC FOOT	FRP	FIBERGLASS REINFORCED PLASTIC	MGD	MILLION GALLONS PER DAY	REQD	REQUIRED	UBC	UNIFORM BUILDING CODE	
AMERICAN INSTITUTE OF STEEL	CU IN	CUBIC INCH	FS	FINISHED SURFACE, FLOW SWITCH	МН	MANHOLE	RJ	RESTRAINED JOINT	UD	UNDERDRAIN	
CONSTRUCTION	CU YD	CUBIC YARD	FT	FOOT OR FEET	MIN	MINIMUM, MINUTE	RLS	RUBBER LINED STEEL	UG	UNDERGROUND	
ANALYZER INDICATOR/TRANSMITTER	CULV	CULVERT	FTG	FOOTING	MISC	MISCELLANEOUS	RM	ROOM	UH	UNIT HEATER	
ALUMINUM	CV	CHECK VALVE	FWD	FORWARD	MJ	MECHANICAL JOINT	RFCA	RESTRAINED FLANGED COUPLING ADAPTER		UNKNOWN	
AIR LOW PRESSURE	°C	CELSIUS	°F	DEGREE FAHRENHEIT	MPH	MILES PER HOUR	RMJ	RESTRAINED MECHANICAL JOINT	UNO	UNLESS NOTED OTHERWISE	
ALTERNATE	J	ollo:	'	DESIREE I / WIIVE WILLTI	MSNRY	MASONRY	RO	ROUGH OPENING, REVERSE OSMOSIS	0110	ONEESS NOTED STREETWISE	
AMERICAN NATIONAL STANDARDS INSTITUTE	d	PENNY	G	GAS	MSP	MILL STEEL PIPE, MANUAL OF STANDARD	RP	RADIUS POINT	\/	VENT, VOLT, VALVE	
	u		•		MSP	,			V V/A O	, , , , , , , , , , , , , , , , , , ,	
APPROXIMATE	DBA	DEFORMED BAR ANCHOR	GA	GAGE		PRACTICE	R/R	REMOVE AND REPLACE	VAC	VACUUM	l
APPROVED	DBL	DOUBLE	GAC	GRANULAR ACTIVATED CARBON	MTL	MATERIAL	RST	REINFORCING STEEL	VAR	VENT ACID RESISTANT	l
AMERICAN PUBLIC WORKS ASSOCIATION	DEC	DECANT	GAL	GALLON	MVV	MAKE UP WATER	RT	RIGHT	VC	VERTICAL CURVE	l
AERATION	DET	DETAIL	GALV	GALVANIZED	MWS	MAXIMUM WATER SURFACE	RTN	RETURN WATER	VERT	VERTICAL	. =
ARCHITECTURAL	DF	DOUGLAS FIR/LARCH	GB	GRADE BREAK			RV	ROOF VENT	VFD	VARIABLE FREQUENCY DRIVE	S
AIR RELEASE VALVE	DI	DROP INLET, DUCTILE IRON	GC	GROOVED COUPLING	N	NORTH	RW	RAW WATER	VPI	VERTICAL POINT OF INTERSECTION	
AMERICAN SOCIETY FOR TESTING AND	DIA	DIAMETER	GCO	GRADE CLEAN OUT	NC	NORMALLY CLOSED	R/W	RIGHT-OF-WAY	VPS	VENEER PLASTER SYSTEM	
MATERIALS	DIAG	DIAGONAL	GCF	GROOVED COUPLING FITTING	NE	NORTHEAST			VTR	VENT THRU ROOF	
AUTOMATIC	DIL	DILUTE	GD	GENERAL DRAINAGE	NEMA	NATIONAL ELECTRICAL	S	I-BEAM, SOUTH, SLOPE			
AUXILIARY	DIM	DIMENSION	GE	GROOVED END	. 4 L. IVI/ \	MANUFACTURERS ASSOCIATION	S =	SLOPE EQUALS	W/	WITH	
AIR/VACUUM ASSEMBLY	DIMJ	DUCTILE IRON MECHANICAL JOINT		GLASS	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	S – SA	SERVICE AIR	V V / \		
			GL						VV	WIDE FLANGE (BEAM), WEST, WATER	
AVENUE	DIP	DUCTILE IRON PIPE	GPD	GALLONS PER HOUR	NIC	NOT IN CONTRACT	SAT	SUSPENDED ACOUSTIC TILE	WC	WATER CLOSET	
AMERICAN WIRE GAGE	DIPPL	DUCTILE IRON PIPE, POLYETHYLENE LINED	GPH	GALLONS PER HOUR	NO	NUMBER, NUMBERING	SC	SCUM	WD	WOOD	
AMERICAN WATER WORKS ASSOCIATION	DIR	DIRECTION	GPM	GALLONS PER MINUTE	NPT	NATIONAL PIPE THREAD	SCFH	STANDARD CUBIC FEET PER HOUR	WH	WATER HEATER	
ANOXIC	DIST	DISTANCE	GRTG	GRATING	NTS	NOT TO SCALE	SCFM	STANDARD CUBIC FEET PER MINUTE	WM	WATER METER	⊢ ш
	DN	DOWN	GSP	GALVANIZED STEEL PIPE	NW	NORTHWEST	SCH	SCHEDULE	WR	WATER RESISTANT	
BORING	DR	DRAIN	GT	GAS TURBINE			SD	STORM DRAIN	WS	WATER SURFACE, WATER STOP	"
BALL VALVE	do	DITTO	GV	GATE VALVE	OC	ON CENTER	SE	SOUTHEAST	W SH ST	WEATHERING SHEET STEEL	
BEGIN CURVE, BOTTOM OF CURB	DPT	DIFFERENTIAL PRESSURE TRANSMITTER	GVL	GRAVEL	OD	OUTSIDE DIAMETER, OVERFLOW DRAIN	SEC	SECONDARY	WSE	WATER SURFACE ELEVATION	
BLOW DOWN	DSMT	DISMANTLING JOINT	GW	GROUND WATER	OF	OUTSIDE FACE, OVERFLOW	SECT	SECTION	WSP	WELDED STEEL PIPE	
BLIND FLANGE, BOTTOM FACE	DWG	DRAWING	OVV	CROOND WATER	OFR	OVERFLOW RETURN	SH	SHEET	WT	WATER TIGHT	
·	DVVG	DIVAVVING	LID	HUB DRAIN		ORIGINAL GROUND		SIMILAR		WATER	o ter
BUTTERFLY VALVE	_	FAOT ELECTRIC ELECTRICAL	HD		OG		SIM		WTR		W Bu
BUTTERFLY VALVE	E	EAST, ELECTRIC, ELECTRICAL	HDPE	HIGH DENSITY POLYETHLENE PIPE	OHE	OVERHEAD ELECTRIC	SLP	SLOPE	WW	WASH WATER, WASTEWATER	rinki
BUILDING	EA	EACH	HDR	HEADER	OMRF	ORDINARY MOMENT RESISTING FRAME	SMP	SAMPLE	WWF	WELDED WIRE FABRIC	101
BLACK	EC	END CURVE	HDW	HARDWARE	о то о	OUT TO OUT	SOLN	SOLUTION			\frac{1}{2}
BUREAU OF LAND MANAGEMENT	ECC	ECCENTRIC	HGL	HYDRAULIC GRADE LINE	OPNG	OPENING	SOW	SLIP ON WELD	XMFR	TRANSFORMER	
BENCH MARK, BEAM	EE	ELECTRICAL	HGT	HEIGHT	OPP	OPPOSITE	SP	SPACE OR SPACES			
BLOW OFF	EF	EACH FACE, EXHAUST FAN	HM	HOLLOW METAL	OSHA	OCCUPATIONAL SAFETY & HEALTH ADMIN.	SPD	SUMP PUMP DRAIN	YD	YARD	
BACK OF CURB	EFL	EFFLUENT	HORIZ	HORIZONTAL	OZ	OUNCE	SPEC	SPECIFICATIONS			>
BACK OF GUTTER	EG	EXISTING GRADE	HP	HORSEPOWER		5 5 1 1 5 2	SPLY	SUPPLY			BA
BOTTOM OF OPENING	EJ	EXPANSION JOINT	HPT	HIGH POINT	PA	PROCESS AIR	SQ	SQUARE			RO
BOTTOM	EI	ELEVATION	HR	HANDRAIL	PC	POINT OF CURVE	SQ FT	SQUARE FOOT			1 5
					PC						OF MC
BEARING	ELB, ELL	ELBOW	HSS	HOLLOW STRUCTURAL STEEL	PE	PLAIN END, POLYETHYLENE, PERMANENT	SQ IN	SQUARE INCH			OF I
BEGINNING OF VERTICAL CURVE	ELC	ELECTRICAL LOAD CENTER	HV	HOSE VALVE		EASEMENT	SS	SANITARY SEWER			0
BYPASS	ELEC	ELECTRIC, ELECTRICAL	HWL	HIGH WATER LEVEL	PENT	PENETRATION	SSCO	SANITARY SEWER CLEANOUT			
	EM	EMISSION MEASUREMENT	HWY	HIGHWAY	PI	POINT OF INTERSECTION	SSH	SAFETY SHOWER			
CENTER TO CENTER	EMR	EMERGENCY	HYD	HYDRANT	PJF	PREMOLDED JOINT FILLER	SSMH	SANITARY SEWER MANHOLE			
CHANNEL (BEAM)	ENGR	ENGINEER			PL	PLATE, PROPERTY LINE	ST	SAMPLE TAP			l
COMBINATION AIR RELEASE VALVE	EO	EMERGENCY OVERFLOW	IA	INSTRUMENT AIR	PLC	PROGRAMMABLE LOGIC CONTROLLER	SST	STAINLESS STEEL			<u> </u>
CATHODIC PROTECTION	EP	EDGE OF PAVEMENT	I&C	INSTRUMENTATION & CONTROL	PLYWD	PLYWOOD	STA	STATION			l
CABLE TELEVISION	EQ	EQUALIZATION	ID	INSIDE DIAMETER	PNL	PANEL	STD	STANDARD			l
CATCH BASIN	EQL SP	EQUALLY SPACED	IE ID	INSIDE DIAMETER INSIDE FACE	POB	POINT OF BEGINNING	STIF	STIFFENER			l
			IF INI								l
CONCRETE CYLINDER PIPE	EQPT	EQUIPMENT	IN	INCH	POC	POINT OF CONNECTION	STL	STEEL, STEEL PIPE			l
CENTRAL CONTROL SYSTEM	ESC	EROSION SEDIMENT CONTROL	INSTM	INSTRUMENTATION	POE	POINT OF ENDING, PLAIN ONE END	STLS	STEEL PIPE (SPECIAL)			l
CONDENSATE	ESA	ENVIRONMENTALLY SENSITIVE AREA	INSUL	INSULATE, INSULATION	PP, P&P	PLAN AND PROFILE, POWER POLE	STR	STRAIGHT			l
CUBIC FEET	EVC	END OF VERTICAL CURVE	INV	INVERT	PPM	PARTS PER MILLION	STRL	STRUCTURAL			<u> </u>
CUBIC FEET PER MINUTE	EW	EACH WAY	IP	IRON PIPE	PRC	POINT OF REVERSE CURVE	STRUCT	STRUCTURE			4
CUBIC FEET PER SECOND	EWEF	EACH WAY, EACH FACE	IR	IRON ROD	PRCST	PRECAST	SUBFL	SUBFLOOR			
CHEMICAL	EX	EXISTING	IRR	IRRIGATION	PREFAB	PREFABRICATED	SUSP	SUSPEND			
CAST IRON	EXC	EXCAVATE			PRESS	PRESSURE	SW	SOUTHWEST, SERVICE WATER			ERA
CAST IRON GROOVED COUPLING	EXP	EXPOSED, EXPANSION	JT	JOINT	PRC	POINT OF REVERSE CURVE	SYMM	SYMMETRICAL			🖫 1
CAST IRON MECHANICAL JOINT	EXP JT	EXPANSION JOINT	. 1		PRI	PRIMARY	O I IVIIVI	NOTE	FS [.]		ן ס ב
			∠ ID	THOUSAND DOLINDS		PROPERTY	т	TANGENT, TELEPHONE LINE, TOP			[
CAST IRON PESTRAINED JOINT	EXST	EXISTING	KIP	THOUSAND POUNDS	PROP		I TOD	,		AND INSTRUMENTATION ABBREVIATIONS,	
CAST IRON RESTRAINED JOINT			KW	KILOWATT	PRV	PRESSURE RELEASE VALVE	T&B	TOP AND BOTTOM		AND INSTRUMENTATION DRAWINGS.	
CAST IRON SOIL PIPE	FB	FLAT BAR			PS	PUMP STATION	T&G	TONGUE AND GROOVE	001-15-	IONIEED EOD ADDER WEEKEN	l
CONSTRUCTION JOINT,	FBE	FUSION BONDE EPOXY	L	LEFT, ANGLE, LENGTH	PSF	POUNDS PER SQUARE FOOT	t, T		CONTACT THE EN	NGINEER FOR ABBREVIATIONS NOT LISTED.	l
CONTRACTION JOINT	FC	FLEXIBLE COUPLING	LAB	LABORATORY	PSI	POUNDS PER SQUARE INCH	TBG	TUBING	TUIC IC A OTAND	ADD LECEND CHEET THEREFORE COME	l
CENTERLINE	FCA	FLANGED COUPLING ADAPTER	LAT'L	LATERAL	PSIG	POUNDS PER SQUARE INCH, GAUGE	TCE	TEMPORARY CONST EASEMENT 3.		ARD LEGEND SHEET, THEREFORE, SOME BREVIATIONS MAY APPEAR ON THIS SHEET	l
CHLORINE	FCO	FLOOR CLEAN OUT	LB	POUNDS	PT	POINT OF TANGENCY	TDH	TOTAL DYNAMIC HEAD		EUTILIZED ON THIS PROJECT.	ı
CEMENT-LINED DUCTILE IRON PIPE	FD	FLOOR DRAIN	LB/CU FT	POUNDS PER CUBIC FOOT	P.U.E.	PUBLIC UTILITY EASEMENT	TECH	TECHNICAL	AND INCLUDE	SALLED ON THIS I NOULOT.	ı
										OROFESS/OA	\
CEILING	FDA	FLOOR DRAIN W/INTEGRAL TRAP	LCC	LIGHTWEIGHT CELLULAR CONCRETE	PV	PLUG VALVE	TEL	TELEPHONE		DEP. FA	
CLEAR, CLEARANCE	FDN	FOUNDATION	LE	LEVEL ELEMENT	PVC	POLYVINYL CHLORIDE PLASTIC, POINT OF	TEMP	TEMPORARY, TEMPERATURE			MA)
CONTROLLED LOW STRENGTH MATERIAL	FES	FLARED END SECTION	LF	LINEAR FEET		VERTICAL CURVE	TF	TOP FACE		W No. ¢67194	PROJEC
CEMENT MORTAR LINED AND COATED	FEXT	FIRE EXTINGUISHER	LG	LONG	PVCGS	POLYVINYL CHLORIDE PLASTIC-GRAVITY	THD	THREAD		(*)	17 ★ DRAMIN
STEEL PIPE	FF	FINISH FLOOR	LIT	LEVEL INDICATOR/TRANSMITTER		SEWER TYPE	THK	THICK		10 CIVIL /	DRAWIN
CEMENT MORTAR LINED STEEL PIPE	FG	FINISH GRADE	LONG	LONGITUDINAL	PVCW	POLYVINYL CHLORIDE PLASTIC-	TNK	TANK		OF CALIFOR	
		FIDE LIVED ANT	I D	LOW DOINT		WATER RICTRIBUTION CERVICE TYPE	TOO	TOD OF CURR TOD OF COMORETE		25 20 2000	SHEET NU
CORRUGATED METAL PIPE	FHY	FIRE HYDRANT	LP	LOW POINT		WATER DISTRIBUTION SERVICE TYPE	TOC	TOP OF CURB, TOP OF CONCRETE		05-29-2020	I SUEET IN

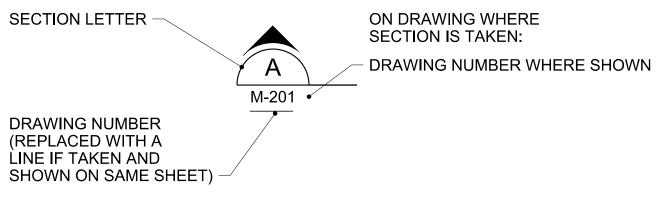
LOW POINT

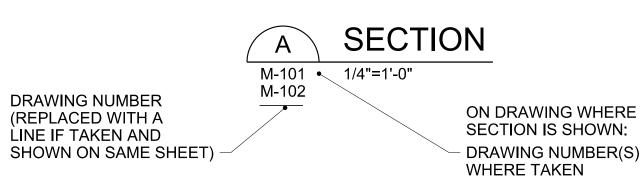
DISCIPLINE

<u>LETTER</u>	DISCIPLINE
А	ARCHITECTURAL
С	SITE CIVIL
CD	CIVIL DETAILS
D	DEMOLITION
Е	ELECTRICAL
G	GENERAL
Н	HEATING, VENTILATION AND COOLING
I	INSTRUMENTATION
М	MECHANICAL
Р	PLUMBING
PP	PIPELINE PLAN AND PROFILE
S	STRUCTURAL
Υ	YARD PIPING

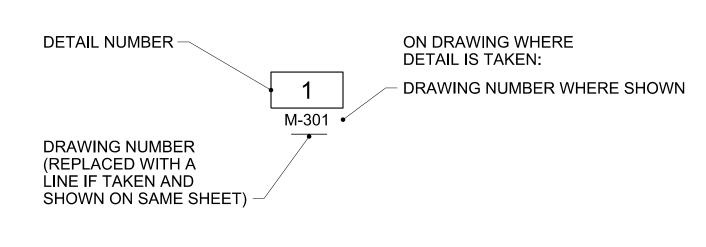
DRAWING NUMBER

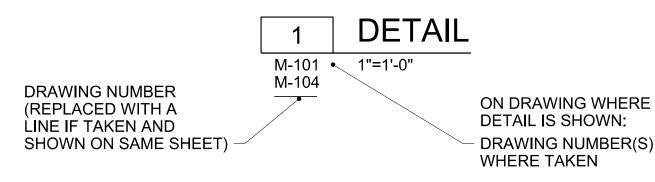
SECTION



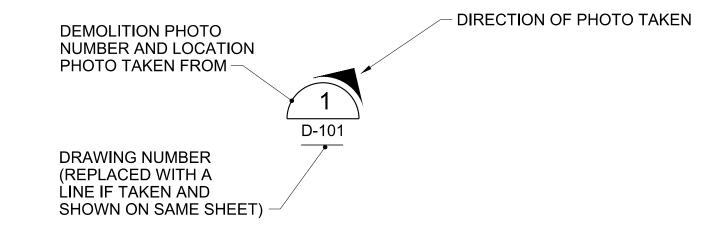


DETAIL

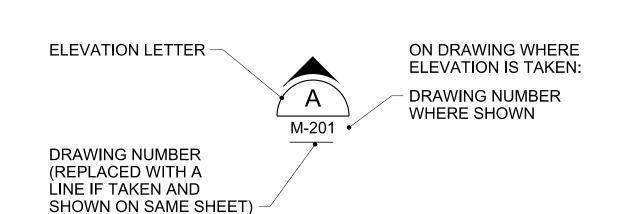




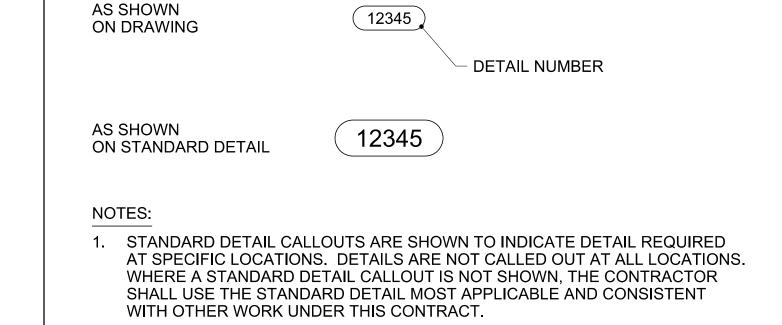
DEMOLITION PHOTO



ELEVATION



STANDARD DETAIL



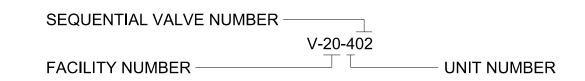
STANDARD VALVE AND OPERATOR



NOTES.

1. SEE SPECIFICATION SECTION 15200.

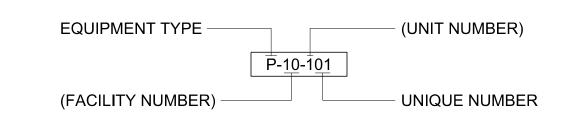
UNIQUE VALVE AND OPERATOR



NOTES:

1. SEE SPECIFICATION SECTION 15200 FOR VALVE SCHEDULE.

EQUIPMENT DESIGNATION



LINE TYPE APPEARANCE

 BLACK	NEW 'ON' DISCIPLINE
LIGHT OR MEDIUM GRAY OR SCREENED	EXISTING 'ON' OR 'OFF' DISCIPLINE

GENERAL SYMBOLOGY

DARK GRAY

STRUCTURE OR EQUIPMENT TO BE SALVAGED OR DEMOLISHED
PIPE TO BE SALVAGED OR DEMOLISHED
EQUIPMENT COMPONENTS OR PANELS SHOWN WITH A

NEW 'OFF' DISCIPLINE

SINGLE ASTERISK (*) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.



PLOT DATE: 5/23/2020 8:20:17 AM

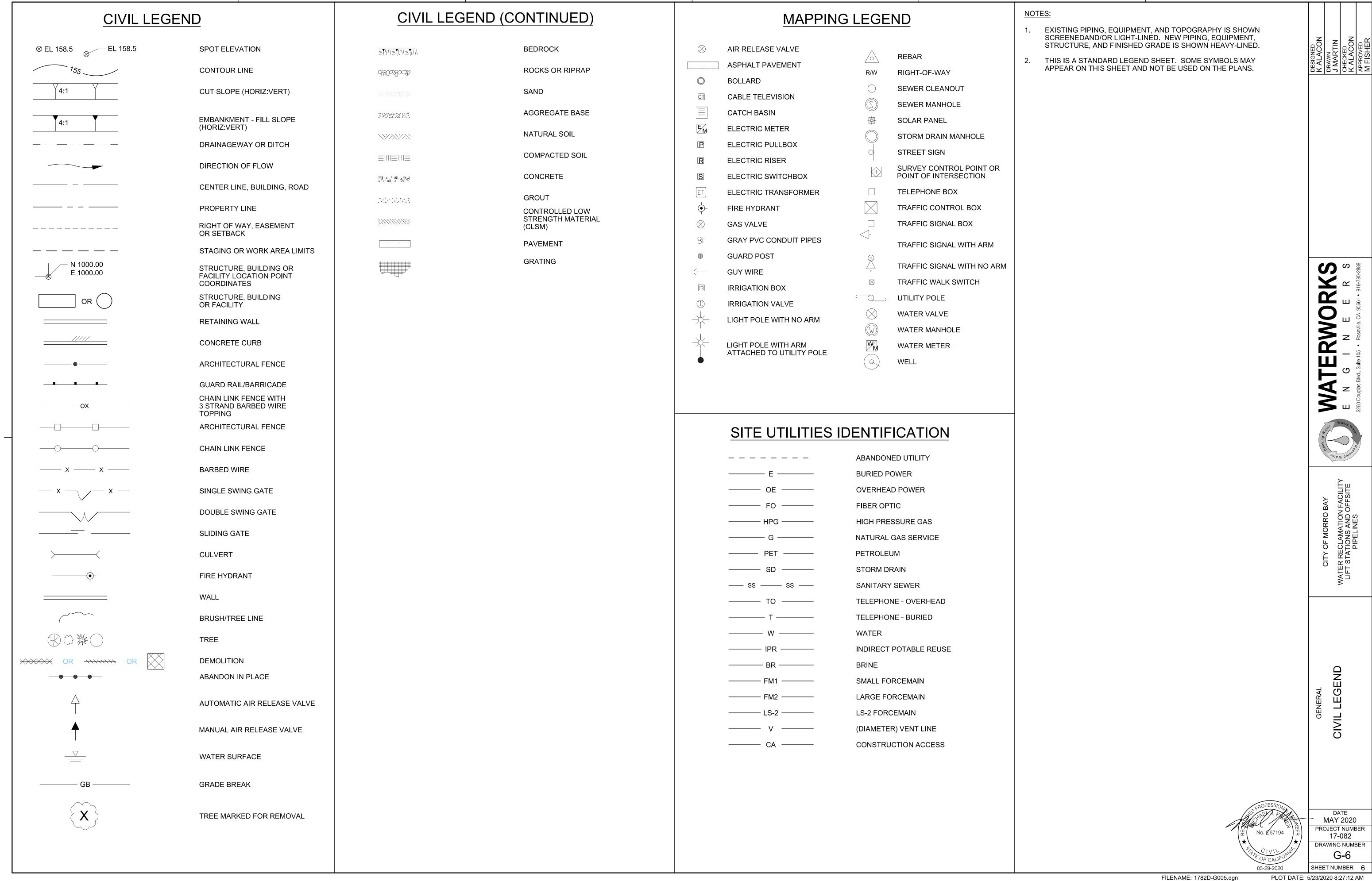
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WATER RECLAMATION FAC LIFT STATIONS AND OFFS PIPELINES

DESIGNATIONS

GENERAL

MAY 2020
PROJECT NUMBER
17-082
DRAWING NUMBER
G-5



CARPET

		DOOR SCHE	DULE			
DOOR NUMBER	DOOR DIMENSIONS	SILL DETAIL	EXIT DEVICE	WALL	CLOSURE	LOCK
1	3'-0" X 7'-2"	8110, TYPE B	NR	CMU	R	R
2	3'-0" X 7'-2"	8110, TYPE B	NR	CMU	R	R
3	3'-8" X 7'-10"	8110, TYPE B	NR	CMU	R	R
4	5'-8" X 7'-10" DBL	8110, TYPE B	NR	CMU	R	R
5	5'-8" X 7'-10" DBL	8110, TYPE B	NR	CMU	R	R

SIGN DESIGNATION

SHOWN -

- 1. INSTALL DOORS AND FRAMES IN ACCORDANCE WITH THE STEEL DOOR INSTITUTE'S
- RECOMMENDATIONS. PROVIDE TRIM AND JOINT SEALANT AROUND FRAMES TO INSURE A WEATHER
- 2. SEE SPEC SECTION 09700 DOOR HARDWARE FOR ALL DOOR HARDWARE INCLUDING EXIT DEVICES AND PRIVACY LATCHES.
- 3. R= REQUIRED; NR= NOT REQUIRED

GENERAL ARCHITECTURAL NOTES

- UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO NOMINAL SURFACE OF MASONRY, FACE OF STUDS AND FACE OF CONCRETE WALLS.
- REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
- VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
- REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OF DRAWINGS FOR ADDITIONAL NOTES.
- VERIFY SIZE AND LOCATION OF, AND PROVIDE: ALL OPENINGS THROUGH FLOORS AND WALLS, ACCESS DOORS, FURRING, CURBS, ANCHORS AND INSERTS. PROVIDE ALL BASES, BLOCKING REQUIRED FOR ACCESSORIES MECHANICAL. ELECTRICAL AND OTHER EQUIPMENT.

2016 CALGREEN NON-RESIDENTIAL NOTES

- THE NON-RESIDENTIAL PROVISIONS OF THE 2016 CALGREEN CODE OUTLINE PLANNING, DESIGN AND DEVELOPMENT METHODS THAT INCLUDE ENVIRONMENTAL RESPONSIBLE SITE SELECTION, BUILDING DESIGN, BUILDING SITTING AND DEVELOPMENT TO PROTECT, RESTORE AND ENHANCE THE ENVIRONMENTAL QUALITY OF THE SITE AND RESPECT THE INTEGRITY OF ADJACENT PROPERTIES: ESTABLISHES THE MEANS OF CONSERVING WATER USED INDOORS, OUTDOORS AND IN WASTEWATER CONVEYANCE; OUTLINES MEANS OF ACHIEVING MATERIAL CONSERVATION AND RESOURCE EFFICIENCY; AND OUTLINES MEANS OF REDUCING THE QUANTITY OF AIR CONTAMINANTS.
- SWPPP: DEVELOP A SWPPP COMPLIANT WITH STATE STORM WATER NPDES CONSTRUCTION PERMIT OR LOCAL ORDINANCE, WHICHEVER IS STRICTER PER CALGREEN 5.106.1.
- GRADING AND PAVING: SITE GRADING AND DRAINAGE SYSTEM SHALL SLOPE AWAY FROM THE BUILDING PER THE CONSTRUCTION DRAWINGS AND CALGREEN 5.106.10.
- WEATHER PROTECTION: PROVIDE A WEATHER-RESISTANT EXTERIOR WALL AND FOUNDATION ENVELOPE AS SHOWN IN THE CONSTRUCTION DRAWINGS AND AS REQUIRED BY CALIFORNIA BUILDING CODE SECTION 1403.2 AND CALIFORNIA ENERGY CODE SECTION 150, MANUFACTURER'S INSTALLATION INSTRUCTIONS OR LOCAL ORDINANCE, WHICHEVER IS MORE STRINGENT PER CALGREEN 5.407.1.
- CONSTRUCTION WASTE MANAGEMENT: RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 65% OF NONHAZARDOUS CONSTRUCTION AND DEMOLITION DEBRIS OR MEET LOCAL ORDINANCE, WHICHEVER IS MORE STRINGENT PER CALGREEN 5.408.1.
- CONSTRUCTION WASTE MANAGEMENT PLAN: WHERE A LOCAL JURISDICTION DOES NOT HAVE A CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT ORDINANCE THAT IS MORE STRINGENT. SUBMIT A CONSTRUCTION WASTE MANAGEMENT PLAN PER CALGREEN 5.408.1.1.
- WASTE MANAGEMENT COMPANY: UTILIZE A WASTE MANAGEMENT COMPANY THAT CAN PROVIDE VERIFIABLE DOCUMENTATION THAT THE PERCENTAGE OF CONSTRUCTION AND DEMOLITION WASTE MATERIAL DIVERTED FROM THE LANDFILL COMPLIES WITH THE CONSTRUCTION WASTE MANAGEMENT. THE OWNER OR CONTRACTOR SHALL MAKE THE DETERMINATION IF THE CONSTRUCTION AND DEMOLITION WASTE MATERIAL WILL BE DIVERTED BY A WASTE MANAGEMENT COMPANY PER CALGREEN 5.408.1.2.
- DOCUMENTATION: PROVIDE TO THE ENFORCING AGENCY WHICH DEMONSTRATES COMPLIANCE WITH CALGREEN SECTION 5.408.1.1 THROUGH 5.408.1.3. THE WASTE MANAGEMENT PLAN SHALL BE UPDATED AS NECESSARY AND SHALL BE ACCESSIBLE DURING CONSTRUCTION FOR EXAMINATION BY THE ENFORCING AGENCY PER CALGREEN 5.408.1.4.
- EXCAVATED SOIL AND LAND CLEARING DEBRIS: 100 PERCENT OF TREES, STUMPS, ROCKS AND ASSOCIATED VEGETATION AND SOILS FROM LAND CLEARING SHALL BE REUSED OR RECYCLED PER CALGREEN 5.408.3.
- 10. TESTING AND ADJUSTING: TESTING AND ADJUSTING OF SYSTEMS SHALL BE REQUIRED FOR NEW BUILDINGS LESS THAN 10,000 SQUARE FEET OR NEW SYSTEMS TO SERVE AN ADDITION OR ALTERATION SUBJECT TO CALGREEN SECTION 303.1 PER CALGREEN SECTION 5.410.4.
- 11. SYSTEMS: DEVELOP A WRITTEN PLAN OF PROCEDURES FOR TESTING AND ADJUSTING SYSTEMS. SYSTEMS TO BE INCLUDED FOR TESTING AND ADJUSTING SHALL INCLUDE, AS APPLICABLE TO THE PROJECT HVAC AND LIGHTING AND CONTROLS PER CALGREEN 5.410.4.2.
- 12. PROCEDURES: PERFORM TESTING AND ADJUSTING PROCESS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, MANUFACTURER'S SPECIFICATIONS AND CALGREEN 5.410.4.3.
- 13. REPORTING: AFTER COMPLETION OF TESTING, ADJUSTING, AND BALANCING, PROVIDE A FINAL REPORT OF TESTING SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THE SERVICES PER CALGREEN 5.410.4.4.
- 14. O & M MANUAL: PROVIDE THE BUILDING OWNER OR REPRESENTATIVE WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTIES/WARRANTIES FOR EACH SYSTEM. O & M INSTRUCTIONS SHALL BE CONSISTENT WITH THE PROJECT SPECIFICATIONS, OSHA REQUIREMENTS IN CCR, TITLE 8 SECTION 5142, AND CALGREEN 5.410.4.5. INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS AND REPORTS REQUIRED BY THE ENFORCING AGENCY.

2016 CALGREEN NON-RESIDENTIAL NOTES (CONTINUED)

- 15. COVERING OF DUCT OPENING AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION: AT THE TIME OF ROUGH INSTALLATION OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST OR DEBRIS WHICH MAY COLLECT IN THE SYSTEM PER CALGREEN 5.504.3.
- 16. ADHESIVES, SEALANTS, CAULKS: ADHESIVES AND SEALANTS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS PER CALGREEN 5.504.4.1:
 - a. ADHESIVES, ADHESIVE BONDING PRIMERS, ADHESIVE PRIMERS, SEALANTS, SEALANT PRIMERS, AND CAULKS SHALL COMPLY WITH LOCAL OR REGIONAL AIR POLLUTION CONTROL OR AIR QUALITY MANAGEMENT DISTRICT RULES WHERE APPLICABLE, OR SCAQMD RULE 1168 VOC LIMITS, AS SHOWN IN CALGREEN TABLES 5.504.4.1 AND 5.504.4.2.
- AEROSOL ADHESIVES, AND SMALLER UNIT SIZES OF ADHESIVES, AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT LESS PACKAGING. WHICH DO NOT WEIGH MORE THAN ONE POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF CALIFORNIA CODE OF REGULATIONS. TITLE 17, COMMENCING WITH SECTION 94507.
- 17. PAINTS AND COATINGS: ARCHITECTURAL PAINTS AND COATINGS SHALL COMPLY WITH CALGREEN TABLE 5.504.4.2 UNLESS MORE STRINGENT LOCAL LIMITS APPLY PER CALGREEN 5.504.4.3.
- AEROSOL PAINTS AND COATINGS: AEROSOL PAINTS AND COATINGS SHALL MEET THE PWMIR LIMITS FOR ROC IN SECTION 94522(A)(3) AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS AND OZONE DEPLETING SUBSTANCES IN SECTIONS 94522(C)(2) AND (D)(2) OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94520 PER CALGREEN 5.504.4.3.1.
- 19. VERIFICATION: VERIFICATION OF POLLUTANT CONTROL SHALL BE PROVIDED AT THE REQUEST OF THE ENFORCING AGENCY. DOCUMENTATION MAY INCLUDE, BUT IS NOT LIMITED TO, THE MANUFACTURER∜S PRODUCT SPECIFICATION OR FIELD VERIFICATION OF ON-SITE PRODUCT CONTAINERS PER CALGREEN 5.504.4.3.2.
- INDOOR MOISTURE CONTROL: BUILDINGS SHALL MEET OR EXCEED THE PROVISIONS OF CBC, CCR, TITLE 24, PART 2, SECTIONS 1203 (VENTILATION) AND CHAPTER 14 (EXTERIOR WALLS) PER CALGREEN 5.505.1.
- 21. OUTSIDE AIR DELIVERY: FOR MECHANICALLY OR NATURALLY VENTILATED SPACES IN BUILDINGS, MEET THE MINIMUM REQUIREMENTS OF SECTION 120.1 OF THE 2013 CEC, OR THE APPLICABLE LOCAL CODE. WHICHEVER IS MORE STRINGENT, AND DIVISION 1, CHAPTER 4 OF CCR, TITLE 8 PER CALGREEN 5.506.1.
- CFCS: INSTALL HVAC AND REFRIGERATION EQUIPMENT THAT DOES NOT CONTAIN CFCS PER CALGREEN 5.508.1.1.

Pump Station A Flood Design Data

Flood Design Data (2016 CBC §1603.1.7 and §1612.5)

Flood Design Class = 3 (ASCE 24-14 Table 1-1)

FEMA Flood Zone = AE (FIRM Panel 813 dated May 16, 2017)

Base Flood Elevation (BFE) = 19.97ft

Electrical Building Finished Floor Elevation = 23.00 ft

Wet Well Lowest Floor Elevation = -9.50 ft

WATER RECLAMATION FA LIFT STATIONS AND OFF PIPELINES

ARCHITECTURAL LEGEND AND MATERIAL SYMBOLS

MAY 2020

17-082

G-7

SHEET NUMBER 7

PROJECT NUMBER DRAWING NUMBER



0

4

WATER RECLAMATION FAC LIFT STATIONS AND OFFS PIPELINES

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MAY 2020 PROJECT NUMBER 17-082 DRAWING NUMBER G-8

DEFERRED SUBMITTALS:

- 1. PER 2016 CBC 107.3.4.1 THE FOLLOWING ITEMS, DRAWINGS AND CALCULATIONS, SHALL BE STAMPED BY AN ENGINEER REGISTERED IN THE STATE OF THE PROJECT. ITEMS SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW AND APPROVAL. FOLLOWING APPROVAL BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, THE CONTRACTOR SHALL SUBMIT THE ITEMS TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE STRUCTURE THE CONTRACTOR SHALL NOT START FABRICATION OR ERECTION PRIOR TO REVIEW AND APPROVAL BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL TIME AND EFFORT REQUIRED TO OBTAIN A BUILDING OFFICIAL REVIEW/PERMIT FOR THE FOLLOWING PREFABRICATED STRUCTURAL COMPONENTS:
- PRECAST CONCRETE ELEMENTS
- HANDRAIL AND GUARDRAIL
- PIPE SUPPORT SYSTEM ANCHORAGE OF EQUIPMENT OVER 400 POUNDS
- WOOD TRUSSES
- PRE-ENGINEERED PIPE BRIDGE

DESIGN CRITERIA:

- 1. APPLICABLE CODE: 2016 CALIFORNIA BUILDING CODE (2015 INTERNATIONAL BUILDING CODE (IBC), AS AMENDED BY THE STATE OF CALIFORNIA).
- 2. REFER TO THE SPECIFICATIONS FOR ADDITIONAL AND SPECIFIC STRUCTURAL LOADINGS AND REQUIREMENTS.

3. LIVE LOADS:

	· · · ·	
•	ROOF LIVE LOAD	20 psf
•	WET WELL ROOF LIVE LOAD	250 ps

١.	WIN	D LOAD:	
	•	BASIC WIND SPEED (ASCE 7-10)	115 mph
	•	EXPOSURE CATEGORY	С
	•	DESIGN METHOD	DIRECTIONAL PROCEDURE

5. SEISMIC LOAD:

OLI	CIVILO	.O/ (B).	
•	FAC	ILITY 07 PIPE BRIDGE	
	0	RISK CATEGORY	III
	0	IMPORTANCE FACTOR, I _e	1.25
	0	S _S : 1.152	S _{DS} : 0.798
	0	S ₁ : 0.426	S _{D1} : 0.447
	0	SITE CLASS	D
	0	SEISMIC DESIGN CATEGORY	D
•	FAC	ILITY 10 PUMP STATION A	
	0	RISK CATEGORY	III
	0	IMPORTANCE FACTOR, I _e	1.25
	0	S _S : 1.158	S _{DS} : 0.800
	0	S₁: 0.427	S _{D1} : 0.448
	0	SITE CLASS	D
	0	SEISMIC DESIGN CATEGORY	D

FACILITY 20 PLIMP STATION R

FACILI	TT 20 POWE STATION B	
0	RISK CATEGORY	III
0	IMPORTANCE FACTOR, I _e	1.25
0	S _s . 1.152	S _{DS} : 0.798
0	S ₁ : 0.426	S _{D1} : 0.447
0	SITE CLASS	D
0	SEISMIC DESIGN CATEGORY	D

6. LATERAL FORCE RESISTING SYSTEM

- FACILITY 10 & 20 ELECTRICAL BUILDING
 - SPECIAL REINFORCED MASONRY SHEAR WALLS
 - $V = C_sW$
- $C_s = 0.200$ R = 5
- ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE
- FACILITY 10 & 20 WET WELLS
 - SPECIAL REINFORCED CONCRETE SHEAR WALLS
 - $V = C^s W$
- $C_s = 0.200$ R = 5
- ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE

GENERAL INFORMATION:

- 1. ALL CONSTRUCTION SHALL CONFORM TO THE 2016 EDITION OF THE BUILDING CODE.
- 2. DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO ALL SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE KEYED IN EACH LOCATION. CONSULT THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
- 3. VERIFY ALL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH THE ARCHITECTURAL. MECHANICAL, HVAC AND ELECTRICAL DRAWINGS
- 4. FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS AND OPENINGS SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, HVAC AND PLUMBING DRAWINGS. COORDINATE ALL OPENINGS AND EQUIPMENT PADS WITH OTHER DISCIPLINES AND EQUIPMENT SUPPLIERS PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS.
- 5. NO STRUCTURAL MEMBER SHALL BE CUT FOR PIPES, DUCTS, ETC UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.

FOUNDATIONS:

1. IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT #217-053 BY YEH AND ASSOCIATES, INC., FOUNDATIONS HAVE BEEN DESIGNED FOR THE FOLLOWING VALUES:

, ,,	100% (120, 110., 1 001.D) (1101.0 1 % (12 DECIT DECICHED 1	OIX IIIE I OLLOVIII
•	ALLOWABLE BEARING, DEAD + LIVE LOADS	2,000 psf
•	MINIMUM FOOTING EMBEDMENT	18 INCHES
•	LATERAL EARTH PRESSURES (DRAINED)	
	o ACTIVE	35 pcf
	o AT-REST	55 pcf
	o PASSIVE	300 pcf
•	LATERAL EARTH PRESSURE (UNDRAINED)	
	o ACTIVE	80 pcf
	o AT-REST	91 pcf
	o PASSIVE	300 pcf
•	SLIDING FRICTION COEFFICIENT	0.4
•	SURCHARGE, FINISH GRAED TO A DEPTH OF 10FT	72 psf

- 2. NO BACKFILL SHALL BE PLACED BEHIND CANTILEVERED, FREE TOP WALLS UNTIL THE CONCRETE HAS ATTAINED 100% OF ITS SPECIFIED COMPRESSIVE STRENGTH.
- 3. NO BACKFILL SHALL BE PLACED BEHIND WALLS THAT ARE CONNECTED TO ELEVATED FLOOR OR ROOF SLABS OR DECKS UNTIL THE FLOOR OR ROOF SLAB HAS ATTAINED 100% OF ITS SPECIFIED COMPRESSIVE STRENGTH AND ALL ROOF AND FLOOR DECKING IS IN PLACE AND WELDED SCREWED, OR NAILED AS APPROPRIATE.
- 4. GRADE TO DRAIN AWAY FROM STRUCTURES A MINIMUM GRADE OF 5% FOR A MINIMUM OF 10'-0" FROM STRUCTURE PERIMETER.
- 5. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AT LEAST 48 BUSINESS HOURS NOTICE FOLLOWING EXCAVATION FOR FOUNDATIONS AND PRIOR TO THE PLACEMENT OF FORMWORK. REINFORCING STEEL AND CONCRETE.

FORMWORK, SHORING AND BRACING:

1. THE STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. THE DESIGN SHOWN DOES NOT INCLUDE THE NECESSARY COMPONENTS OR EQUIPMENT FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION. THE CONTACTOR IS RESPONSIBLE FOR ALL WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN. CONSTRUCTION OF SHORING AND BRACING OF FORMWORK SHALL BE IN ACCORDANCE WITH ACI 347 "GUIDE TO FORMWORK FOR CONCRETE".

PIPE BRIDGE:

- 1. THE PRE-ENGINEERED PIPE BRIDGE FOUNDATION IS ONLY PRELIMINARY FOR BIDDING PURPOSES. THE CONTRACTOR IS TO SUBMIT BRIDGE DRAWINGS AND STRUCTURAL CALCULATIONS, BASED ON THE LAYOUT SHOWN, DESIGNED AND SIGNED BY A CIVIL OR STRUCTURAL ENGINEER LICENSED IN CALIFORNIA. ONCE THE BRIDGE DRAWINGS AND CALCULATIONS HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER, THE BRIDGE FOUNDATION MAY BE REDESIGNED AND REISSUED TO THE CONTRACTOR FOR CONSTRUCTION.
- 2. SHOULD THE CONTRACTOR REQUEST REVISIONS TO THE LAYOUT TO FACILITATE THEIR OPERATION OF THE BRIDGE MANUFACTURER, THE CONTRACTOR SHALL COMPENSATE THE OWNER FOR SUCH ADDITIONAL REVISIONS.

CONCRETE:

- 1. STRUCTURAL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS AND A SLUMP AS SPECIFIED IN SECTION 03300 - CAST-IN-PLACE CONCRETE.
- 2. THE CONTRACTOR SHALL SUBMIT THE CONCRETE MIX DESIGNS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO USE.
- 3. HORIZONTAL CONSTRUCTION JOINTS SHALL BE PREPARED TO EXPOSE CLEAN, SOLIDLY EMBEDDED AGGREGATE OVER THE ENTIRE JOINT INTERFACE.
- 4. PLACEMENT OF PIPES, CONDUITS OR OTHER EMBEDDED ITEMS IN THE CONCRETE SHALL BE IN ACCORDANCE WITH THESE DRAWINGS OR SHALL BE APPROVED BY THE ENGINEER.
- 5. NO ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.
- 6. CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94.
- 7. THE REQUIREMENTS FOR CONCRETE MIXES, PLACING, TESTING AND CURING ARE CONTAINED IN THE PROJECT SPECIFICATIONS.
- 8. PORTLAND CEMENT SHALL CONFORM TO ASTM C150 TYPE II, AGGREGATE SHALL CONFORM TO ASTM C33.
- CONTINUOUS WATERSTOP, AS SPECIFIED, SHALL BE INSTALLED IN ALL EXPANSION, CONTRACTION, CONTROL AND CONSTRUCTION JOINTS IN WALLS AND SLABS OF CONTAINMENT STRUCTURES, WATER HOLDING BASINS, CHANNELS, AND BELOW GRADE STRUCTURES, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.
- 10. THE CONCRETE JOINTS IN SLABS AND WALLS, AS SHOWN, ARE MINIMUM REQUIREMENTS CONTRACTOR MAY SUBMIT ALTERNATE CONSTRUCTION JOINT LAYOUT DRAWINGS. SUBJECT TO SPECIFIED REQUIREMENTS, TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- 11. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AT LEAST 48 BUSINESS HOURS NOTICE PRIOR TO THE PLACEMENT OF CONCRETE TO ALLOW SUFFICIENT TIME FOR INSPECTIONS AND SCHEDULING OF TESTING SERVICES.

CONCRETE REINFORCING:

- 1. CLEARANCE FOR REINFORCEMENT BARS, UNLESS SHOWN OTHERWISE, SHALL BE: CAST AGAINST EARTH = 3", SURFACES OF PRIMARY AND SECONDARY LIQUID CONTAINING STRUCTURES = 2", ALL OTHER CONCRETE SURFACES: #5 BAR OR SMALLER = 1 1/2", #6 BAR OR LARGER = 2".
- 2. REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING DETAIL 3303. WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE AS SHOWN ON THE DRAWINGS AND REFERENCED TO THIS DETAIL. TYPICAL HORIZONTAL WALL REINFORCING SHALL LAP WITH THE CORNER HORIZONTAL REINFORCING.
- PROVIDE A MINIMUM OF TWO VERTICAL WALL BARS WITH MATCHING DOWELS AT WALL ENDS, CORNERS AND INTERSECTIONS WITH SIZE TO MATCH TYPICAL VERTICAL REINFORCING STEEL AS SHOWN. VERTICAL WALL BARS SHALL BE LAPPED WITH DOWELS FROM BASE SLABS AND EXTENDED INTO THE TOP FACE OF ROOF SLABS AND LAPPED WITH TOP SLAB REINFORCEMENT.
- 4. ALL BENDS, UNLESS OTHERWISE SHOWN, SHALL BE 90 DEGREE ACI 318 STANDARD HOOKS.
- 5. ALL REINFORCING BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE

OLLOWING	MINIMUM REQUI	REMENT	S:					
CONCRETE	E DESIGN STREN	GTH = 4,0	000 PSI #		GRAI	DE 60 REI	NFORCED	STEEL
BAR SIZE	#4	#5	#6	#7	#8	#9	#10	
LAP SPLICE	E LENGTH	•						
SPACING	TOP BAR *	2'-8"	3-'4"	4'-0''	5'-10"	6'-8"	8'-6"	10'-10"
<6"	OTHER BAR	2'-1"	2'-7"	3'-1"	4'-6"	5'-2"	6'-7"	8'-4"
SPACING	TOP BAR *	1'-8"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-2"
≥6"	OTHER BAR	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"

- TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.
- # WHERE 3,000 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 16%

STRUCTURAL NOTES

MASONRY:

- 1. SOLID GROUT ALL CELLS UNLESS INDICATED OTHERWISE.
- 2. MORTAR SHALL CONFORM TO ASTM C270, TYPE S, HYDRATED AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 1,900 PSI.
- 3. GROUT SHALL CONFORM TO ASTM C476 AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI CONTAINING NO MASONRY CEMENT.
- 4. CONCRETE BLOCK UNITS SHALL BE MEDIUM WEIGHT AND CONFORM TO ASTM C90 AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 1,900 PSI. LINEAR SHRINKAGE SHALL NOT EXCEED 0.065 PERCENT.
- 5. PLACE COURSES IN RUNNING BOND PATTERN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
- 6. REINFORCING STEEL FOR MASONRY SHALL CONFORM TO ASTM A615, GRADE 60 FOR DEFORMED BARS. LAP VERTICAL REINFORCING 48 BAR DIAMETERS. LAP VERTICAL REINFORCING IN CANTILEVER WALLS 72 BAR DIAMETERS. LAP HORIZONTAL REINFORCING 48 BAR DIAMETERS. STAGGER ADJACENT LAP SPLICES BY 24 INCHES, WHEN SEPARATED BY 3 INCHES OR LESS. REFERENCE STANDARD DETAIL 4002 REINFORCED CMU WALL.
- 7. HORIZONTAL REINFORCING BARS SHALL BE CONTINUOUS AROUND WALL CORNERS AND THROUGH WALL INTERSECTIONS AND HOOKED AT WALL ENDS AS SHOWN IN THE DETAILS.
- 8. VERTICAL REINFORCING SHALL BE PLACED AT CORNERS, EACH SIDE OF OPENINGS, END WALLS (INCLUDING EACH SIDE OF CONTROL JOINTS), AT A MAXIMUM SPACING INDICATED IN THE DRAWINGS, AND CONTINUOUS FROM FOUNDATION TO TOP OF WALL.
- 9. CMU REINFORCING AT WALL INTERSECTIONS AND CORNERS SHALL BE AS INDICATED IN STANDARD DETAIL 4001 CMU WALL CORNERS, UNLESS INDICATED OTHERWISE.
- 10. CMU REINFORCING AT ALL WALL ENDS, JAMBS AND DOOR OPENINGS, WINDOW LINTELS, LOUVERS AND PENETRATIONS SHALL BE INDICATED IN STANDARD DETAIL 4004 CMU OPENINGS GREATER THAN 3'-0" OR STANDARD DETAIL 4003 CMU OPENINGS LESS THAN 3'-0", UNO.
- 11. CMU WALL CONTROL JOINTS SHALL BE LOCATED WHERE SHOWN ON THE DRAWINGS AND SHALL RUN CONTINUOUS FROM THE TOP OF FOUNDATION TO TOP OF WALL. ALL HORIZONTAL NON-STRUCTURAL BARS SHALL BE TERMINATED IN A STANDARD HOOK EACH SIDE OF JOINT. STRUCTURAL BARS SHALL BE CONTINUOUS THROUGH CONTROL JOINTS.

WOOD NAILIN

- 1. NAILS SHALL BE "COMMON" WIRE NAILS, UNLESS OTHERWISE SPECIFIED. NAILS SHALL BE PREDRILLED, IF REQUIRED, TO AVOID SPLITTING THE MEMBER. NAILS SHALL BE THE FOLLOWING SIZES:
 - 10d COMMON = 0.148"φx 3"
 - 16d COMMON = 0.162" $\varphi \times 3 \frac{1}{2}$ "
- 2. THE EDGE DISTANCE FOR NAILING IN MEMBERS WHERE PLYWOOD PANELS ARE TO ABUT SHALL BE 3/4" FOR 3X OR WIDER AND 3/8" FOR 2X NOMINAL MEMBERS.
- 3. FASTENERS FOR PRESERVATIVE-TREATED AND FIRE RETARDANT-TREATED WOOD SHALL BE OF HOT DIPPED ZINC-COATING. FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A153.
- 4. NAILS IN STRUCTURAL WOOD PANELS SHALL BE DRIVEN SO THAT THEIR HEADS ARE FLUSH WITH THE PANEL SURFACE.
- 5. USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOB SITE DEMONSTRATION AND ENGINEER'S APPROVAL. APPROVAL IS SUBJECT TO SATISFACTORY PERFORMANCE. IF NAIL HEADS PENETRATE THE FACE PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER, OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.
- 6. SHEATHING PANELS SHALL BUTT AT CENTERLINE OF A SINGLE SUPPORTING MEMBER WITH EDGE NAILING FROM EACH PANEL INTO THAT MEMBER.
- 7. ALL TOP PLATES, SILLS AND STUDS SHALL HAVE EDGE NAILING AT THE CENTERLINE OF MEMBER.
- 8. PIECES OF WALL, ROOF OR FLOOR SHEATHING SHALL BE NO LESS THAN 12" IN LEAST DIMENSION. PIECES LESS THAN 24" SHALL HAVE 3X4 FLAT MIN BLKG @ UNSUPPORTED PANEL EDGES.
- 9. UNLESS NOTED ON DRAWINGS, FASTENING SHALL BE AS SPECIFIED BELOW:

CHEECO NOTED CHARLOW, THOSE MINE DE 100 OF ECH TED BELOVY.						
BLOCKING BETWEEN JOISTS, RAFTERS OR TRUSSES:						
TO JOIST, RAFTER OR TRUSS EACH END	2-16d EN OR 4-10d TN					
BLOCKING BETWEEN STUDS:						
EACH SIDE TO NAILS	2-10d					
OR END NAILS	2-16d					
SILL PLATE TO JOIST OR BLOCKING, FACE NAIL	16d @16" OC					
TOP PLATE TO STUD, END NAIL	2-16d					
STUD TO SILL PLATE	3-16d EN or 4-8d TN					
DOUBLED STUDS OR JOISTS, FACE NAIL	16d @12" OC					

ROUGH CARPENTRY:

- 1. DIMENSIONS ARE TYPICALLY SHOWN TO FACE OF STUD FOR EXTERIOR WALLS, CENTERLINE OF STUD AT INTERIOR WALLS AND TO CENTERLINE OF OPENINGS.
- 2. STRUCTURAL FRAMINGS SHALL BE DOUGLAS FIR (DF) OF THE GRADES INDICATED OR BETTER (WWPA GRADING RULES) WITH 19% MAXIMUM MOISTURE CONTENT:

 BEAMS AND STRINGERS:

	WIS AND STRINGLING.	
•	4x	NO. 1
•	6x	NO. 1
•	JOISTS, RAFTERS & LEDGERS, 2x AND 4x	NO. 1
•	POSTS AND TIMBERS	NO. 1
•	STUDS, SILL & PLATES: 2x4	STUD
•	2x6	NO. 1
•	2x8 AND LARGER	NO. 1
•	MISC. FRAMING LUMBER NOT NOTED	NO. 2

- 3. SILLS ON CONCRETE SLAB ON GRADE SHALL BE APPROVED PRESSURE TREATED DF. EACH PIECE SHALL BEAR THE AWPA STAMP. CUTS AND BORED HOLES OF TREATED DF SHALL BE TREATED WITH COPPER GREEN.
- 4. FASTENERS FOR PRESERVATIVE-TREATED AND FIRE RETARDANT-TREATED WOOD SHALL BE OF HOT DIPPED ZINC-COATED GALVANIZED STEEL, OR STAINLESS STEEL. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A153. HARDWARE SHALL BE COATED PER SIMPSON STRONG TIE 'CORROSION INFORMATION'.
- 5. WOOD STRUCTURAL MEMBERS SHALL NOT BE DRILLED OR NOTCHED EXCEPT AS SHOWN OR AS APPROVED BY THE ENGINEER.
- 6. FRAMING HARDWARE NOTED IS SIMPSON STRONG-TIE AND SHALL BE INSTALLED WITH CONNECTORS SPECIFIED FOR EACH SPECIFIC DEVICE BY THE MANUFACTURER'S CURRENT CATALOG. EQUIVALENT DEVICES APPROVED BY THE ENGINEER MAY BE SUBSTITUTED. SINKERS SHALL NOT BE USED.
- 7. WALL TOP PLATES SHALL HAVE JOINTS AT A STUD CENTERLINE. END JOINTS IN DOUBLE TOP PLATES SHALL BE OFFSET AT LEAST 4'-0".
- 8. BOLT HOLES IN WOOD AND/OR STEEL SHALL BE 1/16" LARGER THAN BOLTS. STANDARD CUT WASHERS SHALL BE PROVIDED UNDER THE HEADS AND NUTS OF ALL BOLTS BEARING ON WOOD. 3" X 3"X 1/4" PLATE WASHERS SHALL BE USED UNDER ALL ANCHOR BOLTS.
- 9. ALL NUTS SHALL BE TIGHTENED WHEN PLACED AND RETIGHTENED PRIOR TO APPLICATION OF FINISH OR AT COMPLETION OF JOB.
- 10. BLOCKING 2X WIDTH OF STUD, SHALL BE PROVIDED AT FLOOR, CEILING AND ROOF LINES AND SO THAT UNBRACED LENGTH OF STUD DOES NOT EXCEED 10'-0".
- 11. ALL JOISTS AND RAFTERS SHALL HAVE FULL DEPTH SOLID BLOCKING (2X MIN) OR CONTINUOUS RIM JOIST AT ALL SUPPORTS.
- 12. EXCEPT WHERE NOTED OTHERWISE, STUD WALLS SHALL BE 2X6 @ 16" OC MAXIMUM SPACING.
- 13. LAG BOLTS AND WOOD SCREWS SHALL BE SCREWED, NOT DRIVEN, INTO PLACE. LEAD HOLES SHALL BE PREBORED PER NDS CHAPTER 11.

EXPANSION ANCHORS:

- EXPANSION ANCHORS SHALL BE STAINLESS STEEL HILTI KWIK BOLT TZ OR SIMPSON STRONG-BOLT 2, UNLESS NOTED OTHERWISE. INSTALL ANCHORS IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS AND ICC REPORT.
- 2. SPECIAL INSPECTION IS REQUIRED PER CBC SECTION 1705 AND THE REQUIREMENTS OF THE ICC REPORT.
- 3. CONTRACTOR SHALL VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESSES ARE IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS PRIOR TO INSTALLING ANCHORS.
- 4. WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR.
- 5. THE SPECIAL INSPECTOR MUST BE PRESENT ON THE JOB SITE DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE, ANCHOR SPACING, AND CONCRETE THICKNESS.

ADHESIVE ANCHORS:

- 1. THE ADHESIVE ANCHOR SYSTEM USED FOR POST-INSTALLED ANCHORAGE TO CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY PUBLISHED ACI 355.4, ACCEPTANCE CRITERIA FOR QUALIFICATION OF POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE AND COMMENTARY. THE ANCHOR SYSTEM SHALL BE ONE OF THE FOLLOWING:
- HILTI HIT-HY 200.
- SIMPSON SET-3G.
- 2. ADHESIVE ANCHORS SHALL BE SUPPLIED AS AN ENTIRE SYSTEM INCLUDING, BUT NOT LIMITED TO, THE NEW ADHESIVE CARTRIDGE, A CLEAN MIXING NOZZLE, EXTENSION TUBE, A DISPENSING GUN, AND ALL MANUFACTURER RECOMMENDED SUPPLIES FOR PROPERLY CLEANING THE DRILLED HOLE.
- 3. ALL-THREAD ROD TO BE USED IN ADHESIVE ANCHOR ASSEMBLIES SHALL CONFORM TO ASTM A36, A193 (GR B7), A307, OR F1554. STAINLESS STEEL ANCHOR RODS SHALL BE TYPE 316. NUTS, WASHERS, AND OTHER HARDWARE USED WITH AN ALL-THREAD SHALL HAVE A MATERIAL OR ALLOY DESIGNATION THAT MATCHES THE ALL-THREAD MATERIAL / ALLOY.
- 4. REINFORCING BARS SHALL BE ASTM A615 OR A706.
- 5. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT THE TIME OF ADHESIVE ANCHOR INSTALLATION. CONCRETE SHALL HAVE A MINIMUM AGE OF 21 DAYS AT THE TIME OF ADHESIVE ANCHOR INSTALLATION.
- 6. CONCRETE TEMPERATURE AT THE TIME OF ADHESIVE ANCHOR INSTALLATION SHALL BE AT LEAST 50°F.
- 7. EMBEDMENT DEPTH AND ANCHOR PROJECTION FROM THE CONCRETE SURFACE SHALL BE AS SHOWN ON THE DRAWINGS FOR THE PARTICULAR ANCHOR OR GROUP OF ANCHORS BEING INSTALLED. ABSENT ANY INFORMATION, THE MINIMUM EMBEDMENT DEPTH SHALL BE 12d WHERE "d" IS THE ANCHOR DIAMETER.
- 8. ADHESIVE ANCHORS SHALL BE INSTALLED BY QUALIFIED PERSONNEL TRAINED TO INSTALL ADHESIVE ANCHORS IN ACCORDANCE WITH THE SPECIFICATIONS. POST-INSTALLED ADHESIVE ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
- INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM. THESE ANCHORS ARE DESIGNATED WITH A (CERT) AFTER THE ANCHOR CALL-OUT.
- 10. THE INSTALLER'S QUALIFICATIONS SHALL BE SUBMITTED AND APPROVED IN ACCORDANCE WITH SECTION 05051 OF THE SPECIFICATIONS.
- 11. WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR.
- 12. SPECIAL INSPECTION IS REQUIRED PER CBC SECTION 1705 AND THE REQUIREMENTS OF THE ICC REPORT. THE SPECIAL INSPECTOR MUST BE PERIODICALLY ON THE JOBSITE DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE, ANCHOR SPACING, AND CONCRETE THICKNESS.
- 13. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION BY AN INSPECTOR SPECIALLY APPROVED FOR THAT PURPOSE BY THE BUILDING OFFICIAL.

DESIGNED J KELLOGG DRAWN B TROTTER CHECKED J KELLOGG APPROVED M FISHER

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NORKS
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Douglas Blvd., Suite 105 • Roseville



CITY OF MORRO BAY
WATER RECLAMATION FACILITY
LIFT STATIONS AND OFFSITE
PIPELINES

GENERAL

L NOTES CONTINUE

DATE MAY 2020 PROJECT NUMBER 17-082

DRAWING NUMBER

G-9

SHEET NUMBER 9

PROFESSION L. LIANTING TO THE OF CALIFORNIA

STRUCTURAL NOTES

STRUCTURAL OBSERVATION:

- 1. STRUCTURAL OBSERVATION SHALL BE IN ACCORDANCE WITH THE 2015 CBC SECTION 1704.6 TOGETHER WITH LOCAL AND STATE AMENDMENTS.
- 2. THE OWNER SHALL EMPLOY A REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR ANY REQUIRED SPECIAL INSPECTIONS OR INSPECTIONS BY THE BUILDING OFFICIAL.
- 3. ONSITE STRUCTURAL OBSERVATION SHALL BE PERFORMED AT LEAST ONCE A MONTH, PLUS AT COMPLETION, FOR EACH SEISMIC FORCE OR WIND FORCE RESISTING SYSTEM IDENTIFIED, INCLUDING FOUNDATIONS AND CONNECTIONS.
- 4. AT THE CONCLUSION OF CONSTRUCTION, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.
- 5. STRUCTURAL OBSERVATION SHALL INCLUDE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM FOR EACH STRUCTURE CONTAINED IN THE WORK. THE CONTRACTOR SHALL SCHEDULE AND FACILITATE STRUCTURAL OBSERVATION INCLUDING THE FOLLOWING:
 - FOUNDATION REINFORCING STEEL, WATERSTOPS, EMBEDS, AND SIMILAR ITEMS PRIOR TO CONCRETE PLACEMENT.
 - WALL TO FOUNDATION CONNECTIONS PRIOR TO FORM CLOSURE FOR ALL MATERIALS.
 - CONCRETE WALLS PRIOR TO CONCRETE PLACEMENT.
 - ELEVATED CONCRETE SLABS AND BEAMS PRIOR TO CONCRETE PLACEMENT.
 - MASONRY WALL REINFORCING STEEL PRIOR TO GROUTING AND PRIOR TO CLOSING OF CLEANOUTS.
 - SYSTEM CONNECTION EMBEDS PRIOR TO GROUT OR CONCRETE PLACEMENTS.
 - ALL OTHER WALL ANCHORAGE CONNECTIONS FOR MATERIALS NOT SPECIFICALLY IDENTIFIED ABOVE.

STATEMENT OF SPECIAL INSPECTIONS:

- 1. SPECIAL INSPECTION IS IN ADDITION TO THE INSPECTIONS REQUIRED BY SECTION 110 OF THE CBC. THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR DURING CONSTRUCTION ON THE TYPES OF WORK INDICATED BELOW.
- 2. SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT QUALIFIED PERSON WHO IS ACCEPTABLE TO THE ENGINEER AND BUILDING DEPARTMENT. THE INSPECTORS FOR EACH SYSTEM AND MATERIAL WILL BE ICC CERTIFIED OR OTHERWISE APPROVED BY THE BUILDING OFFICIAL. THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS AND SUBMIT RECORDS OF INSPECTION.
- 3. INSPECTION RECORDS AND TESTING REPORTS SHALL BE SUBMITTED TO THE ENGINEER, OWNER, AND BUILDING OFFICIAL WITHIN ONE WEEK OF INSPECTION OR WITHIN ONE WEEK OF TEST COMPLETION.
- 4. AT THE CONCLUSION OF CONSTRUCTION, A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF DISCREPANCIES SHALL BE SUBMITTED.
- 5. PERIODIC SPECIAL INSPECTION IS DEFINED AS SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED.
- 6. SPECIAL INSPECTION IS REQUIRED PER CHAPTER 17 OF THE CBC FOR THE FOLLOWING ITEMS:
- SOILS (BY CONTRACTOR PER SPECIFICATION SECTION 02300)
- CONCRETE CONSTRUCTION
- MASONRY CONSTRUCTION

	REQUIRED VERIFICATION AND SPECIAL INSPECTION OF SOILS					
VI	VERIFICATION AND INSPECTION CONTINUOUS		PERIODIC	REFERENCED STANDARD	2015 CBC REFERENCE	
1.	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	-	X	SECTION 02300 - EARTHWORK	1705.6, 1804	
2.	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	-	×	SECTION 02300 - EARTHWORK	1705.6	
3.	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	-	×	SECTION 02300 - EARTHWORK	1705.6	
4.	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	-	SECTION 02300 - EARTHWORK	1705.6	
5.	PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	-	X	SECTION 02300 - EARTHWORK	1705.6	

REQUIRED SPECIAL INSPECTION OF CONCRETE CONSTRUCTION					
VEF	RIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	2015 CBC REFERENCE
1.	INSPECTION OF REINF STEEL AND PLACEMENT	-	Х	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
3.	INSPECTION OF ANCHORS CAST IN CONCRETE	-	X	ACI 318: 17.8.2	-
4.a.	INSPECTION OF ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	-	ACI 318: 17.8.2.4	-
4.b.	INSPECTION OF MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	-	X	ACI 318: 17.8.2	-
5.	VERIFYING USE OF REQUIRED DESIGN MIX	-	Х	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6.	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM: C172, C31 ACI318: 26.4, 26.12	1908.10
7.	INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	Х	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8.	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	-	Х	ACI 318: 26.5.3-26.5.5	1908.9
11.	VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS	-	X	ACI 318: 26.11.2	-
12.	INSPECTION FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	-	Х	ACI 318: 26.11.1.2(b)	-

	QUIRED SPECIAL INSPECTION C			REFERENCE	REFERENCE
	INSPECTION TASK	CONTINUOUS	PERIODIC	STANDARD:	STANDARD:
				TMS 402/602	TMS 402/602
1.	VERIFY COMPLIANCE WITH				
	THE APPROVED	-	X	-	Art. 1.5
	SUBMITTALS				
2.	AS MASONRY CONSTRUCTIO	N BEGINS, VERIF`	Y THAT THE F	OLLOWING ARE I	N COMPLIANCE
2a.	PROPORTIONS OF SITE-				
	PREPARED MORTAR AND	-	X	-	Art. 2.1, 2.6 A
	GROUT				
2b.	CONSTRUCTION OF	_	×	_	Art. 3.3 B
	MORTAR JOINTS				7 tr t. 0.0 B
2d.	LOCATION OF REINF AND	_	×	_	Art. 3.4, 3.6 A
	CONNECTORS				·
3.	PRIOR TO GROUTING, THE FO	DLLOWING SHALL	BE VERIFIED	TO ENSURE COM	IPLIANCE:
3a.	GROUT SPACE	_	×	_	Art. 3.2 D, 3.2
		_	Λ		F
3b.	GRADE, TYPE, AND SIZE OF		Х	Sec. 1.16	Art. 2.4, 3.4
	REINF AND ANCHOR BOLTS	-	^	3ec. 1.10	Art. 2.4, 3.4
3c.	PLACEMENT OF REINF AND		Х	Sec. 1.16	Art. 3.2 E, 3.4
	CONNECTORS	-	^	Sec. 1.10	3.6 A
3d.	PROPORTIONS OF SITE-		Х		Art. 2.6 B, 2.4
	PREPARED GROUT	_	^	_	G.1.b
3e.	CONSTRUCTION OF	_	×	_	Art. 3.3 B
	MORTAR JOINTS		Λ		7 ti t. 0.0 B
4.	VERIFY DURING				
	CONSTRUCTION:				
4a.	SIZE AND LOCATION OF	_	×	_	Art. 3.3 F
	STRUCTURAL ELEMENTS		Α		7 (11. 0.0)
4b.	TYPE, SIZE AND LOCATION				
	OF ANCHORS, INCLUDING				
	OTHER DETAILS OF			Sec. 1.16.4.3,	
	ANCHORAGE OF MASONRY	-	X	1.17.1	-
	TO STRUCTURAL				
	MEMBERS, FRAMES OR				
4 .	OTHER CONSTRUCTION				
4d.	PREPARATION,				
	CONSTRUCTION, AND		\ \ \		Art. 1.8 C, 1.8
	PROTECTION OF MASONRY	-	X	-	D
	DURING COLD WEATHER				
4f.	OR HOT WEATHER PLACEMENT OF GROUT	X			Art 2 E
41. 5.		^	-	-	Art. 3.5
O .	OBSERVE PREPARATION				Art. 1.4 B.2.a.3
	OF GROUT SPECIMENS, MORTAR SPECIMENS,	-	X	-	1.4 B.2.b.3, 1.4 B.2.c.3, 1.4
	AND/OR PRISMS				B.3, 1.4 B.4
		<u>l</u> REQUIRED MINIM	I IIM TESTS		J.O, 1.4 D.4
1.	VERIFICATION OF SLUMP				<u> </u>
١.	FLOW AND VSI AS				
	DELIVERED TO THE SITE	_	×	<u> </u>	Art, 1.5 B.1.b.3
	FOR SELF-CONSOLIDATING	_		_	,, 1.0 D. 1.D.C
	GROUT				
2.	VERIFICATION OF I'm				
	,	İ	X	İ	Art. 1.4 B

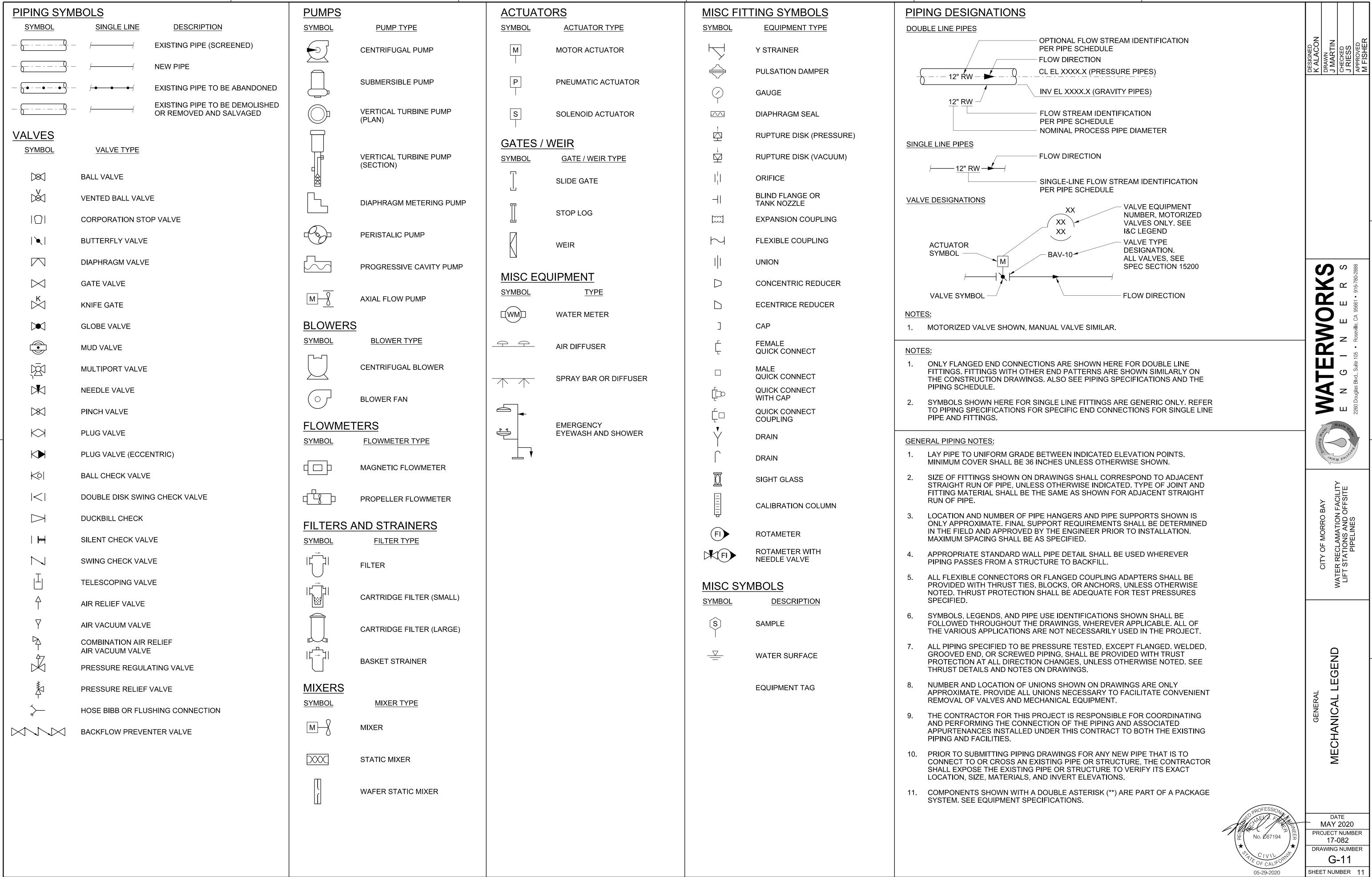


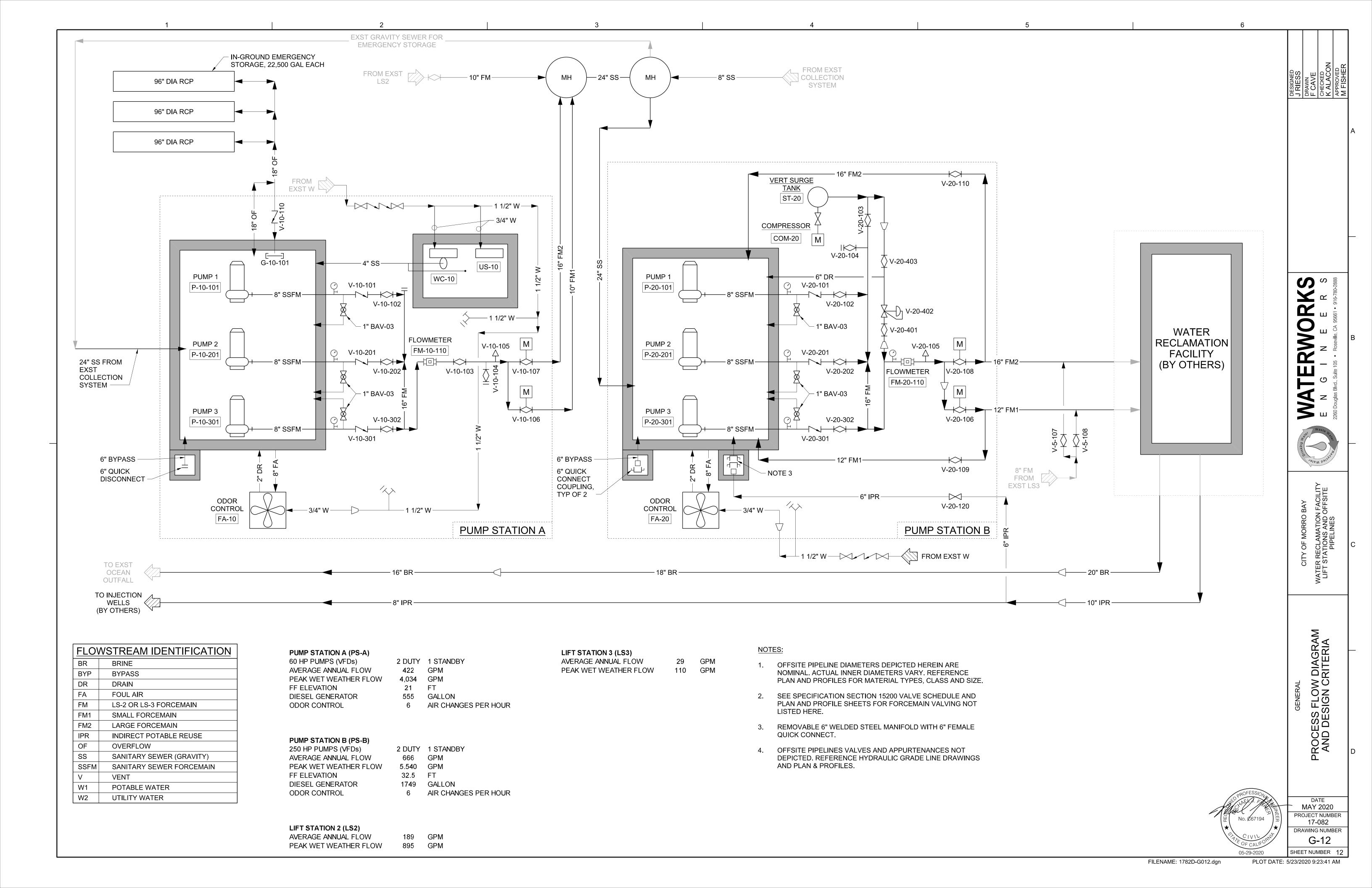


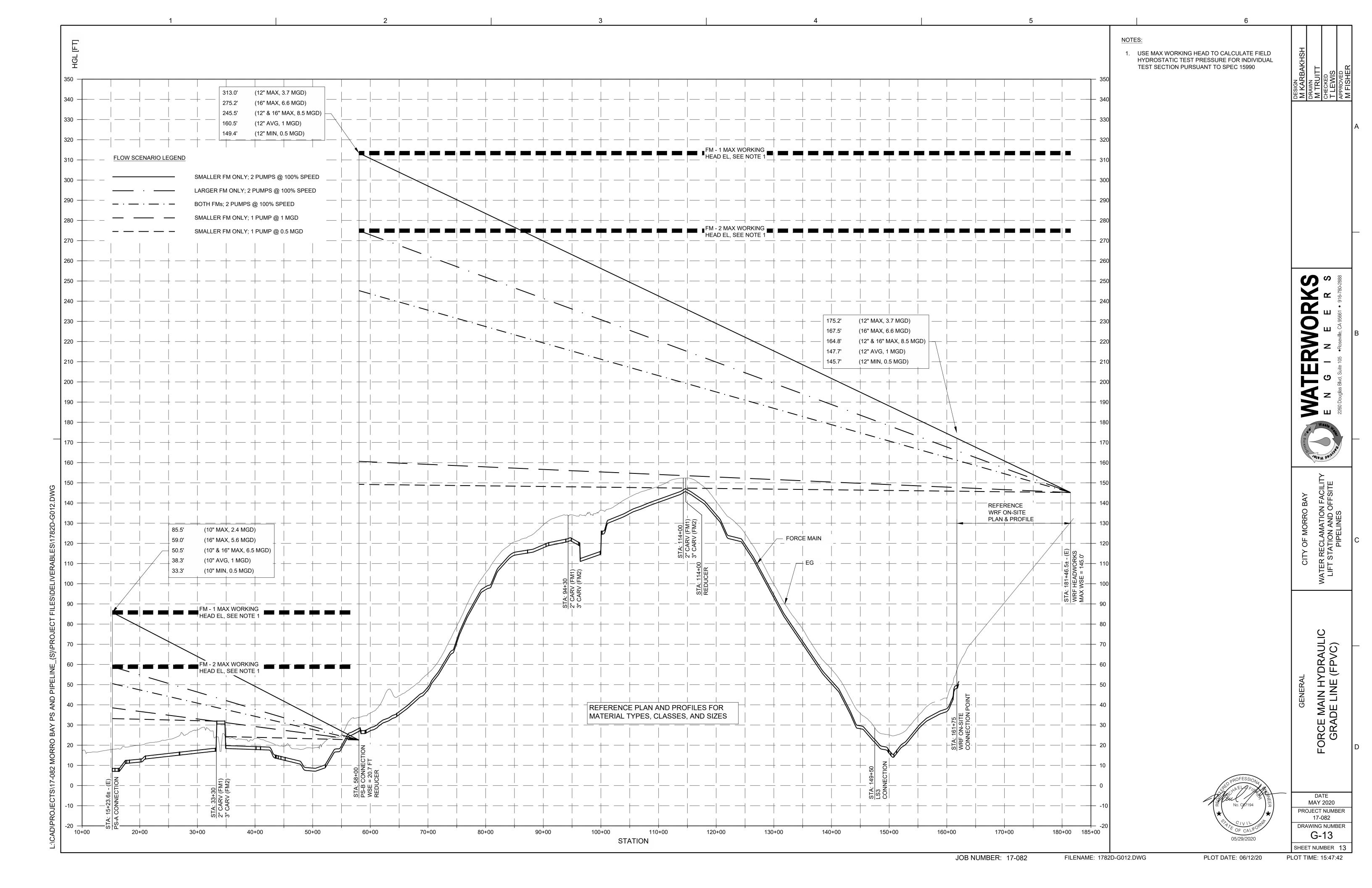
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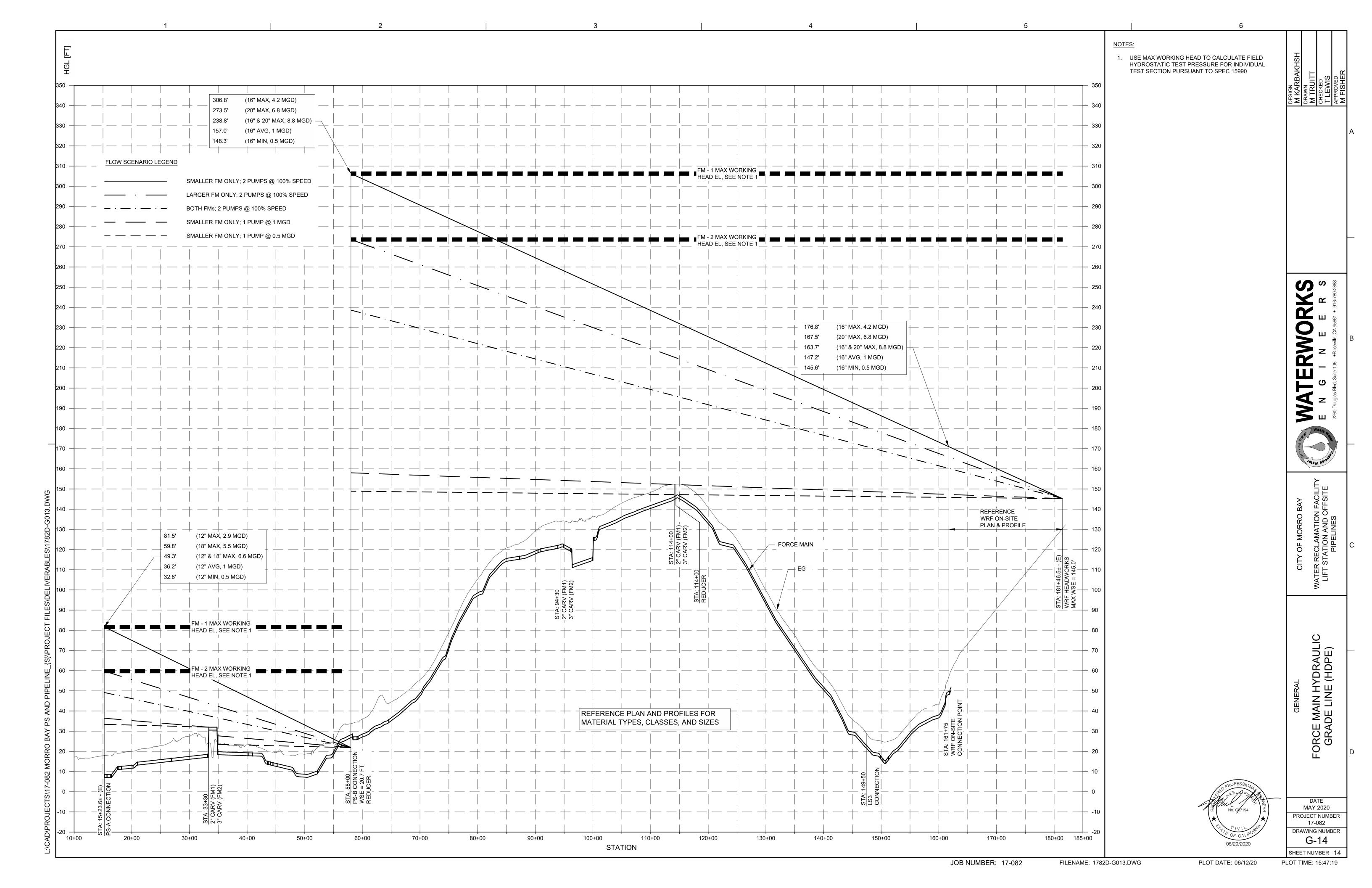
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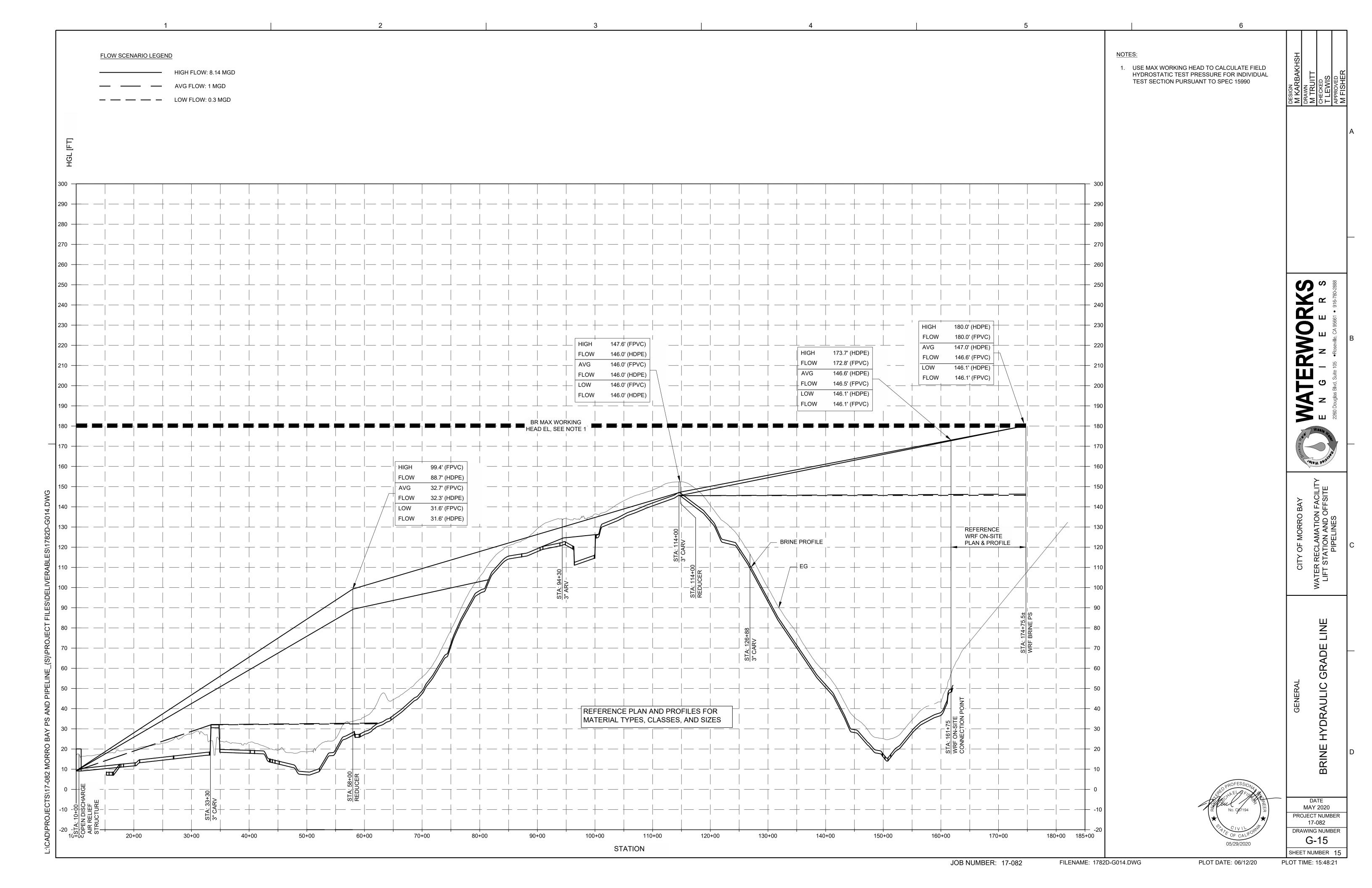
MAY 2020 PROJECT NUMBER 17-082 DRAWING NUMBER

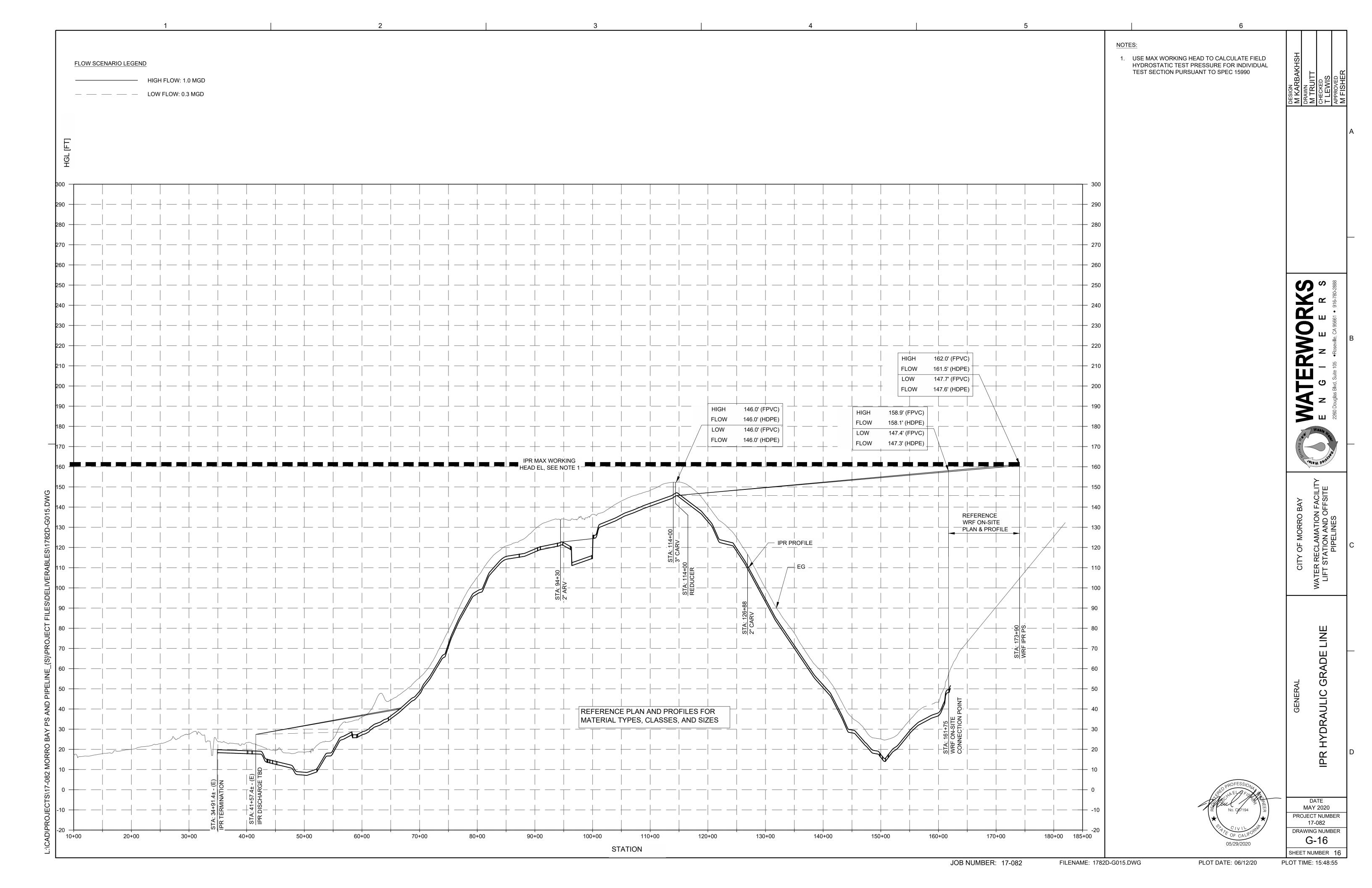












CIVIL GENERAL NOTES

- 1. CONTRACTOR RESPONSIBILITY: ALL CONSTRUCTION WORK AND INSTALLATIONS SHALL CONFORM TO THE CITY OF MORRO BAY (OWNER) STANDARDS AND SPECIFICATIONS WHICH ARE SUBJECT TO APPROVAL FROM THE CITY ENGINEER (OWNER). IN ADDITION, ALL WORK SHALL CONFORM WITH THE CONTRACT DOCUMENTS AND COMPLY WITH APPLICABLE STATE, FEDERAL, AND LOCAL CODES. ALL NECESSARY LICENCES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.
- 2. WORK DEVIATION: DEVIATION FROM THESE PLANS WITHOUT THE PRIOR WRITTEN CONSENT OF THE ENGINEER MAY BE CAUSE FOR THE WORK TO BE UNACCEPTABLE. MINOR CHANGES IN THE HORIZONTAL AND VERTICAL ALIGNMENT OF MAIN PIPELINES & YARD PIPING MAY BE PROPOSED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL TO FACILITATE CONSTRUCTION AND AVOID FIELD CONFLICTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.
- 3. CONTRACT DOCUMENT PRECEDENCE: ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS AND OTHER PROVISIONS ARE LISTED IN VOLUME 1.
- 4. EXISTING CONDITIONS: EXISTING OR ORIGINAL CONDITION IS DEFINED AS A PRE-CONSTRUCTION CONDITION. IF PROVIDED, AERIAL ORTHO-RECTIFIED PHOTO IMAGERY IN THE BACKGROUND OF A DRAWING IS INTENDED TO CLARIFY THE WORK SITE AT THE TIME OF THE DESIGN. EXISTING CONDITIONS MAY VARY FROM THE CONDITIONS DEPICTED IN THE ORTHO IMAGERY CONTRACTOR SHALL VERIFY EXISTING SURFACE CONDITIONS WHEN FEASIBLE PRIOR TO BIDDING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.
- 5. REFERENCE ALIGNMENT & CONSTRUCTION SURVEY: ALL ALIGNMENT LENGTHS AND DISTANCES BETWEEN STRUCTURES ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE ALONG A HORIZONTAL PLANE. ALL EXISTING OR FINISHED GRADE ELEVATIONS DEPICTED IN PROFILE VIEW ARE ELEVATIONS ALONG THE CENTER LINE OF THE REFERENCE ALIGNMENT UNLESS OTHERWISE INDICATED. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION AND SHALL NOTIFY THE ENGINEER TO ANY DISCREPENCIES. A POSITIVE OFFSET STATION IS THE PERPENDICULAR OFFSET DISTANCE TO THE RIGHT OF AN ALIGNMENT IN THE DIRECTION OF THE INCREASING STATION. THE CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION SURVEYING WHICH SHALL BE PERFORMED BY A LICENSED SURVEYOR.
- 6. TYPICAL DETAILS AND TRENCH DETAIL CONTINUITY: TYPICAL DETAILS AND SCHEDULES INDICATED MAY NOT BE SPECIFICALLY REFERENCED ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE WHERE EACH TYPICAL DETAIL OR SCHEDULE APPLIES. THE ENGINEER SHALL BE NOTIFIED IF LOCATIONS ARE FOUND WHERE NO TYPICAL DETAIL, SCHEDULE, OR SPECIFIC DETAIL APPLIES. THE CONTRACTOR SHALL ADAPT AND TRANSITION BETWEEN CONTINUOUS TRENCH DETAILS BASED ON PLAN AND PROFILE.
- 7. PRESERVATION OF PROPERTY: PRIVATE AND PUBLIC PROPERTY SHALL BE PROTECTED DURING CONSTRUCTION AND IF DAMAGED DURING EXECUTION OF WORK SHALL BE REPLACED AND/OR RESTORED TO MATCH EXISTING CONDITIONS OR UPDATED STANDARDS IF REQUIRED BY THE OWNER.
- 8. CONCRETE FLATWORK REPLACEMENT: ALL TRAFFIC ISLANDS, CURBS, CONCRETE DRIVEWAYS AND SIDEWALKS EXCAVATED OR DAMAGED DURING EXECUTION OF WORK SHALL BE REPLACED TO THE FIRST EXPANSION JOINT BEYOND THE TRENCH AND TO THE FULL WIDTH AND SHALL MATCH EXISTING CONDITIONS OR UPDATED STANDARDS IF REQUIRED BY THE OWNER. UNLESS OTHERWISE DIRECTED, ADA-ACCESSIBILITY CURB RAMPS SHALL BE REPLACED IN FULL TO THEIR FUNCTIONAL LIMITS AND MODIFIED TO COMPLY WITH OWNER STANDARD DETAILS.
- 9. MONUMENT CONSERVATION: PRIOR TO COMMENCEMENT OF WORK, ALL SURVEY MONUMENTS IN THE PROJECT AREA SHALL BE LOCATED AND TIED OUT. ALL CENTERLINE MONUMENTS OR TIES LOST OR DESTROYED BY THIS WORK SHALL BE REPLACED EITHER BY A LICENSED SURVEYOR OR A CIVIL ENGINEER REGISTERED PRIOR TO JANUARY 1. 1982 AND NEW TIE SHEETS PROVIDED. METHOD OF ESTABLISHMENT SHALL BE STATED ON THE TIE SHEET.
- 10. SALVAGING OWNER EQUIPMENT & DEBRIS DISPOSAL: SALVAGED OWNER EQUIPMENT SUCH AS METERS, VALVES, AND HYDRANTS SHALL BE RETURNED TO THE OWNER AT THE PROJECT CONCLUSION OR UPON REQUEST. NO SALVAGED ITEMS SHALL BE RE-INCORPORATED INTO THE NEW WORK, UNLESS OTHERWISE DIRECTED. ALL CONSTRUCTION DEBRIS, UNSUITABLE AND SURPLUS MATERIAL. AND CLEARED/GRUBBED VEGETATIVE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE SITE UNLESS OTHERWISE DIRECTED BY THE OWNER.
- 11. PIPELINE PROTECTION FROM DEBRIS: THE CONTRACTOR SHALL PREVENT ACCUMULATION OF DEBRIS OR SOILS WITHIN NEW PIPELINES DURING INSTALLATION AND SHALL PLUG THE ENDS OF PIPELINES WITH APPROVED PLUGS AT THE END OF THE DAY. USE OF A PIPELINE DURING CONSTRUCTION TO STORE OR CONVEY SCREENED DEWATERED GROUNDWATER OR ACCUMULATED STORM RUNOFF IS ONLY PERMISSIBLE FOR PIPELINES INTENDEDNON-POTABLE SERVICE WITH PRIOR APPROVAL FROM ENGINEER. AFTER FINAL ACCEPTANCE, USE OF ANY PIPELINE FOR PURPOSES OTHER THAN START-UP AND OPERATION ARE RESTRICTED UNLESS APPROVED BY THE OWNER.
- 12. EXISTING UTILITIES: THE CONTRACTOR IS REQUIRED TO CONTACT UNDERGROUND SERVICE ALERT TWO (2) TO FOURTEEN (14) DAYS PRIOR TO BEGINNING ANY EXCAVATION. THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON AVAILABLE RECORDS. ARE

APPROXIMATE, AND ARE DEPICTED FOR THE CONTRACTOR'S CONVENIENCE. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS AND ACCURACY OF UTILITIES SHOWN. THE CONTRACTOR SHALL NOTE THAT SMALL-DIAMETER IRRIGATION PIPELINES ARE NOT DEPICTED HEREIN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE SIZE, DEPTH, ORIENTATION, MATERIAL, AND LOCATION OF ALL EXISTING UNDERGROUND UTILITIES WITHIN WORK AREAS PRIOR TO CONSTRUCTION AND SUBMIT THIS INFORMATION TO THE ENGINEER IF IT DEVIATES FROM THE PROJECT PLANS. THE CONTRACTOR SHALL PROVIDE FOR THE PROTECTION OF EXISTING UTILITIES AND REPAIR OR REPLACE UTILITIES THAT ARE DAMAGED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. THE CONTRACTOR SHALL MAKE SUCH REPAIRS OR REPLACEMENTS TO A SATISFACTORY CONDITION THAT MEETS THE CURRENT UTILITY COMPANY STANDARD. THE CONTRACTOR SHALL COORDINATE WORK WITH CONFLICTING UTILITY OWNERS AND PROVIDE FOR REMOVAL. RELOCATION. AND REPLACEMENT AS NECESSARY FOR INSTALLATION OF THE PROPOSED FACILITIES AT NO EXPENSE TO THE OWNER

13. UTILITY VERIFICATION REQUIREMENTS: CONTRACTOR SHALL DEVELOP AND SUBMIT TO THE ENGINEER FOR APPROVAL A UTILITY VERIFICATION PLAN WITHIN 30 DAYS OF PROJECT COMMENCEMENT. THE PLAN SHALL DESCRIBE THE PROPOSED VERIFICATION METHODOLOGY, BACKFILL AND/OR TEMPORARY PAVEMENT REPLACEMENT PROCEDURES, IMPLEMENTATION SCHEDULE, AND TRAFFIC CONTROL PLAN. ACCEPTABLE VERIFICATION METHODOLOGIES ARE NON-MECHANICAL VACUUM POTHOLING AND HAND EXCAVATION THAT EXPOSE THE UTILITY FOR VISUAL CONFIRMATION AND ALLOW FOR DOCUMENTATION WITH PHOTO/VIDEO AND SURVEY. MECHANICAL EXPLORATORY TRENCHING SHALL ONLY BE APPROVED IN SPECIAL CIRCUMSTANCES WHERE IT BENEFITS THE OWNER AND PROJECT SCHEDULE AND MAY BE SUBJECT TO CULTURAL MONITORING PROCEDURES. CITY-OWNED GRAVITY UTILITIES SUCH AS SERVICE LATERALS MAY REQUIRE CCTV CONFIRMATION OF HORIZONTAL PLACEMENT PRIOR TO UTILITY VERIFICATION.

THE ENGINEER HAS DELINEATED "HIGH PRIORITY UTILITY VERIFICATION REQUIRED" FOR PARTICULAR UTILITIES THAT ARE IMPACTFUL TO THE PROPOSED WORK AND PROJECT SCHEDULE. THE CONTRACTOR SHALL VERIFY THE HIGH PRIORITY UTILITY AND SURVEY IT WITHIN 60 DAYS OF PROJECT COMMENCEMENT AND SUBMIT RESULTS TO ENGINEER

THE CONTRACTOR SHALL VERIFY ADDITIONAL UTILITIES MARKED BY THE LOCATING COMPANY AND/OR SHOWN IN CONFORMED DRAWINGS WITHIN 3.0-LF OF THE EXCAVATION LIMITS A MINIMUM OF 2 WEEKS PRIOR TO EXCAVATON AND WITHIN 200-LF OF THE ADVANCING LINEAR CONSTRUCTION ACTIVITY

- 14. TIE-IN CONNECTIONS: OPERATION OF ANY EXISTING WATER SYSTEM VALVES OR EXISTING FACILITIES SHALL ONLY OCCUR UNDER THE DIRECT OBSERVATION AND PRIOR APPROVAL OF THE OWNER. THE CONTRACTOR SHALL NOTIFY THE OWNER AT LEAST TWO (2) WEEKS IN ADVANCE OF ANY NECESSARY SHUTDOWN AND/OR TIE-IN CONNECTION AND EACH INDIVIDUAL EVENT SHALL BE IDENTIFIED ON CONTRACTOR'S THREE (3) WEEK LOOK AHEAD SHCEDULE AS SUBMITTED WEEKLY TO THE OWNER. SHUTDOWNS AND TIE-INS MAY NOT OCCUR ON THE WEEKEND OR HOLIDAYS UNLESS PRE-APPROVED BY THE OWNER. CONTRACTOR SHALL COMPLETE TIE-INS IN THE SHORTEST POSSIBLE TIME AND IN NO CASE SHALL ANY CUSTOMER BE WITHOUT WATER SERVICE FOR MORE THAN AN 8-HR PERIOD: ONCE SHUTDOWN OCCURS AND WORK ON THE TIE-IN BEGINS. THE CONTRACTOR SHALL NOT STOP WORK UNTIL TIE-IN IS COMPLETED AND WATER SERVICE IS RESTORED TO CUSTOMER(S). ALL PREPARATORY WORK SHALL BE COMPLETED TO THE SATISFATION OF THE OWNER PRIOR TO INITITATING SHUTDOWN AND STARTING WORK ON THE TIE-IN. CONTRACTOR SHALL VERIFY CONNECTION POINTS AND PIPE MATERIAL IN ADVANCE AND HAVE ALL PIPE, FITTINGS, VALVES, HARDWARE, GASKETS AND OTHER MATERIALS READY ON-SITE INCLUDING DISINFECTION MATERIALS. THE CONTRACTOR MAY SUBMIT FOR APPROVAL THE ADDITION OF WATER MAIN LINE VALVES AT TIE IN LOCATIONS SO AS IT REDUCES SHUTDOWN IMPACTS AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL COMPLY WITH OWNER STANDARDS, POTABLE WATER DISINFECTION REQUIREMENTS, AND WASTEWATER DISPOSAL REQUIREMENTS.
- 15. SHUTDOWNS: THE CONTRACTOR SHALL NOT CAUSE ANY SERVICE INTERRUPTIONS WITHOUT PRIOR OWNER APPROVAL AND SHALL MAKE EVERY EFFORT TO MINIMIZE LENGTH OF ANY NECESSARY WATER AND SEWER SERVICE INTERRUPTIONS. ANY AND EACH SHUTDOWN SHALL BE INDIVIDUALLY PLANNED AND SCHEDULES AT LEAST TWO (2) WEEKS IN ADVANCE OF WORK.
- 16. POTABLE WATER BYPASSING: THE CONTRACTOR SHALL SUBMIT A POTABLE WATER BYPASSING PLAN TO ENGINEER FOR APPROVAL. AT A MINIMUM THIS PLAN SHALL INCLUDE THE PROPOSED PIPELINE SIZE AND MATERIAL, ALIGNMENT, ISOLATION VALVING, AIR RELIEF SYSTEM, PLACEMENT, RESTRAINT SYSTEM. PROTECTION AGAINST VEHICLE STRIKES. AND TEMPORARY FIRE HYDRANT CONNECTION (IF REQUIRED BY CITY). PLACEMENT OF BYPASS PIPING WITHIN GUTTER LINES THAT MAY LEAD TO PARTIAL INUNDATION FROM NON-POTABLE STORM RUNOFF SHALL REQUIRE APPROVAL FROM DDW. THE CONTRACTOR SHALL INCLUDE COSTS FOR SUBMITTAL REVISIONS INCORPORATING DDW COMMENTS AND SHALL INCORPORATE 15 DAYS FOR DDW REVIEW. THE CONTRACTOR SHALL COMPLY OWNER STANDARDS AND POTABLE WATER DISINFECTION REQUIREMENTS.
- 17. RECORD DRAWINGS: PRIOR TO BACKFILLING THE CARRIER (OR CASING, IF ENCASED) THE CONTRACTOR SHALL SURVEY THE CL @ CROWN OF EVERY PIPELINE FITTING, HORIZONTAL AND VERTICAL ELBOWS, AND EVERY 50-FT THROUGH A HORIZONTAL CURVE. IN ADDITION, THE CONTRACTOR SHALL SURVEY THE GEOMETRIC CENTER @ FG OF ALL INSTALLED STRUCTURES SUCH AS BUT NOT LIMITED TO MANHOLES, VALVE VAULTS/BOXES, PULLBOXES, TRACER WIRE TERMINALS, AND GROUND ROD TERMINALS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN AND SUBMIT TO THE ENGINEER A SET OF RECORD DRAWINGS IN ACCORDANCE WITH SECTION 01330 AND SECTION 01800.

- 18. <u>ASBESTOS CEMENT PIPE REMOVAL:</u> IT IS THE RESPONSIBILITY OF A CERTIFIED CONTRACTOR TO REMOVE. DISPOSE AND HANDLE ASBESTOS MATERIALS, IN CONFORMANCE WITH SECTION 25914.1 OF THE STATE HEALTH AND SAFETY CODE, NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (40CFR61, SUBPART M-ASBESTOS NESHAP) AND IN ACCORDANCE WITH SLO-APCD REQUIREMENTS. ASBESTOS CEMENT PIPE (ACP) OR "TRANSITE" SHALL BE SEVERED WITH A SPECIALIZED SNAP-CUT DEVICE TO REDUCE RISK OF FRYING THE MATERIAL OR EXTRACTED AT THE CLOSEST PIPE JOINT. SEVERED ACP PIPE ENDS SHALL BE SECURELY WRAPPED AND THE WHOLE PIPE BAGGED IN PREPARATION FOR TRANSPORT AND DISPOSAL AT AN APPROVED FACILITY.
- 19. PROJECT BACKGROUND DOCUMENTATION: THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE FOLLOWING PROJECT BACKGROUND DOCUMENTATION:
 - APPENDIX A: GEOTECHNICAL INVESTIGATION REPORT AND LOG OF BORINGS (YEH & ASSOCIATES APRIL 2020).
 - APPENDIX B: FINAL ENVIRONMENTAL IMPACT REPORT & ADDENDUM (OCT 2019).
 - APPENDIX C: TRENCHLESS GEOTECHNICAL AND ENGINEERING DESIGN RECOMMENDATION TECHNICAL MEMORANDUM (DCM CONSULTING, APRIL 2020)

CONSTRUCTION WORK PLANS

1. THE CONTRACTOR SHALL DEVELOP. SUBMIT TO ENGINEER FOR APPROVAL, AND IMPLEMENT ALL WORK PLANS REQUIRED BY THE CONTRACT DOCUMENTS. PROJECT CONSTRUCTION WORK PLANS MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING ITEMS. WHICH HAVE BEEN DELINEATED FOR THE CONTRACTOR'S CONVENIENCE.

	MAJOR CONSTRUCTION WORK PLANS	REFERENCE
1.	CONSTRUCTION NOISE REDUCTION PLAN	OWNER SHALL DEVELOP PRIOR
2.	PROJECT PUBLIC COMMUNICATION PLAN	TO NTP
3.	TRAFFIC CONTROL PLAN	TRAFFIC CONTROL DWGS
4.	UTILITY SHUTDOWN PLAN	SEE NOTE 15
5.	SITE ACCESS, STAGING, SAFETY & SECURITY PLAN	01500
6.	SHEETING & SHORING PLAN	02300
7	UTILITY VERIFICATION PLAN	SEE NOTE 13
8.	SEWER BYPASSING PLAN	011550
9.	POTABLE WATER BYPASSING PLAN	SEE NOTE 17
10.	SANITARY SEWER OVERFLOW AND EMERGENCY RESPONSE PLAN (SS OERP)	01140
11.	DEWATERING PLAN	01140
12.	SOIL TESTING QUALITY CONTROL PLAN	02300
13.	GRAVITY AND PRESSURE NON-POTABLE PIPELINE TESTING & INSPECTION PLAN	01725
14.	POTABLE WATER DISINFECTION, TESTING, AND INSPECTION PLAN	15995 & 15990
15	START-UP PLAN & PROCEDURES FOR PUMP STATION(S) AND PIPELINE(S)	01750 & 01800

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WATER RECLAMATION FAC LIFT STATIONS AND OFF: PIPELINES

MAY 2020

17-082

G-17

PROJECT NUMBER DRAWING NUMBER

REGULATORY PERMIT COMPLIANCE

THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS TO COMPLY WITH REGULATORY PERMITTING PROVISIONS. APPLICABLE REGULATORY PERMITS MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING ITEMS, WHICH HAVE BEEN DELINEATED FOR THE CONTRACTOR'S CONVENIENCE. THE CONTRACTOR SHALL SECURE SAID PERMITS WHERE DELINEATED AS RESPONSIBLE PARTY.

PERMITTING ENTITY	PERMIT TITLE	RESPONSIBLE PARTY
CITY OF MORRO BAY	ENCROACHMENT PERMIT	
OTT OF WORKO BAT	BUSINESS PERMIT	
CAL/OSHA DIR	(ALL APPLICABLE PERMITS)	CONTRACTOR SHALL
SLO CO. APCD	FUGITIVE DUST CONTROL	SECURE PERMIT AND
SEO CO. AI CD	ASBESTOS DEMOLITION & DISPOSAL	COMPLY WITH
RWQCB R3	CONSTRUCTION STORM WATER GENERAL PERMIT - SWPPP	PROVISIONS.
	LOW THREAT DISCHARGE PERMIT & MRP	
CALTRANS D5	ENCROACHMENT PERMIT	OWNER SHALL DEVELOP AND SUBMIT SELECT PORTIONS FOR DESIGN REVIEW PRIOR TO NTP. CONTRACTOR SHALL SECURE DOUPLE-PERMIT AND COMPLY WITH PROVISIONS.
RWQCB DDW D6	POTABLE WATER VERTICAL & HORIZONTAL SEPARATION REQUIREMENTS AND PROJECT SPECIFIC WAIVERS	OWNER SHALL SECURE PERMIT PRIOR TO NTP.
CDFW	1602 STREAMBED ALTERATION AGREEMENT	CONTRACTOR SHALL COMPLY WITH
USACE	404 CWA	PROVISIONS.
RWQCB	401 CWA	
CCC	COASTAL DEVELOPMENT PERMIT	

ENVIRONMENTAL MITIGATION MEASURES

1. THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS TO COMPLY WITH APPLICABLE PROVISIONS LISTED IN THE CEQA ENVIRONMENTAL IMPACT REPORT (EIR) ADOPTED FOR THIS PROJECT (APPENDIX B). THE OWNER WILL RETAIN A QUALIFIED BIRD SPECIALIST, BIOLOGIST, ARCHAEOLOGIST, NATIVE AMERICAN MONITOR, AND OTHER QUALIFIED INDIVIDUALS AS NEEDED TO ASSIST IN CONDUCTING ENVIRONMENTAL SURVEYS AND FIELD MONITORING. MITIGATION MEASURES ARE LISTED IN DETAIL IN APPENDIX B OF THE CONTRACT DOCUMENTS. MITIGATION MEASURES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING ITEMS, WHICH HAVE BEEN CONDENSED FROM APPENDIX B AT THE TIME OF ISSUANCE FOR THE CONTRACTOR'S CONVENIENCE. ACTUAL MITIGATION MEASURE PROVISIONS MAY VARY.

TITLE	CONDENSED MITIGATION MEASURE SUMMARY
CUL-6	CONSTRUCTION WORKER CULTURAL RESOURCES SENSITIVITY TRAINING
CUL-7	ALL PROJECT RELATED GROUND DISTURBANCE SHALL BE MONITORED BY AN
	ARCHAEOLOGICAL MONITOR WHO SHALL HAVE THE AUTHORITY TO HALT
	CONSTRUCTION ACTIVITIES IN CLOSE PROXIMITY IN THE EVENT OF A DISCOVERY
CUL-8	ALL PROJECT RELATED GROUND DISTURBANCE SHALL BE MONITORED BY A NATIVE
	AMERICAN MONITOR WHO SHALL HAVE THE AUTHORITY TO HALT CONSTRUCTION
	ACTIVITIES IN CLOSE PROXIMITY IN THE EVENT OF A DISCOVERY
CUL-9	IN THE EVENT ARCHEAOLOGICAL RESOURCES ARE ENCOUNTERED DURING
	CONSTRUCTION, ALL ACTIVITY IN THE VICINITY OF THE FIND SHALL CEASE WITHIN 100
	FEET AND THE PROJECT CRMPP SHALL BE IMPLEMENTED.
CUL-14	IN THE EVENT HUMAN REMAINS ARE ENCOUNTERED DURING CONSTRUCTION, THEN
	WORK SHALL BE HALTED WITHIN 100-FT OF THE DISCOVERY AND THE CONTRACTOR
	SHALL CONTACT THE COUNTY SHERRIFF-CORONER AT (805) 781-4540, PROJECT
	ARCHAEOLOGIST, AND OWNER. THE CONTRACTOR SHALL ADEQUATELY PROTECT THE
	SITE IN THE IMMEDIATE VICINITY OF THE DISCOVERY BASED ON RECOMMENDATIONS
	FROM THE ARCHEOLOGIST.
AES-1	LIGHTING SHALL BE SHIELDED AND POINTED AWAY FROM LIGHT SENSITIVE LAND
	USES DURING NIGHTIME
AQ-1A	IMPLEMENT FUGITIVE DUST CONTROL MEASURES IN ACCORDANCE WITH SLO APCD
	PERMIT
AQ-1B	IMPLEMENT STANDARD MITIGATION MEASURES FOR REDUCING EMISSIONS FROM
	CONSTRUCTION EQUIPMENT
AQ-1C	IMPLEMENT BEST AVAILABLE CONTROL TECHNOLOGY (BACT) FOR DIESEL-FUELED
	CONSTRUCTION EQUIPMENT
BIO-01	CONSTRUCTION WORKER ENVIRONMENTAL AWARENESS TRAINING AND EDUCATION
	PROGRAM BY PROJECT BIOLOGIST
BIO-02	THE CONTRACTOR SHALL IMPLEMENT BIOLOGICAL RESOURCES GENERAL AVOIDANCE
	AND PROTECTIVE MEASURES
BIO-03	THE PROJECT BIOLOGIST WILL DELINEATE MORRO SHOULDERBAND SNAIL (MSS)
	SENSITIVE HABITATS IN THE FIELD PRIOR TO CONSTRUCTION AND THE CONTRACTOR
	SHALL INSTALL SILT FENCING ALONG THE BOUNDARY DELINEATED. ADDITIONAL

	ENVIRONMENTAL TRAINING FROM THE PROJECT BIOLOGIST WILL BE REQUIRED FOR
	CONSTRUCTION WORKERS ADJACENT TO MSS HABITAT AREAS.
BIO-05	IMPLEMENT MITIGATION MEASURES RECOMMENDED TO AVOID OR MINIMIZE IMPACTS
	TO NESTING BIRD SPECIES
BIO-06	THE PROJECT BIOLOGIST WILL DELINEATE RIPARIAN HABITATS PRIOR TO
	CONSTRUCTION AND THE CONTRACTOR SHALL INSTALL A 3-FT CONSTRUCTION
	ACCESS BUFFER SAFETY FENCE ALONG THE PERIMETER DELINEATED.
BIO-08	THE CONTRACTOR SHALL IMPLEMENT AQUATIC HABITAT AVOIDANCE MEASURES IN
	CONJUNCTION WITH THE PROJECT SWPPP AND DEVELOP AN EROSION CONTROL
	PLAN AND SPILL PREVENTION PLAN
BIO-10	TREES NOT MARKED FOR REMOVAL OR TRIMMING AND IN CLOSE PROXIMITY TO
	CONSTRUCTION ACTIVITY LIMITS SHALL BE PROTECTED
CUL-11	THE PROJECT PALEONTOLOGIST SHALL CONDUCT PRE-CONSTRUCTION
	PALEONTOLOGICAL RESOURCES WORKER SENSITIVITY TRAINING
CUL-12	ALL GROUND DISTURBANCE IN EXCESS OF 5 FEET WITHIN SENSITIVE AREAS SHALL BE
	MONITORED ON A FULL TIME BASIS DURING THE EXCAVATION BY THE PROJECT
	PALEONTOLOGIST
CUL-13	IN THE EVENT PALEONTOLOGICAL RESOURCES SUCH AS FOSSILS ARE ENCOUNTERED
	DURING CONSTRUCTION, ALL ACTIVITY IN THE VICINITY OF THE FIND SHALL CEASE
	WITHIN 50 FEET AND THE PROJECT PALEONTOLOGIST SHALL BE CONTACTED.
	CONSTRUCTION MAY RESUME AFTER THE DISCOVERY IS EVALUATED AND
	RECOMMENDATIONS ARE IMPLEMENTED BY THE PROJECT PAELEONTOLOGIST
GEO-2	EROSION CONTROL: ALL SITES DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE
	MANAGED TO CONTROL EROSION AND HYDROSEEDED PURSUANT TO THE PROJECT
	SWPPP
NOISE-1	NOISE REDUCTION PLAN: THE CONTRACTOR SHALL IMPLEMENT THE CITY-PREPARED
	CONSTRUCTION NOISE REDUCTION PLAN

SENERAL
GENERAL NOTES

WATER RECLAMATION FAC LIFT STATIONS AND OFFS PIPELINES

No. C67194

No. C67194

No. C67194

FILENAME: 1782D-G018.dgn

PLOT DATE: 5/23/2020 9:58:07 AM

DATE MAY 2020

PROJECT NUMBER
17-082
DRAWING NUMBER







POINT	NORTHING	EASTING	ELEVATION	NOTES
P067 P523 P525 USLO	2400450.5413 2309260.5565 2352963.5604 2310304.7127	5668473.9994 5708341.8829 5725124.1289 5767821.1155	466.2 252.7 1005.4 556.6	GSRS-CGPS CSRS-CGPS CSRS-CGPS CSRS-CGPS
2 3 13 14 15	2337560,2452 2337759,2821 2330099 9168 2331349,6124 2328654,9560 2333213,9272	5708954.0743 5710736.3614 5719451.3161 5720139.4048 5711550.3489 5707575.6646	17.93 70.53 25.54 71.71 11.23 15.88	MAG NAIL & PAINTED TARGET MAG NAIL & PAINTED TARGET MAC NAIL & PAINTED TARGET 1" I.P. WITH CAP "PRAXIS CONTRO 1" I.P. WITH CAP "PRAXIS CONTRO 1" I.P. WITH CAP "PRAXIS CONTRO
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STATEMENT OF PURPOSE

THIS SURVEY WAS PERFORMED IN CONNECTION WITH THE WATER RECLAMATION FACILITY (WRF) OFFSITE PIPELINE PROJECT TO:

- ESTABLISH PRIMARY CONTROL FOR THE PROJECT
- ESTABLISH ABRIAL WAPPING GROUND CONTROL (TARGETS)

ADDITIONAL SURVEYS FOR SECONDARY SURVEY CONTROL (USED AS THE BASIS FOR BOUNDARY AND RIGHT OF WAY LINES AND ENGINEERING DESIGN SURVEYS ALONG THE PIPELINE ROUTE) ARE NOT DOCUMENTED ON THIS MAP. THE SECONDARY SURVEY CONTROL WAS ESTABLISHED WITH A COMBINATION OF CONVENTIONAL (TOTAL STATION) AND HIGH PRODUCTION GNSS (RTK) EQUIPMENT AND METHODS.

SUMMARY OF SURVEY

- I.PRIMARY CONTROL NETWORK SURVEY WAS PERFORMED USING STATIC GNSS TO ESTABLISH SIX PRIMARY CONTROL STATIONS AT THE EXTENTS OF THE PROJECT AREA RELATED TO THE CALIFORNIA SPATIAL REFERENCE SYSTEM (CSRS). FOUR OF THESE STATIONS ALSO SERVED AS AERIAL MAPPING SROUND CONTROL TARGETS.
- ZAFRIAL MAPPING GROUND CONTROL SURVEY WAS PERFORMED USING RTK GNSS TO ESTABLISH TEN-ADDITIONAL AERIAL MAPPING GROUND CONTROL TARGETS.
- 3 THE PRIMARY CONTROL NETWORK WAS PLANNED, AND THE DATA PROCESSED IN THE OFFICE BY SUIDA SURVEYING AS A SUBCONSULTANT TO PRAXIS LAND SURVEYING. THE AFRIAL MAPPING GROUND CONTROL WAS PLANNED, AND THE DATA PROCESSED IN THE OFFICE BY PRAXIS. PRAXIS PERFORMED ALL FIELD SURVEYS FOR BOTH THE PRIMARY CONTROL NETWORK AND THE AFRIAL MAPPING GROUND CONTROL. ALL ADDITIONAL SURVEYS FOR SECONDARY SURVEY CONTROL WERE ALSO PERFORMED BY PRAXIS.

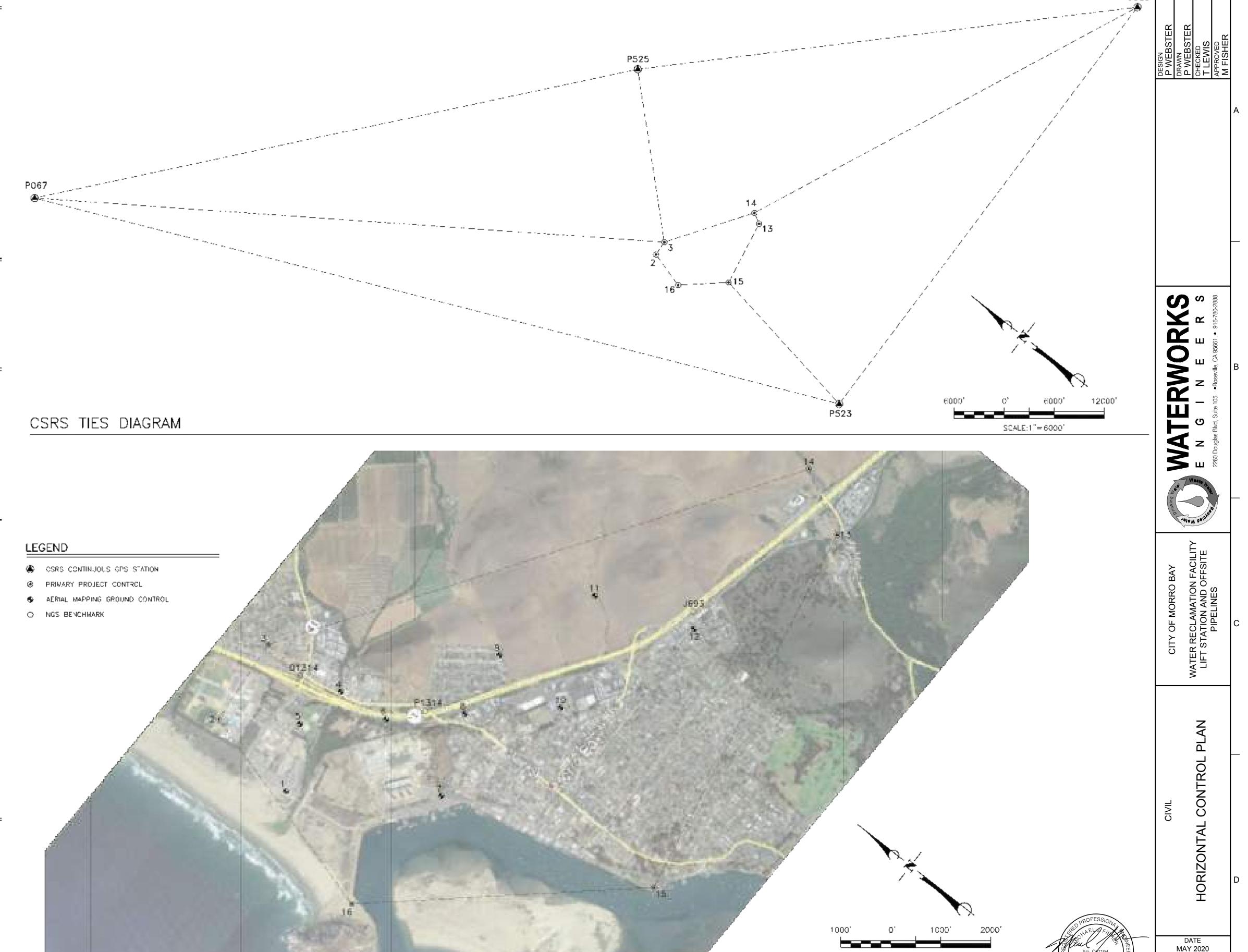
BASIS OF CONTROL AND DATUM NOTES

- 1.COORDINATES ARE REFERENCED TO THE CALIFORNIA COORDINATE
 SYSTEM (COS83) ZONE 5 GRID. CSRS EPOCH 2017.50 (NAD83 (2011), EPOCH 2017.50), DEFINED
 LOCALLY BY CSRS STATIONS "P067", "P523", "P525", AND "USLO", THE LATITUDE AND LONG TUDE OF
 WHICH WERE HELD FIXED IN A SEPARATE LEAST SQUARES ADJUSTMENT TO DETERMINE HORIZONTAL
 POSITIONS OF PRIMARY CONTROL. COORDINATES ARE EXFRESSED IN U.S. SURVEY FEET.
 HTTP://SOPAC-GSRC.UCSD.EDJ/INDEX.PHP/EPOCH2017/
- 2.ELEVATIONS ARE REFERENCED TO THE NORTH AVERICAN VERTICAL CATUM
 OF 1988 (NAVOSS) DEFINED LOCALLY BY BENCHMARK "U693 RESET" (NGS FID FV1098), THE
 TRANSFERRED ELEVATION OF WHICH WAS HELD FIXED IN A SEPARATE LEAST SOUARES ADJUSTMENT
 TO DETERMINE ELEVATIONS OF PRIMARY CONTROL. (A LEVELING SURVEY WAS RUN BETWEEN J693
 AND PRIMARY CONTROL STATION 13.) THE ELEVATIONS OF THE OTHER FIVE PRIMARY CONTROL
 STATIONS WERE DETERMINED USING GEOID HEIGHTS INTERPOLATED FROM THE NGS GEOID128 GEOD
 MODEL. ELEVATIONS ARE EXPRESSED IN U.S. SURVEY FEET.
- a.THE PUBLISHED ELEVATION OF 1693 RESET IS GIVEN AS 151.79 FEET ON THE CURRENT NGS DATASHEET.
- b.TO CHECK THE NAVORS CONNECTION, A LEVELING SURVEY WAS RUN BETWEEN BENCHMARK "F1314" (NGS FID FV1102) AND AFRIAL MAPPING GROUND CONTROL STATION 8 AND ALSO BETWEEN BENCHMARK "01314" (NGS PID FV1103) AND PRIMARY CONTROL STATION 3.
- CITHE NAD88 LEAST SQUARES ADJUSTMENT INCLUDES THE LEVELED ELEVATION OF STATION 3, AS WELL AS THE PUBLISHED NAVD88 FLEVATION OF US.O IN THE DAT FILE, ALONG WITH THE LEVELED ELEVATION OF STATION 13. THE LST FILE SHOWS THAT ELEVATIONS AT 3 AND USLO CHANGE BY +0.35 FEET AND +0.41 FEET, RESPECTIVELY. THE ELEVATION AT STATION 8 DETERMINED BY RTK CHANGES BY +0.31 FEET HOLDING THE ELEVATION AT STATION 13 (LEVELED FROM J693) CAUSES THREE OTHER NAVD88 ELEVATIONS TO SHIFT BY ABOUT 0.35 FEET. THE EROJECT IS ONLY NOMINALLY REFERENCED TO THE NAVD88 DATUM.
- d. THE ELEVATION OF J693 WAS HELD DECAUSE IT WAS USED AS THE BASIS OF ELEVATIONS FOR TOPOGRAPHIC MAPPING OF WRF SITE, THE DESIGN TEAMS FOR THE WRF SITE AND THE OFFSITE PIPELINE MUTUALLY AGREED THAT IT MADE SENSE TO AVOID INCONSISTENT ELEVATIONS BETWEEN THE ONSITE AND OFFSITE COMPONENTS OF THE OVERALL WRF PROJECT.

ACCURACY STATEMENT

- THE FRIMARY CONTROL NETWORK SURVEY WAS NOT PERFORMED ACCORDING TO ANY PUBLISHED SPECIFICATIONS. THE CONTROL STATIONS TO WHICH THIS SURVEY IS REFERENCED MEET THE REQUIREMENTS FOR INCLUSION IN THE CORD AS DEFINED IN THE PUBLIC RESOURCES CODE.
- 2. THE PRIMARY CONTROL NETWORK SURVEY WAS PERFORMED USING STATIC GNSS EQUIPMENT AND METHODS (TRIMBLE R8). GNSS OBSERVATION DATA WAS PROCESSED USING TRIMBLE BUSINESS CENTER V4 SOFTWARE AND ADJUSTED BY THE LEAST SQUARES METHOD USING STAR*NET V8 2 SOFTWARE. THE POSITIONS AND FLEVATIONS HELD FIXED IN THE FINAL CONSTRAINED ADJUSTMENT ARE AS LISTED IN THE BASIS OF CONTROL AND DATUM NOTES. THE RESULTANT CC583 ZONE 3 COORDINATES ACHIEVE A 0.5 CM LOCAL ACCURACY AT THE 95% CONFIDENCE LEVEL. THE RESULTANT NAVOBS ELEVATIONS ACHIEVE A 10M LOCAL ACCURACY AT THE 95% CONFIDENCE
- 3. THE AFRIAL MAPPING GROUND CONTROL SURVEY WAS PERFORMED USING RTK GNSS (BASE AND ROVER WITH RADIC) EQUIPMENT AND METHODS (TRIMBLE R8). THE RTK SURVEY BEGAN WITH CHECKING INTO FIVE OF THE SIX PRIMARY CONTROL STATIONS (STATION 13 WAS NOT INCLUDED BECAUSE OF RADIO INTERFERENCE) AND COMPARING THE RTK COORDINATES AND FLEVATIONS AGAINST THE STAR*NET ACCURATED COORDINATES AND ELEVATIONS EACH TARGET WAS THEN OCCUPIED TWICE, SEPARATED BY 6 HOURS. RESULTANT COORDINATES AND ELEVATIONS OF THE TWO OCCUPATIONS VARIED BY 0.01 TO 0.06 FEET WHICH WERE AVERAGED FOR FINAL POSITION.

PROJECT AREA DIAGRAM



SCALE:1"=1000"

PROJECT NUMBER

17-082

DRAWING NUMBER
05-C-4

LINE	LENGTH	DIRECTION	START (N,E)	END (N,E)	START (STA)	END (STA)
L1	130.87	N6° 49' 42.69"W	5708858.90,2336561.65	5708843.34,2336691.59	9+50.00	10+80.87
L2	15.36	N38° 10' 17.31"E	5708843.34,2336691.59	5708852.83,2336703.67	10+80.87	10+96.23
L3	531.54	N82° 48' 52.95"E	5708852.83,2336703.67	5709380.20,2336770.15	10+96.23	16+27.77
L4	18.59	N37° 16' 17.31"E	5709380.20,2336770.15	5709391.45,2336784.94	16+27.77	16+46.36
L5	104.00	N82° 03' 18.29"E	5709391.45,2336784.94	5709494.45,2336799.32	16+46.36	17+50.36
L6	24.75	N37° 33' 03.75"E	5709494.45,2336799.32	5709509.54,2336818.94	17+50.36	17+75.10
L7	15.32	N82° 57' 07.63"E	5709509.54,2336818.94	5709524.75,2336820.82	17+75.10	17+90.43
L8	10.98	N85° 10' 17.31"E	5709544.01,2336822.82	5709554.94,2336823.74	18+09.79	18+20.77
L9	201.24	S84° 04' 42.69"E	5709554.94,2336823.74	5709755.11,2336802.98	18+20.77	20+22.01
L10	78.48	S61° 04' 42.69"E	5709755.11,2336802.98	5709823.80,2336765.03	20+22.01	21+00.48
L11	54.88	S83° 03' 04.83"E	5709823.80,2336765.03	5709878.28,2336758.39	21+00.48	21+55.37
L12	132.47	S82° 55' 27.98"E	5709967.65,2336743.26	5710099.11,2336726.94	22+46.04	23+78.51
L13	123.35	S80° 48' 57.05"E	5710281.26,2336700.92	5710403.03,2336681.24	25+62.52	26+85.88
L14	7.57	S57° 48' 57.05"E	5710403.03,2336681.24	5710409.44,2336677.20	26+85.88	26+93.45
L15	74.83	S12° 24' 25.18"E	5710409.44,2336677.20	5710425.52,2336604.12	26+93.45	27+68.27
L16	139.62	S15° 49' 16.07"E	5710467.87,2336445.97	5710505.94,2336311.64	29+32.08	30+71.69
L17	133.65	S5° 17' 20.36"E	5710522.75,2336221.41	5710535.07,2336088.33	31+63.60	32+97.25
L18	246.43	S17° 17' 21.48"E	5710535.07,2336088.33	5710608.31,2335853.03	32+97.25	35+43.68
L19	77.43	S22° 54' 22.12"E	5710625.14,2335807.02	5710655.28,2335735.70	35+92.70	36+70.13
L20	152.29	S18° 24' 22.12"E	5710669.13,2335698.96	5710717.22,2335554.47	37+09.40	38+61.69
L21	116.59	S21° 37' 42.35"E	5710726.84,2335528.05	5710769.81,2335419.67	38+89.81	40+06.40
L22	77.49	S44° 07' 42.35"E	5710769.81,2335419.67	5710823.76,2335364.05	40+06.40	40+83.88
L23	45.46	S21° 37' 42.35"E	5710823.76,2335364.05	5710840.52,2335321.79	40+83.88	41+29.34
L24	63.81	S27° 24' 53.22"E	5710861.47,2335275.87	5710890.85,2335219.23	41+79.83	42+43.64
L25	33.61	S19° 51' 19.72"E	5710917.27,2335158.84	5710928.69,2335127.22	43+09.61	43+43.22
L26	14.46	S31° 06' 19.72"E	5710928.69,2335127.22	5710936.16,2335114.84	43+43.22	43+57.68
L27	34.89	S42° 21' 19.72"E	5710936.16,2335114.84	5710959.67,2335089.06	43+57.68	43+92.57
L28	47.73	S30° 45' 59.41"E	5710959.67,2335089.06	5710984.08,2335048.04	43+92.57	44+40.31
L29	73.19	S8° 15' 59.41"E	5710984.08,2335048.04	5710994.61,2334975.61	44+40.31	45+13.50
L30	199.44	S30° 36' 18.83"E	5710994.61,2334975.61	5711096.14,2334803.96	45+13.50	47+12.93
L31	208.34	S25° 28' 17.06"E	5711117.20,2334764.43	5711206.80,2334576.34	47+57.74	49+66.08
L32	168.70	S34° 12' 34.05"E	5711244.70,2334510.26	5711339.55,2334370.75	50+42.33	52+11.03
L33	27.28	S45° 57' 34.05"E	5711339.55,2334370.75	5711359.16,2334351.78	52+11.03	52+38.31
L34	353.85	S43° 57' 41.27"E	5711438.50,2334280.20	5711684.13,2334025.49	53+45.23	56+99.08
L35	137.32	S36° 46' 22.71"E	5711724.74,2333977.73	5711806.94,2333867.73	57+61.81	58+99.13
L36	23.44	S81° 46' 22.71"E	5711806.94,2333867.73	5711830.15,2333864.38	58+99.13	59+22.58
L37	93.70	S36° 58' 40.48"E	5711830.15,2333864.38	5711886.51,2333789.53	59+22.58	60+16.27
L38	90.97	S50° 12' 13.68"E	5711965.91,2333706.12	5712035.81,2333647.89	61+31.69	62+22.67
L39	38.98	S49° 01' 05.38"E	5712161.97,2333538.43	5712191.40,2333512.87	63+89.85	64+28.83
L40	654.40	S71° 24' 38.05"E	5712191.40,2333512.87	5712811.66,2333304.25	64+28.83	70+83.24
L41	474.93	S60° 50' 33.70"E	5712980.08,2333229.71	5713394.83,2332998.32	72+67.68	77+42.61
L42	600.09	S53° 13' 49.59"E	5713506.22,2332926.09	5713986.92,2332566.88	78+75.47	84+75.56
L43	163.83	S50° 00' 09.56"E	5714031.08,2332531.90	5714156.58,2332426.60	85+31.89	86+95.72
L44	48.12	S27° 30' 09.56"E	5714156.58,2332426.60	5714178.80,2332383.92	86+95.72	87+43.84
L45	193.67	S18° 39' 23.38"E	5714209.03,2332312.97	5714270.99,2332129.48	88+21.04	90+14.71
			5714270.99,2332129.48	5714295.06,2332087.63	90+14.71	
L46	48.27	S29° 54' 23.38"E	·	,	90+14.71	90+62.98
L47	5.71	S41° 09' 23.38"E	5714295.06,2332087.63	5714298.81,2332083.33		90+68.69
L48	232.93	S47° 29' 46.85"E	5714337.45,2332043.77	5714509.18,2331886.40	91+24.02	93+56.95
L49	89.94	S70° 29' 46.85"E	5714509.18,2331886.40	5714593.95,2331856.37	93+56.95	94+46.88
L50	129.13	S48° 38' 52.30"E	5714593.95,2331856.37	5714690.89,2331771.06	94+46.88	95+76.02
L51	372.78	S60° 14' 05.75"E	5714690.89,2331771.06	5715014.48,2331585.99	95+76.02	99+48.79
L52	33.92	N74° 45' 54.25"E	5715014.48,2331585.99	5715047.21,2331594.90	99+48.79	99+82.71
L53	50.20	N29° 15' 54.25"E	5715047.21,2331594.90	5715071.75,2331638.70	99+82.71	100+32.92
L54	12.76	N51° 15' 54.25"E	5715071.75,2331638.70	5715081.70,2331646.68	100+32.92	100+45.67
L55	484.27	S84° 01' 53.25"E	5715081.70,2331646.68	5715563.35,2331596.33	100+45.67	105+29.95
L56	153.34	S82° 12' 57.27"E	5715594.81,2331592.53	5715746.73,2331571.77	105+61.63	107+14.97
L57	1024.00	S75° 46' 40.97"E	5715856.97,2331550.33	5716849.59,2331298.75	108+27.33	118+51.34
L58	265.14	S76° 22' 57.64"E	5716849.59,2331298.75	5717107.28,2331236.33	118+51.34	121+16.48
		_	i	i	1	
L59	378.41	S75° 48' 24.26"E	5717107.28,2331236.33	5717474.14,2331143.55	121+16.48	124+94.89

	FM2 ALIGNMENT LINE TABLE					
LINE	LENGTH	DIRECTION	START (N,E)	END (N,E)	START (STA)	END (STA)
L61	578.82	S72° 59' 36.50"E	5718068.61,2331018.13	5718622.13,2330848.84	131+02.57	136+81.39
L62	408.72	S51° 32' 56.45"E	5718786.81,2330762.27	5719106.89,2330508.11	138+68.53	142+77.25
L63	149.33	S35° 50' 12.25"E	5719201.31,2330409.28	5719288.74,2330288.22	144+14.37	145+63.70
L64	261.71	S50° 52' 49.79"E	5719378.62,2330193.04	5719581.66,2330027.92	146+94.98	149+56.69
L65	39.91	S62° 18' 05.26"E	5719581.66,2330027.92	5719617.00,2330009.37	149+56.69	149+96.61
L66	52.07	S84° 48' 05.26"E	5719617.00,2330009.37	5719668.86,2330004.65	149+96.61	150+48.68
L67	48.73	N50° 11' 54.74"E	5719668.86,2330004.65	5719706.30,2330035.84	150+48.68	150+97.41
L68	284.92	N27° 41' 54.74"E	5719706.30,2330035.84	5719838.74,2330288.11	150+97.41	153+82.33
L69	337.55	N12° 54' 02.15"E	5719883.41,2330408.89	5719958.78,2330737.93	155+11.47	158+49.02
L70	52.39	N14° 41' 00.34"E	5719966.19,2330768.14	5719979.47,2330818.83	158+80.14	159+32.53
L71	64.51	N5° 47' 32.05"E	5719993.25,2330895.11	5719999.76,2330959.28	160+10.12	160+74.63
L72	81.50	N26° 47' 34.14"E	5719999.76,2330959.28	5720036.50,2331032.04	160+74.63	161+56.13
L73	25.25	N14° 56' 30.66"E	5720036.50,2331032.04	5720043.01,2331056.43	161+56.13	161+81.38

			FM2 AL	IGNMENT CURVE	TABLE		
CURVE	RADIUS	LENGTH	CHORD DIRECTION	START (N,E)	END (N,E)	START (STA)	END (STA)
C1	500.0	19.37	N84° 03' 42.47"E	5709524.75,2336820.82	5709544.01,2336822.82	17+90.43	18+09.79
C2	500.0	45.89	S80° 25' 19.23"E	5709878.28,2336758.39	5709923.51,2336750.76	21+55.37	22+01.26
C3	500.0	44.78	S80° 21' 30.80"E	5709923.51,2336750.76	5709967.65,2336743.26	22+01.26	22+46.04
C4	5000.0	184.01	S81° 52' 12.51"E	5710099.11,2336726.94	5710281.26,2336700.92	23+78.51	25+62.52
C5	750.0	76.62	S15° 20' 00.91"E	5710425.52,2336604.12	5710445.77,2336530.26	27+68.27	28+44.89
C6	500.0	54.23	S15° 09' 10.17"E	5710445.77,2336530.26	5710459.94,2336477.94	28+44.89	28+99.13
C7	500.0	32.95	S13° 55' 59.88"E	5710459.94,2336477.94	5710467.87,2336445.97	28+99.13	29+32.08
C8	500.0	91.91	S10° 33' 18.21"E	5710505.94,2336311.64	5710522.75,2336221.41	30+71.69	31+63.60
C9	500.0	49.02	S20° 05' 51.80"E	5710608.31,2335853.03	5710625.14,2335807.02	35+43.68	35+92.70
C10	500.0	39.27	S20° 39' 22.12"E	5710655.28,2335735.70	5710669.13,2335698.96	36+70.13	37+09.40
C11	500.0	28.12	S20° 01' 02.24"E	5710717.22,2335554.47	5710726.84,2335528.05	38+61.69	38+89.81
C12	500.0	50.50	S24° 31' 17.79"E	5710840.52,2335321.79	5710861.47,2335275.87	41+29.34	41+79.83
C13	500.0	65.97	S23° 38' 06.47"E	5710890.85,2335219.23	5710917.27,2335158.84	42+43.64	43+09.61
C14	500.0	44.80	S28° 02' 17.95"E	5711096.14,2334803.96	5711117.20,2334764.43	47+12.93	47+57.74
C15	500.0	76.25	S29° 50' 25.55"E	5711206.80,2334576.34	5711244.70,2334510.26	49+66.08	50+42.33
C16	500.0	44.74	S48° 31' 22.85"E	5711359.16,2334351.78	5711392.67,2334322.16	52+38.31	52+83.05
C17	500.0	62.18	S47° 31' 26.45"E	5711392.67,2334322.16	5711438.50,2334280.20	52+83.05	53+45.23
C18	500.0	62.73	S40° 22' 01.99"E	5711684.13,2334025.49	5711724.74,2333977.73	56+99.08	57+61.81
C19	500.0	115.42	S43° 35' 27.08"E	5711886.51,2333789.53	5711965.91,2333706.12	60+16.27	61+31.69
C20	500.0	49.56	S47° 21' 52.09"E	5712035.81,2333647.89	5712072.25,2333614.34	62+22.67	62+72.22
C21	500.0	78.42	S49° 01' 05.38"E	5712072.25,2333614.34	5712131.39,2333562.96	62+72.22	63+50.64
C22	500.0	39.21	S51° 15' 52.82"E	5712131.39,2333562.96	5712161.97,2333538.43	63+50.64	63+89.85
C23	1000.0	184.44	S66° 07' 35.88"E	5712811.66,2333304.25	5712980.08,2333229.71	70+83.24	72+67.68
C24	1000.0	132.86	S57° 02' 11.65"E	5713394.83,2332998.32	5713506.22,2332926.09	77+42.61	78+75.47
C25	1000.0	56.34	S51° 36' 59.57"E	5713986.92,2332566.88	5714031.08,2332531.90	84+75.56	85+31.89
C26	500.0	77.20	S23° 04' 46.47"E	5714178.80,2332383.92	5714209.03,2332312.97	87+43.84	88+21.04
C27	500.0	55.33	S44° 19' 35.12"E	5714298.81,2332083.33	5714337.45,2332043.77	90+68.69	91+24.02
C28	1000.0	31.69	S83° 07' 25.26"E	5715563.35,2331596.33	5715594.81,2331592.53	105+29.95	105+61.63
C29	1000.0	112.36	S78° 59' 49.12"E	5715746.73,2331571.77	5715856.97,2331550.33	107+14.97	108+27.33
C30	3560.0	184.69	S77° 17' 34.62"E	5717474.14,2331143.55	5717654.28,2331102.93	124+94.89	126+79.58
C31	500.0	50.49	S75° 53' 10.74"E	5718019.67,2331030.44	5718068.61,2331018.13	130+52.08	131+02.57
C32	500.0	187.14	S62° 16' 16.48"E	5718622.13,2330848.84	5718786.81,2330762.27	136+81.39	138+68.53
C33	500.0	137.12	S43° 41' 34.35"E	5719106.89,2330508.11	5719201.31,2330409.28	142+77.25	144+14.37
C34	500.0	131.28	S43° 21' 31.02"E	5719288.74,2330288.22	5719378.62,2330193.04	145+63.70	146+94.98
C35	500.0	129.14	N20° 17' 58.44"E	5719838.74,2330288.11	5719883.41,2330408.89	153+82.33	155+11.47
C36	1000.0	31.12	N13° 47' 31.24"E	5719958.78,2330737.93	5719966.19,2330768.14	158+49.02	158+80.14
C37	500.0	77.59	N10° 14' 16.20"E	5719979.47,2330818.83	5719993.25,2330895.11	159+32.53	160+10.12



JOB NUMBER: 17-082

FILENAME: 1782D-05C105.DWG

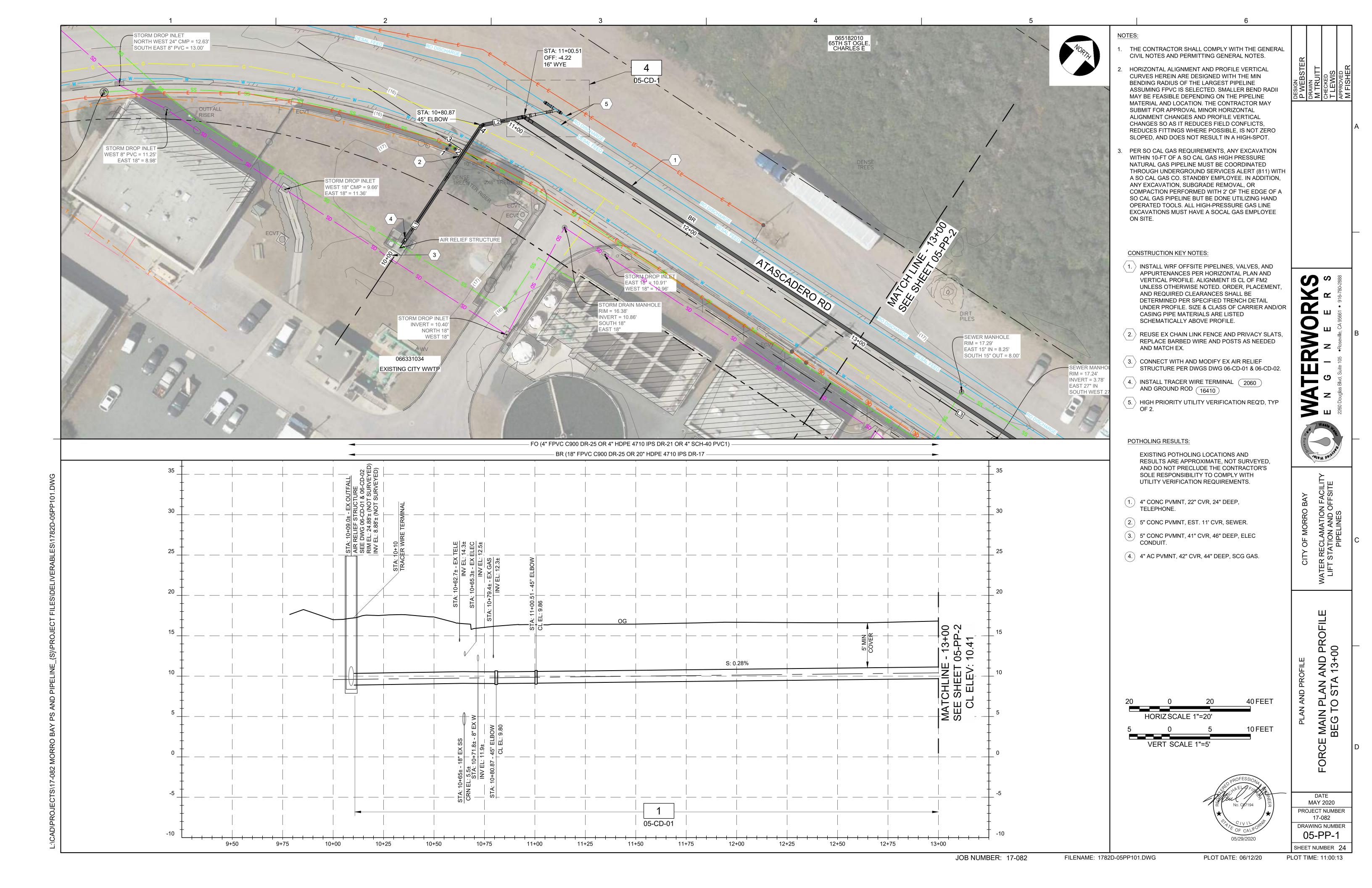
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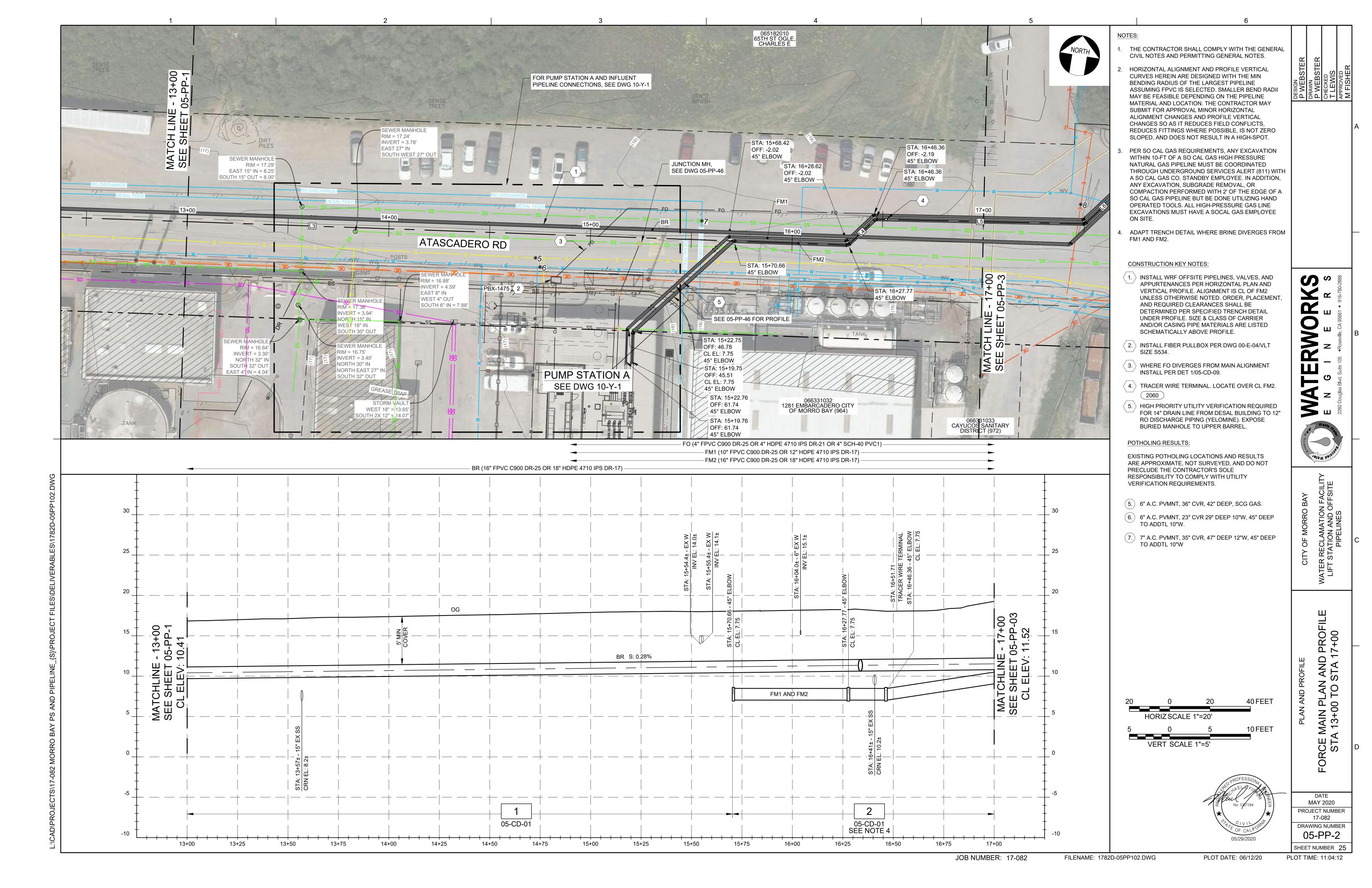
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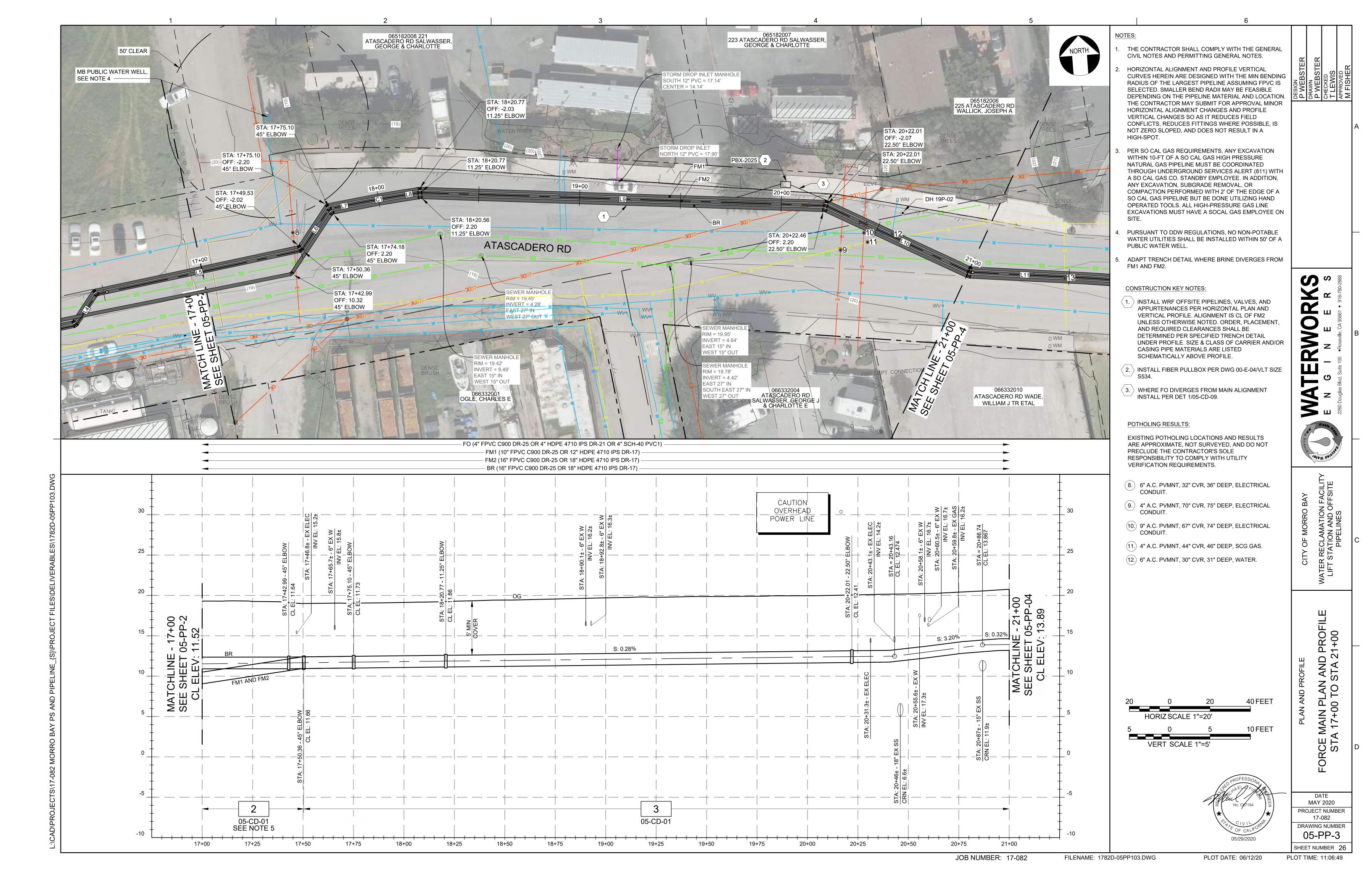
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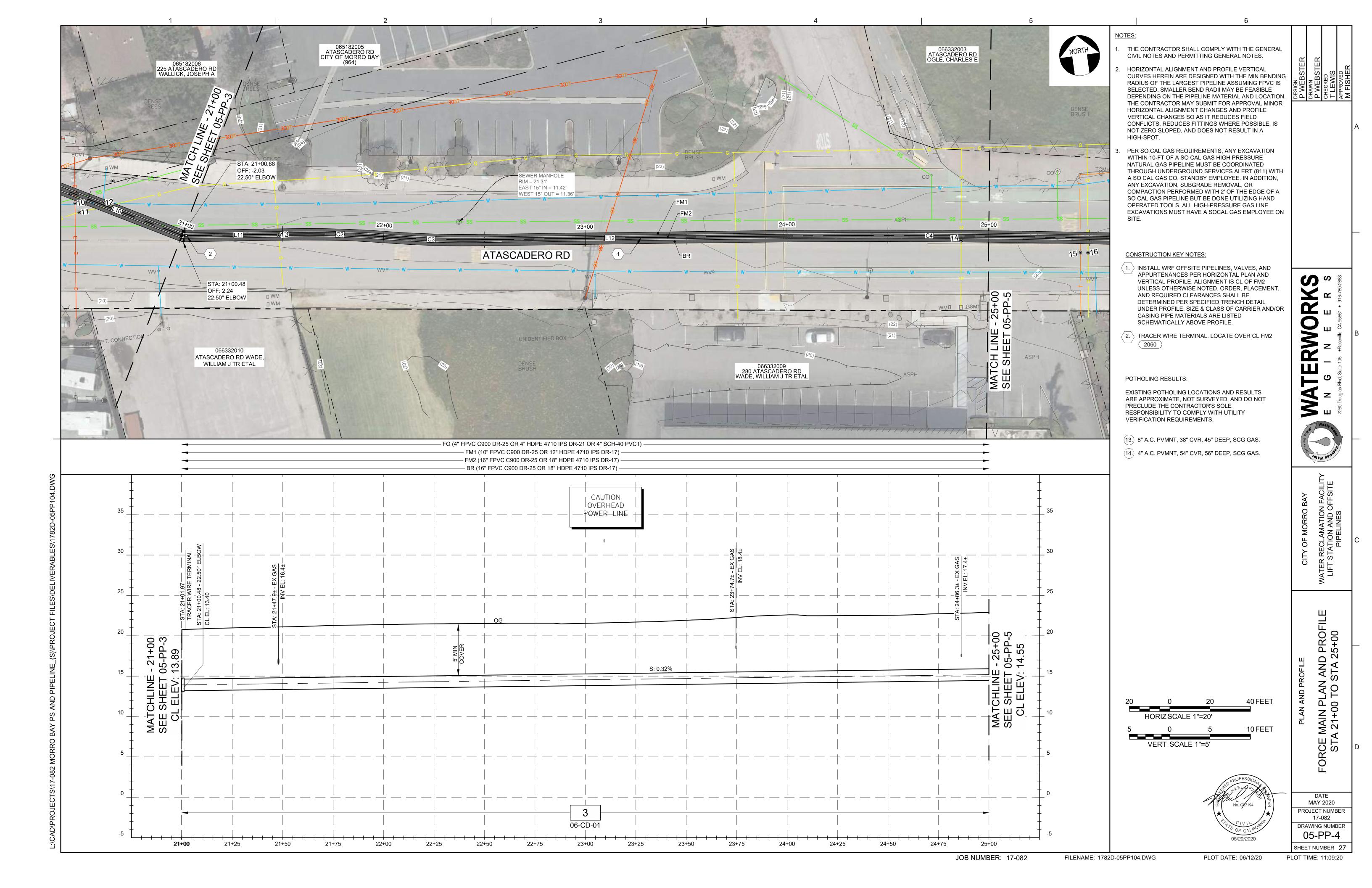
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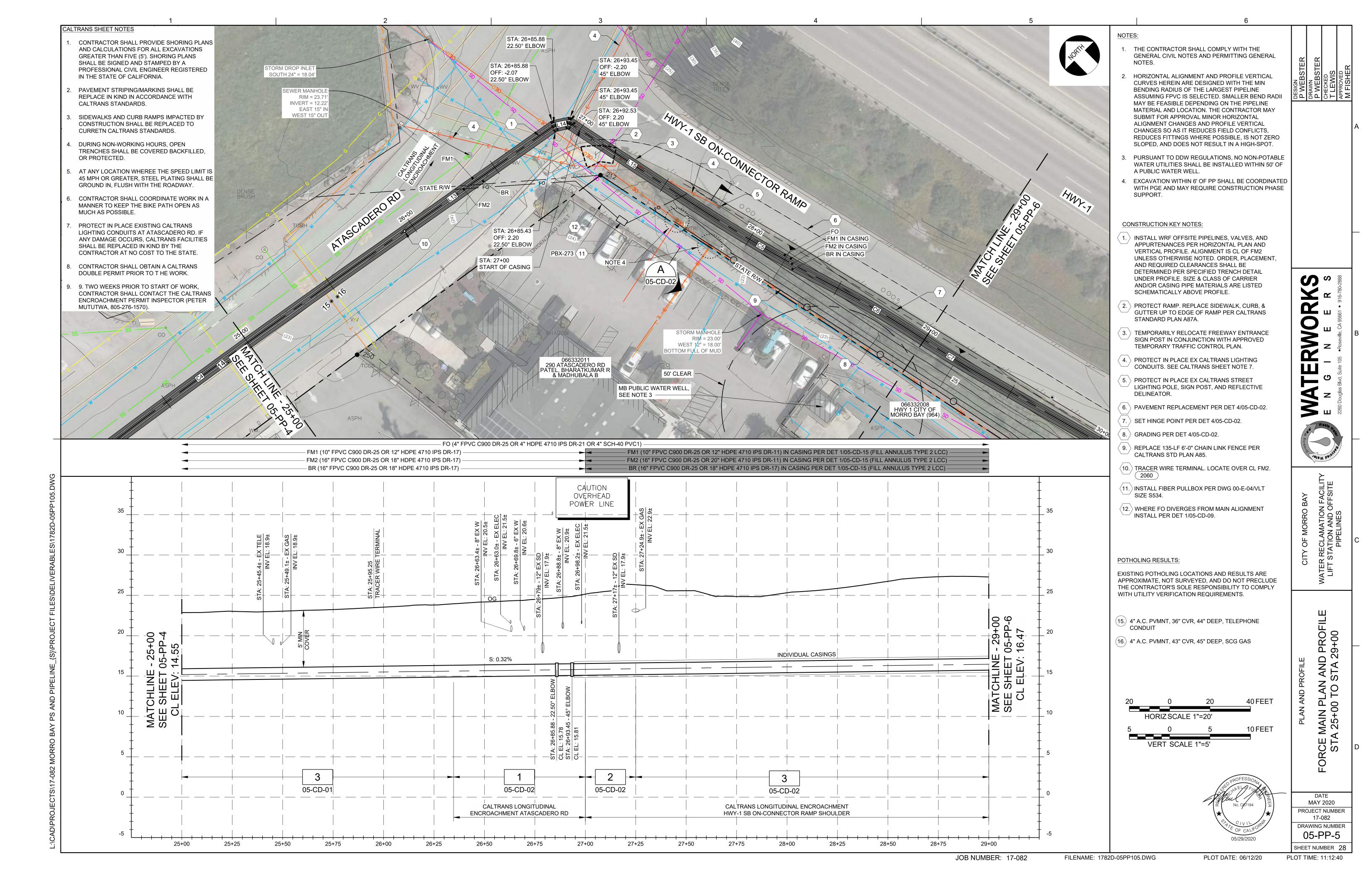
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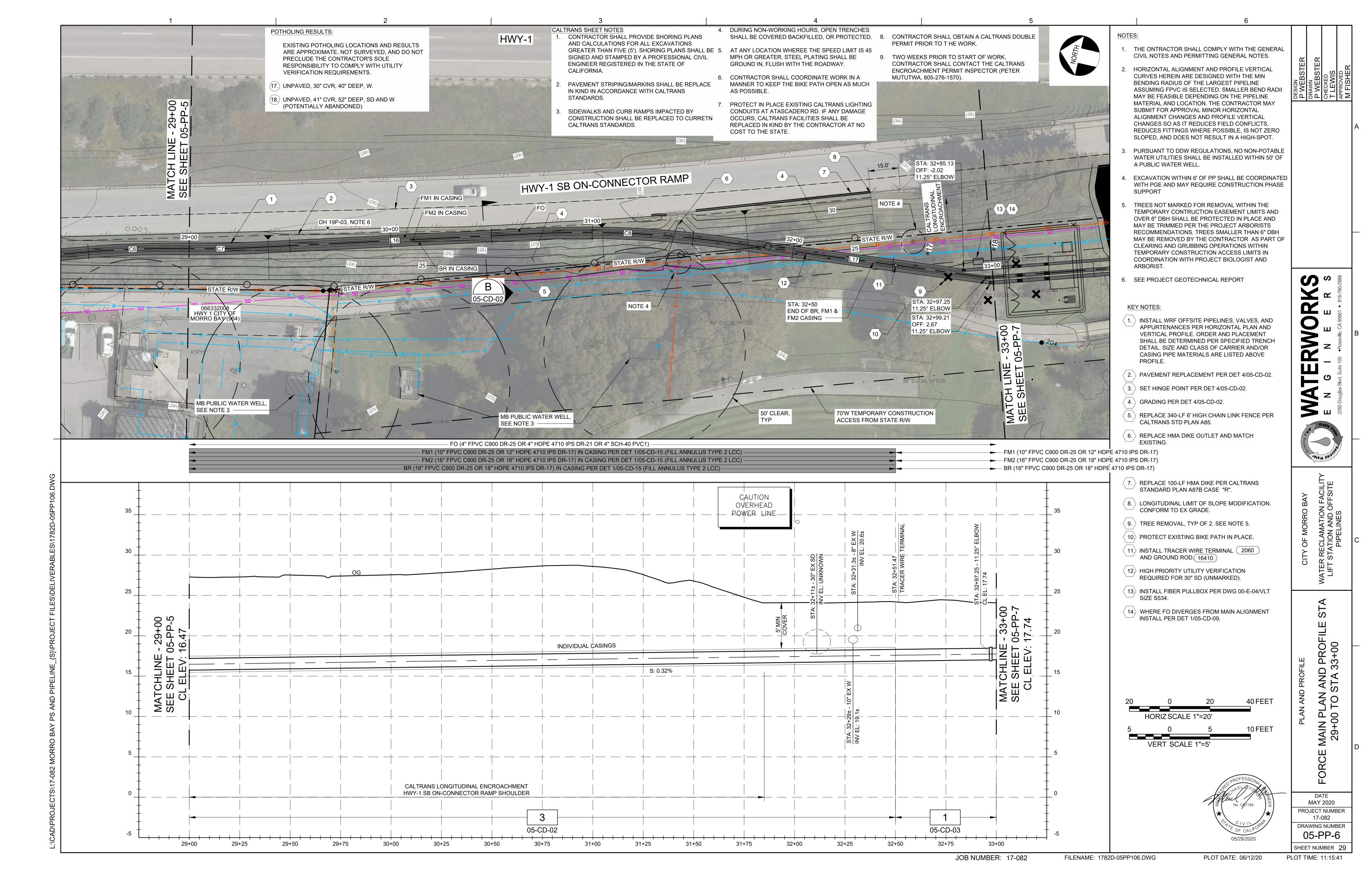


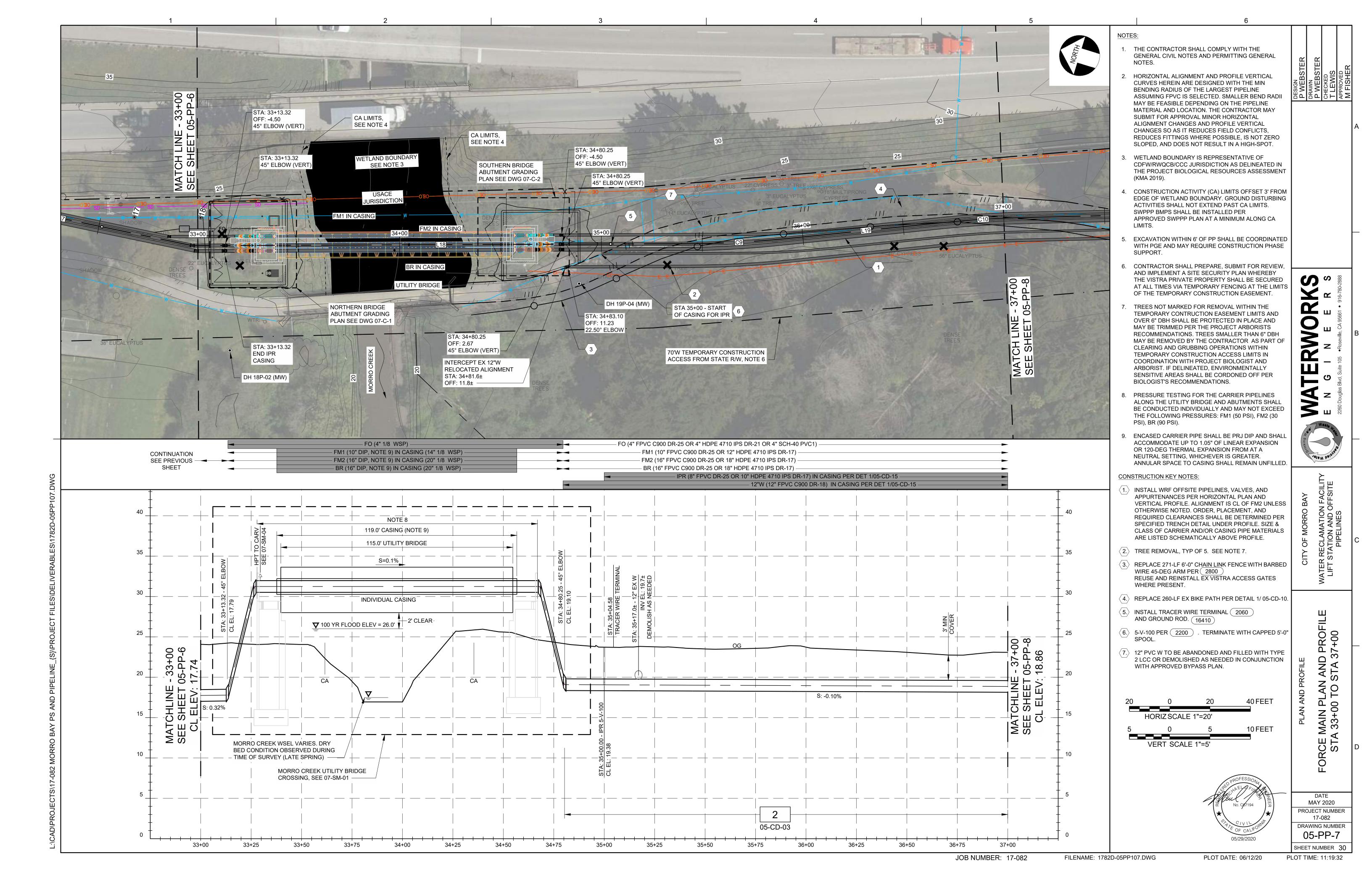


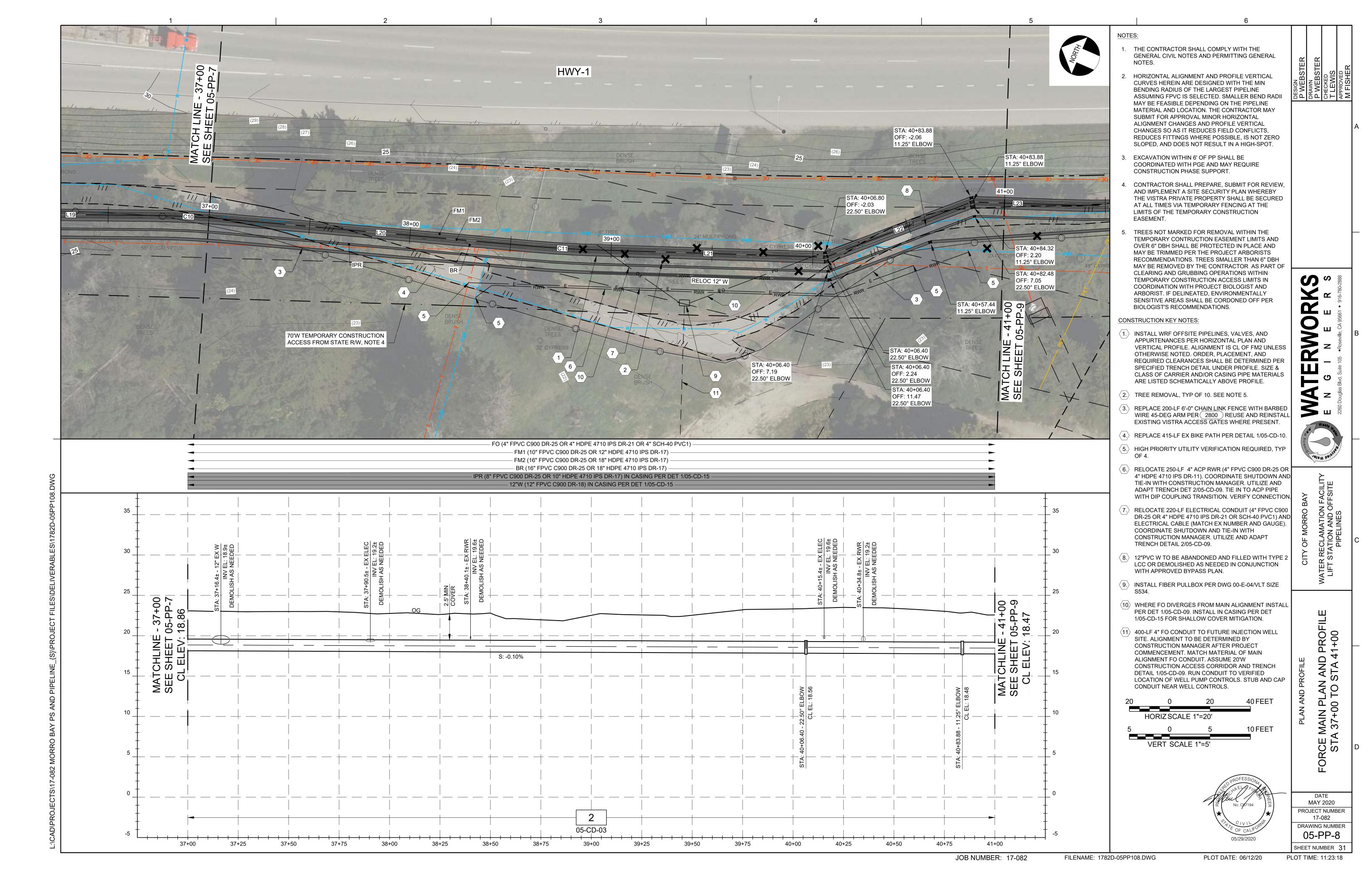


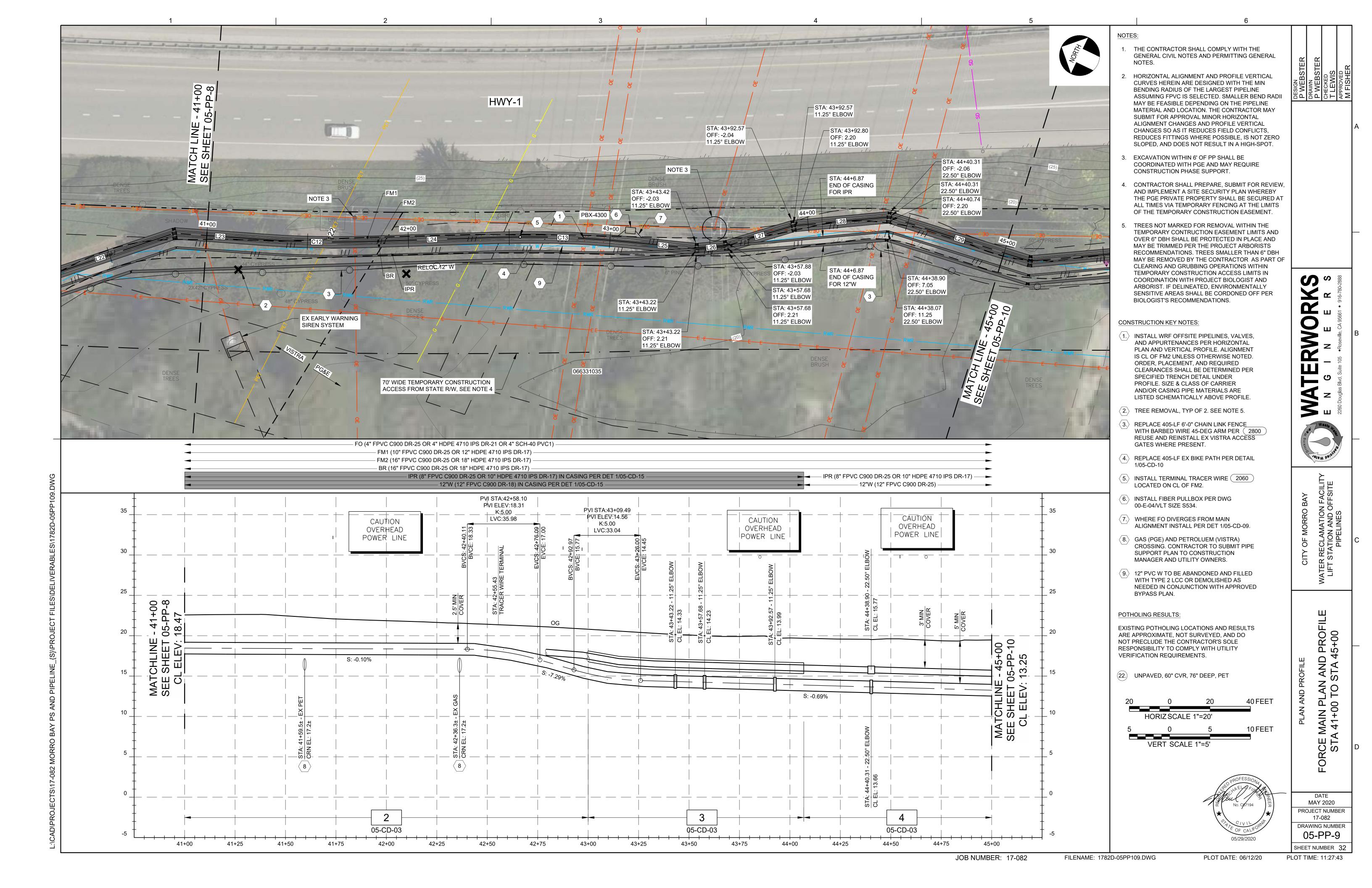


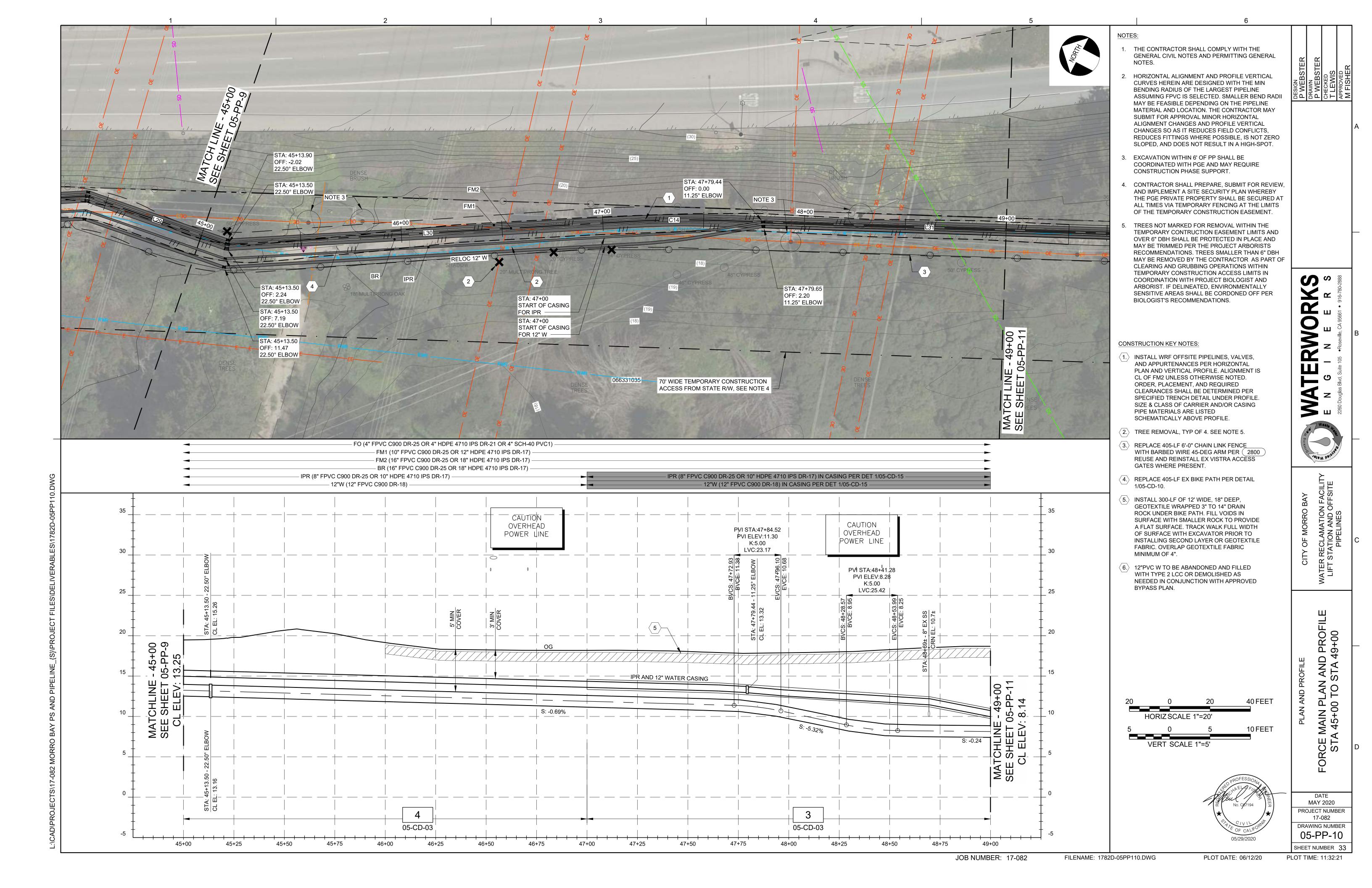


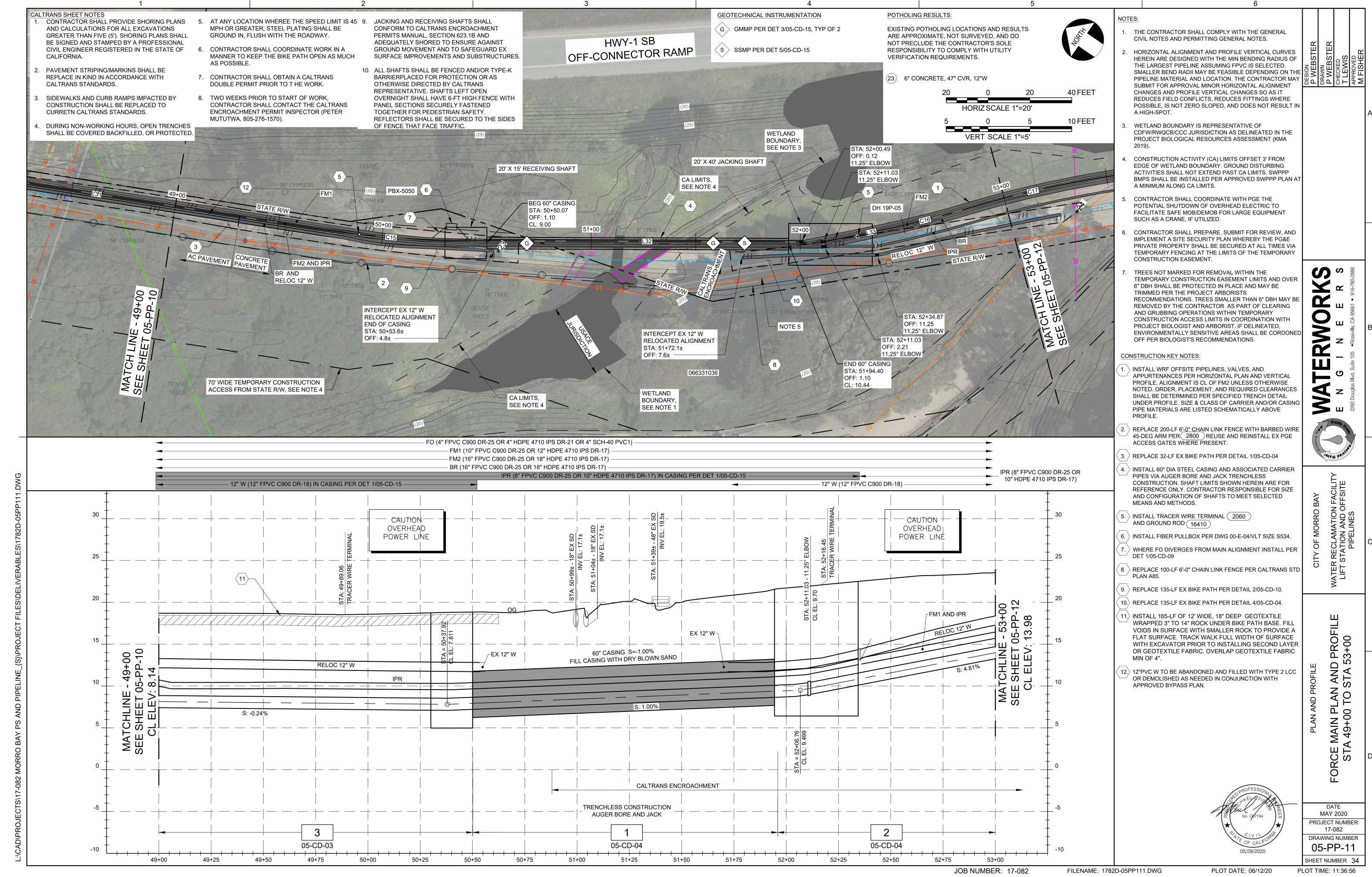


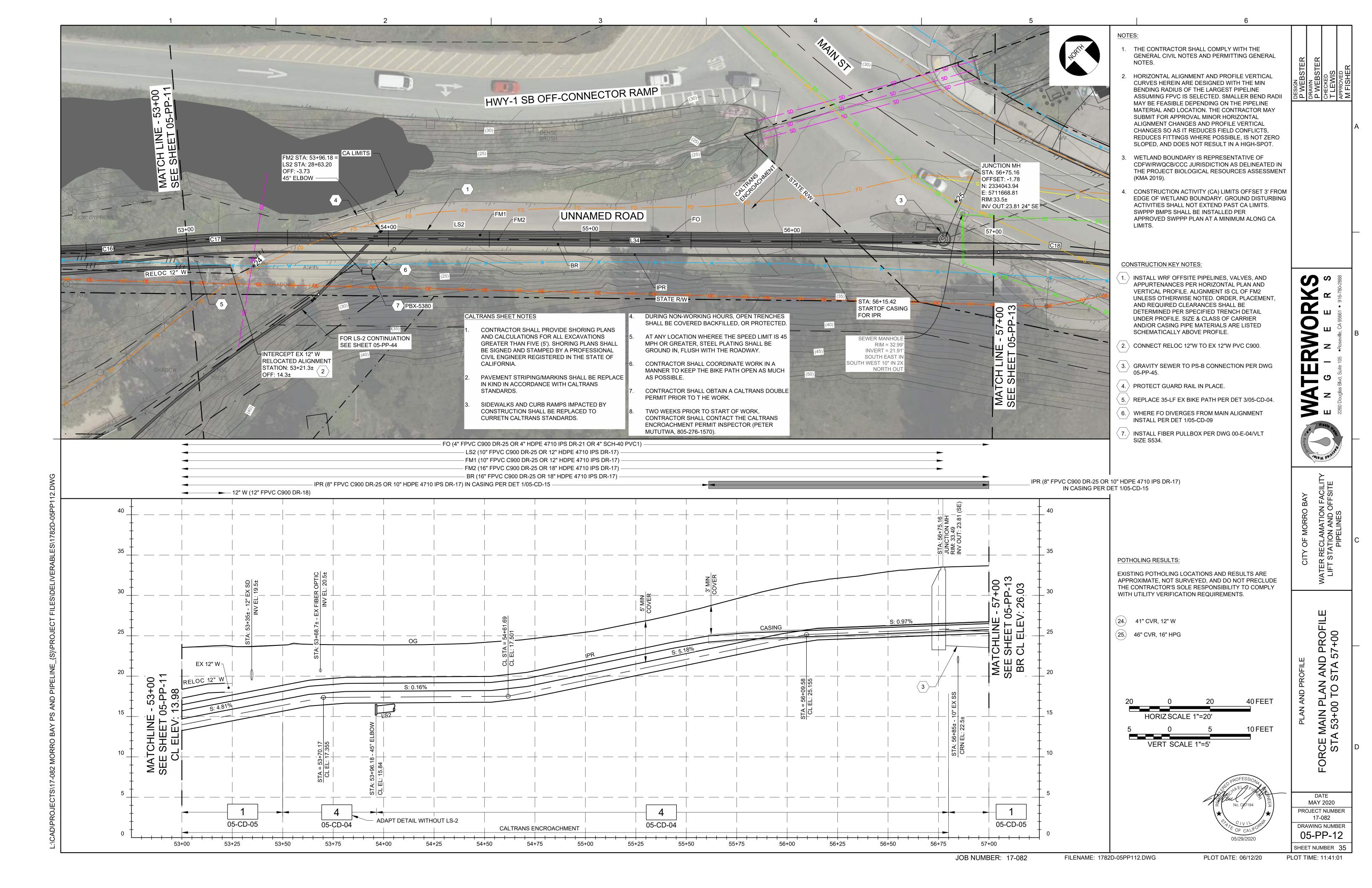


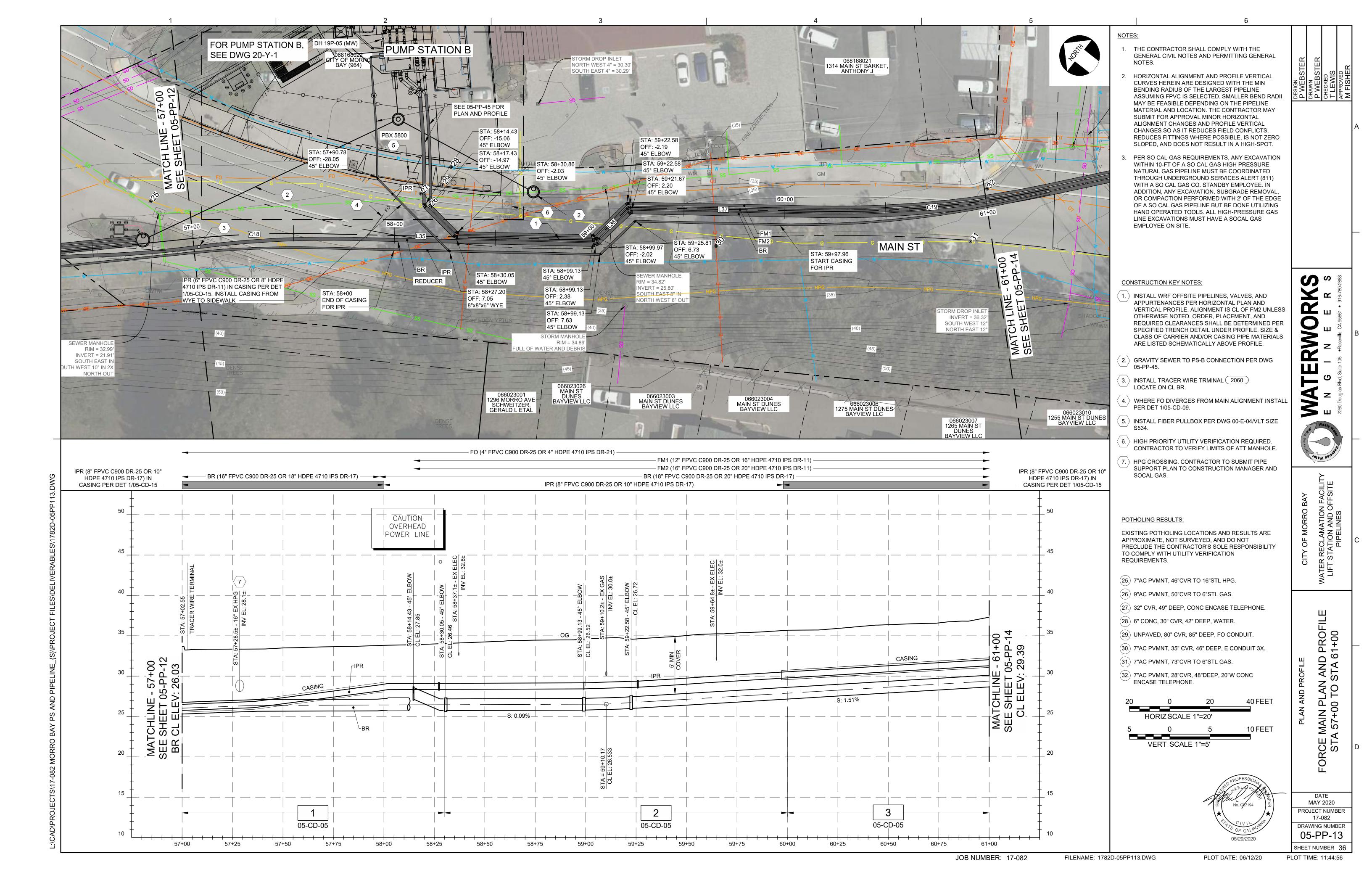


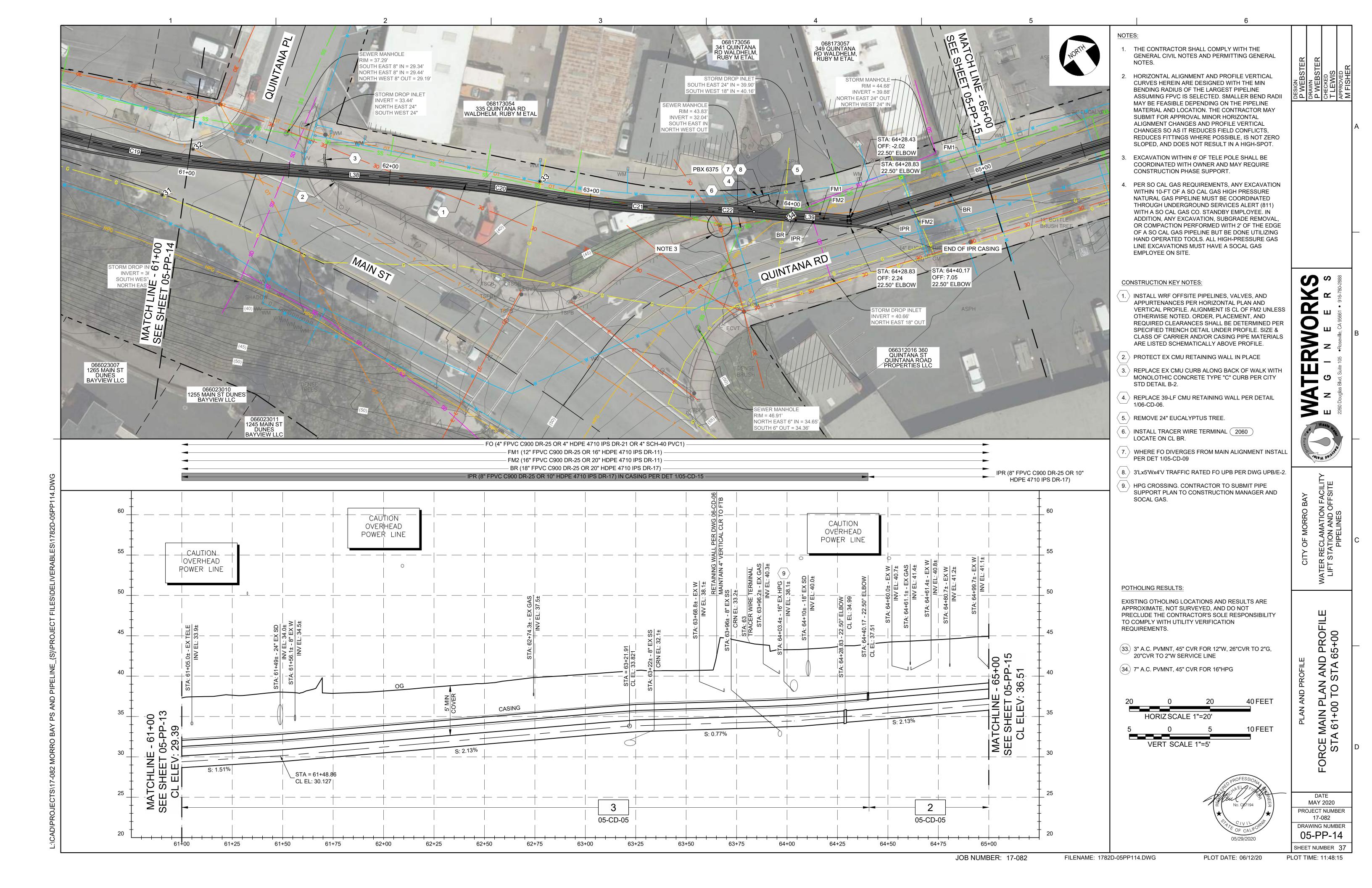


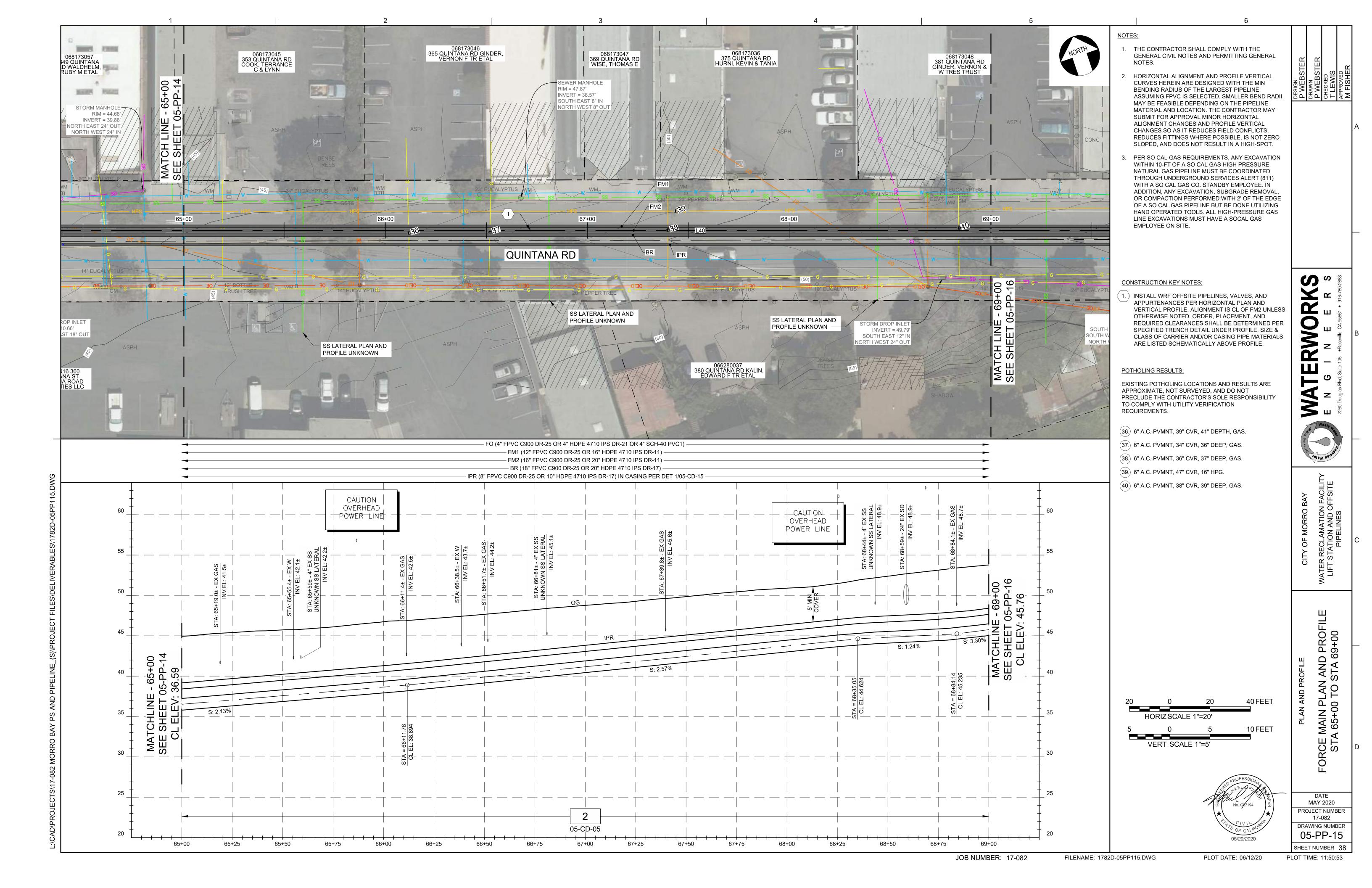


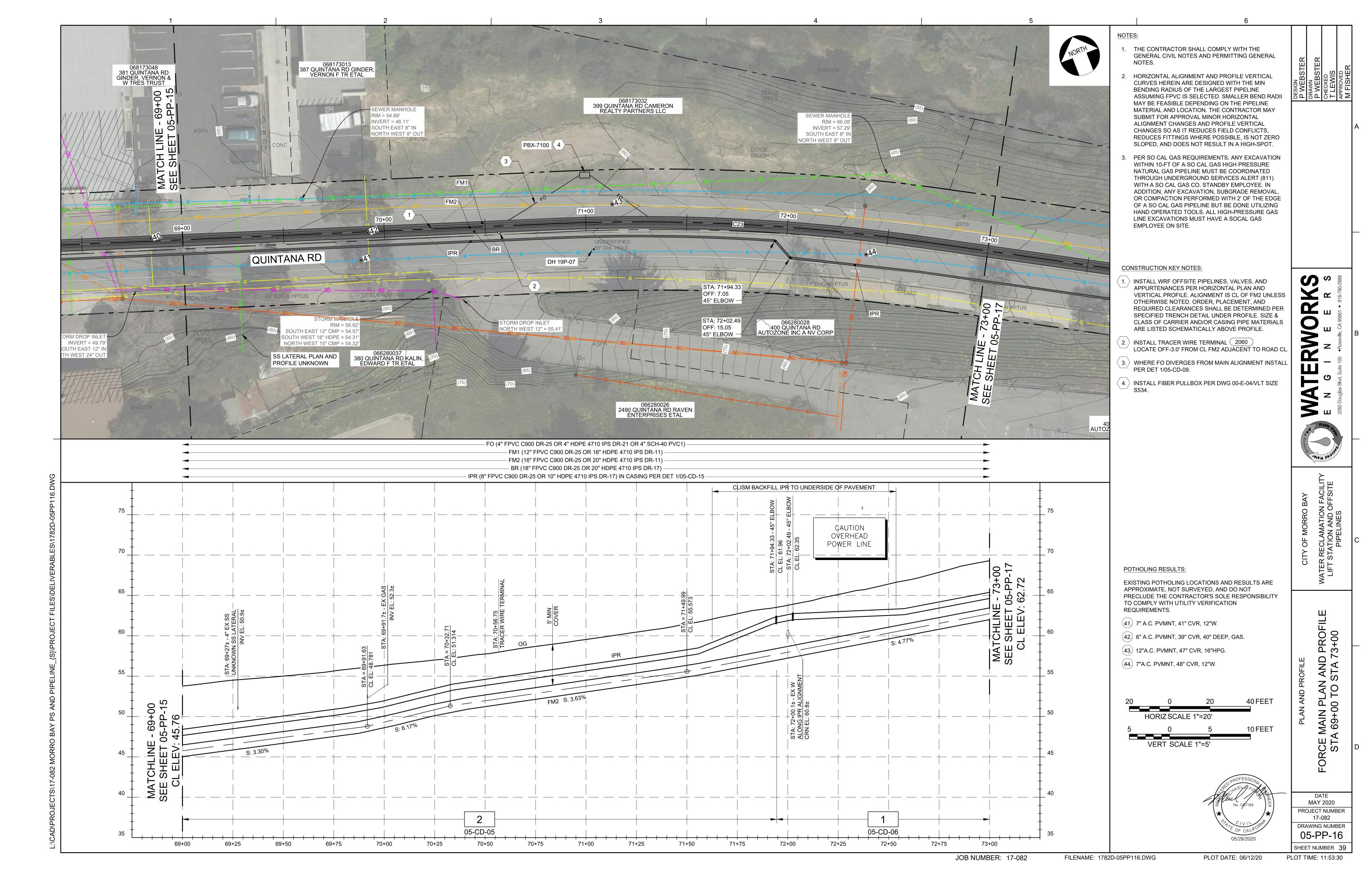


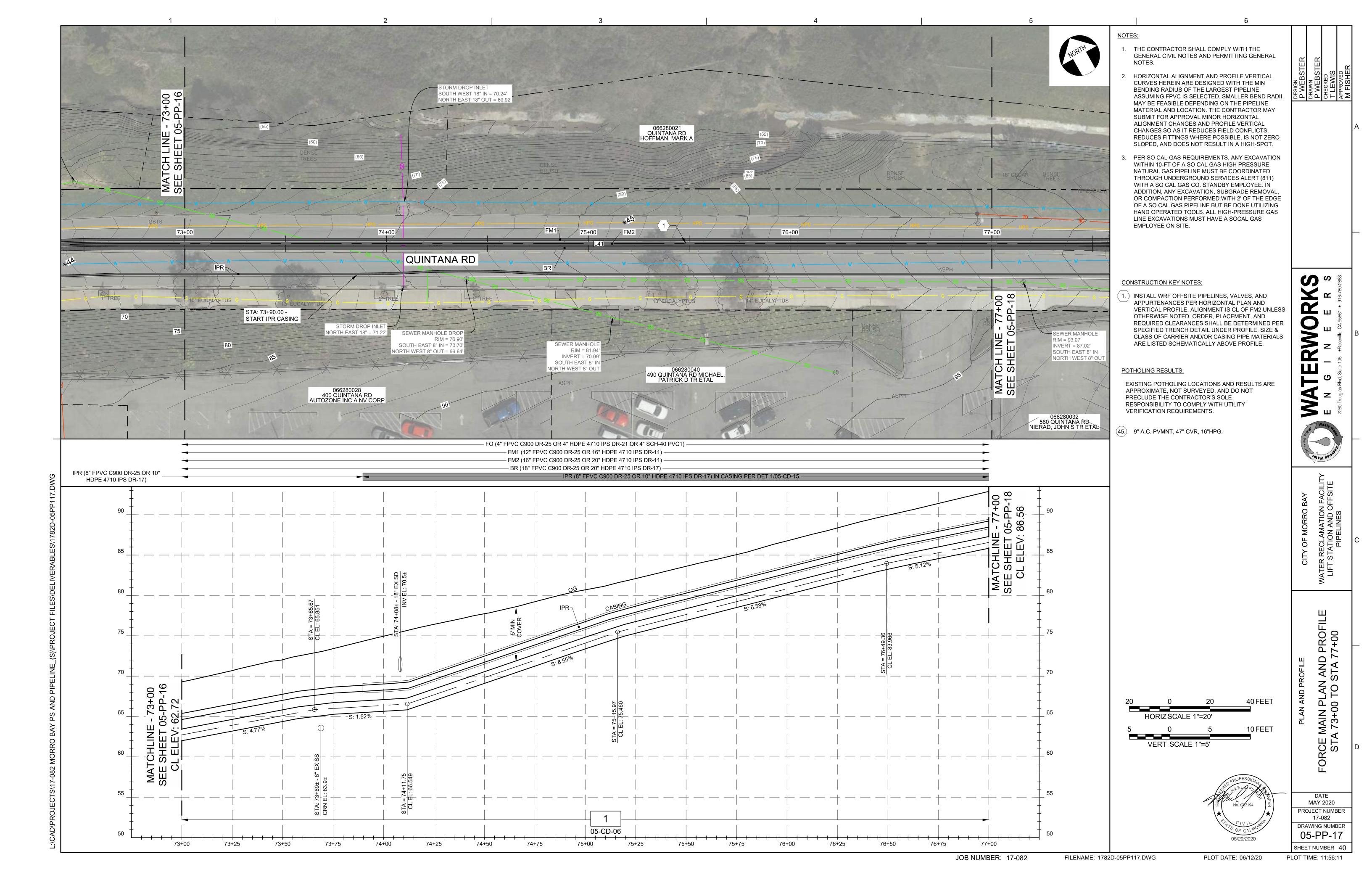


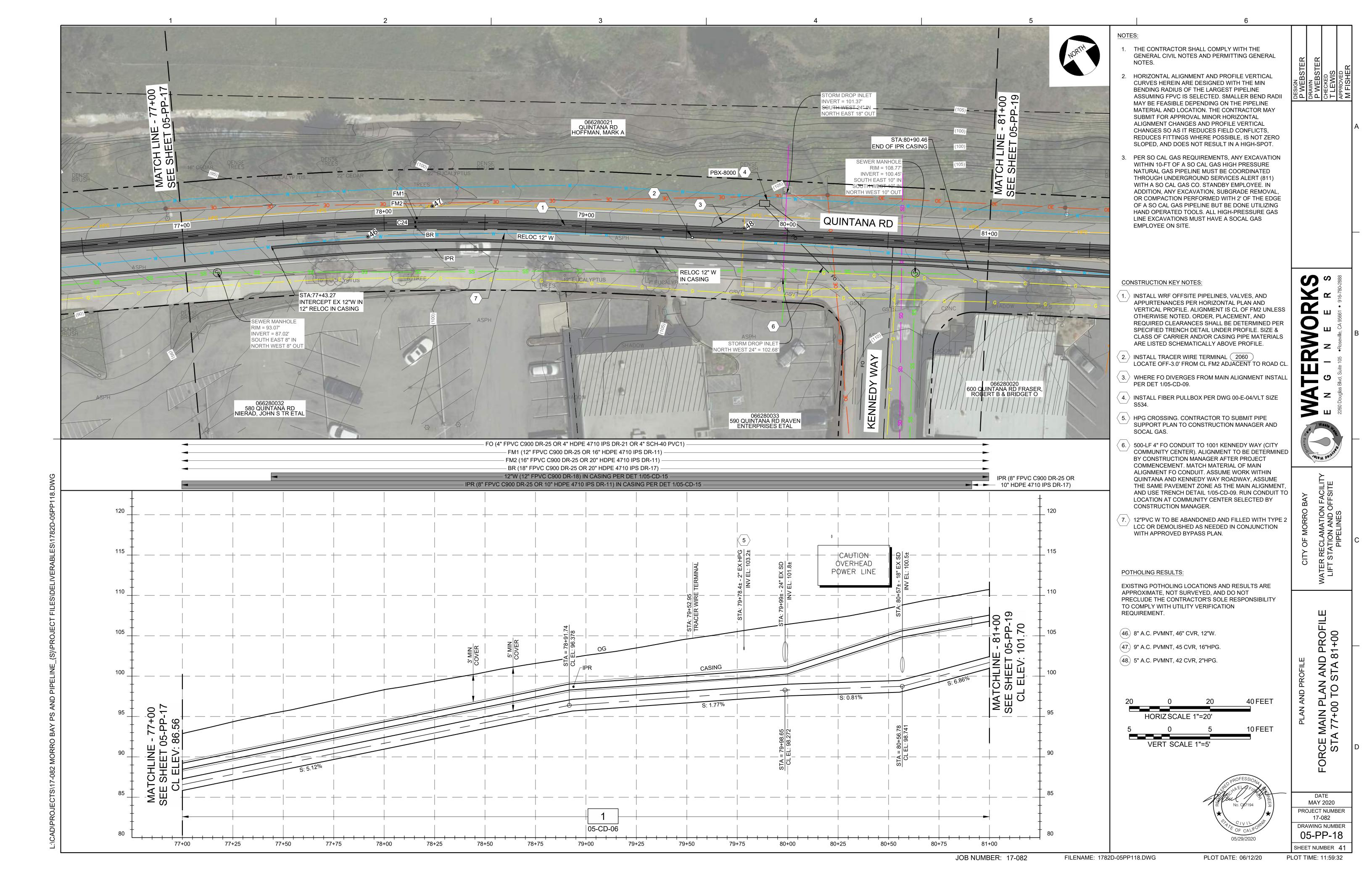


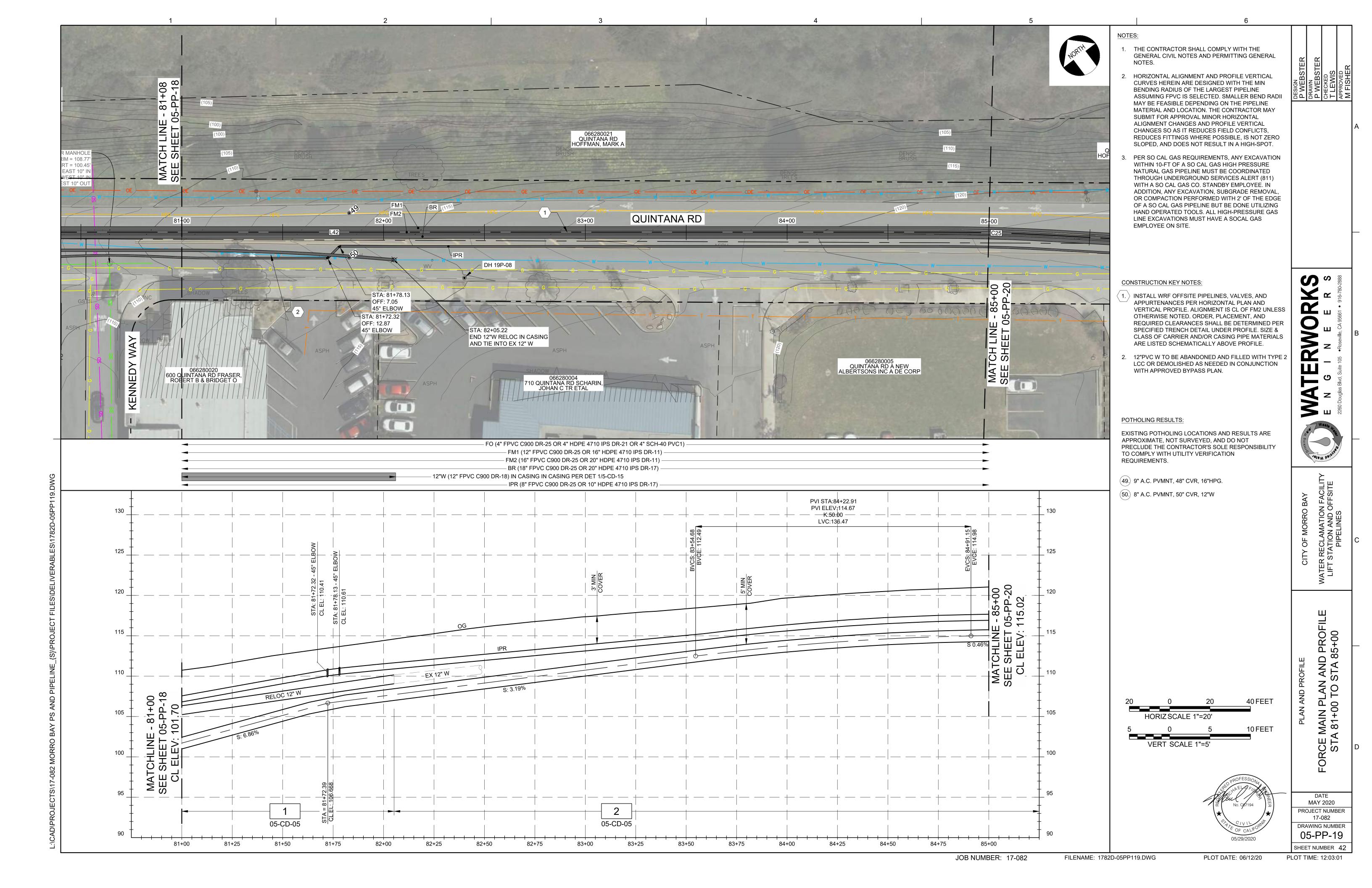


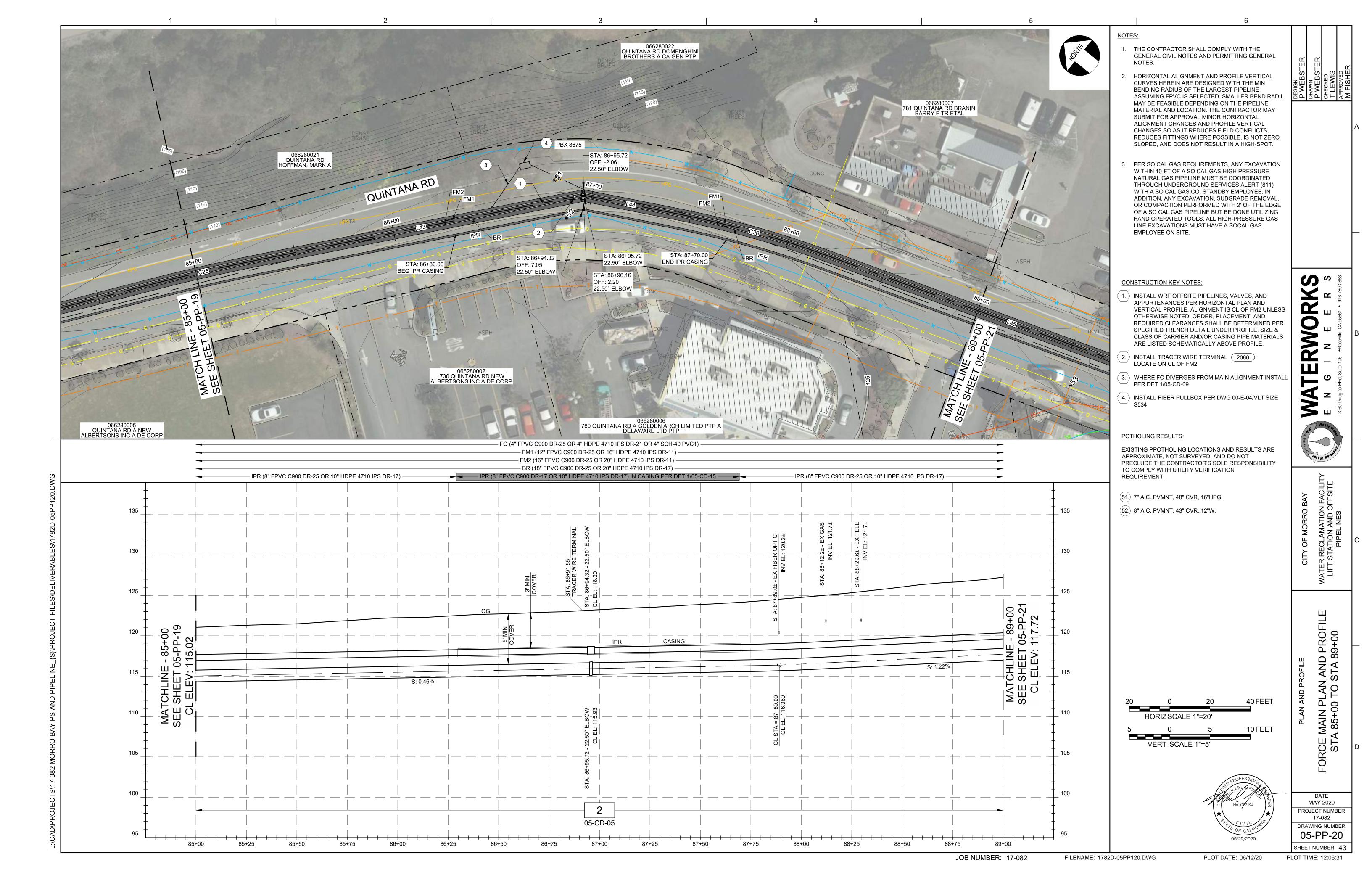


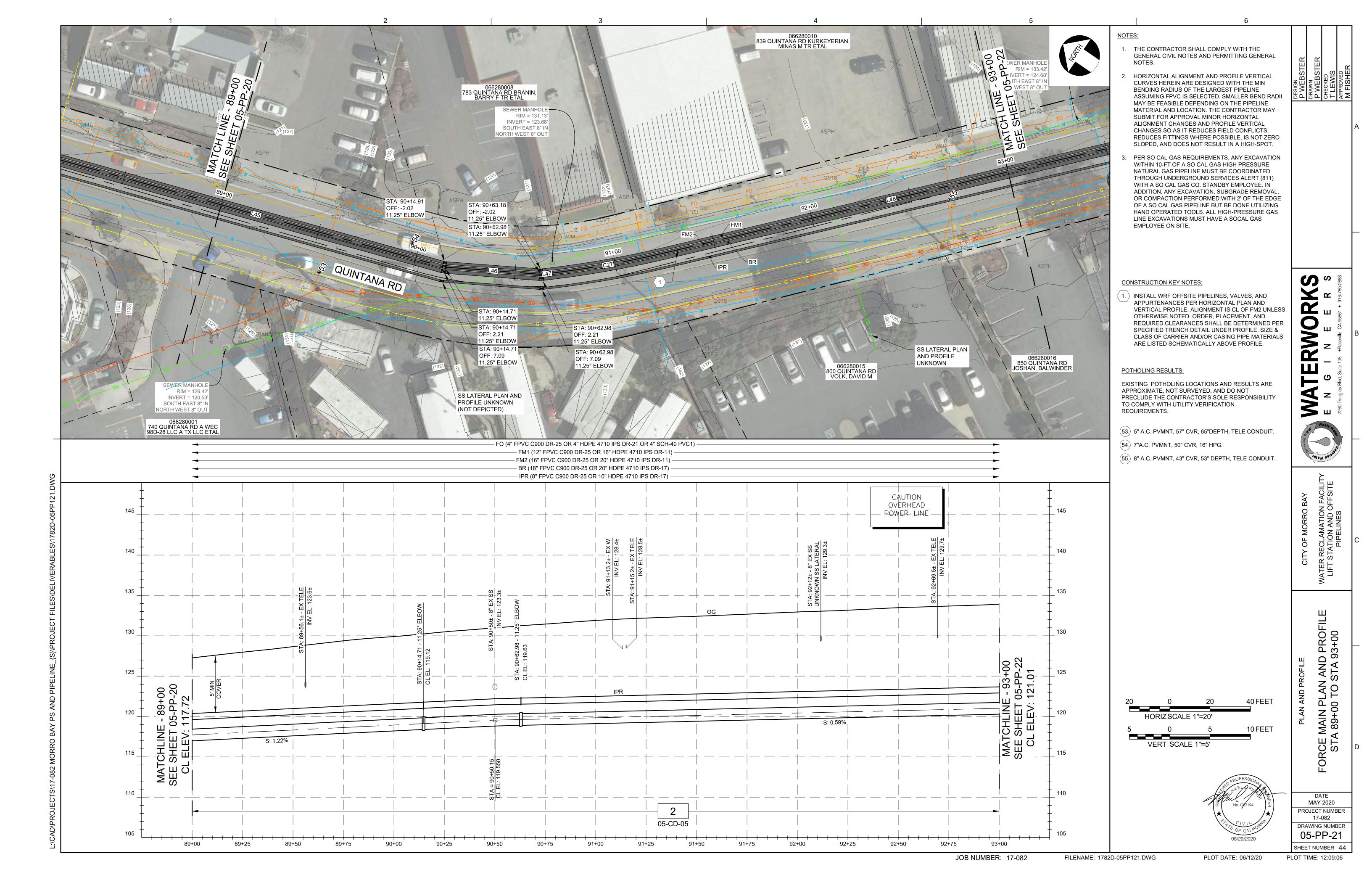


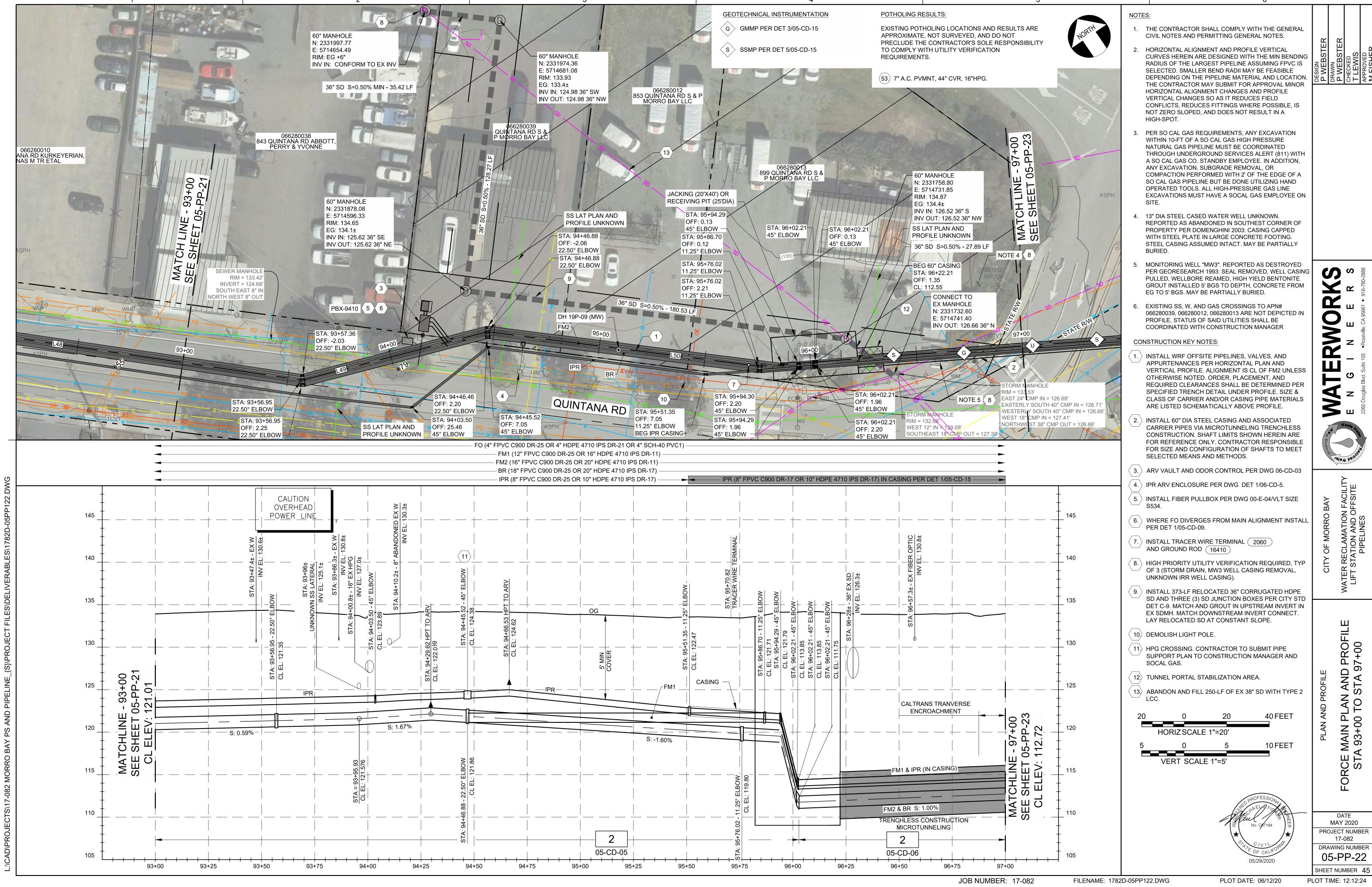


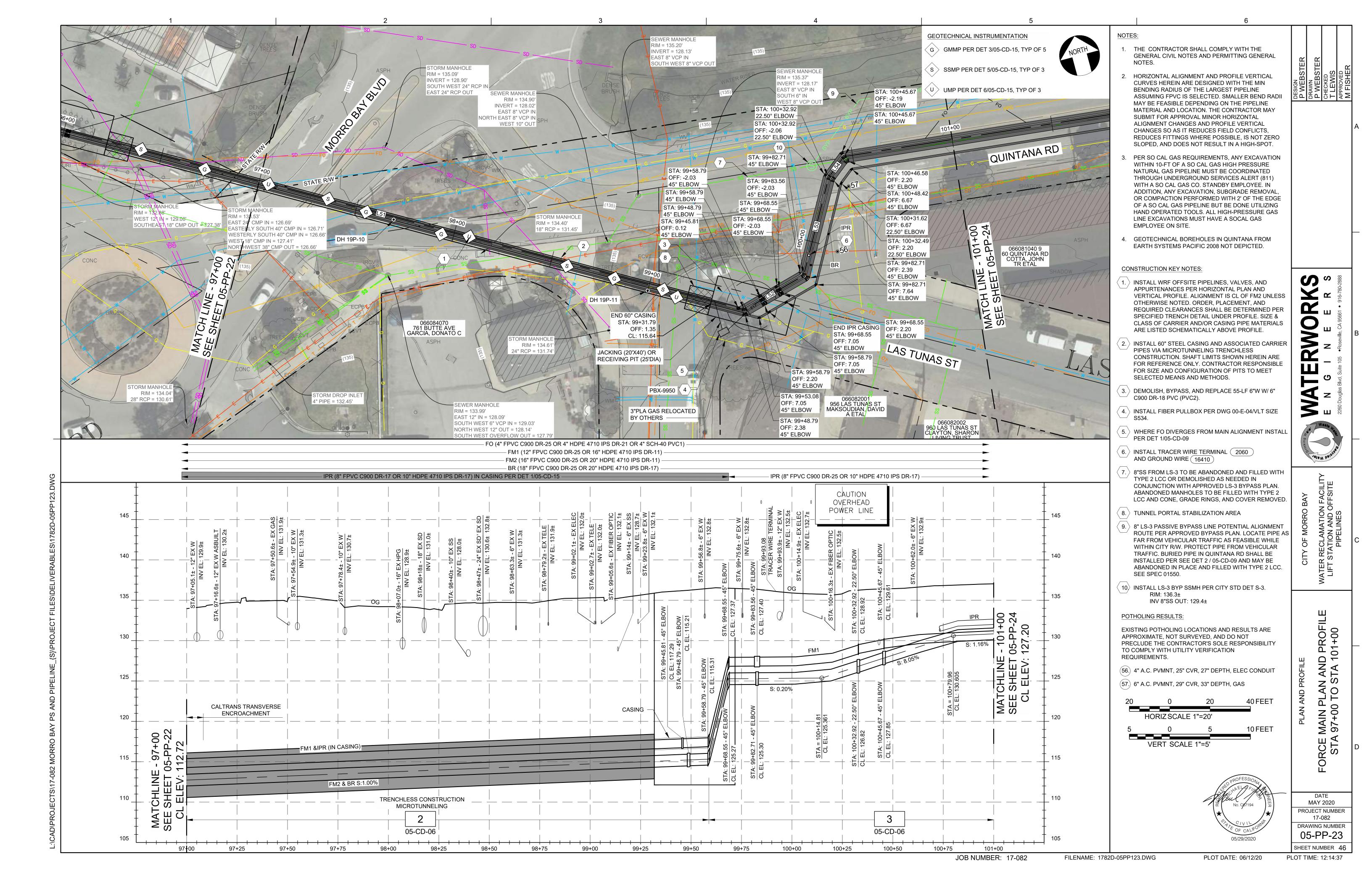


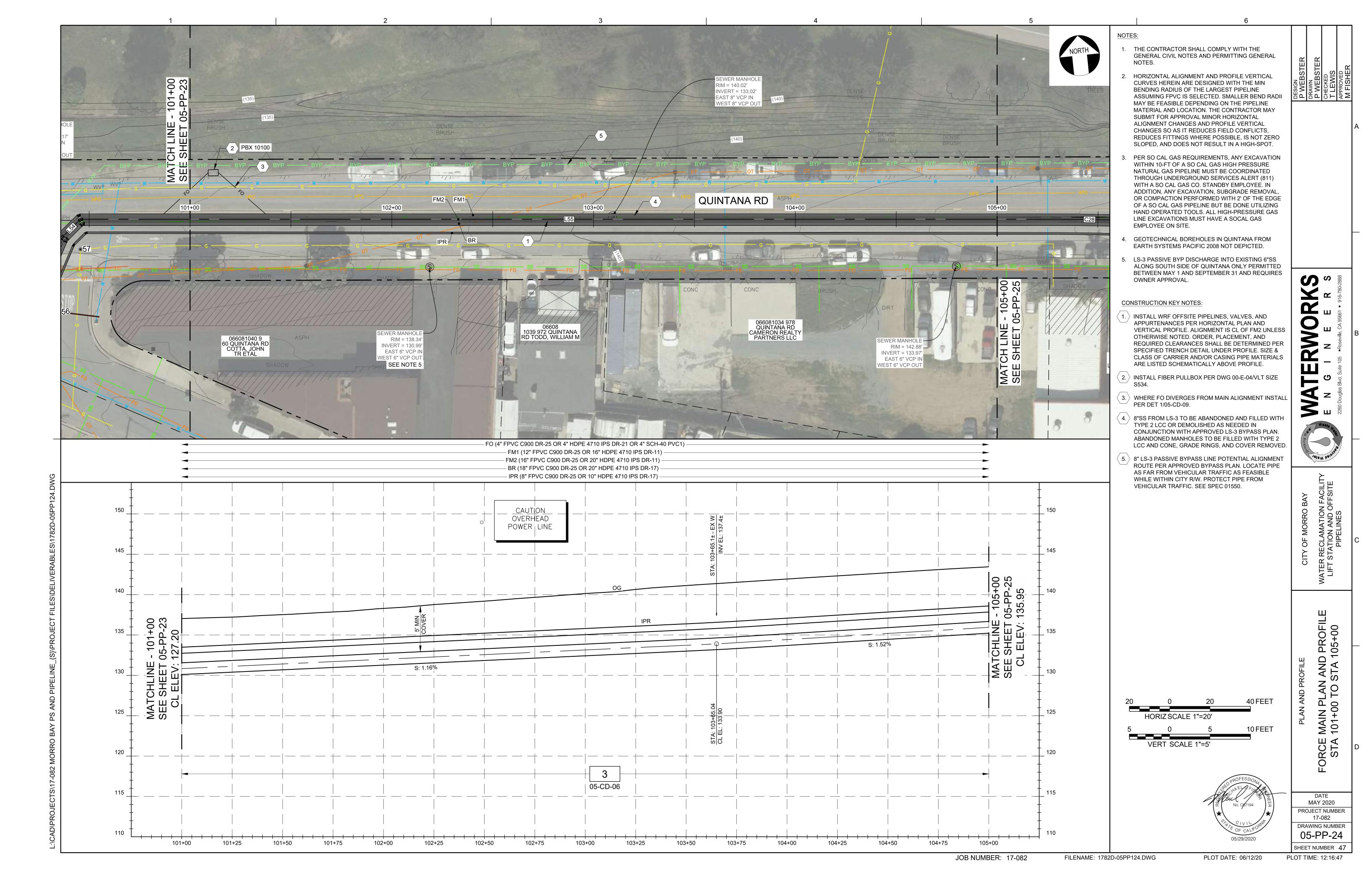


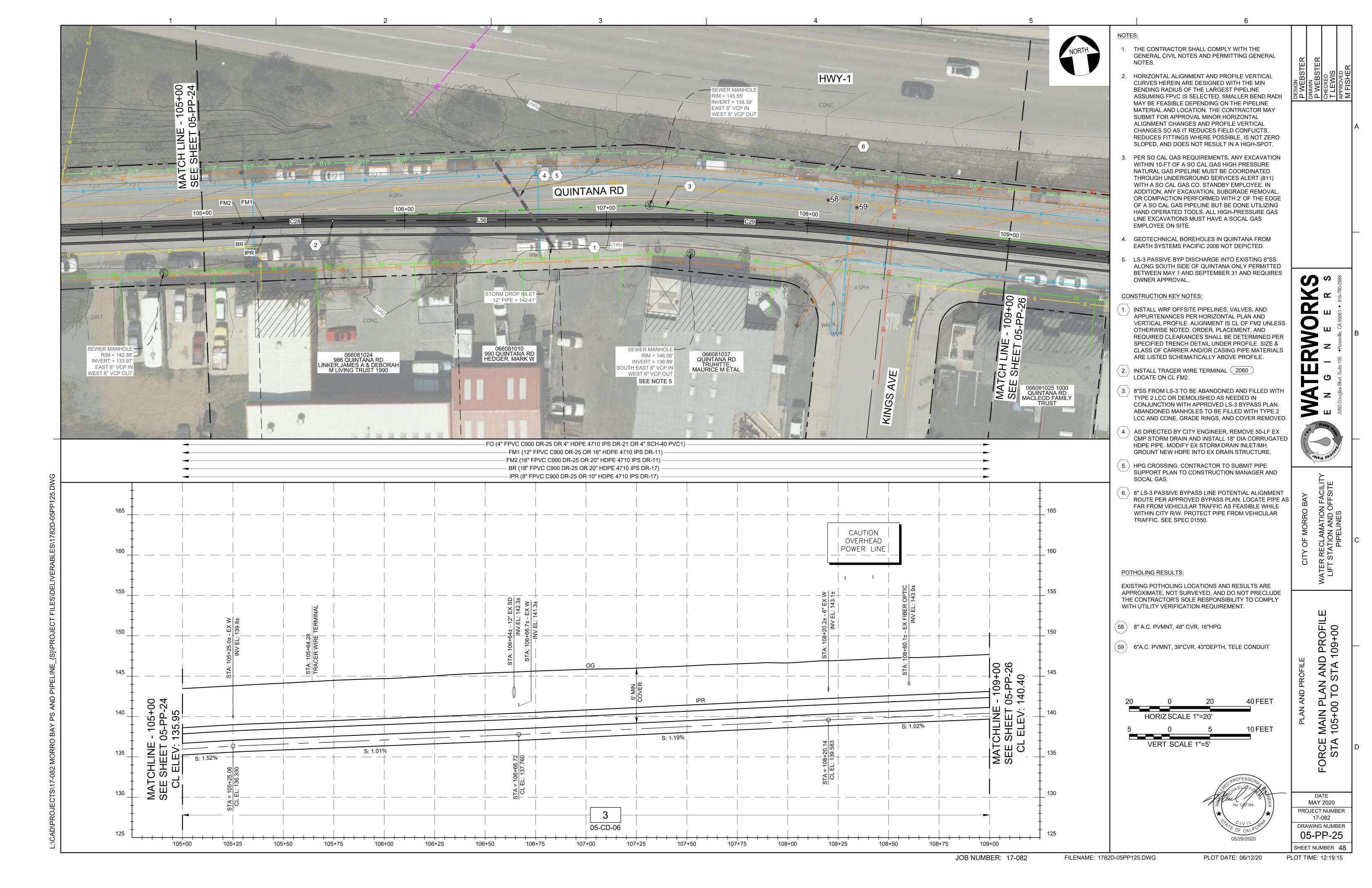


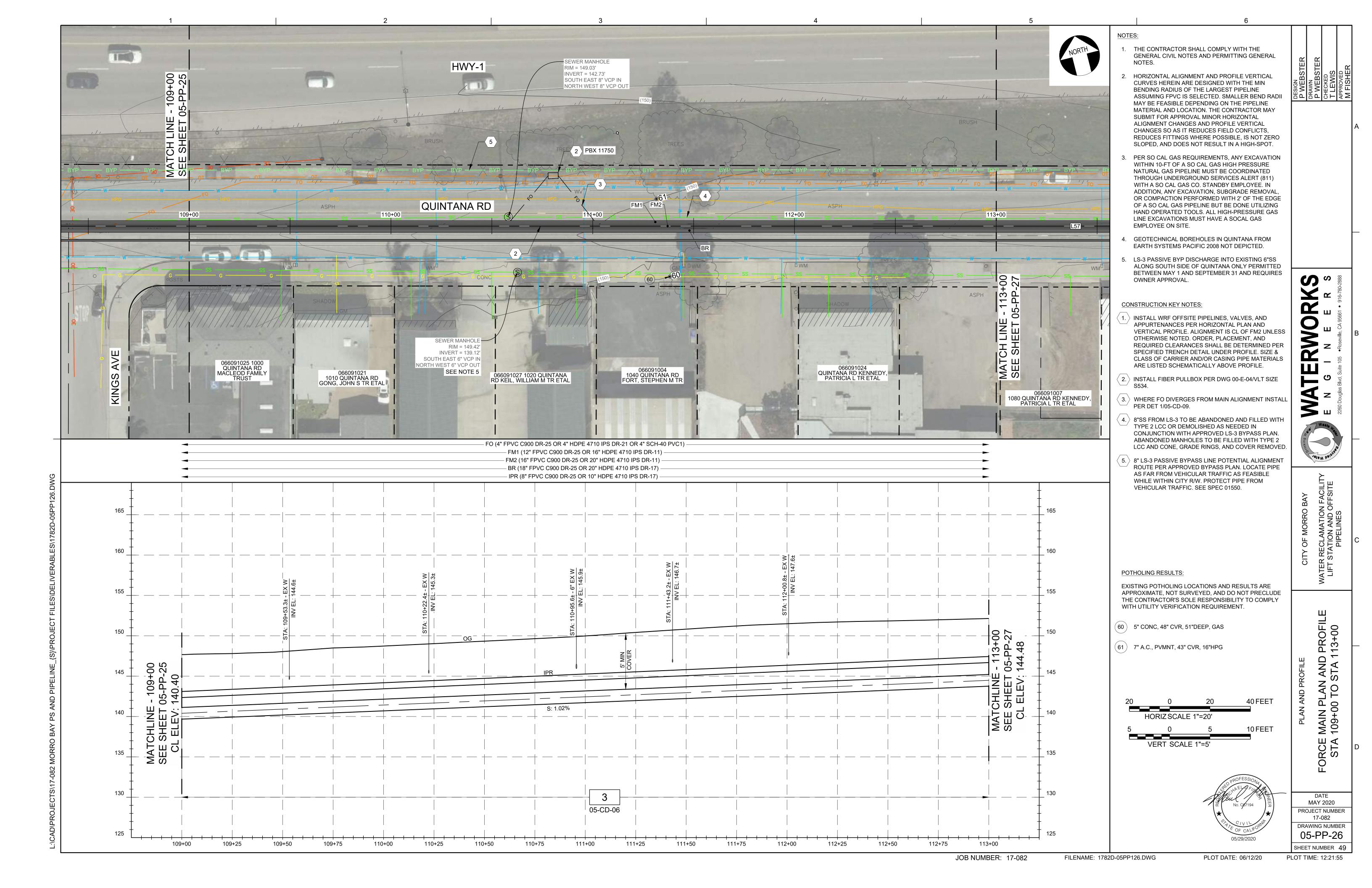


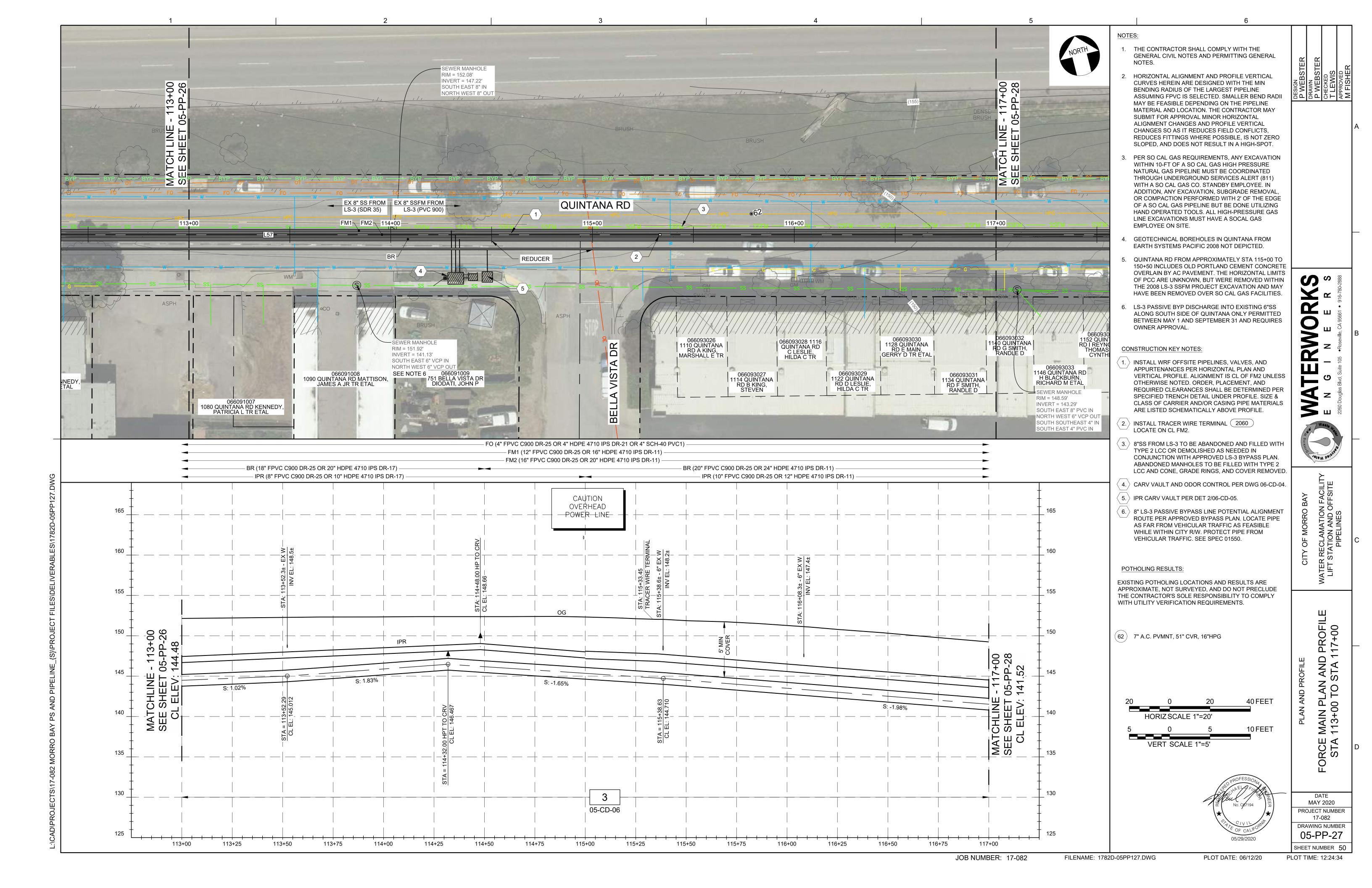


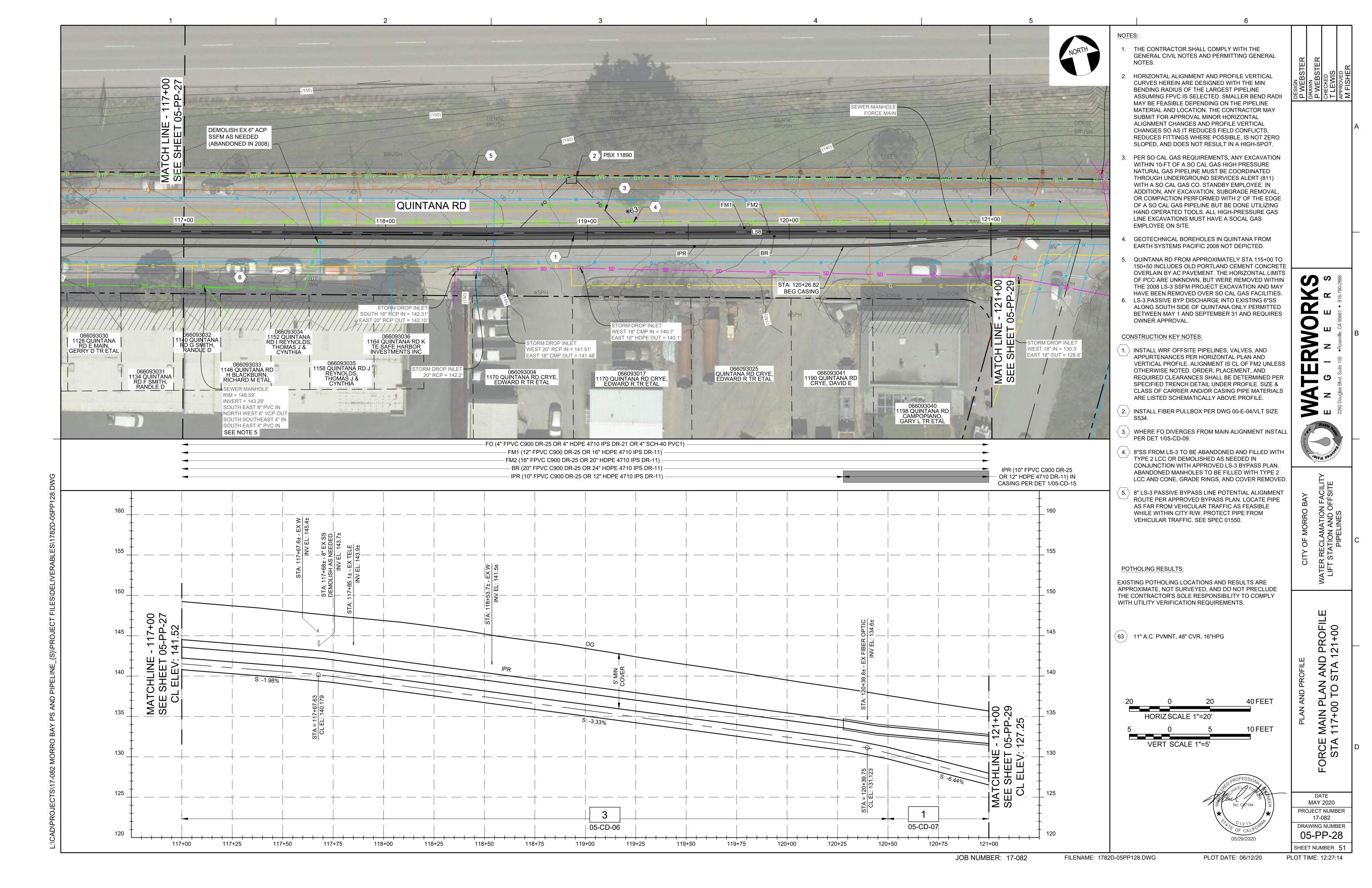


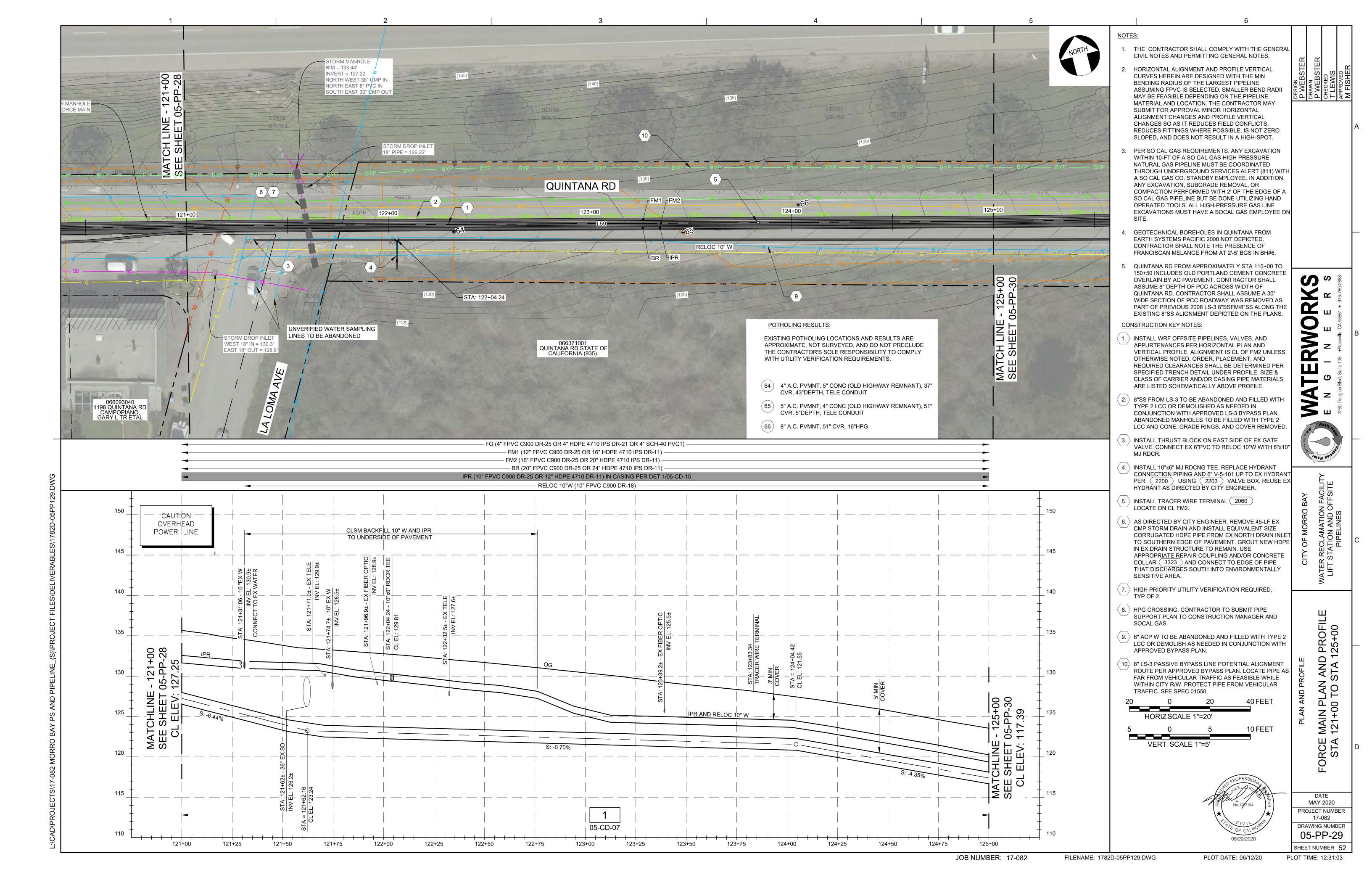


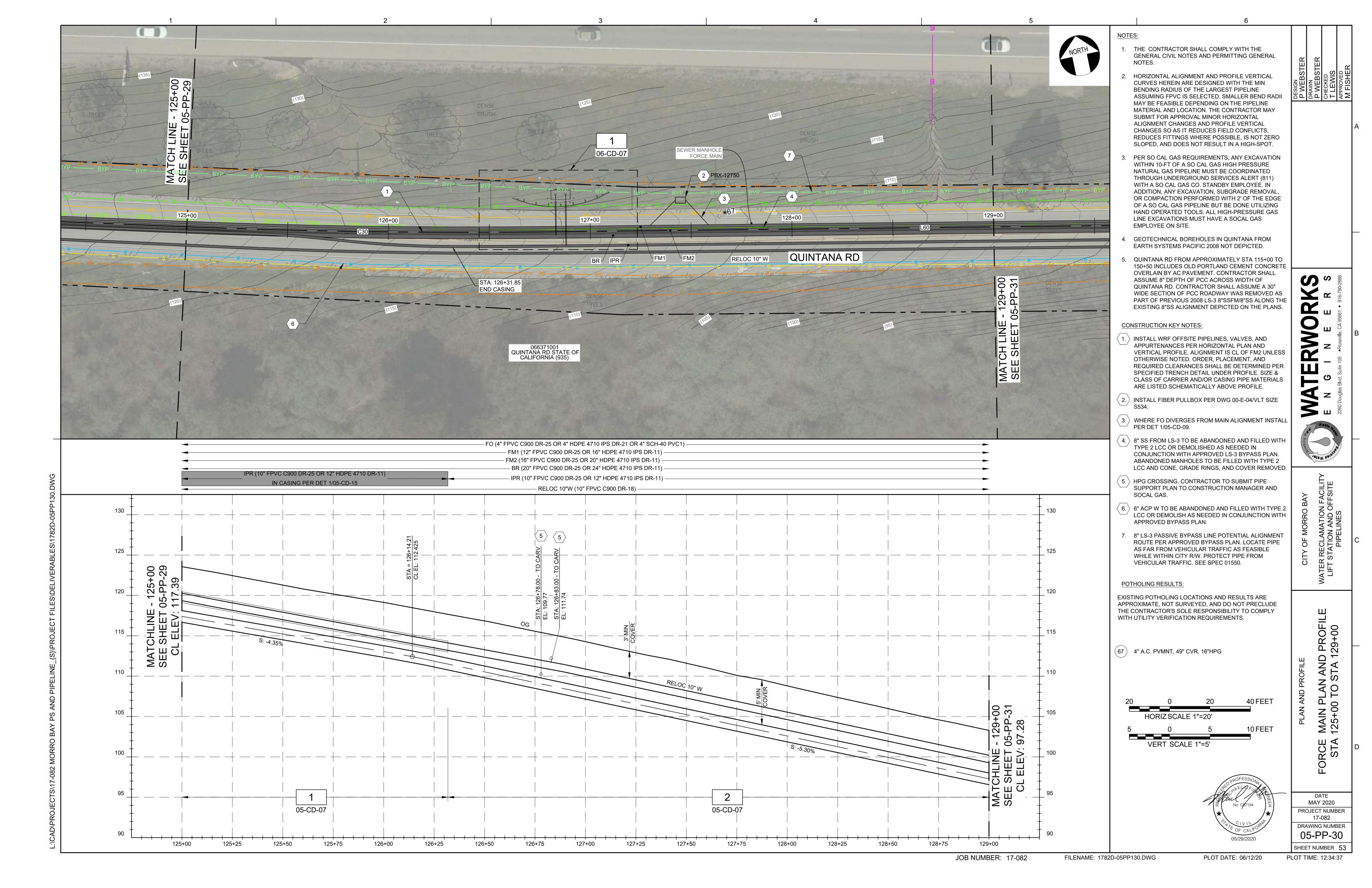


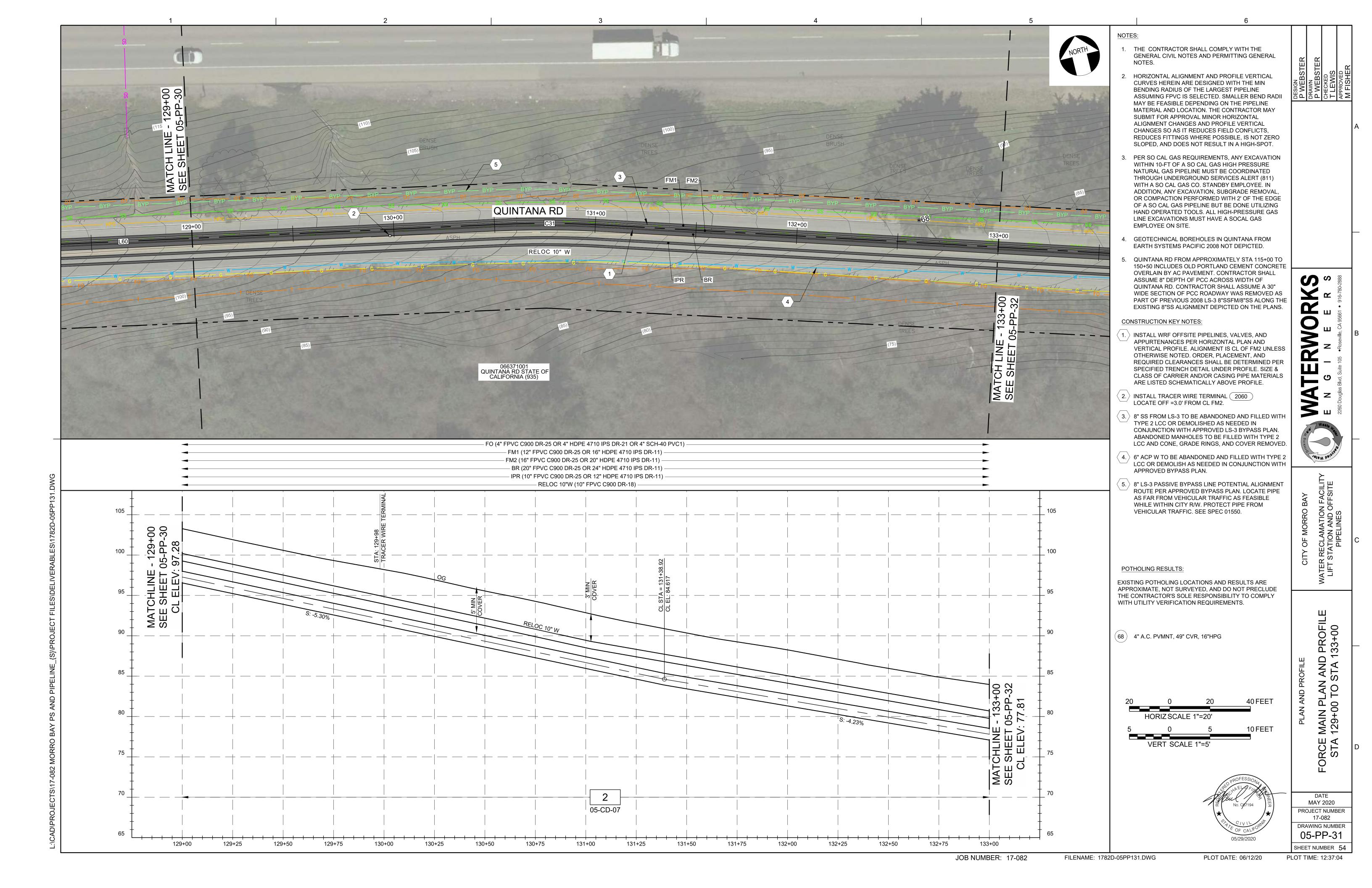


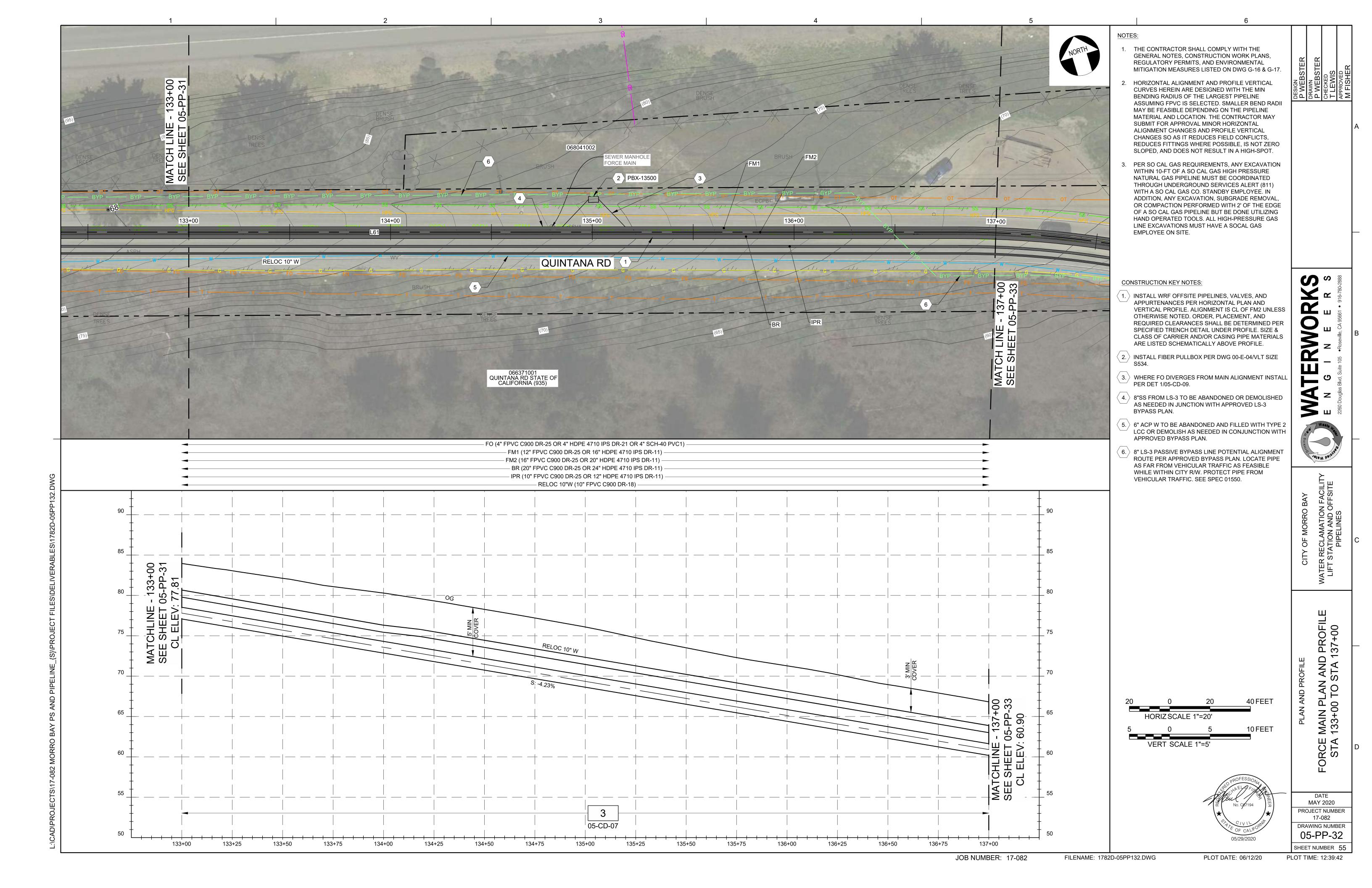


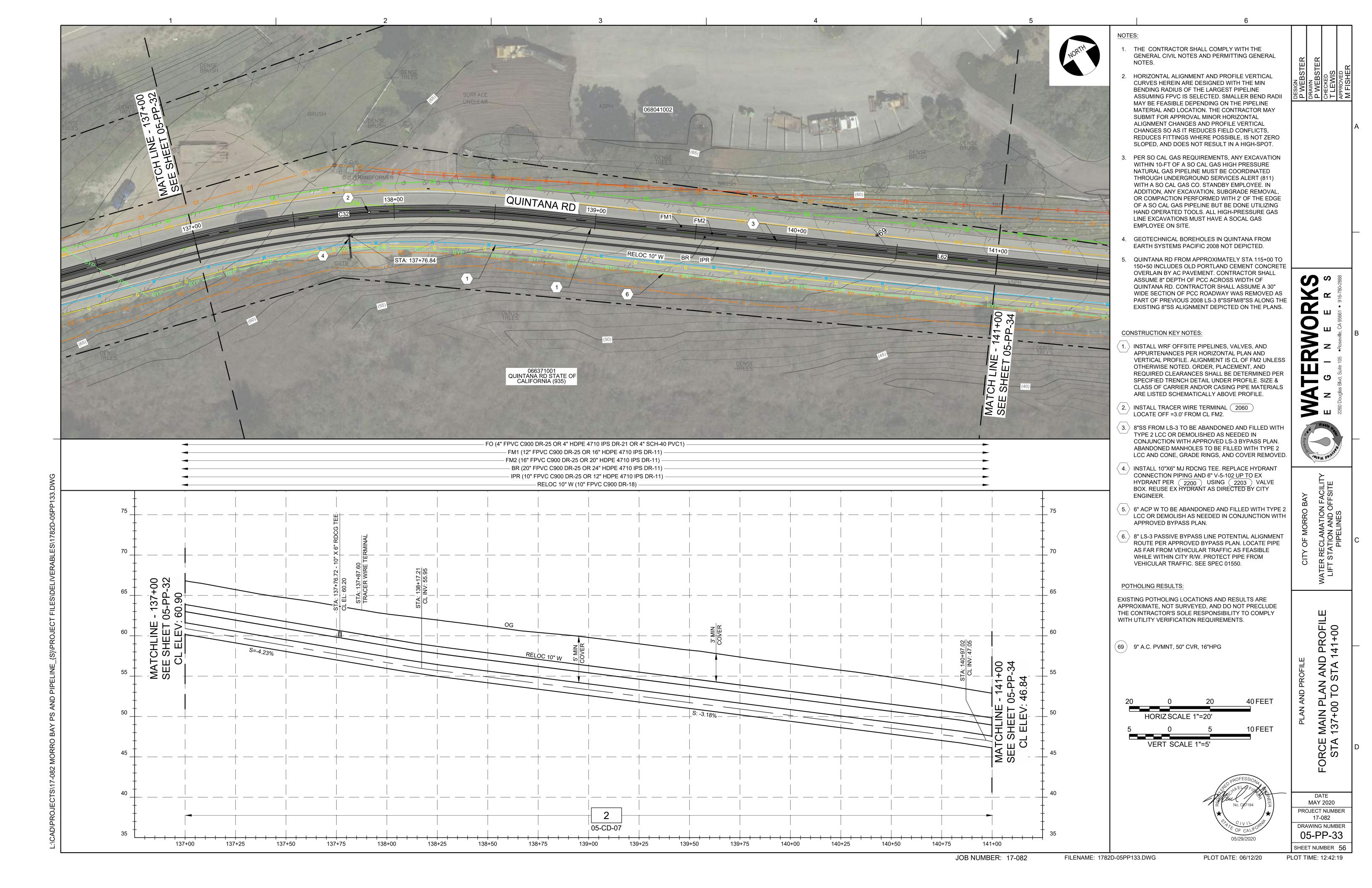


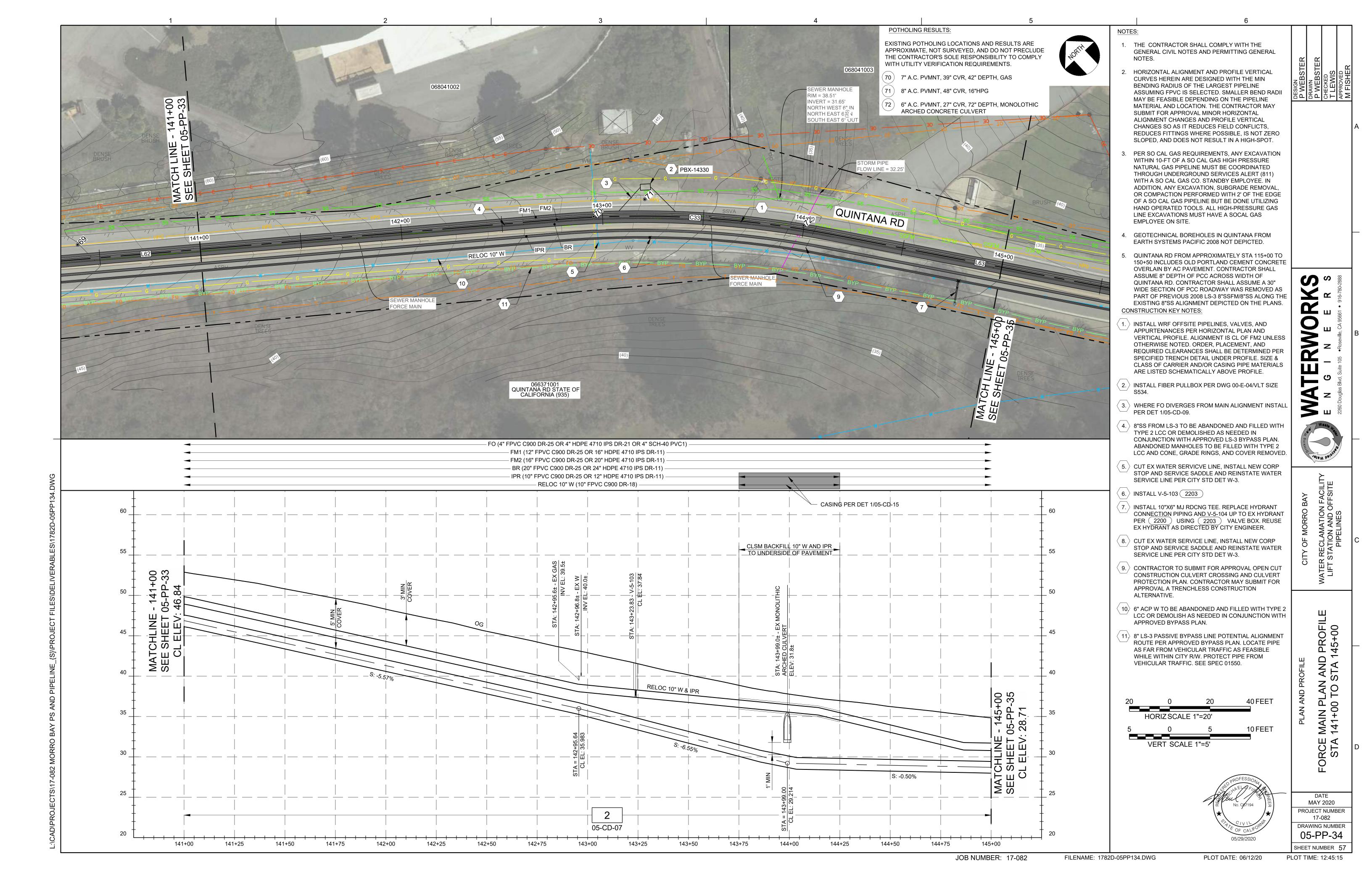


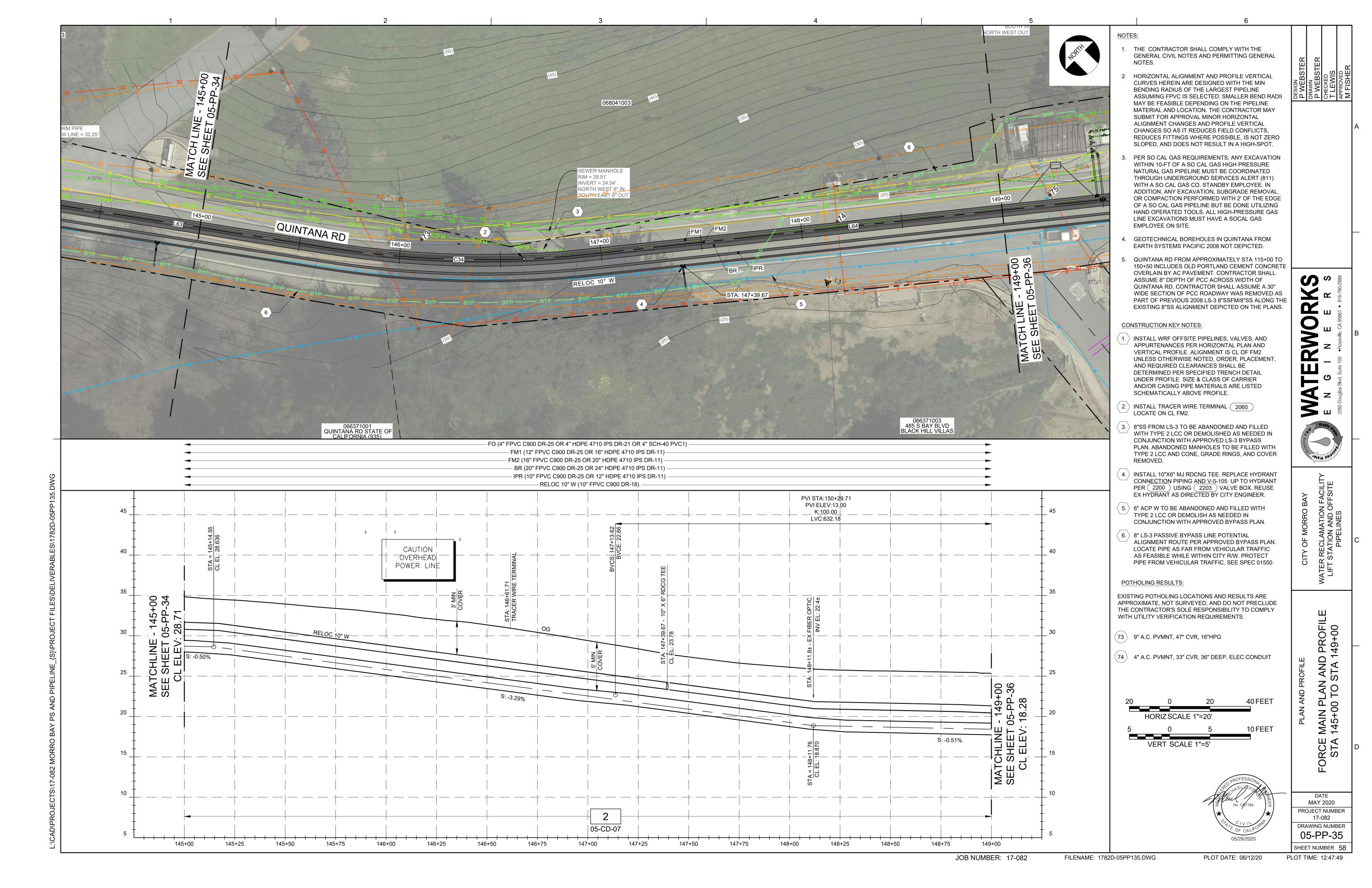


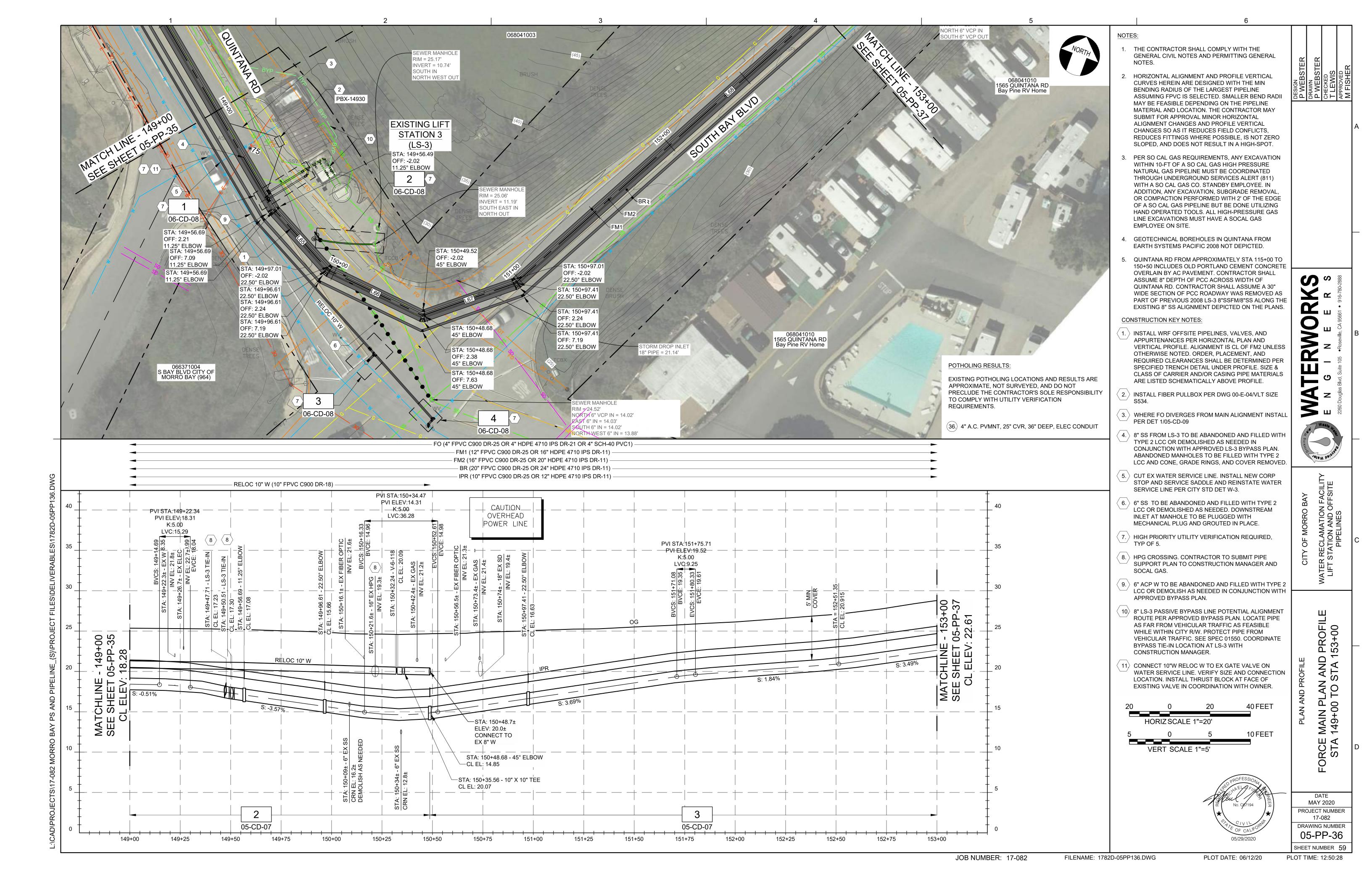


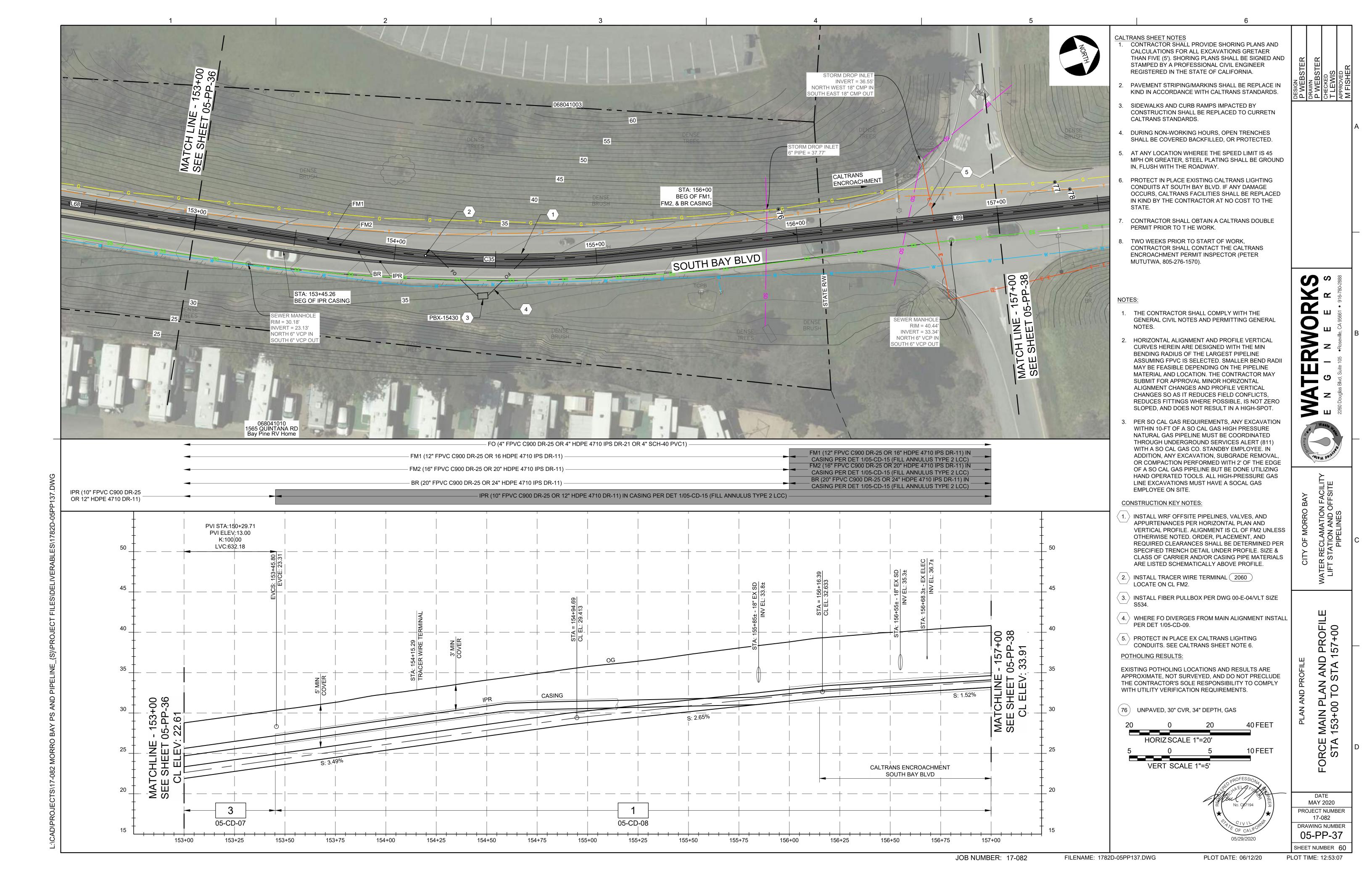


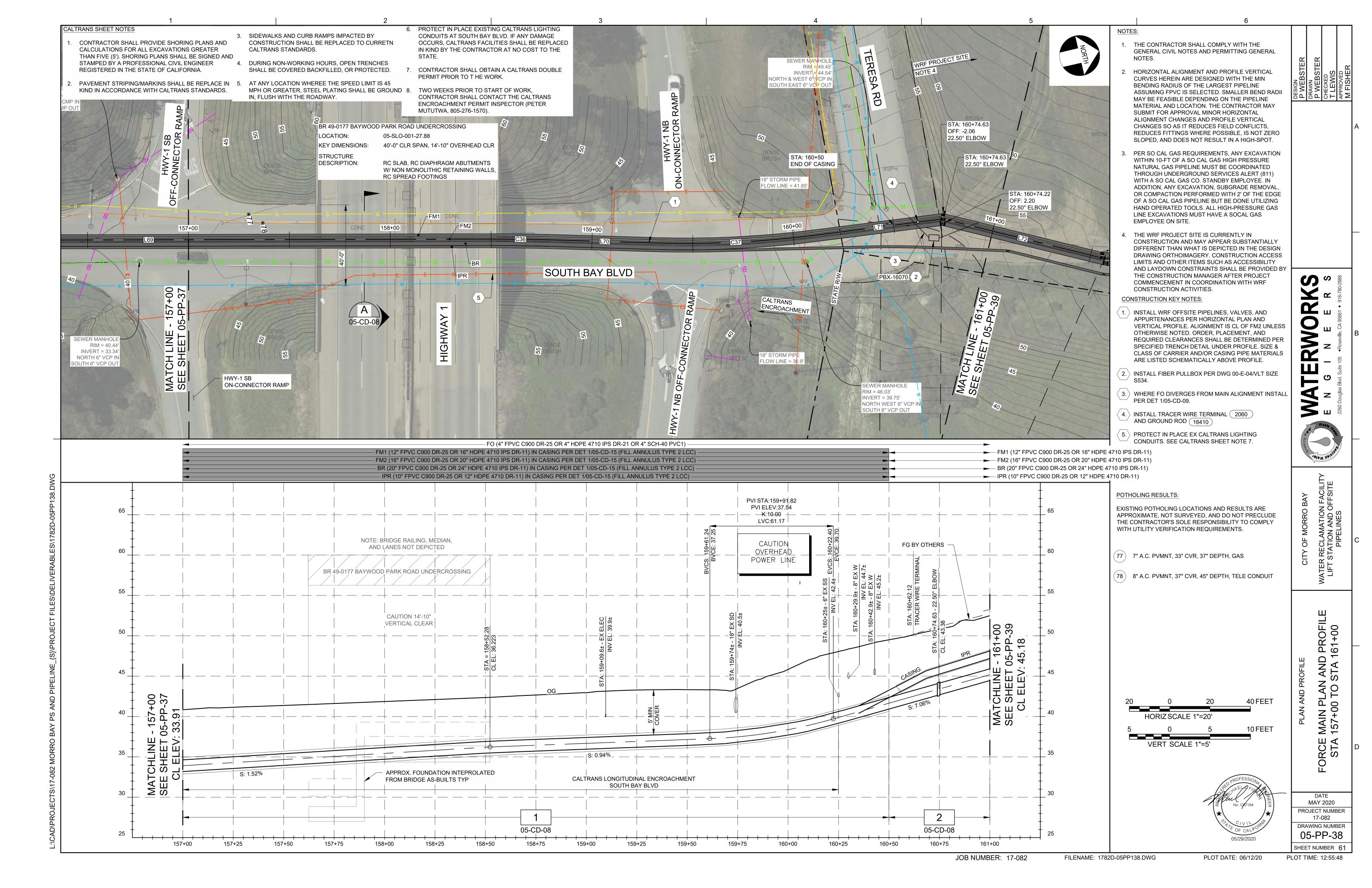


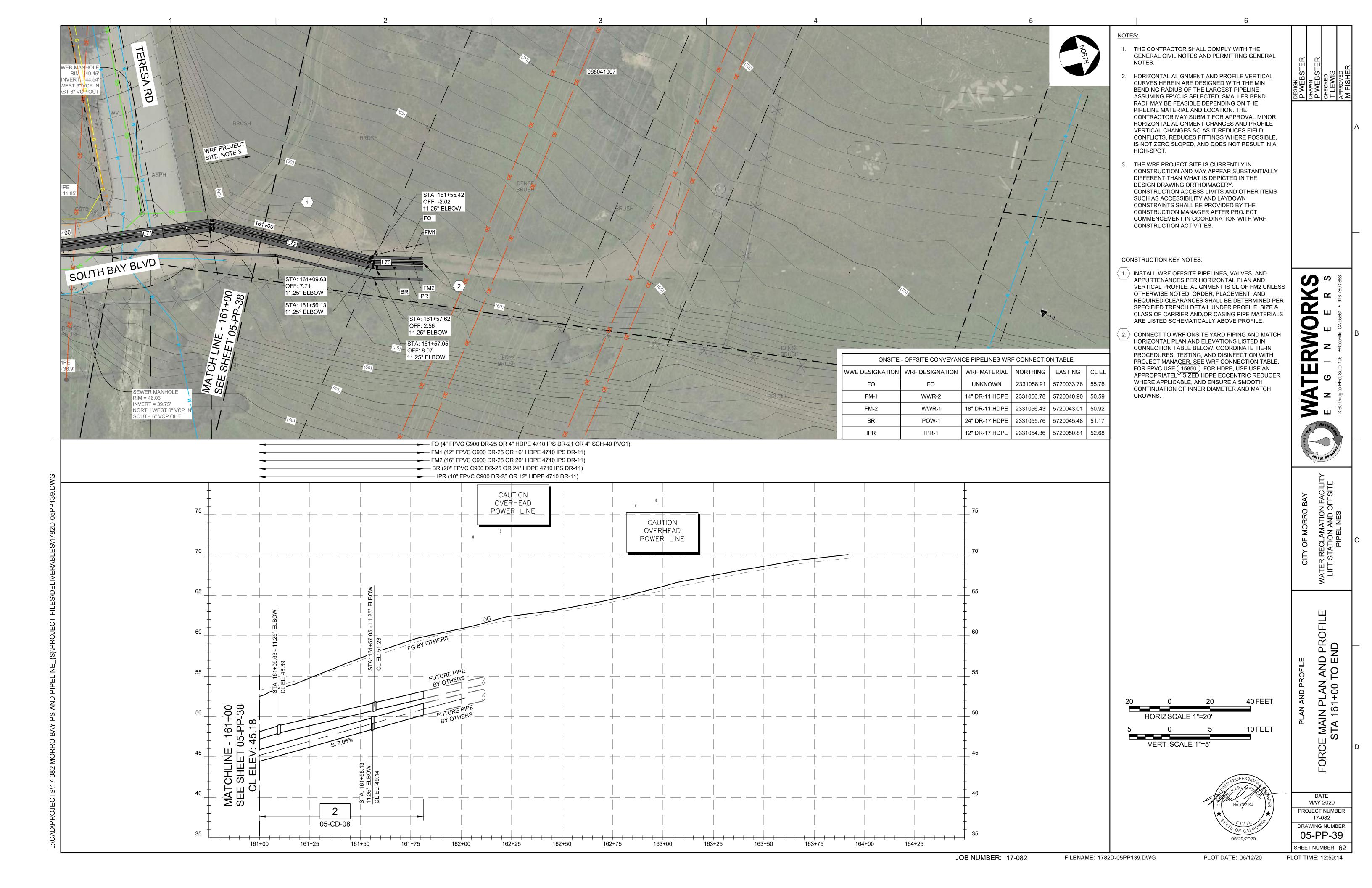


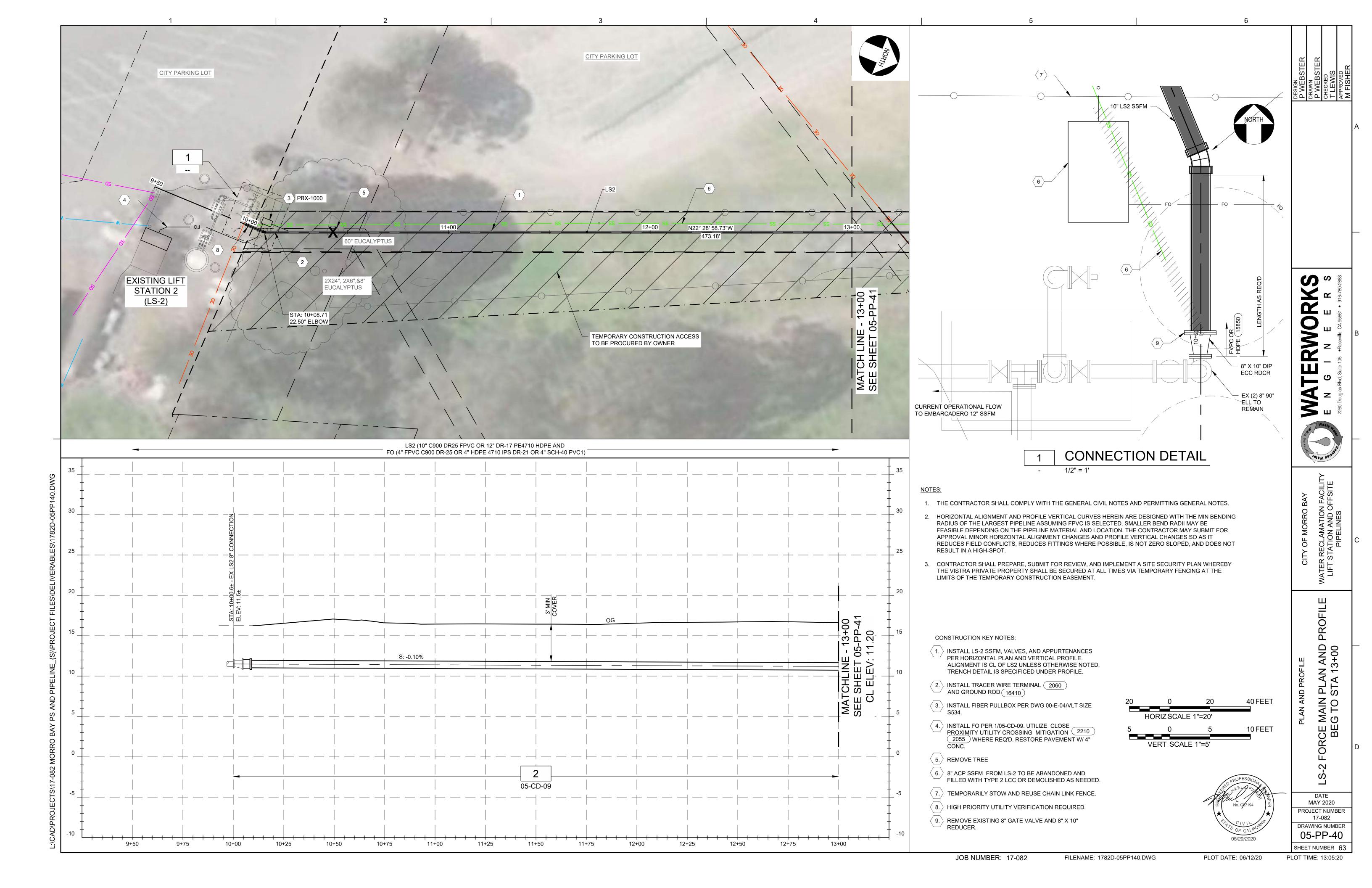


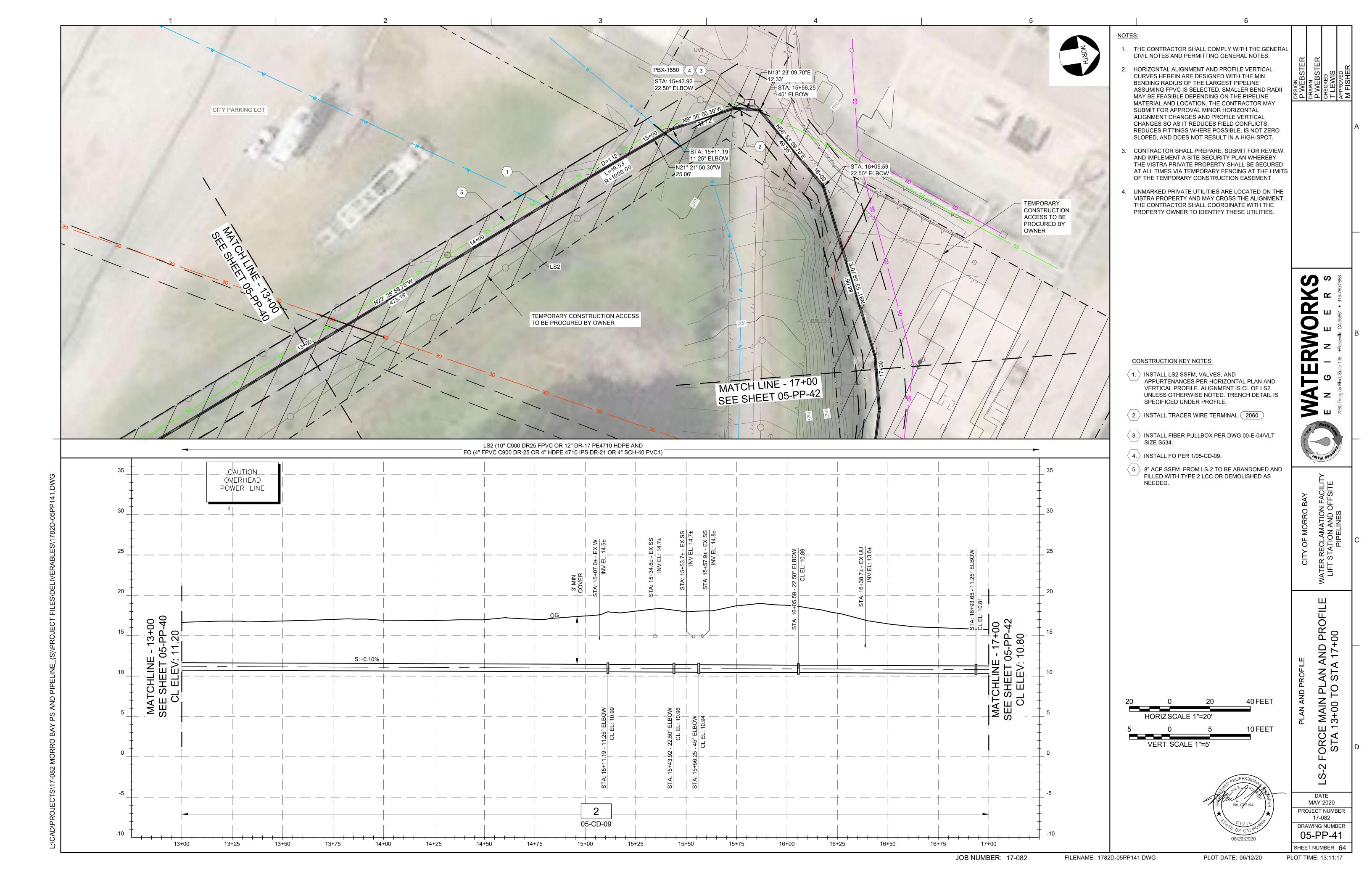


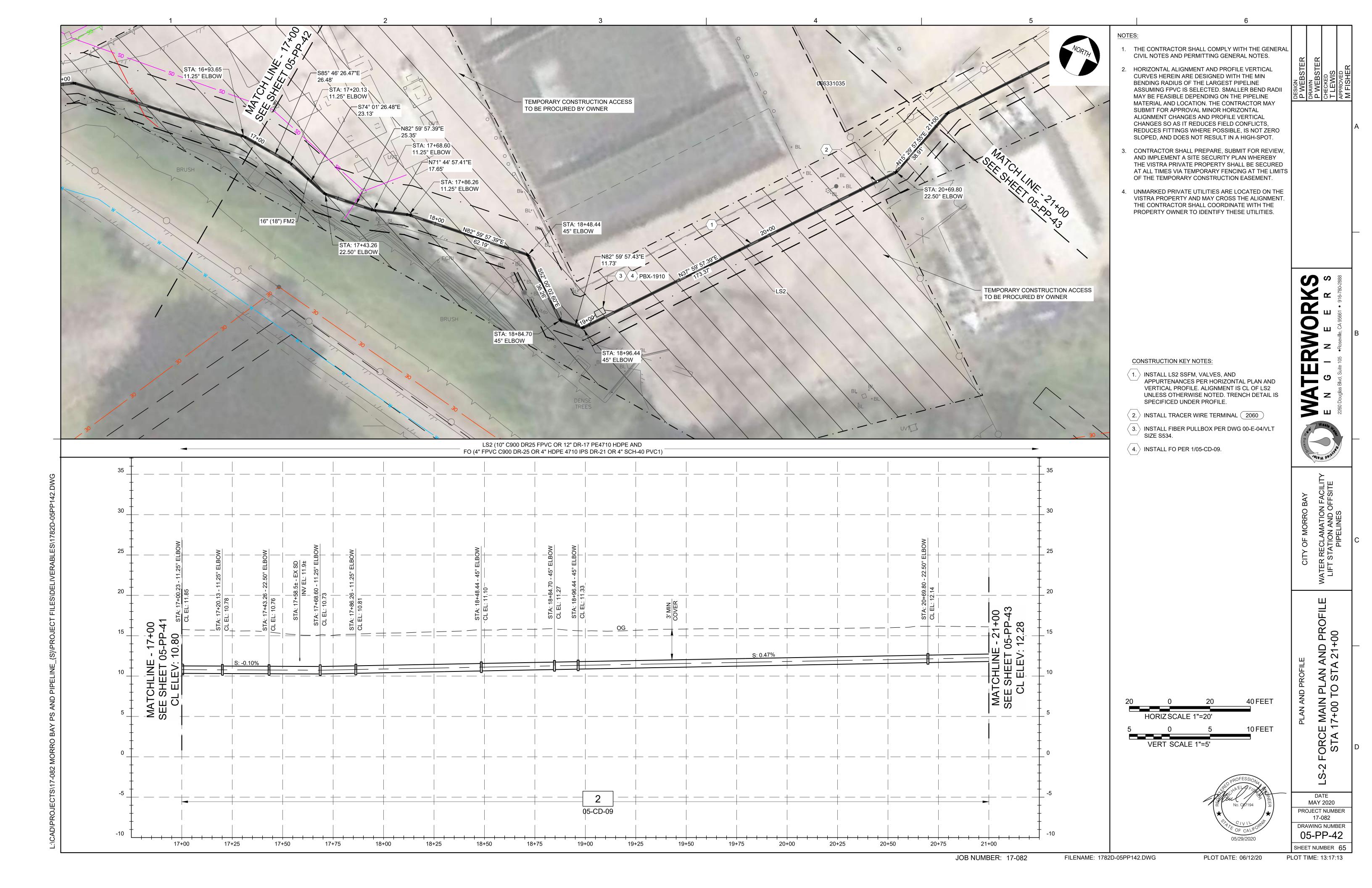


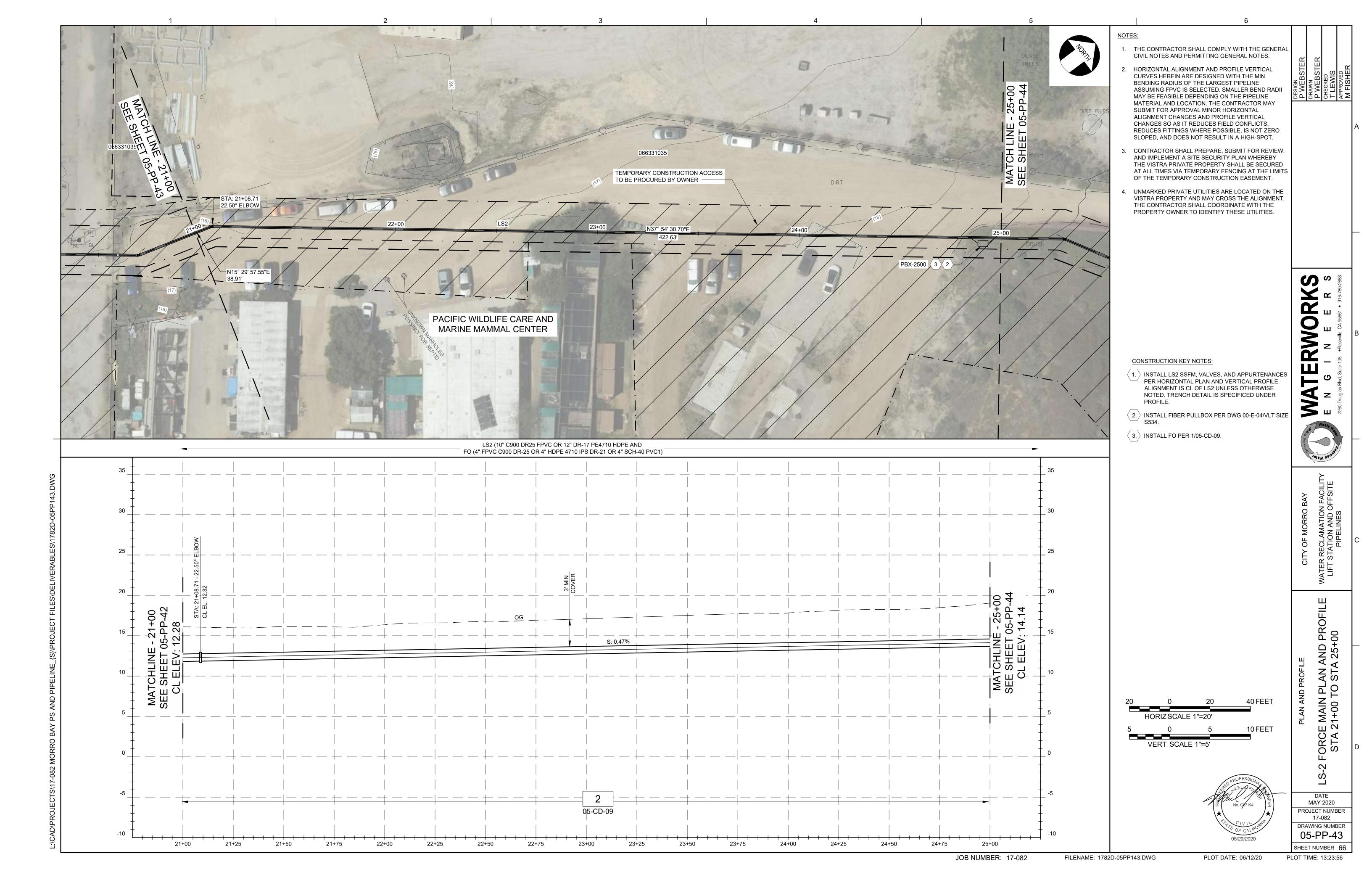


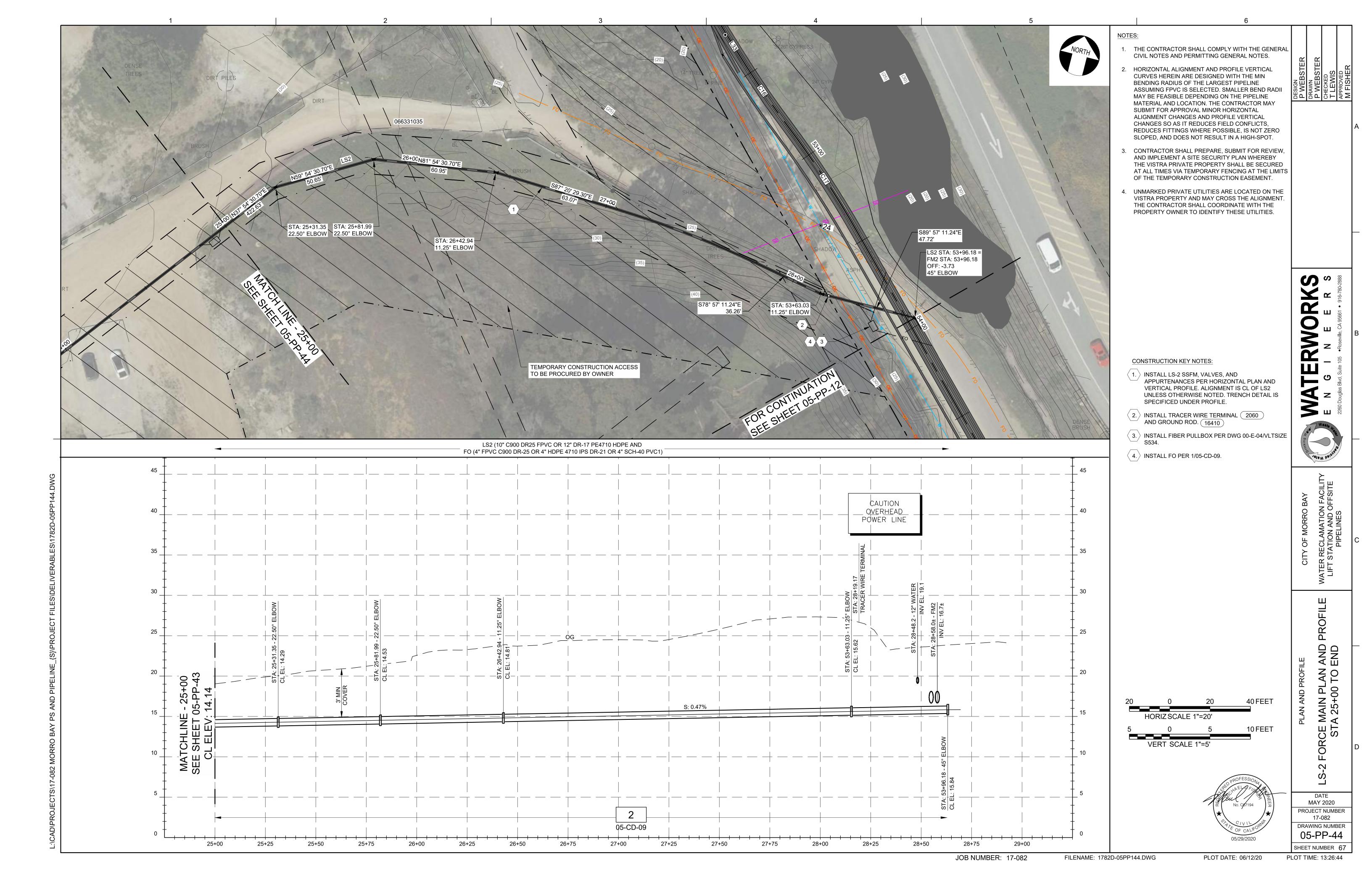


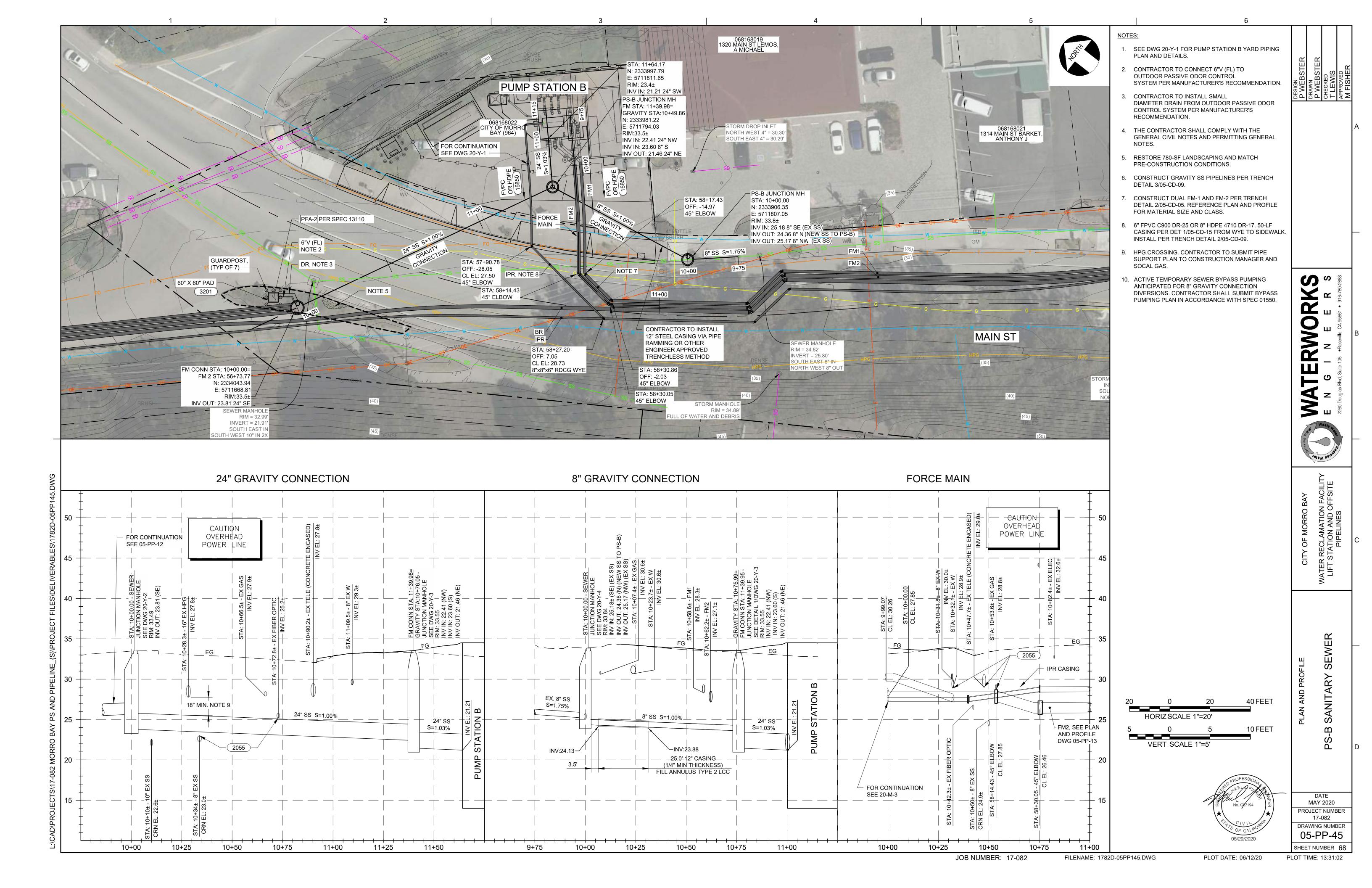


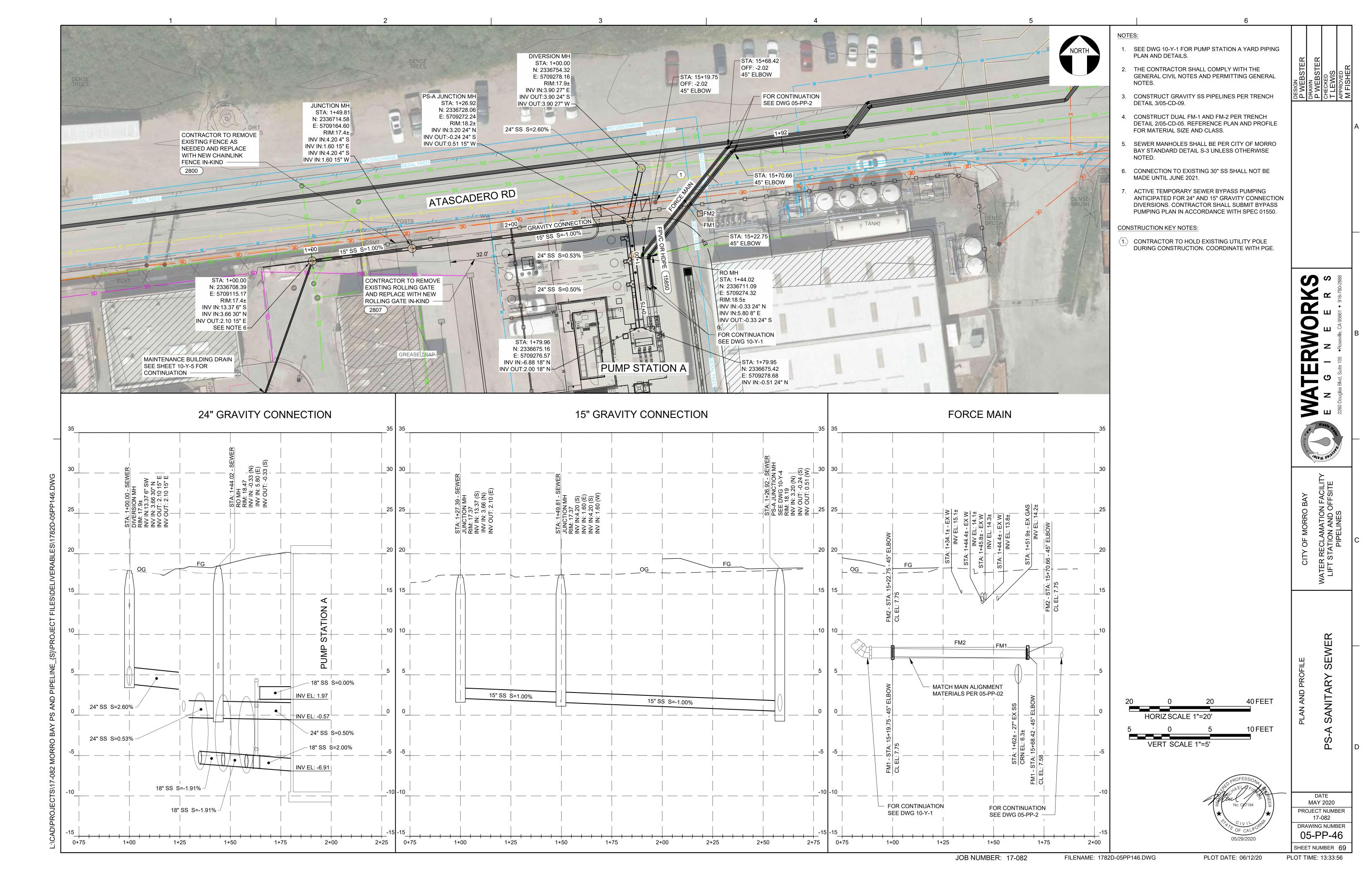














CITY

AND VERVIEW MAP 1

PROJE MAY 2020 PROJECT NUMBER 17-082

400 FEET

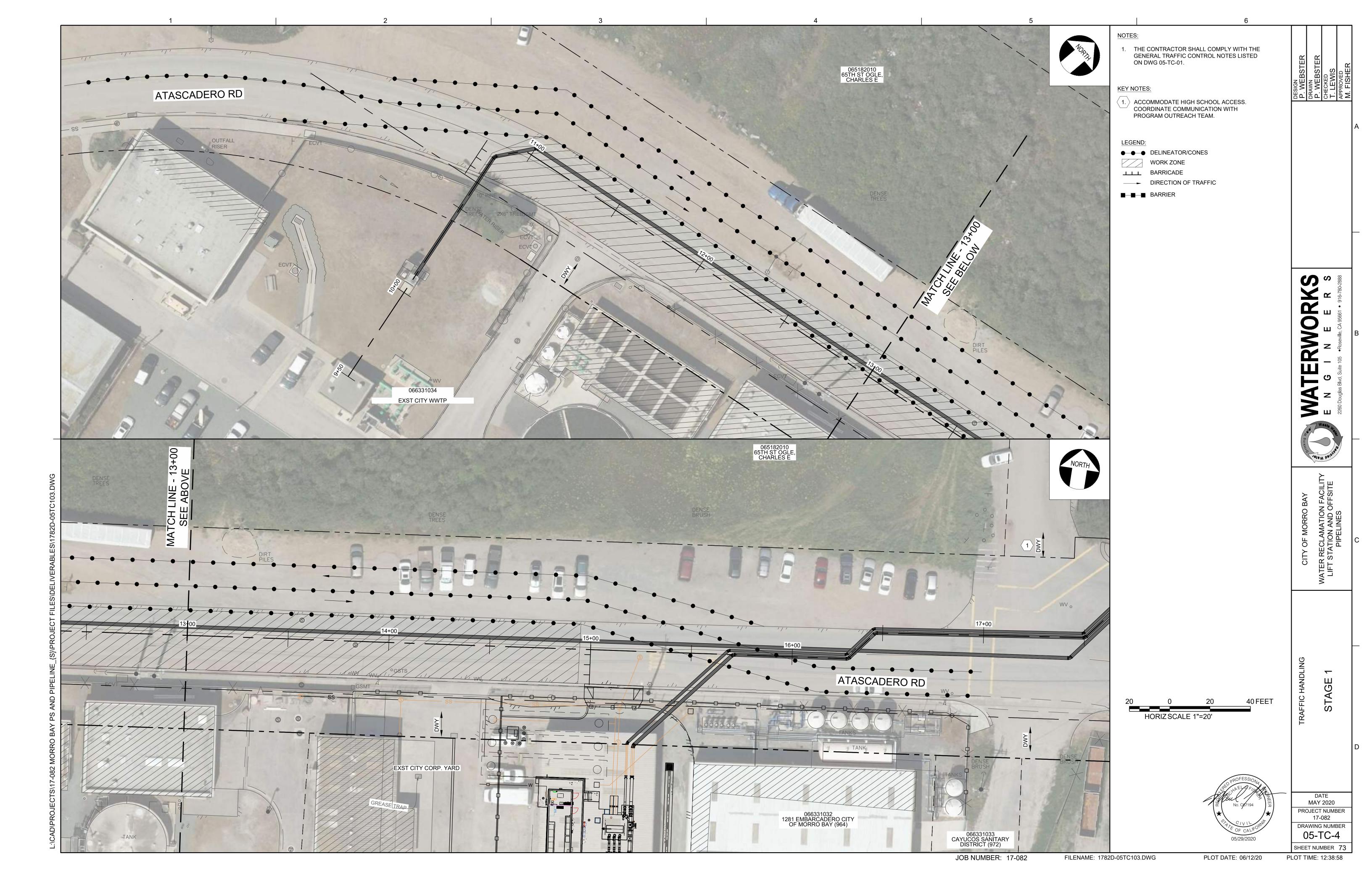
PLOT DATE: 06/12/20

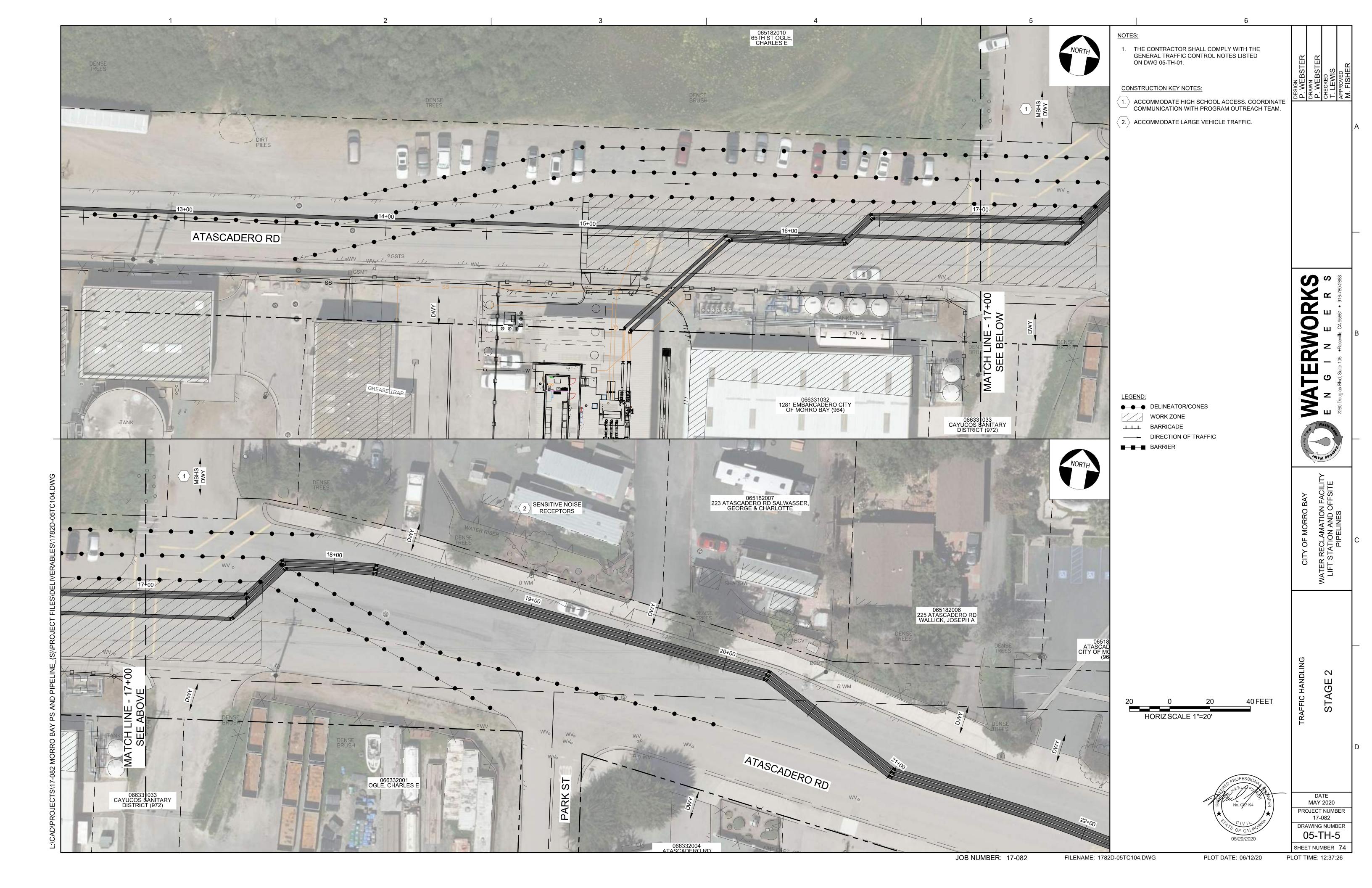
SHEET NUMBER 70 PLOT TIME: 12:15:31

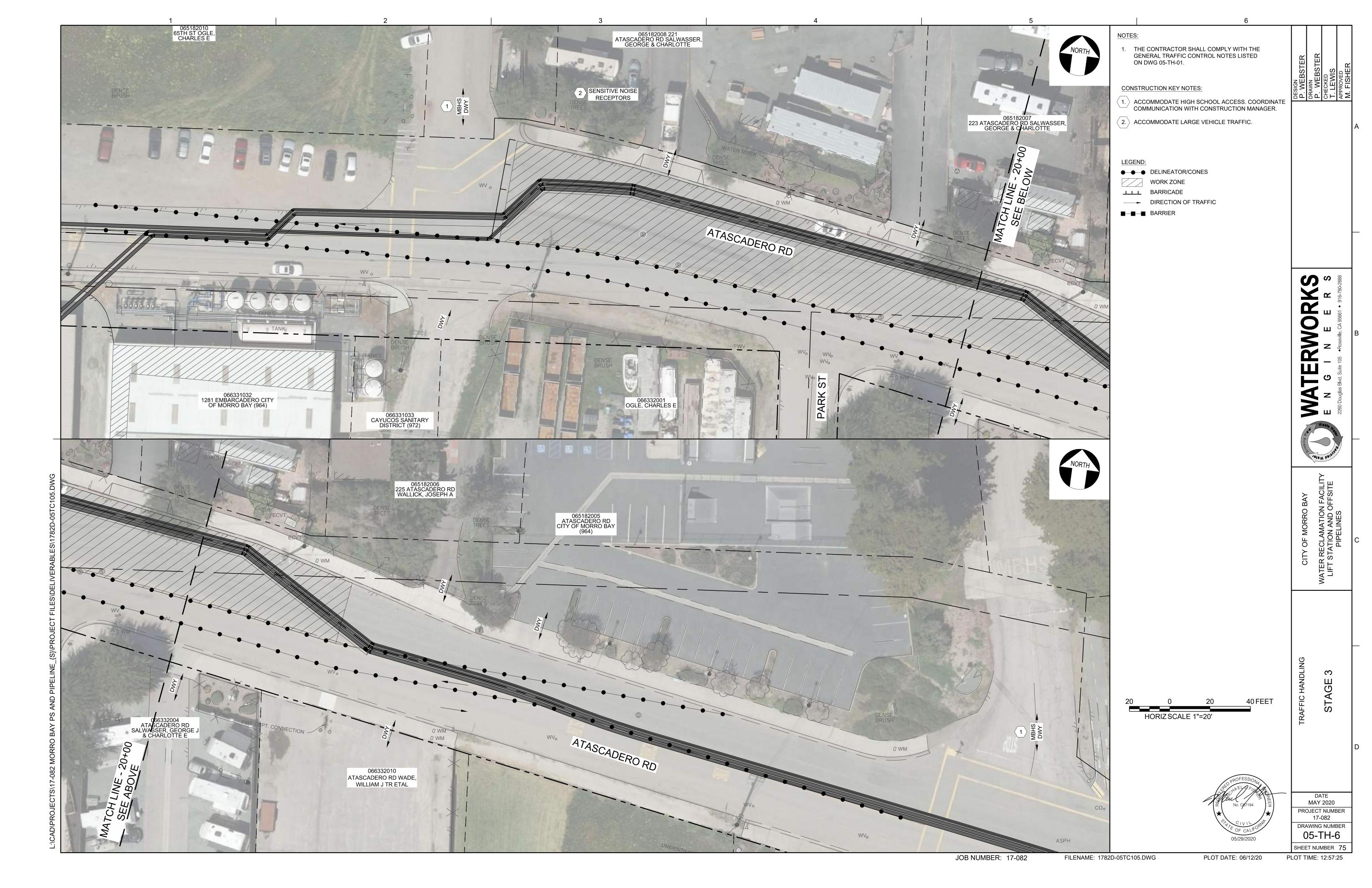
DRAWING NUMBER 05-TH-1

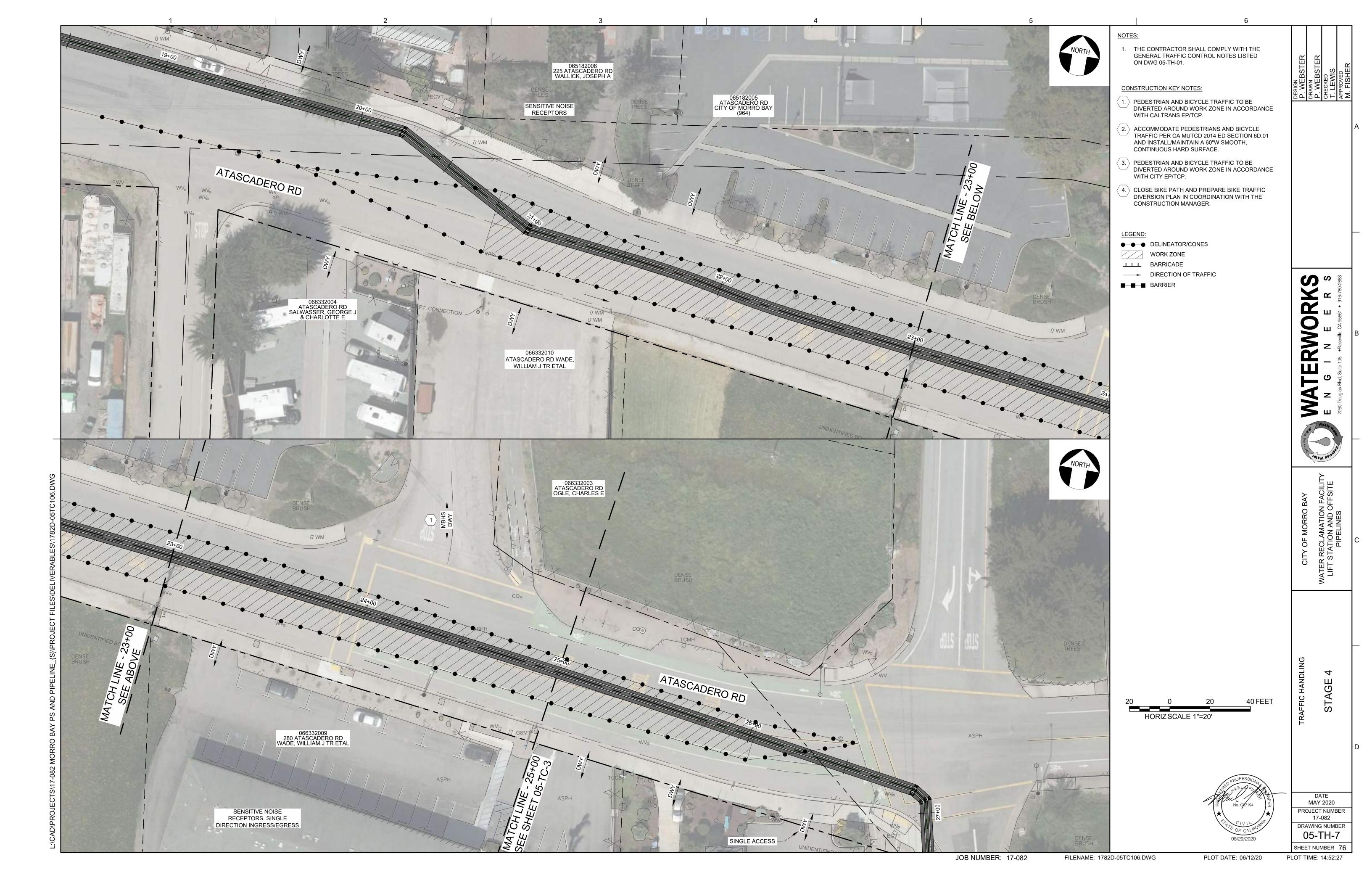


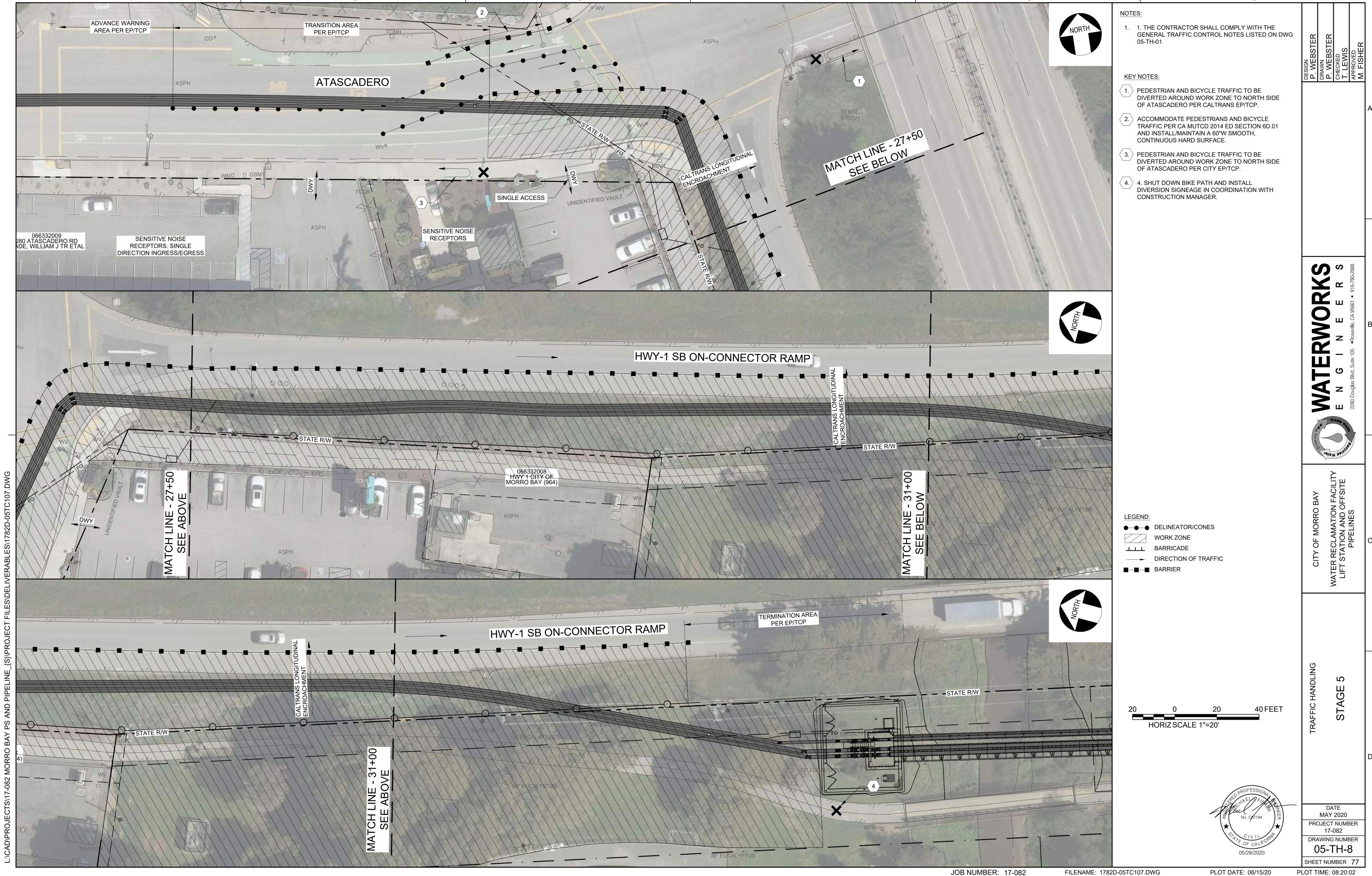


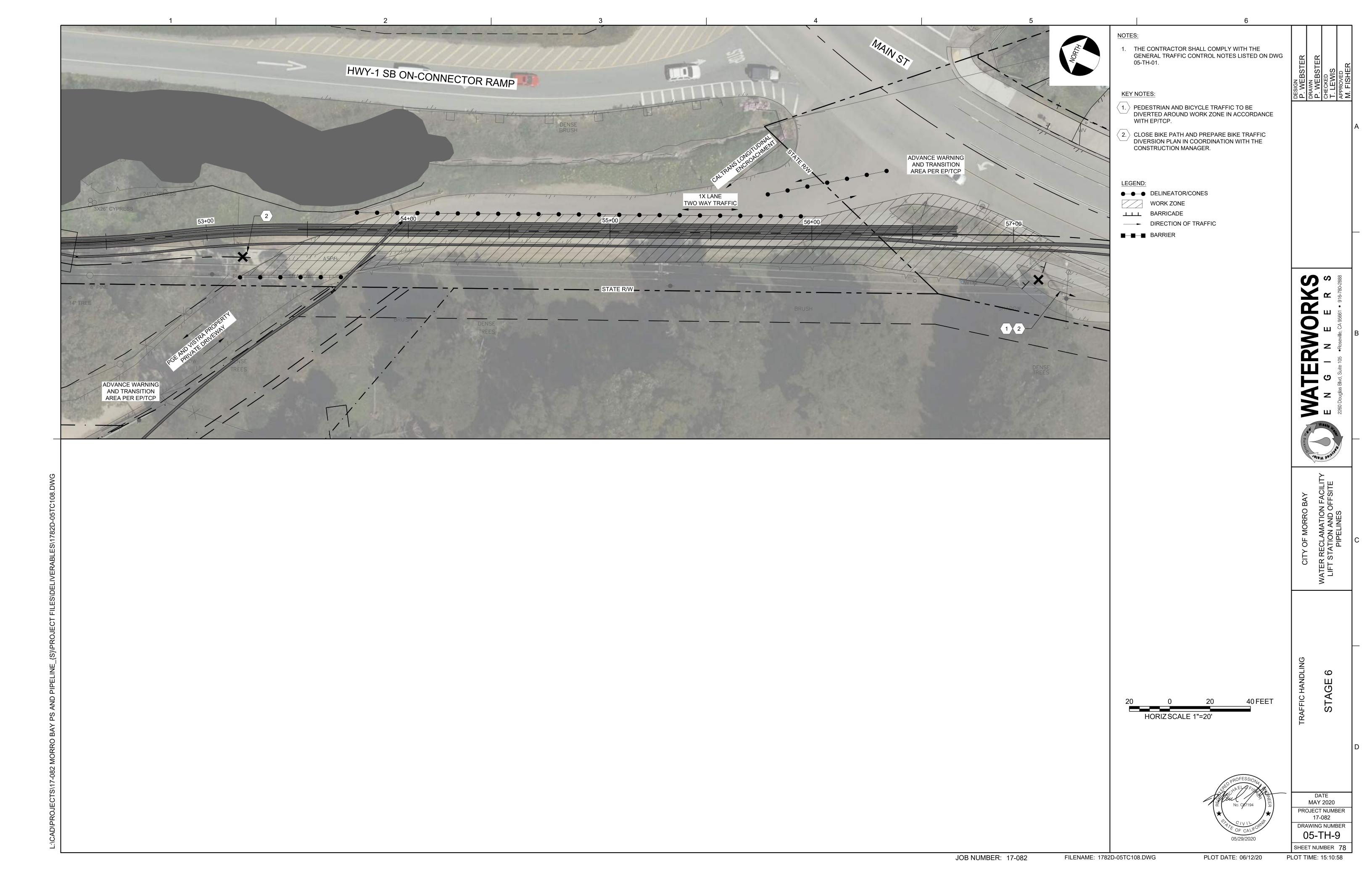












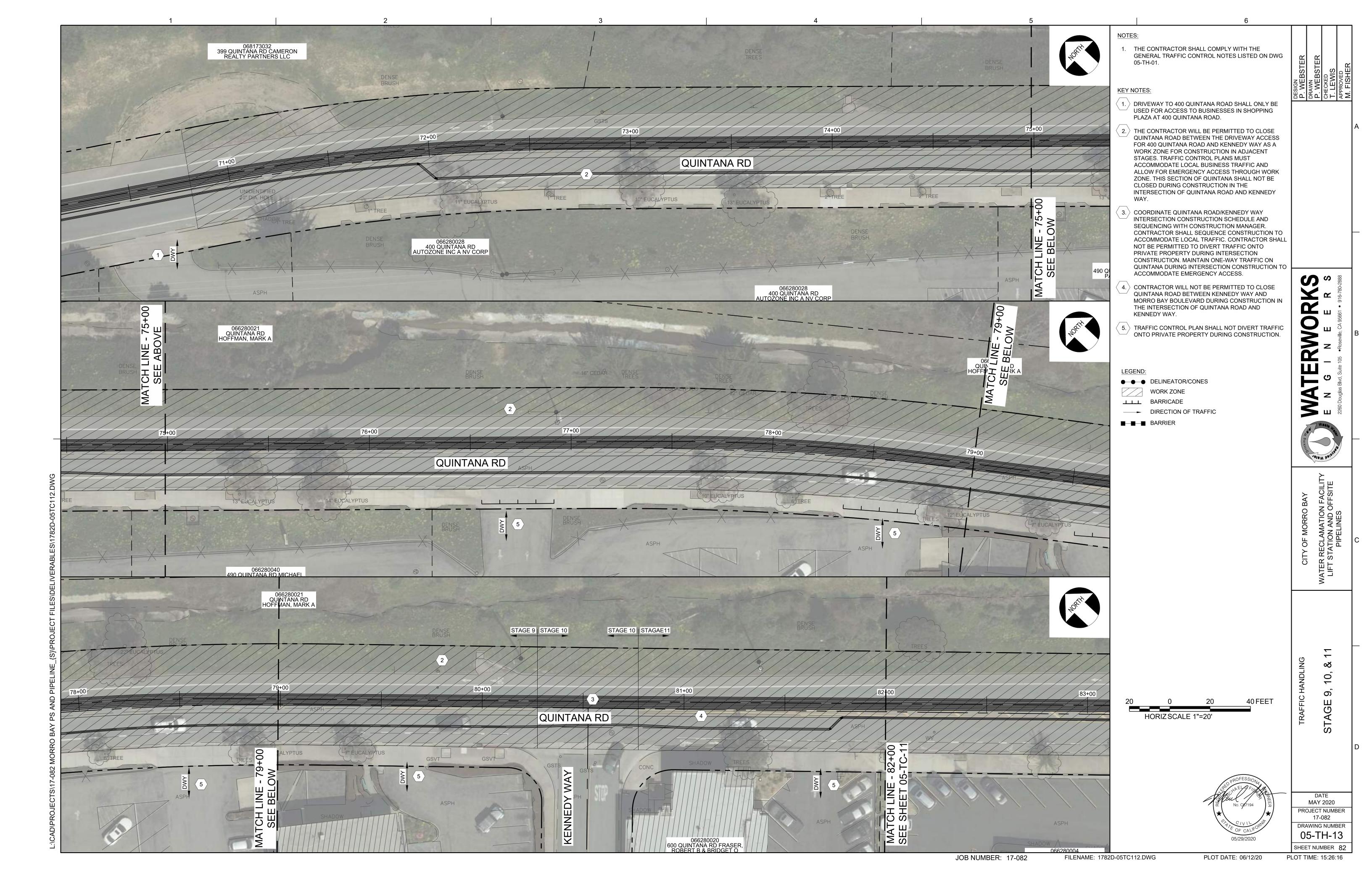


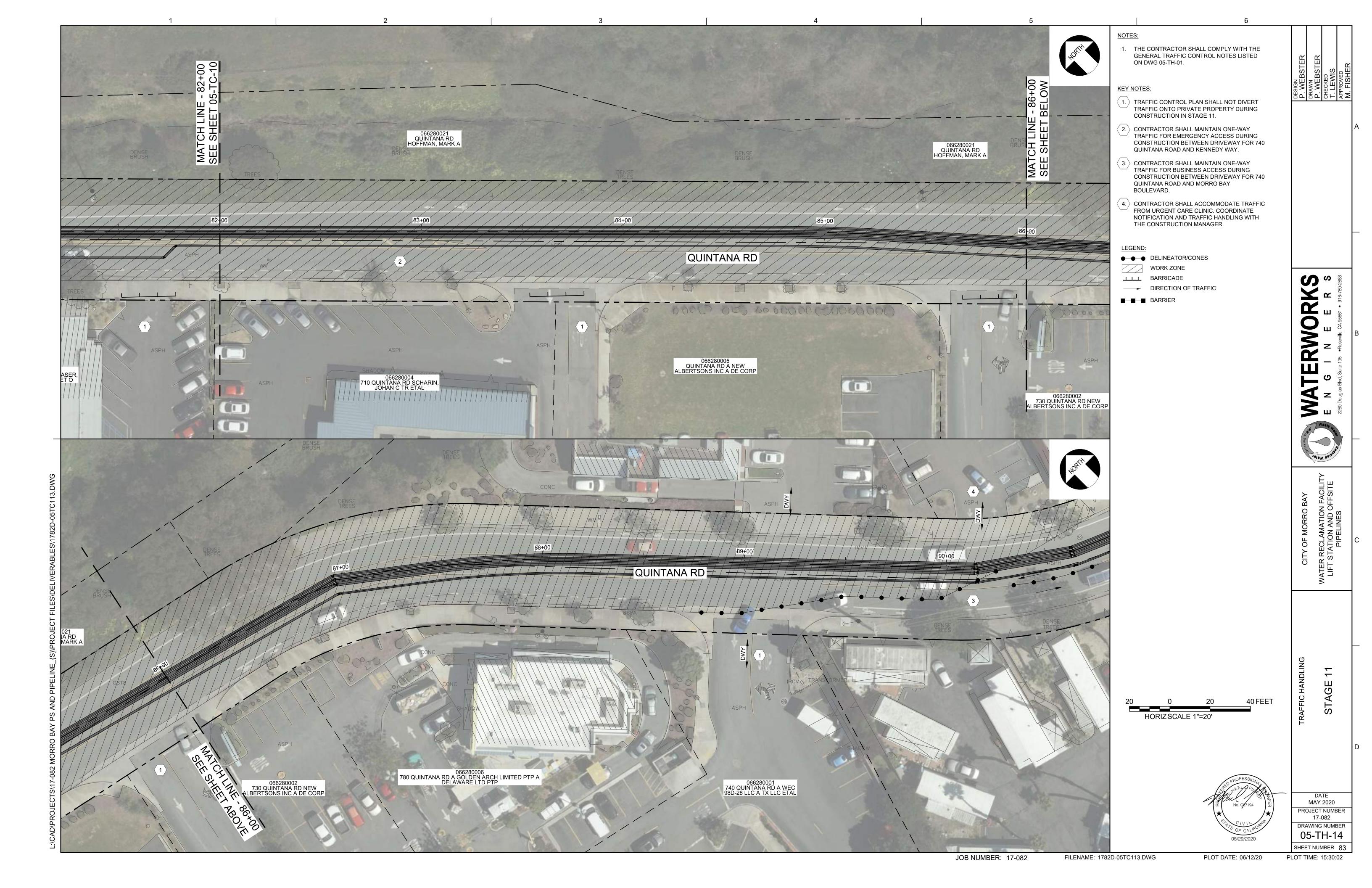


PLOT DATE: 06/12/20

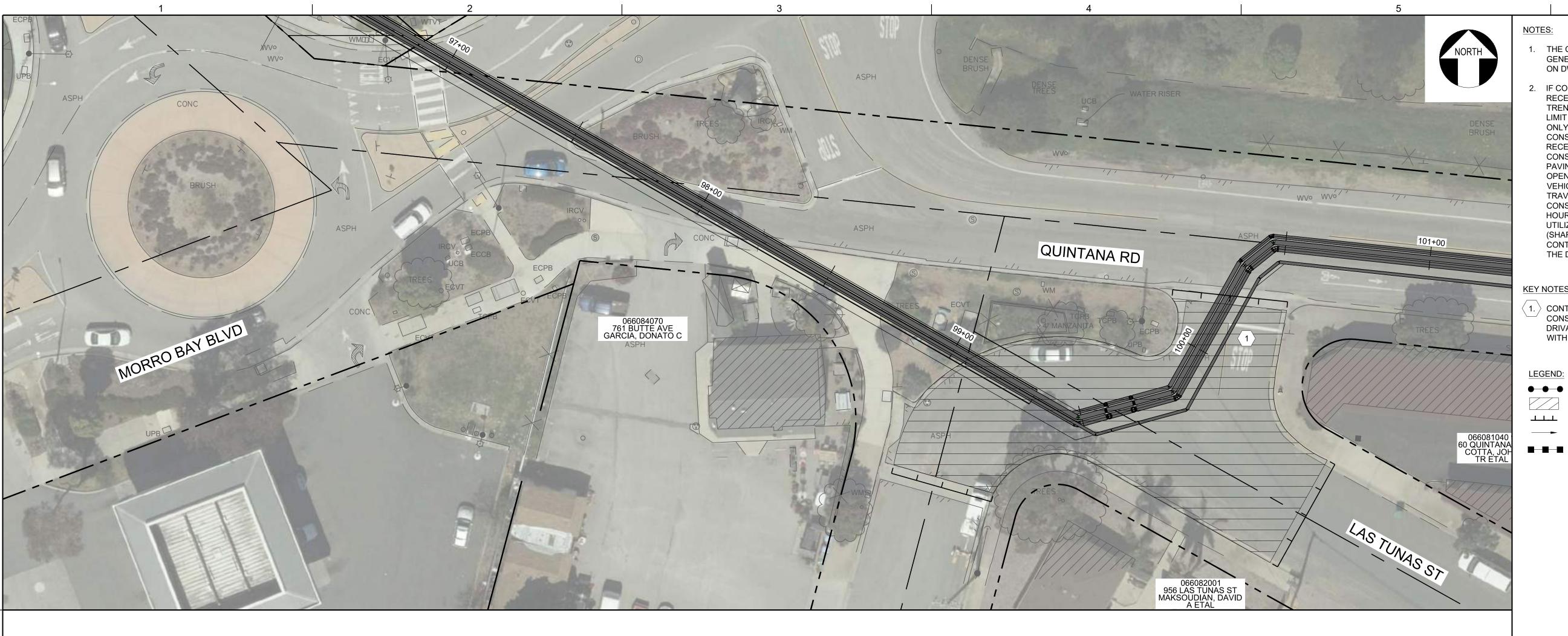
PLOT TIME: 15:19:35











 THE CONTRACTOR SHALL COMPLY WITH THE GENERAL TRAFFIC CONTROL NOTES LISTED ON DWG 05-TH-01.

2. IF CONTRACTOR UTILIZES LAS TUNAS FOR RECEIVING PORTAL (SHAFT) END OF TRENCHLESS CROSSING, CONTRACTOR SHALL LIMIT CLOSURE OF LAS TUNAS STREET TO ONLY THOSE TIMES DURING CONTINUOUS CONSTRUCTION ACTIVITIES IN STAGE 12 (I.E. RECEIVING PIT CONSTRUCTION, PIPELINE CONSTRUCTION, UTILITY RELOCATION, PAVING, ETC.) LAS TUNAS SHALL REMAIN OPEN FOR TYPICAL PUBLIC USE, INCLUDING VEHICULAR, BICYCLE AND PEDESTRIAN TRAVEL, DURING PERIODS OF LIMITED CONSTRUCTION ACTIVITIES (I.E. NON WORK HOURS, TUNNELING, ETC.). IF CONTRACTOR UTILIZES LAS TUNAS FOR LAUNCHING PORTAL (SHAFT) END OF TRENCHLESS CROSSING, CONTRACTOR MAY CLOSE LAS TUNAS FOR THE DURATION OF TUNNELING ACTIVITIES.

KEY NOTES:

 \langle 1. \rangle CONTRACTOR SHALL COMPLETE CONSTRUCTION IN STAGE 12 AND PROVIDE A DRIVABLE SURFACE BEFORE PROCEEDING WITH CONSTRUCTION IN STAGE 13.

DELINEATOR/CONES

WORK ZONE **LLL** BARRICADE

DIRECTION OF TRAFFIC

■ BARRIER

WATE

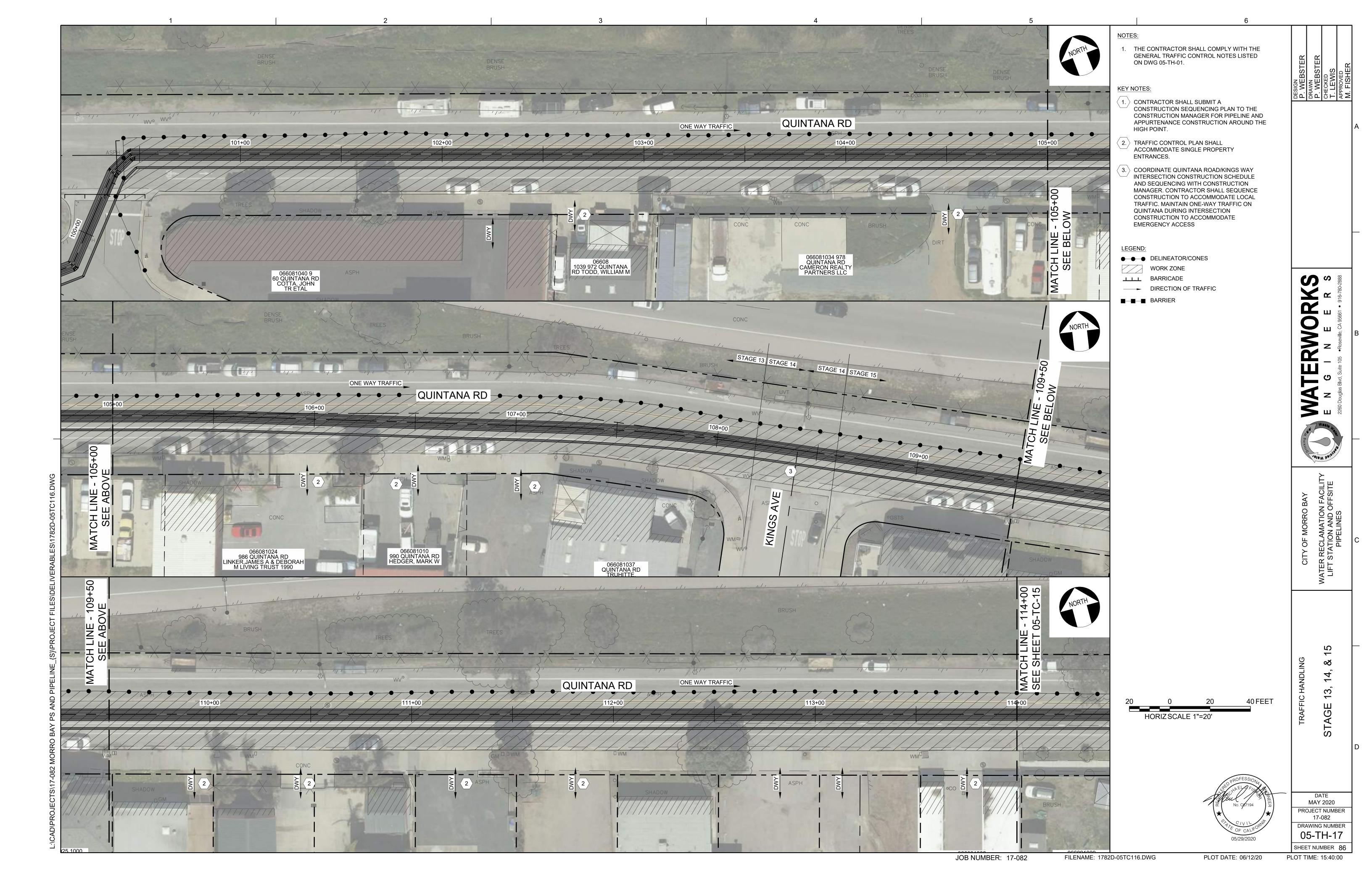


MAY 2020 PROJECT NUMBER 17-082 DRAWING NUMBER 05-TH-16

JOB NUMBER: 17-082 FILENAME: 1782D-05TC115.DWG PLOT TIME: 15:36:43

SHEET NUMBER 85 PLOT DATE: 06/12/20

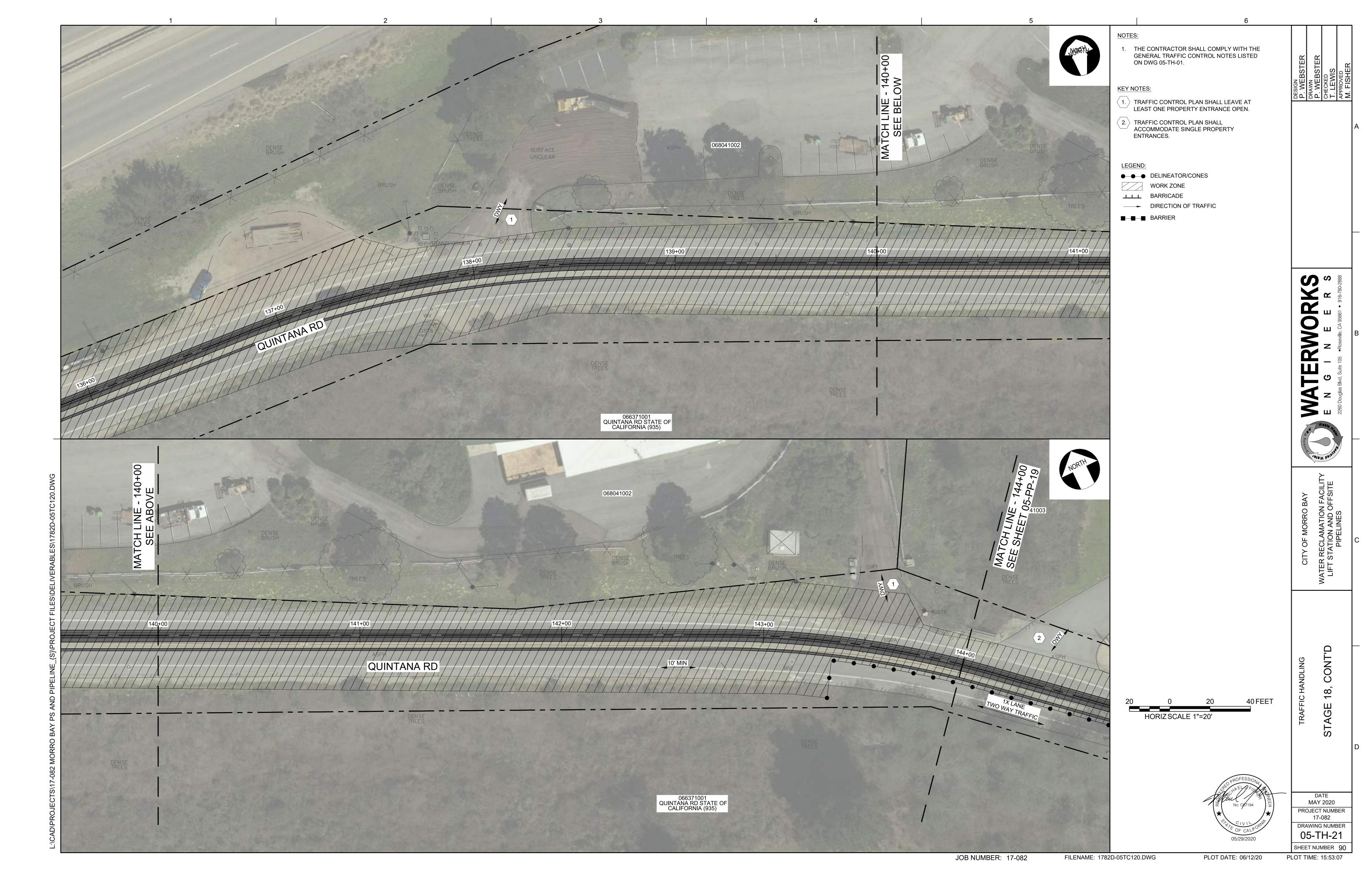
HORIZSCALE 1"=20'



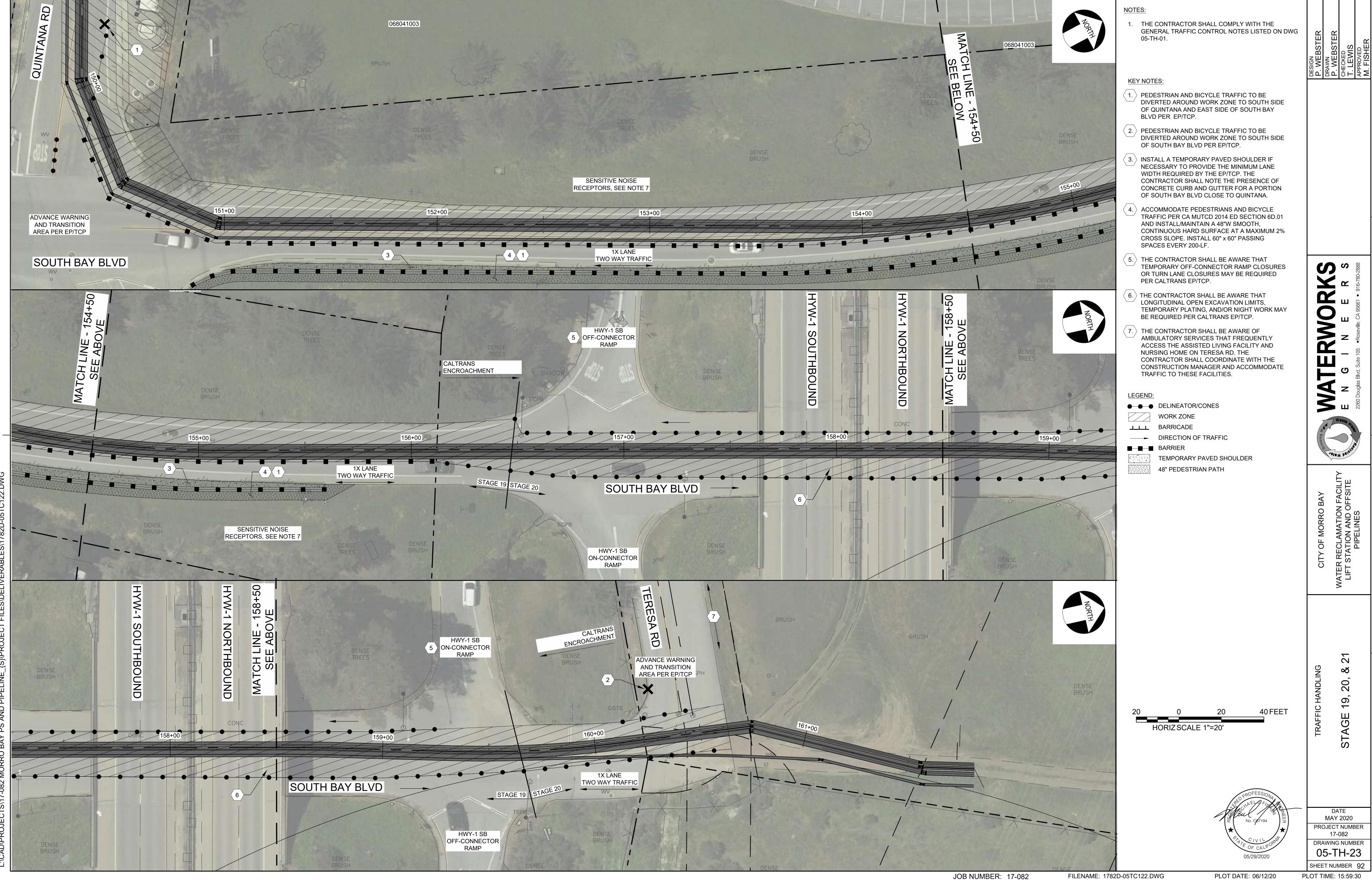


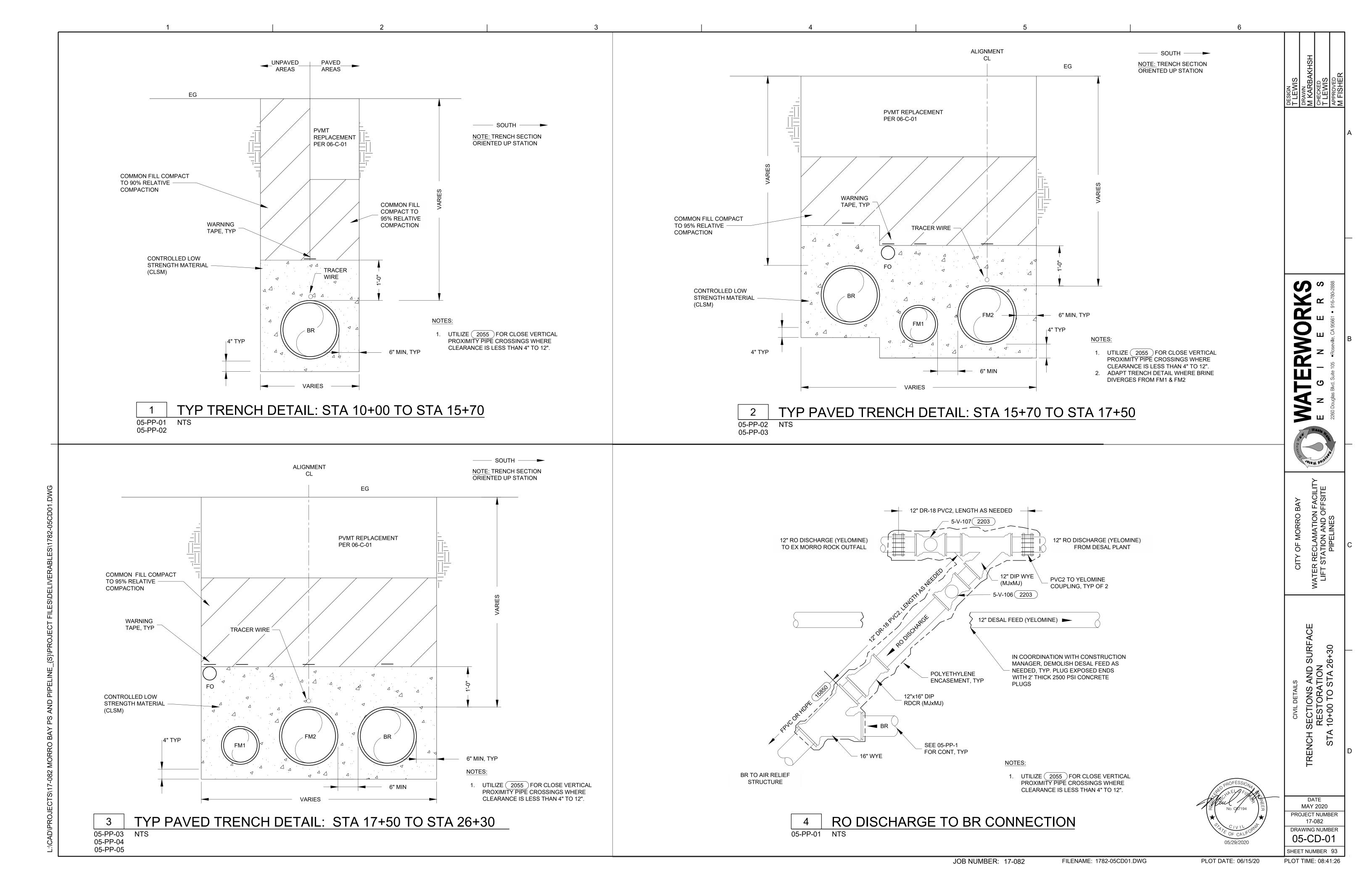


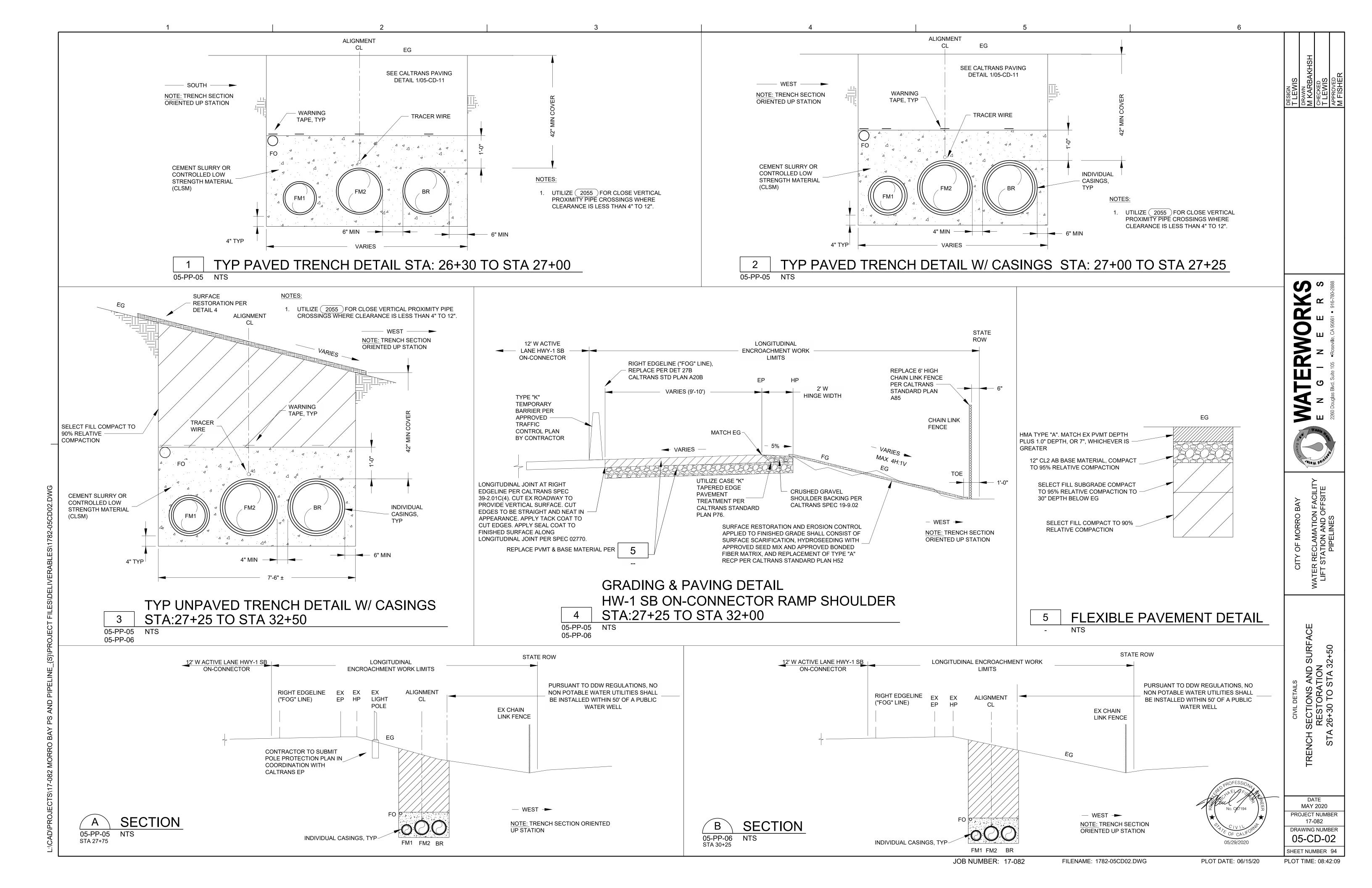


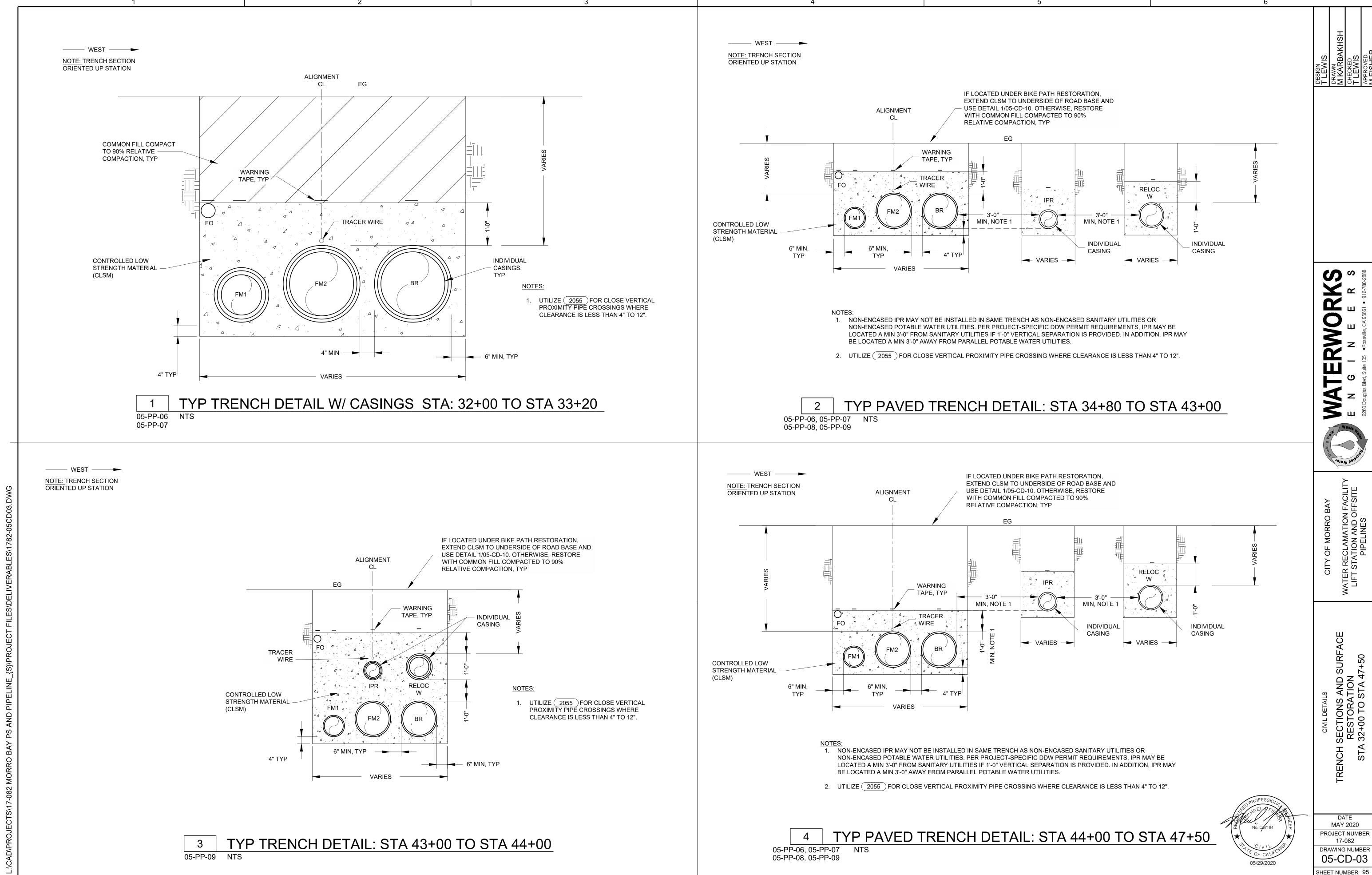












CASING SPACERS CONCEPTUAL MULTI PIPE SPACER DIAGRAM FILL ANNULAR SPACE WITH DRY **BLOWN SAND** PROVIDE SPARE FIBER CONDUIT 60" STEEL CASING PER SPEC 02445 IPR (IN CASING) FO FM2 WILLOW CAMP CREEK 60" BORE AND JACK CASING 05-PP-11 NTS SURFACE REPLACE BIKE PATH WHERE DAMAGED UP TO **RESTORATION** NEAREST LONGITUDINAL CONSTRUCTION JOINT

1. CONTRACTOR SHALL INSTALL CARRIER PIPELINES IN A RIGID MULTI PIPE SPACER SYSTEM CONSISTING OF INDIVIDUAL SPACER SHELLS, STRUCTURAL RISERS, BEARING SURFACES (RUNNERS), AND REINFORCING PLATES.

THE SPACER ASSEMBLY SHALL BE CONFIGURED TO REDUCE ECCENTRICITY AND PROMOTE OVERALL STABILITY DURING INSTALLATION.

3. THE STRUCTURAL RISERS SHALL BE MADE OF T304 SST OF A MAXIMUM 10 GAUGE WITH BOLT HEADS WELDED TO THE INSIDE OF THE RISER FOR ADDED STRENGTH. BOTTOM RISERS 6" AND OVER IN HEIGHT SHALL BE REINFORCED WITH 10 GAUGE T304 SST AND SHALL BE MIG WELDED TO MATING PARTS. SPECIAL REINFORCING PLATES MAY BE REQUIRED TO STABILIZE AND SUPPORT THE SPACER ASSEMBLY.

CASING SPACERS SHALL BE A MINIMUM 12" WIDE TWO-PIECE SHELL PER PIPE MADE FROM T304 STAINLESS STEEL OF A MINIMUM 14-GAUGE THICKNESS. EACH SHELL SECTION SHALL BE LINED WITH A 0.090"T RIBBED PVC OR EPDM EXTRUSION (85-90 DUROMETER HARDNESS) AND WITH A RESTRAINING SECTION THAT OVERLAPS THE EDGES OF THE SHEEL AND PREVENTS SLIPPAGE

ALL WELDMENTS SHALL BE FULLY CHEMICALLY PASSIVATED IN ACCORDANCE WITH ASTM A380

SST 5/16"-18 BOLTS AND 5/16" SST HEX NUTS SHALL BE UTILIZED AT A

LONGITUDINAL SPACING SHALL PER MANUFACTURER'S RECOMMENDATION, AND AT A MINIMUM SHALL BE 5-FT FOR FPVC CARRIER PIPES AND 4-FT FOR HDPE CARRIER PIPES.

MANUFACTURERS: CALPICO M-12-SS, ADVANCED PRODUCT SYSTEMS MODEL SSI, GPT INDUSTRIES INFRACHOICE SILVERTIPS SS, CASCADE WATERWORKS MFG CCS, BWM COMPANY SS, OR APPROVED EQUAL

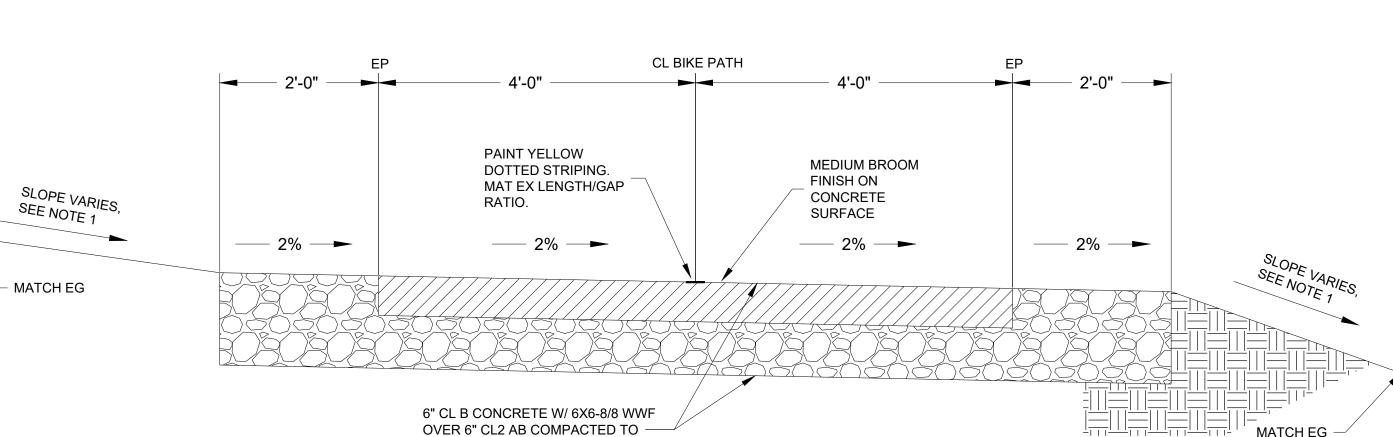
QUALITY CONTROL

CARRIER PIPELINES SHALL BE DOCUMENTED AT THE ENDS OF THE CASINGS PRIOR TO CLOSURE OF THE CASING AND SHALL BE INSPECTED FOR LINE (CENTERED ALIGNMENT WITHIN CASING). GRADE, AND BOWING FROM DEFORMED OR FAILED SPACER ASSEMBLIES.

— WEST → NOTE: TRENCH SECTION

ORIENTED UP STATION

SURFACE **RESTORATION**



SURFACE RESTORATION AND EROSION CONTROL APPLIED TO FINISHED GRADE SHALL CONSIST OF SURFACE SCARIFICATION, HYDROSEEDING WITH APPROVED SEED MIX AND APPROVED BONDED FIBER MATRIX, AND

APPROVED SWPPP EROSION CONTROL BMP.

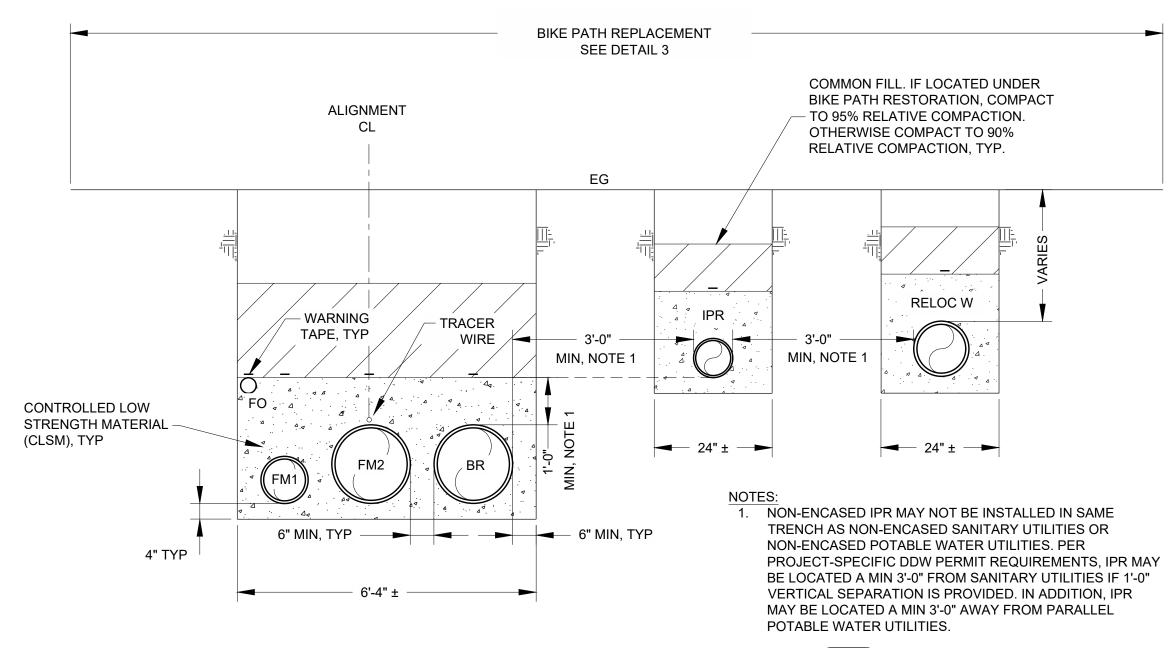
95% RELATIVE COMPACTION

2. UTILIZE (2055) FOR CLOSE VERTICAL PROXIMITY PIPE CROSSING WHERE CLEARANCE IS LESS THAN 4" TO 12"

BIKE PATH CONCRETE PVMT REPLACEMENT 05-PP-11 NTS 05-PP-12

— WEST →

NOTE: TRENCH SECTION ORIENTED UP STATION



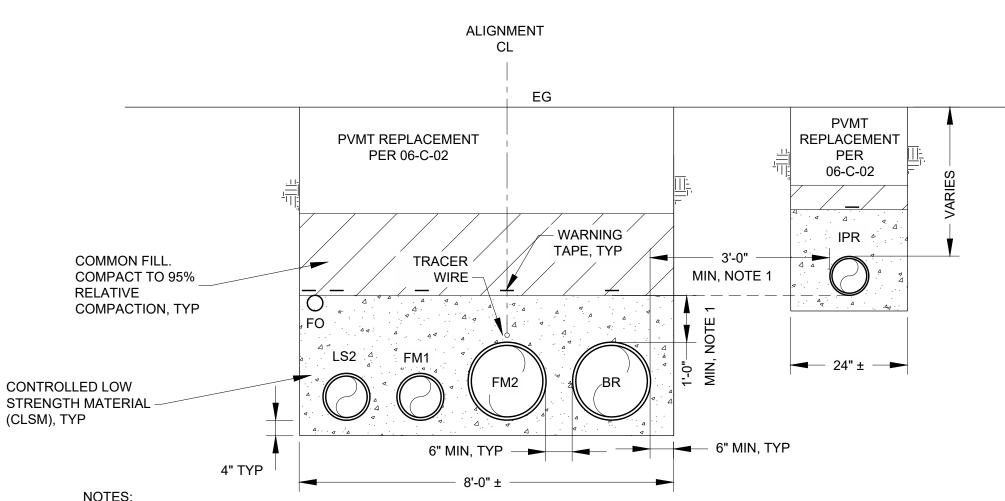
2. UTILIZE 2055 FOR CLOSE VERTICAL PROXIMITY PIPE CROSSING WHERE CLEARANCE IS LESS THAN 4" TO 12".

TYP TRENCH DETAIL STA: 51+90 TO STA 53+50

05-PP-11 NTS 05-PP-12

─ WEST →

NOTE: TRENCH SECTION ORIENTED UP STATION



NON-ENCASED IPR MAY NOT BE INSTALLED IN SAME TRENCH AS NON-ENCASED SANITARY UTILITIES OR NON-ENCASED POTABLE WATER UTILITIES. PER PROJECT-SPECIFIC DDW PERMIT REQUIREMENTS, IPR MAY BE LOCATED A MIN 3'-0" FROM SANITARY UTILITIES IF 1'-0" VERTICAL SEPARATION IS PROVIDED. IN ADDITION, IPR MAY BE LOCATED A MIN 3'-0" AWAY FROM PARALLEL POTABLE WATER UTILITIES.

2. CUT EX ROADWAY TO PROVIDE VERTICAL SURFACES. CUT EDGES TO BE STRAIGHT AND NEAT IN APPEARANCE. APPLY TACK COAT TO CUT EDGES. APPLY SEAL COAT TO FINISHED SURFACE ALONG LONGITUDINAL JOINT PER SPEC 02770.

3. UTILIZE (2055) FOR CLOSE VERTICAL PROXIMITY PIPE CROSSING WHERE CLEARANCE IS LESS THAN 4" TO 12"

TYP PAVED TRENCH DETAIL STA: 53+50 TO STA 56+80 05-PP-12 NTS



PROJECT NUMBER DRAWING NUMBER 05-CD-04

SHEET NUMBER 96

MAY 2020

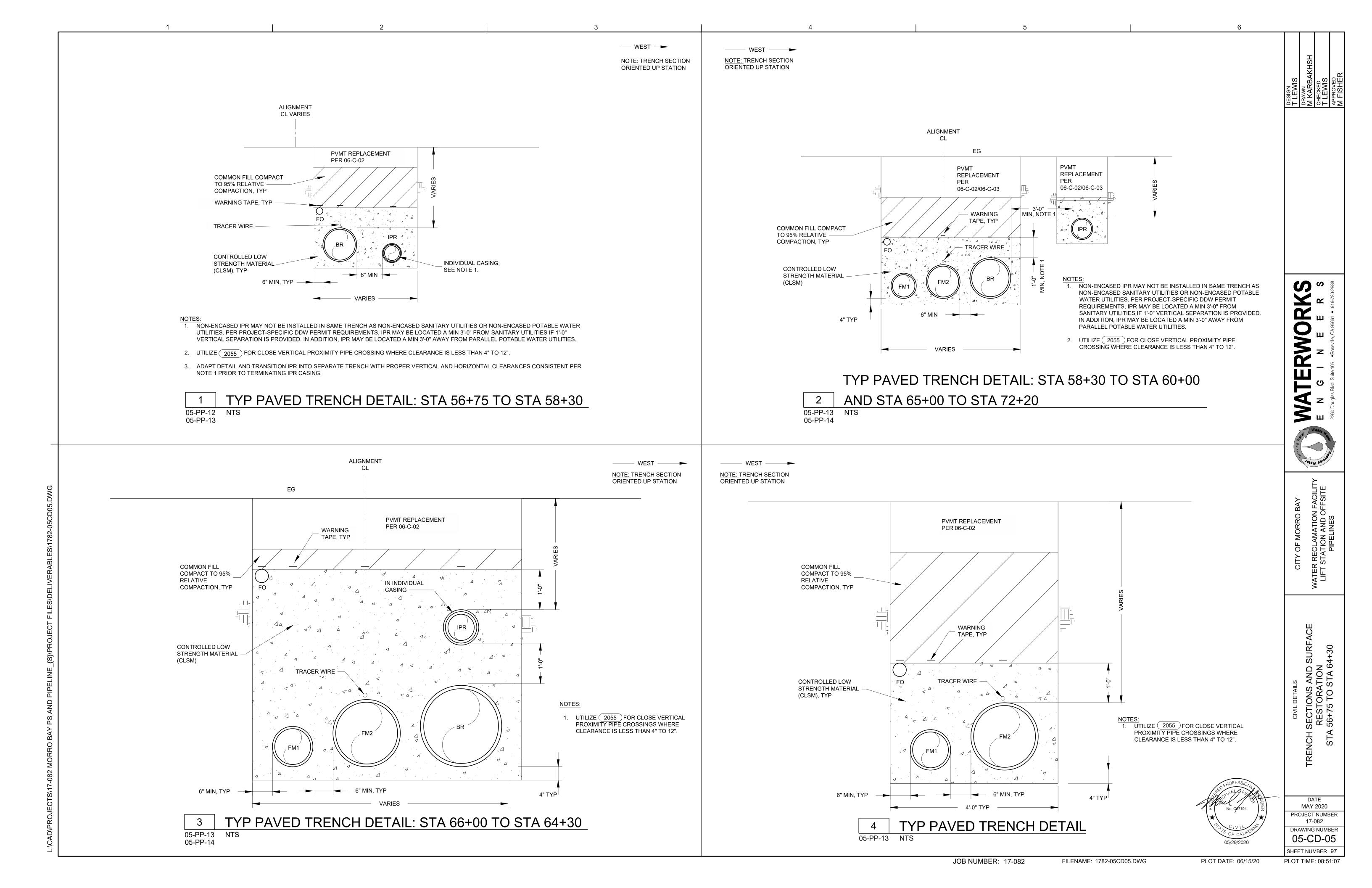
17-082

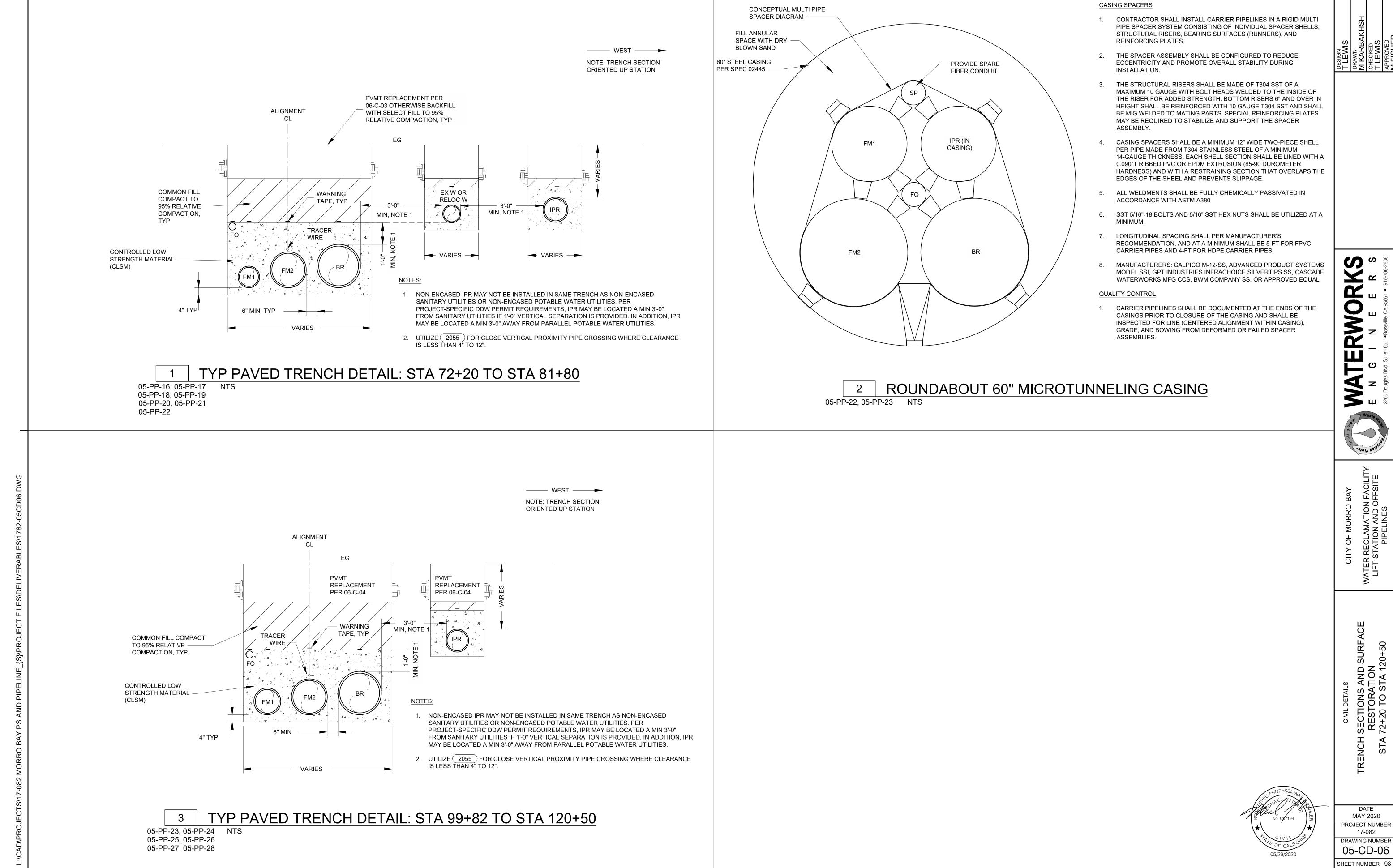
JOB NUMBER: JOB_NO

PLOT DATE: 06/15/20

FILENAME: 1782-05CD04.DWG

PLOT TIME: 08:46:57





NOTE: TRENCH SECTION ALIGNMENT ORIENTED UP STATION PVMT **PVMT PVMT** REPLACEMENT REPLACEMENT REPLACEMENT PER 06-C-05 PER 06-C-05 PER 06-C-05 COMMON FILL COMPACT TO 95% RELATIVE COMPACTION, TYP MIN, NOTE 1 TRACER MIN, NOTE 1 _ WARNING ∤ TAPE, TYP WIRE **IPR** RELOC W CONTROLLED LOW STRENGTH MATERIAL ✓ VARIES → ✓ VARIES → (CLSM), TYP -──── 6" MIN, TYP 4" TYP **VARIES**

- 1. NON-ENCASED IPR MAY NOT BE INSTALLED IN SAME TRENCH AS NON-ENCASED SANITARY UTILITIES OR NON-ENCASED POTABLE WATER UTILITIES. PER PROJECT-SPECIFIC DDW PERMIT REQUIREMENTS, IPR MAY BE LOCATED A MIN 3'-0" FROM SANITARY UTILITIES IF 1'-0" VERTICAL SEPARATION IS PROVIDED. IN ADDITION, IPR MAY BE LOCATED A MIN 3'-0" AWAY FROM PARALLEL POTABLE WATER UTILITIES.
- 2. UTILIZE 2055 FOR CLOSE VERTICAL PROXIMITY PIPE CROSSING WHERE CLEARANCE IS LESS THAN 4" TO 12".

TYP PAVED TRENCH DETAIL: STA 126+30 TO STA 150+50

05-PP-32, 05-PP-33 05-PP-34, 05-PP-35 05-PP-36

PVMT PVMT REPLACEMENT REPLACEMENT PER 06-C-05 PER 06-C-05 COMMON FILL COMPACT TO 95% RELATIVE COMPACTION, TYP TAPE, TYP TRACER ✓ VARIES → CONTROLLED LOW STRENGTH MATERIAL (CLSM), TYP ──── 6" MIN, TYP 4" TYP **VARIES**

1. NON-ENCASED IPR MAY NOT BE INSTALLED IN SAME TRENCH AS NON-ENCASED SANITARY UTILITIES OR NON-ENCASED POTABLE WATER UTILITIES. PER PROJECT-SPECIFIC DDW PERMIT REQUIREMENTS, IPR MAY BE LOCATED A MIN 3'-0" FROM SANITARY UTILITIES IF 1'-0" VERTICAL SEPARATION IS PROVIDED. IN ADDITION, IPR MAY BE LOCATED A MIN 3'-0" AWAY FROM PARALLEL POTABLE WATER UTILITIES.

2. UTILIZE 2055 FOR CLOSE VERTICAL PROXIMITY PIPE CROSSING WHERE CLEARANCE IS LESS THAN 4" TO 12".

TYP PAVED TRENCH DETAIL: STA 150+50 TO STA 155+80 05-PP-36, 05-PP-37 NTS



JOB NUMBER: 17-082 FILENAME: 1782-05CD07.DWG

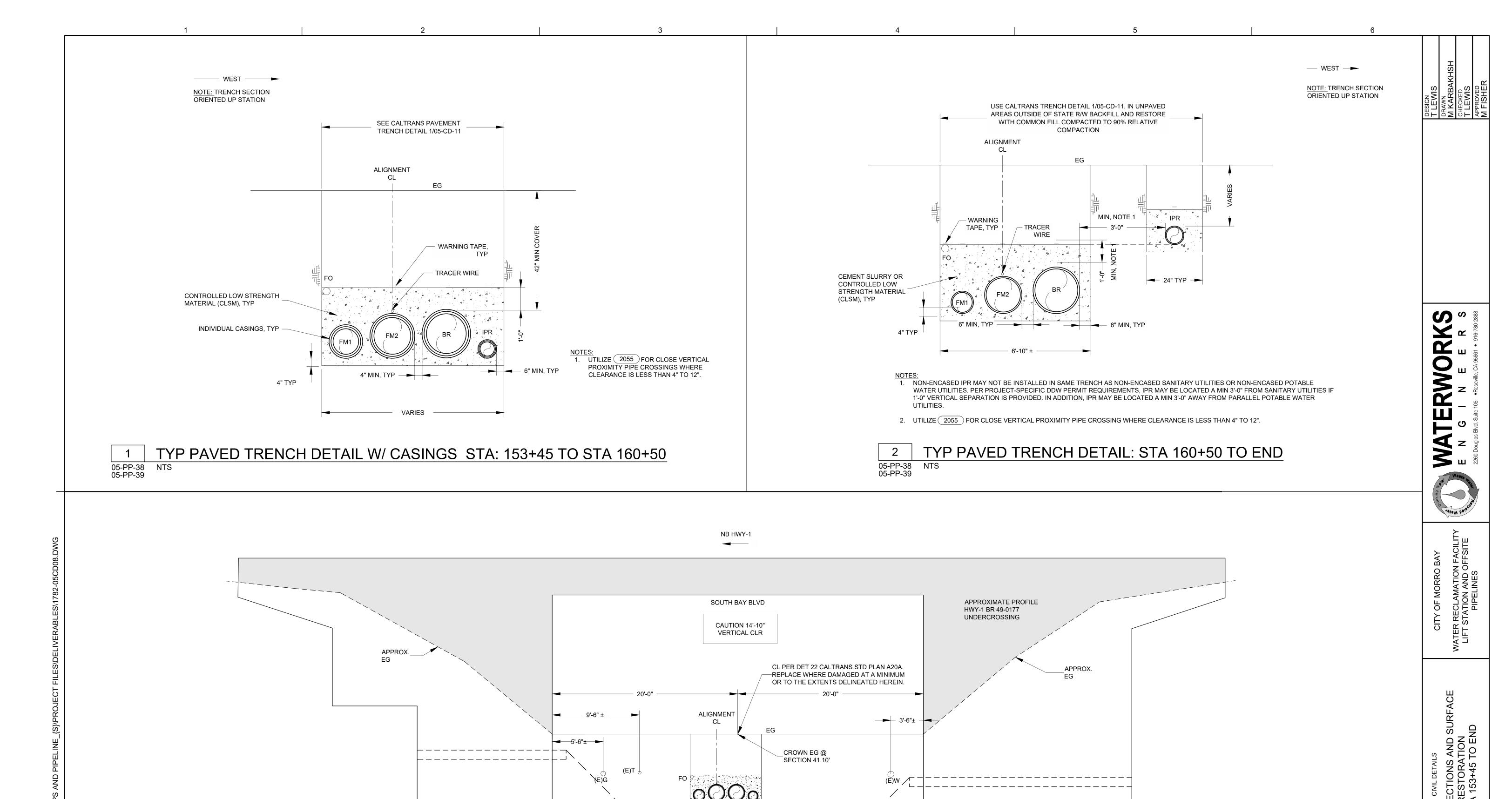
PLOT DATE: 06/15/20

SHEET NUMBER 99

— WEST →

MAY 2020 PROJECT NUMBER 17-082 DRAWING NUMBER 05-CD-07

PLOT TIME: 08:52:41



(E)SS

SECTION

05-PP-38 NTS STA 157+66 → 11'-6"±

APPROX. FOUNDATION

45° FOUNDATION DISTURBANCE

PLANES (FOR REFERENCE)

INTERPOLATED FROM—BRIDGE AS-BUILTS, TYP

No. CO7194

PROFESSIONA

No. CO7194

No. CO7194

OF CALIFORNIA

05/29/2020

MAY 2020
PROJECT NUMBER
17-082
DRAWING NUMBER
05-CD-08
SHEET NUMBER 100

IN STATE R/W REPLACE PAVEMENT PER DET 1 / 05-CD-11. OTHERWISE REPLACE PAVEMENT PER DWG 06-C-01 THROUGH 06-C-05 AND EXTEND CLSM TO UNDERSIDE OF ROAD BASE. IN UNPAVED AREAS, RESTORE WITH SELECT FILL COMPACTED TO 90% RELATIVE COMPACTION. EG WARNING TAPE, CONTROLLED LOW STRENGTH MATERIAL (CLSM) -UTILIZE 2055 FOR CLOSE VERTICAL 4" TYP

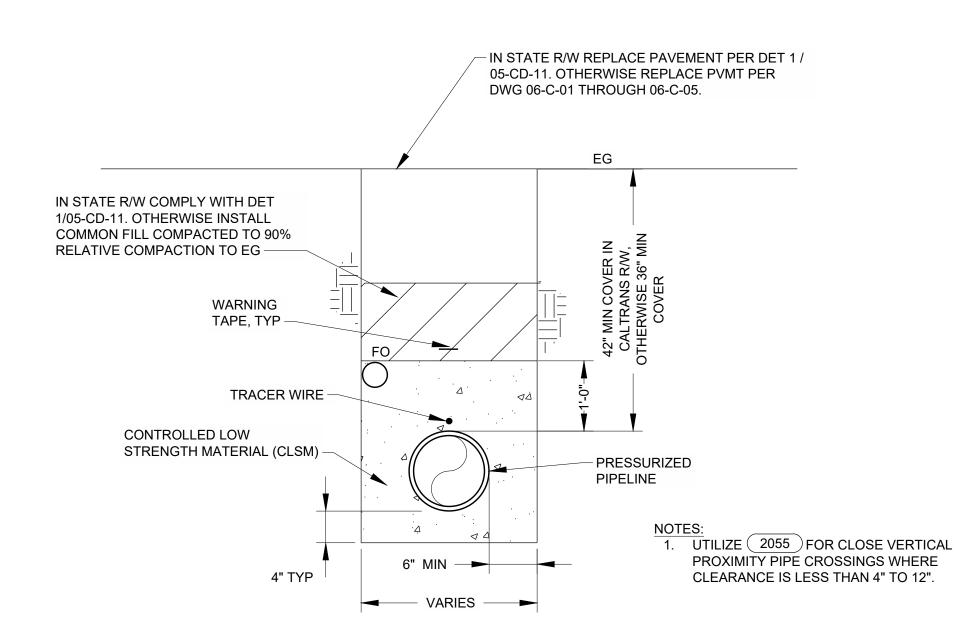
FO CONDUIT SINGLE TRENCH DETAIL

VARIES

__UNPAVED_ PAVED_____
AREAS REPLACEMENT PER DWG 06-C-01 THROUGH 06-C-05 COMMON FILL COMPACT TO 90% RELATIVE COMPACTION COMMON FILL COMPACT TO 95% RELATIVE WARNING COMPACTION TAPE, TYP 3/4" CRUSHED ROCK WRAPPED IN GEOTEXTILE FABRIC WITH 4" OVERLAP. **GRAVITY SS** ∣4" TYP ARE PRESENT IN TRENCH BOTTOM, OVER EXCAVATE 18" AND FILL WITH GEOTEXTILE FABRIC WRAPPED $\frac{3}{4}$ " CRUSHED ROCK. VARIES

PROXIMITY PIPE CROSSINGS WHERE CLEARANCE IS LESS THAN 4" TO 12".

TYP GRAVITY SS TRENCH DETAIL

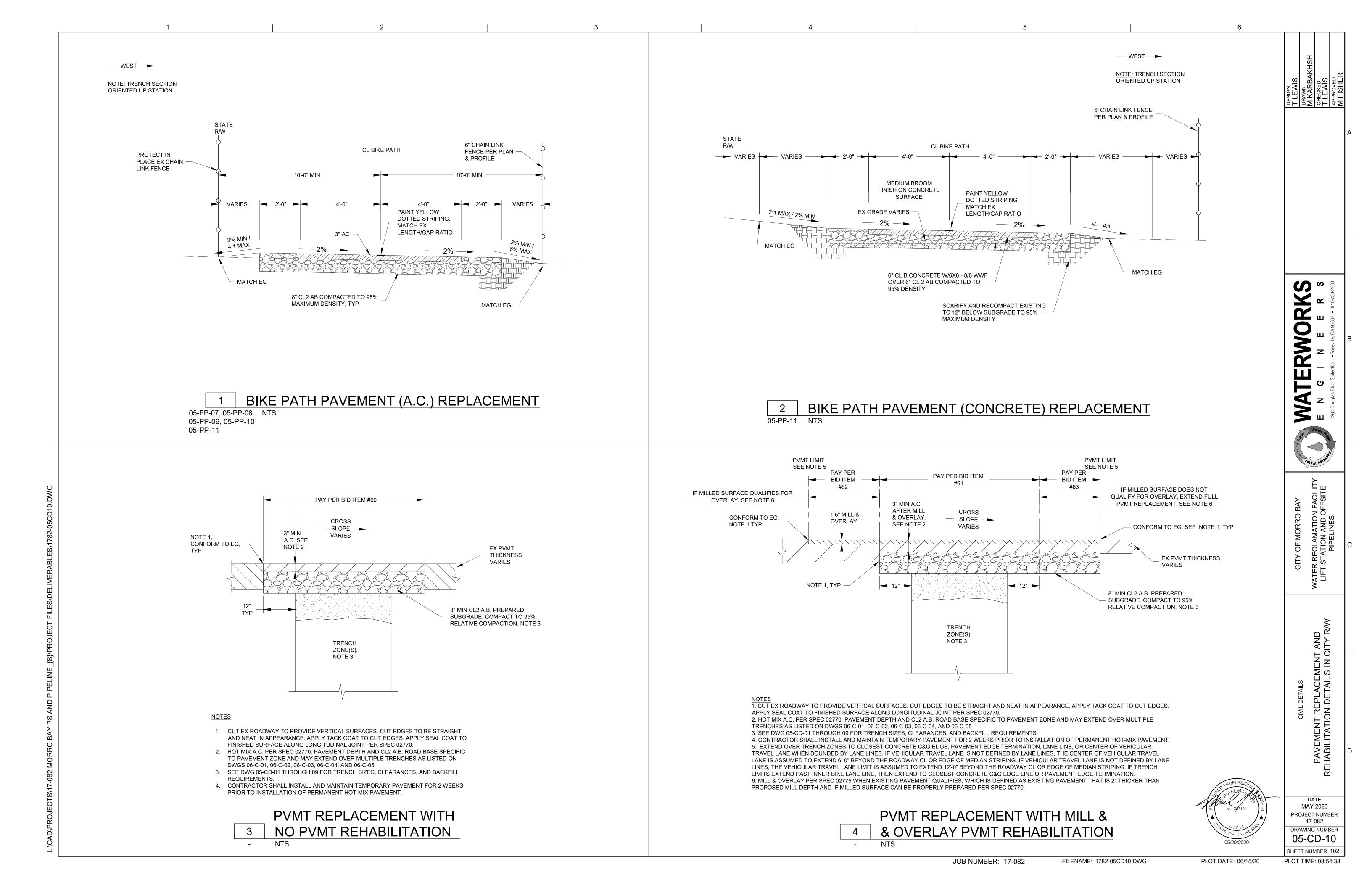


SINGLE PRESSURE PIPE TYP TRENCH DETAIL

MAY 2020 PROJECT NUMBER 17-082 DRAWING NUMBER 05-CD-09 SHEET NUMBER 101

1. UTILIZE 2055 FOR CLOSE VERTICAL

PROXIMITY PIPE CROSSINGS WHERE CLEARANCE IS LESS THAN 4" TO 12". 2. IF SOFT AND UNSUITABLE MATERIALS

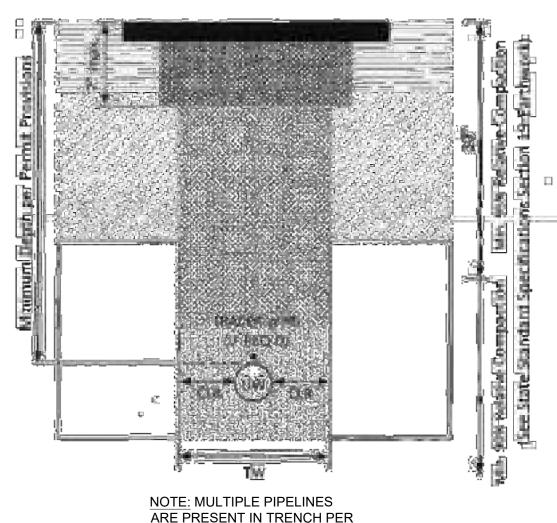


STATE OF CARPORUM -DECAR IMENT OF TRANSPORTATION

. ENCROACHMENT PERMIT TRENCH DETAIL

TRAIN THEY PRAINS DESCRIPTION - BENDER !

TYPICAL TRENCH DETAIL



Tremet Cap 2.0- 2.5 instes hittle, Grand and Ownship Limits pur Exercise finder Perphit Provisions

Sew Trench Enveroent, Existing pavement depth plus 1:0
Instr. (Trench Cap plus Teench Pavement - 7" max. depth)
Winimum 3 feet trench pavement width.

The Structural (Incidit, 3 facts Storry Sement, Class 2 angularity back, by (Lan)

Existing Powermeet Manerial

fanting base Material

Envelope/Redding penfacility owner's standards and specifications

Existing Subgrade

I'M Midth of Utility on Culvert

CO. Comments of the control of the c

CLR: CHIEFFICE DETWEEN product and treach wall

\$15M Controlled Law Strength Material

TANA Hits Mix Approvis

The French Width

(STRUCTURE BACKFILL SHALL CONFORM TO SECTION (19-3-12); OF THE STATE STANDARD SPECIFICATIONS:

SAURRY CEMENT BACKSALL SHALL COMFORM TO SECTION 19-11-020 OF THE STATE STANDARAD SPECIFINATIONS.

HIMA SHALL COMPRESS TO SECTION ID-2 OF THE STATE STANDARD SPECIFICATIONS

IAITACK COAT OF ASPHANTIC EMILIPSION SHALLING FURNISHED AND APPLIES.

TRENCH DETAILS

ALL METHOPS OF COMPACTION SHALL BE BY MECHANICAL MEANS! PONDING JETTING OR FLOODING SHALL NOT BE ALLOWED. ALL COMPACTION SHALL CONFORM TO SECTION 19-5 OF THE STATE STANDARD SPECIFICATIONS

JASGREGATE BASE SHALL CONFORM TO SECTION 26 OF THE STATE STANDARD SPECIFICATIONS.

WHEN BUSIN BASE IS UTILIZED, THE MINI DESIGN AND TEST RESULTS SHALL BE SUBMITTED TO THE STATES REPRESENTATIVE

LAFL WICHK SHARL HE AS ALTHORIZED BY THE APPRIOUED ENCADAGHMENT RESALT PLANS, AND/OR AS DIRECTED BY THE STATE'S MERKISENTATIVE.

WHEN THE UNION SEASO THE WINNING CLEISHALL BE ST

H52

COLD PLANNISTO ACCOMMODATE THE PLACEMENT OF STEEL PLATES IS REQUIRED FOR FOSTED SPEED LIMITS AS MAY OR GREATER. STATE
REPRESENTATIVE MAY REQUEST COLD PLANNIG FOR SIXEL PLATES TO MEET FIELD COMMITTIONS EVEN IN PIOSTED SPEED LIMITA'S LESS THAN 45PAPH.

O

WHEN TREMONTELACEMENT IS WITHIN IT OF CURE AND GUTTER ADDITIONAL COLD PLANUES WAY BE REQUIRED AT THE DISCRETION DETHER

VANY PAVEMENT MARKINGS AND FOR STRIPING REMOVED OR DAMAGED BURING CONSTRUCTION SHALL BE REPLACED AS DIRECTED BY THE

IA TRACER WINE SHALL BE PLUCED ON TOP OF THE FACILITY-WHEN REQUIRED BE THE STATE'S REPRESENTATIVE.

WINV STRUCTURAL BACKFUL SHALL CONSIST OF BUTTER 2-SACK SLURRY DEMENT, CLASS 2-AGUIEGATE GASE, OR CLEM. WHEN THUS 5.24 (NOTES, KLASS 2 AGGREGATE GASE, OR CLEM. WHEN THUS 5.24 (NOTES, KLASS 2 AGGREGATE GASE, OR CLEM.)

CALTRANS TRENCH & PVMT REPLACEMENT DETAIL



DESIGN
T LEWIS
DRAWN
M KARBAKHS
CHECKED
T LEWIS
APPROVED

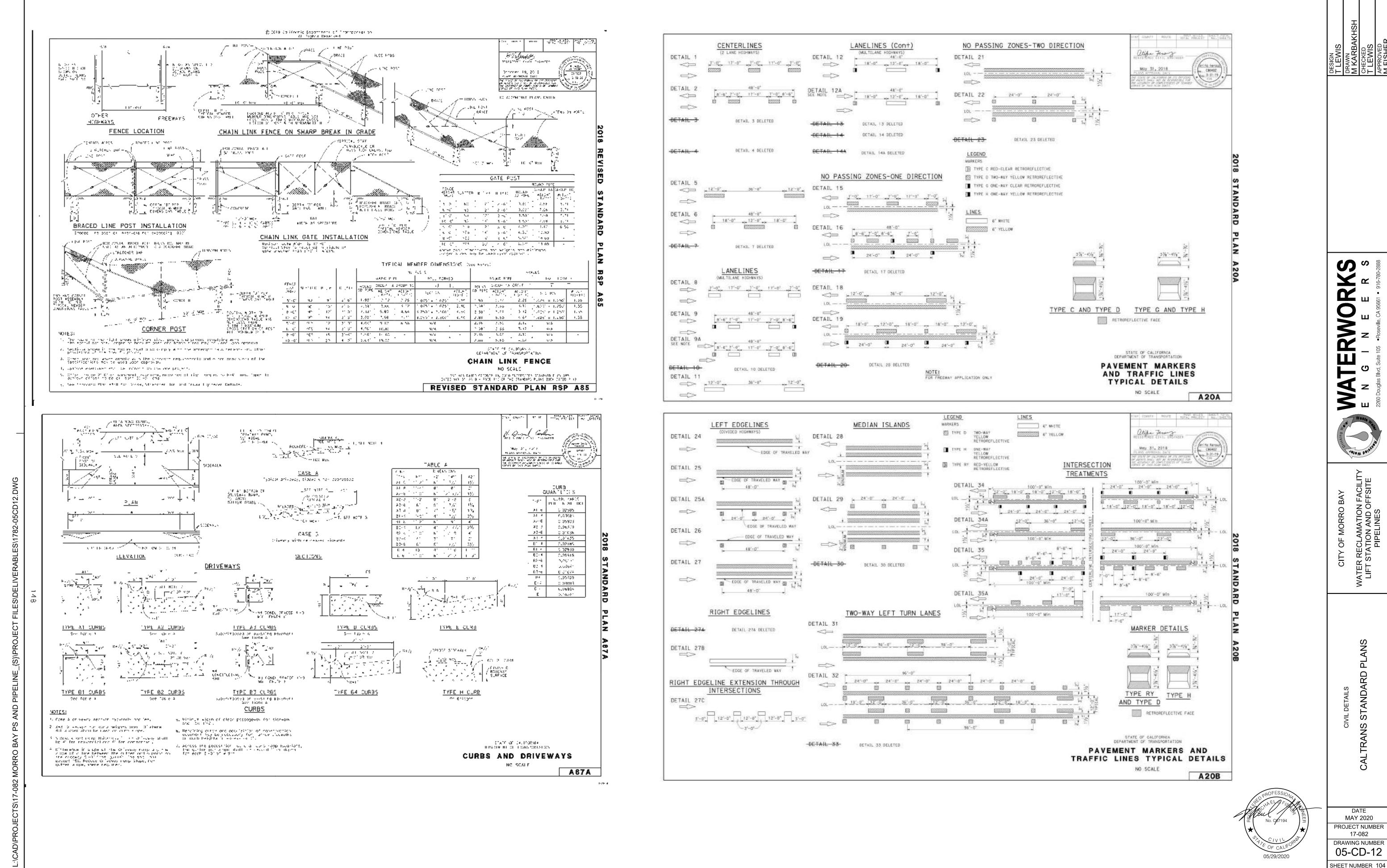
ERWORKS

Maste Waste Waste Waste

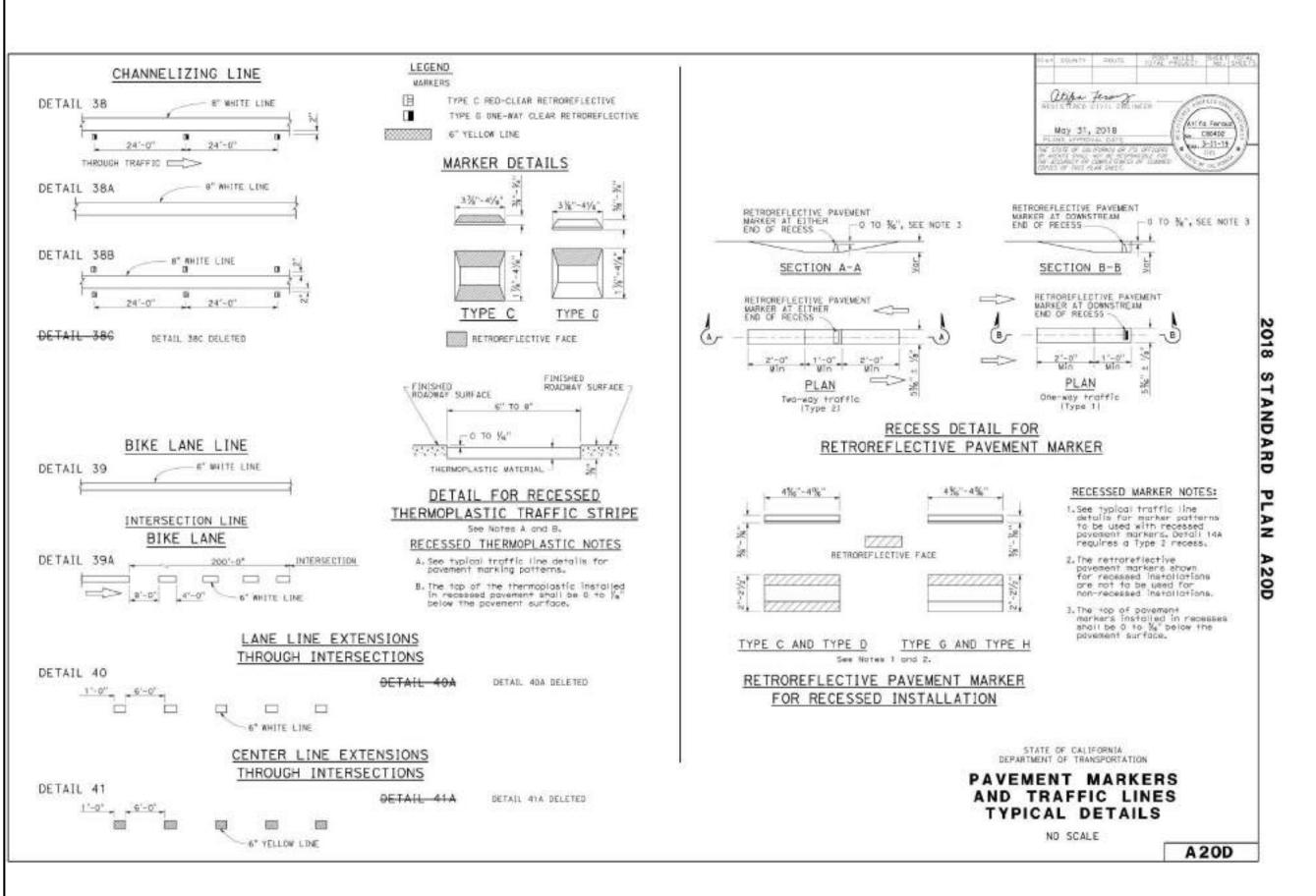
CITY OF MORRO BAY
WATER RECLAMATION FACILITY
LIFT STATION AND OFFSITE
PIPELINES

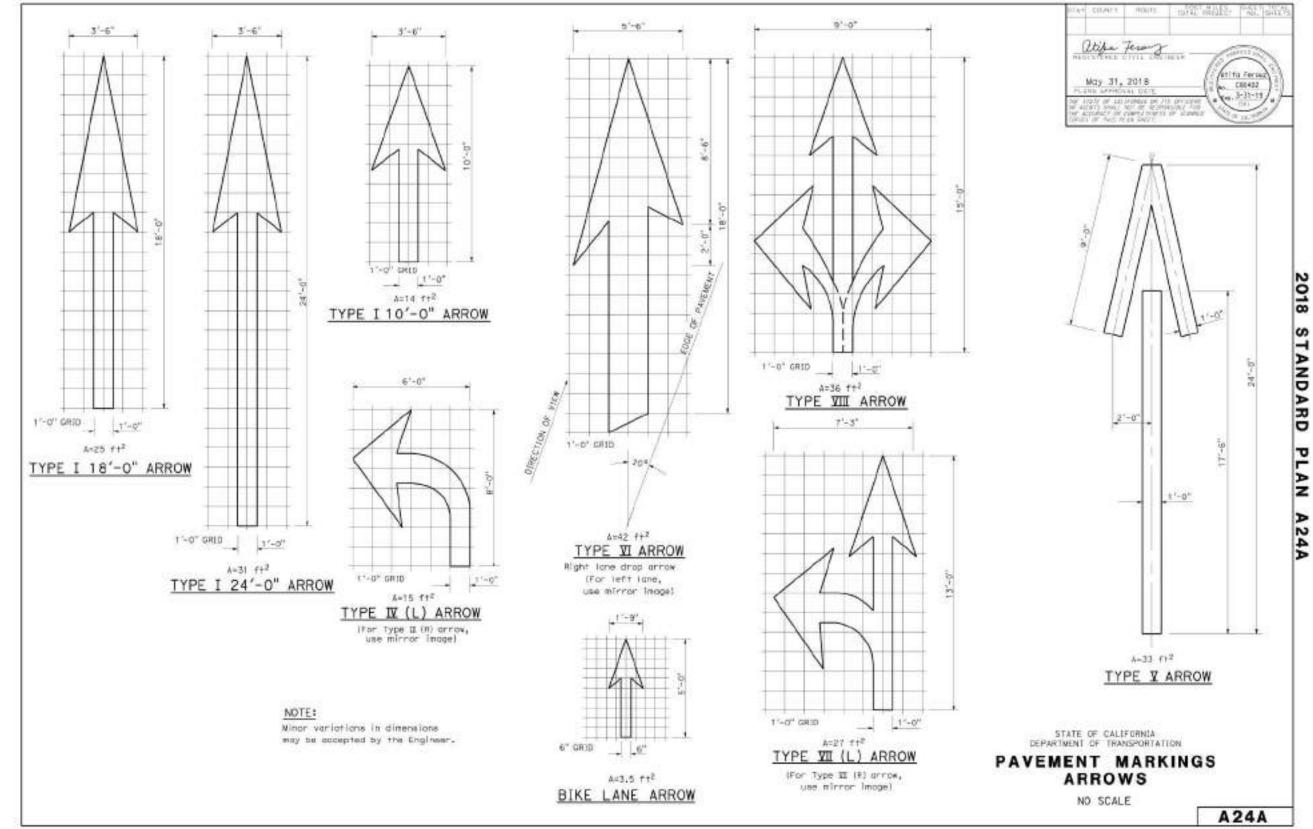
RANS STANDARD PLANS

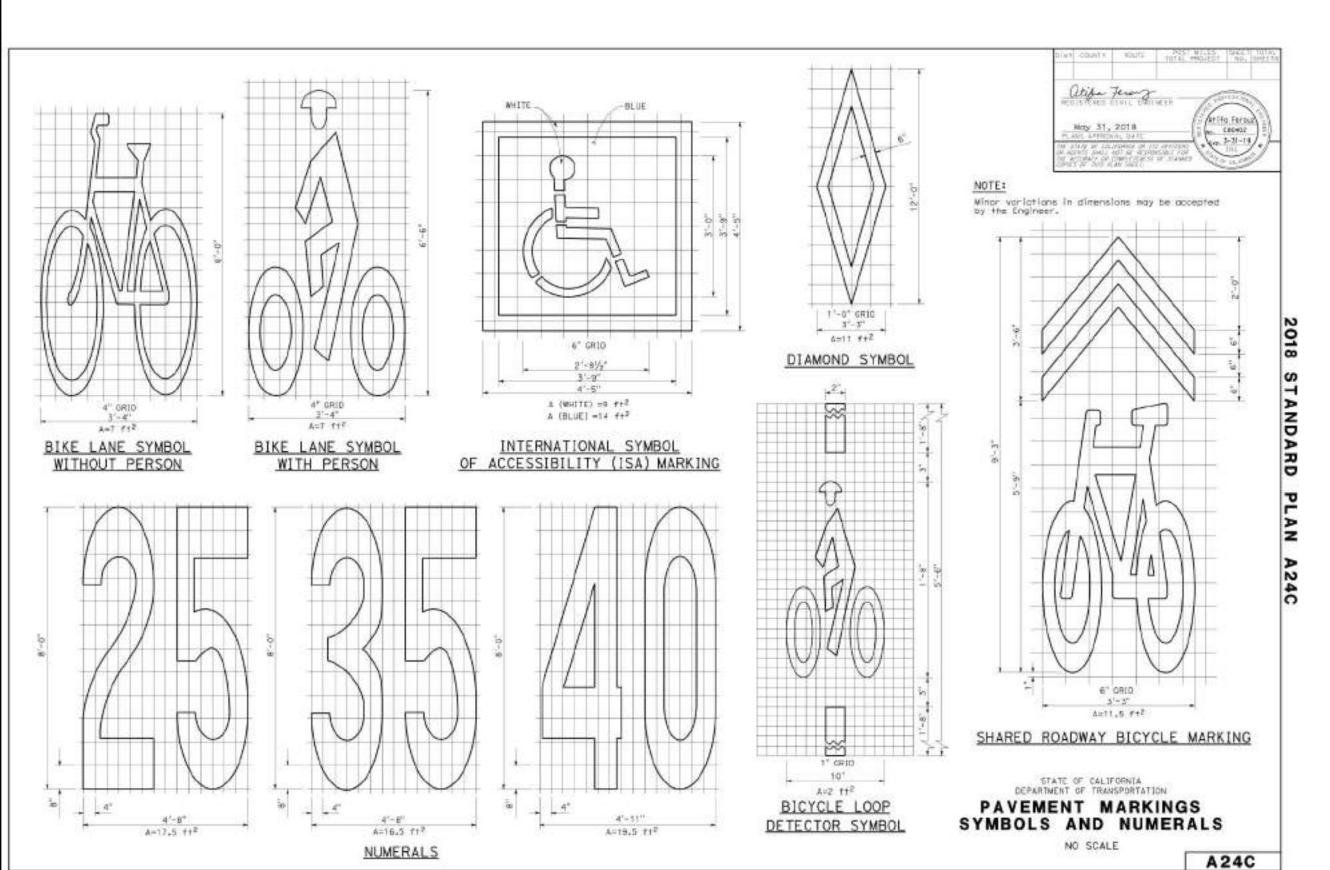
DATE
MAY 2020
PROJECT NUMBER
17-082
DRAWING NUMBER
05-CD-11

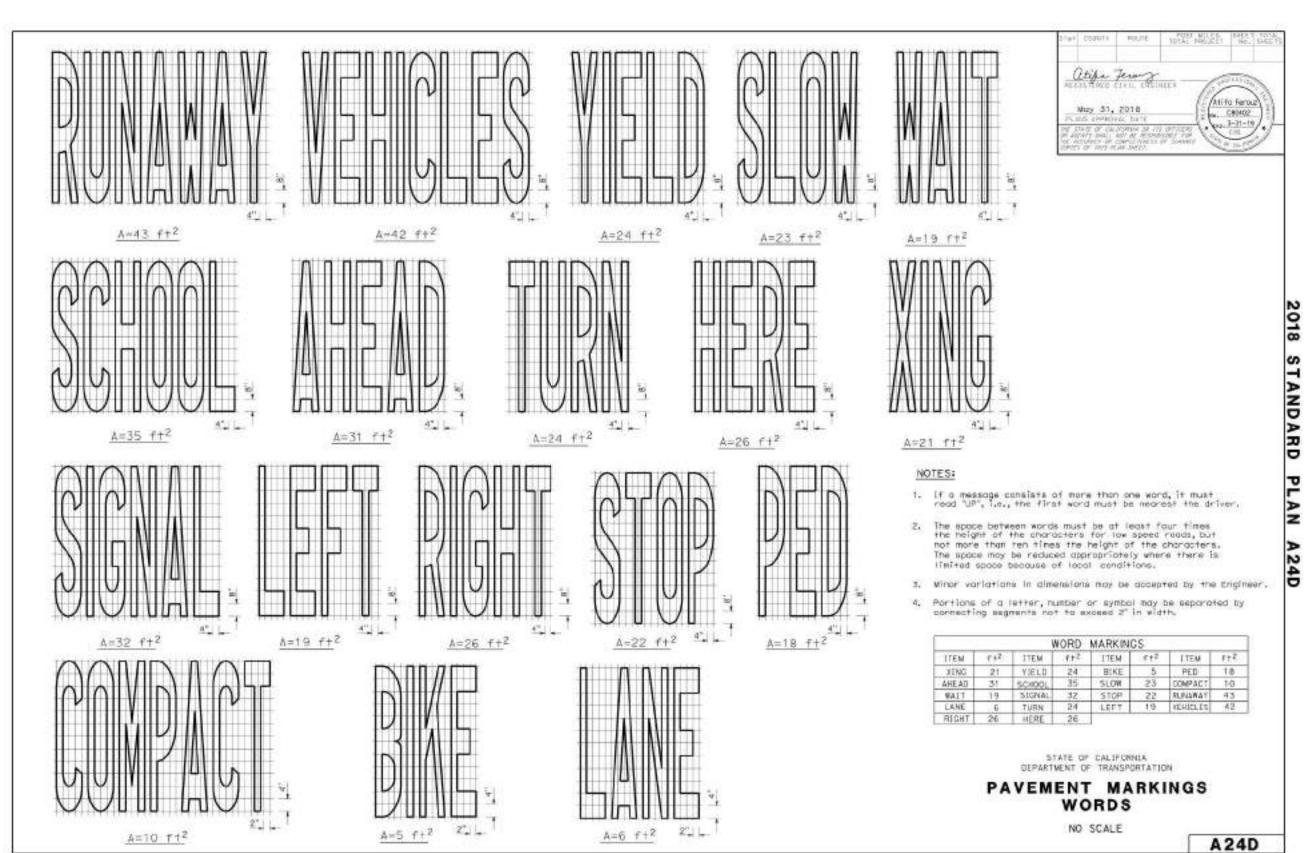


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MAY 2020 PROJECT NUMBER

JOB NUMBER: JOB_NO

FILENAME: 1782-05CD13.DWG

PLOT DATE: 06/15/20

PLOT TIME: 09:02:06

17-082 DRAWING NUMBER 05-CD-13 SHEET NUMBER 105

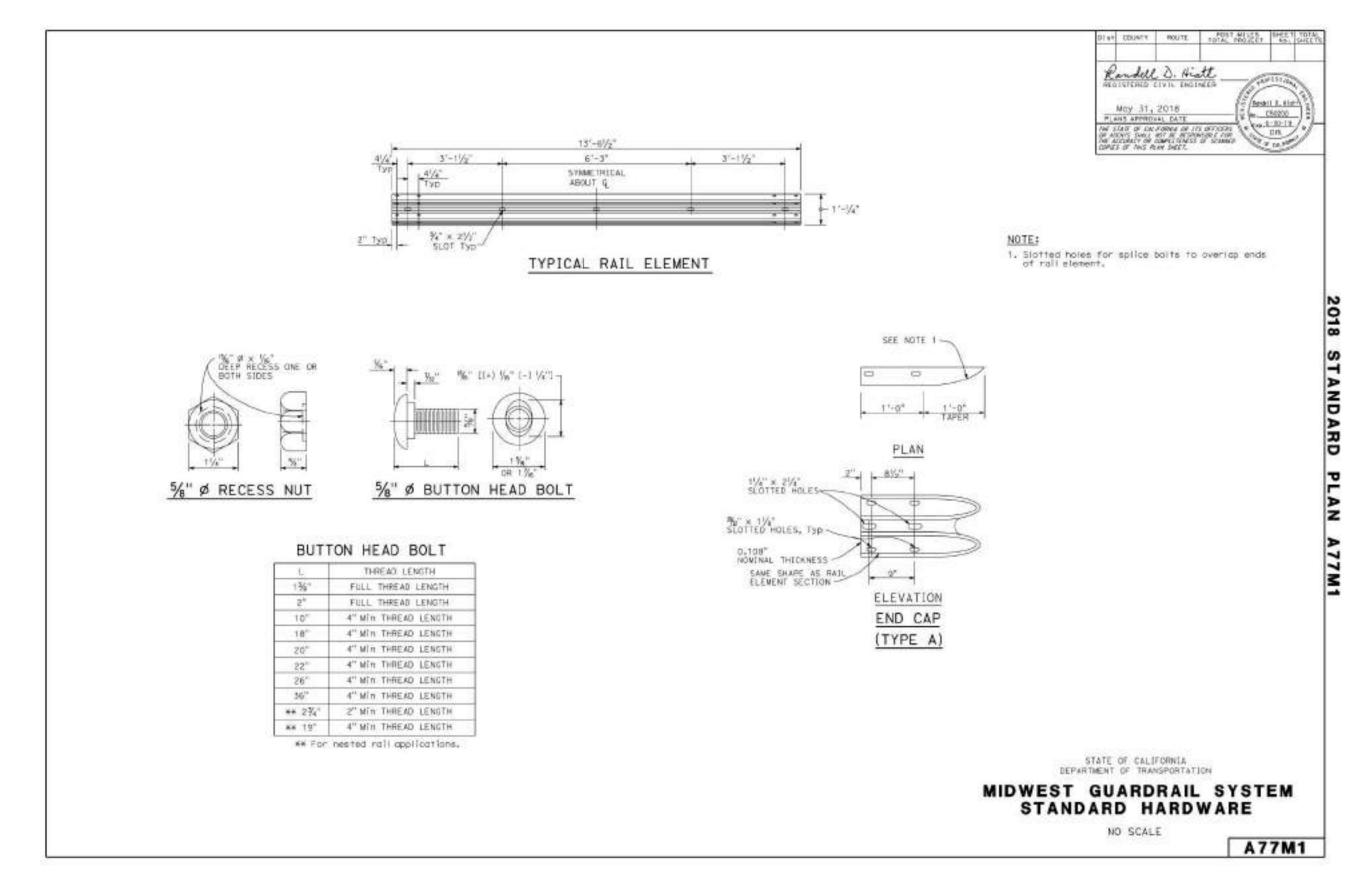
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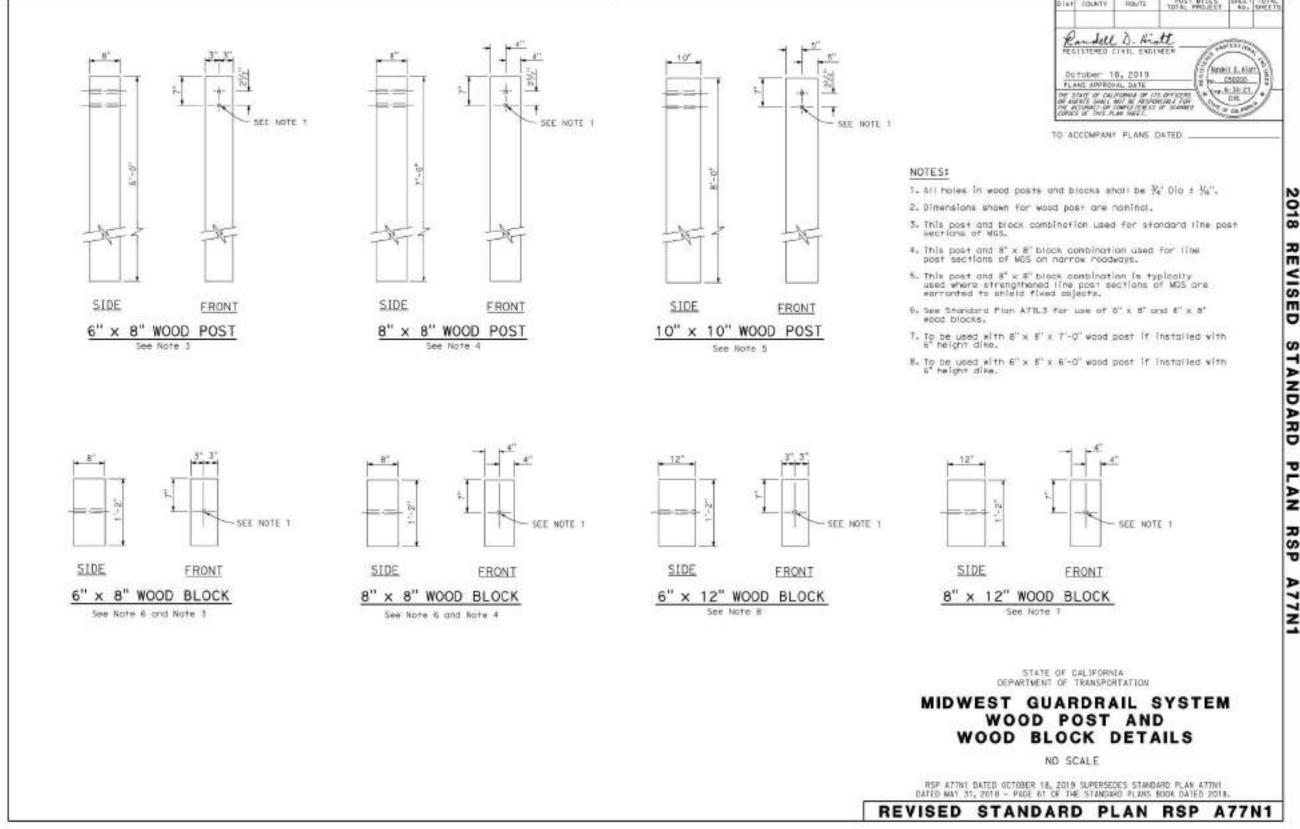
WATERWOF ENGINEE

ACILITY SITE

RD

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MAY 2020 PROJECT NUMBER 17-082 DRAWING NUMBER 05-CD-14 SHEET NUMBER 106

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ACILIT SITE

STANDARD RANS OPEN CUT CONSTRUCTION CASING

TABLE 2: MINIMUM ALLOWABLE CASING FOR FPVC CARRIERS (DIPS)

USING FPVC CARRIER (DIPS)		MINIMUM ALLOWABLE DR-21 HDPE CASING (IPS)		
Nom. Size	O.D. (in)	Nom. Size	I.D. (in)	I.D O.D. >2 (in)
4"	4.80	8"	7.75	2.95
6"	6.90	10"	9.66	2.76
8"	9.05	12.00	11.46	2.41
10"	11.10	16.00	14.38	3.28
12"	13.20	18.00	16.18	2.98
16"	17.40	22.00	19.78	2.38
18"	19.50	24.00	21.58	2.08
20"	21.60	28.00	25.17	3.57

ABLE 3: MINIMUM ALLOWA	BLE CASIN	G FOR H	HDPE CARRIERS (IPS)

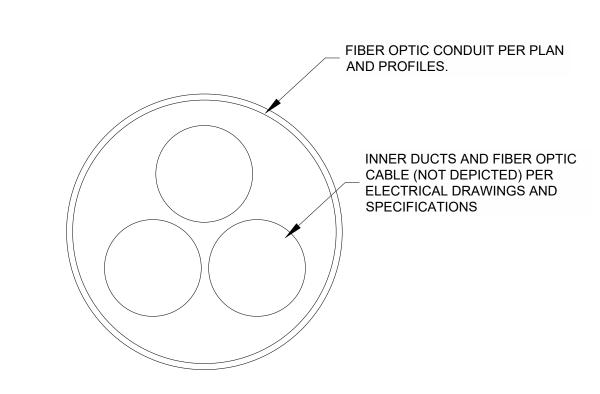
TABLE 3: MINIMOW ALLOWABLE CASING FOR HDPE CARRIERS (IPS)				
USING HDPE CARRIER (IPS)		MINIMUM ALLOWABLE DR-21 HDPE CASING (IPS)		
Nom. Size	O.D. (in)	Nom. Size	I.D. (in)	I.D O.D. >2 (in)
4"	4.50	8"	7.75	3.25
6"	6.63	10"	9.66	3.03
10"	10.75	16.00	14.38	3.63
12"	12.75	18.00	16.18	3.43
14"	14.00	20.00	17.98	3.98
18"	18.00	24.00	21.58	3.58
20"	20.00	26.00	23.38	3.38
22"	22.00	28.00	25.17	3.17
24"	24.00	30.00	26.97	2.97

TABLE 2: MINIMUM ALLOWABLE CASING FOR FPVC CARRIERS (DIPS)

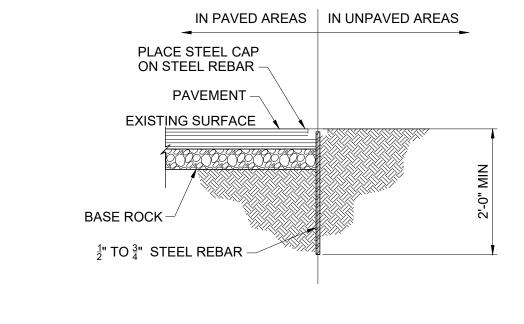
	USING FPVC CARRIER (DIPS)		MINIMUM ALLOWABLE DR-25 FPVC CASING		
			(DIPS)		
	Nom. Size	O.D. (in)	Nom. Size	Req'd I.D. (in)	I.D O.D. >2 (in)
	4"	4.80	8"	8.28	3.48
	6"	6.90	10"	10.16	3.26
	8"	9.05	12"	12.08	3.03
	10"	11.10	14"	14.00	2.90
	12"	13.20	16"	15.92	2.72
	16"	17.40	20"	19.77	2.37
	18"	19.50	24"	24.12	4.62
	20"	21.60	24"	24.12	2.52
	·				· · · · · · · · · · · · · · · · · · ·

TABLE 3: MINIMUM ALLOWABLE CASING FOR HDPE CARRIERS (IPS)

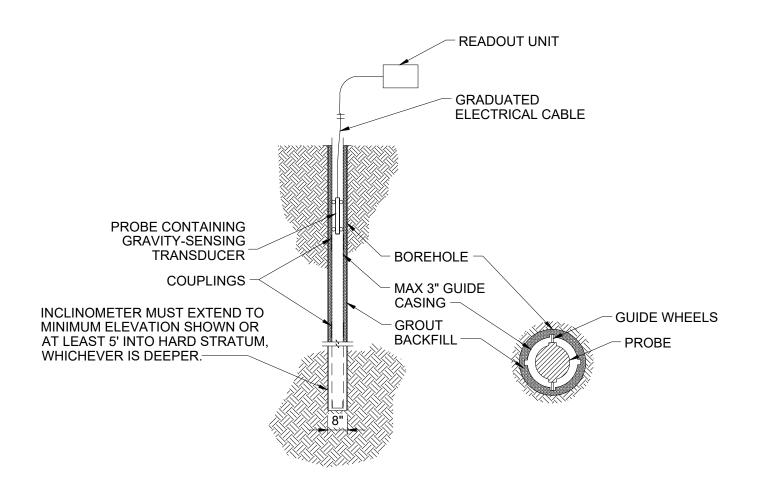
USING HDPE CARRIER (IPS)		MINIMUM ALLOWABLE DR-25 FPVC CASING (DIPS)		
Nom. Size	O.D. (in)	Nom. Size	Req'd I.D. (in)	I.D O.D. >2 (in)
4"	4.50	8"	8.28	3.78
6"	6.63	10"	10.16	3.53
10"	10.75	14"	14.00	3.25
12"	12.75	16"	15.92	3.17
14"	14.00	18"	17.85	3.85
18"	18.00	24"	24.12	6.12
20"	20.00	24"	24.12	4.12
22"	22.00	24"	24.12	2.12
24"	24.00	30"	29.29	5.29



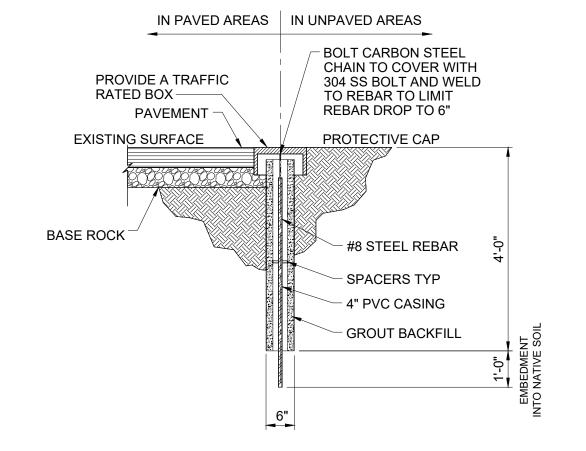
FIBER OPTIC CONDUIT



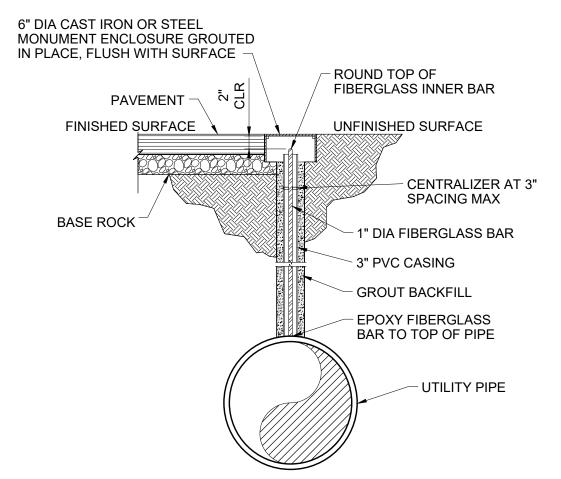
GROUND MOVEMENT MONITORING POINT (GMMP)



INCLINOMETER



SUB-SURFACE SETTLEMENT MONITORING POINT (SSMP)



UTILITY MONITORING POINT (UMP)



JOB NUMBER: 17-082

SHEET NUMBER 107

MAY 2020 PROJECT NUMBER

17-082 DRAWING NUMBER 05-CD-15

72" OD STEEL CASING PIPE, SEE NOTE 1 SEE DET 1/5-CD-04 AND DET 2/05-CD-6 FOR CARRIER PIPE, SPACERS, AND ANNULAR SPACE FILLING REQUIREMENTS -

NOTES:

GROUT/LUBRICATION HOLES (TYP). STAGGER 8' MAX ON EACH SIDE OF CL.

WITH ID OF CASING, SEE NOTE 2. —

RECESSED STEEL PIPE PLUG

INSTALLED AFTER CONTACT GROUTING. PLUG TO BE FLUSH

1-12/" MIN DIA THREADED NIPPLE WITH

1. STEEL CASING JOINTS SHALL BE PERMALOK OR WELDED AND APPROVED IN

ACCORDANCE WITH SECTION 02445 OF THE SPECIFICATIONS.

STEEL CASING CROSS SECTION

2. CONTACT GROUTING SHALL BE IN ACCORDANCE WITH SPEC 03320. ANNULAR SPACE FILLING SHALL BE IN ACCORDANCE WITH SPEC 02350

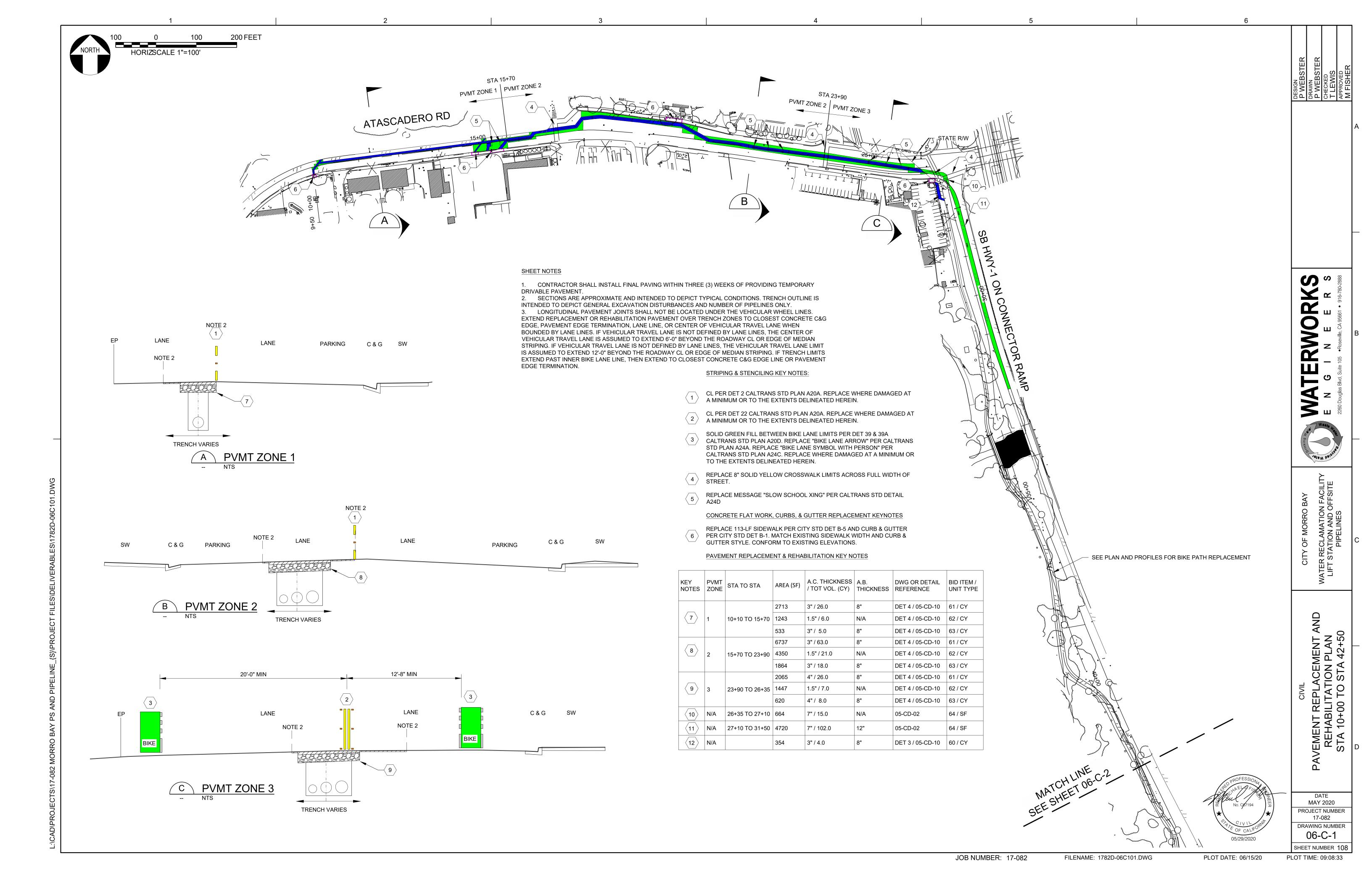
TRENCHLESS CONSTRUCTION CASING

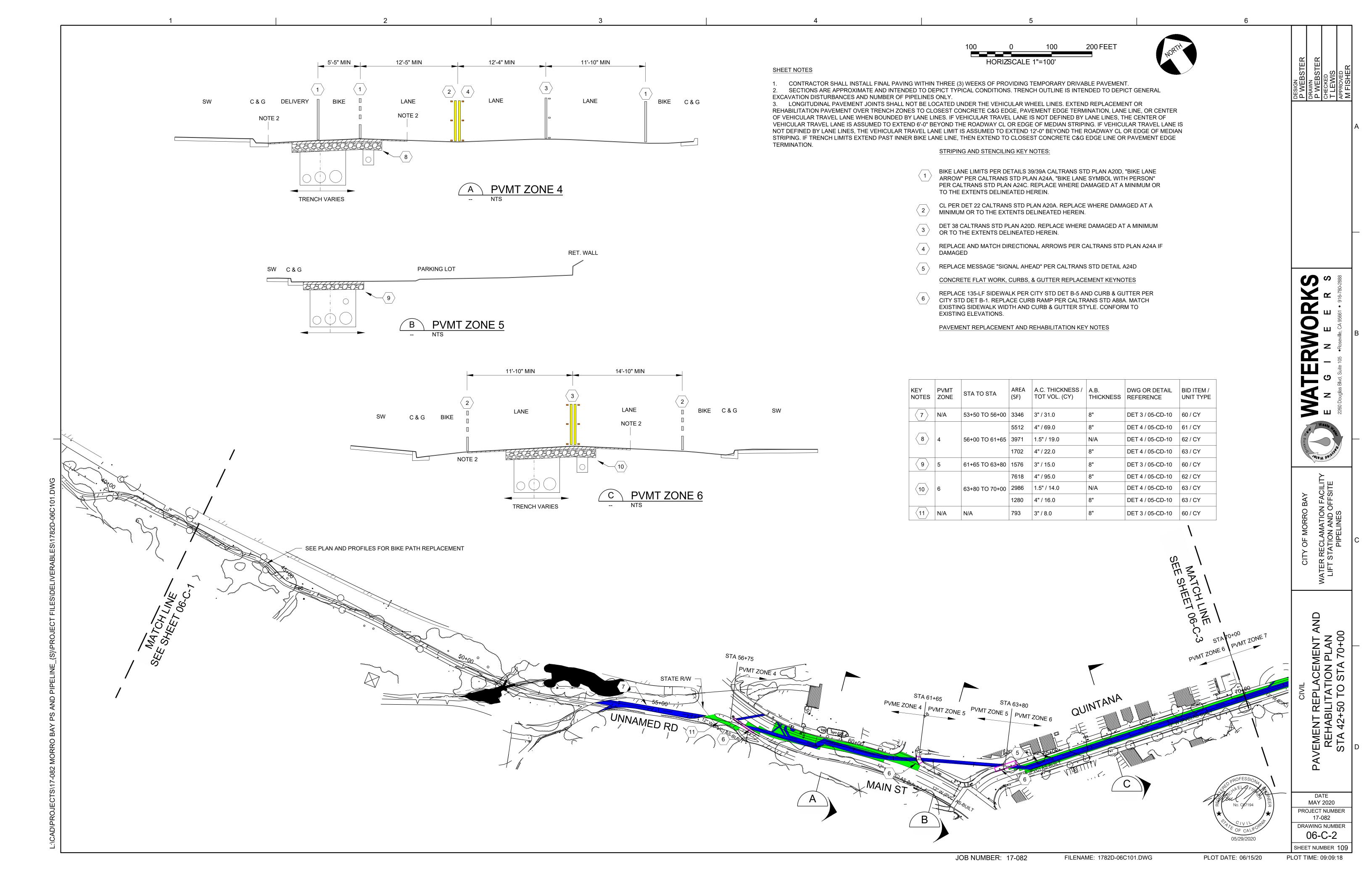
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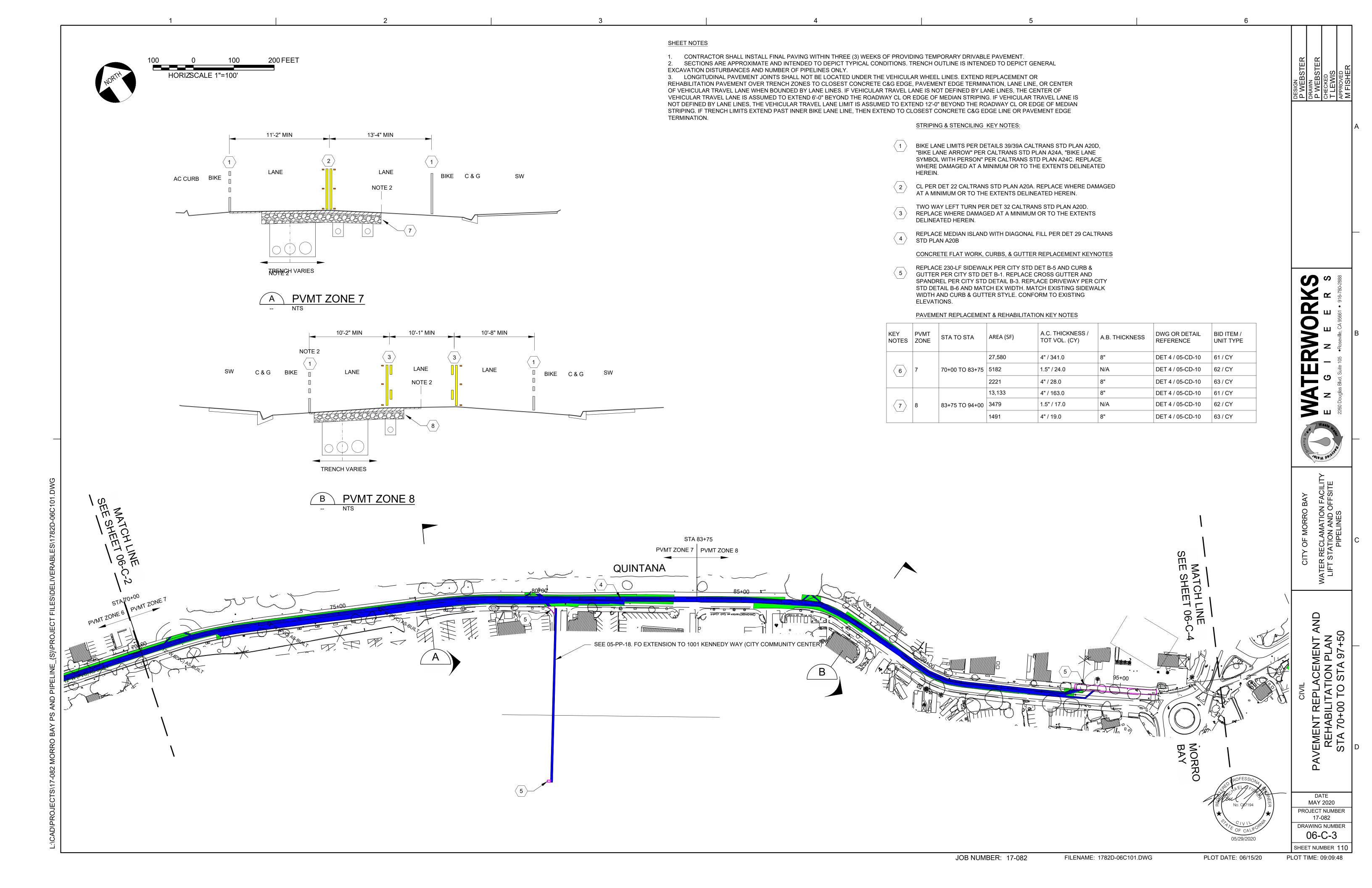
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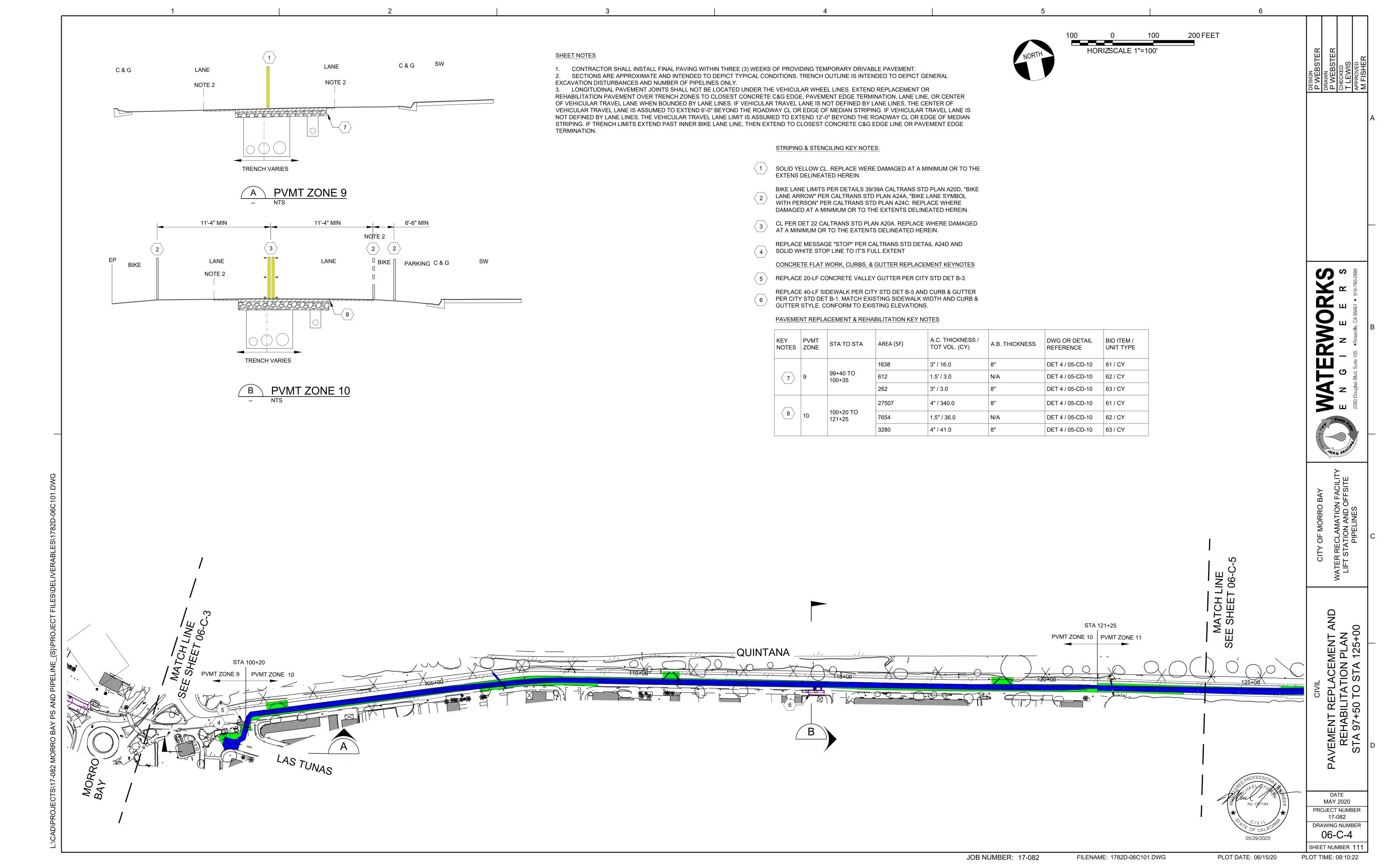
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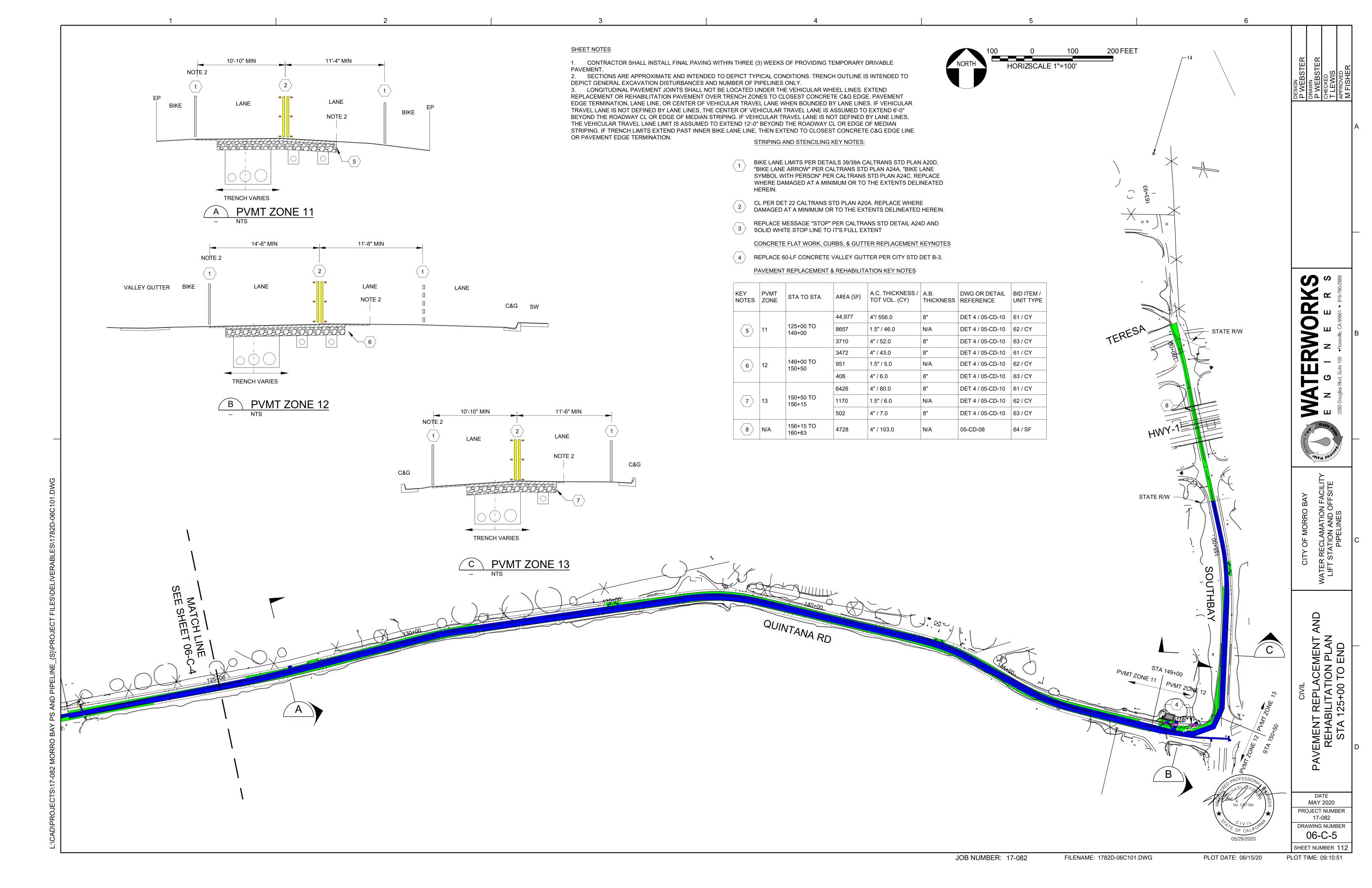
WATER RECLAMATION FA LIFT STATION AND OFF PIPELINES













DEMO THE FOLLOWING ITEMS PER SPEC 02220: EX GUARDRAIL, GRATING, HANDRAIL, FENCING, HAND
WASHING SINK, PLATFORM, LADDER, LIGHT POLE,
ATTACHMENTS, AND PEDESTALS. CUT AND CAP DRAINS,
WATERLINES, POWER AND CONDUITS TO EG. SALVAGE
SAMPLING EQUIPMENT AND RETURN TO OWNER.



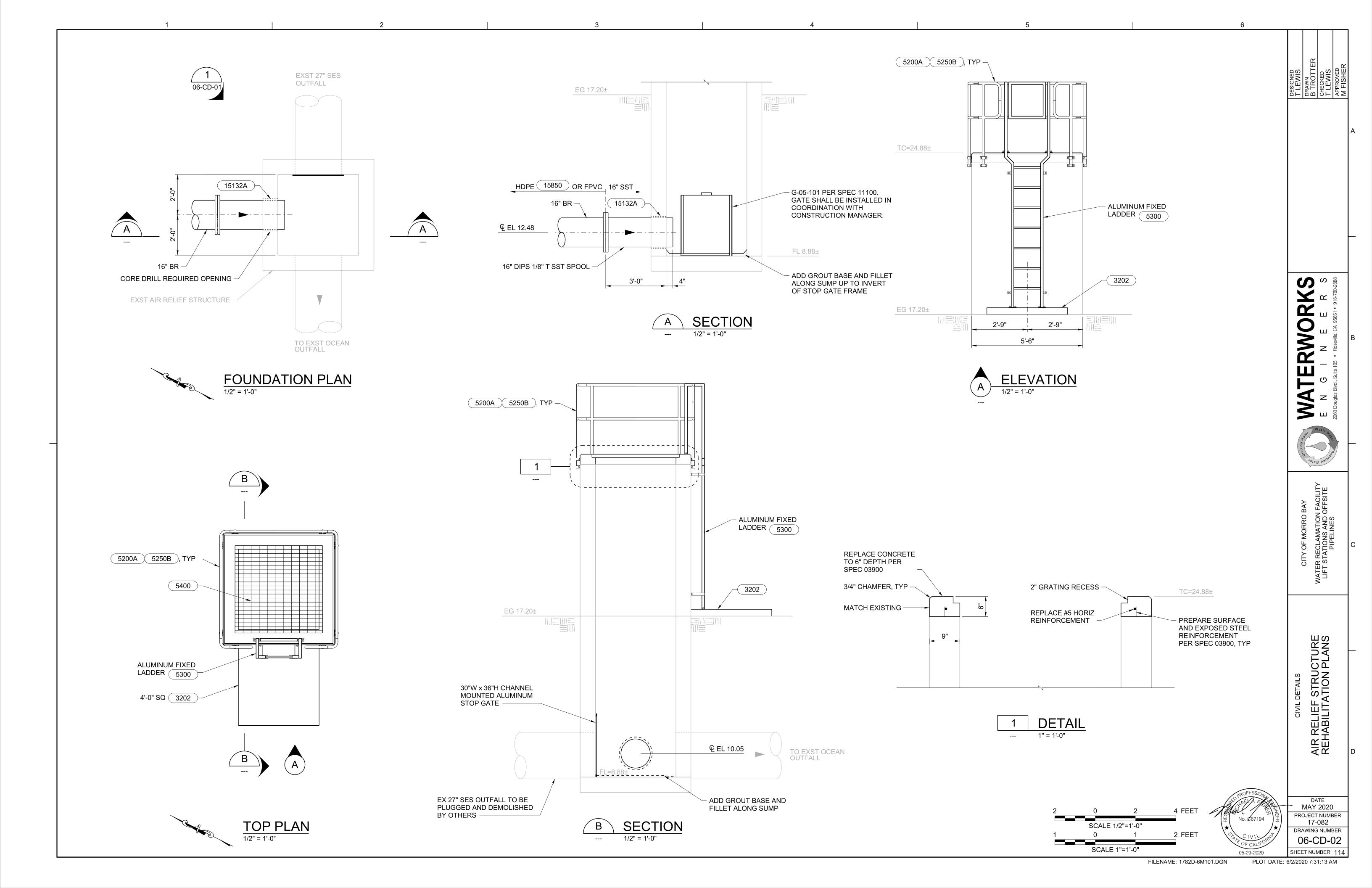
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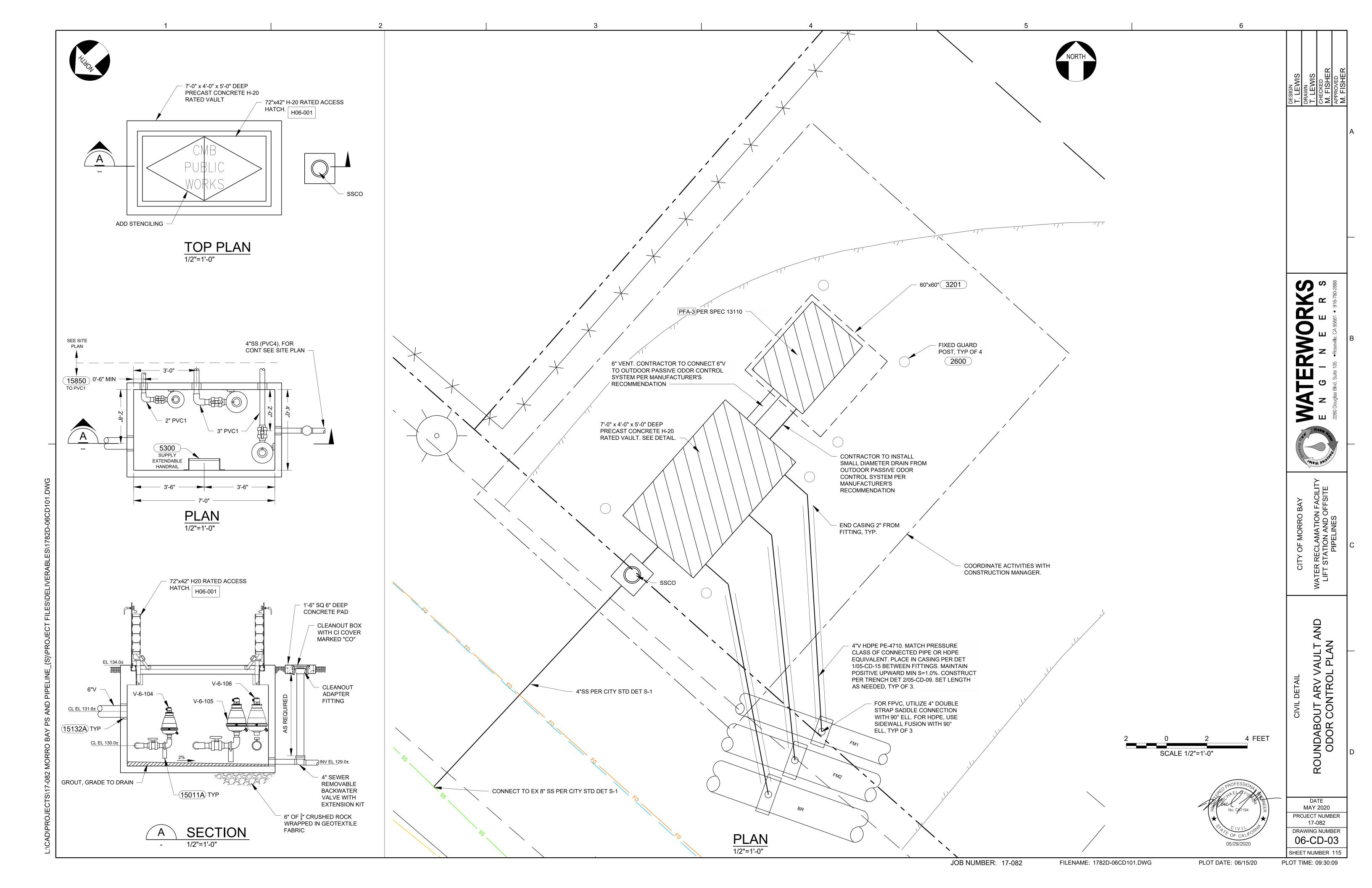
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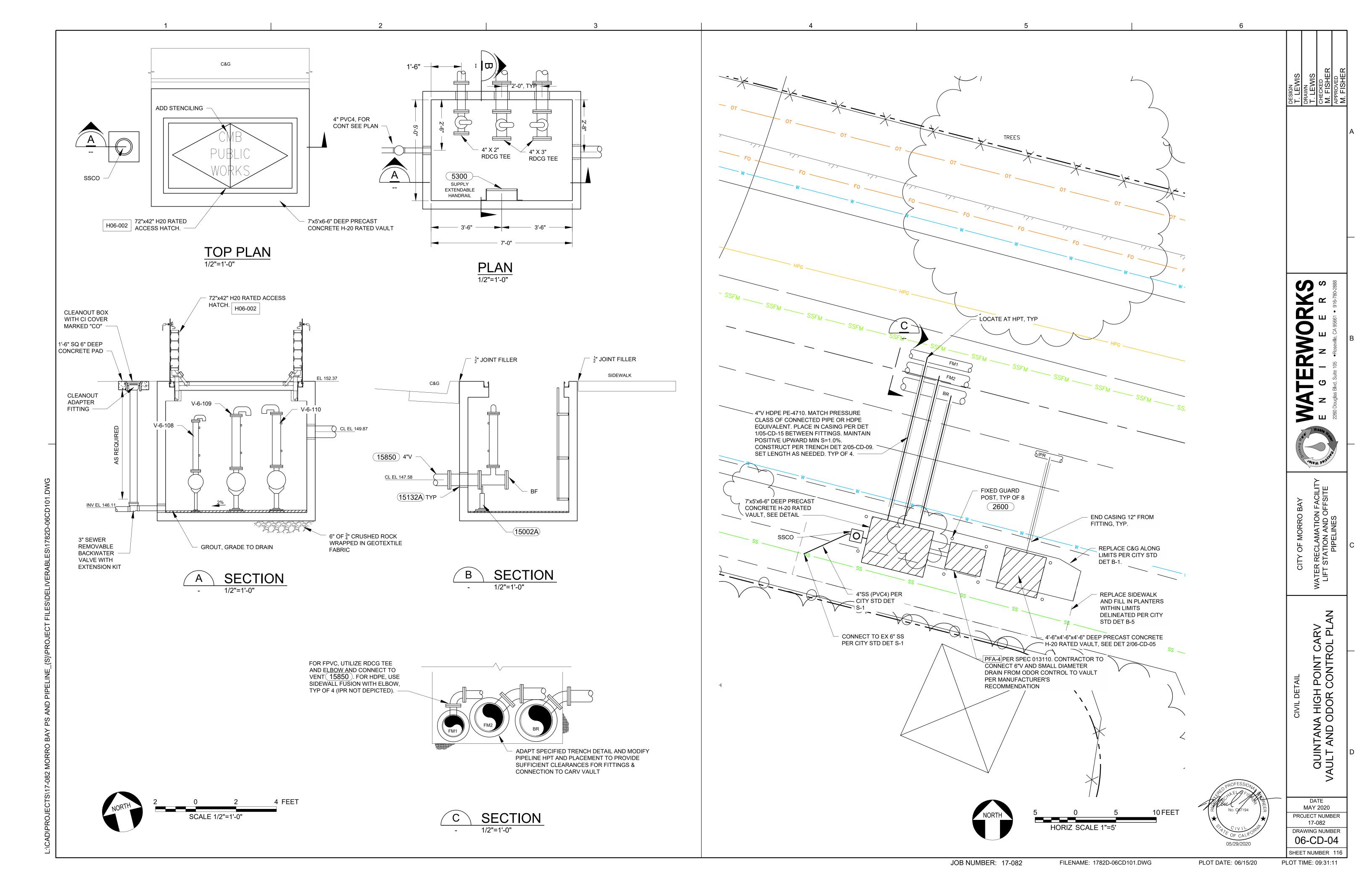
CITY OF MORRO BAY WATER RECLAMATION FAC LIFT STATIONS AND OFFS PIPELINES

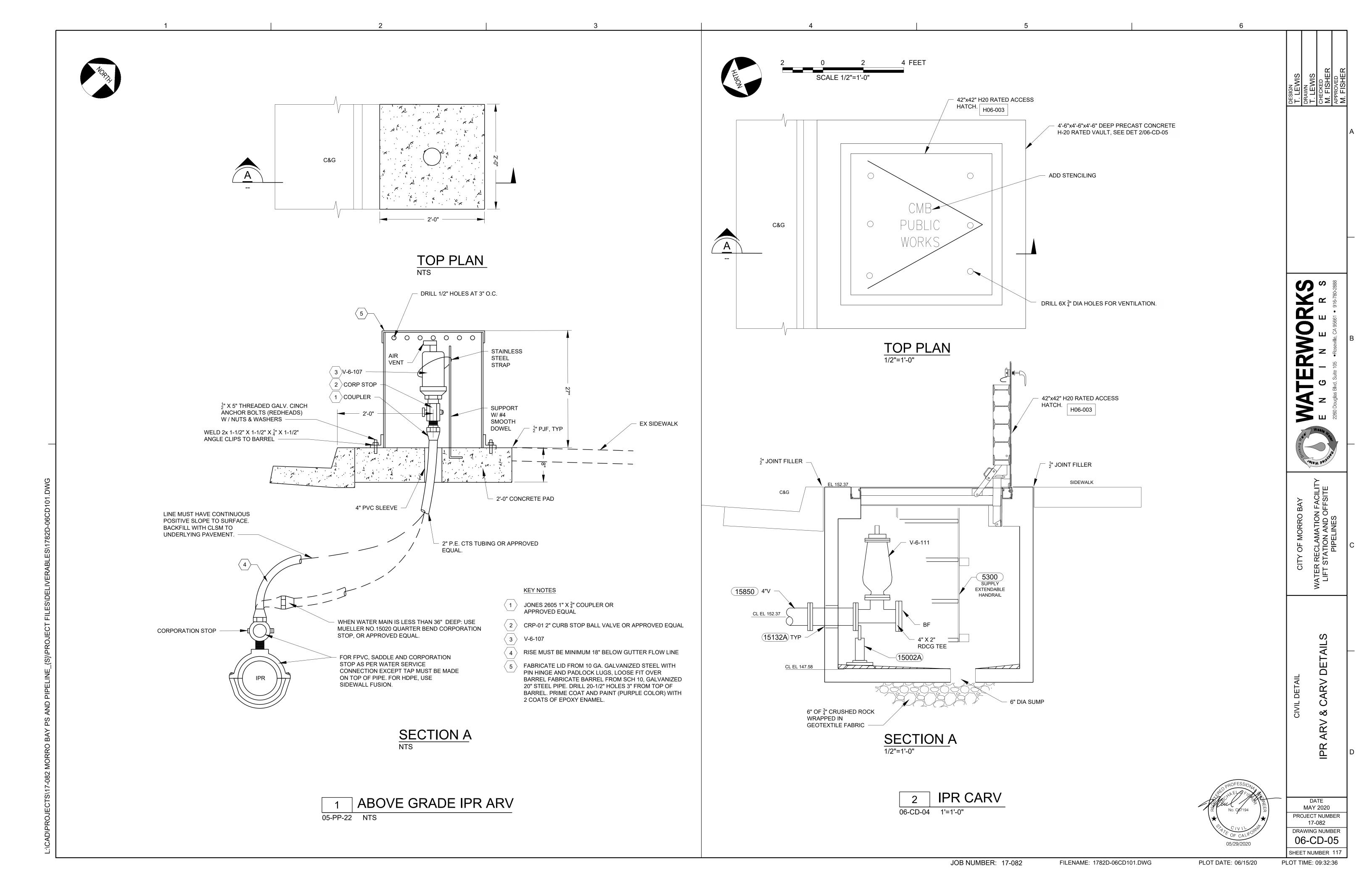
AIR RELIEF STRUCTURE DEMOLITION PHOTO

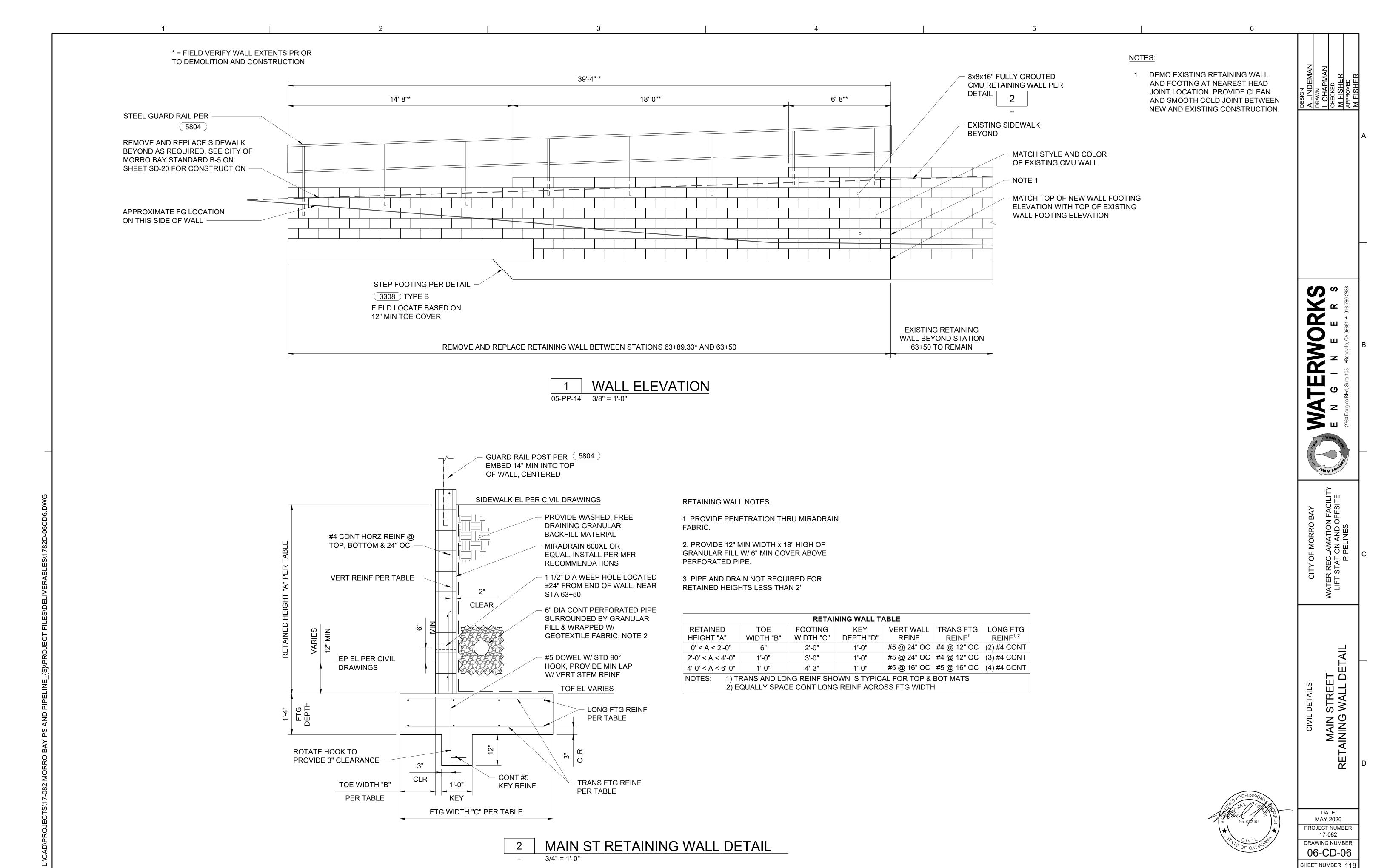
DATE
MAY 2020
PROJECT NUMBER
17-082
DRAWING NUMBER
06-CD-01

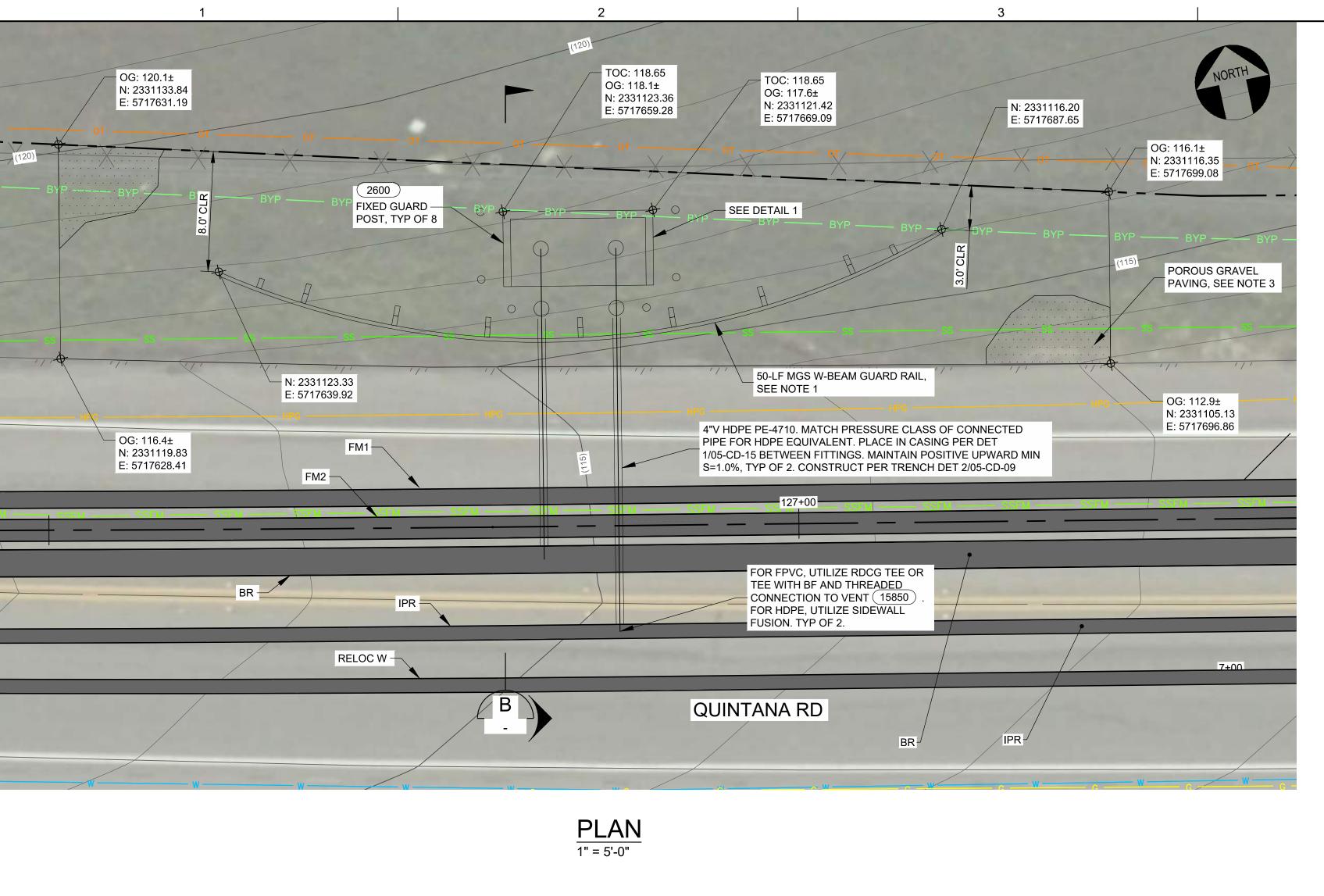


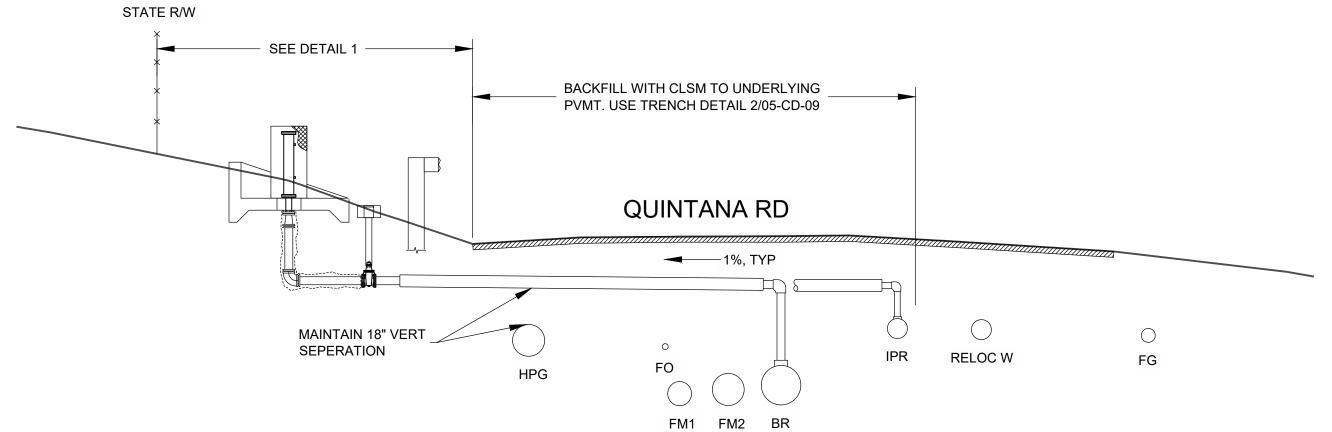






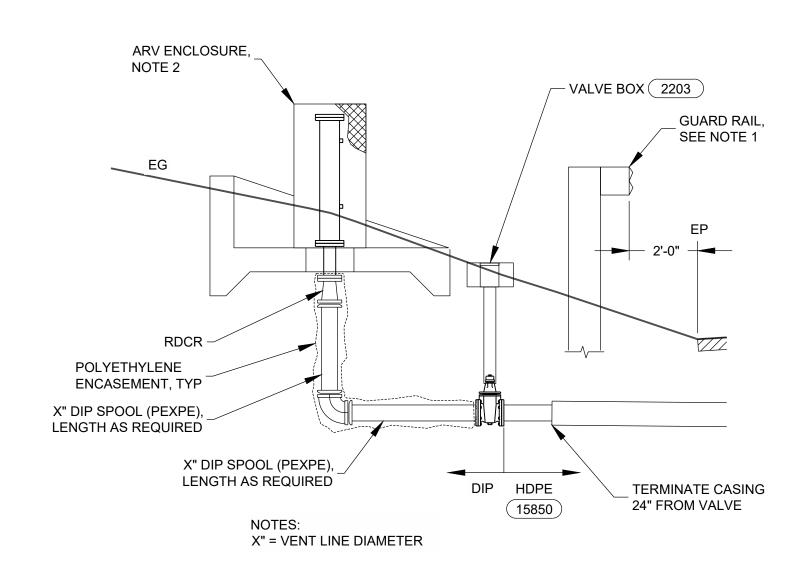




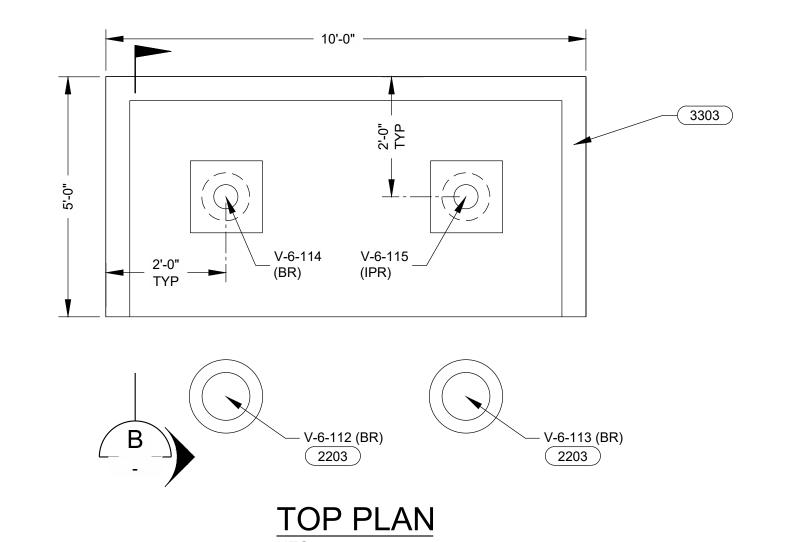


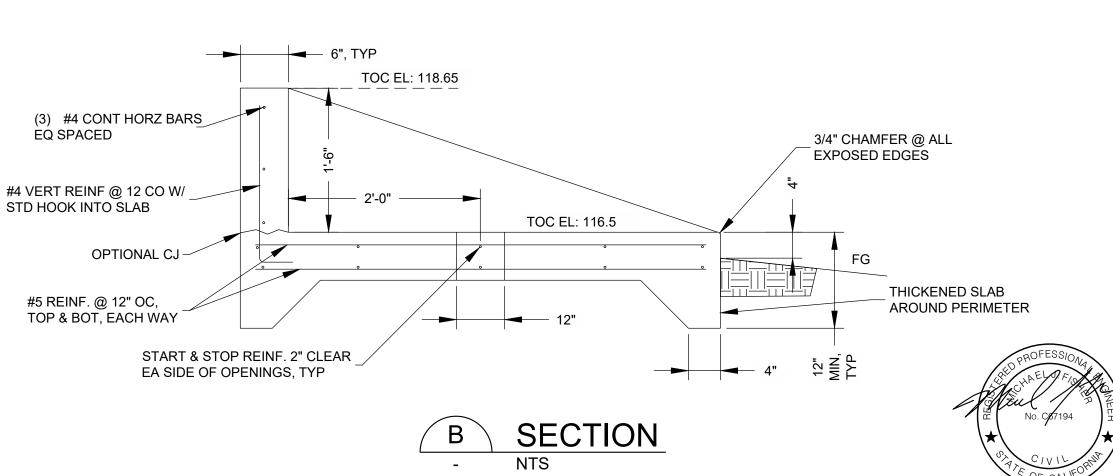


- 1. MIDWEST GUARDRAIL SYSTEM (MGS) STANDARD RAILING PER CALTRANS STD PLAN A77L1. RAIL MATERIAL SHALL BE 12-GAUGE ZINC-COATED CORRUGATED STEEL. INCORPORATE FLARED END TREATMENT SYSTEM ON EITHER END. ADD HIGH VISIBILITY STRIPING ON FLARED ENDS. MANUFACTURER: TRINITY HIGHWAY SRT-350
- 8-POST PARABOLIC FLARE, OR APPROVED EQUAL. 2. ABOVE GROUND WELDED STEEL ARV ENCLOSURE. DOOR AND ENCLOSURE HOOD SHALL BE ABLE TO INDEPENDENTLY SWING AWAY AND PROVIDE COMPLETE ACCESS TO UNIT. DOOR MATERIAL SHALL BE NO.13 BY 1/2" METAL SCREEN. PROVIDE RECESSED LOCK LOCATION AND LIFTING LUG. 304 SST HARDWARE, HINGES, AND ANCHOR BOLTS. 12-15 MIL CORROSION PROTECTION OF 2-3MIL ZINC RICH EPOXY PRIMER COAT, 5-6 MILS THICK OF RUST-INHIBITIVE EPOXY 2ND PRIMER COAT, 5-6 MIL THICK HIGH-BUILD POLYURETHANE ENAMEL 3RD TOP COAT. COLOR SHALL BE GREEN. PLACER WATERWORKS SJARV-2M OR EQUAL.
- 3. APOROUS GRAVEL PAVING SHALL BE AN UNDERLYING H-20 RATED PLASTIC GRID SYSTEM WITH BACKING FABRIC AND TOPPED WITH 1/2" CRUSHED ROCK. PLACE 4" CL2 AB AT 90% RELATIVE COMPACTION UNDERNEATH BACKING FABRIC. INVISIBLE STRUCTURES GRAVELPAVE2, NDS EZ-ROLL GRAVEL PAVER, OR EQUAL



UPPER QUIATANA BR/IPR CARV





MAY 2020 PROJECT NUMBER 17-082 DRAWING NUMBER 05-CD-07

FILENAME: 1782D-06CD7.DWG JOB NUMBER: JOB_NO

PLOT DATE: 06/15/20

SHEET NUMBER 119 PLOT TIME: 09:44:27

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