CHLORINATION BUILDING

MPWMD SANTA MARGARITA ASR FACILITY
1910 GENERAL JIM MOORE BLVD., SEASIDE, CA

ABBREVIATIONS

&	AND	FLASH.	FLASHING	PSF	POUNDS PER SQUARE FOOT
∠	ANGLE	FLR.	FLOOR(ING)	PSI	POUNDS PER SQUARE INCH
@	AT	FLUOR.	FLUORESCENT	P.T.	PRESSURE TREATED
℄	CENTERLINE	F.O.	FACE OF	PART.	PARTITION
Ø	DIAMETER OR ROUND	F.O.B.	FACE OF BLOCK	P.T. DISP.	PAPER TOWEL DISPENSER
⊥	PERPENDICULAR	F.O.C.	FACE OF CONCRETE	P.V.C.	POLYVINYL CHLORIDE
℄	PROPERTY LINE	F.O.F.	FACE OF FINISH		
#	POUND OR NUMBER	F.O.M.	FACE OF MASONRY	R.	RISER
		F.O.S.	FACE OF STUD	R.A.	RETURN AIR
A.B.	ANCHOR BOLT	F.P.	FIREPLACE	RAD.	RADIUS
A.B.S.	ACRYLONITRILE BUTADIENE	F.R.P.	FIBERGLASS REINF. PANEL	R.D.	ROOF DRAIN
ABV.	ABOVE	F.S.	FULL SIZE	REG.	REGISTER
A.A.	ASPHALTIC CONCRETE	FT	FOOT/FEET	REF.	REFRIGERATOR
A/C	AIR CONDITIONING	FTG.	FOOTING	REINF.	REINFORCED
ACOUS.	ACOUSTICAL	FURR.	FURRED(ING)	REQ'D.	REQUIRED
ADJ.	ADJUSTABLE	FUT.	FUTURE	REQMT.	REQUIREMENT
A.F.F.	ABOVE FINISH FLOOR			RESIL.	RESILIENT
AGGR.	AGGREGATE	GA.	GAUGE/GAGE	REV.	REVERSED
ALUM.	ALUMINUM	GALV.	GALVANIZED	R.H.M.S.	ROUNDHEAD MACHINE SCREW
ANOD.	ANODIZED	G.B.	GRAB BAR	R.H.W.S.	ROUNDHEAD WOOD SCREW
A.P.A	AMERICAN PLYWOOD ASSOCIATION	G.I.	GALVANIZED IRON	RM.	ROOM
		GL.	GLASS/GLAZING	R.O.	ROUGH OPENING
APPROX.	APPROXIMATE	G.L.B.	GLUE-LAM BEAM	R.O.W.	RIGHT OF WAY
ARCH.	ARCHITECTURAL	GR.	GRADE(ING)	R.S.	RESAWN
A.S.	ADJUSTABLE SHELF	G.W.B.	GYPSUM WALLBOARD	RUB.	RUBBER
				RWD.	REDWOOD
BD.	BOARD	H.B.	HOSE BIB	R.W.L.	RAIN WATER LEADER
BIT.	BITUMINOUS	HBD.	HARDBOARD		
BLDG.	BUILDING	H.C.	HOLLOW CORE	S.	SOUTH
BLK.	BLOCK	HDR.	HEADER	S.B.	SOLID BLOCKING
BLKG.	BLOCKING	HDWR.	HARDWARE	S.C.	SOLID CORE
BM.	BEAM	H.M.	HOLLOW METAL	SCHED.	SCHEDULE
B.M.	BENCH MARK	HORZ.	HORIZONTAL	S.A.	STORM DRAIN
BOT.	BOTTOM	H.S.	HEAVY SHEET	SECT.	SECTION
BRG.	BEARING	HT.	HEIGHT	SERV.	SERVICE
BTWN.	BETWEEN	HTG.	HEATING	S.F.	SQUARE FOOT
B.U.R.	BUILD-UP ROOFING	H.W.	HOT WATER	S.G.	STAIN GRADE
B.W.	BOTH WAYS	HWD.	HARDWOOD	SH.	SHELF/SHELVING
		HVAC.	HEATING/VENTILATING/AIR CONDITIONING	SHWR.	SHOWER
CAB.	CABINET			SHT.	SHEET
C.B.	CATCH BASIN			SHT'G.	SHEATHING
CBC	CALIFORNIA BUILDING CODE	I.C.C.	INTERNATIONAL CODE COUNCIL	SIM.	SIMILAR
CEM.	CEMENT			S.S.	STAINLESS STEEL
CER.	CERAMIC	ID.	INSIDE DIAMETER	S.S.D.	SEE STRUCTURAL DRAWINGS
CFCI.	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	INCL.	INCLUDE(D) (ING)	S.M.	SHEET METAL
		INSUL.	INSULATE(D) (ING)	S.M.S.	SHEET METAL SCREW
C.F.	CUBIC FEET	INT.	INTERIOR	SPEC.	SPECIFICATION
C.I.	CAST IRON	INV.	INVERT	SQ.	SQUARE
C.J.	CONTROL JOINT			STL.	STEEL
CL.	CLOSET	JAN.	JANITOR	STD.	STANDARD
CLG.	CEILING	J.H.	JOIST HANGER	STAG.	STAGGERED
CLKG.	CAULKING	JT.	JOINT	STOR.	STORAGE
CLR.	CLEAR(ANCE)			STRUCT.	STRUCTURAL
C.M.U.	CONCRETE MASONRY UNIT	KIT.	KITCHEN	SUSP.	SUSPENDED
COL.	COLUMN			SYM.	SYMMETRY(ICAL)
COMP.	COMPOSITION	L.	LENGTH	SYS.	SYSTEM
CONC.	CONCRETE	LAM.	LAMINATE		
CONN.	CONNECTION	LAV.	LAVATORY	T.	TREAD
CONSTR.	CONSTRUCTION	L.B.	LAG BOLT	T.B.	TOWEL BAR
CONT.	CONTINUOUS	LOC.	LOCATE(ION)	T.B.D.	TO BE DETERMINED
COR.	CORRUGATED	L.V.L.	LAMINATED VENEER LUMBER	T.C.	TOP OF CURB
C.O.T.G.	CLEAN-OUT TO GRADE	L.W.	LIGHTWEIGHT	TEL.	TELEPHONE
CSMT.	CASEMENT			TEMP.	TEMPERED
CSWK.	CASEWORK	MAS.	MASONRY	T.E.N.	TYPICAL EDGE NAILING
C.T.	CERAMIC TILE	MAT.	MATERIAL(S)	T & G	TONGUE & GROOVE
CTR.	COUNTER	MAX.	MAXIMUM	THK.	THICK(NESS)
CTSK.	COUNTERSINK	M.B.	MACHINE BOLT	THRESH.	THRESHOLD
C.Y.	CUBIC YARD	M.C.	MEDICINE CABINET	T.J.I.	TRUSS JOIST INTERNATIONAL
		M.H.	MAN HOLE	T.O.	TOP OF
D.C.	DOUBLE CONTAINMENT	MECH.	MECHANICAL	T.P.H.	TOILET PAPER HOLDER
DEPT.	DEPARTMENT	MEMB.	MEMBRANE	T.O.	TOP OF PAVEMENT
DET.	DETAIL	MEZZ.	MEZZANINE	TV	TELEVISION
DBL.	DRINKING FOUNTAIN	MFR.	MANUFACTURE(ER)	T.W.	TOP OF WALL
D.F.	DOUGLAS FIR	MIN.	MINIMUM	TYP.	TYPICAL
D.G.	DECOMPOSED GRANITE	MIR.	MIRROR		
D.H.	DOUBLE HUNG	MISC.	MISCELLANEOUS	U/L	UNDERWRITER'S LABORATORY
DIAG.	DIAGONAL	MLDG.	MOLDING/MOULDING	U.N.O.	UNLESS NOTED OTHERWISE
DIA.	DIAMETER	M.I.W.	MALLEABLE IRON WASHER	U.O.N.	UNLESS OTHERWISE NOTED
DIMEN.	DIMENSION	M.O.	MASONRY OPENING	UR.	URINAL
DISP.	DISPENSER/DISPOSER	MTD.	MOUNTED		
DN.	DOWN	MET.	METAL	V.I.F.	VERIFY IN FIELD
DR.	DOOR	MULL.	MULLION		
DRWG.	DRAWING			W.	WEST/WIDTH/WIDE
D.S.B.	DBL. STRENGTH B GRADE (GLASS)	N.	NORTH	W/	WITH
		(N)	NEW	W.C.	WATER CLOSET
D.S.	DOWNSPOUT	NAT.	NATURAL	WD.	WOOD
DWR.	DRAWER	N.I.C.	NOT IN CONTRACT	WDW.	WINDOW
D.W.	DISH WASHER	NOM.	NOMINAL	W.H.	WATER HEATER
		N.T.S.	NOT TO SCALE	WI	WOODWORK INSTITUTE
E.	EAST			W/O	WITHOUT
EA.	EACH	O/	OVER	W.P.	WATERPROOF(ING)
E.J.	EXPANSION JOINT	OBS.	OBSCURE	W.R.	WATER RESISTANT
ELEV.	ELEVATION, ELEVATOR	O.C.	ON CENTER(S)	W.S.	WOOD SCREW
ELEC.	ELECTRIC(AL)	O.D.	OUTSIDE DIAMETER	WSCT.	WAINSCOT
EMER.	EMERGENCY	OFF.	OFFICE	WT.	WEIGHT
ENCL.	ENCLOSURE	OFCI.	OWNER FURNISHED, CONTRACTOR INSTALLED	W.W.M.	WELDED WIRE MESH
EQUIP.	EQUIPMENT N.I.C. W/ WITH				
EWC.	ELECTRIC WATER COOLER	OFOI.	OWNER FURNISHED, OWNER INSTALLED		
(E)	EXISTING				
EXH.	EXHAUST	O.H.	OVER HANG		
EXP.	EXPOSED/EXPANSION	O.H.M.S.	OVALHEAD MACHINE SCREW		
EXT.	EXTERIOR	O.H.W.S.	OVALHEAD WOOD SCREW		
		OPNG.	OPENING		
F.A.	FIRE ALARM	OPP.	OPPOSITE		
FAST.	FASTEN(ER)				
F.A.	FLAT BAR	P.A.F.	POWDER ACTUATED FASTENER		
F.D.	FLOOR DRAIN	P.B.	PANIC BAR		
FEC.	FIRE EXTINGUISHER CABINET	PART. TBD.	PARTICLE BOARD		
F.F.	FINISH FLOOR	PCF.	POUNDS PER CUBIC FOOT		
F.G.	FINISH GRADE	P.D.	POWDER DRIVEN		
FND.	FOUNDATION	P.G.	PAINT GRADE		
F.E.	FIRE EXTINGUISHER	PERF.	PERFORATE		
F.	FIBERGLASS	PLF.	POUNDS PER LINEAR FOOT		
FIN.	FINISH(ED)	PLAS. LAM.	PLASTIC LAMINATE		
F.H.M.S.	FLATHEAD MECHANICAL SCREW	PLAS.	PLASTER		
		PLYWD.	PLYWOOD		
F.H.W.S.	FLATHEAD WOOD SCREW	PR.	PAIR		

LEGEND

- EARTH
- ROCK
- SAND, MORTAR, PLASTER
- CONCRETE BLOCK
- CAST-IN-PLACE (C.I.P.) CONCRETE
- (E) STUD WALL
- (N) STUD WALL
- (E) STUD WALL TO BE REMOVED
- SOUND INSULATED STUD WALL
- METAL
- WOOD FINISH
- WOOD FRAMING CONTINUOUS MEMBER
- WOOD BLOCKING
- PLYWOOD
- GYPSUM WALLBOARD
- A.C. PAVING

SYMBOLS

- XXX — DOOR SYMBOL
- XX — WINDOW SYMBOL
- X — KEY TAG
- XX — DEMOLITION TAG
- MATCH LINE
- WORK POINT, DATUM POINT OR CONTROL
- XX — VERTICAL OR HORIZONTAL DIAPHRAGM KEY
- SECTION
  - X — SECTION IDENTIFICATION
  - A/X.X — SHEET WHERE SECTION IS DRAWN
- DETAIL
  - X — DETAIL IDENTIFICATION
  - A/X.X — SHEET WHERE DETAIL IS DRAWN
- FINISH GRADE (SPOT)
  - +XXX.X — ELEVATION
  - +XXX.X — SURFACE
- EXISTING GRADE (SPOT)
  - +XXX.X — ELEVATION
  - +XXX.X — SURFACE
- PROPERTY LINE
- REVISION
  - 1 — A

PROJECT TEAM

OWNER
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
5 Harris Court
Monterey, CA 93940

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Email: stanner@pueblo-water.com
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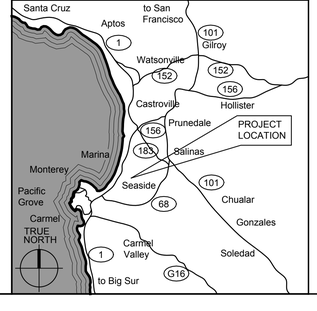
LOCATION MAP



PROJECT INFORMATION

APPLICABLE BUILDING CODES & STANDARDS

2016 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (C.C.R.)

2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.

2016 CALIFORNIA RESIDENTIAL CODE (CRC), PART 2.5, TITLE 24 C.C.R.

2016 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.

2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.

2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.

2016 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.

2016 CALIFORNIA HISTORICAL BUILDING CODE (CHC), PART 8, TITLE 24 C.C.R.

2016 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 C.C.R.

2016 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 C.C.R.

2016 CALIFORNIA GREEN STANDARDS CODE (CALGreen), PART 11, TITLE 24 C.C.R.

2016 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 C.C.R.

TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

PARTIAL LIST OF APPLICABLE STATE STANDARDS

NFPA 13, AUTOMATIC SPRINKLER SYSTEMS, (CA AMENDED) 2016 EDITION

NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE, (CA AMENDED) 2016 EDITION

SHEET INDEX

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2340 GARDEN ROAD, SUITE 100
MONTEREY, CALIFORNIA 93940
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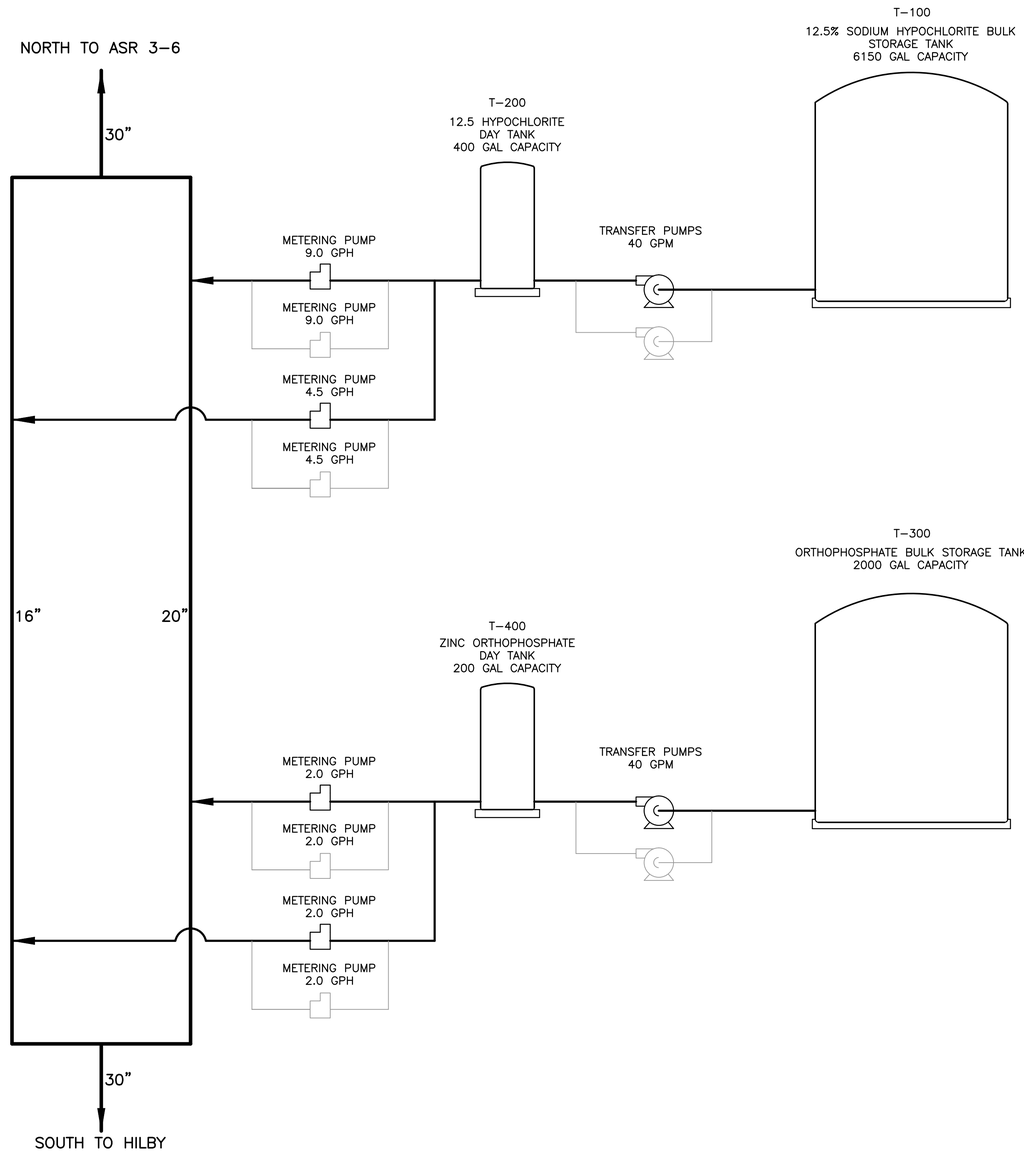
MPWMD SANTA MARGARITA ASR FACILITY
CHLORINATION BUILDING
1910 GENERAL JIM MOORE BLVD.
SEASIDE, CA

JOB NO.: 18014.2
PRINT DATE:
PLOT DATE: 8.2.2019
CHECKED BY: -
SET ISSUED:
60% DESIGN REVIEW 5/17/19
100% DESIGN REVIEW 6/25/19
ISSUED FOR BID 8/5/19

SHEET NAME: COVER SHEET

SHEET NO.: G1

FILE NAME: 18014.2 A001



FLOW SCHEMATIC
NTS

12.5% Sodium Hypochlorite Dosing Chart

Facility Flow (MGD)	3.3	4.3	6.6	8.6	9.8	12.9
16" Flow (gpm)	2300	3000	0	0	2300	3000
20" Flow (gpm)	0	0	4600	6000	4600	6000
12.5% Hypo feed @ 1.5 mg/L (GPH)	1.4	1.9	2.9	3.8	4.3	5.6
12.5% Hypo feed @ 3.0 mg/L (GPH)	2.9	3.8	5.8	7.5	8.6	11.3
12.5% Hypo feed @ 4.5 mg/L (GPH)	4.3	5.6	8.6	11.3	12.9	16.9

29% Orthophosphate (Carus 4500) Dosing Chart

Facility Flow (MGD)	3.3	4.3	6.6	8.6	9.8	12.9
16" Flow (gpm)	2300	3000	0	0	2300	3000
20" Flow (gpm)	0	0	4600	6000	4600	6000
Orthophosphate feed @ 1.5 mg/L (GPH)	0.54	0.71	1.1	1.4	1.6	2.1
Orthophosphate feed @ 2.5 mg/L (GPH)	0.90	1.2	1.8	2.3	2.7	3.5

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06-30-20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

REV	DATE	BY	DESCRIPTION
	08-05-19		ISSUED FOR BID

SCALE:
HOR. N/A
VER. N/A

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED SPT
DRAWN TLA/FH
CHECKED SPT

MAC Design Associates
CIVIL ENGINEERING * LAND PLANNING * BRIDGE DESIGN
1933 CLIFF DRIVE, SUITE 6, SANTA BARBARA, CALIF. 93109 (805) 957-4748

PUEBLO water resources
Pueblo Water Resources
4478 Market St., Suite 705
Ventura, CA 93003
(805) 644-0470

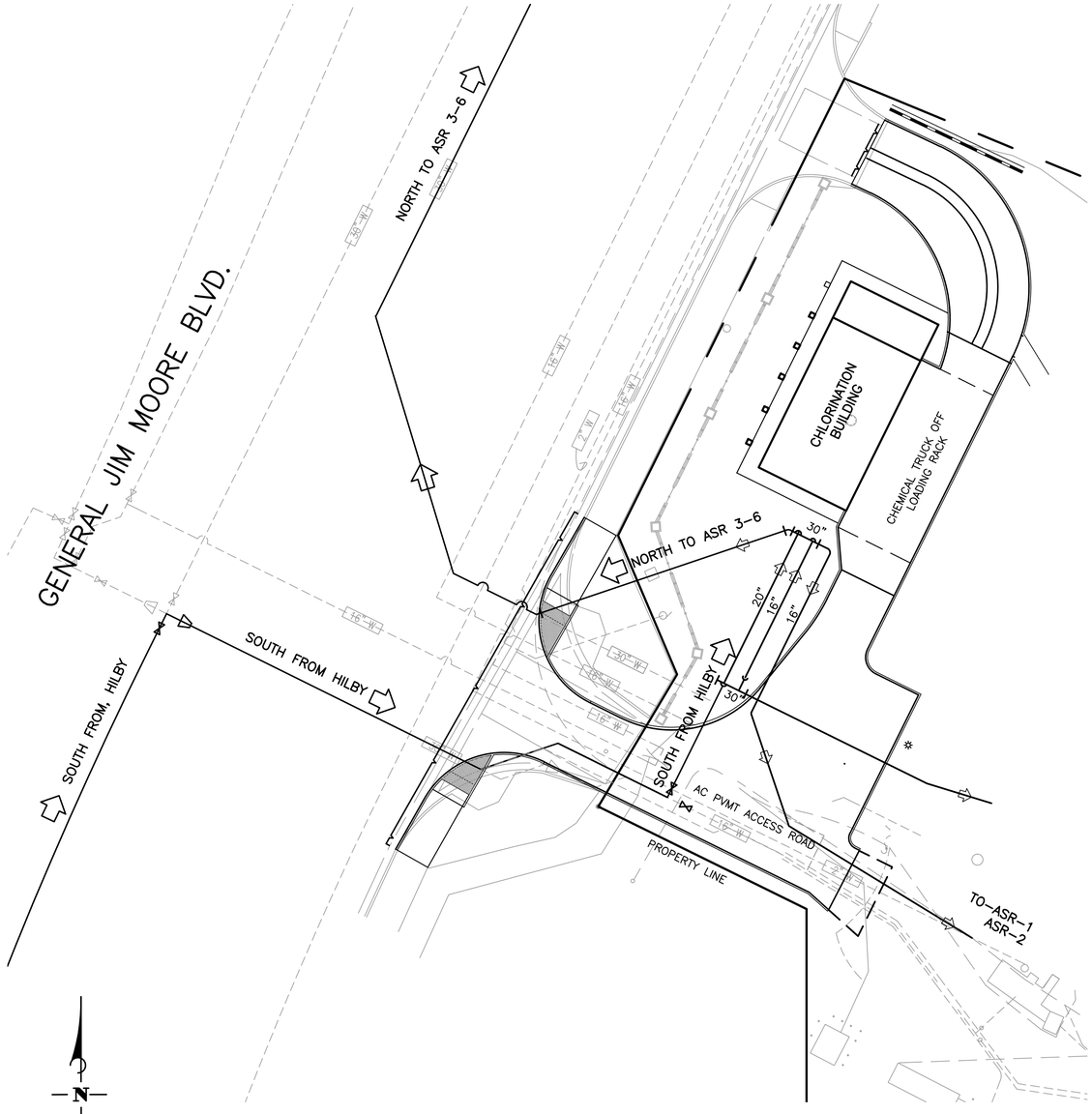
CHEMICAL DOSING SUMMARY

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

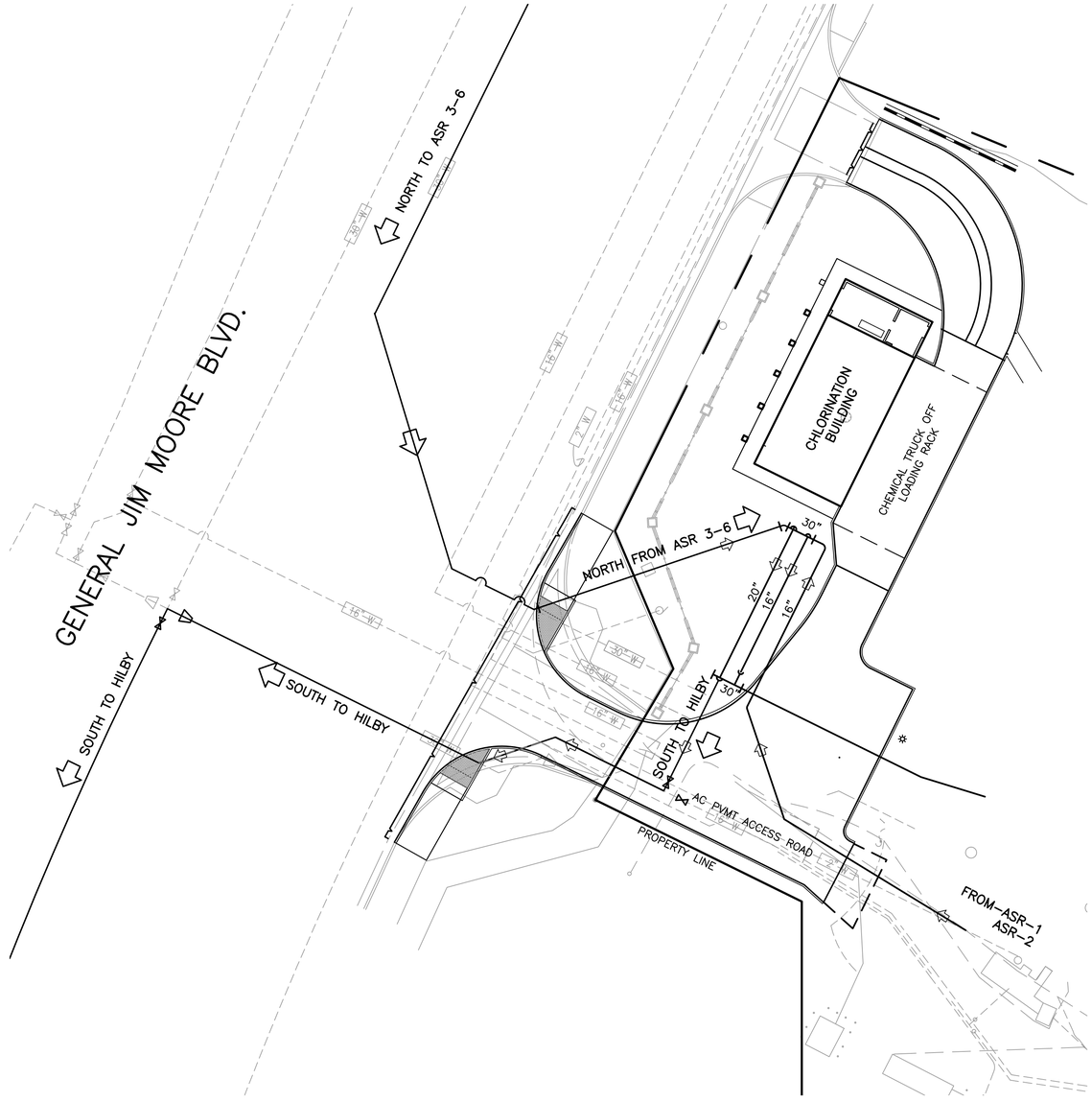
G2

0451G.DWG 05/20/19 08:50:21 AM PDT



INJECTION PERIOD DECEMBER–MAY

SCALE: 1"=20'



RECOVERY PERIOD JULY–NOVEMBER

SCALE: 1"=20'

LEGEND

CHLORINATED WATER _____

RAW/UNCHLORINATED/ DECHLORINATED WATER _____

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06-30-20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

UNAUTHORIZED CHANGES & USES CAUTION:
The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

REV	DATE	BY	DESCRIPTION
	08-05-19		ISSUED FOR BID

SCALE:
HOR. N/A
VER. N/A

WARNING
0 1/2 1
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DESIGNED SPT
DRAWN TLA/FH
CHECKED SPT

MAC Design Associates
CIVIL ENGINEERING * LAND PLANNING * BRIDGE DESIGN
1933 CLIFF DRIVE, SUITE 6, SANTA BARBARA, CALIF. 93109 (805) 957-4748

PUEBLO water resources
Pueblo Water Resources
4478 Market St., Suite 705
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SEASONAL FLOW PATTERN
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

G3

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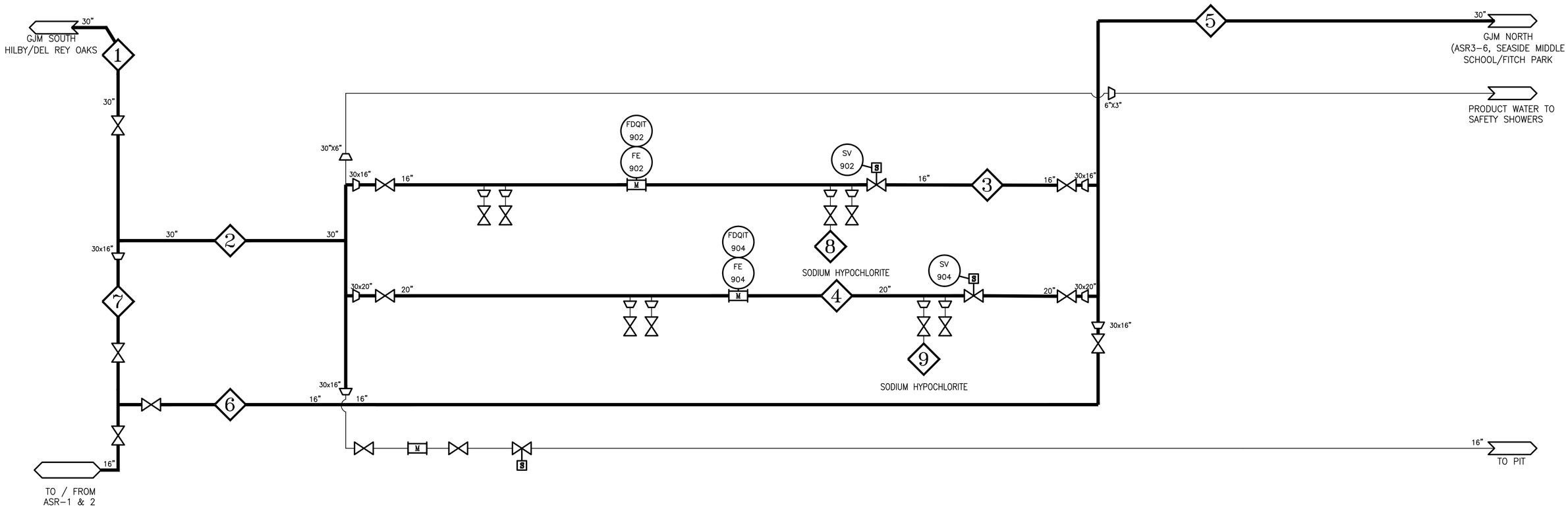

CASE 1: AECOM 9.8 MGD WELL PRODUCTION; N0 CHLORINATION @ FITCH PARK

CASE	INJECTION (DEC/MAY)									PRODUCTION: SM ONLY									PRODUCTION:SM + SMS									PRODUCTION:SM + SMS + FP									CASE
ITEM/STREAM	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	ITEM/STREAM
FLOW, MGD	12.9	8.6	3.3	5.3	8.6	0.0	4.3			3.3	3.3	3.3	0.0	0.0	3.3	0.0			6.6	6.6	0.0	6.6	3.3	3.3	0.0			9.8	9.8	3.3	6.6	6.6	3.3	0.0			FLOW, MGD
FLOW, GPMx100	90.0	60.0	23.0	37.0	60.0	0.0	30.0			23.0	23.0	23.0	0.0	0.0	23.0	0.0			46.0	46.0	0.0	46.0	23.0	23.0	0.0			68.0	68.0	23.0	46.0	46.0	23.0	0.0			FLOW, GPM x 100
VELOCITY, FT/SEC.	4.4	2.9	4.3	4.3	2.9	0.0	5.5			1.1	1.1	4.1	0.0	0.0	4.1	0.0			2.2	2.2	0.0	5.1	1.1	4.1	0.0			3.3	3.3	4.1	5.1	2.2	4.1	0.0			VELOCITY, FT/SEC.
NAOCL FEED, GPH								0.0	0.0								2.8	0.0								2.8	5.7								2.8	5.7	NAOCL FEED, GPH
NAOCL FEED, GPD								0	0								69	0								69	138								69	138	NAOCL FEED, GPD
NAOCL FEED, mg/L								0.0	0.0								3.0	0.0								0.0	3.0								3.0	3.0	NAOCL FEED, mg/L
CL RESIDUAL, mg/L	1.5	1.5	1.5	1.5	1.5	0.0	1.5			1.5	1.5	1.5	0.0	0.0	0.0				1.5	1.5		1.5	0.0	0.0				1.5	1.5	1.5	1.5	0.0	0.0				CL RESIDUAL, mg/L

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06–30–20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

REV	DATE	BY	DESCRIPTION
	08–05–19		ISSUED FOR BID
D	5/17/2019	SPT	60% DESIGN REVIEW

SCALE:
HOR. 1"=1"
VER. 1"=1"

WARNING
0 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED SPT
DRAWN WNS
CHECKED SPT

PUEBLO water resources

Pueblo Water Resources
4478 Market St., Suite 705
Ventura, CA 93003
(805) 644-0470

PROCESS FLOW DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION STATION
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.

G4

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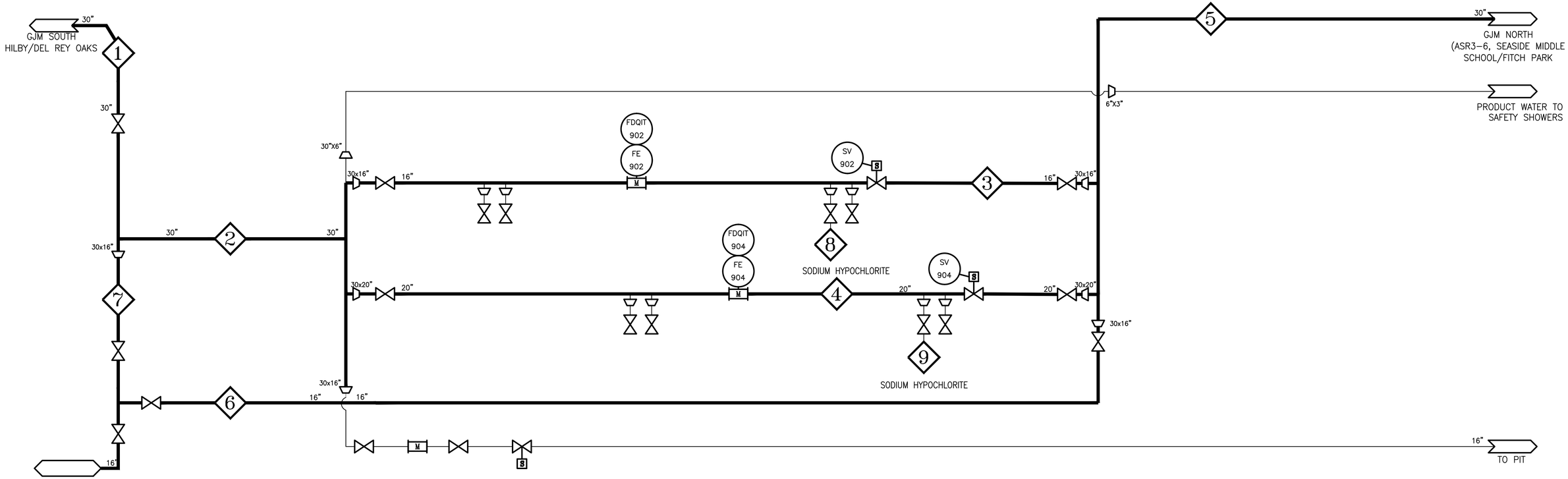

MAXIUMUM CASE 12.9 MGD (3,000 GPM / WELL; NO CHLORINATION @ FITCH PARK)

CASE	INJECTION (DEC/MAY)									PRODUCTION: SM ONLY									PRODUCTION:SM + SMS									PRODUCTION:SM + SMS + FP									CASE
ITEM/STREAM	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	ITEM/STREAM
FLOW, MGD	12.9	8.6	3.3	5.3	8.6	0.0	4.3			4.3	4.3	4.3	0.0	0.0	4.3	0.0			8.6	8.6	0.0	8.6	4.3	4.3	0.0			12.9	12.9	4.3	8.6	8.6	4.3	0.0			FLOW, MGD
FLOW, GPMx100	90.0	60.0	23.0	37.0	60.0	0.0	30.0			30.0	30.0	30.0	0.0	0.0	30.0	0.0			60.0	60.0	0.0	60.0	30.0	30.0	0.0			90.0	90.0	30.0	60.0	60.0	30.0	0.0			FLOW, GPM x 100
VELOCITY, FT/SEC.	4.4	2.9	4.3	4.3	2.9	0.0	5.5			1.5	1.5	5.5	0.0	0.0	5.5	0.0			2.9	2.9	0.0	6.8	1.5	5.5	0.0			4.4	4.4	5.5	6.8	2.9	5.5	0.0			VELOCITY, FT/SEC.
NAOCL FEED, GPH								0.0	0.0								3.8	0.0								0.0	7.5								3.8	7.5	NAOCL FEED, GPH
NAOCL FEED, GPD								0	0								90	0								0	180								90	180	NAOCL FEED, GPD
NAOCL FEED, mg/L								0.0	0.0								3.0	0.0								0.0	3.0								3.0	3.0	NAOCL FEED, mg/L
CL RESIDUAL, mg/L	1.5	1.5	1.5	1.5	1.5	0.0	1.5			1.5	1.5	1.5	0.0	0.0	0.0	0.0			1.5	1.5	0.0	1.5	0.0	0.0	0.0			1.5	1.5	1.5	1.5	0.0	0.0	0.0			CL RESIDUAL, mg/L

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06-30-20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

REV	DATE	BY	DESCRIPTION
	08-05-19		ISSUED FOR BID
D	5/17/2019	SPT	60% DESIGN REVIEW

SCALE:
HOR. 1"=1"
VER. 1"=1"

WARNING
0 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED SPT
DRAWN WNS
CHECKED SPT

PUEBLO water resources

Pueblo Water Resources
4478 Market St., Suite 705
Ventura, CA 93003
(805) 644-0470

PROCESS FLOW DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION STATION
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
G5

0451G.DWG 05/20/19 08:50:21 AM PDT

GENERAL NOTES

1. ALL STATIONING & DISTANCES INDICATED ON THE DRAWINGS ARE BASED ON HORIZONTAL MEASUREMENTS IN FEET.
2. THE CONTRACTOR SHALL NOTIFY THE MPWMD AND CALIFORNIA AMERICAN WATER REPRESENTATIVES AT LEAST 2 WORKING DAYS IN ADVANCE OF ANY WORK WHICH WILL REQUIRE THE INSPECTION SERVICES.
3. "OWNER" SHALL MEAN THE MONTEREY PENINSULA WATER MANAGEMENT DISTRICT (MPWMD), 5 HARRIS COURT BUILDING G, MONTEREY, CA. 94940. MPWMD SHALL REFER TO MPWMD OR MPWMD PEPRESENTATIVE. "UTILITY" SHALL MEAN CALIFORNIA AMERICAN WATER COMPANY. "ENGINEER" IS THE MPWMD PROJECT ENGINEER, PUEBLO WATER RESOURCES.
4. AT LEAST 2 WORKING DAYS PRIOR TO ANY EXCAVATION WORK THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT AT 1-800-642-2444 FOR LOCATING AND MARKING UNDERGROUND UTILITIES IN THE AREAS OF WORK.
5. THE EXISTING UTILITIES SHOWN AND INDICATED ON THE DRAWINGS ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY, AND ARE BASED ON AVAILABLE UTILITY INFORMATION PROVIDED BY THE UTILITY OWNER AND SELECTED FIELD LOCATING. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR VERIFICATION OF EXISTING UNDERGROUND UTILITIES, WHETHER INDICATED OR NOT ON THE DRAWINGS, PRIOR TO ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL PROTECT ALL EXISTING OR NEWLY PLACED UTILITY STRUCTURES AND LINES FROM DAMAGE OR DISRUPTION OF SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE NECESSARY TEMPORARY UTILITY SERVICES AND SHALL RESTORE PERMANENT UTILITY SERVICES DISRUPTED BY CONSTRUCTION ACTIVITY.
6. THE CONTRACTOR SHALL EXPOSE ALL EXISTING UTILITY LINES AT LEAST ONE WORKING DAY AHEAD OF PIPE LAYING OPERATION TO VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES. ANY CONFLICTS WILL BE RESOLVED BY THE MPWMD REPRESENTATIVE PRIOR TO PIPE INSTALLATION. IF ANY UNDERGROUND UTILITIES ARE DISCOVERED, THE CONTRACTOR SHALL SUBMIT ACCURATE STAMPED, SIGNED AND DATED DOCUMENTS DESCRIBING THE QUANTITY, SIZE, LOCATION, DEPTH, AND TYPE OF MATERIAL OF FOUND BURIED UTILITIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING FOR THE PRESENCE OF CONTAMINATED SOIL AND/OR GROUNDWATER DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE MPWMD REPRESENTATIVE IF ANY SUSPECT MATERIALS ARE ENCOUNTERED. CONTACT SHALL BE MADE IMMEDIATELY BY TELEPHONE, WITH WRITTEN NOTIFICATION WITHIN 3 WORKING DAYS.
8. ALL TRENCHING OPERATIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 8 (CAL/OSHA).
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE ON OR OFF THE PROJECT SITE AS A RESULT OF CONSTRUCTION ACTIVITIES INCLUDING THE LACK OF DUST CONTROL AND TRAFFIC CONTROL.
10. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL CERTIFY THAT ALL WORK WAS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. VARIATIONS SHALL BE DECLARED AND PRESENTED TO THE MPWMD IN WRITING UPON COMPLETION OF CONSTRUCTION, IN THE FORM OF MARKED UP PLANS SHOWING ALL CHANGES.
11. THE ENGINEER AND/OR THE MPWMD REPRESENTATIVE WILL NOT DIRECTLY CONTROL THE PHYSICAL ACTIVITIES OF THE CONTRACTOR OR ANY SUBCONTRACTORS. CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR WORKING CONDITIONS ON THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
12. THE CONTRACTOR SHALL VERIFY WORK IN FIELD AND SHALL SATISFY HIMSELF AS TO THE ACCURACY BETWEEN WORK SET FORTH ON THESE PLANS AND THE WORK REQUIRED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE MPWMD REPRESENTATIVE PRIOR TO THE START OF CONSTRUCTION.
13. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE PROJECT ENGINEER FOR APPROVAL AND SHALL COORDINATE ALL WORK TO ALLOW VEHICLE ACCESS TO RESIDENCES AND/OR BUSINESSES NEAR THE PROJECT AREA. EXCEPT WHEN A LANE CLOSURE IS IN EFFECT IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED TRAFFIC CONTROL PLAN, NO VEHICLES, EQUIPMENT OR MACHINERY ARE ALLOWED TO PARK ON THE SHOULDER OF GENERAL JIM MOORE BOULEVARD AT ANY TIME.
14. ANY AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO ORIGINAL CONDITIONS AND HYDROSEEDED SO AS TO RESTORE NATURAL GROWTH, THIS INCLUDES ALL CUT OR FILL SLOPES. HYDROSEED MUST BE NATIVE MIX IN ACCORDANCE WITH REQUIREMENTS ON THE FORMER FORT ORD. A LAYER OF CRETIFIED WEED FREE MULCH, WEED FREE RICE, STERILE BARLEY STRAW, OR OTHER SIMILAR FUNCTIONING PRODUCT SHALL BE INSTALLED FOR EROSION CONTROL. CLEARED DELETERIOUS MATERIAL MUST BE WOODCHIPPED AND USED ON THE SITE AS MULCH.
15. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TEMPORARY CONSTRUCTION WATER APPLICATION FOR WATER USE AND METERING FROM MARINA COAST WATER DISTRICT PHONE NUMBER IS (831) 384-6131.
16. CONSTRUCTION SHALL COMPLY WITH THE STANDARD PLANS AND STANDARD SPECIFICATIONS OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION, STATE OF CALIFORNIA LATEST EDITION, AND THE LATEST EDITION OF THE CITY OF SEASIDE STANDARD DETAILS AS NOTED ON THE CONSTRUCTION PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING COPIES OF SAID DOCUMENTS AND SHALL HAVE THEM AVAILABLE ON THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
17. WATER LINES, VALVES, AND WATER APPURTENANCES SHALL CONFORM TO THE LATEST STANDARD SPECIFICATIONS AND STANDARD PLANS OF THE CALIFORNIA AMERICAN WATER COMPANY.
18. ALL CONCRETE, REGARDLESS OF USE, SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.
19. ALL EARTHWORK AND FOUNDATION CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE GEOTECHNICAL INVESTIGATION. CONTACT THE GEOTECHNICAL ENGINEER AT LEAST 48 HOURS PRIOR TO REQUESTING ON-SITE OBSERVATION OR TESTING SERVICES.
20. THE CONTRACTOR'S WORK SHALL CONFORM TO THE CITY OF SEASIDE'S ORDNANCE ORDINANCE REGARDING MUNITIONS & EXPLOSIVES OF CONCERN (MEC).
21. ELECTRICAL AND/OR COMMUNICATIONS CONDUITS SHALL BE NONMETALLIC SCHEDULE 40 P.V.C. PLASTIC RATED 90° C WITH GLUE ON P.V.C. COUPLINGS AND FACTORY MADE ELBOWS AND SWEEPS: CARLON "PLUS40".
22. CONTRACTOR SHALL ENSURE THAT SITE SECURITY IS MAINTAINED THROUGHOUT CONSTRUCTION, AT A LEVEL EQUAL TO OR GREATER THAN PRECONSTRUCTION SITE CONDITIONS. SITE SECURITY SHALL INCLUDE TEMPORARY FENCING, GATES, AND ANY OTHER MEANS NEEDED TO PREVENT UNAUTHORIZED ACCESS TO SITE AT ALL TIMES, WHETHER DURING ACTIVE CONSTRUCTION OR IDLE/NON-WORKING HOURS. CONTRACTOR'S RESPONSIBILITY FOR MAINTAINING EFFECTIVE SITE SECURITY SHALL COMMENCE ON THE DAY OF NOTICE TO PROCEED THROUGH NOTICE OF COMPLETION.

THE CONTRACTOR'S WORK SHALL CONFORM TO THE CITY OF SEASIDE'S ORDNANCE REGARDING MUNITIONS & EXPLOSIVES OF CONCERN (MEC), FORT ORD REUSE AUTHORITY RIGHT OF ENTRY, AND THE ASR ENVIRONMENTAL MITIGATION AND REPORTING PROGRAM

GRADING AND PAVING NOTES

1. ALL WORK SHALL BE IN CONFORMANCE WITH THE FOLLOWING:
   (A) PROJECT PLANS AND SPECIFICATIONS
   (B) STANDARD SPECIFICATIONS AND STANDARD DETAILS, LATEST EDITION OF THE CITY OF SEASIDE.
   (C) APPLICABLE SECTIONS OF THE CALTRANS STANDARD SPECIFICATIONS, LATEST EDITION.
   (D) APPLICABLE SWPPP, NOI, AND NPDES REQUIREMENTS FOR THE PROJECT.
   (E) FORT ORD REUSE AUTHORITY RIGHT OF ENTRY, CITY OF SEASIDE DIGGING AND EXCAVATING ON THE FORMER FORT ORD PERMIT
   (F) AQUIFER STORAGE AND RECOVERY MITIGATION MONITORING PLAN
2. CONTRACTOR SHALL NOTIFY MPWMD, CAL-AM, & THE CITY OF SEASIDE AT LEAST TWO (2) WORKING DAYS BEFORE STARTING GRADING WORK.
3. WORK SHALL CONSIST OF ALL EARTHWORK RELATED TO THE SITE: ALL CLEARING, GRUBBING, STRIPPING, ROUGH GRADING, PREPARATION OF FOUNDATION AND MATERIALS FOR RECEIVING FILLS, EXCAVATION, IMPORT AND/OR EXPORT OF FILL, PROCESSING, PLACEMENT AND COMPACTION OF FILL MATERIALS, PLACEMENT OF SUBSURFACE DRAINS, PLACEMENT OF AGGREGATE BASE MATERIAL, ASPHALT CONCRETE (AC) AND/OR PORTLAND CEMENT CONCRETE (PCC) PAVING, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING AND PAVING TO CONFORM TO THE LINES, GRADES AND SLOPES, AS SHOWN ON THESE PLANS.
4. SITE CONDITIONS: THE CONTRACTOR SHALL VISIT THE SITE, EXAMINE AND NOTE ALL CONDITIONS AS TO THE CHARACTER AND EXTENT OF WORK INVOLVED.
5. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS OR CERTIFICATES AS REQUIRED BY THE CITY.
6. ALL EARTHWORK SHALL BE CONSTRUCTED PER THE GRADING SPECIFICATIONS IN THE GEOTECHNICAL REPORT. DUE TO NEIGHBOR CONCERNS, VIBRATORY COMPACTION EQUIPMENT MAY NOT BE USED ON THE SITE.
7. BACKFILL FOR UNDERGROUND UTILITIES PLACED ON THE SITE SHALL CONSIST OF CLEAN SAND MATERIAL (MINIMUM S.E. = 30) TO A MINIMUM OF 12 INCHES OVER THE CONDUIT, UNLESS SHOWN OTHERWISE ON THE PLAN. BACKFILL FOR UNDERGROUND UTILITIES PLACED IN EXISTING STREETS SHALL CONSIST OF CLEAN, SAND MATERIAL (MINIMUM S.E. = 30) AND MEETING THE REQUIREMENTS OF SECTION 19-3.06C(1) FOR THE FULL TRENCH DEPTH TO THE PAVEMENT SUBGRADE, UNLESS SHOWN OTHERWISE ON THE PLAN. A SAMPLE SHALL BE SUBMITTED FOUR (4) DAYS BEFORE INTENDED USE, FOR REVIEW BY THE ENGINEER. AS APPROVED BY THE ENGINEER SITE SAND MAY BE USED AS BACKFILL FOR UTILITIES. BACKFILL WITHIN THE UTILITY TRENCHES SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90% OR 95% DEPENDING UPON THE LOCATION AND BASED UPON THE ASTM TEST DESIGNATIONS D1557, D1556 AND D2992. THE ENGINEER WILL DETERMINE THE LOCATIONS WHERE 95% COMPACTION IS REQUIRED.
8. AT ALL TIMES DURING CONSTRUCTION AND UNTIL FINAL COMPLETION, THE CONTRACTOR'S SUBCONTRACTORS ARE OPERATING EQUIPMENT ON THE SITE, SHALL PREVENT THE FORMATION OF AN AIRBORNE DUST NUISANCE BY WATERING AND/OR TREATING THE SITE OF THE WORK IN SUCH A MANNER THAT WILL CONFINE DUST PARTICLES TO THE IMMEDIATE SURFACE OF THE WORK. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE DONE BY THE DUST FROM HIS OR HER SUBCONTRACTOR'S ACTIVITIES IN PERFORMING THE WORK UNDER THIS CONTRACT. THE PRICES FOR THE VARIOUS ITEMS OF WORK SHALL COVER THIS DUST CONTROL.
9. ALL AGGREGATE SUBBASE AND AGGREGATE BASE MATERIAL AND THE HANDLING AND PLACEMENT THEREOF, SHALL BE IN CONFORMANCE WITH CALTRANS STANDARD SPECIFICATIONS. AGGREGATE SUBBASE SHALL BE CLASS 1. AGGREGATE BASE SHALL BE CLASS 2. (RECLAIMED MATERIAL IS NOT APPROVED FOR USE IN THE CITY). COMPACT TO A MINIMUM OF 95% RELATIVE COMPACTION.
10. A PRIME COAT OF LIQUID ASPHALT, GRADE MC-70, CONFORMING TO CALTRANS STANDARD SPECIFICATIONS, MAY BE APPLIED AT THE APPROXIMATE TOTAL RATE OF 0.25+ GALLONS PER SQUARE YARD TO THE SURFACE OF AGGREGATE BASE PRIOR TO PLACEMENT OF ASPHALT CONCRETE, IF THERE IS TO BE DELAY IN PLACING THE ASPHALT CONCRETE PAVEMENT.
11. ASPHALT CONCRETE (AC) SHALL CONSIST OF A MIXTURE OF SAND, MINERAL AGGREGATE, AND LIQUID ASPHALT, DESIGNATED AS CALTRANS STANDARD SPECIFICATIONS, TYPE B, 1/2" MAXIMUM, MEDIUM GRADING. MIXED IN SUCH PROPORTIONS THAT THE PERCENTAGE BY WEIGHT WILL BE WITHIN:

SIEVE SIZES	OPERATING RANGE (% PASSING)
3/4"	100%
1/2"	95%
3/8"	80-95%
NO.4	59-66%
NO.8	43-49%
NO.30	22-27%
NO.200	3-8%

PLUS PAVING ASPHALT, VISCOSITY GRADE AR4000 AT 5 TO 6-1/2% OF THE COMBINED DRY AGGREGATES.

ACTUAL MIX DESIGN SHALL BE SUBMITTED TO THE OWNER'S CIVIL ENGINEER FOR APPROVAL AT LEAST 10 WORKING DAYS PRIOR TO STARTING ANY PAVING WORK.

12. PAINT BINDER OF ASPHALT EMULSION, GRADE CRS-1, CONFORMING TO CALTRANS STANDARD SPECIFICATIONS, SHALL BE APPLIED TO EXISTING ASPHALT CONCRETE SURFACES AND VERTICAL CONCRETE SURFACES TO RECEIVE ASPHALT CONCRETE.
13. MATERIALS AND INSTALLATION OF PORTLAND CEMENT CONCRETE CURB, GUTTER AND SIDEWALK SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CALTRANS STANDARD SPECIFICATIONS AND THE CITY STANDARD SPECIFICATIONS AND DETAILS.
14. EXISTING A.C. SURFACE SHALL BE SAW CUT TO A NEAT STRAIGHT LINE PARALLEL WITH THE STREET CENTERLINE AND THE EXPOSED EDGE SHALL BE TACKED WITH EMULSION PRIOR TO PAVING. WHEN TRENCHING THROUGH CURB, GUTTER AND SIDEWALK. A SAW CUT WILL BE USED. WHERE EXISTING PAVEMENT IS TRENCHED, REPLACE WITH 4" THICK HMA-3/4" MEDIUM MIX OVER 12" THICK A.B. OR MATCH EXISTING SECTION, WHICHEVER IS GREATER. THE EXPOSED BASE MATERIAL SHALL BE GRADED, RECOMPACTED AND RESEALED PRIOR TO REPAVING. CONFORM SHALL BE MINIMUM WIDTH OF 2'. TRENCH SECTION AND PAVEMENT RESTORATION SHALL BE IN ACCORDANCE WITH CITY OF SEASIDE STANDARD S-601. STRIPING AND ROAD MARKERS THAT HAVE BEEN REMOVED SHALL BE REPLACED PER CITY STANDARDS.
15. ALL VALVE BOXES AND MANHOLES TO BE SET FLUSH WITH FINISHED GRADE, UNLESS OTHERWISE NOTED.
16. APPROVAL OF THE CITY ENGINEER OR HIS AUTHORIZED REPRESENTATIVE, IS REQUIRED ON COMPLETED WORK PRIOR TO (A) PLACING OF ANY CONCRETE, (B) PLACING OF AGGREGATE BASE, (C) PLACING OF ASPHALTIC CONCRETE, (D) BACK FILLING TRENCHES FOR PIPE. WORK DONE WITHOUT SUCH APPROVAL, SHALL BE AT THE CONTRACTOR'S RISK. SUCH APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PERFORMING THE WORK IN AN ACCEPTABLE MANNER. REVIEW MAY INCLUDE SURVEY OF SUBBASE, BASE, AND AC/PCC FINISHED GRADE TO VERIFY GRADES.

   GRADING TOLERANCES SHALL BE AS FOLLOWS:

AREA	TOLERANCE
CURB & GUTTER	0.01 FEET
PAVEMENT	0.02 FEET
BASE OR SUBBASE	0.05 FEET

17. PRIOR TO PERFORMING THE FINAL GRADING AND SUB-GRADE COMPACTION FOR THE PAVED AREAS, THE CONTRACTOR SHALL REVIEW THE PROPOSED GRADES WITH THE MPWMD'S ENGINEER AND COMPLY WITH HIS REQUESTS FOR ANY MINOR GRADE CHANGES.
18. NOT USED
19. PAVEMENT MARKERS SHALL CONFORM TO SECTION 85 OF THE CALTRANS STANDARD SPECIFICATIONS AND THE SUPPLEMENTARY CONDITIONS.
20. ALL GRADING SHALL CONFORM TO APPROVED SPECIFICATIONS PRESENTED HEREON OR ATTACHED HERETO IN THE SPECIAL PROVISIONS. ALL GRADING WORK SHALL BE OBSERVED AND APPROVED BY THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL BE NOTIFIED AT LEAST TWO (2) WORKING DAYS BEFORE BEGINNING ANY GRADING. UNOBSERVED AND UNAPPROVED GRADING WORK SHALL BE REMOVED AND REPLACED UNDER OBSERVATION.
21. QUALITY ASSURANCE: FIELD OBSERVATION AND TESTING OF THE EARTHWORK CONSTRUCTION SHALL BE COORDINATED BY THE OWNER'S CIVIL ENGINEER. EARTHWORK THAT IN THE OPINION OF THE ENGINEER, DOES NOT CONFORM TO THE PLANS, SHALL BE REMOVED AND REPLACED OR REWORKED UNTIL, IN THE OPINION OF THE ENGINEER, SATISFACTORY EARTHWORK CONSTRUCTION HAS BEEN OBTAINED. REWORKING, OR REMOVAL AND REPLACEMENT OF EARTHWORK CONSTRUCTION AS DISCUSSED IN THIS PARAGRAPH SHALL BE AT THE SOLE EXPENSE OF THE CONTRACTOR.
22. CAPE SEAL SHALL BE INSTALLED PER CAL TRANS SPECIFICATIONS FOR "DOUBLE SEAL COAT" PER SECTION 37-1.

GENERAL WATER FACILITIES NOTES

1. CONTRACTOR REPRESENTATIVE. CONTRACTOR SHALL ASSIGN AND PROVIDE UTILITY WITH THE NAME AND CONTACT INFORMATION OF A REPRESENTATIVE (JOB FOREMAN) AT THE JOB SITE WHERE THE WORK WILL BE PERFORMED ON UTILITY FACILITIES. CONTRACTOR'S REPRESENTATIVE IS REQUIRED TO ATTEND ANY PRE-CONSTRUCTION WALK-THROUGH MEETINGS. CONTRACTOR REPRESENTATIVE IS REQUIRED TO BE ON THE JOBSITE DURING ALL PHASES OF WORK, INCLUDING INSPECTIONS, AND CONTRACTOR SHALL NOT REPLACE THE REPRESENTATIVE WITHOUT PRIOR APPROVAL FROM MPWMD.
2. IDENTIFICATION OF BURIED UTILITIES. BEFORE ANY WORK ON UNDERGROUND FACILITIES, CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) OR IDENTIFYING ANY BURIED UTILITIES NEAR THE WORK AREA. USA (PHONE 1-800-642-2444) MUST BE GIVEN A 48 HOUR ADVANCE NOTICE. MPWMD IS ONLY RESPONSIBLE FOR MARKING THOSE WATER FACILITIES OWNED BY MPWMD AND SHALL NOT BE RESPONSIBLE FOR MARKING NEW FACILITIES UNTIL MPWMD ACCEPTS OWNERSHIP. ANY CALLS TO THE MPWMD REGARDING SUCH FACILITIES WILL BE FORWARDED TO THE CONTRACTOR. ANY DAMAGES TO WATER FACILITIES TO BE OWNED BY MPWMD MUST BE REPORTED TO MPWMD IMMEDIATELY AND MPWMD MUST BE ALLOWED TO INSPECT THE APPROVED REPAIRS OR REPLACEMENTS.
3. INSPECTION NOTICES. WHEN APPLICABLE, CONTRACTOR SHALL GIVE UTILITY AND CITY OF SEASIDE INSPECTORS 48 HOURS NOTICE (MINIMUM) BEFORE SCHEDULING ANY MEETING OR STARTING CONSTRUCTION, AND 24 HOURS NOTICE (MINIMUM) FOR INSPECTION.
4. VERIFICATION OF DATA AND INFORMATION PROVIDED BY UTILITY. NOTICE IS HEREBY GIVEN TO THE CONTRACTOR THAT MPWMD HAS MADE ALL REASONABLE EFFORTS TO IDENTIFY THE TYPES, LOCATIONS, SIZES AND DEPTHS OF EXISTING OR PLANNED UNDERGROUND OR ABOVEGROUND UTILITIES, STRUCTURES, ROADS, PIPELINES, HARD ROCK, STRATA, TOPOGRAPHY, ETC. SUCH ITEMS, WHEN DEPICTED ON THE PLANS, HAVE BEEN OBTAINED FROM SOURCES OF VARYING RELIABILITY. THEREFORE, MPWMD AND ASSOCIATED COMPANIES CANNOT ASSUME RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF SAID INFORMATION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING FACILITIES BY POT-HOLING ALL PROXIMATE WATER LINES TO CONFIRM SIZE, DEPTH AND MATERIAL TYPE OF EXISTING FACILITIES. IN CASE OF CONFLICT/S, CONTRACTOR SHALL BRING THE MATTER TO THE ATTENTION OF UTILITY FOR RESOLUTION BEFORE CONTINUING WORK.
5. SURVEYING AND LOCATING. CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED SURVEYING AND STAKING, SHOWING THE LOCATION AND GRADES FOR WORK ON THE WATER SYSTEM. CONTRACTOR IS RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL SURVEY MONUMENTS AND STAKING WHETHER EXISTING OR DISCOVERED DURING CONSTRUCTION.
6. JOBSITE SAFETY. CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY CURRENTLY APPLICABLE SAFETY LAW OF ANY JURISDICTIONAL AGENCY. CONTRACTOR IS ALSO RESPONSIBLE FOR PROJECT SITE SAFETY AND FOR PUBLIC SAFETY INCLUDING TRAFFIC CONTROL, 24-HOURS PER DAY FOR ALL DAYS FROM THE NOTICE TO PROCEED THROUGH THE NOTICE OF COMPLETION.
7. PIPE AND FITTINGS. PIPING 12-INCH DIAMETER AND SMALLER SHALL BE AWWA C-900 CLASS 150 OR 200 PVC, UNLESS OTHERWISE NOTED (CLASS 200 PIPE IS REQUIRED WHEN WATER MAIN IS NEAR SEWERS). ALL FITTINGS SHALL BE DUCTILE IRON WITH CEMENT LINED INSIDE AND BITUMINOUS COATED OUTSIDE, WHICH SHALL BE PAINTED WITH POLYGUARD #14 MASTIC. CONTRACTOR SHALL PROVIDE PIPE AND FITTING MATERIALS SUBMITTAL TO MPWMD FOR APPROVAL BEFORE BEGINNING WORK.
8. FLANGED FITTINGS. ALL FLANGED FITTINGS SHALL BE BOLTED TOGETHER WITH ZINC COATED STEEL NUTS AND BOLTS, GRADE 5 OR BETTER.
9. MECHANICAL JOINTS. USE EBAA MECHANICAL JOINT MEGA-LUGS ON ALL MECHANICAL JOINT FITTINGS.
10. CONCRETE THRUST BLOCKS. THRUST BLOCKS SHALL BE INSTALLED WHERE PIPE DEFLECTIONS EXCEED 4 DEGREES PER COUPLING/FITTINGS, AS SPECIFIED BY PIPE MANUFACTURER. USE EBAA MECHANICAL JOINT MEGA-LUGS ON ALL MECHANICAL JOINT FITTINGS. USE EBAA SERIES 1600 PIPE RESTRAINTS IN LIEU OF CONC. THRUST BLOCKS. UTILITY ENGINEER TO ADVISE CONTRACTOR OF REQUIRED LENGTH OF PIPE TO BE RESTRAINED. CONCRETE THRUST BLOCKS TO BE USED IF RESTRAINTS CANNOT BE UTILIZED.
11. RETURNING PROPERTY TO ORIGINAL CONDITION. CONTRACTOR SHALL PHOTOGRAPH OR VIDEOTAPE JOB SITE AREA TO DOCUMENT EXISTING CONDITIONS BEFORE BEGINNING WORK TO MINIMIZE UNDUE CLAIMS. CONTRACTOR IS RESPONSIBLE TO RETURN ALL PROPERTY TO ORIGINAL OR BETTER CONDITION, INCLUDING TRAFFIC MARKINGS. ALL CLAIMS SHALL BE BORNE AND RESOLVED BY CONTRACTOR OR MPWMD SHALL ADDRESS SAID CLAIM AND MAY DEDUCT ANY COSTS FRO FINAL PAYMENT/RETENTION. A COPY OF THE CLAIM DOCUMENTS SHALL BE SUBMITTED TO MPWMD WITHIN 48 HOURS AFTER RECEIVING ANY SUCH CLAIMS.

LEGEND

16"W / EV	EXIST. WATER LINE EXIST. ELECT. VAULT	BLDG	BUILDING
	EXIST. WATER VALVE	C.L.	CENTERLINE
	EXIST. FENCE LINE	CONT	CONTINUOUS
	PROPERTY LINE	CTR	CENTER
	PROPOSED FENCE	CMP	CORRIGATED METAL PIPE
	PROPOSED RETAINING WALL	CMU	CEMENT MORTOR UNIT
		DIA.	DIAMETER
		DET	DETAIL
		ELEV	ELEVATION
		FLG	FLANGE
		STL	STEEL
		SHT	SHEET
		TF	TOP OF FOOTING
		TW	TOP OF WALL
		TYP	TYPICAL
		W	WATER

REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. CACCESE
No. 26887
EXPIRES 03-31-21
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

UNAUTHORIZED CHANGES & USES CAUTION:
The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

REV	DATE	BY	DESCRIPTION
	08-05-19		ISSUED FOR BID

SCALE: HOR. N/A VER. N/A

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED MAC
DRAWN FH/TLA
CHECKED SPT

MAC Design Associates
CIVIL ENGINEERING * LAND PLANNING * BRIDGE DESIGN
1933 CLIFF DRIVE, SUITE 6, SANTA BARBARA, CALIF. 93109 (805) 957-4748

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(805) 644-0470

GENERAL INFORMATION
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO. W.O. 0451

C1

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EARTHWORK

ESTIMATED EARTHWORK QUANTITIES:	CUT	FILL
SITE GRADING	425 C.Y.	335 C.Y.
TRENCH GRADING	460 C.Y.	415 C.Y.
SUBTOTAL	885 C.Y.	750 C.Y.
SHRINKAGE @ 15%	−135 C.Y.	
TOTAL	750 C.Y.	750 C.Y.

IMPORT = 0 C.Y.
EXPORT = 0 C.Y.

(1) ESTIMATED QUANTITIES SHOWN ABOVE ARE COMPUTED FROM EXISTING GROUND ELEVATIONS TO THE PROPOSED ELEVATIONS ON THIS PLAN.

(2) MATERIAL GENERATED THROUGH CLEARING & GRUBBING OPERATIONS WILL BE MULCHED AND SPREAD ON SITE AS DESIGNATED BY PROJECT ENGINEER AND NOT BE REMOVED FROM THE SITE.

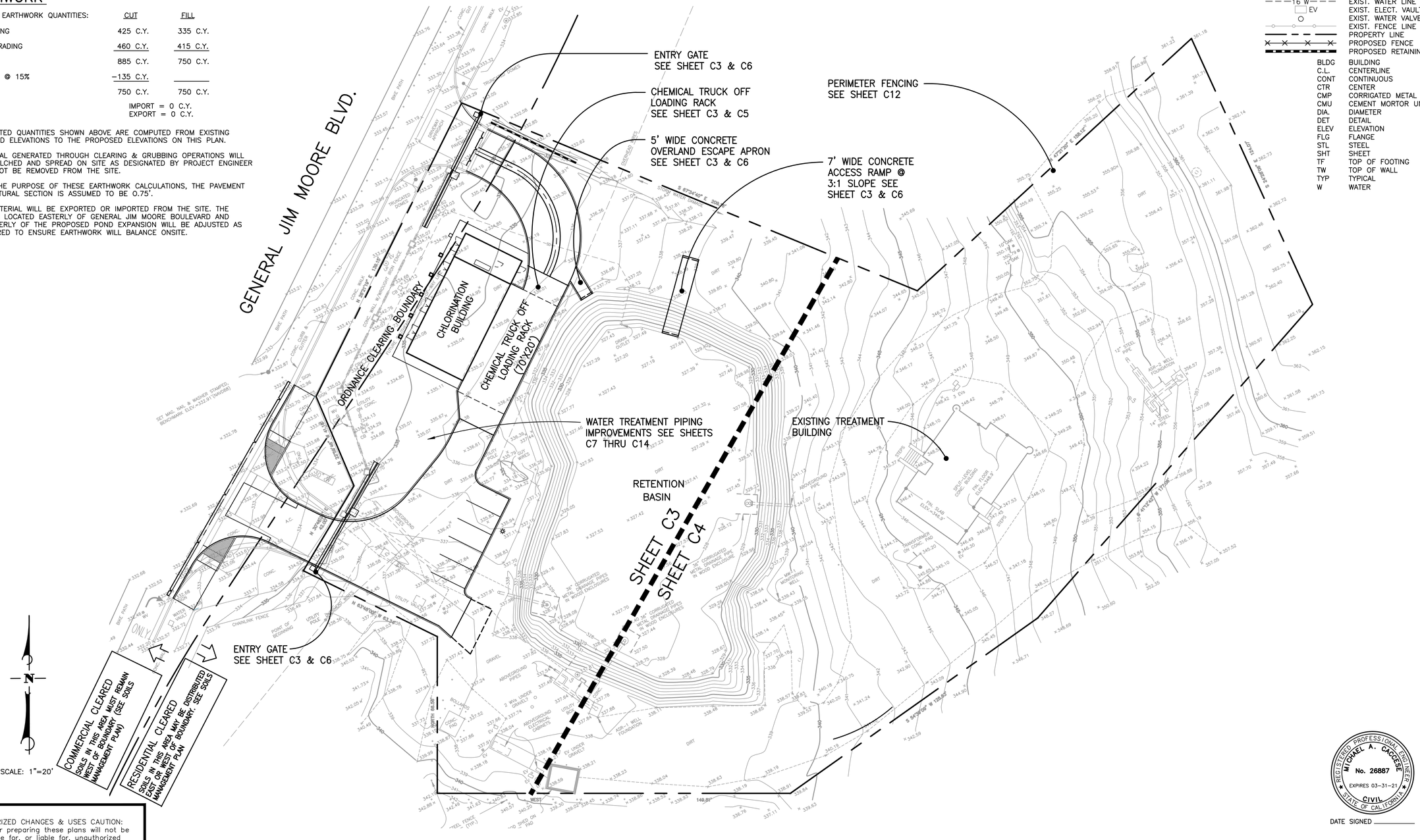
(3) FOR THE PURPOSE OF THESE EARTHWORK CALCULATIONS, THE PAVEMENT STRUCTURAL SECTION IS ASSUMED TO BE 0.75'.

(4) NO MATERIAL WILL BE EXPORTED OR IMPORTED FROM THE SITE. THE BERMS LOCATED EASTERLY OF GENERAL JIM MOORE BOULEVARD AND NORTHERLY OF THE PROPOSED POND EXPANSION WILL BE ADJUSTED AS REQUIRED TO ENSURE EARTHWORK WILL BALANCE ONSITE.

LEGEND

16"W	EXIST. WATER LINE
EV	EXIST. ELECT. VAULT
	EXIST. WATER VALVE
	EXIST. FENCE LINE
	PROPERTY LINE
	PROPOSED FENCE
	PROPOSED RETAINING WALL

BLDG	BUILDING
C.L.	CENTERLINE
CONT	CONTINUOUS
CTR	CENTER
CMP	CORRIGATED METAL PIPE
CMU	CEMENT MORTOR UNIT
DIA.	DIAMETER
DET	DETAIL
ELEV	ELEVATION
FLG	FLANGE
STL	STEEL
SHT	SHEET
TF	TOP OF FOOTING
TW	TOP OF WALL
TYP	TYPICAL
W	WATER



UNAUTHORIZED CHANGES & USES CAUTION:
The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. CACCESE
No. 26887
EXPIRES 03-31-21
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

REV	DATE	BY	DESCRIPTION
	08-05-19		ISSUED FOR BID

SCALE:
HOR. 1"=20'
VER. N/A

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED MAC
DRAWN TLA/FH
CHECKED SPT

MAC Design Associates
CIVIL ENGINEERING * LAND PLANNING * BRIDGE DESIGN
1933 CLIFF DRIVE, SUITE 6, SANTA BARBARA, CALIF. 93109 (805) 957-6748

PUEBLO water resources
Pueblo Water Resources
4478 Market St., Suite 705
Ventura, CA 93003
(805) 644-0470

SITE PLAN
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
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W.O. 0451

C2

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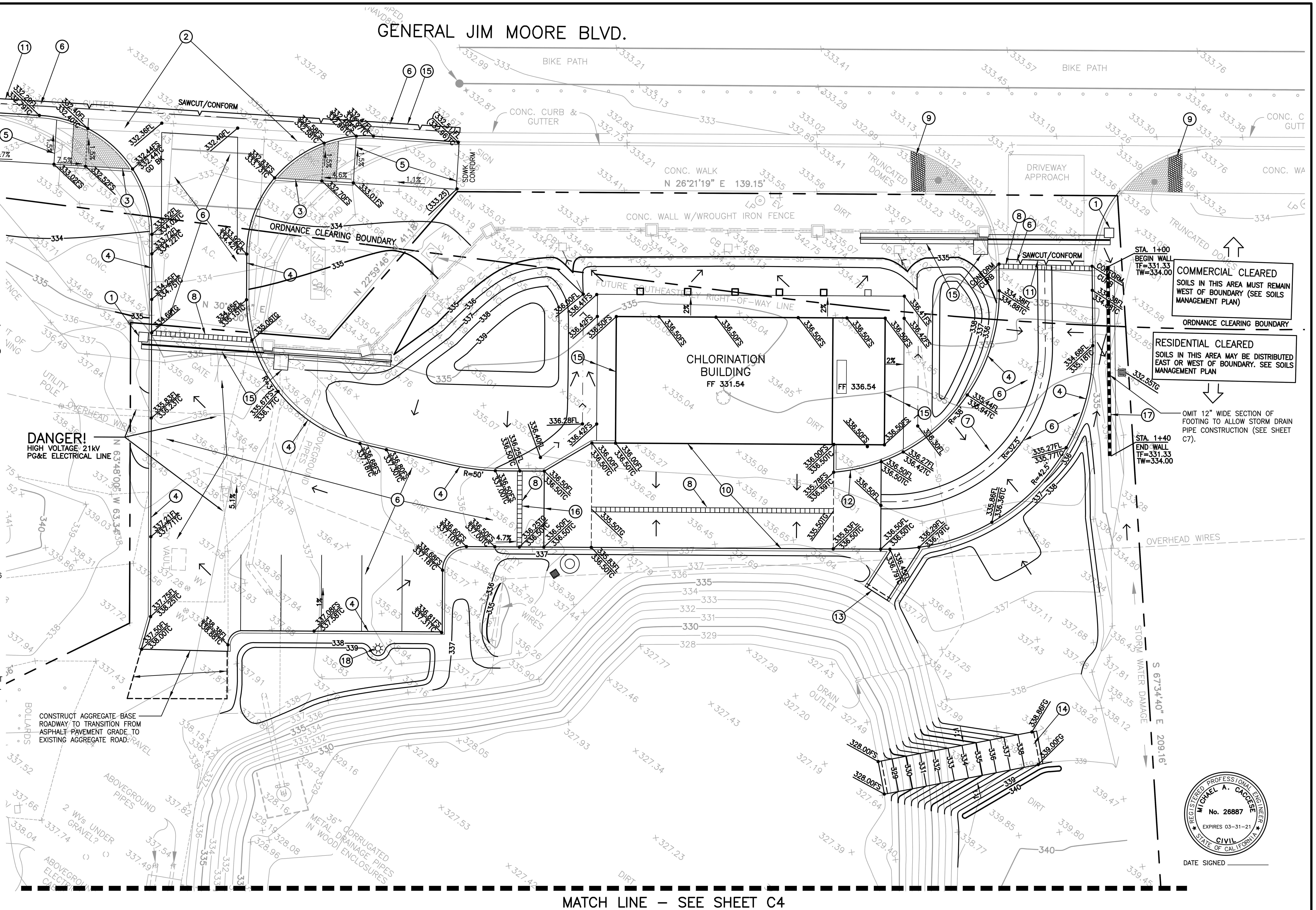
CONSTRUCTION NOTES

1. CONSTRUCT C.M.U. COLUMN PER DETAIL 3 ON SHEET C6.
2. CONSTRUCT CROSS GUTTER PER CITY OF SEASIDE PUBLIC WORKS DEPT. DRAWING FILE NO. S-106.
3. CONSTRUCT CASE CM CURB RAMP PER CALTRANS STANDARD PLAN RSP A88B, PLAN APPROVAL DATE JULY 21, 2017.
4. CONSTRUCT A2-6 CURB PER STD PLAN 120-2 OF STD PLAN FOR PUBLIC WORKS CONSTRUCTION.
5. CONSTRUCT SIDEWALK PER CITY OF SEASIDE PUBLIC WORKS DEPT. DRAWING NO. S-101.
6. CONSTRUCT ASPHALT CONCRETE PAVEMENT AND AGGREGATE BASE. SEE GRADING AND PAVING NOTE 14 SHEET C1 FOR THICKNESS OF ASPHALT CONCRETE AND AGGREGATE BASE.
7. CONSTRUCT P.C. CONCRETE GUTTER PER DETAIL 4 SHEET C6
8. CONSTRUCT 12" PRO SERIES CHANNEL DRAIN WITH 12" CAST IRON CHANNEL GRATE AS MANUFACTURED BY NDS OR APPROVED EQUAL.
9. CONSTRUCT TRUNCATED DOMES, SURFACE APPLIED (WIDTH=3', COLOR TO MATCH EXISTING).
10. CONSTRUCT CHEMICAL TRUCK OFF LOADING RACK PER DETAILS ON SHEET C5
11. SAWCUT LINE
12. 5' TRANSITION CURB FACE FROM 6" TO 8" CURB FACE
13. CONSTRUCT OVERLAND EXCAPE PER DETAIL 1 SHEET C6 OMIT CURB FACE FOR OVERLAND DRAINAGE
14. CONSTRUCT ACCESS RAMP PER DETAIL 2 ON SHEET C6
15. SEE ARCHITECTS PLAN FOR BUILDING, WALKS, AND ROLLING GATE FOUNDATION AND GATE CONTROL DETAILS
16. CONSTRUCT A.C. PAVEMENT SPEEDBUMP 3' WIDE 4" HIGH
17. CONSTRUCT RETAINING WALL PER DETAIL 5 SHEET C6.
18. CONSTRUCT LIGHT FOUNDATION PER DETAIL 7 ON SHEET C6. SEE SHT. E-4 FOR LIGHT AND POLE DATA. INSTALL ANCHOR BOLTS PER POLE MANUFACTURER'S SPECIFICATIONS. FACE OF POLE TO BE SET 3' FROM FACE OF CURB.



REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. CACCESE
No. 26887
EXPIRES 03-31-21
CIVIL
STATE OF CALIFORNIA

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MATCH LINE – SEE SHEET C4

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REV	DATE	BY	DESCRIPTION
	08-05-19		ISSUED FOR BIB

SCALE: HOR. 1"=10' VER. 1"=N/A

WARNING: 0 1/2 1 — IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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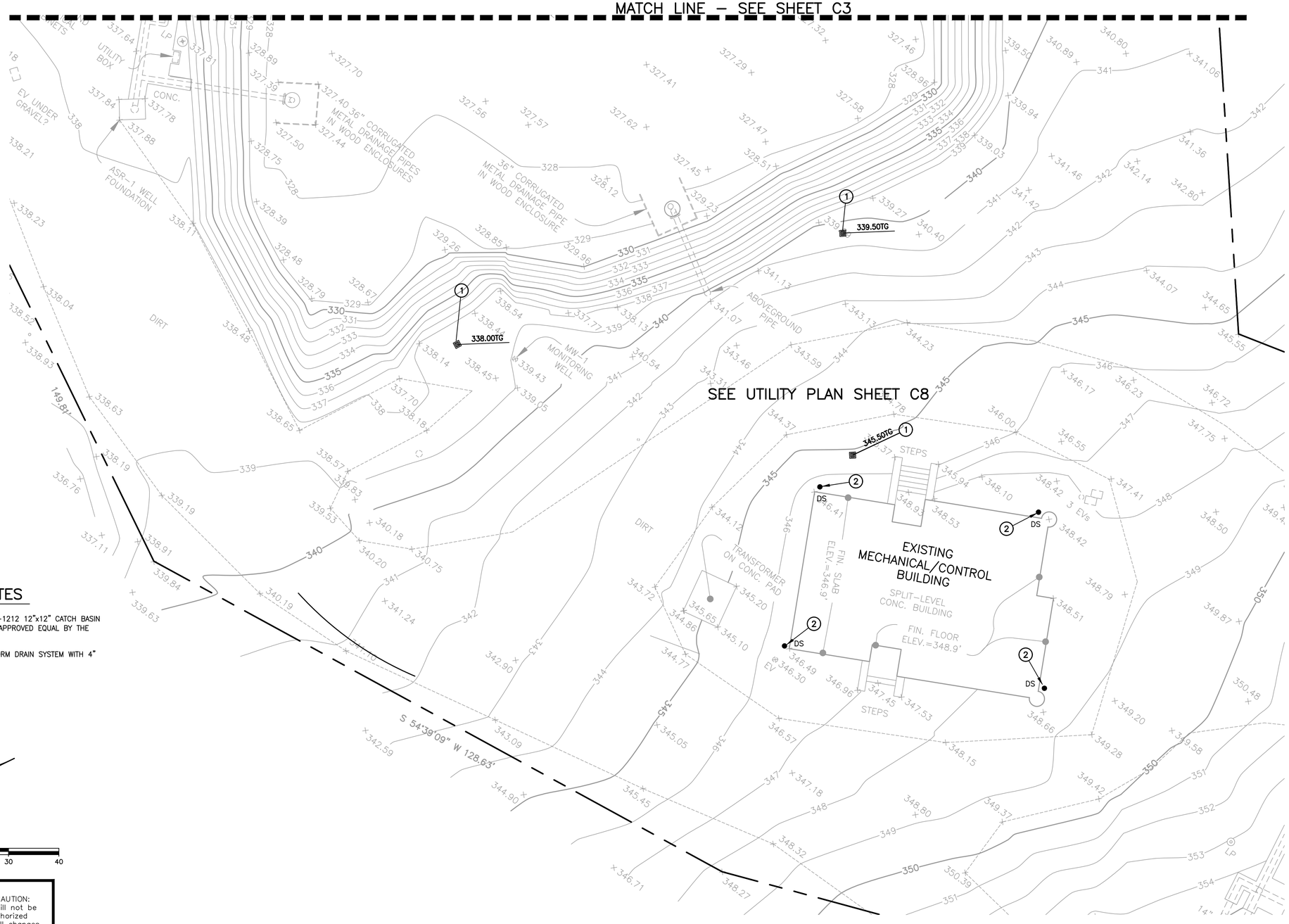
FINAL GRADING PLAN
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO. W.O. 0451

C3

MATCH LINE – SEE SHEET C3



CONSTRUCTION NOTES

1. CONSTRUCT BROOKS PRODUCT CB-1212 12"x12" CATCH BASIN WITH GRATE (ADA COMPLIANT) OR APPROVED EQUAL BY THE OWNER.
2. CONNECT DOWNSPOUT TO SITE STORM DRAIN SYSTEM WITH 4" P.V.C. PIPE.

SCALE: 1"=10'

0 10 20 30 40

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FINAL GRADING PLAN

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

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C4

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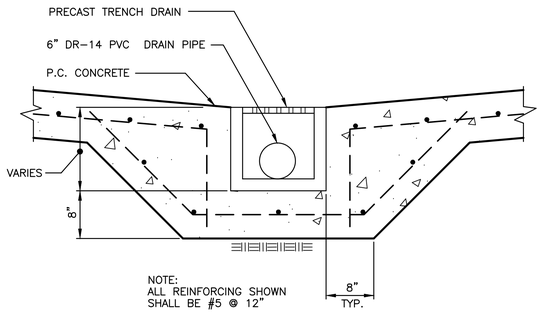
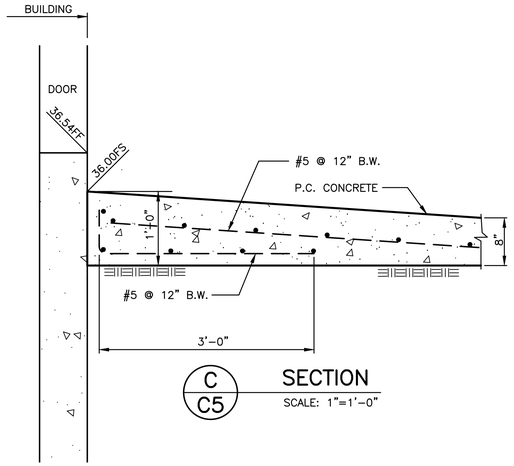
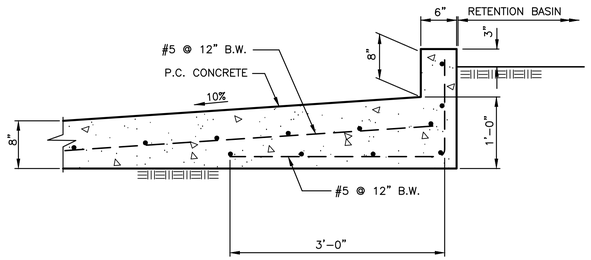


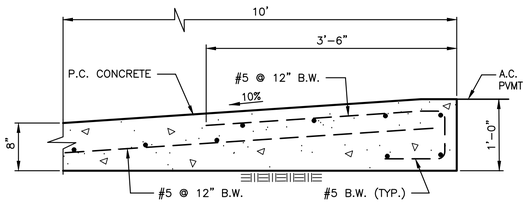
B/C5 SECTION
SCALE: 1"=1'-0"



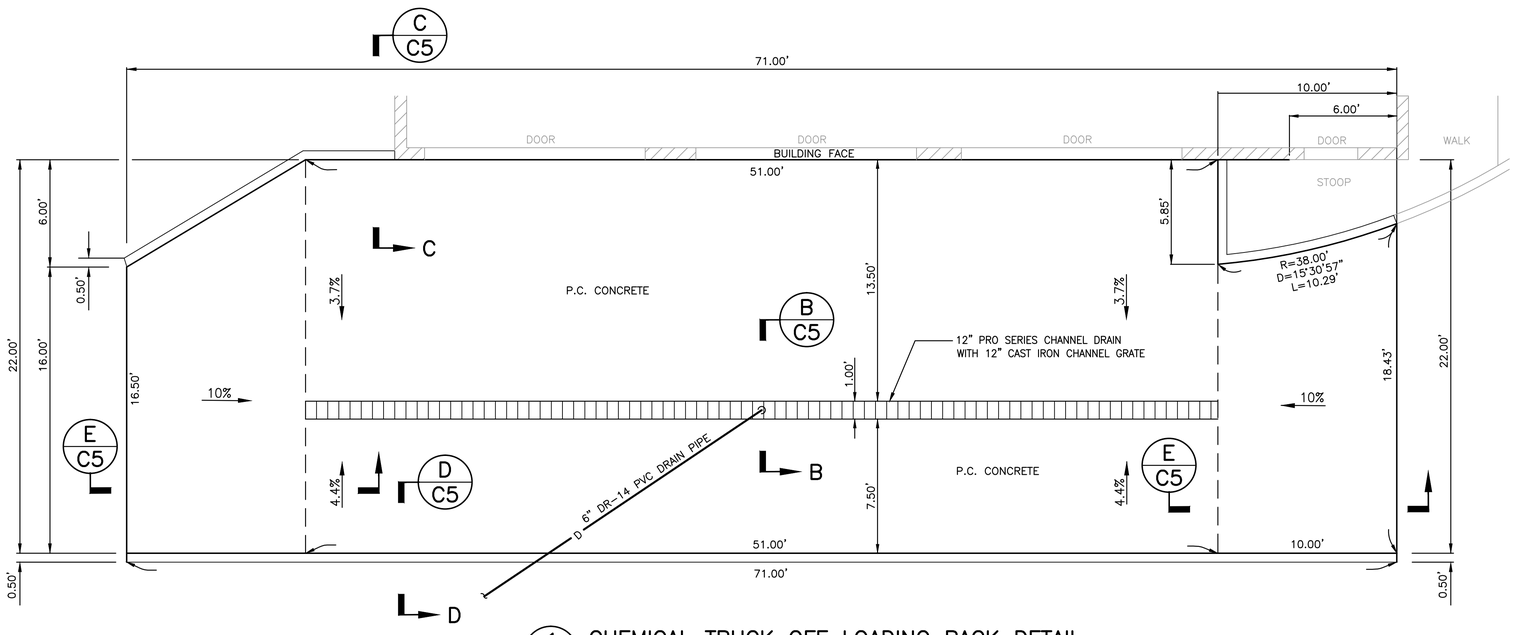
C/C5 SECTION
SCALE: 1"=1'-0"



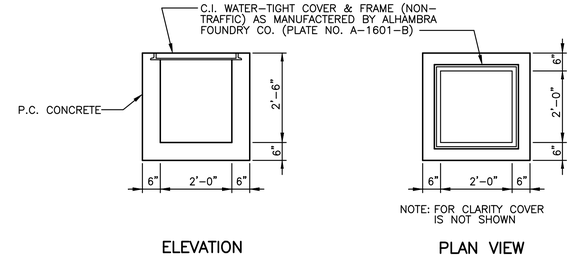
D/C5 SECTION
SCALE: 1"=1'-0"



E/C5 SECTION
SCALE: 1"=1'-0"



1/C5 CHEMICAL TRUCK OFF LOADING RACK DETAIL
SCALE: 1"=4'



F/C5 WATERTIGHT STRUCTURE
NO SCALE

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CHEMICAL LOADING RACK DETAILS
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
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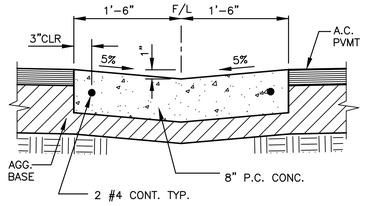
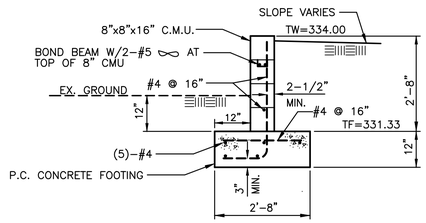
C5



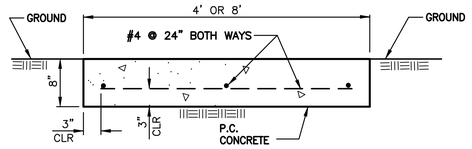
4 / C6 CONCRETE RIBBON GUTTER

NO SCALE



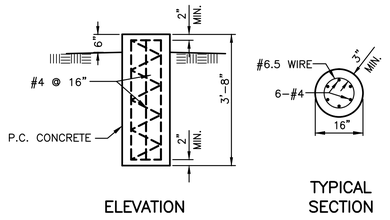
5 / C6 RETAINING WALL DETAIL

NO SCALE



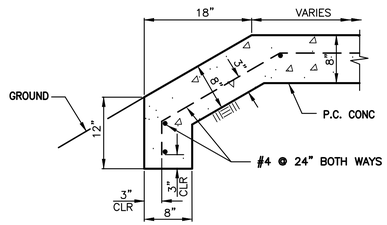
6 / C6 TYPICAL SECTION 4'X8' COMPRESSOR PAD

SCALE: 1"=1'-0"

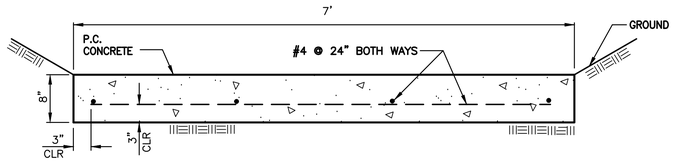


7 / C6 LIGHT FOUNDATION

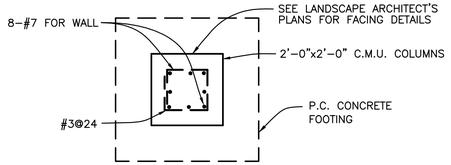
NO SCALE



SECTION B-B

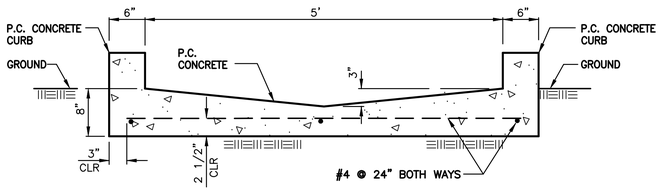


SECTION D-D

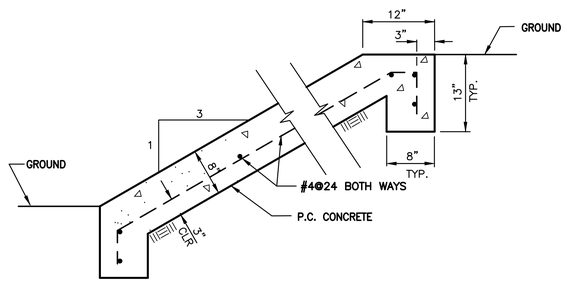


COLUMN TYPICAL SECTION

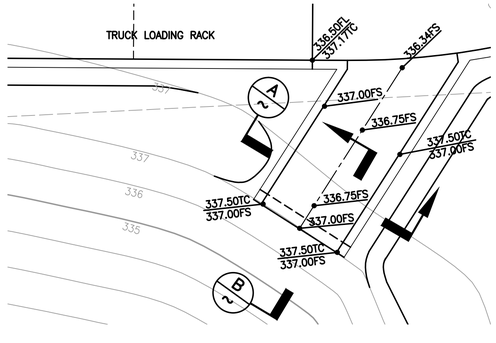
SCALE: 1" = 2'-0"



SECTION A-A



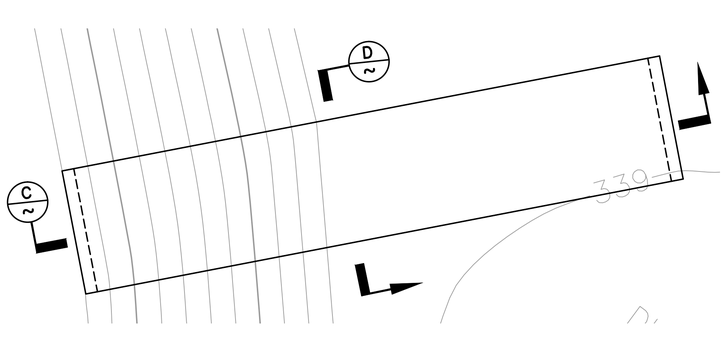
SECTION C-C



PLAN VIEW

1 / C6 OVERLAND ESCAPE APRON DETAILS

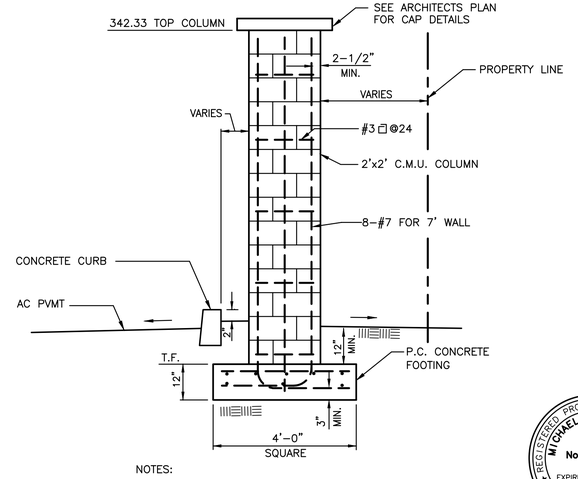
SCALE: 1"=4'-0"



PLAN VIEW

2 / C6 ACCESS RAMP DETAILS

SCALE: 1"=4'-0"



NOTES:

1. HORIZONTAL REINFORCEMENT FOR COLUMN IS NOT SHOWN. SEE COLUMN TYPICAL SECTION THIS SHEET FOR DETAILS
2. SEE ARCHITECTS PLAN FOR PLASTER COATING AND FINISH DETAILS

3 / C6 COLUMN DETAIL

SCALE: 1" = 2'-0"

REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. CACCESE
No. 26887
EXPIRES 03-31-21
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

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VER. N/A

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0 1/2 1
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DESIGNED MAC
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1933 CLIFF DRIVE, SUITE 6, SANTA BARBARA, CALIF. 93109 (805) 957-4748

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SITE DETAILS

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

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C6

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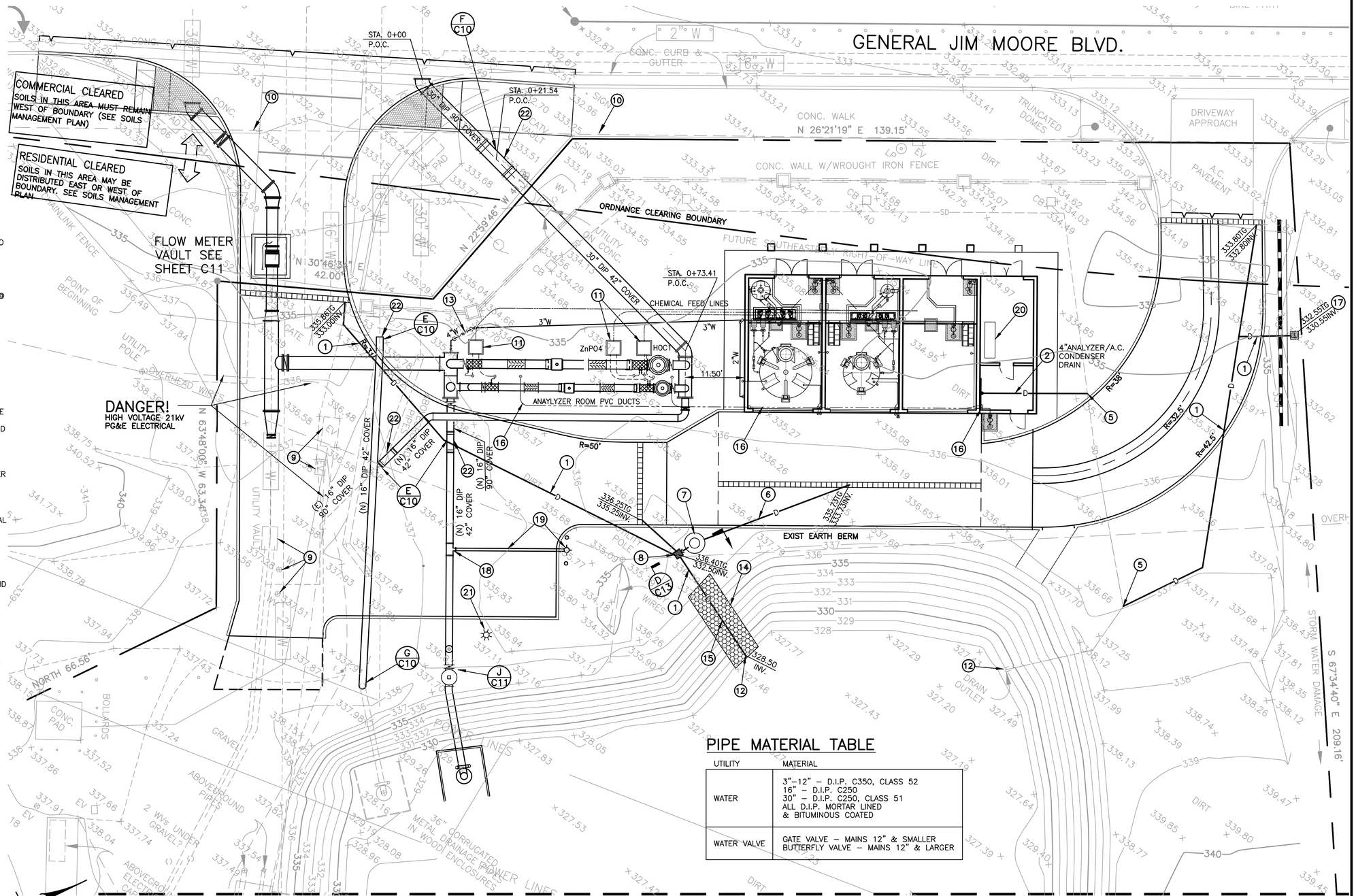
CONSTRUCTION NOTES

1. CONSTRUCT 8" TYPE S HDPE STORM DRAIN.
2. CONSTRUCT 4" TYPE S HDPE STORM DRAIN.
3. NOT USED
4. NOT USED
5. CONNECT 8" HDPE TO EXIST 8" HDPE. CONTRACTOR TO VERIFY EXIST DEPTH AND LOCATION OF EXIST 8" HDPE.
6. CONSTRUCT 6" TYPE S HDPE STORM DRAIN.
7. CONSTRUCT LOADING RACK SUMP 4' O.D. X 4' DEEP WITH 24" STANDARD MANHOLE COVER PER SECTION "D" SHEET C13
8. CONSTRUCT BROOKS PRODUCT CB-1818 18"x18" CATCH BASIN WITH GRATE (ADA COMPLIANT) OR APPROVED EQUAL BY THE OWNER.
9. ADJUST EXISTING UTILITY VALVES, VAULT LIDS, TO GRADE AS REQUIRED
10. EXIST FIBER OPTICS CABLE WITH CONCRETE CAP. CONTRACTOR TO VERIFY LOCATION AND DEPTH PRIOR TO WORK IN THIS AREA
11. INSTALL 30"X30"X30"DEEP CONCRETE JUNCTION VAULTS FOR CHEMICAL FEED DOUBLE CONTAINMENT LINES. USE ALHAMBRA A-1601B 24" WATER-TIGHT COVER AND FRAME, SEE DETAIL F SHEET C7. SLOPE PVC CONDUITS BACK TO CHEMICAL BUILDING @ MIN. 2% SLOPE. SEE DETAIL J SHEET M4
12. INSTALL 8" RED VALVE CO., TIDEFLEX TF-1 CHECK VALVE ON EXISTING HDPE OUTFALL LINE.
13. INSTALL 4" GATE VALVE, 4" REDUCED PRESSURE BACKFLOW PREVENTION AND RISER ASSEMBLY.
14. CONSTRUCT 6' WIDE GRASSCRETE SLOPE PROTECTION PER MANUFACTURERS RECOMMENDATIONS
15. CONSTRUCT 8" DR17 (PE 4710) HDPE FUSION JOINED STORM DRAIN PIPE. PIPE TO BE PLACED ON TOP OF GRASSCRETE SLOPE PROTECTION. SECURE PIPE WITH PLASTIC PIPE JOINT RESTRAINER ASSEMBLY PER CALTRANS STANDARD DETAIL D87B AT OUTLET AND MID SPAN.
16. CONSTRUCT 2 EACH 2 1/2" SCH 80 DUCTS WITH LONG SWEEP BENDS. INSTALL 2 EACH 0.25" I.D. X 0.35" O.D. PARAFLEX TUBING IN EACH DUCT , ROUTE FROM 16" AND 20" TO ANALYZER ROOM. MOUNT 2 1/2" DUCTS TO INSIDE WALL 24"-36" ABOVE SUB-FLOOR LEVEL.
17. CONSTRUCT 18"X18" LOW PROFILE ADAPTER (PART NO. 1830) WITH 18"X18" ATRIUM GRATE (PART NO. 1881) AND 8" UNIVERSAL LOCKING OUTLET (PART NO. 1888) AS MANUFACTURED BY NDS OR APPROVED EQUAL
18. CONSTRUCT 16"X16"X6" D.I.P. TEE FOR FIRE HYDRANT (MJ W/RESTRAINT)
19. CONSTRUCT 6" D.I.P FIRE HYDRANT LATERAL WITH 42" COVER AND INSTALL STANDARD 2 1/2" X 4" FIRE HYDRANT PER CAL-AM STANDARD DETAILS
20. AIR COMPRESSOR IN ELECTRIC ROOM SEE SHEET C-11
21. LIGHT POLE SEE DETAIL 7 SHEET C6 FOR FOUNDATION, SEE ELECTRIC PLANS FOR ADDITIONAL DETAILS
22. TRANSITION FROM 90" COVER OVER TOP OF PIPE TO 42" COVER OVER TOP OF PIPE



PIPE MATERIAL TABLE

UTILITY	MATERIAL
WATER	3"-12" – D.I.P. C350, CLASS 52 16" – D.I.P. C250 30" – D.I.P. C250, CLASS 51 ALL D.I.P. MORTAR LINED & BITUMINOUS COATED
WATER VALVE	GATE VALVE – MAINS 12" & SMALLER BUTTERFLY VALVE – MAINS 12" & LARGER

MATCH LINE – SEE SHEET C8

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06-30-20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

SCALE: 1"=10'
0 10 20 30 40

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UTILTY AND PIPING PLAN
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

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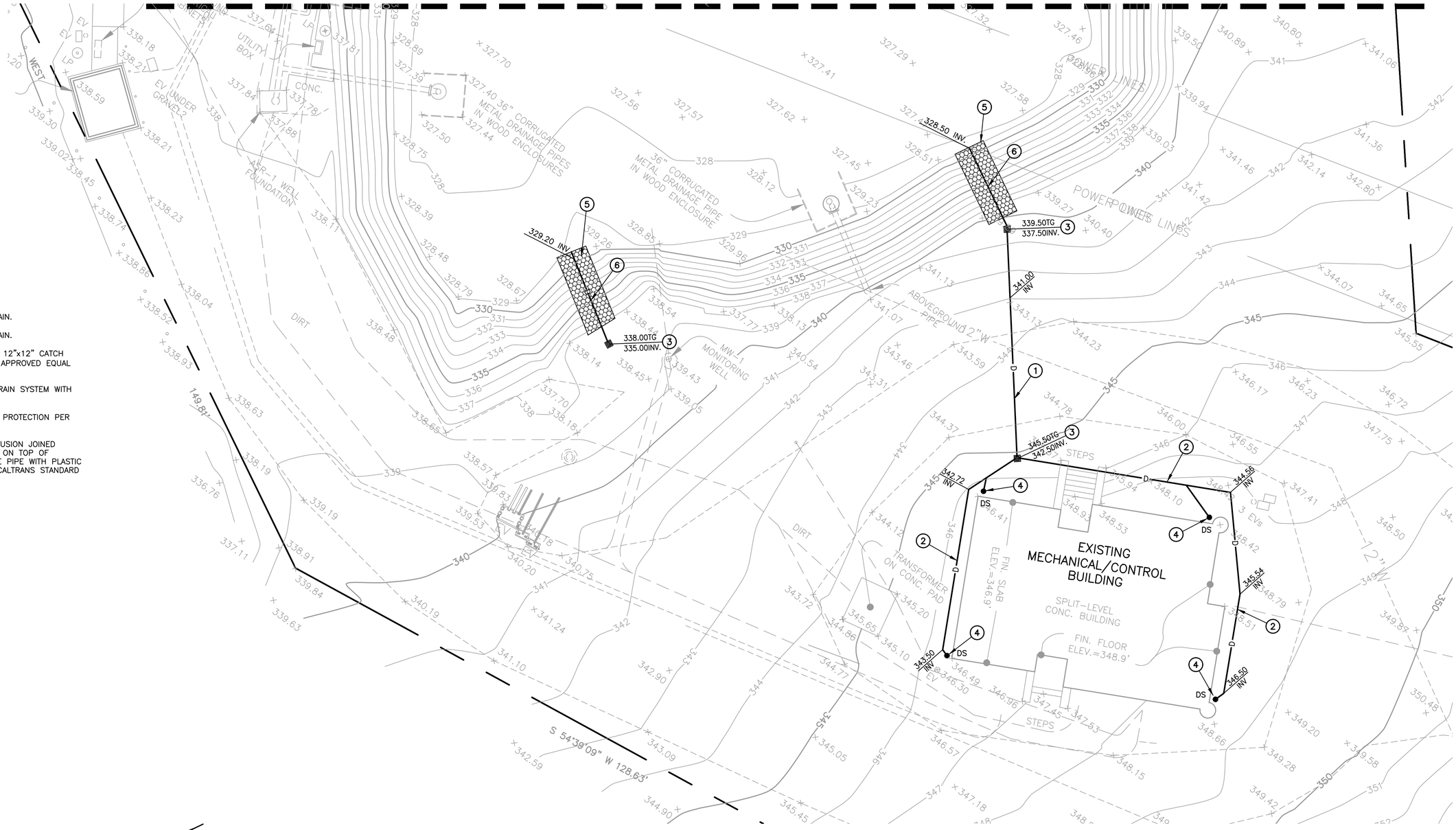
C7

0451UTIL.DWG 04/12/19 08:50:21 AM PDT

MATCH LINE – SEE SHEET C7

CONSTRUCTION NOTES

1. CONSTRUCT 8" TYPE S HDPE STORM DRAIN.
2. CONSTRUCT 4" TYPE S HDPE STORM DRAIN.
3. CONSTRUCT BROOKS PRODUCT CB–1212 12"x12" CATCH BASIN WITH GRATE (ADA COMPLIANT) OR APPROVED EQUAL BY THE OWNER.
4. CONNECT DOWNSPOUT TO SITE STORM DRAIN SYSTEM WITH 4" P.V.C. PIPE.
5. CONSTRUCT 6' WIDE GRASSCRETE SLOPE PROTECTION PER MANUFACTURERS RECOMMENDATIONS
6. CONSTRUCT 8" DR17 (PE 4710) HDPE FUSION JOINED STORM DRAIN PIPE. PIPE TO BE PLACED ON TOP OF GRASSCRETE SLOPE PROTECTION. SECURE PIPE WITH PLASTIC PIPE JOINT RESTRAINER ASSEMBLY PER CALTRANS STANDARD DETAIL D87B AT OUTLET AND MID SPAN.



DATE SIGNED _____

SCALE: 1"=10'
0 10 20 30 40

REV	DATE	BY	DESCRIPTION
	08–05–19		ISSUED FOR BID

SCALE:
HOR. 1"=10'
VER. 1"=N/A

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED SPT
DRAWN TLA/FH
CHECKED SPT

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UTILITY AND PIPING PLAN

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

C8

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CONSTRUCTION NOTES

1. CONNECT (N) 16" DIP OSW LINE TO (E) 16" DIP OSW LINE AT 42" BG WITH RESTRAINED 90° BEND (MJ). CUT, CAP, AND ABANDON E 16" DIP OLD LINE IN PLACE. PER DETAIL G SHEET C10
2. CONNECT (N) 16" DIP OSW LINE TO (E) 16" DIP OSW LINE AND TRANSITION FROM 90° BG TO 42" BG WITH TWO RETRAINED 45° BENDS (VERT.). CUT, CAP, AND ABANDON (E) 16" DIP OSW IN PLACE. PER DETAIL E SHEET C10
3. CONNECT (N) 30" DIP RW LINE TO (E) 30" DIP RW LINE WITH RESTRAINED 45° BEND (MJ) AND TRANSITION FROM 90° BG TO 42" BG WITH TWO RESTRAINED 45° BENDS (MJ) (3 TOTAL). CUT, CAP, AND ABANDON (E) 30" DIP RW LINE IN PLACE. SEE DETAIL C AND F SHEET C10
4. RELOCATE (E) AIR VAC ASSY AS NEEDED. CONTRACTOR VERIFY
5. (N) 16" DIP OSW W/42" COVER OVER (N) 30" DIP TW LINE (90° COVER)
6. (N) 16" OSW W/42" COVER OVER (E) 16" DIP RW LINE.
7. CONNECT (N) 16" DIP RW TO (E) 16" DIP RW LINE. REMOVE (E) 16" DIP RISER ASSY AND ASSOCIATED HDPE PIPING.
8. CUT, CAP, AND REMOVE (E) 16" DIP RISER ASSY AND ASSOCIATED 18" HDPE PIPING
9. 16" BUTTERFLY VALVE, FLANGE
10. 30" BUTTERFLY VALVE, FLANGE
11. 16" PRESSURE RELIEF VALVE W/SOLENOID OVERRIDE, CLAVAL 50-03 SEE DETAIL J" SHEET C11
12. EXIST FIBER OPTIC CABLE WITH CONCRETE CAP. CONTRACTOR TO VERIFY LOCATION AND DEPTH PRIOR TO WORK IN THIS AREA
13. CUT CAP AND INSTALL CONCRETE BLOCK OVER ALL ABANDONDED IN PLACE LINES SEE DETAIL "H" SHEET C10
14. TRANSITION FROM 90" COVER OVER TOP OF PIPE TO 42" COVER OVER TOP OF PIPE. DEPTHS ARE APPROXIMATE.
15. CONSTRUCT BOLLARD PER DETAIL G THIS SHEET

PIPE MATERIAL TABLE

UTILITY	MATERIAL
WATER	3"–12" – D.I.P. C350, CLASS 52 16" – D.I.P. C250 30" – D.I.P. C250, CLASS 51 ALL D.I.P. MORTAR LINED & BITUMINOUS COATED
WATER VALVE	GATE VALVE – MAINS 12" & SMALLER BUTTERFLY VALVE – MAINS 12" & LARGER

GENERAL JIM MOORE BLVD.

WALL FOOTING
EXISTING WALL FOOTING PROTECT IN PLACE DO NOT DISTURB

SEE PROFILE SHEET C13

CHEMICAL FEED LINES (TYPICAL)

3" D.I.P. 30"COVER INTO CHEMICAL BUILDING

2-1/2" SCH 80 PVC ANAYLYZER DUCTS 30" COVER

3" X 2 1/2" REDUCER

HOC1

ZnPO4

SPARE CHEM.

4X3 REDUCER

R=50'

R=31'

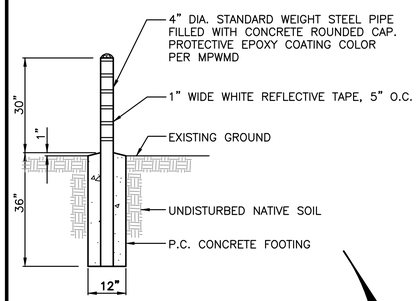
COMMERCIAL CLEARED
SOILS IN THIS AREA MUST REMAIN WEST OF BOUNDARY (SEE SOILS MANAGEMENT PLAN)

FLOW METER VAULT

RESIDENTIAL CLEARED
SOILS IN THIS AREA MAY BE DISTRIBUTED EAST OR WEST OF BOUNDARY. SEE SOILS MANAGEMENT PLAN

DANGER!
HIGH VOLTAGE 21kV
PG&E ELECTRICAL

N 63°48'00" W 63.34'



G / C9 BOLLARD DETAIL

SCALE: 1"=6'
0 6 12 18 24

UNAUTHORIZED CHANGES & USES CAUTION: The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06-30-20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

REV	DATE	BY	DESCRIPTION
	08-05-19		ISSUED FOR BID

SCALE:
HOR. 1"=6'
VER. N/A

WARNING
0 1/2 1
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16"&30" TRANSMISSION LINE MODIFICATIONS

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

C9

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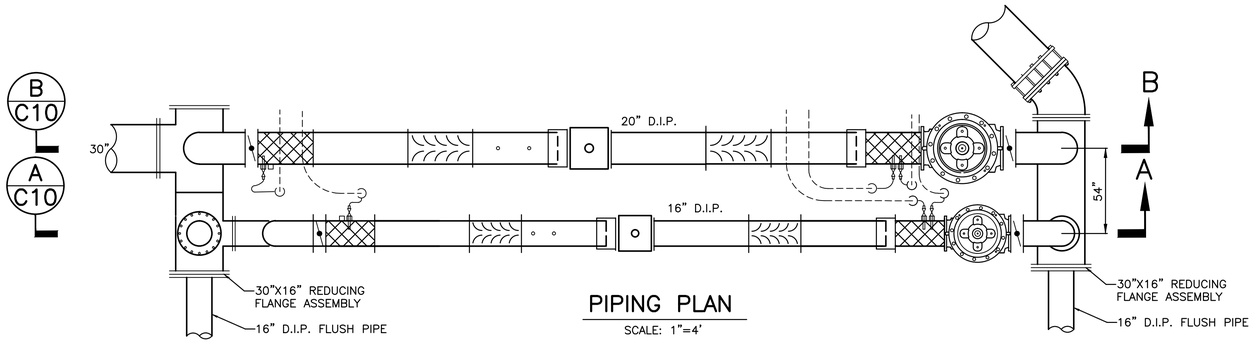
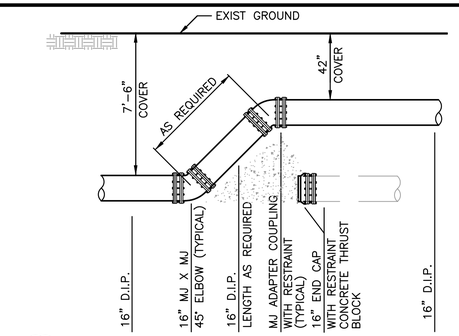


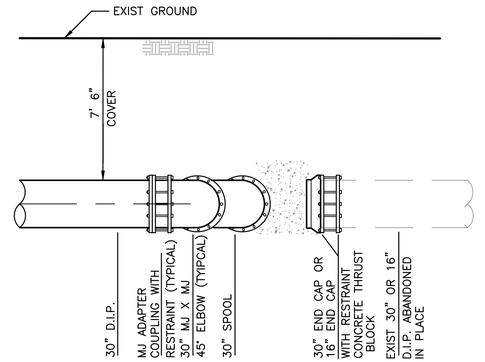
PIPING PLAN

SCALE: 1"=4'



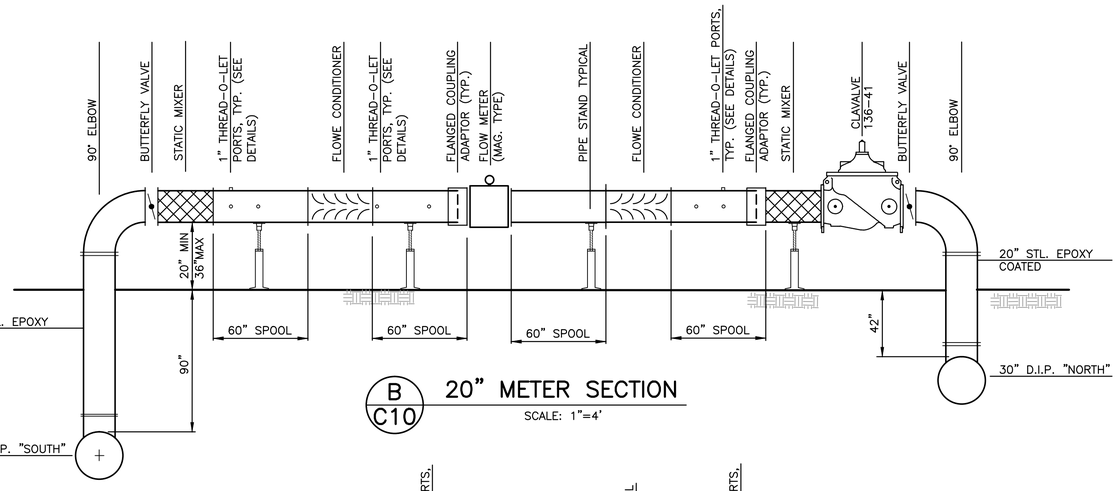
E C10 16" D.I.P. 45° ELBOW DETAIL

SCALE: 1"=4'



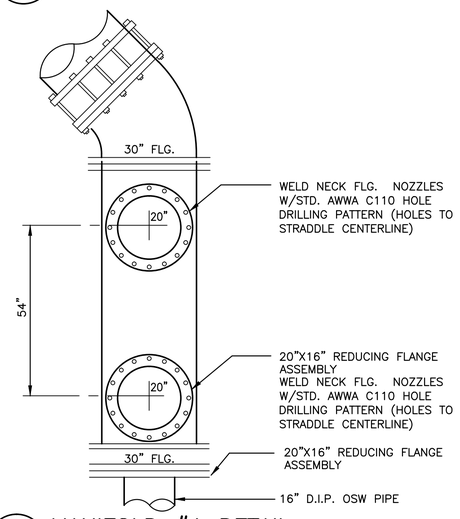
H C10 30" D.I.P. 45° ELBOW DETAIL

NTS



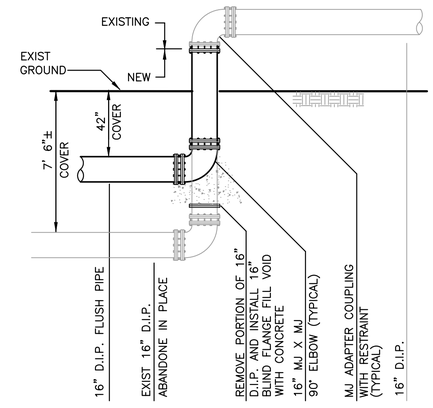
B C10 20" METER SECTION

SCALE: 1"=4'



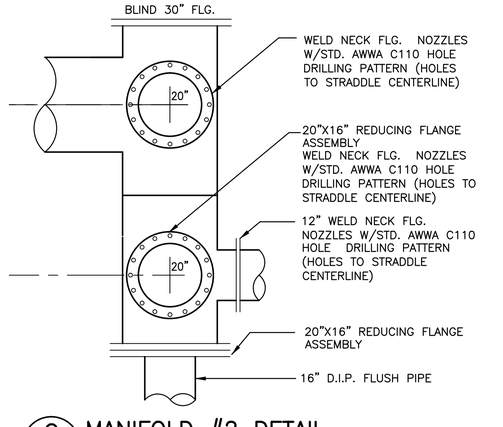
D C10 MANIFOLD #1 DETAIL

SCALE: 1"=2'



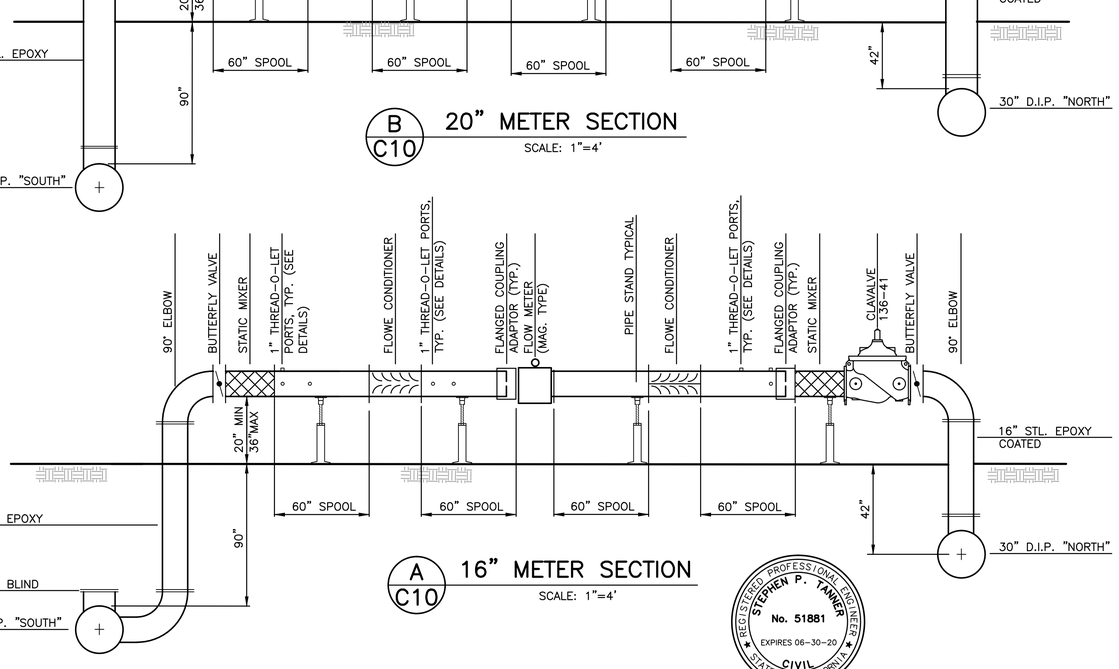
G C10 16" D.I.P. OSW PIPE DETAIL

SCALE: 1"=4'



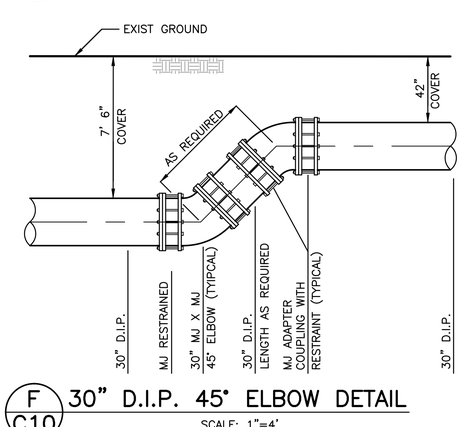
C C10 MANIFOLD #2 DETAIL

SCALE: 1"=2'



A C10 16" METER SECTION

SCALE: 1"=4'



F C10 30" D.I.P. 45° ELBOW DETAIL

SCALE: 1"=4'

REGISTERED PROFESSIONAL ENGINEER
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No. 51881
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STATE OF CALIFORNIA

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SCALE:
HOR. N/A
VER. N/A

WARNING
0 1/2 1
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PIPING DETAILS
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

C10

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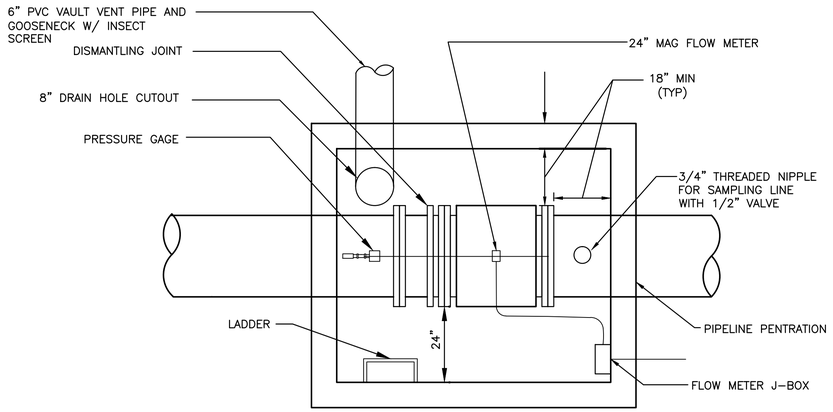
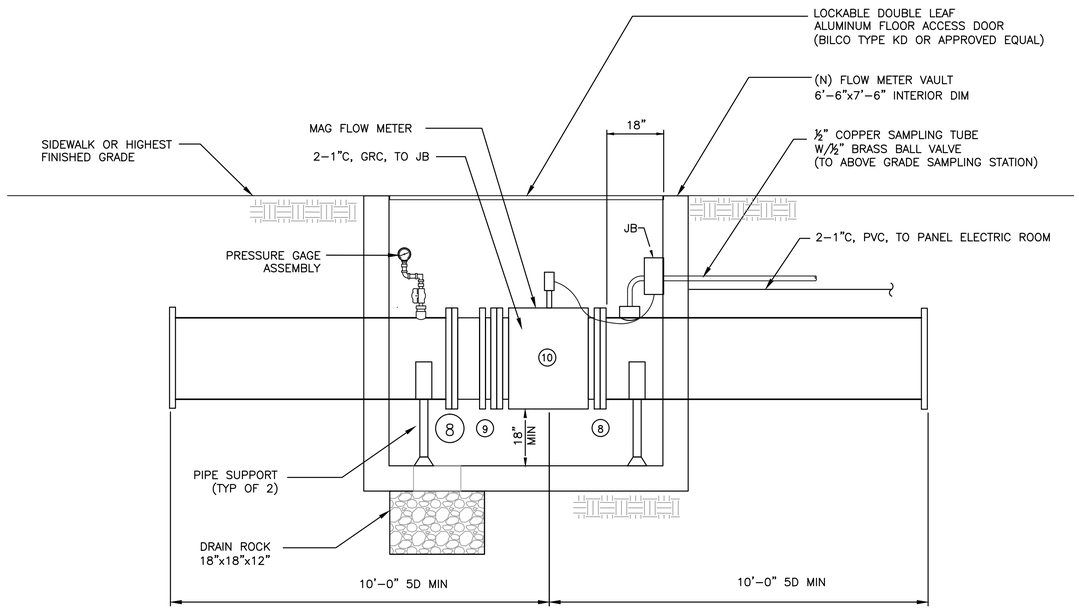


FLOW METER VAULT PLAN

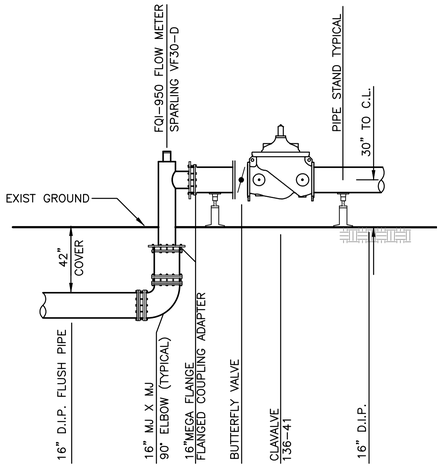
SCALE: 1"=2'



ITEM	DESCRIPTION	MAT	QT
⑧	RESTRAINED FLANGE COUPLING ADAPTER, 24"	DI	2
⑨	DISMANTLING JOINT, FLGxFLG, 24"	DI	1
⑩	MAG FLOW METER, FLGxFLG, 24"	STL	1

SECTION FLOW METER VAULT PLAN

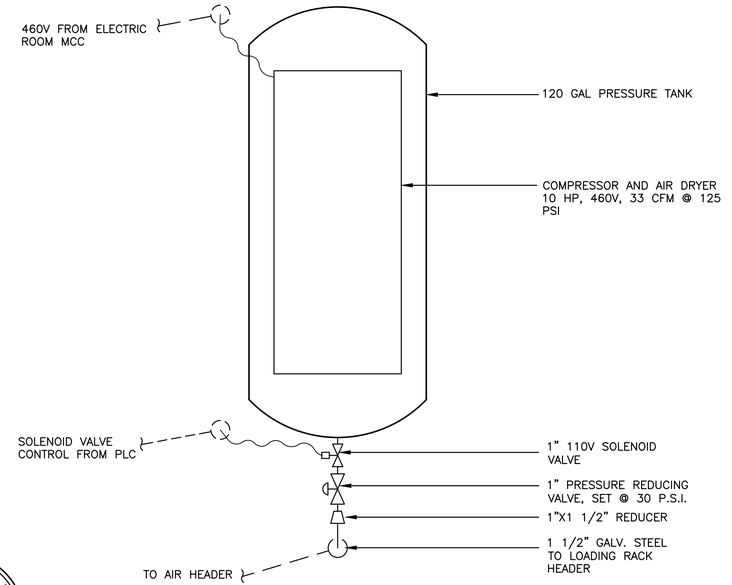
SCALE: 1"=2'



NOTE: SEE DETAIL B SHEET C13 ADDITIONAL INFORMATION

J / C11 — 16" D.I.P. FLUSH PIPE DETAIL

SCALE: 1"=4'



COMPRESSOR DETAIL

SCALE: 1"=1'

REGISTERED PROFESSIONAL ENGINEER — STEPHEN P. TANNER — No. 51881 — EXPIRES 06-30-20 — CIVIL — STATE OF CALIFORNIA

DATE SIGNED _____

REV	DATE	BY	DESCRIPTION
	08-05-19		ISSUED FOR BID

SCALE: WARNING
HOR. N/A
VER. N/A

0 1/2 1
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PIPING DETAILS

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO. W.O. 0451

C11

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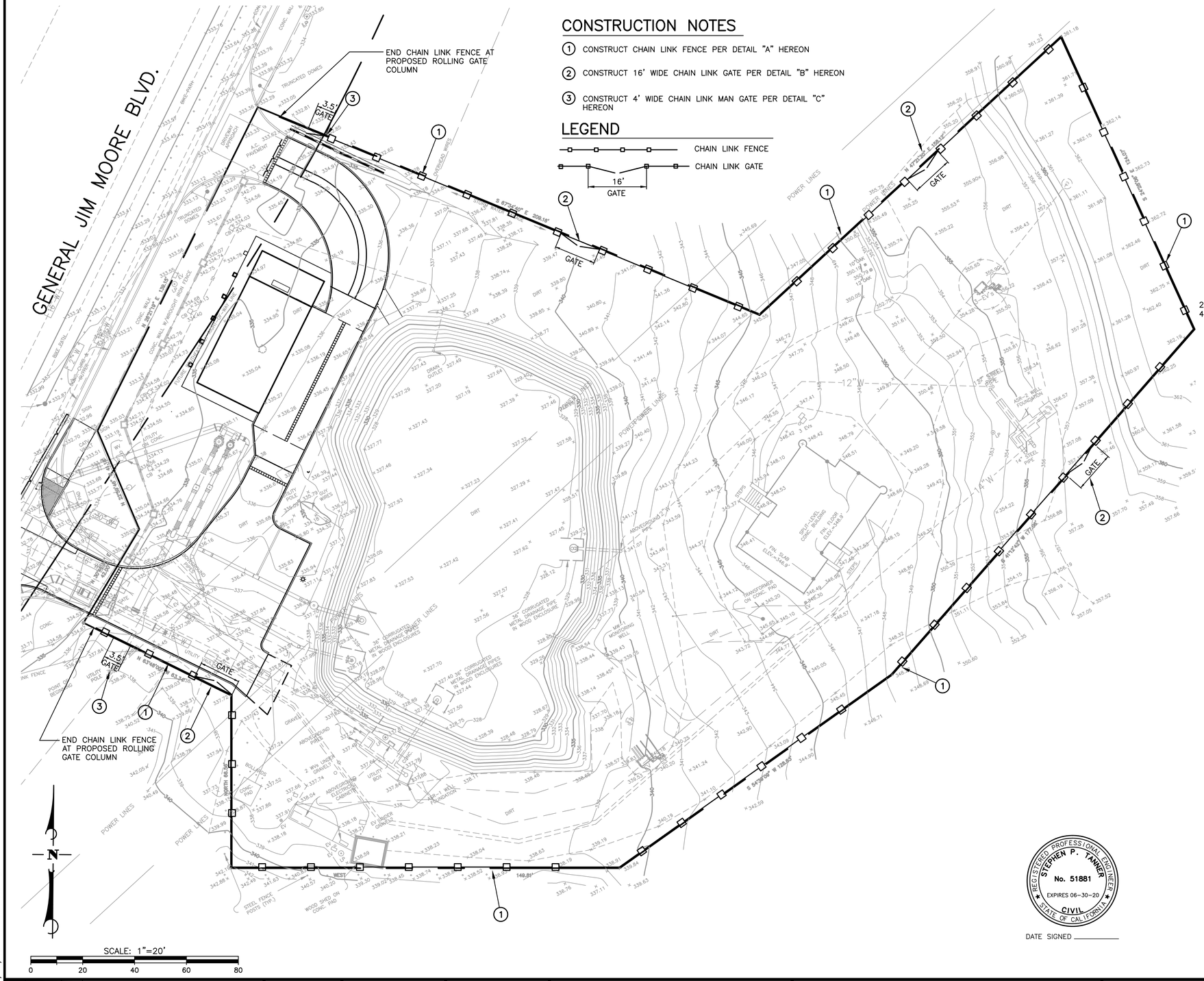
CONSTRUCTION NOTES

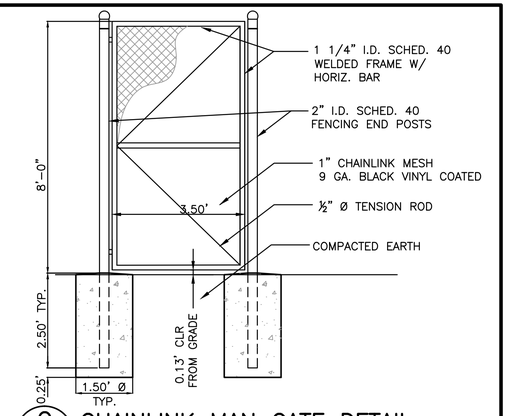
1. CONSTRUCT CHAIN LINK FENCE PER DETAIL "A" HEREON
2. CONSTRUCT 16' WIDE CHAIN LINK GATE PER DETAIL "B" HEREON
3. CONSTRUCT 4' WIDE CHAIN LINK MAN GATE PER DETAIL "C" HEREON

LEGEND

CHAIN LINK FENCE

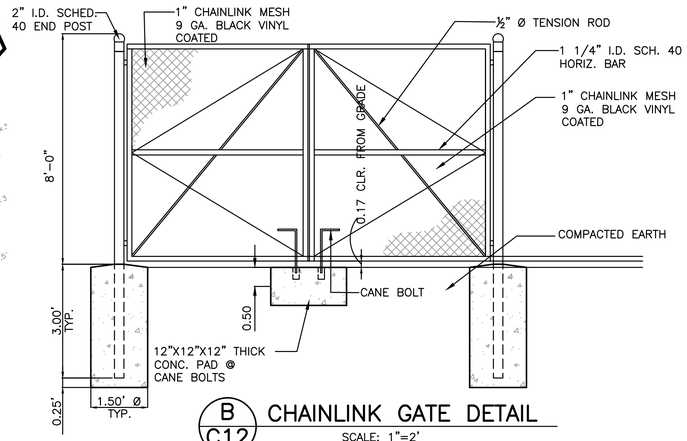
CHAIN LINK GATE





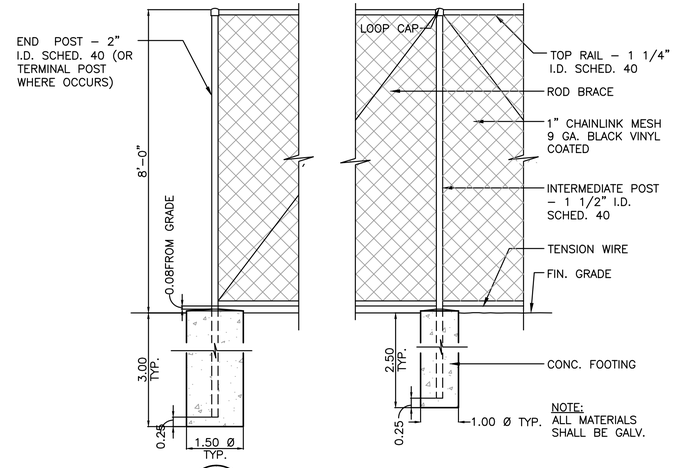
C/C12 CHAINLINK MAN GATE DETAIL

SCALE: 1"=2'



B/C12 CHAINLINK GATE DETAIL

SCALE: 1"=2'



A/C12 CHAINLINK FENCE DETAIL

SCALE: 1"=2'

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STEPHEN P. TANNER
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EXPIRES 06-30-20
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STATE OF CALIFORNIA

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REV	DATE	BY	DESCRIPTION
			1"=20'
	08-05-19		ISSUED FOR BID

SCALE:
HOR. 1"=20'
VER. N/A

WARNING
0 1/2 1
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PERIMETER FENCE PLAN AND DETAILS
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
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C12

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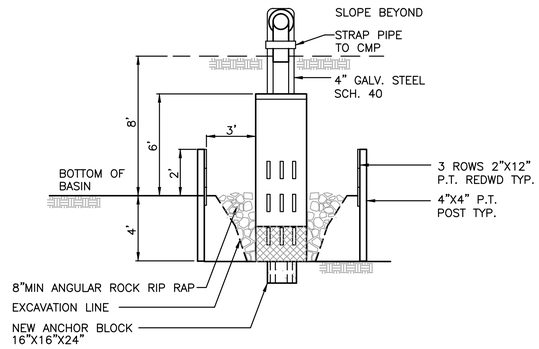
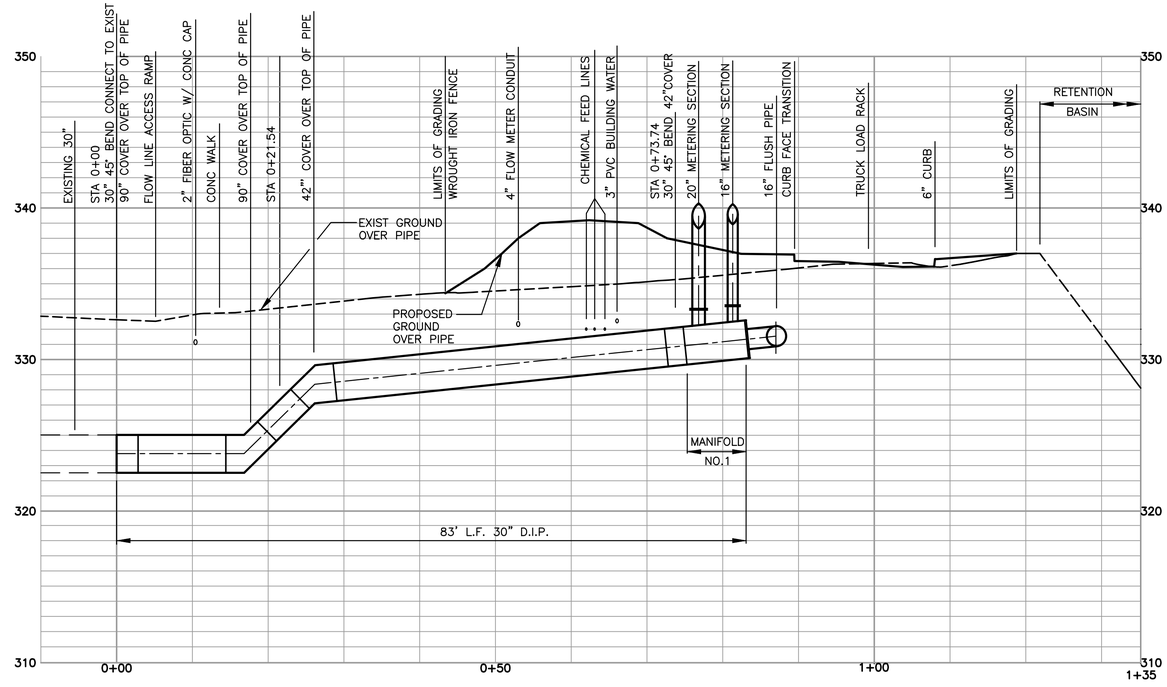


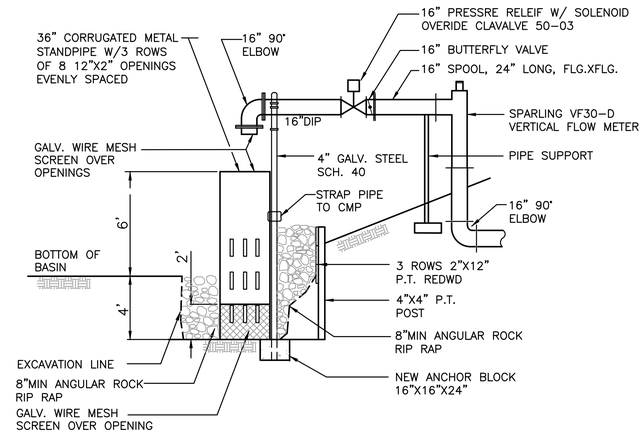
C13 ENERGY DISSAPATION CAN AND PIPE SUPPORT

SCALE: 1"=2'



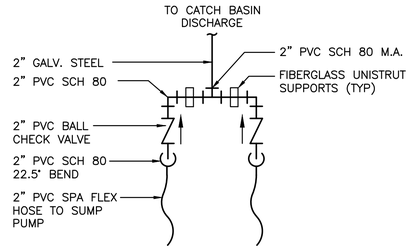
30" TRANSMISSION PIPE PROFILE

SCALE: HORZ. 1"=10'
VERT. 1"=5'



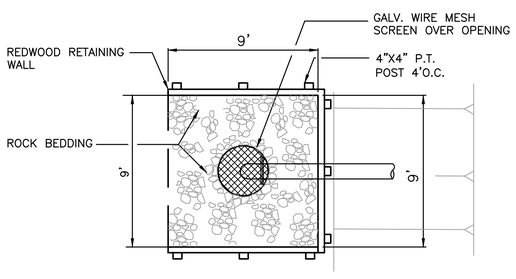
B C13 SECTION

SCALE: 1"=2'



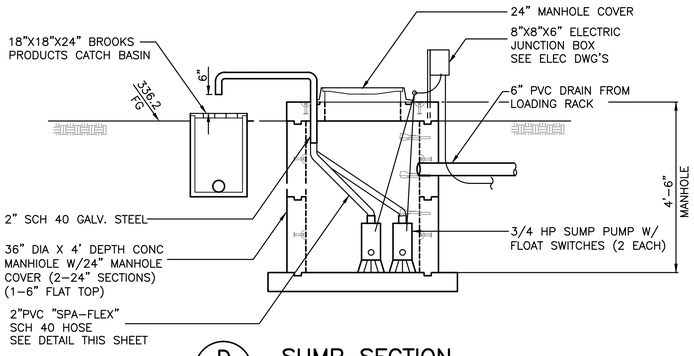
SUMP PIPING DETAIL

SCALE: 1"=2'



A C13 PLAN STANDPIPE RETAINING WALL

SCALE: 1"=2'



D C13 SUMP SECTION

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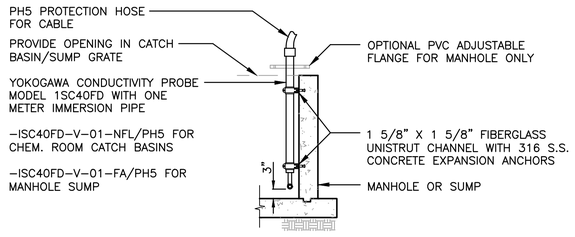

CONDUCTIVITY PROBE MOUNTING DETAIL

NTS

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06-30-20
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ENERGY DISSIPATOR AND SUMP DETAILS
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
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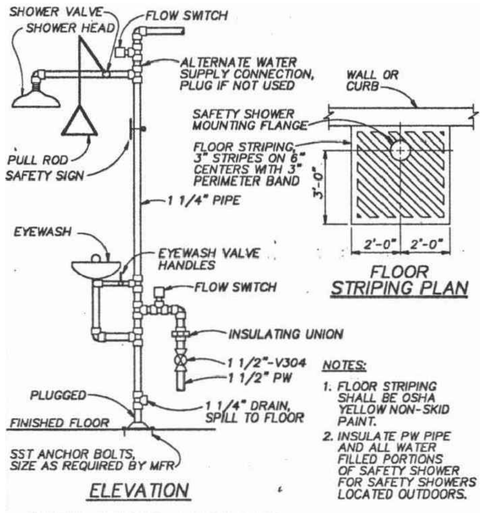


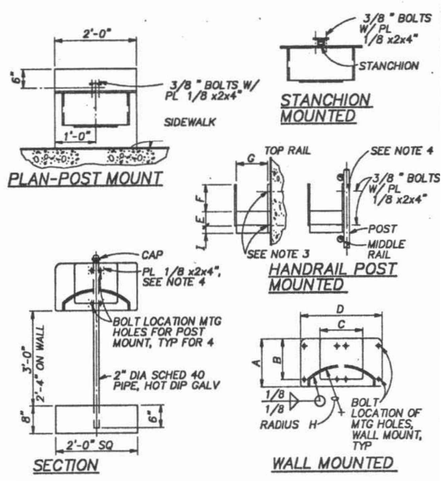
B / C14 EMERGENCY SAFETY SHOWER/EYEWASH

NO SCALE

RACK TYPE	DIMENSION IN INCHES								
	A	B	C	D	E	F	G	H	I
3/4" HOSE	10 1/2	9	9	18	3	6	7 1/2	9 3/4	1 1/2

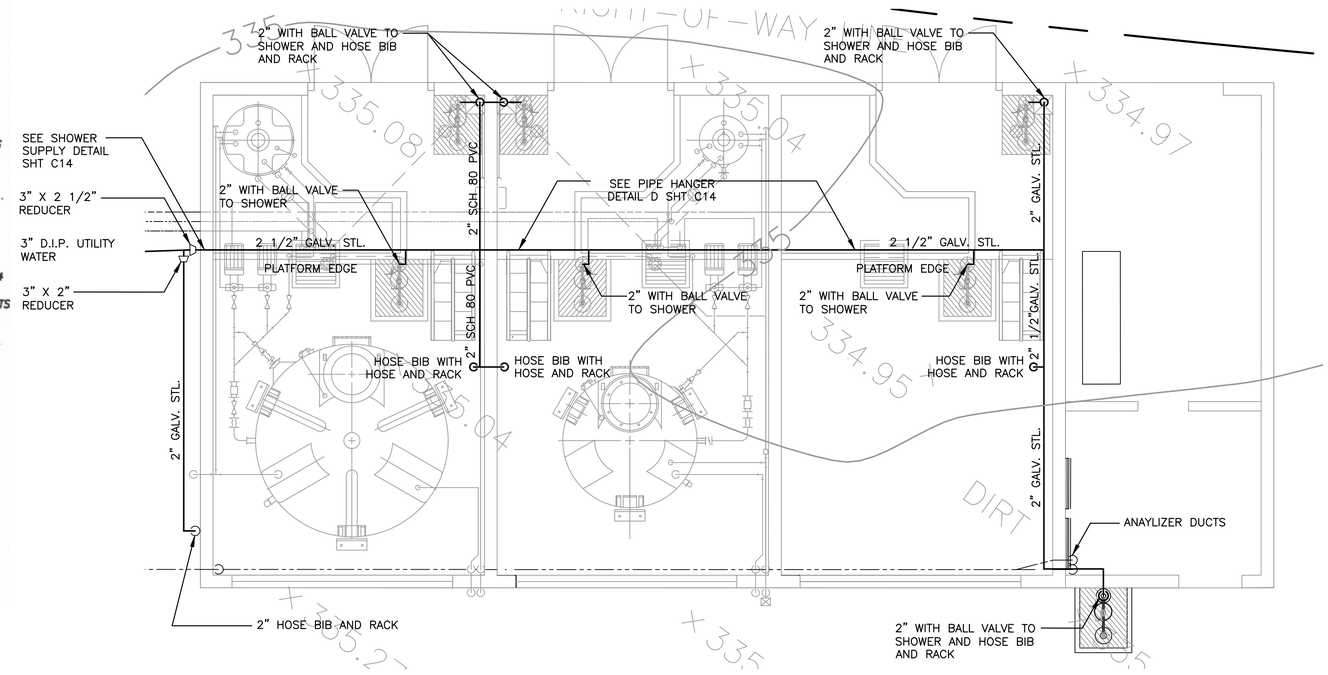
NOTES:

1. ALL UNITS SHALL BE FABRICATED FROM 3/16" 6061-T6 ALUMINUM ALLOY PLATE.
2. ATTACH TO CONCRETE WALL WITH (4)- 1/4 " STAINLESS STEEL STUD TYPE WEDGE ANCHORS.
3. ATTACH TO VERTICAL HANDRAIL OR INDIVIDUAL POST WITH PLATES AND (4)- 1/4 " STAINLESS STEEL BOLTS.
4. ATTACH TO STEEL COLUMN WITH (4)- 1/4 " ROUND HEAD BOLTS, ONE IN EACH CORNER. INSERT DOUBLE SPACER NUTS BETWEEN COLUMN AND HOSE RACK.



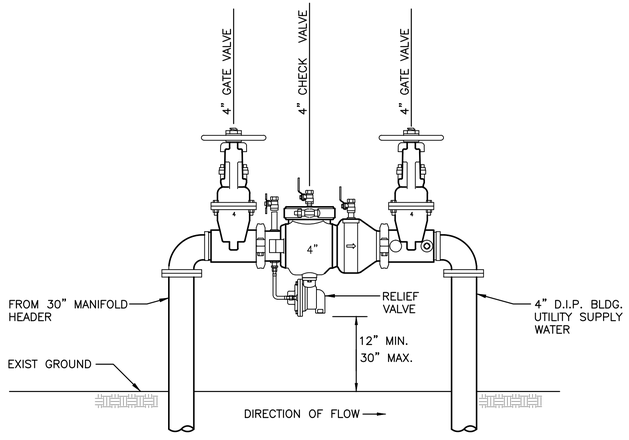
C / C14 HOSE RACK DETAIL

NO SCALE



CHEMICAL ROOMS UTILITY WATER PIPING & SHOWER/EYEWASH INSTALLATIONS

SCALE 1"=2'



A / C14 WILKINS MODEL 375A 4" R.P.B.P. AND RISER ASSEMBLY

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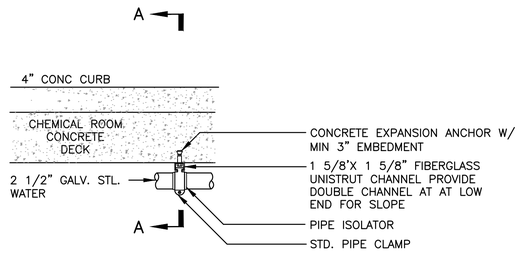
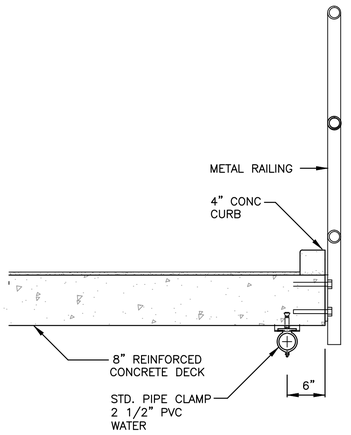


D / C14 PIPE HANGER DETAIL

NTS



SECTION A–A

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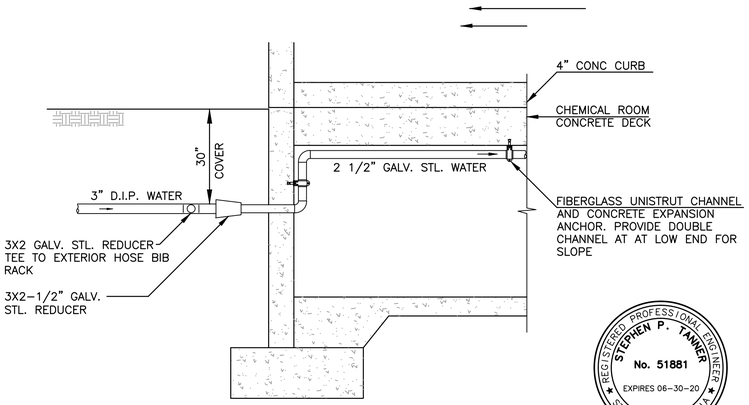

SHOWER SUPPLY WATER

NTS

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06-30-20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

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UTILITY WATER PIPING AND DETAILS

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

C14

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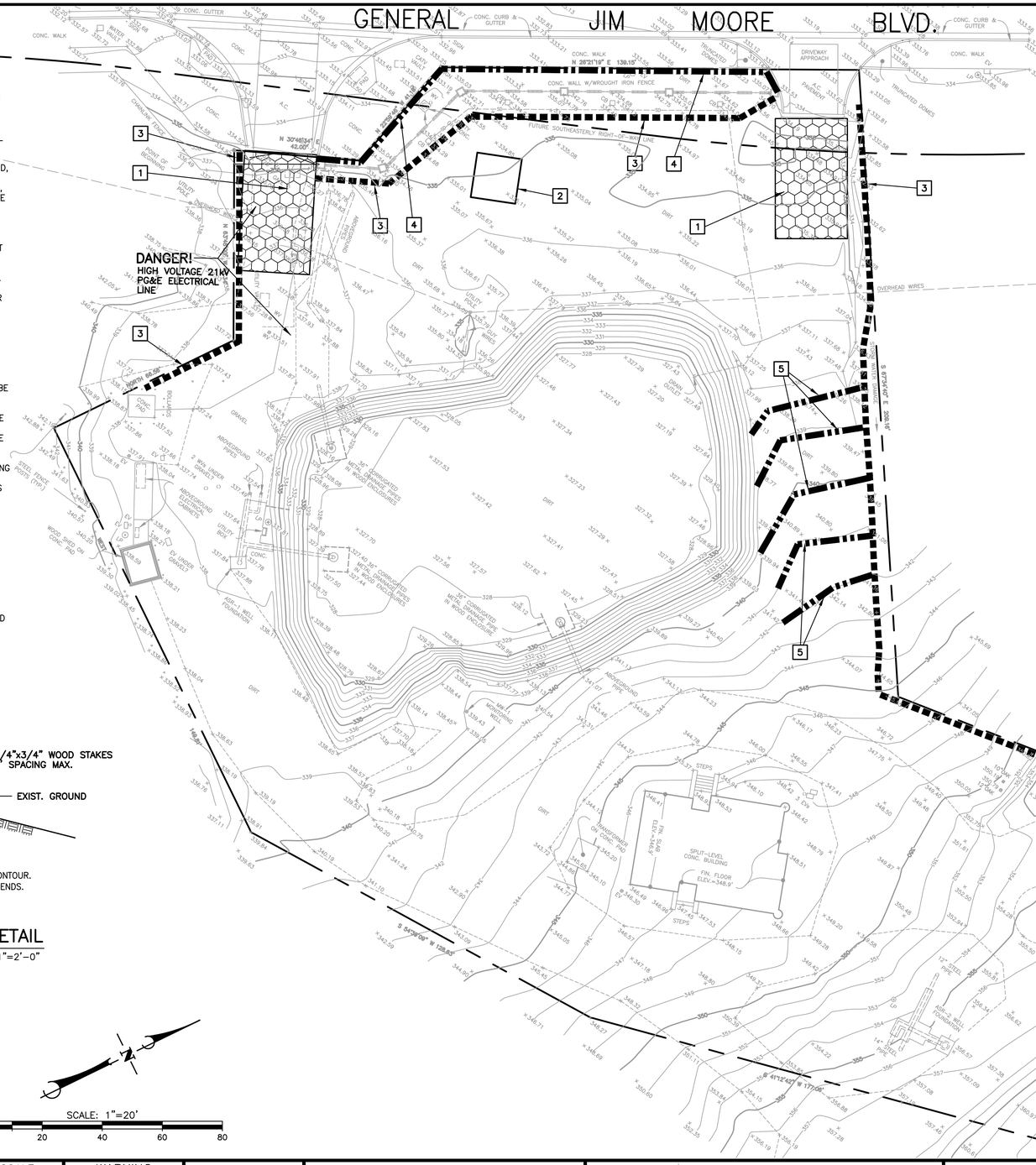
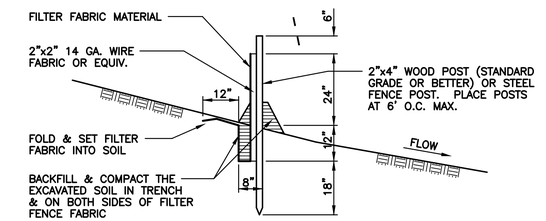
EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO, DURING AND AFTER STORM EVENTS. MONITORING INCLUDES MAINTAINING A FILE DOCUMENTING ON-SITE INSPECTIONS, PROBLEMS ENCOUNTERED, CORRECTIVE ACTIONS AND NOTES AND A RED-LINE MAP OF REMEDIAL IMPLEMENTATION MEASURES.
2. REASONABLE CARE SHALL BE TAKEN WHEN HAULING ANY EARTH, SAND, GRAVEL, STONE, DEBRIS OR ANY HAZARDOUS SUBSTANCE OVER ANY PUBLIC STREET, ALLEY OR OTHER PUBLIC PLACE. SHOULD ANY BLOW, SPILL OR TRACK OVER AND UPON SAID PUBLIC OR ADJACENT PRIVATE PROPERTY, IMMEDIATE CLEAN-UP SHALL OCCUR.
3. CONSTRUCTION ENTRANCES AS SHOWN ON THE EROSION CONTROL PLAN SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF GRADING. ALL CONSTRUCTION TRAFFIC ENTERING ONTO THE PAVED ROADS MUST CROSS THE STABILIZED CONSTRUCTION ENTRANCE.
4. SANITARY FACILITIES SHALL BE MAINTAINED ON-SITE AS APPROPRIATE.
5. DURING THE RAINY SEASON ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. ALL EARTH STOCKPILES OVER 2 CUBIC YARDS SHALL BE COVERED BY A TARP AND RINGED WITH STRAW BALES OR SILT FENCING. THE SITE SHALL BE MAINTAINED SO AS TO PREVENT SEDIMENT-LADEN RUNOFF TO ANY STORM DRAINAGE SYSTEM INCLUDING DRAINAGE SWALES AND WATER COURSES.
6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION WILL BE PREVENTED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT SHALL BE COMPLIED WITH.
7. THE FACILITIES SHOWN ON THE EROSION CONTROL PLAN HEREON ARE DESIGNED TO CONTROL EROSION AND SEDIMENT DURING THE RAINY SEASON, NOVEMBER 1 TO APRIL 15. FACILITIES ARE TO BE OPERABLE PRIOR TO OCTOBER 15 OF ANY YEAR. GRADING OPERATIONS DURING THE RAINY SEASON WHICH LEAVE DENUDED SLOPES SHALL BE PROTECTED WITH EROSION CONTROL MEASURES IMMEDIATELY FOLLOWING GRADING ON THE SLOPES. THIS WILL INCLUDE THE USE OF STRAW MULCH AND TACKIFIER, EROSION CONTROL BLANKETS, STRAW WATTLES AND HAY BALES.
8. THE EROSION CONTROL PLAN COVERS ONLY THE FIRST WINTER FOLLOWING GRADING WITH ASSUMED SITE CONDITIONS AS SHOWN ON THE EROSION CONTROL PLAN. PRIOR TO SEPTEMBER 15, THE COMPLETION OF SITE IMPROVEMENT SHALL BE EVALUATED AND REVISIONS MADE TO THIS PLAN AS NECESSARY WITH THE APPROVAL OF THE OWNER. PLANS ARE TO BE RESUBMITTED FOR APPROVAL PRIOR TO AUGUST 15 OF EACH SUBSEQUENT YEAR UNTIL SITE IMPROVEMENTS ARE ACCEPTED BY THE OWNER.
9. THE CONTRACTOR SHALL PLAN THEIR OPERATIONS SUCH THAT THE MINIMUM AREA OF THE SITE IS DISTURBED. CARE MUST BE EXERCISED TO PRESERVE THE MAXIMUM AMOUNT OF EXISTING VEGETATION THAT SERVES AS EROSION CONTROL.



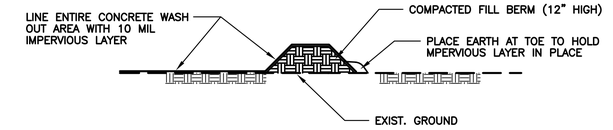
EROSION CONTROL CONSTRUCTION NOTES

1. CONSTRUCT 24' x 40' STABILIZED CONSTRUCTION ENTRANCE USING STEEL VIBRATION PLATE ON 3" TO 6" MIN. DIM. AGGREGATE, 24" THICK OVER FILTER FABRIC, PRIOR TO THE START OF CONSTRUCTION.
2. CONSTRUCT 15'x15' CONCRETE WASH-OUT AREA PER DETAIL THIS SHEET. CONTRACTOR TO DETERMINE LOCATION TO SUIT THEIR OPERATIONS.
3. CONSTRUCT SILT FENCE PER DETAIL THIS SHEET PRIOR TO THE START OF CONSTRUCTION.
4. CONSTRUCT FIBER ROLL PER DETAIL THIS SHEET.
5. MAINTAIN EXISTING FIBER ROLLS. REMOVE AND REPLACE FIBER ROLLS AS REQUIRED FOR CONSTRUCTION ACTIVITIES



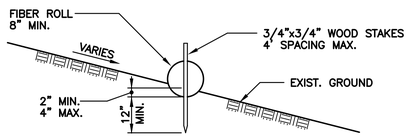
SILT FENCE DETAIL

SCALE: 1"=2'-0"



CONCRETE WASH OUT AREA DETAIL

SCALE: 1"=2'-0"



NOTES:
1) LOCATE FIBER ROLES ON A LEVEL CONTOUR.
2) OVERLAP ROLL ENDS, DO NOT BUTT ENDS.
3) TURN ROLL END UPHILL.

FIBER ROLL DETAIL

SCALE: 1"=2'-0"

UNAUTHORIZED CHANGES & USES CAUTION: The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

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EROSION CONTROL PLAN
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO. W.O. 0451

C15

REGISTERED PROFESSIONAL ENGINEER — MICHAEL A. CACCESE — No. 26887 — EXPIRES 03-31-19 — CIVIL — STATE OF CALIFORNIA

DATE SIGNED _____

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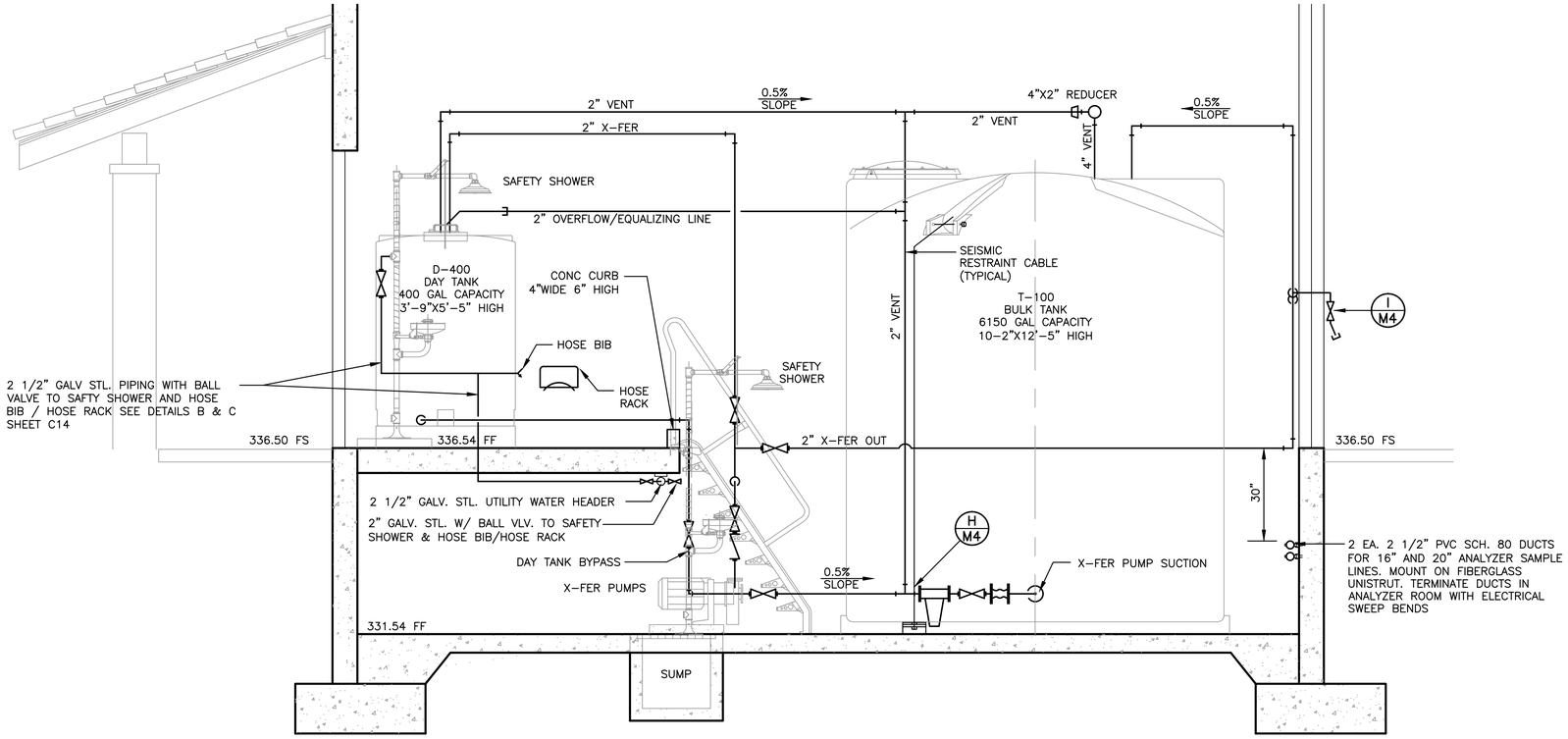
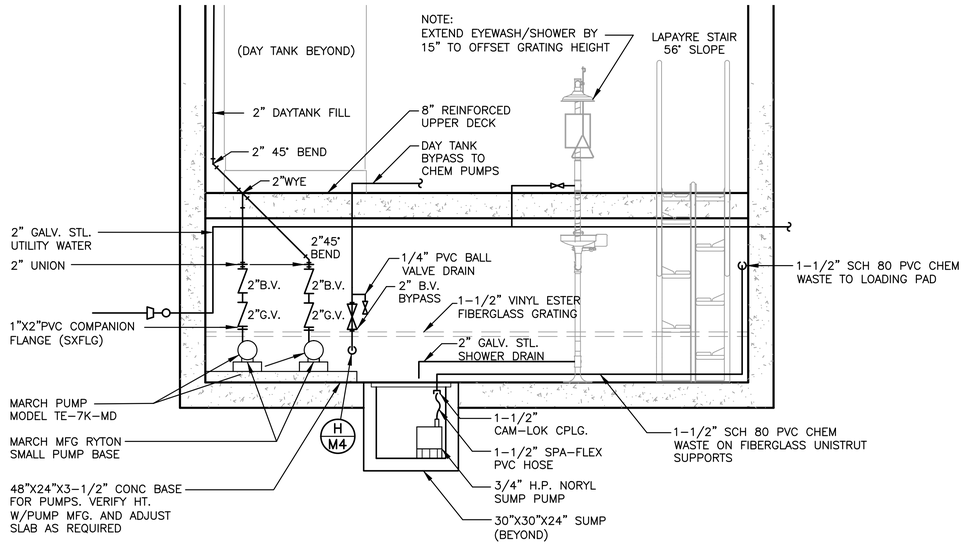


SOUTH WALL PIPING ELEVATION

SCALE 1"=2'

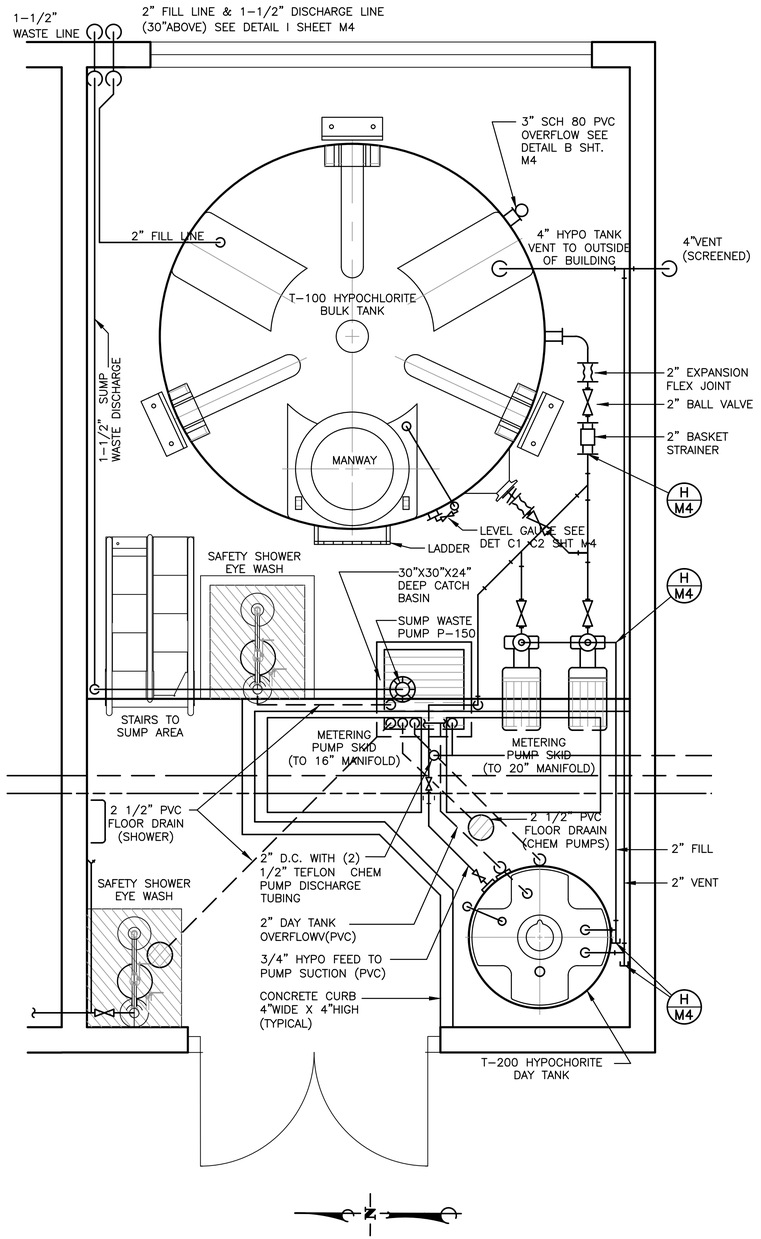
CHEMICAL ROOM PIPING NOTES

1. ALL CHEM ROOM PIPING SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
2. ALL PIPING, VALVING, AND EQUIPMENT CONTACTING LIQUID SODIUM HYPOCHLORITE SOLUTIONS IN CONCENTRATION ABOVE 1% WT. SHALL NOT HAVE THREADED CONNECTIONS (NATIONAL PIPE THREAD OR OTHER TYPE) IN CONTACT WITH THE LIQUID. ONLY FLANGED, SOLVENT WELDED SOCKET, O-RING SEALED, OR WELDED CONNECTIONS SHALL BE ALLOWED.
3. ALLOWABLE MATERIALS IN DIRECT CONTACT WITH SODIUM HYPOCHLORITE SOLUTIONS ABOVE 1% CONCENTRATION INCLUDE PVC SCHEDULE 80, CPVC SCHEDULE 80, PTFE, VITON, TEFLON, AND TITANIUM. NO NITRILE, BUNA N, STAINLESS STEEL, BRASS, OR COPPER MATERIALS SHALL BE ALLOWED.
4. ALL BALL VALVES SHALL BE EQUIPPED WITH SOCKET OR FLANGED CONNECTIONS, VITON OR FKM O-RING SEALS, AND VENTED BALLS. VALVES SHALL BE INSTALLED WITH THE BALL VENT DIRECTED TO THE UPSTREAM PROCESS SIDE.
5. ALL SODIUM HYPOCHLORITE LIQUID PIPING SHALL BE SLOPED BACK TOWARDS THE BULK TANK, OR DAY TANK AT 0.5% MINIMUM TO PREVENT GAS ACCUMULATION. ALL VENT LINES SHALL BE SLOPED TOWARDS THE BULK TANK OR DAY TANK AT 0.5% MINIMUM SLOPE TO ALLOW LIQUIDS OR CONDENSATES TO FLOW TOWARDS THE TANKS.
6. SOLVENT GLUED PVC OR CPVC CONNECTIONS SHALL USE IPS OR WELDON 724 PVC CEMENT AND P-70 PRIMER. GLUED JOINTS SHALL BE MADE UP IN ACCORDANCE WITH THE GLUE MANUFACTURERS PROCEDURES FOR CHEMICAL SERVICE USE.
7. ALL PIPING SUPPORTS, INCLUDING STRUT CHANNEL SUPPORT SYSTEMS SHALL BE OF PVC OR VINYL ESTER FIBERGLASS CONSTRUCTION.



LOWER CHEMICAL ROOM TYPICAL DETAILS

SCALE 1"=2'



HYPOCHLORITE ROOM PLAN

SCALE 1"=2'

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06-30-20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

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CHEMICAL ROOM 101 (HYPOCHLORITE)
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

M1A

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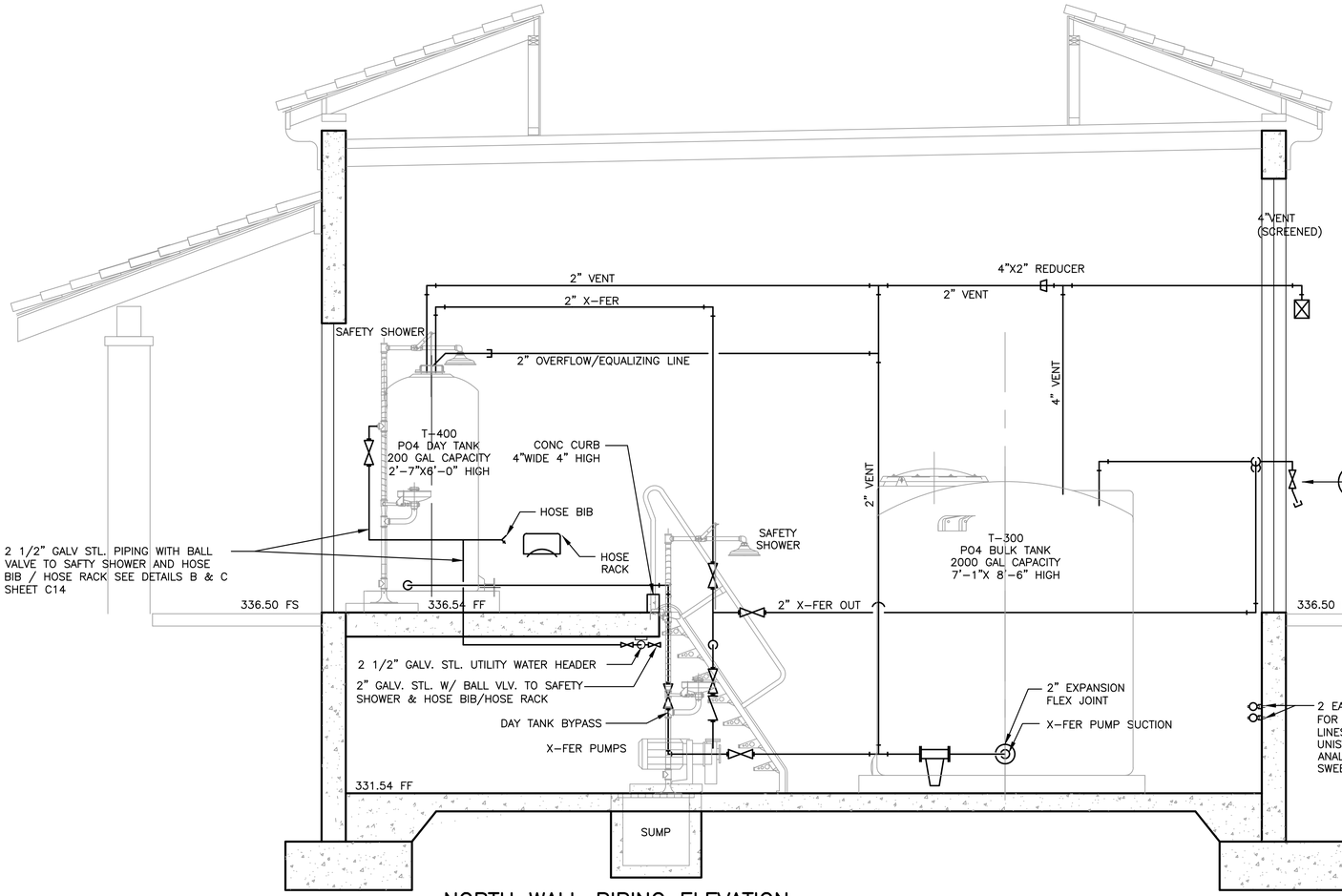
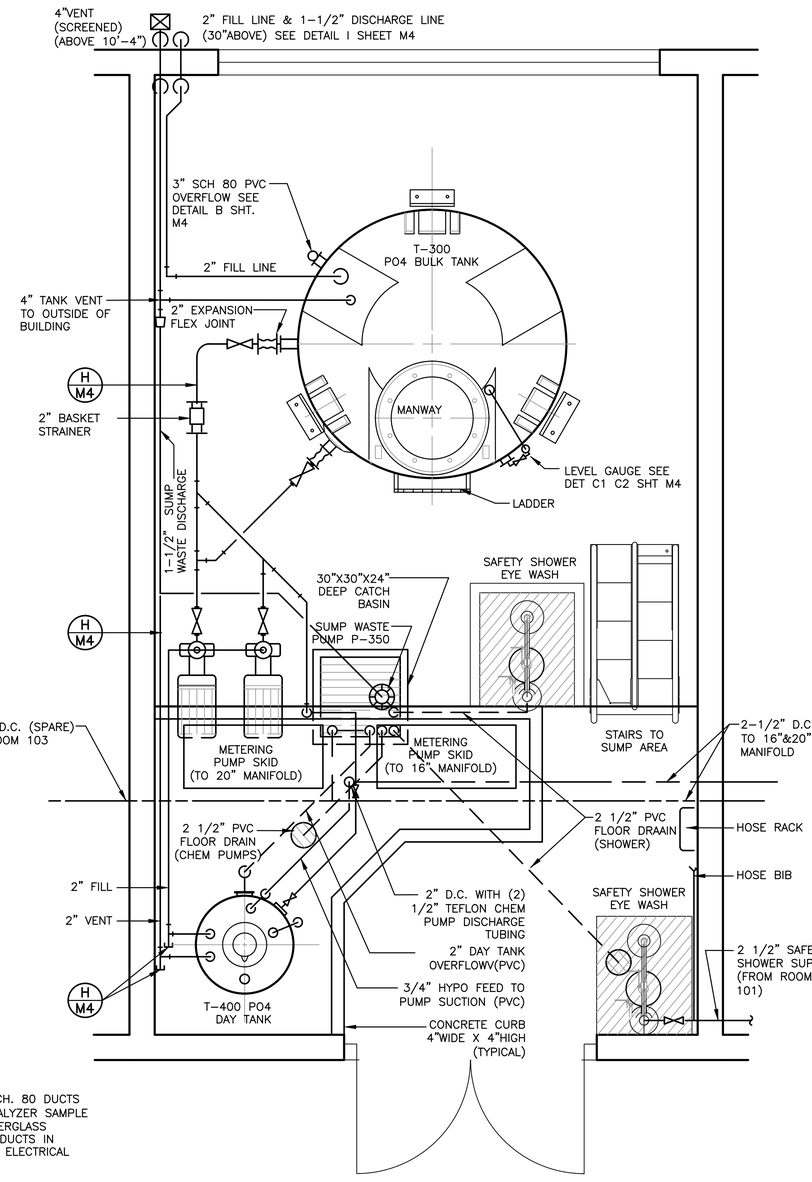


NORTH WALL PIPING ELEVATION

SCALE 1"=2'



ORTHOPHOSPHATE ROOM PLAN

SCALE 1"=2'

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06-30-20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

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CHEMICAL ROOM 102 (PO4)

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

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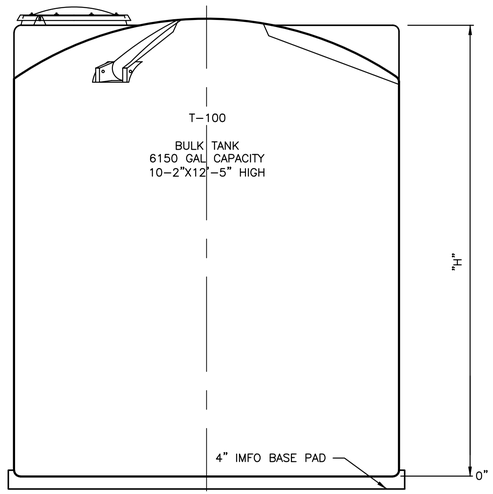
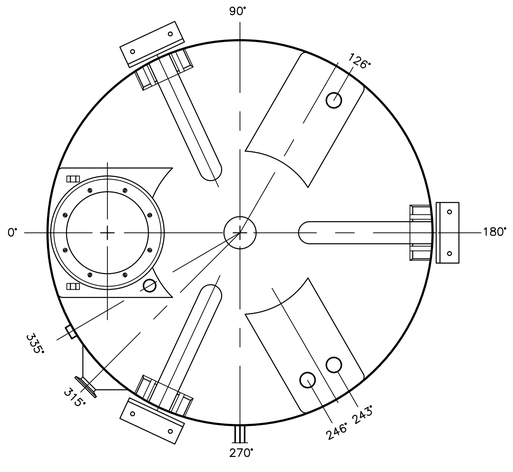


Hypochlorite Bulk Tank

Item	Location
Tank Name	Hypochlorite Bulk Tank
Tag #	T-100
Contents	12.5% Sodium Hypochlorite Solution
Liquid Properties	10.2 #/gal.; 1.22 SG, Freezing point (-20ºF)
Dimensions	10'-2" Dia. X 12'-6" H
Volume	6150 gal.
Material	Ultra High Density Polyethylene (XLPE)
Lining	OR-1000 antioxidant protective liner
Features	4" flush molded drain, FRP ladder, 4" base pad, seismic tiedown anchors, 24" bolted manway
Stock Number	Poly Processing Co #1000400

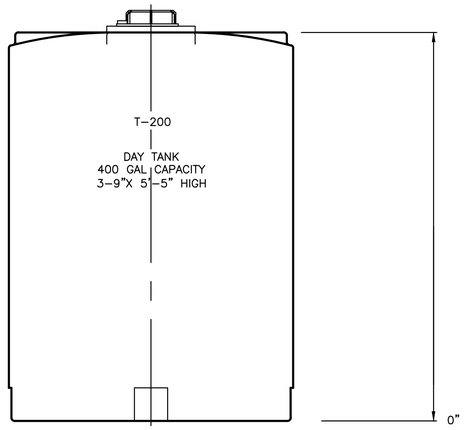


Hypochlorite Bulk Tank – Nozzle Schedule

Item	Size	Ftg. Type	Orientation (degrees)	Height	Radius (from Roof Center)	Location
Fill line	2"	Flg.	126	-	4'-4"	Roof
Overflow	3"	Flg.	234	+10'-2"	-	Side
Vent	4"	Bulkhead	246	-	4'-4"	Roof
Flush Drain	4"	Flg.	315	0"	-	Side
Level Transmitter	3"	Flg.	335	-	4'-4"	Roof
Level Indicator (L)	2"	Flg.	335	+6"	-	Side
Level Indicator (U)	2"	Flg.	335	-	4'-8"	Roof
HLL Alarm Switch	2"	Flg.		-		Roof
Manway	24"	Bolted	0	-	3'-6"	Roof
Pump Suction	2"	Flg.	270	+6"	-	Side

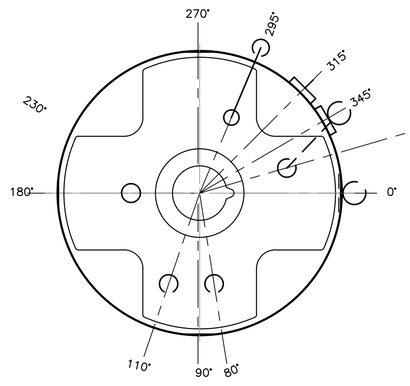
BULK TANK PLAN

SCALE 1"=2'



Hypochlorite Day Tank

Item	Location
Tank Name	Hypochlorite Day Tank
Tag #	T-200
Contents	12.5% Sodium Hypochlorite Solution
Liquid Properties	10.2 #/gal.; 1.22 SG, Freezing point (-20ºF)
Dimensions	45" Dia. X 5'-2" H
Volume	400 gal.
Material	Ultra High Density Polyethylene (XLPE)
Lining	OR-1000 antioxidant protective liner
Features	Seismic tiedown anchors
Stock Number	Poly Processing Co #1000400



Hypochlorite Day Tank – Nozzle Schedule

Item	Size	Ftg. Type	Orientation (degrees)	Height	Radius (from Roof Center)	Location
Fill line	2"	Flg.	80	-	18"	Roof
Overflow	2-1/2"	Flg.	0	+6'-6"	-	Side
Vent	2"	Bulkhead	110	-	18"	Roof
Drain	2"	Flg.	230	+2"	-	Side
Level Transmitter	3"	Flg.	180	-	18"	Roof
Level Gauge	2"	Flg.	295	+6	13	Roof+Side
Access Port	7"	Threaded	0	-	0"	Roof
Metering Pump Suction	2"	Flg.	315	+2"	-	Side
Return	1"	Bulkhead	345	-	13	roof

DAY TANK PLAN

SCALE 1"=2'

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06–30–20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

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CHEMICAL ROOM 101TANK DETAILS

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

M2A

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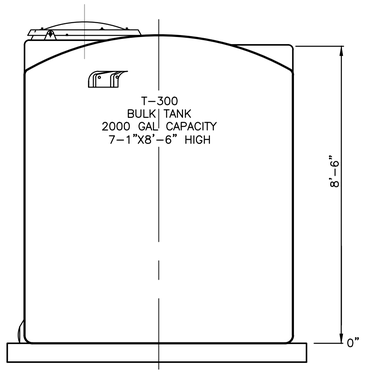
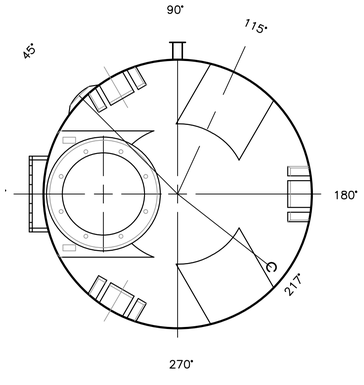


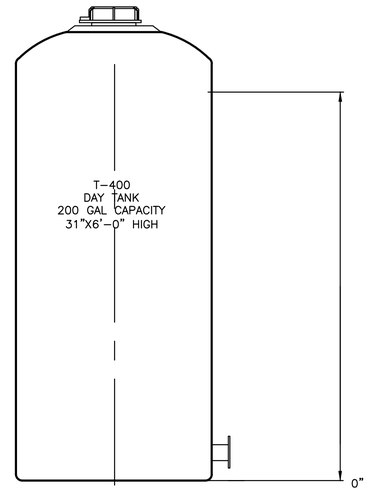
ORTHOPHOSPHATE BULK TANK

Item	Location
Tank Name	Orthophosphate Bulk Tank
Tag #	T-300
Contents	29% Orthophosphate (Carus 4500)
Liquid Properties	10.2 #/gal.; 1.22 SG, Freezing point (-20ºF)
Dimensions	7'-1" Dia. X 8'-6" H
Volume	2000 gal.
Material	Ultra High Density Polyethylene (XLPE)
Lining	None
Features	4" flush molded drain, FRP ladder, 4" base pad, seismic tiedown anchors, 24" bolted manway
Stock Number	Poly Processing Co #1102000



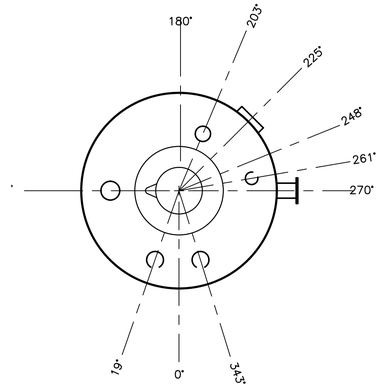
ORTHOPHOSPHATE BULK TANK – NOZZLE SCHEDULE

Item	Size	Ftg. Type	Orientation (degrees)	Height	Radius (from Roof Center)	Location
Fill line	2"	Flg.	230	-	2'-10"	Roof
Overflow	3"	Flg.	125	+7'-0"	-	Side
Vent	4"	Bulkhead	125	-	2'-10"	Roof
Flush Drain	4"	Flg.	45	0"	-	Side
Level Transmitter	3"	Flg.	235	-	2'-10"	Roof
Level Indicator (L)	2"	Flg.	310	+6"	-	Side
Level Indicator (U)	2"	Flg.	310	-	1'-8"	Roof
HLL Alarm Switch	2"	Flg.	310	-	-	On Gauge
Manway	24"	Bolted	0	-	2'-0"	Roof
Pump Suction	2"	Flg.	90	+6"	-	Side



ORTHOPHOSPHATE DAY TANK

Item	Location
Tank Name	Orthophosphate Day Tank
Tag #	T-400
Contents	29% Orthophosphate (Carus 4500)
Liquid Properties	11.0 #/gal.; 1.32 SG, Freezing point (30ºF)
Dimensions	31" Dia. X 6'-0" H
Volume	200 gal.
Material	Ultra High Density Polyethylene (XLPE)
Lining	None
Features	Seismic tiedown anchors
Stock Number	Poly Processing Co #1000205



ORTHOPHOSPHATE DAY TANK – NOZZLE SCHEDULE

Item	Size	Ftg. Type	Orientation (degrees)	Height	Radius (from Roof Center)	Location
Fill line	2"	Flg.	338	-	10"	Roof
Overflow	2-1/2"	Flg.	238	+5'-2"	-	Side
Vent	2"	Bulkhead	12	-	10"	Roof
Drain	2"	Flg.	90	+2"	-	Side
Level Transmitter	3"	Flg.	82	-	9"	Roof
Level Gauge	2"	Flg.	137	6"	9"	Roof+Side
Access Port	7"	Threaded	0	-	0"	Roof
Metering Pump Suction	2"	Flg.	180	+2"	-	Side
Return	1"	Bulkhead	15	-	10"	Roof

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06–30–20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

REV	DATE	BY	DESCRIPTION
	08–05–19		ISSUED FOR BID

SCALE:
HOR. N/A
VER. N/A

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED SPT
DRAWN TLA/FH
CHECKED SPT

MAC Design Associates
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CHEMICAL ROOM 102 TANK DETAILS
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

M2B

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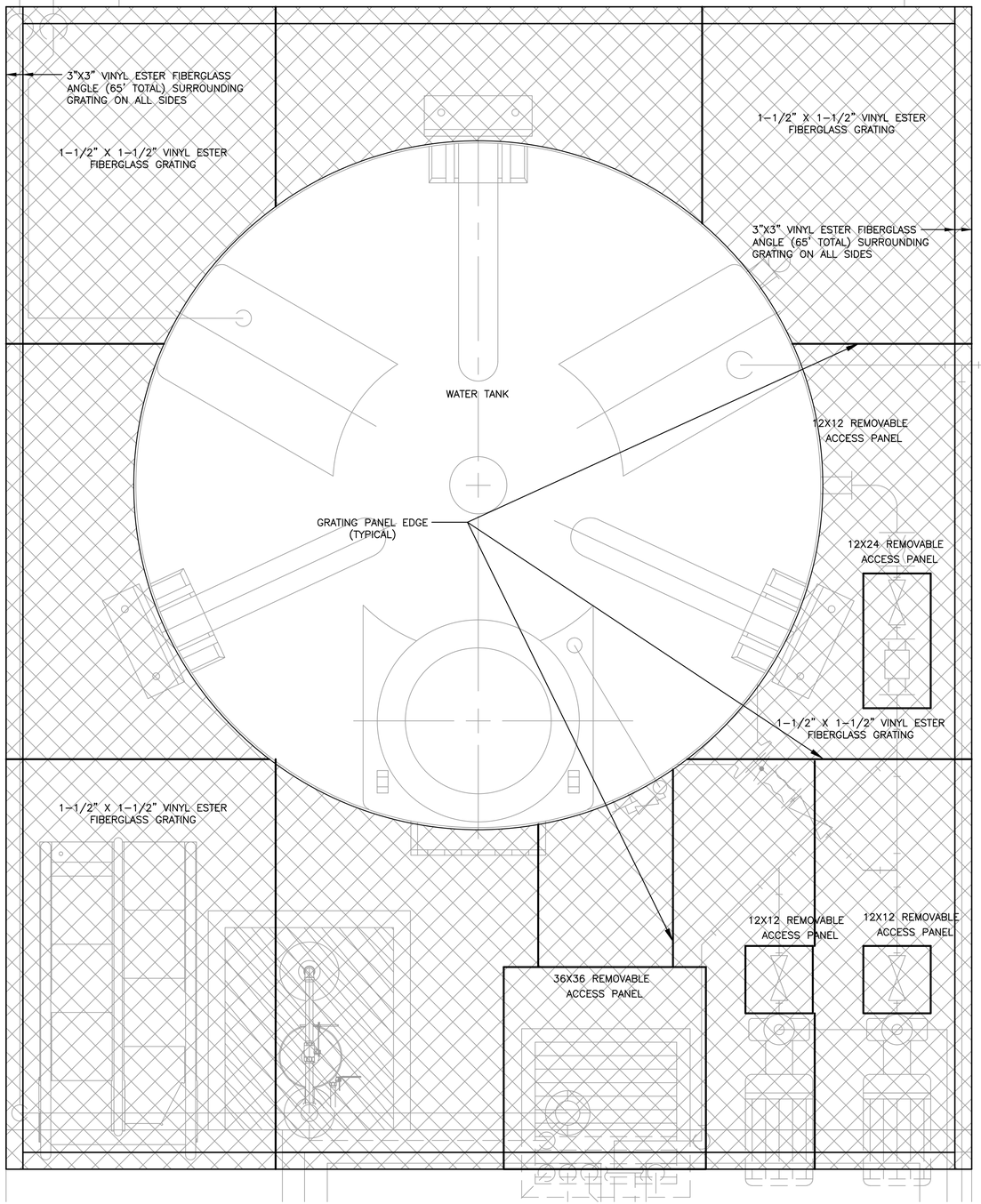
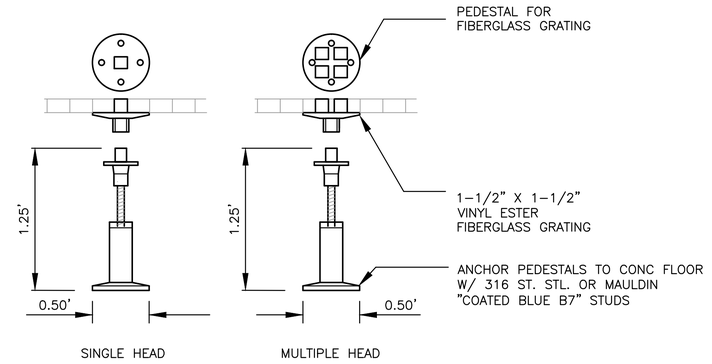


FLOOR GRATING PLAN

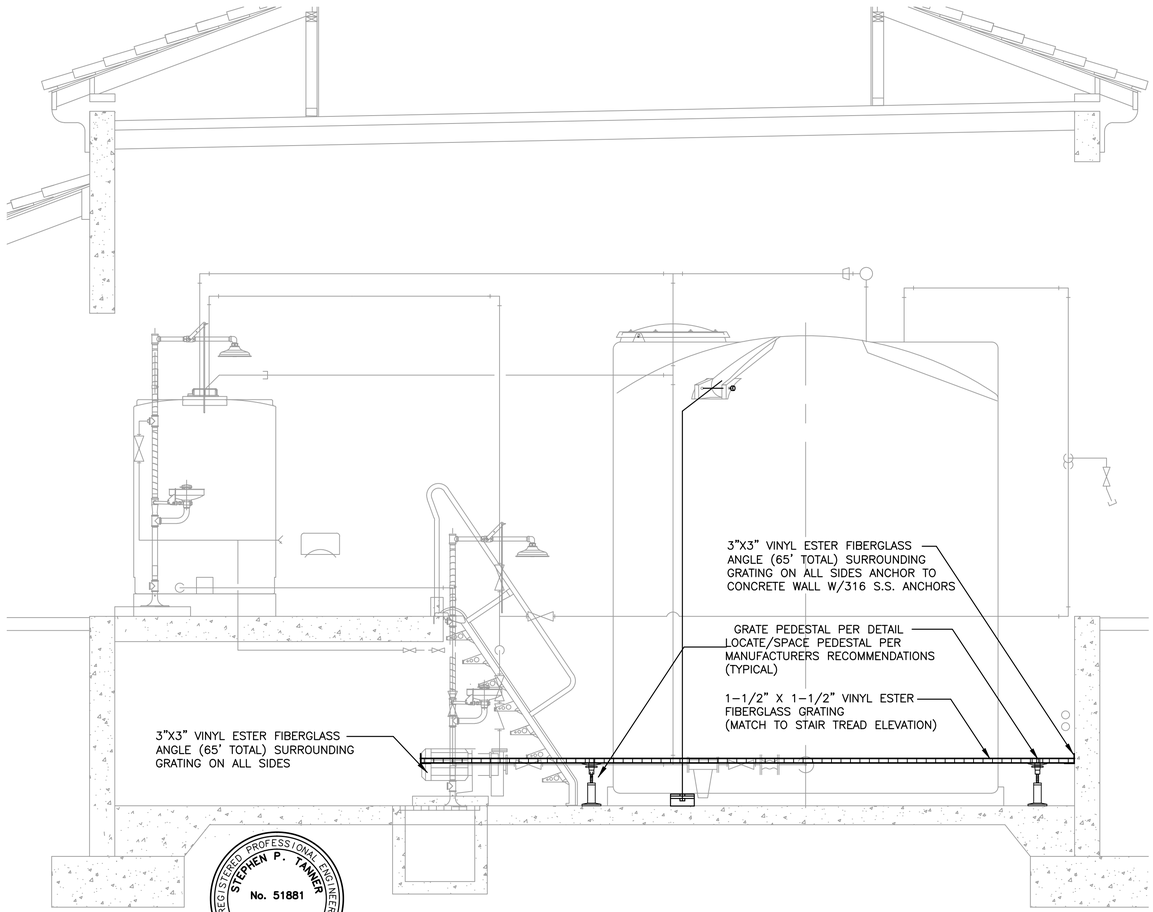
NO SCALE

NOTE:
GRATING TO BE PROVIDED FOR CHEMICAL ROOMS 101 & 102 NOT FOR ROOM 103



GRATE PEDESTAL DETAILS

NTS



REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06-30-20
CIVIL
STATE OF CALIFORNIA

DATE SIGNED _____

FLOOR GRATING SECTION

NO SCALE

REV	DATE	BY	DESCRIPTION
	08-05-19		ISSUED FOR BID

SCALE:
HOR. N/A
VER. N/A

WARNING
0 1/2 1
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TYPICAL CHEMICAL ROOM GRATING PLAN

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

M3

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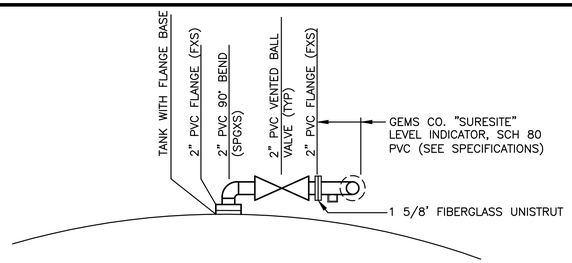
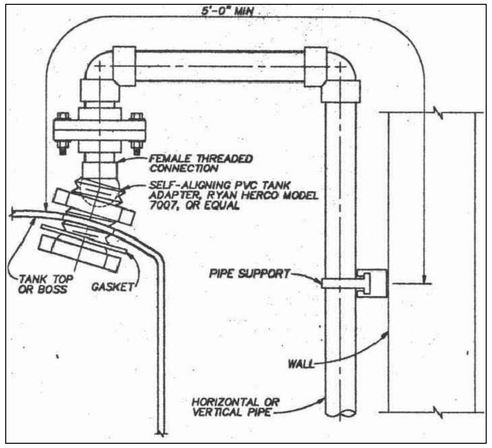


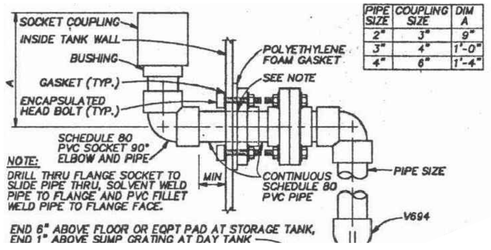
C2 / M4 LOWER LEVEL INDICATOR CONNECTION

NO SCALE



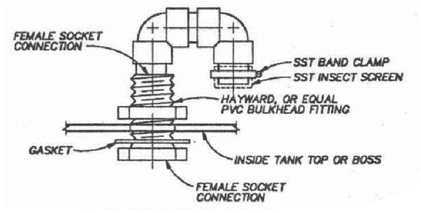
C1 / M4 UPPER LEVEL INDICATOR CONNECTION

NO SCALE



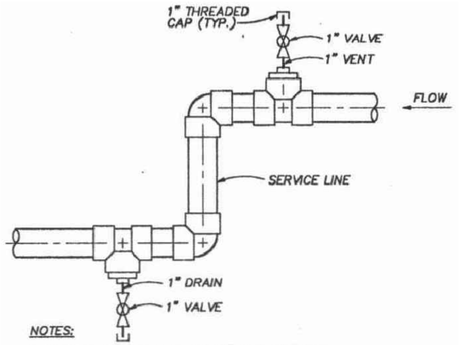
B / M4 OVERFLOW PIPE

NO SCALE



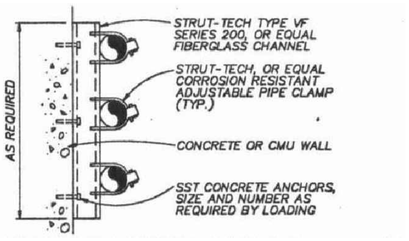
A / M4 GOOSENECK VENT

NO SCALE



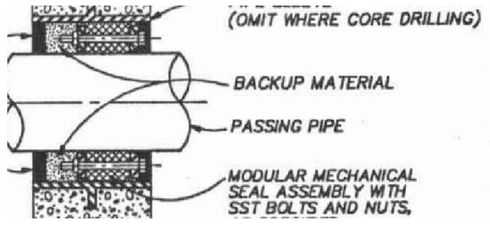
H / M4 PIPING VENTS AND DRAINS

NO SCALE



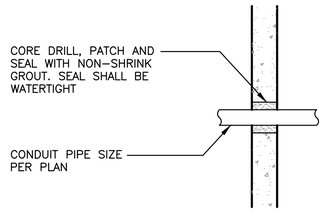
F / M4 STAKED PIPE WALL SYSTEM

NO SCALE



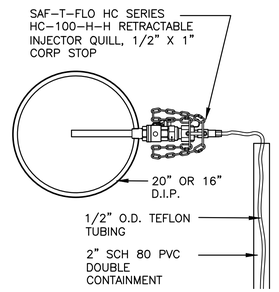
D / M4 WALL PENETRATION DETAIL

NO SCALE



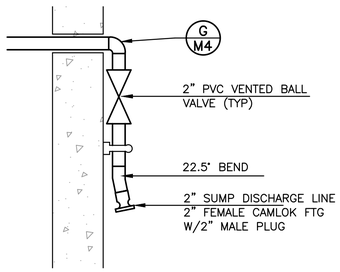
G / M4 TYPICAL CONDUIT PENETRATION DETAIL

SCALE 1"=1'



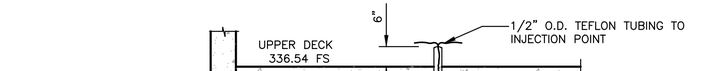
RETRACTABLE INJECTOR DETAIL

SCALE 1"=1'



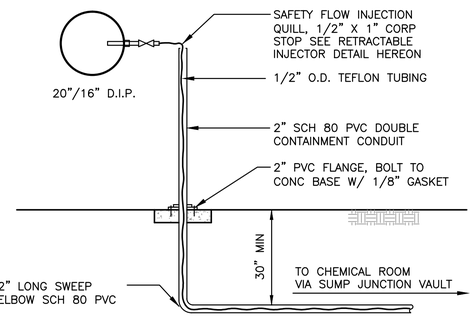
D / M4 SECTION TRUCK LOADING CONNECTION DETAIL

SCALE 1"=1'



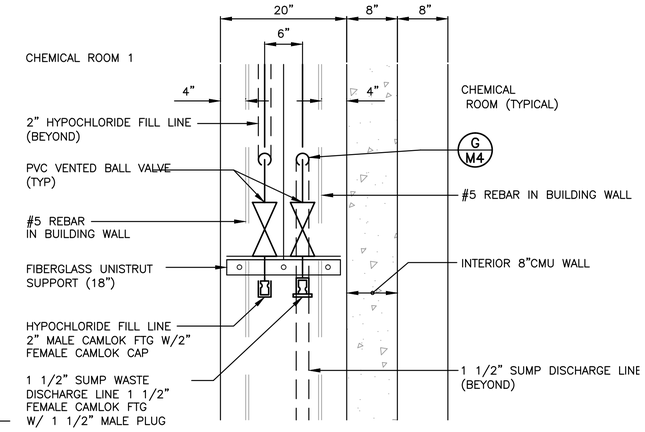
K / M4 CHEMICAL FEED/DOUBLE CONTAINMENT INJECTOR DETAIL

SCALE 1"=2'



J / M4 CHEMICAL INJECTOR DETAIL

SCALE 1"=2'



I / M4 TRUCK LOADING CONNECTION DETAIL

SCALE 1"=1'

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SCALE:
HOR. N/A
VER. N/A

WARNING
0 1/2 1
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CHEMICAL ROOM PIPING DETAILS
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO. W.O. 0451

M4

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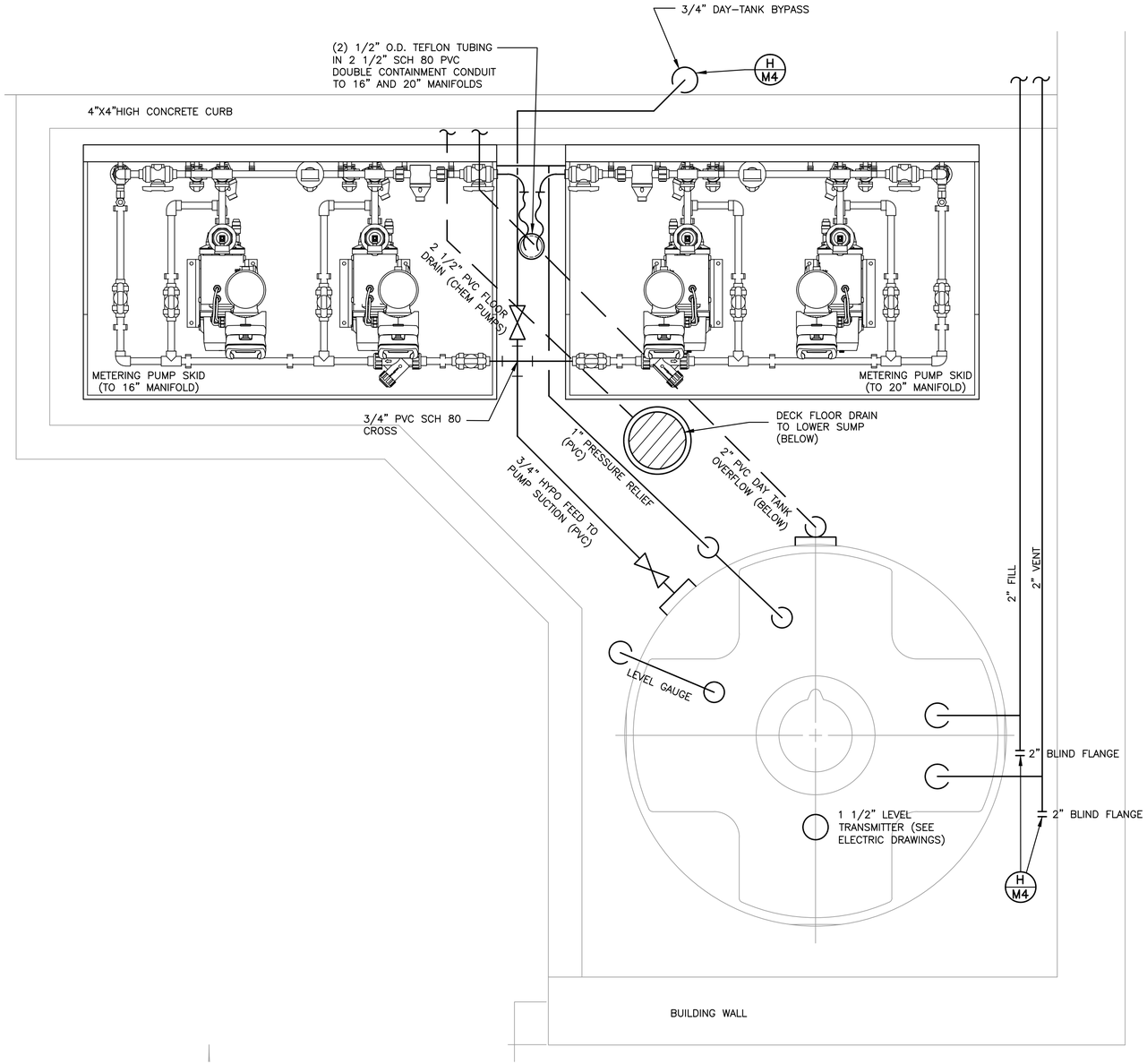
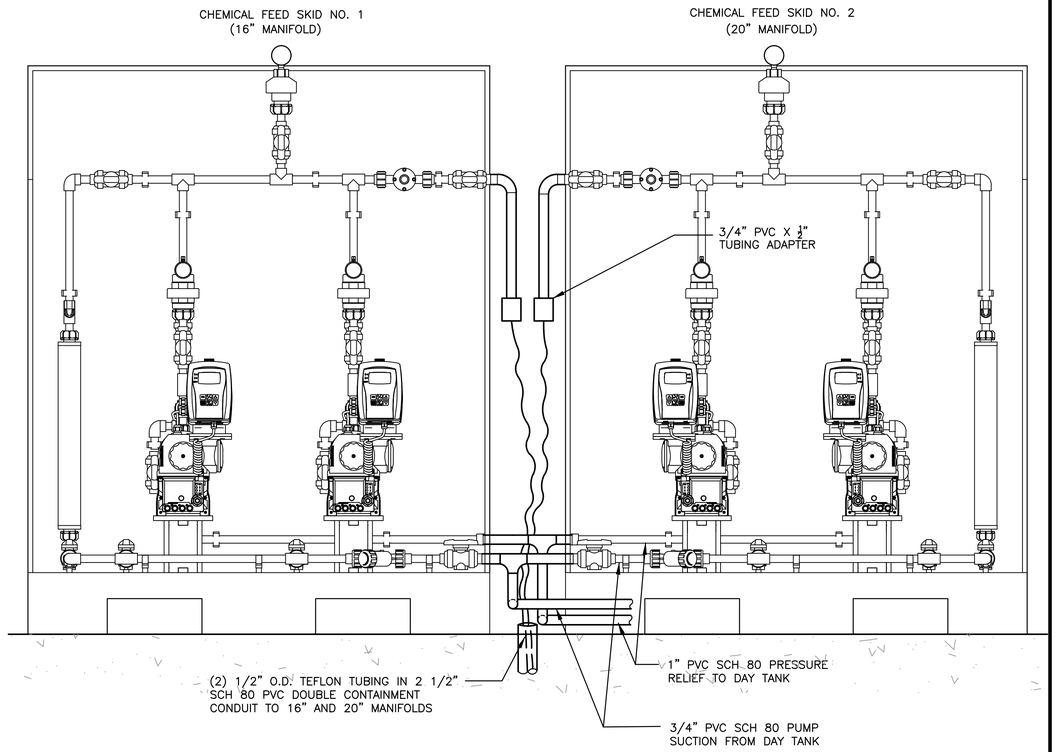


2 M5 UPPER DECK PIPING DETAILS

SCALE 1.5"= 1'



2 M5 CHEMICAL FEED SKID ASSEMBLY ELEVATION

SCALE 1.5"= 1'

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	08-05-19	ST	ISSUED FOR BID

SCALE:
HOR. 1"=20'
VER. N/A

WARNING
0 1/2 1
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TYPICAL CHEMICAL ROOM PIPING

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

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PROJECT NO. W.O. 0451

M5

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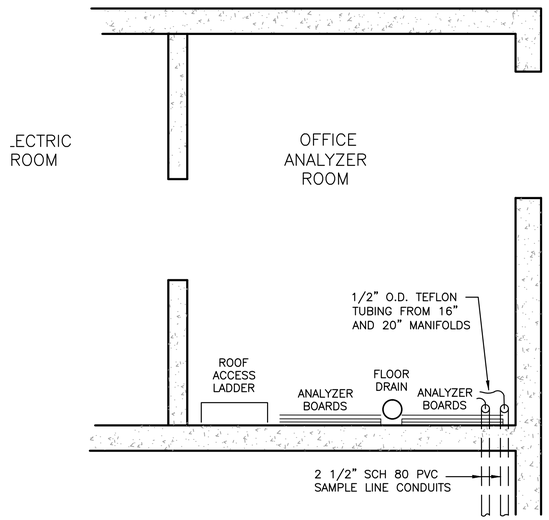
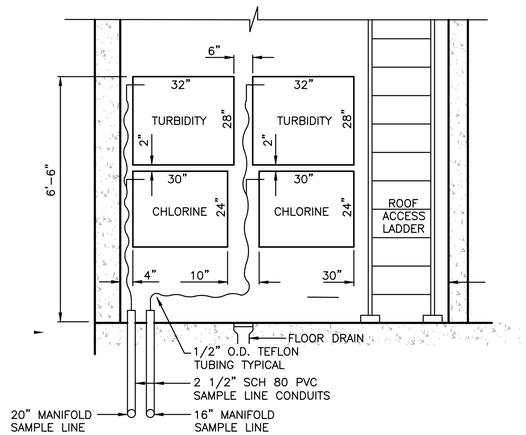


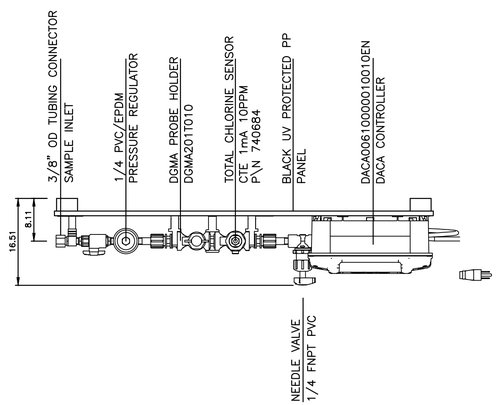
ANALYZER ROOM SOUTH WALL PLAN

SCALE: 1"=2'



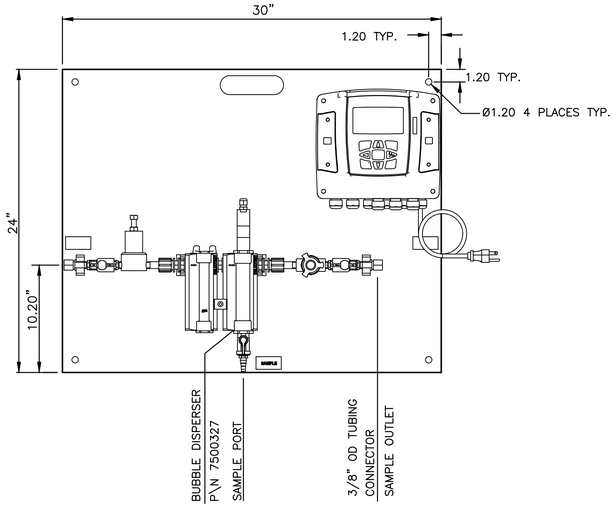
ANALYZER ROOM SOUTH WALL ELEVATION

SCALE: 1"=2'



PLAN VIEW
CHLORINE ANALYZER BOARD

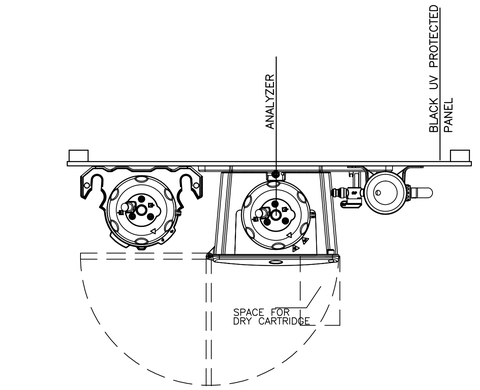
NTS



CHLORINE ANALYZER BOARD ELEVATION

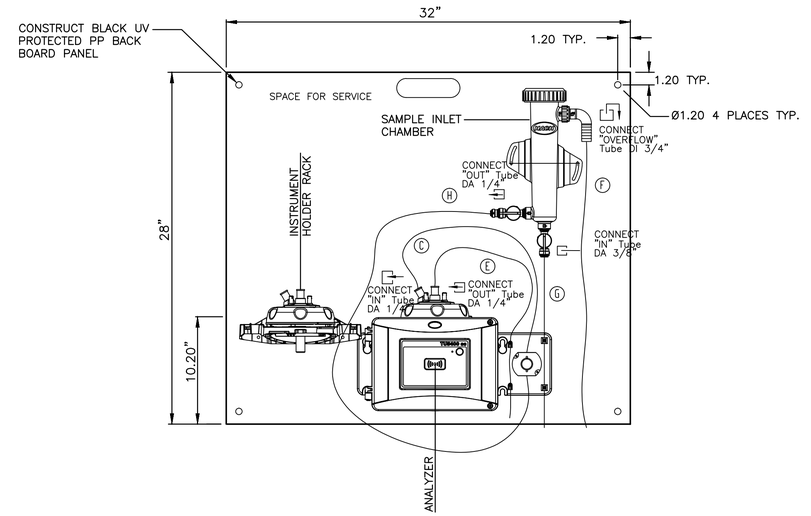
NTS

NOTE
UNIT IS PRE-ASSEMBLED ON BACKBOARD



PLAN VIEW
TURBITITY ANALYZER BOARD

NTS



TURBITITY ANALYZER BOARD ELEVATION

NTS

NOTE:
CONTRACTOR TO PROVIDE BACKBOARD AND MOUNT ANALYZER AND PIPING

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. TANNER
No. 51881
EXPIRES 06-30-20
CIVIL
STATE OF CALIFORNIA

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SCALE:
HOR. 1"=20'
VER. N/A

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ANALYZER ROOM PIPING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.
W.O. 0451

M6

KEY NOTES

THE KEY NOTES THAT FOLLOW APPLY TO THE DRAWING(S) ON THIS SHEET ONLY. REFER TO FOLLOWING SHEETS FOR NOTES THAT ARE APPLICABLE TO THOSE DRAWINGS.

1. NEW BUILDING ACCESS DRIVEWAY INCLUDING PARKING
2. EXISTING WALL AND FENCING
3. NEW BUILDING
4. NEW CONC. PAVING, SEE DETAIL 1/ A111
5. NEW ROLLING GATE
   - 5A CONCRETE / STEEL TRACK, SEE DETAIL 3/A111
   - 5B GATE MOTOR ON CONCRETE PAD, SEE DETAIL 4/A111
   - 5C STEEL TUBE ROLLING GATE WITH WOOD CLADDING, SEE DETAILS 4/A111 AND 5/A111
6. SLIDING GATE CONTROL - KEYPAD STATION
7. SLIDING GATE CONTROL - SENSOR LOOP IN DRIVEWAY

WALD RUHNKE & DOST ARCHITECTS LLP

2340 GARDEN ROAD, SUITE 100

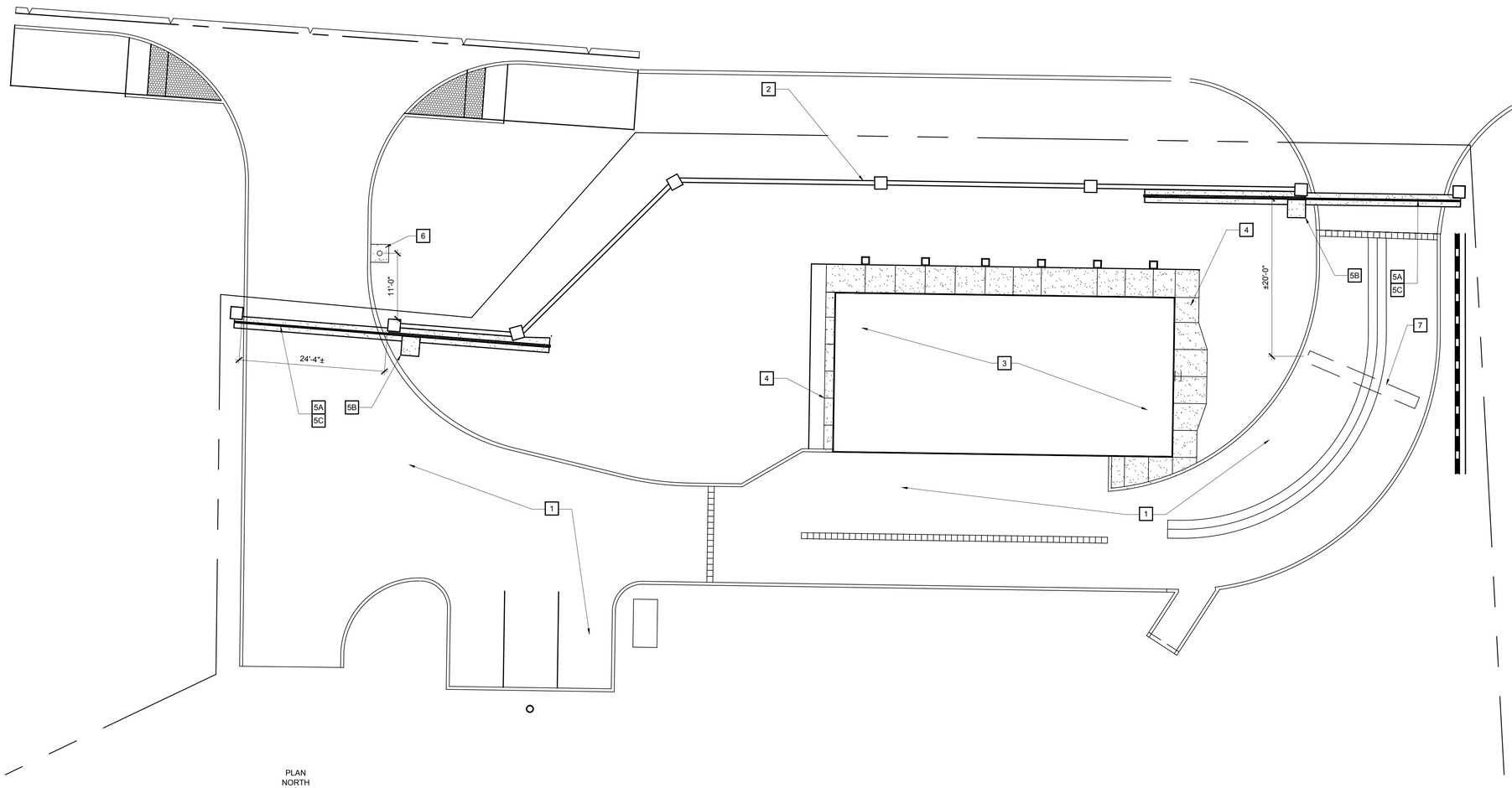
MONTEREY, CALIFORNIA 93940

PHONE: 831.649.4642

FAX: 831.649.3530

WWW.WRDARCH.COM

GENERAL JIM MOORE BLVD.



PLAN NORTH

PARTIAL SITE PLAN

SCALE: 1" = 10'-0"

MPWMD SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING

1910 GENERAL JIM MOORE BLVD.
SEASIDE, CA

JOB NO.: 18014.2

PRINT DATE:

PLOT DATE: 8.2.2019

CHECKED BY: -

SET ISSUED:

60% DESIGN REVIEW 5/17/19
100% DESIGN REVIEW 6/25/19
ISSUED FOR BID 8/5/19

SHEET NAME: PARTIAL SITE PLAN

SHEET NO.: A101

FILE NAME: 18014.2 A101

GATE NOTES

OPERATOR: LIFTMASTER MODEL SL3000101UL 1 H.P. SINGLE PHASE

GATE CLASS: CLASS III

ENTRAPMENT PROTECTION FOR BOTH OPEN AND CLOSE OPERATION: (1) BUILT INTO OPERATOR AND (2) MONITORED EXTERNAL EDGE SENSOR

GENERAL OPERATION OPTIONS:
1. ENTRY GATE: ELECTRONIC KEYPAD, FOB AND MOBILE DEVICE OPTIONS AND LOCKABLE CONTROL AT INTERIOR OF SITE WALL 6'-0" CLEAR OF ALL GATE COMPONENTS.
2. EXIT GATE: OPERATION BY ELCTONIC LOOP IN PAVEMENT AND LOCKABLE CONTROL AT INTERIOR OF SITE WALL 6'-0" CLEAR OF ALL GATE COMPONENTS
3. ENTRY GATE AND EXIT GATE: PROVIDE LOCKABLE OVERRIDE OF ELECTRONIC OPERATION FOR EMERGENCY MANUAL (PUSH PULL) OPERATION

SUBMITTAL REQUIREMENTS:
1. PRODUCT INFORMATION FOR OPERATOR AND CONTROL SYSTEMS.
2. FULL SYSTEM ELECTRICAL POWER AND LOW VOLTAGE REQUIREMENTS COORDINATED WITH SITE ELECTRICAL INDICATED ON THE ELECTRICAL DRAWINGS.
3. SITE LAYOUT DRAWINGS BASED ON FIELD MEASUREMENTS
4. FULL GATE CONTROL DRAWINGS INCLUDING REMOTE PEDESTAL AND WALL MOUNTED OPERATORS, PAVING LOOP SENSORS, LOCKBOX LOCATIONS, ETC.
5. CONSTRUCTION / FABRICATION DRAWINGS FOR GATE FRAME/ CLADDING, EQUIPMENT PAD, AND GATE TRACK. GATES DRAWINGS SHALL BE PREPARED IN A DELGATED-DESIGN SUBMITTAL PREPARED BY A CONTRACTOR PROVIDED DESIGN PROFESSIONAL INCLUDING A STATEMENT, SIGNED AND SEALED BY THE RESPONSIBLE DESIGN PROFESSIONAL. THE SUBMITTAL SHALL USE AS STRUCTURAL CRITERIA THE BUILDING BASIS OF DESIGN ON STRUCTURAL SHEET S1.0.
6. O AND M MANUALS INCLUDING COMPLETE SYSTEM SEQUENCE OF OPERATION AND OPERATING INSTRUCTIONS AND MINIMUM 4 HOUR TRAINING TIME TO BE ATTENDED BY STAFF AS DESIGNATED BY OWNER.

SAFETY
Safety Installation Information
1. Vehicular gate systems provide convenience and security. Gate systems are comprised of many component parts. The gate operator is only one component. Each gate system is specifically designed for an individual application.
2. Gate operating system designers, installers and users must take into account the possible hazards associated with each individual application. Improperly designed, installed or maintained systems can create risks for the user as well as the bystander. Gate systems design and installation must reduce public exposure to potential hazards.
3. A gate operator can create high levels of force in its function as a component part of a gate system. Therefore, safety features must be incorporated into every design. Specific safety features include:
. Edges Sensors (contact)
. Guards for Exposed Rollers
. Photoelectric Sensors
. Screen Mesh
. Vertical Posts
. Instructional and Precautionary Signage
4. Install the gate operator only when:
a. The operator is appropriate for the construction and the usage class of the gate.
b. All openings of a horizontal slide gate are guarded or screened from the bottom of the gate to a minimum of 6 feet (1.8 m) above the ground to prevent a 2-1/4 inches (6 cm) diameter sphere from passing through the openings anywhere in the gate, and in that portion of the adjacent fence that the gate covers in the open position.
c. All exposed pinch points are eliminated or guarded, and guarding is supplied for exposed rollers.5. The operator is intended for installation only on gates used for vehicles.
5. Pedestrians must be supplied with a separate access opening. The pedestrian access opening shall be designed to promote pedestrian usage. Locate the gate such that persons will not come in contact with the vehicular gate during the entire path of travel of the vehicular gate.
6. The gate must be installed in a location so that enough clearance is supplied between the gate and adjacent structures when opening and closing to reduce the risk of entrapment.
7. The gate must be properly installed and work freely in both directions prior to the installation of the gate operator.
8. Permanently mounted access controls intended for users to activate, must be located at least 6 feet (1.8 m) away from any moving part of the gate and where the user is prevented from reaching over, under, around or through the gate to operate the controls. Outdoor or easily accessible controls shall have a security feature to prevent unauthorized use. Exception: Emergency access controls only accessible by authorized personnel (e.g. fire, police) may be placed at any location in the line-of-sight of the gate.
9. The Stop and/or Reset must be located in the line-of-sight of the gate. Activation of the reset control shall not cause the operator to start.
10. A minimum of two (2) WARNING SIGNS shall be installed in the area of the gate. Each placard is to be visible by persons located on the side of the gate on which the placard is installed.
11. For a gate operator utilizing a non-contact sensor:
a. Reference owner's manual regarding placement of non-contact sensor for each type of application. See Install Entrapment Protection section.
b. Care shall be exercised to reduce the risk of nuisance tripping, such as when a vehicle trips the sensor while the gate is still moving.
c. One or more non-contact sensors shall be located where the risk of entrapment or obstruction exists, such as the perimeter reachable by a moving gate or barrier.
12. For a gate operator utilizing a contact sensor such as an edge sensor:
a. One or more contact sensors shall be located where the risk of entrapment or obstruction exists, such as at the leading edge, trailing edge and post mounted both inside and outside of a vehicular horizontal slide gate.
b. A hard wired contact sensor shall be located and its wiring arranged so the communication between the sensor and the gate operator is not subject to mechanical damage.
c. A wireless device such as one that transmits radio frequency (RF) signals to the gate operator for entrapment protection functions shall be located where the transmission of the signals are not obstructed or impeded by building structures, natural landscaping or similar obstruction. A wireless device shall function under the intended end-use conditions.

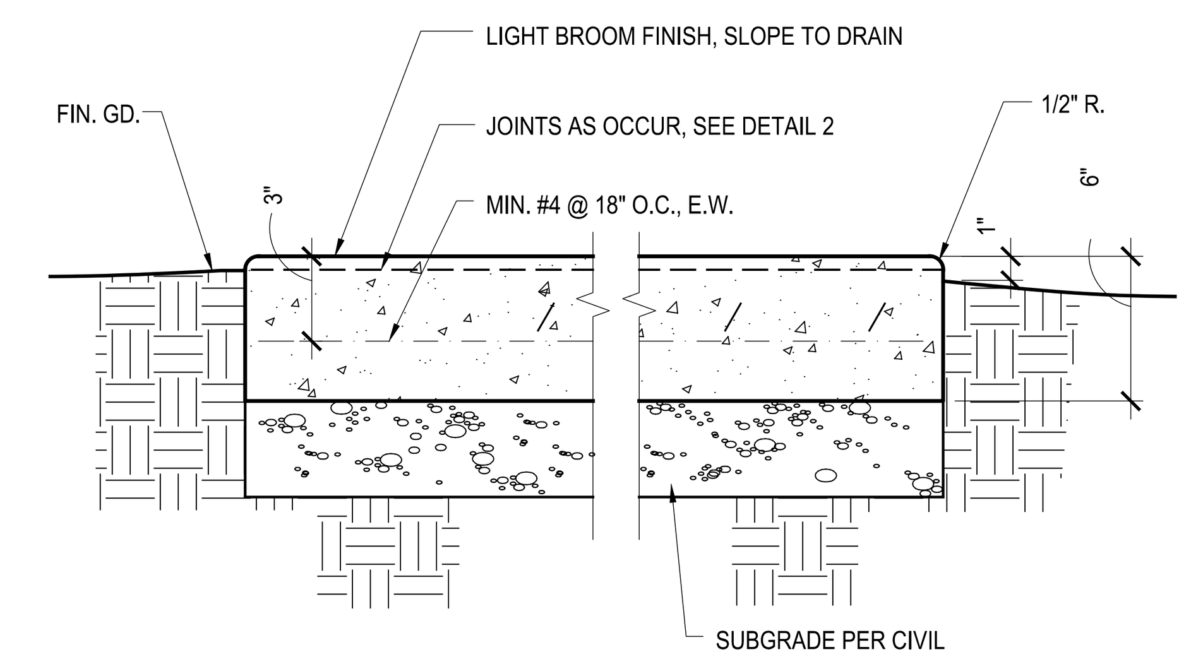
SAFETY
Gate Construction Information
Vehicular gates should be installed in accordance with ASTM F2200: Standard Specification for Automated Vehicular Gate Construction.
1. General Requirements
1.1 Gates shall be constructed in accordance with the provisions given for the appropriate gate type listed, refer to ASTM F2200 for additional gate types.
1.2 Gates shall be designed, constructed and installed to not fall over more than 45 degrees from the vertical plane, when a gate is detached from the supporting hardware.
1.3 Gates shall have smooth bottom edges, with vertical bottom edged protrusions not exceeding 0.50 inches (12.7 mm) when other than the exceptions listed in ASTM F2200.
1.4 The minimum height for barbed tape shall not be less than 8 feet (2.44 m) above grade and for barbed wire shall not be less than 6 feet (1.83 m) above grade.
1.5 An existing gate latch shall be disabled when a manually operated gate is retrofitted with a powered gate operator.
1.6 A gate latch shall not be installed on an automatically operated gate
1.7 Protrusions shall not be permitted on any gate, refer to ASTM F2200 for Exceptions.
1.8 Gates shall be designed, constructed and installed such that their movement shall not be initiated by gravity when an automatic operator is disconnected, in accordance with the following.
1.8.1 Vehicular horizontal slide gate. Shall not result in continuous, unimpeded movement in either lineal direction of its travel.
1.9 For pedestrian access in the vicinity of an automated vehicular gate, a separate pedestrian gate shall be provided. The pedestrian gate shall be installed in a location such that a pedestrian shall not come in contact with a moving vehicular access gate. A pedestrian gate shall not be incorporated into an automated vehicular gate panel.
2. Specific Applications
2.1 Any non-automated gate that is to be automated shall be upgraded to conform to the provisions of this specification,
2.2 This specification shall not apply to gates generally used for pedestrian access and to vehicular gates not to be automated.
2.3 When the gate operator requires replacement, the existing gate shall be upgraded to conform to the provisions of this specification.
2.4 When the gate of an automated gate system requires replacement, the new gate shall conform to the provisions of this specification.

3. Vehicular Horizontal Slide Gates
3.1 The following provisions shall apply to Class I, Class II and Class III vehicular horizontal slide gates:
3.1.1 All weight bearing exposed rollers 8 feet (2.44 m), or less, above grade shall be guarded or covered.
3.1.2 All openings shall be designed, guarded, or screened from the bottom of the gate to the top of the gate or a minimum of 6 ft. (1.83 m) above grade, whichever is less, to prevent a 2 1/4 in. (57 mm) diameter sphere from passing through the openings anywhere in the gate, and in that portion of the adjacent fence that the gate covers in the open position. The gate panel shall include the entire section of the moving gate,including any back frame or counterbalance portion of the gate.

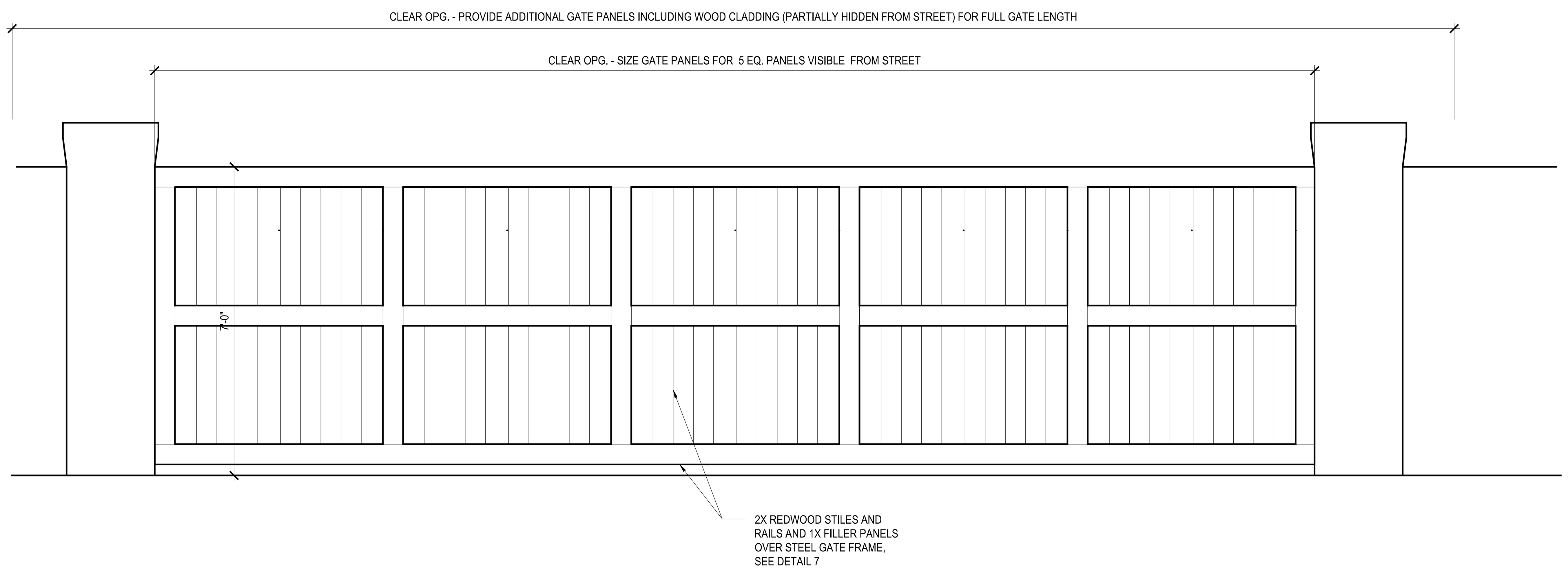
3.1.3 A gap, measured in the horizontal plane parallel to the roadway, between a fixed stationary object nearest the roadway, (such as a gate support post) and the gate frame when the gate is in either the fully open position or the fully closed position, shall not exceed 2 1/4 inches (57 mm). Exception: All other fixed stationary objects greater than 16 in. (406 mm) from the gate frame shall not be required to comply with this section.
3.1.4 Positive stops shall be required to limit travel to the designed fully open and fully closed positions. These stops shall be installed at either the top of the gate, or at the bottom of the gate where such stops shall horizontally or vertically project no more than is required to perform their intended function.
3.1.5 All gates shall be designed with sufficient lateral stability to assure that the gate will enter a receiver guide, refer to ASTM F2200 for panel types.
3.2 The following provisions shall apply to Class IV vehicular horizontal slide gates:
3.2.1 All weight bearing exposed rollers 8 feet (2.44 m), or less, above grade shall be guarded or covered.
3.2.2 Positive stops shall be required to limit travel to the designed fully open and fully closed positions. These stops shall be installed at either the top of the gate, or at the bottom of the gate where such stops shall horizontally or vertically project no more than is required to perform their intended function.

32 13 00_017.DWG

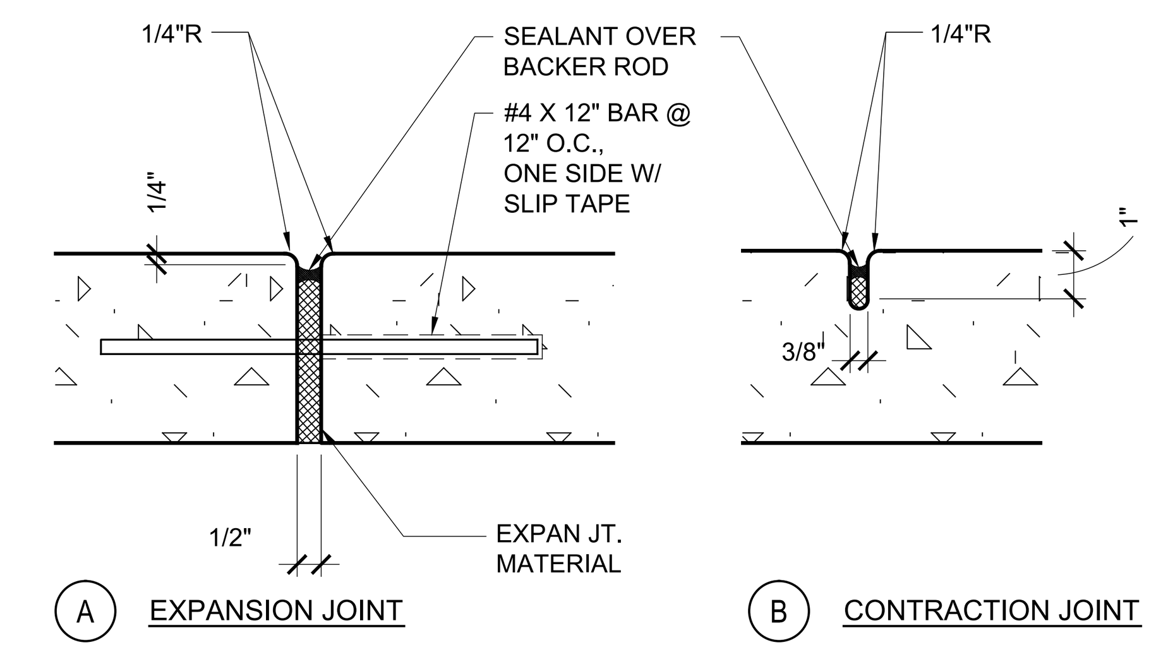
4 ROLLING GATE NOTES
SCALE: NONE



1 CONC. PAVING
SCALE: 1-1/2" = 1'-0"



5 GATE ELEVATION
SCALE: 1/2"=1'-0"



JOINTS IN CONCRETE FLATWORK (CONCRETE PAVING)

CONCRETE FLATWORK SHALL BE DIVIDED INTO APPROXIMATELY SQUARE PANELS WITH CONTRACTION JOINTS OR EXPANSION JOINTS PER BELOW - PROVIDE EXPANSION JOINTS AT COLD JOINTS AND WHEREVER CONCRETE FLATWORK TERMINATES AT BUILDING WALLS, SITE WALL AND OTHER FLATWOK TERMINATIONS.

CONTRACTION JOINTS (SCORED JOINTS, S.J.)

FORM WEAKENED PLANE JOINTS IN FRESH CONCRETE BY GROOVING TOP PORTION ONE QUARTER THE THICKNESS OF THE CONCRETE WITH A RECOMMENDED CUTTING TOOL AND FINISHING EDGES WITH A JOINTER.

EXPANSION JOINTS (E.J.)

PROVIDE EXPANSION JOINTS FULL DEPTH OF THE CONCRETE AT MINIMUM 15' O.C. TO MAXIMUM 20' O.C. TO MATCH EQUAL SPACING SECTIONS OF (CONTRACTION) JOINTS TO PROVIDE A UNIFORM PATTERN.

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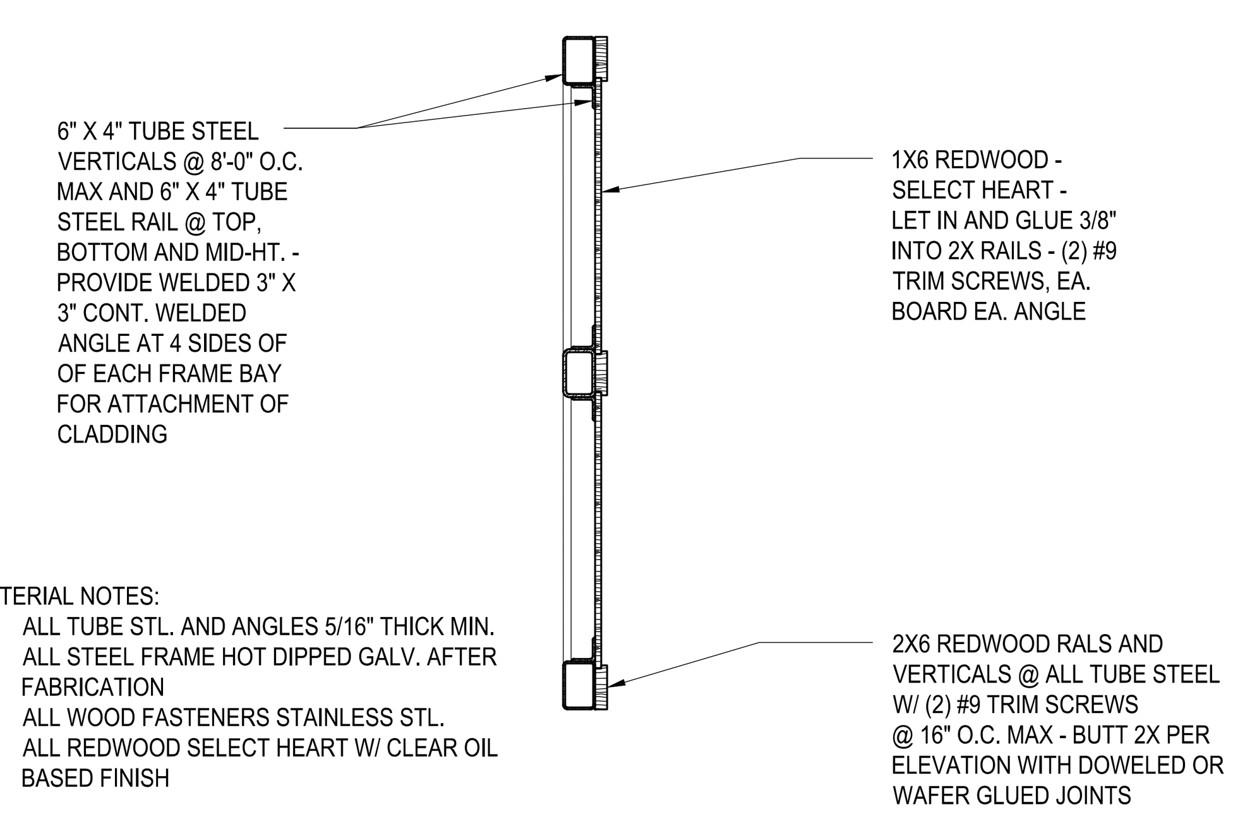
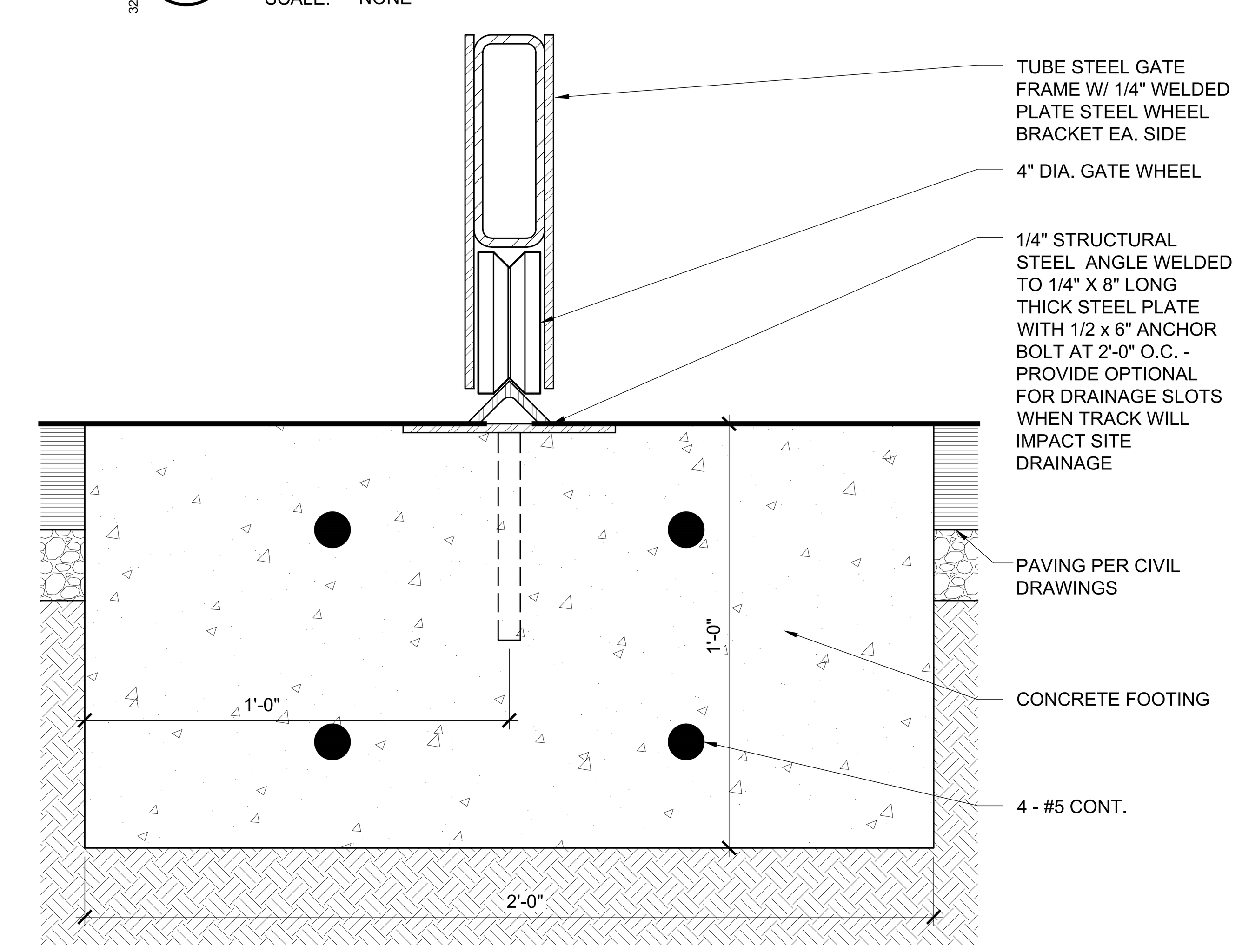
2 CONCRETE JOINTS AND NOTES
SCALE: NONE



MATERIAL NOTES:
- ALL TUBE STL. AND ANGLES 5/16" THICK MIN.
- ALL STEEL FRAME HOT DIPPED GALV. AFTER FABRICATION
- ALL WOOD FASTENERS STAINLESS STL.
- ALL REDWOOD SELECT HEART W/ CLEAR OIL BASED FINISH

6 GATE PANEL SECTION
SCALE: 1/2"=1'-0"



ALL GATE AND TRACK STEEL COMPONENTS HOT DIP GALVANIZED AFTER FABRICATION

3 TRACK AT DRIVE GATE
SCALE: 3" = 1'-0"

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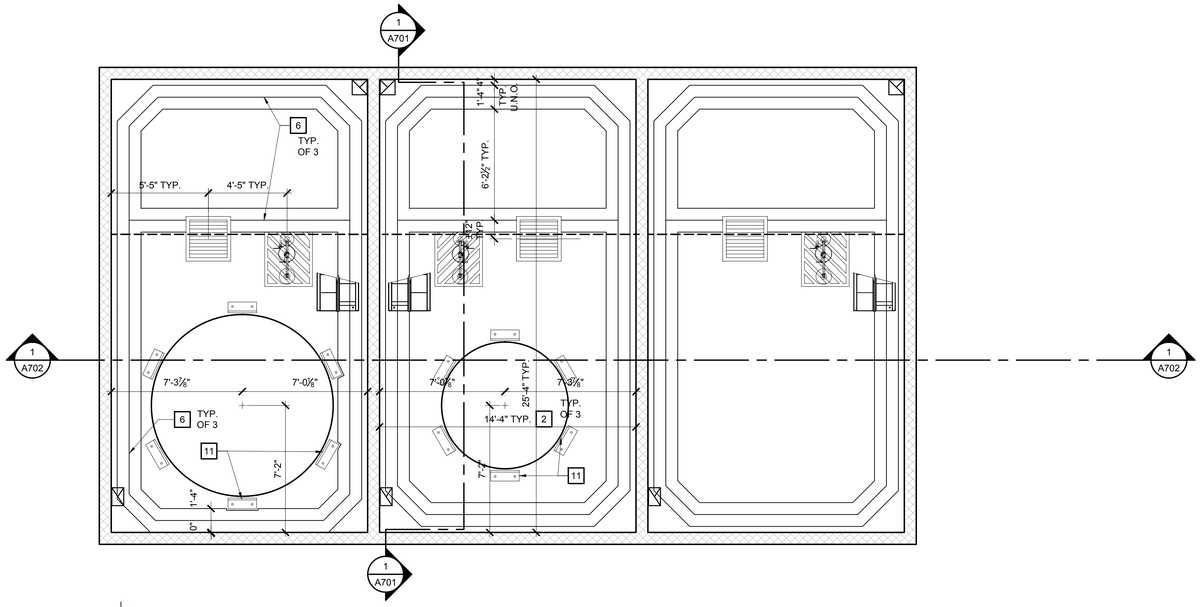
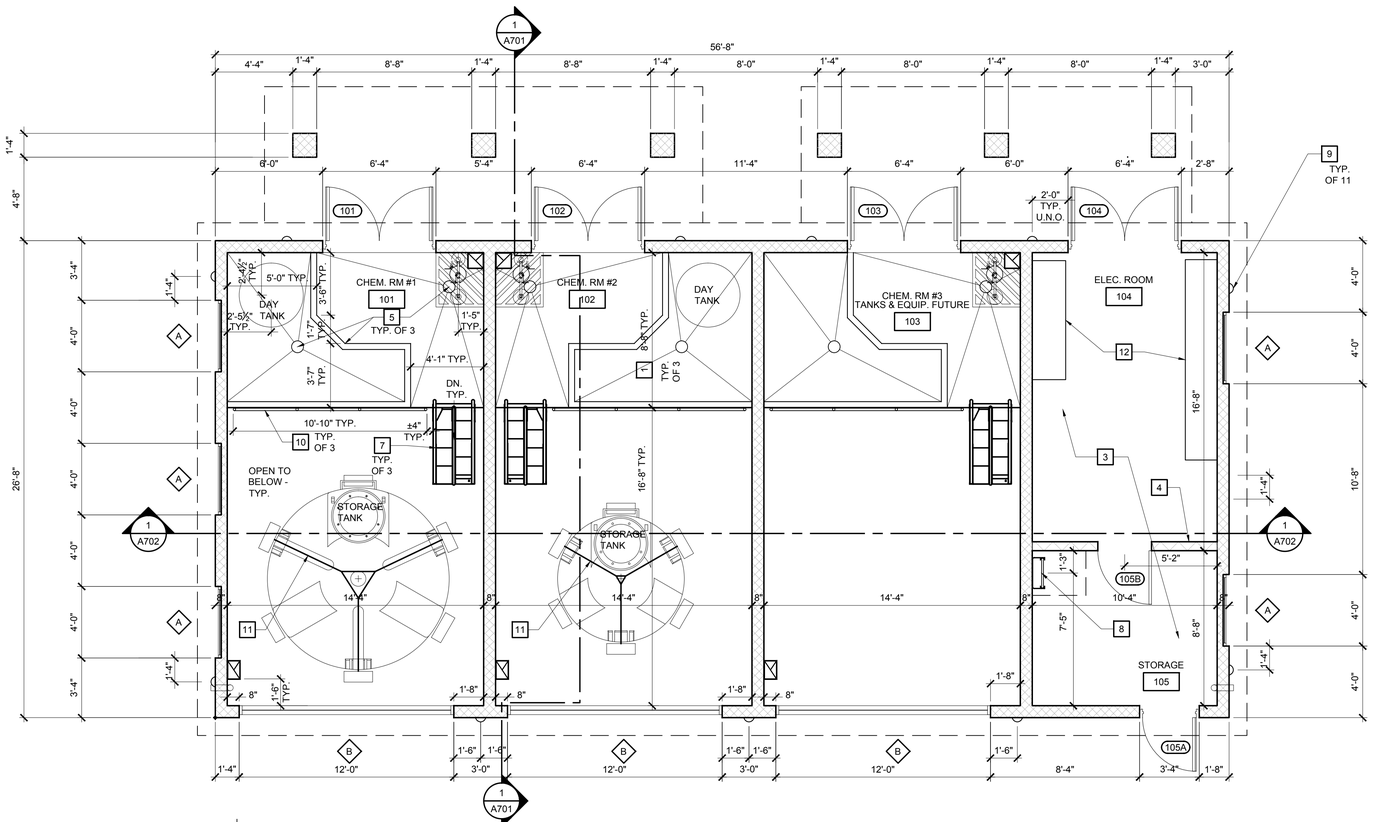


PLAN NORTH

FLOOR PLAN @ PIT LEVEL

SCALE: 1/4"=1'-0"



PLAN NORTH

FLOOR PLAN @ GRADE LEVEL

SCALE: 1/4"=1'-0"

KEY NOTES

THE KEY NOTES THAT FOLLOW APPLY TO THE DRAWING(S) ON THIS SHEET ONLY. REFER TO FOLLOWING SHEETS FOR NOTES THAT ARE APPLICABLE TO THOSE DRAWINGS.

1. POURED IN PLACE PLATFORM AT GRADE LEVEL 0'-0"
2. CONCRETE SLAB ON GRADE AT PIT LEVEL 5'-0" BELOW GRADE LEVEL PLATFORM
3. CONCRETE SLAB ON GRADE AT GRADE LEVEL 0'-0"
4. INTERIOR PARTITION - METAL STUD W/ GYPSUM BOARD EACH SIDE
5. 2 DRAIN DRAINAGE SYSTEM AT PLATFORM WITH 4" WIDE X 4" HIGH CONTAINMENT CURB AT TANK - SLOPE CONCRETE 1/2% AT LONGEST DIMENSION TO DRAINS
6. DEPRESS CONCRETE PIT SLAB ON GRADE FOR 16" WIDE X 1" DEEP "V" SWALE, AT PERIMETER AND EXTENSION TO SUMP DRAIN
7. LADDER, ALTERNATING TREAD TYPE, PRECISION LADDERS LLC, 1,000 POUND CAPACITY, ANODIZED ALUMINUM
8. LADDER TO ROOF, ALACO ALUMINUM MODEL 560, CUSTOM ORDER PER ROOF HEIGHT OR MFR. INSTRUCTIONS, SUBMIT SHOP DRAWING WITH COORDINATED HEIGHT OF LADDER INCLUDING TOP AND BOTTOM RUNGS IN RELATION TO FLOOOR SLAB, ROOF HATCH AND ROOF WALKING SURFACE
9. WALL MOUNTED LIGHTING FIXTURE WITH CETERLINE 88" ABOVE FIN. FLOOR, SEE ELEC. DRAWINGS FOR SPECIFICATION
10. EDGE OF PLATFORM MOUNTED RAILING W/ 4" CLEARANCE FROM WALL AND STAIR: 1 1/4" I.D. SCHEDULE 40 PIPE W/ 4 VERTICALS EQUALLY SPACED, SEE 1/S1.0 FOR CONSTRUCTION, HOT DIP GALVANIZE IN ONE PIECE AFTER FABRICATION
11. TANK POINTS OF ANCHORAGE AND LIFTING POINTS:
    - PROVIDE (6) PIT FLOOR MOUNTED STEEL ANGLES AROUND TANK - THREE OF SIX ANGLES TO BE CONNECED TO STEEL CABLES OVER TOP OF TANK PER TANK MFR. INSTRUCTIONS
    - INSTALL TANK USING LIFTING POINTS WITH BOLTS AND CABLES PER TANK MFR. INSTRUCTIONS
12. BUILD UP FLOOR SLAB FOR CONCRETE CURB AT ELEC. EQUIPMENT WITH TOP OF LEVEL CURB 6" ABOVE FLOOR - REINFORCE CURB PER FLOOR SLAB NOTES ON SHEET S2.0, SIZE CURB AND ANCHOR EQUIP. PER ELEC. EQUIP. MFR. INSTRUCTIONS

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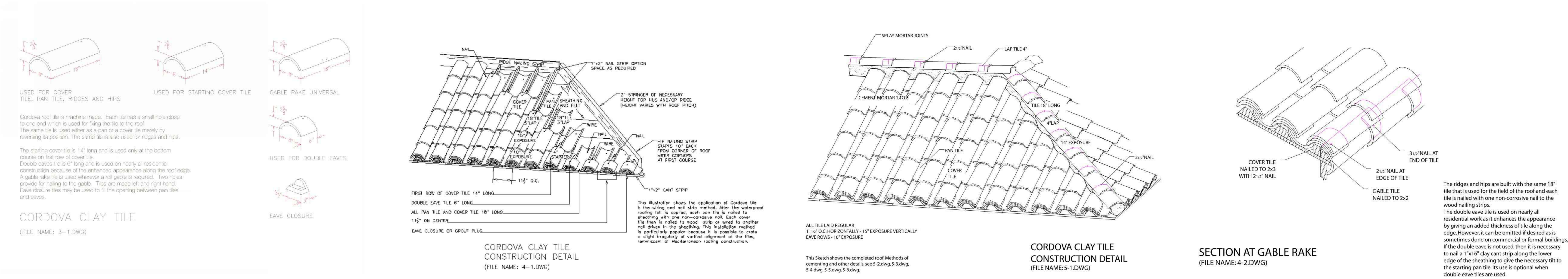
FLOOR PLAN

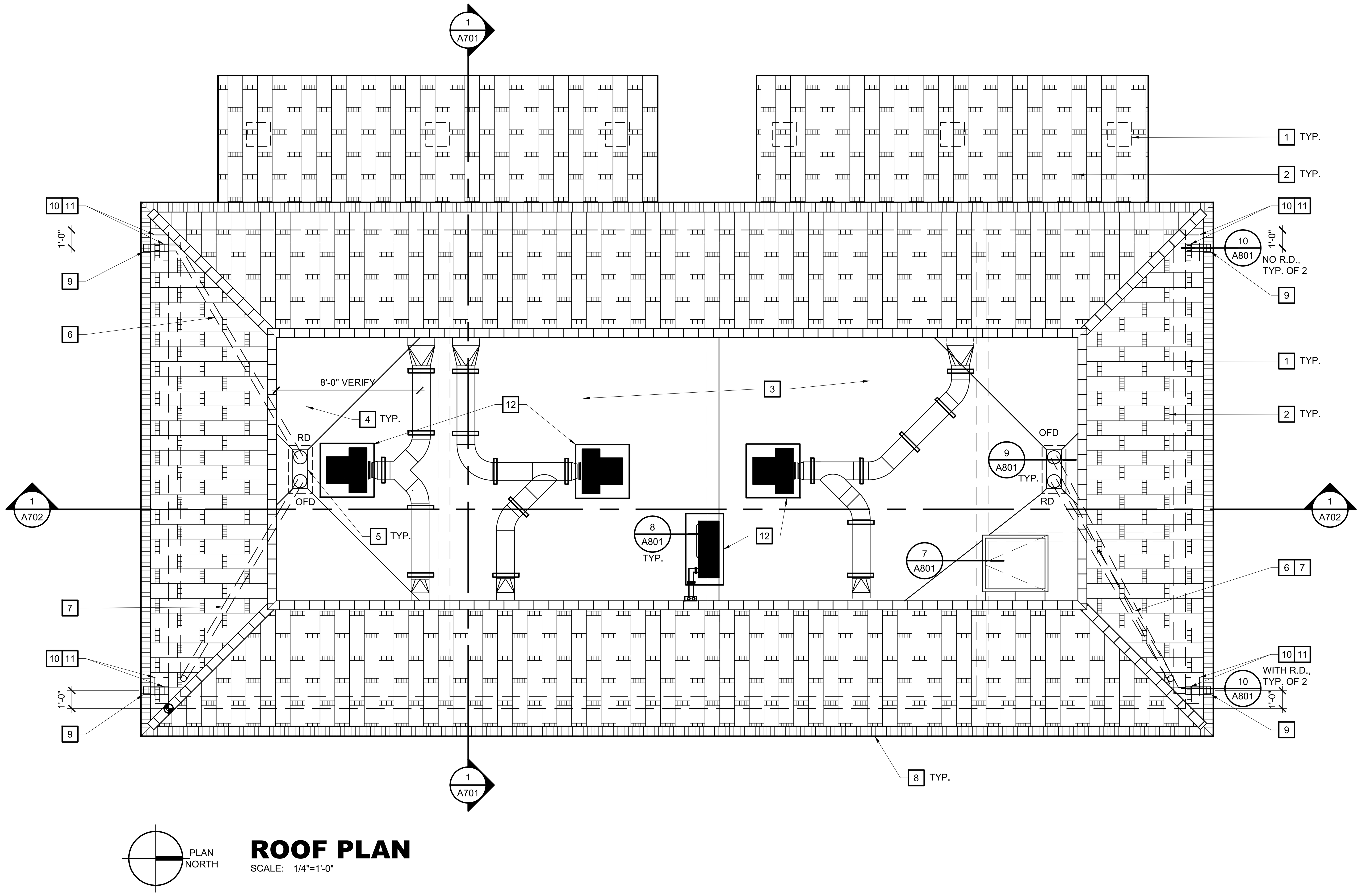
SHEET NO.:

A201

FILE NAME: 18014.2 A201



1 CLAY TILE ROOFING DETAILS
SCALE: NONE



ROOF PLAN
SCALE: 1/4"=1'-0"

KEY NOTES

THE KEY NOTES THAT FOLLOW APPLY TO THE DRAWING(S) ON THIS SHEET ONLY. REFER TO FOLLOWING SHEETS FOR NOTES THAT ARE APPLICABLE TO THOSE DRAWINGS.

1. LINE OF BUILDING WALLS / COLUMNS BELOW, SEE FLOOR PLAN
2. CLAY TILE ROOFING AT MANSARD ROOF / COVERED WALK ROOF PER DETAIL 1 ON THIS SHEET, SEE BUILDING SECTION FOR ADDITIONAL INFORMATION.
3. SINGLE PLY MEMBRANE ROOFING AT EQUIPMENT WELL, SEE BUILDING SECTION
4. BUILT-UP INSULATION UNDER ROOFING FOR DRAINAGE CRICKET - 2% MIN. CROSS SLOPE
5. 4" ROOF DRAIN AND 4" OVERFLOW DRAIN COMBO UNIT
6. 4" ROOF DRAIN LEADER - EXTEND THROUGH WALL INTO GUTTER SYSTEM CONDUCTOR HEAD
7. 4" OVERFLOW ROOF DRAIN LEADER - EXTEND TO EXTERIOR WALL, DOWN WALL AND THROUGH WALL WITHIN 5" I.D. CLAY PIPE SLEEVE MATCHING ROOF TILE 12" ABOVE GRADE
8. 6" W. X 3" HIGH 20 OZ. COPPER GUTTER W/ MITERED / FIELD SOLDERED CORNERS, SMACNA FIG. 1-3A, W/ 24 OZ. COPPER HANGERS @ 32 O.C. MAX.
9. 3" X 5" X 20 OZ. COPPER DOWNSPOUT, SMACNA FIG. 1-32B, EXTEND INTO TOP OF CONDUCTOR HEAD, W/ 24 OZ. COPPER HANGER AT TOP OF HEAD, SMACNA FIG 1-35A
10. 3" X 5" X 20 OZ. COPPER DOWNSPOUT, SMACNA FIG. 1-32B, EXTEND TO GRADE AND SPILL INTO PAINTED PVC BOOT CONNECTED TO STORM DRAIN SYSTEM, W/ 24 OZ. HANGERS @ 32" O.C. MAX., SMACNA FIG 1-35A
11. DECORATIVE 20 OZ. COPPER CONDUCTOR HEAD, SAMCNA FIG. 1-25d MODIFIED, SEE EAVE DETAIL FOR PROFILE
12. BUILD UP TOPPING SLAB FOR CONCRETE CURB AT MECH. EQUIPMENT WITH TOP OF LEVEL CURB 4" ABOVE WHERE ROOF IS HIGHEST - , REINFORCE CURB PER ROOF NOTES AN SHEET S2.0, SIZE CURB PER MECH. EQUIP. MFR. INSTRUCTIONS - RUN SINGLE PLY ROOFING OVER CURB PRIOR TO INSTALLING A ONE PIECE 18 GA. GALV. SHEET METAL CURB CAP - SEAL ALL PENETRATIONS IN CAP WITH NEOPRENE WASHERS SET IN SILICONE SEALANT.

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SHEET NAME:
ROOF PLAN

SHEET NO.:
A230

FILE NAME: 18014.2 A230

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLR.	BASE	WALLS (PLAN DIRECTION) N.	E.	S.	W.	CLG.	NOTES
101	CHEM. #1	FL-1	B-1	W-1	W-1	W-1	W-1	CONC.	
102	CHEM. #2	FL-1	B-1	W-1	W-1	W-1	W-1	CONC.	
103	CHEM. #3	FL-1	B-1	W-1	W-1	W-1	W-1	CONC.	
104	ELEC. ROOM	FL-1	B-2	W-2 / W-3	W-2 / W-3	W-2 / W-3	W-2 / W-3	CONC.	
105	STORAGE	FL-2	B-2	W-2 / W-3	W-2 / W-3	W-2 / W-3	W-2 / W-3	CONC.	

FINISH NOTES

FL-1	CONCRETE FLOOR WITH CLEAR HARDENER / SEALER FINISH
FL-2	COMPOSITION TILE RESILIENT FLOORING
B-1	SEAL JOINT BETWEEN CMU WALL AND CONCRETE FLOOR W/ ARDEX COMPOUND TO A TOOLED 1/4" RADIUS
B-2	6" HIGH BLACK COVED RUBBER BASE AT GYPSUM BOARD WALL ONLY
W-1	UNFINISHED CMU WALL
W-2	CMU WALL, ONE COAT PRIMER AND 2 COAT SEMI-GLOSS PAINT FINISH
W-3	5/8" GYPSUM BOARD OVER 20 GA. GALV. METAL STUDS - WHERE WALL MEETS CMU INSTALL CONTINUOUS J BEAD FOR 1/4" JOINT FILLED WITH SEALANT OVER BACKER ROD - FINISH WALL WITH ONE COAT PRIMER AND 2 COATS SEMIGLOSS ENAMEL FINIS

WINDOW SCHEDULE

TYPE	GLAZING SINGLE	DOUBLE	FINISH PAINT	FACTORY	SIZE WIDTH	HEIGHT	DETAIL - SHEET A802 HEAD	JAMB	SILL			R.O.HEAD HEIGHT	TEMPERED GLASS		NOTES
A	●		●	●	4'-0"	5'-4"	1	2	3			8'-4"	YES		DARK BRONZE CLASS ONE ANODIZE FINISH

CLOSURE PANEL SCHEDULE

TYPE			FINISH	FACTORY	SIZE WIDTH	HEIGHT	DETAIL - SHEET A802 HEAD	JAMB	SILL			R.O.HEAD HEIGHT			NOTES
B			●	●	12'-0"	12'-10"	7	7	8			13'-0"			SEE PANEL FINISH NOTE 1

PANEL FINISH NOTE 1:
PROVIDE GALVANIZED HM DOOR FIXED PANEL AND FRAME WITH FACTORY PRIMER FINISH, FIELD PAINT DOOR AND FRAME WITH 2 COAT ALKYD ENAMEL PAINT PRIOR TO INSTALLING HEARTWOOD RED WOOD CLADDING AND INTERIOR CLASS ONE ANODIZED ALUMINUM LINING - FINISH REDWOOD CLADDING WITH OIL BASED CLEAR REDWOOD SEALER

DOOR SCHEDULE

DOOR NO.		FINISH PAINT	FACTORY	SIZE WIDTH	HEIGHT	HM THK.	DETAIL - SHEET A802 HEAD	JAMB	THRESH.	FRAME ASSEMBLY	HARDWARE GROUP		NOTES
101		●	●	6'-0"	8'-2"	1 3/4"	4	4	6	HM	B		SEE DOOR FINISH NOTE 1
102		●	●	6'-0"	8'-2"	1 3/4"	4	4	6	HM	B		SEE DOOR FINISH NOTE 1
103		●	●	6'-0"	8'-2"	1 3/4"	4	4	6	HM	B		SEE DOOR FINISH NOTE 1
104		●	●	3'-0"	8'-2"	1 3/4"	4	4	6	HM	B		SEE DOOR FINISH NOTE 1
105A		●	●	3'-0"	8'-2"	1 3/4"	4	4	6	HM	A		SEE DOOR FINISH NOTE 1
105B		●	●	3'-0"	7'-0"	1 3/4"	5	5	-				2 COAT ALKYD PAINT FINISH

DOOR FINISH NOTE 1:
PROVIDE GALVANIZED HM DOOR AND FRAME WITH FACTORY PRIMER FINISH, FIELD PAINT DOOR AND FRAME WITH 2 COAT ALKYD ENAMEL PAINT PRIOR TO INSTALLING HEARTWOOD RED WOOD CLADDING AND INTERIOR CLASS ONE ANODIZED ALUMINUM LINING - FINISH REDWOOD CLADDING WITH OIL BASED CLEAR REDWOOD SEALER

HARDWARE GROUPS

HARDWARE GROUP "A" (GROUP: EXIT)

36" X 102" X 1 3/4" (+3/4 VENEER) - HM DR X HM FR

4	STANDARD HINGE	IVES 5BB1WT 4 1/2" X 5"	640
1	EXIT DEVICE	YALE 7100-36, 36"X102" DOOR	630
1	CYLINDER	YALE 1709	613
1	DOOR PULL	AGAVE IRON WORK PU003 FINISH #04	613
1	SURFACE CLOSER	NORTON 7500SS-TJ 689 SIZE 3	689
1	FLOOR DOOR STOP	DON-JO 1449-613	613
1	THRESHOLD	PEMKO 2749 W/ TRANS SHOE	D
1	WEATHERSTRIPPING	MCKINNEY MCKS88BL17	BL
1	MISCELLANEOUS ITEM	MCKINNEY MCK3452DPK34"	D
4	DOOR SILENCER	MCKINNEY S1M	

HARDWARE GROUP "B" (GROUP: EXIT PAIRS)

36"PAIR X 102" X 1 3/4" (+3/4 VENEER) - HM DR X HM FR

8	STANDARD HINGE	IVES 5BB1WT 4 1/2" X 5" 640	640
1	REMOVABLE MULLION	YALE M200-7 600 X 102" DOOR	
2	EXIT DEVICE	YALE 7100-36, PAIR 36"X102" DOORS	630
2	CYLINDER	YALE 1709 613	613
1	CYLINDER	YALE 2153 1 1/4" 630	630
2	DOOR PULL	AGAVE IRON WORK PU003 FINISH #04	613
2	SURFACE CLOSER	NORTON 7500SS-TJ 689 SIZE 3	689
2	FLOOR DOOR STOP	DON-JO 1449-613	613
1	THRESHOLD	PEMKO 2749 W/ TRANS SHOE	D
1	WEATHERSTRIPPING	MCKINNEY MCKS88BL25	BL
2	MISCELLANEOUS ITEM	MCKINNEY MCK3452DPK36"	D
4	DOOR SILENCER	MCKINNEY S1M	

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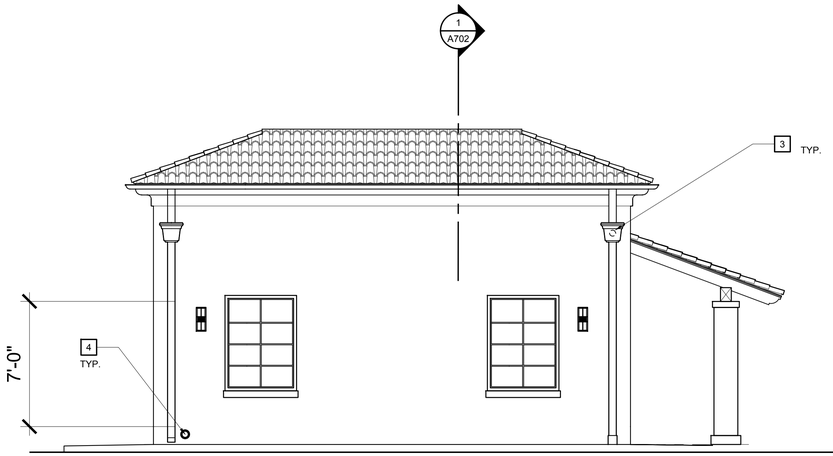
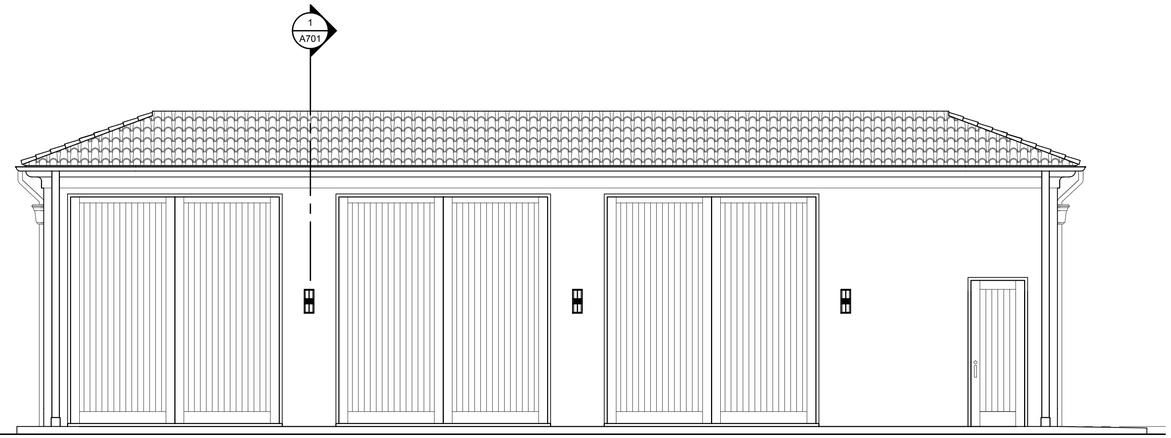


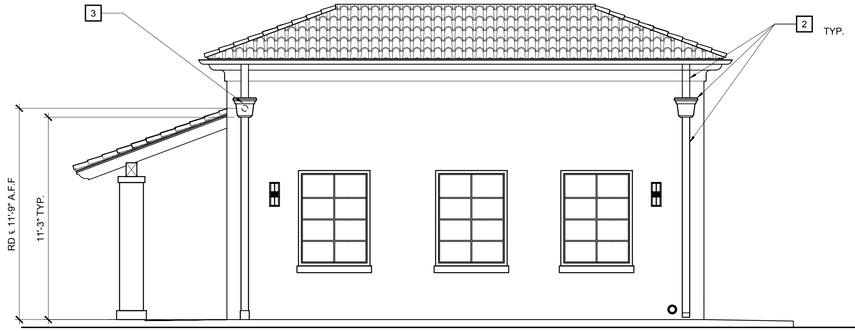
1 NORTH ELEVATION

SCALE: 1/4" = 1'-0"



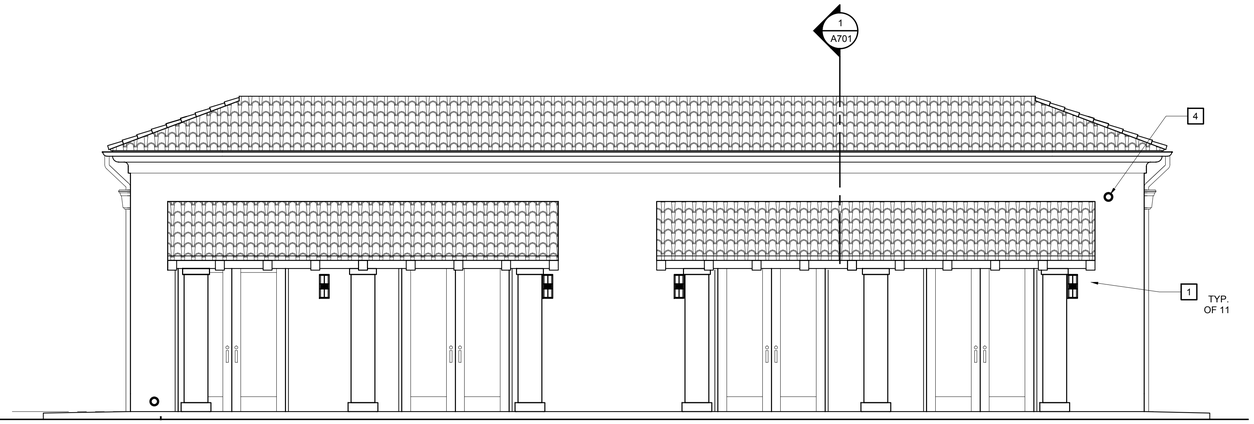
2 EAST ELEVATION

SCALE: 1/4" = 1'-0"



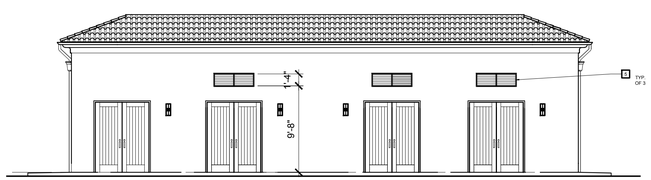
3 SOUTH ELEVATION

SCALE: 1/4" = 1'-0"



4 WEST ELEVATION

SCALE: 1/4" = 1'-0"



5 WEST ELEVATION @ WALL

SCALE: 1/8" = 1'-0"

KEY NOTES

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1. WALL MOUNTED LIGHTING FIXTURE, SEE FLOOR PLAN
2. COPPER GUTTER / CONDUCTOR HEAD / DOWNSPOUT SYSTEM, SEE ROOF PLAN
3. ROOF DRAIN LEADER THROUGH WALL INTO BACK OF CONDUCTOR HEAD, SEE ROOF PLAN
4. OVERFLOW ROOF DRAIN LEADER TROUGH WALL INSIDE CLAY TILE PIPE, SEE ROOF PLAN
5. MECHANICAL LOUVER, SEE MECHANICAL DRAWINGS FOR SPECIFICATION

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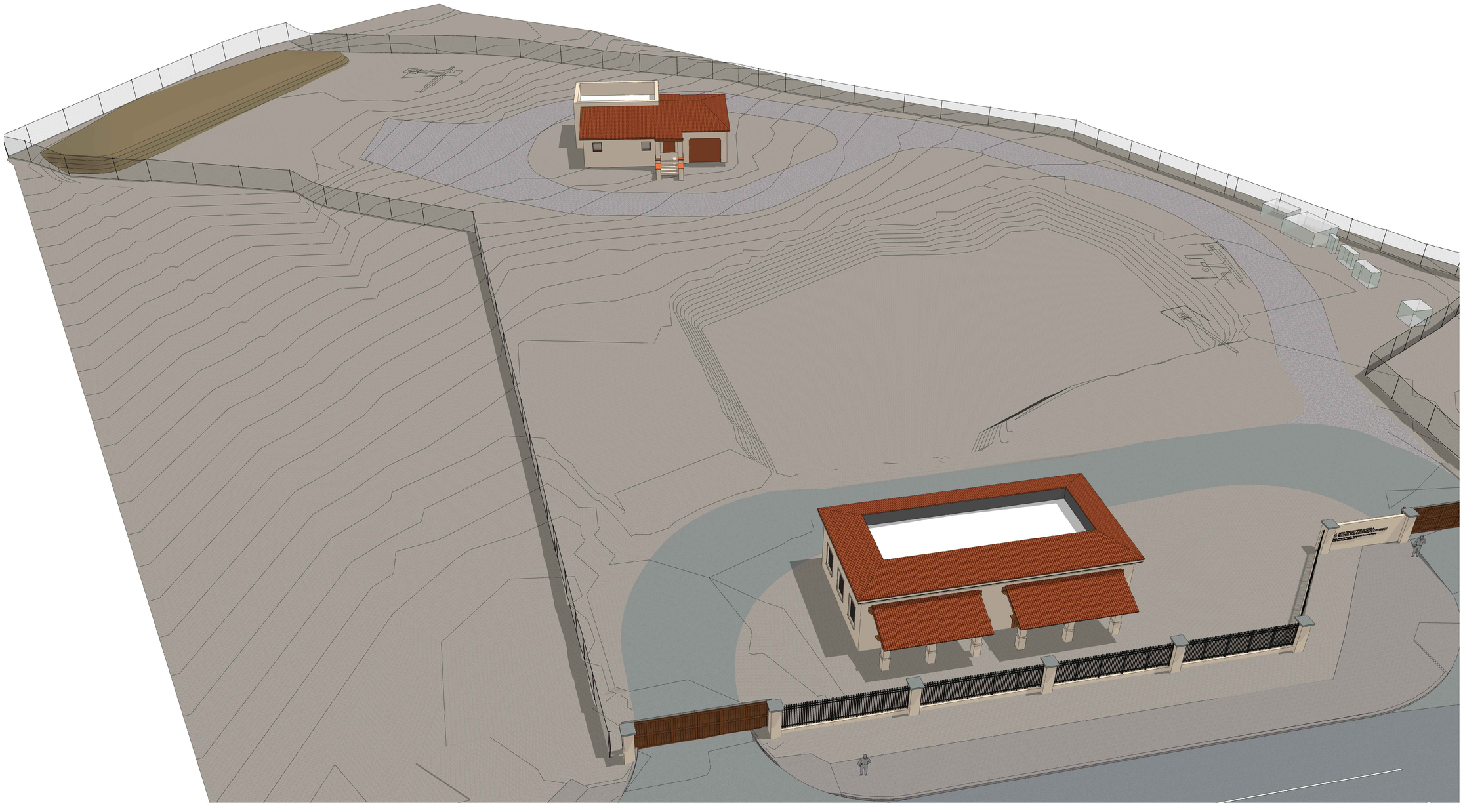

CONCEPTUAL AERIAL VIEW (1)

SEE SITE PLANS, BUILDING PLANS AND ELEVATIONS FOR FINAL CONFIGURATION

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MPWMD SANTA MARGARITA PUMP SITE CHLORINATION BUILDING

GENERAL JIM MOORE BLVD.
SEASIDE, CA

A.P.N.:

JOB NO.: 18014.2

PRINT DATE:

PLOT DATE: 8.2.2019

CHECKED BY: -

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MEETING SET 4/16/19

SHEET NAME:

CONCEPTUAL RENDERINGS

SHEET NO.:

A411

FILE NAME: 18014.2 A411

CONCEPTUAL VIEW FROM SOUTHWEST (1)

SEE SITE PLANS, BUILDING PLANS AND
ELEVATIONS FOR FINAL CONFIGURATION

CONCEPTUAL VIEW FROM NORTHWEST (2)

SEE SITE PLANS, BUILDING PLANS AND
ELEVATIONS FOR FINAL CONFIGURATION

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CHLORINATION BUILDING

1910 GENERAL JIM MOORE BLVD.
SEASIDE, CA

JOB NO.: 18014.2

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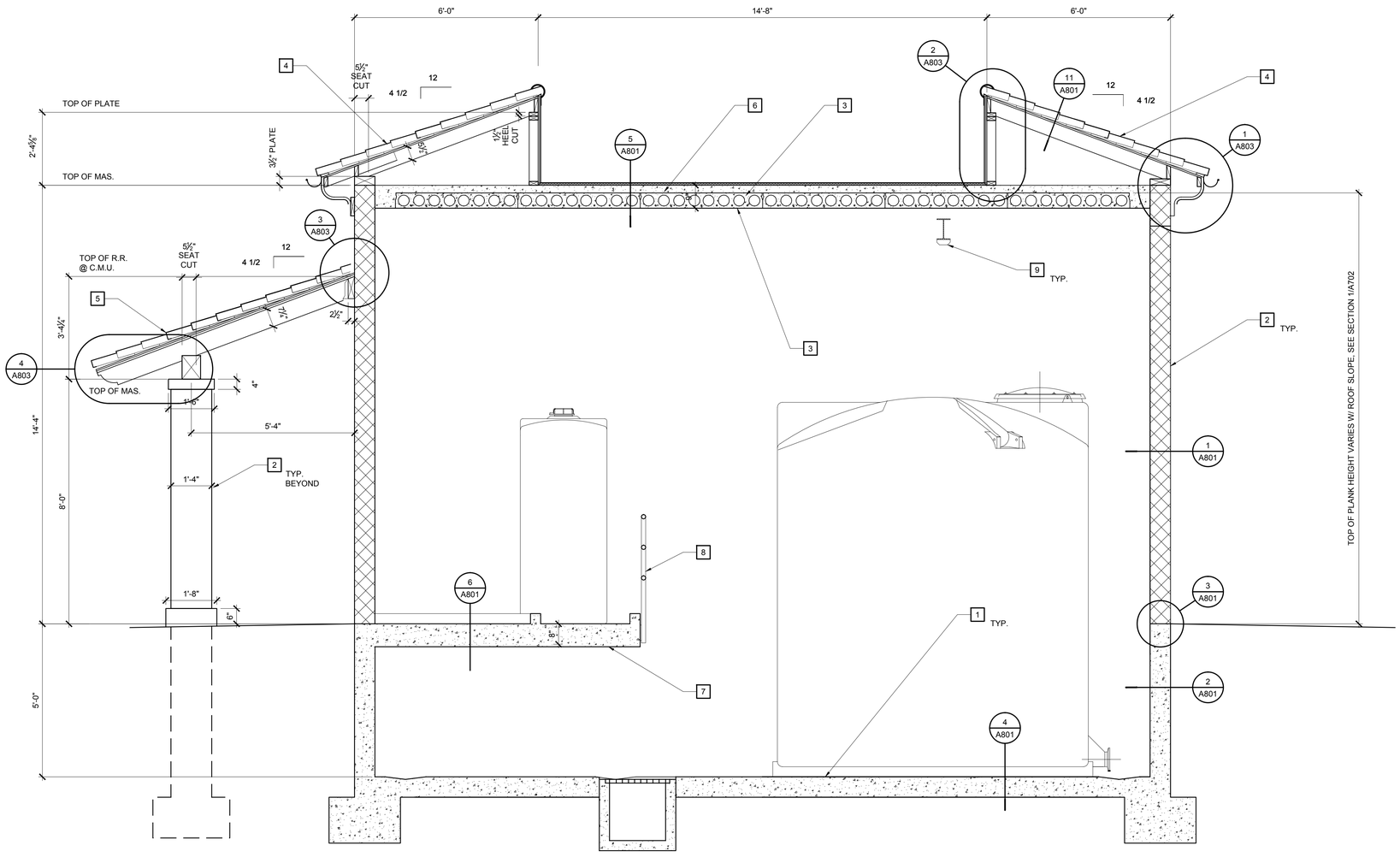
SHEET NAME:

PERSPECTIVE
RENDERINGS

SHEET NO.:

A412

FILE NAME: 18014.2 A412



1 **BUILDING SECTION**
SCALE: 1/2" = 1'-0"

KEY NOTES

THE KEY NOTES THAT FOLLOW APPLY TO THE DRAWING(S) ON THIS SHEET ONLY. REFER TO FOLLOWING SHEETS FOR NOTES THAT ARE APPLICABLE TO THOSE DRAWINGS.

1. CONCRETE SLAB ON GRADE AND SUMP
2. C.M.U. WALL OR COLUMN, AT INTERIOR PROVIDE BARE UNPAINTED BLOCK; AT EXTERIOR PROVIDE 2 COAT CEMENT PLASTER FINISH
3. 3" TOPPING OVER PRECAST CONCRETE JOISTS
4. CLAY TILE ROOFING OVER MANSARD FRAMING
5. CLAY TILE ROOFING OVER COVERED WALK FRAMING
6. SINGLE PLY ROOFING OVER 1" INSULATION BOARD EXCEPT BUILD UP WITH TAPERED INSULATION FOR ROOF DRAINAGE PER ROOF DRAIN LAYOUT
7. POURED IN PLACE CONCRETE PLATFORM
8. GALV. STEEL GUARDRAIL
8. HOIST BEAM ASSMBLY - COORDINATE EXACT LOCATIONS AND CONFIGURATION WITH TANK MFR. INSTALLATION REQUIRMENTS

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SHEET NAME:
BUILDING SECTION

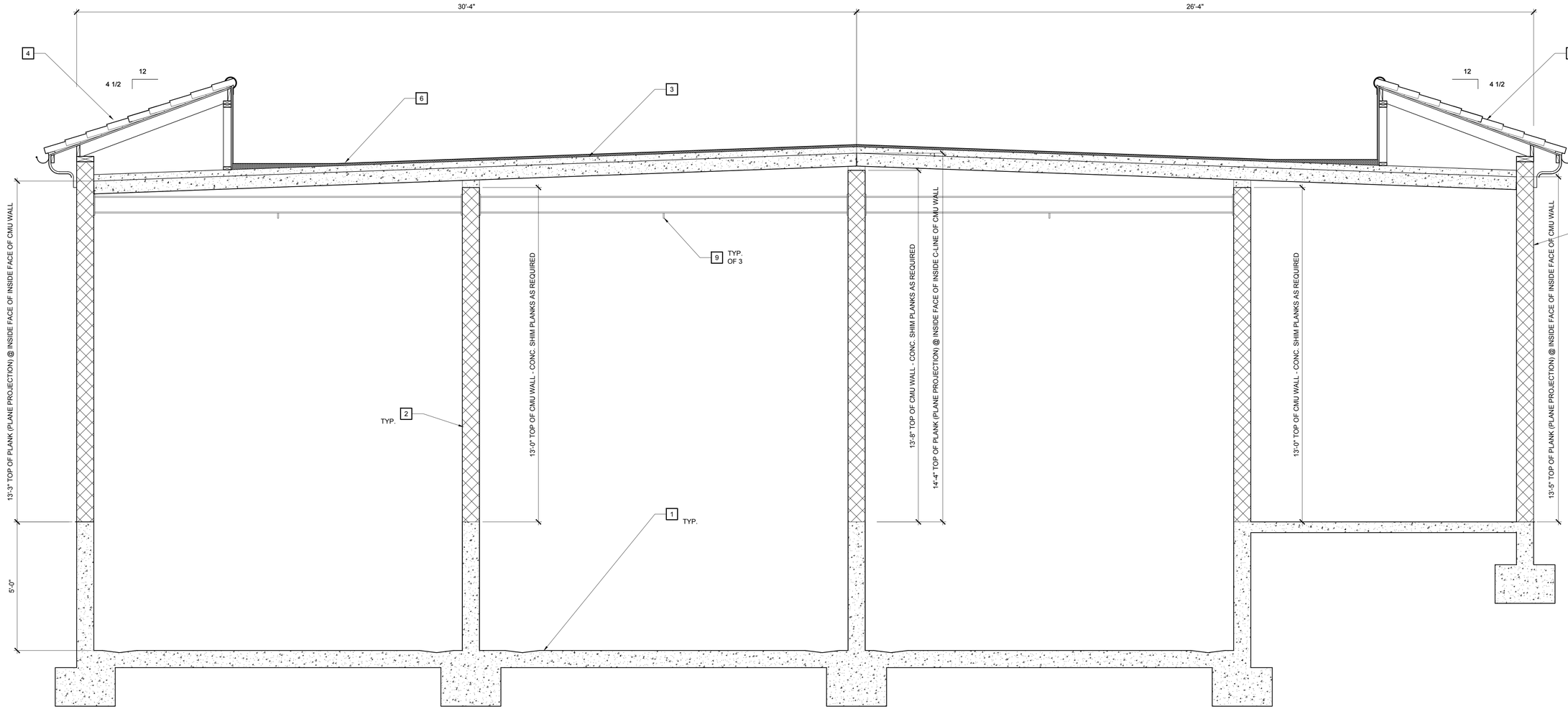
SHEET NO.:
A701

FILE NAME: 18014.2 A701

KEY NOTES

THE KEY NOTES THAT FOLLOW APPLY TO THE DRAWING(S) ON THIS SHEET ONLY. REFER TO FOLLOWING SHEETS FOR NOTES THAT ARE APPLICABLE TO THOSE DRAWINGS.

1. CONCRETE SLAB ON GRADE AND SUMP
2. C.M.U. WALL OR COLUMN, AT INTERIOR PROVIDE BARE UNPAINTED BLOCK; AT EXTERIOR PROVIDE 2 COAT CEMENT PLASTER FINISH
3. 3" TOPPING OVER PRECAST CONCRETE JOISTS
4. CLAY TILE ROOFING OVER MANSARD FRAMING
5. CLAY TILE ROOFING OVER COVERED WALK FRAMING
6. SINGLE PLY ROOFING OVER 1" INSULATION BOARD EXCEPT BUILD UP WITH TAPERED INSULATION FOR ROOF DRAINAGE PER ROOF DRAIN LAYOUT
7. POURED IN PLACE CONCRETE PLATFORM
8. GALV. STEEL GUARDRAIL
8. HOIST BEAM ASSMBLY - COORDINATE EXACT LOCATIONS AND CONFIGURATION WITH TANK MFR. INSTALLATION REQUIRMENTS



NOTE: SEE BUILDING SECTION 1/A701 FOR TYPICAL DETAIL REFERENCES AND NOTES

1 **BUILDING SECTION**
SCALE: 1/2" = 1'-0"

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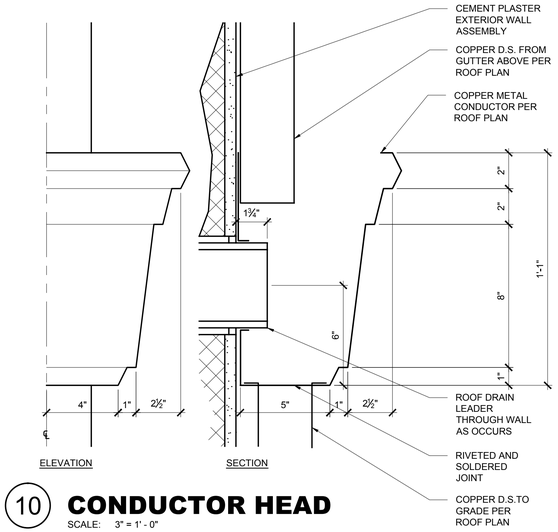
SHEET NAME:

BUILDING SECTION

SHEET NO.:

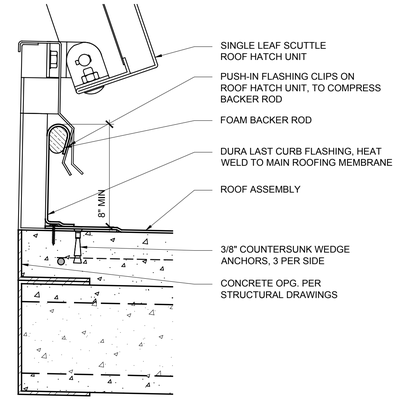
A702

FILE NAME: 18014.2 A702



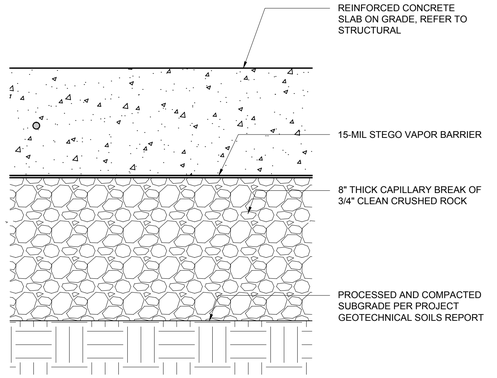
10 CONDUCTOR HEAD

SCALE: 3" = 1' - 0"



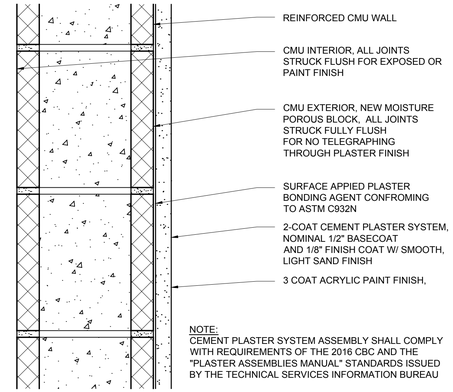
7 ROOF HATCH

SCALE: 3" = 1' - 0"



4 SLAB ON GRADE ASSEMBLY

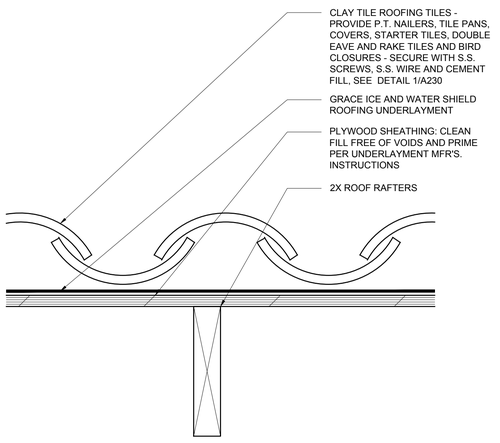
SCALE: 3" = 1' - 0"



NOTE:
CEMENT PLASTER SYSTEM ASSEMBLY SHALL COMPLY WITH REQUIREMENTS OF THE 2016 CBC AND THE "PLASTER ASSEMBLIES MANUAL" STANDARDS ISSUED BY THE TECHNICAL SERVICES INFORMATION BUREAU

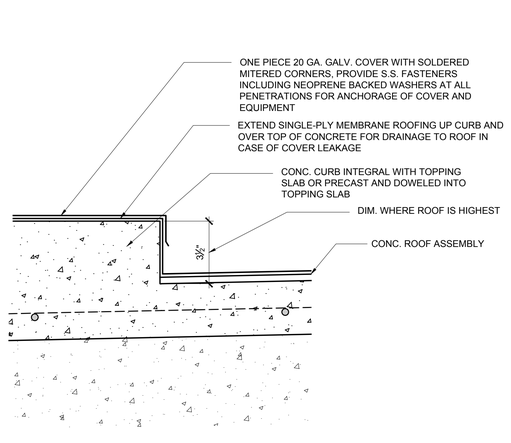
1 CEMENT PLASTER EXTERIOR WALL ASSEMBLY

SCALE: 3" = 1' - 0"



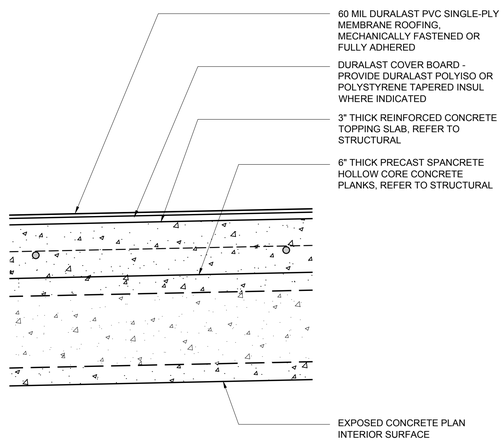
11 WOOD ROOF ASSEMBLY

SCALE: 3" = 1' - 0"



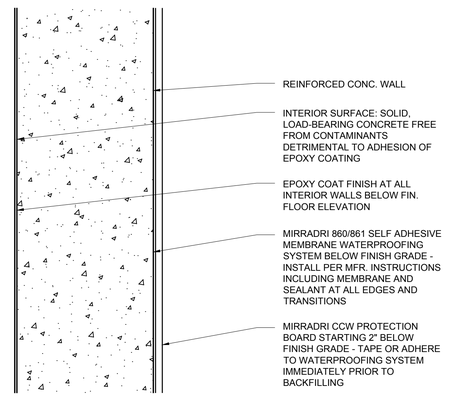
8 ROOF CURB

SCALE: 3" = 1' - 0"



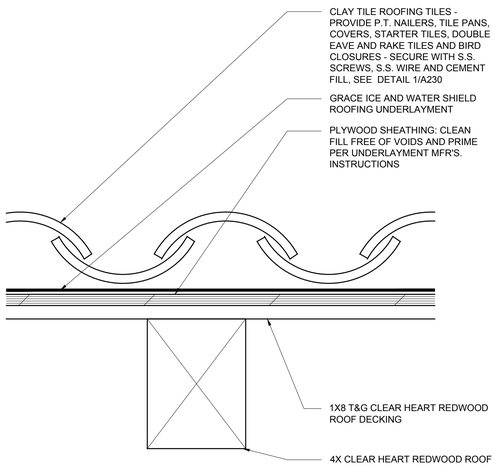
5 CONC. ROOF ASSEMBLY

SCALE: 3" = 1' - 0"



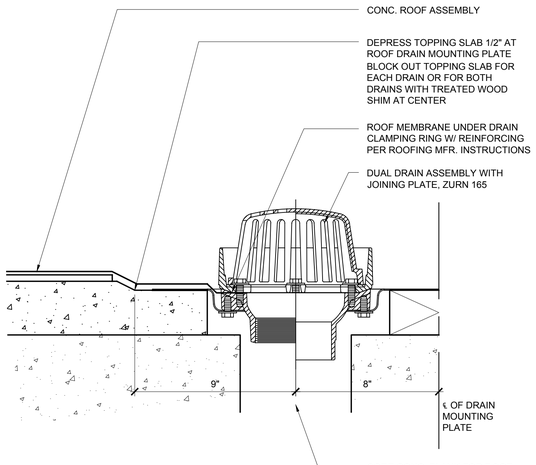
2 BELOW GRADE EXTERIOR WALL ASSEMBLY

SCALE: 3" = 1' - 0"



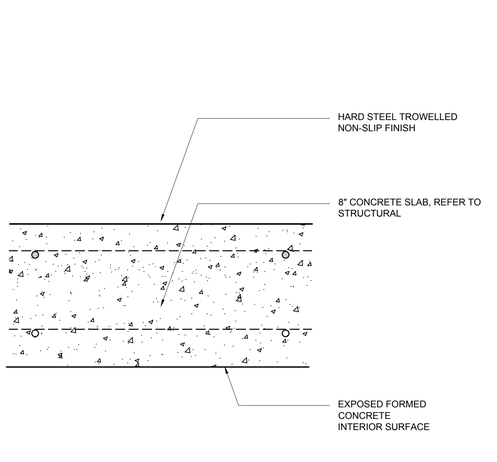
12 TIMBER ROOF ASSEMBLY

SCALE: 3" = 1' - 0"



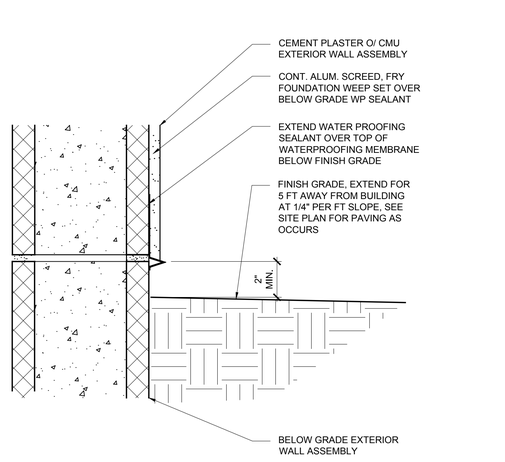
9 ROOF DRAINS

SCALE: 3" = 1' - 0"



6 CONC. FLOOR ASSEMBLY

SCALE: 3" = 1' - 0"



3 WALL BASE DETAIL

SCALE: 3" = 1' - 0"

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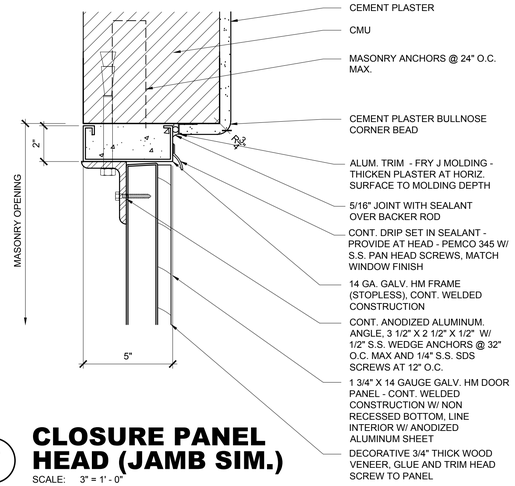
SHEET NAME:

DETAILS

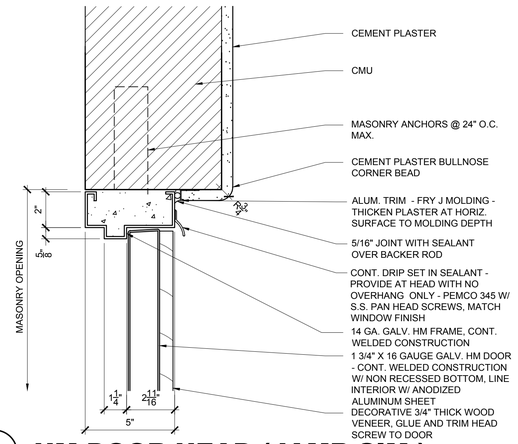
SHEET NO.:

A801

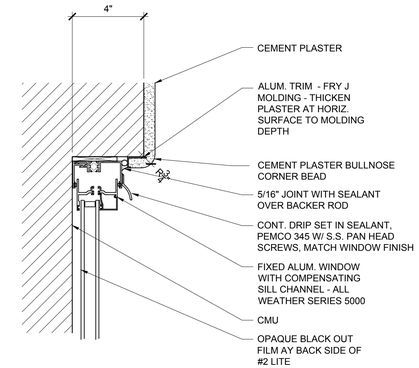
FILE NAME: 18014.2 A801



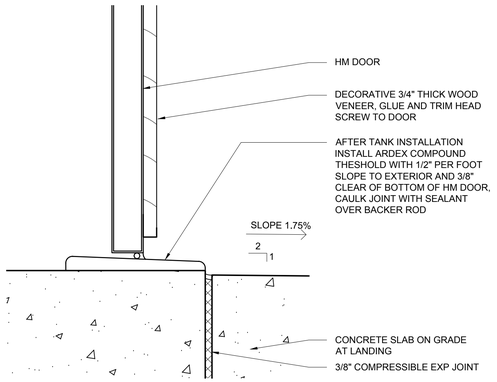
7 **CLOSURE PANEL HEAD (JAMB SIM.)**
SCALE: 3" = 1' - 0"



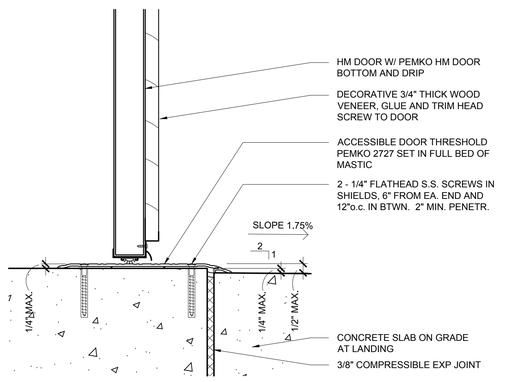
4 **HM DOOR HEAD (JAMB SIM.)**
SCALE: 3" = 1' - 0"



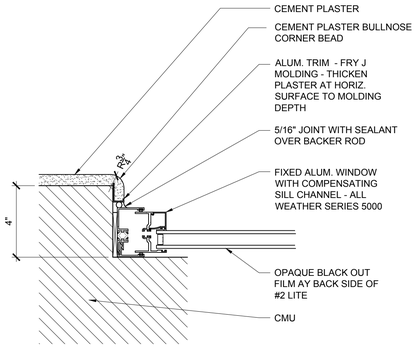
1 **ALUM. WINDOW HEAD**
SCALE: 3" = 1' - 0"



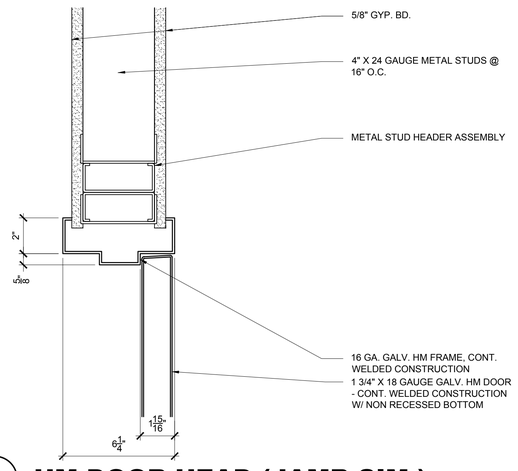
8 **PANEL SILL**
SCALE: 3" = 1' - 0"



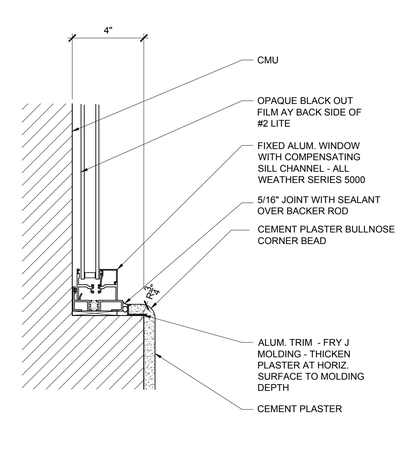
5 **DOOR THRESHOLD**
SCALE: 3" = 1' - 0"



2 **ALUM. WINDOW JAMB**
SCALE: 3" = 1' - 0"



6 **HM DOOR HEAD (JAMB SIM.)**
SCALE: 3" = 1' - 0"



3 **ALUM. WINDOW SILL**
SCALE: 3" = 1' - 0"

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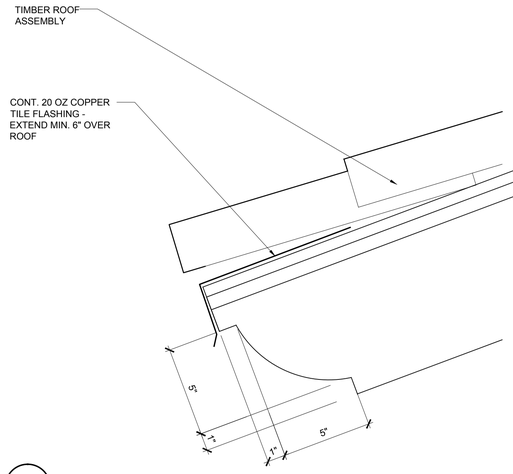
SHEET NAME: DETAILS

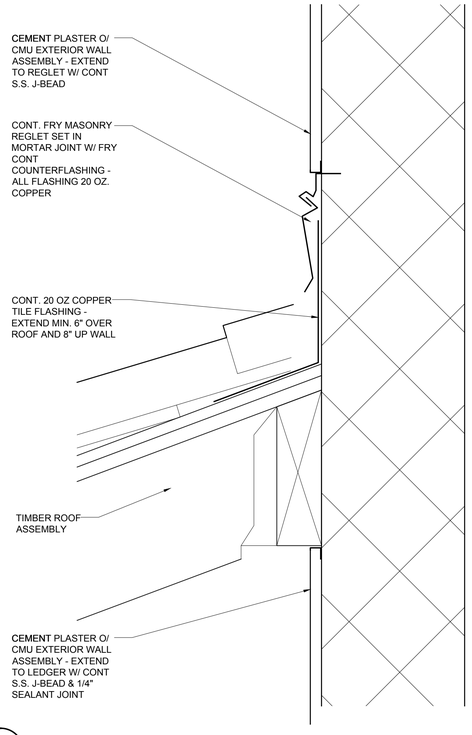
SHEET NO.: A802

FILE NAME: 18014.2 A802



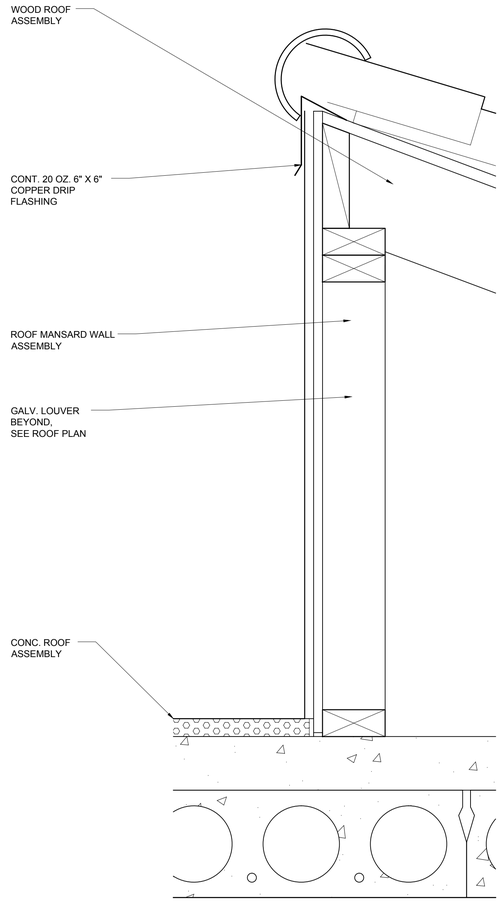
4 ROOF EAVE DETAIL

SCALE: 3" = 1' - 0"



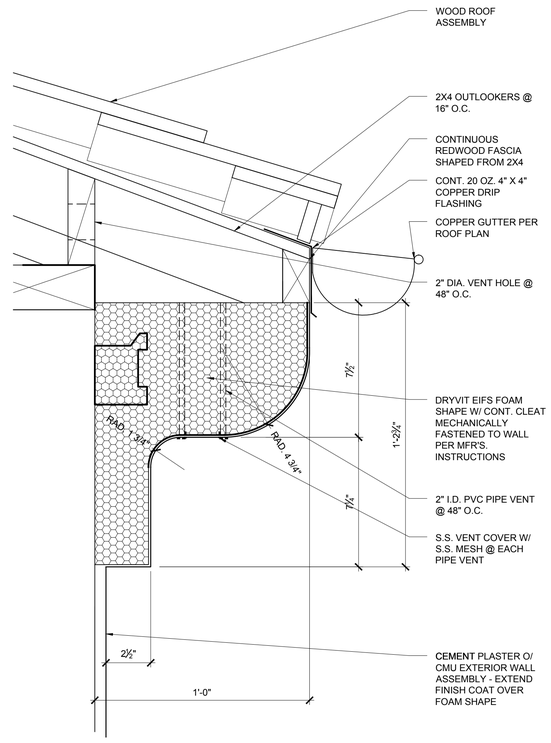
3 ROOF TO WALL DETAIL

SCALE: 3" = 1' - 0"



2 ROOF / WALL DETAIL

SCALE: 3" = 1' - 0"



1 EAVE DETAIL

SCALE: 3" = 1' - 0"

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SHEET NAME: DETAILS

SHEET NO.: A803

FILE NAME: 18014.2 A803

GENERAL NOTES AND SPECIFICATIONS

1. CODE REQUIREMENTS

ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE **2016 CALIFORNIA BUILDING CODE** AND ANY LOCAL CODE REQUIREMENTS. ALL DETAILS, SECTIONS AND NOTES SHOWN ON DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE, UNLESS OTHERWISE NOTED, U.O.N. DIMENSIONS ARE GOVERNED BY THE ARCHITECTURAL PLAN. ALL DIMENSIONS SHOWN IN THE STRUCTURAL PLANS SHALL BE VERIFIED WITH THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER.

2. CONTRACTOR RESPONSIBILITIES

ALL SUBMITTALS SHALL BE TO THE CONTRACTING OFFICER REPRESENTATIVE. REFER TO SPECIFICATIONS FOR ADDITIONAL SUBMITTALS AND/OR CLARIFICATION OF SUBMITTALS. CHECK ALL DIMENSIONS IN RELATION TO SITE CONDITIONS BEFORE STARTING WORK. THE CONTRACTOR SHALL COORDINATE THE WORK OF ALL TRADES, ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE CONTRACTING OFFICER REPRESENTATIVE AND SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK. SEE ARCHITECTURAL, MECHANICAL & ELECTRICAL DRAWINGS FOR DUCTS PIPES AND CONDUITS AND ITEMS EMBEDDED IN CONCRETE. DURING CONSTRUCTION PHASE THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF BUILDING AND PERSONNEL. PROVIDE ADEQUATE SHORING, BRACING IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.

3. FOUNDATION DESIGN

BASED ON SOILS REPORT NO. **0922.1–M242–E12** PREPARED BY **PACIFIC CREST ENGINEERING INC.**, DATED **FEB 2018**. IN PREPARATION OF SITE THE SOIL REPORT AND SPECIFICATIONS OF THE REPORT SHALL BE USED AS DIRECTED BY THE SOIL ENGINEER. A COPY OF THE SOIL REPORT SHALL BE KEPT ON THE JOB SITE. FOUNDATION SHALL BE CONVENTIONAL CONTINUOUS AND SPREAD PAD FOOTINGS AS DETAILED AND IS DESIGNED PER THE ABOVE NOTED REPORT FOR:

TOTAL LOAD BEARING VALUE OF CONTINUOUS FOOTINGS = **(2,000 PSF DL+LL) , (2,666 PSF SEISMIC OR WIND)**

ENGINEERED FILL AND FOUNDATION EXCAVATIONS SHALL BE CERTIFIED BY THE SOIL ENGINEER PRIOR TO THE PLACEMENT OF REINFORCING STEEL OR CONCRETE.

4. REINFORCING STEEL

SHALL BE ASTM A–615 DEFORMED, UNCOATED GRADE 60. BARS #3 AND SMALLER MAY BE GRADE 40. WELDED WIRE FABRIC W.W.F. SHALL BE ASTM A–185, UNCOATED. TIE WIRE: 16ga ANNEALED. ALL BAR LAPS AND REINFORCING MAY BE SPLICED 40 BAR DIAMETERS FOR ALL HORIZONTAL AND VERTICAL REINFORCEMENT, U.O.N. SPLICE WELDED WIRE MESH 12" MIN. AT END LAPS AND 6" MIN. AT SIDE LAPS, U.O.N. ALL STEEL SHALL BE RIGIDLY HELD IN PLACE WITH APPROVED METAL DEVICES PRIOR TO POURING CONCRETE. HOOKS, BENDS, FABRICATION AND PLACING SHALL BE IN ACCORDANCE WITH THE "ACI DETAILING MANUAL" ACI. SP–66(04). SUBMIT MILL TEST CERTIFICATES SHOWING CHEMICAL AND PHYSICAL ANALYSIS OF SUPPLIED REINFORCING. SUBMIT SHOP DRAWINGS OF REINFORCEMENT SHOWING ALL ASPECTS OF THE ITEMS AND ITS CONNECTION TO THE WORK. SUBMIT 5 SETS FOR APPROVAL BEFORE FABRICATION.

5. STRUCTURAL STEEL

FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE CURRENT AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".

- A. ROLLED STEEL PLATES, M SHAPES, S SHAPES AND BARS SHALL BE ASTM A36, U.O.N..
- B. ANGLES, CHANNELS AND MC SHAPES SHALL BE ASTM A36.
- C. HSS RECTANGULAR STEEL TUBE SHALL BE ASTM A500 GRADE 'B', Fy = 46 KSI
- D. HEAVY–HEX NUTS SHALL BE ASTM A563.
- E. WASHERS SHALL BE ASTM F436, U.O.N..
- F. THREADED ROD SHALL BE A36, U.O.N..

ALL BOLT HOLES SHALL BE PUNCHED OR DRILLED AND BE 1/16" OVERSIZE OF BOLT DIAMETER. BURNING OF HOLES SHALL NOT BE PERMITTED. HOLES AT BASE PLATES TO BE PER TABLE 14–2 OF AISC "STEEL CONSTRUCTION MANUAL", THIRTEENTH EDITION.

ALL CONNECTIONS NOT SHOWN SHALL BE DETAILED AND FABRICATED AS PER DESIGN PROVISIONS FOR STANDARD CONNECTIONS OF THE LATEST EDITION OF THE AISC SPECIFICATIONS USING MINIMUM 3/4" DIAMETER BOLTS, OR EQUIVALENT WELDED FRAMING CONNECTIONS.

SUBMIT 5 SETS OF STRUCTURAL STEEL SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION. ALL STRUCTURAL STEEL SHAPES, CONNECTIONS, AND ASSEMBLIES NOT EMBEDDED IN CONCRETE SHALL BE PAINTED WITH ONE SHOP COAT OF RUST INHIBITIVE METAL PRIMER, U.O.N. STEEL EXPOSED TO WEATHER SHALL BE HOT–DIPPED GALVANIZED, U.O.N.

WELDING SHALL BE DONE BY ELECTRIC ARC PROCESS. WELDERS SHALL BE AWS CERTIFIED OPERATORS.

WELDING SHALL CONFORM WITH AWS D1.1 "STRUCTURAL WELDING CODE." ELECTRODES SHALL BE E–70 SERIES, UNLESS OTHERWISE NOTED AND SHALL CONFORM WITH AISC SPECIFICATIONS.

NON–SHRINK GROUT BELOW BASEPLATES SHALL HAVE A COMPRESSIVE STRENGTH OF 4000 PSI MINIMUM, U.O.N.

6. CONCRETE

SHALL DEVELOP A 28 DAY MINIMUM ULTIMATE COMRESSIVE STRENGTH OF:

- **A. SLAB – 3000 PSI (DESIGNED FOR 2500 PSI, NO SPECIAL INSP. REQ'D)**
- **B. FOOTINGS AND FOUNDATIONS – 3000 PSI (DESIGNED FOR 2500 PSI, NO SPECIAL INSP. REQ'D)**

WATER / CEMENT RATIO SHALL NOT EXCEED .45

SLUMP: ± 4–1/2" MAXIMUM.

AGGREGATE: MAXIMUM SIZE 3/4"

SUBMIT 5 COPIES OF CONCRETE MIX DESIGN FOR APPROVAL PRIOR TO MANUFACTURE. ALL CONCRETE SHALL BE MACHINE MIXED, CONFORMING WITH ACI–613. ALL CEMENT USED SHALL COMPLY WITH ASTM C–150, TYPE II CEMENT. MAINTAIN COMPLETE RECORDS OF PLACED CONCRETE ITEMS: DATE, LOCATION, QUANTITY AND TEST SAMPLES TAKEN. CONCRETE TEST CYLINDERS: TAKE FOUR TEST CYLINDERS MINIMUM PER 50 CU. YARDS OF CONCRETE POUR PER DAY, MINIMUM FOUR TEST CYLINDERS OF EACH DAYS POUR OF CONCRETE.

CONCRETE COVERAGE (FACE OF BAR TO FACE OF CONCRETE) SHALL BE AS FOLLOWS, U.O.N. IN DRAWINGS:

- A. 3" MIN. AT CONCRETE IN CONTACT WITH GRADE.
- B. 2" MIN. AT ALL OTHER CONDITIONS U.O.N. ON PLANS.

ANCHOR RODS SHALL BE ASTM F1554, GRADE 36, U.O.N.

CORROSION RESISTANCE: ANCHOR BOLTS AND HOLDOWN BOLTS EXTENDING THROUGH PRESSURE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED. ANY STEEL IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED. HOT DIP GALVANIZED IS NOT REQUIRED FOR ANCHOR OR HOLDOWN BOLTS WITH D.O.T. TREATED WOOD AT MUDSILLS WITHIN WEATHER–TIGHT WALLS.

WORKMANSHIP: PLACE CONCRETE IN ACCORDANCE WITH ACI–301. ENSURE THAT REINFORCEMENT AND EMBEDDED ITEMS ARE NOT DISTURBING PLACEMENT OF CONCRETE. COMPLY WITH CRSI'S "MANUAL OF STANDARD PRACTICE" FOR PLACING REINFORCEMENT. TOP OF THE FLOOR SHALL BE TRUE TO INDICATED ELEVATIONS. VARIATIONS SHALL NOT EXCEED 1/8" IN 10 FEET. MACHINE TROWEL SURFACE IN TWO DIRECTIONS. PATCH IMPERFECTIONS. PROTECT CONCRETE FROM PREMATURE DRYING, MAINTAIN CONCRETE WITH MINIMAL MOISTURE LOSS AT A RELATIVELY CONSTANT TEMPERATURE FOR PERIOD NECCESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE. PROVIDE ¾" CHAMFER ON ALL EXPOSED CONCRETE EDGES U.O.N ON PLANS. CONCRETE TO BE VIBRATED INTO PLACE WITH MECHANICAL VIBRATOR.

7. CARPENTRY AND TIMBER:

- A. STRUCTURAL LUMBER GRADING SHALL BE WCLB STANDARD GRADING RULES FOR WEST COAST LUMBER #17.
- B. BEAMS, HEADERS, POSTS, TOP PLATES, RAFTERS AND JOISTS SHALL BE DOUGLAS FIR #1 U.O.N. STUDS, SILLS AND BLOCKING SHALL BE D.F. #2 OR BETTER (S4S).
- C. WOOD SILLS IN DIRECT CONTACT WITH CONCRETE SLAB OR FOUNDATIONS SHALL BE DOUGLAS FIR PRESSURE TREATED FOR GROUND CONTACT.
- D. BOLTS IN WOOD SHALL CONFORM TO ASTM A307. BOLT HOLES SHALL BE DRILLED 1/16" OVERSIZE OF BOLT. USE STANDARD WASHER ON ALL BEARING OF HEADS AND NUTS AGAINST WOOD, U.O.N. BOLTS, NUTS AND WASHERS SHALL BE HOT–DIPPED GALVANIZED OR STAINLESS STEEL WHERE EXPOSED TO WEATHER AND IN CONTACT WITH PRESSURE TREATED WOOD. BOLTS WITH UPSET THREADS ARE NOT ALLOWED.
- E. BOLT TIGHTENING: ALL NUTS SHALL BE TIGHTENED WHEN PLACED AND RETIGHTENED AT COMPLETION OF PROJECT, OR IMMEDIATELY BEFORE FINISHING OF CONSTRUCTION WHICH WILL MAKE THEM INACCESSIBLE.
- F. HOLES IN WOOD SILLS AND PLATES OF SHEAR AND BEARING WALLS SHALL BE PLACED NEATLY IN THE CENTER OF THE PIECE AND SHALL NOT BE GREATER IN DIAMETER THAN ONE–THIRD OF THE WIDTH OF THE SILL OR PLATE. NOTCHING WILL NOT BE ALLOWED.
- G. STUD WALLS: HORIZONTAL BRIDGING SHALL BE INSTALLED IN ALL WALLS AND PARTITIONS WHERE STUDS ARE GREATER THAN 10 FT. IN HEIGHT. STUD WALLS SUPPORTING BEAMS SHALL HAVE POST UNDER BEAMS, U.O.N. WALL CONSTRUCTION SHALL COMPLY WITH TABLE No. 2308.9.1 OF THE CURRENT C.B.C.
- H. DOUBLE TOP PLATES SHALL HAVE A MINIMUM LAP OF 4 FT. AT SPLICES AND BE NAILED WITH NO LESS THAN 10 – 16d NAILS, U.O.N.. ALL CUTS FOR SPLICES IN PLATES SHALL OCCUR OVER STUDS. WHERE TOP PLATE IS NOT CONTINUOUS INFORM THE STRUCTURAL ENGINEER IF NOT DETAILED IN PLANS.
- I. CUTTING, NOTCHING AND DRILLING JOISTS AND BEAMS FOR PIPES SHALL BE LIMITED TO CUTS AND BORED HOLES NOT DEEPER THAN ONE–FIFTH THE JOIST DEPTH FROM THE TOP AND LOCATED NOT FURTHER FROM THE END THAN THREE TIMES THE JOIST DEPTH UNLESS FULLY DETAILED ON PLANS.
- J. WOOD FRAMING EMBEDDED IN OR ADJACENT TO CONCRETE OR MASONRY WALLS SHALL BE TREATED WITH AN APPROVED PRESERVATIVE. LUMBER EXPOSED TO WEATHER SHALL BE PRESSURE TREATED FOR ABOVE GROUND USE, ACCORDING TO AWPA C–2. SUBMIT TYPE OF PRESERVATIVE TO BE USED FOR APPROVAL. FIELD CUTS AND HOLES SHALL BE FIELD TREATED IN ACCORDANCE WITH CURRENT AWPA M–4.
- K. MAXIMUM 19% MOISTURE CONTENT FOR LUMBER DELIVERED TO JOBSITE.
- L. FRAMING HARDWARE SHALL BE AS MANUFACTURED BY SIMPSON COMPANY OR EQUIVALENT. NOTATIONS ON THE DRAWINGS REFER TO ITEMS SHOWN IN THEIR CATALOG No. C–2011. THEY SHALL BE INSTALLED WITH THE NAILS AND BOLTS CALLED FOR IN THE TABLES IN THE CATALOG. IF OTHER BRANDS ARE USED, THEY MUST BE EQUIVALENT IN ALL STRUCTURAL ASPECTS. A COPY OF THE CATALOG MUST BE KEPT AT THE JOB SITE. SUBMIT A COPY OF MANUFACTURERS CATALOG FOR APPROVAL.
- M. NAILING: ALL NAILS SHALL BE COMMON WIRE NAILS, U.O.N. OR SHOWN. WHERE THERE IS A DANGER OF SPLITTING, NAIL HOLES SHALL FIRST BE SUBDRILLED. HOT DIPPED GALVANIZED OR STAINLESS STEEL NAILS SHALL BE USED FOR ALL DETAILS THAT ARE EXPOSED ON THE EXTERIOR OF THE FINISHED STRUCTURE OR IN CONTACT WITH PRESSURE TREATED WOOD. FOR NAILING SEE "SHEATHING SCHEDULE", AND TABLES 2306.2.1(1) AND 2306.3 OF THE 2010 CBC.
- N. LINTELS OVER OPENINGS SHALL CONSIST OF A SOLID MEMBER THE WIDTH OF THE STUDS AND A NOMINAL DEPTH AS GIVEN BELOW, U.O.N.:

MAXIMUM SPAN	NOMINAL DEPTH
4'–0"	6"
6'–0"	8"
8'–0"	10"

8. CONCRETE MASONRY UNITS (CMU)

SHALL BE HOLLOW CONCRETE UNITS, GRADE "N", CONFORMING TO ASTM C90. MORTAR SHALL BE TYPE "M" OR "S" CONFORMING TO ASTM C270 AND SHALL HAVE THE PROPERTIES SPECIFICATIONS OF SECTION 2103.8 OF THE CBC. GROUT SHALL CONFORM TO THE PROPORTIONS OF SECTION 2103.12 OF THE CBC.

MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE AS FOLLOWS:

- A. CONCRETE MASONRY UNITS (Fm') = 1500 PSI
- B. GROUT = 2000 PSI
- C. MORTAR = 1800 PSI

PERFORM SLUMP TESTS ON GROUT WITH A MAXIMUM SLUMP OF ±8".

ALL CELLS SHALL BE GROUTED SOLID UNLESS OTHERWISE NOTED ON PLAN. GROUT SHALL BE POURED IN 5'–0" MAXIMUM LIFTS AND BE CONSOLIDATED BY MEANS OF MECHANICAL VIBRATION AT EACH LIFT. REINFORCING STEEL SHALL BE ACCURATELY PLACED BEFORE GROUTING AND POSITIVLY RETAINED IN POSITION DURING GROUTING. ALL HORIZONTAL REINFORCING STEEL LARGER THAN #3 BARS SHALL BE PLACED IN BOND BEAM UNITS. UNITS SHALL BE PLACED IN MORTAR IN RUNNING BOND. REINFORCING STEEL SHALL BE AS NOTED IN THE PLANS. CONSTRUCTION SHALL CONFORM TO CHAPTER 21 OF THE CBC.

UNLESS OTHERWISE NOTED ON PLANS, PLACE CONTROL JOINTS IN MASONRY WALLS AT 25'–0" MAX SPACING.

9. EPOXY & WEDGE ANCHORS

INTO CONCRETE: SHALL BE "SIMPSON SET–XP" (ESR–2508) OR OTHER TYPE WITH EQUIVALENT VALUES. SUBMIT MANUFACTURERS DATA, MINIMUM EDGE DISTANCE=1¾".

INTO MASONRY: SHALL BE "SIMPSON SET" (ESR–1772) OR OTHER TYPE WITH EQUIVALENT VALUES. SUBMIT MANUFACTURERS DATA. MINIMUM EDGE DISTANCE=3".

MECHANICAL ANCHORS, USE HILTI "KWIK–BOLT TZ" (ESR–1917) SERIES OR EQUAL OF THE SIZE AND EMBEDMENT INDICATED ON THE DRAWINGS U.O.N.. WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT–DIPPED GALVANIZED WHERE EXPOSED TO WEATHER OR IN CONTACT WITH PRESSURE TREATED WOOD. SUBMIT MANUFACTURERS DATA.

10. PRECAST CONCRETE ROOF PLANKS

PRECAST PLANKS ARE A DEFERRED APPROVAL ITEM. COMPLETE DESIGN CALCULATIONS PREPARED BY A REGISTERED ENGINEER LICENSED IN CALIFORNIA SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT FOR APPROVAL AND TO THE STRUCTURAL ENGINEER FOR REVIEW. SHOP DRAWINGS OF ALL PRECAST CONCRETE SHOWING COMPLETE INFORMATION FOR FABRICATING AND ERECTING THE WORK, SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW.

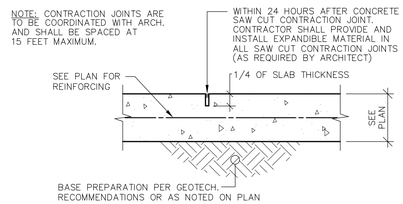
PRECAST CONCRETE HOLLOW–CORE PLANKS SHALL BE DESIGNED, MANUFACTURED AND ERECTED BY A PCI CERTIFIED PRODUCER CURRENTLY A MEMBER OF THE PCI PLANT CERTIFICATION PROGRAM SPECIALIZING IN PROVIDING PRECAST CONCRETE PRODUCTS AND SERVICES NORMALLY ASSOCIATED WITH THE INDUSTRY FOR AT LEAST FIVE YEARS. COMPLY WITH THE PROVISIONS OF THE FOLLOWING CODES: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS" ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", PRESTRESSED CONCRETE INSTITUTE MNL 116 "MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTION OF PRECAST CONCRETE PRODUCTS".ALL PLANT FABRICATION OF PRESTRESSED CONCRETE MEMBERS SHALL BE PERIODICALLY OBSERVED BY THE PLANT STRUCTURAL ENGINEER. THAT ENGINEER SHALL CHECK THE MATERIALS, EQUIPMENT, TENSIONING PROCEDURE, AND CONSTRUCTION OF THE PRESTRESSED MEMBERS.

CEMENT IS TO BE ASTM C–150, TYPE I OR III. USE ONLY ONE BRAND AND TYPE THROUGHOUT PROJECT.

ALL AGGREGATE USED IN CONCRETE IS TO CONFORM TO ASTM C–33, AND APPROVED FOR FIRE–PROTECTIVE PROPERTIES.

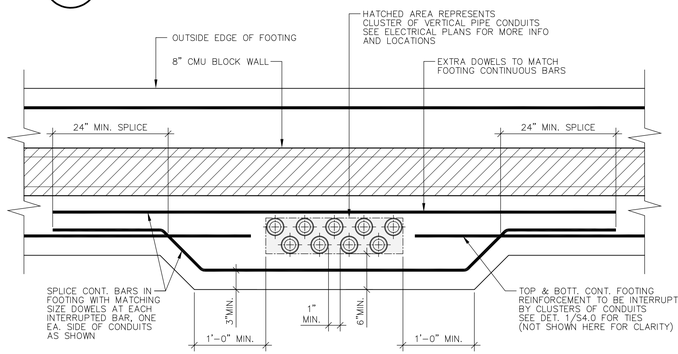
STORE ALL UNITS OFF GROUND, AND SO THAT THE IDENTIFICATION MARKS ARE DISCERNIBLE. STACK SO THAT LIFTING DEVICES ARE ACCESSIBLE AND UNDAMAGED. INSTALLATION OF PRECAST CONCRETE SHALL BE PERFORMED BY THE MANUFACTURER OR A COMPETENT ERECTOR. MEMBERS SHALL BE LIFTED BY MEANS OF SUITABLE LIFTING DEVICES AT POINTS PROVIDED BY THE MANUFACTURER. MEMBERS SHALL BE ALIGNED AND LEVELED AS REQUIRED BY THE APPROVED SHOP DRAWINGS. FIELD WELDING IS TO BE DONE BY CERTIFIED WELDERS USING EQUIPMENT, METHODS AND MATERIALS COMPATIBLE TO THE BASE METAL.

UNLESS SPECIFICALLY NOTED ON THE PLANS, PLANKS SHALL NOT BE CORE–DRILLED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

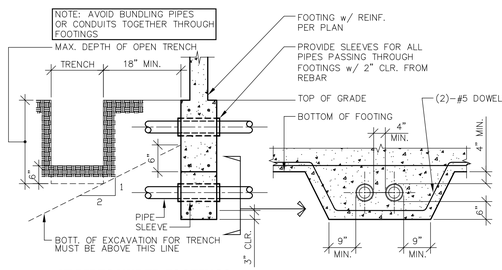


3 / S1.0 Typ. Contraction Joint

SCALE: N.T.S.



PLAN VIEW OF CONTINUOUS FOOTING WITH PIPE/CONDUITS PENETRATING VERTICALLY



AT PIPES UNDER FOOTINGS:
EXCAVATE STEP IN BOTT. OF FOOTING WHERE NECESSARY TO MAINTAIN A MINIMUM COVERAGE OF 9" ON EACH SIDE AND 6" @ BOTT. OF SLEEVE.

2 / S1.0 Typical Pipe Through Footing

SCALE: N.T.S.

BASIS OF DESIGN

WIND DESIGN DATA

METHOD #1
BASIC WIND SPEED = **85 MPH**
WIND IMPORTANCE FACTOR Iw = **1.0**
WIND EXPOSURE = **C**
COMPONENTS & CLADDING WIND PRESSURE = +32.6 PSF
DESIGN WIND PRESSURE= +22.4 PSF

SEISMIC DESIGN DATA

IMPORTANCE FACTOR I = **1.0**
S_s = **1.471 g**
S_1 = **0.529 g**
SITE CLASS = **D–Stiff Soil**
S_{DS} = **0.981 g**
S_{D1} = **0.529 g**
ANALYSIS METHOD= "ASCE 7–05 12.8 EQUIVALENT LATERAL FORCE PROCEDURE"
SEISMIC DESIGN CATAGORY = **D**
SEISMIC FORCE RESISTING SYSTEM = **Table 12.2–1 (A)7**
R = **5.0**
p = **1.3**
C_s = **0.196, [0.7*p*Cs = 0.18 Wt]**

DESIGN LOADS RETAINING WALLS

CONVENTIONAL CANTILEVER WALLS
ACTIVE CASE (LEVEL) = **30 PCF**
AT REST CASE (LEVEL) = **40 PCF**
PASSIVE EARTH PRESSURE = **250 PCF**
MAX. TOE PRESSURE = **2000 PSF (D+L)**
COEFFICIENT OF SLIDING FRICTION = **0.35**

DESIGN LOADS

ROOF DEAD LOAD = 96 PSF
ROOF LIVE LOAD = 20 PSF

WALL DEAD LOAD = 84 PSF

SYMBOLS

Symbol	Meaning
▨	CONCRETE BLOCK OR STONE VENEER
░	CAST IN PLACE CONCRETE
☒	CONTINUOUS TIMBER
⧄	TIMBER BLOCKING
☒	POST ABOVE
☐	POST BELOW
5 / S2.0	DETAIL No. 5 ON SHEET S2.0
▯	STUD WALL
◁ 1 LENGTH 10'–0" H.D. STRAP*	SHEATHING CALL–OUT (SEE SHEATHING SCHEDULE, ARROWHEAD POINTS TO SHEATHED SIDE) *FLR–TO–FLR STRAP TIE @ ENDS OF SHEARWALL

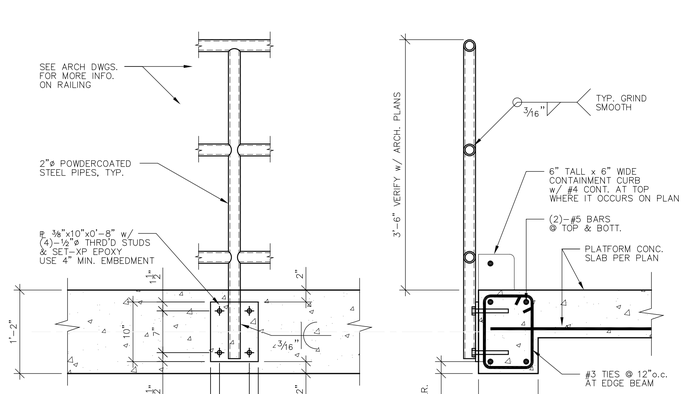
STRUCTURAL TESTS AND INSPECTIONS

THE FOLLOWING ITEMS SHALL BE INSPECTED. "SPECIAL INSPECTION" SHALL CONFORM TO IBC 1704. SPECIAL INSPECTION AGENCIES AND/OR INDIVUDUALS SHALL BE APPROVED BY THE BUILDING DEPARTMENT PRIOR TO ANY WORK. FOR MATERIAL TESTING REQUIREMENTS SEE SPCIFICATIONS AND/ OR GENERAL NOTES. TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ENGINEER.

ITEM	SPECIAL INSPECTION		E.O.R. OBSERVATION	REMARKS	INSPECTION BY
	REQ'D	NOT REQ'D	REQ'D		
GRADING, EXCAVATIONS AND FILL DENSITY	X			PERIODIC	GEOTECHNICAL ENGINEER/SPECIAL INSP.
REINFORCEMENT PLACEMENT	X		X	FINAL PLACEMENT	STRUCTURAL ENGINEER OF RECORD (E.O.R.)
WET SET ANCHOR BOLTS	X			FINAL PLACEMENT	SPECIAL INSPECTOR
SAMPLE CONCRETE (STRENGTH, SLUMP, AIR %)	X			CONTINUOUS	SPECIAL INSPECTOR
CONCRETE PLACEMENT	X			PERIODIC	SPECIAL INSPECTOR
STRUCTURAL CMU	X			PERIODIC	SPECIAL INSPECTOR
STRUCTURAL CMU GROUTING	X			CONTINUOUS	SPECIAL INSPECTOR
POST INSTALLED ANCHORS (EPOXY, MECH.)	X		X	CONTINUOUS	STRUCTURAL ENGINEER OF RECORD (E.O.R.)
ERECTION OF PRECAST CONCRETE PANELS	X			PERIODIC	SPECIAL INSPECTOR
ROOF & FLOOR DIAPHRAGMS NAILING		X	X	AFTER COMPLETION	STRUCTURAL ENGINEER OF RECORD (E.O.R.)
SHEAR WALL SHEATHING NAILING		X	X	AFTER COMPLETION	STRUCTURAL ENGINEER OF RECORD (E.O.R.)
SEISMIC STRAPPING (LOCATION, NAILING)		X	X	FINAL PLACEMENT	STRUCTURAL ENGINEER OF RECORD (E.O.R.)
HOLDOWNS (LOCATION. ANCHOR BOLT. ETC.)		X	X	FINAL PLACEMENT	STRUCTURAL ENGINEER OF RECORD (E.O.R.)
SHEAR TRANSFER ELEMENTS		X	X	FINAL PLACEMENT	STRUCTURAL ENGINEER OF RECORD (E.O.R.)

STRUCTURAL ENGINEER OBSERVATION IS REQUIRED FOR THIS PROJECT. THE OWNER SHALL RETAIN THE STRUCTURAL ENGINEER TO PERFORM OBSERVATIONS AS DEFINED IN CBC, SECTION 110. OBSERVED DEFICIENCIES SHALL BE REPORTED TO THE OWNER, CONTRACTOR, AND BUILDING OFFICIAL. STRUCTURAL OBSERVER SHALL SUBMIT A FINAL SUMMARY REPORT STATING THAT SITE VISITS HAVE BEEN MADE IDENTIFYING ANY DEFICIENCIES AND THAT CORRECTIVE WORK HAS BEEN COMPLETED AND CONSTRUCTION PROCEEDED IN ACCORDANCE WITH THE APPROVED PLANS AND APPLICABLE CODES.
SEE INSPECTION SCHEDULE ABOVE FOR ADDITIONAL EXTENDED LIST OF THE STRUCTURAL ENGINEER FIELD OBSERVATION.

CONTRACTOR SHALL GIVE A MINIMUM 24 HOUR NOTICE TO STRUCTURAL ENGINEER FOR SCHEDULING STRUCTURAL OBSERVATIONS.
ALL STRUCTURAL ITEMS WHICH ARE INTENDED TO HAVE A DEFFERED SUBMITTAL SHALL BE FIRST SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND COORDINATION THEN SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT FOR REVIEW AND APPROVAL. A LETTER OR STAMPED REVIEWED SHOP DRAWINGS SHALL BE INCLUDED FOR THE BUILDING DEPARTMENT STATING THAT REVIEW AND COORDINATION HAS BEEN PERFORMED AND COMPLIED WITH THE PLANS AND CALCULATIONS FOR THE DEFERRED ITEMS AND ALL HAS BEEN FOUND ACCEPTABLE (e.g. GEOMETRY. LOAD CONDITIONS ETC.) WITH NO EXCEPTIONS.



1 / S1.0 Handrail Detail

SCALE: 1"=1'–0"

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(831)373-3119 FAX(831)373-5872

CESAR V. GARCIA
No. C69324
Exp. 06–30–20
CIVIL

NOT VALID WITHOUT WET SIGNATURE

MPWMD SANTA MARGARITA ASR FACILITY
CHLORINATION BUILDING

1910 GENERAL JIM MOORE BLVD.
SEASIDE, CA

JOB NO.
HCA 18-057

PRINT DATE:
PLOT DATE: 05.17.2019
DRAWN BY: CG
CHECKED BY: -
SET ISSUED:

60% DESIGN REVIEW	5/17/19
100% DESIGN REVIEW	6/25/19
ISSUED FOR BID	8/5/19

SHEET NAME:
General Notes & Typical Details

SHEET NO.:
S1.0

FILE NAME.:

SHEATHING SCHEDULE

MARK	SHEATHING [1,4,5]	SHEATHING NAILING [3,5] EDGE (T.E.N.)	SHEATHING NAILING [3,5] FIELD	PLATE [1] NAILING	SILL [1,7,8] TO CONCRETE	SHEAR TRANSFER [1,6] CLIPS	ALLOW. SHEAR #/FT.	NOTES[1]
R1 TYP. ROOF SHEATHING U.O.N.	5/8" APA RATED SHTG. EXPOSURE 1 SPAN RATING 24/0	8d @ 6"o.c.	8d @ 12"o.c.	N . A .	N . A .	A35 @ 24"o.c. MINIMUM, U.O.N.	240[2] 180	UNBLOCKED DIAPHRAGM
1 TYPICAL ALL EXTERIOR SHTG. U.O.N.	1/2" OSB, EXP 1	8d @ 6"o.c.	8d @ 12"o.c.	16d @ 8"o.c. STAGGERED	SEE DETAILS	A35 OR LTP4 @ 24"o.c., MIN.	260[3]	ALL EXT. WALLS U.O.N. SOLID BLOCKED

1 – UNLESS OTHERWISE SPECIFIED IN DRAWINGS.
2 – NDS TABLE 4.2B & ESR–1472 FOR SIMPSON QUIK DRIVE SCREW SYSTEM (WSNTL)
3 – NDS TABLE 4.3A
4 – ROOF, FLOOR & WALL SHEATHING SHALL BE APPLIED FACE GRAIN PERPENDICULAR TO FRAMING – TYP.
5 – CONTINUE SHEATHING AND NAILING OVER SIDE OF POST AT END OF SHEARWALL.
6 – AT LEVEL ABOVE FROM BLOCKING/RIM JOIST TO DOUBLE TOP PLATE. LTP4 IF USED SHALL BE ORIENTED HORIZONTALLY.
7 – **ALL A.B.'s SHALL HAVE 3"x3"x¼" ℄ WASHERS. THE HOLE IN THE ℄ WASHER MAY BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1¾", PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE ℄ WASHER AND THE NUT.** (2)–BOLT MIN. PER SILL ℄ WITH BOLTS LOCATED NOT MORE THAN 12" OR LESS THAN 4" FROM EACH END OF SILL ℄.
8 – ALL SILL PLATES SHALL BE PRESSURE TREATED DOUGLAS FIR, (U.O.N.). FASTENERS FOR TREATED WOOD SHALL BE OF HOT–DIPPED ZINC COATED GALVANIZED, STAINLESS STEEL, SILICON BRONZE OR COPPER. PLYWOOD JOINTS AND SILL ℄ NAILING SHALL BE STAGGERED IN ALL CASES.
9 – USE PLYWOOD CLIPS @ 24"o.c. @ UNSUPPORTED EDGES.

ROOF NOTES

3" CONC. TOPPING w/ #3 @ 18"o.c. EA. WAY OVER
6" SPANCRETE HOLLOWCORE SYSTEM. **(SERIES 1.63J–6606T)**

NOTES:
(1) PRECAST CONC. PLANKS SHALL BE AS NOTED ON PLANS WITH 3" 4,000 PSI NORMAL WEIGHT CONC. TOPPING.

(2) ALLOWABLE TYPICAL ROOF LOADS: (SUPERIMPOSED ON PLANKS)

DEAD LOAD = 230 PSF + LIVE LOAD = 20 PSF

(3) PLANKS SHALL BE DESIGNED BY PRECAST MANUFACTURER AND SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION, VERIFY DUCTS, ANY ROOF EQUIPMENT & WEIGHTS WITH MECHANICAL DRAWINGS.

PROVIDE COMPLETE SIGNED / STAMPED ENGINNERED SHOP DRAWINGS THAT INCLUDE ALL ROOFTOP ELEMENTS INDICATED ON ALL PLANS. DESIGN SHALL INCLUDE PLANKS DESIGNED TO ALLOW REASONABLE CORING OR CUTTING FOR OPENINGS FOR ELECTRICAL AND OTHER UTILITY PENETRATIONS AND SHOW ALLLOWABLE SIZES FOR OPENINGS TO BE CORED OR CUT IN THE FIELD.

(4) USE A 3" HIGH CONCRETE HOUSEKEEPING PLATFORM w/ #3 @ 16"o.c. EA. WAY. WHERE REQUIRED BY MECH. EQUIPMENT. VERIFY WITH ARCHITECT.

FLOOR SLAB NOTES

(1) USE A 6" HIGH CONCRETE HOUSEKEEPING PLATFORM w / #4 @ 16" O.C. EA. WAY WHERE REQUIRED FOR ELEC. EQUIPMENT. VERIFY WITH ARCHITECT.

FOUNDATION NOTES

LOWER SLAB ON GRADE:
USE 6" CONCRETE SLAB ON GRADE w/ #4 @ 16"o.c. EA. WAY CENTERED IN SLAB OVER 2" OF CLEAN WET SAND ON 10 mil STEGO WRAP VAPOR BARRIER OVER 4" OF ¾" CLEAN CRUSHED ROCK OVER 8" OF PROCESSED SUBGRADE COMPACTED TO A MINIMUM OF 95% RELATIVE DRY DENSITY. FOLLOW ADDITIONAL RECOMMENDATIONS FOUND IN THE PROJECT SOILS REPORT. NOTIFY THE E.O.R. AND SOILS ENGINEER OF ANY DISCREPANCIES.

UPPER SLAB ON GRADE:
USE 5" CONCRETE SLAB ON GRADE w/ #4 @ 16"o.c. EA. WAY CENTERED IN SLAB OVER 2" OF CLEAN WET SAND ON 10 mil STEGO WRAP VAPOR BARRIER OVER 4" OF ¾" CLEAN CRUSHED ROCK OVER 8" OF PROCESSED SUBGRADE COMPACTED TO A MINIMUM OF 95% RELATIVE DRY DENSITY. FOLLOW ADDITIONAL RECOMMENDATIONS FOUND IN THE PROJECT SOILS REPORT. NOTIFY THE E.O.R. AND SOILS ENGINEER OF ANY DISCREPANCIES.

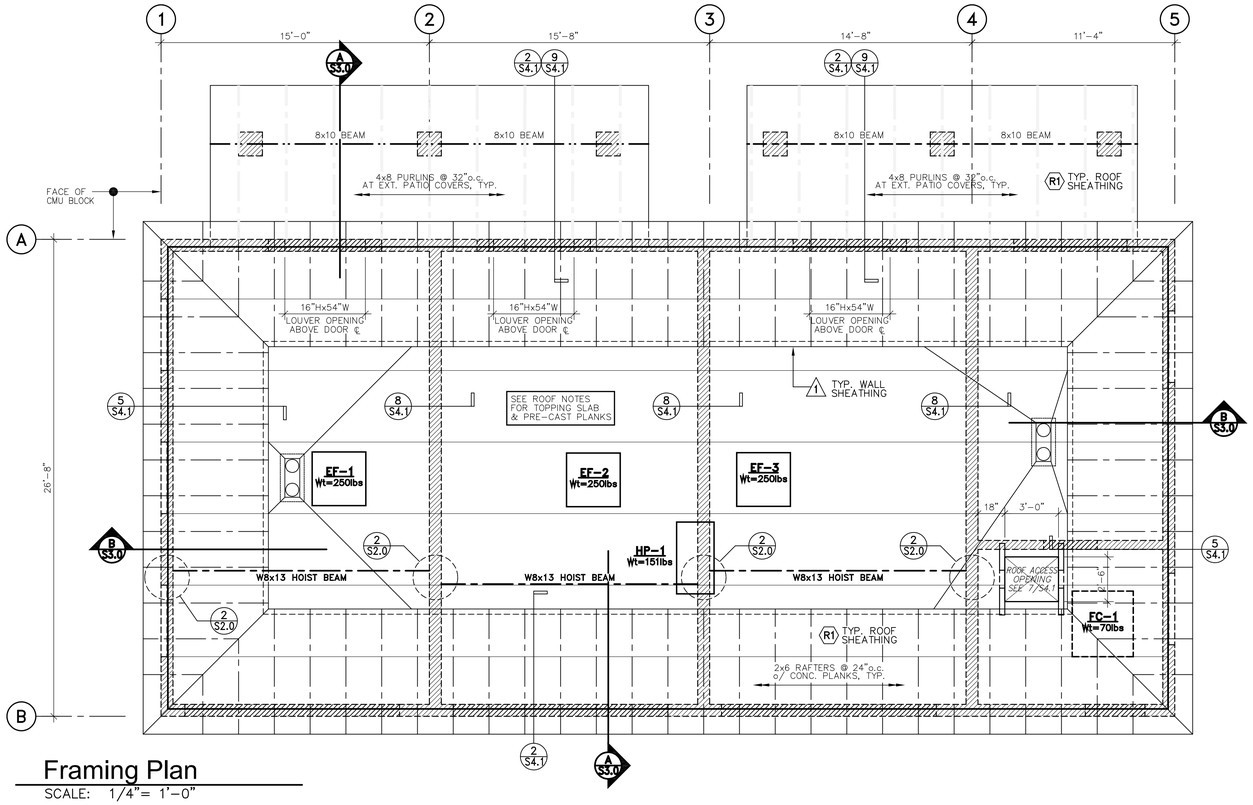
PLATFORM STRUCTURAL SLAB:
USE 8" CONCRETE SLAB w/ #5 @ 16"o.c. EA. WAY AT BOTTOM OF SECTION.

NOTES:
(1) THE GEOTECHNICAL ENGINEER SHALL INSPECT THE BUILDING PAD AND FOOTING EXCAVATIONS, WITHOUT REINFORCING STEEL, AND SUBMIT WRITTEN APPROVAL TO THE BUILDING DEPARTMENT PRIOR TO REQUESTING THE FOUNDATION INSPECTION.

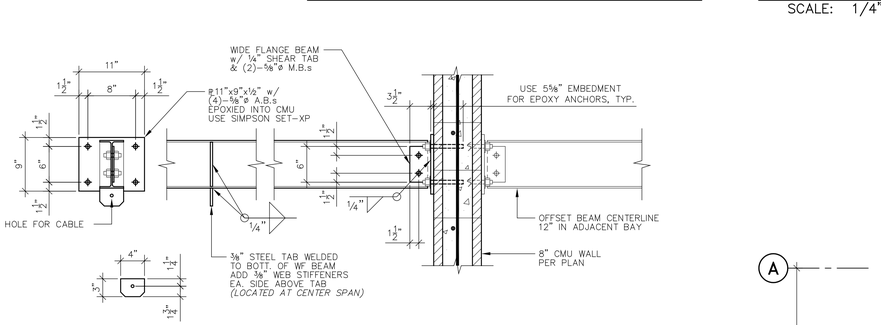
(2) THE SLABS SHOULD BE SEPARATED INTO APPROXIMATELY 15'x15' SQUARE SECTIONS BY CONTRACTION JOINTS PER DETAIL 3/S1.0

(3) USE A 3" HIGH CONCRETE HOUSEKEEPING PLATFORM w/ #3 @ 16"o.c. WAY. WHERE REQUIRED BY MECH. EQUIPMENT. VERIFY WITH ARCH. PLANS.

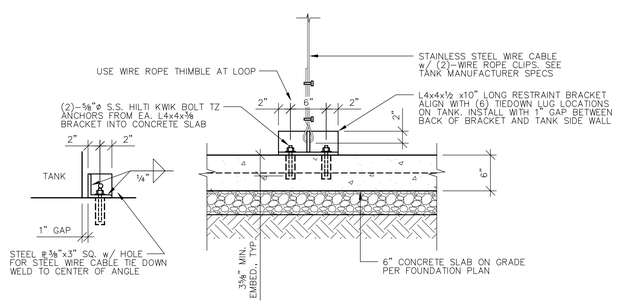
(4) SLURRY MIX SHALL BE TWO–SACK OR BETTER.



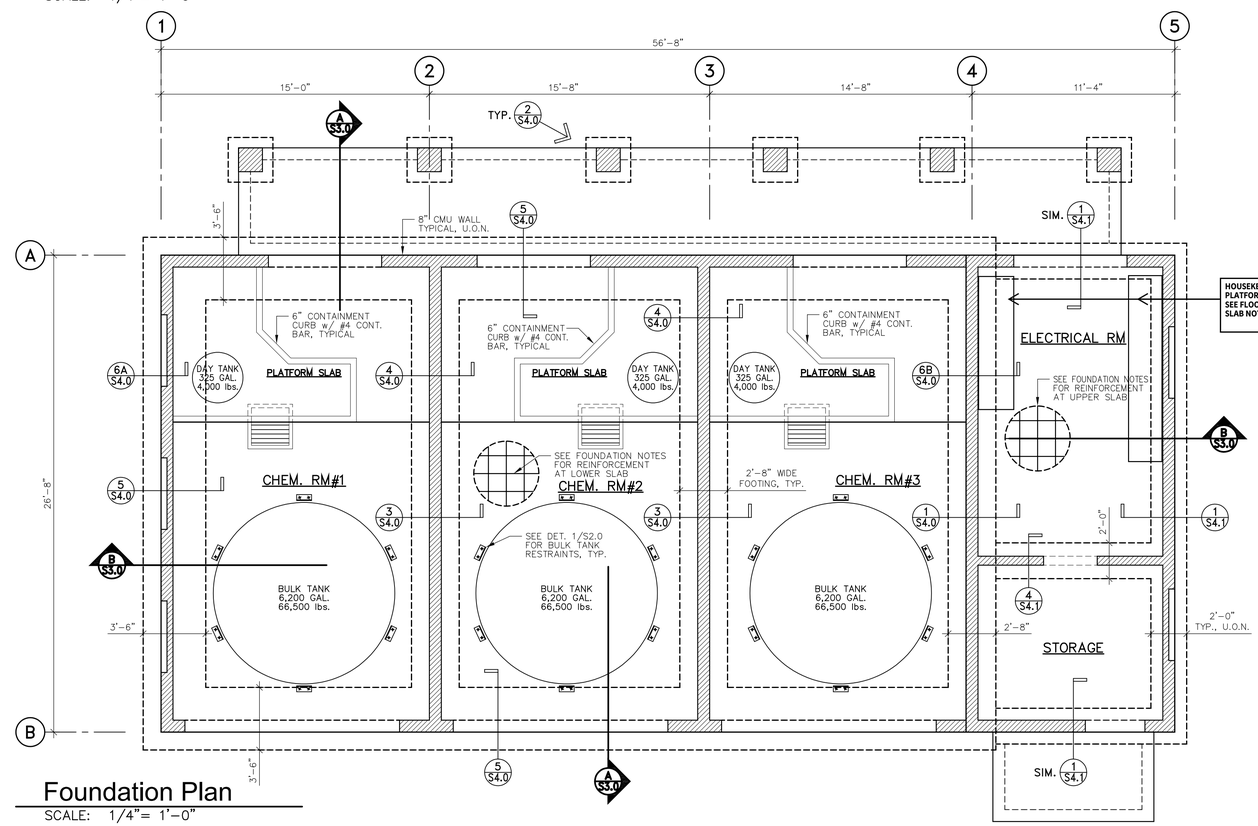
Framing Plan
SCALE: 1/4"= 1'–0"



2/S2.0 Hoist Beam Detail
SCALE: 1"=1'–0"



1/S2.0 Bulk Tank Anchor Restraints
SCALE: 1"=1'–0"



Foundation Plan
SCALE: 1/4"= 1'–0"

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CHLORINATION BUILDING

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SEASIDE, CA

JOB NO.
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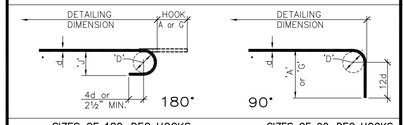
Foundation & Framing Plan

SHEET NO.:
S2.0

FILE NAME.:

ACI STANDARD HOOKS



SIZES OF 180-DEG HOOKS

GRADES 50-60-75 ksi
D=6d for #3 trough #8
D=8d for #9, #10 and #11
D=10d for #14 and #18

GRADE 40 ksi
D=5d for #3 trough #11
D=10d for #14 and #18

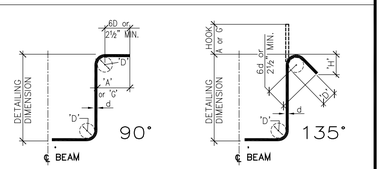
SIZES OF 90-DEG HOOKS

ALL GRADES
D=6d for #3 trough #8
D=8d for #9, #10 and #11
D=10d for #14 and #18

RECOMMENDED END HOOK DIMENSIONS

BAR SIZE	180° HOOKS				90° HOOKS
	GRADES 50-60-70		GRADE 40		ALL GRADES
	'A' or 'G'	'J'	'A' or 'G'	'J'	'A' or 'G'
#3	5	3	5	2¾	6
#4	6	4	6	3½	8
#5	7	5	7	4½	10
#6	8	6	8	5¼	1-0
#7	10	7	9	6¼	1-2
#8	11	8	10	7	1-4
#9	1-3	11¼	1-0	8	1-7
#10	1-5	1-0¾	1-1	9	1-10
#11	1-7	1-0¾	1-1	9	2-0

BAR HOOKS

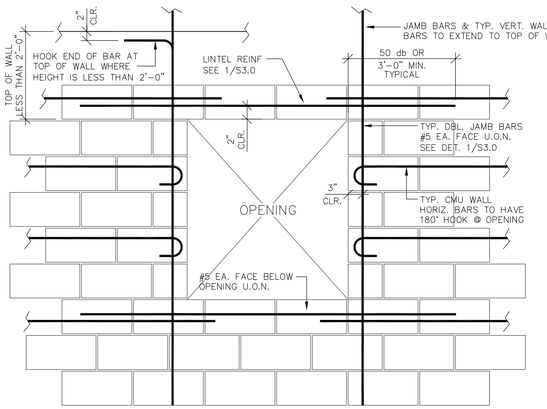


STIRRUPS (TIES SIMILAR)

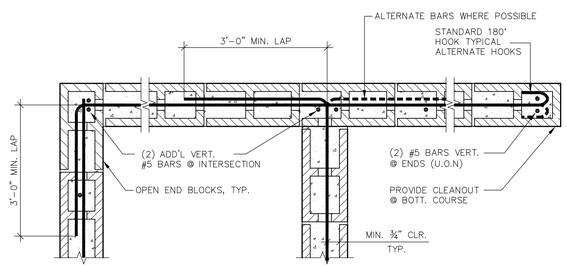
RECOMMENDED STIRRUP & TIE DIMENSIONS
GRADES 40-50-60 ksi

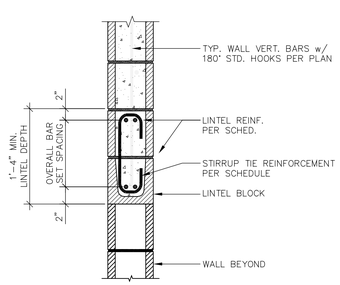
BAR SIZE	'D' (IN)	90 HOOK	135 HOOK	
		H O O K 'A' or 'G'	HOOK 'A' or 'G'	APPROX. 'H'
#3	1½	4	4	2½
#4	2	4½	4½	3
#5	2½	6	5½	3¾
#6	3	6½	6½	4½

STIRRUP & TIE HOOKS



2 S3.0 Typ. Opening in CMU Wall
SCALE: N.T.S.





TYPICAL WALL REINFORCING SCHEDULE *

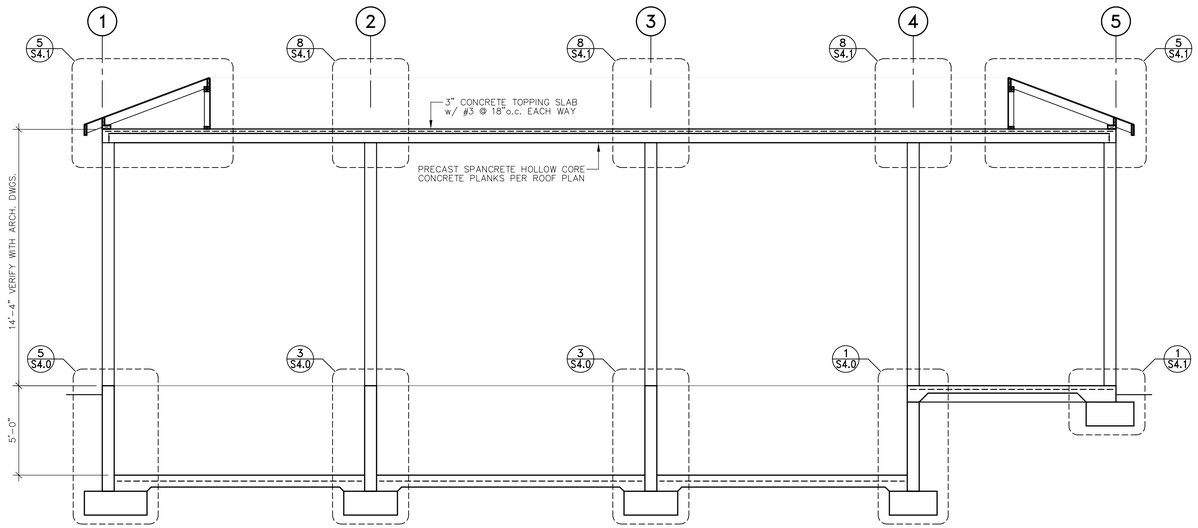
DESIGNATION	WALL THICKNESS	VERT. REINF.	HORIZ. REINF.	SPECIAL INSPECTION	COMMENTS
1 TYPICAL	8"	#5 @ 16"o.c. CENTERED	#4 @ 16"o.c. CENTERED	YES	FULLY GROUTED

** SPECIAL INSPECTION REQUIRED*

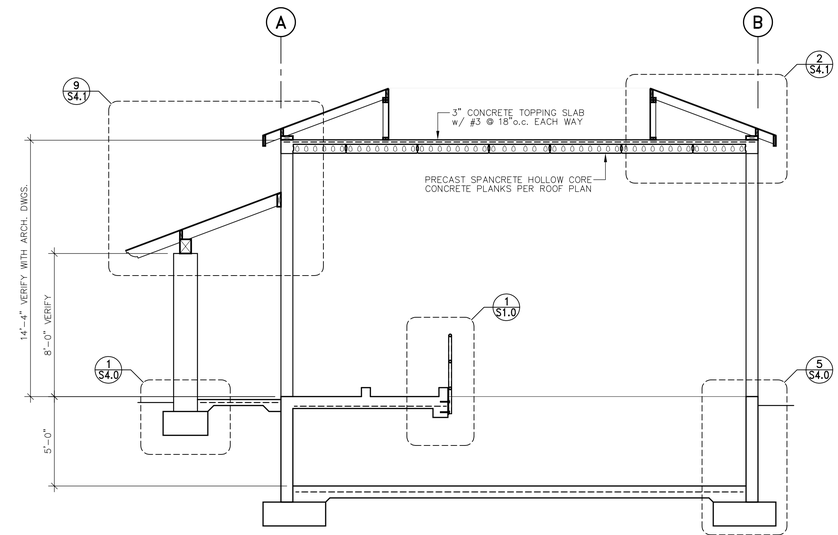
CMU LINTEL SCHEDULE

BLOCK SIZE	LINTEL SPAN MAX. LENGTH	LINTEL REINF	STIRRUPS	OVERALL BAR SET SPACING
8"	12'-0"	(2)-#5 BARS TOP & BOTT.	#3 @ 8"o.c.	12"

1 S3.0 CMU & Reinforcement Details
SCALE: 1"=1'-0"



Building Section "B"
SCALE: 1/4"= 1'-0"



Building Section "A"
SCALE: 1/4"= 1'-0"

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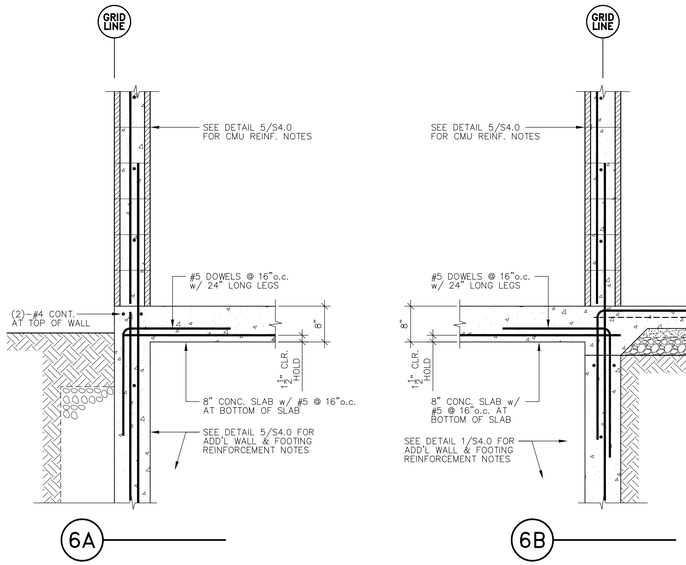
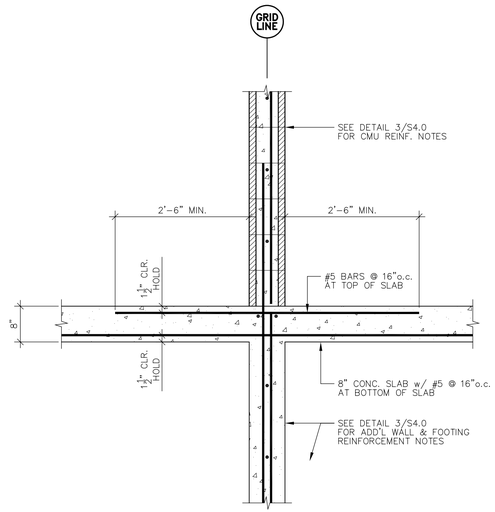
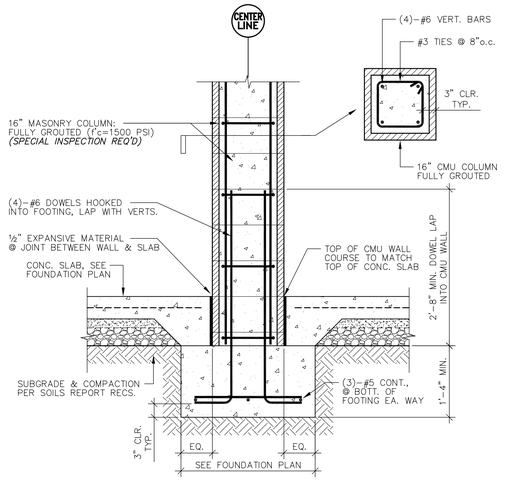
FILE NAME.:



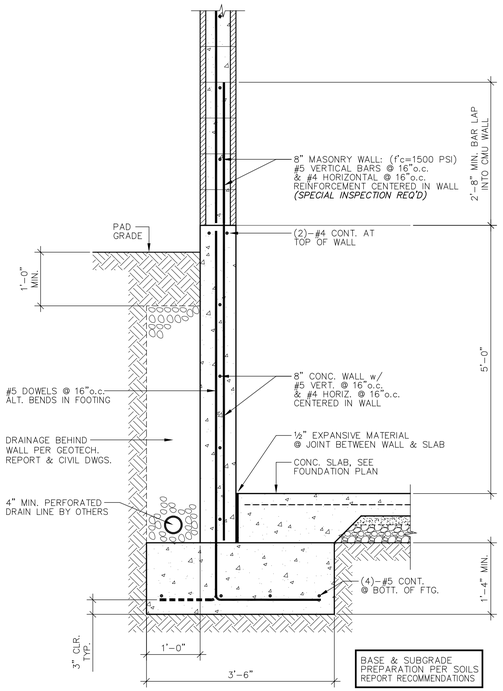
6 S4.0 **Detail**
SCALE: 3/4"=1'–0"



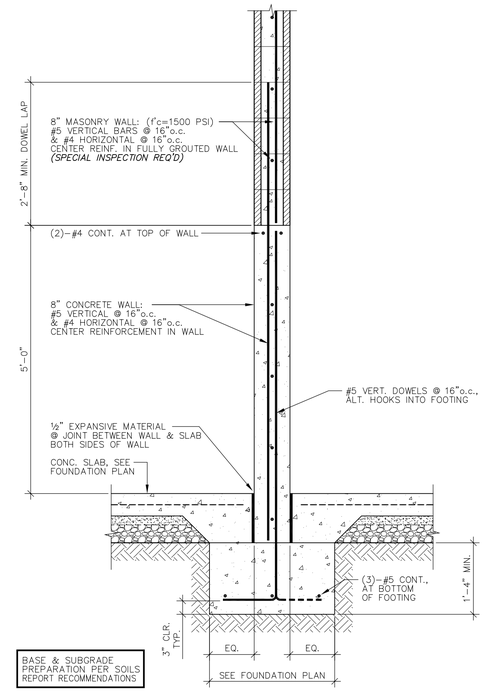
4 S4.0 **Detail**
SCALE: 3/4"=1'–0"



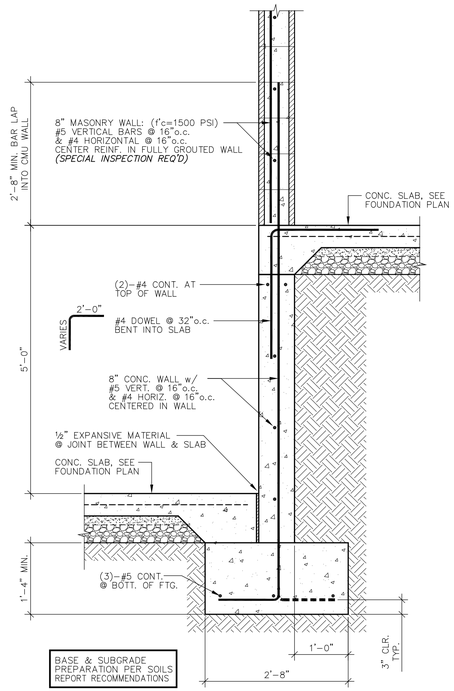
2 S4.0 **Detail**
SCALE: 3/4"=1'–0"



5 S4.0 **Detail**
SCALE: 3/4"=1'–0"



3 S4.0 **Detail**
SCALE: 3/4"=1'–0"



1 S4.0 **Detail**
SCALE: 3/4"=1'–0"

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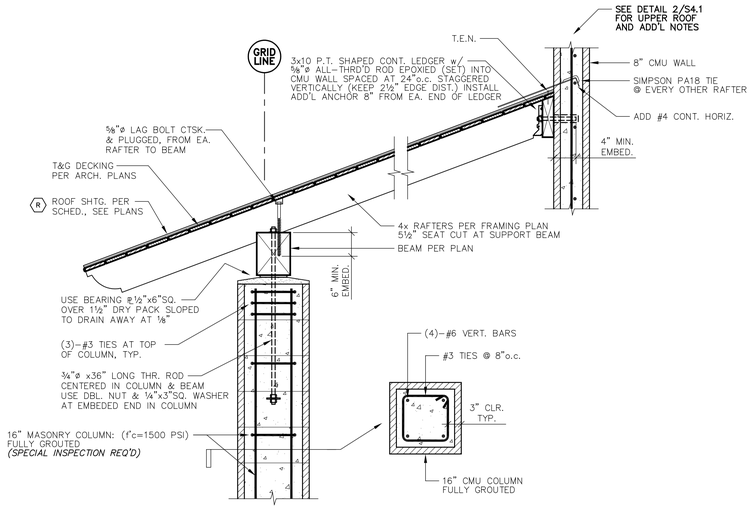
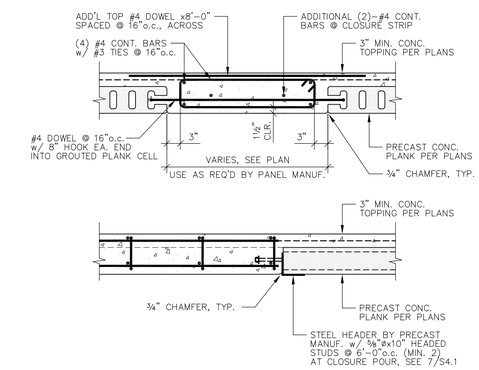


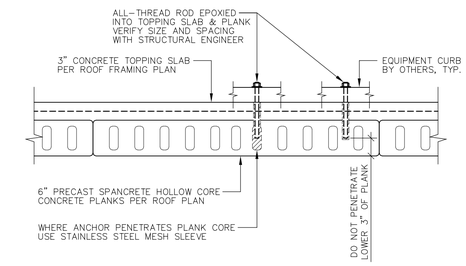
9 S4.1 Detail

SCALE: 3/4"=1'-0"



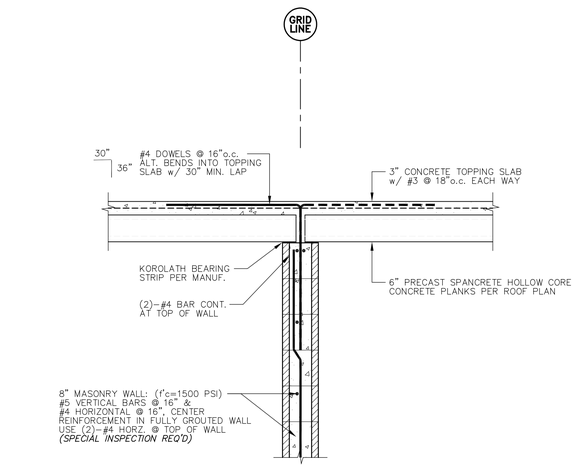
6 S4.1 Typical Closure Pour Details

SCALE: N.T.S.



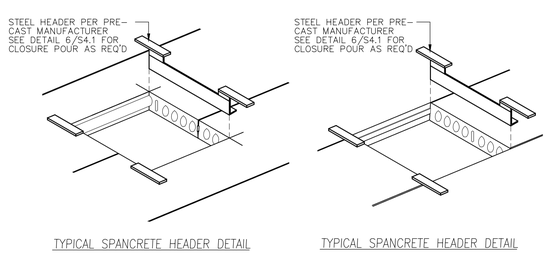
3 S4.1 Typ. Anchorage to Planks

SCALE: 3/4"=1'-0"



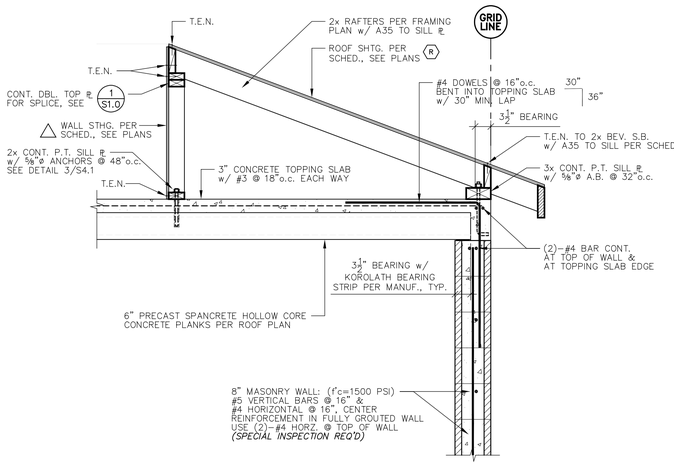
8 S4.1 Roof to Wall Detail

SCALE: 3/4"=1'-0"



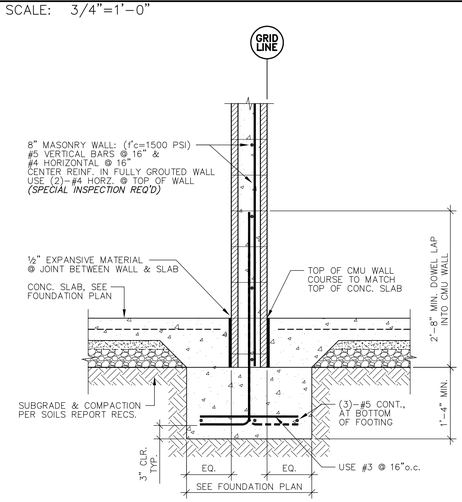
7 S4.1 Header Detail

SCALE: N.T.S.



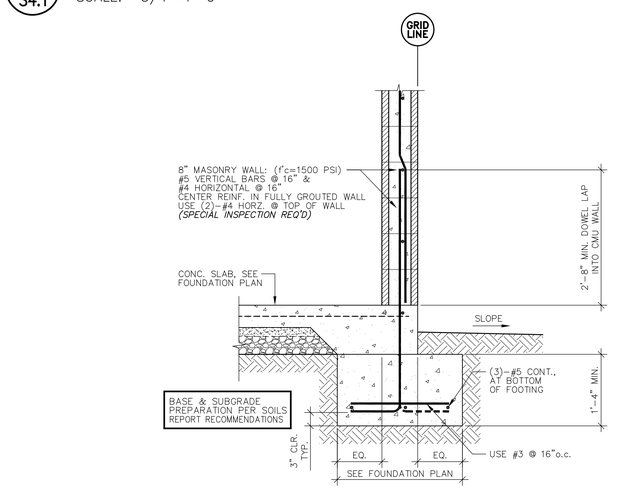
5 S4.1 Wall Detail

SCALE: 3/4"=1'-0"



4 S4.1 Typ. Anchorage to Planks

SCALE: 1"=1'-0"



2 S4.1 Wall Detail

SCALE: 3/4"=1'-0"

1 S4.1 Footing

SCALE: 3/4"=1'-0"

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SPLIT SYSTEM HEAT PUMP

TAG	MANUFACTURER	MODEL No.	CFM	ESP	(5) ELECTRICAL MCA	(5) ELECTRICAL VOLT–PH–Hz	APPROX. UNIT WT. (LBS.)	TAG	MANUFACTURER	MODEL No.	NOMINAL CAPACITY (TONS)	HEATING CAPACITY 70° EAT 47° AMBIENT (BTUH)	TOTAL COOLING CAPACITY 80°DB/67°WB 95° AMBIENT (MBH)	SENSIBLE COOLING CAPACITY 80°DB/67°WB 95° AMBIENT (MBH)	(5) ELECTRICAL BKR	(5) ELECTRICAL MCA	(5) ELECTRICAL VOLT–PH–Hz	APPROX. UNIT WT. (LBS.)	SEER	COP	HSPF	AREA SERVED BY OUTDOOR UNIT	NOTES
FC 1	MITSUBISHI	PEAD–A24AA7	700	0.6	2.63	208/230–1–60	70	HP 1	MITSUBISHI	PUZ–A24NHA7	2	26.0	24.0	16.3	26.0	19.0	208/230–1–60	151	19.6	4.35	10.8	STORAGE AND ELECTRICAL ROOM	1 2 3 4 5 6

(1) CONTRACTOR SHALL PROVIDE ALL REFRIGERANT AND NECESSARY ACCESSORIES AND COMPONENTS FOR A COMPLETE OPERATING HEATING & COOLING SYSTEM.

(2) UNIT SHALL HAVE SAFETY SWITCH WITH DRAIN PAN LEVEL SENSOR TO SHUT COOLING OFF IF DRAIN PAN OVERFLOW. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

(3) PROVIDE MANUFACTURER'S MEDIA FILTER BOX FBM2–3 WITH MINIMUM OF MERV 8 FILTERS. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

(4) OUTDOOR UNIT SHALL BE PROVIDED WITH SEACOAST PROTECTION.

(5) POWER TO INDOOR FAN COIL SHALL BE POWERED THROUGH THE OUTDOOR UNIT VIA MITSUBISHI COMBINATION POWER AND CONTROL CABLE.

(6) FAN COIL SHALL HAVE INTEGRAL CONDENSATE PUMP.

MECH INSULATION NOTES

1. ALL MATERIALS AND INSTALLATION SHALL COMPLY WITH THE LATEST EDITIONS OF ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE REFERENCED CODES AND ORDINANCES, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
2. ALL DUCT SIZES ARE INSIDE CLEAR DIMENSIONS.
3. ALL DUCTWORK INDICATED LINED SHALL HAVE FLEXIBLE INORGANIC FIBER ACOUSTIC DUCT LINER FOR THE LENGTH OF THE DUCT AS NOTED ON DRAWINGS.
4. DUCT LINER SHALL BE ACOUSTIC FIBERGLASS DUCT LINER. THERMAL CONDUCTANCE (K) SHALL BE 0.24 BTU–IN/HR, SF °F RATED, HAVE A FIRE HAZARD CLASSIFICATION FLAME/FUEL/SMOKE MAX. OF 25/50/50, SURFACE ROUGHNESS (E) OF .0008 FEET AND VELOCITY RATING OF 5000 FPM. THE LINER SHALL BE SECURED TO THE DUCT INTERIOR WITH ADHESIVE WITH MINIMUM COVERAGE OF 90% OF METAL SURFACE, WITH 100 % COVERAGE AT THE EDGES. THE COATED SIDE OF THE DUCT LINER SHALL FACE THE AIR STREAM. LONGITUDINAL JOINT SHALL BE FORMED IN ONE CORNER OF THE DUCT WITH ALL JOINTS TIGHTLY BUTTED. EXPOSED EDGES OF INSULATION SHALL BE COATED WITH A HEAVY LAYER OF MASTIC PRIOR TO INSTALLATION OF THE DUCT SYSTEM. WHERE WIDTH OF DUCTS OR CASING EXCEED 12 INCHES, SHEET METAL FASTENERS, IN ADDITION TO ADHESIVE SPECIFIED ABOVE, SHALL BE USED, SPACED NOT LESS THAN 12 INCHES ON CENTERS. INSULATION MAY BE APPLIED TO FLAT SHEETS AND FORMED WITH THE METAL IN THE BRAKE. JOHNS MANVILLE "LINACOUSTIC RC" OR APPROVED EQUAL.
   INSIDE BUILDING INSULATED ENVELOPE: 1" THICK
   OUTSIDE BUILDING INSULATED ENVELOPE: 2" THICK
5. PRODUCTS NOT SPECIFIED WILL NOT BE ACCEPTED ON JOB SITE WITHOUT PRIOR APPROVAL.
6. BIND SUBMITTALS IN BOOKLET FORM AND SUBMIT TO OWNER'S REPRESENTATIVE FOR APPROVAL.

AIR TERMINAL NOTES

1. FOR EXACT LOCATION AND ELEVATIONS OF AIR TERMINALS. SEE ARCH. PLANS.
2. ALL VISIBLE INTERIOR PORTIONS OF DUCTWORK AND AIR TERMINALS SHALL BE PAINTED FLAT BLACK BY MECHANICAL CONTRACTOR.
3. SIDEWALL SUPPLY REGISTERS SERVED BY FAN COIL UNIT SHALL BE KRUEGER MODEL 9880 DOUBLE DEFLECTION SIDEWALL REGISTER WITH OBD'S OR EQUAL. REGISTER SIZE INDICATED ARE INSIDE NECK DIMENSIONS. REGISTER SHALL BE STAINLESS STEEL CONSTRUCTION INCLUDING OBD.
4. EXHAUST REGISTERS IN CHEMICAL/TANK ROOM SHALL BE KRUEGER MODEL 9S80 STAINLESS STEEL REGISTERS WITH 45° DEFLECTION ¾" BLADE SPACING OR EQUAL. REGISTER SIZE INDICATED ARE INSIDE NECK DIMENSIONS.
5. RETURN REGISTERS SERVED BY THE FAN COIL UNIT SHALL BE KRUEGER 9S80 STAINLESS STEEL REGISTERS WITH 45° DEFLECTION ¾" BLADE SPACING WITH STAINLESS STEEL OBD OR EQUAL. REGISTER SIZE INDICATED ARE INSIDE NECK DIMENSIONS.
6. PRODUCTS NOT SPECIFIED WILL NOT BE ACCEPTED ON JOB SITE WITHOUT PRIOR APPROVAL.
7. BIND SUBMITTALS IN BOOKLET FORM AND SUBMIT TO OWNERS FOR APPROVAL.

MECH. EQUIP ANCHORAGE

ALL MECHANICAL EQUIPMENT SHALL BE BRACED OR ANCHORED RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION PER 2016 C.B.C. TABLE 16A AND SMACNA GUIDELINES WHICHEVER IS MOST RESTRICTIVE.

GENERAL NOTES

1. ALL MATERIALS AND INSTALLATION SHALL COMPLY WITH THE LATEST EDITIONS OF ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE REFERENCED CODES AND ORDINANCES, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
2. DRAWINGS SHOW DUCTWORK DIAGRAMMATICALLY.
3. COORDINATE FIELD DETAILS WITH OTHER TRADES TO AVOID CONSTRUCTION DELAYS AND MAINTAIN REQUIRED CLEARANCES.
4. VARY RUN AND SHAPE OF DUCTWORK AND MAKE OFFSET DURING PROGRESS OF WORK AS REQUIRED TO MEET STRUCTURAL AND OTHER INTERFERENCE AS APPROVED BY ARCHITECT.
5. THE MECHANICAL CONTRACTOR SHALL VERIFY ALL SECTIONS AND ELEVATIONS PRIOR TO DUCTWORK FABRICATIONS.
6. THE MECHANICAL CONTRACTOR SHALL COORDINATE ALL AIR TERMINALS WITH FINISH TRADES AND GET OWNER'S REPRESENTATIVE'S APPROVAL BEFORE PROCEEDING WITH FABRICATION.
7. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR ALL SPECIAL FRAMING, SOFFITS, SHAFTS AND ANY OTHER COORDINATION ITEMS FOR A COMPLETE INSTALLATION.
8. ALL DUCT SIZES ARE INSIDE CLEAR DIMENSIONS.
9. DUCTWORK SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL SHEET METAL UNLESS OTHERWISE SPECIFIED. METAL GAUGES AND INSTALLATION STANDARDS SHALL BE PER 2005 3RD EDITION OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS, 2016 CALIFORNIA MECHANICAL CODE AND SPECIFICATIONS; WHICHEVER IS MORE STRINGENT SHALL GOVERN.
10. FABRICATE DUCTWORK IN A WORKMANLIKE MANNER WITH AIRTIGHT JOINTS, PRESENTING SMOOTH SURFACES ON INSIDE, NEATLY FINISHED ON OUTSIDE; CHANGES IN DIRECTION SHALL BE MADE WITH LONG RADIUS ELBOWS (R=1–1/2 DIA.) OR MITERED ELBOWS WITH TURNING VANES. MAKE INTERNAL ENDS OF SLIP JOINTS IN DIRECTION OF AIR FLOW. TURNING VANES SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL.
11. CONSTRUCT, BRACE AND SUPPORT DUCTS AND AIR PLENUMS TO PREVENT SAGGING AND TO MINIMIZE VIBRATION PER SMACNA STANDARDS AND THE 2016 EDITION OF THE CALIFORNIA MECHANICAL CODE (CMC 2016) AND SPECIFICATIONS, WHICHEVER IS MORE STRINGENT SHALL GOVERN.
12. SEAL SUPPLY AND RETURN DUCT JOINTS AND SEAMS AIRTIGHT WITH UL 181 LISTED DUCT SEALANT. DUCT SEALANT IN CHEMICAL TANK ROOMS SHALL BE COMPATIBLE WITH CHEMICALS IN ROOM.
13. INSTALL MANUAL VOLUME DAMPERS AS SHOWN ON THE PLANS. MANUAL VOLUME DAMPERS INSTALLED IN 316 STAINLESS STEEL DUCT SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL.
14. MECHANICAL CONTRACTOR SHALL PROVIDE 316 STAINLESS STEEL BIRD–SCREENS AT ALL INTAKE AND EXHAUST OPENINGS.
15. ALL VISIBLE INTERIOR PORTIONS OF DUCTWORK AND AIR TERMINALS SHALL BE PAINTED FLAT BLACK BY MECHANICAL CONTRACTOR.
16. COORDINATE WITH ELECTRICAL CONTRACTOR FOR INSTALLATION OF ELECTRICAL CONNECTIONS.
17. INDEPENDENT AIR BALANCE CONTRACTOR SHALL BALANCE AIR SYSTEM TO WITHIN +/– 5% OF THE AIR QUANTITIES SHOWN. BALANCE SYSTEM PER "NEBB" OR "AABC" STANDARDS. ALL BALANCING EQUIPMENT SHALL BE CALIBRATED AND CERTIFIED BY THE EQUIPMENT MANUFACTURERS APPROVED AGENCY. CERTIFICATION SHALL BE DATED WITHIN 6 MONTHS OF TEST AND BALANCE. SUBMIT FOUR (4) COPIES OF THE AIR BALANCE REPORT WITH EQUIPMENT CALIBRATION CERTIFICATION FOR APPROVAL.
    PROVIDE AIR FLOW AT EACH AIR TERMINAL.
    PROVIDE DUCT TRAVERSE AIR FLOW AT EACH SYSTEM DUCT MAIN.
    PROVIDE FAN RPM'S, BHP, MOTOR VOLTAGE, MOTOR FLA AND FAN SHEAVE OPENING.
    PROVIDE AIR TEMPERATURE, OUTDOOR AIR TEMPERATURE.
    FAN COIL SUPPLY AIR TEMPERATURE, COOLING AND HEATING.
    FAN COIL FAN SPEED SETTING.
    FILTER TYPE.
    ROOM TEMPERATURE.
18. ALL EQUIPMENT AND DUCTWORK SHALL BE LATERALLY RESTRAINED ACCORDING TO THE REQUIREMENTS OF CHAPTER 16 OF THE 2010 CALIFORNIA BUILDING CODE, THE LATEST EDITION OF THE SMACNA GUIDELINES FOR THE SEISMIC RESTRAINT OF MECHANICAL EQUIPMENT AND PIPING SYSTEMS, OR AS DESCRIBED IN THESE PLANS AND SPECIFICATIONS, WHICHEVER IS THE MOST STRINGENT REQUIREMENT SHALL GOVERN. COMPLY WITH ADDENDUM #1 OF THE SMACNA GUIDELINES FOR THE SEISMIC RESTRAINT OF MECHANICAL EQUIPMENT AND PIPING SYSTEMS ISSUED SEPTEMBER 2000. ALL BRACING AND RESTRAINTS SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL.

GENERAL NOTES (cont.)

19. PRODUCTS NOT SPECIFIED WILL NOT BE ACCEPTED ON JOB SITE WITHOUT PRIOR APPROVAL.
20. LOW VOLTAGE CONTROL WIRING SHALL BE ROUTED IN STAINLESS STEEL EMT. EMT SHALL BE BY CONTROLS CONTRACTOR.
21. CONTRACTOR SHALL INSTALL DUCT FLEX CONNECTIONS AT ALL FAN CONNECTIONS.
22. PROVIDE SUBMITTALS PER SECTION 013300 OF THE TECHNICAL SPECIFICATIONS. SUBMIT FOUR (4) COPIES TO OWNER'S REPRESENTATIVE FOR REVIEW.
23. LOCATION OF THERMOSTATS IS APPROXIMATE. EXACT LOCATION TO BE DETERMINED IN THE FIELD BY THE OWNER'S REPRESENTATIVE.
24. ALL ROOF AND EXTERIOR WALL PENETRATIONS SHALL BE FLASHED AND COUNTERFLASHED AS REQUIRED TO SEAL WEATHER TIGHT.
25. THE SEISMIC ANCHORAGE OF MECHANICAL AND ELECTRICAL EQUIPMENT SHALL CONFORM TO C.C.R. TITLE 24, 2016 CBC SECTION 1632A AND TABLE 16A–O.
26. CONDENSATE PIPING FROM AC UNIT SHALL BE TYPE "L" COPPER WITH SOLDERED FITTINGS. CONDENSTAE PIPING INSIDE THE BUILDING SHALL BE INSULATED WITH ⅜" THICK ARMAFLEX, RUBATEX OR EQUAL.
27. REQUIREMENTS OF DIVISION 1 – GENERAL REQUIREMENTS OF THE TECHNICAL SPECIFICATION IS PART OF THE MECHANICAL WORK.
28. PROVIDE "AS–BUILT" PLANS AND CLOSEOUT DOCUMENTS AS REQUIRED BY SECTION 017700, CLOSE OUT PROCEDURES.
29. PROVIDE OPERATIONS AND MAINTENANCE MANUAL FOR ALL EQUIPMENT. PROVIDE SCHEDULE FOR MOTOR AND FAN BEARING LUBRICATION. SCHEDULE FOR FILTER CHANGE. PROVIDE ON CALL MAINTENANCE PERSONNEL PHONE NUMBER. PROVIDE ADDITIONAL ITEMS REQUIRED IN SECTION 017700 CLOSEOUT PROCEDURE.

REFRIGERATION NOTES

1. REFRIGERATION SUCTION AND LIQUID LINES SHALL BE SIZED PER THE MANUFACTURER'S RECOMMENDATIONS FOR EXTENDED LENGTHS.
2. BELOW GRADE REFRIGERANT LINES SHALL BE ACR RATED HARD DRAWN TYPE "L" COPPER. ALL PIPING JOINTS SHALL BE BRAZED WITH "SIL–FOS" OR "EASY FLOW" WITH DRY NITROGEN BEING CIRCULATED THROUGH THE PIPING DURING THE BRAZING PROCESS. ALL PIPING SHALL SLOPE TO THE CONDENSING UNITS OR TO SUCTION LINE RISER "P" TRAPS.
3. INSTALL IN–LINE TYPE LIQUID LINE FILTER DRIER IN EACH LIQUID LINE (AS RECOMMENDED BY CONDENSING UNIT MFR).
4. VRF SYSTEMS (ABOVE GRADE PIPING): SUCTION LINES SHALL BE INSULATED WITH 1–1/2" THICK ARMAFLEX, RUBATEX OR EQUAL. LIQUID LINES SHALL BE INSULATED WITH 1" THICK ARMAFLEX, RUBATEX OR EQUAL.
5. WHERE LINES ARE EXPOSED TO OUTDOORS, PIPING AND INSULATION SHALL BE COVERED WITH (MIN .4MM) WATER PROOF ALUMINUM JACKET. JACKET TO BE INSTALLED WITH METAL BANDS WITH ALL JOINTS AND SEAMS SEALED PER THE MFGR'S INSTRUCTIONS. LONGITUDINAL SEAMS SHALL BE AT THE BOTTOM OF PIPE. JACKET SHALL BE UV RESISTANT. EQUAL BY PVC JACKETING SYSTEM, JOHNS MANVILLE ZESTON 2000 PVC PIPE JACKET SYSTEM
6. SUCTION AND HP LIQUID/HG LINES SHALL BE INSULATED WITH CLASS I OR CLASS II INSULATION OR REQUIRED THICKNESS TO QUALIFY AS CLASS I OR CLASS II.
7. INSTALL SUCTION LINE "P" TRAPS IN ALL SUCTION LINE RISERS WITH INVERTED "P" TRAPS AT THE TOPS OF SUCTION RISERS.
8. ALL REFRIGERANT LINES SHALL BE TRIPLE EVACUATED AND VACUUM LEAK TESTED AT 500 MICRONS. FIRST TWO VACUUMS SHALL HOLD FOR A MINIMUM OF 8 HOURS EA. WITHOUT ANY CHANGE IN PRESSURE AND FINAL VACUUM SHALL HOLD 24 HOURS WITHOUT ANY CHANGE IN PRESSURE. AFTER VACUUM TESTING, FULLY CHARGE SYSTEM WITH REFRIGERANT AND CONDUCT FINAL LEAK TEST WITH A HALIDE LEAK DETECTOR.
9. AIR CONDITIONING EQUIPMENT MANUFACTURER SHALL FURNISH ALL NECESSARY ACCESSORIES FOR A COMPLETE WORKING SYSTEM INCLUDING ACCESSORIES FOR THE EXTENDED REFRIGERANT LINES.
10. CONTRACTOR SHALL PROVIDE ALL NECESSARY REFRIGERANT FOR A FULL OPERATING CHARGE.

EQUIPMENT LIST

EF 1, EF 2, EF 3 — ROOF EXHAUSTER: MK PLASTICS MODEL CNW 200. 900 CFM @ 1" SP, 1 HP MOTOR, 1637 RPM. VOLTAGE: 460, 3ø, 60 hz. APPROXIMATE WEIGHT: 250 LBS. FAN SHALL BE A BELT DRIVE CENTRIFUGAL UTILITY FAN CONSTRUCTED OF A FIBERGLASS REINFORCED PLASTIC HOUSING WITH A FIBERGLASS REINFORCED PLASTIC FAN WHEEL AND A 304 STAINLESS STEEL SHAFT (NO METAL IN THE AIR STREAM). FAN SHALL BE CONTROLLED BY A SWITCH PROVIDED BY ELECTRICAL CONTRACTOR. FAN CONFIGURATION SHALL BE CCW UB.

L 1, L 2, L 3 — LOUVER RUSKIN MODEL ELF15J. 54"x 16"H (2.68 S.F. MIN. FREE AREA) EXTRUDED ALUMINUM CONSTRUCTION WITH 316 STAINLESS STEEL BIRDSCREEN AND KYNAR PRIMED COATED FINISH. INSTALL PER MANUFACTURER'S INSTRUCTIONS. SEAL WATER TIGHT. PAINT TO MATCH EXTERIOR OF BUILDING. COORDINATE WITH ARCHITECT. SEE SECTION 089000, LOUVERS AND VENTS FOR ADDITIONAL REQUIREMENTS.

EH 1, EH 2, EH 3 — REZNOR MODEL EGHB ELECTRIC HEATER SIZE 15 KW, 1,300 CFM. INCLUDE 120V SINGLE POLE THERMOSTAT FOR FIELD INSTALLATION TO MCC PANEL. VOLTAGE 480V, 3ø, 60 hz. UNIT WT: 85 LBS.

LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
ø	A	AMPERES
	ARCH	ARCHITECTURAL DRAWINGS
	CFM	CUBIC FEET PER MINUTE
	DIA	DIAMETER
	DN	DOWN
	DB	DRY BULB TEMPERATURE
	(E)	EXISTING
	EG	EXHAUST AIR GRILLE
	EA	EXHAUST AIR DUCT
	ESP	EXTERNAL STATIC PRESSURE
	FLA	FULL LOAD AMPS
	FLR	FLOOR
		FLEX DUCT
	GA	GAUGE
	GALV	GALVANIZED
	HP	HORSE POWER
	LBS	POUNDS
	LRA	LOCKED ROTOR AMPS
	MBH	THOUSAND BTU PER HOUR
	MVD	MANUAL VOLUME DAMPER
	MTL	METAL
	MCA	MINIMUM CIRCUIT AMPACITY
	NTS	NOT TO SCALE
	PLCS	PLACES
	POC	POINT OF CONNECTION
	10X20	RECTANGULAR DUCT (IN INCHES)
	RA	RETURN AIR DUCT
	RAR	RETURN AIR REGISTER
	RG	RELIEF AIR GRILLE
	RLA	RATED LOAD AMPS
	10"ø	ROUND DUCT/SIZE
SD	SD	SMOKE DETECTOR (DUCT TYPE)
	LD	LINED DUCT
	SA	SUPPLY AIR DUCT
T	T'STAT	THERMOSTAT
	TYP	TYPICAL
	UTR	UP THRU ROOF
	V	VOLT
	WB	WET BULB TEMPERATURE
		DUCT TRANSITION (SMACNA STANDARDS)
	SR	SUPPLY REGISTER
	CD	CEILING DIFFUSER
FD	FD	FIRE DAMPER
SFD	SFD	SMOKE FIRE DAMPER
		DUCTWORK & EQUIP. TO BE REMOVED
	(N)	NEW INSTALLATION
CP	CP	DDC CONTROL PANEL
	DDC	DIRECT DIGITAL CONTROLS
M	MD	MOTORIZED DAMPER
BDD	BDD	BACKDRAFT DAMPER
R		DUCT RISE
	BAS	BUILDING AUTOMATION SYSTEM
S		SENSOR
	SS	STAINLESS STEEL

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SHEET NAME: MECHANICAL COVER SHEET

SHEET NO.: HV1.0

FILE NAME: 19008HV1_0

REGISTERED PROFESSIONAL ENGINEER WAYNE DAVID ADAMS No. 20563 Exp. Date: 6/30/21 MECHANICAL STATE OF CALIFORNIA

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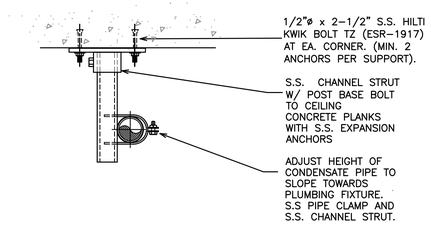
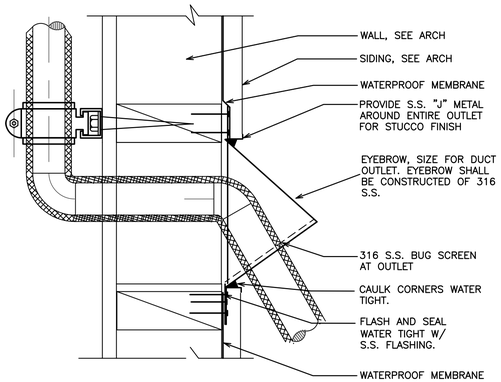
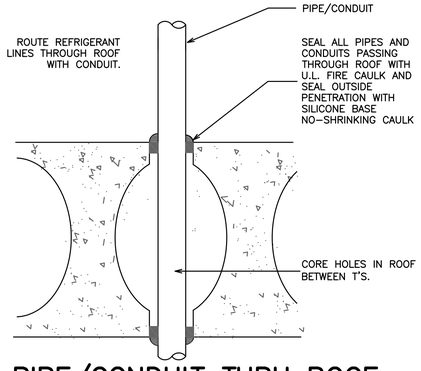


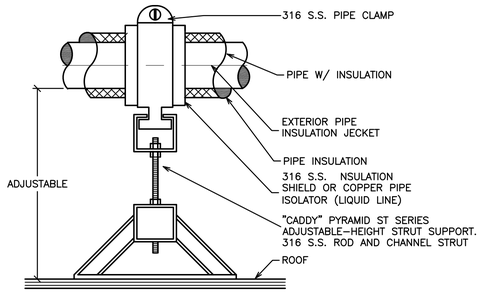
SINGLE CEILING PIPE SUPPORT — NTS 16



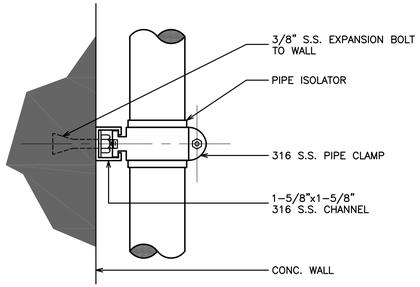
REFRIG. PIPE THRU WALL — NTS 15



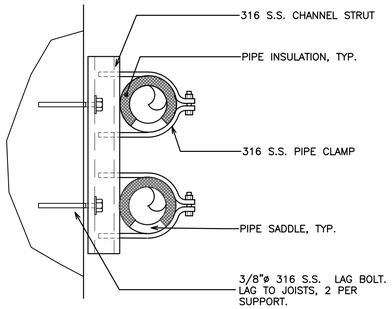
PIPE/CONDUIT THRU ROOF @ ATTIC — NTS 14



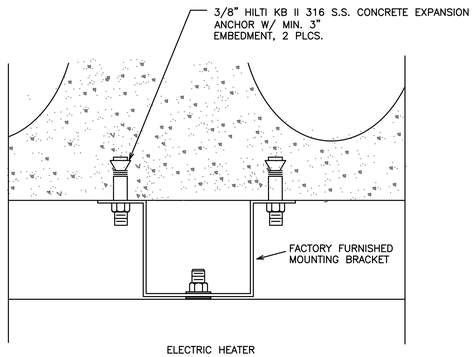
PIPE SUPPORT ON ROOF — NTS 13



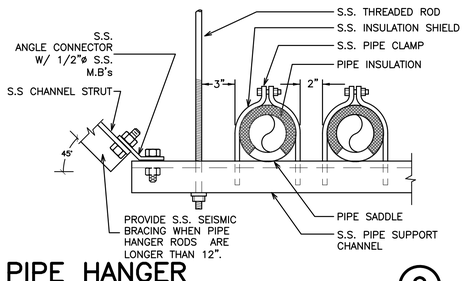
VERTICAL PIPE SUPPORT CONCRETE WALL — NTS 12



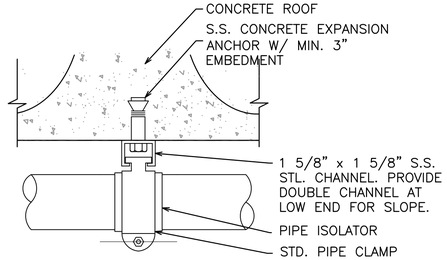
PIPE SUPPORT @ FRAMED WALL — NTS 11



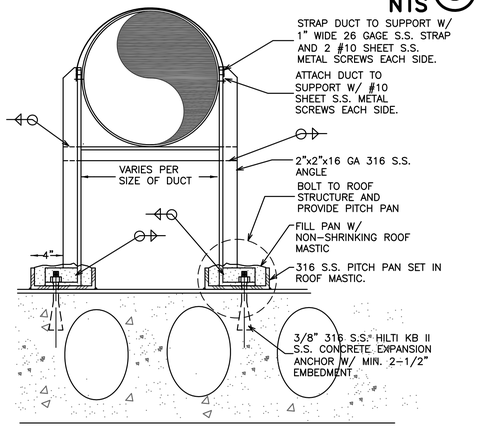
ELECTRIC HEATER MTG — NTS 10



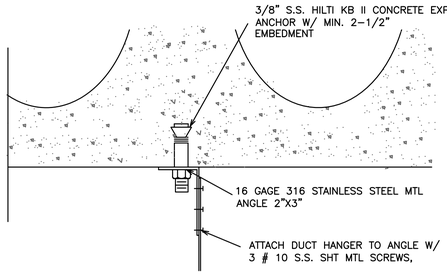
PIPE HANGER — NTS 9



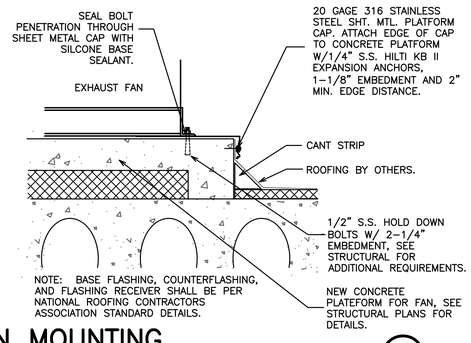
PIPE HANGER DETAIL — NTS 8



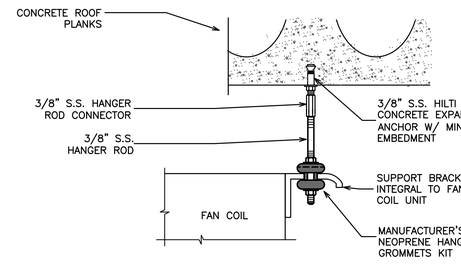
DUCT SUPPORT — NTS 7



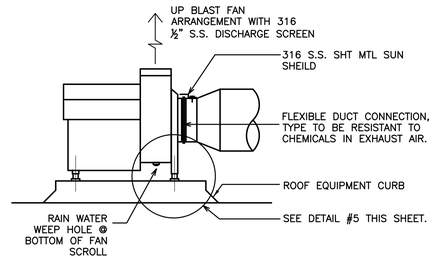
DUCT HANGER ATTACHMENT — NTS 6



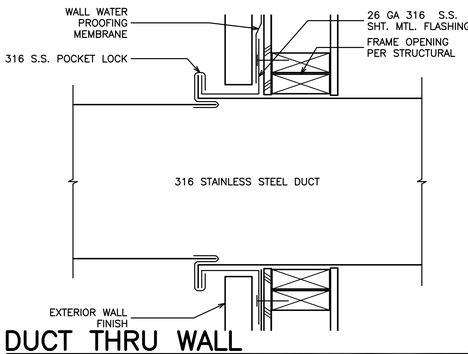
FAN MOUNTING — NTS 5



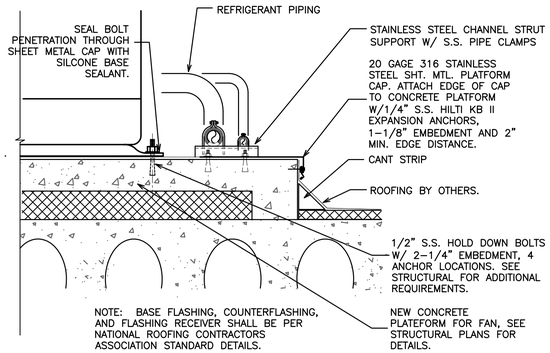
FAN COIL MOUNTING — NTS 4



UTILITY SET FAN ON ROOF — NTS 3



DUCT THRU WALL — NTS 2



OUTDOOR HEAT PUMP MOUNTING — NTS 1

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MPWMD SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING

1910 GENERAL JIM MOORE BLVD.
SEASIDE, CA

JOB NO.: 18014.2

PRINT DATE:	
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	WA
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ISSUED FOR BID	8/5/19

SHEET NAME: MECHANICAL DETAILS

SHEET NO.: HV1.1

FILE NAME: 19008HV1_1

REGISTERED PROFESSIONAL ENGINEER WAYNE DAVID ADAMS No. 20563 Exp. Date: 6/30/21 MECHANICAL STATE OF CALIFORNIA

AGME ENGINEERS MECHANICAL
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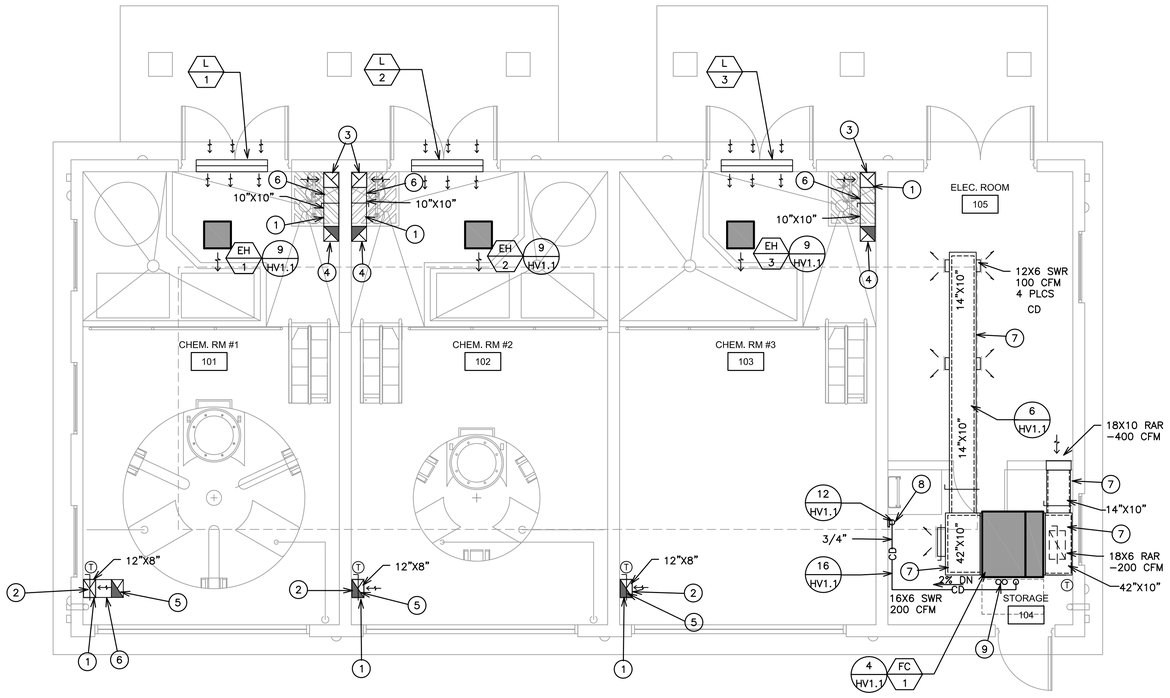
REFERENCE NOTES

1. EXHAUST DUCT SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL.
2. INLET OF EXHAUST SHALL BE MAX OF 12" ABOVE FLOOR. PROVIDE 12"X8" S.S. EXHAUST REGISTER. AIR BALANCE TO -450 CFM.
3. ROUTE DUCT THROUGH FLOOR AND INLET SHALL BE MAX 12" ABOVE LOWER FLOOR. PROVIDE 10"X10" S.S. EXHAUST REGISTER. AIR BALANCE TO -450 CFM.
4. 10"X10" DUCT UP THRU ROOF STRUCTURE INTO MANSARD ATTIC.
5. 12"X8" DUCT UP THRU ROOF STRUCTURE INTO MANSARD ATTIC.
6. OFFSET DUCT TIGHT AGAINST ROOF STRUCTURE.
7. HVAC DUCTWORK SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL.
8. ROUTE CONDENSATE DRAIN PIPE DOWN WALL TO DRAIN IN FLOOR.
9. ROUTE REFRIGERANT LINES UP THROUGH CONCRETE PLANKS INTO MANSARD SPACE.



MECHANICAL FLOOR PLAN

1/4"=1'-0"

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SHEET NAME:

MECHANICAL FLOOR PLAN

SHEET NO.:

HV2.0

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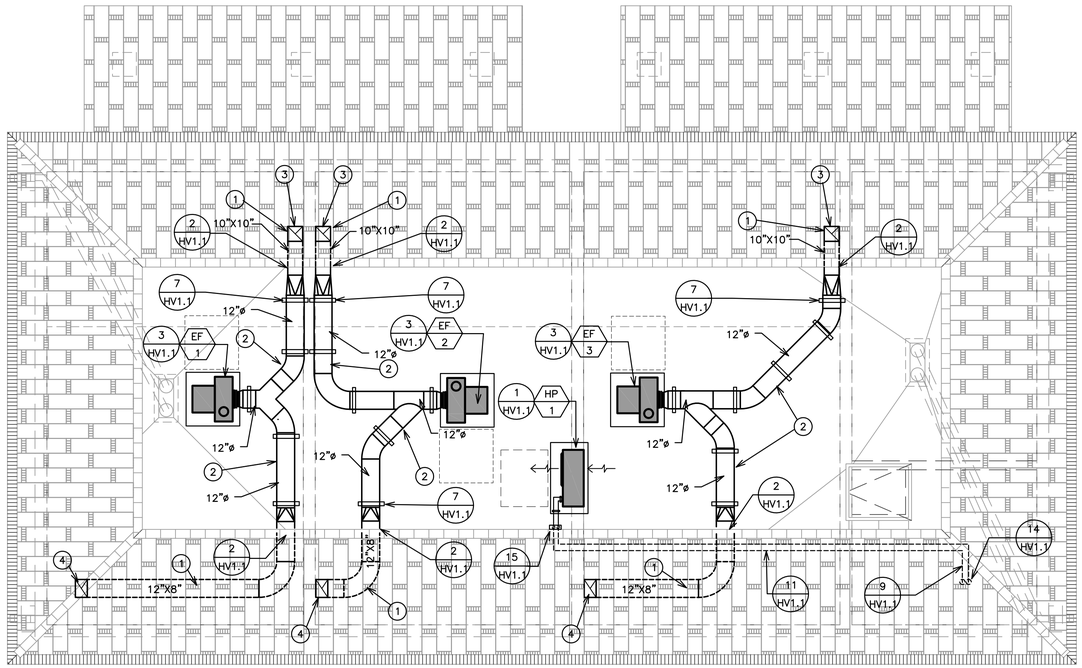
REFERENCE NOTES

1. ROUTE DUCT IN MANSARD ATTIC.
2. EXHAUST DUCT SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL.
3. 10"X10" S.S. EXHAUST DUCT DOWN THROUGH ROOF STRUCTURE.
4. 12"X8" S.S. EXHAUST DUCT DOWN THROUGH ROOF STRUCTURE.



MECHANICAL ROOF PLAN

1/4"=1'-0"

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ELECTRICAL PHYSICAL LAYOUT SYMBOLS

C–XXXX — CONDUIT RUN C–121 IDENTIFIES CONDUIT NO.

HOT WIRES; NEU OR GROUND; G GND WIRE REQD — CIRCUIT HOME RUN, TO PANEL "LP1" HATCH MARKS INDICATE NUMBER OF WIRES "LP1" INDICATES PANEL "LP1" 5,6 ARE CIRCUIT NUMBERS

TR1A — CABLE TRAY (TR1A) IDENTIFIES TRAY NO. "1A"

E — MAIN SERVICE CONDUIT UNDERGROUND (CAN REPRESENT ONE OR MORE CONDUITS)

EXPOSED CONDUIT

CONDUIT OR CABLE CONCEALED OR UNDERGROUND

CONDUIT TURNING AWAY FROM VIEWER

CONDUIT TURNING TOWARD VIEWER

CONDUIT TEEING TOWARD AND AWAY FROM VIEWER

CONDUIT TEEING TOWARD VIEWER

CONDUIT TEEING AWAY FROM VIEWER

FLEXIBLE CONDUIT

"L" FITTING

CONDUIT TEEING

UNION

CL1 — CLASS 1 SEAL (HAZARDOUS LOCATIONS)

DRAIN SEAL

X / X — DETAIL ON SHEET #

A 1/40 — LIGHTING FIXTURE: LETTER INDICATES TYPE NUMBERS INDICATE NUMBER OF LAMPS AND WATTAGE (SEE LIGHTING FIXTURE SCHEDULE)

20 — BILL OF MATERIAL 20–INDICATES ITEM NO.

PB — PULL BOX (PB) OR TERMINAL BOX (JB)

JB — JUNCTION BOX (WITHOUT TERMINALS)

J — OUTLET BOX

LIGHTING FIXTURE

ANGLE FIXTURE

WALL MOUNT FIXTURE

CEILING MOUNTED LIGHT FIXTURE

FLOODLIGHT

S_a S_T S_2 S_3 — SINGLE POLE SWITCH SUBSCRIPTS:
a,b,c SWITCH DESIGNATION
T TIMED
2 TWO POLE SWITCH
3 THREE–WAY SWITCH

DISCONNECT SWITCH

COMBINATION CONTROLLER DISCONNECT SWITCH

FLOAT SWITCH – MECHANICAL

SINGLE RECEPTACLE

WP C20 — DUPLEX RECEPTACLE: SUBSCRIPT INDICATES WEATHERPROOF & C20 CIRCUIT NUMBER IN PANEL "C" GFI = GROUND FAULT INTERRUPTED

WELDING OUTLET

SPECIAL PURPOSE OUTLET

TELEPHONE OUTLET

SPEAKER OR INTERCOM OUTLET

FLOOR SPECIAL PURPOSE OUTLET

BELL, OR CHIME

BUZZER

COMBINATION BUZZER & BELL

H–HORN
S–SIREN

PB — PUSH BUTTON

SINGLE PUSHBUTTON STATION PENDANT

T — THERMOSTAT

FAN CONTROL

UNIT HEATER

CONTACT DEVICES, I.E.,LIMIT SWITCH, SOLENOID VALVES, ETC.

GROUNDING SYMBOLS

THERMAL OR BRAZED CONNECTION, CABLE TO TAP

THERMAL OR BRAZED CONNECTION, CABLE TO ROD

COMPRESSION CONNECTION, CABLE TO TAP

COMPRESSION CONNECTION, CABLE TO ROD

GROUND ROD (3/4 " x 8" LONG STD)

EQUIPMENT GROUND

GROUND TEST WELL

GROUND CABLE, MAIN RUN, GRID OR TAPS

ELECTRICAL SINGLE LINE AND SCHEMATIC SYMBOLS

INTERNAL EQUIPMENT WIRING

FIELD WIRING

JUNCTION POINT

FIELD DEVICE TERMINAL

TERMINAL LUG FOR CABLE CONNECTION

VFD DEVICE TERMINAL

SPLICE

GROUND

FUSE (E.G. CERAMIC, GLASS)

FUSED DISCONNECT

SWITCHED FUSE

FUSE: "CLF" INDICATES CURRENT LIMITING FUSE

CR 100 — COIL R–RELAY; CR–CONTROL RELAY 100–RELAY NO.

CR 100 — RELAY COIL WITH DIODE SUPPRESSOR

OPEN CONTACT ON RELAY, CONTACTOR OR CONTROL DEVICE N.O.

CLOSED CONTACT ON RELAY, CONTACTOR OR CONTROL DEVICE N.C.

N.O., ON DELAY RELAY CONTACT TIMED CLOSED WHEN ENERGIZED

N.C., ON DELAY RELAY CONTACT TIMED OPEN WHEN ENERGIZED

N.O., OFF DELAY RELAY CONTACT INSTANTANEOUS CLOSE WHEN ENERGIZED. TIME DELAY OPEN WHEN DE–ENERGIZED

N.C., OFF DELAY RELAY CONTACT INSTANTANEOUS CLOSE WHEN ENERGIZED. TIME DELAY OPEN WHEN DE–ENERGIZED

R — PILOT LIGHT R–RED; G–GREEN; Y–YELLOW; A–AMBER; W–WHITE; B–BLUE

R — PUSH TO TEST INDICATING LIGHT

R — LIGHT WITH TERMINAL POINTS

R — FUSED INDICATING LIGHT

R — STROBE INDICATING LIGHT

BELL, BUZZER OR CHIME

HORN

TELEPHONE

HEATER

THREE PRONG PLUG

TWO PRONG PLUG

DUPLEX — DUPLEX OUTLET

D.C. BATTERY

BATTERY CHARGER (1 CHARGER 2, GND, +, –)

MTM — MASTER TEST MODULE

SOLENOID VALVE

MOMENTARY CLOSING PUSHBUTTON SWITCH, SPRING OPEN – N.O.

MOMENTARY OPENING PUSHBUTTON SWITCH, SPRING CLOSE – N.C.

PUSHBUTTON, MOMENTARY, 2–POLE (1–N.C., 1–N.O.)

PUSHBUTTON, MAINTAINED

MOMENTARY OPENING PUSHBUTTON WITH LOCK OPENING ATTACHMENT – N.C.

EMERGENCY START BUTTON – N.O.

EMERGENCY STOP BUTTON – N.C.

SELECTOR SWITCH – N.O.

SELECTOR SWITCH – N.C

MULTI–POSITION SELECTOR SWITCH X–INDICATES CONTACT CLOSURE IN POSITION INDICATED BY DASHED LINE

3–POSITION SELECTOR SWITCH

TIME CLOCK SWITCH CLOSED

TIME CLOCK SWITCH OPEN

TOGGLE, KNIFE OR SAFETY DISCONNECT SWITCH

3 — NON–FUSIBLE DISCONNECT SWITCH, NUMBER INDICATES NUMBER OF POLES

300 — FUSIBLE DISCONNECT SWITCH, NUMBER INDICATES FUSE RATING,

TRANSFER OR 2–WAY SWITCH

TORQUE SWITCH – N.C.

TORQUE SWITCH – N.O.

LIMIT SWITCH–DIRECT ACTUATED, S.P.D.T. SWITCH

LIMIT SWITCH – N.C.

LIMIT SWITCH – N.O.

FLOW SWITCH, N.O., CLOSES ON INCREASING FLOW RATE

FLOW SWITCH, N.C., OPENS ON INCREASING FLOW RATE

LIQUID LEVEL SWITCH, NORMALLY OPEN, CLOSES ON RISING LEVEL

LIQUID LEVEL SWITCH, NORMALLY CLOSED, OPENS ON RISING LEVEL

PRESSURE SWITCH, N.O., CLOSES ON INCREASING PRESSURE

PRESSURE SWITCH, N.C., OPENS ON INCREASING PRESSURE

PRESSURE ACTIVATED S.P.D.T. SWITCH

TEMPERATURE SWITCH, N.O., CLOSES ON RISING TEMPERATURE

TEMPERATURE SWITCH, N.C., OPENS ON RISING TEMPERATURE

TEMPERATURE ACTIVATED S.P.D.T. SWITCH

50/3 — CIRCUIT BREAKER: NUMBERS INDICATE AMPERE RATING AND NUMBER OF POLES

THERMAL OVERLOAD

ALTERNATING CURRENT

CAPACITOR OR CAPTIVE DEVICE

ADJUSTABLE OR VARIABLE CAPACITOR

CAPACITOR WITH FACTORY INSTALLED TERMINALS

SURGE CAPACITOR

GEN — GENERATOR

500 — INDUCTION MOTOR, 500=HP

500 — SYNCHRONOUS MOTOR, 500=HP

POTENTIAL TRANSFORMER

600/5 3 — CURRENT TRANSFORMER: 3 INDICATES QUANTITY AND 600/5 INDICATES RATIO

CURRENT TRANSFORMER

POTENTIAL TRANSFORMER

INDUCTOR WINDING, COIL

VARIABLE SPEED DRIVE

dV/dT FILTER

NOTES

GENERAL REQUIREMENTS

1. CONTRACTOR SHALL PROVIDE ALL POWER, LIGHTING, AND INSTRUMENT WORK AND MATERIALS AS SHOWN ON THE DRAWINGS AND AS CALLED FOR IN THE SPECIFICATIONS, AND AS IS NECESSARY TO FURNISH A COMPLETE AND WORKING FACILITY.
2. THE INSTALLATION, ALL EQUIPMENT, AND ALL SYSTEMS SHALL COMPLY AND CONFORM WITH ALL THE REQUIREMENTS OF THE CURRENT NATIONAL ELECTRICAL CODE, STATE OF CALIFORNIA CODES AND ALL LOCAL CODES ADOPTED BY THE AUTHORITY HAVING JURISDICTION, EVEN IF ALL DETAILS OF SUCH REQUIREMENTS ARE NOT SHOWN ON THE DRAWINGS.
3. ALL ELECTRICAL AND INSTRUMENT EQUIPMENT AND WIRING SHALL BE UL LISTED AND LABELED FOR THE SERVICE INTENDED OR SHALL BE APPROVED BY A NATIONALLY RECOGNIZED TESTING LABORATORY APPROVED BY THE DISTRICT.
4. ELECTRICAL TESTING PER THE SPECIFICATIONS IS REQUIRED. CONTRACTORS TEST PLAN SHALL BE SUBMITTED FOR APPROVAL.

SPECIFIC REQUIREMENTS

1. ALL UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC, UL LISTED UNLESS NOTED OTHERWISE, EXCEPT THE FIRST AND LAST ELBOWS AT THE STUB–UPS SHALL BE PVC–COATED RIGID GALVANIZED STEEL (PVC–RGS).
2. ABOVEGROUND CONDUITS SHALL BE RGS, UL LISTED UNLESS NOTED OTHERWISE.
3. CONDUITS IN CHEMICAL ROOMS SHALL BE SCH. 40 PVC UNLESS NOTED OTHERWISE. SUPPORTS IN CHEMICAL ROOMS SHALL BE FIBERGLASS.
4. CONDUIT ROUTING AND EQUIPMENT LOCATIONS ARE GENERALLY SHOWN DIAGRAMMATICALLY. CONTRACTOR SHALL COORDINATE ALL INSTALLATIONS WITH THE MECHANICAL AND CIVIL/STRUCTURAL CONTRACTORS TO DETERMINE EXACT ROUTING AND LOCATIONS AND TO AVOID INTERFERENCES.
5. POWER CONDUITS (CP–X) SHALL BE SPACED A MINIMUM OF 12" FROM INSTRUMENT CONDUITS (CJ–X) EXCEPT AT STUB–UPS.
6. CONTRACTOR SHALL IDENTIFY EACH CONDUIT USED BY INSTALLING A STAINLESS STEEL TAG STAMPED WITH THE CONDUIT NUMBER AT ALL STUB–OUTS, STUB–UPS AND IN PULLBOXES AND TERMINATION BOXES. AN AS–BUILT SKETCH AND PHOTOGRAPH SHALL BE PROVIDED OF THE EXISTING END OF THE DUCTBANK IDENTIFYING THE CONDUITS USED BY CONDUIT NUMBER. ANY CONDUITS NOT EXTENDED SHALL ALSO BE SHOWN IN THE SKETCH.
7. FOR CONDUITS NOT CONNECTED TO EQUIPMENT, STUB–UP CONDUITS NEXT TO THE INSTRUMENT OR EQUIPMENT TO THE TOP OF THE PIPING OR EQUIPMENT. INSTALL PULL STRING AND CAP. CONDUIT SHALL NOT BE SUPPORTED ON PIPING, DUCTS, TANKS OR GRATING.
4. SEE SHEET 9 FOR TYPICAL INSTRUMENT CONDUIT SUPPORTS AND CONNECTIONS. SUPPORT CONDUITS IN CHEM ROOMS FROM CEILING AND WALLS.
11. SEE SHEETS E–11 & E–12 FOR CONTROL ELEMENTARY SCHEMATICS.

ABBREVIATIONS

EGC	EQUIPMENT GROUNDING CONDUCTOR	PRV	PRESSURE RELIEF VALVE
GEC	GROUNDING ELECTRODE CONDUCTOR	PTT	PUSH TO TEST
CP	CONTROL PANEL	SPDT	SINGLE POLE, DOUBLE THROW
DP	DISTRIBUTION PANEL		
IP	INSTRUMENT PANEL (POWER)		
LC	LIGHTING CONTROLLER		
LCP	LOCAL CONTROL PANEL		
MOV	MOTOR OPERATED VALVE		
NIC	NOT IN CONTRACT		
N.O.	NORMALLY OPEN, ENERGIZE TO CLOSE		
N.C.	NORMALLY CLOSE, ENERGIZE TO OPEN		
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED		
OPE	OWNER PROVIDED EQUIPMENT		

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

SCALE: HOR. 1"=1" VER. 1"=1"

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED RLK
DRAWN WS
CHECKED RLK

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SYMBOLS & NOTES

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO. E-1

MPWMD
SANTA MARGARITA
PUMP SITE BUILDING
EXISTING MCC

200AT 250AF 3P — CHEMICAL BUILDING FEEDER CIRCUIT BREAKER NOTE 3

200AT 250AF 3P — MAIN CIRCUIT BREAKER NEMA 1

200A 3P / 200A 3P — MANUAL TRANSFER SWITCH WITH GENERATOR CONNECTION NEMA 3R

PROJECT: MPWMD ASR FACILITY CHLORINATION BUILDING
SITE LOAD: SWITCHBOARD
VOLTAGE: 480.00
PHASE: 3.00

MOTOR / LOAD TAG NO.	M OR F	PHASE	MOTOR (M) H.P. OR FEEDER(F) kW	F.L.A.	DESCRIPTION
LOADS					
EH-1	F	3	15.00	18.04	ELECTRIC HEATER
EH-2	F	3	15.00	18.04	ELECTRIC HEATER
EH-3	F	3	15.00	18.04	ELECTRIC HEATER
EF-1	M	3	1.00	2.10	EXHAUST FAN
EF-2	M	3	1.00	2.10	EXHAUST FAN
EF-3	M	3	1.00	2.10	EXHAUST FAN
SPARE	F	3		0.00	SPARE BREAKER
PMP-110A	M	3	2.00	3.40	SODIUM HYPO TRANSFER PUMP
PMP-110B	M	3	2.00		SODIUM HYPO TRANSFER PUMP (ALTERNATING)
PMP-310A	M	3	2.00	3.40	FUTURE TRANSFER PUMP
PMP-310B	M	3	2.00		FUTURE TRANSFER PUMP (ALTERNATING)
PMP-610A	M	3	2.00	3.40	FUTURE TRANSFER PUMP
PMP-610B	M	3	2.00		FUTURE TRANSFER PUMP (ALTERNATING)
AC-100	F	3	10.00	19.00	AIR COMPRESSOR
LTG LOADS					
TX-1	F	3	30.00	36.08	LTG.LOADS, HEAT PMP SYS & CHEM METERING PMPS
TX-2	F	1	5.00	10.42	INSTRUMENT TRANSFORMER
TOTAL CURRENT				136.13	
LARGEST MOTOR X .25				4.75	
FEEDER LCL X .25				25.16	
TOTAL CURRENT				166.03	
TOTAL kVA				138.04	
TOTAL kW (.90 P.F.)				101.86	

PANEL PANEL DP-1 — VOLTAGE 208Y/ 120 — PHASE 3 — MAIN BREAKER 100
LOCATION MCC — MOUNTING FLUSH — WIRE 4 — MAIN LUGS
TYPE 225 AMP BUS — NUMBER OF SPACES 42 — MANUFACTURER

CIRCUIT NUMBER	VA LOAD LINE A	VA LOAD LINE B	VA LOAD LINE C	LOAD DESCRIPTION	CIRCUIT BREAKER POLES	CIRCUIT BREAKER RATING	CONT. LOAD	CONT. LOAD	CIRCUIT BREAKER POLES	CIRCUIT BREAKER RATING	LOAD DESCRIPTION	VA LOAD LINE A	VA LOAD LINE B	VA LOAD LINE C	CIRCUIT NUMBER
1	500			CHEM PUMP PMP-216A & B	1	20	Y					1176			2
3		500		CHEM PUMP PMP-220A & B	1	20	Y	Y	3	60	SUMP PUMP STARTER PANEL		1176		4
5			500	CHEM PUMP PMP-416A & B	1	20	Y							2832	6
7	500			CHEM PUMP PMP-420A & B	1	20	Y	Y	1	30	GATE OPERATOR (NORTH)	1440			8
9		500		CHEM PUMP PMP-716A & B (F)	1	20	Y	N	1	15	SPARE				10
11			500	CHEM PUMP PMP-720A & B (F)	1	20	Y	N	1	15	SPARE				12
13	1440			GATE OPERATOR (SOUTH)	1	30	N	Y	1	20	XFR SWITCH SPACE HTR	150			14
15		150		PARKING AREA LIGHT	1	15	Y	Y	2	30	HVAC HEAT PUMP		2038		16
17			180	CHEM RM 101 LIGHTS	1	15	Y	Y						2038	18
19	180			STORAGE RM 104 LIGHTS	1	15	Y	Y	1	15	CHEM RM 103 LIGHTS	180			20
21		180		ELEC RM 105 LIGHTS	1	15	Y	Y	1	15	CHEM RM 102 LIGHTS		180		22
23			360	CHEM RM 101 RCPT	1	15	N	N	1	15	CHEM RM 102 RCPT			360	24
25	720			STOR & ELEC RM 104/105 RCPT	1	15	N	Y	1	15	OUTDOOR BLDG LIGHTS	231			26
27		200		16" PT HEATERS	1	15	Y	N	1	15	SPARE				28
29			200	20" PT HEATERS	1	15	Y	N	1	15	CHEM RM 103 RCPT			360	30
31	50			IRRIGATION CONT. (F)	1	15	Y	Y	1	15	OUTDOOR PARKING LIGHT	150			32
33		150		LCP-100 NACL FILL STATION	1	20	Y	N	2	30A	SPARE				34
35			150	LCP-300 ZOP FILL STATION	1	20	Y	N							36
37	150			LCP-600 CHEM FILL STATION	1	20	Y	Y	1	20	SPARE				38
39				SPARE	1	20	N	Y	1	20	SPARE				40
41				SPARE	1	20	N	Y	1	20	SPARE				42
	3540	1680	1890	LINE SUBTOTAL								3327	3394	5590	

1. BREAKER RATINGS DESIGNATED WITH "-GFI" SHALL BE GROUND FAULT INTERRUPTING BREAKERS WITH 30 mA GFI TRIP UNITS.

(F) = FUTURE

	LINE A	LINE B	LINE C
ACTUAL LINE LOADS	6867	5074	7480
LCL ADDER (25% OF CONT.LOAD)	1591	975	892
NEC LOAD FOR EQUIP. SIZING	8458	6049	8372
NEC AMPS FOR EQUIP. SIZING	70.5	50.4	69.8
TOTAL NEC 3 PHASE LOAD		22878	

PANEL IP-1 — VOLTAGE 240/ 120 — PHASE 1 — MAIN BREAKER 100A
LOCATION MCC — MOUNTING SURFACE — WIRE 3 — MAIN LUGS - TBD
TYPE FLUSH MOUNT — NUMBER OF SPACES 18 — MANUFACTURER (BOLT ON BREAKERS)

CIRCUIT NUMBER	VA LOAD LINE A	VA LOAD LINE B	LOAD DESCRIPTION	CIRCUIT BREAKER POLES	CIRCUIT BREAKER RATING	CONT. LOAD	CONT. LOAD	CIRCUIT BREAKER RATING	CIRCUIT BREAKER POLES	LOAD DESCRIPTION	VA LOAD LINE A	VA LOAD LINE B	CIRCUIT NUMBER
1	2800		PLC CONTROL PANEL	1	30	Y	Y	20	1	PLC CNTRL PANEL RELAYS	120		2
3		120	FQDIT-915	1	15	Y	Y	15	1	FQDIT-900		120	4
5	4		LT-101 NACL STORAGE TK	1	20	Y	Y	20	1	LT-200 NACL DAY TK	4		6
7		120	AIT-516	1	15	Y	Y	15	1	AIT-520		120	8
9	4		LT-301 ZOP STORAGE TK	1	15	Y	Y	15	1	LT-400 ZOP DAY TK	4		10
11		120	AIT-517	1	20	Y	Y	20	1	AIT-521		120	12
13	4		LT-601 FUTURE CHEM TK	1	15	N	Y	15	1	LT-700 FUTURE CHEM TK	4		14
15		120	FDQIT-925	1	15	Y	N	20	1	SPARE			16
17			SPARE	1	20	N	N	20	1	SPARE			18
	2812	480	SUBTOTAL								132	360	

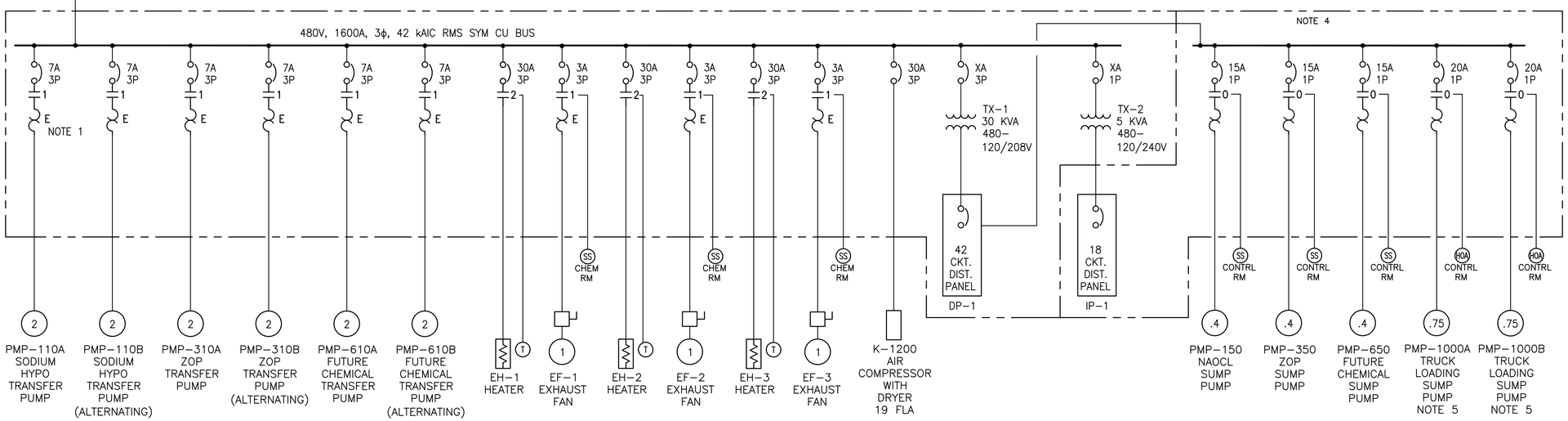
1. CONTRACTOR SHALL CONFIRM PANEL LOADS USING EQUIPMENT NAMEPLATE DATA AND ADJUST BREAKER SIZES AND BALANCE PANEL LOADS, IF REQUIRED.

* ESTIMATED LOAD

	LINE A	LINE B
ACTUAL LINE LOADS	2944	840
LCL ADDER (25% OF CONT.LOAD)	735	210
NEC LOAD FOR EQUIP. SIZING	3679	1050
NEC AMPS FOR EQUIP. SIZING	30.7	8.8
TOTAL NEC LOAD	4729	

NOTES:

1. 'E' ELECTRONIC OVERLOADS WITH PHASE LOSS, GROUND FAULT, CURRENT IMBALANCE, JAM, OVER/UNDER VOLTAGE, OVER/UNDER POWER, VOLTAGE, CURRENT, POWER, ENERGY, ETHERNET CAPABILITY AND DRY CONTACT FOR MOTOR FAILURE PLC INPUT, OPERATOR STATION ON UNIT CUBICLE.
2. SEE DRAWINGS FOR MOTOR ELEMENTARY SCHEMATICS.
3. NEW 200AT/250AF, 480V, 3 POLE, MOLDED CASE CIRCUIT BREAKER IN EXISTING MCC. SEE DRAWING E-3.
4. THIS SECTION IS FED FROM TRANSFORMERS IN OTHER SECTIONS. MOTORS ARE SINGE PHASE 120VAC. PROVIDE NAMEPLATE 208V/120V SECTION FED FROM TX-1 AND TX-2. NO 480V STARTERS OR BREAKERS TO BE INSTALLED IN THIS SECTION".
5. PMP-1000A & 1000B SHALL ALTERNATE AND NOT RUN SIMULTANEOUSLY.



ONE-LINE DIAGRAM

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

SCALE: HOR. 1"=1" VER. 1"=1"

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED RLK
DRAWN WS
CHECKED RLK

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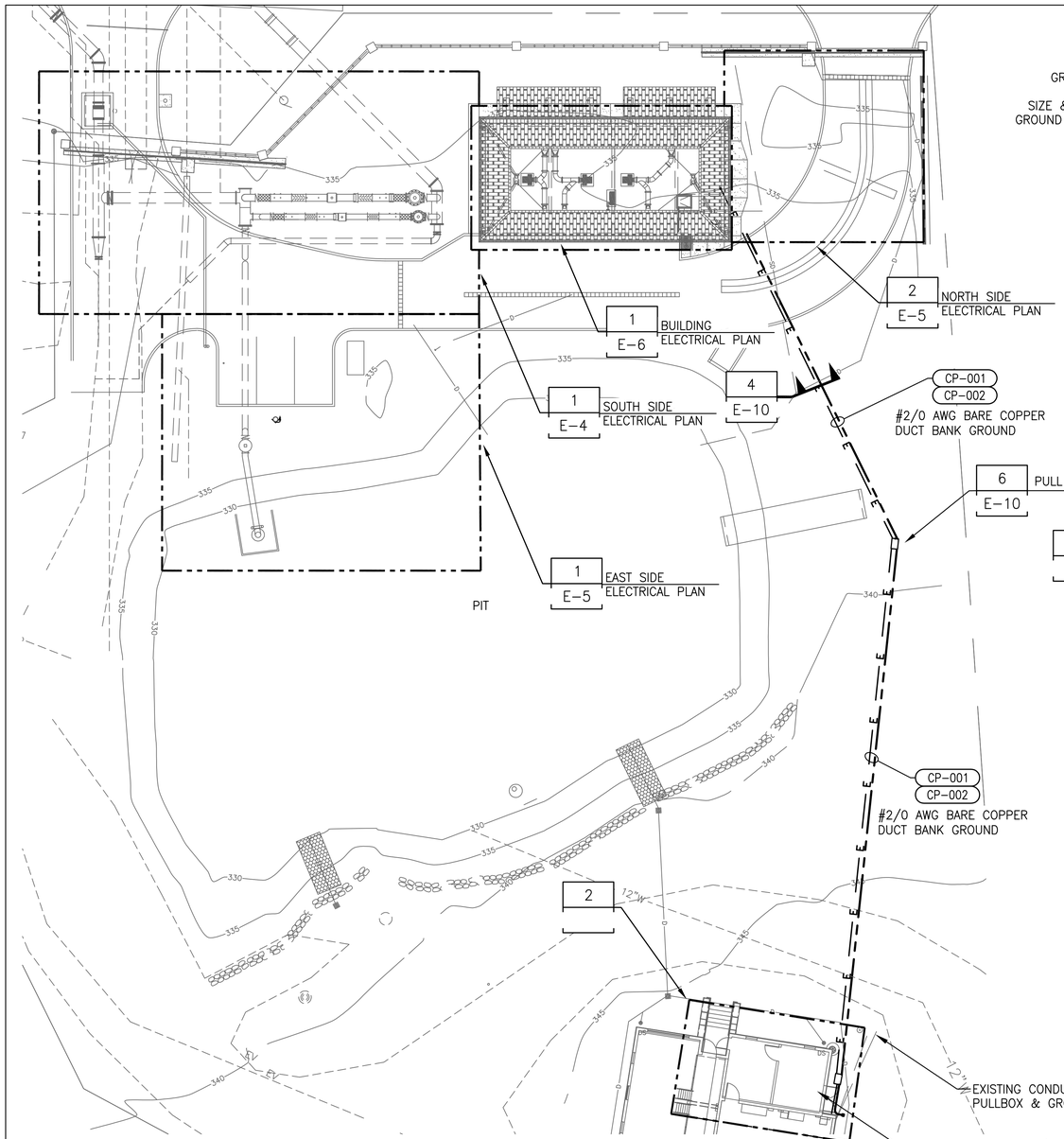
ONE LINE DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

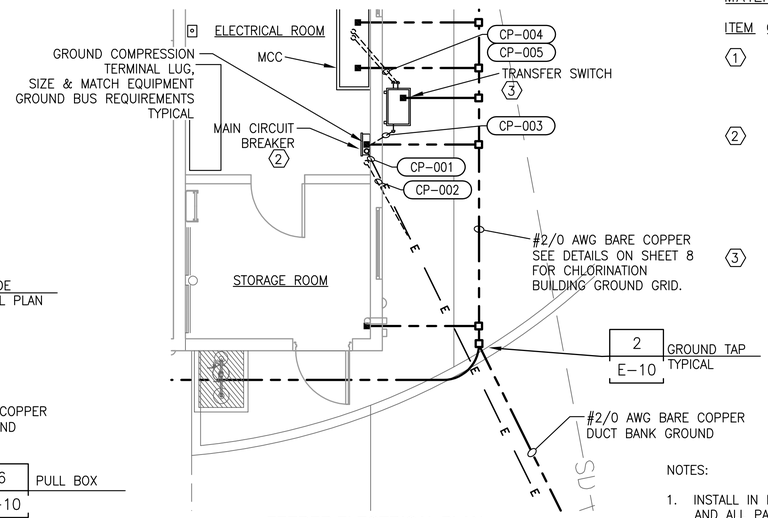
PROJECT NO.
E-2



ELECTRICAL PLAN
SAN MARGARITA PUMP MECHANICAL/CONTROL BUILDING TO CHLORINATION BUILDING

1

SCALE: 1" = 16'-0"



FEEDER ELECTRICAL PLAN
SAN MARGARITA CHLORINATION BUILDING (N)

3

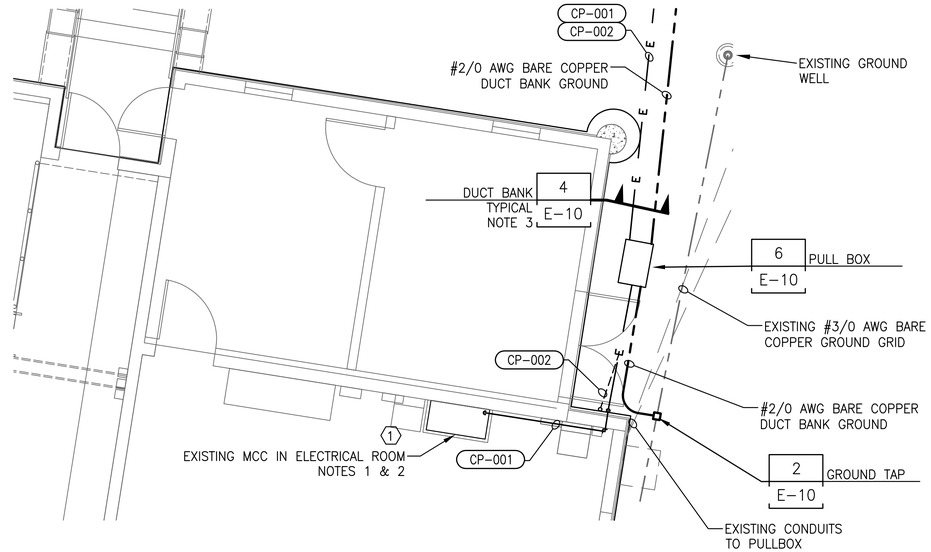
SCALE: 1" = 4'-0"

MATERIAL LIST

ITEM	QTY	DESCRIPTION
1	1	FEEDER CIRCUIT BREAKER, 200AT/250AF, 480V, 3 POLE, 60 HERTZ, 35 kAIC, LSGI ELECTRONIC TRIP MOLDED CASE CIRCUIT BREAKER. ALLEN-BRADLEY #140G-JTI3-D25 OR APPROVED SUBSTITUTE
2	1	MAIN CIRCUIT BREAKER, 200AT/250AF, 480V, 3 POLE, 60 HERTZ, 35 kAIC, LSGI ELECTRONIC TRIP MOLDED CASE CIRCUIT BREAKER, SQUARE D #JGL36250CU44X OR APPROVED SUBSTITUTE PROVIDE NAMEPLATE, BLACK 1/2" LETTERS ON WHITE, "MCB-01 – BUILDING SERVICE DISCONNECT – FED FROM MECHANICAL EQUIPMENT CONTROL BUILDING MCC".
3	1	TRANSFER SWITCH, MANUAL TRANSFER SWITCH, 200A, 480V, 3 POLE, 60 HERTZ, 14 kAIC MINIMUM, SILVER PLATED COPPER BUS, MALE CAMLOCK PANEL MOUNT RECEPTACLES FOR GENERATOR CONNECTION, LSGI ELECTRONIC TRIP MOLDED CASE CIRCUIT BREAKER IN GENERATOR CONNECTION, WALL MOUNT NEMA 3R ENCLOSURE, LOCKABLE, WITH STRIP HEATER AND THERMOSTAT TRYSTAR #GDR-****-***-*** OR APPROVED SUBSTITUTE TRYSTAR TO DETERMINE FINAL CAT.NO. PROVIDE NAMEPLATE, BLACK 1/2" LETTERS ON WHITE, "MTS-01 – BUILDING SERVICE MANUAL. TRANSFER SWITCH & GENERATOR CONNECTION BOX – FED FROM MCB-01 INSIDE".

NOTES:

1. INSTALL IN EXISTING MCC. UNIT TO HAVE LOCKABLE OPERATING HANDLE, DOOR AND ALL PARTS NECESSARY FOR A COMPLETE INSTALLATION. PROVIDE NAMEPLATE, BLACK 1/2" LETTERS ON WHITE, "FCB-01 – CHEMICAL BUILDING FEEDER".
2. CONTRACTOR TO CONFIRM EXISTING MCC INFORMATION AND AVAILABLE CUBICLE – ALLEN BRADLEY MCC: ORDER # WLKWD55/01; SERIAL #2100WLKWD55/01, MARCH 7 2011
3. CONTRACTOR SHALL REPLACE SURFACES TO MATCH EXISTING.



FEEDER ELECTRICAL PLAN
SAN MARGARITA MECHANICAL/CONTROL BUILDING (E)

2

SCALE: 1" = 4'-0"

SCALE
0 16' 32'

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

SCALE:
HOR. 1"=1"
VER. 1"=1"

WARNING! 1/16"=1'-0"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED RLK
DRAWN WS
CHECKED RLK

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MAIN FEEDER ELECTRICAL PLAN

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

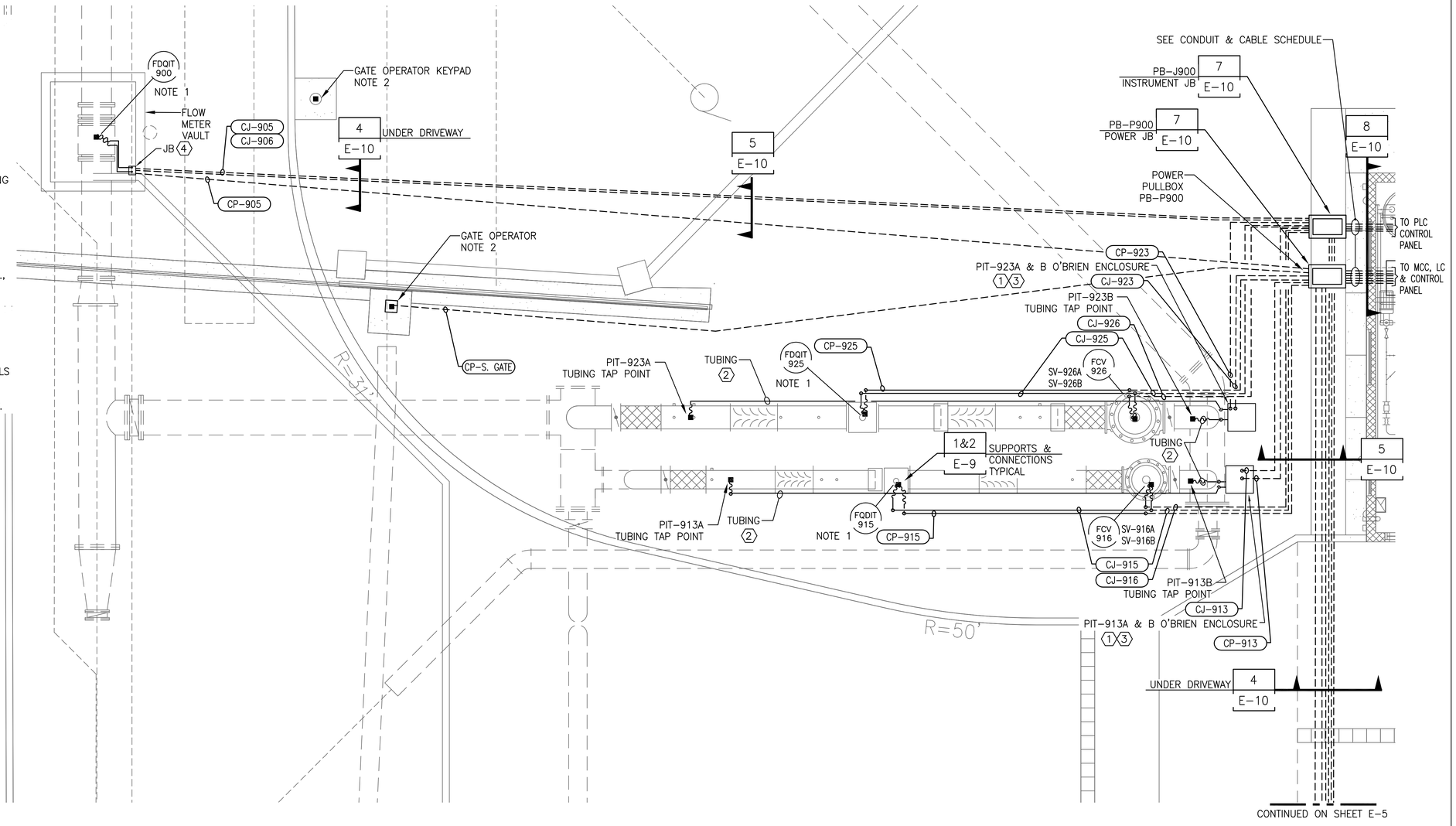
PROJECT NO.
E-3

MATERIAL LIST

ITEM	QTY	DESCRIPTION
1	2	O'BRIEN BOX WITH 2" INSTRUMENT MOUNT, HEATERS, THERMOSTAT INSTRUMENT CONNECTION KITS, HEAT TRACE BUNDLE SEALS, POWER CONNECTION KIT WITH NAMEPLATES O'BRIEN CORP #A2T2-MK14, TS3110D2CJ29H-Y(2)-IPK1(2)-I-ES4S (2)-PT(2)
2	A/R	1/4" X .035 WALL SEAMLESS 316SS TUBING WITH INSULATION & FREEZE PROTECTION HEAT TRACE O'BRIEN CORP #TPE1SF2J5
3	2	ENCLOSURE STAND O'BRIEN CORP #FP40
4	1	JUNCTION BOX, NEMA 4X, STAINLESS STEEL, CONTINUOUS HINGE WITH CLAMPS, 8X8X6

NOTES:

1. GROUND FLOW METERS PER MANUFACTURERS RECOMMENDATIONS.
2. PROVIDE AND INSTALL ALL CONDUITS, CABLES AND MATERIALS REQUIRED FOR A COMPLETE GATE OPERATOR INSTALLATION. COORDINATE WITH SITE MECHANICAL CONTRACTOR. SEE SHEETS A101 & A111 FOR GATE OPERATOR REQUIREMENTS.



1 PIPING AREA ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"

SCALE
0 4' 8'
1/4"=1'-0"

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

SCALE:
HOR. 1"=1"
VER. 1"=1"

WARNING
0
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED RLK
DRAWN WS
CHECKED RLK

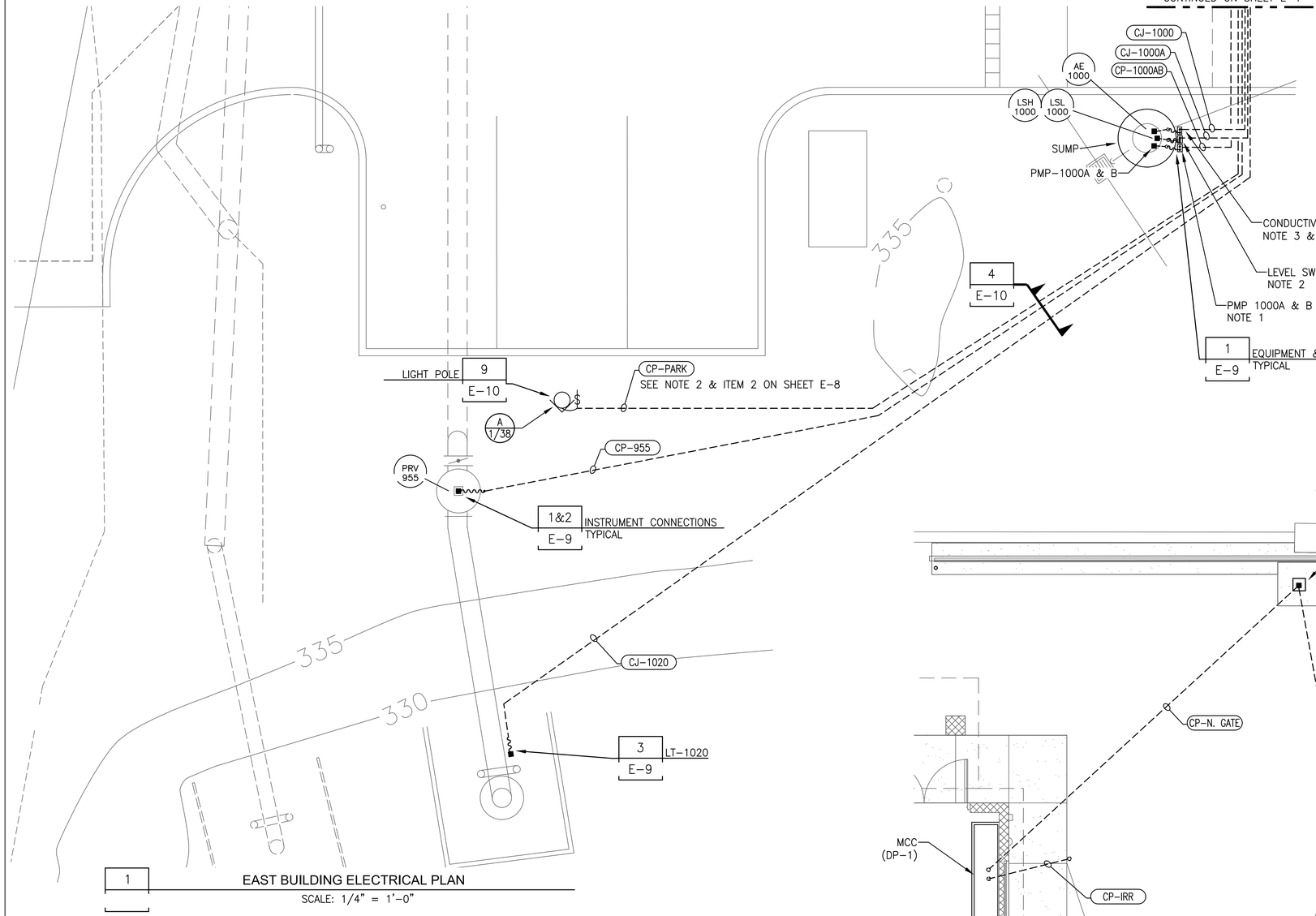
KIYOI ENGINEERING INC.
5266 Hollister Avenue #117
Santa Barbara, CA 93111
Phone: (805) 681-0980
KEI PROJECT – 22020

Pueblo Water Resources
4478 Market St., Suite 705
Ventura, CA 93003
(805) 644-0470

SOUTH SIDE ELECTRICAL PLAN

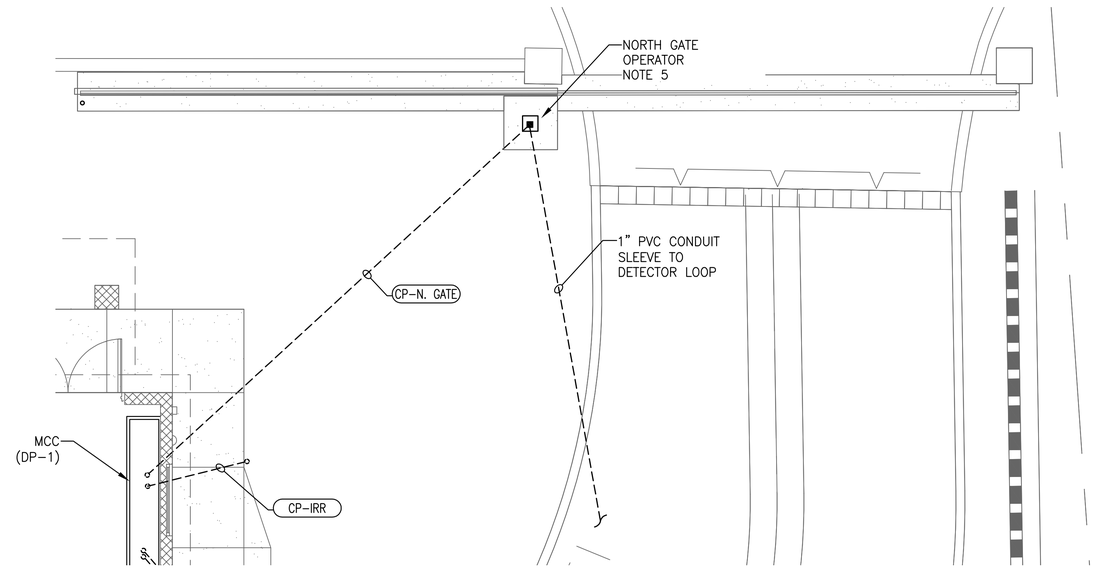
SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
E-4



1 EAST BUILDING ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"



2 NORTH BUILDING ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"

MATERIAL LIST

ITEM	QTY	DESCRIPTION
1	2	JUNCTION BOX, 6X6X4, NEMA 4X, STAINLESS STEEL, CONTINUOUS HINGE WITH CLAMPS & BACK PANEL HOFFMAN OR APPROVED SUBSTITUTE
2	4	MOTOR CONNECTORS, INSULATED, SIZE AS REQUIRED POLARIS IT SERIES OR APPROVED SUBSTITUTE
3	1	GROUND BUS BAR, SQUARE D PK5GTA
4	4	FEED THRU TERMINAL BLOCK, 20 AMP, ENTRELEC OR APPROVED SUBSTITUTE WITH DIN RAIL, END SECTIONS & STOPS

NOTES:

1. PROVIDE NAMEPLATE, BLACK 1/4" LETTERS ON WHITE, "SUMP PUMPS PMP-1000A & B" - FED FROM MCC INSIDE"
2. PROVIDE NAMEPLATE, BLACK 1/4" LETTERS ON WHITE, "LSL-1000" "LSH-1000"
3. PROVIDE NAMEPLATE, BLACK 1/4" LETTERS ON WHITE, "AI-1000 SUMP CONDUCTIVITY"
4. MAINTAIN VENDOR CABLE MINIMUM BENDING RADIUS.
5. PROVIDE AND INSTALL ALL CONDUITS, CABLES AND MATERIALS REQUIRED FOR A COMPLETE GATE OPERATOR INSTALLATION. COORDINATE WITH SITE MECHANICAL CONTRACTOR. SEE SHEETS A101 & A111 FOR GATE OPERATOR REQUIREMENTS.
6. SEE SHEETS E-11 & E-12 FOR CONTROL ELEMENTARY SCHEMATICS.

FIXTURE SCHEDULE

FIXTURE TAG	DESCRIPTION	QTY.
A 1/38	LED AREA SIZE 0 LUMINIARE, 3000K COLOR TEMPERATURE, 120VAC, 20 LEDS, 38 WATTS, 10' SQUARE POLE WITH MOUNTING BASE AND BIRD SPIKES LITHONIA #DSX0 LED P1 30K T3M MVOLT SPA PER DDBXD LITHONIA #BS LITHONIA #SSS 10-4C-DM19AS-UL-XXXXX-DDBXD	1

SCALE
0 4' 8'
1/4"=1'-0"

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

SCALE:
HOR. 1"=1"
VER. 1"=1"

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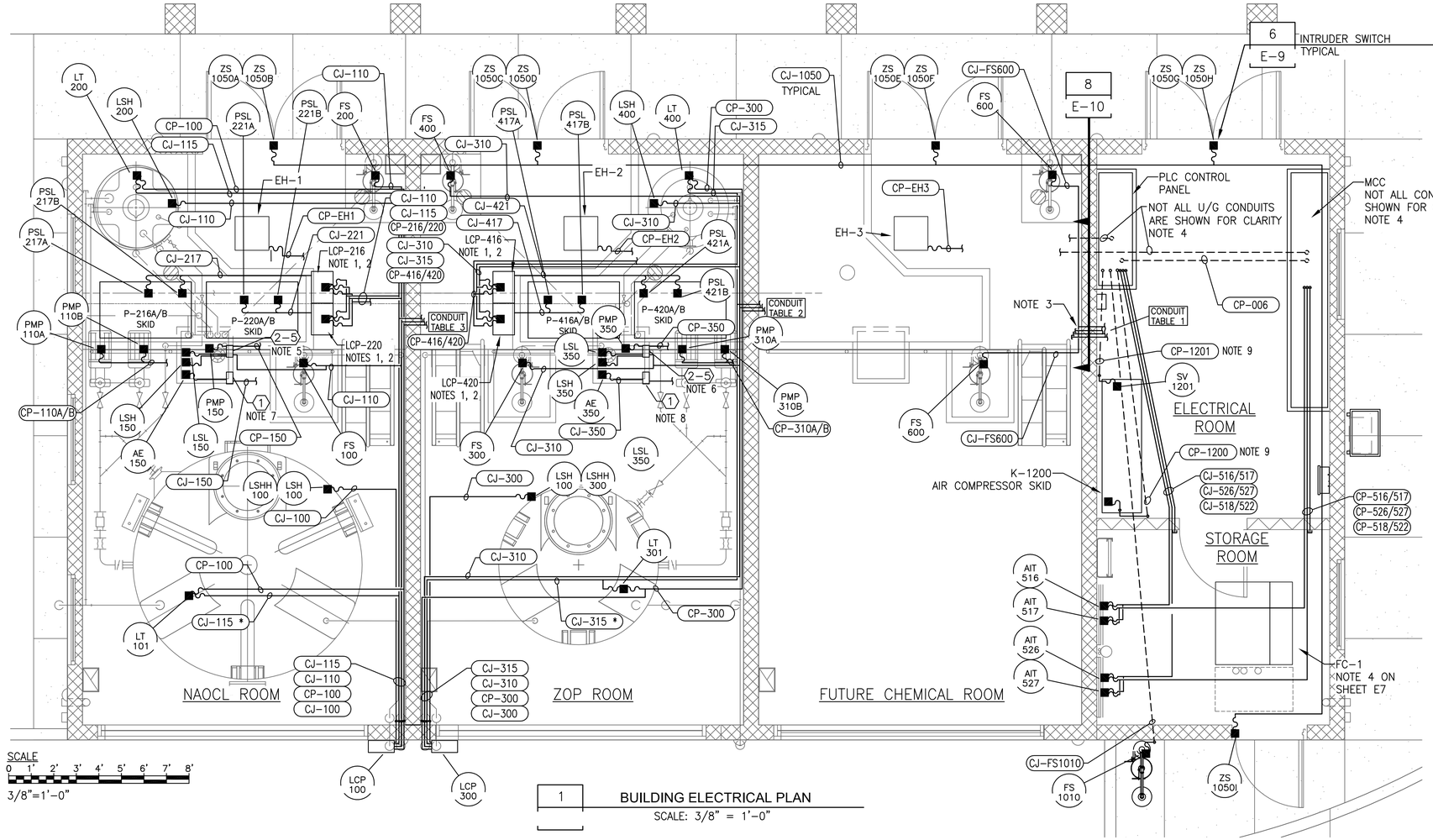
NORTH & EAST SIDE ELECTRICAL PLAN

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
E-5



1 BUILDING ELECTRICAL PLAN

SCALE: 3/8" = 1'-0"

MATERIAL LIST

ITEM	TOTAL QTY	DESCRIPTION
1	2	VENDOR JUNCTION BOX. MOUNT BOTTOM OF J.B. ABOVE 26" A.F.F. (AE-150 / AE-350 JB)
2	2	JUNCTION BOX, 6X6X4, NEMA 4X, STAINLESS STEEL, CONTINUOUS HINGE WITH CLAMPS & BACK PANEL. MOUNT BOTTOM OF J.B. ABOVE 26" A.F.F. HOFFMAN OR APPROVED SUBSTITUTE (PMP-150 & PMP-350)
3	4	MOTOR CONNECTORS, INSULATED, SIZE AS REQUIRED POLARIS IT SERIES OR APPROVED SUBSTITUTE
4	2	GROUND BUS BAR, SQUARE D PK5GTA
5	8	FEED THRU TERMINAL BLOCK, 20 AMP, ENTRELEC OR APPROVED SUBSTITUTE WITH DIN RAIL, END SECTIONS & STOPS

NOTES:

1. CONTRACTOR SHALL PROVIDE CABLES AND CONNECTORS FROM LCP TO CHEMICAL PUMPS AS REQUIRED BY VENDOR DRAWINGS.
2. CONTRACTOR SHALL PROVIDE TERMINAL BLOCKS IN LCP-216, 220, 416 & 420 FOR PSL CONTROLS
3. STUB FUTURE CONDUITS 12" FROM WALL, PULL STRING & CAP.
4. REFERENCE SHEETS E-3, E-4, E-5, E-7, E-8 AND CABLE & CONDUIT SCHEDULE FOR CONDUITS TO/FROM MCC
5. PROVIDE NAMEPLATE, BLACK 1/4" LETTERS ON WHITE, "SUMP PUMP PMP-150 – FED FROM MCC"
6. PROVIDE NAMEPLATE, BLACK 1/4" LETTERS ON WHITE, "SUMP PUMP PMP-350 – FED FROM MCC"
7. PROVIDE NAMEPLATE, BLACK 1/4" LETTERS ON WHITE, "AI-150 SUMP CONDUCTIVITY"
8. PROVIDE NAMEPLATE, BLACK 1/4" LETTERS ON WHITE, "AI-350 SUMP CONDUCTIVITY"
9. LOCATE CONDUIT STUB-UPS FOR COMPRESSOR PER FINAL MANUFACTURERS SPECIFICATIONS.
10. SEE SHEETS E-11 & E-12 FOR CONTROL ELEMENTARY SCHEMATICS.

TABLE 1

CONDUIT #	TO	FROM
CJ-FS600	PLC CONTROL PNL	FUTURE CHEM ROOM
CJ-610	PLC CONTROL PNL	FUTURE CHEM ROOM
CJ-611	PLC CONTROL PNL	FUTURE CHEM ROOM
CJ-615	PLC CONTROL PNL	FUTURE CHEM ROOM
CJ-650	PLC CONTROL PNL AIT-350/650	FUTURE CHEM ROOM
CP-600	DP-1 / IP-1	FUTURE CHEM ROOM
CP-601	MCC	FUTURE CHEM ROOM
CP-610A/B	MCC	FUTURE CHEM ROOM
CP-650	MCC	FUTURE CHEM ROOM
CP-716/720	MCC DP-1	FUTURE CHEM ROOM
CJ-310	PLC CONTROL PNL	ZOP ROOM
CJ-311	PLC CONTROL PNL	ZOP ROOM
CJ-315	PLC CONTROL PNL	ZOP ROOM
CJ-350	PLC CONTROL PNL AIT-350/350	ZOP ROOM
CP-300	DP-1 / IP-1	ZOP ROOM
CP-301	MCC	ZOP ROOM
CP-310A/B	MCC	ZOP ROOM
CP-350	MCC	ZOP ROOM
CP-416/420	MCC DP-1	ZOP ROOM
CJ-110	PLC CONTROL PNL	NAOCL ROOM
CJ-111	PLC CONTROL PNL	NAOCL ROOM
CJ-115	PLC CONTROL PNL	NAOCL ROOM
CJ-150	PLC CONTROL PNL AIT-1000/150	NAOCL ROOM
CP-100	DP-1 / IP-1	NAOCL ROOM
CP-101	MCC	NAOCL ROOM
CP-110A/B	MCC	NAOCL ROOM
CP-150	MCC	NAOCL ROOM
CP-216/220	MCC DP-1	NAOCL ROOM
CJ-1050	PLC CONTROL PNL	DOOR INTRUDER SWITCHES

TABLE 2

CONDUIT #	TO	FROM
CJ-310	PLC CONTROL PNL	ZOP ROOM
CJ-311	PLC CONTROL PNL	ZOP ROOM
CJ-315	PLC CONTROL PNL	ZOP ROOM
CJ-350	PLC CONTROL PNL AIT-350/650	ZOP ROOM
CP-300	DP-1 / IP-1	ZOP ROOM
CP-301	MCC	ZOP ROOM
CP-310A/B	MCC	ZOP ROOM
CP-350	MCC	ZOP ROOM
CP-416/420	MCC DP-1	ZOP ROOM
CJ-110	PLC CONTROL PNL	NAOCL ROOM
CJ-111	PLC CONTROL PNL	NAOCL ROOM
CJ-115	PLC CONTROL PNL	NAOCL ROOM
CJ-150	PLC CONTROL PNL AIT-1000/150	NAOCL ROOM
CP-100	DP-1 / IP-1	NAOCL ROOM
CP-101	MCC	NAOCL ROOM
CP-110A/B	MCC	NAOCL ROOM
CP-150	MCC	NAOCL ROOM
CP-216/220	MCC DP-1	NAOCL ROOM
CJ-1050	PLC CONTROL PNL	DOOR INTRUDER SWITCHES

TABLE 3

CONDUIT #	TO	FROM
CJ-110	PLC CONTROL PNL	NAOCL ROOM
CJ-111	PLC CONTROL PNL	NAOCL ROOM
CJ-115	PLC CONTROL PNL	NAOCL ROOM
CJ-150	PLC CONTROL PNL AIT-1000/150	NAOCL ROOM
CP-100	DP-1 / IP-1	NAOCL ROOM
CP-101	MCC	NAOCL ROOM
CP-110A/B	MCC	NAOCL ROOM
CP-150	MCC	NAOCL ROOM
CP-216/220	MCC DP-1	NAOCL ROOM
CJ-1050	PLC CONTROL PNL	DOOR INTRUDER SWITCHES

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

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VER. 1"=1"

WARNING
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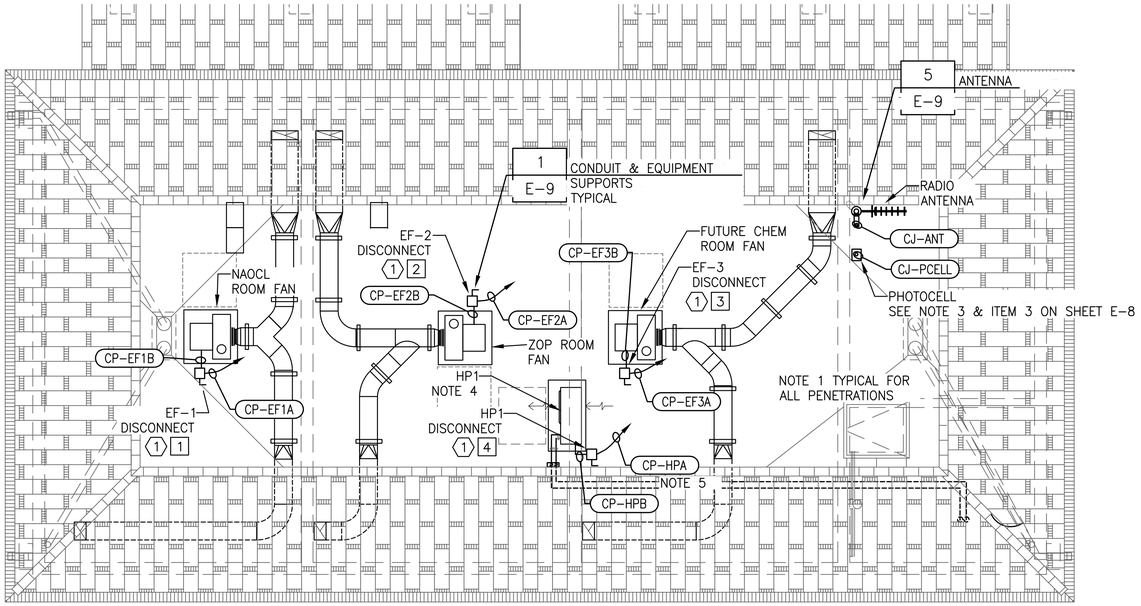
BUILDING ELECTRICAL PLAN

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
E-6



1 ROOF ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"

SCALE
0 4' 4'
1/4"=1'-0"

MATERIAL LIST

ITEM	QTY	DESCRIPTION
1	4	DISCONNECT SWITCH, HEAVY DUTY, NON-FUSIBLE, 30A, 3 PH,, 480 VAC, NEMA 3R, SQUARE D #HU361RB OR APPROVED SUBSTITUTE

NAME PLATE LIST:

ITEM	QTY	DESCRIPTION	ITEM	QTY	DESCRIPTION
1	1	EF-1 ROOM 1 EXHAUST FAN	4	1	HP-1 HEAT PUMP
2	1	EF-2 ROOM 2 EXHAUST FAN			
3	1	EF-3 ROOM 3 EXHAUST FAN			

GENERAL NOTES:

1. SEE THE STRUCTURAL DRAWINGS FOR ROOF PENETRATION DETAILS. COORDINATE WITH STRUCTURAL CONTRACTOR.
2. MOUNT ELECTRICAL EQUIPMENT TO GALVANIZED STRUT FRAMES BOLTED TO BASE OF MECHANICAL EQUIPMENT. DO NOT BLOCK ACCESS TO ANY ACCESS PANELS, FILTERS OR WHERE MAINTENANCE OF THE EQUIPMENT HAS TO BE PERFORMED.
3. CONTRACTOR TO PROVIDE CORROSION RESISTANT STOP/START STATION LOCATED IN CHEMICAL ROOM AS SHOWN ON SHEET E-8. LABEL 'EF-1 FAN CONTROL' TYPICAL.
4. SEE SHEETS E-11 FOR CONTROL ELEMENTARY SCHEMATICS.
5. PROVIDE CONDUIT FOR VENDOR CABLE BETWEEN HP1 & FC-1 IN STORAGE ROOM.

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

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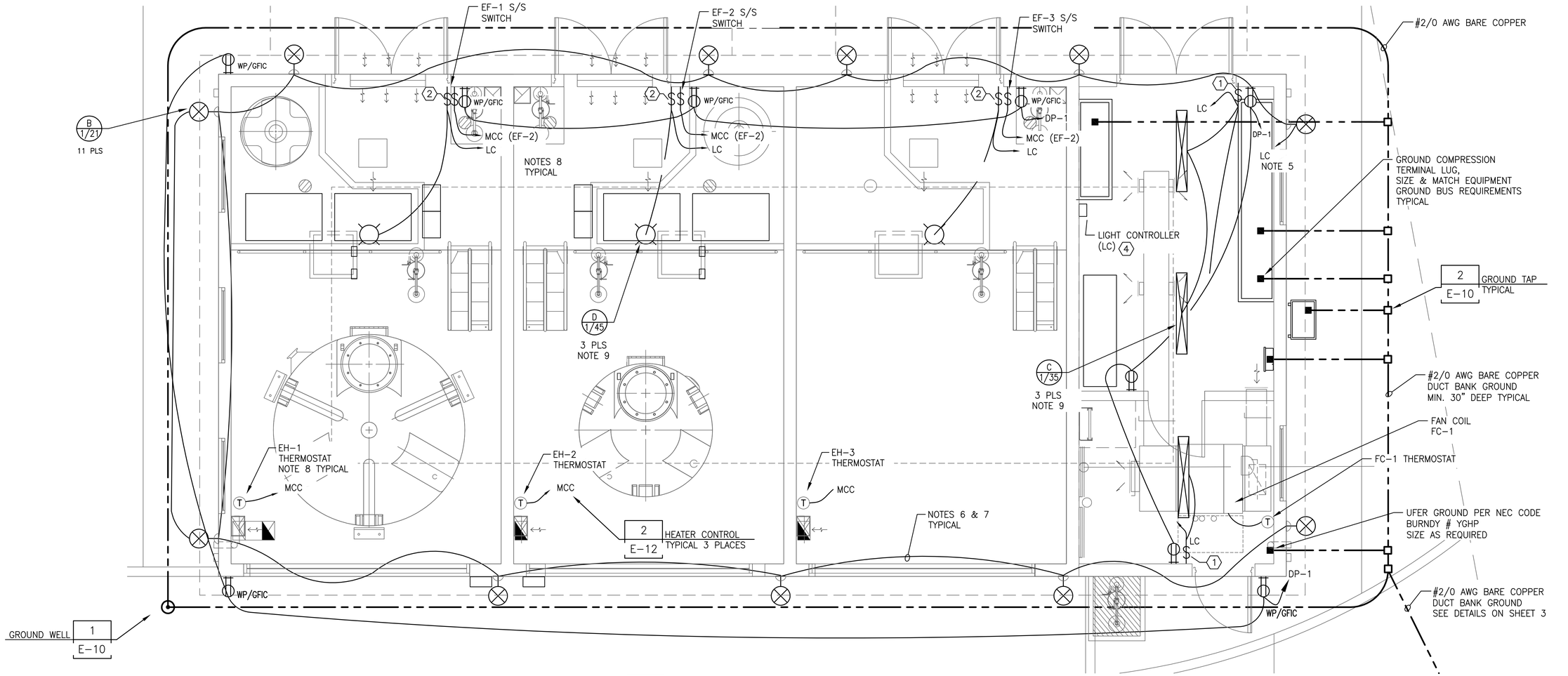
ROOF ELECTRICAL PLAN

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
E-7



1 GROUNDING, INDOOR LIGHTING & INDOOR MECHANICAL PLAN

SCALE: 3/8" = 1'-0"

FIXTURE SCHEDULE

FIXTURE TAG	DESCRIPTION	QTY.
B 1/21	LED WALL LIGHT, 3500K COLOR TEMPERATURE, 120VAC, 1 LED, 21 WATTS, WHITE SMOOTH DIFFUSER, ANODIZED SILVER MESH CAGE, CENTER COMPLETE STYLE LIGHTWAY #MERW-616-LED-B-21W-3-M13-F-CC	11
C 1/35	LED LOW BAY LIGHT, PENDANT MOUNT, CORROSION RESISTANT, WIDE DISTRIBUTION PRISMATIC GLASS, 3000K COLOR TEMPERATURE, 5,000LM, 120VAC, ON/OFF, 36" SAFETY CHAIN KIT PETROLUX LED #PLW-5000LM-WD-120-30K-81CRI-PM-CRW-SCK36	3
D 1/45	LED SUSPENDED LED LIGHT, LOW PROFILE, ENCLOSED AND GASKETED, 4000K COLOR TEMPERATURE, 120VAC LITHONIA #FEM-L48-6000LM-LPAFL-MD-120-GZ10-40K-80CRI	3

NOTES:

1. WIRE TO LIGHTING CONTROLLER (LC) RELAY COMMON FOR ELECTRICAL ROOM & STORAGE ROOM
2. WIRE TO LC INDIVIDUAL RELAY FOR EACH CHEMICAL ROOM AND OUTSIDE PARKING LIGHT. PROGRAM CHEMICAL ROOM RELAYS FOR ALWAYS ON. PROGRAM PARKING LIGHT RELAY FOR PHOTOCELL ON, OFF AT 11:PM WITH AS-100 SWITCH OVERRIDE.
3. MOUNT PHOTOCELL ON ROOF FACING SOUTH AND WIRE TO LC AS SHOWN ON SHEET E-8
4. PROGRAM LC AS NOTED ABOVE. PROGRAM ASTRONOMIC CALENDAR FOR FUTURE USE. PROGRAM OUTDOOR SCONCES PER NOTE WITHOUT AS-100.
5. WIRE OUTDOOR SCONCES TO LC RELAY COMMON FOR ALL SCONCES.
6. SEE MECHANICAL DRAWINGS FOR SEALING CONDUIT PENETRATION REQUIREMENTS.
7. LIGHTING, RECEPTACLE AND FAN SWITCH CONDUITS SHALL BE INSTALLED INSIDE WALLS.
8. SEE SHEETS E-11 & E-12 FOR CONTROL ELEMENTARY SCHEMATICS.

MATERIAL LIST

ITEM	QTY	DESCRIPTION
1	2	OCCUPANCY SENSOR, PASSIVE INFRARED & ULTRASONIC DUAL SENSING TECHNOLOGY, SINGLE WALL SWITCH, IVORY WATTSTOPPER #DSWE-301-I OR APPROVED SUBSTITUTE NOTE 1
2	4	AUTOMATIC CONTROL SWITCH, 120VAC, SINGLE WALL SWITCH, IVORY WATTSTOPPER #AS-100 OR APPROVED SUBSTITUTE NOTE 2
3	1	PHOTO CELL, 24 VAC, RELAY CONTACT OUTPUT, OUTDOOR WATTSTOPPER #EM-24A2 OR APPROVED SUBSTITUTE NOTE 3
4	1	LIGHTING CONTROLLER, 120VAC, 8 MECHANICALLY LATCHING RELAY OUTPUTS, UNIVERSAL SWITCH INPUTS, GROUP SWITCHING RELAY CONTROL, ASTRONOMIC CONTROL, PHOTO CELL CAPABLE, SURFACE MOUNT ENCLOSURE WATTSTOPPER #LP8S-8-G-115 OR APPROVED SUBSTITUTE NOTE 4

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GROUNDING, INDOOR LIGHTING & INDOOR MECHANICAL ELECTRICAL PLAN

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

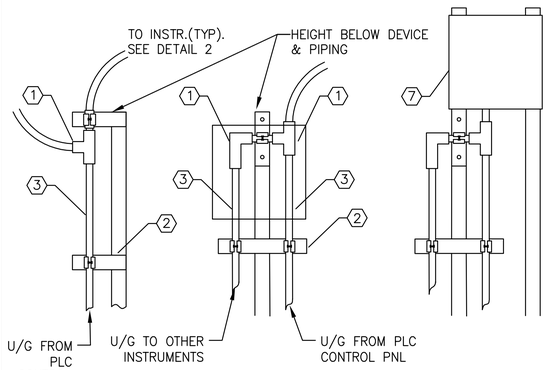
PROJECT NO.

E-8

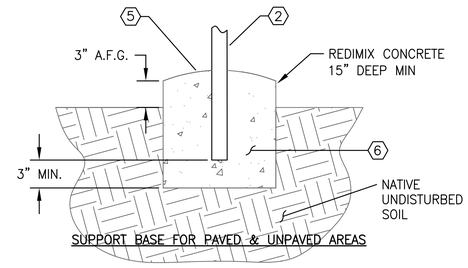
MATERIAL LIST

1. 'C', 'LB', 'T', OR 'X' CONDULET AS NEEDED.
2. ALL 1-5/8" UNISTRUT AND CONDUIT STRAPS SHALL BE GALVANIZED STEEL.
3. ALL ABOVE GROUND CONDUIT SHALL BE 40 MILL PVC COATED G.R.S.
4. TWO STRAPS PER CONDULET PER LATEST NAT'L. ELECTRIC CODE.
5. TOP OF CONCRETE DOMED FOR DRAINAGE. UNISTRUT BASE 1" A.F.G. AND DRY PACKED.
6. CONCRETE AROUND EACH INSTRUMENT UNISTRUT RISER PER THIS DETAIL.
7. STAINLESS STELL OR GALVANIZED BACK PLATE FOR JB OR EQUIPMENT SUPPORT.

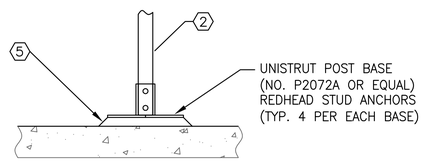
NOTE: CONTRACTOR MAY SUBSTITUTE ONE 2" GALVANIZED STEEL PIPE WITH WELDED ON BACK PLATE FOR STANDS WITH DUAL POST SUPPORTS.



SEE BELOW FOR UNISTRUT SUPPORT BASE DETAIL



SUPPORT BASE FOR PAVED & UNPAVED AREAS



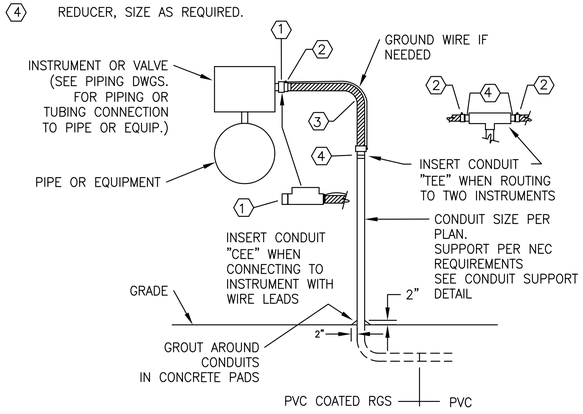
SUPPORT BASE FOR CONCRETE SLAB AREAS

1 TYPICAL INSTRUMENT & EQUIPMENT SINGLE & MULTIPLE CONDUIT SUPPORT

NOT TO SCALE

MATERIAL LIST

1. UNION, SIZE AS REQUIRED
2. FLEX CONNECTOR W/GROUND LUG IF NEEDED
3. 1/2" LIQUID TIGHT FLEX. CONDUIT TYPE UA 18" MAXIMUM LENGTH
4. REDUCER, SIZE AS REQUIRED.

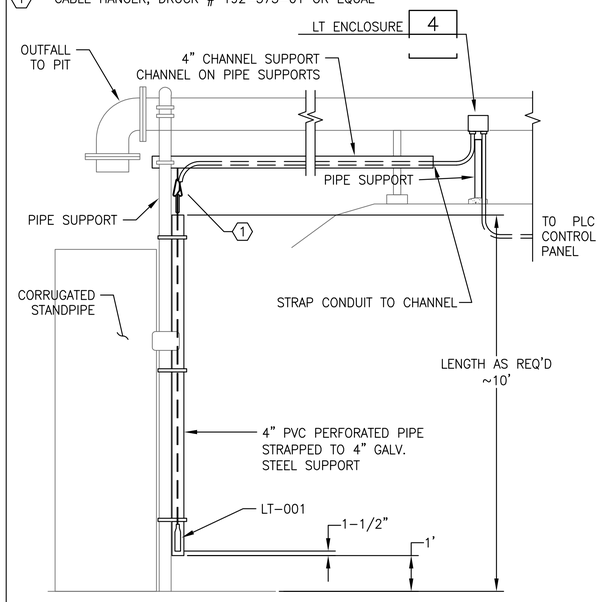


2 TYPICAL INSTRUMENT CONNECTION

NOT TO SCALE

MATERIAL LIST

1. CABLE HANGER, DRUCK # 192-373-01 OR EQUAL

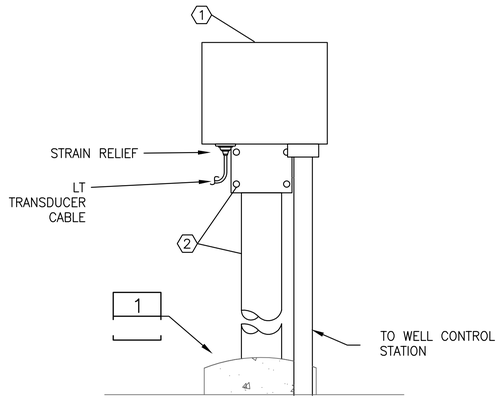


3 LT-1020

NOT TO SCALE

MATERIAL LIST

1. SENSOR TERMINATION ENCLOSURE WITH OPTIONAL MOUNTING KIT & DESICCANT MODULE, DRUCK STE110
2. 2" GALVANIZED PIPE, STAINLESS STEEL PIPE CLAMPS AND FITTINGS

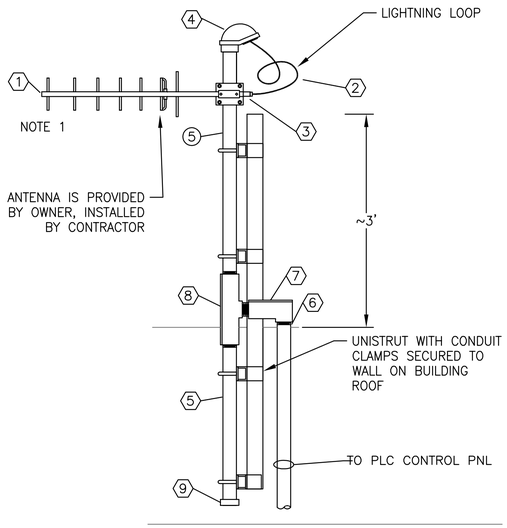


4 LT TERMINATION ENCLOSURE

NOT TO SCALE

NOTES:

1. VERIFY ANTENNA DIRECTION, HEIGHT AND LOCATION WITH THE DISTRICT.



MATERIAL LIST:

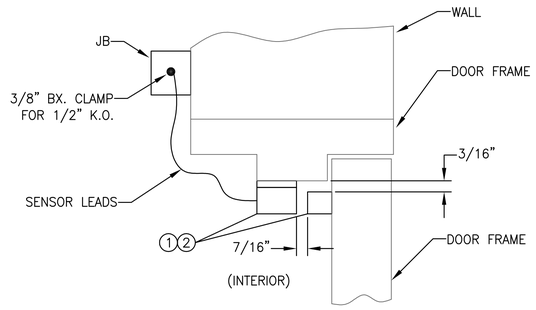
1. ANTENNA, YAGI, 900 MHZ, TYPE N, 50 OHM, SCALA TY-XXX
2. RADIO CABLE, 1/2" 50 OHM, FLEXIBLE COAX, ANDREW HELIAX
3. RADIO CABLE CONNECTORS, TYPE N, ANDREWS F4PNM
4. 2" RGS WEATHERHEAD FOR RADIO CABLE
5. 2" RGS CONDUIT, LENGTH AS REQUIRED
6. 1-1/2" X 2" REDUCER
7. 2" LB CONDUIT MOGUL FITTING
8. 2" TEE CONDUIT MOGUL FITTING
9. 2" CONDUIT CAP

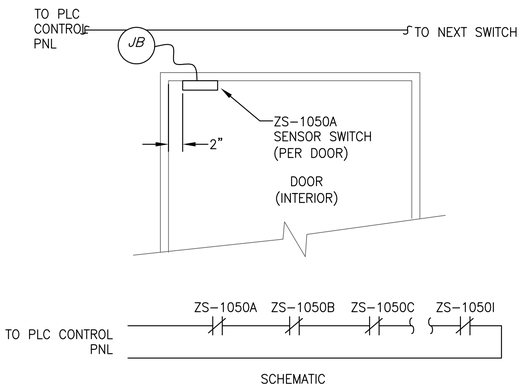
5 YAGI ANTENNA MOUNTING TERMINATION ENCLOSURE

NOT TO SCALE

MATERIAL LIST

1. DOOR SECURITY CONTACTS, HONEYWELL-ADMECO #968XTP
2. HEX BOLTS, WASHERS, LOCK WASHERS & NUTS, 1/4" SS





6 DOOR INTRUSION SWITCH

NOT TO SCALE

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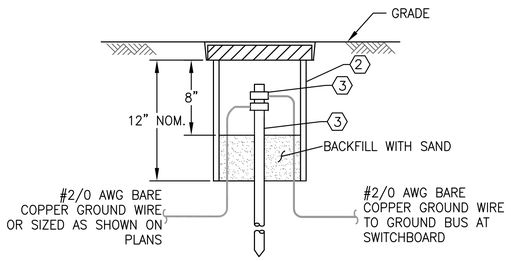
DETAILS-1

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
E-9

MATERIAL LIST

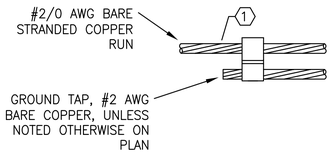
1. GROUND ROD, 3/4"x 8'-0", COPPERWELD, UL CERT., ENRICO #613480
2. GROUND WELL, 8" DIA. CONC. W/ GND EMBOSSED IN COVER
3. GROUND CONNECTOR, 3/4" ROD, SIZE AS REQUIRED, BURNDY #GAR____



1 GROUND WELL
NOT TO SCALE

MATERIAL LIST

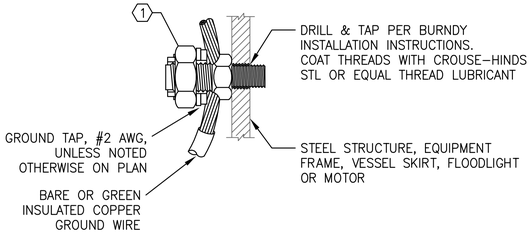
1. COMPRESSION GROUNDING CONNECTOR, BURNDY #YGHC_____



2 GROUND TAP
NOT TO SCALE

MATERIAL LIST

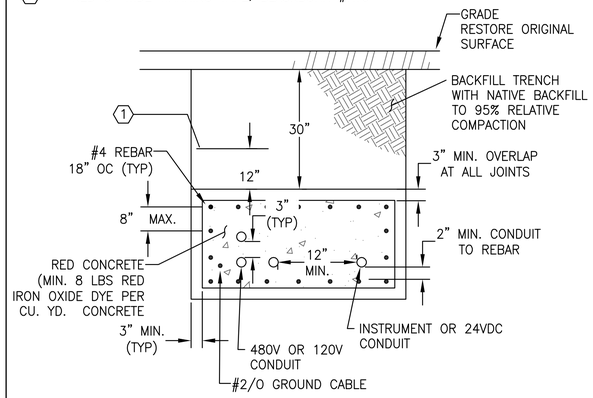
1. SERVIT POST, 1-WIRE, #2-#2/0 STRANDED COPPER, BURNDY #KC26
   OR
   SERVIT POST, 1-WIRE, #10-#3 STRANDED COPPER, BURNDY #KC22



3 EQUIPMENT GROUND TAP (TYPICAL)
NOT TO SCALE

MATERIAL LIST

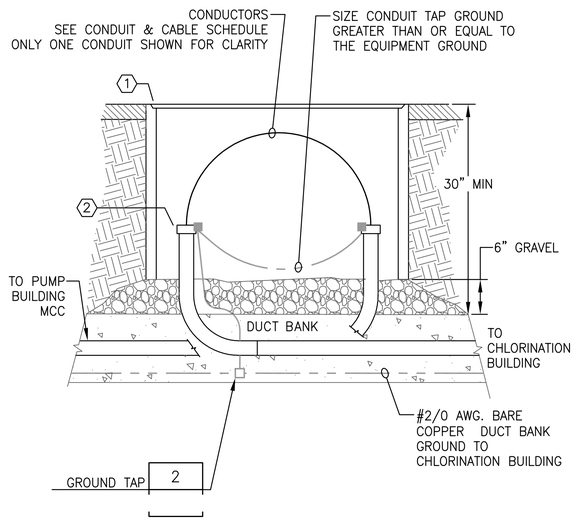
1. RED 6" WIDE WARNING TAPE, BLACKBURN #RT6



4 REINFORCED CONDUIT DUCT BANK
NOT TO SCALE

MATERIAL LIST

1. 13" X 24 UTILITY TRAFFIC RATED BOX COMPLETE WITH STEEL CHECKER PLATE COVER. WELD "ELECTRICAL" TO TOP OF COVER WITH EXTENSIONS.
   CHRISTY CAT NO. N1324BOX, B132451JH, B1324X12
2. INSULATED GROUNDING BUSHING, TYPICAL, SIZE AS REQUIRED

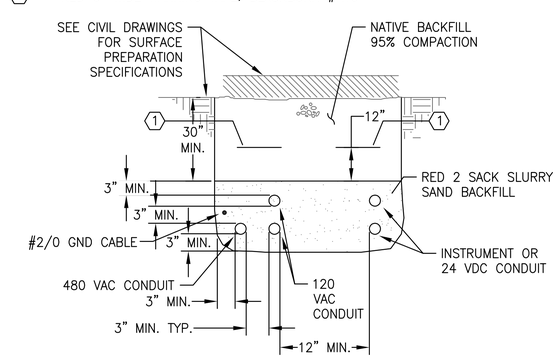


NOTE CONDUIT LAYOUT IN PULLBOX. CONTRACTORS SHALL MAINTAIN BENDING RADIUS PER NEC & MANUFACTURER REQUIREMENTS.

6 PULL BOX
NOT TO SCALE

MATERIAL LIST

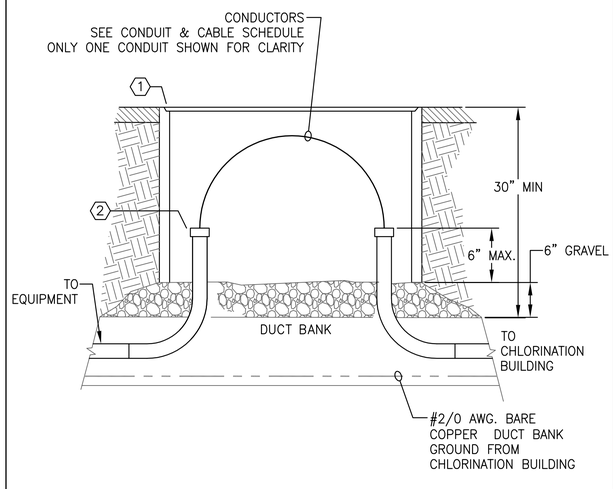
1. RED 6" WIDE WARNING TAPE, BLACKBURN #RT6



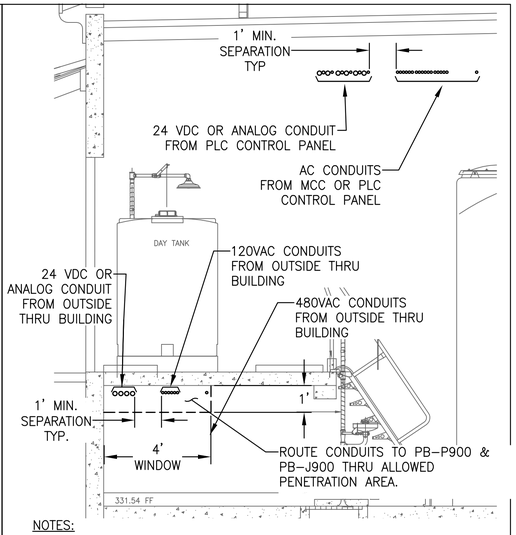
5 UN-REINFORCED CONDUIT DUCT BANK
NOT TO SCALE

MATERIAL LIST

1. 20" X 31-1/2 UTILITY BOX COMPLETE WITH STEEL CHECKER PLATE COVER. WELD "ELECTRICAL" TO TOP OF COVER WITH EXTENSIONS.
   CHRISTY CAT NO. B65BOX, B65-61D, B65X12 OR APPROVED SUBSTITUTE
2. INSULATED GROUNDING BUSHING, TYPICAL, SIZE AS REQUIRED



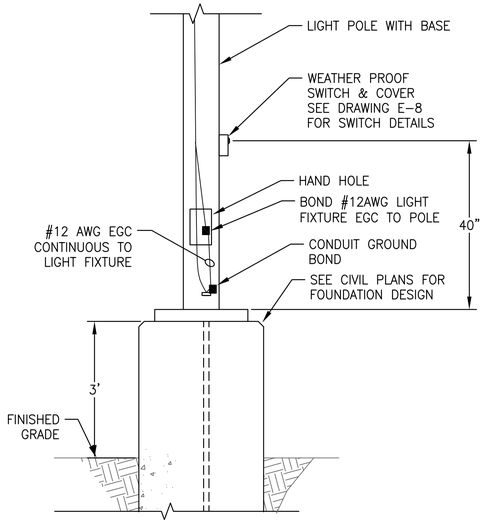
7 PULLBOX
NOT TO SCALE



NOTES:

1. USE FIBERGLASS STRUT TO SUPPORT SCH. 40 PVC CONDUITS EVERY 5'-0" MAXIMUM.
2. COORDINATE WITH MECHANICAL PIPING TO AVOID INTERFERENCES. SEE MECHANICAL DRAWINGS FOR CONTAINMENT AREA PENETRATIONS & CONDUIT SEALING REQUIREMENTS

8 CONDUIT WALL PENETRATION
NOT TO SCALE



9 LIGHT POLE DETAIL
NOT TO SCALE

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

SCALE:
HOR. 1"=1"
VER. 1"=1"

WARNING
0
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED RLK
DRAWN WS
CHECKED RLK

UNAUTHORIZED CHANGES & USES CAUTION: The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

KIYOI ENGINEERING INC.
5266 Hollister Avenue #117
Santa Barbara, CA 93111
Phone: (805) 681-0980
KEI PROJECT - 22020

Pueblo Water Resources
4478 Market St., Suite 705
Ventura, CA 93003
(805) 644-0470

DETAILS-2

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

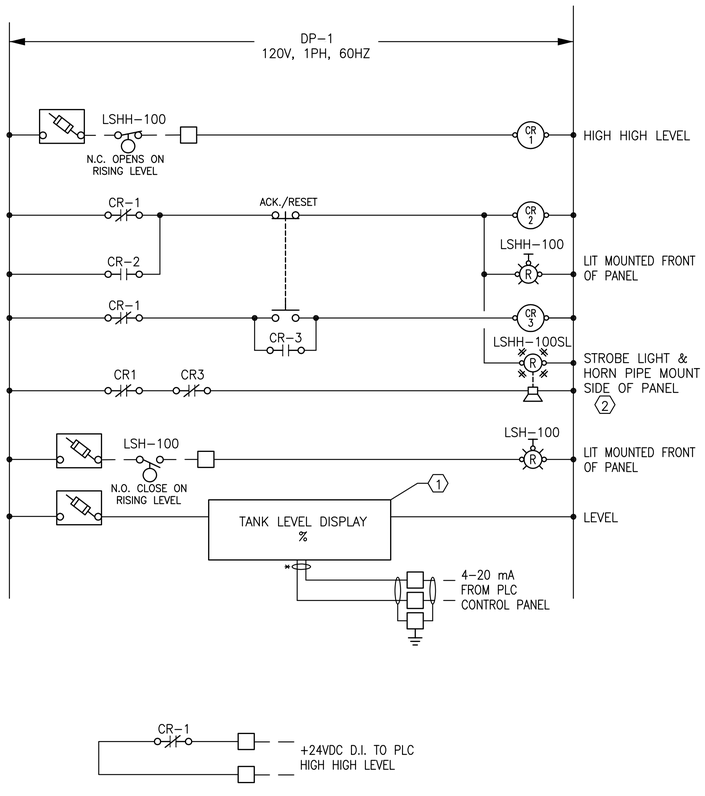
PROJECT NO.
E-10

MATERIAL LIST

1. LEVEL INDICATOR, PANEL MOUNT, % FILL, RED LION OR APPROVED SUBSTITUTE
2. STROBE/HORN, FEDERAL AV1-LED OR APPROVED SUBSTITUTE

NOTES:

1. CONTRACTOR SHALL PROVIDE NEMA 4X STAINLESS STEEL, PADLOCKABLE ENCLOSURE SIZED TO FIT WALL LOCATION, TERMINALS, RELAYS, SWITCHES, LIGHTS AND LEVEL INDICATORS AS SHOWN BELOW WITH LABELS AND NAMEPLATES.
2. PROVIDE WHITE NAMEPLATE WITH BLACK 1/4" TEXT
   'OPERATOR TO ENGAGE AIR COMPRESSOR VALVE PRIOR TO FILL'
   'SWITCH LOCATED AT PLC CONTROL PANEL'

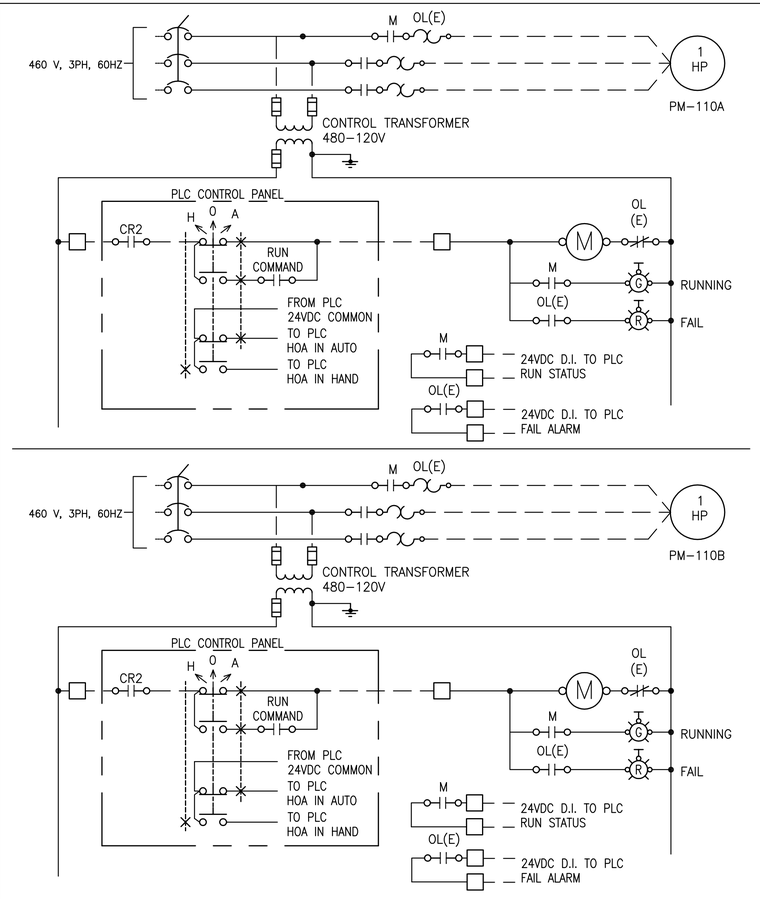


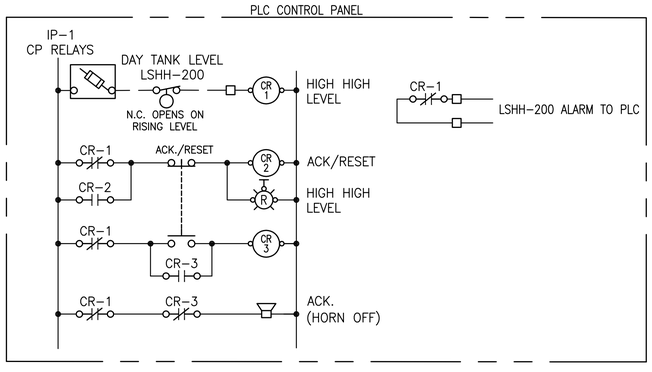
MCC CUSTOMER FIELD WIRING TERMINAL

1 LCP-100 NAOCL$_2$ FILL STATION PANEL

LCP-300 & LCP-600 SIMILAR
PUMPS ALTERNATE IN AUTO MODE

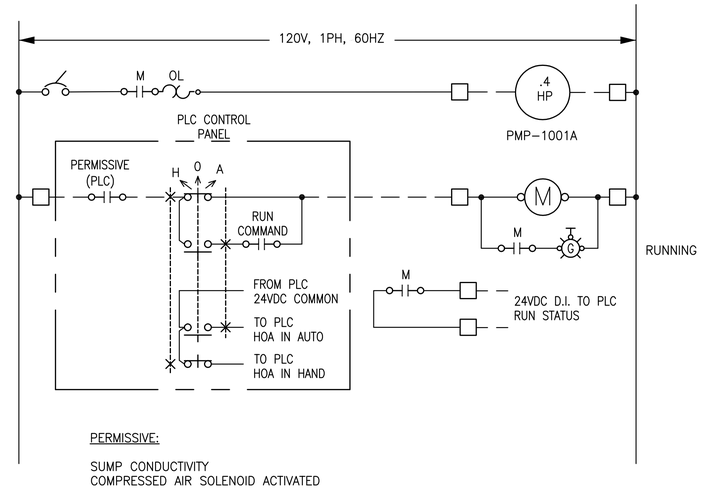
NOTE: SIZE FUSES PER MANUFACTURES RECOMMENDATIONS





2 PMP-110A CHEMICAL TRANSFER PUMP ELEMENTARY SCHEMATIC

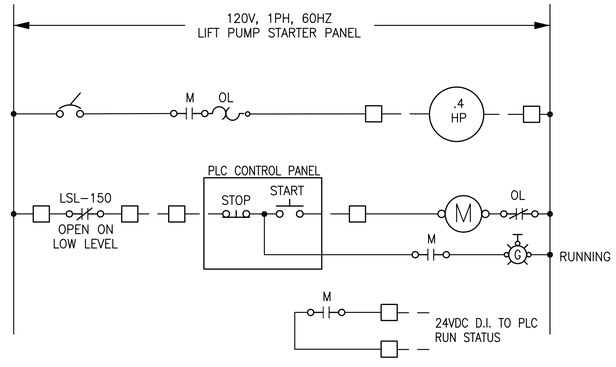
P-310A & B, P-710A & B SIMILAR
PUMPS A & B ALTERNATE



CUSTOMER FIELD WIRING TERMINAL

3 PMP-1000A TRUCK UNLOADING SUMP LIFT PUMP ELEMENTARY SCHEMATIC

PMP-1000B SIMILAR
PUMPS ALTERNATE IN AUTO MODE



CUSTOMER FIELD WIRING TERMINAL

4 PMP-150 SUMP LIFT PUMP ELEMENTARY SCHEMATIC

PMP-350 & PMP-650 SIMILAR

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

SCALE:
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DESIGNED RLK
DRAWN WS
CHECKED RLK

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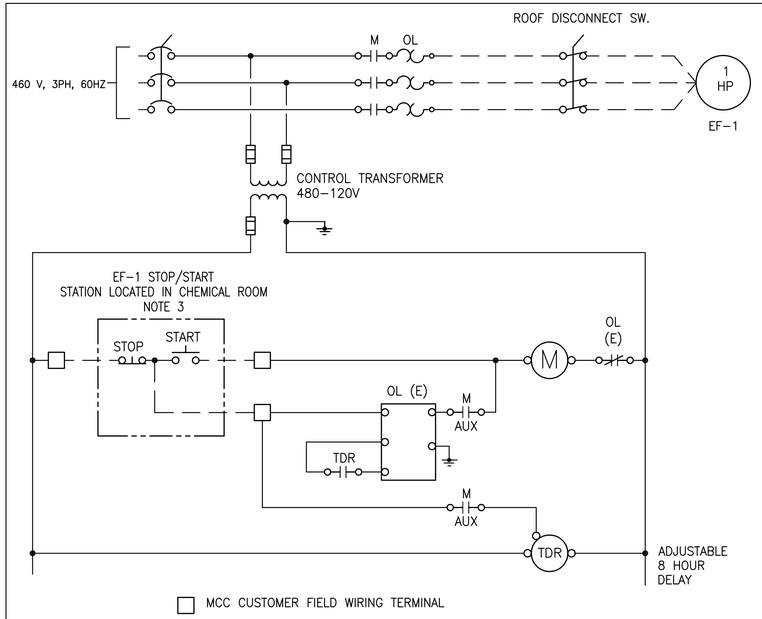
CONTROL ELEMENTARY SCHEMATICS-1

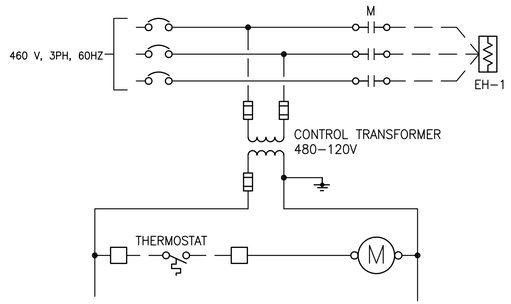
SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
E-11



1 EF-1 CHEMICAL ROOM EXHAUST FAN

EF-2 & EF=3 SIMILAR



2 EH-1 CHEMICAL ROOM HEATER ELEMENTARY SCHEMATIC

EH-2 & EH-3 SIMILAR

MCC CUSTOMER FIELD WIRING TERMINAL

REV	DATE	BY	DESCRIPTION
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DRAWN WS
CHECKED RLK

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CONTROL ELEMENTARY SCHEMATICS-2

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

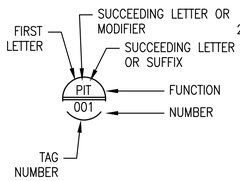
PROJECT NO.

E-12

INSTRUMENT LETTER IDENTIFICATION TABLE

	FIRST LETTER MEASURED OR INITIATING VARIABLE	SUCCEEDING LETTER, MODIFIER READOUT OR INPUT FUNCTION	SUFFIX LETTER FOR DISCRETE FUNCTION (OUTSIDE BALLOON)
A	ANALYSIS	ALARM	AUTO
B	BURNER, COMBUSTION		REMOTE
C	CONDUCTIVITY (ELECTRICAL)	CONTROL (LER)	CLOSED
D	DENSITY (MASS) /DAMPER	DIFFERENTIAL/DEVIATION	DISCRETE
E	VOLTAGE	SENSOR, PRIMARY ELEMENT	ENERGIZED
F	FLOW RATE	RATIO/BIAS	FAILOVER RESET
G	GAGING (DIMENSIONAL)	GLASS	READY
H	HAND	HIGH	1ST ALARM OR HI
I	CURRENT (ELECTRICAL)	INDICATE (OR), (ING)	INCREASE
J	POWER	SCAN (NCK)	MOTOR POWER
K	TIME		
L	LEVEL	LIGHT/LOW	3RD ALARM OR LOW
M	MOISTURE OR HUMIDITY		MANUAL
N	USER'S CHOICE		2ND ALARM OR LOW
O	VIDEO	OPERATOR, ORIFICE	OPENED
P	PRESSURE, VACUUM	POINT (TEST)	STOP
Q	QUANTITY, TORQUE	TOTALIZE	
R		RECORD (ER)	RUNNING
S	SPEED/FREQUENCY	SAFETY/SWITCH	START
T	TEMPERATURE	TRANSMITTER	TROUBLE 1 ALARM
U	MULTI-POINT/VARIABLE		TROUBLE 2 ALARM
V	VIBRATION	VALVE	VIRTUAL
W	WEIGHT	WELL	
X	SPECIAL EQUIPMENT COMMAND		
Y	EVENT, STATE, COMPUTER CONTROL OUTPUT	RELAY, CONVERTER/SOLENOID	
Z	POSITION	DRIVER, ACTUATOR, FINAL CONTROL DEVICE	

INSTRUMENT TAG



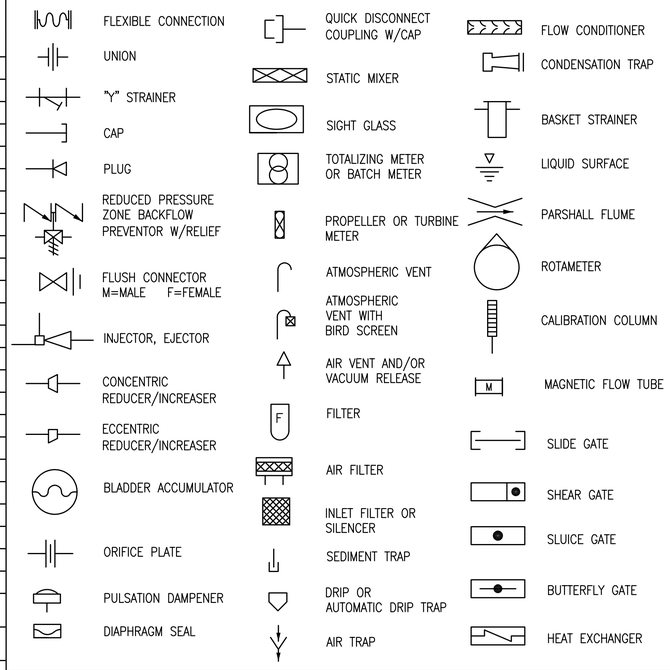
NOTES FOR TABLE

1. ANY UNASSIGNED LETTER IS DEFINED AS A USER'S CHOICE LETTER WHICH IS INTENDED TO BE USED TO COVER A MEANING FOR A PARTICULAR PROJECT.
2. "X" IS USED TO REPRESENT ANY "SPECIAL" FUNCTION OR VARIABLE AND MAY BE DEFINED AS FOLLOWS:

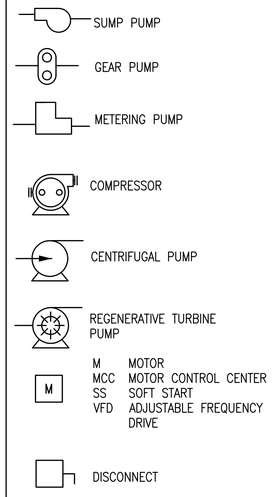
SPECIAL FUNCTION OR VARIABLE

CL2	CHLORINE
COND	CONDUCTIVITY
FLUO	FLUORIDE
HOA	HAND-OFF-AUTO
I/P	CURRENT TO PNEUMATIC
OC	OPEN-CLOSED
OO	ON-OFF (E.G. FOR LAMPS)
SS	START-STOP
TURB	TURBIDITY

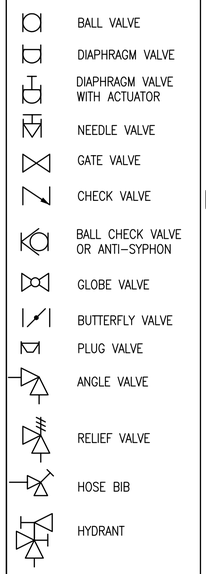
PIPING SYMBOLS



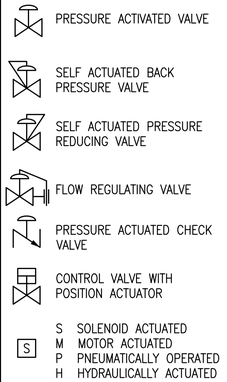
PUMP SYMBOLS



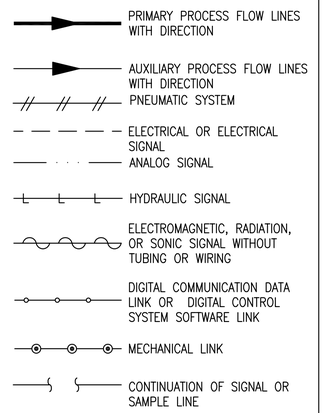
VALVE SYMBOLS



CONTROL VALVE SYMBOLS



LINE & SIGNAL DESIGNATORS



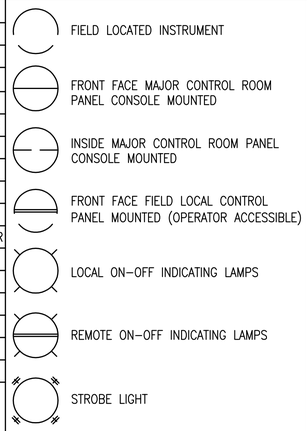
INSTRUMENTATION NUMBERING

EXAMPLE: FIC-X-1 OR FIC-100-1

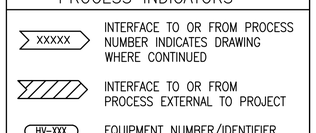
FIC	-100
FIC	X

LOOP NO.	
000-099	
100-199	SODI. HYPO. STORAGE & TRANSFER
200-299	SOD. HYPO. PUMPS
300-399	ZOP CHEMICAL STORAGE & TRANSFER
400-499	ZOP CHEMICAL PUMPS
500-599	ANALYZERS
600-699	FUTURE CHEMICAL STORAGE & TRANSFER
700-799	FUTURE CHEMICAL PUMPS
800-899	
900-999	RAW WATER
1000-1099	MISCELLANOUS / AIR COMPRESSOR
2100-2199	

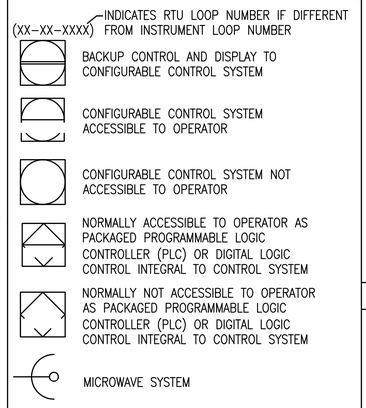
INSTRUMENT CONTROL SYMBOLS



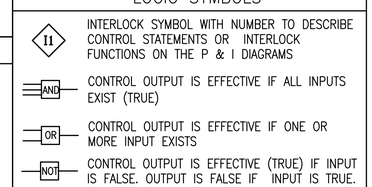
PROCESS INDICATORS



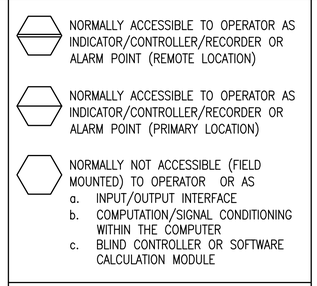
DCS/PLC CONTROL SYMBOLS



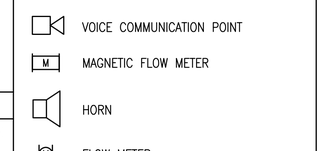
LOGIC SYMBOLS



RTU / COMPUTER SYMBOLS



MISCELLANEOUS SYMBOLS



ABBREVIATIONS

ACC	ACCUMULATOR	WSS	WASTE WATER SYSTEM
AI	ANALOG INPUT	SC	SAMPLE COCK
AO	ANALOG OUTPUT	SP	SUMP PUMP
A/V	AIR / VACUUM	SS	START-STOP
DI	DIGITAL INPUT	VFD	VARIABLE SPEED DRIVE
DO	DIGITAL OUTPUT		
DQMS	QUALITY MONITORING SYSTEM		
DR	DRAIN		
FC	FAIL CLOSED		
FO	FAIL OPEN		
FCP	FILTER CONTROL PANEL		
FWS	FILTERED WATER SYSTEM		
LCP	LOCAL CONTROL PANEL		
MOA	MANUAL - OFF - AUTO		
NC	NORMALLY CLOSE		
NO	NORMALLY OPEN		
OAC	OPEN - AUTO - CLOSE		
PB	PUSH BUTTON		
RWS	RAW WATER SYSTEM		
RWW	REWASH WATER		
SC	SAMPLE COCK		
SDS	SLUDGE REMOVAL SYSTEM		
TWS	TREATED WATER SYSTEM		
UWS	UTILITY WATER SYSTEM		
WCP	WELL CONTROL PANEL		

NOTES:

1. NOT ALL SYMBOLS USED FOR THIS PROJECT.

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

SCALE:
HOR. 1"=1"
VER. 1"=1"

WARNING
0 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED SPT
DRAWN WNS
CHECKED SPT

PUEBLO water resources
Pueblo Water Resources
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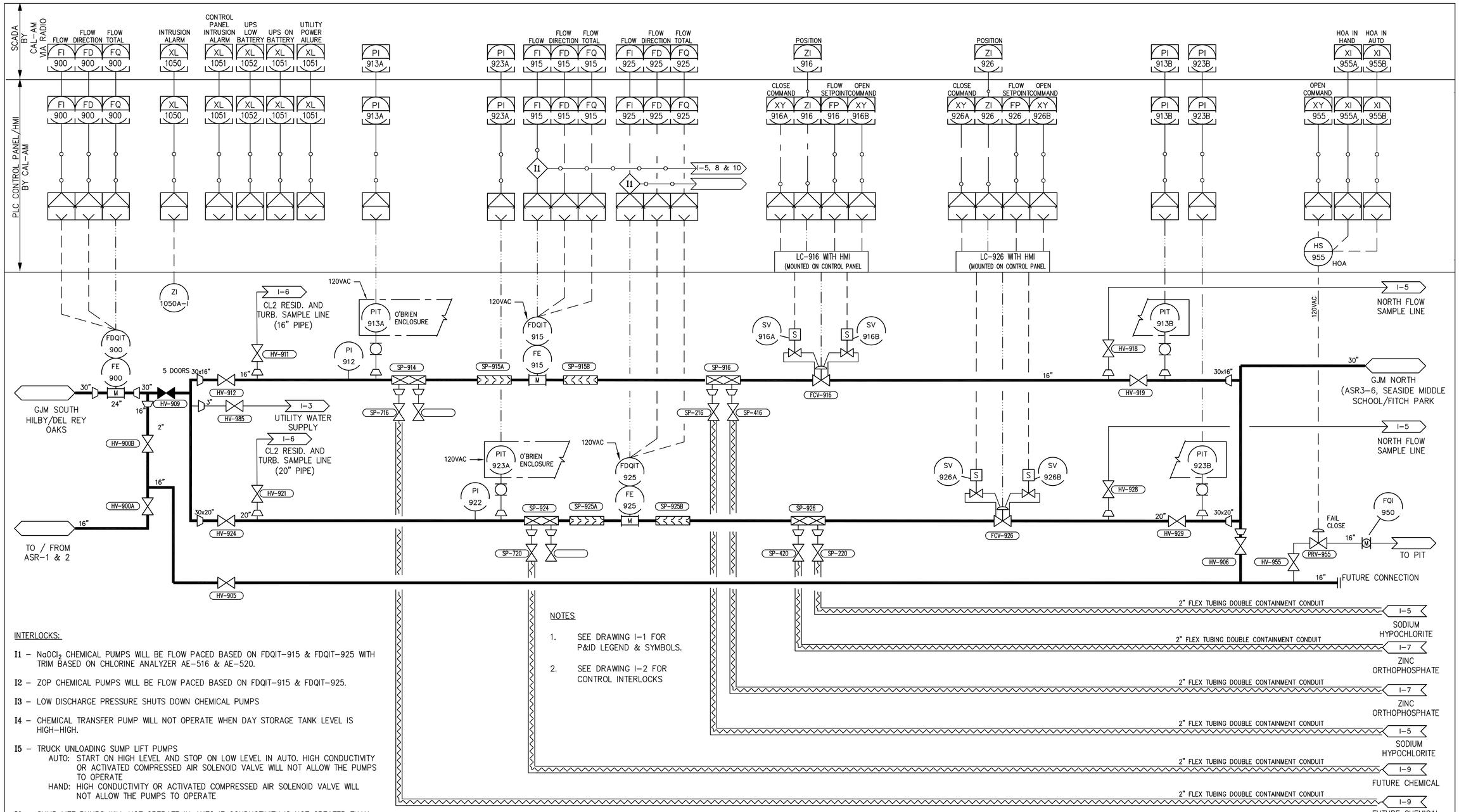
(805) 644-0470

LEGENDS & SYMBOLS
PIPING & INSTRUMENT DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
I-1



NOTES

1. SEE DRAWING I-1 FOR P&ID LEGEND & SYMBOLS.
2. SEE DRAWING I-2 FOR CONTROL INTERLOCKS

INTERLOCKS:

I1 – $NaOCl_2$ CHEMICAL PUMPS WILL BE FLOW PACED BASED ON FDQIT-915 & FDQIT-925 WITH TRIM BASED ON CHLORINE ANALYZER AE-516 & AE-520.

I2 – ZOP CHEMICAL PUMPS WILL BE FLOW PACED BASED ON FDQIT-915 & FDQIT-925.

I3 – LOW DISCHARGE PRESSURE SHUTS DOWN CHEMICAL PUMPS

I4 – CHEMICAL TRANSFER PUMP WILL NOT OPERATE WHEN DAY STORAGE TANK LEVEL IS HIGH-HIGH.

I5 – TRUCK UNLOADING SUMP LIFT PUMPS
- AUTO: START ON HIGH LEVEL AND STOP ON LOW LEVEL IN AUTO. HIGH CONDUCTIVITY OR ACTIVATED COMPRESSED AIR SOLENOID VALVE WILL NOT ALLOW THE PUMPS TO OPERATE
- HAND: HIGH CONDUCTIVITY OR ACTIVATED COMPRESSED AIR SOLENOID VALVE WILL NOT ALLOW THE PUMPS TO OPERATE

I6 – SUMP LIFT PUMPS WILL NOT OPERATE IN AUTO IF CONDUCTIVITY IS NOT GREATER THAN XX MICRO OHMS.

I7 – CHEMICAL SUMP HIGH LEVEL WILL ALARM, THEN OPERATOR STARTS THE SUMP PUMP AT THE PLC CONTROL PANEL. THE SUMP PUMP WILL STOP AT LOW SUMP LEVEL.

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

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WARNING
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DRAWN WNS
CHECKED SPT

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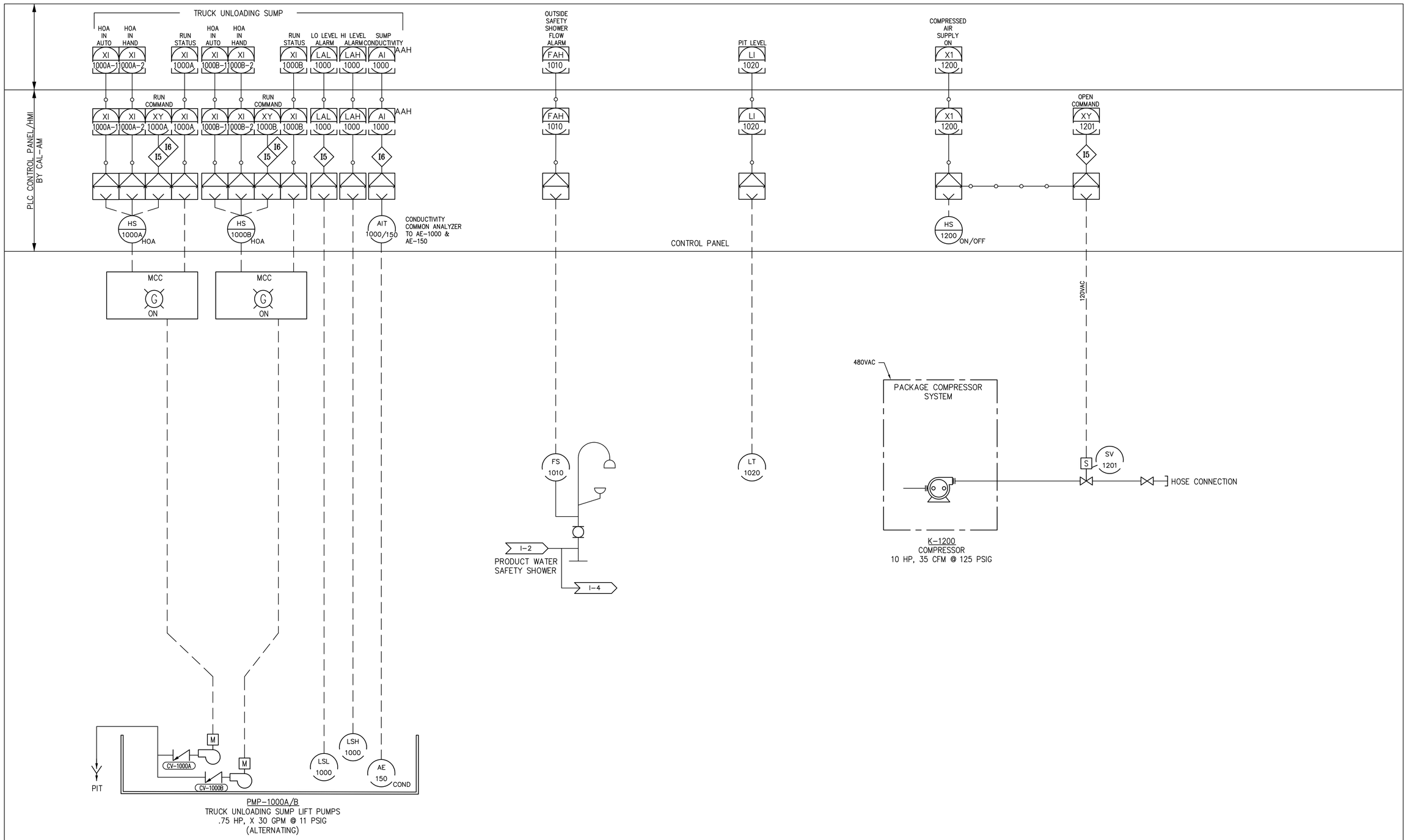
DISTRIBUTION PIPING & INSTRUMENT DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
I-2



REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

SCALE:
HOR. 1"=1"
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WARNING
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DRAWN WNS
CHECKED SPT

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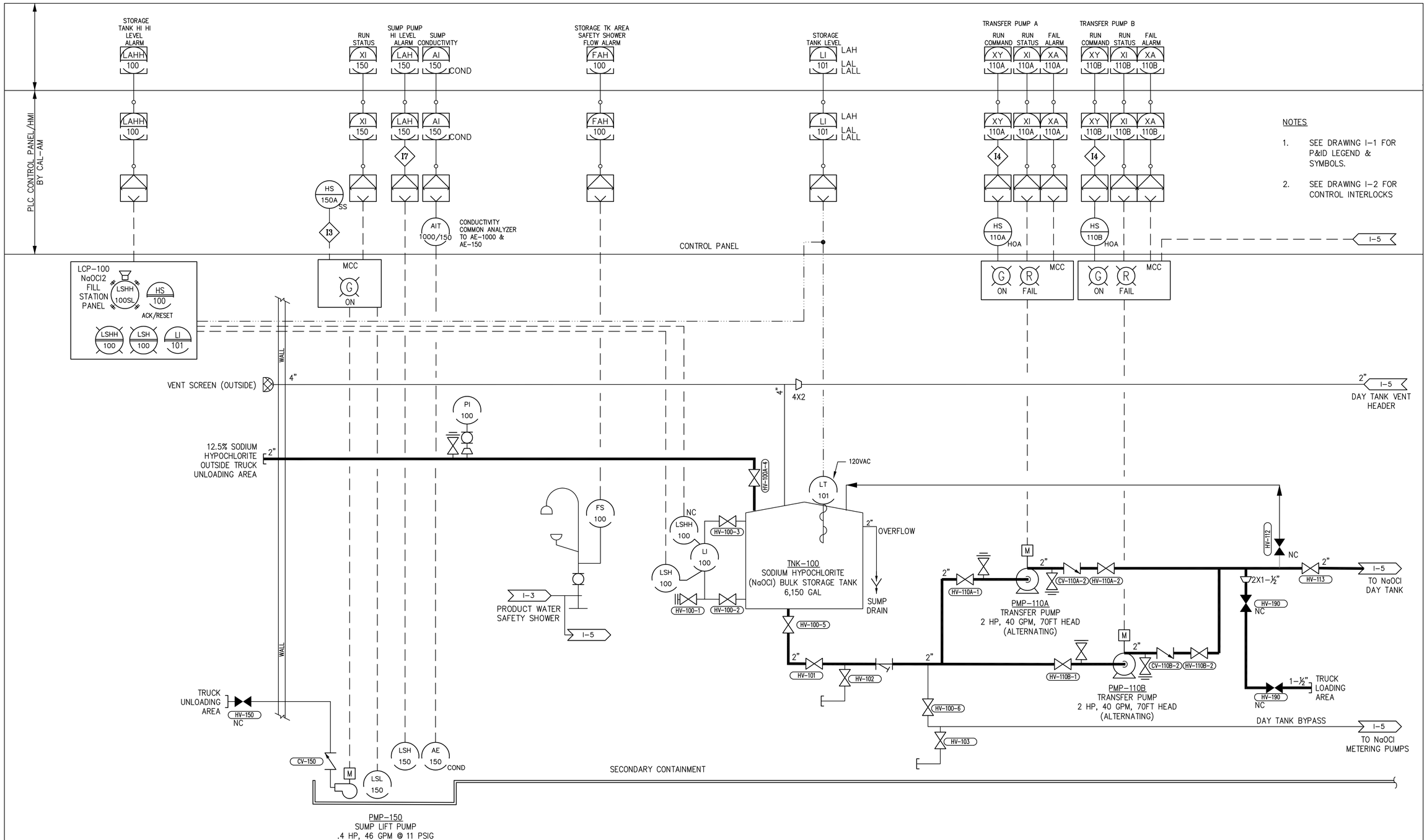
OUTSIDE SUMP & COMPRESSED AIR PIPING & INSTRUMENT DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
I-3



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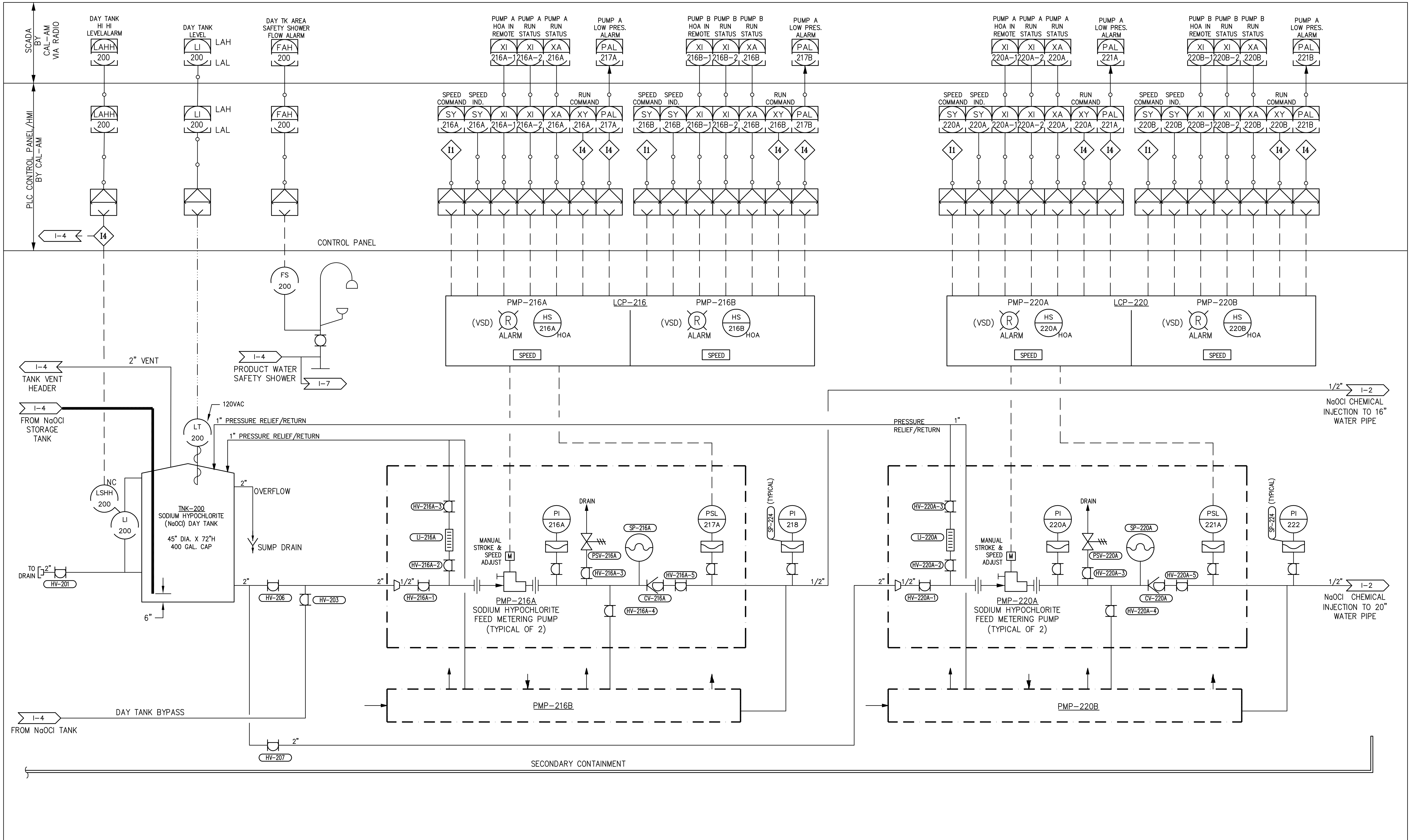
SODIUM HYPOCHLORITE CHEMICAL STORAGE & TRANSFER PIPING & INSTRUMENT DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
I-4


SCADA BY CAL-AM VIA RADIO
PLC CONTROL PANEL/HMI BY CAL-AM
DAY TANK HI HI LEVELALARM
LAHH 200
DAY TANK LEVEL
LI 200
LAH
LAL
DAY TK AREA SAFETY SHOWER FLOW ALARM
FAH 200
PUMP A HOA IN REMOTE
PUMP A RUN STATUS
PUMP A LOW PRES. ALARM
PUMP B HOA IN REMOTE
PUMP B RUN STATUS
SPEED COMMAND
SPEED IND.
RUN COMMAND
SY
XI
XA
XY
PAL
216A
216A-1
216A-2
217A
216B
216B-1
216B-2
217B
220A
220A-1
220A-2
221A
220B
220B-1
220B-2
221B
I1
I4
I-4
CONTROL PANEL
FS 200
PMP-216A
LCP-216
PMP-216B
PMP-220A
LCP-220
PMP-220B
(VSD)
ALARM
HS
HOA
SPEED
2" VENT
TANK VENT HEADER
PRODUCT WATER SAFETY SHOWER
I-7
FROM NaOCl STORAGE TANK
120VAC
LT 200
1" PRESSURE RELIEF/RETURN
PRESSURE RELIEF/RETURN
1/2"
I-2
NaOCl CHEMICAL INJECTION TO 16" WATER PIPE
NaOCl CHEMICAL INJECTION TO 20" WATER PIPE
NC
LSHH 200
TNK-200
SODIUM HYPOCHLORITE (NaOCl) DAY TANK
45" DIA. X 72"H
400 GAL. CAP
2" OVERFLOW
SUMP DRAIN
TO DRAIN
HV-201
HV-206
HV-203
6"
HV-216A-3
LI-216A
HV-216A-2
HV-216A-1
MANUAL STROKE & SPEED ADJUST
M
PI 216A
DRAIN
PSV-216A
HV-216A-3
SP-216A
HV-216A-5
CV-216A
HV-216A-4
PSL 217A
SP-224 (TYPICAL)
PI 218
PMP-216A
SODIUM HYPOCHLORITE FEED METERING PUMP
(TYPICAL OF 2)
HV-220A-3
LI-220A
HV-220A-2
HV-220A-1
PI 220A
PSV-220A
SP-220A
HV-220A-5
CV-220A
HV-220A-4
PSL 221A
PI 222
PMP-220A
DAY TANK BYPASS
FROM NaOCl TANK
HV-207
SECONDARY CONTAINMENT

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

SCALE:
HOR. 1"=1"
VER. 1"=1"

WARNING
0 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED SPT
DRAWN WNS
CHECKED SPT

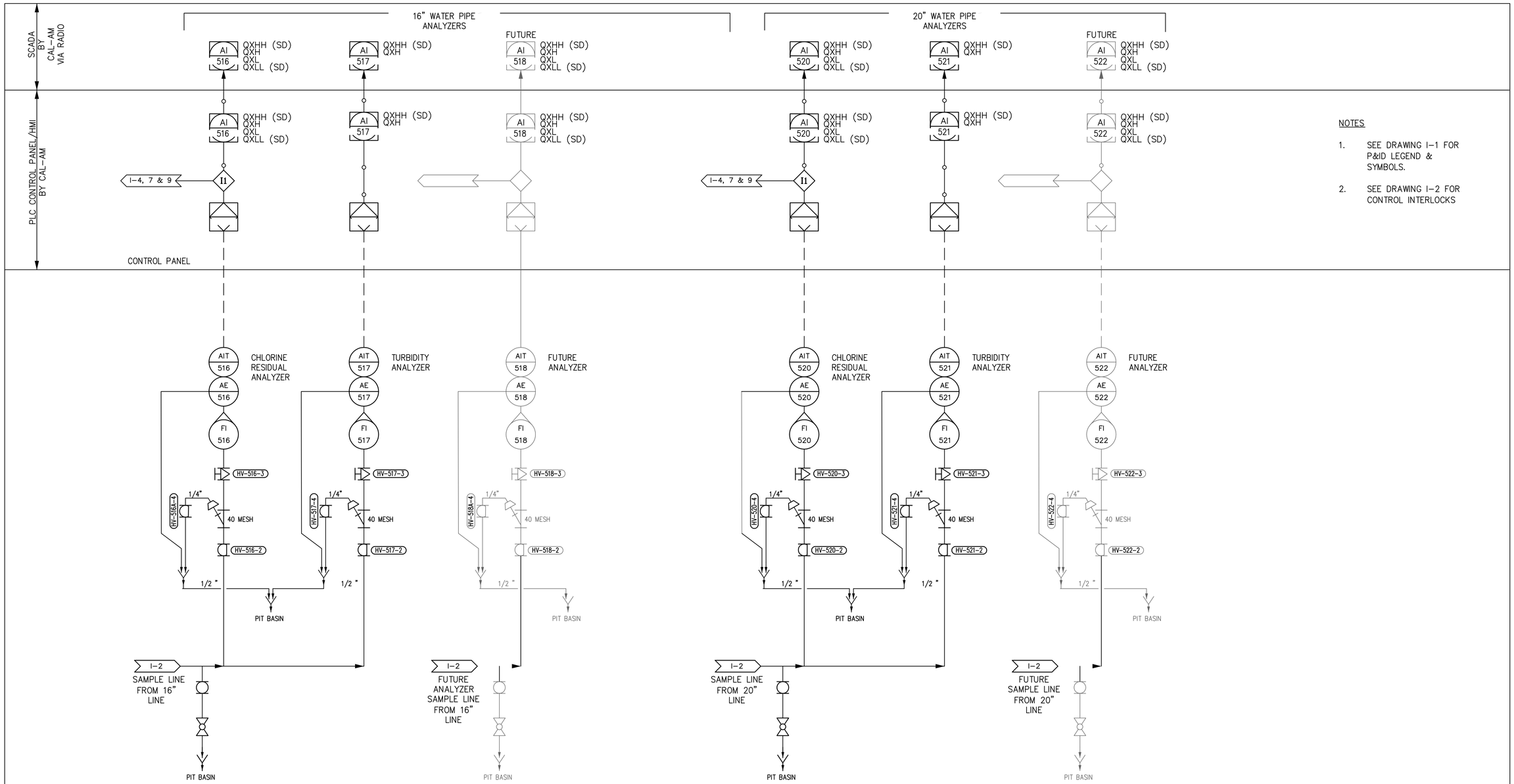
PUEBLO water resources
Pueblo Water Resources
4478 Market St., Suite 705
Ventura, CA 93003
(805) 644-0470

SODIUM HYPOCHLORITE CHEMICAL METERING SYSTEM
PIPING & INSTRUMENT DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.

I-5



NOTES

1. SEE DRAWING I-1 FOR P&ID LEGEND & SYMBOLS.
2. SEE DRAWING I-2 FOR CONTROL INTERLOCKS

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

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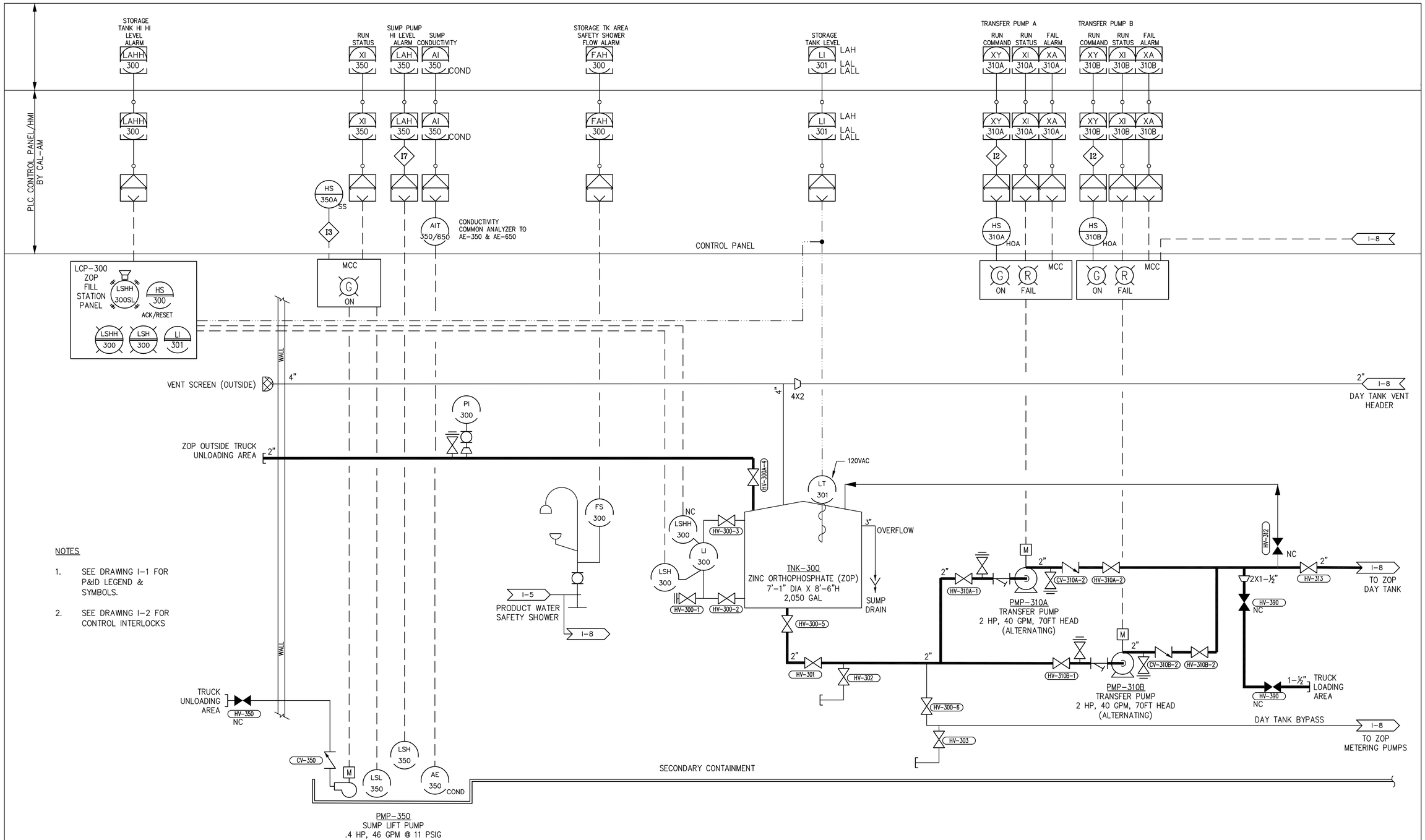
ANALYZERS PIPING & INSTRUMENT DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
I-6



NOTES

1. SEE DRAWING I-1 FOR P&ID LEGEND & SYMBOLS.
2. SEE DRAWING I-2 FOR CONTROL INTERLOCKS

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

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DRAWN WNS
CHECKED SPT

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ZINC ORTHOPHOSPHATE CHEMICAL STORAGE & TRANSFER PIPING & INSTRUMENT DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
I-7

SCADA BY CAL-AM VIA RADIO

PLC CONTROL PANEL/HMI BY CAL-AM

DAY TANK HI HI LEVELALARM
LAHH 400

DAY TANK LEVEL
LI 400 LAH LAL

DAY TK AREA SAFETY SHOWER FLOW ALARM
FAH 400

PUMP A HOA IN REMOTE XI 416A-1
PUMP A RUN STATUS XI 416A-2
PUMP A RUN STATUS XA 416A
PUMP A LOW PRES. ALARM PAL 417A

PUMP B HOA IN REMOTE XI 416B-1
PUMP B RUN STATUS XI 416B-2
PUMP B RUN STATUS XA 416B
PUMP A LOW PRES. ALARM PAL 417B

PUMP A HOA IN REMOTE XI 420A-1
PUMP A RUN STATUS XI 420A-2
PUMP A RUN STATUS XA 420A
PUMP A LOW PRES. ALARM PAL 421A

PUMP B HOA IN REMOTE XI 420B-1
PUMP B RUN STATUS XI 420B-2
PUMP B RUN STATUS XA 420B
PUMP A LOW PRES. ALARM PAL 421B

SPEED COMMAND SY 416A
SPEED IND. SY 416A
RUN COMMAND XY 416A
SPEED COMMAND SY 416B
SPEED IND. SY 416B
RUN COMMAND XY 416B
SPEED COMMAND SY 420A
SPEED IND. SY 420A
RUN COMMAND XY 420A
SPEED COMMAND SY 420B
SPEED IND. SY 420B
RUN COMMAND XY 420B

I1
I4
I-7

CONTROL PANEL

PMP-416A (VSD) R ALARM HS 416A HOA SPEED
LCP-416
PMP-416B (VSD) R ALARM HS 416B HOA SPEED
PMP-420A (VSD) R ALARM HS 420A HOA SPEED
LCP-420
PMP-420B (VSD) R ALARM HS 420B HOA SPEED

FS 400
I-7
PRODUCT WATER SAFETY SHOWER
I-9

I-7 TANK VENT HEADER
2" VENT

I-7 FROM ZOP STORAGE TANK

120VAC
LT 400
1" PRESSURE RELIEF/RETURN

NC LSHH 400
LI 400

TNK-400 ZOP DAY TANK
31" DIA. X 57"H
284 GAL. CAP

2" OVERFLOW
SUMP DRAIN
TO DRAIN 2" HV-401
2" HV-406
2" HV-403
6"

1/2" I-2 ZOP INJECTION TO 16" WATER PIPE

PRESSURE RELIEF/RETURN 1"

HV-416A-3
LI-416A
HV-416A-2
HV-416A-1
MANUAL STROKE & SPEED ADJUST M
PMP-416A ZOP FEED METERING PUMP (TYPICAL OF 2)
PI 416A
DRAIN
PSV-416A
SP-416A
HV-416A-3
HV-416A-5
CV-416A
HV-416A-4
PSL 417A
SP-424 (TYPICAL)
PI 418
1/2"

HV-420A-3
LI-420A
HV-420A-2
HV-420A-1
MANUAL STROKE & SPEED ADJUST M
PMP-420A ZOP FEED METERING PUMP (TYPICAL OF 2)
PI 420A
DRAIN
PSV-420A
SP-420A
HV-420A-3
HV-420A-5
CV-420A
HV-420A-4
PSL 421A
SP-424 (TYPICAL)
PI 422
1/2" I-2 ZOP INJECTION TO 20" WATER PIPE

PMP-416B
PMP-420B

I-7 DAY TANK BYPASS
FROM ZOP STORAGE TANK
2" HV-407

SECONDARY CONTAINMENT

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

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DRAWN WNS
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PUEBLO water resources
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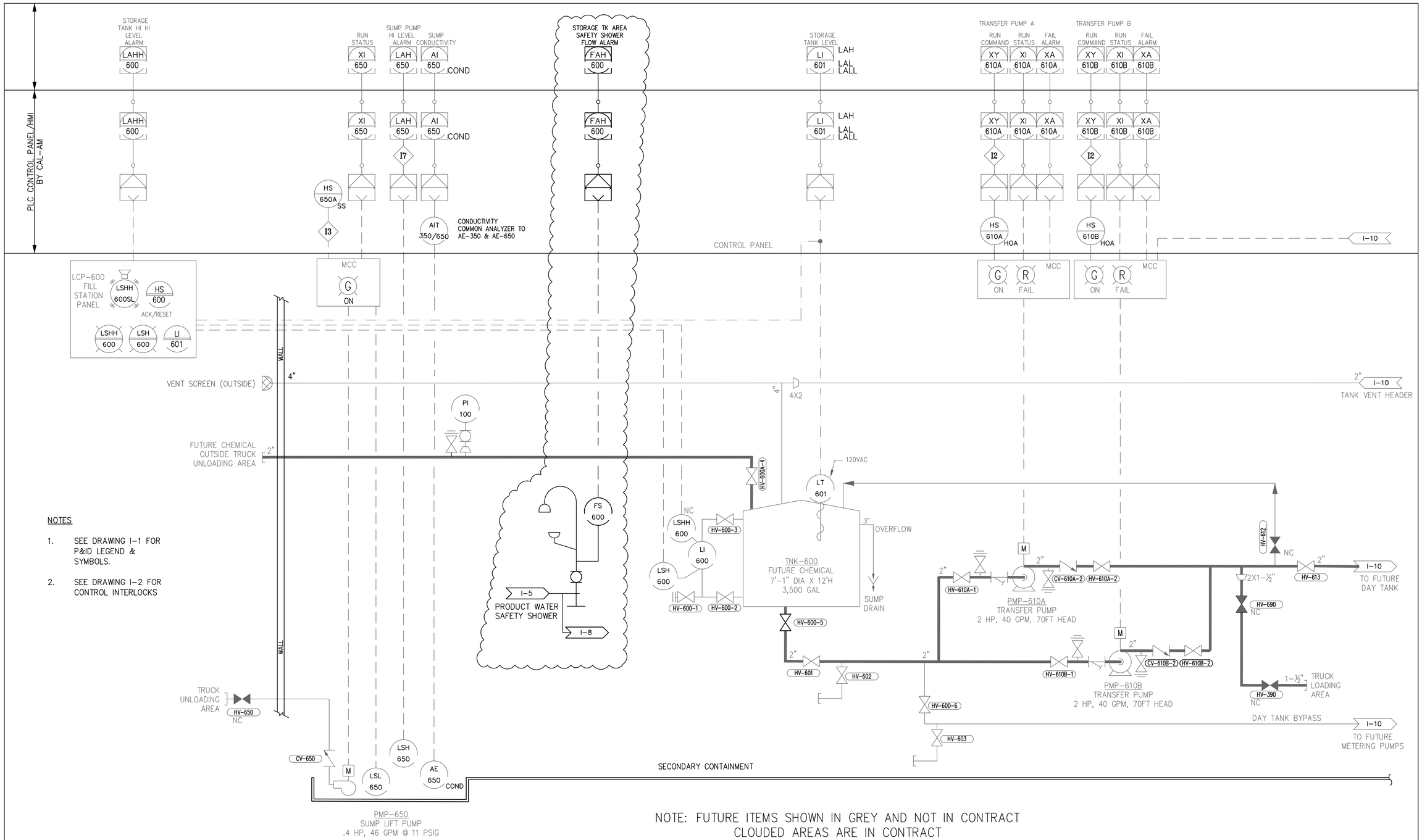
ZINC ORTHOPHOSPHATE CHEMICAL METERING SYSTEM PIPING & INSTRUMENT DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
I-8



NOTES

1. SEE DRAWING I-1 FOR P&ID LEGEND & SYMBOLS.
2. SEE DRAWING I-2 FOR CONTROL INTERLOCKS

NOTE: FUTURE ITEMS SHOWN IN GREY AND NOT IN CONTRACT
CLOUDED AREAS ARE IN CONTRACT

REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

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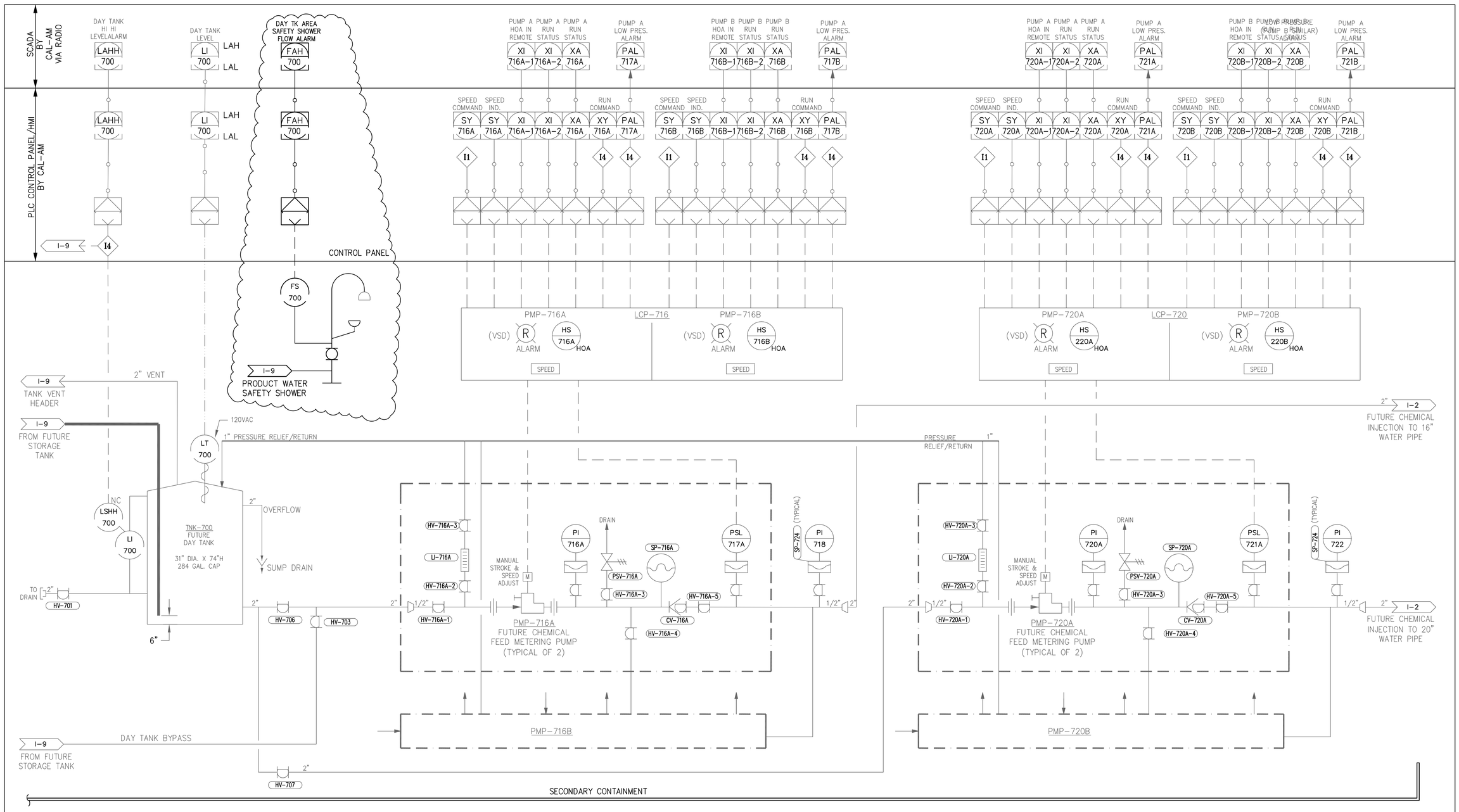
FUTURE CHEMICAL STORAGE & TRANSFER PIPING & INSTRUMENT DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
I-9



NOTE: FUTURE ITEMS SHOWN IN GREY AND NOT IN CONTRACT
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REV	DATE	BY	DESCRIPTION
0	8/5/19	SPT	ISSUE FOR BID

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FUTURE CHEMICAL METERING SYSTEM PIPING & INSTRUMENT DIAGRAM

SANTA MARGARITA ASR FACILITY CHLORINATION BUILDING
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

PROJECT NO.
I-10