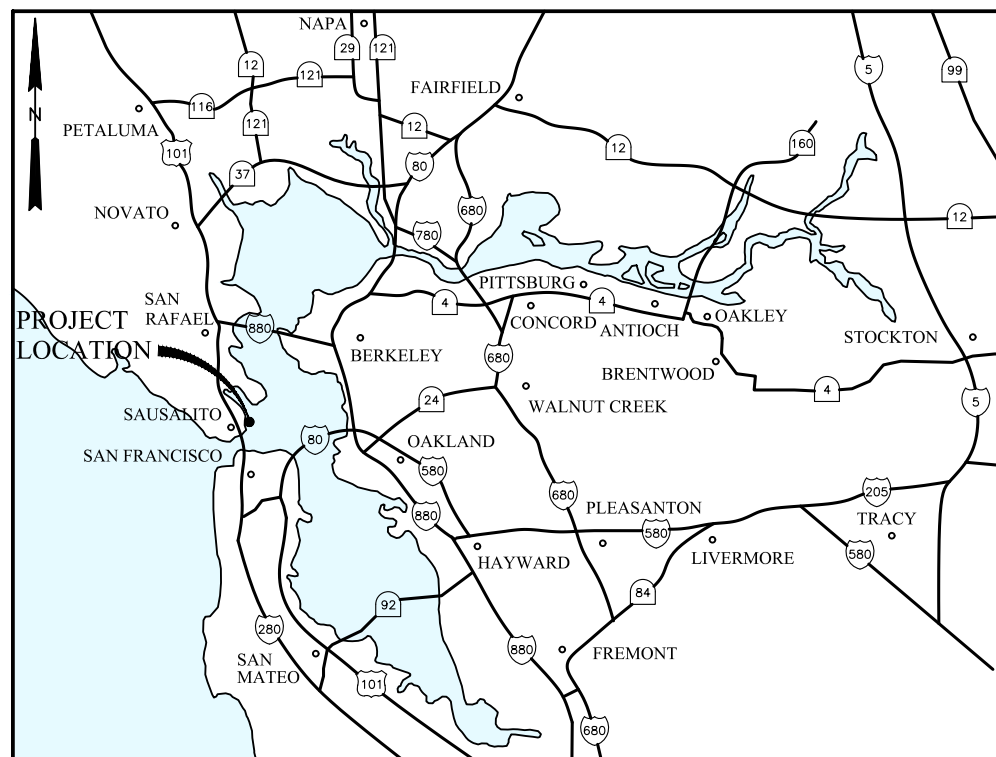




SAUSALITO - MARIN CITY SANITARY DISTRICT

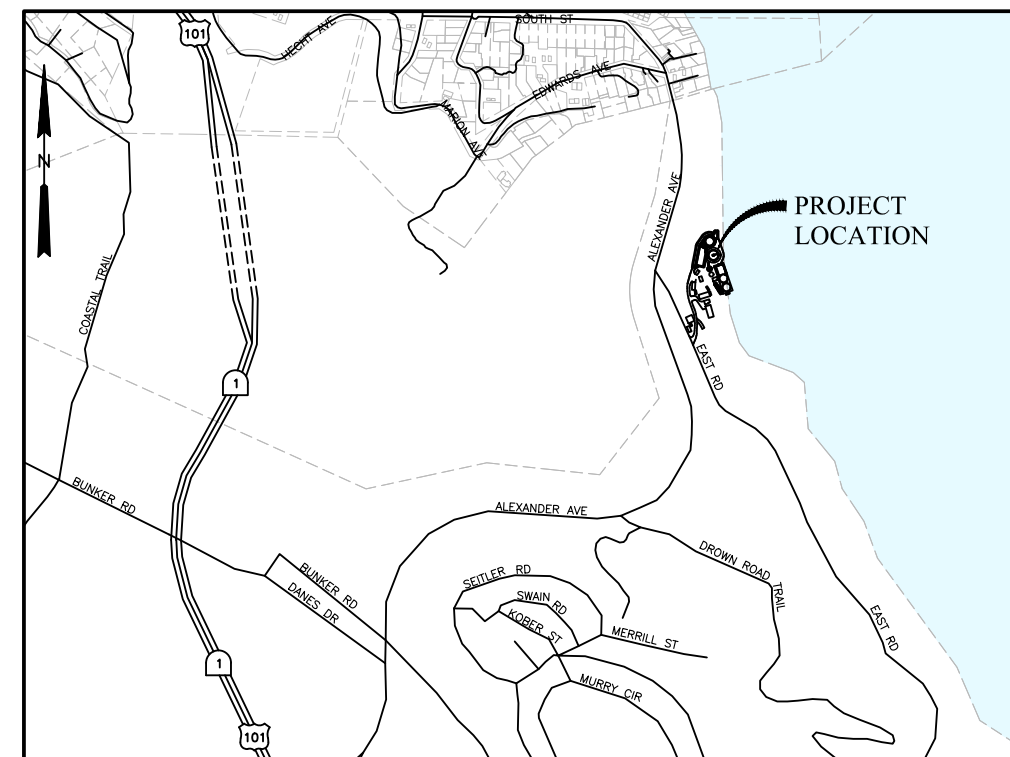
TREATMENT AND WET WEATHER FLOW UPGRADE

PROJECT NO. 0055-006



VICINITY MAP
NTS

CONTRACT
DRAWINGS
VOLUME 3 (2 of 2)
MARCH 2017

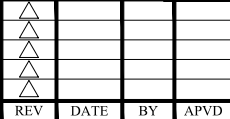
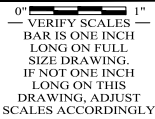


LOCATION MAP
SCALE: 1"=2000'

CONFORMED
DRAWINGS



FILENAME: 0055-006-G-1	3-13-17	12:38pm	siuna	XREFS: X-SMCSD-TBLK	MTakemoto-PE-stamp	<<--
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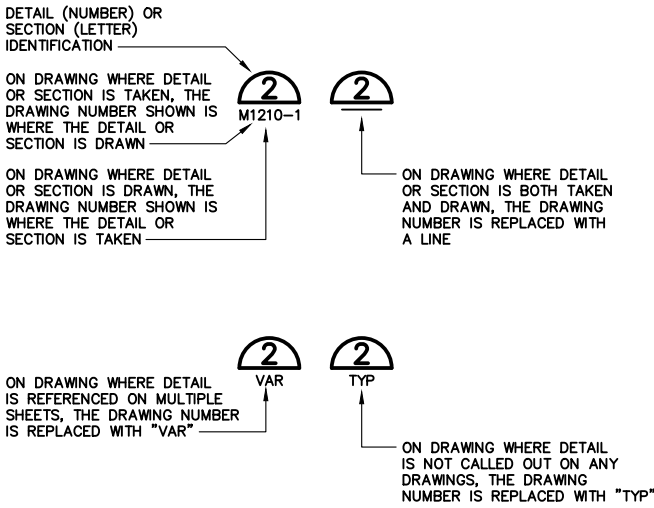
DESIGNED	M. TAKEMOTO
DRAWN	S. JUNG
CHECKED	M. NAKAMOTO

Last Saved By: CTo 11-22-16 04:35pm

ABBREVIATIONS

●	AT	E	EAST	JT	JOINT
AB	ANCHOR BOLT, AGGREGATE BASE	EA	EACH		
ABC	AGGREGATE BASE COURSE	EC	END CURVE		
	(CALTRANS CLASS 2 AGGREGATE BASE)	ECB	EROSION CONTROL BLANKET	KIP	THOUSAND POUNDS
ABS	ACRYLONITRILE-BUTADIENE- STYRENE	ECC	ECCENTRIC	KW	KILOWATT
AC	ASBESTOS CEMENT, ASPHALTIC CONCRETE	EF	EACH FACE, EXHAUST FAN		
AC/HR	AIR CHANGES PER HOUR	EL, ELEV	ELEVATION		
ACI	AMERICAN CONCRETE INSTITUTE	ELEC	ELECTRIC, ELECTRICAL	L	ANGLE, LENGTH
ADH	ADHESIVE, ANCHOR BOLT	ELL	ELBOW	LAB	LABORATORY
ADJ	ADJACENT, ADJUSTABLE	ENGR	ENGINEER	LAV	LAVATORY
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	EO	EMERGENCY OVERFLOW	LB	POUNDS
AL	ALUMINUM	EP	EDGE OF PAVEMENT	LB/CU FT	POUNDS PER CUBIC FOOT
ALT	ALTERNATE	EQ	EQUAL	LF	LINEAR FEET
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	EQPT	EQUIPMENT	LONG.	LONGITUDINAL
APPROX	APPROXIMATE	EQ SP	EQUALLY SPACED, EQUAL SPACES	LP	LOW PRESSURE
ARCH.	ARCHITECTURAL	ESMT	EASEMENT	LR	LONG RADIUS
ARV	AIR RELEASE VALVE	EVC	END OF VERTICAL CURVE	LT	LEFT
AUX	AUXILIARY	EW	EACH WAY		
AWG	AMERICAN WIRE GAGE	EWEF	EACH WAY, EACH FACE		
AWT	ADVANCED WASTE TREATMENT	EXC	EXCAVATE		
		EXH	EXHAUST	MAG	MAGNETIC
BC	BOLT CIRCLE, BEGIN CURVE	EXP	EXPOSED	MATL	MATERIAL
BD	BOARD	EXP JT	EXPANSION JOINT	MAX	MAXIMUM
BF	BLIND FLANGE, BOTTOM FLAT	EXST	EXISTING	MCC	MOTOR CONTROL CENTER
BFV	BUTTERFLY VALVE			MECH	MECHANICAL
BGS	BELOW GROUND SURFACE	FA	FOUL AIR	MFR	MANUFACTURER
BLDG	BUILDING	FAB	FABRICATION	MGD	MILLION GALLONS PER DAY
BM	BENCH MARK, BEAM	FC	FLEXIBLE COUPLING	MH	MANHOLE
BO	BLOWOFF	FCA	FLANGED COUPLING ADAPTER	MIN	MINIMUM
BOT	BOTTOM	FCO	FLOOR CLEAN OUT	MISC	MISCELLANEOUS
BRG	BEARING	FD	FLOOR DRAIN	MJ	MECHANICAL JOINT
BS	BUTT STRAP	FDS	FINAL DIGESTED SLUDGE	ML	MIXED LIQUOR
BV	BALL VALVE	FDN	FOUNDATION	MLCSP	MORTAR LINED AND COATED STEEL PIPE
BVC	BEGINNING OF VERTICAL CURVE	FE	FLANGED END, FINAL EFFLUENT	MSNRY	MASONRY
		FEXT	FIRE EXTINGUISHER	MO	MASONRY OPENING
C	CHANNEL (BEAM)	FF	FINISH FLOOR	MT	MITER
CAV	COMBINATION AIR AND VACUUM VALVE	FG	FINISH GRADE	MTR	METER
CB	CATCH BASIN	FHY	FIRE HYDRANT	MTS	MILL TYPE STEEL PIPE
CDF	CONTROLLED DENSITY FILL	FI	FILTER INFLUENT	MWS	MAXIMUM WATER SURFACE
CFM	CUBIC FEET PER MINUTE	FIG.	FIGURE		
CFS	CUBIC FEET PER SECOND	FL	FLOOR	N	NORTH
CHEM	CHEMICAL	FLG	FLOW LINE	NIC	NOT IN CONTRACT
CIP	CAST IRON PIPE	FLH	FLANGE	NO.	NUMBER
CIRC	CIRCUMFERENTIAL	FLTR	FLAT HEAD	NPT	NATIONAL PIPE THREAD
CJ	CONSTRUCTION JOINT	FM	FILTER	NTS	NOT TO SCALE
CLR	CLEAR	FO	FORCE MAIN		
CLS	CHLORINE SOLUTION HYPOCHLORITE	FOC	FIBER OPTIC	OC	ON CENTER
CLSM	CONTROLLED LOW STRENGTH MATERIAL	FOCC	FACE OF CONCRETE, FIBER OPTIC CABLE	OD	OUTSIDE DIAMETER
C	CENTERLINE	FORN	FIBER OPTIC CABLE CONDUIT	OF.	OUTSIDE FACE, OVERFLOW
CMP	CORRUGATED METAL PIPE	FOS	FUEL OIL RETURN	OSD	OPEN SITE DRAIN
CMU	CONCRETE MASONRY UNIT	FRP	FUEL OIL SUPPLY	OPNG	OPENING
CO	CLEANOUT	FT	FIBERGLASS REINFORCED PLASTIC	OZ	OUNCE
COL	COLUMN	FTG	FOOT OR FEET		
COMP	COMPRESSOR(S)	FUT	FOOTING	PC	POINT OF CURVE
CONC	CONCRETE, CONCENTRIC	FWD	FUTURE	PCC	PORTLAND CEMENT CONCRETE, POINT OF COMPOUND CURVATURE
COND	CONDUIT	F	FORWARD	PCO	PRESSURE CLEANOUT
CONN	CONNECTION		DEGREE FAHRENHEIT	PD	PUMPED DRAIN
CONT	CONTINUOUS			PE	PLAIN END
COORD	COORDINATE	GA	GAGE	PH	POTHOLE
CPLG	COUPLING	GAL	GALLON	PI	POINT OF INTERSECTION
CPVC	CHLORINATED POLYVINYL CHLORIDE	GALV	GALVANIZED	PL	PLASTIC, PROPERTY LINE, PLATE
CT	CERAMIC TILE	GC	GROOVED COUPLING	PL	PLATE (STEEL)
CTD	CENTERED	GCO	GRADE CLEAN OUT	PLYWD	PLYWOOD
CTJ	CONTROL JOINT	GL	GROOVED END	PRC	POINT OF REVERSE CURVE
CTR	CENTER	GL	GLASS	PREFAB	PREFABRICATED
CTS	CORROSION TEST STATION	GPD	GALLONS PER DAY	PRESS.	PRESSURE
C TO C	CENTER TO CENTER	GPH	GALLONS PER HOUR	PRI	PRIMARY
CU	CUBIC	GPM	GALLONS PER MINUTE	PROP	PROPERTY
CU FT	CUBIC FOOT	CSP	GALVANIZED STEEL PIPE	PSF	POUNDS PER SQUARE FOOT
CU IN.	CUBIC INCH	GV	GATE VALVE	PS	PUMP STATION
CU YD	CUBIC YARD	GVL	GRAVEL	PSI	POUNDS PER SQUARE INCH
CV	CHECK VALVE			PSIG	POUNDS PER SQUARE INCH, GAUGE
°C	DEGREE CELSIUS	HD	HUB DRAIN	PT	POINT, POINT OF TANGENCY
		HDG	HOT DIP GALVANIZED	PV	PLUG VALVE
		HDPE	HIGH DENSITY POLYETHYLENE, HDPE PIPE	PVC	POLYVINYL CHLORIDE PLASTIC, PVC PIPE
		HDR	HEADER	PVMT	PAVEMENT
		HDW	HARDWARE		
d	PENNY (NAIL SIZE)	HGT	HEIGHT	R	RADIUS
D	DRAIN	HM	HOLLOW METAL	RAS	RETURN ACTIVATED SLUDGE
DBL	DOUBLE	HORIZ	HORIZONTAL	RCP	REINFORCED CONCRETE PIPE
DET	DETAIL	HP	HORSEPOWER	RD	ROOF DRAIN, ROAD
DFT	DRY FILM THICKNESS	HR	HOSE RACK, HANDRAIL, HOUR	RDCR	REDUCER
DI	DROP INLET, DUCTILE IRON	HV	HOSE VALVE	RDW	REDWOOD
DIA	DIAMETER	HWR	HOT WATER RETURN	RECIRC	RECIRCULATION
DIAG	DIAGONAL	HWS	HOT WATER SUPPLY	REF	REFER OR REFERENCE
DIP	DUCTILE IRON PIPE	H2E	HOOK TWO ENDS	REINF	REINFORCED, REINFORCING, REINFORCE
DIR	DIRECTION			REQD	REQUIRED
DN	DOWN	ID	INSIDE DIAMETER	RM	ROOM
DWG	DRAWING	IF.	INSIDE FACE	RO	ROUGH OPENING
		IJTS	INSULATING JOINT TEST STATION	RPVC	REINFORCED POLYVINYL CHLORIDE
		IN.	INCH	RSFM	RAW SEWAGE FORCE MAIN
		INFL	INFLUENT	RSU	RETURN SUPERNATANT
		INSTM	INSTRUMENTATION	RT	RIGHT
		INSUL	INSULATE	RTN	RETURN
		INVT	INVERT	RV	ROOF VENT
		IRR, IRRIG	IRRIGATION	RW	RECYCLED WATER
		IE	INVERT ELEVATION	R/W	RIGHT-OF-WAY

SECTION AND DETAIL IDENTIFICATION



STANDARD DETAIL IDENTIFICATION

DISCIPLINES:

- C CIVIL
- CP CATHODIC PROTECTION
- L LANDSCAPING AND IRRIGATION
- M MECHANICAL
- A ARCHITECTURAL
- E ELECTRICAL
- P INSTRUMENTATION AND CONTROL
- S STRUCTURAL

NOTE:

STANDARD DETAIL IDENTIFICATIONS ARE SHOWN ON THE PLANS AND ON THE STANDARD DETAIL DRAWINGS. THERE IS NO SPECIFIC CROSS REFERENCING OF DRAWINGS. STANDARD DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO ALL SIMILAR SITUATIONS OCCURRING ON THIS PROJECT, WHETHER OR NOT THEY ARE REFERENCED TO IN EACH APPLICABLE LOCATION. CONSULT THE ENGINEER FOR REVIEW OF THE USE OF STANDARD DETAILS PRIOR TO BIDDING.

NOTES:

- THIS IS A STANDARD ABBREVIATION SHEET. SOME ABBREVIATIONS THAT APPEAR ON THIS SHEET ARE NOT USED ON THIS PROJECT.
- FOR PROCESS FLUID ABBREVIATIONS SEE SHEET G-6.

FILENAME: 0055-006-G-2_3-13-17 12:40pm sJung X:\SACS\05-TBLK\1\Markamoto-PE-stamp <--



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



△			
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REV	DATE	BY	APVD

CONFORMED DRAWING

NOTICE:
THIS CONFORMED DRAWING HAS BEEN
PREPARED BASED ON ORIGINAL SIGNED
DOCUMENTS DATED **NOVEMBER 2016** AND
SUBSEQUENT ADDENDA

DESIGNED	M. TAKEMOTO
DRAWN	S. JUNG
CHECKED	M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

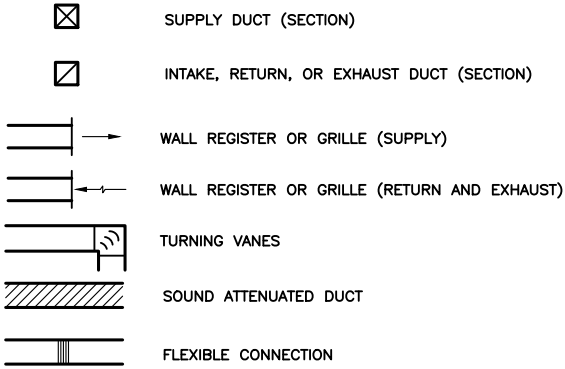


TREATMENT AND WET WEATHER FLOW UPGRADE

ABBREVIATIONS AND SYMBOLS

DWG NO	G-2
SHEET NO	3 OF 226
PROJ NO	055-006
DATE	MARCH 2017

VENTILATION SYMBOLS



MECHANICAL EQUIPMENT LEGEND

- P PUMP
- CP CENTRIFUGAL PUMP
- TP TURBINE PUMP
- PP PROGRESSIVE CAVITY PUMP
- SP SAMPLE PUMP
- V VALVE
- CV CHECK VALVE
- BV BUTTERFLY VALVE
- GV GATE VALVE
- PV PLUG VALVE
- DV DIAPHRAM VALVE
- OV SOLENOID VALVE
- MX MIXER
- ME PROCESS EQUIPMENT
- FE FLOW ELEMENT (METER)
- LE LEVEL ELEMENT
- G GATE
- T TANK
- B BLOWER
- SC SCREEN
- H HOIST/CRANE
- AH AIR HANDLER
- AC AIR CONDITIONER
- EF EXHAUST FAN
- SF SUPPLY FAN
- LCP LOCAL CONTROL PANEL
- MCC MOTOR CONTROL CENTER
- LP LIGHTING PANEL
- UV ULTRA VIOLET EQUIPMENT

EQUIPMENT NUMBERING CONVENTION

UV-1513-30

EQUIPMENT NUMBER TAG

FLOW STREAM IDENTIFICATION

SEE DWG G-6 FOR PROCESS FLUID SCHEDULE

PIPING SCHEDULE

SEE PIPING SCHEDULE ON DWG G-6.

VALVE SCHEDULE

SEE SPEC SECTION 15200 FOR VALVE SCHEDULE.

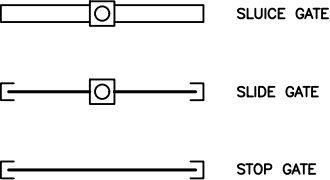
PUMP SCHEDULE

SEE INDIVIDUAL PUMP SPEC SECTIONS FOR PUMP SCHEDULE.

GATE SCHEDULE

SEE SPEC SECTION 15250 FOR GATE SCHEDULE.

GATE SYMBOLS



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



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REV	DATE	BY	APVD

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DESIGNED	M. TAKEMOTO
DRAWN	S. JUNG
CHECKED	M. NAKAMOTO

SUBMITTED:	MARK TAKEMOTO
	RMC PROJECT ENGINEER CE-64369
APPROVED:	STEVE CLARY
	RMC ENGINEER CE-30318

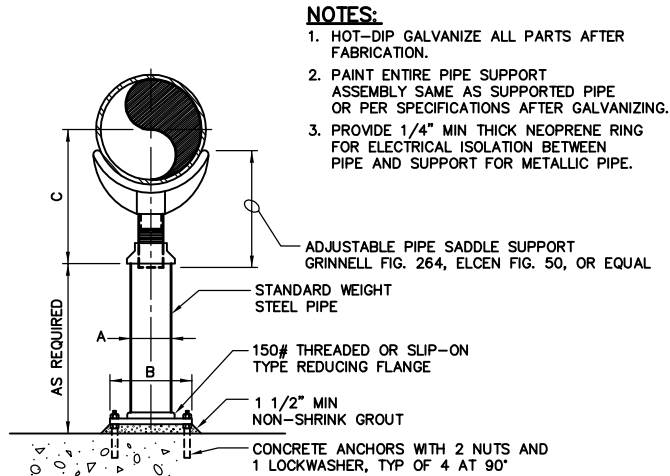


TREATMENT AND WET WEATHER FLOW UPGRADE
MECHANICAL LEGEND AND SCHEDULES

DWG NO	M-1
SHEET NO	113 OF 226
PROJ NO	055-006
DATE	MARCH 2017

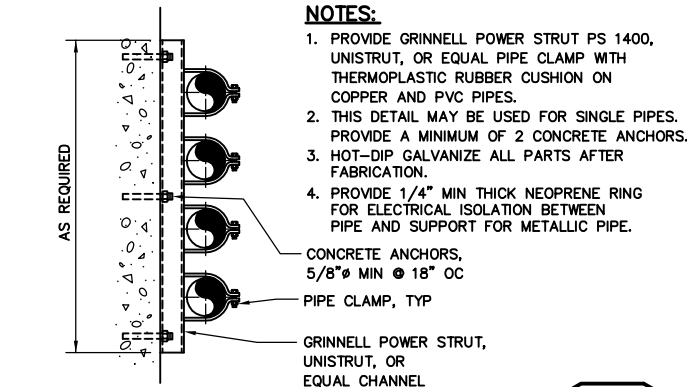
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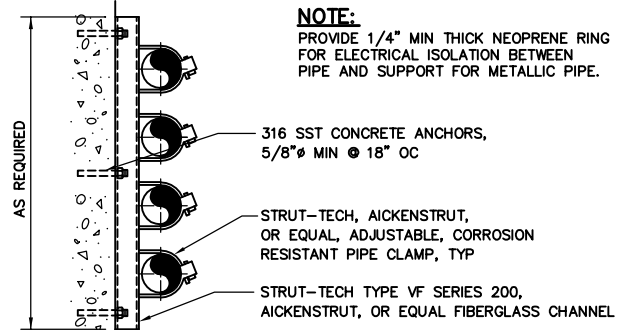


DIMENSIONS IN INCHES				
PIPE SIZE	A	B	C MIN	C MAX
2 1/2	2 7/8	9	8	13
3	2 7/8	9	8 1/4	13 1/4
3 1/2	2 7/8	9	8 1/2	13 1/2
4	3 1/2	9	9 1/4	14
5	3 1/2	9	10	14 3/4
6	3 1/2	9	10 1/2	15 1/4
8	3 1/2	9	11 3/4	16 1/2
10	3 1/2	9	13 1/2	18 1/4
12	3 1/2	9	15	19 3/4
14	4 1/2	11	16 1/4	20 3/4
16	4 1/2	11	17 3/4	22 1/4

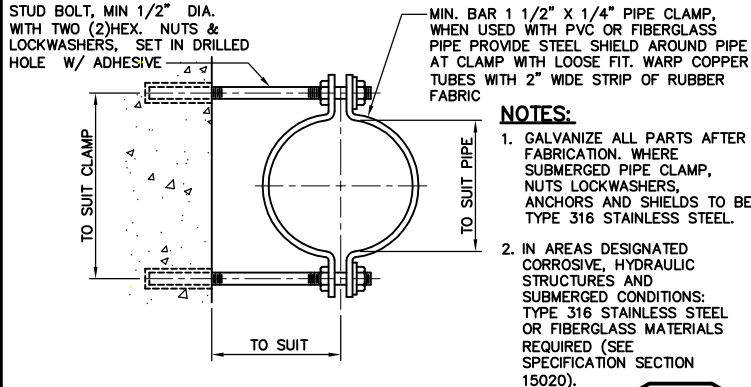
ADJUSTABLE PIPE SUPPORT **M100**
NTS



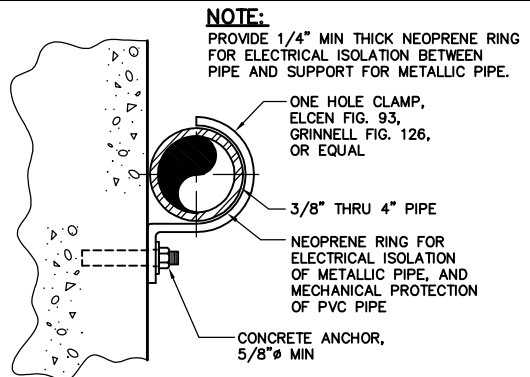
WALL TYPE PIPE SUPPORT **M104**
NTS



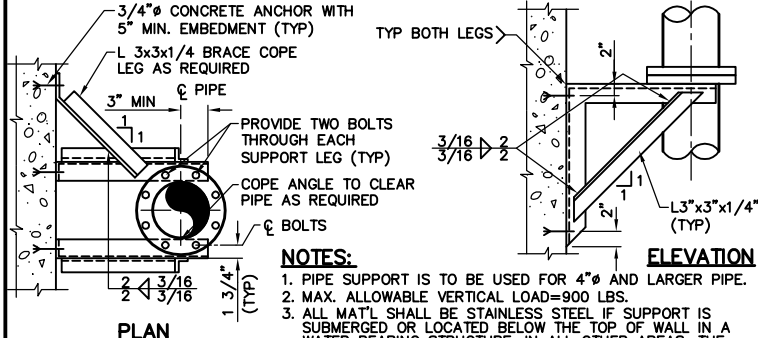
CORROSION RESISTANT WALL TYPE PIPE SUPPORT **M106**
NTS



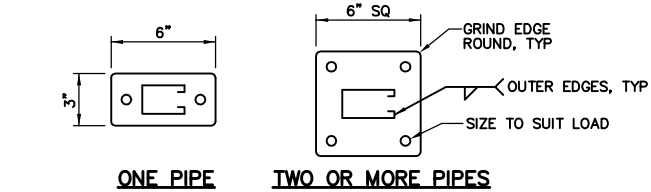
PIPE CLAMP DETAIL **M111**
NTS



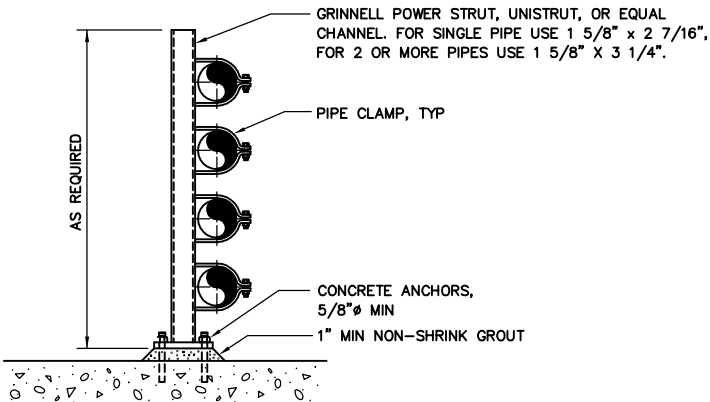
PIPE SUPPORT **M114**
NTS



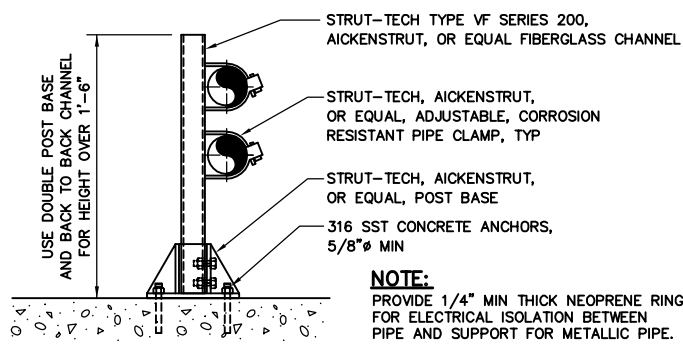
PIPE SUPPORT **M115**
NTS



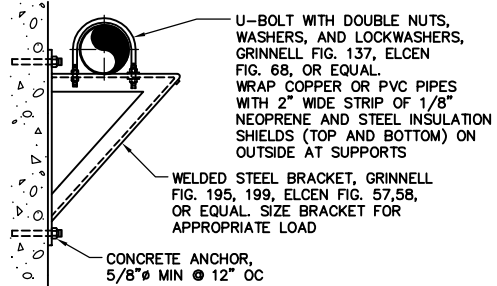
- NOTES:**
- PROVIDE GRINNELL POWER STRUT PS 1400, UNISTRUT, OR EQUAL PIPE CLAMP WITH THERMOPLASTIC RUBBER CUSHION ON COPPER AND PVC PIPES.
 - MAXIMUM PIPE SIZE IS 4".
 - HOT-DIP GALVANIZE ALL PARTS AFTER FABRICATION.
 - PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.



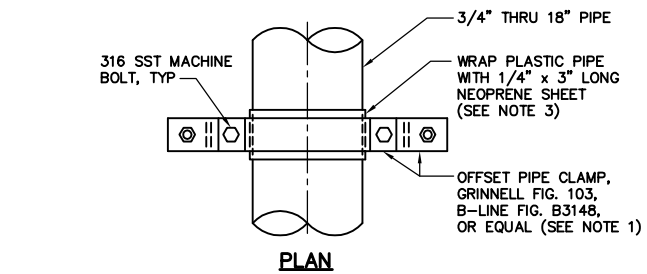
PIPE STANCHION **M102**
NTS



CORROSION RESISTANT PIPE STANCHION **M108**
NTS



PIPE BRACKET **M110**
NTS



- NOTES:**
- HOT-DIP GALVANIZE ALL PARTS AFTER FABRICATION. WHERE PIPE SUPPORT IS SUBMERGED, LOCATED BELOW THE TOP OF WALL IN A WATER BEARING STRUCTURE. PIPE CLAMP SHALL BE 316 STAINLESS STEEL.
 - PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.
 - PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.

PIPE SUPPORT **M112**
NTS



0" = 1" VERIFICATION SCALE - BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING
NOTICE:
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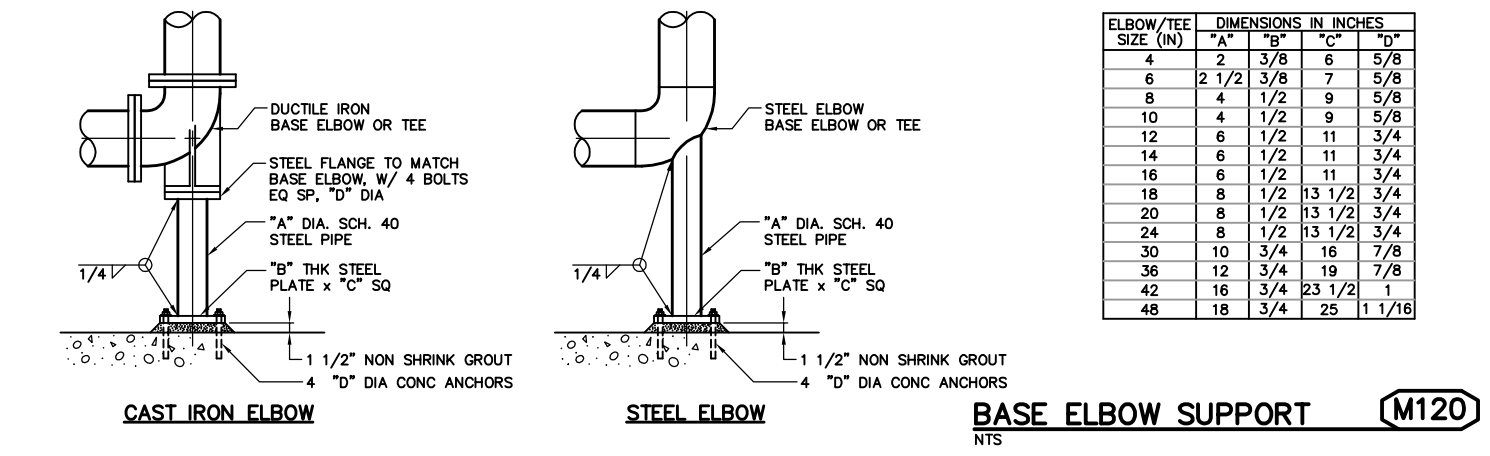
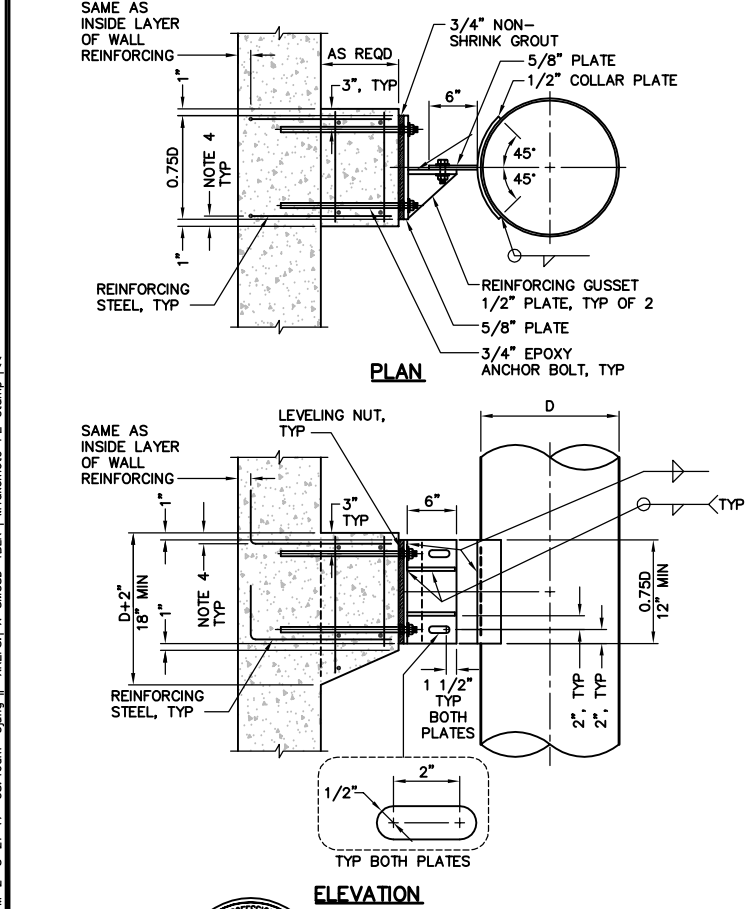
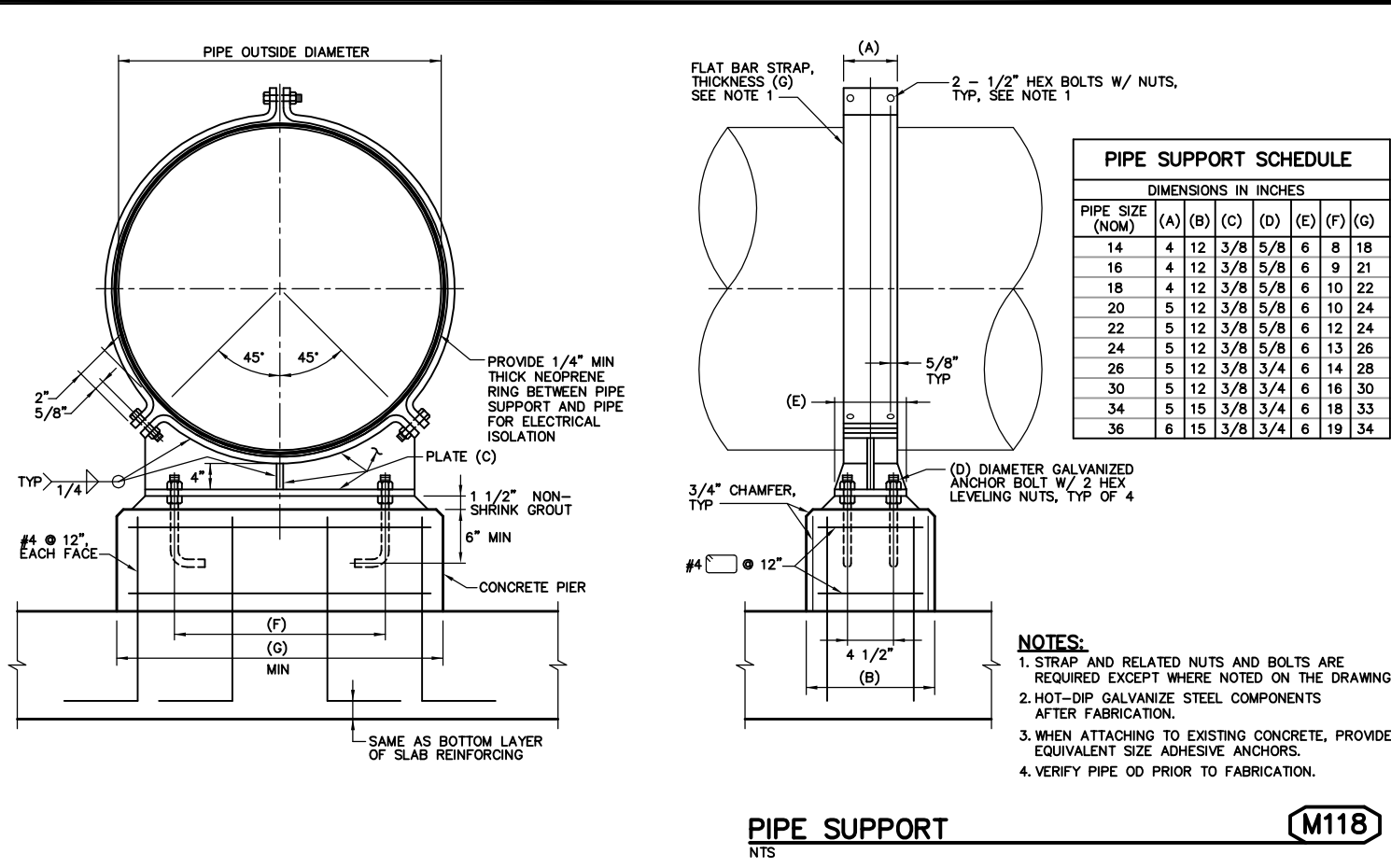
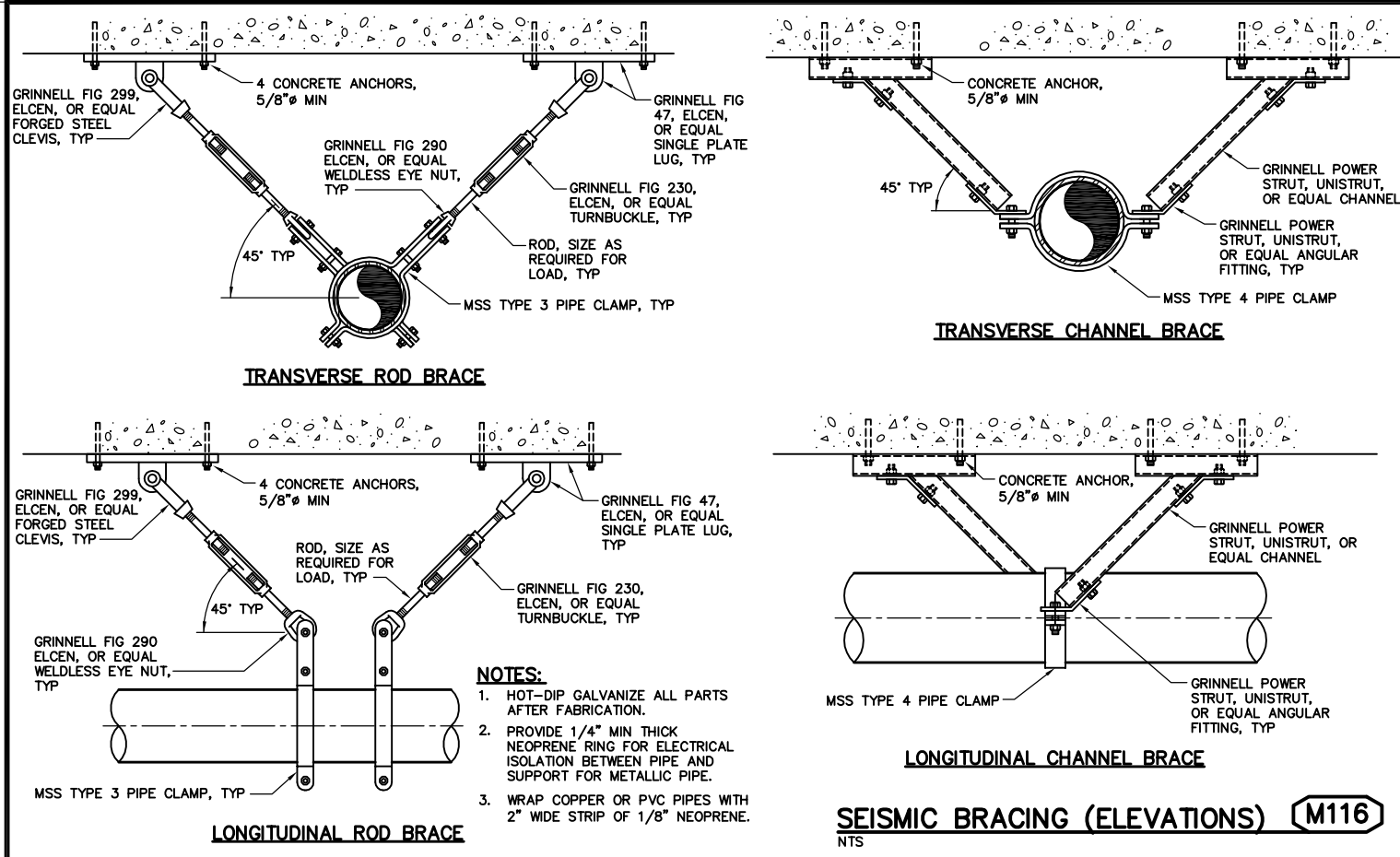
DESIGNED M. TAKEMOTO
DRAWN S. JUNG
CHECKED M. NAKAMOTO

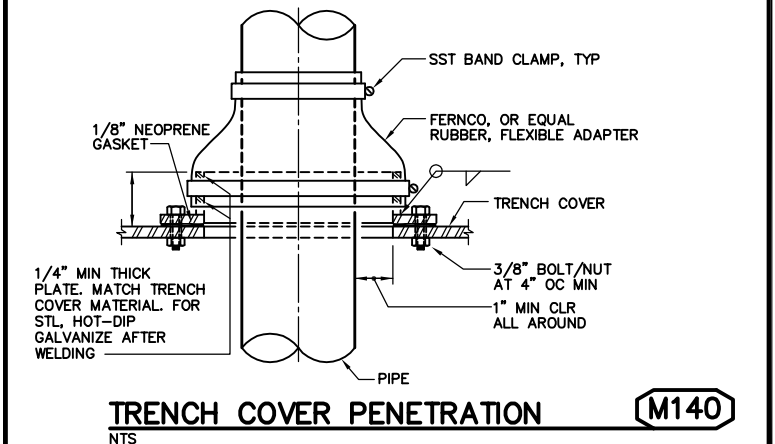
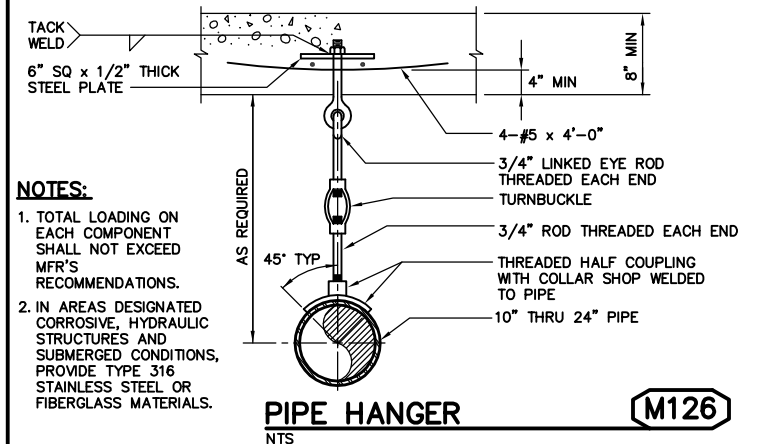
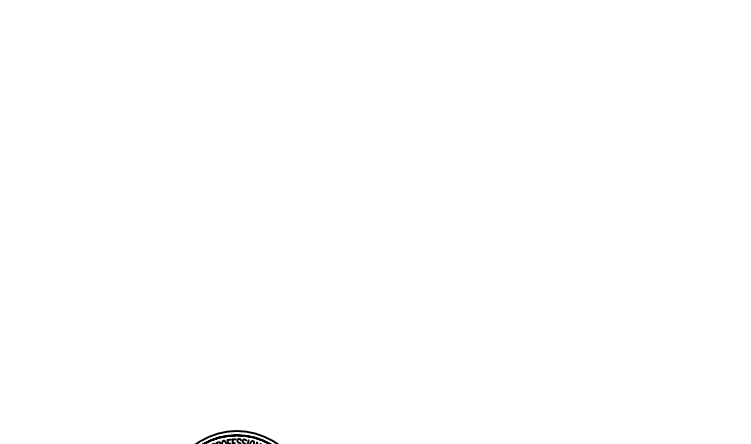
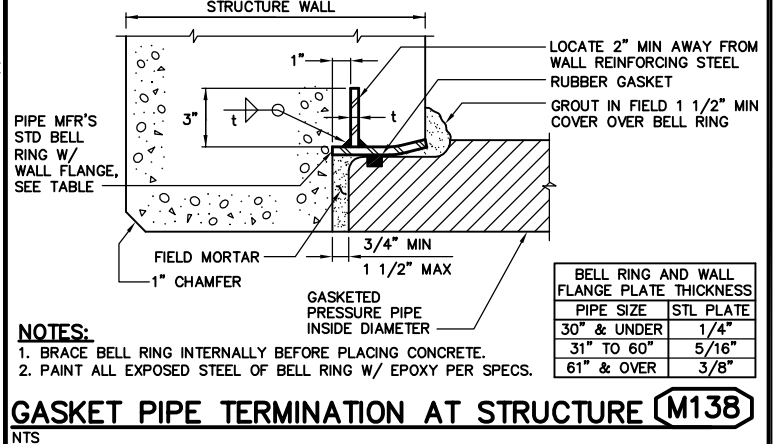
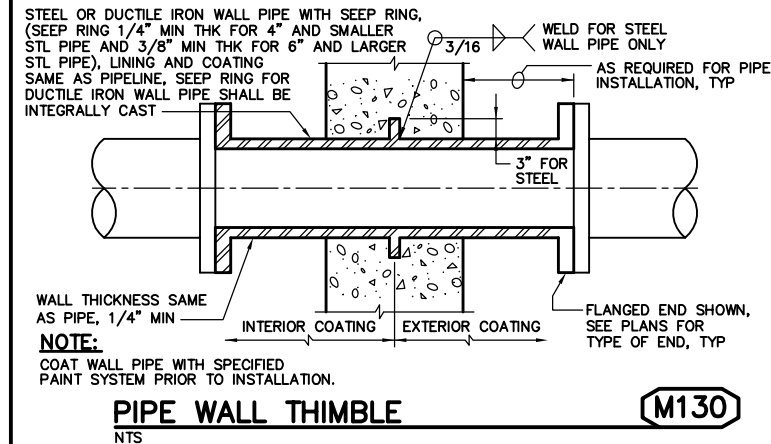
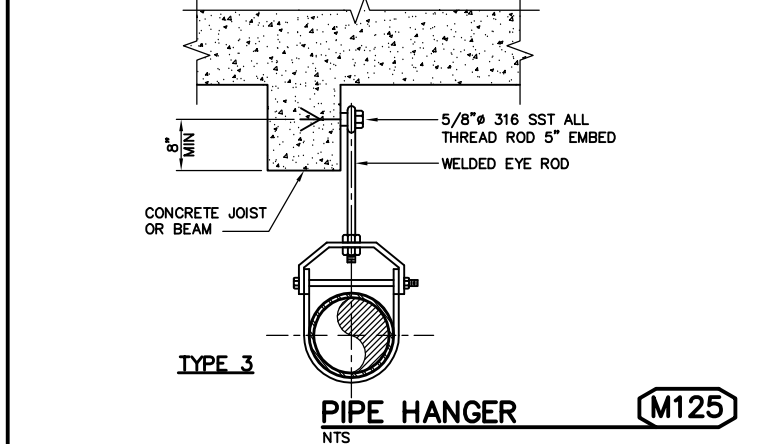
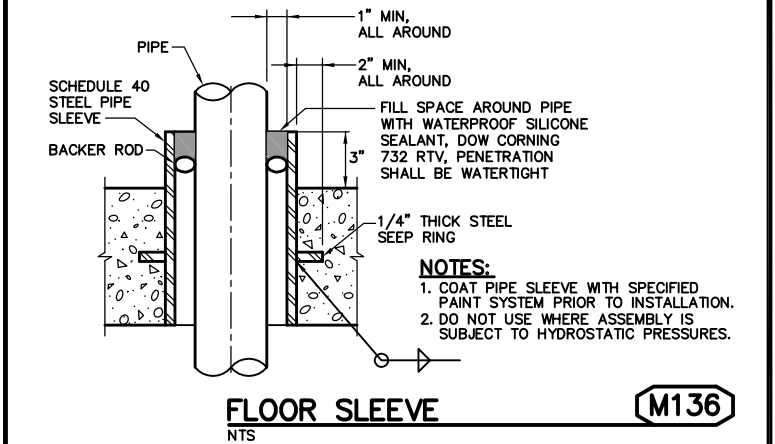
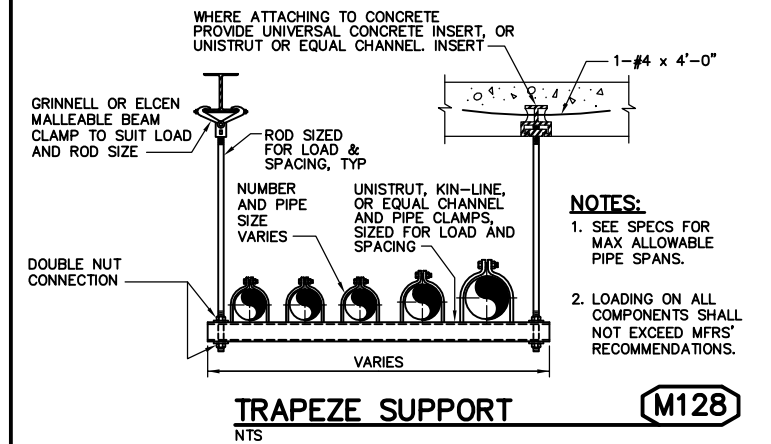
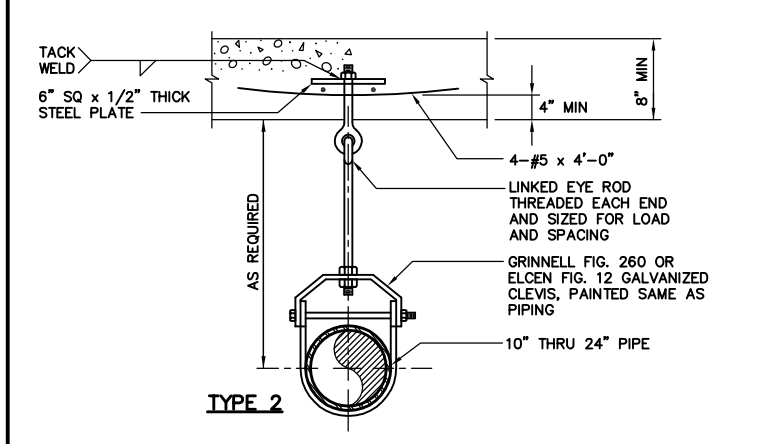
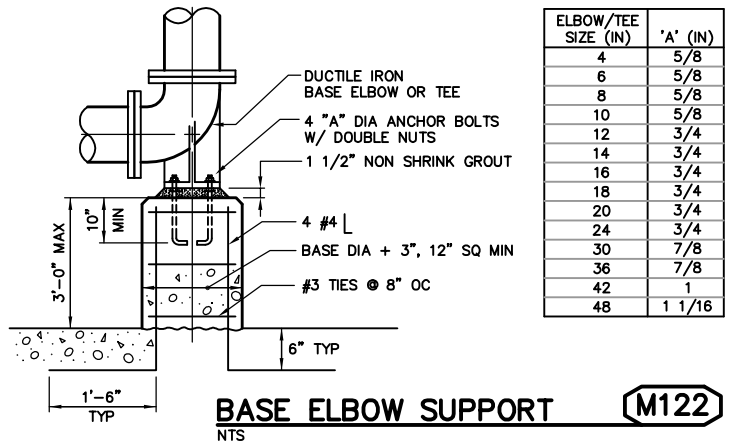
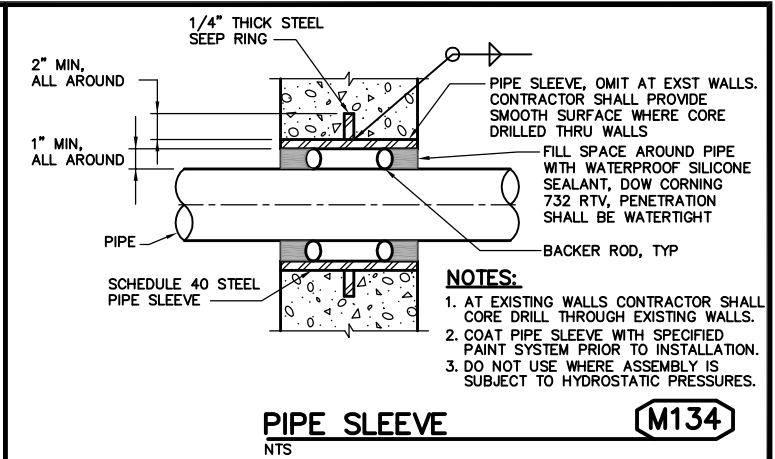
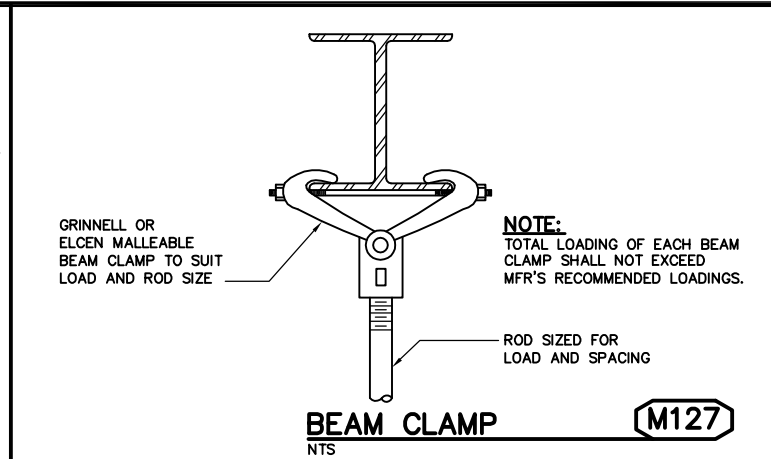
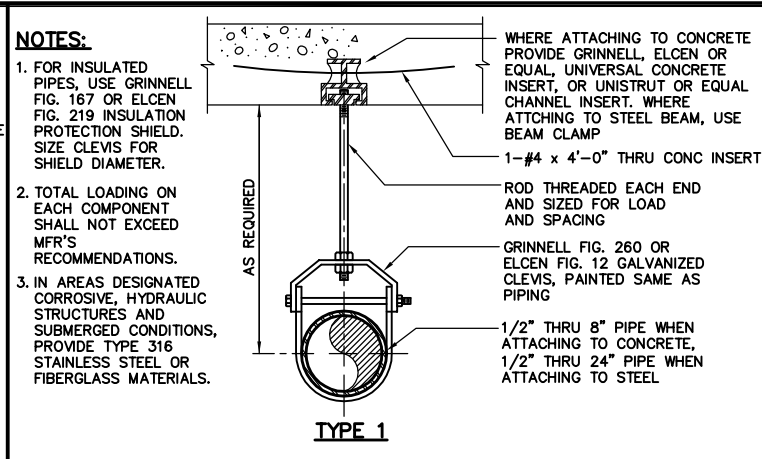
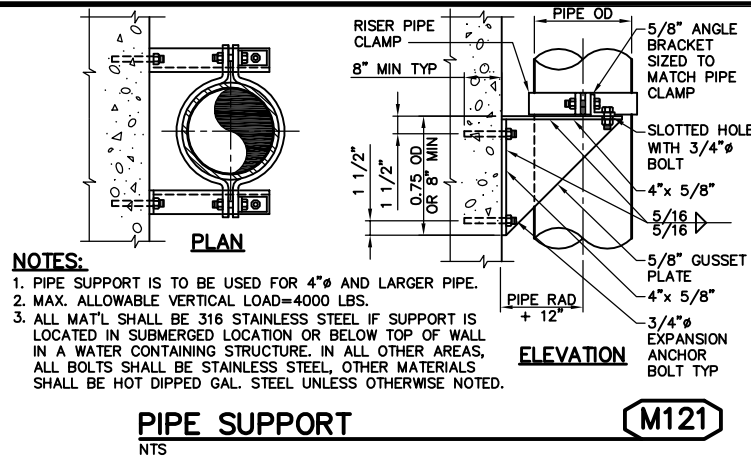
SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
MECHANICAL STANDARD DETAILS - 2

DWG NO M-2
SHEET NO 114 OF 226
PROJ NO 055-006
DATE MARCH 2017





0" = 1" VERIFICATION SCALE - BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING

NOTICE:

THIS CONFORMED DRAWING HAS BEEN PREPARED BASED ON ORIGINAL SIGNED DOCUMENTS DATED NOVEMBER 2016 AND SUBSEQUENT ADDENDA

DESIGNED M. TAKEMOTO

DRAWN S. JUNG

CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO

RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY

RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

MECHANICAL STANDARD DETAILS - 4

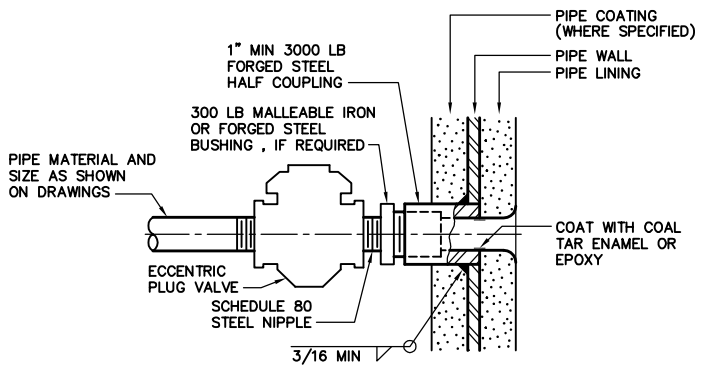
DWG NO M-4

SHEET NO 116 OF 226

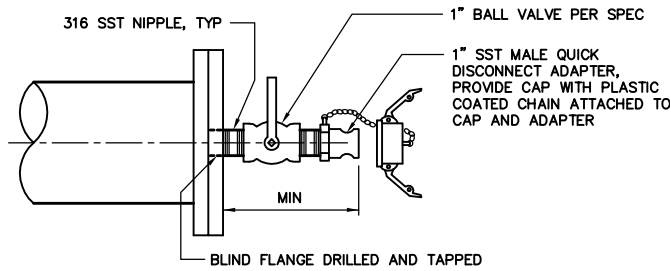
PROJ NO 055-006

DATE MARCH 2017

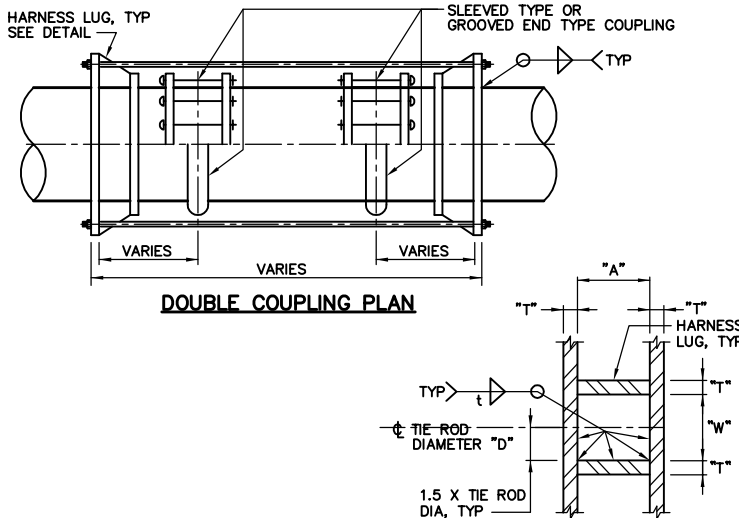
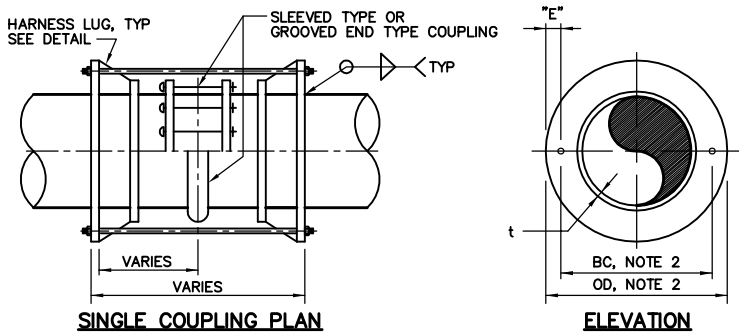
FILENAME: 0055-006-M-2_3-21-17 08:46am sjung XREFS: X-SNCSB-TBLK | M-Takemoto-PE-stamp | K&C



2" AND SMALLER PIPE CONNECTION M150 NTS



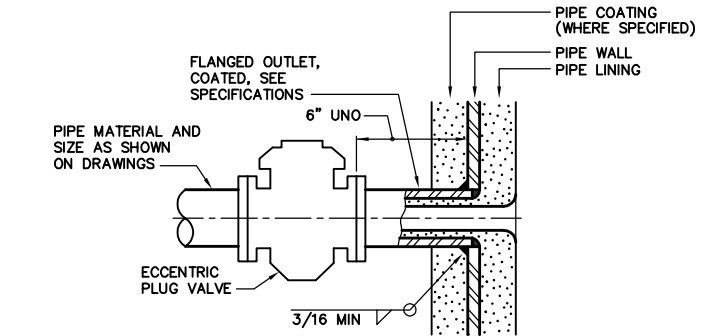
FLUSHING CONNECTION M156 NTS



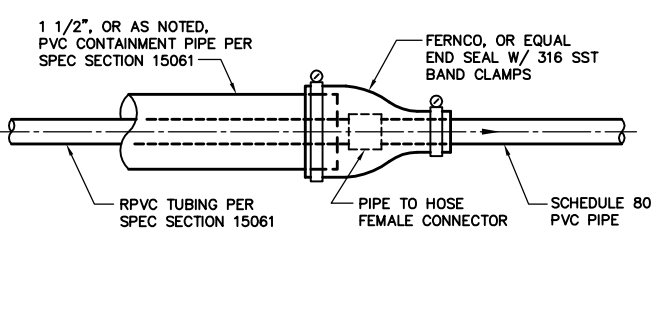
STEEL PIPE HARNESS SET SCHEDULE										
PIPE DESCRIPTION	MAX TEST PRESSURE (PSIG)	PIPE CYLINDER OD (SEE NOTE 6)	DIMENSIONS IN INCHES					BACK PLATE OD	FRONT PLATE OD	NO. TIE RODS
			T	A	W	E	D			
< 12"	160	—	0.38	5.00	1.38	3.00	0.63	—	—	4
12–18"	35	—	0.38	5.00	1.38	3.00	0.63	—	—	2
24"	25	35.13	0.38	5.00	1.50	3.13	0.63	—	—	4
30"	35	31.13	0.38	5.00	1.38	3.00	0.63	—	—	4
36"	10	37.13	0.38	5.00	1.38	3.00	0.63	—	—	4
42"	10	—	0.38	5.00	1.38	3.00	0.63	—	—	4
48"	10	—	0.38	5.00	1.38	3.00	0.63	—	—	4
48"	35	—	0.38	5.00	1.38	3.00	0.63	—	—	4

- NOTES:
- WELD SIZE SHALL BE MINIMUM REQUIRED BY AMERICAN WELDING SOCIETY, MINIMUM TO MATCH PIPE WALL.
 - BOLT CIRCLE AND OD SHALL BE SIZED TO ENSURE 1/2" MIN AND 1" MAX CLEARANCE TO COUPLING.
 - SMALLER STIFFENER PLATE SHALL BE 2" HIGH EXCEPT WHEN BOLT DIAMETER EXCEEDS 1", THEN PLATE SHALL BE 2 1/2" HIGH.
 - USE THIS DETAIL FOR ONE END OF TIE RODS WHERE THE OPPOSITE END OF TIE RODS IS ATTACHED TO A FLANGE OR A RESTRAINED FLANGE COUPLING ADAPTER.
 - PROVIDE INSULATING SLEEVE AND WASHERS WHERE ELECTRICAL ISOLATION IS REQUIRED. REFER TO CATHODIC PROTECTION, YARD PIPING, AND MECHANICAL DRAWINGS.
 - CONTRACTOR SHALL VERIFY PIPE OD PRIOR TO HARNESS FABRICATION.
 - HARNESS SHALL SPAN PAIRS OF MECHANICAL SLEEVE COUPLINGS WHERE INDICATED.
 - FOR PIPE MATERIAL OTHER THAN STEEL, CONTRACTOR SHALL PROVIDE EQUIVALENT HARNESSING ACCEPTABLE TO THE ENGINEER.
 - WHERE 4 TIE RODS ARE REQUIRED, STRADDLE HORIZONTAL AND VERTICAL CENTERLINES UNLESS OTHERWISE REQUIRED.

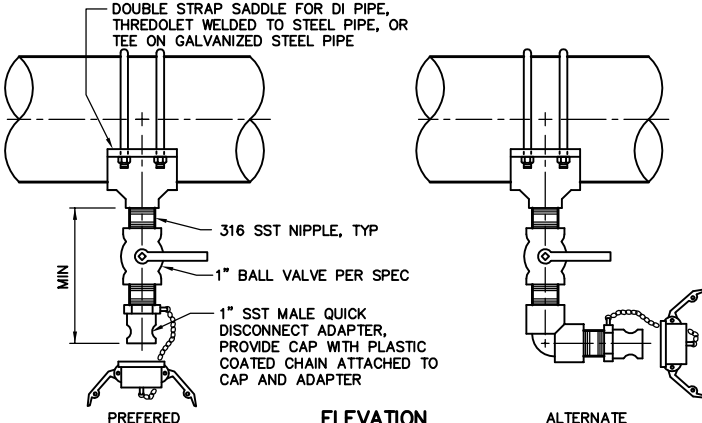
THRUST RESTRAINT HARNESS M160 NTS



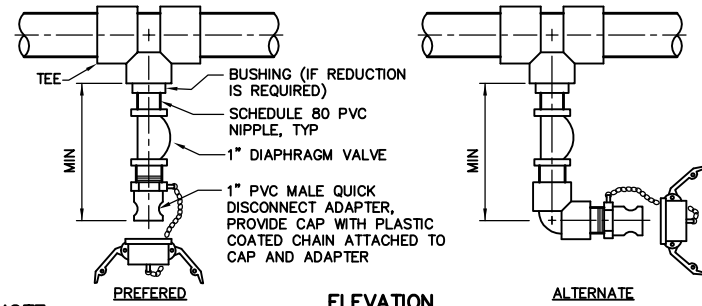
3" AND LARGER PIPE CONNECTION M152 NTS



DOUBLE/SINGLE WALL PIPE TRANSITION M158 NTS

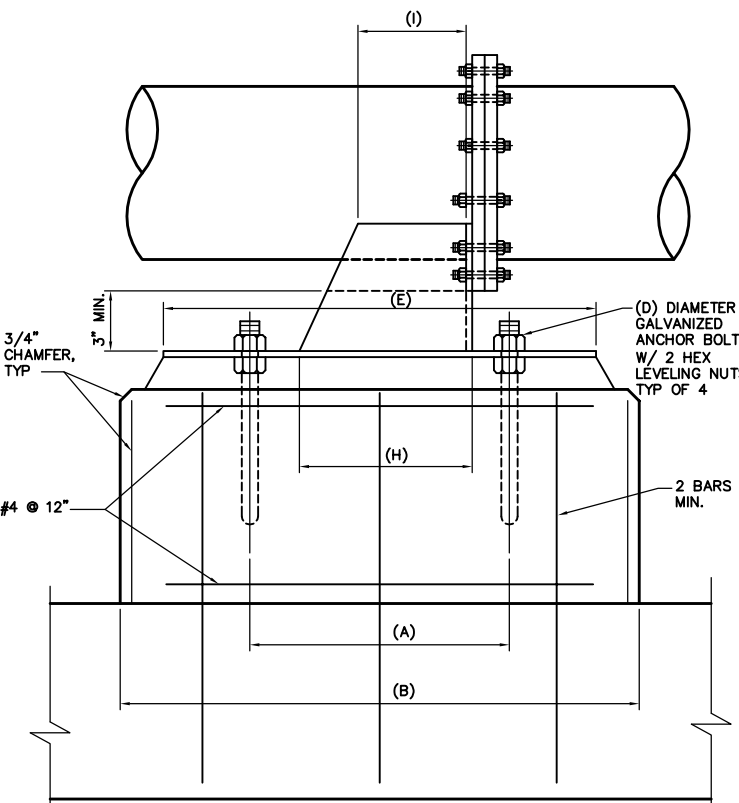
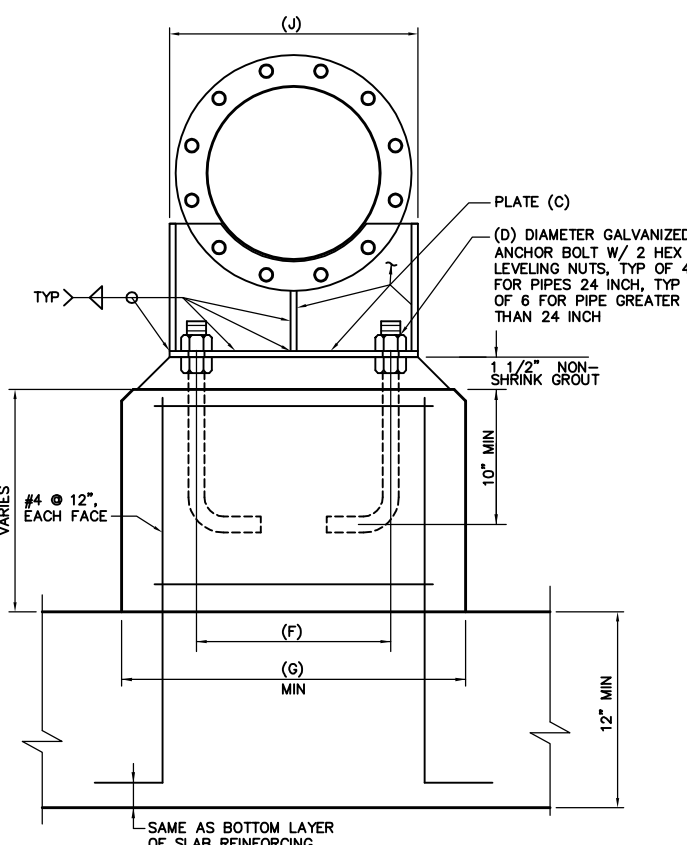


ELEVATION FOR FERROUS METAL PIPING



ELEVATION FOR PVC PIPING

NOTE: FOR LINE SIZES SMALLER THAN 1", VALVE AND ADAPTER SIZES SHALL MATCH LINE SIZE. FLUSHING/DRAIN CONNECTION M154 NTS



PIPE SUPPORT SCHEDULE										
PIPE SIZE (NOM)	DIMENSIONS IN INCHES									
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
8	12	24	1/2	3/4	20	9	16	8	5	12
16	16	24	1/2	3/4	20	21	25	12	4	21
18	19	30	1/2	3/4	26	23	26	15	5	22
30	24	40	3/4	1 1/4	36	36	40	20	6	36

- NOTES:
- HOT-DIP GALVANIZE STEEL COMPONENTS AFTER FABRICATION.
 - WHEN ATTACHING TO EXISTING CONCRETE, PROVIDE EQUIVALENT SIZE ADHESIVE ANCHORS.
 - VERIFY PIPE OD PRIOR TO FABRICATION.

EXPOSED PIPE THRUST RESTRAINT M161 NTS



0" = 1" VERIFY SCALES - BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING NOTICE: THIS CONFORMED DRAWING HAS BEEN PREPARED BASED ON ORIGINAL SIGNED DOCUMENTS DATED NOVEMBER 2016 AND SUBSEQUENT ADDENDA

DESIGNED M. TAKEMOTO
DRAWN S. JUNG
CHECKED M. NAKAMOTO

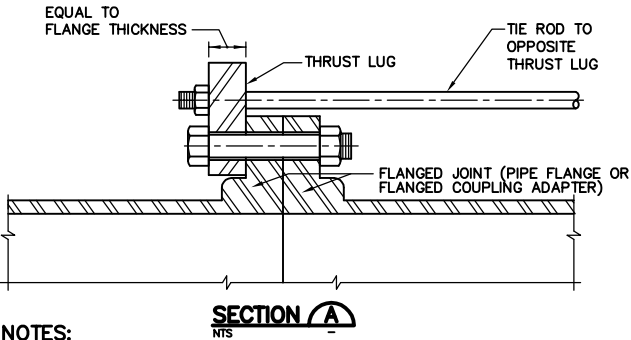
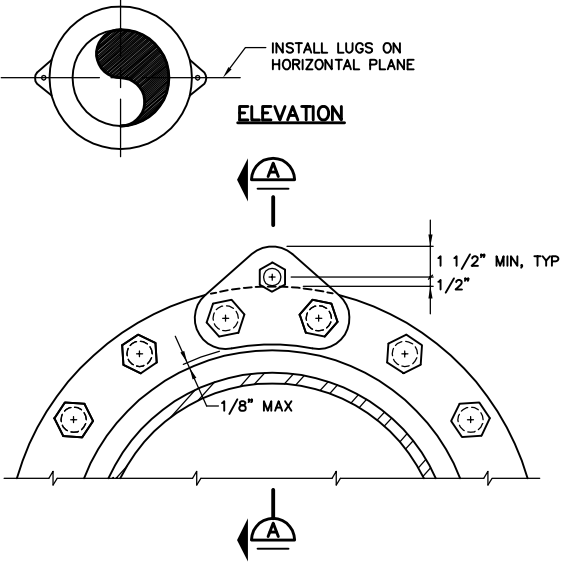
SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
MECHANICAL STANDARD DETAILS - 5

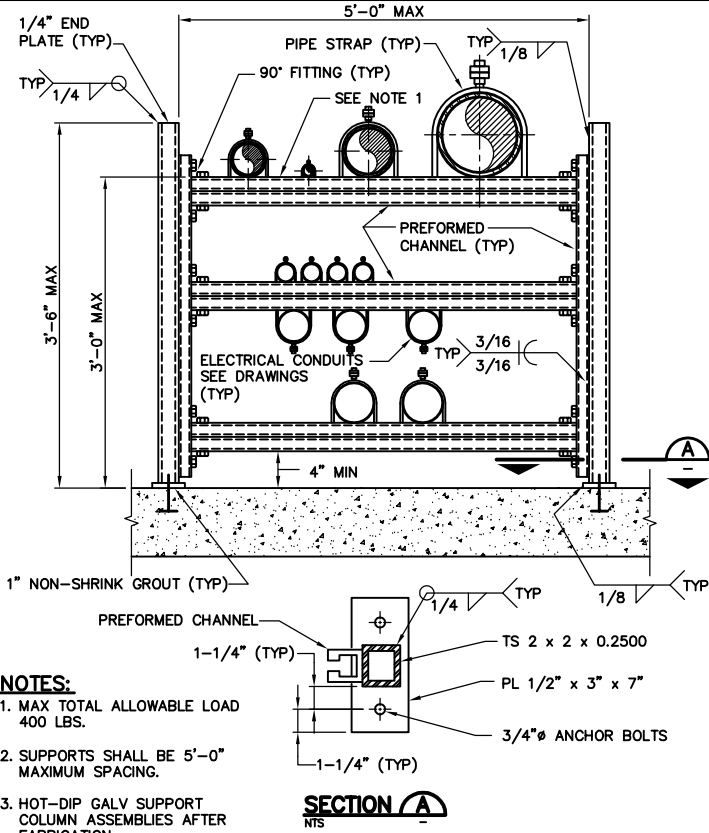
DWG NO M-5
SHEET NO 117 OF 226
PROJ NO 055-006
DATE MARCH 2017

TIE ROD SCHEDULE							
PIPE SIZE (NOM IN)	MINIMUM STEEL PIPE WALL THICKNESS (IN) (NOTE 5)	MAXIMUM TEST PRESSURE					
		25 PSIG		50 PSIG		100 PSIG	
		NUMBER REQUIRED	DIAMETER (IN)	NUMBER REQUIRED	DIAMETER (IN)	NUMBER REQUIRED	DIAMETER (IN)
6	3/16	2	5/8	2	5/8	2	5/8
8	3/16	2	5/8	2	5/8	2	5/8
10	3/16	2	5/8	2	5/8	2	5/8
12	3/16	2	5/8	2	5/8	2	5/8
14	3/16	2	5/8	2	5/8	2	3/4
16	3/16	2	5/8	2	5/8	2	3/4
18	1/4	2	5/8	2	5/8	2	7/8
20	1/4	2	5/8	2	3/4	2	7/8



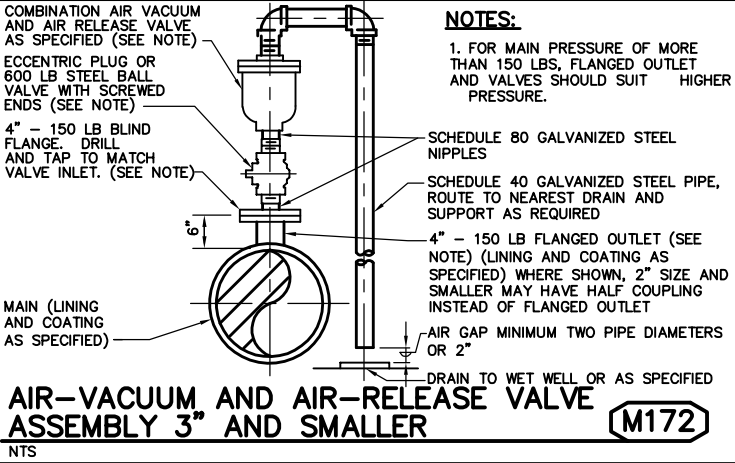
- NOTES:**
1. PLATE: ASTM A283 GRADE D.
 2. TIE RODS: ASTM A193 GRADE B7.
 3. NUTS: ASTM A194 GRADE 2H.
 4. INSTALL TIE RODS IN HORIZONTAL PLANE.
 5. INCREASE STEEL PIPE WALL THICKNESS TO TIE ROD SCHEDULE MINIMUM THICKNESS IF SPECIFIED PIPE WALL THICKNESS IS LESS. IF INCREASING IS REQUIRED, INCREASE FROM FLANGE TO 2'-0" MINIMUM FROM FLANGE.
 6. THIS DETAIL SHALL BE USED WHERE FCA IS ADJACENT TO OTHER FCA OR FLANGES. CONNECT TIE RODS FROM LUGS AT FCA TO LUGS AT ADJACENT FCA OR FLANGES. WHERE ADJACENT FCA OR FLANGE IS NOT PRESENT, INSTALL THRUST HARNESS PER DETAIL (M160).
 7. TIGHTEN TIE ROD NUTS ALTERNATELY AND EQUALLY TO ALIGN EVENLY AND TO PROVIDE EQUAL STRESS ON ALL TIE RODS WHEN SUBJECT TO OPERATING PRESSURES. NUTS SHALL BE TIGHTENED SNUG. THREADS SHALL PROTRUDE 1/2" MINIMUM FROM NUTS AFTER TIGHTENING. PEEN THREADS AFTER TIGHTENING TO LOCK NUTS IN PLACE.

**THRUST RESTRAINT FOR FLEXIBLE COUPLING
OR FLANGE COUPLING ADAPTER (M162)**
NTS

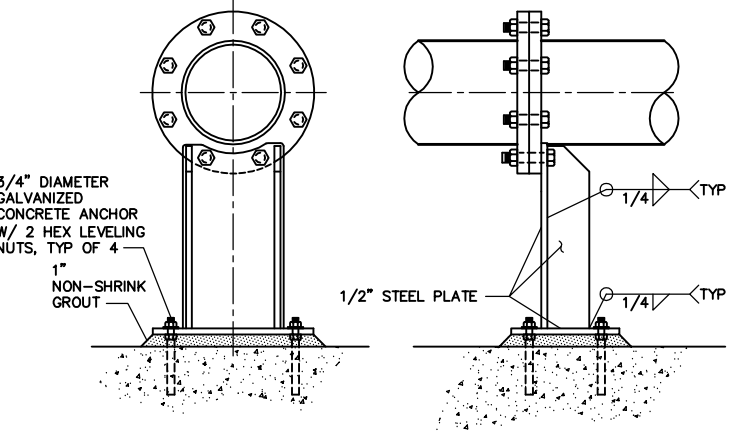


- NOTES:**
1. MAX TOTAL ALLOWABLE LOAD 400 LBS.
 2. SUPPORTS SHALL BE 5'-0" MAXIMUM SPACING.
 3. HOT-DIP GALV SUPPORT COLUMN ASSEMBLIES AFTER FABRICATION.

PIPE RACK (M164)
NTS

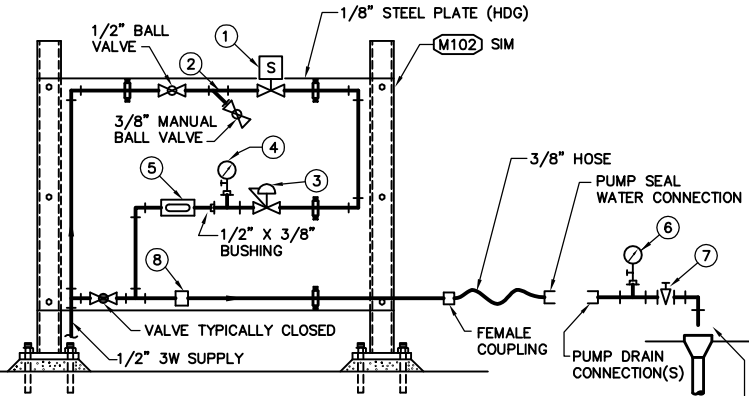


**AIR-VACUUM AND AIR-RELEASE VALVE
ASSEMBLY 3" AND SMALLER (M172)**
NTS



- NOTES:**
1. HOT-DIP GALVANIZE STEEL COMPONENTS AFTER FABRICATION.
 2. WHEN ATTACHING TO EXISTING CONCRETE, PROVIDE EQUIVALENT SIZE ADHESIVE ANCHORS.
 3. VERIFY PIPE OD PRIOR TO FABRICATION.

PIPE SUPPORT 4" THRU 8" (M163)
NTS



1. SOLENOID VALVE, SEE P&ID
2. WYE STRAINER
3. 1/2" PRESSURE REGULATOR SET OUTLET PRESSURE AS RECOMMENDED BY PUMP MFR. FOR CLARIFIER EQUIPMENT, COORDINATE WITH MFR.
4. PRESSURE GAUGE, RANGE AS REQUIRED BY PUMP MFR (REQUIRED ONLY FOR SINGLE MECHANICAL SEAL AND PACKING TYPE PUMP SEALS)
5. 3/8" SIGHT GLASS (REQUIRED FOR MECHANICAL SEAL ONLY)
6. PRESSURE GAUGE, RANGE AS REQUIRED BY PUMP MFR (REQUIRED FOR DOUBLE MECHANICAL PUMP SEALS ONLY)
7. 1/2" NEEDLE VALVE (REQUIRED FOR DOUBLE MECHANICAL PUMP SEALS ONLY)
8. FLOW SWITCH (FSL)

- NOTES:**
1. PIPING CONFIGURATION IS SHOWN SCHEMATICALLY. CONTRACTOR SHALL CONFIGURE AS REQUIRED.
 1. ALTERNATE CONFIGURATION. ASSEMBLY SHALL BE WALL MOUNTED, IF SPECIFIED.

SEAL WATER ASSEMBLY (M170)
NTS

DESIGNED	M. TAKEMOTO
DRAWN	S. JUNG
CHECKED	M. NAKAMOTO
SUBMITTED: MARK TAKEMOTO RMC PROJECT ENGINEER CE-64369	
APPROVED: STEVE CLARY RMC ENGINEER CE-30318	



TREATMENT AND WET WEATHER FLOW UPGRADE

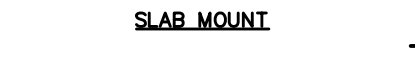
MECHANICAL STANDARD DETAILS - 6

DWG NO	M-6
SHEET NO	118 OF 226
PROJ NO	055-006
DATE	MARCH 2017



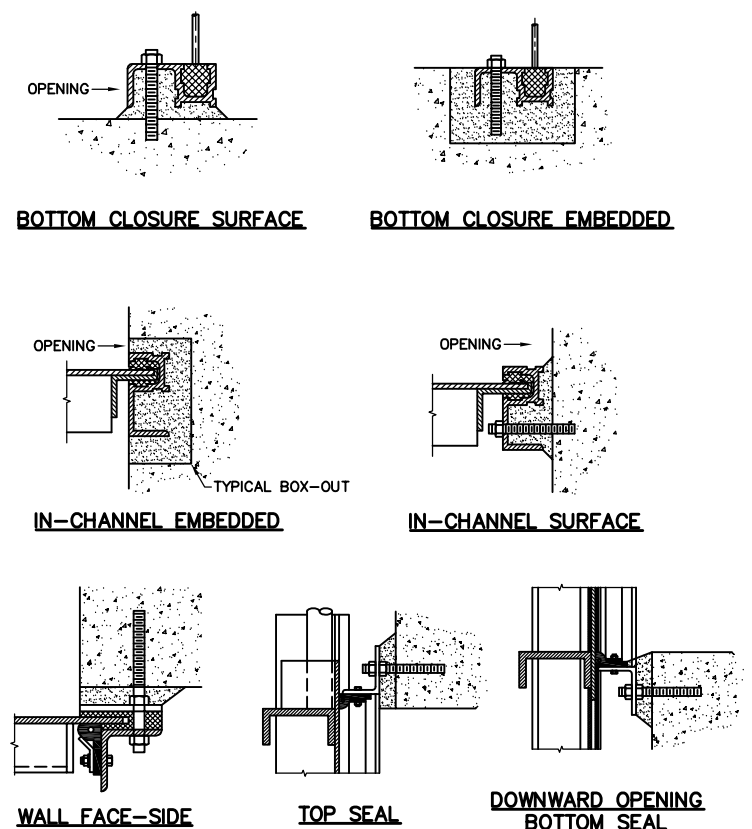
NOTES:

1. DETAIL IS NOT APPLICATION SPECIFIC.
2. REFER TO MECHANICAL SCHEDULE FOR:
 - FRAME TYPE (SELF CONTAINED OR NOT, SPIGOT BLACK, FLAT BACK
 - F-TYPE OR FLANGE BACK)
 - BOTTOM TYPE (FLUSH OR PORT)
 - OPERATOR TYPE (HANDWHEEL, HANDCRANK, 2" NUT OR MOTOR)
 - PEDESTAL TYPE (FLOOR, BENCH, OFFSET OR NOT)



1. INSTALL VALVE TO FLANGE USING
SOFT RUBBER FLANGE GASKET.

MUD VALVE M233
NTS



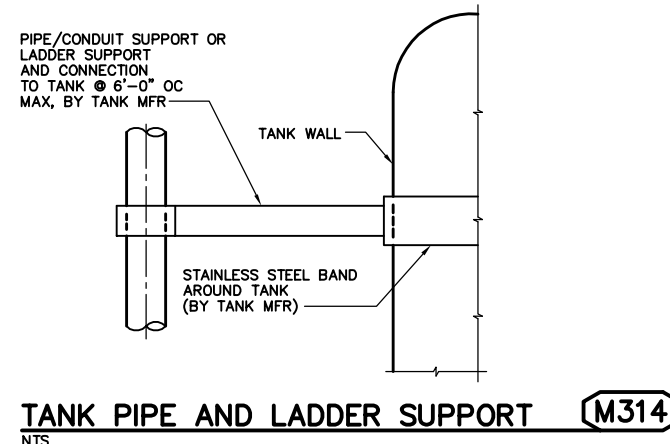
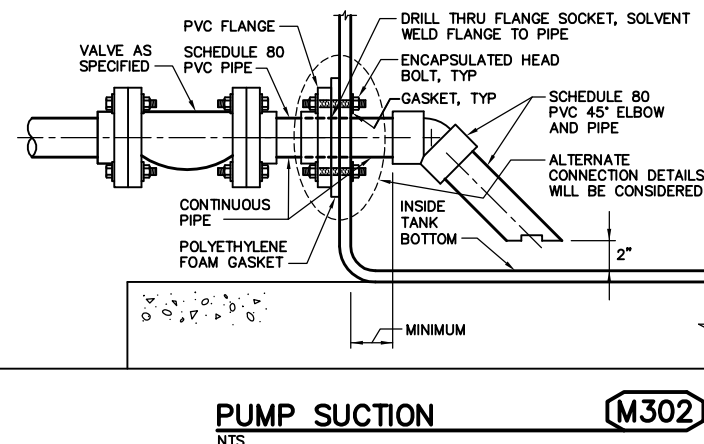
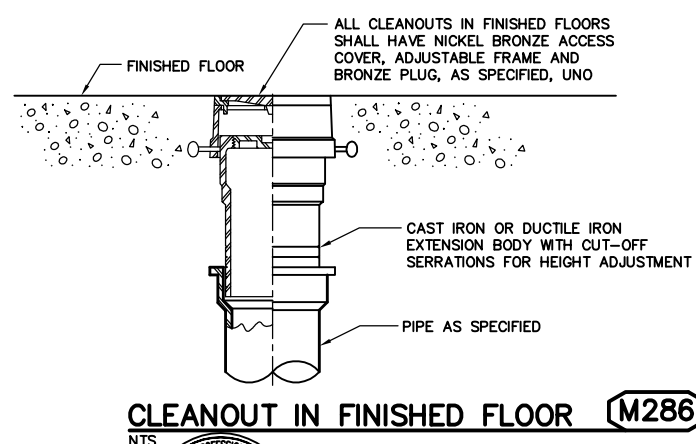
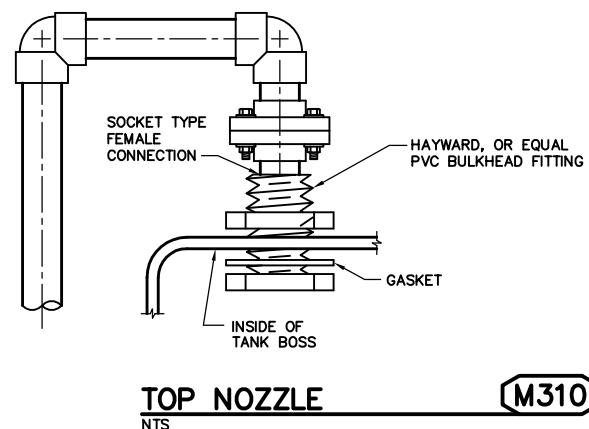
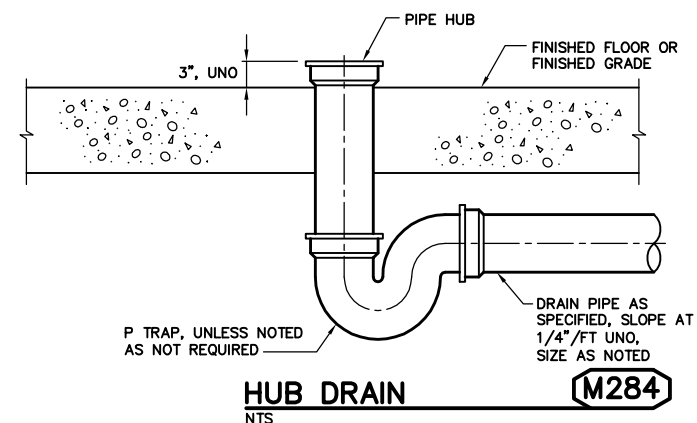
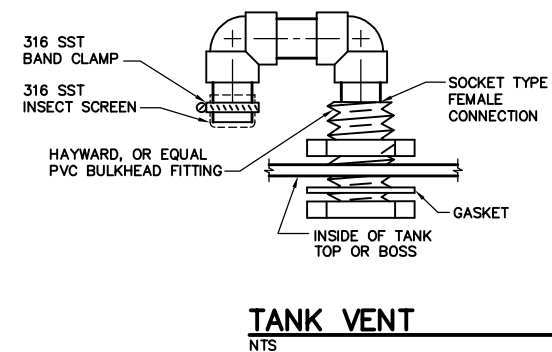
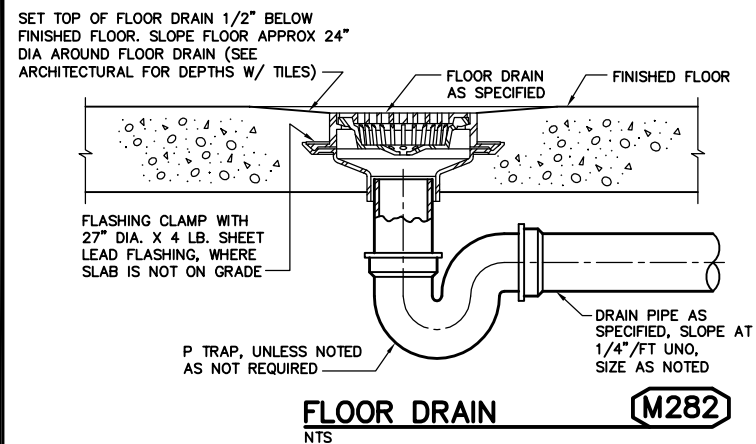
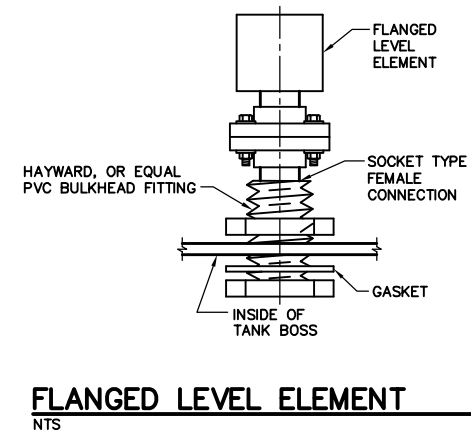
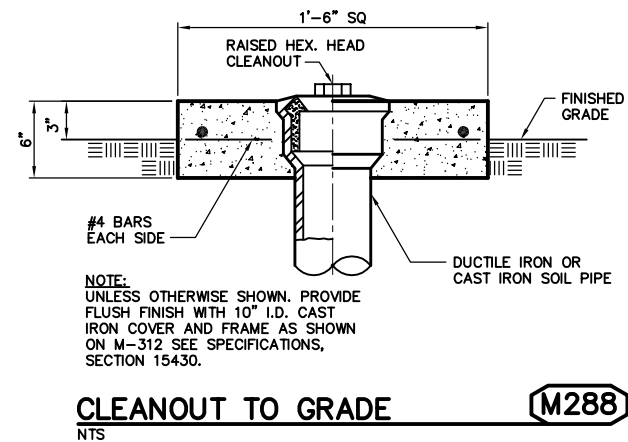
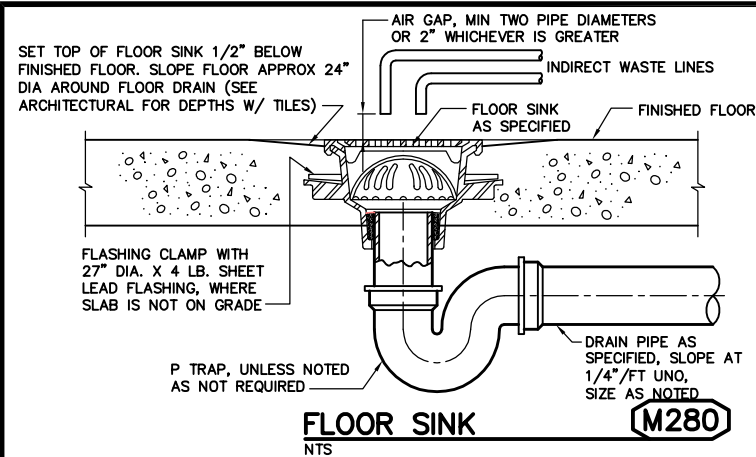
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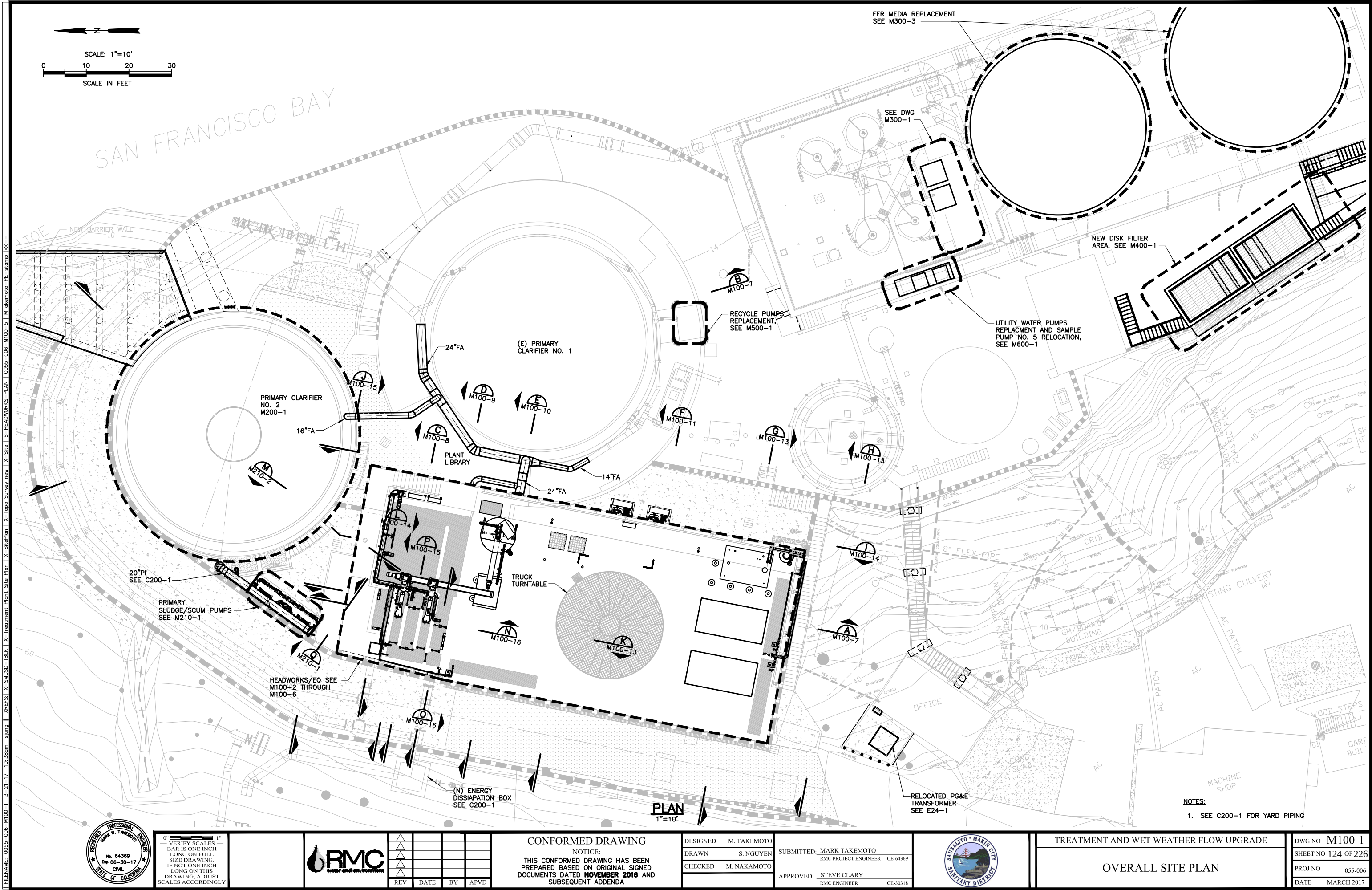


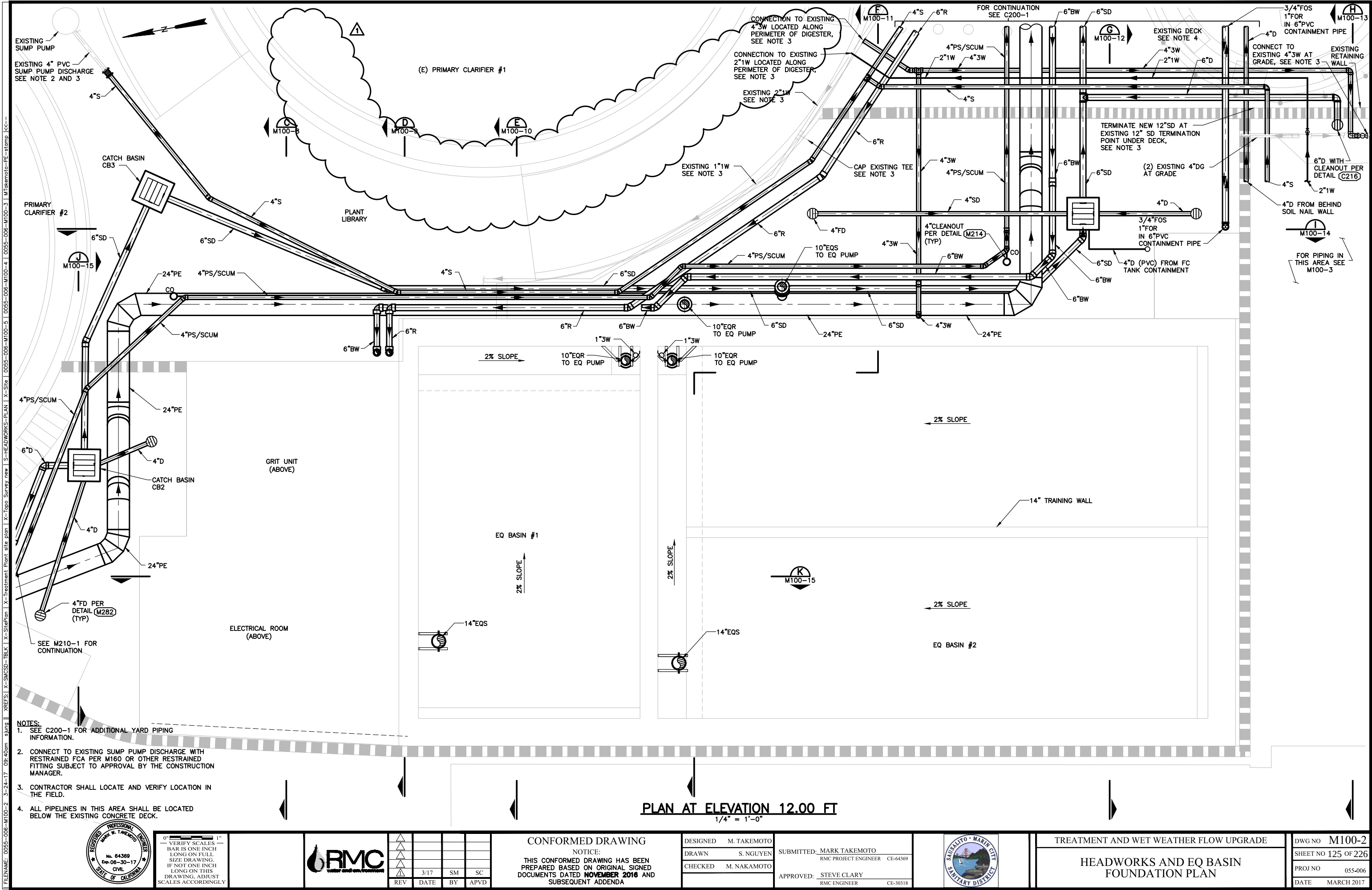
NOTES:

1. ALL HOSE VALVES RAISERS OUTSIDE BUILDINGS LESS THEN 1 1/2" INCHES IN DIAMETER SHALL HAVE INSULATION FOR FREEZE PROTECTION.

HOSE VALVES

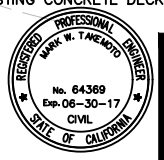






FILENAME: 0055-006-M100-2 3-24-17 09:40am sjung XREFS: X-SMCSO-TBLK X-StdPlan X-Treatment Plant Site plan X-Topo Survey new S-HEADWORKS-PLAN X-Site 0055-006-M100-4 0055-006-M100-5 0055-006-M100-3 M100-1 PE-stamp /cc--

- NOTES:
1. SEE C200-1 FOR ADDITIONAL YARD PIPING INFORMATION.
 2. CONNECT TO EXISTING SUMP PUMP DISCHARGE WITH RESTRAINED FCA PER M160 OR OTHER RESTRAINED FITTING SUBJECT TO APPROVAL BY THE CONSTRUCTION MANAGER.
 3. CONTRACTOR SHALL LOCATE AND VERIFY LOCATION IN THE FIELD.
 4. ALL PIPELINES IN THIS AREA SHALL BE LOCATED BELOW THE EXISTING CONCRETE DECK.



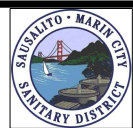
0" = 1" VERIFY SCALES - BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



REV	DATE	BY	APVD
1	3/17	SM	SC

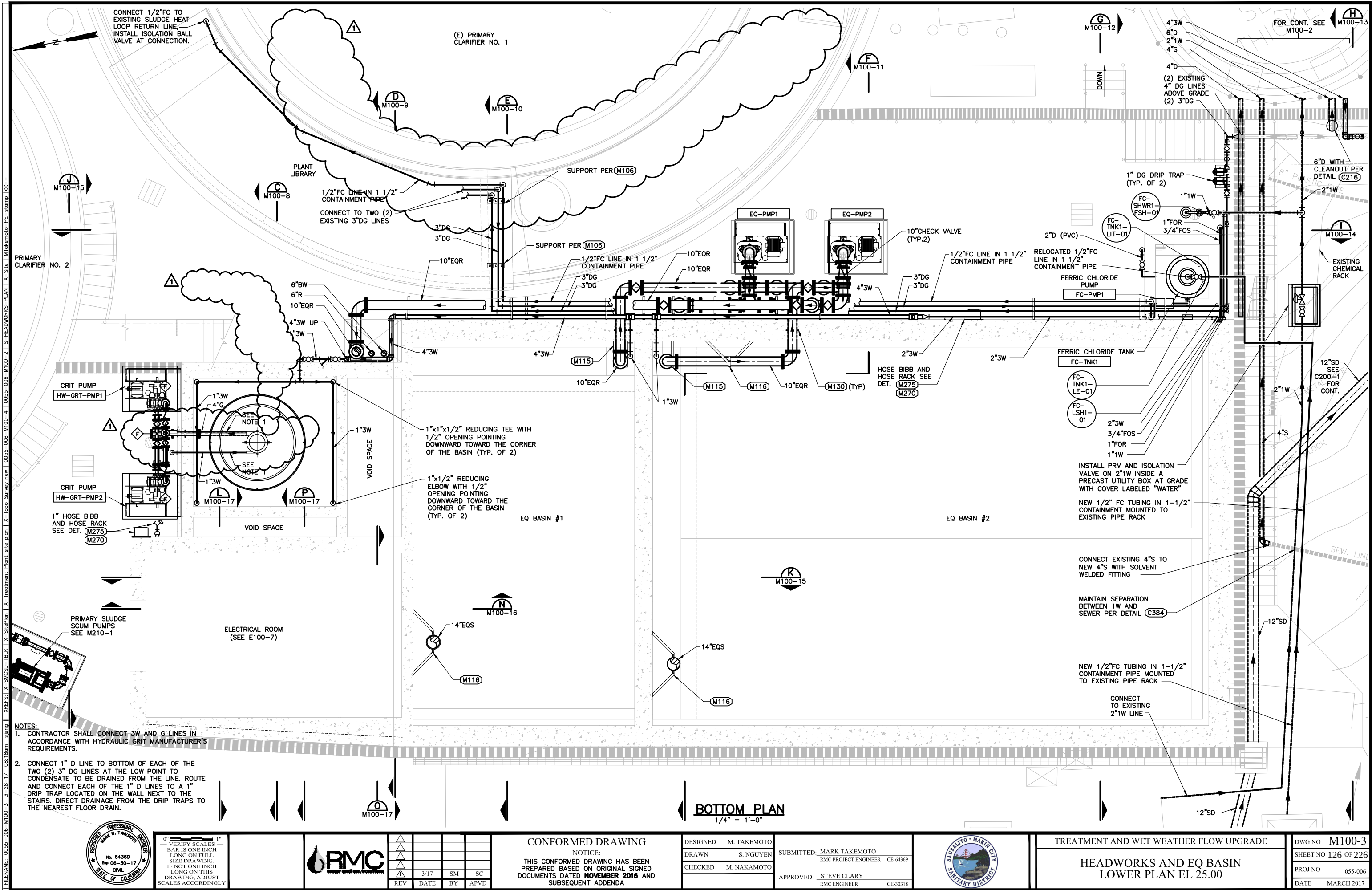
CONFORMED DRAWING
NOTICE:
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DESIGNED	M. TAKEMOTO	SUBMITTED	MARK TAKEMOTO
DRAWN	S. NGUYEN		RMC PROJECT ENGINEER CE-64369
CHECKED	M. NAKAMOTO	APPROVED:	STEVE CLARY
			RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
HEADWORKS AND EQ BASIN FOUNDATION PLAN

DWG NO	M100-2
SHEET NO	125 OF 226
PROJ NO	055-006
DATE	MARCH 2017



- NOTES:
1. CONTRACTOR SHALL CONNECT 3W AND G LINES IN ACCORDANCE WITH HYDRAULIC GRIT MANUFACTURER'S REQUIREMENTS.
 2. CONNECT 1" D LINE TO BOTTOM OF EACH OF THE TWO (2) 3" DG LINES AT THE LOW POINT TO CONDENSATE TO BE DRAINED FROM THE LINE. ROUTE AND CONNECT EACH OF THE 1" D LINES TO A 1" DRIP TRAP LOCATED ON THE WALL NEXT TO THE STAIRS. DIRECT DRAINAGE FROM THE DRIP TRAPS TO THE NEAREST FLOOR DRAIN.



0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



REV	DATE	BY	APVD
3/17	SM	SC	
			APVD

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DESIGNED: M. TAKEMOTO
DRAWN: S. NGUYEN
CHECKED: M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

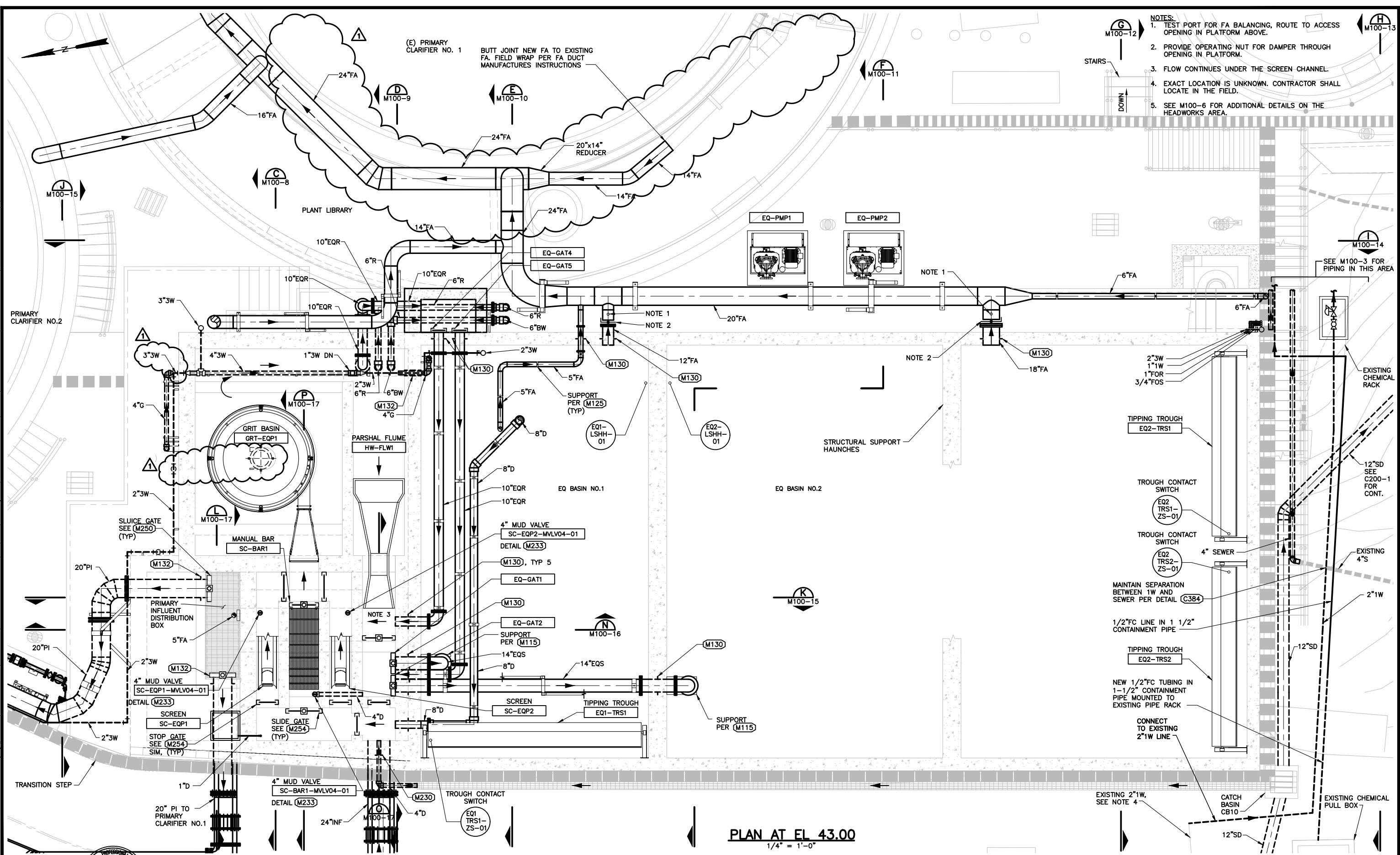


TREATMENT AND WET WEATHER FLOW UPGRADE
HEADWORKS AND EQ BASIN
LOWER PLAN EL 25.00

DWG NO: M100-3
SHEET NO 126 OF 226
PROJ NO: 055-006
DATE: MARCH 2017

FILENAME: 0055-006-M100-3 3-28-17 08:18am sjung X-Topo Survey new 0055-006-M100-4 0055-006-M100-2 0055-006-M100-1 X-Headworks-PLAN X-Site M100-3-Stamp X-Topo Survey new 0055-006-M100-4 0055-006-M100-2 0055-006-M100-1 X-Headworks-PLAN X-Site M100-3-Stamp

FILENAME: 0055-006-M100-4 3-24-17 09:44am sjung XREFS: X-SMCSO-TBLK X-Station X-Treatment Plant Site plan X-Topo Survey new S-HEADWORKS-PLAN X-Site 0055-006-M100-3 0055-006-M100-5 M-Takemoto-PE-stamp /c=



- NOTES:
1. TEST PORT FOR FA BALANCING, ROUTE TO ACCESS OPENING IN PLATFORM ABOVE.
 2. PROVIDE OPERATING NUT FOR DAMPER THROUGH OPENING IN PLATFORM.
 3. FLOW CONTINUES UNDER THE SCREEN CHANNEL.
 4. EXACT LOCATION IS UNKNOWN. CONTRACTOR SHALL LOCATE IN THE FIELD.
 5. SEE M100-6 FOR ADDITIONAL DETAILS ON THE HEADWORKS AREA.

PLAN AT EL. 43.00
1/4" = 1'-0"



0" 1"
VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD
3/17	SM	SC	

CONFORMED DRAWING
NOTICE:
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DOCUMENTS DATED **NOVEMBER 2016** AND
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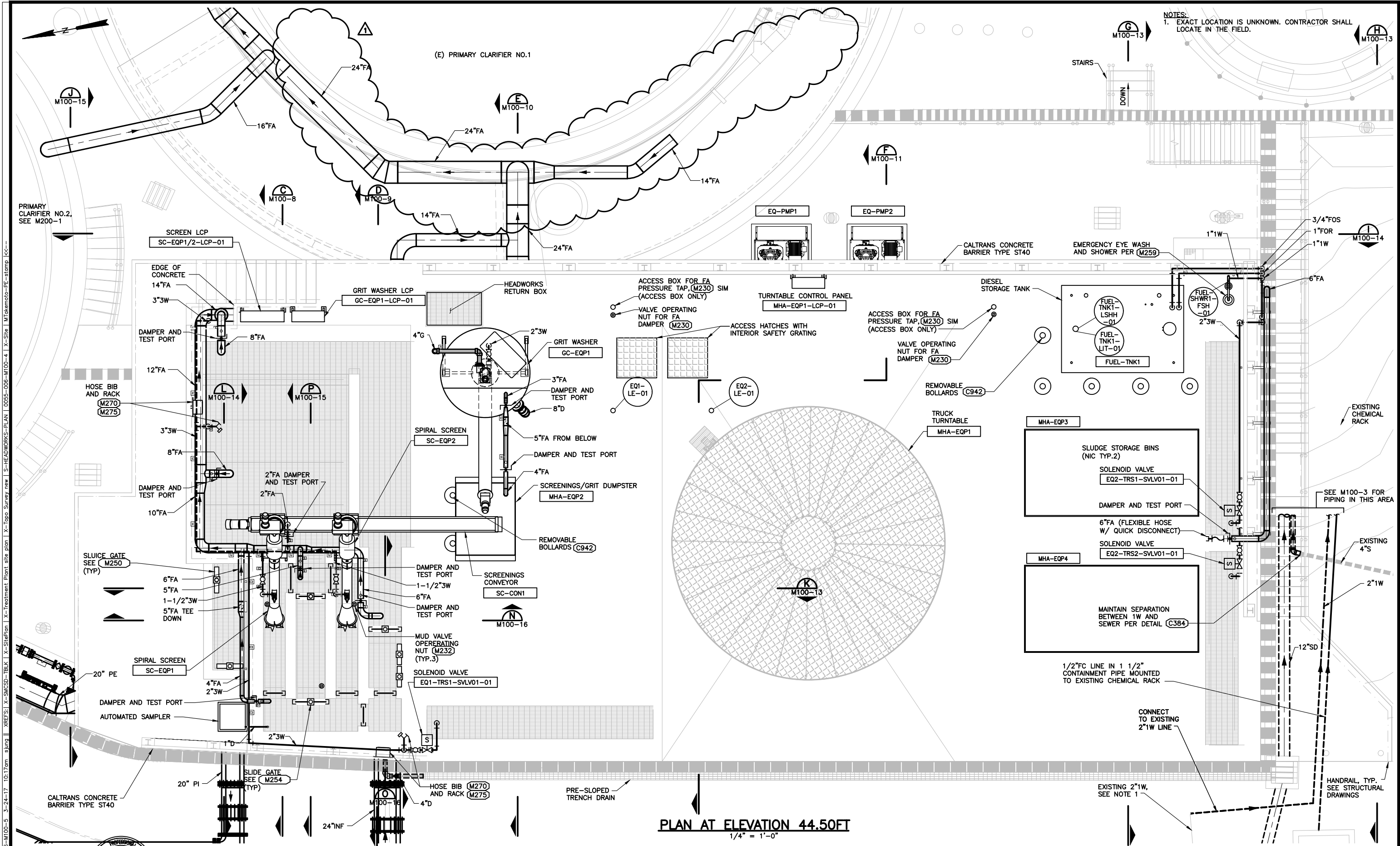
DESIGNED M. TAKEMOTO
DRAWN S. NGUYEN
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
HEADWORKS AND EQ BASIN
PLAN AT EL. 43.00

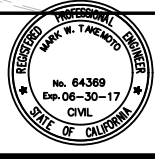
DWG NO. M100-4
SHEET NO. 127 OF 226
PROJ NO. 055-006
DATE MARCH 2017



NOTES:
1. EXACT LOCATION IS UNKNOWN. CONTRACTOR SHALL LOCATE IN THE FIELD.

PLAN AT ELEVATION 44.50FT
1/4" = 1'-0"

FILENAME: 0055-006-M100-5 3-24-17 10:17am sjung X-REFS: X-SMCSB-TBLK X-StdPlan X-Treatment Plant site plan X-Topo Survey new X-Headworks-PLAN 0055-006-M100-4 X-Site M Takemoto-PE-stamp kcc--



0" 1" VERIFY SCALES - BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



REV	DATE	BY	APVD
3/17	SM	SC	
			APVD

CONFORMED DRAWING
NOTICE:
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DESIGNED M. TAKEMOTO
DRAWN S. NGUYEN
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

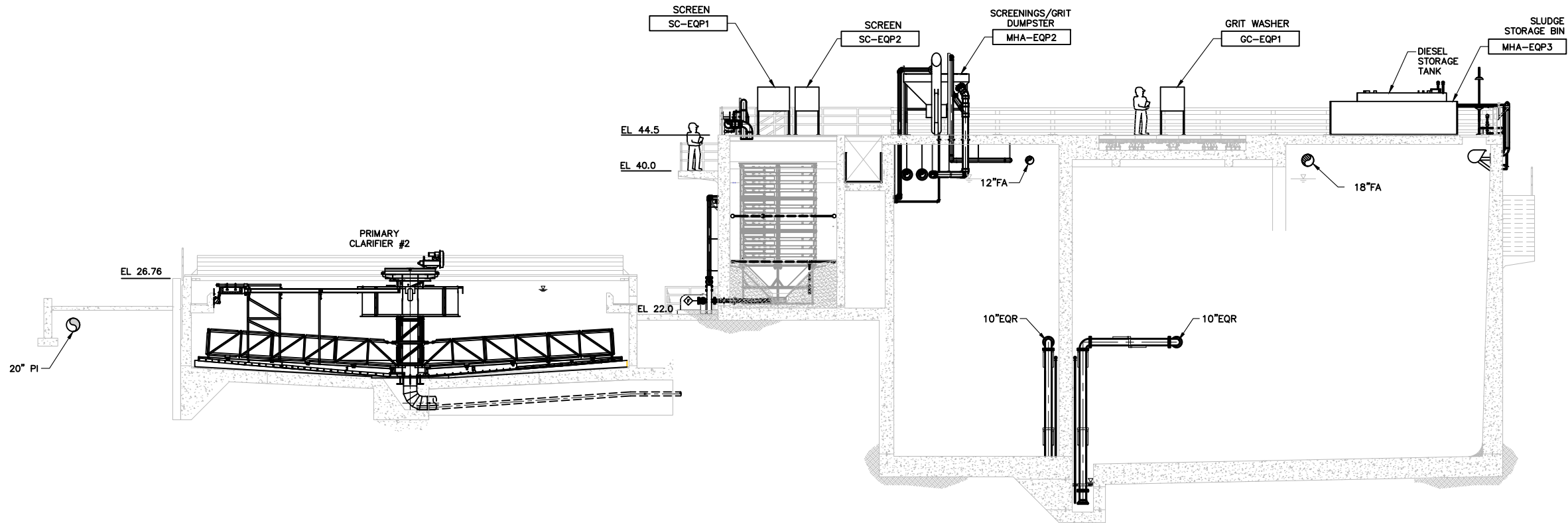


TREATMENT AND WET WEATHER FLOW UPGRADE
HEADWORKS AND EQ BASIN
TOP PLAN

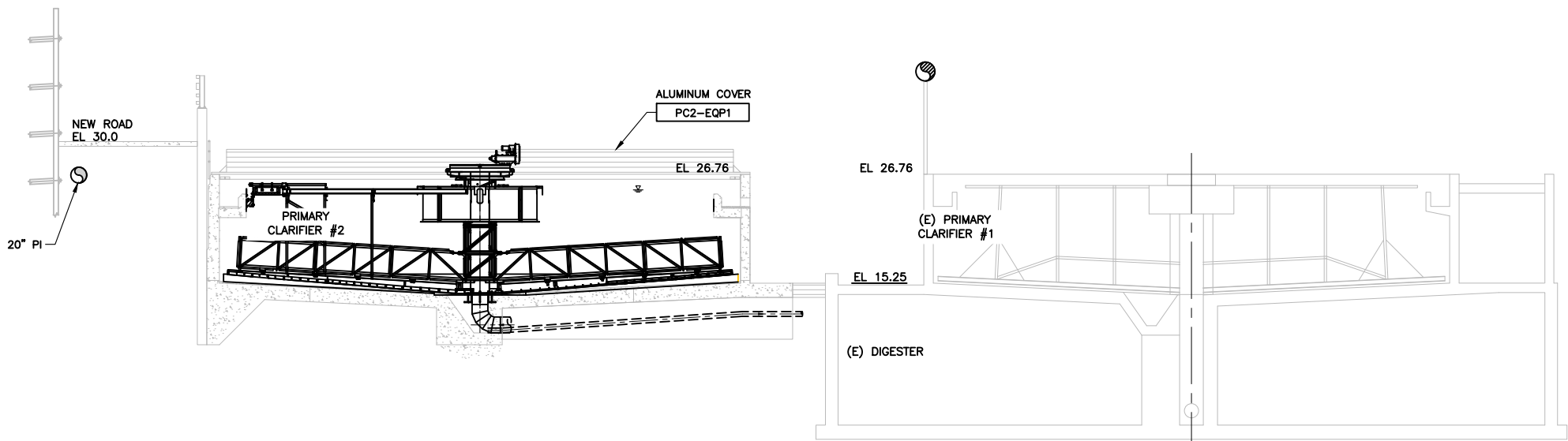
DWG NO M100-5
SHEET NO 128 OF 226
PROJ NO 055-006
DATE MARCH 2017

FILENAME: 0055-006-M100-7 3-21-17 11:44am s:jung XREFS: X-SMCSB-TBLK X-Headworks Sections 0055-006-M100-2 0055-006-M100-3 0055-006-M100-4 X-SitePlan X-Topo Survey new S-HEADWORKS-SECT X-Treatment Plant site plan S-TANK-SECT M-Takemoto-PE-stamp K-

NOTES:
1. NOT ALL BURIED PIPING SHOWN FOR CLARITY.



SECTION A
SCALE: 1/8"=1'-0" M100-1



SECTION B
SCALE: 1/8"=1'-0" M100-1



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

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SUBSEQUENT ADDENDA

DESIGNED M. TAKEMOTO
DRAWN S. NGUYEN
CHECKED M. NAKAMOTO

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RMC PROJECT ENGINEER CE-64369
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RMC ENGINEER CE-30318



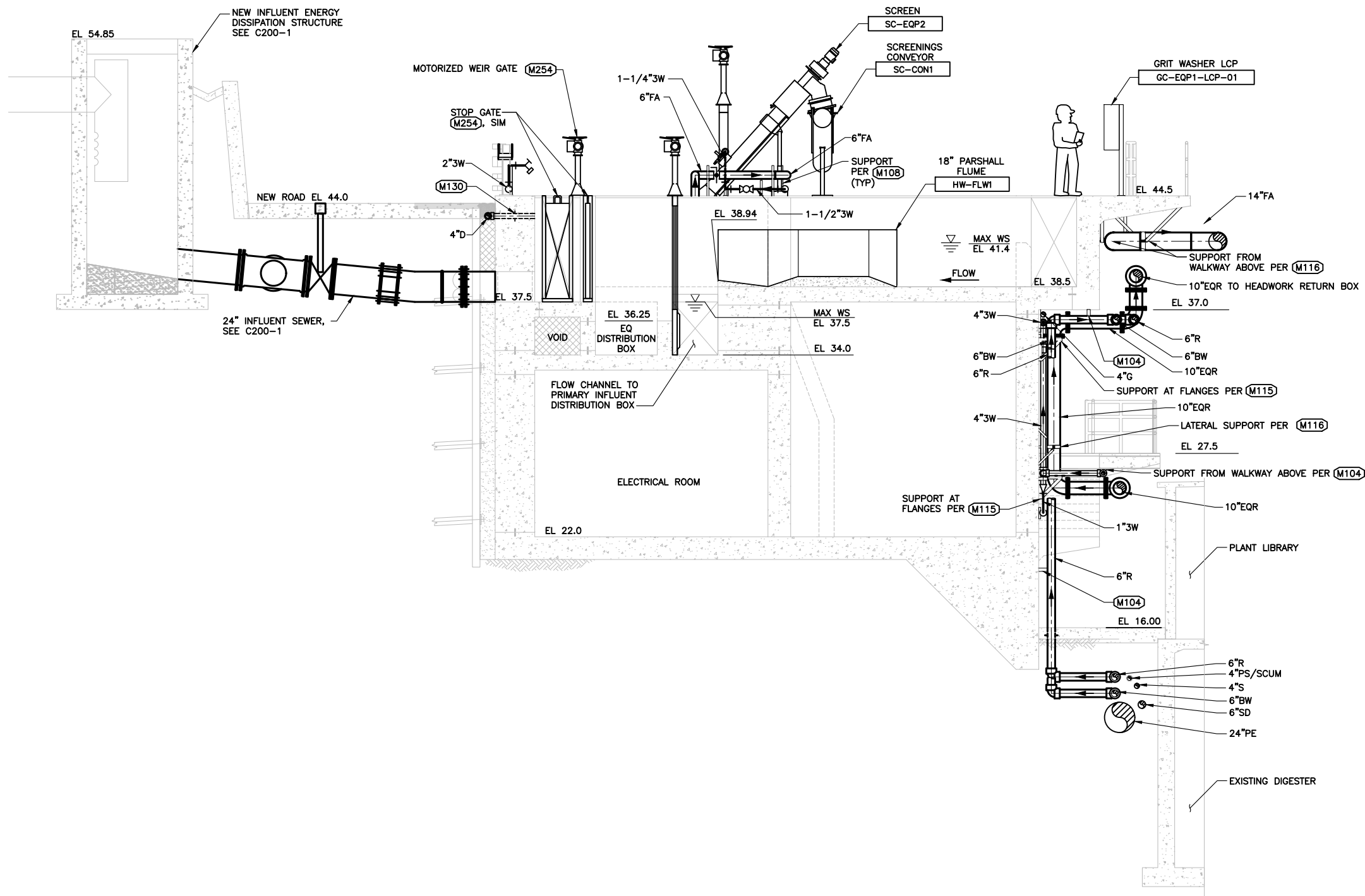
TREATMENT AND WET WEATHER FLOW UPGRADE

HEADWORKS/PRIMARY
SECTION 1

DWG NO M100-7
SHEET NO 130 OF 226
PROJ NO 055-006
DATE MARCH 2017

FILENAME: 0055-006-M100-9 3-21-17 11:48am 9Jung XREFS: X-SMCSB-TBLK J S-SMCSB-SECT J S-HEADWORKS-SECT J X-Headworks Sections 0055-006-M100-2 0055-006-M100-3 0055-006-M100-4 J X-Topo Survey new J X-Treatment Plant site plan J M-Takemoto-PE=stamp J C=C=

- NOTES:
1. CONTRACTOR SHALL COORDINATE AND CONFIRM ALL EQUIPMENT DIMENSIONS, CONNECTIONS, AND INSTALLATION REQUIREMENTS.
 2. PIPE SUPPORTS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 15006.
 3. BURIED PIPELINES LOCATED BETWEEN THE EXISTING DIGESTER AND NEW EQ STRUCTURE SHALL BE BACKFILLED WITH CLSM.



SECTION **D**
SCALE: 1/4"=1'-0" M100-3



0" 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



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DESIGNED M. TAKEMOTO
DRAWN S. NGUYEN
CHECKED M. NAKAMOTO

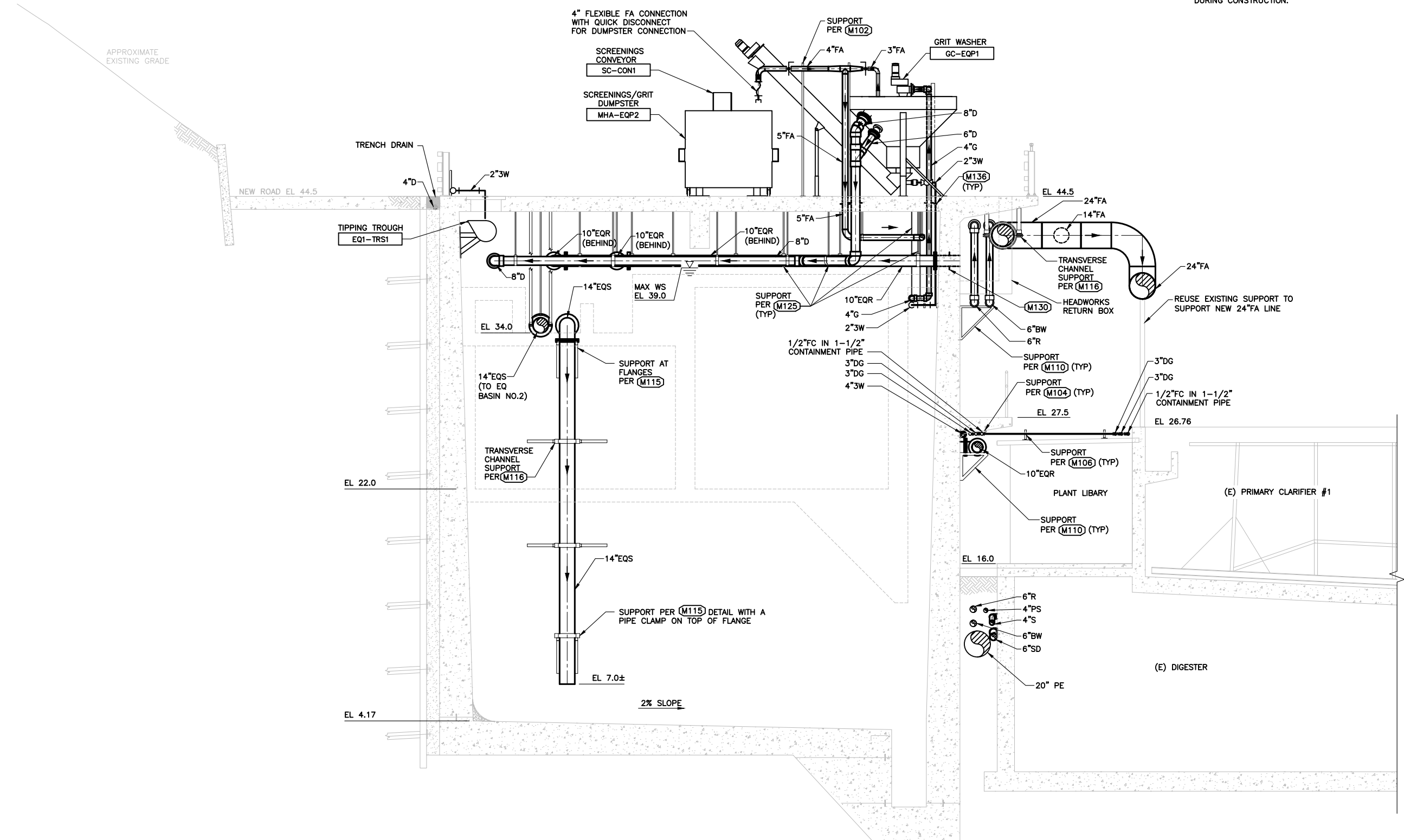
SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
**HEADWORKS
SECTION 2**

DWG NO **M100-9**
SHEET NO 132 OF 226
PROJ NO 055-006
DATE MARCH 2017

FILENAME: 0055-006-M100-10 3-29-17 08:33am sjung XREFS: X-SACSD-TBLK X-Headworks Sections 0055-006-M100-5 0055-006-M100-2 0055-006-M100-3 0055-006-M100-4 X-Station X-Tops Survey new S-Headworks-SEC1 S-Headworks-PLAN M-Takemoto-PE-stamp X-Site X-Treatment



- NOTES:
1. CONTRACTOR SHALL COORDINATE AND CONFIRM ALL EQUIPMENT DIMENSIONS, CONNECTIONS, AND INSTALLATION REQUIREMENTS.
 2. PIPE SUPPORTS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 15006.
 3. BURIED PIPELINES LOCATED BETWEEN THE EXISTING DIGESTER AND NEW EQ STRUCTURE SHALL BE BACKFILLED WITH CLSM.
 4. CONTRACTOR SHALL PROTECT THE EXISTING DIGESTER IN PLACE AND SHALL PREVENT UNDERMINING OF THE EXISTING STRUCTURE DURING CONSTRUCTION.

SECTION E
SCALE: 1/4"=1'-0" M100-3



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD
1	3/17	SM	SC

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SUBSEQUENT ADDENDA

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DRAWN S. NGUYEN
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



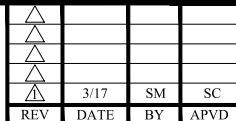
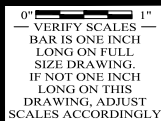
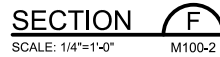
TREATMENT AND WET WEATHER FLOW UPGRADE

HEADWORKS
SECTION 3

DWG NO M100-10
SHEET NO 133 OF 226
PROJ NO 055-006
DATE MARCH 2017

NOTES:

1. CONTRACTOR SHALL COORDINATE AND CONFIRM ALL EQUIPMENT DIMENSIONS, CONNECTIONS, AND INSTALLATION REQUIREMENTS.
2. AIR RELEASE VALVES SHALL BE PROVIDE AND INSTALLED IN ACCORDANCE WITH THE PUMP MANUFACTURER'S REQUIREMENTS.



CONFORMED DRAWING
NOTICE:
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PREPARED BASED ON ORIGINAL SIGNED
DOCUMENTS DATED **NOVEMBER 2016** AND
SUBSEQUENT ADDENDA

DESIGNED	M. TAKEMOTO
DRAWN	S. NGUYEN
CHECKED	M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

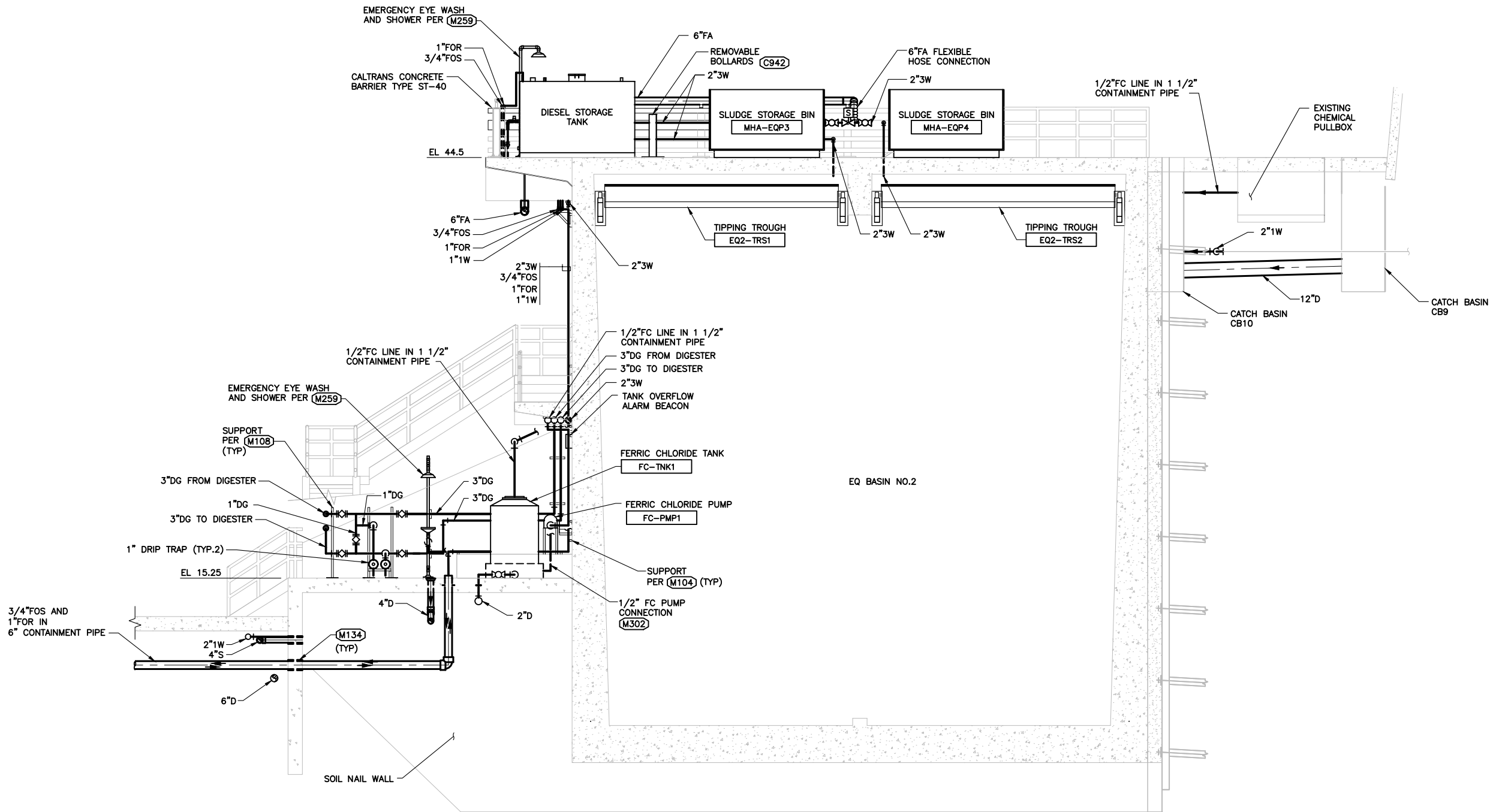


TREATMENT AND WET WEATHER FLOW UPGRADE

HEADWORKS SECTION 4

DWG NO	M100-11
SHEET NO	134 OF 226
PROJ NO	055-006
DATE	MARCH 2017

FILENAME: 0055-006-M100-12 3-29-17 08:38am sjung XREFS: X-SACSDB-TBLK X-Headworks Sections 0055-006-M100-5 0055-006-M100-2 0055-006-M100-3 0055-006-M100-4 X-StepPlan X-Topo Survey new S-HEADWORKS-PLAN S-HEADWORKS-SECT M-Takamoto-PE-stamp X-Treatment Plant Site



SECTION G
SCALE: 1/4"=1'-0" M100-2



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD
3/17	SM	SC	

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DOCUMENTS DATED **NOVEMBER 2016** AND
SUBSEQUENT ADDENDA

DESIGNED M. TAKEMOTO
DRAWN S. NGUYEN
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

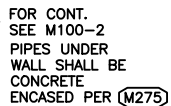


TREATMENT AND WET WEATHER FLOW UPGRADE
**HEADWORKS
SECTION 5**

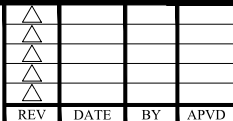
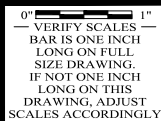
DWG NO M100-12
SHEET NO 135 OF 226
PROJ NO 055-006
DATE MARCH 2017

1. CONTRACTOR SHALL VERIFY LOCATION IN FIELD.

2. CONTRACTOR SHALL COORDINATE PIPE LOCATION AND ALIGNMENT WITH EXISTING UTILITIES AND THE SOIL NAIL WALL TO AVOID ANY CONFLICTS.



SCALE: 1/4"=1'-0" M100-2



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DOCUMENTS DATED **NOVEMBER 2016** AND
SUBSEQUENT ADDENDA

DESIGNED BY M. TAKEMOTO

DRAWN S. NGUYEN

CHECKED	M. NAKAMOTO
---------	-------------

SUBMITTED: MARK TAKEMOTO

APPROVED: STEVE CLARY



TREATMENT AND WET WEATHER FLOW UPGRADE

HEADWORKS

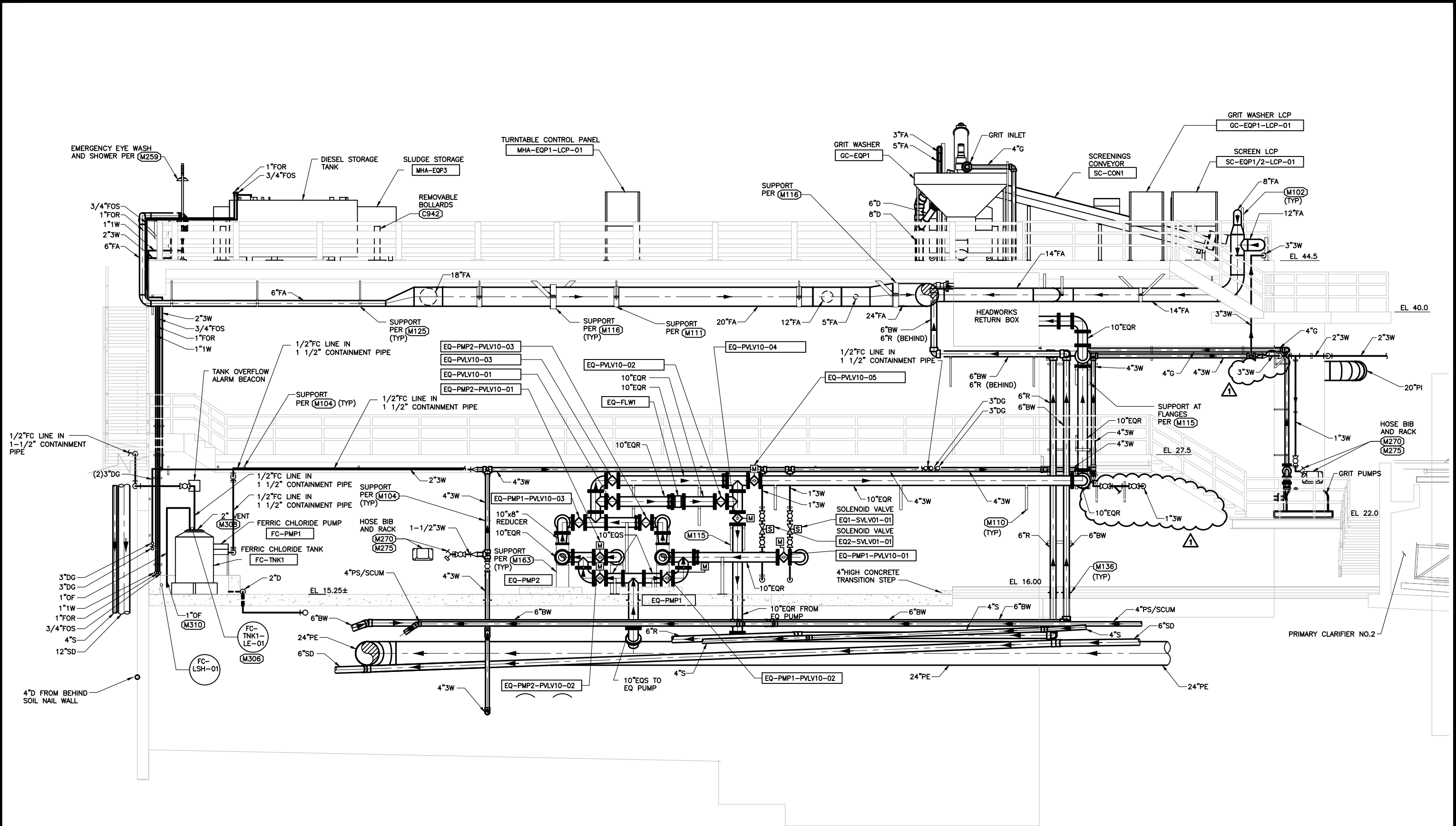
DWG NO. M100-13

SHEET NO. 136 OF 226

BROUNO

DATE MARCH 2017

FILENAME: 0055-006-M100-14 3-24-17 11:12am sjung XREFS: X-SMCSO-TBLK X-Headworks Sections 0055-006-M100-2 0055-006-M100-3 0055-006-M100-4 0055-006-M100-5 0055-006-M100-6 0055-006-M100-7 0055-006-M100-8 0055-006-M100-9 0055-006-M100-10 0055-006-M100-11 0055-006-M100-12 0055-006-M100-13 0055-006-M100-15 0055-006-M100-16 0055-006-M100-17 0055-006-M100-18 0055-006-M100-19 0055-006-M100-20 0055-006-M100-21 0055-006-M100-22 0055-006-M100-23 0055-006-M100-24 0055-006-M100-25 0055-006-M100-26 0055-006-M100-27 0055-006-M100-28 0055-006-M100-29 0055-006-M100-30 0055-006-M100-31 0055-006-M100-32 0055-006-M100-33 0055-006-M100-34 0055-006-M100-35 0055-006-M100-36 0055-006-M100-37 0055-006-M100-38 0055-006-M100-39 0055-006-M100-40 0055-006-M100-41 0055-006-M100-42 0055-006-M100-43 0055-006-M100-44 0055-006-M100-45 0055-006-M100-46 0055-006-M100-47 0055-006-M100-48 0055-006-M100-49 0055-006-M100-50 0055-006-M100-51 0055-006-M100-52 0055-006-M100-53 0055-006-M100-54 0055-006-M100-55 0055-006-M100-56 0055-006-M100-57 0055-006-M100-58 0055-006-M100-59 0055-006-M100-60 0055-006-M100-61 0055-006-M100-62 0055-006-M100-63 0055-006-M100-64 0055-006-M100-65 0055-006-M100-66 0055-006-M100-67 0055-006-M100-68 0055-006-M100-69 0055-006-M100-70 0055-006-M100-71 0055-006-M100-72 0055-006-M100-73 0055-006-M100-74 0055-006-M100-75 0055-006-M100-76 0055-006-M100-77 0055-006-M100-78 0055-006-M100-79 0055-006-M100-80 0055-006-M100-81 0055-006-M100-82 0055-006-M100-83 0055-006-M100-84 0055-006-M100-85 0055-006-M100-86 0055-006-M100-87 0055-006-M100-88 0055-006-M100-89 0055-006-M100-90 0055-006-M100-91 0055-006-M100-92 0055-006-M100-93 0055-006-M100-94 0055-006-M100-95 0055-006-M100-96 0055-006-M100-97 0055-006-M100-98 0055-006-M100-99 0055-006-M100-100



SECTION 1
SCALE: 1/4"=1'-0" M100-1



0" 1"
VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD
1	3/17	SM	SC
2			
3			
4			
5			
6			
7			
8			
9			
10			

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NOTICE:
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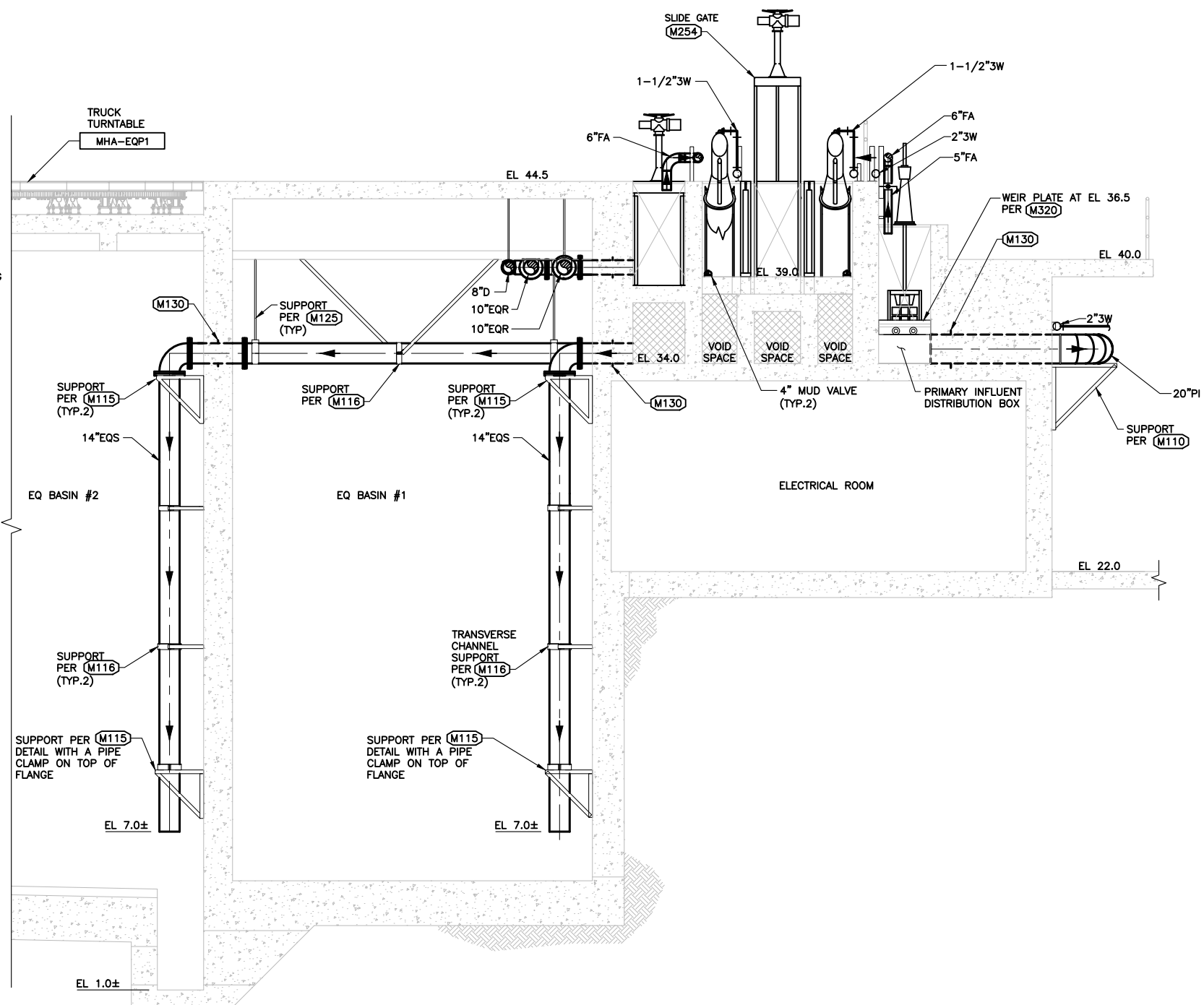
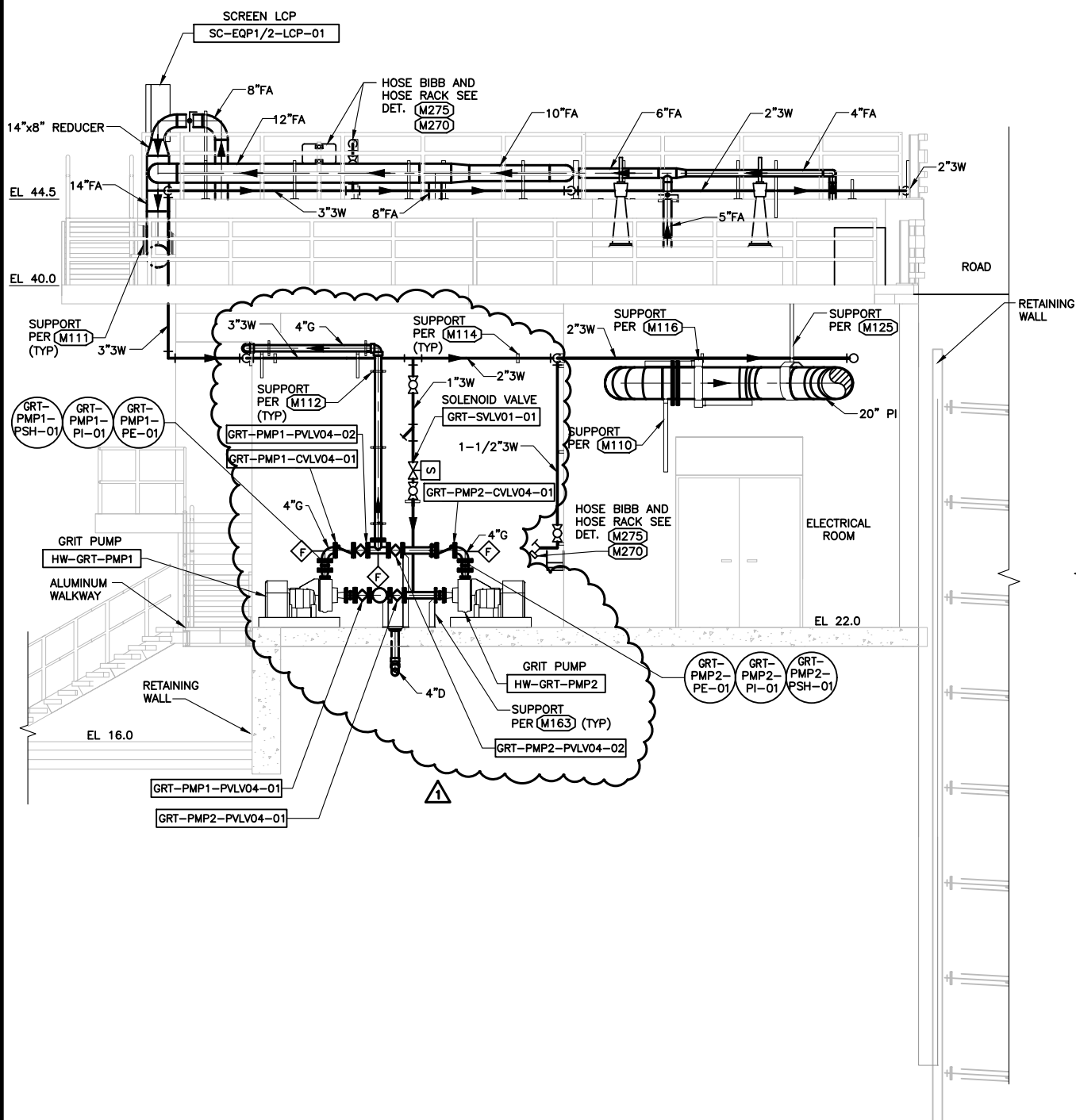
DESIGNED M. TAKEMOTO
DRAWN S. NGUYEN
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
HEADWORKS
SECTION 7

DWG NO M100-14
SHEET NO 137 OF 226
PROJ NO 055-006
DATE MARCH 2017



SECTION 
SCALE: 1/4"=1'-0" M100-3

SECTION  K
SCALE: 1/4"=1'-0" M100-3



0"  1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



△			
△			
△			
△			
△	3/17	SM	SC
REV	DATE	BY	APVD

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DESIGNED	M. TAKEMOTO
DRAWN	S. NGUYEN
CHECKED	M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

HEADWORKS SECTION 8

DWG NO M100-15

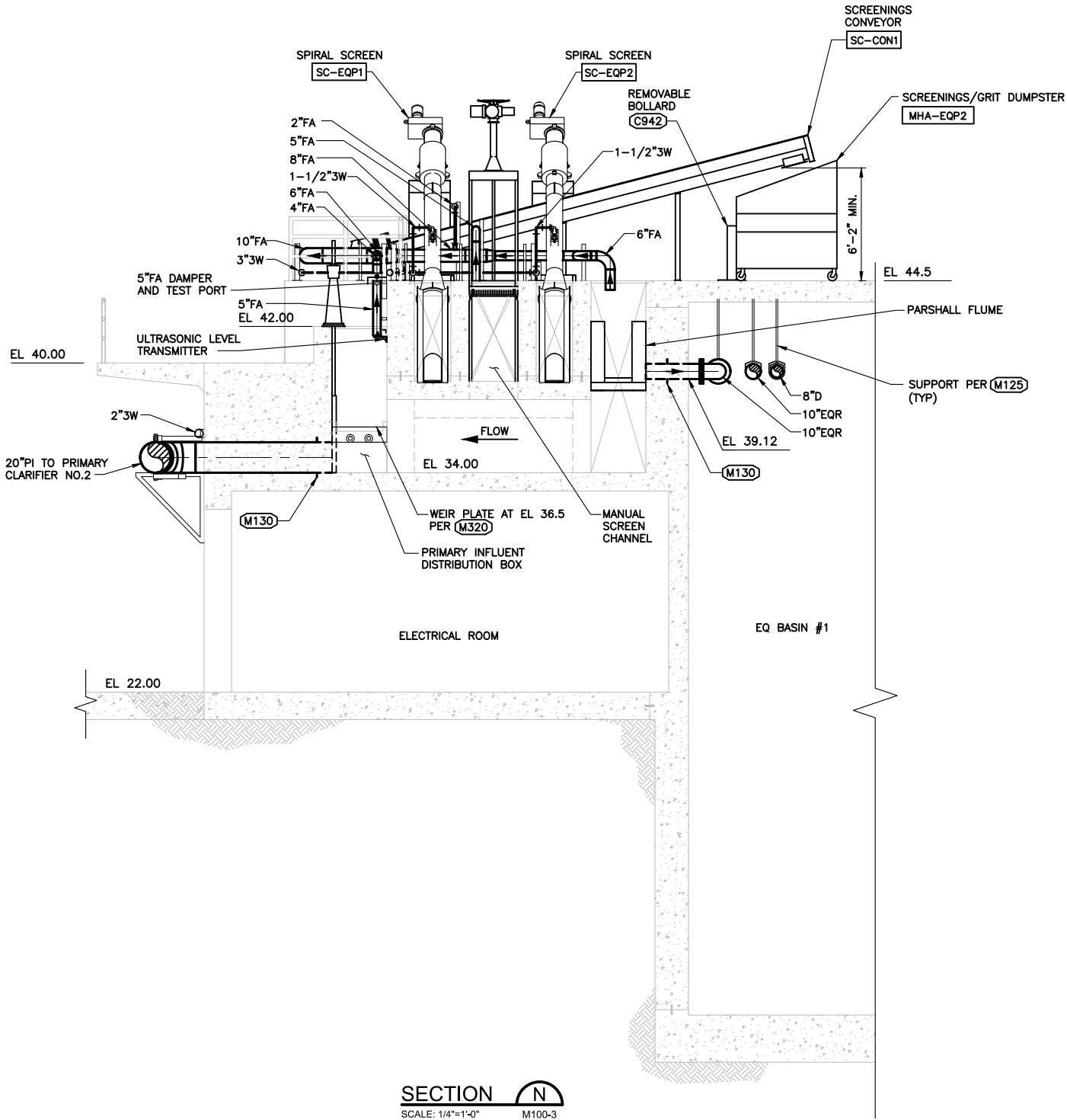
SHEET NO 138 OF 226

PROJ NO	055-006
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DATE MARCH 2017

FILENAME: 0055-006-M100-16 3-21-17 12:20pm s.lung XREFS: X-SMCSO-TBLK X-Headworks Sections 0055-006-M100-2 0055-006-M100-3 0055-006-M100-4 X-StaPlan X-Topo Survey new S-HEADWORKS-PLAN M-Takemoto-PE-stamp X-Treatment Plant site

NOTES:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DIMENSION, CONNECTIONS AND ALL OTHER REQUIREMENTS TO ENSURE PROPER INSTALLATION AND OPERATION AMONGST ALL EQUIPMENT.



SECTION 
SCALE: 1/4"=1'-0" M100-3



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



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DRAWN	S. NGUYEN
CHECKED	M. NAKAMOTO

SUBMITTED:	MARK TAKEMOTO
	RMC PROJECT ENGINEER CE-64369
APPROVED:	STEVE CLARY
	RMC ENGINEER CE-30318

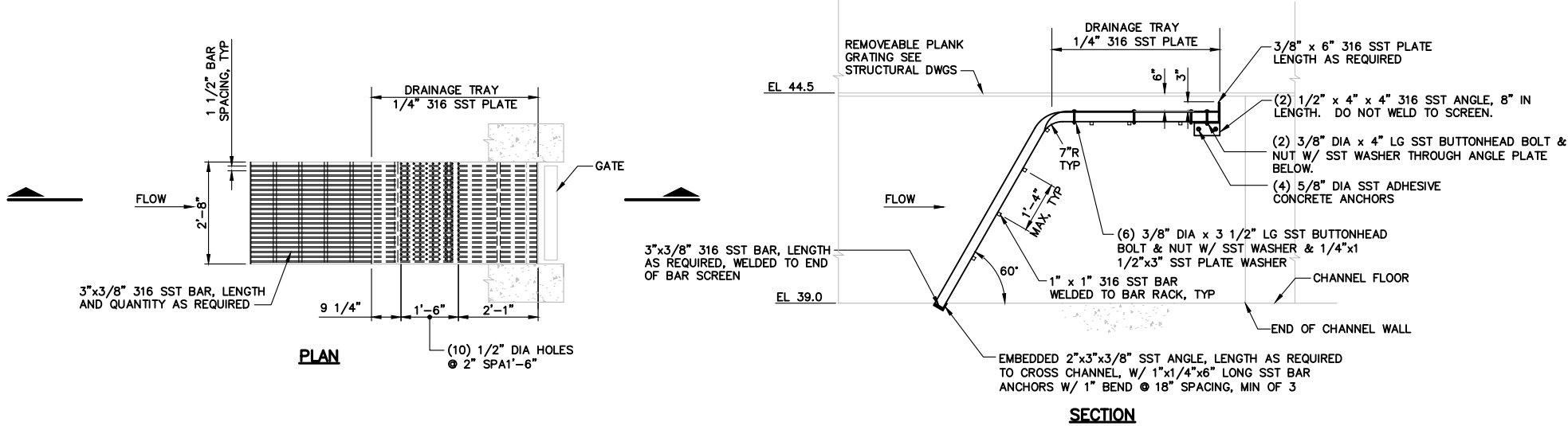


TREATMENT AND WET WEATHER FLOW UPGRADE

**HEADWORKS
SECTION 9**

DWG NO	M100-16
SHEET NO	139 OF 226
PROJ NO	055-006
DATE	MARCH 2017

FILENAME: 0055-006-M100-18 3-21-17 12:24pm sjung XREFS: X-SMCSO-TBLK MTakemoto=PE-stamp Kc=



NOTES:

1. ALL BAR SCREEN PARTS SHALL BE 316 SST.
2. FURNISH (1) ALUMINUM RAKE FOR USE WITH BAR SCREEN.

MANUAL BAR SCREEN 1

1"=1'-0"



0" 1"
VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



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DRAWN S. JUNG
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
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RMC ENGINEER CE-30318

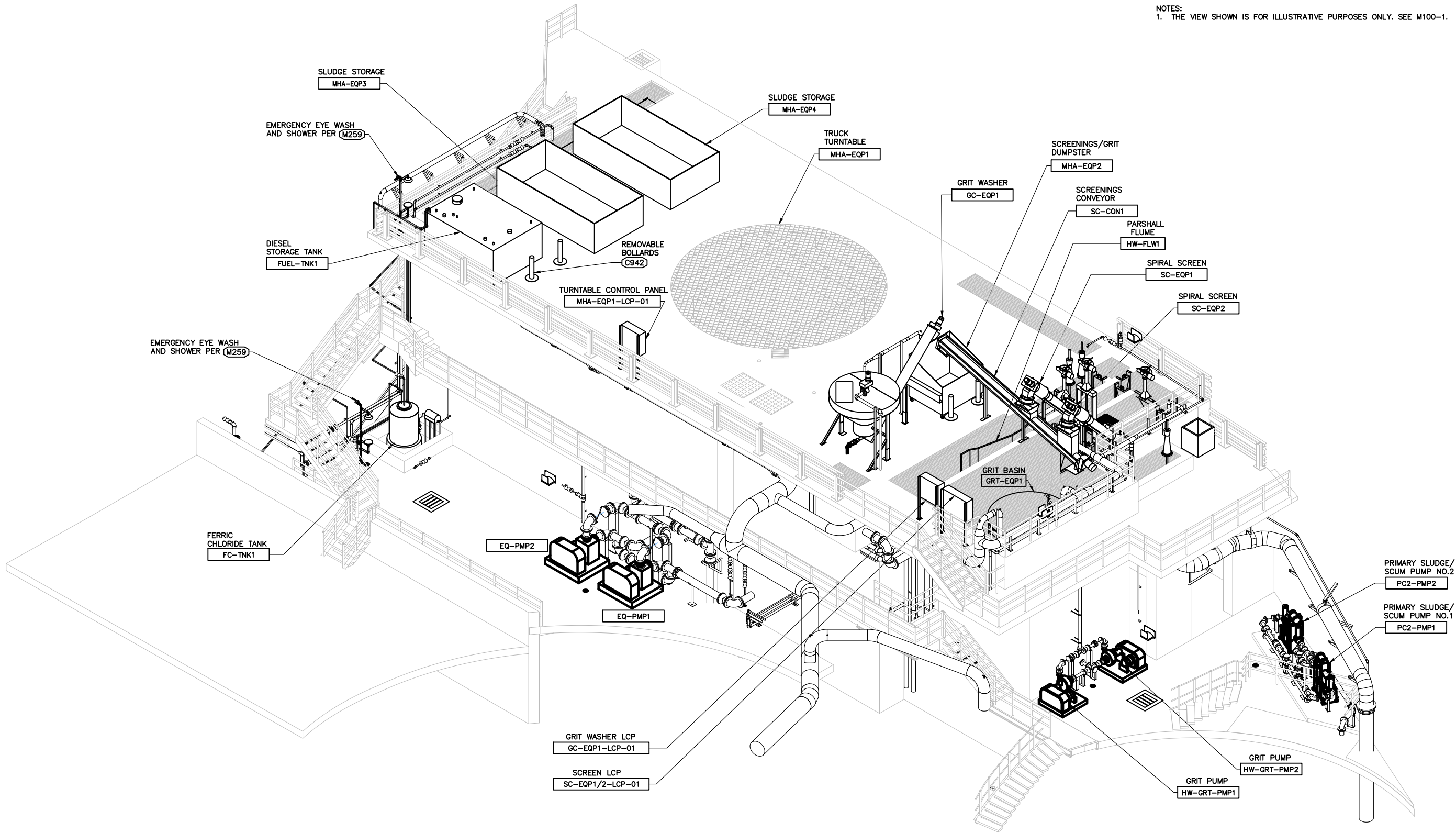


TREATMENT AND WET WEATHER FLOW UPGRADE

HEADWORKS DETAILS

DWG NO M100-18
SHEET NO 141 OF 226
PROJ NO 055-006
DATE MARCH 2017

NOTES:
1. THE VIEW SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY. SEE M100-1.



HEADWORKS/EQ STRUCTURE
SCALE: NTS



0" = 1"
VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



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DESIGNED	M. TAKEMOTO
DRAWN	S. NGUYEN
CHECKED	M. NAKMOTO

SUBMITTED:	MARK TAKEMOTO	CE-64369
RMC PROJECT ENGINEER		
APPROVED:	STEVE CLARY	CE-30318
RMC ENGINEER		

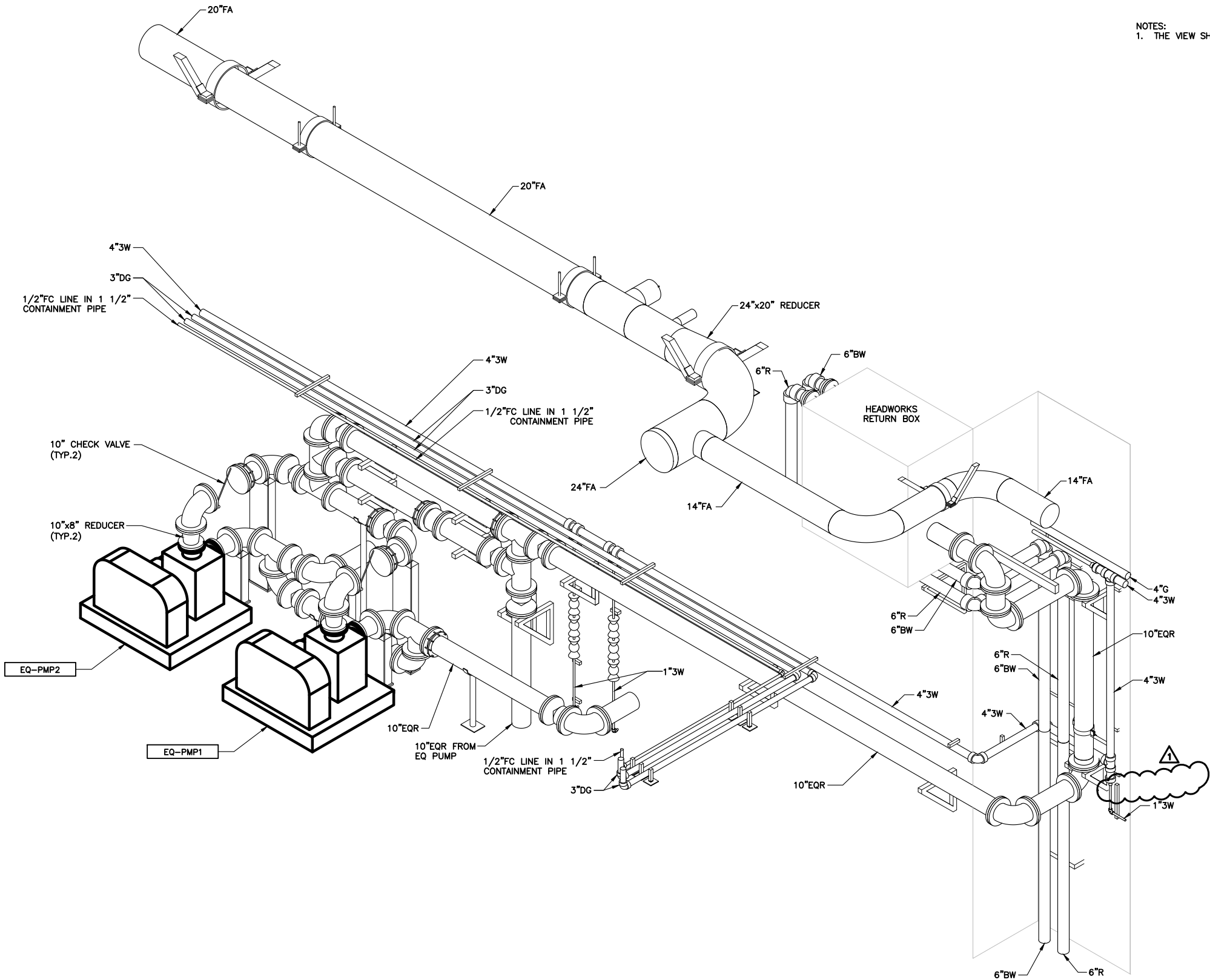


TREATMENT AND WET WEATHER FLOW UPGRADE
**ILLUSTRATIVE
ISOMETRIC VIEWS - 1**

DWG NO	M110-1
SHEET NO	142 OF 226
PROJ NO	055-006
DATE	MARCH 2017

FILENAME: 0055-006-M110-1_3-21-17_01:0pm.sldwg | XREFS: X-SMCSO-TBLK | M.Takemoto-PE-stamp | <--->

FILENAME: 0055-006-M110-2_3-24-17 11:09am sjung XREFS: X-SM/CSD-TBLK | M-Takemoto-PE-stamp | C--



NOTES:
1. THE VIEW SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY. SEE M100-14.

EQ PUMP AREA
SCALE: NTS



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD
1	3/17	SM	SC

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DESIGNED: M. TAKEMOTO
DRAWN: S. NGUYEN
CHECKED: M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

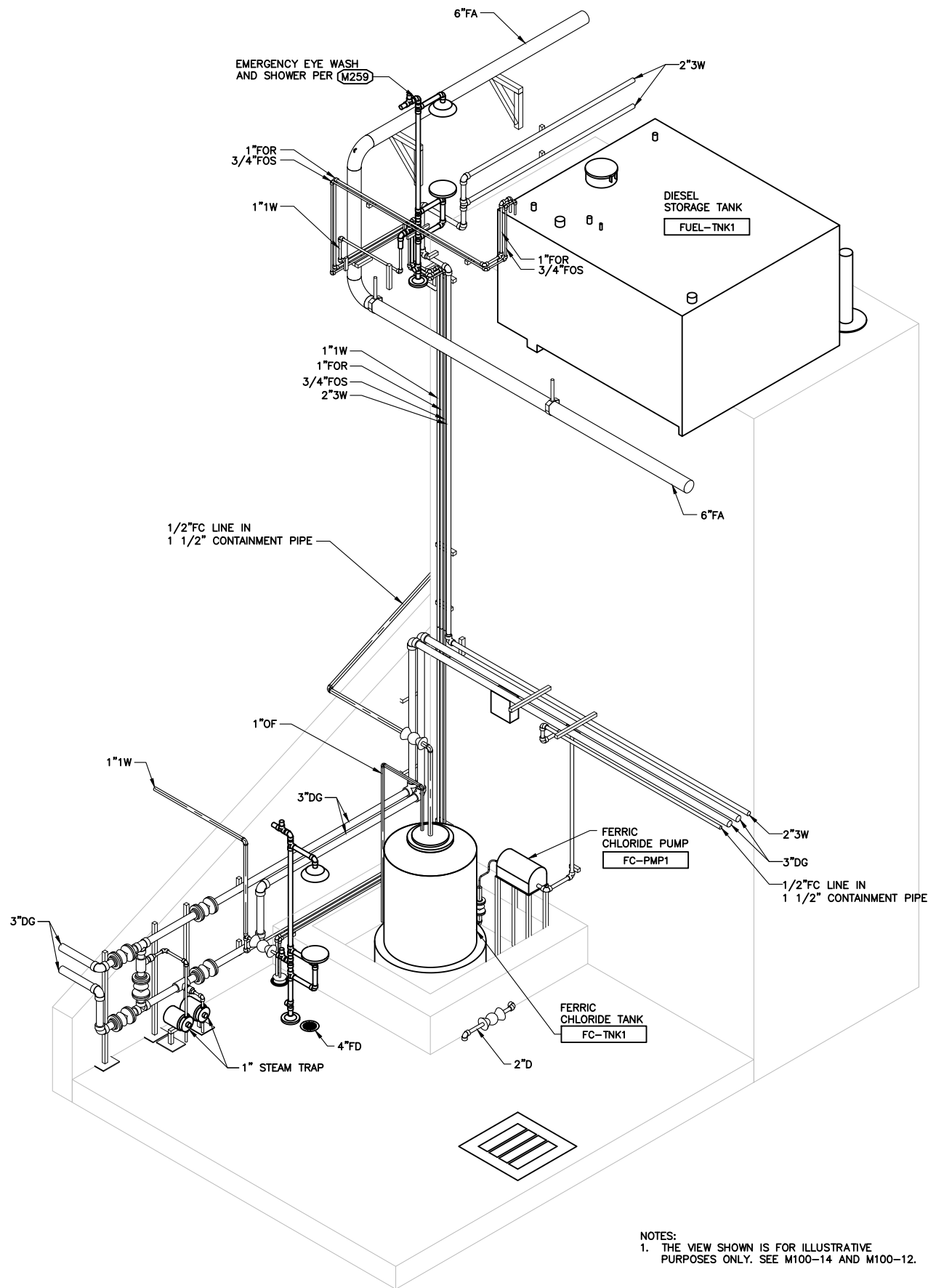


TREATMENT AND WET WEATHER FLOW UPGRADE

**ILLUSTRATIVE
ISOMETRIC VIEWS - 2**

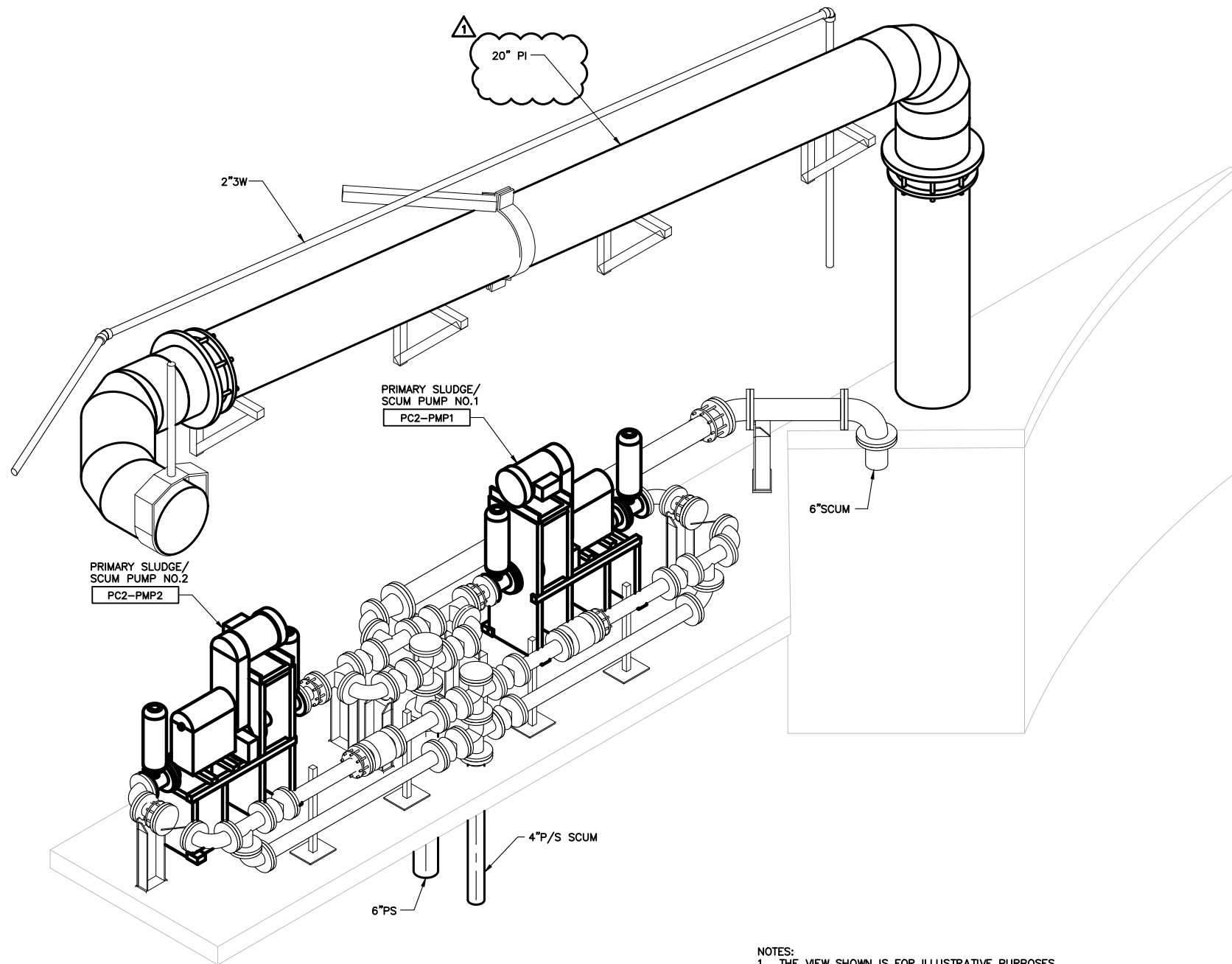
DWG NO: **M110-2**
SHEET NO **143** OF **226**
PROJ NO: 055-006
DATE: MARCH 2017

FILENAME: 0055-006-M110-3 3-28-17 08:13am sjung XREFS: X-SMCSB-TBLK M Takamoto-PE-stamp K<--



NOTES:
1. THE VIEW SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY. SEE M100-14 AND M100-12.

EQ SOUTHEAST AREA
SCALE: NTS



NOTES:
1. THE VIEW SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY. SEE M210-1 AND M210-2.

PRIMARY SLUDGE/SCUM AREA
SCALE: NTS



0" 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD
1	3/17	SM	SC

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DESIGNED M. TAKEMOTO
DRAWN S. NGUYEN
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

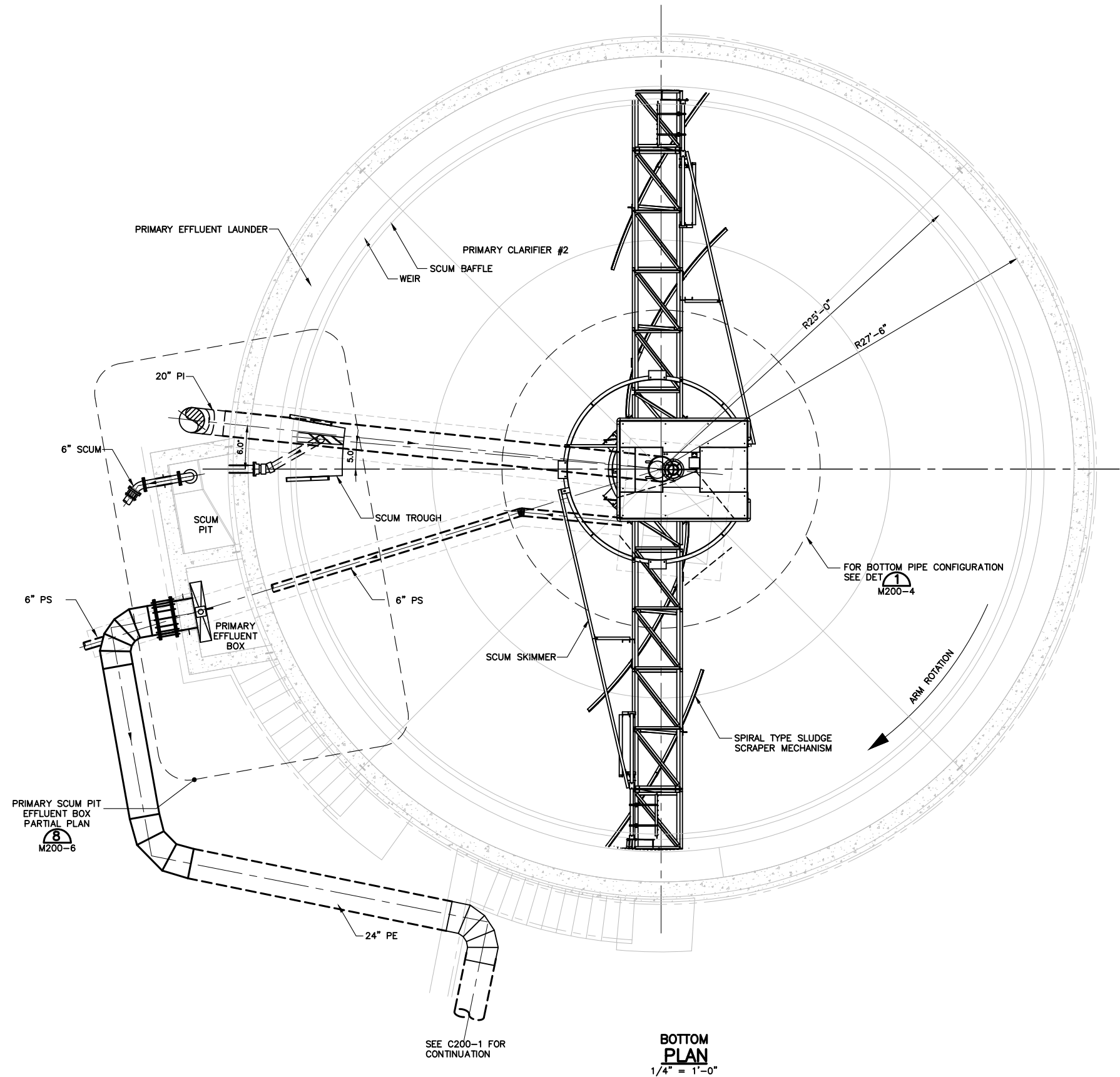


TREATMENT AND WET WEATHER FLOW UPGRADE

ILLUSTRATIVE
ISOMETRIC VIEWS - 3

DWG NO M110-3
SHEET NO 144 OF 226
PROJ NO 055-006
DATE MARCH 2017

NOTES:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATE DIMENSIONS, CONNECTIONS AND ALL OTHER REQUIREMENT TO ENSURE PROPER INSTALLATION AND OPERATION AMONGST ALL EQUIPMENT.



BOTTOM PLAN
1/4" = 1'-0"

SEE C200-1 FOR CONTINUATION



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING
NOTICE:
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SUBSEQUENT ADDENDA

DESIGNED M. TAKEMOTO
DRAWN S. JUNG
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

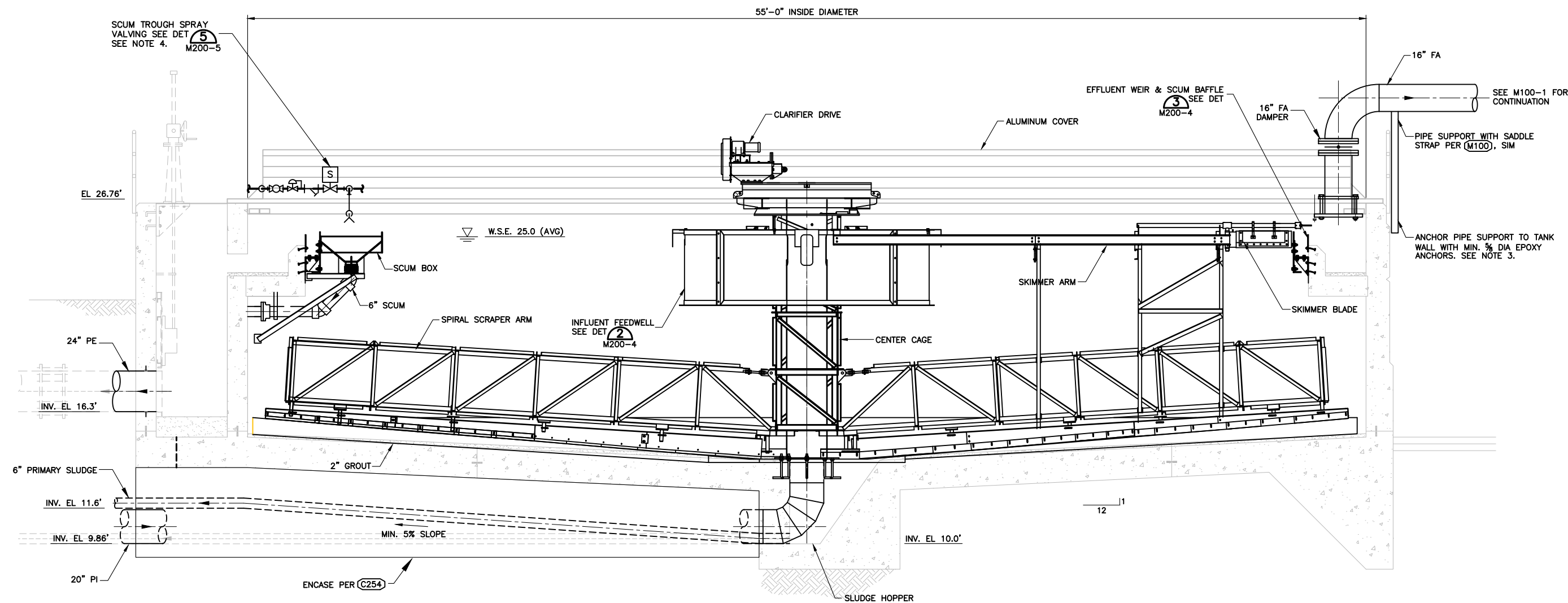


TREATMENT AND WET WEATHER FLOW UPGRADE
**PRIMARY CLARIFIER NO. 2
BOTTOM PLAN**

DWG NO **M200-2**
SHEET NO **146** OF **226**
PROJ NO 055-006
DATE MARCH 2017

FILENAME: 0055-006-M200-2 3-21-17 01:32pm sjung XREFS: X-SMCSO-TBLK S-TANK-PLAN M-Takemoto-PF-stamp KC--

- NOTES:
1. ILLUSTRATIVE CUT. SEE PLAN VIEWS FOR ACTUAL ORIENTATION OF FEATURES SHOWN.
 2. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DIMENSIONS, CONNECTIONS AND ALL OTHER REQUIREMENT TO ENSURE PROPER INSTALLATION AND OPERATION AMONGST ALL EQUIPMENT.
 3. PIPE SUPPORT AND ANCHORAGE SHALL BE DESIGN BY THE CONTRACTOR AND SHALL MEET THE REQUIREMENTS LISTED ON SHEET S-1.
 4. SCUM TROUGH VALVING SHALL BE SUPPORTED BY THE COVER. SUPPORT SHALL COORDINATED WITH AND APPROVED BY THE COVER MANUFACTURER.



SECTION
3/8" = 1'-0"



0" = 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING
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DRAWN S. JUNG
CHECKED M. NAKAMOTO

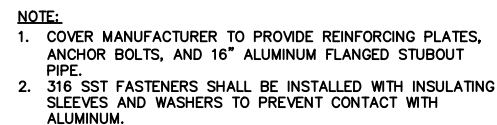
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APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
PRIMARY CLARIFIER SECTION

DWG NO **M200-3**
SHEET NO **147** OF **226**
PROJ NO 055-006
DATE MARCH 2017

FILENAME: 0055-006-M200-3 3-21-17 01:28pm sjung XREFS: X-SMCSB-TBLK S-TANK-SECT M-Takamoto-PE-stamp K<<--



1" BALL VALVE

1" STRAINER

1/2" PRV

1/2" SOLENOID VALVE

1/2" UNION

3/8" ADJUSTABLE BALL FITTING

1" 3W

1" 3W

ALUMINUM COVER

1/2"x3/8"

RED BUSHING

SCUM TROUGH SPRAY NOZZLE, FULL CONE (SEE NOTE 1)

NOTE:

1. LOCATE SCUM TROUGH SPRAY NOZZLE OVER 6" SCUM DRAIN PIPE, FIELD FIT. FULL CONE SPRAY NOZZLE.

1/4" THICK x 5"φ FIBERGLASS WASHER W/ 3/4"φ HOLE IN CENTER (TYP)

1/4" FIBERGLASS WEIR PL

8" (TYP)

90°

3"

1 1/2"

4 1/2"

5"

9 1/2"

2 1/2"

6" MAX

2 5/8" HOLE IN WEIR (TYP)

SEE NOTE 2

CAULK W/ SYNTHETIC RUBBER SEALING COMPOUND

1/4" RADIUS

1/2"Ø TYPE 316 SST ALL THREAD ROD 5" EMBED OR 1/2"Ø SST ANCHOR BOLT

W/NYLOC NUT AND FLAT WASHER. USE ANTI-SEIZE COMPOUND ON THREADS.

PLACE BOND BREAKER TAPE ON BOTTOM OF GROOVE

3/4"

12

3

4

1

4

1/8" MIN

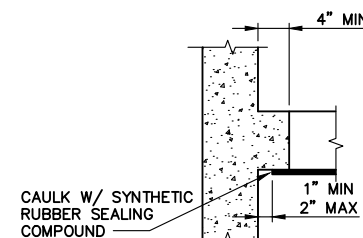
1/2" MAX

TYPE 316 SST WASHER

SECTION A

NPS

1. ALL EDGES, VOIDS, AND SPLICES SHALL BE SEALED WATER TIGHT W/ SYNTHETIC RUBBER SEALING COMPOUND.
2. ANCHOR BOLT SPACING = 12" OC FOR STRAIGHT WEIRS AND 2'-0" OC FOR CURVULAR WEIRS.
3. ADJUST WEIR LEVEL AT CALM WATER SURFACE TO WITHIN $\pm 1/32$ INCH OF THE INDICATED ELEVATION. CONSTRUCTION MANAGER TO APPROVE PRIOR TO CAULKING.



SECTION B

NOTE:

1. COVER MANUFACTURER TO PROVIDE REINFORCING PLATES, ANCHOR BOLTS, AND 8" ALUMINUM FLANGED STUBOUT PIPE.
2. 316 SST FASTENERS SHALL BE INSTALLED WITH INSULATING SLEEVES AND WASHERS TO PREVENT CONTACT WITH ALUMINUM.



0"  1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



△			
△			
△			
△			
△			
REV	DATE	BY	APVD

NOTICE:
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DRAWN	S. JUNG
CHECKED	M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



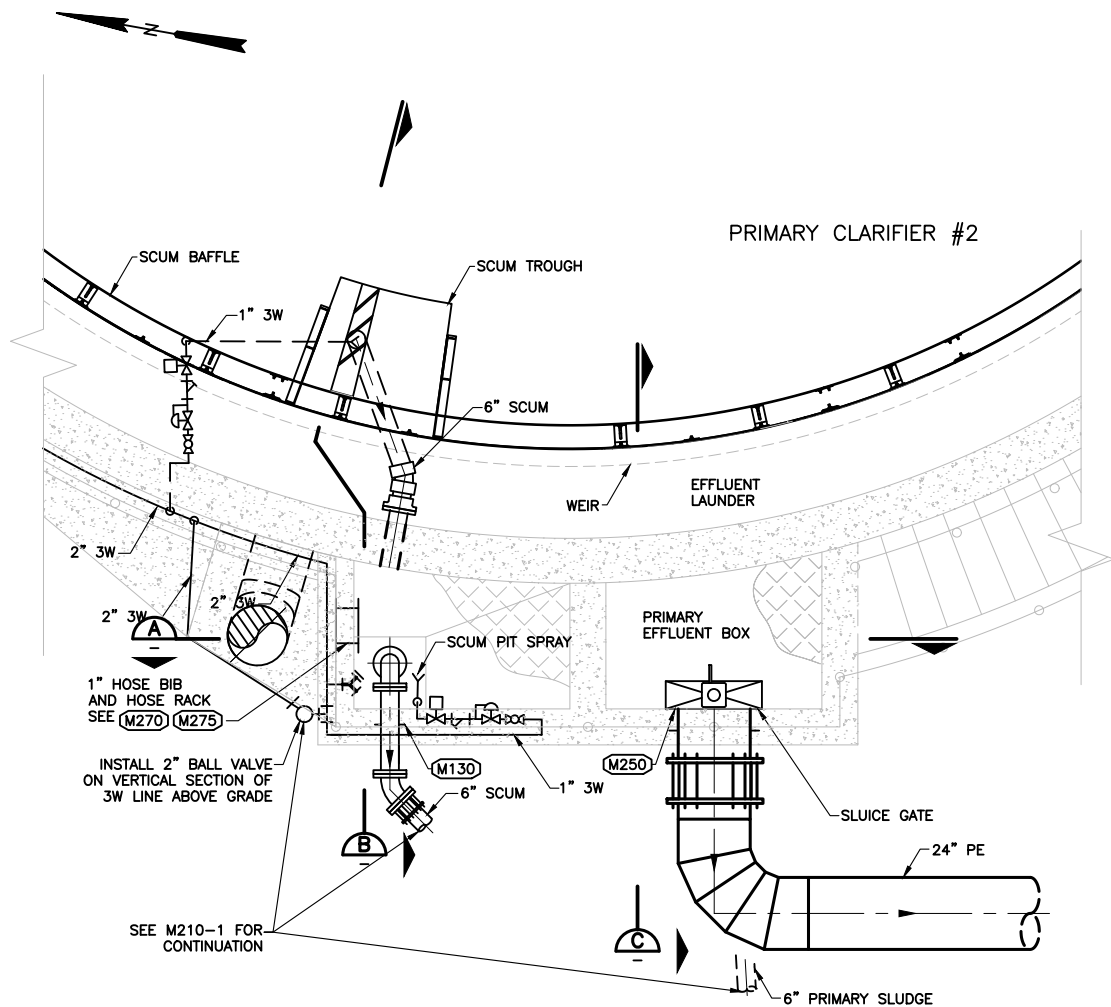
PRIMARY CLARIFIER DETAILS - 2

SHEET NO 149 OF 226

PROJ NO	055-006
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DATE MARCH 2017

FILENAME: 0055-006-M200-6 3-21-17 01:54pm sjung XREFS: X-SMCSO-TBLK S-TANK-SECT M-Takemoto-PE-stamp KC--



PARTIAL PLAN
DETAIL 8
3/8" = 1'-0" M200-2



0" 1" VERIFY SCALES - BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING
NOTICE:
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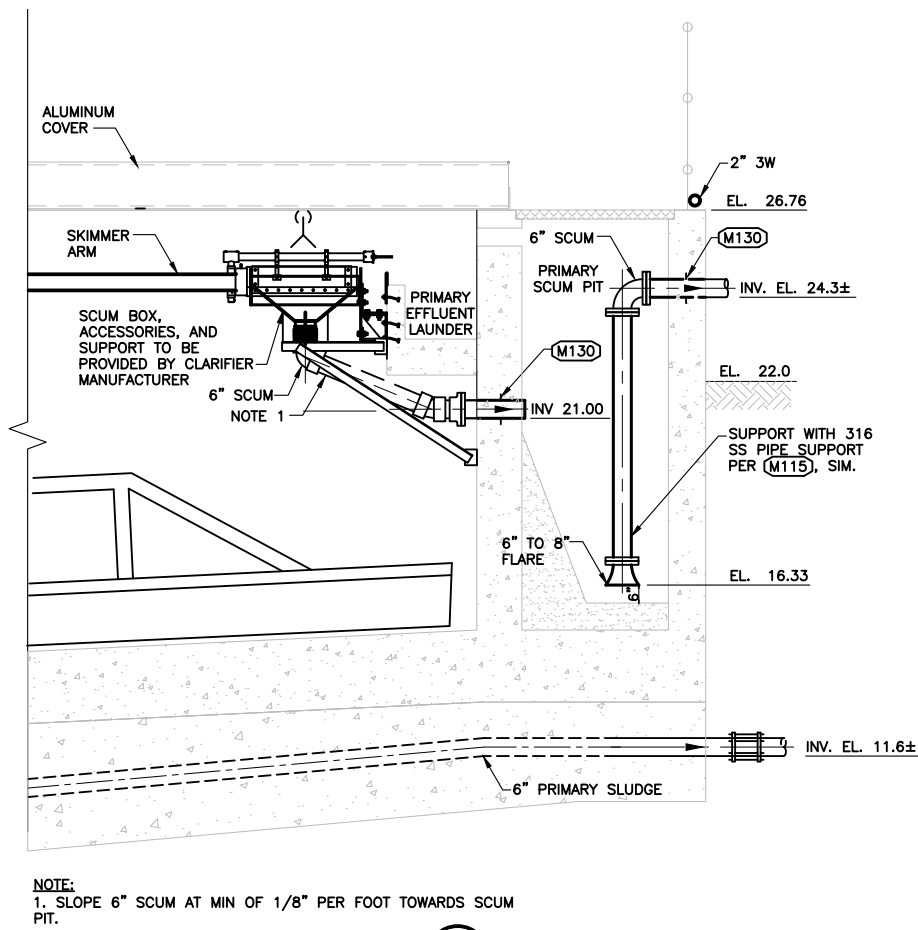
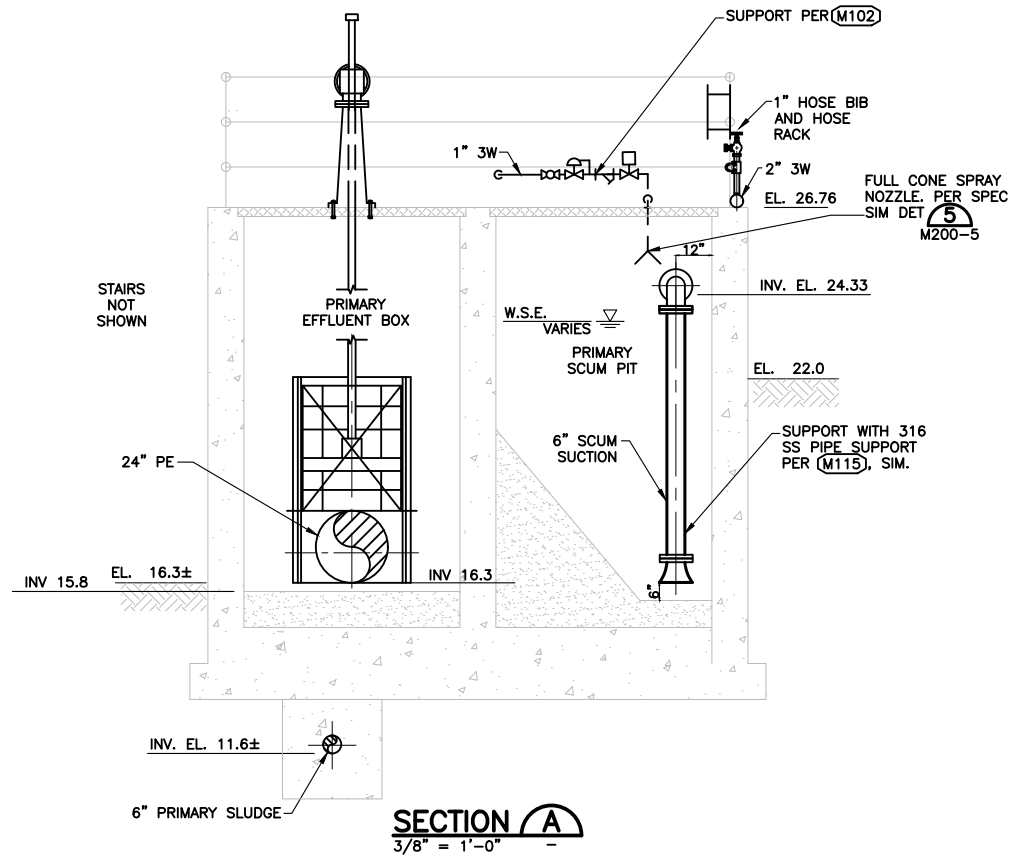
DESIGNED M. TAKEMOTO
DRAWN S. JUNG
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

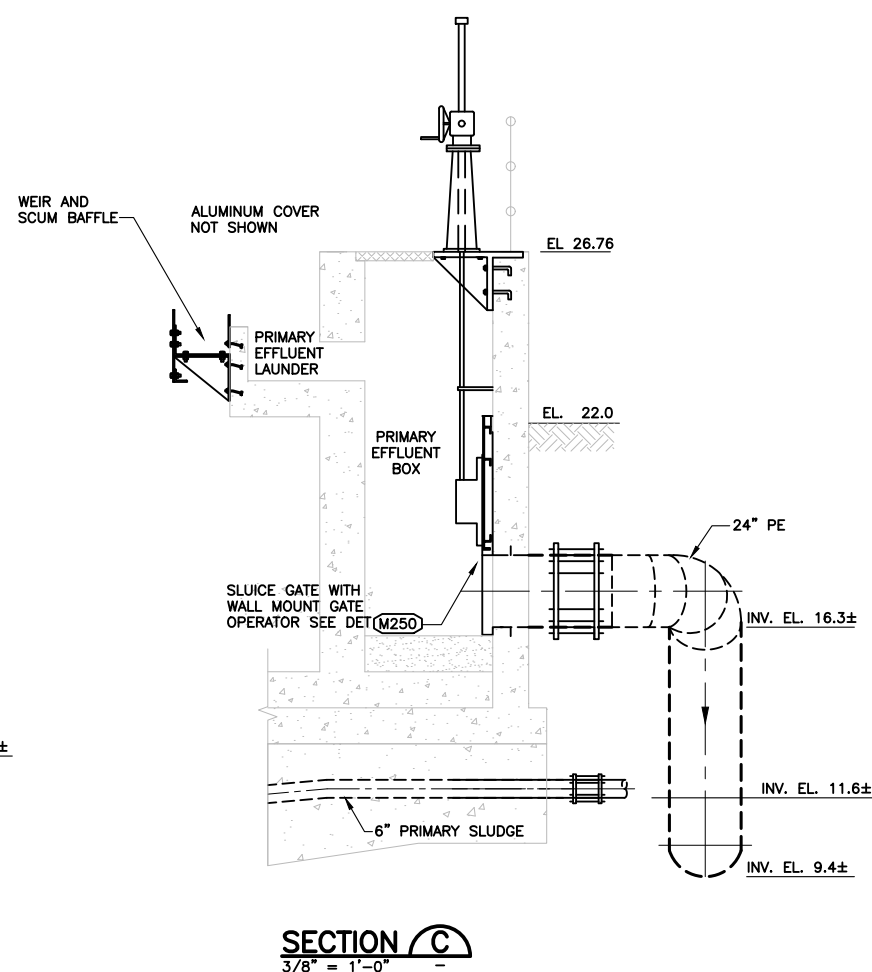


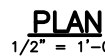
TREATMENT AND WET WEATHER FLOW UPGRADE
SCUM PIT AND EFFLUENT BOX
PARTIAL PLAN AND SECTIONS

DWG NO M200-6
SHEET NO 150 OF 226
PROJ NO 055-006
DATE MARCH 2017



NOTE:
1. SLOPE 6" SCUM AT MIN OF 1/8" PER FOOT TOWARDS SCUM PIT.




$$\frac{1}{2}'' = 1' - 0'$$

4 F3/3COM TO
EXISTING DIGESTER

NOTICE:
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--	--

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

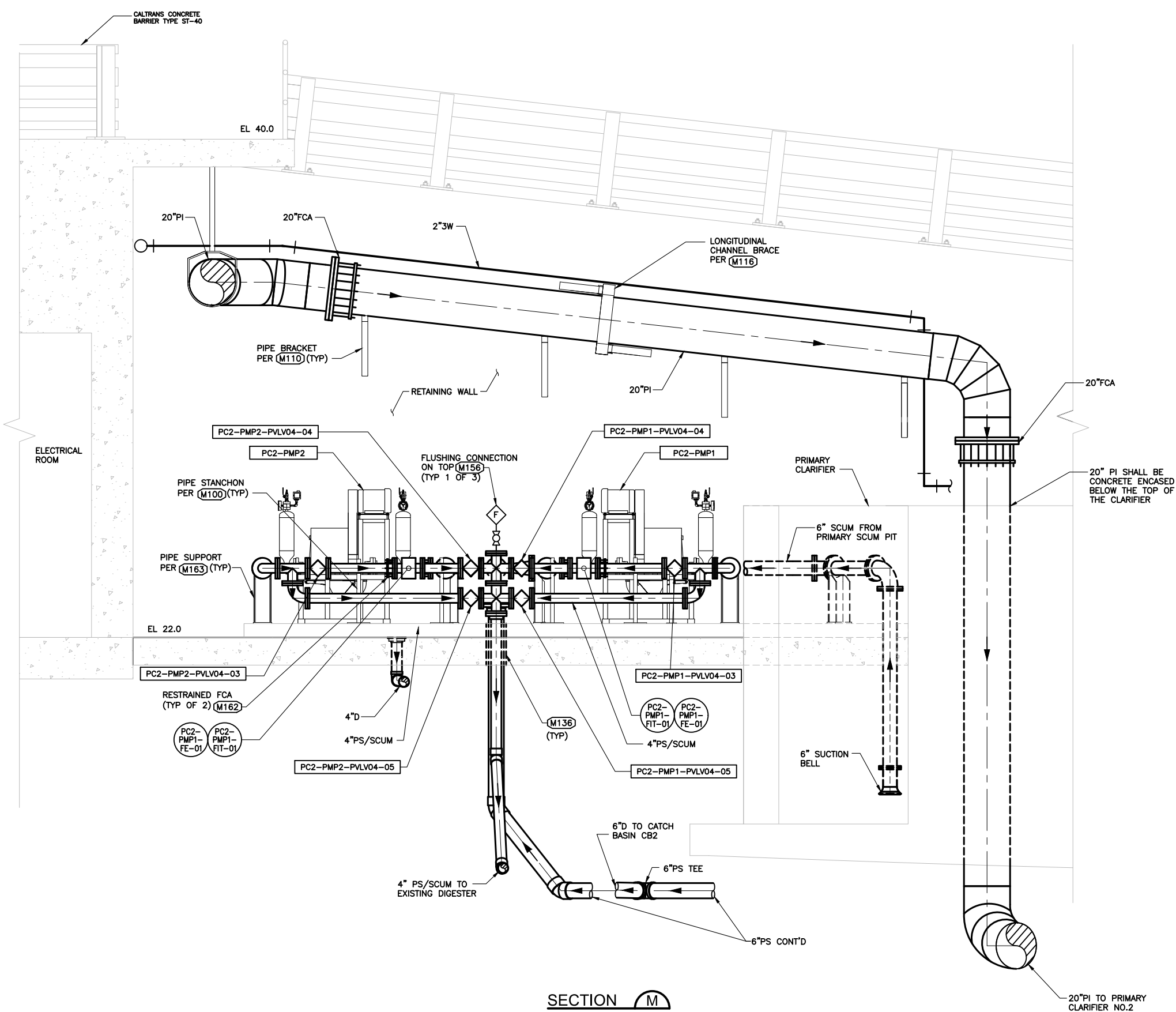


PROJ NO	055-006
DATE	MARCH 2017

NOTES:

1. MOUNT OSHA SAFETY SIGN TO EACH SCUM/SLUDGE PUMP GEAR BOX COVER - "WARNING THIS EQUIPMENT STARTS AUTOMATICALLY"

FILENAME: 0055-006-M210-2 3-21-17 02:04pm 3-jung X-REFS: X-SMCSO-TBLK X-Headworks Sections MTakemoto-PF-Stamp X-StdPlan /<--->



- NOTE:
1. CONTRACTOR SHALL PROVIDE ALL PIPE SUPPORT AS REQUIRED IN SECTION 15006. SUPPORT ANCHORAGE CALCULATION SHALL BE SUBMITTED TO THE CONSTRUCTION MANAGER FOR APPROVAL.

SECTION **M**
SCALE: 1/2"=1'-0" M210-1



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING
NOTICE:
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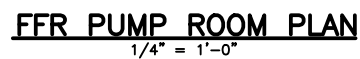
DESIGNED M. TAKEMOTO
DRAWN S. NGUYEN
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
**PRIMARY SLUDGE/SCUM PUMPS
PARTIAL PLAN AND SECTION**

DWG NO **M210-2**
SHEET NO 152 OF 226
PROJ NO 055-006
DATE MARCH 2017



-

0"  1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



△			
△			
△			
△			
REV	DATE	BY	APVD

CONFORMED DRAWING

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SUBSEQUENT ADDENDA

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DRAWN	S. JUNG
CHECKED	M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

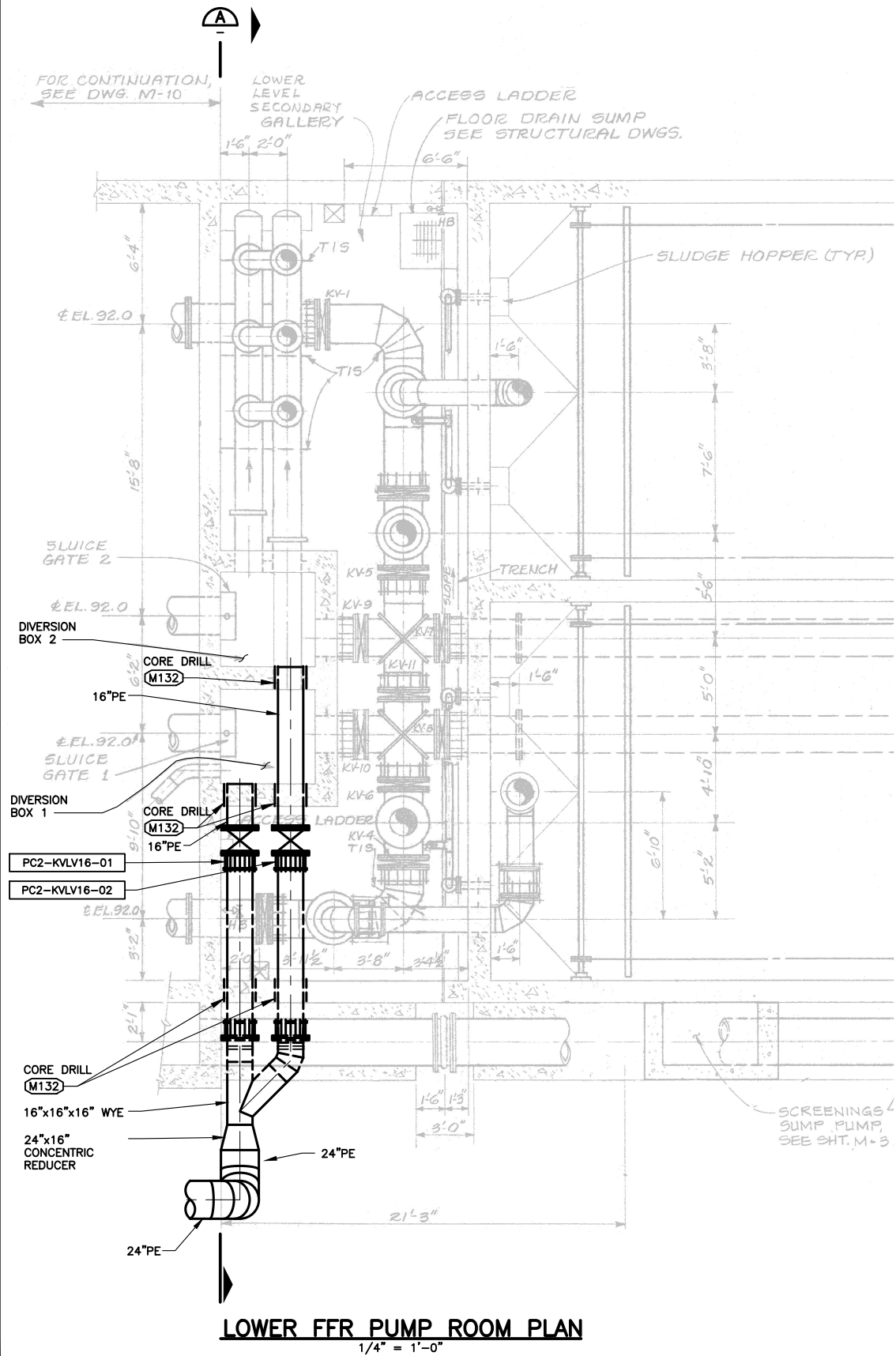
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RMC ENGINEER CE-30318



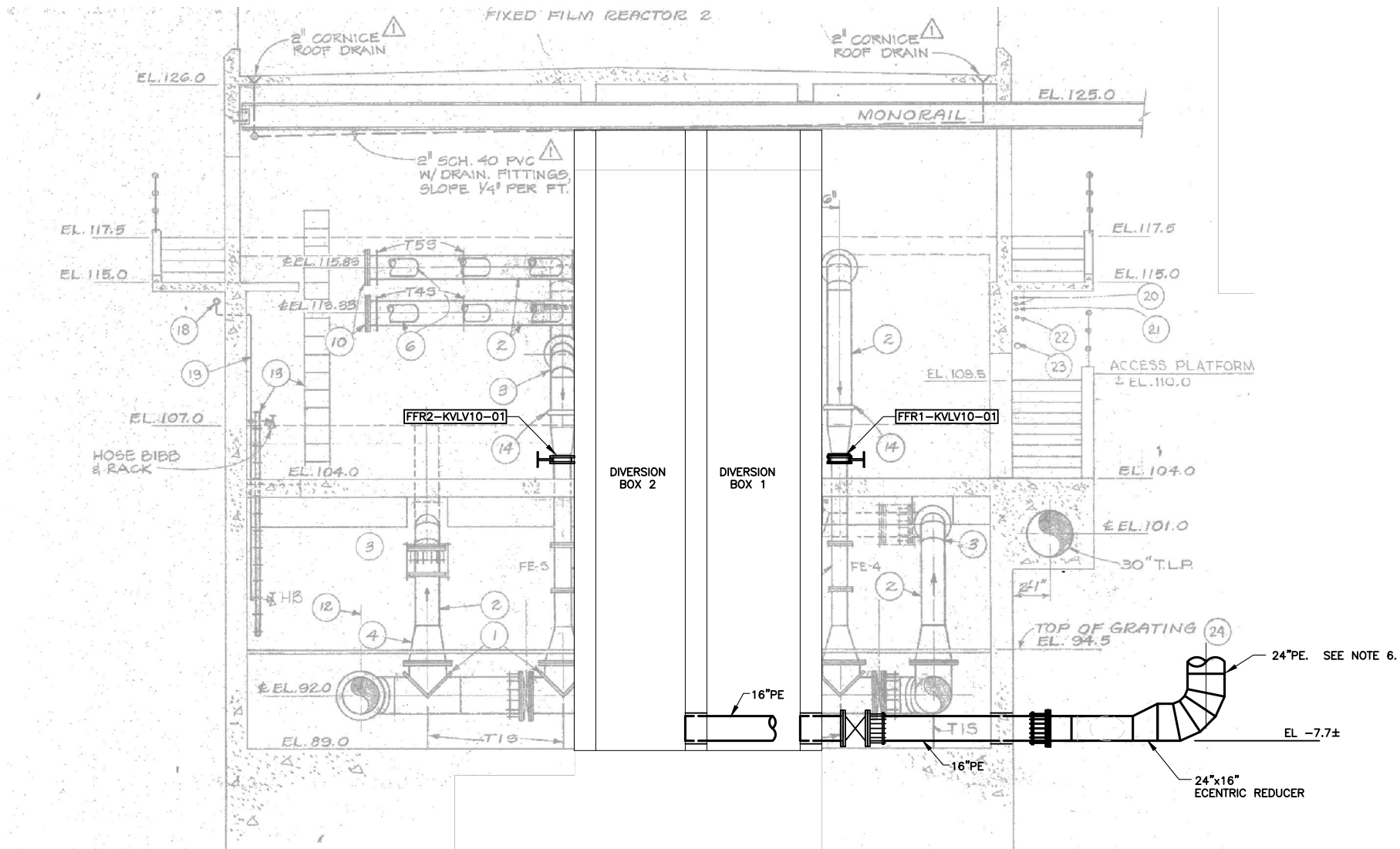
FFR PUMP PLAN AND SECTION

DWG NO	M300-1
SHEET NO	153 OF 226
PROJ NO	055-006
DATE	MARCH 2017

FILENAME: 0055-006-M300-2 3-21-17 02:11pm sjung XREFS: X-SMCSB-TBLK X-StpPlan X-Treatment Plant site plan X-Topo Survey new X-Site M300-M300-PE-stamp KCC--



LOWER FFR PUMP ROOM PLAN
1/4" = 1'-0"



SECTION A
1/4" = 1'-0"

- NOTES:
1. CONSTRUCTION SEQUENCING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 01040.
 2. MECHANICAL REFERENCE FROM WASTEWATER PLANT IMPROVEMENTS 1988 RECORD DRAWING (M-4) SET (SEE REFERENCE DRAWINGS).
 3. REFERENCE DATUM FOR REFERENCE DRAWINGS IS USGS 1929 MSL+100.
 4. CONTRACTOR SHALL VERIFY CLEARANCES AND PIPE ALIGNMENT IN THE FIELD PRIOR TO FABRICATION.
 5. WORK INSIDE THE DIVERSION BOX WILL REQUIRE A CONFINED SPACE ENTRY. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS.
 6. CONSTRUCTION IN THIS AREA WILL REQUIRE EXCAVATION UNDER EXISTING DECK WITH NO EQUIPMENT ACCESS. HIGH TIDE IS APPROXIMATELY EL 8.0. WATER MAY BE ENCOUNTERED DURING EXCAVATION.



0" = 1"
VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

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DESIGNED M. TAKEMOTO
DRAWN S. JUNG
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
DIVERSION BOX
PLAN AND SECTIONS

DWG NO M300-2
SHEET NO 154 OF 226
PROJ NO 055-006
DATE MARCH 2017

EXISTING MOTORIZED DISTRIBUTOR
(WESTECH, INSTALLED IN 2007).
SEE NOTE 3.

ROTARY
DISTRIBUTOR
TYP. FOR
REACTOR 1

DISTRIBUTOR NOT SHOWN

NOTES:

1. CONSTRUCTION SEQUENCING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 01040. THE INTERIOR OF THE FFR STRUCTURE SHALL BE INSPECTED BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION OF THE NEW FFR MEDIA AND SUPPORT SYSTEM. AFTER INSPECTION, THE CONSTRUCTION MANAGER MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED AS DESCRIBED IN SECTION 01025 UNDER OPTIONAL BID ITEMS.
2. CONTRACTOR SHALL REMOVE AND REINSTALL THE EXISTING AIR DUCT SYSTEM AS REQUIRED TO INSTALL THE NEW FFR MEDIA AND SUPPORT SYSTEM. CONTRACTOR SHALL COORDINATE WITH THE FFR MEDIA MANUFACTURER TO ACCOMMODATE THE EXISTING AIR DUCT SYSTEM INCLUDING SUPPORT OF THE AIR DUCTS AND PROVISIONS TO PREVENT ADDITIONAL LOADING ONTO THE AIR DUCTS FROM THE NEW FFR MEDIA. SEE REFERENCE DRAWING M-2 AND M-33 FROM 1988 DRAWINGS FOR EXISTING AIR DUCT LAYOUT. REINSTALLED SYSTEMS SHALL BE TESTED BY THE CONTRACTOR IN ACCORDANCE WITH SECTION 01650.
3. CONTRACTOR SHALL REMOVE AND REINSTALL THE MOTORIZED DISTRIBUTOR AS REQUIRED TO INSTALL THE NEW FFR MEDIA AND SUPPORT SYSTEM. REINSTALLED SYSTEMS SHALL BE TESTED BY THE CONTRACTOR IN ACCORDANCE WITH SECTION 01650.
4. MECHANICAL REFERENCE FROM WASTEWATER PLANT IMPROVEMENTS 1988 RECORD DRAWING (M-5) SET (SEE REFERENCE DRAWINGS).
5. REFERENCE DRAWING DATUM USGS 1929 MSL+100.

FOR CONTINUATION
SEE SHT. M-9

EXISTING PVC AIR HEADER AND
DUCTS. SEE NOTE 2.

STEM
COVER

SLIDE GATE
OPERATOR

EL. 117.5
EFFLUENT
CHANNEL

EL. 110.0
EFFLUENT
SCREEN PUMP

NEW FFR MEDIA AND SUPPORT PER SECTION 11403
SECONDARY SEDIMENTATION
TANK 1

SCUM COLLECTOR

EFFLUENT LAUNDER

SLUDGE COLLECTOR ← TRAVEL

NEW MEDIA SUPPORT

INLET CHANNEL

SECONDARY SLUDGE
PUMP 2

BAR SCREEN
SEE DETAIL

FFR2-KVLV10-01

PIPE
EL. 101.5

SLUDGE HOPPER

INV. EL. 94.0

EL. 89.0

SECONDARY GALLERY
LOWER LEVEL

SECTION A
82.3 4/5

PLAN
1/4" = 1'-0"

18. SWEEP IN GROUT W/MECHANISM.
19. CONCRETE FILLET. SEE STRUCTURAL
DWGS.
20. 4" PLUG VALVE.

11. MAKE CONNECTIONS PER DISTRIBUTOR
MANUFACTURER'S RECOMMENDATIONS.
12. 8" T.X-3P (TYP.).
13. FFR2 AIR DUCT SYSTEM NOT SHOWN. SEE
FFR1.
14. 30" X 14" DUCT.
15. REACTOR AIR DUCT SYSTEM.
16. SUPPORT ALL DUCTS FROM 8" BEAM 2'-0"
O.C. SEE DETAIL (2/M-33).
17. FOR DUCT SIZES, ETC. SEE M-2. FOR
ISOMETRIC DIAGRAM SEE M-33.

1. FIXED FILM REACTORS CUT AT CENTER-
LINE ON THIS DWG. FOR CLARITY.
2. 24" T.L.P.
3. 16" T.X-3P.
4. 16" T.X-3P. SEE NOTE 3, SHT. M-3.
5. 12" T.X-3P FOR CONTINUATION. SEE
SHT. M-3.
6. 4" T.N-7P.
7. 16" T.X-3P 90° ELL.
8. 4" T.N-7P 90° ELL.
9. 10" VENTURI FLOW METER. SEE SPECS.
10. 18" E.C.A. W/ RESTRAINING RINGS.



0" = 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING
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DESIGNED M. TAKEMOTO
DRAWN S. JUNG
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

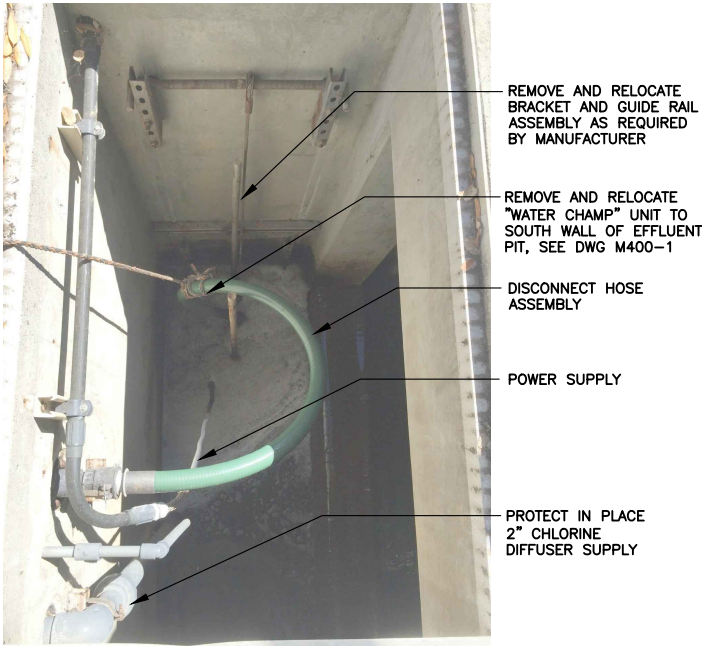
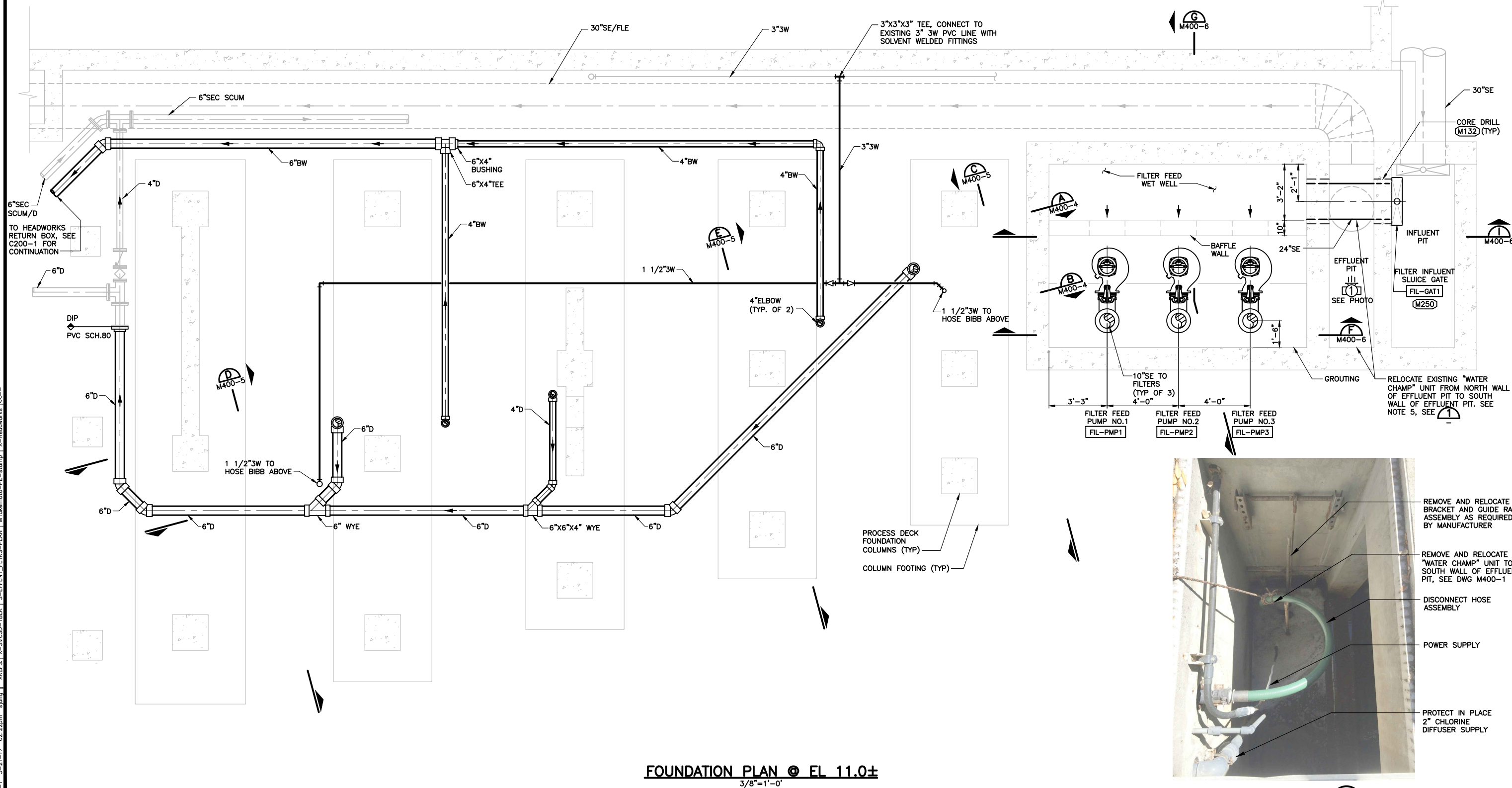


TREATMENT AND WET WEATHER FLOW UPGRADE
**FIXED FILM REACTOR
SECTION**

DWG NO **M300-3**
SHEET NO 155 OF 226
PROJ NO 055-006
DATE MARCH 2017

FILENAME: 0055-006-M300-3 3-21-17 02:13pm sjung XREFS: X-SMCSB-TBLK W/Marketo-PE-stamp.kc--

- NOTES:
1. NOT ALL EXISTING PIPING SHOWN. CONTRACTOR SHALL FIELD VERIFY PIPE ALIGNMENTS.
 2. CONTRACTOR SHALL COORDINATE AND CONFIRM ALL EQUIPMENT DIMENSIONS, CONNECTIONS, AND INSTALLATION REQUIREMENTS.
 3. PIPING SHOWN IS LOCATED BELOW THE PROCESS DECK AND ALONG THE SHORELINE, WITH LIMITED ACCESS.
 4. INSTALLATION OF THE NEW 30" SE PIPE AND FILTER INFLUENT GATE WILL REQUIRE ISOLATION AND BYPASS OF THE INFLUENT AND EFFLUENT PITS. SEE SECTION 01040.
 5. CONTRACTOR SHALL MODIFY EXISTING BRACKET AND GUIDE RAIL ASSEMBLIES AS REQUIRED BY MANUFACTURER TO ATTACH UNIT TO SOUTH WALL OF EFFLUENT PIT. CENTERLINE OF UNIT SHALL BE SET AT ELEVATION 9.20 WITH IMPELLER ORIENTED SOUTH. CONTRACTOR SHALL REINSTALL HOSE ASSEMBLY AND POWER SUPPLY. REINSTALLED SYSTEM SHALL BE TESTED BY CONTRACTOR IN ACCORDANCE WITH SECTION 01650.



FOUNDATION PLAN @ EL 11.0±
3/8"=1'-0"

DETAIL 1
NTS

REGISTERED PROFESSIONAL ENGINEER
No. 82686
Exp. 09-30-18
CIVIL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
No. 64369
Exp. 06-30-17
CIVIL
STATE OF CALIFORNIA

0"=1" VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING.
IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

REV	DATE	BY	APVD

CONFORMED DRAWING

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DESIGNED	S. MASUDA	SUBMITTED: MARK TAKEMOTO RMC PROJECT ENGINEER CE-64369
DRAWN	J. MAY	
CHECKED	M. NAKAMOTO	APPROVED: STEVE CLARY RMC ENGINEER CE-30318

TREATMENT AND WET WEATHER FLOW UPGRADE

EFFLUENT FILTERS FOUNDATION PLAN

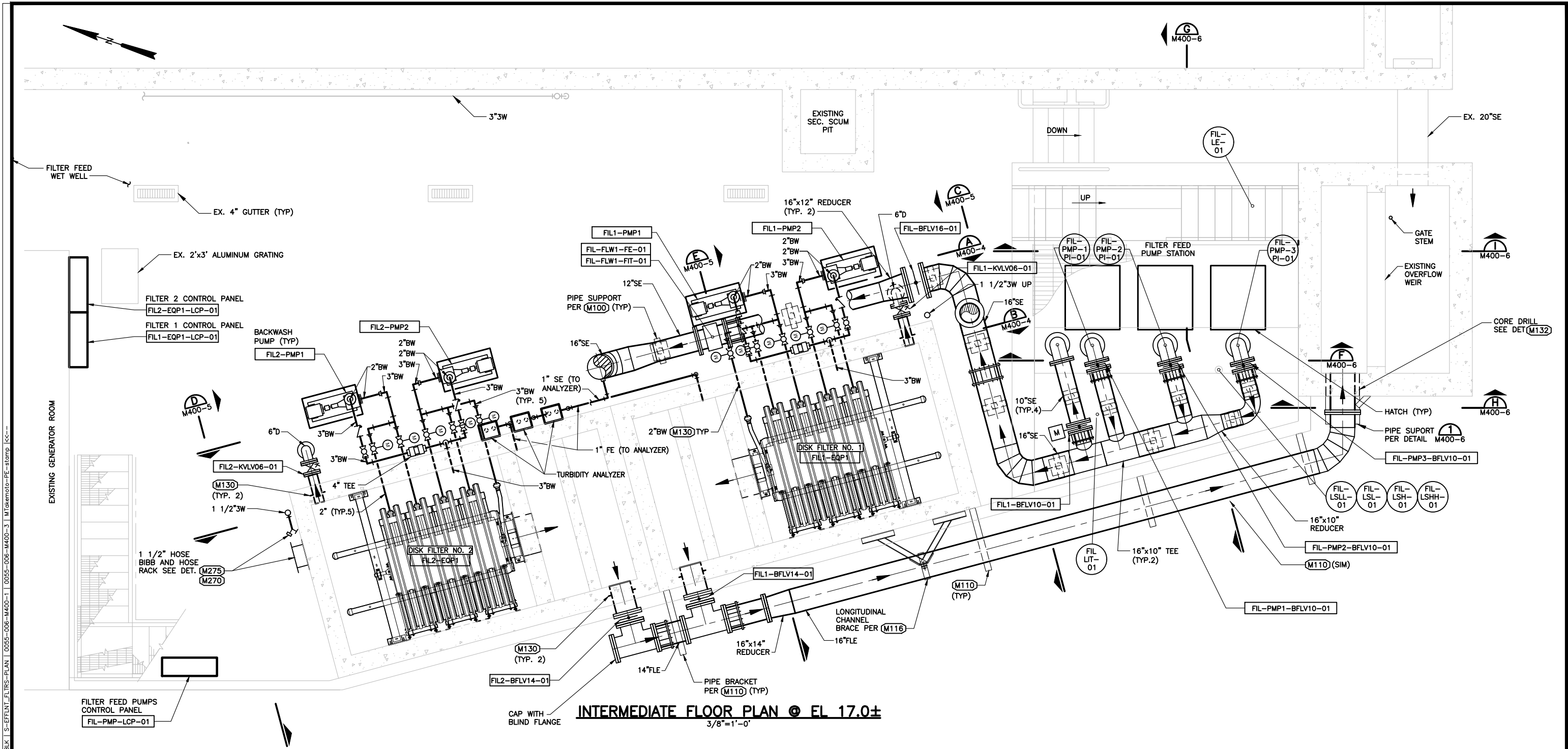
DWG NO M400-1

SHEET NO 156 OF 226

PROJ NO 055-006

DATE MARCH 2017

Lost Saved By: CTo 11-18-16 05:14pm



INTERMEDIATE FLOOR PLAN @ EL 17.0±
3/8"=1'-0"

NOTES:

1. CONTRACTOR SHALL COORDINATE AND CONFIRM ALL EQUIPMENT DIMENSIONS, CONNECTIONS, AND INSTALLATION REQUIREMENTS.



0"=1' SCALE
1"=1' SCALE
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING

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DESIGNED S. MASUDA
DRAWN S. JUNG
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

EFFLUENT FILTERS INTERMEDIATE PLAN

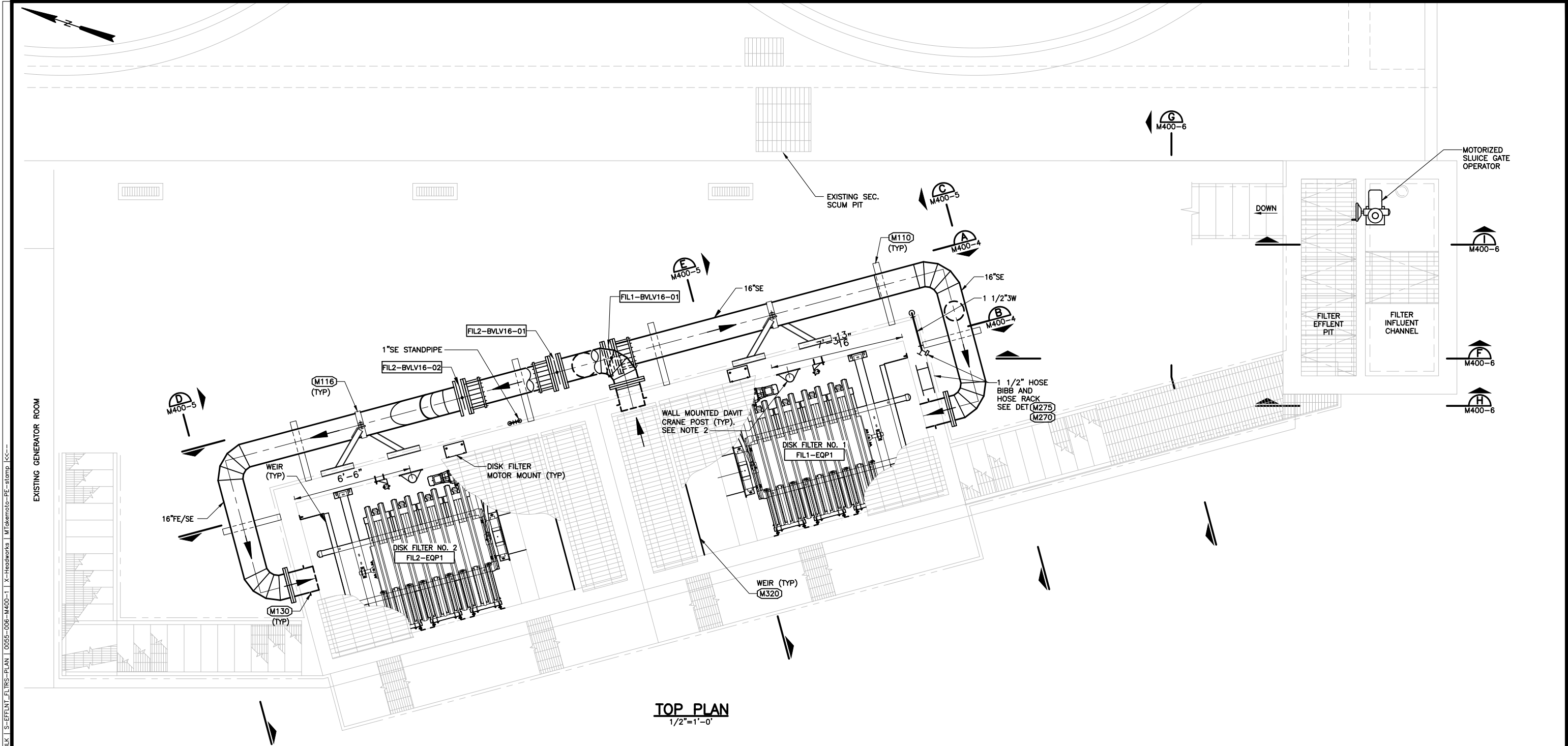
DWG NO. M400-2

SHEET NO. 157 OF 226

PROJ NO. 055-006

DATE MARCH 2017

FILENAME: 0055-006-M400-2 3-21-17 02:25pm sjung XREFS: X-SMCSO-TBLK S-EFFLUENT FILTERS-PLAN 0055-006-M400-1 0055-006-M400-3 M-Takemoto-PE-stamp KCC--



TOP PLAN
1/2"=1'-0"

- NOTES:
1. CONTRACTOR SHALL COORDINATE AND CONFIRM ALL EQUIPMENT DIMENSIONS, CONNECTIONS, AND INSTALLATION REQUIREMENTS.
 2. CONTRACTOR SHALL PROVIDE AND INSTALL WALL MOUNTED DAVIT CRANE POSTS ON EACH FILTER. CONTRACTOR SHALL PROVIDE ONE DAVIT CRANE FOR USE ON BOTH FILTER UNITS. SEE SECTION 14600.

REGISTERED PROFESSIONAL ENGINEER
No. 82686
Exp. 09-30-18
CIVIL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
No. 64369
Exp. 06-30-17
CIVIL
STATE OF CALIFORNIA

0"=1' SCALE
1"=1' SCALE
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

CONFORMED DRAWING
NOTICE:
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DESIGNED S. MASUDA
DRAWN J. MAY
CHECKED M. NAKAMOTO

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RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

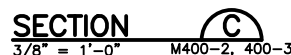
SAN MATEO COUNTY
SANITARY DISTRICT

TREATMENT AND WET WEATHER FLOW UPGRADE

EFFLUENT FILTERS TOP PLAN

DWG NO M400-3
SHEET NO 158 OF 226
PROJ NO 055-006
DATE MARCH 2017

Lost Saved By: CTo 11-18-16 05:14pm



1. SUPPORT BW PIPING PER DETAIL M108 AS REQUIRED.



0"  1"
— VERIFY SCALES —
BAR IS ONE INCH
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SIZE DRAWING.
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DRAWING, ADJUST
SCALES ACCORDINGLY



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REV	DATE	BY	APVD

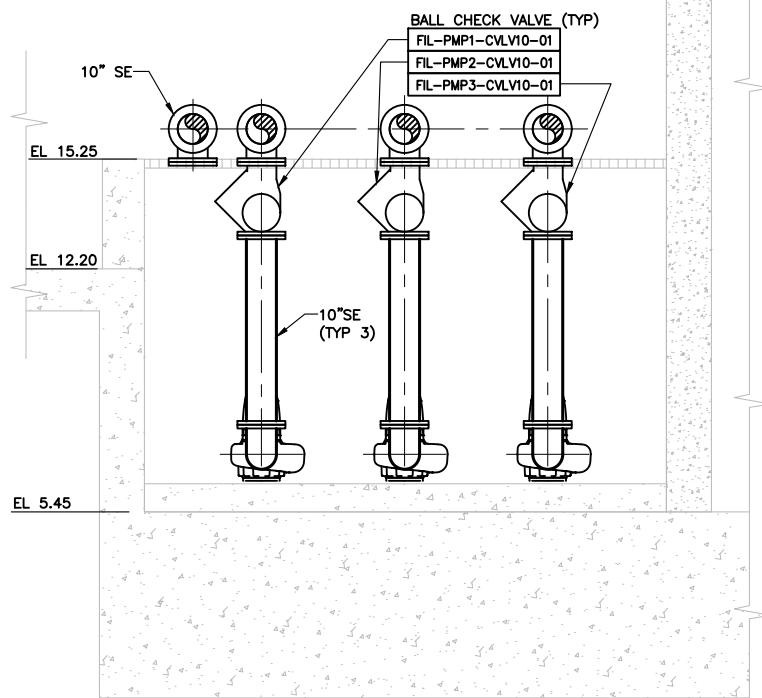
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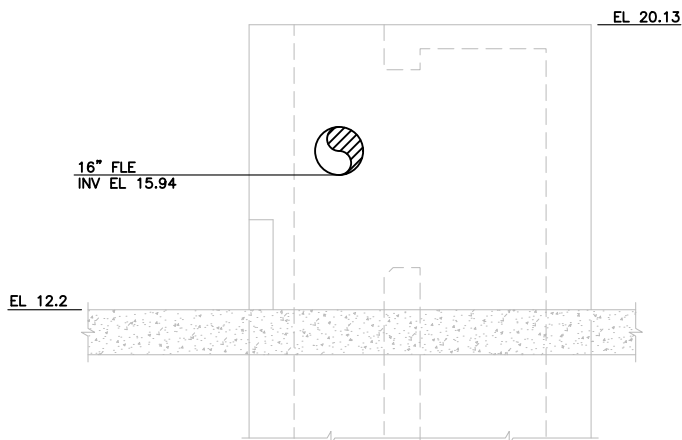
EFFLUENT FILTERS SECTIONS

DATE MARCH 2017

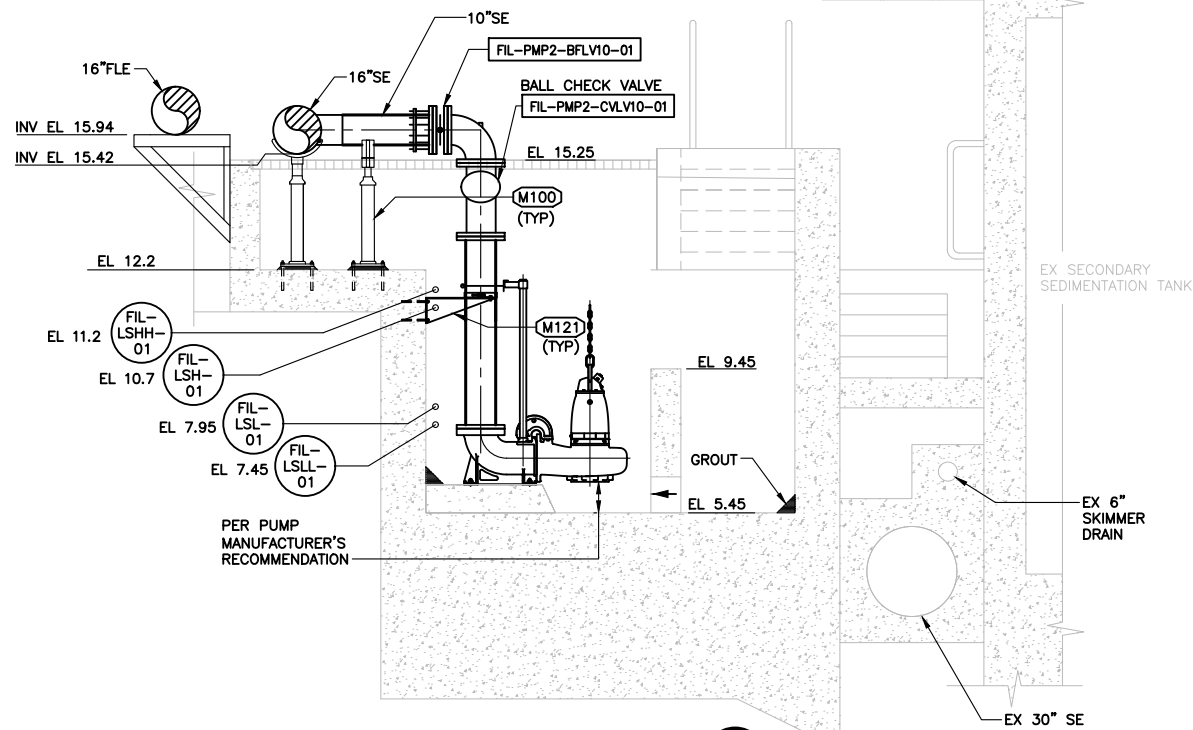
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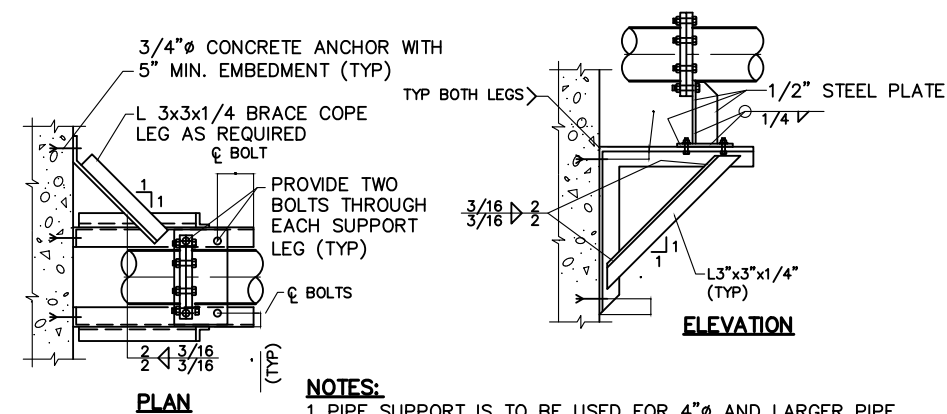
SECTION **F**
3/8" = 1'-0" M400-1, 400-2, 400-3



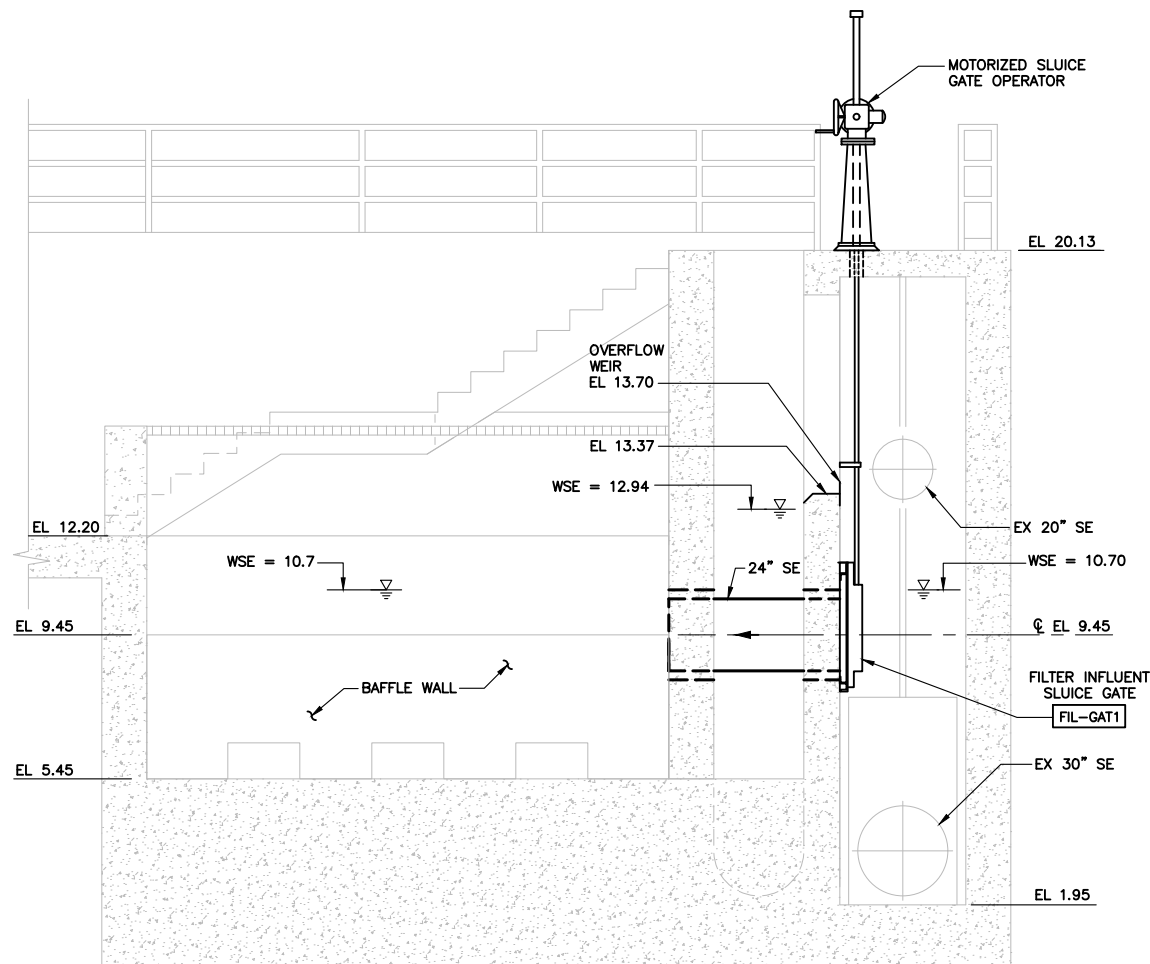
SECTION **H**
3/8" = 1'-0" 400-2, 400-3



SECTION **G**
3/8" = 1'-0" M400-1, 400-2, 400-3



PIPE SUPPORT **1**
NTS M400-2



SECTION **I**
3/8" = 1'-0" M400-1, 400-2, 400-3



0" = 1" VERIFY SCALES - BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



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DESIGNED S. MASUDA
DRAWN J. MAY
CHECKED M. NAKAMOTO

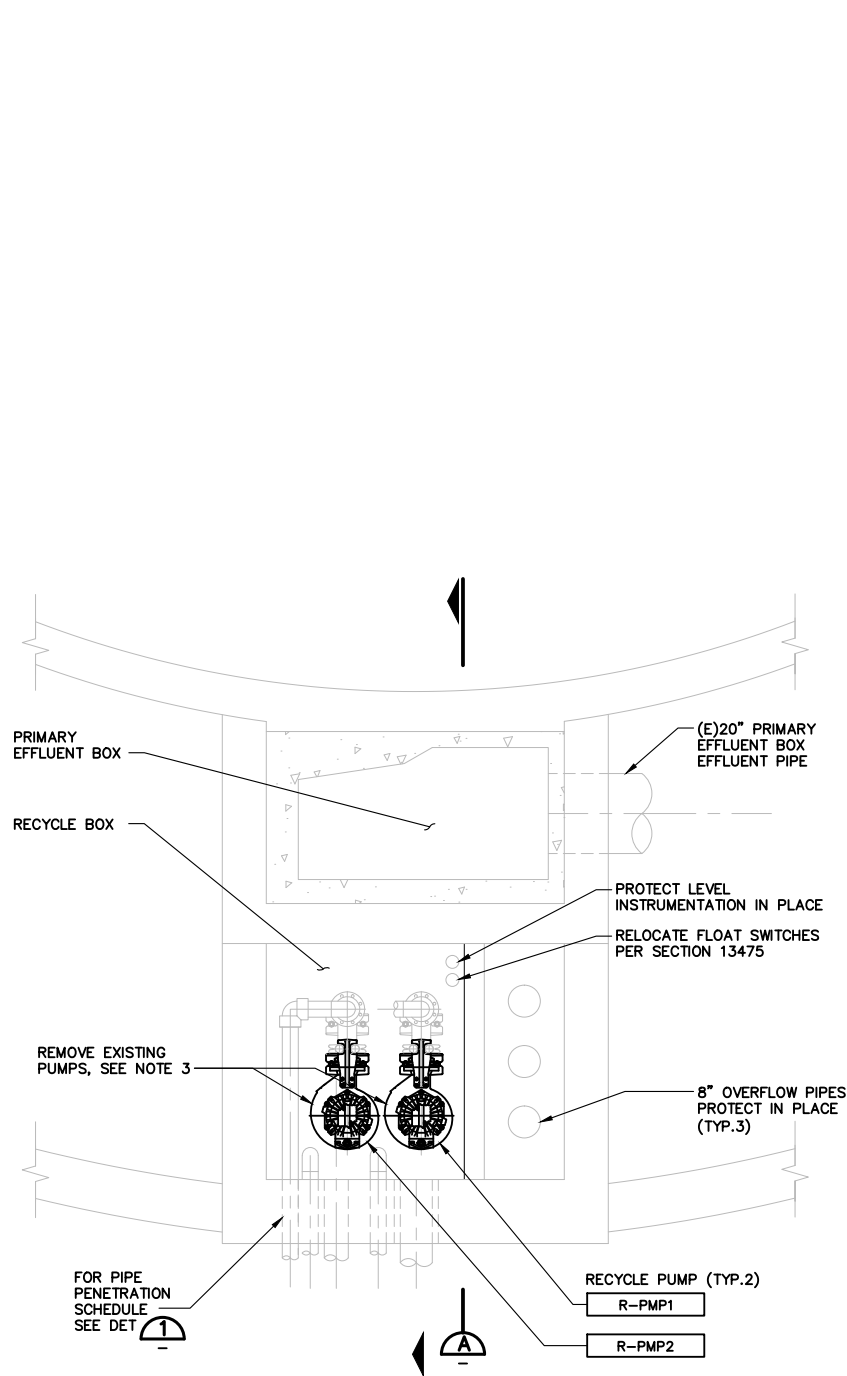
SUBMITTED: MARK TAKAMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



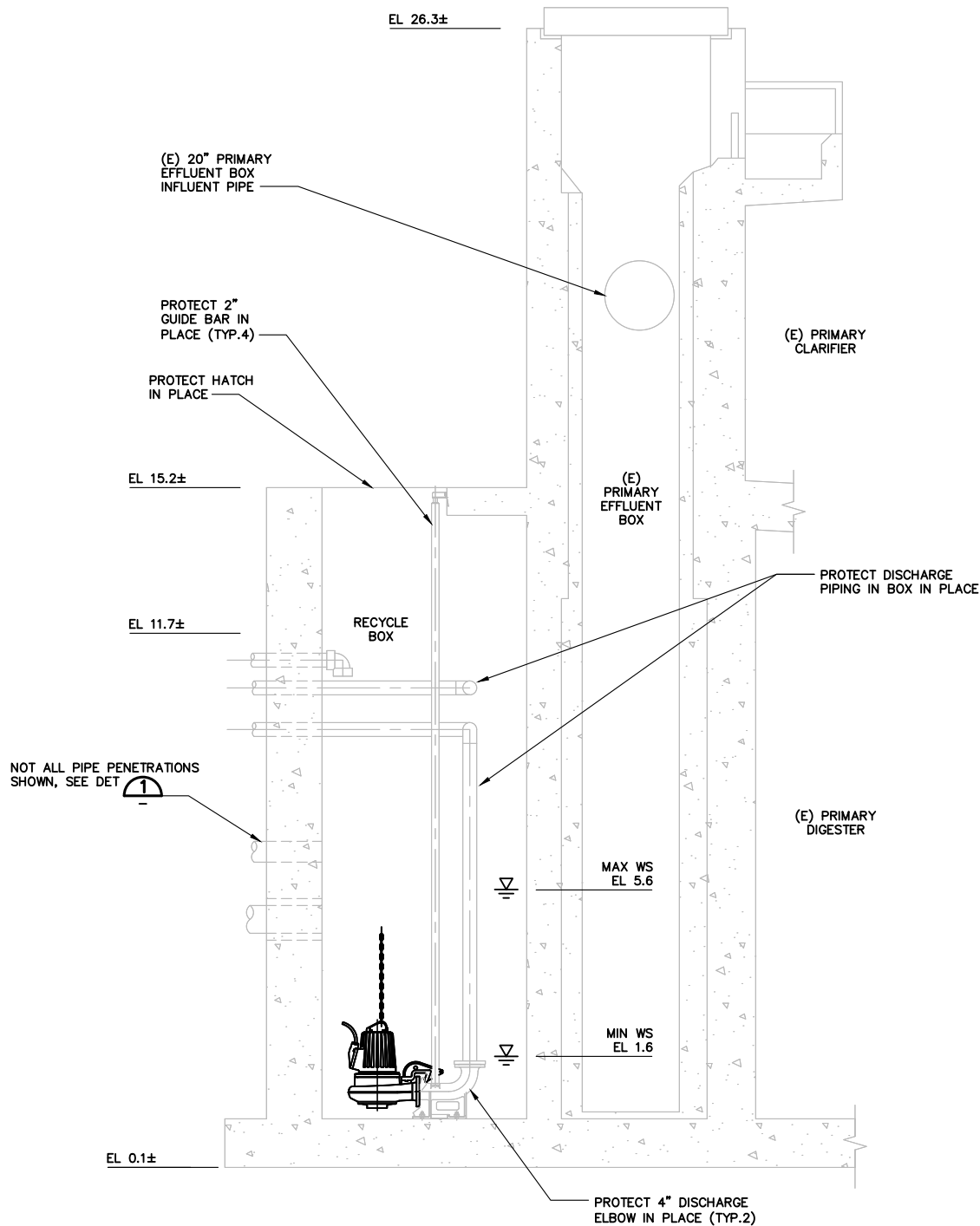
TREATMENT AND WET WEATHER FLOW UPGRADE
EFFLUENT FILTERS SECTIONS

DWG NO M400-6
SHEET NO 161 OF 226
PROJ NO 055-006
DATE MARCH 2017

FILENAME: 0055-006-M500-1 3-21-17 02:42pm SJung XREFS: X-SMCSO-TBLK M Takemoto-PE-stamp K<<--



PLAN AT EL 11.7
1/2" = 1'-0"



SECTION A
1/2" = 1'-0"

EXISTING RECYCLE BOX PIPE PENETRATION SCHEDULE			
PIPE SIZE	QUANTITY	ACTION	SERVICE
4"	1	SEE NOTE 2	BATHROOM
4"	2	SEE NOTE 1	SCREW PRESS DRAIN
6"	1	SEE NOTE 2	STORM DRAIN
4"	2	SEE NOTE 2	RECYCLE PUMP DISCHARGE
6"	1	SEE NOTE 1	EFFLUENT FILTERS DRAIN
6"	1	SEE NOTE 1	EFFLUENT SCREEN RETURN/BATHROOM/LAB SINK
8"	1	SEE NOTE 3	DEWATERING BLDG DRAIN

NOTES:

- PROTECT (E) PIPE PENETRATION IN PLACE.
- PROTECT (E) PIPE PENETRATION IN PLACE. CONNECT TO NEW PIPE CONNECTION OUTSIDE OF RECYCLE BOX. SEE C200-1.
- DEMOLISH EXISTING 8" PIPING AND APPURTENANCES. CUT PIPE FLUSH WITH BOX AND PLUG WITH CONCRETE.

DETAIL 1
NOT TO SCALE

NOTES:

- ALL DIMENSIONS REFERENCING EXISTING STRUCTURES ARE APPROXIMATE. CONTRACTOR SHALL VERIFY IN FIELD.
- CONSTRUCTION SEQUENCING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 01040.
- REMOVE EXISTING PUMPS AND REPLACE WITH NEW SUBMERSIBLE PUMPS. NEW PUMPS SHALL BE IDENTICAL IN FRAME SIZE TO EXISTING PUMPS AND SHALL UTILIZE EXISTING ELBOWS AND GUIDE RAILS.



0" 1"
— VERIFY SCALES —
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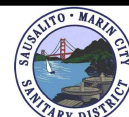
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DESIGNED S. MASUDA
DRAWN J. MAY
CHECKED M. NAKAMOTO

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

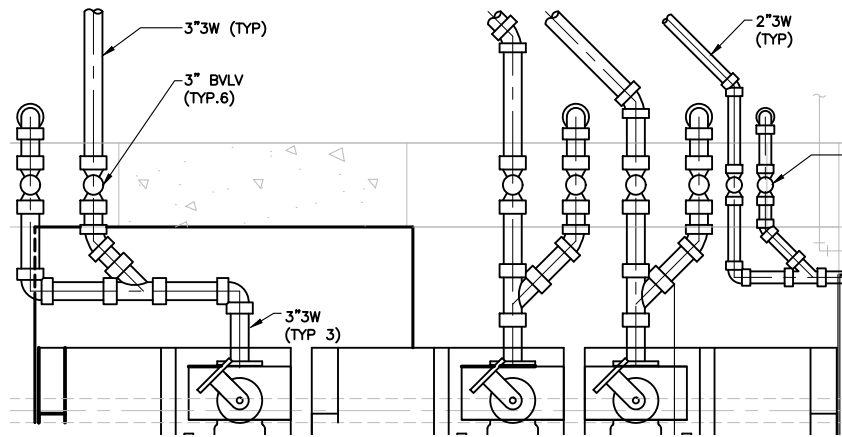
**RECYCLE BOX PLANS
AND SECTIONS**

DWG NO **M500-1**

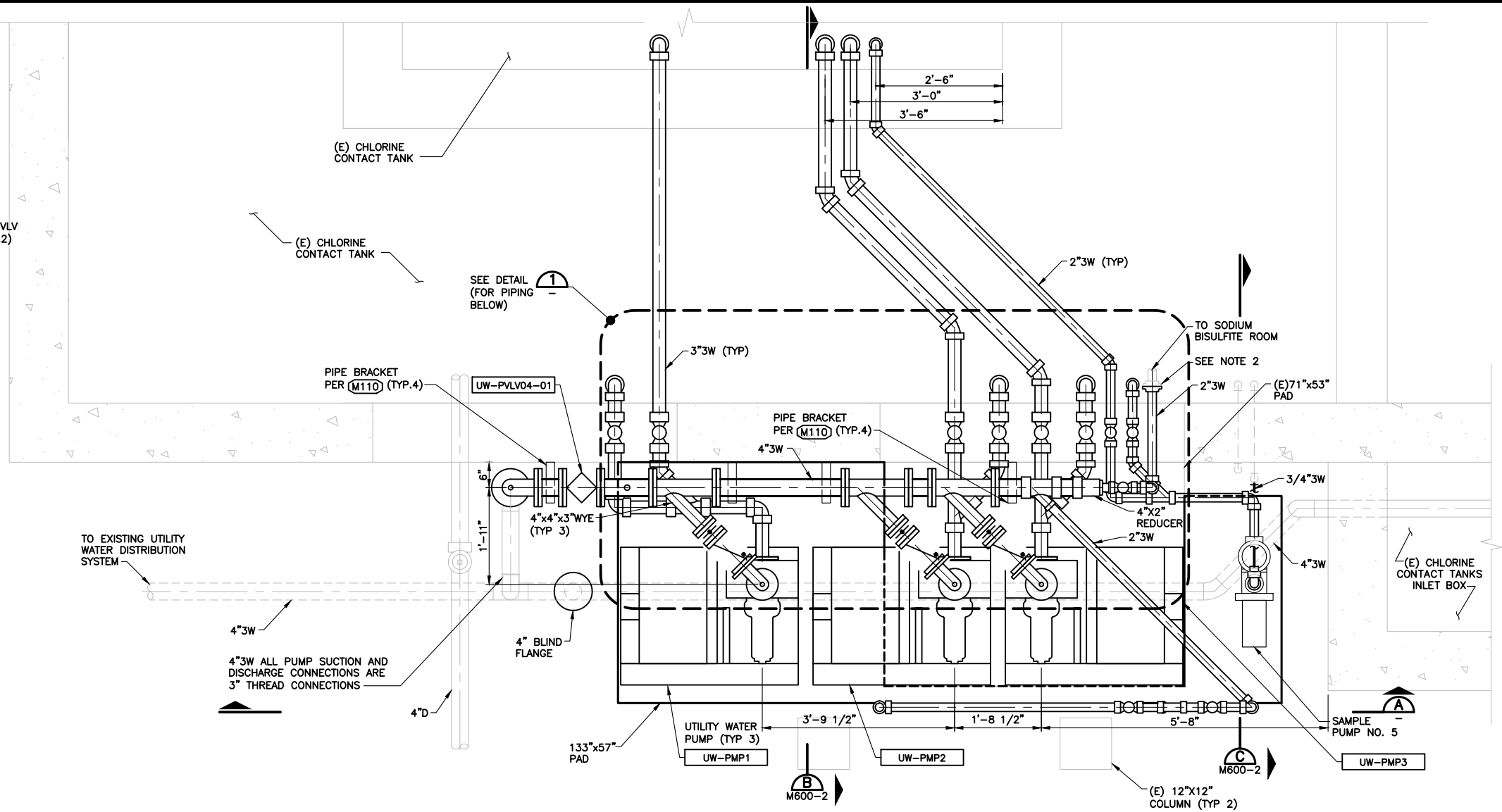
SHEET NO **162** OF **226**

PROJ NO 055-006

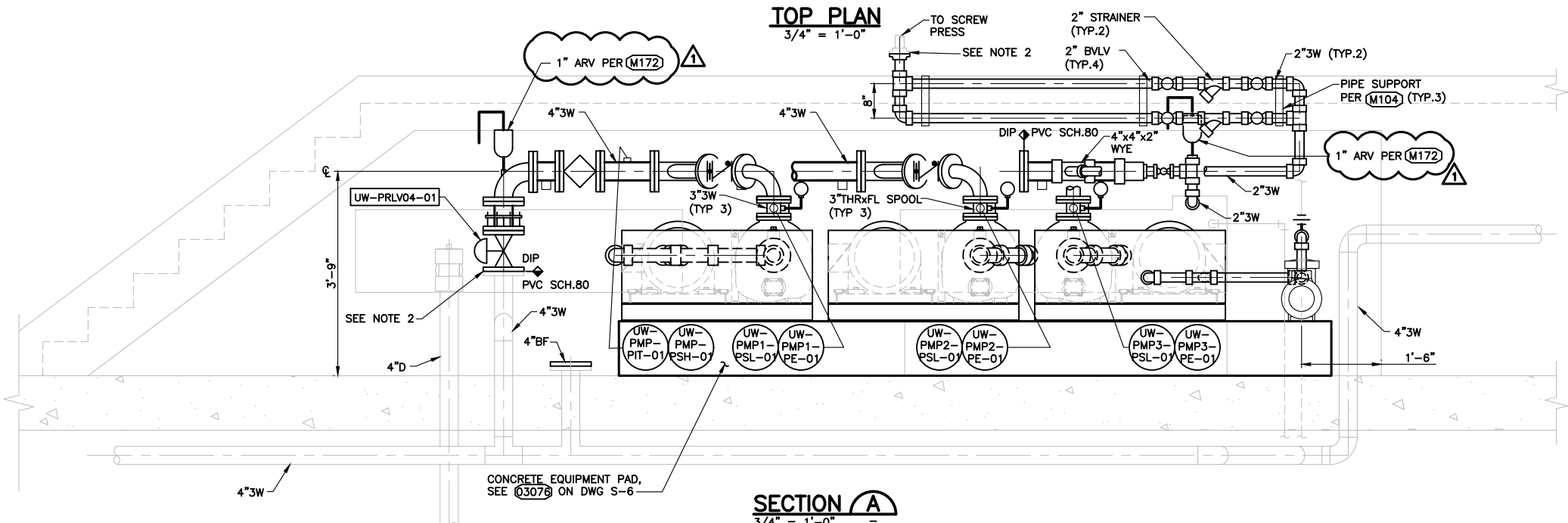
DATE MARCH 2017



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



TOP PLAN
3/4" = 1'-0"



SECTION A
3/4" = 1'-0"

NOTES:

- ALL DIMENSIONS REFERENCING EXISTING STRUCTURES ARE APPROXIMATE. CONTRACTOR SHALL VERIFY IN FIELD.
- CONNECT TO (E) PIPE.
- NOT ALL EXISTING PIPING SHOWN. CONTRACTOR SHALL FIELD VERIFY PIPE ALIGNMENTS.



0" = 1" VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



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DRAWN: J. MAY
CHECKED: M. NAKAMOTO

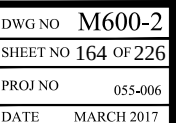
SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
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TREATMENT AND WET WEATHER FLOW UPGRADE
UTILITY WATER PUMP STATION
PLAN AND SECTION

DWG NO: **M600-1**
SHEET NO 163 OF 226
PROJ NO: 055-006
DATE: MARCH 2017

1. ALL DIMENSIONS REFERENCING EXISTING STRUCTURES ARE APPROXIMATE. CONTRACTOR SHALL VERIFY IN FIELD.
2. CONNECT TO (E) PIPE.
3. NOT ALL EXISTING PIPING SHOWN. CONTRACTOR SHALL FIELD VERIFY PIPE ALIGNMENTS.



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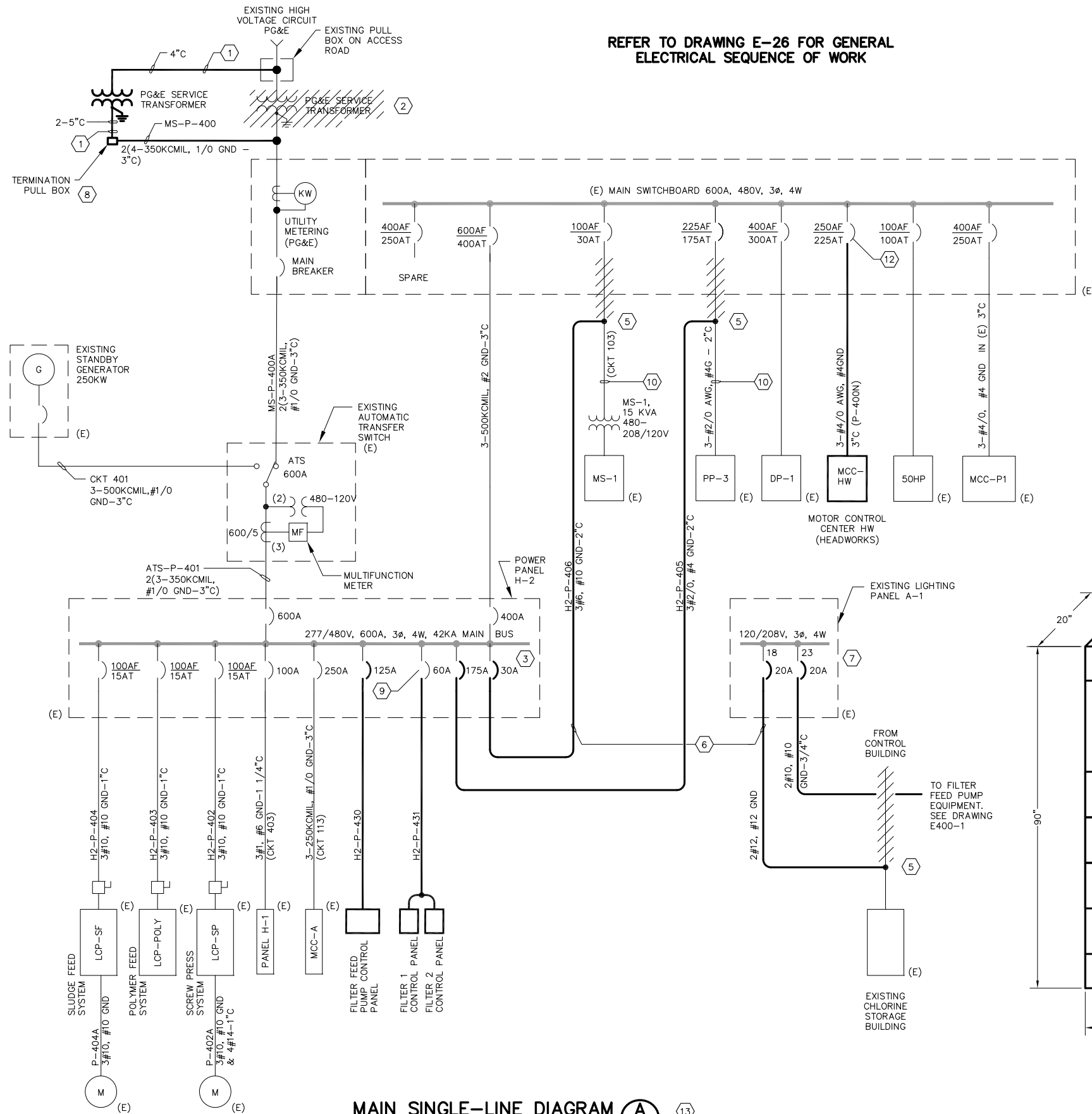
TREATMENT AND WET WEATHER FLOW UPGRADE
**MAIN SINGLE - LINE DIAGRAM
AND MCC HW ELEVATION**

DWG NO	E-2
SHEET NO	166 OF 226
PROJ NO	055-006
DATE	MARCH 2017

REFER TO DRAWING E-26 FOR GENERAL ELECTRICAL SEQUENCE OF WORK

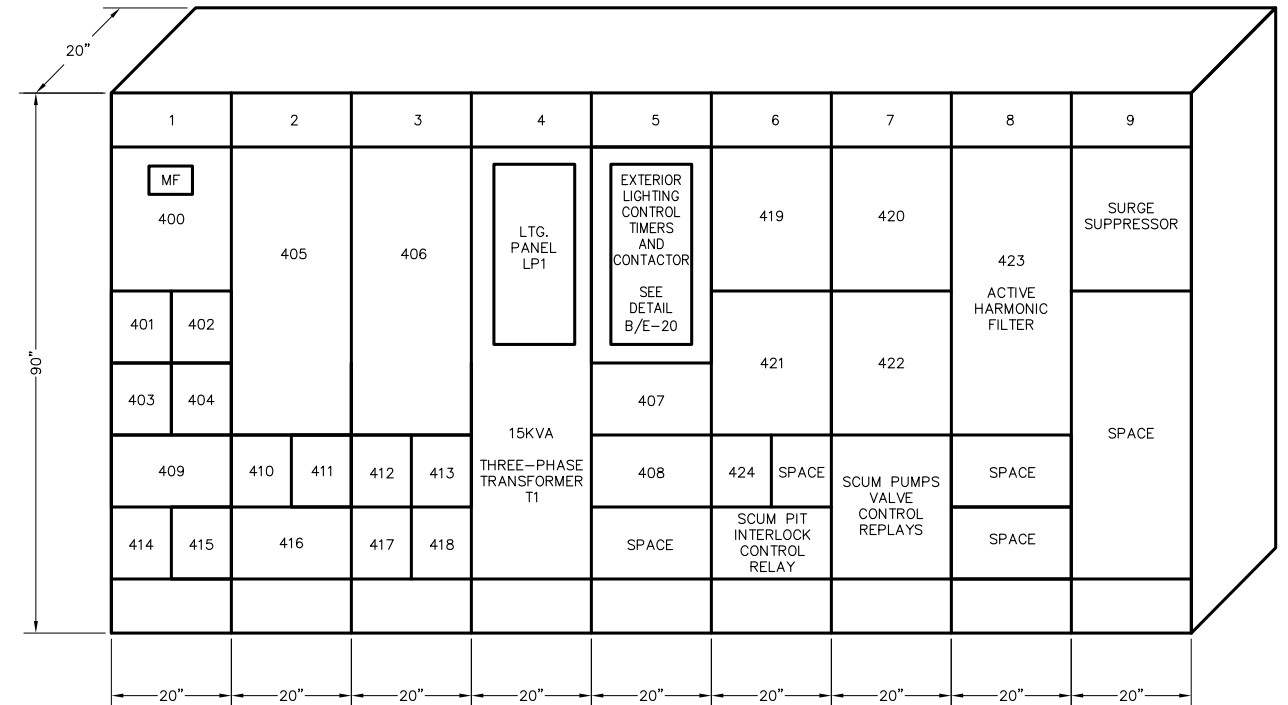
SHEET NOTES:

- CONTRACTOR SHALL FURNISH AND INSTALL EMPTY CONDUIT WITH PULL WIRES. PG&E WILL FURNISH AND INSTALL SERVICE CABLES.
- EXISTING TRANSFORMER SHALL BE REMOVED AND RELOCATED BY PG&E.
- REMOVE EXISTING 250A AND 60A BREAKERS AND RETURN THEM TO THE DISTRICT. FURNISH AND INSTALL THREE NEW BREAKERS (175A, 125A, AND 30A) IN THIS PANEL TO FEED LOADS AS SHOWN. NEW BREAKERS SHALL BE EATON HFD SERIES TO MATCH EXISTING. UPDATE NAMEPLATES FOR NEW LOADS.
- SEE DRAWING E-26 FOR REQUIRED RENTAL GENERATOR DURING SERVICE TRANSFORMER RELOCATION AND DIESEL TANK REPLACEMENT WORK.
- THIS CONNECTION SHALL BE MADE IN NEW PULL BOX LOCATED ON ACCESS ROAD. SEE DRAWING E-22.
- THESE TWO CIRCUITS SHALL BE IN SAME CONDUIT (2") ORIGINATED FROM EXISTING GENERATOR BUILDING WHERE EXISTING LIGHTING PANEL A-1 AND PANEL H-2 ARE LOCATED. SEE DRAWING E-25 FOR LOCATIONS OF PANELS H-2 AND A-1.
- FURNISH AND INSTALL TWO NEW 20A 1P BREAKERS IN EXISTING LIGHTING PANEL A-1 AS SHOWN. (CIRCUIT No. 18 & 23). NEW BREAKERS SHALL MATCH EXISTING INSTALLATION.
- TERMINATION PULL BOX SHALL FULLY CONFORM TO PG&E SERVICE REQUIREMENTS SPECIFIED IN PG&E GREEN BOOK. THIS PULL BOX SHALL CONTAIN TIN-PLATED COPPER BUSING SUITABLE FOR 600A 480V THREE-PHASE, 4-WIRE SERVICE WITH MINIMUM SHORT CIRCUIT BRACING AT 65KA 480V SYMMETRICAL FAULT.
- USE THIS EXISTING BREAKERS.
- MEGGER & TEST EXISTING CABLES PRIOR TO CONNECTIONS TO NEW CIRCUITS.
- SEE CONTROL DIAGRAMS ON E-6, E-7, E-8, & E-9 FOR PILOT DEVICES MOUNTED ON EACH SECTION OF THE MCC. SEE SPECS FOR DETAILED REQUIREMENTS FOR THE MCC.
- THIS EXISTING BREAKER IS A SPARE TO BE USED AS SHOWN. UPDATE NAMEPLATE FOR NEW LOAD.
- A PLANT WIDE ARC FLASH STUDY IS REQUIRED REFER TO SPECS SECTION 16938 FOR DETAILED REQUIREMENTS.



MAIN SINGLE-LINE DIAGRAM **A**

SCALE: NTS



MCC-HW ELEVATION **B**

SCALE: NTS

FILENAME: 286F-ED3 Addendum 1 3-28-17 01:43pm Loc XREFS: X-SMCSB-TBLK [cc=



0" 1"
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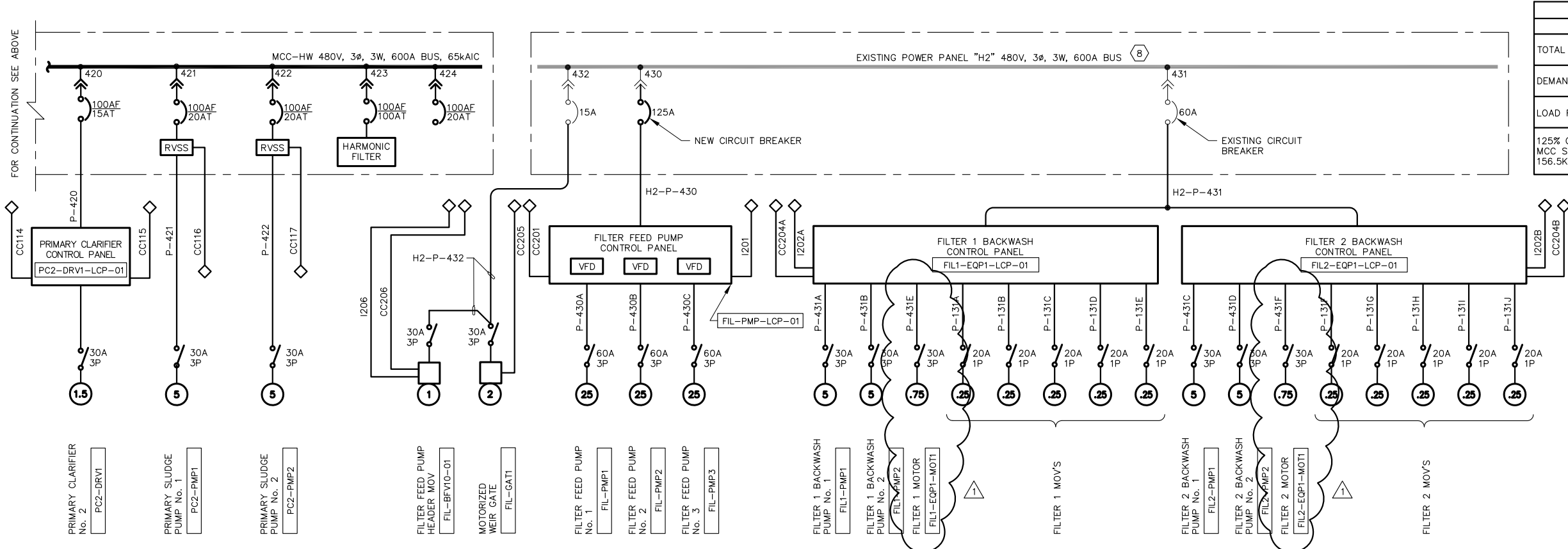
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DRAWN	LD
CHECKED	DN

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
MCC-HW SINGLE - LINE DIAGRAM

DWG NO E-3
SHEET NO 167 OF 226
PROJ NO 055-006
DATE MARCH 2017



LOADS TABULATIONS (MCC-HW)			
	HP OR KVA	CURRENT @480V	NOTES
TOTAL LOADS	156.5	188	
DEMAND LOADS	107	129	
LOAD FACTOR = $\frac{\text{DEMAND LOADS}}{\text{TOTAL LOADS}} = \frac{\text{KVA}}{\text{KVA}} = 68\%$			
125% OF LARGEST LOAD = 40 X 1.25 = 50KVA MCC SIZING: 156.5KVA + 50KVA = 206.5KVA			

SHEET NOTES:

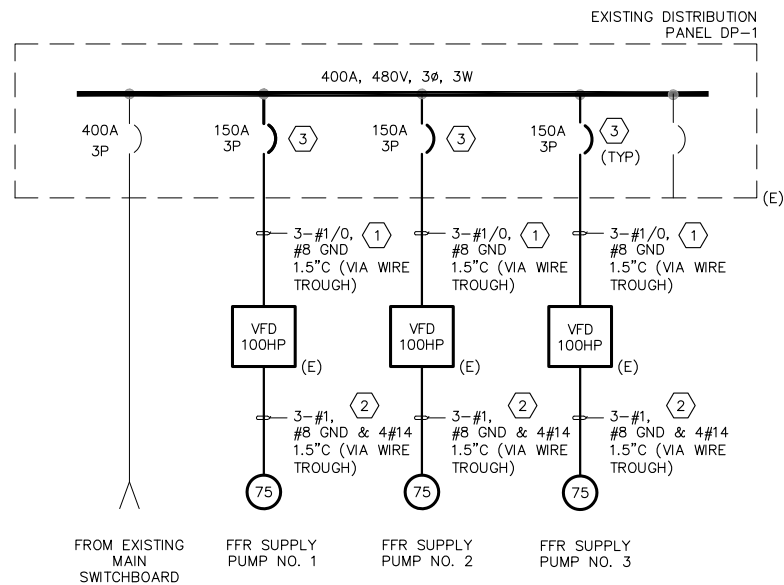
- THE MCC SHALL BE LOCATED IN THE GENERAL PURPOSE, NON-CLASSIFIED LOCATION.
- ALL MOTORIZED EQUIPMENT LOCATED IN CLASSIFIED HAZARDOUS LOCATIONS SHALL BE EXPLOSION PROOF. REFER TO SPECIFIC FLOOR PLANS FOR SPECIFIC CLASSIFICATION OF THE HAZARDOUS LOCATION.
- ALL BREAKERS SHOWN ARE THREE-POLE U.O.N.
- REFER TO CABLE AND CONDUIT SCHEDULES SHOWN ON DRAWING E-17, E-18, AND E-19 FOR CONDUIT AND CABLE DETAILS.
- PROVIDE REQUIRED PT's AND CT's FOR COMPLETE FUNCTIONS OF THE MULTI-FUNCTION ELECTRONIC METER.
- ALL POWER CIRCUITS SHALL HAVE PREFIX "MCC-HW". SEE CABLE AND CONDUIT SCHEDULE ON DRAWING E-17.
- SEE DRAWINGS E-5, E-6, E-7, E-8 AND E-9 FOR REQUIRED CONTROL CIRCUITS.
- SEE DETAIL C/E-23 FOR LOCATION. ALSO SEE MAIN SINGLE-LINE DIAGRAM ON DRAWING E-2 FOR OTHER REQUIRED NEW BREAKERS TO BE INSTALLED IN THIS EXISTING PANEL.

SINGLE-LINE DIAGRAMS-MOTOR CONTROL
CENTER MCC-HW AND POWER PANEL H-2

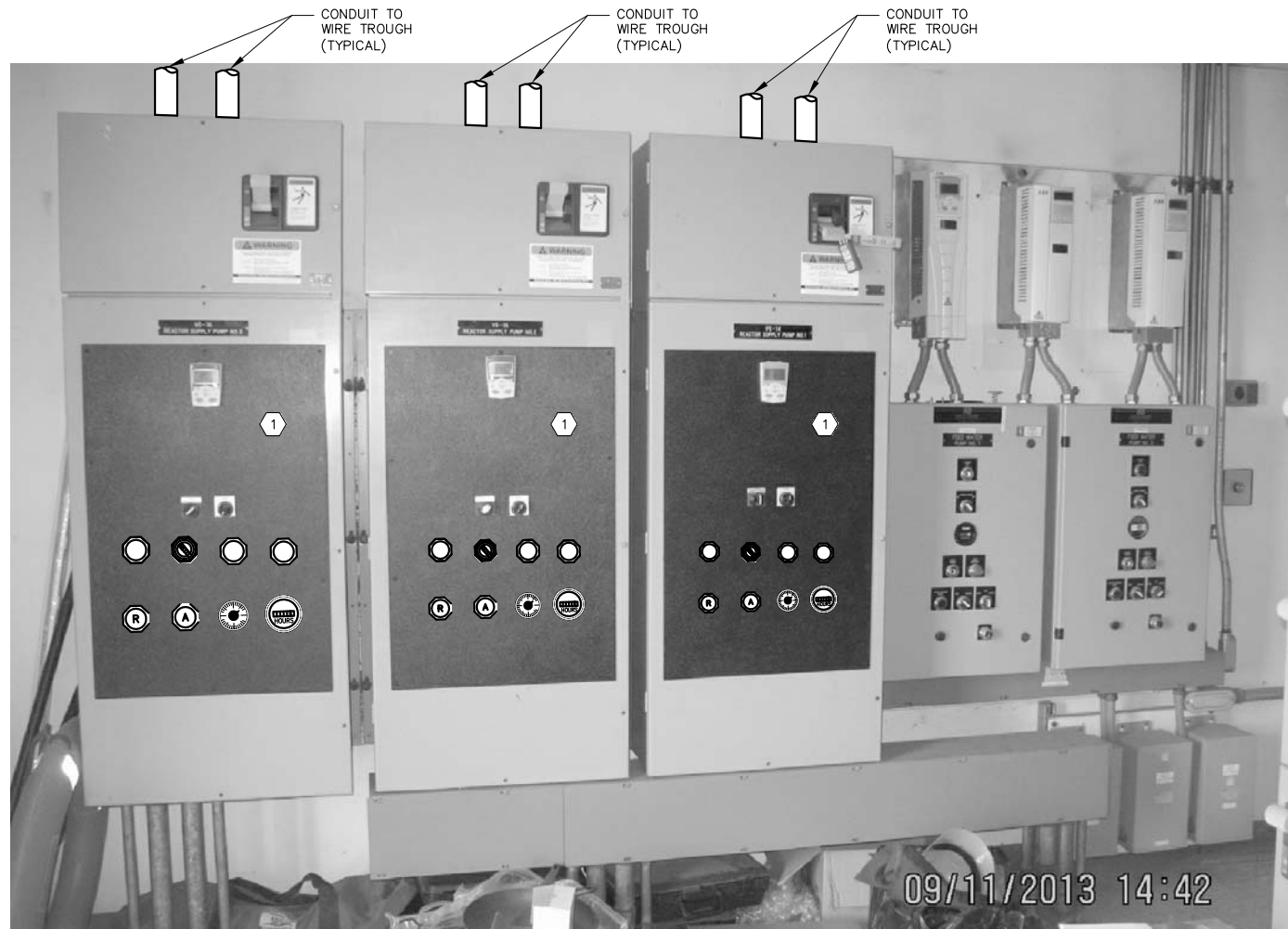
SCALE: NTS

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FOR CONTINUATION SEE BELOW



EXISTING DISTRIBUTION
PANEL DP-1 MODIFICATIONS **A**
SCALE: NTS

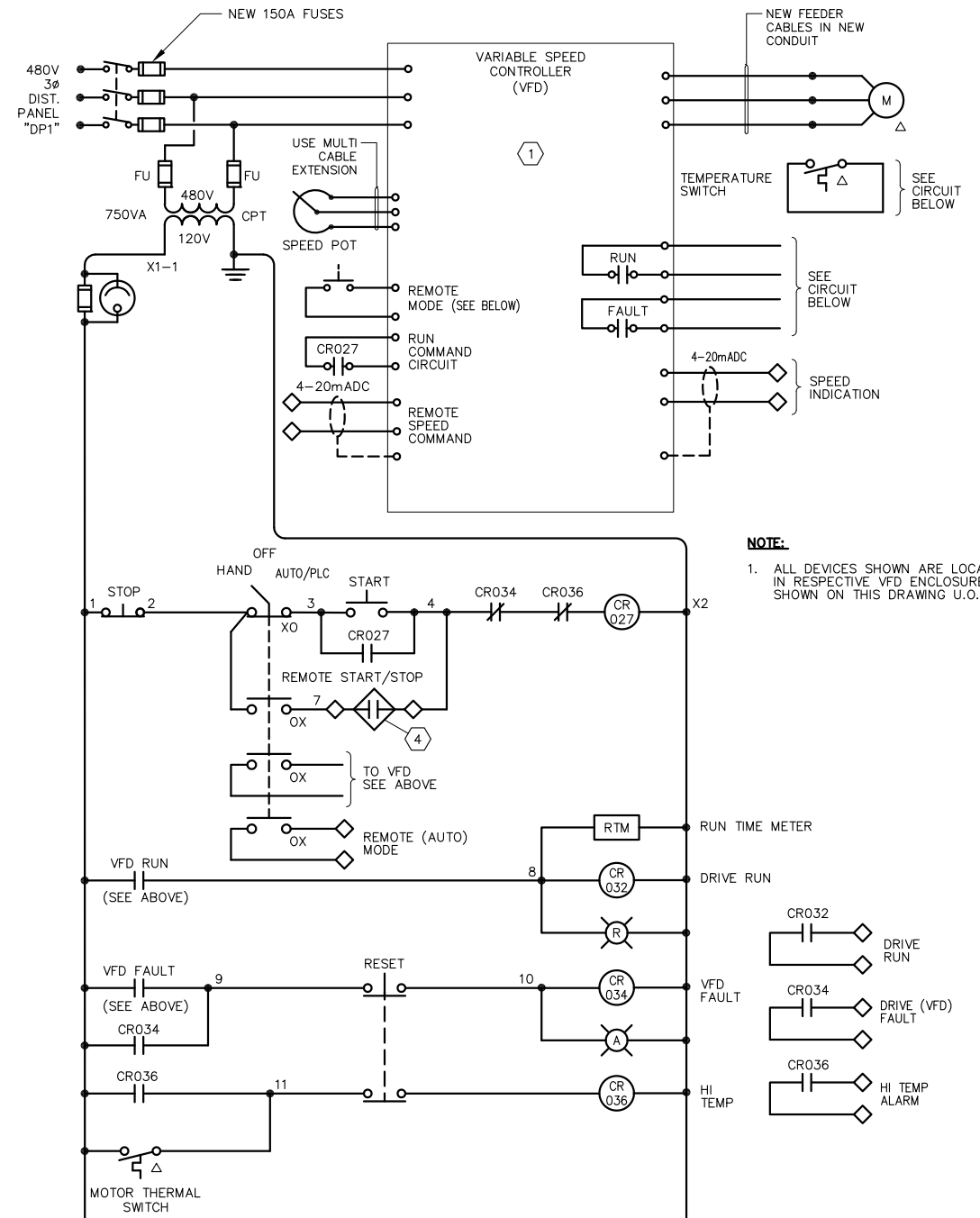


FFR VFD MODIFICATIONS **B**
SCALE: NTS

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SHEET NOTES:

- 1 THIS EXISTING VFD SHALL BE REWIRED TO ACCOMMODATE NEW DEVICES AS SHOWN. EXISTING HOA SWITCH, SPEED POT AND KEYPAD SHALL BE REUSED. ADD NEW CONTACT BLOCKS AS REQUIRED.
- 2 REMOVE EXISTING FEEDER CONDUCTORS PRIOR TO REPLACEMENT THEM WITH NEW CONDUCTORS IN NEW CONDUIT. SEE DRAWING E300-1 FOR ADDITIONAL DETAILS.
- 3 REMOVE EXISTING 90A 3P BREAKER PRIOR TO INSTALLING NEW BREAKER AS SHOWN. PROVIDE NECESSARY AUXILIARY MATERIALS, HARDWARE FOR COMPLETE INSTALLATION.
- 4 USE EXISTING PLC PUMP RUN COMMAND SIGNAL.



CONTROLS-FFR SUPPLY PUMPS TYPICAL FOR 3 PUMPS **C**
SCALE: NTS



0" 1"
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SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



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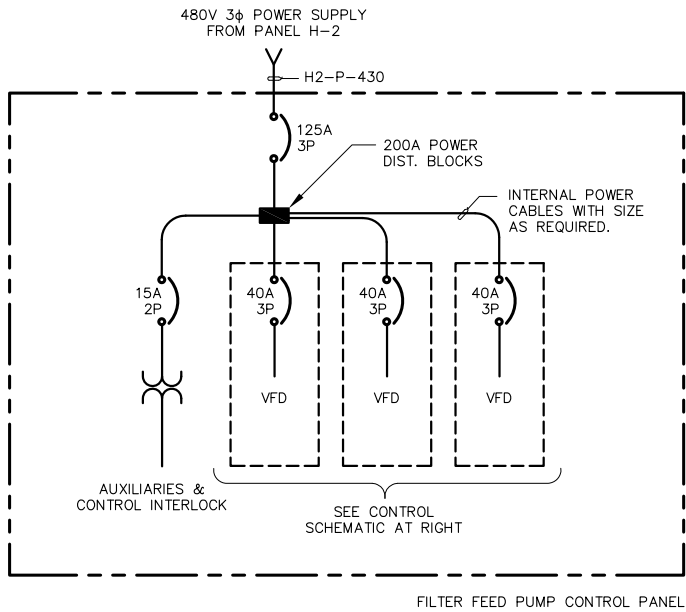
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RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

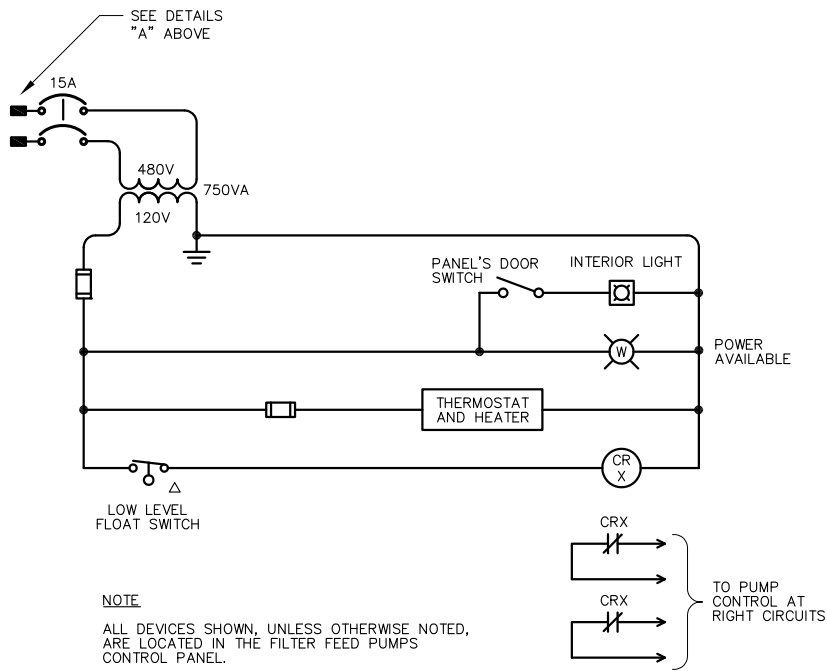


TREATMENT AND WET WEATHER FLOW UPGRADE
**FFR SUPPLY PUMPS
MODIFICATIONS**

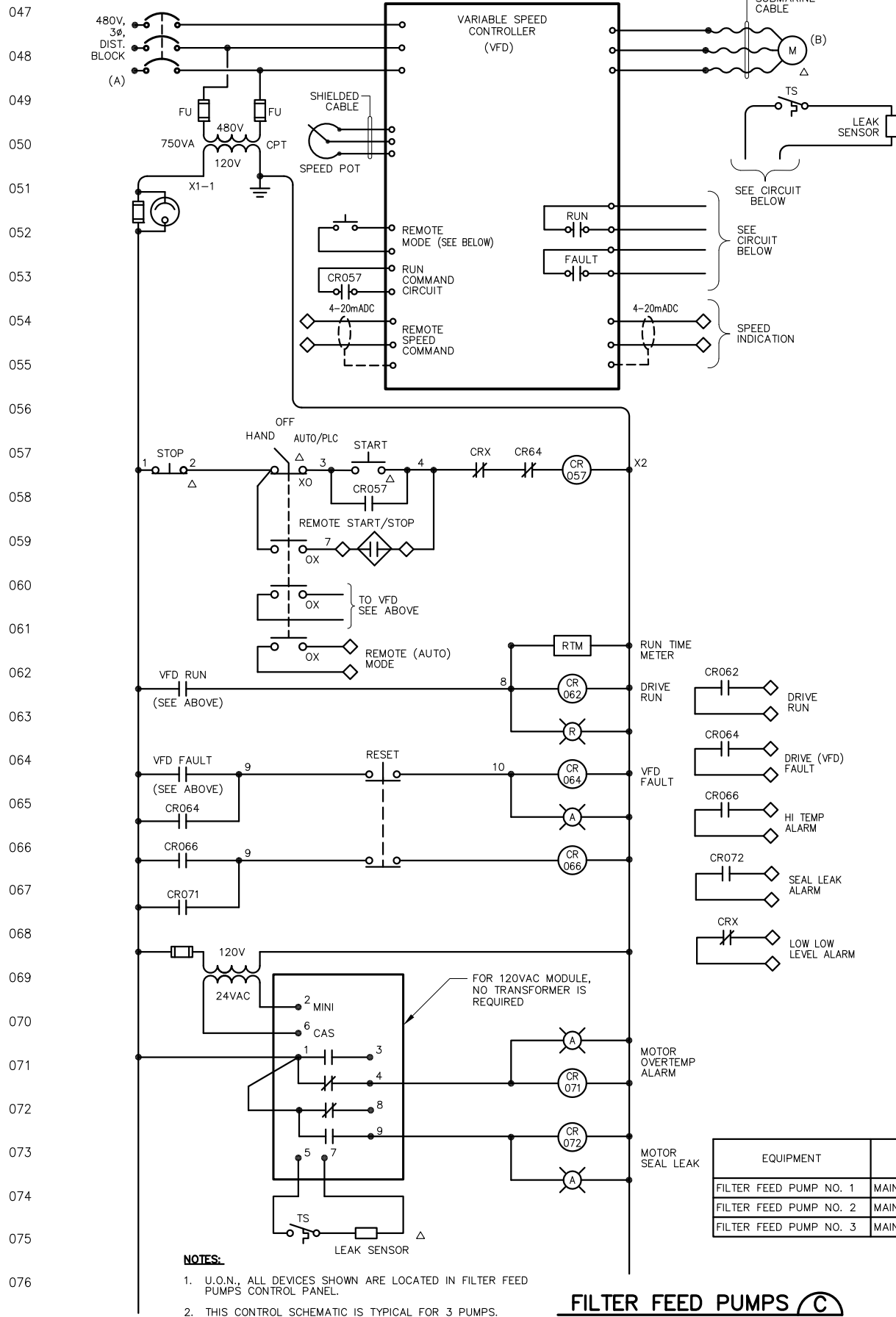
DWG NO	E-4
SHEET NO	168 OF 226
PROJ NO	055-006
DATE	MARCH 2017



FILTER FEED PUMP POWER DISTRIBUTION (A)
SCALE: NTS



FILTER FEED PUMPS CONTROL INTERLOCK (B)
SCALE: NTS

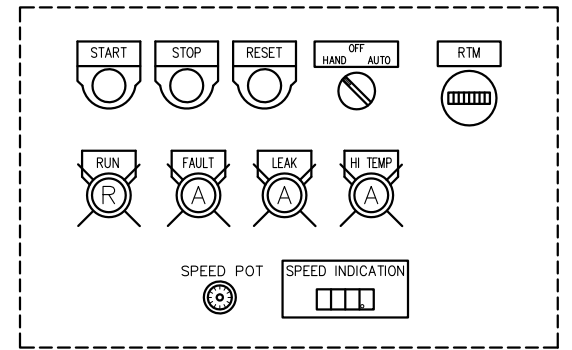


- NOTES:**
1. U.O.N., ALL DEVICES SHOWN ARE LOCATED IN FILTER FEED PUMPS CONTROL PANEL.
 2. THIS CONTROL SCHEMATIC IS TYPICAL FOR 3 PUMPS.

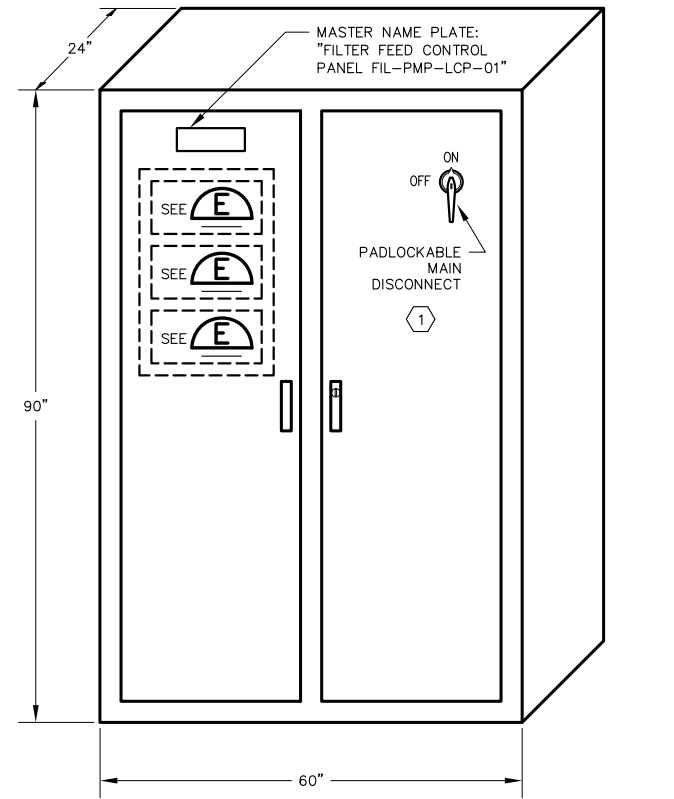
FILTER FEED PUMPS (C)
SCALE: NTS

SHEET NOTES:

- 1 THIS PANEL SHALL BE NEMA 3RX (STAINLESS STEEL) WITH ALL DEVICES MOUNTED ON THE PANEL'S DOOR SUITABLE FOR CORROSIVE ENVIRONMENT. SEE DIV 16 SPECS FOR DETAILED REQUIREMENTS.



TYPICAL CONTROL DEVICES (E)
TYPICAL FOR THREE PUMPS SCALE: NTS



FILTER FEED PUMPS CONTROL PANEL (D)
SCALE: NTS

EQUIPMENT	(A)	(B)	NOTES
FILTER FEED PUMP NO. 1	MAIN DIST. POWER BLOCK	SUBMERSIBLE MOTOR	
FILTER FEED PUMP NO. 2	MAIN DIST. POWER BLOCK	SUBMERSIBLE MOTOR	
FILTER FEED PUMP NO. 3	MAIN DIST. POWER BLOCK	SUBMERSIBLE MOTOR	

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RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

**FILTER FEED PUMPS
CONTROL SCHEMATIC & PANEL**

DWG NO E-5
SHEET NO 169 OF 226
PROJ NO 055-006
DATE MARCH 2017

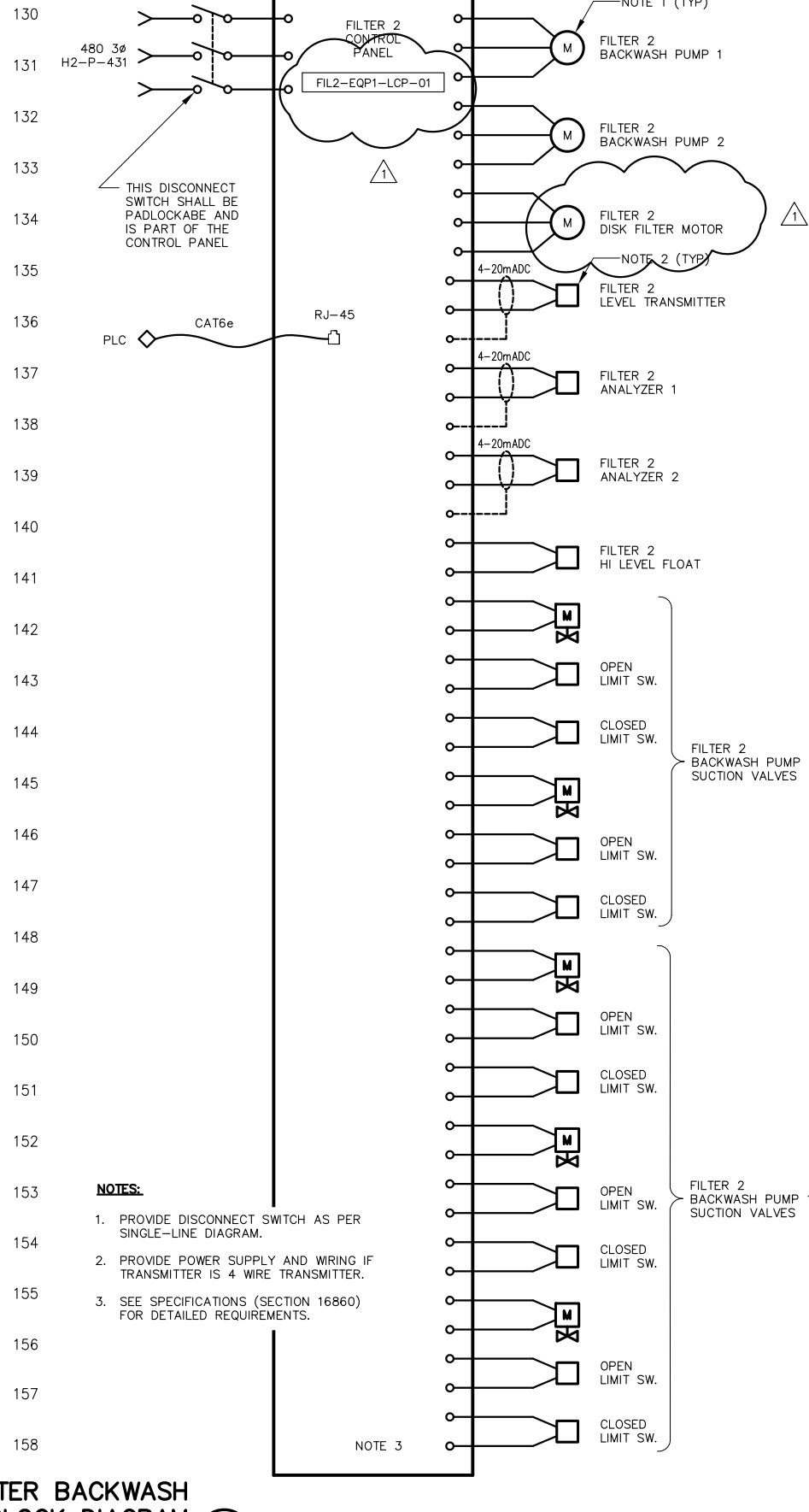
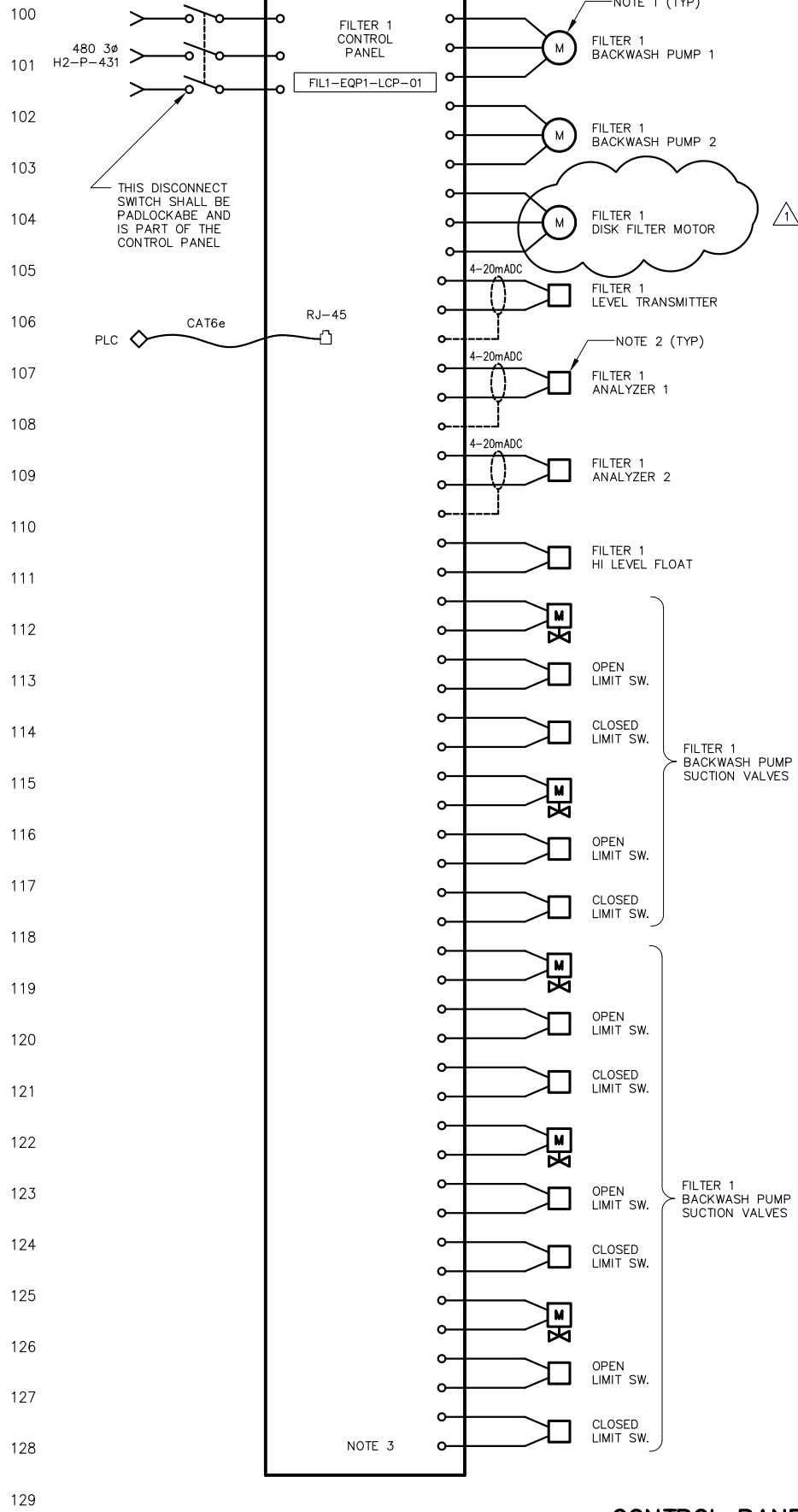


0" 1"
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SIZE DRAWING.
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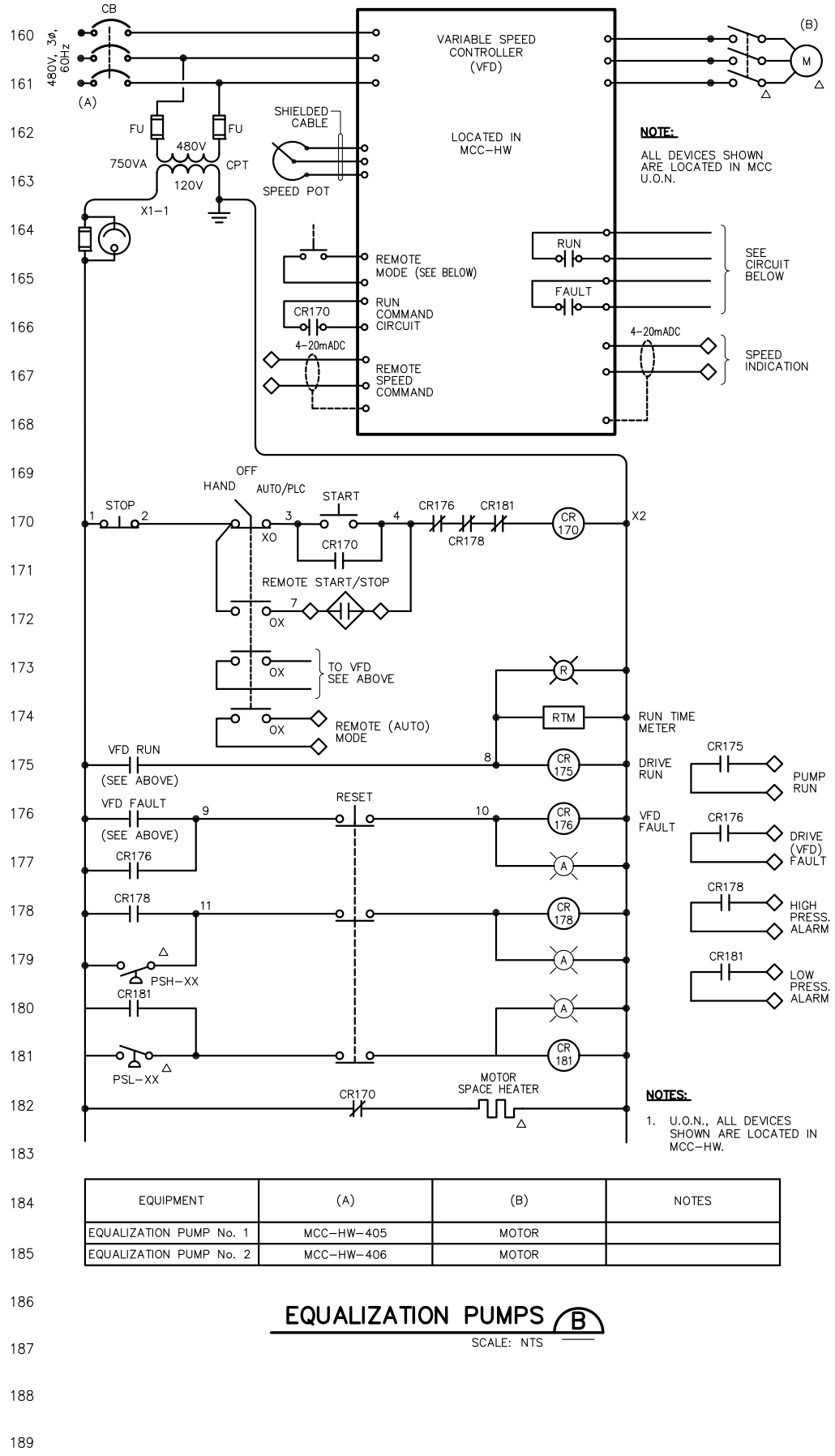
FILENAME: 286F-ED6 Addendum 1 3-28-17 01:44pm Loc XREFS: X-SMCSB-TBLK /cc--



- NOTES:**
1. PROVIDE DISCONNECT SWITCH AS PER SINGLE-LINE DIAGRAM.
 2. PROVIDE POWER SUPPLY AND WIRING IF TRANSMITTER IS 4 WIRE TRANSMITTER.
 3. SEE SPECIFICATIONS (SECTION 16860) FOR DETAILED REQUIREMENTS.

FILTER BACKWASH CONTROL PANEL BLOCK DIAGRAM (A)

SCALE: NTS



0" = 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



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APPROVED: **STEVE CLARY**
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

CONTROL SCHEMATIC DIAGRAMS

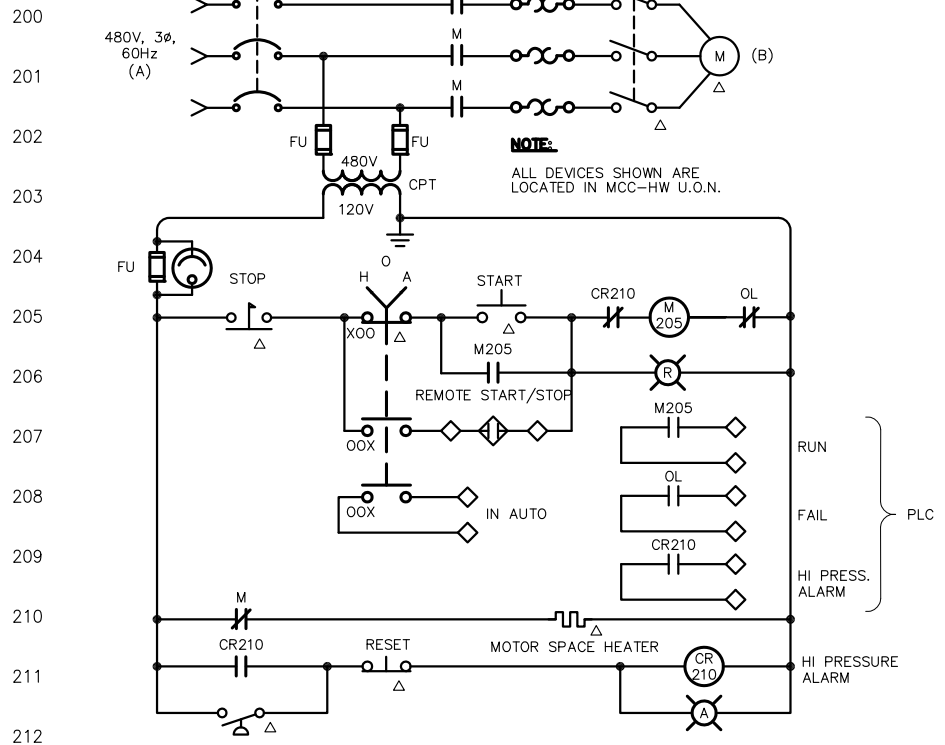
SHEET 1 OF 4

DWG NO **E-6**

SHEET NO **170 OF 226**

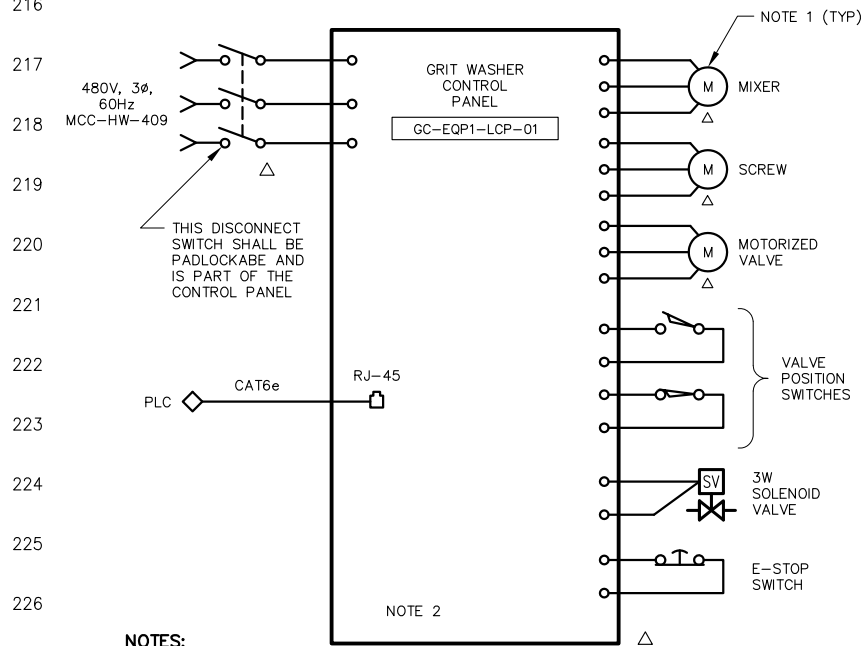
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DATE **MARCH 2017**

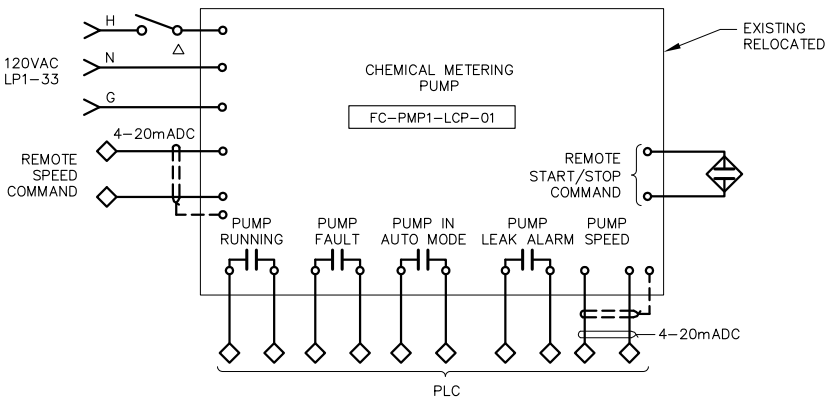


EQUIPMENT	(A)	(B)	NOTES
GRIT PUMP No. 1	MCC-HW-407	MOTOR	
GRIT PUMP No. 2	MCC-HW-408	MOTOR	

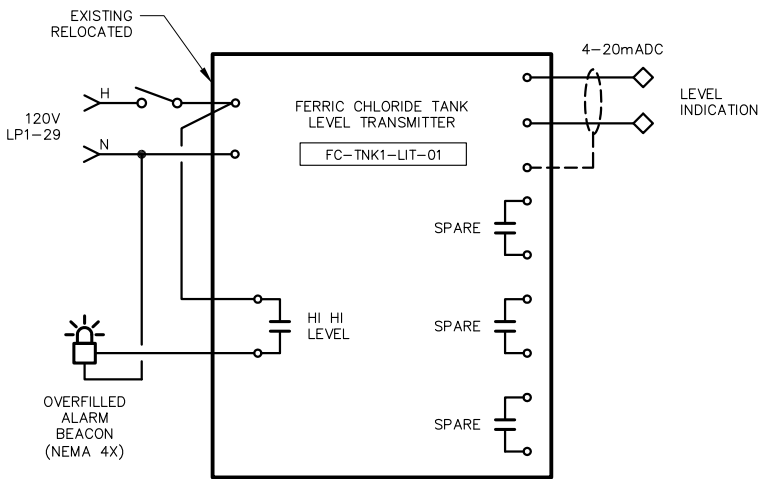
GRIT PUMPS (A)
SCALE: NTS



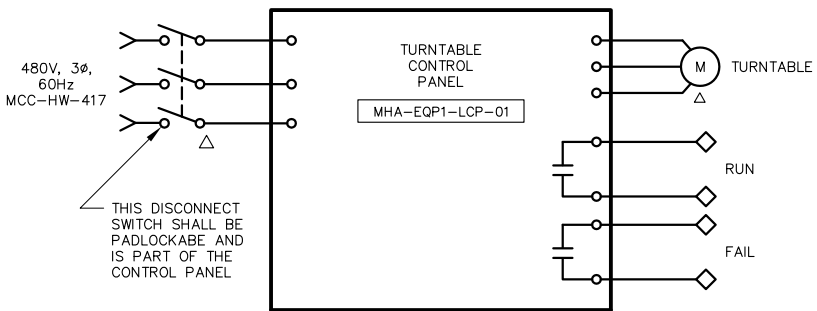
GRIT WASHER CONTROL PANEL BLOCK DIAGRAM (B)
SCALE: NTS



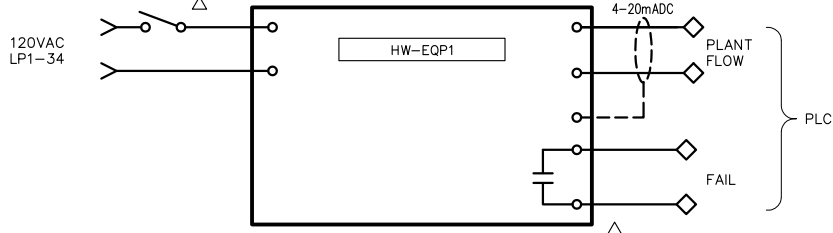
FERRIC CHLORIDE FEED PUMP (C)
SCALE: NTS



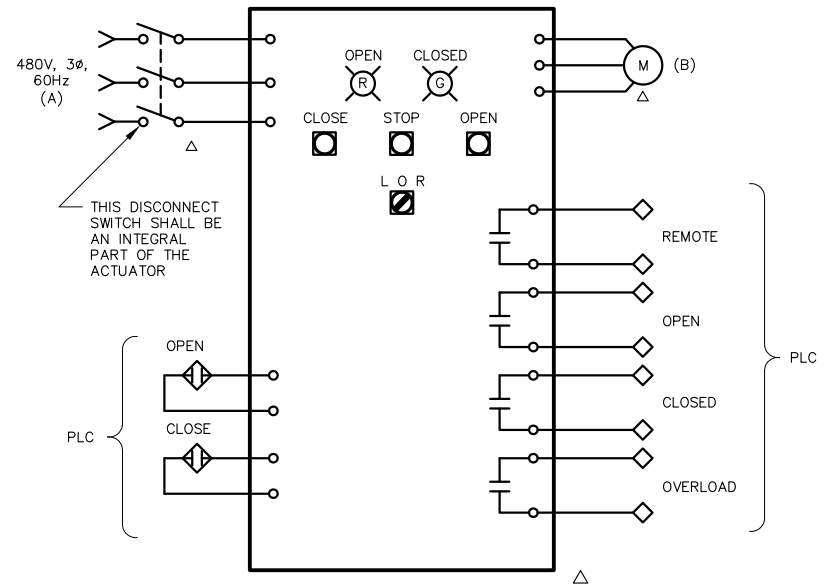
FECL3 TANK LEVEL TRANSMITTER (D)
SCALE: NTS



TRUCK TURNTABLE (E)
SCALE: NTS

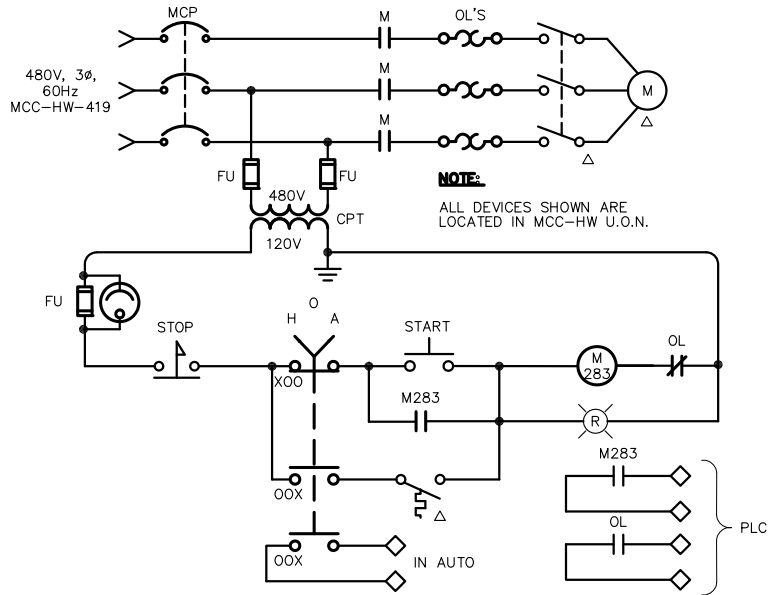


AUTO. REF. SAMPLER (H)
SCALE: NTS



EQUIPMENT	(A)	(B)	NOTES
EQ PUMP 1 PLUG VALVE No. 1	MCC-HW-410	MOTOR ACTUATOR	
EQ PUMP 1 PLUG VALVE No. 2	MCC-HW-411	MOTOR ACTUATOR	
EQ PUMP 2 PLUG VALVE No. 1	MCC-HW-412	MOTOR ACTUATOR	
EQ PUMP 2 PLUG VALVE No. 2	MCC-HW-413	MOTOR ACTUATOR	
EQUALIZATION PLUG VALVE No. 4	MCC-HW-414	MOTOR ACTUATOR	
EQUALIZATION PLUG VALVE No. 5	MCC-HW-415	MOTOR ACTUATOR	

OPEN/CLOSE VALVES (F)
SCALE: NTS



VENTILATION UNIT (G)
SCALE: NTS

FILENAME: 286F-E07_3-28-17_01-14pm Loc: XREFS: X-SWCS0-TBLK <<--



0"=1" VERIFY SCALES - BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING
NOTICE:
THIS CONFORMED DRAWING HAS BEEN PREPARED BASED ON ORIGINAL SIGNED DOCUMENTS DATED **NOVEMBER 2016** AND SUBSEQUENT ADDENDA

DESIGNED	TP	SUBMITTED: <u>MARK TAKEMOTO</u> RMC PROJECT ENGINEER CE-64369
DRAWN	LD	
CHECKED	DN	
		APPROVED: <u>STEVE CLARY</u> RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
CONTROL SCHEMATIC DIAGRAMS
SHEET 2 OF 4

DWG NO	E-7
SHEET NO	171 OF 226
PROJ NO	055-006
DATE	MARCH 2017

FILENAME: 286F-E08 3-28-17 01:44pm Loc: XREFS: X-SWCS0-TBLK <<--



0" = 1"
 VERIFY SCALES
 BAR IS ONE INCH
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 SIZE DRAWING.
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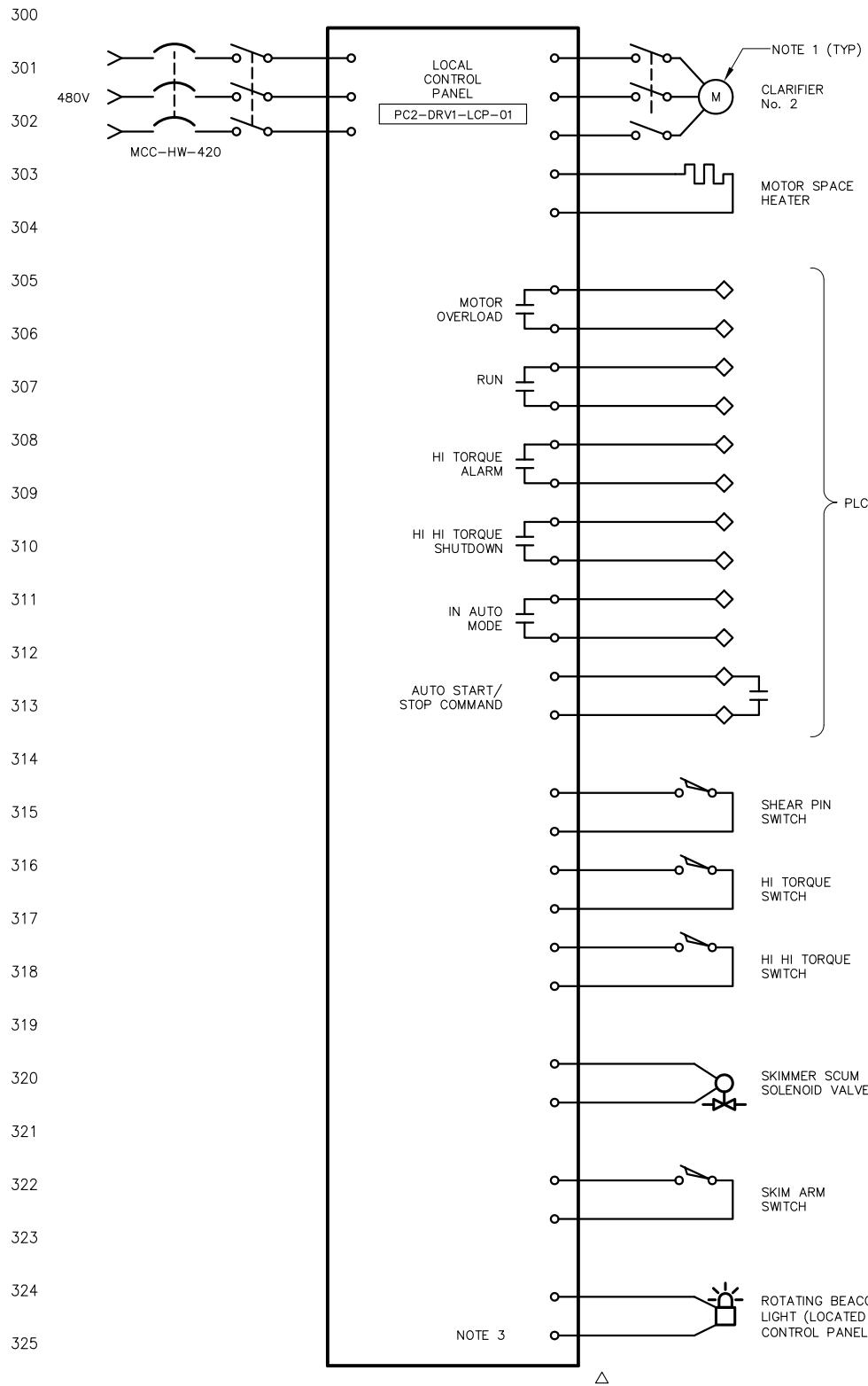
REV	DATE	BY	APVD

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DRAWN	LD	
CHECKED	DN	APPROVED: STEVE CLARY RMC ENGINEER CE-30318

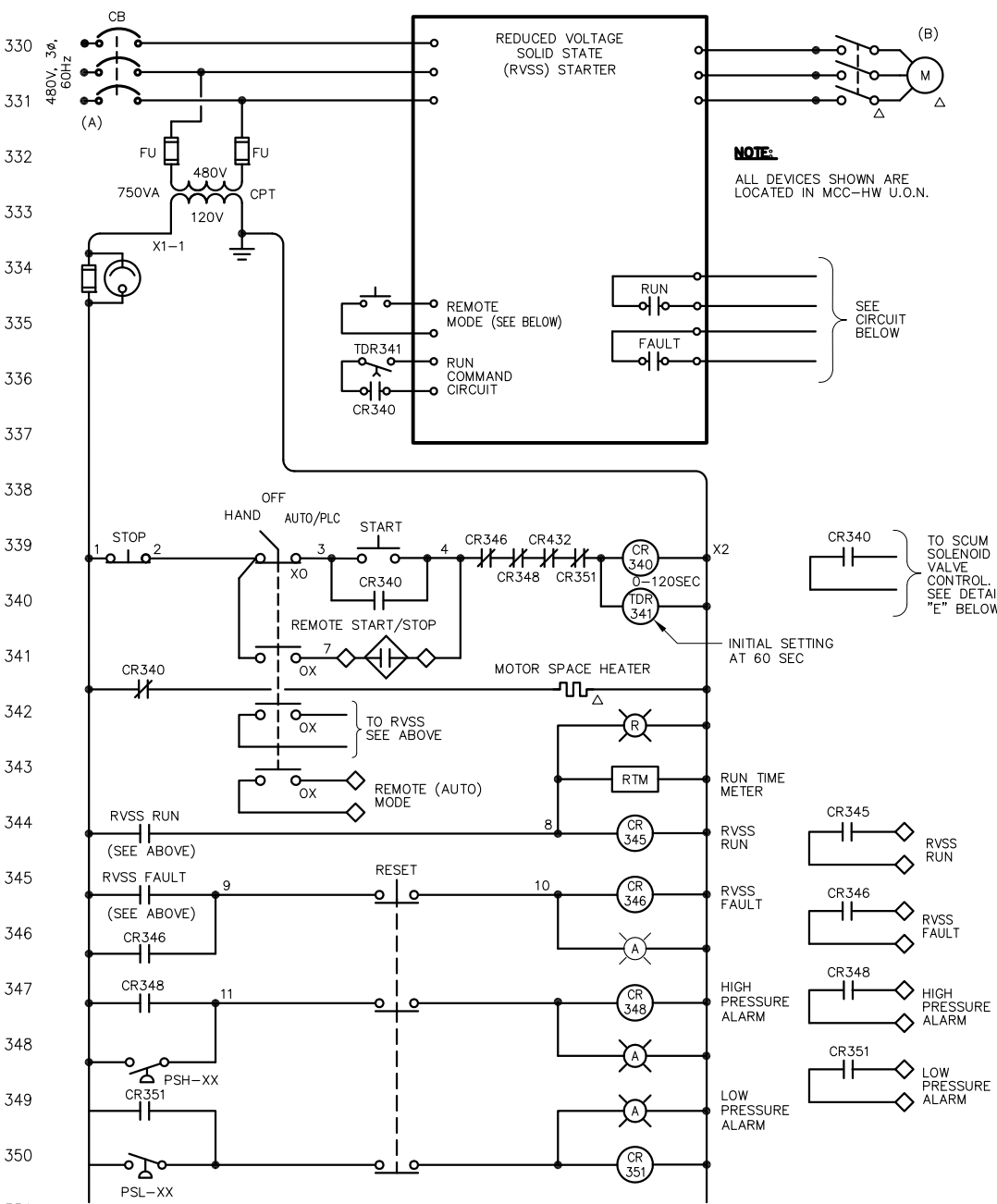


TREATMENT AND WET WEATHER FLOW UPGRADE		DWG NO	E-8
CONTROL SCHEMATIC DIAGRAMS		SHEET NO	172 OF 226
SHEET 3 OF 4		PROJ NO	055-006
		DATE	MARCH 2017



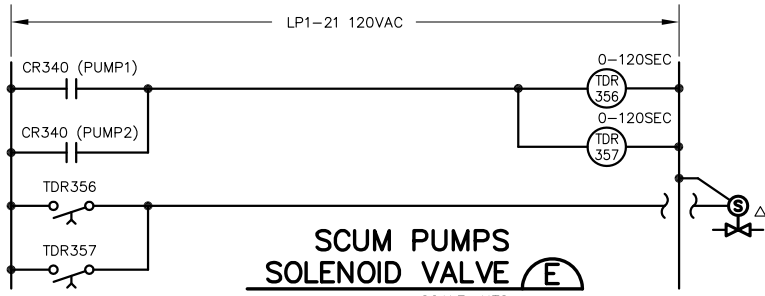
PRIMARY CLARIFIER No. 2
 CONTROL BLOCK DIAGRAM (A)
 SCALE: NTS

- NOTES:
- ALL DEVICES SHOWN ARE LOCATED IN THE FIELD NEAR OR AT THE CLARIFIER
 - SEE SPECIFICATIONS (SECTION 16860) FOR DETAILED REQUIREMENTS.



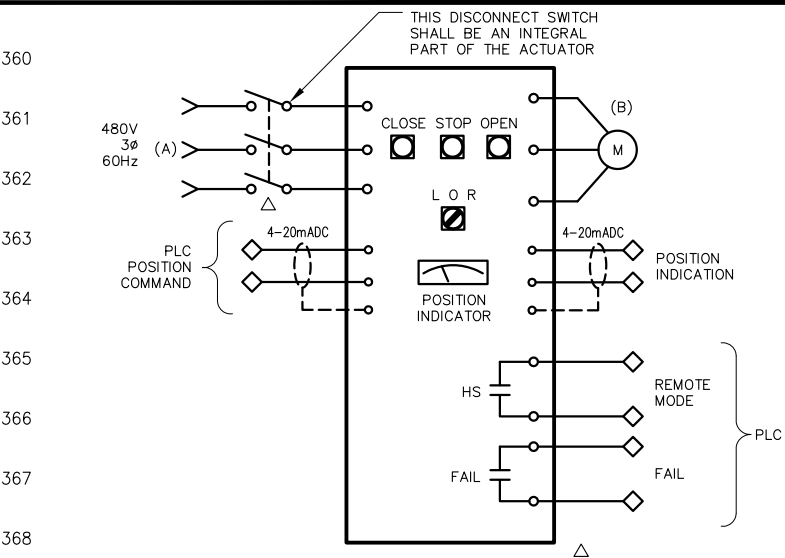
EQUIPMENT	(A)	(B)	NOTES
PRIMARY SLUDGE PUMP No. 1	MCC-HW-421	MOTOR	
PRIMARY SLUDGE PUMP No. 2	MCC-HW-422	MOTOR	

PRIMARY SLUDGE PUMPS (B)
 SCALE: NTS



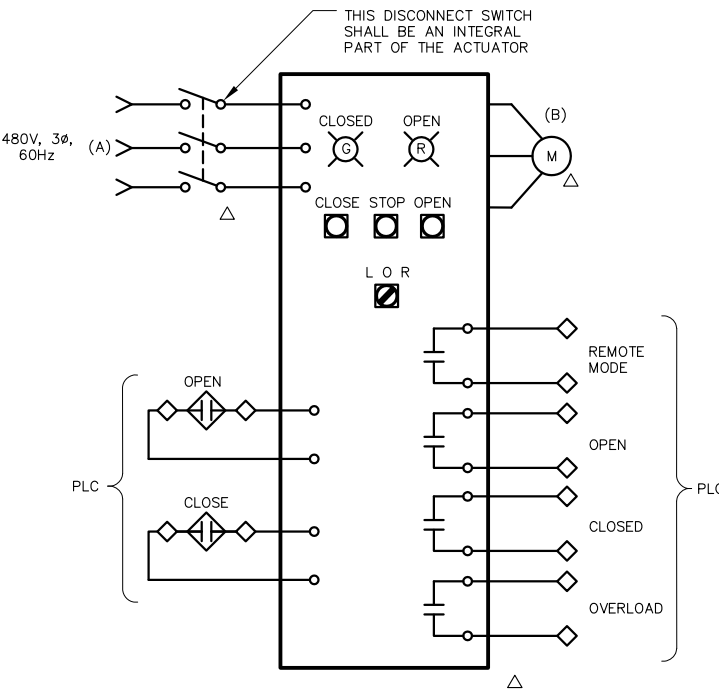
- NOTES:
- UPON ENERGIZATION OF ITS COIL TDR356 CONTACT CLOSSES FOR AN INITIAL SETTING OF 30 SECONDS AND THEN OPENS.
 - UPON DEENERGIZATION OF ITS COIL TDR357 CONTACT CLOSSES FOR AN INITIAL SETTING OF 30 SECONDS AND THEN OPENS.
 - BOTH RELAYS ARE IN MCC-HW

SCUM PUMPS
 SOLENOID VALVE (E)
 SCALE: NTS



EQUIPMENT	(A)	(B)	NOTES
EQUALIZATION GATE No. 3	MCC-HW-404	MOTOR ACTUATOR	
SPIRAL SCREEN GATE No. 3	MCC-HW-402	MOTOR ACTUATOR	
FILTER INFLUENT MOTORIZED WEIR GATE	H2-P-432	MOTOR ACTUATOR	
FILTER FEED PUMP HEADER MOTORIZED VALVE	H2-P-432	MOTOR ACTUATOR	

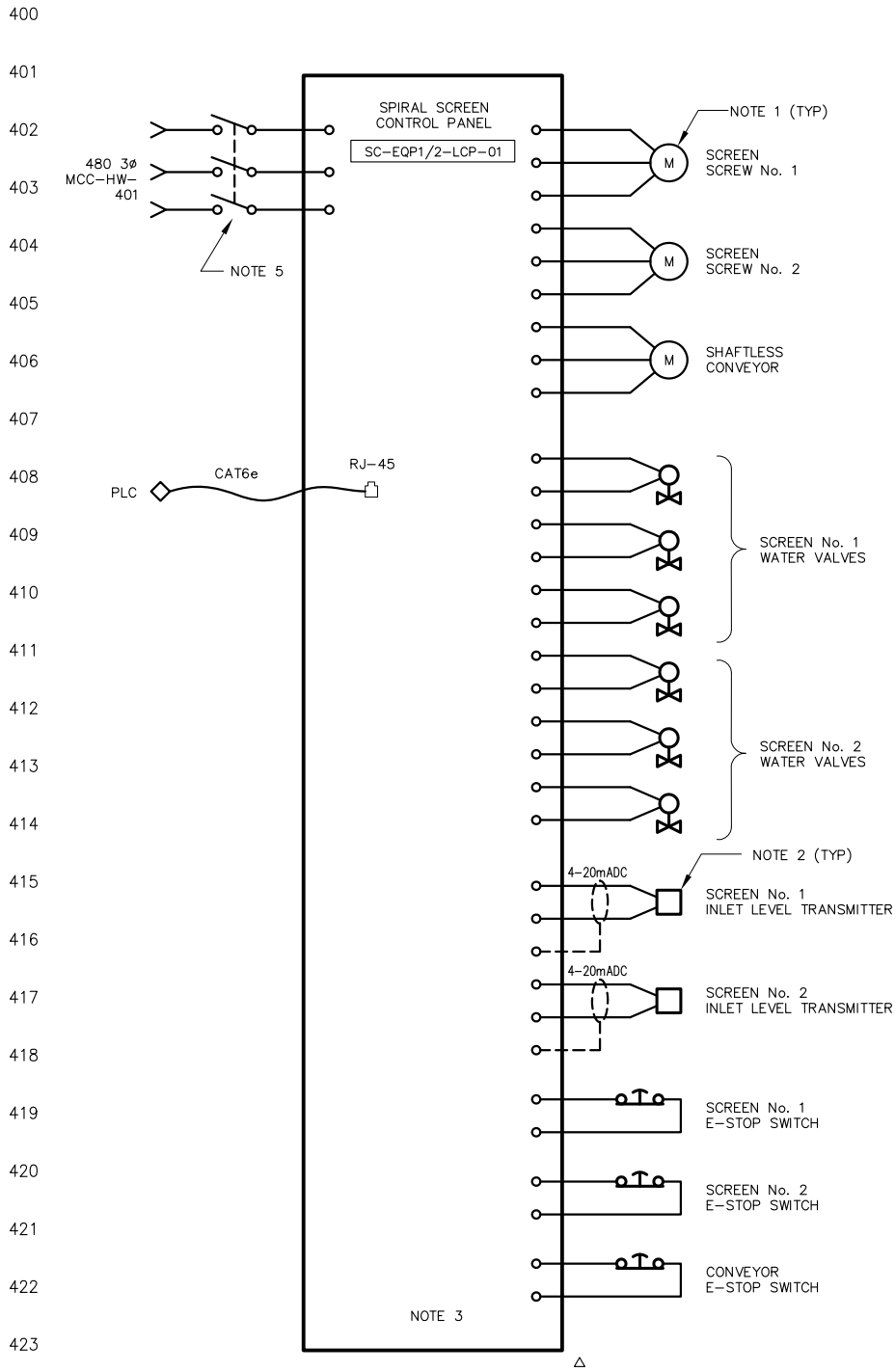
MODULATING GATE & VALVE ACTUATORS (C)
 SCALE: NTS



EQUIPMENT	(A)	(B)	NOTES
SPIRAL SCREEN GATE No. 6	MCC-HW-403	MOTOR ACTUATOR	FULL OPEN/ CLOSED GATE

OPEN/CLOSE GATE ACTUATORS (D)
 SCALE: NTS

FILENAME: 286F-ED9 3-28-17 01:44pm Loc: XREFS: X-SWCSD-TBLK <<--

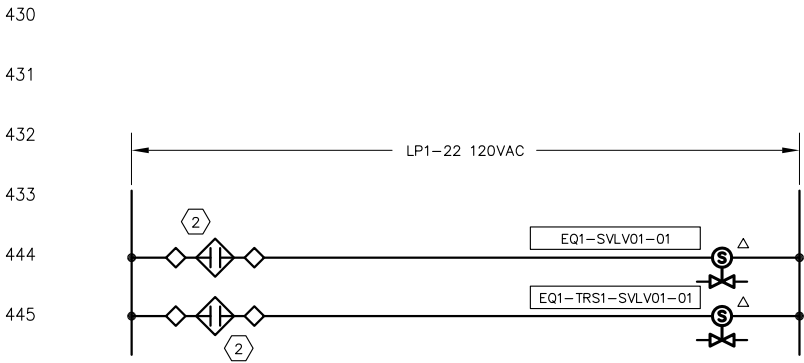


NOTES:

1. PROVIDE DISCONNECT SWITCH AS PER SINGLE-LINE DIAGRAM.
2. PROVIDE POWER SUPPLY AND WIRING IF TRANSMITTER IS 4 WIRE DEVICE.
3. SEE SPECIFICATIONS (SECTION 16860) FOR DETAILED REQUIREMENTS.
4. ALL DEVICES SHOWN ARE LOCATED IN THE FIELD.
5. THIS SWITCH SHALL BE PADLOCKABLE AND IS PART OF THE CONTROL PANEL.

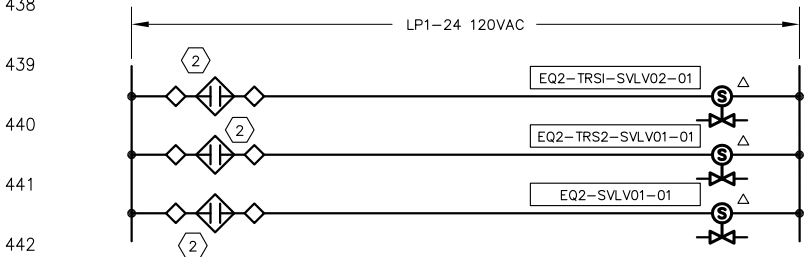
**SPIRAL SCREEN CONTROL
PANEL BLOCK DIAGRAM (A)**

SCALE: NTS



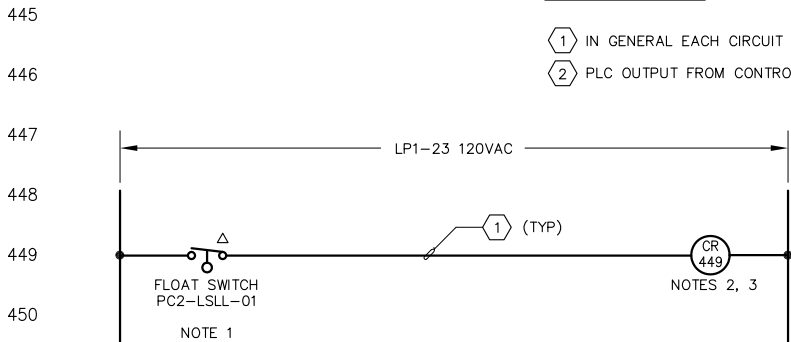
EQUALIZATION 1 SOLENOID VALVES (B)

SCALE: NTS



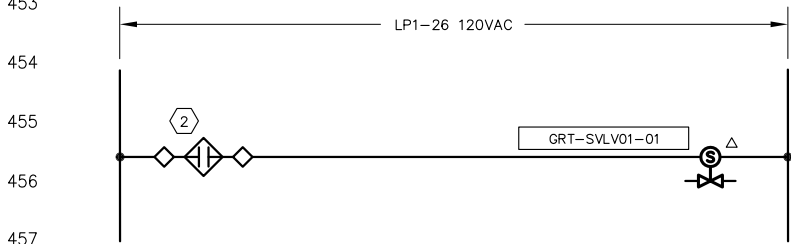
EQUALIZATION 2 SOLENOID VALVES (C)

SCALE: NTS



SCUM PIT LOW LEVEL INTERLOCK (E)

SCALE: NTS



GRIT SYSTEM #3W SOLENOID VALVE (F)

SCALE: NTS

NOTES:

1. FLOAT SWITCH CLOSURES WITH FALLING LEVEL.
2. RELAY CR449 IS IN MCC-HW.
3. RELAY CR449 IS AN INTRINSICALLY SAFE RELAY.

PANEL LP1		VOLTAGE/PHASE		120/208V, 3ø, 4W		POLES 3		MOUNTING FLUSH				
LOCATION MCC-HW		MAIN BKR		100 A		BUS 100 A		PANEL BKR'S BOLT-ON				
LOAD DESCRIPTION	WATTAGE			TRIP	CKT.	S/N A B C	CKT.	TRIP	WATTAGE			LOAD DESCRIPTION
	øA	øB	øC						øA	øB	øC	
MCC ROOM LIGHTING	460			20	1	●	2	20	1099			SITE LIGHTING
MCC ROOM OUTLETS		900		20	3	●	4	20		270		SITE LIGHTING
SITE OUTLETS			540	20	5	●	6	20			540	SITE OUTLETS
SPARE	—			20	7	●	8	20	200			ULTRASONIC TRANS. — EQUAL. BASINS
ULTRASONIC TRANS. — SCREENING FLUME		200		20	9	●	10	20		100		EQUALIZATION FLOWMETER
EQUAL. BASIN SOLENOID VALVES			150	20	11	●	12	20			450	CLARIFIER BUBBLER PANEL
PRIMARY CLARIFIER OUTLETS	540			20	13	●	14	20	200			SLUDGE/SCUM FLOWMETERS
SPARE		—		20	15	●	16	20		—		GRIT PUMP AREA OUTLETS
SCADA CONTROL PANEL			1000	20	17	●	18	20			150	ULTRASONIC TRANS. — FILTER INFLUENT PIT
SPARE				20	19	●	20	20	350			DIESEL TANK LEAK DETECTION SYSTEM
SCUM SOLENOID VALVE CONTROL		50		20	21	●	22	20		100		EQUALIZATION 1 SOLENOID VALVES
SCUM PUMPS LOW LOW LEVEL INTERLOCKS			25	20	23	●	24	20			150	EQUALIZATION 2 SOLENOID VALVES
FIRE ALARM CONTROL PANEL	250			20	25	●	26	20	50			GRIT SYSTEM # 3W SOLENOID VALVE
CLARIFIER LIGHTS		571		20	27	●	28	20		360		EQUAL AREA OUTLETS
FERRIC CHLORIDE TANK LEVEL TRANS.			150	20	29	●	30	20			360	TURNTABLE AREA OUTLETS
EMERGENCY EYEWASH	50			20	31	●	32	20				SPIRAL SCREEN AREA OUTLETS
FERRIC CHLORIDE TANK CONTROL PANEL		350		20	33	●	34	20	200			AUTOMATIC REFRIGERATED SAMPLER
SPARE				20	35	●	36	20				SPARE
SPARE				20	37	●	38	20				SPARE
SPARE				20	39	●	40	20				SPARE
SPARE				20	41	●	42	20				SPARE
SUBTOTAL	1300	2071	1865						2099	830	1650	
TOTAL = 9815 AMPERES = 27.24 @ 208V, 3ø												

* VIA TIME CLOCK IN MCC-HW
** 2#10, #10GND - 3/4"C

PANEL "LP1" SCHEDULE (D)

SCALE: NTS

CONFORMED DRAWING

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DESIGNED TP
DRAWN LD
CHECKED DN

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

**CONTROL SCHEMATIC DIAGRAMS
SHEET 4 OF 4 AND
PANEL BOARD SCHEDULE**

DWG NO E-9

SHEET NO 173 OF 226

PROJ NO 055-006

DATE MARCH 2017



0" = 1" - VERIFY SCALES -
BAR IS ONE INCH
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SIZE DRAWING.
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SCALES ACCORDINGLY



REV	DATE	BY	APVD

FILENAME: 286F-E10 Addendum 1 3-28-17 01:44pm Loc || XREFS: X-SMCSO-TBLK | MTakemoto-PE-stamp |<--



0" 1"
— VERIFY SCALES —
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LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
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DRAWING, ADJUST
SCALES ACCORDINGLY



▲				
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▲	03/2017	DN	DTN	
REV	DATE	BY	APVD	

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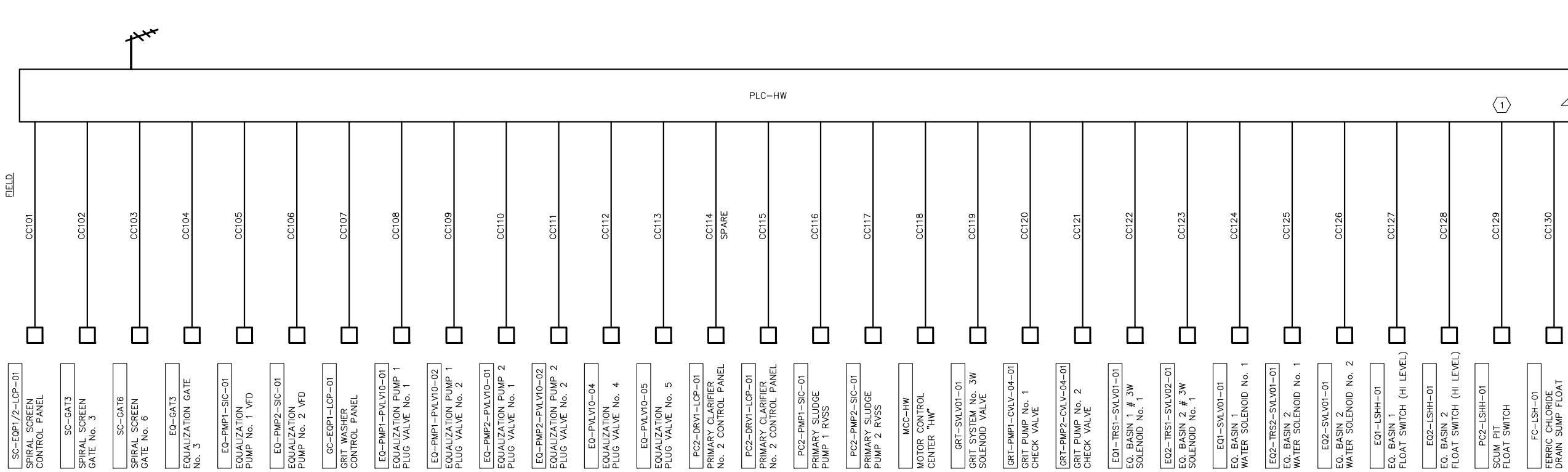
DESIGNED	TP
DRAWN	LD
CHECKED	DN

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

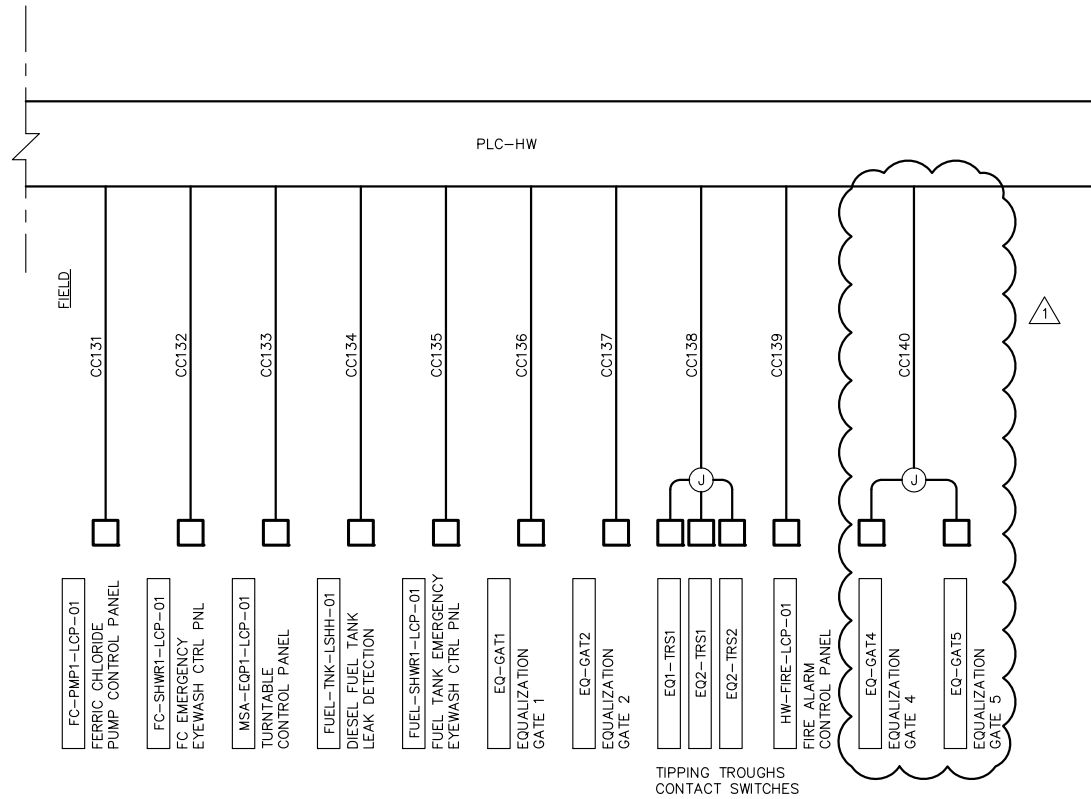


TREATMENT AND WET WEATHER FLOW UPGRADE
CONTROL ONE-LINE DIAGRAMS
SHEET 1 OF 2

DWG NO	E-10
SHEET NO	174 OF 226
PROJ NO	055-006
DATE	MARCH 2017



PLC-HW-CONTROL SYSTEM ONE-LINE DIAGRAM **A**
SCALE: NTS



PLC-HW-CONTROL SYSTEM ONE-LINE DIAGRAM (CONTINUED)
SCALE: NTS

SHEET NOTES:

- SCUM PIT IS A HAZARDOUS LOCATION. FURNISH AND INSTALL AN INTRINSICALLY SAFE RELAY FOR CONNECTION TO THE FLOAT SWITCH.
- THIS CONTROL ONE-LINE DIAGRAM IS SUPPLEMENTARY TO THE CABLE AND CONDUIT SCHEDULE AND DOES NOT COVER ALL REQUIRED SIGNALS AND CONDUITS SHOWN ON THE PLANS.

FILENAME: 286F-E11 3-28-17 01:44pm Loc X:RREFS\X-SMCSB-TBLK\CC--



0" = 1"
VERIFY SCALES —
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IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



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SUBMITTED: MARK TAKEMOTO RMC PROJECT ENGINEER CE-64369	
APPROVED: STEVE CLARY RMC ENGINEER CE-30318	

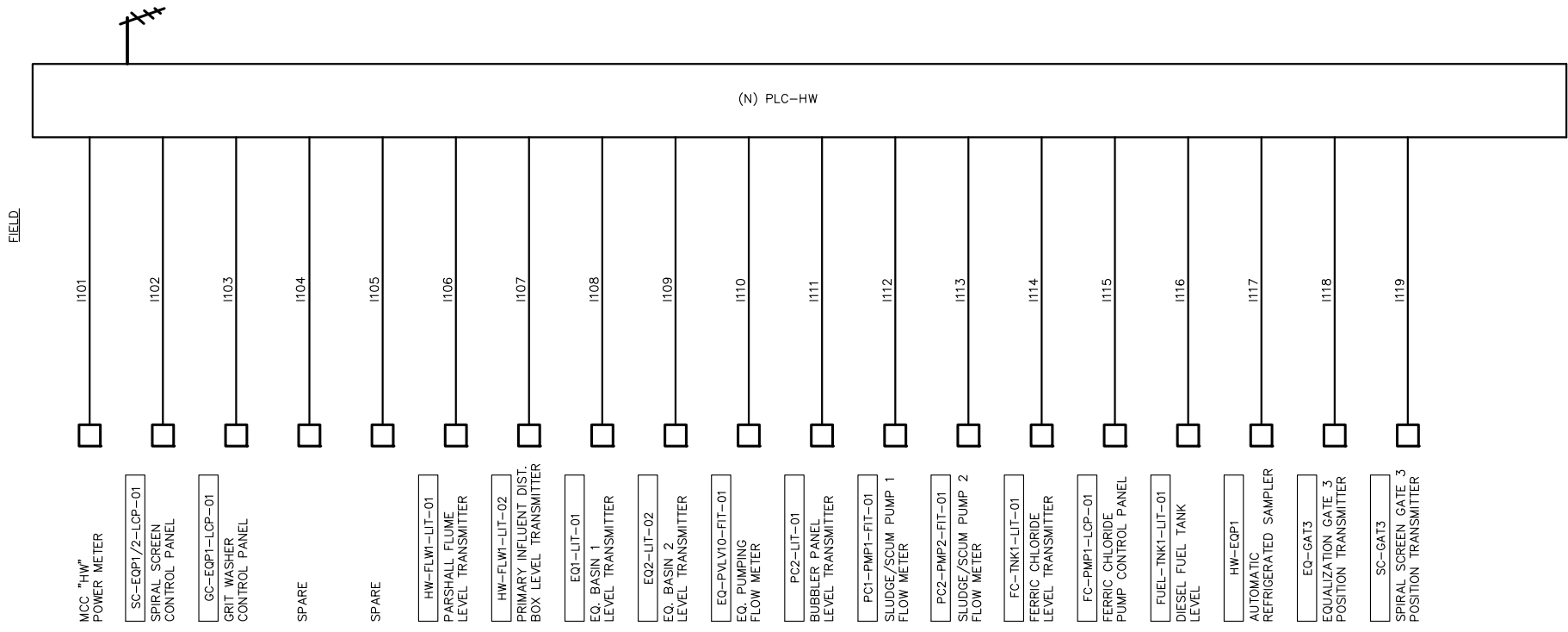


TREATMENT AND WET WEATHER FLOW UPGRADE
CONTROL ONE-LINE DIAGRAMS
SHEET 2 OF 2

DWG NO	E-11
SHEET NO	175 OF 226
PROJ NO	055-006
DATE	MARCH 2017

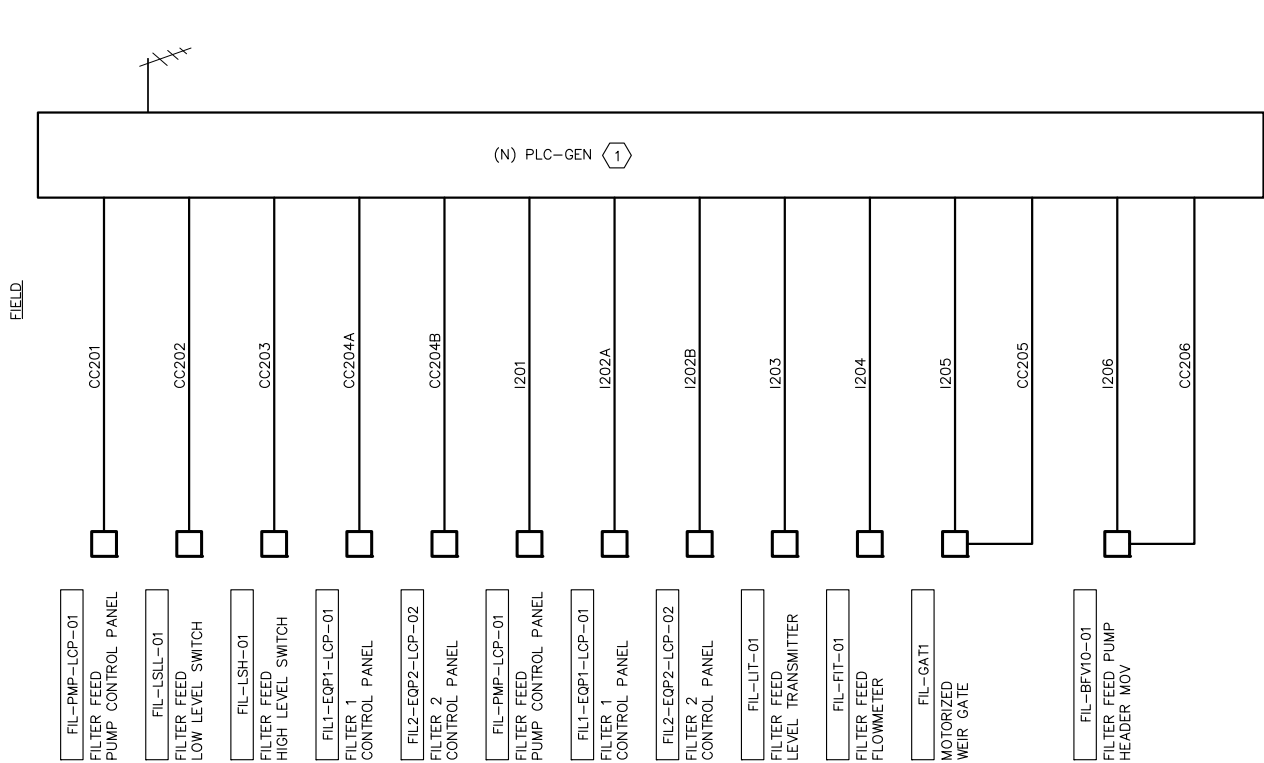
SHEET NOTES:

- THIS EXISTING PLC IS TO BE REMOVED AND REPLACED WITH NEW PLC. SEE DRAWINGS E-15A AND E-15B FOR DETAILS.
- THIS PLC IS EXISTING AND PROVIDED WITH NEW I/O CARDS TO ACCOMMODATE NEW SIGNALS. MODIFICATIONS OF EXISTING PANEL ARE REQUIRED PRIOR TO INSTALLING NEW RACK AND I/O CARDS. SEE DETAIL C/E-32.
- THIS PLC IS EXISTING AND PROVIDED WITH NEW I/O CARDS TO ACCOMMODATE NEW SIGNALS. EXISTING RACKS ARE AVAILABLE FOR INSTALLATION OF NEW I/O CARDS. NO NEW RACKS ARE REQUIRED. SEE DRAWING E-25 FOR THE MAIN PLANT PLC LOCATION.



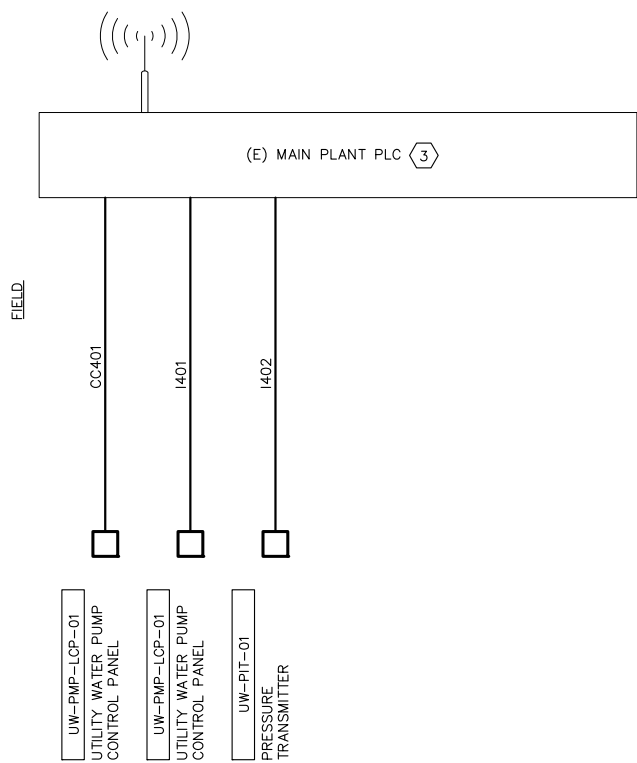
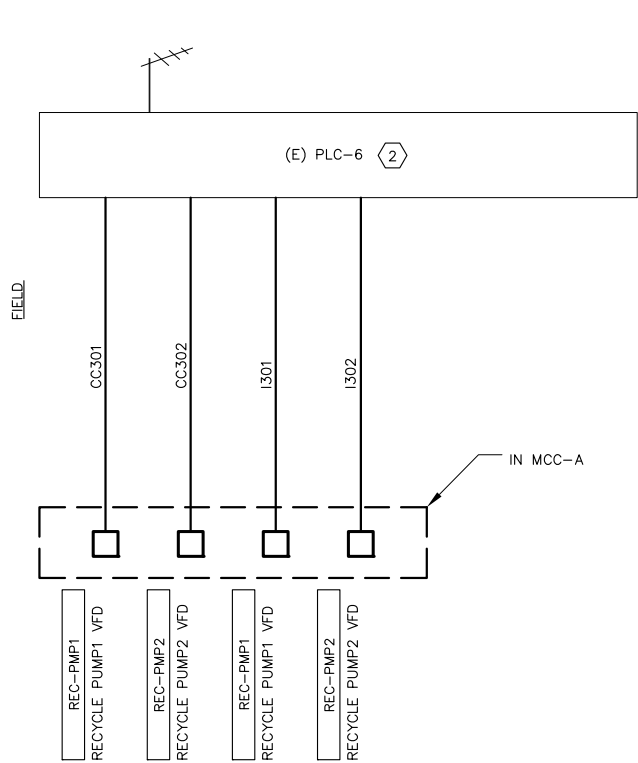
PLC-HW-CONTROL SYSTEM ONE-LINE DIAGRAM

SCALE: NTS



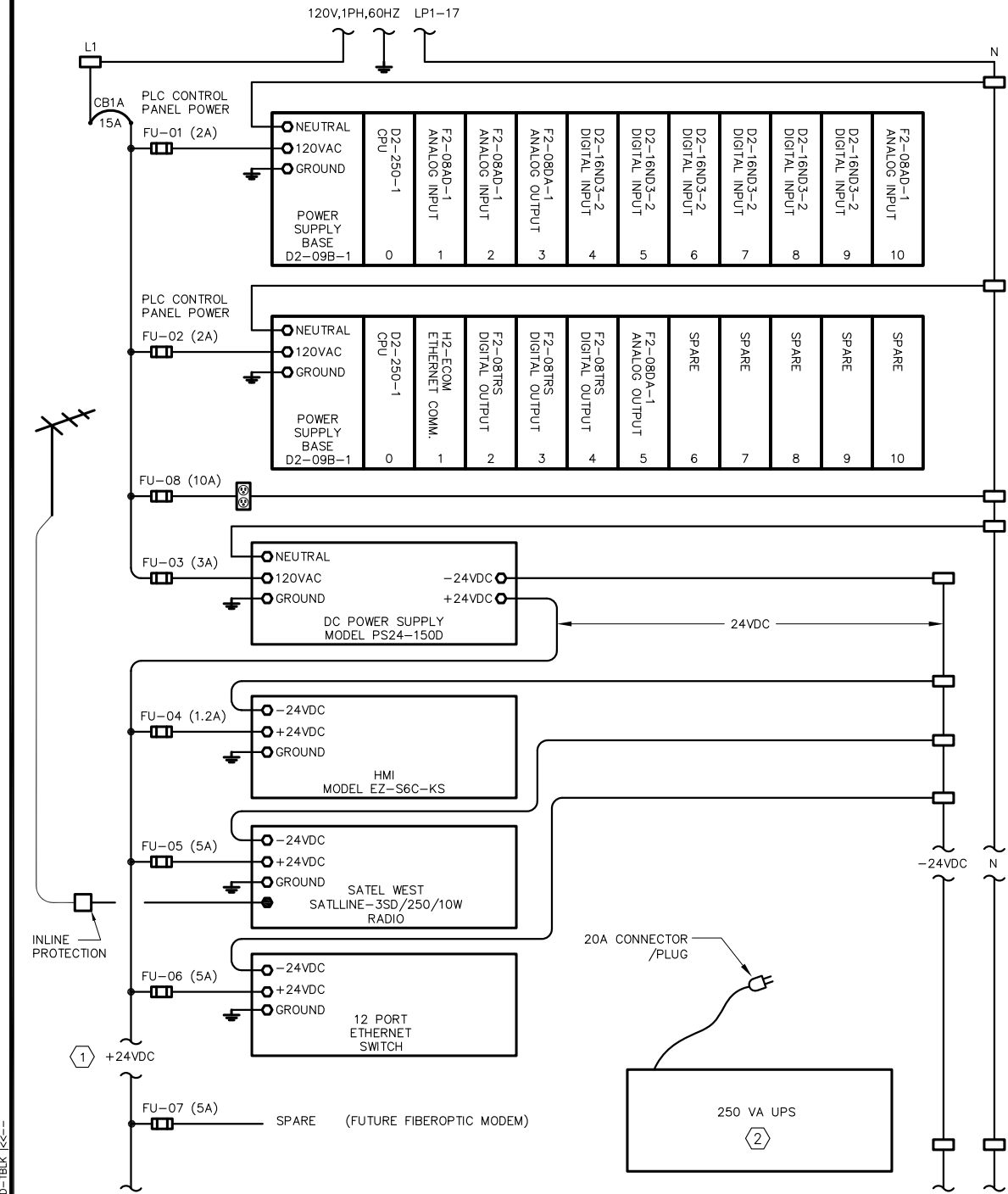
PLC-GEN CONTROL SYSTEM ONE-LINE DIAGRAM

SCALE: NTS

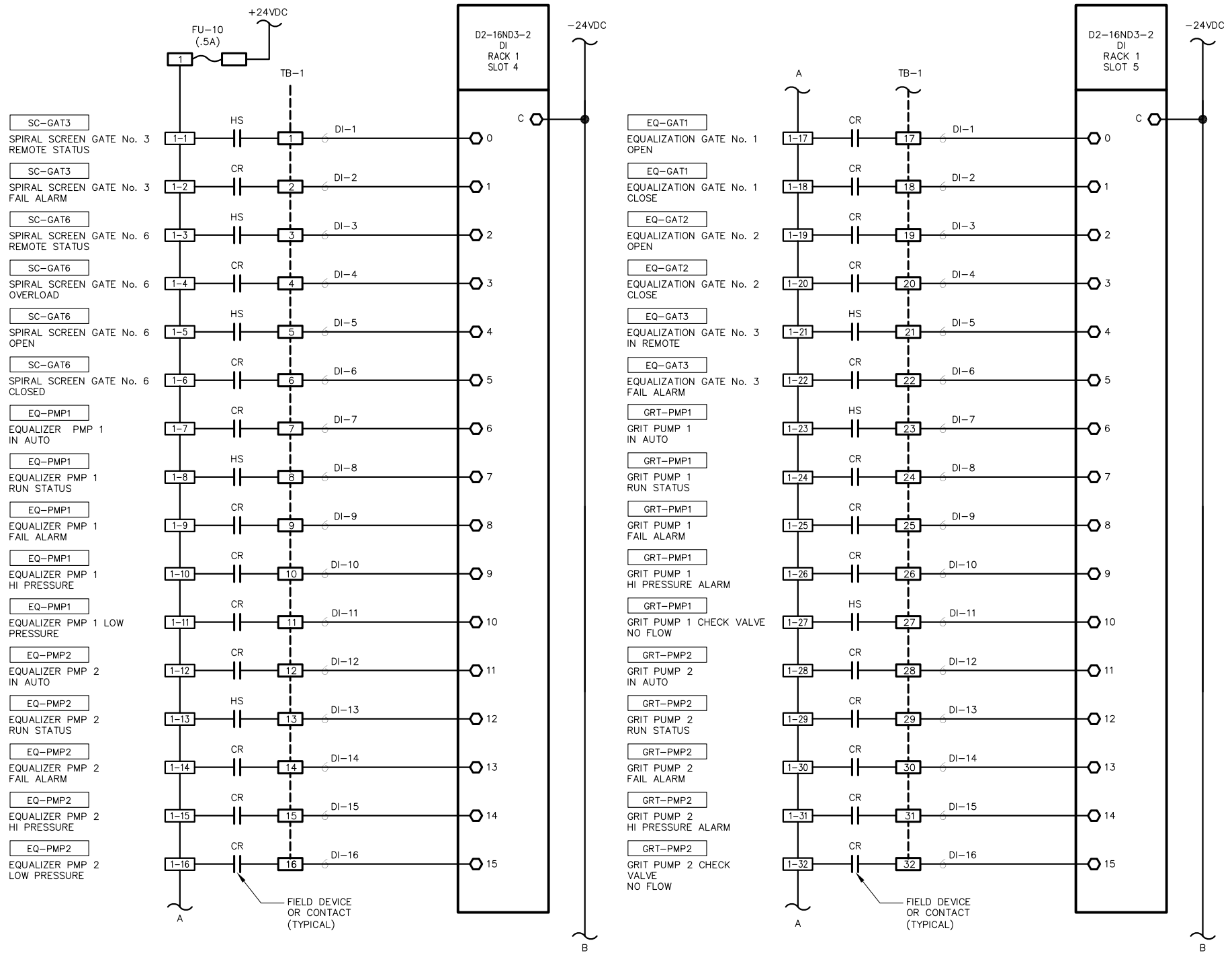


SHEET NOTES:

- 1) PROVIDE FUSES FU-07 TO FU-10 TO POWER I/O CARDS.
- 2) THIS UPS SHALL BE USED TO PROVIDE REDUNDANT POWER BACKUP TO THE RADIO. COMPLETE WIRING DIAGRAM SHALL BE PROVIDED IN THE SHOP DRAWINGS FOR REVIEW AND APPROVAL. (ADDITIONAL AUXILIARY DEVICES SUCH AS 24 VDC CONVERTER AND DC WIRING FOR REDUNDANT POWER BACK UP ARE REQUIRED.)
- 3) SEE WIRING DIAGRAM ON DRAWING E-16 FOR EXACT INTERNAL WIRING REQUIREMENTS BETWEEN COMPONENTS IN THIS CONTROL PANEL.



PLC-HW INTERNAL POWER CONFIGURATION **A**
SCALE: NTS



PLC-HW WIRING DIAGRAMS **B**
SCALE: NTS

FILENAME: 286F-E12_3-28-17_01:44pm Loc: XREFS: X-SMCSO-TBLK <<--



0" = 1"
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RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

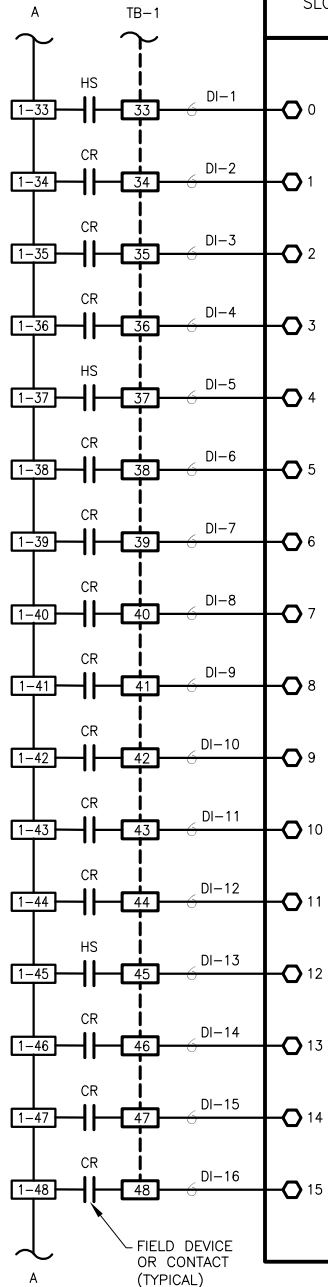


TREATMENT AND WET WEATHER FLOW UPGRADE
SCADA PLC WIRING DIAGRAMS
PLC - HW - SHEET 1 OF 4

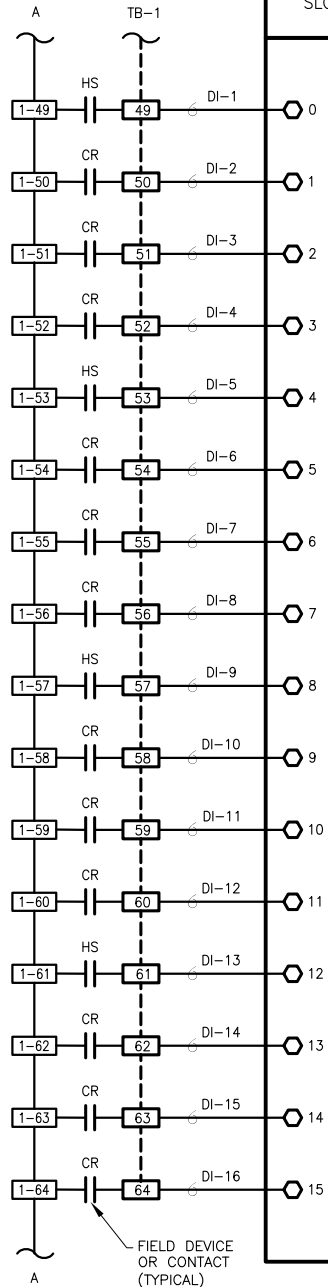
DWG NO **E-12**
SHEET NO 176 OF 226
PROJ NO 055-006
DATE MARCH 2017

FILENAME: 286F-E13 Addendum 1 3-28-17 01:44pm Loc 11 XREFS: X-SMCSO-TBLK 1<--

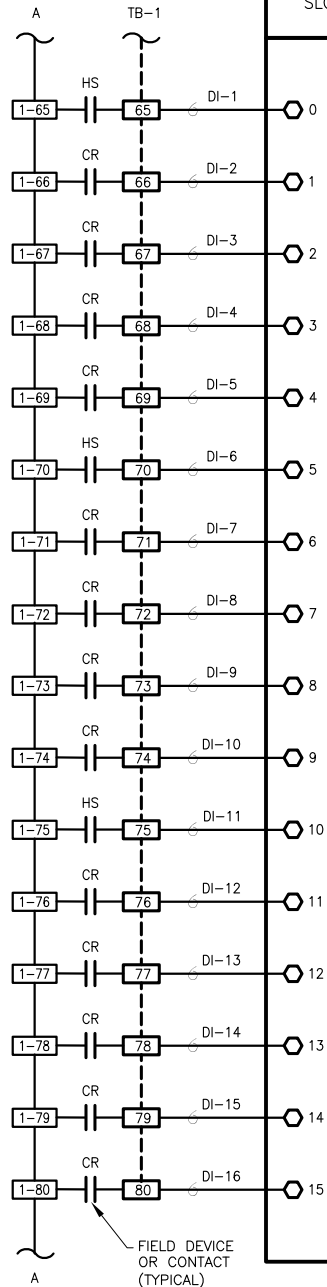
- EQ-PMP1-PVLV10-01
EQ PMP1 PLUG VALVE 1
REMOTE STATUS
- EQ-PMP1-PVLV10-01
EQ PMP1 PLUG VALVE 1
OPEN
- EQ-PMP1-PVLV10-01
EQ PMP1 PLUG VALVE 1
CLOSED
- EQ-PMP1-PVLV10-01
EQ PMP1 PLUG VALVE 1
OVERLOAD ALARM
- EQ-PMP1-PVLV10-02
EQ PMP1 PLUG VALVE 2
REMOTE STATUS
- EQ-PMP1-PVLV10-02
EQ PMP1 PLUG VALVE 2
OPEN
- EQ-PMP1-PVLV10-02
EQ PMP1 PLUG VALVE 2
CLOSED
- EQ-PMP1-PVLV10-02
EQ PMP1 PLUG VALVE 2
OVERLOAD ALARM
- EQ-PMP2-PVLV10-01
EQ PMP2 PLUG VALVE 1
REMOTE STATUS
- EQ-PMP2-PVLV10-01
EQ PMP2 PLUG VALVE 1
OPEN
- EQ-PMP2-PVLV10-01
EQ PMP2 PLUG VALVE 1
CLOSED
- EQ-PMP2-PVLV10-01
EQ PMP2 PLUG VALVE 1
OVERLOAD ALARM
- EQ-PMP2-PVLV10-02
EQ PMP2 PLUG VALVE 2
REMOTE STATUS
- EQ-PMP2-PVLV10-02
EQ PMP2 PLUG VALVE 2
OPEN
- EQ-PMP2-PVLV10-02
EQ PMP2 PLUG VALVE 2
CLOSED
- EQ-PMP2-PVLV10-02
EQ PMP2 PLUG VALVE 2
OVERLOAD ALARM



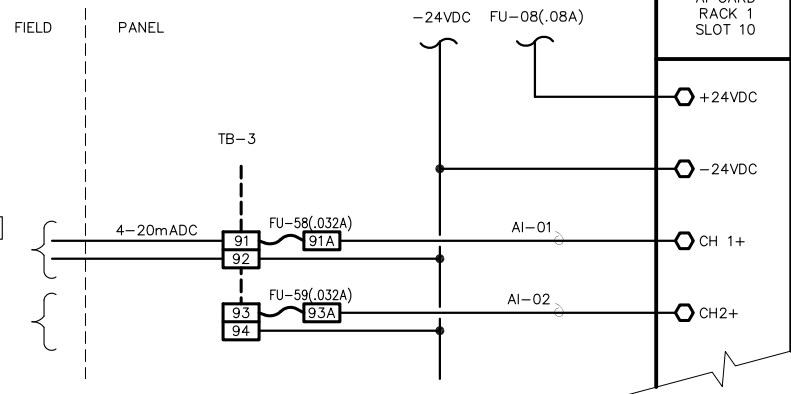
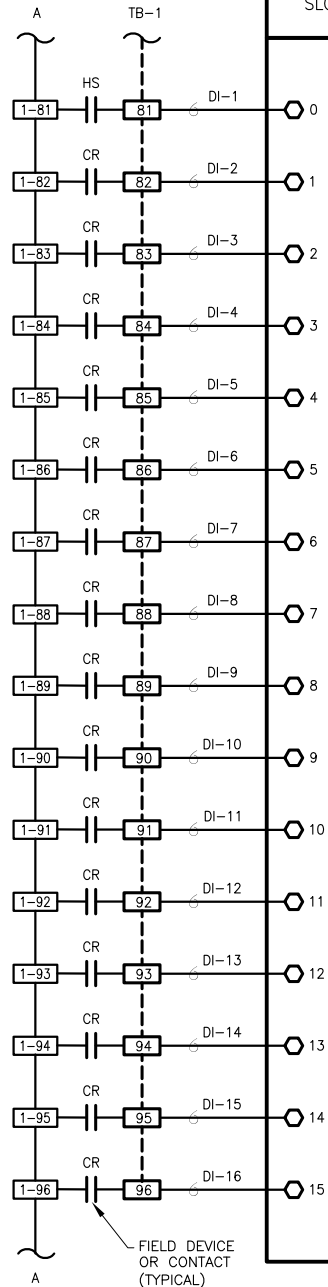
- EQ-PVLV10-04
EQ PLUG VALVE 4
REMOTE STATUS
- EQ-PVLV10-04
EQ PLUG VALVE 4
OPEN
- EQ-PVLV10-04
EQ PLUG VALVE 4
CLOSED
- EQ-PVLV10-04
EQ PLUG VALVE 4
OVERLOAD
- EQ-PVLV10-05
EQ PLUG VALVE 5
REMOTE STATUS
- EQ-PVLV10-05
EQ PLUG VALVE 5
OPEN
- EQ-PVLV10-05
EQ PLUG VALVE 5
CLOSED
- EQ-PVLV10-05
EQ PLUG VALVE 5
OVERLOAD
- MHA-EQP1
TURNTABLE
RUN STATUS
- MHA-EQP1
TURNTABLE
FAIL ALARM
- HW-EXF1
VENTILATION UNIT
IN AUTO
- HW-EXF1
VENTILATION UNIT
RUN STATUS
- HW-EXF1
VENTILATION UNIT
OVERLOAD
- HW-EQP1
AUTOMATIC
REFRIGERATED SAMPLER
FAIL
- EQ-GAT4
EQUALIZATION GATE 4
OPEN
- EQ-GAT4
EQUALIZATION GATE 4
CLOSE



- PC2-DRV1
PRIMARY CLARIFIER 2
IN AUTO MODE
- PC2-DRV1
PRIMARY CLARIFIER 2
RUN
- PC2-DRV1
PRIMARY CLARIFIER 2
OVERLOAD
- PC2-DRV1
PRIMARY CLARIFIER 2
HI TORQUE ALARM
- PC2-DRV1
PRIMARY CLARIFIER 2
HIHI TORQUE SHUTDOWN
- PC2-PMP1
PRIMARY SLUDGE PMP 1 RVSS
IN AUTO
- PC2-PMP1
PRIMARY SLUDGE PMP 1 RVSS
RUN STATUS
- PC2-PMP1
PRIMARY SLUDGE PMP 1 RVSS
FAIL ALARM
- PC2-PMP1
PRIMARY SLUDGE PMP 1 RVSS
HI PRESSURE ALARM
- PC2-PMP1
PRIMARY SLUDGE PMP 1 RVSS
LOW PRESSURE ALARM
- PC2-PMP2
PRIMARY SLUDGE PMP 2 RVSS
IN AUTO
- PC2-PMP2
PRIMARY SLUDGE PMP 2 RVSS
RUN STATUS
- PC2-PMP2
PRIMARY SLUDGE PMP 2 RVSS
FAIL ALARM
- PC2-PMP2
PRIMARY SLUDGE PMP 2 RVSS
HI PRESSURE ALARM
- PC2-PMP2
PRIMARY SLUDGE PMP 2 RVSS
LOW PRESSURE ALARM
- PC2-LSLL-01
SCUM PIT
LOW LEVEL ALARM



- FC-PMP1
FERRIC CHLORIDE PUMP 1
IN AUTO MODE
- FC-PMP1
FERRIC CHLORIDE PUMP 1
RUN
- FC-PMP1
FERRIC CHLORIDE PUMP 1
FAIL
- FC-PMP1
FERRIC CHLORIDE PUMP 1
LEAK ALARM
- FC-SHWR1-FSH-01
FERRIC CHLORIDE EMERGENCY
EYEWASH ACTIVATE
- FUEL-TNK-LSHH-01
DIESEL FUEL TANK
LEAK ALARM
- FUEL-SHWR1-FSH-01
FUEL TANK EMERGENCY
EYEWASH ACTIVATE
- EQ-GAT5
EQUALIZATION GATE 5
OPEN
- EQ-GAT5
EQUALIZATION GATE 5
CLOSE
- EQ1-LSHH
EQ. BASIN 1
HI LEVEL ALARM
- EQ1-TRS1
EQ. BASIN 1
TROUGH TIPPED
- EQ2-TRS1
EQ. BASIN 2
TROUGH 1 TIPPED
- EQ2-TRS2
EQ. BASIN 2
TROUGH 2 TIPPED
- EQ2-LSHH
EQ. BASIN 2
HI LEVEL ALARM
- HW-FIRE-LCP-01
FIRE ALARM
TROUBLE
- HW-FIRE-LCP-01
FIRE ALARM
ACTIVATION



PLC-HW WIRING DIAGRAMS A

SCALE: NTS



0" = 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD
1	03/2017	DN	DTN
2			APVD

CONFORMED DRAWING
NOTICE:
THIS CONFORMED DRAWING HAS BEEN
PREPARED BASED ON ORIGINAL SIGNED
DOCUMENTS DATED **NOVEMBER 2016** AND
SUBSEQUENT ADDENDA

DESIGNED	TP
DRAWN	LD
CHECKED	DN

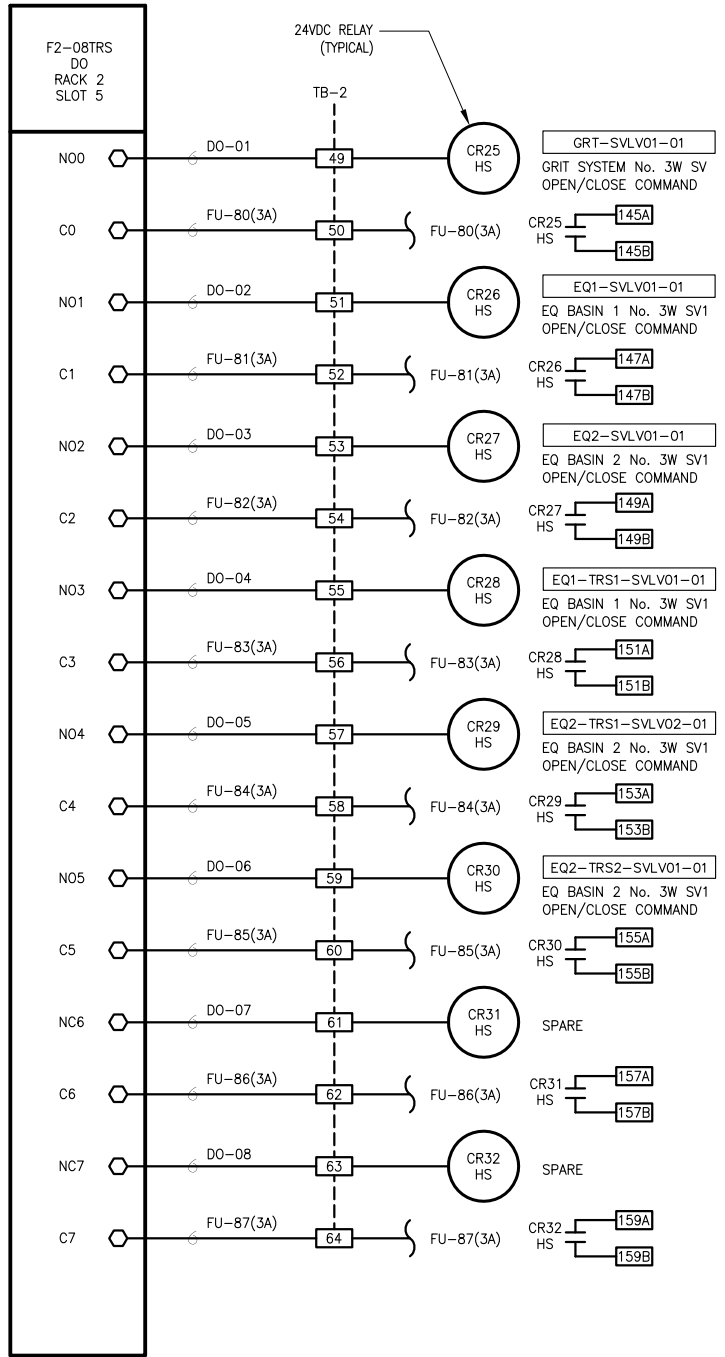
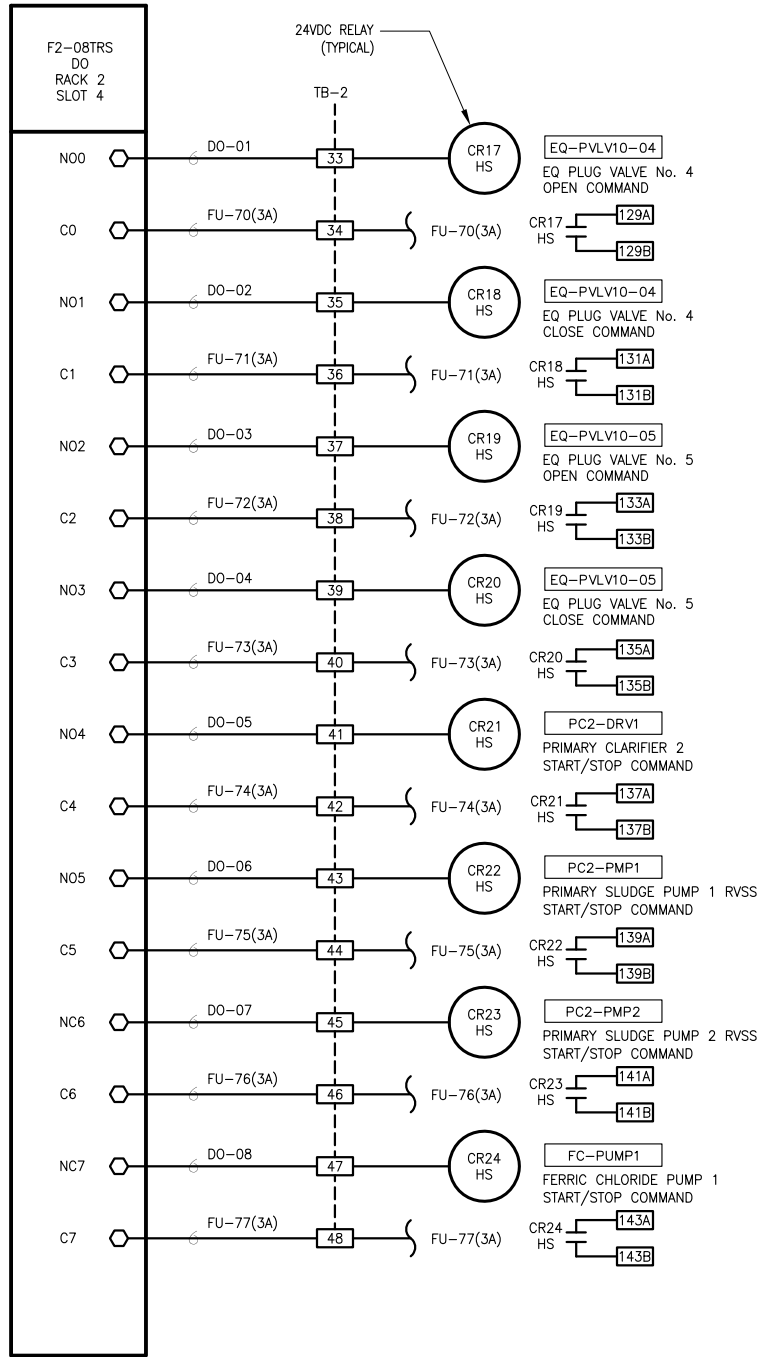
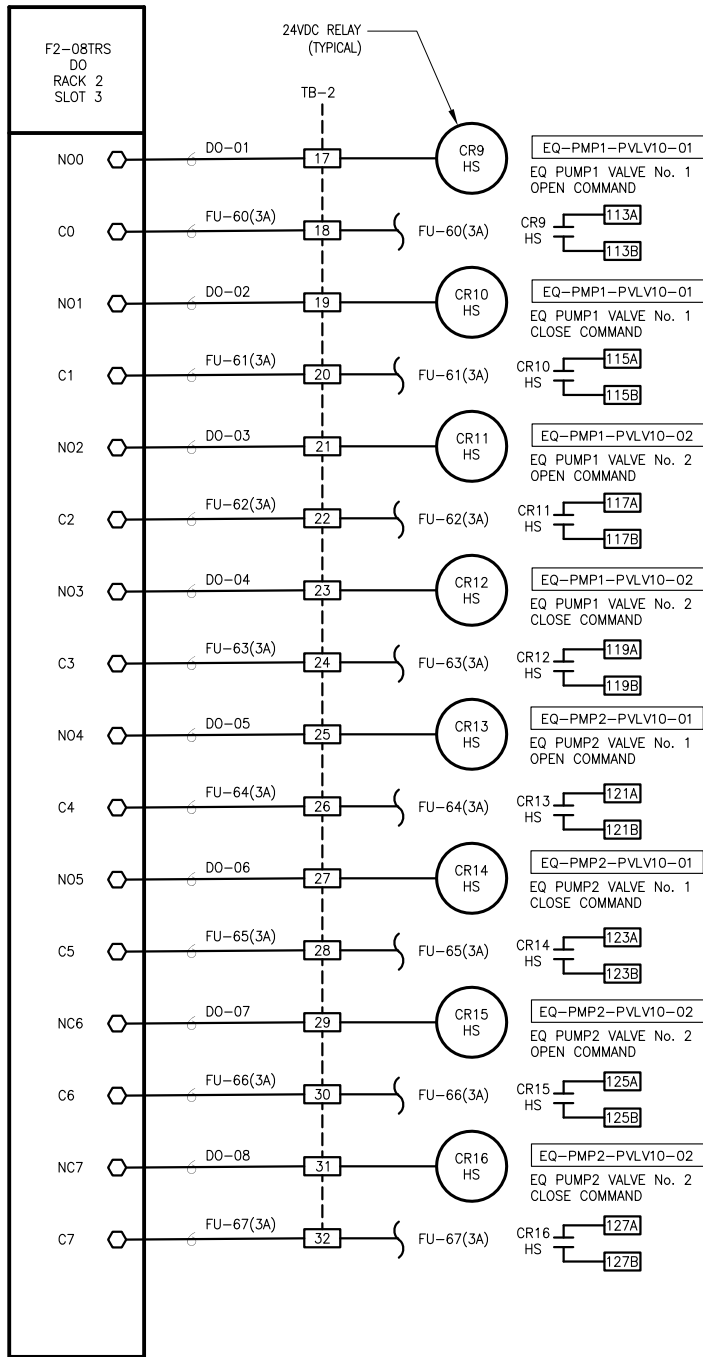
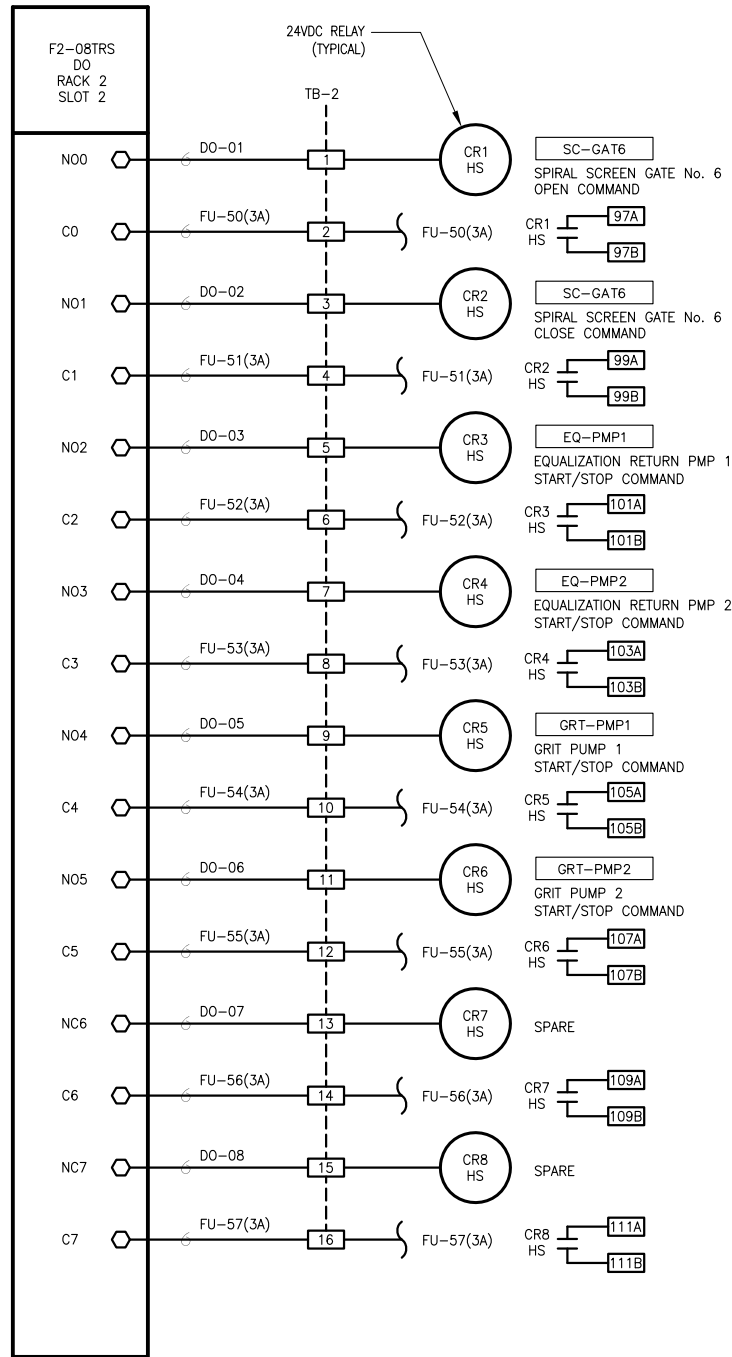
SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
SCADA PLC WIRING DIAGRAMS
PLC - HW - SHEET 2 OF 4

DWG NO **E-13**
SHEET NO 177 OF 226
PROJ NO 055-006
DATE MARCH 2017

FILENAME: 286F-E14_3-28-17_01:44pm Loc: XREFS: X-SMCS0-TBLK <<--



PLC-HW WIRING DIAGRAMS A

SCALE: NTS



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



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REV	DATE	BY	APVD

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RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

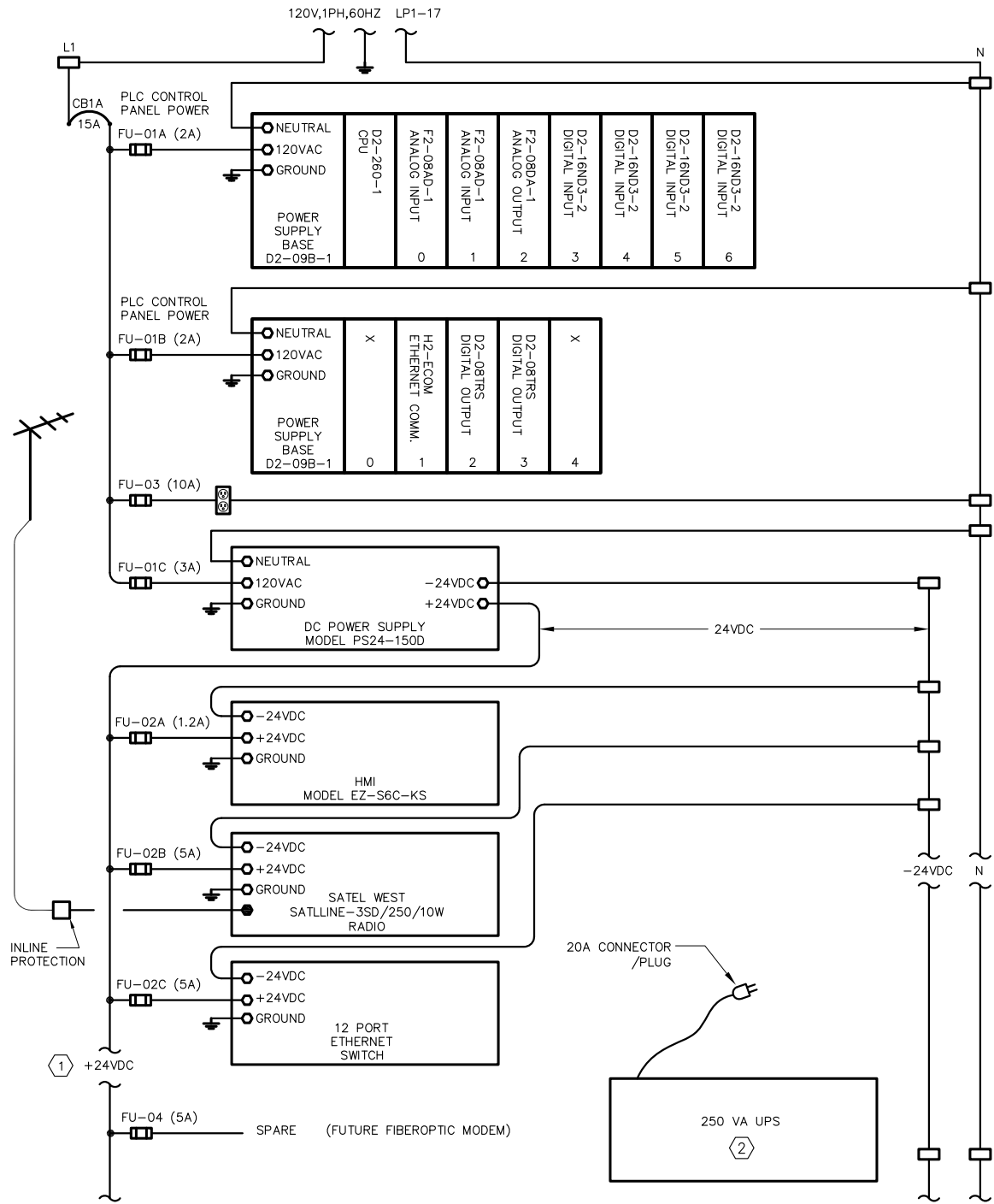


TREATMENT AND WET WEATHER FLOW UPGRADE
SCADA PLC WIRING DIAGRAMS
PLC - HW - SHEET 3 OF 4

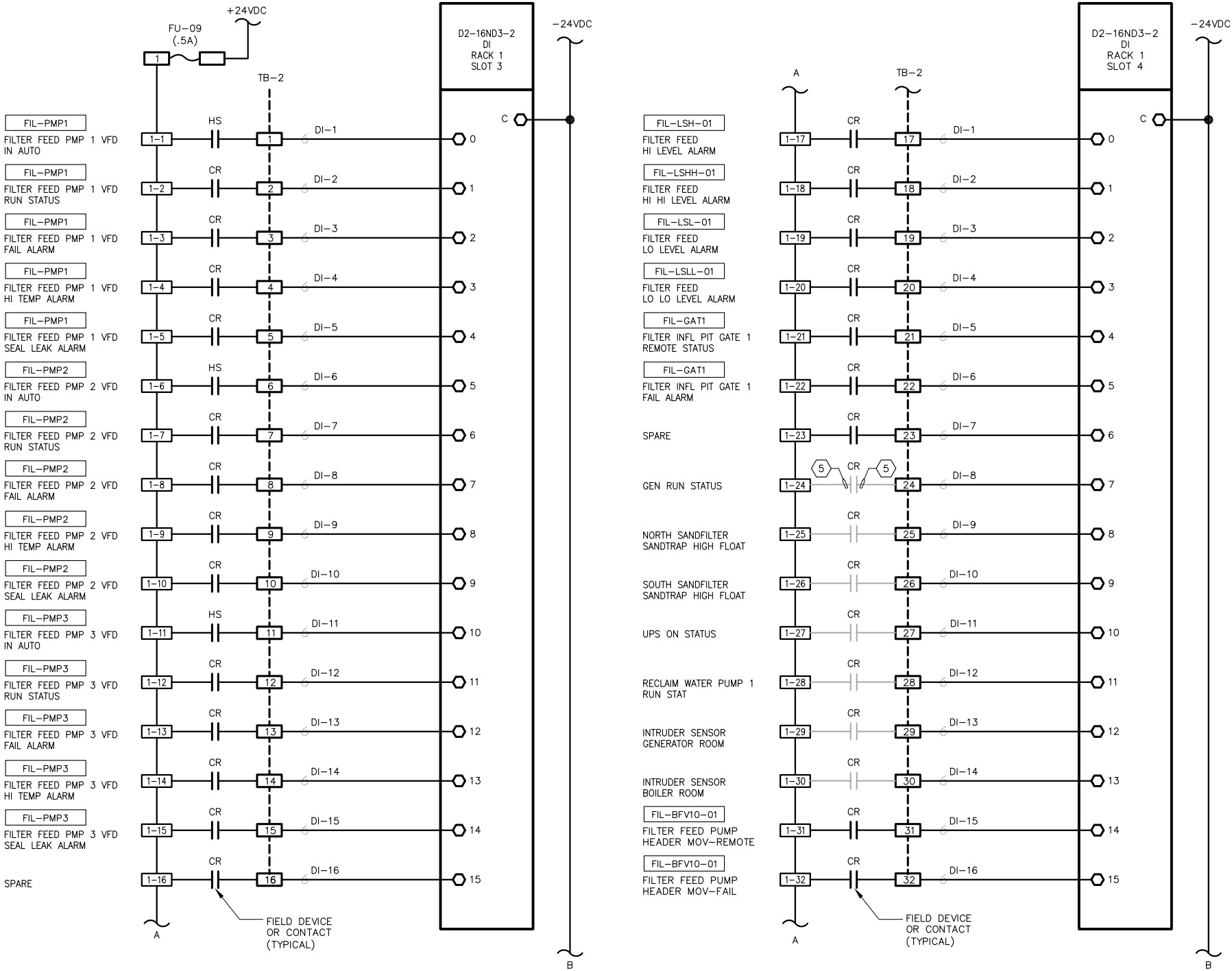
DWG NO **E-14**
SHEET NO 178 OF 226
PROJ NO 055-006
DATE MARCH 2017

SHEET NOTES:

- 1 PROVIDE FUSES FU-05 TO FU-09 TO POWER I/O CARDS.
- 2 THIS UPS SHALL BE USED TO PROVIDE REDUNDANT POWER BACKUP TO THE RADIO. COMPLETE WIRING DIAGRAM SHALL BE PROVIDED IN THE SHOP DRAWINGS FOR REVIEW AND APPROVAL. (ADDITIONAL AUXILIARY DEVICES SUCH AS 24 VDC CONVERTER AND DC WIRING FOR REDUNDANT POWER BACK UP ARE REQUIRED.)
- 3 SEE WIRING DIAGRAM ON DRAWING E-16 FOR EXACT INTERNAL WIRING REQUIREMENTS BETWEEN COMPONENTS IN THIS CONTROL PANEL.
- 4 EXISTING WIRINGS OF EXISTING SIGNALS SHOWN SHALL BE FIELD VERIFIED AND IDENTIFIED PRIOR TO DISCONNECTION AND REMOVAL OF EXISTING CONTROL PANEL AND SHALL BE RECONNECTED COMPLETELY.
- 5 EXISTING FIELD WIRINGS TO BE RECONNECTED . (TYP)



PLC-GEN INTERNAL POWER CONFIGURATION **A** 3
SCALE: NTS



PLC-GEN WIRING DIAGRAMS **B** 4
SCALE: NTS

FILENAME: 286F-E15A 3-28-17 01:44pm Loc: \\XREFS\X-SMCSO-TBL\K122--



0" = 1"
— VERIFY SCALES —
BAR IS ONE INCH
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SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

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DESIGNED	TP
DRAWN	LD
CHECKED	DN

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RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
SCADA PLC WIRING DIAGRAMS
PLC - GEN - SHEET 1 OF 2

DWG NO **E-15A**
SHEET NO **180** OF **226**
PROJ NO 055-006
DATE MARCH 2017

FILENAME: 286F-E15B 3-28-17 01:44pm Loc XREFS: X-SMCSO-IBLK KCC--



PLC-GEN WIRING DIAGRAMS A

SCALE: NTS

0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

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CHECKED	DN

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

SCADA PLC WIRING DIAGRAM PLC - GEN - SHEET 2 OF 2

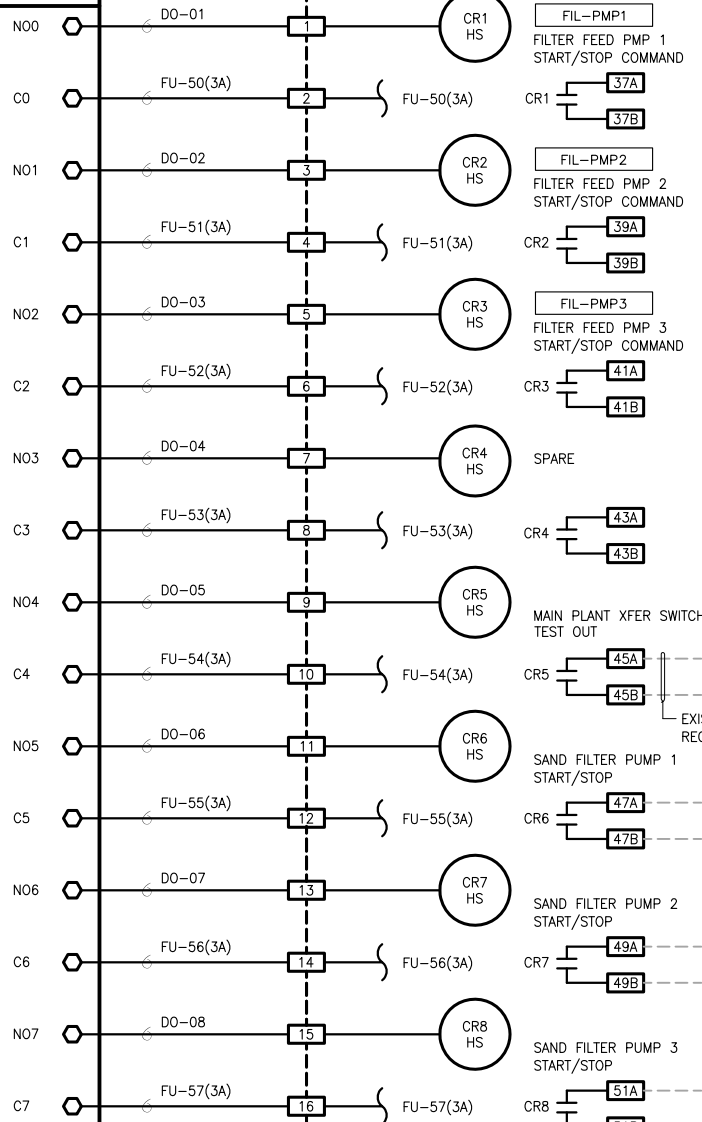
DWG NO **E-15B**

SHEET NO 181 OF 226

PROJ NO 055-006

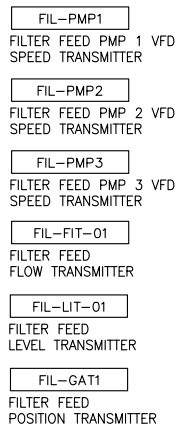
DATE MARCH 2017

F2-08TRS
DO
RACK 2
SLOT 2

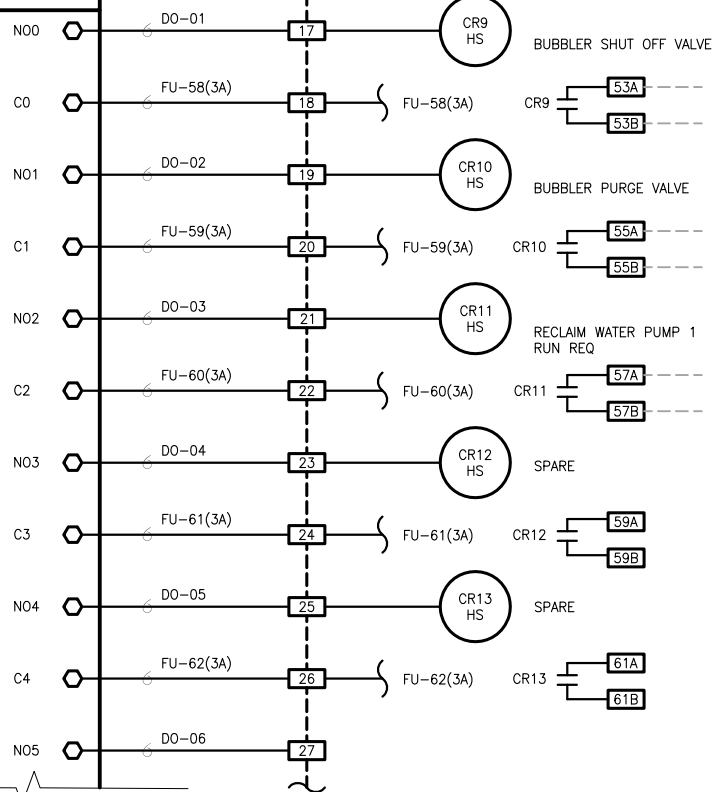


NOTES:

- CONTRACTOR SHALL FIELD VERIFY WITH CALCON (SYSTEM INTEGRATOR) REGARDING FIELD TERMINAL NUMBER ASSIGNMENT TO MATCH EXISTING NUMBER SEQUENCE.

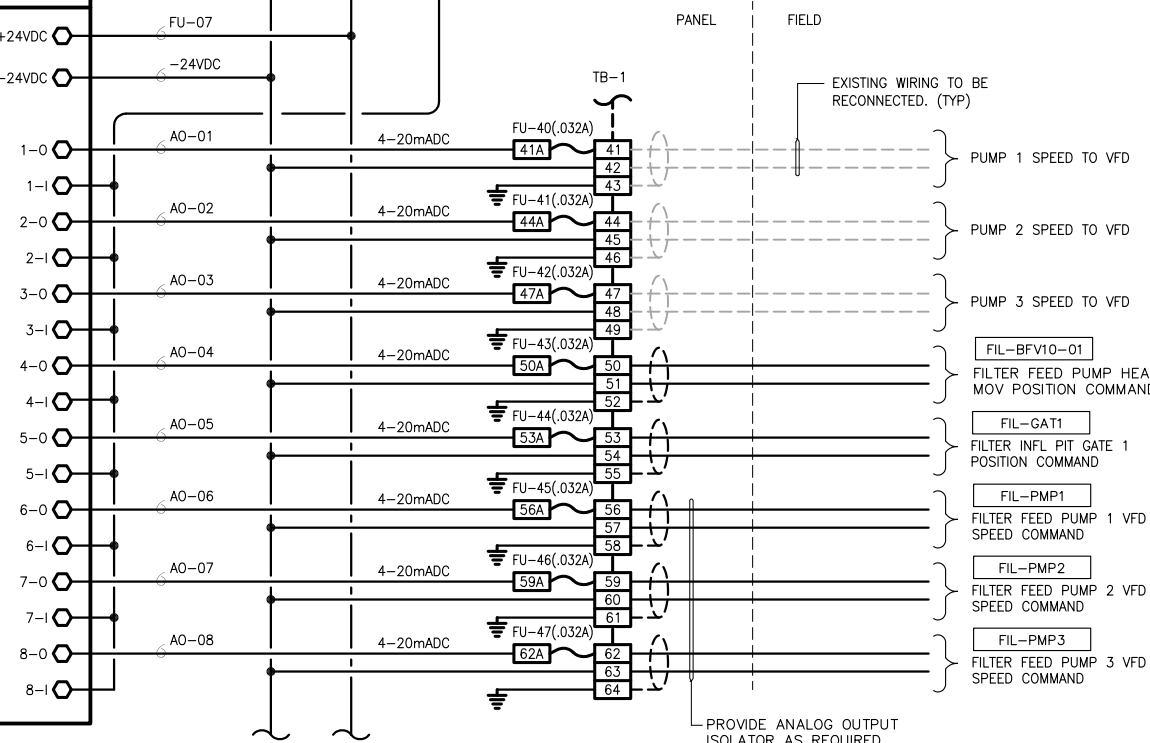


F2-08TRS
DO
RACK 2
SLOT 3

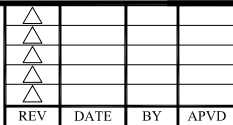
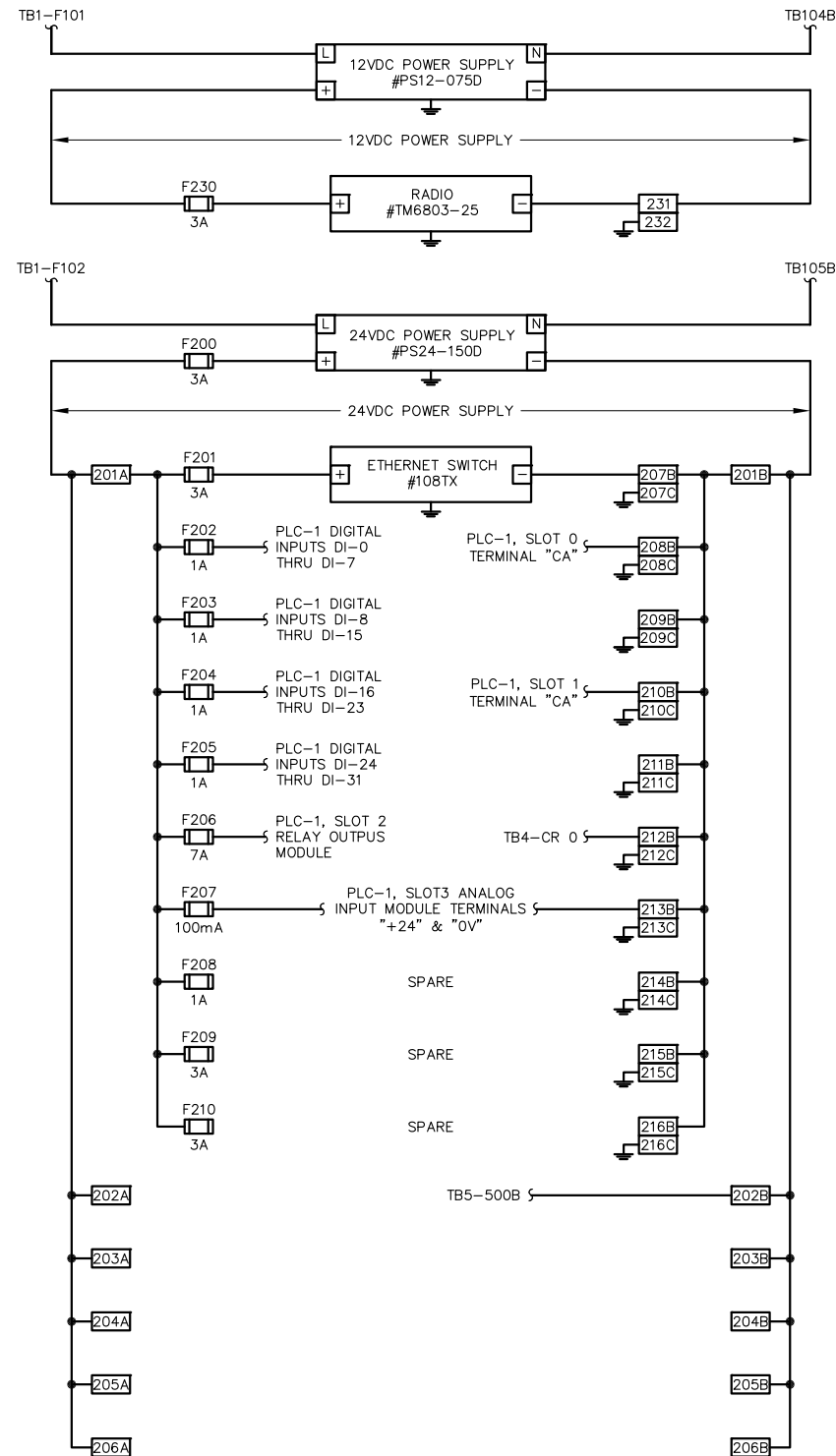


F2-08AD-1
AI CARD
RACK 1
SLOT 0

F2-08DA-1
AO CARD
RACK 1
SLOT 2



- 1 THIS WIRING DIAGRAM DETAIL AND THE CONTROL PANEL DETAIL ARE APPLICABLE TO NEW CONTROL PANEL CP-HW (HEADWORKS) AND CP-GEN (GENERATOR BUILDING).
- 2 ALL EQUIPMENT SHOWN SHALL BE FURNISHED & INSTALLED BY CALCON AS PER THE DISTRICT'S LATEST SCADA STANDARDS.
- 3 INTERNAL COMPONENTS SUCH AS PLC, I/O CARD, ETHERNET SWITCHES, POWER SUPPLIES, UPS ETC ARE NOT SHOWN. SEE DETAILED WIRING DIAGRAM AND RELATED WIRING DIAGRAMS.
- 4 THE TERMINAL NUMBERS SHOWN ON THIS WIRING DIAGRAM ARE FOR ILLUSTRATION PURPOSES ONLY. EXACT TERMINAL NUMBERS SHALL BE ASSIGNED BY THE MANUFACTURER IN THE SHOP DRAWING SUBMITTAL AS PER REQUIREMENTS IN DIV 13 OF THE SPECIFICATIONS.



DESIGNED	TP
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DWG NO	E-16
SHEET NO	182 OF 226
PROJ NO	055-006
DATE	MARCH 2017

FILENAME: 286F-E17 Addendum 1 3-28-17 01:45pm Loc || XREFS: X-SMCSO-TBLK <--

CONDUIT SCHEDULE 1 2

CONDUIT No.	CONDUIT SIZE	TYPE	FROM	TO	CABLES	NOTES
MS-P-400	2-3"	PVC & PVC-COATED RGS	NEW SERVICE TERMINATION PULL BOX	EXISTING MAIN SERVICE SWITCHBOARD	2(4-350Kcmil, #1/0 GND)	
P-400N	3"	PVC & PVC-COATED RGS	EXISTING MAIN SWITCHBOARD	NEW MOTOR CONTROL CENTER "HW"	3-300Kcmil, 4/0 GND	
P-401	1"	PVC & PVC-COATED RGS	SPIRAL SCREEN CONTROL PANEL	MOTOR CONTROL CENTER "HW"	3-#10, #10 GND	
P-401A	3/4"	PVC & PVC-COATED RGS	SPIRAL SCREEN SCREW No. 1	SPIRAL SCREEN CONTROL PANEL	3-#12, #12 GND	
P-401B	3/4"	PVC & PVC-COATED RGS	SPIRAL SCREEN SCREW No. 2	SPIRAL SCREEN CONTROL PANEL	3-#12, #12 GND	
P-401C	3/4"	PVC & PVC-COATED RGS	SPIRAL SCREEN SHAFTNESS CONVEYOR	SPIRAL SCREEN CONTROL PANEL	3-#12, #12 GND	
P-402	1"	PVC & PVC-COATED RGS	SPIRAL SCREEN GATE No. 3	MOTOR CONTROL CENTER "HW"	3-#12, #12 GND	
P-403	1"	PVC & PVC-COATED RGS	SPIRAL SCREEN GATE No. 6	MOTOR CONTROL CENTER "HW"	3-#12, #12 GND	
P-404	1"	PVC & PVC-COATED RGS	EQUALIZATION GATE No. 3	MOTOR CONTROL CENTER "HW"	3-#12, #12 GND	
P-405	1.5"	PVC & PVC-COATED RGS	EQUALIZATION PUMP No. 1	MOTOR CONTROL CENTER "HW"	3-#2, #8 GND	
P-406	1.5"	PVC & PVC-COATED RGS	EQUALIZATION PUMP No. 2	MOTOR CONTROL CENTER "HW"	3-#2, #8 GND	
P-407	1"	PVC & PVC-COATED RGS	GRIT PUMP No. 1	MOTOR CONTROL CENTER "HW"	3-#10, #10 GND AND 10 #14	
P-408	1"	PVC & PVC-COATED RGS	GRIT PUMP No. 2	MOTOR CONTROL CENTER "HW"	3-#10, #10 GND AND 10 #14	
P-409	1"	PVC & PVC-COATED RGS	GRIT WASHER CONTROL PANEL	MOTOR CONTROL CENTER "HW"		
P-409A	3/4"	PVC & PVC-COATED RGS	GRIT WASHER MIXER	GRIT WASHER CONTROL PANEL	3-#12, #12 GND	
P-409B	3/4"	PVC & PVC-COATED RGS	GRIT WASHER SCREW	GRIT WASHER CONTROL PANEL	3-#12, #12 GND	
P-409C	3/4"	PVC & PVC-COATED RGS	GRIT WASHER MOV	GRIT WASHER CONTROL PANEL	3-#12, #12 GND	
P-410	1"	PVC & PVC-COATED RGS	EQ PUMP 1 PLUG VALVE 1	MOTOR CONTROL CENTER "HW"	3-#10, #10 GND	
P-411	1"	PVC & PVC-COATED RGS	EQ PUMP 1 PLUG VALVE 2	MOTOR CONTROL CENTER "HW"	3-#10, #10 GND	
P-412	1"	PVC & PVC-COATED RGS	EQ PUMP 2 PLUG VALVE 1	MOTOR CONTROL CENTER "HW"	3-#10, #10 GND	
P-413	1"	PVC & PVC-COATED RGS	EQ PUMP 2 PLUG VALVE 2	MOTOR CONTROL CENTER "HW"	3-#10, #10 GND	
P-414	1"	PVC & PVC-COATED RGS	EQ PLUG VALVE No. 4	MOTOR CONTROL CENTER "HW"	3-#10, #10 GND	
P-415	1"	PVC & PVC-COATED RGS	EQ PLUG VALVE No. 5	MOTOR CONTROL CENTER "HW"	3-#10, #10 GND	
P-416	2"	PVC-COATED RGS	-	MOTOR CONTROL CENTER "HW"	-	SPARE
P-417	1"	PVC & PVC-COATED RGS	TURNTABLE CONTROL PANEL	MOTOR CONTROL CENTER "HW"	3-#10, #10 GND	
P-418	1"	PVC & PVC-COATED RGS	15KVA TRANSFORMER (PRIMARY)	MOTOR CONTROL CENTER "HW"	3#8, #10 GND	INTERNAL MCC WIRING
P-218A	1"	PVC & PVC-COATED RGS	15KVA TRANSFORMER (SECONDARY)	MOTOR CONTROL CENTER "HW" - LIGHTING PANEL "LP1"	3#4, #8 GND	INTERNAL MCC WIRING
P-419	3/4"	PVC-COATED RGS	EXHAUST FAN (MCC ROOM)	MOTOR CONTROL CENTER "HW"	3-#12, #12 GND	
P-420	1"	PVC & PVC-COATED RGS	PRIMARY CLARIFIER DRIVE	MOTOR CONTROL CENTER "HW" - PRIM CLARIFIER DRIVE VFD	3-#10, #10 GND	
P-421	1"	PVC & PVC-COATED RGS	PRIMARY SLUDGE PUMP No. 1	MOTOR CONTROL CENTER "HW" - PRIM SLUDGE PUMP 1 VFD	3-#10, #10 GND AND 8#14	
P-422	1"	PVC & PVC-COATED RGS	PRIMARY SLUDGE PUMP No. 2	MOTOR CONTROL CENTER "HW" - PRIM SLUDGE PUMP 2 VFD	3-#10, #10 GND AND 8#14	
P-423	-	-	HARMONIC FILTER	MOTOR CONTROL CENTER "HW"	-	INTERNAL MCC WIRING WITH SIZE AS REQUIRED
P-424	-	-	-	MOTOR CONTROL CENTER "HW"	-	SPARE
P-430	2"	PVC-COATED RGS	FILTER FEED PUMP CONTROL PANEL	DISTRIBUTION PANEL H2	3-#1, #8 GND	
P-430A	1"	PVC-COATED RGS	FILTER FEED PUMP No. 1	FILTER FEED PUMP CONTROL PANEL	3-#8, #10 GND AND 2#14	
P-430B	1"	PVC-COATED RGS	FILTER FEED PUMP No. 2	FILTER FEED PUMP CONTROL PANEL	3-#8, #10 GND AND 2#14	
P-430C	1"	PVC-COATED RGS	FILTER FEED PUMP No. 3	FILTER FEED PUMP CONTROL PANEL	3-#8, #10 GND AND 2#14	
P-431	1"	PVC-COATED RGS	FILTER BACKWASH PUMP CONTROL PANEL	DISTRIBUTION PANEL H2	3-#6, #10 GND	
P-431A	3/4"	PVC-COATED RGS	FILTER 1 BACKWASH PUMP 1	FILTER BACKWASH PUMP CONTROL PANEL	3-#12, #12 GND	
P-431B	3/4"	PVC-COATED RGS	FILTER 1 BACKWASH PUMP 2	FILTER BACKWASH PUMP CONTROL PANEL	3-#12, #12 GND	
P-431C	3/4"	PVC-COATED RGS	FILTER 2 BACKWASH PUMP 1	FILTER BACKWASH PUMP CONTROL PANEL	3-#12, #12 GND	
P-431D	3/4"	PVC-COATED RGS	FILTER 2 BACKWASH PUMP 2	FILTER BACKWASH PUMP CONTROL PANEL	3-#12, #12 GND	
P-431E	3/4"	PVC-COATED RGS	FILTER 1 BACKWASH CONTROL PANEL	FILTER 1 MOTOR	3-#12, #12 GND	
P-431F	3/4"	PVC-COATED RGS	FILTER 2 BACKWASH CONTROL PANEL	FILTER 2 MOTOR	3-#12, #12 GND	
P-432	1"	PVC-COATED RGS	MOTORIZED WEIR GATE	DISTRIBUTION PANEL H2	3-#12, #12 GND	
H2-P-405	SEE NOTE					SEE ONE-LINE DIAGRAM (DETAIL A/E-2)
H2-P-406	SEE NOTE					SEE ONE-LINE DIAGRAM (DETAIL A/E-2)

SHEET NOTES:

- 1 UNLESS OTHERWISE NOTE, FOR ALL CONDUITS UP TO AND INCLUDING P-424, EACH OF THE CONDUIT TAGS SHALL HAVE PREFIX "MCC-HW". FOR EXAMPLE, A COMPLETE CONDUIT TAG WILL BE "MCC-HW-P-400N".
- 2 FOR ALL CONDUITS FROM P-430, P-431, AND P-432 EACH OF THE CONDUIT TAGS SHALL HAVE PREFIX "PANEL H2". FOR EXAMPLE, A COMPLETE CONDUIT TAG WILL BE "PANEL H2-P-430".

POWER-CONDUIT AND CABLE SCHEDULE A 1 2

SCALE: NTS



0" = 1' - VERIFY SCALES -
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



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△	03/2017	DN	DTN
REV	DATE	BY	APVD

CONFORMED DRAWING

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RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

CABLE AND CONDUIT SCHEDULE
SHEET 1 OF 3

DWG NO E-17

SHEET NO 183 OF 226

PROJ NO 055-006

DATE MARCH 2017

FILENAME: 286F-E18 Addendum 1 3-28-17 01:45pm Loc || XREFS: X-SMCSO-TBLK <--

CONDUIT SCHEDULE 12						
CONDUIT No.	CONDUIT SIZE	TYPE	FROM	TO	CABLES	NOTES
CC101	1"	PVC & PVC-COATED RGS	SPIRAL SCREEN CONTROL PANEL	PLC-HW	-	SPARE CONDUIT
CC102	1"	PVC & PVC-COATED RGS	SPIRAL SCREEN GATE No. 3	PLC-HW	4#14 AND 2#14 SPARES	
CC103	1"	PVC & PVC-COATED RGS	SPIRAL SCREEN GATE No. 6	PLC-HW	14#14 AND 2#14 SPARES	
CC104	1"	PVC & PVC-COATED RGS	EQUALIZATION GATE No. 3	PLC-HW	4#14 AND 2#14 SPARES	
CC105	1"	PVC & PVC-COATED RGS	EQUALIZATION PUMP No. 1 VFD	PLC-HW	14#14 AND 4#14 SPARES	
CC106	1"	PVC & PVC-COATED RGS	EQUALIZATION PUMP No. 2 VFD	PLC-HW	14#14 AND 4#14 SPARES	
CC107	1"	PVC & PVC-COATED RGS	GRIT WASHER CONTROL PANEL	PLC-HW	-	SPARE CONDUIT
CC108	1"	PVC & PVC-COATED RGS	EQUALIZATION PUMP 1 PLUG VALVE No. 1	PLC-HW	12#14 AND 2#14 SPARES	
CC109	1"	PVC & PVC-COATED RGS	EQUALIZATION PUMP 1 PLUG VALVE No. 2	PLC-HW	12#14 AND 2#14 SPARES	
CC110	1"	PVC & PVC-COATED RGS	EQUALIZATION PUMP 2 PLUG VALVE No. 1	PLC-HW	12#14 AND 2#14 SPARES	
CC111	1"	PVC & PVC-COATED RGS	EQUALIZATION PUMP 2 PLUG VALVE No. 2	PLC-HW	12#14 AND 2#14 SPARES	
CC112	1"	PVC & PVC-COATED RGS	EQUALIZATION PLUG VALVE No. 4	PLC-HW	12#14 AND 2#14 SPARES	
CC113	1"	PVC & PVC-COATED RGS	EQUALIZATION PLUG VALVE No. 5	PLC-HW	12#14 AND 2#14 SPARES	
CC114	1"	PVC & PVC-COATED RGS	PRIMARY CLARIFIER No. 2 CONTROL PANEL	PLC-HW	-	SPARE CONDUIT
CC115	1"	PVC & PVC-COATED RGS	PRIMARY CLARIFIER No. 2 CONTROL PANEL	PLC-HW	12#14 AND 2#14 SPARES	
CC116	1"	PVC & PVC-COATED RGS	PRIMARY SLUDGE PUMP 1 RVSS	PLC-HW	12#14	
CC117	1"	PVC & PVC-COATED RGS	PRIMARY SLUDGE PUMP 2 RVSS	PLC-HW	12#14	
CC118	1"	PVC & PVC-COATED RGS	MOTOR CONTROL CENTER "HW"	PLC-HW		
CC119	1"	PVC & PVC-COATED RGS	GRIT SYSTEM #3W SOLENOID VALVE	PLC-HW	2#12, #12 GND	
CC120	1"	PVC & PVC-COATED RGS	GRIT PUMP No. 1 CHECK VALVE	PLC-HW	12#14	
CC121	1"	PVC & PVC-COATED RGS	GRIT PUMP No. 2 CHECK VALVE	PLC-HW	12#14	
CC122	1"	PVC & PVC-COATED RGS	EQ. BASIN 1 #3W SOLENOID VALVE	PLC-HW	2#12, #12 GND	
CC123	1"	PVC & PVC-COATED RGS	EQ. BASIN 2 #3W SOLENOID VALVE	PLC-HW	2#12, #12 GND	
CC124	1"	PVC & PVC-COATED RGS	EQ. BASIN 1 WATER SOLENOID VALVE	PLC-HW	2#12, #12 GND	
CC125	1"	PVC & PVC-COATED RGS	EQ. BASIN 2 WATER SOLENOID VALVE 1	PLC-HW	2#12, #12 GND	
CC126	1"	PVC & PVC-COATED RGS	EQ. BASIN 2 WATER SOLENOID VALVE 2	PLC-HW	2#12, #12 GND	
CC127	1"	PVC & PVC-COATED RGS	EQ. BASIN 1 FLOAT SWITCH	PLC-HW	2#14	
CC128	1"	PVC & PVC-COATED RGS	EQ. BASIN 2 FLOAT SWITCH	PLC-HW	2#14	
CC129	1"	PVC & PVC-COATED RGS	SCUM PIT FLOAT SWITCH	PLC-HW	2#14	
CC130	1"	PVC & PVC-COATED RGS	FERRIC CHLORIDE DRAIN SUMP FLOAT	PLC-HW	2#14	
CC131	1"	PVC & PVC-COATED RGS	FERRIC CHLORIDE PUMP CONTROL PANEL	PLC-HW	10#14 AND 4#14 SPARES	
CC132	1"	PVC & PVC-COATED RGS	FERRIC CHLORIDE EMERGENCY EYEWASH ALARM PANEL	PLC-HW	4#14 AND 4#14 SPARES	
CC133	1"	PVC & PVC-COATED RGS	TURNTABLE CONTROL PANEL	PLC-HW	4#14	
CC134	1"	PVC & PVC-COATED RGS	DIESEL FUEL TANK LEAK DETECTION	PLC-HW	2#14 AND 4#14 SPARES	
CC135	1"	PVC & PVC-COATED RGS	FUEL TANK EMERGENCY EYEWASH ALARM PANEL	PLC-HW	2#14 AND 4#14 SPARES	
CC136	1"	PVC & PVC-COATED RGS	EQUALIZATION GATE 1	PLC-HW	4#14 AND 2#14 SPARES	
CC137	1"	PVC & PVC-COATED RGS	EQUALIZATION GATE 2	PLC-HW	4#14 AND 2#14 SPARES	
CC138	1"	PVC & PVC-COATED RGS	EQ. BASIN 2 TIPPING TROUGHS CONTACT SWITCHES	PLC-HW	6#14 AND 4#14 SPARES	
CC139	3/4"	PVC-COATED RGS	FIRE ALARM CONTROL PANEL	PLC-HW	4#14	
CC140	3/4"	PVC-COATED RGS	EQ. GATES 4 & 5 VIA J-BOX	PLC-HW	8#14 AND 2#14 SPARES	
CC201	1.5"	PVC-COATED RGS	FILTER FEED PUMP CONTROL PANEL	PLC-GEN	30#14 AND 6#14 SPARES	
CC202	3/4"	PVC-COATED RGS	FILTER FEED LOW LOW LEVEL FLOAT SWITCH	PLC-GEN	4#14	
CC203	3/4"	PVC-COATED RGS	FILTER FEED HIGH HIGH LEVEL FLOAT SWITCH	PLC-GEN	4#14	
CC204A	3/4"	PVC-COATED RGS	FILTER 1 CONTROL PANEL	PLC-GEN	-	SPARE CONDUIT
CC204B	3/4"	PVC-COATED RGS	FILTER 2 CONTROL PANEL	PLC-GEN	-	SPARE CONDUIT
CC205	3/4"	PVC-COATED RGS	FILTER INFLUENT MOTORIZED WEIR GATE	PLC-GEN	4#14	
CC206	3/4"	PVC-COATED RGS	FILTER FEED PUMP HEADER MOV	PLC-GEN	4#14	
CC301	3/4"	RGS	RECYCLE WATER PUMP 1 VFD	PLC-6	14#14 (4 SPARES)	
CC302	3/4"	RGS	RECYCLE WATER PUMP 2 VFD	PLC-6	14#14 (4 SPARES)	
CC401	1 1/2"	PVC-COATED RGS	UTILITY WATER PUMP CONTROL PANEL	MAIN PLANT PLC	30#14 AND 6#14 SPARES	

SHEET NOTES:

- 1 FOR ALL CONDUITS UP TO AND INCLUDING CC421, EACH OF THE CONDUIT TAGS SHALL HAVE PREFIX "CP-HW". FOR EXAMPLE, A COMPLETE CONDUIT TAG WILL BE "CP-HW-CC105".
- 2 FOR ALL CONDUITS WITH 200 SERIES, EACH OF THE CONDUIT TAGS SHALL HAVE PREFIX "CP-GEN". FOR EXAMPLE, A COMPLETE CONDUIT TAG WILL BE "CP-GEN-CC202".

CONTROL-CONDUIT AND CABLE SCHEDULE A 12

SCALE: NTS



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



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NOTICE:
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SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

CABLE AND CONDUIT SCHEDULE
SHEET 2 OF 3

DWG NO E-18

SHEET NO 184 OF 226

PROJ NO 055-006

DATE MARCH 2017

FILENAME: 286F-E19 3-28-17 01:45pm Loc: XREFS: X-SMUCSD-TBLK K&C--

CONDUIT SCHEDULE 12						
CONDUIT No.	CONDUIT SIZE	TYPE	FROM	TO	CABLES	NOTES
I101	3/4"	PVC COATED RGS	MCC-HW POWER METER	PLC-HW	CAT6e	
I102	1"	PVC & PVC COATED RGS	SPIRAL SCREEN CONTROL PANEL	PLC-HW	CAT6e	
I103	1"	PVC & PVC COATED RGS	GRIT WASHER CONTROL PANEL	PLC-HW	CAT6e	
I104	1"		MCC ROOM EXTERIOR	PLC-HW	CAT6e	SPARE
I105	1"		MCC ROOM EXTERIOR	PLC-HW	CAT6e	SPARE
I106	1"	PVC & PVC COATED RGS	PARSHALL FLUME LEVEL TRANSMITTER 1	PLC-HW	1 PR	
I107	1"	PVC & PVC COATED RGS	PARSHALL FLUME LEVEL TRANSMITTER 2	PLC-HW	1 PR	
I108	1"	PVC & PVC COATED RGS	EQUALIZATION BASIN 1 LEVEL TRANSMITTER	PLC-HW	1 PR	
I109	1"	PVC & PVC COATED RGS	EQUALIZATION BASIN 2 LEVEL TRANSMITTER	PLC-HW	1 PR	
I110	1"	PVC & PVC COATED RGS	EQUALIZATION PUMPING FLOWMETER	PLC-HW	1 PR	
I111	1"	PVC & PVC COATED RGS	SCUM PIT BUBBLER TRANSMITTER	PLC-HW	1 PR	
I112	1"	PVC & PVC COATED RGS	SLUDGE/SCUM PUMP 1 FLOWMETER	PLC-HW	1 PR	
I113	1"	PVC & PVC COATED RGS	SLUDGE/SCUM PUMP 2 FLOWMETER	PLC-HW	1 PR	
I114	1"	PVC & PVC COATED RGS	FERRIC CHLORIDE TANK LEVEL TRANSMITTER	PLC-HW	1 PR	
I115	1"	PVC & PVC COATED RGS	FERRIC CHLORIDE PUMP CONTROL PANEL	PLC-HW	2 PRS	
I116	1"	PVC & PVC COATED RGS	DIESEL FUEL TANK CONTROL PANEL	PLC-HW	1 PR AND 6#14	
I117	1"	PVC & PVC COATED RGS	AUTOMATIC REFRIGERATED SAMPLER	PLC-HW	1 PR AND 2#14	
I118	1"	PVC & PVC COATED RGS	EQUALIZATION GATE 3	PLC-HW	2 PRS	
I119	1"	PVC & PVC COATED RGS	SPIRAL SCREEN GATE 3	PLC-HW	2 PRS	
I201	1"	PVC COATED RGS	FILTER FEED PUMP CONTROL PANEL	PLC-GEN	6 PRS AND 2 PRS SPARES	
I202A	1"	PVC COATED RGS	FILTER 1 CONTROL PANEL	PLC-GEN	CAT6e	
I202B	1"	PVC COATED RGS	FILTER 2 CONTROL PANEL	PLC-GEN	CAT6e	
I203	3/4"	PVC COATED RGS	FILTER FEED LEVEL TRANSMITTER	PLC-GEN	1 PR	
I204	3/4"	PVC COATED RGS	FILTER FEED FLOWMETER	PLC-GEN	1 PR	
I205	3/4"	PVC-COATED RGS	FILTER INFLUENT MOTORIZED WEIR GATE	PLC-GEN	2 PRS	
I206	3/4"	PVC-COATED RGS	FILTER FEED PUMP HEADER MOV	PLC-GEN	2 PRS	
I301	3/4"	RGS	RECYCLE PUMP 1 VFD	PLC-6	2 PRS	
I302	3/4"	RGS	RECYCLE PUMP 2 VFD	PLC-6	2 PRS	
I401	1"	PVC COATED RGS	UTILITY WATER PUMP CONTROL PANEL	MAIN PLANT PLC	6 PRS AND 2 PRS SPARES	
I402	3/4"	PVC COATED RGS	UTILITY WATER PRESSURE TRANSMITTER	MAIN PLANT PLC	1 PR	

SHEET NOTES:

- 1 FOR ALL CONDUITS UP TO AND INCLUDING I120, EACH OF THE CONDUIT TAGS SHALL HAVE PREFIX "CP-HW". FOR EXAMPLE, A COMPLETE CONDUIT TAG WILL BE "CP-HW-I108".
- 2 FOR ALL CONDUITS WITH 200 SERIES, EACH OF THE CONDUIT TAGS SHALL HAVE PREFIX "CP-GEN". FOR EXAMPLE, A COMPLETE CONDUIT TAG WILL BE "CP-GEN-I202".

INSTRUMENT-CONDUIT AND CABLE SCHEDULE A 12

SCALE: NTS



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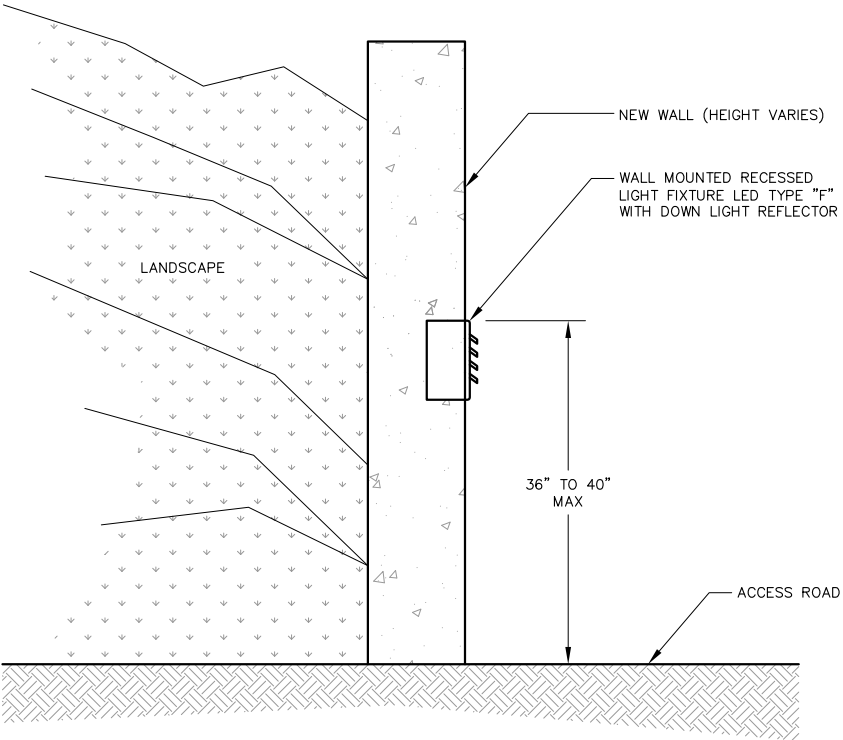
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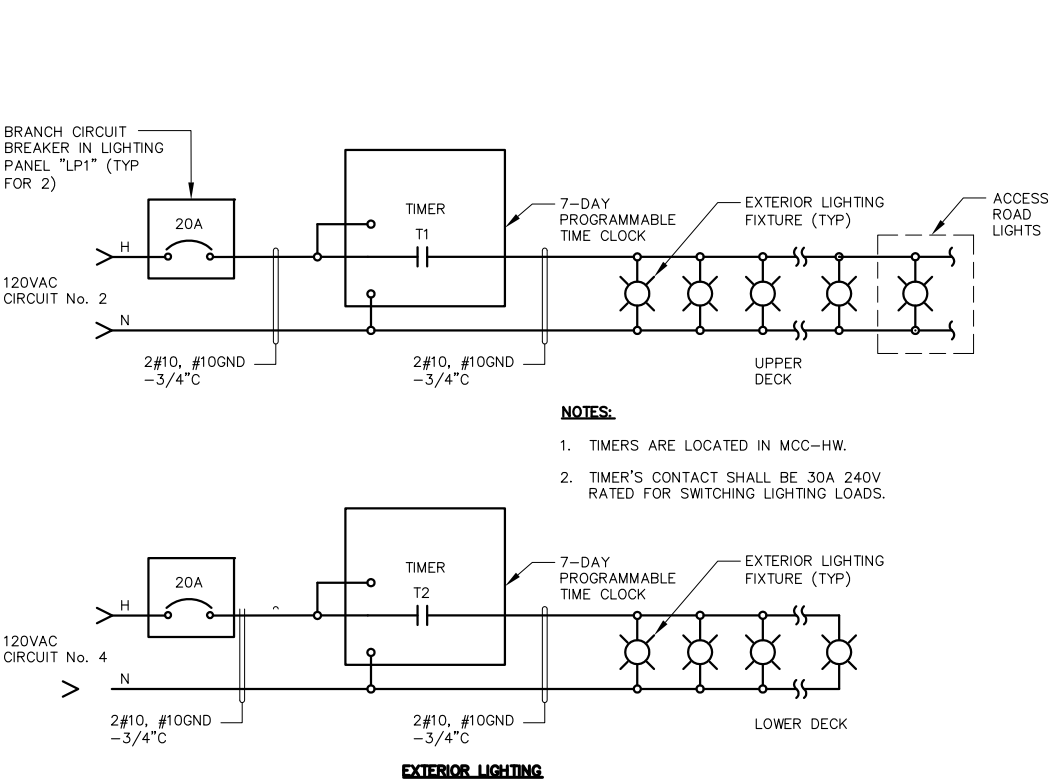
TREATMENT AND WET WEATHER FLOW UPGRADE
CABLE AND CONDUIT SCHEDULE
SHEET 3 OF 3

DWG NO	E-19
SHEET NO	185 OF 226
PROJ NO	055-006
DATE	MARCH 2017

LIGHT FIXTURE SCHEDULE								
FIXTURE DESIGNATION	TYPE	QTY	VOLT	DESCRIPTION	MANUFACTURER	CAT. No.	LAMPS	MOUNTING
A 157	LED 157W	AS SHOWN	120V	POLE MOUNTED, AREA LIGHT FIXTURE, LED TYPE WITH DIE CAST ALUMINUM HOUSING AND 10" ARM ON 12" SQUARE POLE.	MCGRAW EDISON LITHONIA	GLEON-AE-03-LED-E1-T1-BZ EQUIVALENT	LED	POLE MOUNTED
A1 2/157	LED 157W	AS SHOWN	120V	POLE MOUNTED, AREA LIGHT FIXTURE, LED TYPE WITH DIE CAST ALUMINUM HOUSING AND 10" ARM ON 12" SQUARE POLE WITH TWO HEADS.	MCGRAW EDISON LITHONIA	GLEON-AE-03-LED-E1-T1-BZ EQUIVALENT	LED	POLE MOUNTED
B 54	LED 54W	AS SHOWN	120V	WALL MOUNTED, HEAVY DUTY, DIE CAST ALUMINUM HOUSING, LED TYPE, QUARTER SPHERE WITH DOWN LIGHT.	MCGRAW EDISON LITHONIA	ISS-B02-LED-E1-BL2-BZ EQUIVALENT	LED	WALL MOUNTED
C 54	LED 54W	AS SHOWN	120V	CEILING MOUNTED, WRAP AROUND, LED TYPE LIGHT FIXTURE 48" LONG, 12" WIDE WITH ACRYLIC.	LITHONIA MCGRAW EDISON	FHE-LED-12L-MVOLT EQUIVALENT	LED	CEILING MOUNTED
D 2/25	EMERGENCY BATTERY PACK	AS SHOWN	120V	BATTERY PACK WITH NICAD BATTERY, CHARGER, TWO 25W SEALED BEAM HEADS ADJUSTABLE 12VDC WITH INDICATOR AND TEST PUSH BUTTON.	HOLOPHANE SIMKAR	DM6-N-50-7-NS-2-NA SHDEM-2-25W-12	SEALED BEAM TUNGSTEN	WALL/ SURFACE
E 150	LED 150W	AS SHOWN	120V	POLE MOUNTED, AREA LIGHT FIXTURE, LED TYPE WITH DIE CAST ALUMINUM HOUSING AND 10" ARM ON 10' SQUARE POLE, EXPLOSION PROOF.	CROUSE-HINDS MCGRAW EDISON/LITHONIA	LPL06-C60-150W-LED EQUIVALENT	LED	POLE MOUNTED
F 7	LED 7W	AS SHOWN	120V	RECESSED MOUNTED, LANDSCAPE TYPE LED WATER PROOF, BLACK FINISHED WITH DOWN LIGHT LOUVER.	BRILLRAYDO EQUIVALENT	TP-OU-03-40W7 EQUIVALENT	LED	RECESSED
G 12.5	LED 12.5W	AS SHOWN	120V	CAST ALUMINUM, STEM-MOUNTED, ADJUSTABLE LED, BRONZE, LANDSCAPE TYPE FIXTURE 4250K WITH FROSTED LENS AND 6" STEM.	KICHLER EQUIVALENT	16201 EQUIVALENT	LED	STEM

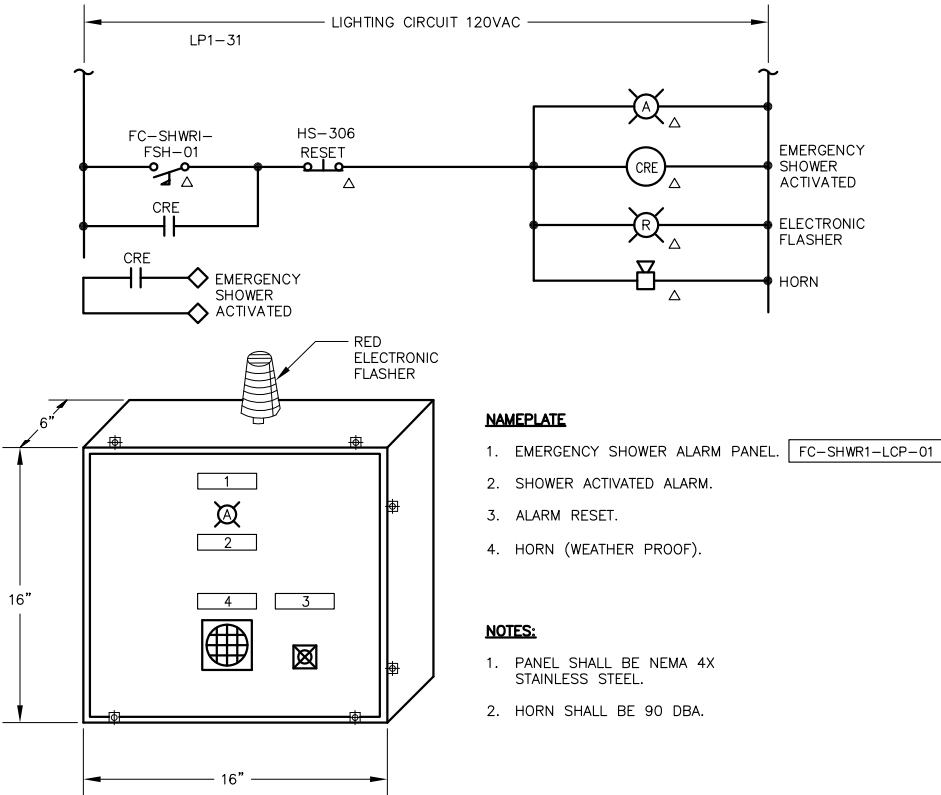


E594A CROSS SECTION DETAIL
TYP SCALE: NTS



- NOTES:**
1. TIMERS ARE LOCATED IN MCC-HW.
 2. TIMER'S CONTACT SHALL BE 30A 240V RATED FOR SWITCHING LIGHTING LOADS.

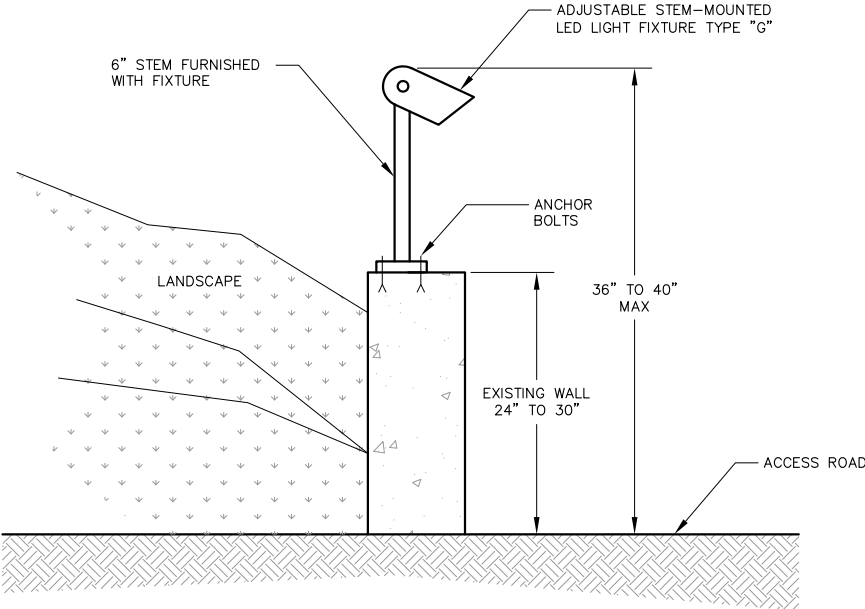
LIGHTING CONTROL **B**
SCALE: NTS



- NAMEPLATE**
1. EMERGENCY SHOWER ALARM PANEL. FC-SHWR1-LCP-01
 2. SHOWER ACTIVATED ALARM.
 3. ALARM RESET.
 4. HORN (WEATHER PROOF).

- NOTES:**
1. PANEL SHALL BE NEMA 4X STAINLESS STEEL.
 2. HORN SHALL BE 90 DBA.

EMERGENCY EYEWASH SHOWER CONTROL SCHEMATIC **C**
SCALE: NTS



E594B CROSS SECTION DETAIL
TYP SCALE: NTS

FILENAME: 286F-E20 3-28-17 01:45pm Loc: XREFS: X-SMCSO-TBLK <<--



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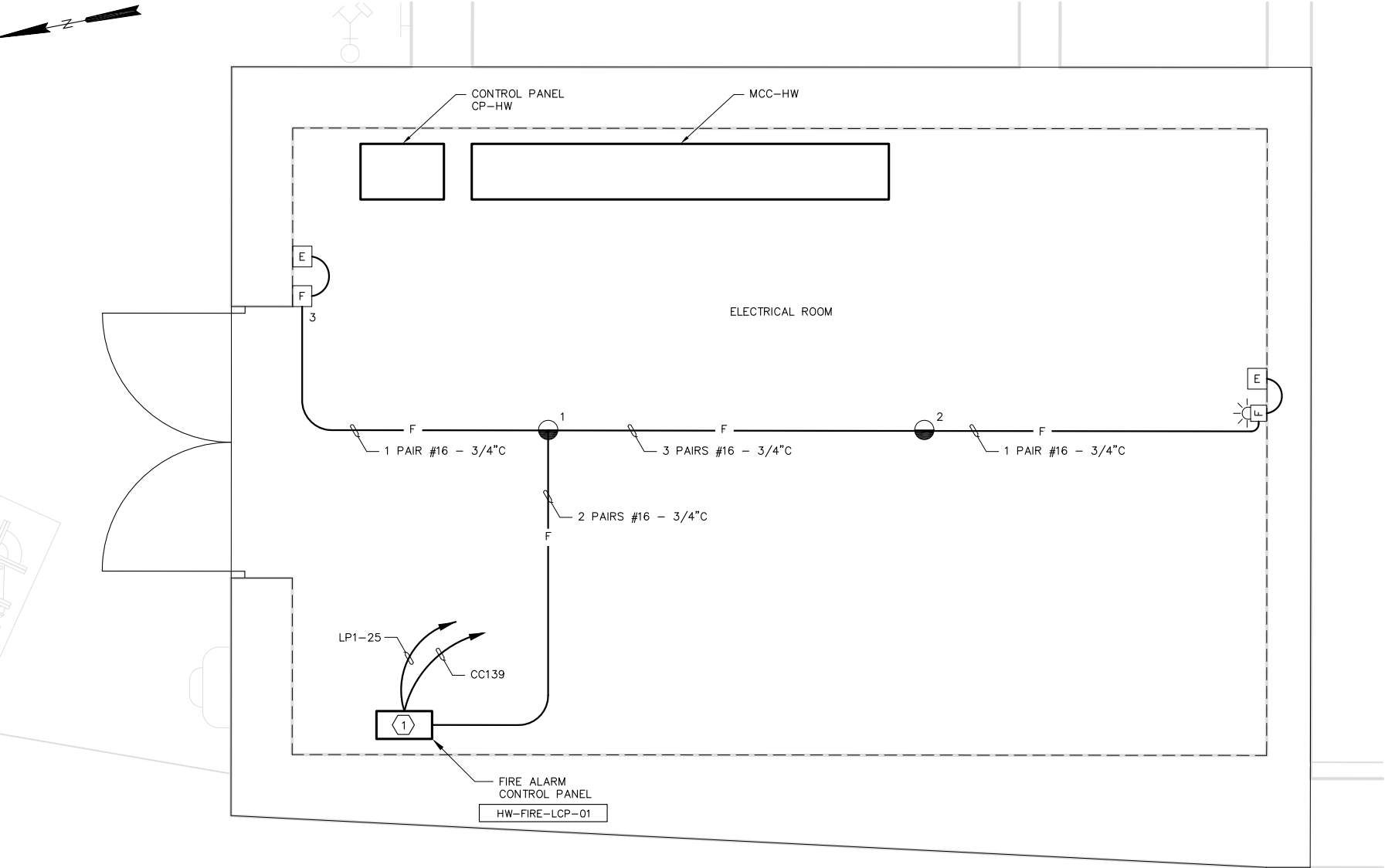
TREATMENT AND WET WEATHER FLOW UPGRADE
LIGHTING FIXTURE SCHEDULE
LIGHTING CONTROL AND EYEWASH CONTROL PANEL

DWG NO **E-20**
SHEET NO **186** OF **226**
PROJ NO 055-006
DATE MARCH 2017

TYPICAL SEQUENCE OF OPERATION	OUTPUT						
	DISPLAY GENERAL ALARM SIGNAL AT FACP	INDICATE AREA AT FACP	DISPLAY SUPERVISORY SIGNAL AT FACP	ACTIVATE NOTIFICATION APPLIANCE SIGNALS	NOTIFY UL APPROVED MONITORING STATION ON ALARM CONDITION	NOTIFY UL APPROVED MONITORING STATION ON TROUBLE CONDITION	DISPLAY TROUBLE SIGNAL AT FACP
PULL STATION	✓	✓		✓	✓		
SMOKE DETECTOR	✓	✓		✓	✓		
POWER FAILURE			✓			✓	✓
OPEN CIRCUIT, GROUND FAULT OR SHORT CIRCUIT			✓			✓	✓
LOW BATTERY VOLTAGE			✓			✓	✓
PULL STATION							
PULL STATION							

FIRE ALARM SYSTEM FUNCTIONS A

SCALE: NTS

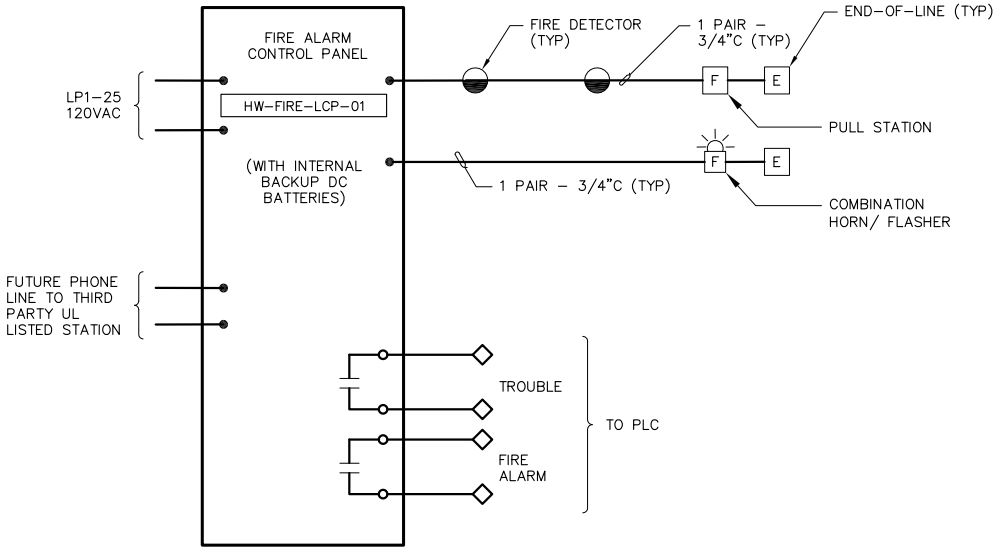


ELECTRICAL ROOM-FIRE ALARM PLAN B

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

SHEET NOTES:

1 THIS FIRE ALARM CONTROL PANEL SHALL BE ADDRESSABLE TYPE SYSTEM WITH MAIN CONTROL PANEL AND ACCESSORIES APPROVED AND LISTED BY CALIFORNIA STATE FIRE MARSHAL. SEE DIV 16 SPECS FOR DETAILED REQUIREMENTS.



FIRE ALARM RISER DIAGRAM C

SCALE: NTS

FILENAME: 286F-E21 3-28-17 01:45pm Loc XREFS: X-SMCS0-TBLK Y<<---



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CHECKED	DN

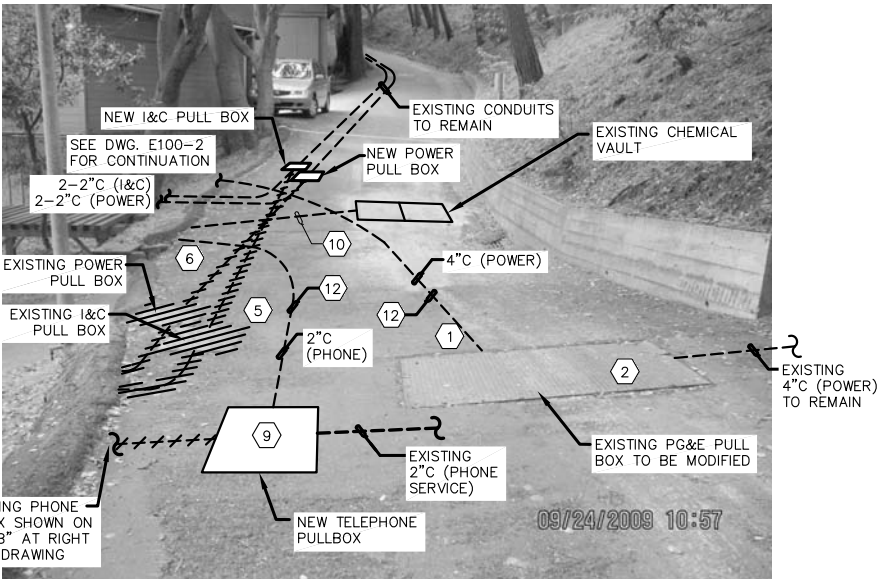
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APPROVED: STEVE CLARY
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TREATMENT AND WET WEATHER FLOW UPGRADE
FIRE ALARM ELECTRICAL ROOM

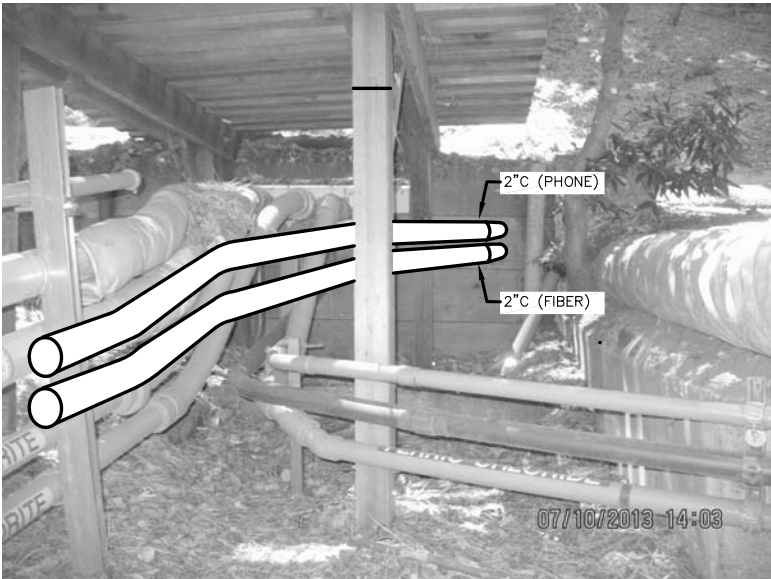
DWG NO	E21
SHEET NO	187 OF 226
PROJ NO	055-006
DATE	MARCH 2017



ACCESS ROAD AND PULL BOXES **A** 11
SCALE: NTS



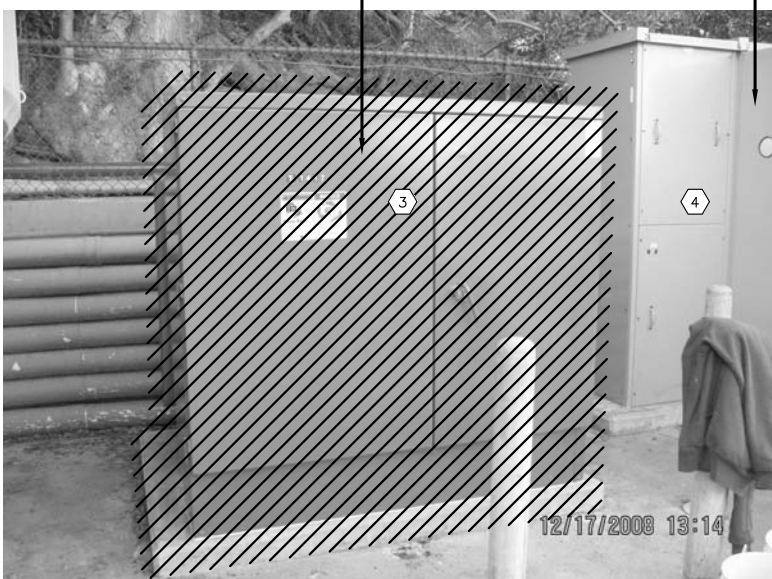
PHONE PULL BOX **B**
SCALE: NTS



EXPOSED CONDUIT LOCATION **C** 7
SCALE: NTS



CONDUIT SUPPORT **D** 8
SCALE: NTS



EXISTING PG&E SERVICE TRANSFORMER **E**
SCALE: NTS

SHEET NOTES:

- 1 COREDRILL THIS EXISTING WALL OF THE EXISTING PULLBOX TO ACCOMMODATE INSTALLATION OF A NEW 4" CONDUIT AS A NEW ROUTE TO NEW SERVICE TRANSFORMER PAD AS PER DETAIL B/E-24.

THERE ARE KNOWN EXISTING UTILITY PIPING AS WELL AS UNDERGROUND CONDUITS LOCATED WITHIN THIS AREA. FIELD VERIFICATION OF EXISTING UNDERGROUND UTILITIES ARE REQUIRED TO AVOID DAMAGE TO THEM. HAND DIG AS REQUIRED.
- 2 FURNISH AND INSTALL ONE DRAIN LINE AT BOTTOM OF THIS EXISTING PULL BOX AS PER NOTE 15 ON DRAWING E100-2.
- 3 THIS EXISTING SERVICE TRANSFORMER SHALL BE KEPT FUNCTIONAL UNTIL ALL NEW CONDUIT AND ACCESSORIES SUCH AS PULL BOXES ARE INSTALLED AND READY FOR SWITCH-OVER OPERATION.

THE EXISTING PRIMARY FEEDER TO THIS TRANSFORMER WAS BOTTOM FED FROM THE UNDERSIDE OF THE EXISTING CONCRETE SLAB/FLOOR. THIS CONDUIT WILL BE ABANDONED IN PLACE. PLUG CONDUITS WITH CAPS.
- 4 THIS EXISTING METERING AND MAIN SERVICE SWITCHBOARD SHALL BE KEPT FUNCTIONAL AT ALL TIMES EXCEPT DURING SCHEDULED SHUT DOWN FOR SWITCH-OVER. REFER TO SPECIFICATIONS (DIV 16) FOR STANDBY POWER REQUIREMENTS DURING SWITCH-OVER OPERATIONS.
- 5 THESE EXISTING PULL BOXES AND EXISTING UNDERGROUND CONDUITS SHOWN SHALL REMAIN. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THEM DURING EXCAVATION AND/OR TRENCHING IN THIS AREA.
- 6 SEE DETAIL "C" ON THIS DRAWING FOR CONDUIT EXITING ACCESS ROAD AND BEGINNING TO BE ROUTED EXPOSED ALONG EXISTING PIPE SUPPORTS PER DETAIL "D" ALSO SHOWN ON THIS DRAWING.
- 7 CORE DRILL EXISTING WALL AS REQUIRED FOR CONDUIT PENETRATION AS SHOWN. FURNISH AND INSTALL CONDUIT SUPPORTS FOR THE 2" (TELEPHONE) CONDUIT. THIS EXPOSED CONDUIT SHALL BE PVC COATED RIGID GALVANIZED STEEL.
- 8 THE 2" (TELEPHONE) CONDUIT SHALL BE INSTALLED ON THE EXISTING CONCRETE PIER SUPPORTS AS SHOWN.
- 9 INTERCEPT EXISTING 2" TELEPHONE SERVICE CONDUIT AT THIS LOCATION. FURNISH AND INSTALL NEW H20 RATED PULL BOX WITH NEW CONDUIT TO PROVIDE ALTERNATE ROUTE TO THE EXISTING PHONE CABINET AS SHOWN. DEPTH OF THE NEW PULL BOX SHALL BE AS REQUIRED (APPROXIMATELY 36" TO 48").
- 10 EXISTING BURIED CHEMICAL PIPING SHALL BE PROTECTED DURING EXCAVATION TO AVOID DAMAGE.
- 11 THE ENTIRE LENGTH OF THE TREATMENT PLANT'S ACCESS ROAD SHALL REMAIN ACCESSIBLE OUTSIDE OF CONSTRUCTION HOURS. DURING CONSTRUCTION, TRENCH PLATES SHALL BE AVAILABLE TO MINIMIZE TIME ACCESS IS RESTRICTED TO DISTRICT OPERATORS. ALL WORK PLANS RESULTING IN RESTRICTED ACCESS, OR ACCESS DELAYS, SHALL BE SUBMITTED TO THE DISTRICT IN ADVANCE AND SHALL INCLUDE A SCHEDULE AND TIMELINE FOR APPROVAL. THIS ACCESS ROAD SUPPORTS SOLIDS PROCESSING AND EMERGENCY PLANT ACCESS.
- 12 THE NEW 1-4" CONDUIT AND 2" CONDUIT SHALL BE ROUTED BELOW EXISTING CONCRETE ENCASEMENT OF EXISTING CONDUIT DUCTBANK AT APPROXIMATELY 48" BELOW GRADE TO AVOID CONFLICTS.
- 13 THIS STAIR AND EXPOSED CONDUITS SHALL BE DEMOLISHED AND REMOVED.



0" = 1' SCALE
— VERIFY SCALES —
BAR IS ONE INCH
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SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
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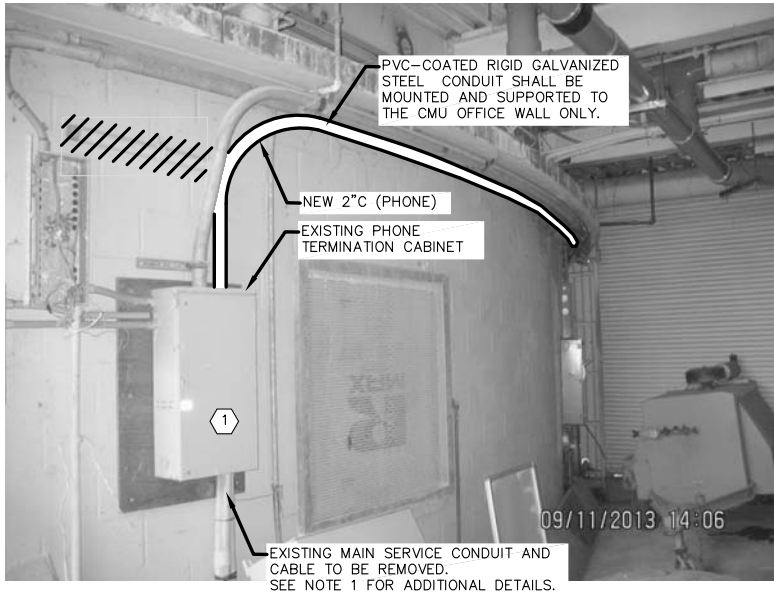


TREATMENT AND WET WEATHER FLOW UPGRADE

CONSTRUCTION DETAILS
SHEET 1 OF 3

DWG NO	E-22
SHEET NO	188 OF 226
PROJ NO	055-006
DATE	MARCH 2017

- SHEET NOTES:**
- 1 THIS EXISTING MAIN SERVICE TELEPHONE CABINET SHALL REMAIN FUNCTIONAL UNTIL ALL CONDUITS OF THE ALTERNATE ROUTES HAVE BEEN INSTALLED AND READY FOR SWITCHOVER. AFTER SWITCHOVER, THE BOTTOM FED CONDUIT EMBEDDED IN CONCRETE SHALL BE ABANDONED IN PLACE.
 - 2 SEE DETAIL "B" ON DRAWING E-26 FOR TEMPORARY POWER CONNECTION TO THIS EXISTING ATS DURING SWITCH OVER.
 - 3 SEE NOTE 3 ON DRAWING E-2 FOR REQUIRED WORK IN THIS PANEL.
 - 4 THIS EXISTING PLC SHALL BE REMOVED AND REPLACED WITH A NEW PANEL WITH NEW COMPONENTS. SEE DRAWINGS E-15A AND E-15B FOR ADDITIONAL DETAILS.



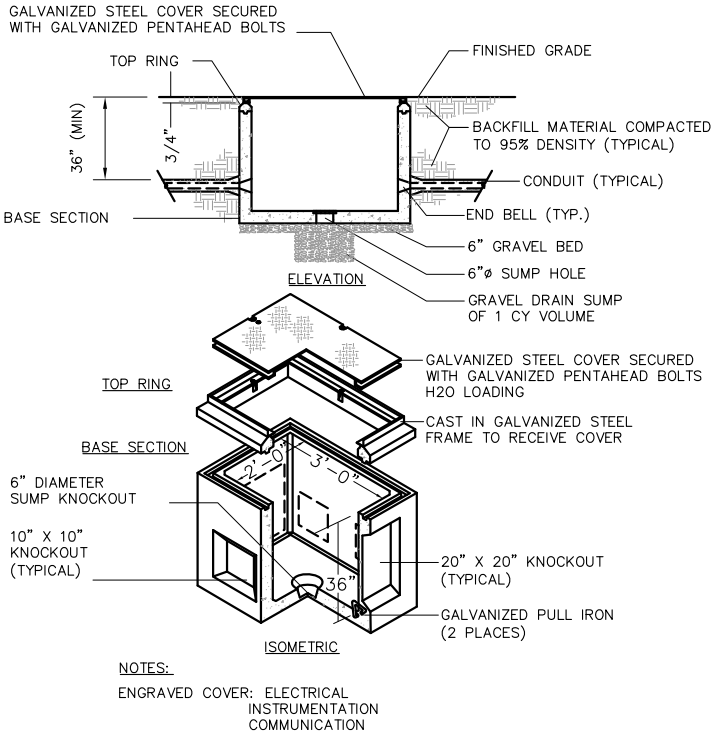
PHONE SERVICE CONDUIT DETAIL **A**
SCALE: NTS



EXISTING ATS AND PLC-GEN **B**
SCALE: NTS



EXISTING POWER PANEL H-2 **C**
SCALE: NTS



E706A PHONE CONCRETE PULLBOX
TYP SCALE: NTS

FILENAME: 286F-E23 3-28-17 01:45pm Loc: XREFS: X-SWCSO-TBLK <<--



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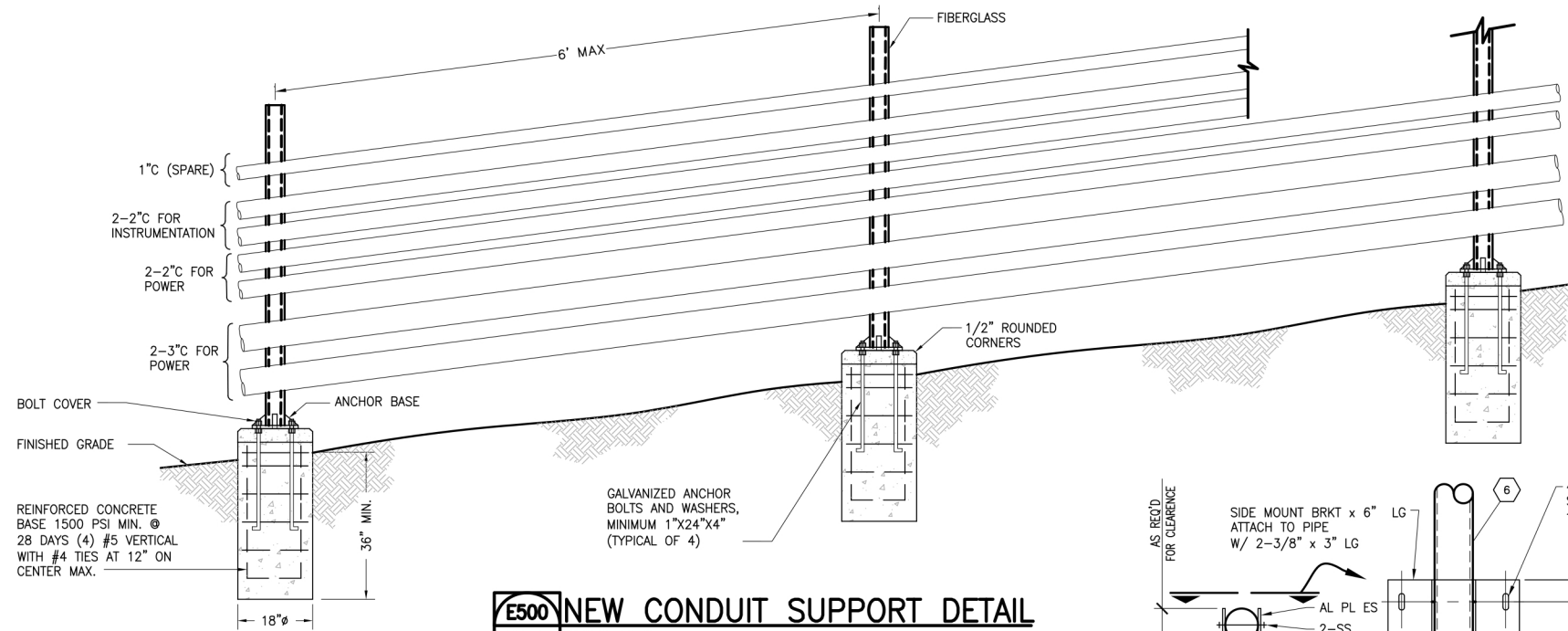
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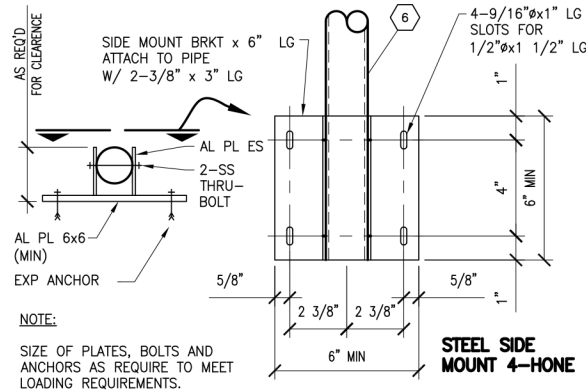


TREATMENT AND WET WEATHER FLOW UPGRADE
CONSTRUCTION DETAILS
SHEET 2 OF 3

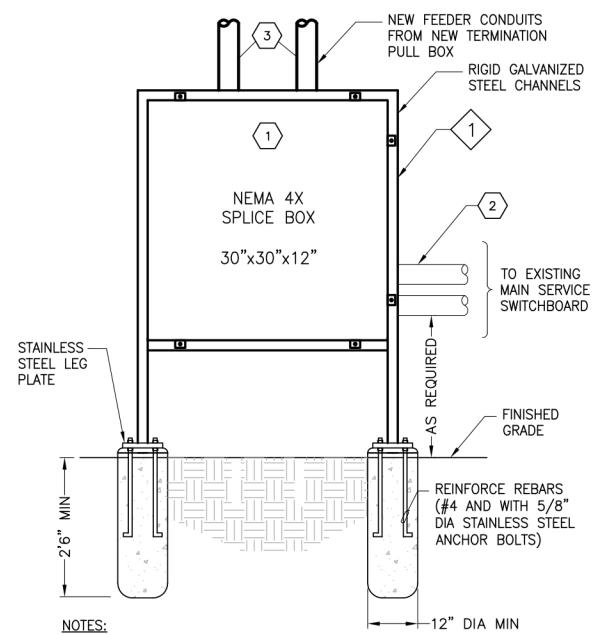
DWG NO	E-23
SHEET NO	189 OF 226
PROJ NO	055-006
DATE	MARCH 2017



E500 NEW CONDUIT SUPPORT DETAIL
TYP SCALE: NTS

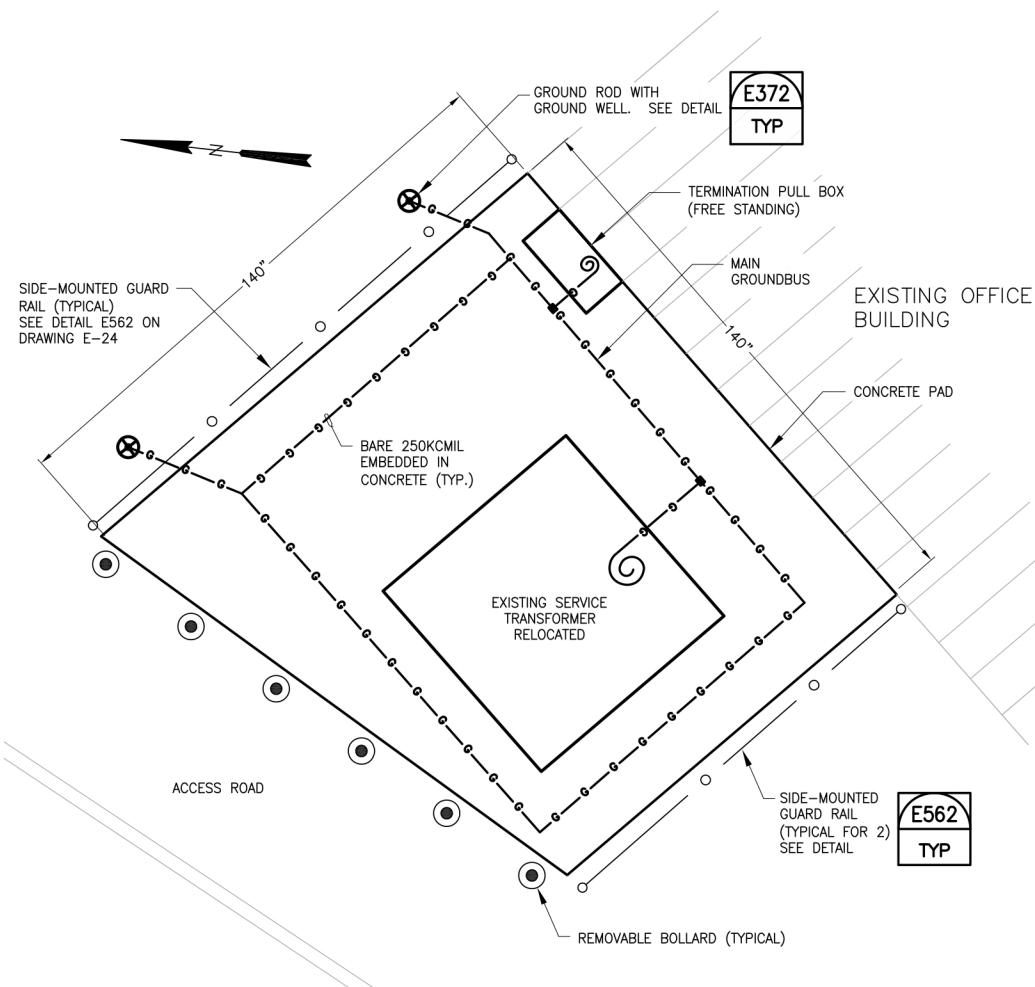


E562 SIDE-MOUNTED GUARD RAIL DETAIL
TYP SCALE: NTS

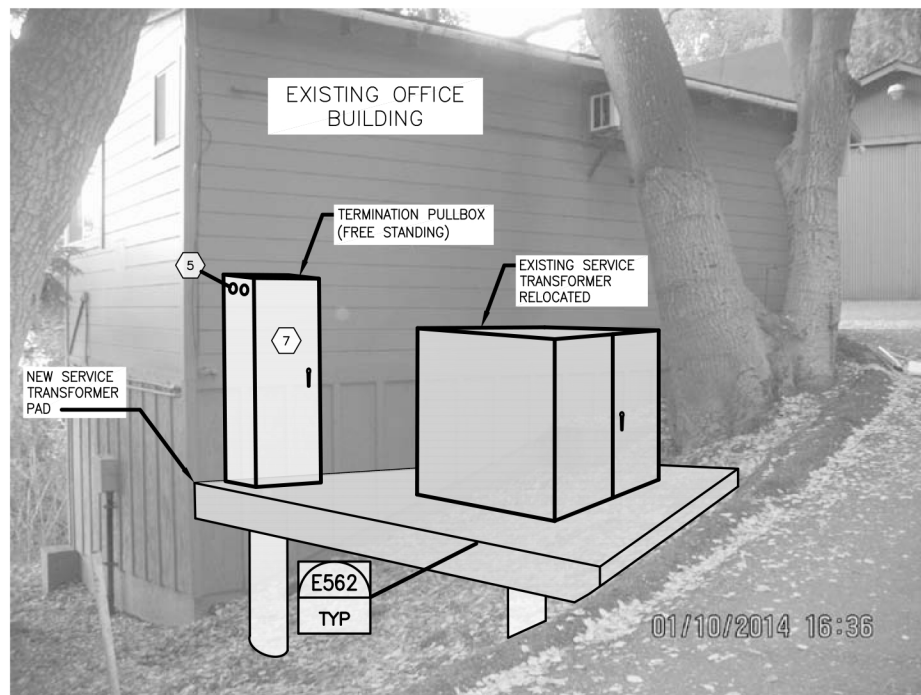


E362 PULL BOX SUPPORT DETAIL
TYP SCALE: NTS

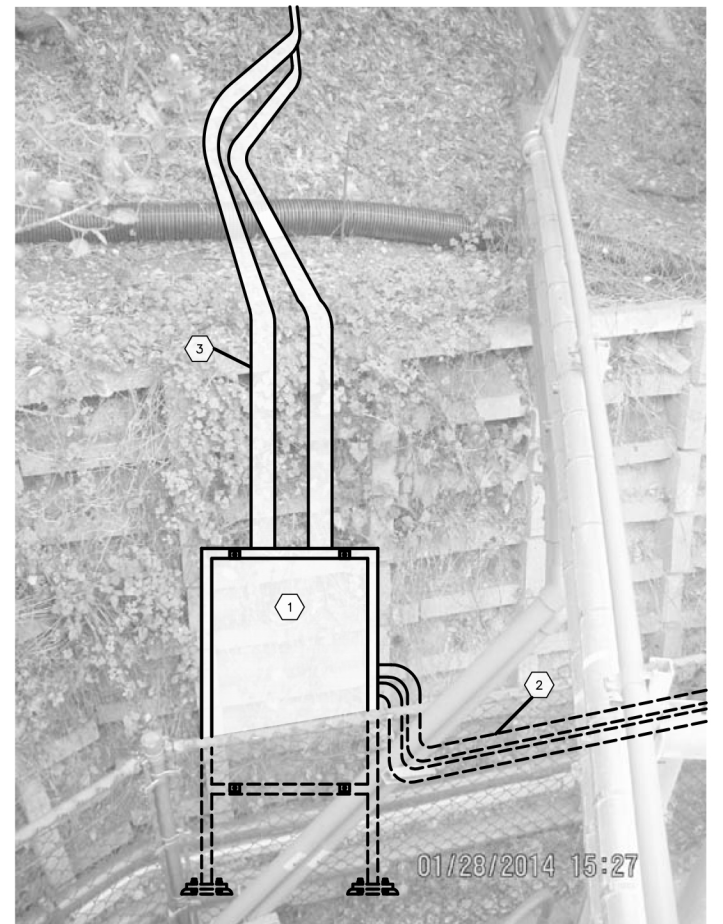
- SHEET NOTES:**
- THIS NEMA 4X (316 SS) PULL BOX SHALL BE LOCATED BEHIND THE FENCE WHICH SHALL BE MODIFIED AND CUT TO PROVIDE FRONT ACCESS. SEE ELECTRICAL SITE PLAN FOR EXACT LOCATION.
 - THESE TWO POWER CONDUITS ROUTED ABOVE EXISTING 2-3"C. SEE DETAIL "C" ON THIS DRAWING.
 - THESE TWO CONDUITS ARE FROM NEW TERMINATION PULL BOX, CIRCUIT MS-P-400. SEE SINGLE-LINE DIAGRAM ON DRAWING E-2. PROVIDE REQUIRED SUPPORTS.
 - SEE DRAWING S-15 FOR CONCRETE SLAB DETAIL. SEE DRAWING E-24 FOR REMOVABLE GUARDRAIL DETAIL. A MINIMUM 3' CLEAR DISTANCE FROM THE GUARDRAIL TO THE FRONT OF THE SWITCHBOARD IS REQUIRED.
 - OUTGOING CONDUITS SHALL BE LOCATED AT THIS ELEVATION AS SHOWN. SUPPORT CONDUITS PROPERLY WITH UNISTRUT CHANNELS FASTENED TO NEW CONCRETE WALL AS REQUIRED.
 - GUARD RAIL SHALL BE MADE OF ALUMINUM, AND SHALL BE 3'-6" WITH TWO PARALLEL HORIZONTAL RUNGS AND WITH MAX 5' SPACING BETWEEN POSTS. RAILING AND POSTS SHALL BE 1.5" SCHEDULE 40 ALUMINUM PIPE ALLOY 6105-T5, ASTM-B-429. THEY SHALL BE DESIGNED TO WITHSTAND A 200 LB CONCENTRATED LOAD APPLIED IN ANY DIRECTION AND AT ANY POINT ON THE TOP RAIL. ACCESSORIES SUCH AS CONCRETE ANCHORS SHALL BE SS TYPE 304 WEDGE ANCHORS.
 - SEE NOTE 8 ON DRAWING E-2 FOR REQUIREMENTS FOR THIS PULL BOX.



ELECTRIC SERVICE GROUNDING PLAN (A)
SCALE: 1/2" = 10'-0"



ELECTRIC SERVICE TRANSFORMER (B)
SCALE: NTS



POWER PULL BOX LOCATION (C)
SCALE: NTS



0" 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD
1	03/2017		

CONFORMED DRAWING
NOTICE:
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DOCUMENTS DATED **NOVEMBER 2016** AND
SUBSEQUENT ADDENDA

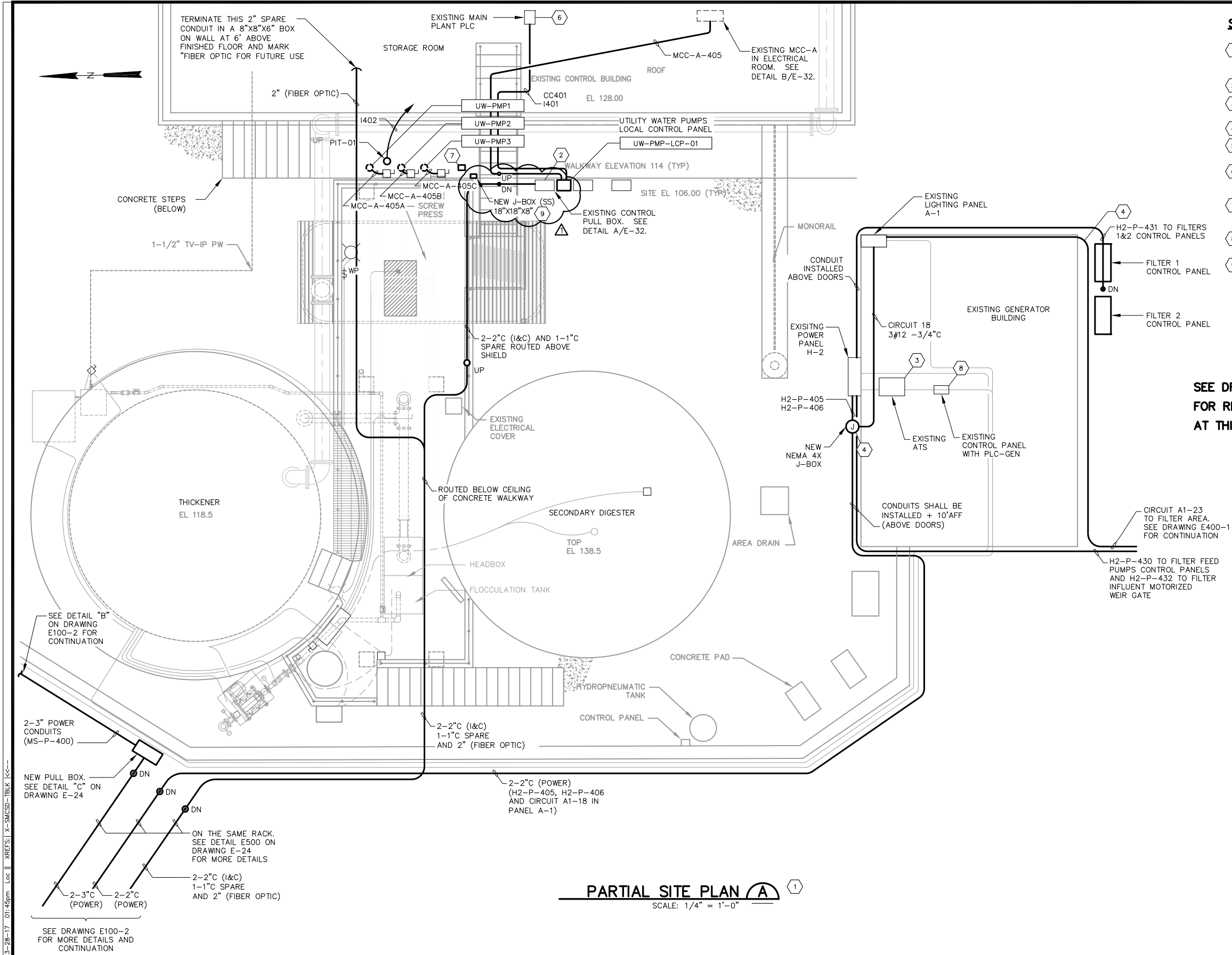
DESIGNED	TP
DRAWN	LD
CHECKED	DN

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
CONSTRUCTION DETAILS
SHEET 3 OF 3

DWG NO	E-24
SHEET NO	190 OF 226
PROJ NO	055-006
DATE	MARCH 2017



SHEET NOTES:

- 1 THE CONDUIT ROUTES SHOWN ARE ONLY DIAGRAMMATIC TO ILLUSTRATE GENERAL DIRECTION OF CONDUITS. PROVIDE JUNCTION BOXES, ELBOWS, CONDULETS AS REQUIRED. SUPPORT CONDUITS AS REQUIRED. ALL EXPOSED CONDUITS SHOWN SHALL BE PVC COATED RGS.
- 2 NEW CONDUITS SHALL BE TERMINATED AT TOP OF EXISTING CONTROL PULL BOX.
- 3 SEE DETAIL B ON DRAWING E-26 FOR TEMPORARY CONNECTION DURING SWITCHOVER OPERATION.
- 4 CORE DRILL EXISTING WALL AS REQUIRED (TYPICAL).
- 5 ROUTE THIS CONDUIT ON FALSE CEILING OF EXISTING CONTROL BUILDING TO REACH EXISTING MCC-A LOCATED IN EXISTING ELECTRICAL ROOM.
- 6 FURNISH AND INSTALL IN THIS EXISTING MAIN PLANT PLC WITH NEW I/O CARDS TO ACCOMMODATE SIGNALS FOR UTILITY WATER PUMPS AND THEIR AUXILIARIES. SEE DRAWING E-33 WIRING DETAILS.
- 7 THIS IS NEW LOCATION OF EXISTING SAMPLE PUMP RELOCATED FROM ORIGINAL LOCATION SHOWN ON DRAWING D600-2. FROM EXISTING LOCATION, EXISTING POWER & CONTROL CIRCUIT SHALL BE EXTENDED AS REQUIRED TO NEW LOCATION.
- 8 THIS EXISTING PLC SHALL BE REMOVED AND REPLACED WITH NEW PLC. SEE DRAWINGS E-15A AND E-15B FOR ADDITIONAL DETAILS.
- 9 SEE DETAIL A/E-30 FOR COMPLETE WIRINGS FROM EACH MOTOR TO PULL BOX TO CONTROL PANEL.

**SEE DRAWING E400-1
FOR REQUIRED WORK
AT THIS AREA**

FILENAME: 286F-E25 Addm 2 3-28-17 01:45pm Loc: XREFS: X-SMCSO-TBLK K<<--

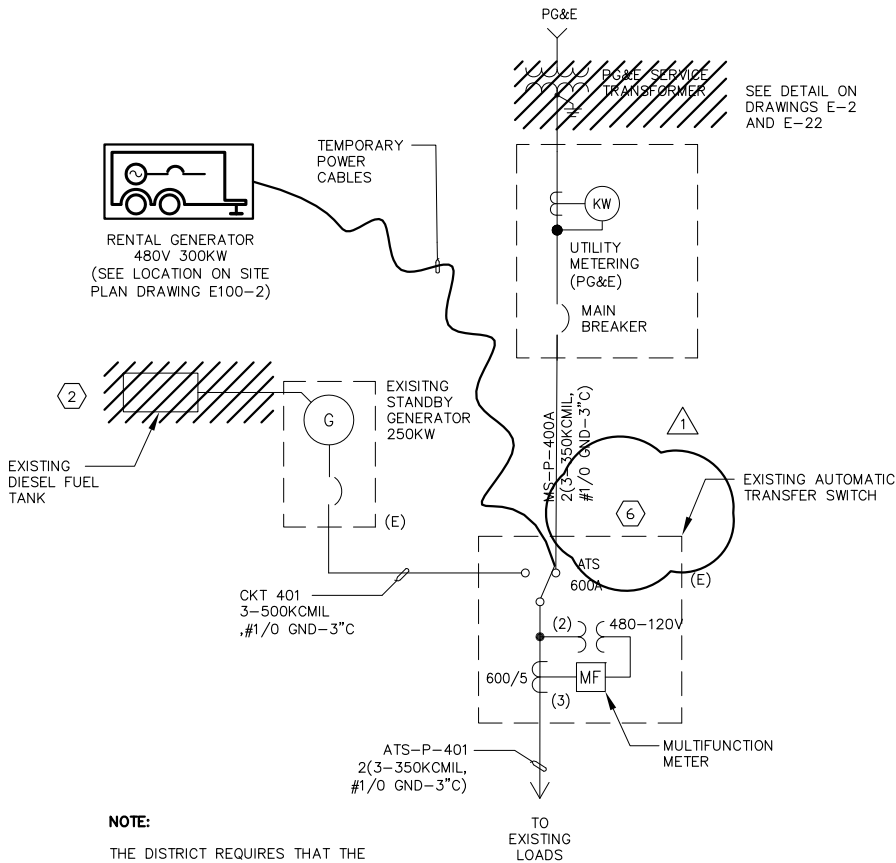
Lost Saved By: Loc 3-28-17 01:37pm

GENERAL ELECTRICAL SEQUENCE OF WORK 34

1. MODIFICATION OF EXISTING PG&E PRIMARY CIRCUIT TO EXISTING PG&E SERVICE TRANSFORMER.
2. INSTALLATION OF NEW TRANSFORMER'S CONCRETE SLAB AND RELOCATION OF EXISTING PG&E SERVICE TRANSFORMER.
3. INSTALLATION OF REROUTED SECONDARY CIRCUIT TO EXISTING ELECTRICAL SERVICE SWITCHBOARD.
4. MODIFICATIONS OF EXISTING CIRCUIT FEEDING MS-1 AND PANEL PP-3.
5. INSTALLATION OF MOTOR CONTROL CENTER MCC-HW.
6. INSTALLATION OF PROCESS EQUIPMENT REQUIRING POWER AND CONTROL.
7. FUNCTIONAL STARTUP AND TESTING.
8. FINAL ACCEPTANCE TEST.

SHEET NOTES:

- 1 THIS TEMPORARY POWER WITH RENTAL GENERATOR IS REQUIRED DURING RELOCATION OF THE EXISTING SERVICE TRANSFORMER. REFER TO SEQUENCE OF WORK IN THE SPECIFICATION FOR ADDITIONAL DETAILS. SAME RENTAL GENERATOR SHALL ALSO BE REQUIRED DURING REMOVAL OF THE EXISTING DIESEL FUEL TANK UNTIL NEW FUEL TANK HAS BEEN INSTALLED AND FULLY FUNCTIONAL.
- 2 THE EXISTING 1000 GAL. UNDERGROUND FUEL TANK SHALL BE REMOVED AND REPLACED WITH NEW TANK LOCATED ON TOP DECK OF THE HEADWORKS.
- 3 REFER TO SPECIFICATION "SEQUENCE OF WORK" FOR DETAILED REQUIREMENTS. REQUIRED ELECTRICAL WORK ASSOCIATED WITH SEQUENCE NUMBER 1 TO NUMBER 4 IS SHOWN ON DRAWINGS E-2, E-22, E-23, E-24, E-25, AND E-26.
- 4 EXISTING PLANT'S MAIN TELEPHONE SERVICE SHALL ALSO BE MODIFIED AND REROUTED CONCURRENTLY WITH SEQUENCES 1 TO 3.
- 5 TEMPORARY, PORTABLE POWER CABLES SHALL HAVE AMPACITY EQUIVALENT TO 500A @ 480V 3-PHASE MINIMUM. (TWO SETS OF #2/0 LOCOMOTIVE CABLES ARE REQUIRED).
- 6 ISOLATE UTILITY POWER AND LOCKOUT PRIOR TO CONNECTIONS TO RENTAL GENERATOR.



NOTE:
THE DISTRICT REQUIRES THAT THE ENTIRE PLANT SHALL HAVE TWO POWER SOURCES AT ALL TIMES EXCEPT SHORT INTERRUPTIONS (2 HRS OR LESS) PLANNED AND APPROVED IN ADVANCE.

TEMPORARY POWER B 1
SCALE: NTS

FILENAME: 286F-E26 Addendum 1 3-28-17 01:45pm Loc XREFS: X-SMCSB-TBLK Y-C-1



0" 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD
1	03/2017	DN	DTN

CONFORMED DRAWING
NOTICE:
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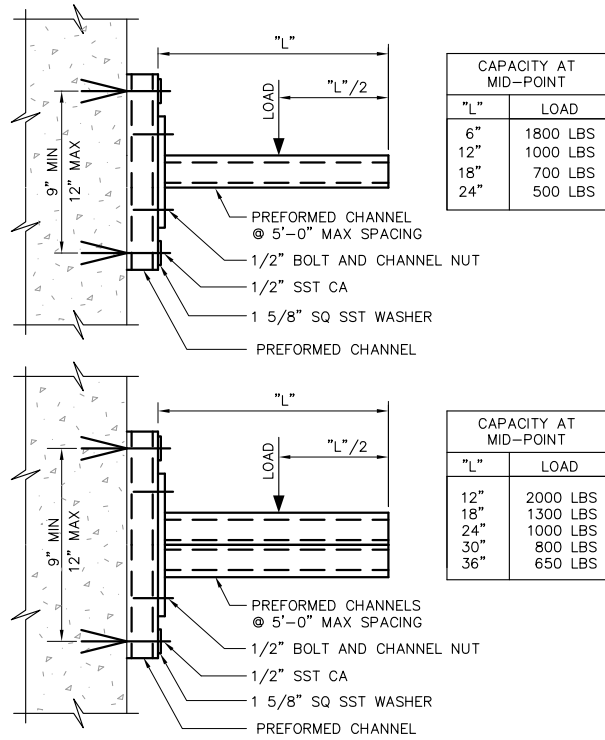
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RMC ENGINEER CE-30318



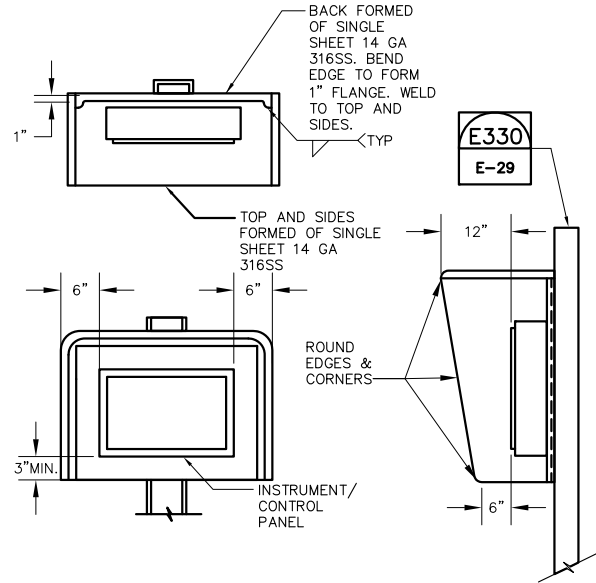
TREATMENT AND WET WEATHER FLOW UPGRADE
ELECT. SEQUENCE OF WORK AND
TEMP. POWER DURING CONSTRUCTION

DWG NO E-26
SHEET NO 192 OF 226
PROJ NO 055-006
DATE MARCH 2017



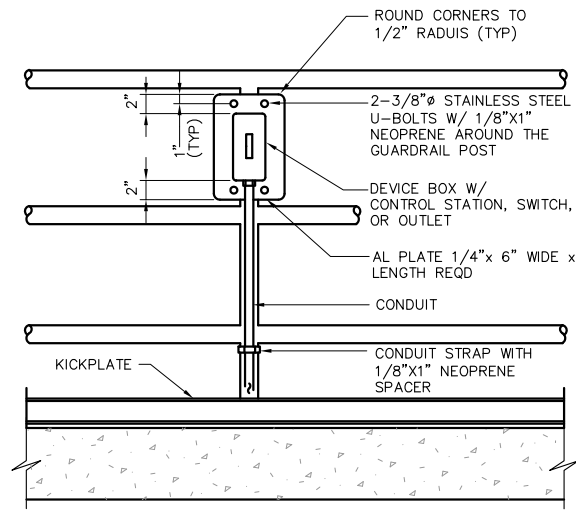
NOTE:
1. HOT-DIP GALVANIZE THE PREFORMED CHANNELS AND OTHER ACCESSORIES AFTER FABRICATION.

E302 **CONDUIT SUPPORT**
TYP SCALE: NTS

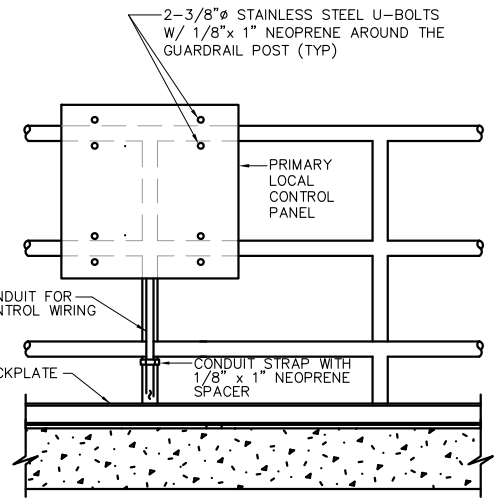


NOTES:
1. ALL EXPOSED EDGES TO BE GROUND SMOOTH AND BURR FREE.
2. MOUNT SUN SHIELD BETWEEN INSTRUMENT AND STANCHION. USE STAINLESS STEEL BOLTS AND INSULATING WASHERS AND SLEEVES.

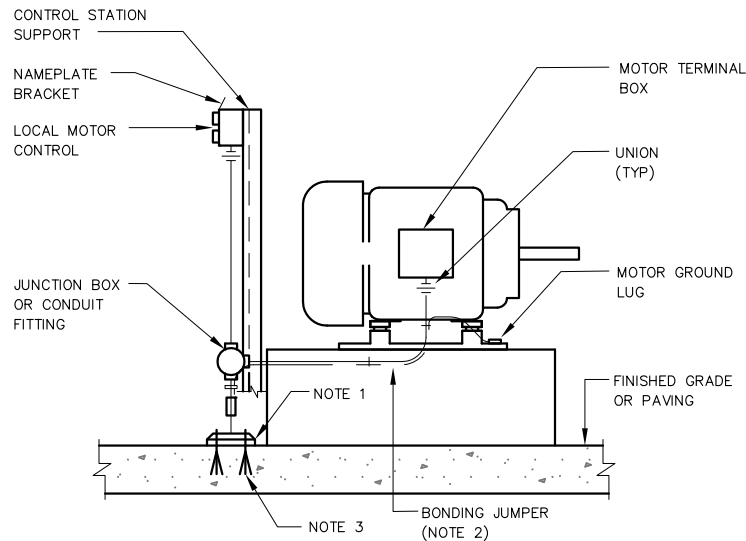
E345 **SUN SHIELD**
TYP SCALE: NTS



E350 **GUARDRAIL MOUNTED CONTROL SWITCH OR STATION**
TYP SCALE: SCALE



E355 **GUARDRAIL MOUNTED CONTROL STATION**
TYP SCALE: SCALE

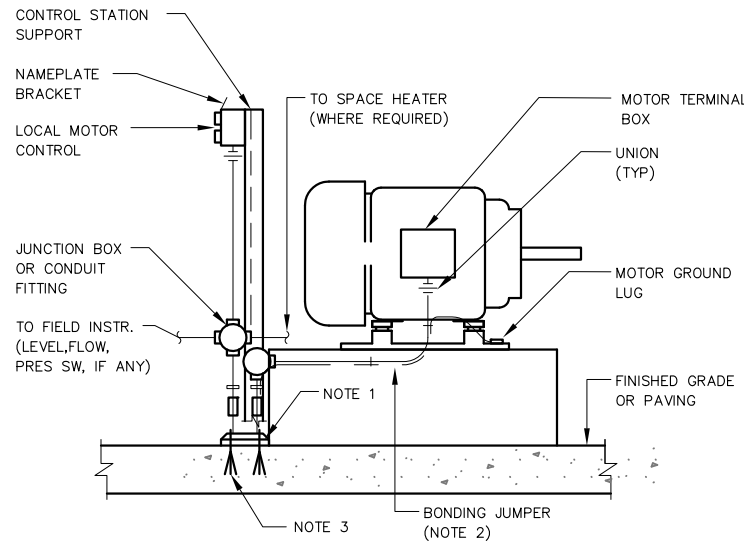


GENERAL NOTES FOR MOTOR INSTALLATION DETAIL E410A & E410B

NOTES:
1. ALL CONDUITS, SLEEVES, AND SUPPORTS BROUGHT UP THROUGH CONCRETE SHALL HAVE A 1"x3" RADIUS CONCRETE CONE BUILT UP AROUND BASE.
2. BONDING JUMPER IS REQUIRED ON ALL INSTALLATIONS WITH FLEXIBLE CONDUITS SPIRAL WIRE BONDING JUMPER AROUND FLEXIBLE CONDUIT.
3. FOR STATIONS LOCATED ON EXISTING CONCRETE SLAB OR DECK, BOLT THE SUPPORT BASE PLATE WITH FOUR 3/8" DIA, 5" LONG STAINLESS STEEL ANCHOR BOLTS.

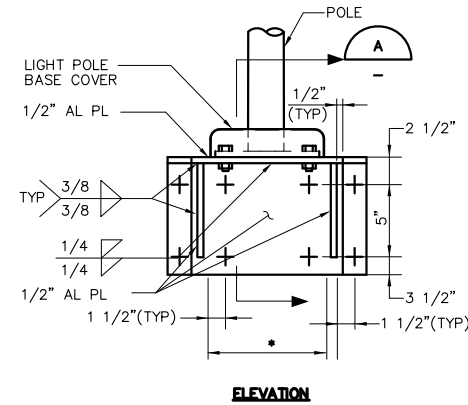
E410A **MOTORS WITH COMBINED POWER & CONTROL - RGS CONDUIT**
TYP SCALE: NTS

(INSTALLATION SIMILAR FOR BOTH HORIZONTAL AND VERTICAL MOTORS 50 HP MOTORS OR LESS WITH MAXIMUM CONDUCTOR SIZE OF #2 AWG)

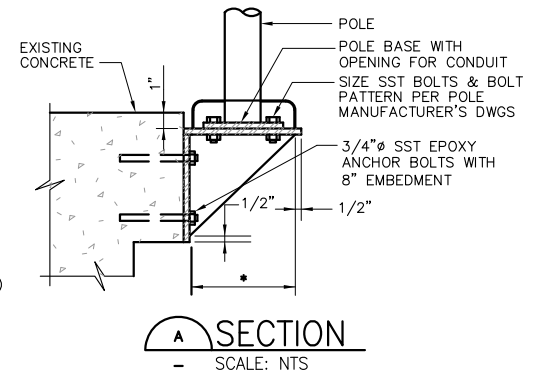


E410B **MOTORS WITH SEPARATE POWER & CONTROL - RGS CONDUIT**
TYP SCALE: NTS

(INSTALLATION SIMILAR FOR BOTH HORIZONTAL AND VERTICAL MOTORS OVER 50 HP MOTORS WITH LARGER THAN #2 AWG CONDUCTORS)



ELEVATION



SECTION
SCALE: NTS

NOTES:

1. COAT AL SURFACES IN CONTACT WITH CONCRETE PER SPECS.
2. MAXIMUM POLE HEIGHT = 15'-0".
3. * = LARGEST OF OD OF LIGHT POLE BASE + 2", OD OF LIGHT POLE BASE COVER + 1", AND 12".
4. USE SIMPSON SET-XP EPOXY (OR EQUAL) FOR ANCHOR BOLTS.

E508 **LIGHTING POLE MOUNTING CONCRETE**
TYP SCALE: NTS

FILENAME: 286F-E27 3-28-17 01:45pm Loc: XREFS: X-SMCSO-TBLK <<--



0" = 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING
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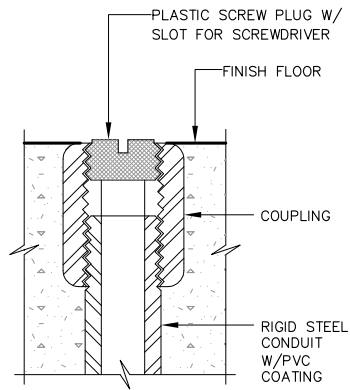
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APPROVED:	STEVE CLARY	RMC ENGINEER	CE-30318

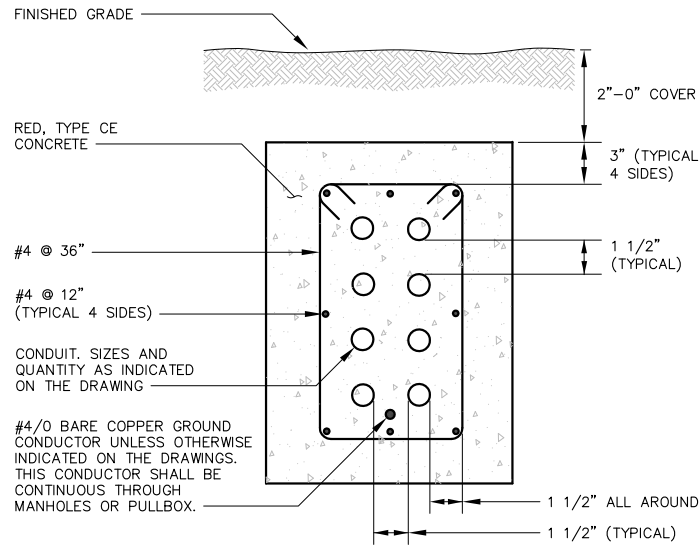


TREATMENT AND WET WEATHER FLOW UPGRADE
TYPICAL CONSTRUCTION DETAILS
SHEET 1 OF 3

DWG NO	E-27
SHEET NO	193 OF 226
PROJ NO	055-006
DATE	MARCH 2017



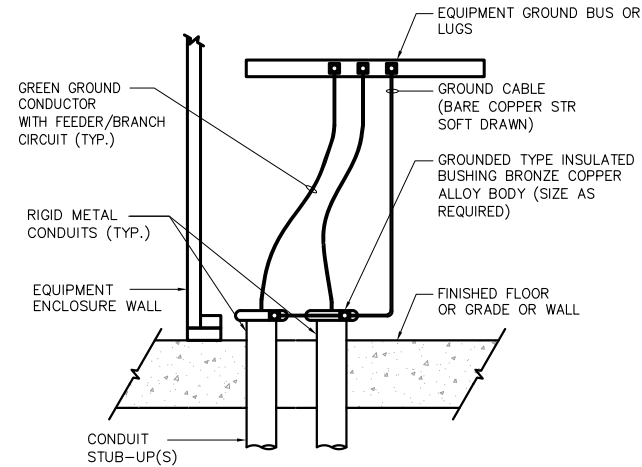
E150 CONDUIT FLOOR STUB-UP
TYP SCALE: NTS



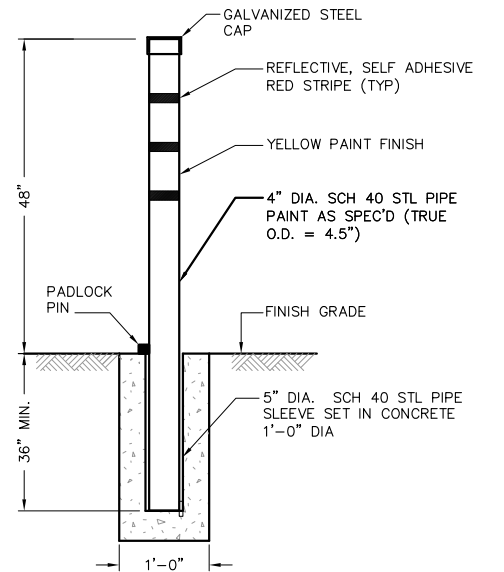
NOTES:

1. DIMENSIONS ARE MINIMUM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. QUANTITY OF CONDUITS SHALL BE AS PER PLAN DRAWINGS.

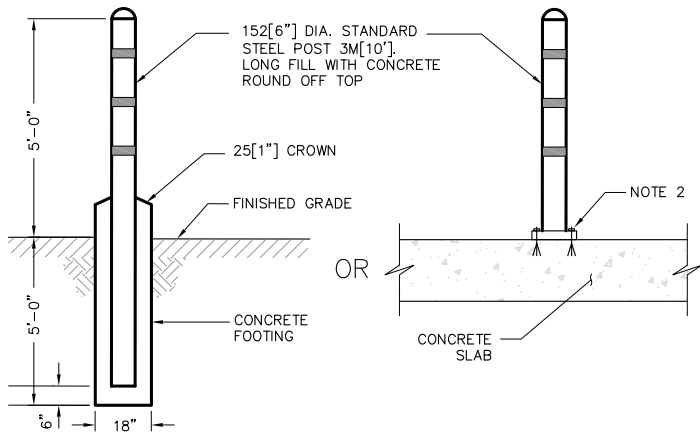
E151 REINFORCE CONCRETE DUCTBANK
TYP SCALE: NTS



E374 CONDUIT GROUNDING
TYP SCALE: NTS



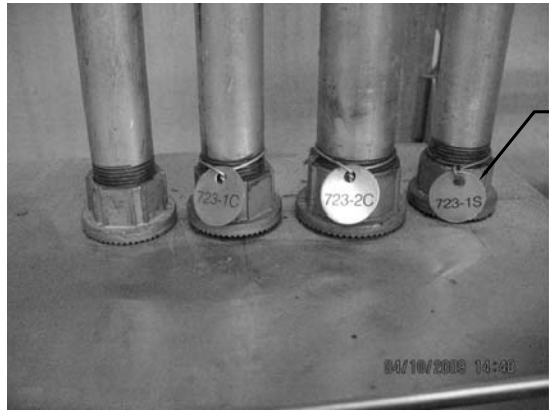
E526 REMOVABLE GUARD POST
TYP SCALE: NTS



NOTES:

1. POLE SHALL BE PAINTED YELLOW WITH REFLECTIVE RED STRIPES.
2. BASE SHALL BE CIRCULAR WELDED TO POLE WITH FOUR HOLES SUITABLE FOR 3/8" DIA. 5" LONG SS ANCHOR BOLTS.

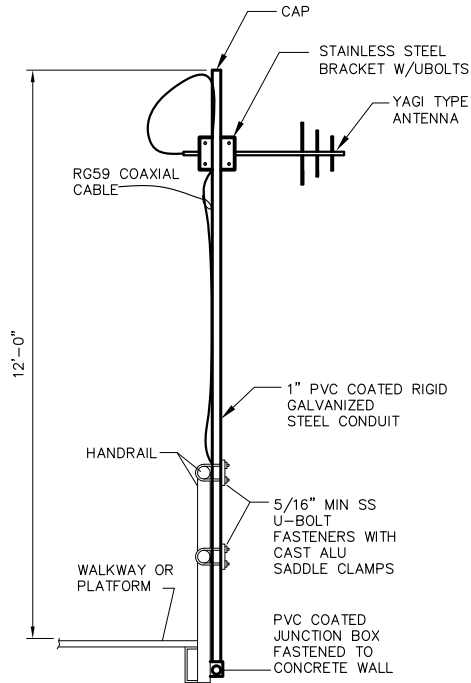
E527 PERMANENT GUARD POST
TYP SCALE: NTS



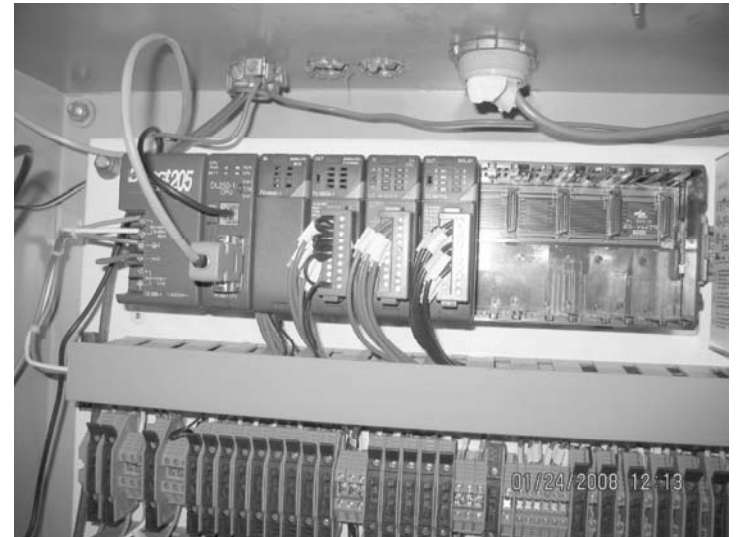
NOTE:

TAGS SHALL BE PROVIDED AT EACH CONDUIT TERMINATION.

E805 CONDUIT TAGGING
TYP SCALE: NTS



A RADIO ANTENNA MOUNTING DETAIL
SCALE: NTS



THIS PLC AND ENCLOSURE SHALL BE DISCONNECTED, REMOVED AND REPLACED COMPLETELY WITH NEW. SEE DRAWINGS E-15A & E-15B

B (E) PLC-GEN (GENERATOR BUILDING)
SCALE: NTS



0" 1"
VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

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CHECKED	DN

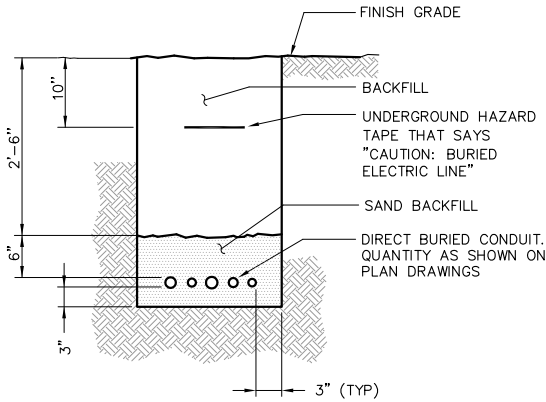
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TREATMENT AND WET WEATHER FLOW UPGRADE
TYPICAL CONSTRUCTION DETAILS
SHEET 2 OF 3

DWG NO	E-28
SHEET NO	194 OF 226
PROJ NO	055-006
DATE	MARCH 2017

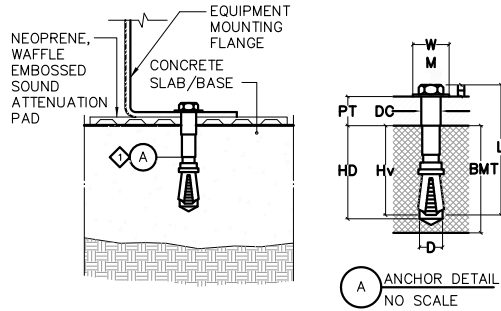
FILENAME: 286F-E28 3-28-17 01:45pm Loc: X:RREFS: X-SMCSO-TBLK K<<--



NOTES:

- ALL DIMENSIONS ARE MINIMUM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- REFER TO SPECIFICATIONS FOR TRENCH BACKFILL REQUIREMENTS.

E131 DIRECT BURIED CONDUITS
TYP SCALE: NTS



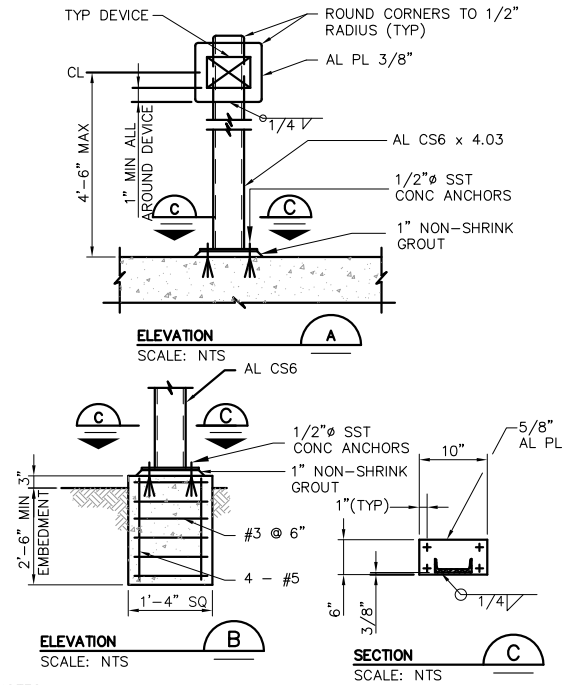
ANCHOR SIZE	M10/20	M16/25
SETTING DETAILS		
D (in) DRILL BIT DIA.	.585	.936
HD (in) HOLE DEPTH	3.315	4.875
Hv (in) MIN. DEPTH OF EMBEDMENT	2.925	4.095
PT (in) MAX. THICKNESS FASTENED	.780	.975
L (in) ANCHOR LENGTH	4.173	5.772
H (in) HEAD HEIGHT + WASHER	.390	.546
M (FT.-LBS.) MAX. TIGHTENING TORQUE	1.56	5.850
DC (in) CLEARANCE HOLE	.663-.702	1.014-1.092
W (in) WASHER DIAMETER	.975	1.560
BMT (in) MIN. BASE MATERIAL THICKNESS (CONCRETE THICKNESS)	5.46	7.020

- ◆ SHALL BE USED FOR TRANSFORMER ATTACHMENT.
- ◆ SHALL BE USED FOR MAIN SWITCHBOARD (MSB), MOTOR CONTROL CENTERS (MCC), AND DISTRIBUTION BOARDS.

NOTES:

- EXPANSION ANCHORS SHALL BE A SINGLE-END EXPANSION SHIELD ANCHOR WHICH MEETS THE DESCRIPTIVE PART OF FEDERAL SPECIFICATIONS FF-S-325 GROUP II, TYPE 2, CLASS 2, STYLE 1. ANCHORS SHALL BE DIMENSIONED AS PER HILTI FASTENING SYSTEMS, 5400 SOUTH 122nd EAST AVENUE, TULSA, OK 74146.
- HSLB EXPANSION ANCHORS SHALL BE INSTALLED IN HOLES DRILLED WITH HILTI CARBIDE TIPPED DRILL BITS. ANCHORS SHALL BE INSTALLED AND TORQUED PER MANUFACTURERS RECOMMENDATIONS.
- INSTALL ANCHORS 15" ON CENTER AROUND ENTIRE PERIMETER OF EQUIPMENT. 2 MINIMUM PER SIDE.

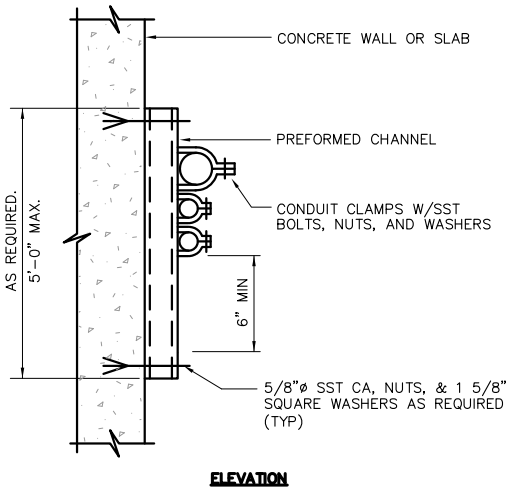
E326 ELECTRICAL EQUIPMENT MOUNTING DETAIL
TYP SCALE: NTS



NOTES:

- WHERE SEPARATE FOUNDATION IS REQUIRED, SEE **B**.
- COAT ALUMINUM SURFACES IN CONTACT W/CONCRETE PER SPECS.
- USE SST FASTENERS FOR MOUNTING DEVICES.
- WEIGHT OF DEVICE(S) SHALL NOT EXCEED 100 POUNDS.

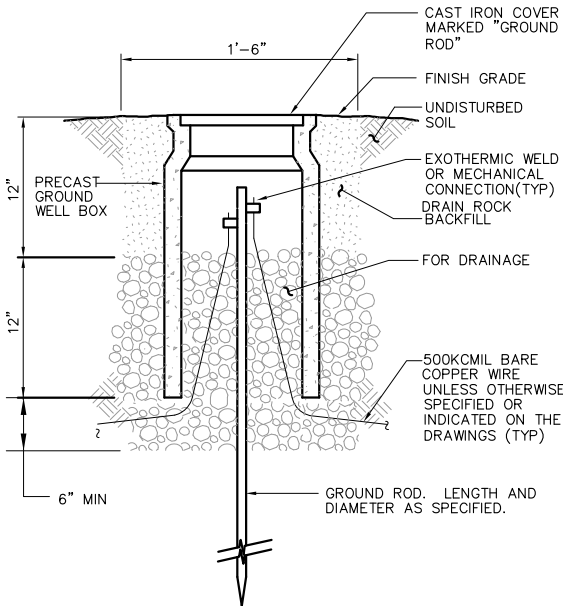
E330 DEVICE SUPPORT AND MOUNTING
TYP SCALE: NTS



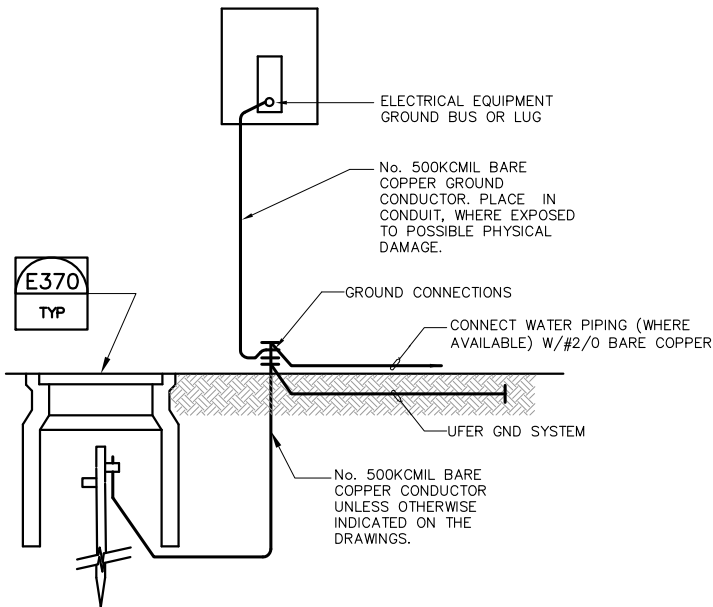
NOTES:

- THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
- PREFORMED CHANNEL, FITTINGS, AND CLAMPS SHALL BE HOT-DIP GALVANIZED STEEL FOR NEMA 12 AREAS AND STAINLESS STEEL FOR NEMA 4X AREAS. FIELD COAT ALL CUTS PER SPECIFICATIONS.
- CHANNELS TO BE SPACED AT 5'-0" OC MAXIMUM.

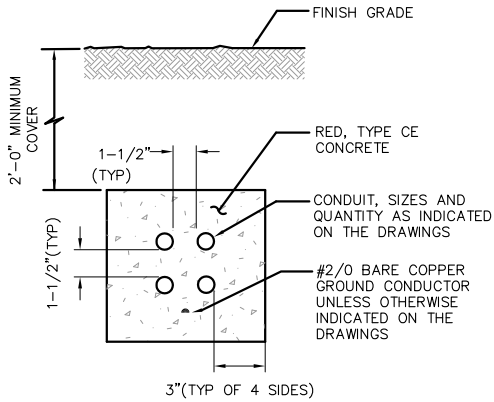
E340 CONDUIT SUPPORT
TYP SCALE: NTS



E370 GROUND WELL
TYP SCALE: NTS



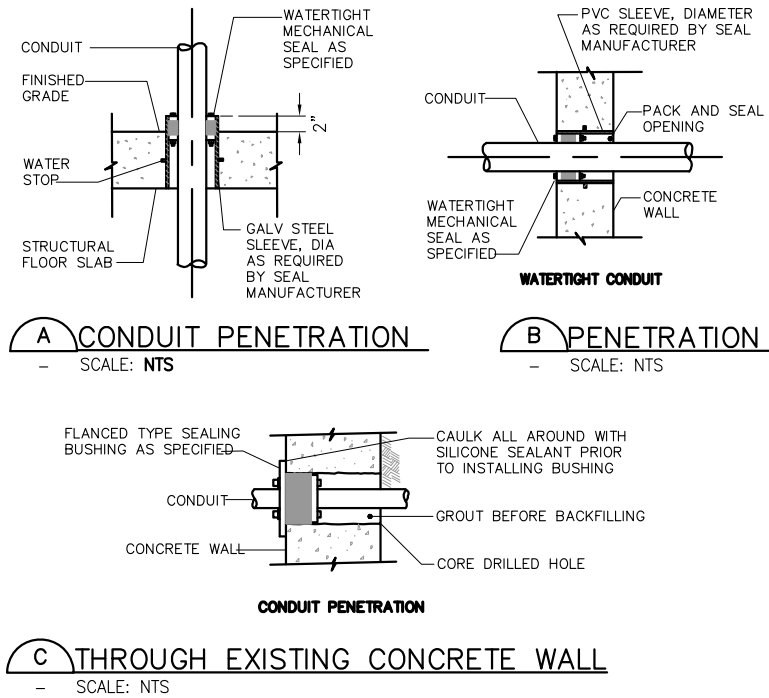
E372 SERVICE GROUNDING DETAIL
TYP SCALE: NTS



NOTES:

- DIMENSIONS ARE MINIMUM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- THIS TYPICAL DETAIL IS FOR NON-TRAFFIC AREAS ONLY. OR WHERE SPECIFICALLY INDICATED ON THE DRAWINGS.

E404 UNREINFORCED CONCRETE DUCTBANK
TYP SCALE: NTS



E418 DETAILED CONDUIT PENETRATION
TYP SCALE: SCALE

FILENAME: 286F-E29 3-28-17 01:46pm Loc: XREFS: X-SWCSO-TBLK <<--



0" = 1"
VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING
NOTICE:
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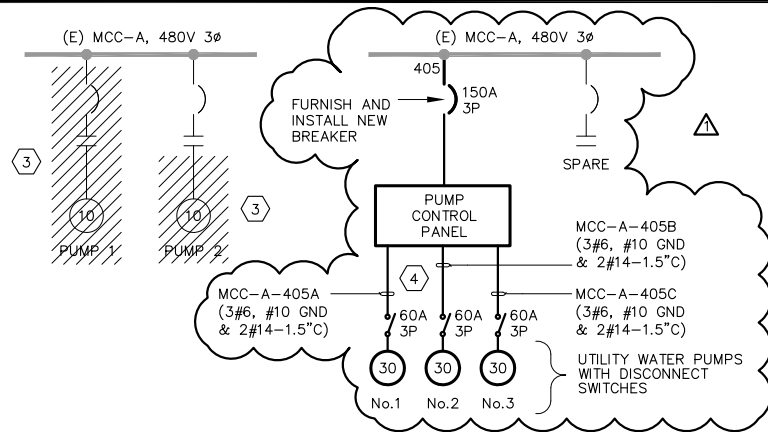
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DRAWN	LD
CHECKED	DN

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RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



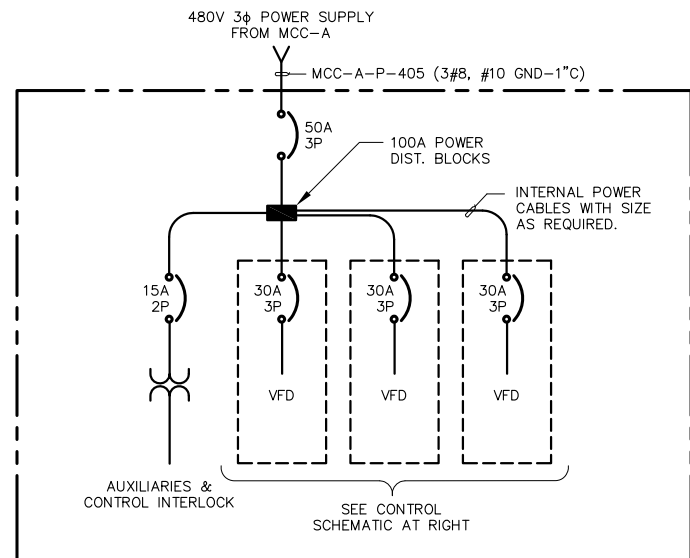
TREATMENT AND WET WEATHER FLOW UPGRADE
TYPICAL CONSTRUCTION DETAILS
SHEET 3 OF 3

DWG NO **E-29**
SHEET NO 195 OF 226
PROJ NO 055-006
DATE MARCH 2017



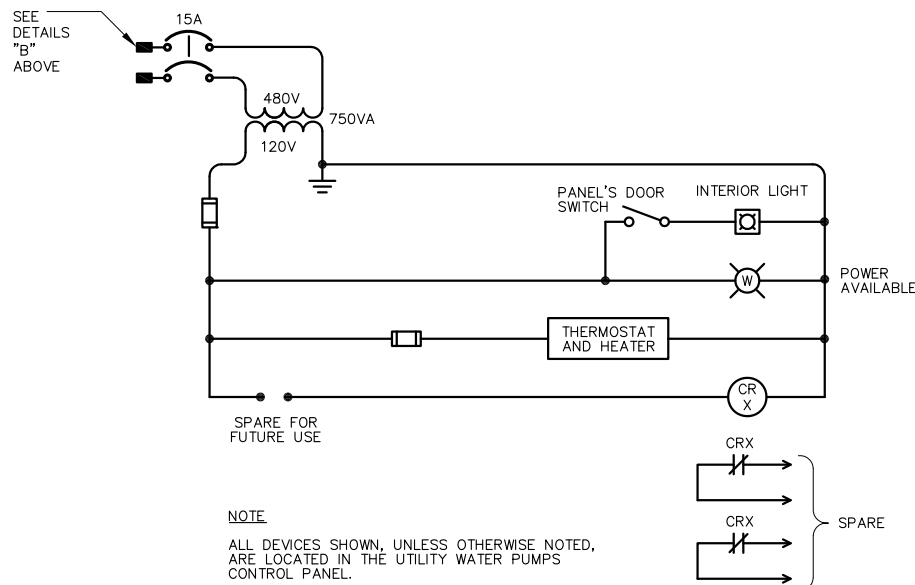
MCC-A SINGLE LINE MODIFICATIONS (A)

SCALE: NTS



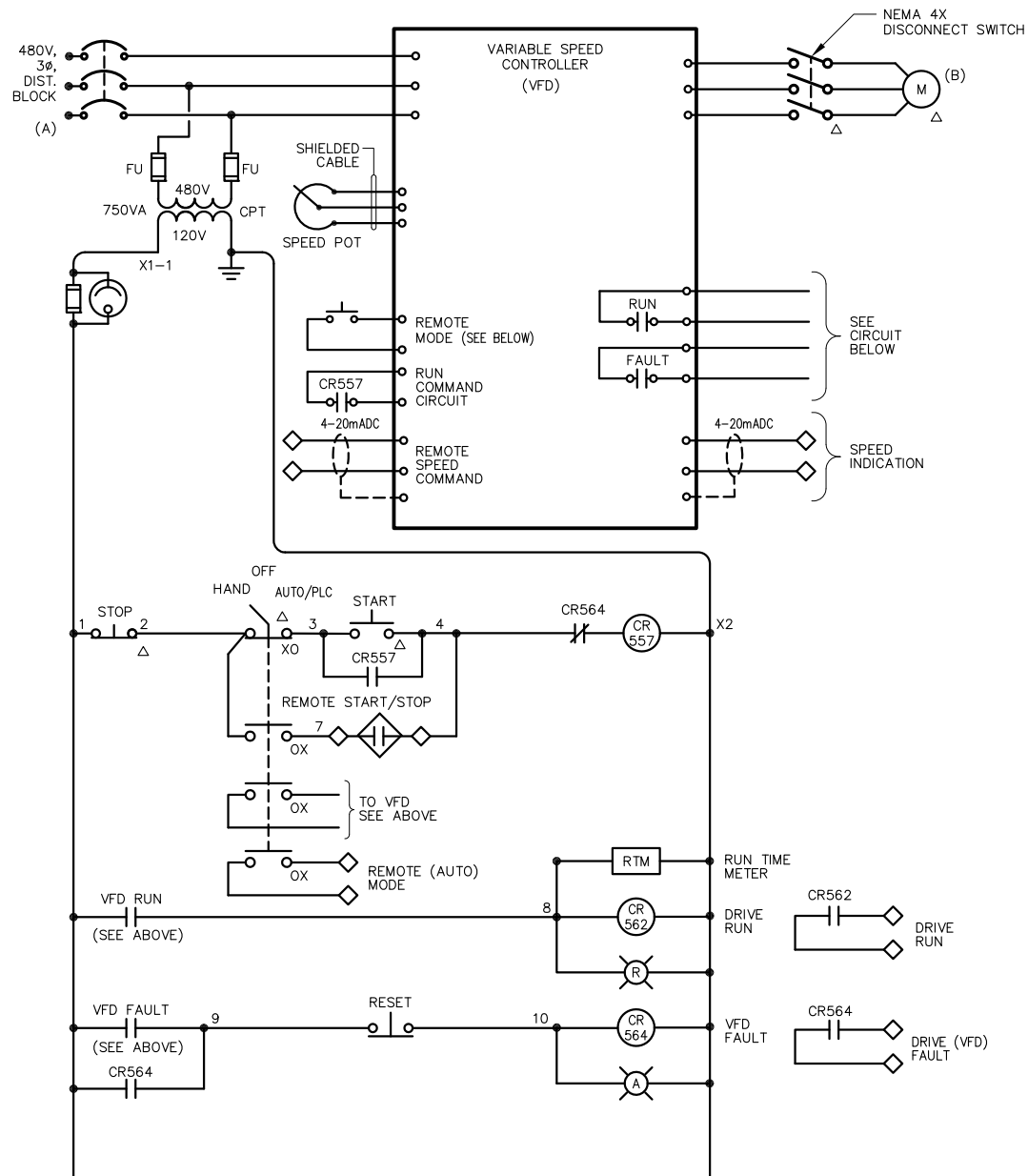
UTILITY WATER PUMPS POWER FEED (B)

SCALE: NTS



UTILITY WATER PUMPS CONTROL INTERLOCK (C)

SCALE: NTS



NOTES:

- U.O.N., ALL DEVICES SHOWN ARE LOCATED IN UTILITY WATER PUMPS CONTROL PANEL.
- THIS CONTROL SCHEMATIC IS TYPICAL FOR 3 PUMPS.

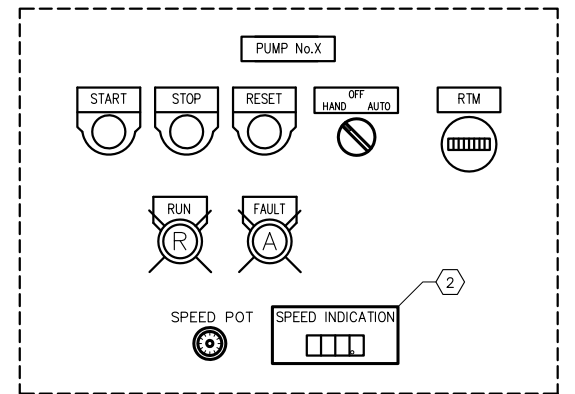
EQUIPMENT	(A)	(B)	NOTES
UTILITY WATER PUMP NO. 1	MAIN DIST. POWER BLOCK	MOTOR	
UTILITY WATER PUMP NO. 2	MAIN DIST. POWER BLOCK	MOTOR	
UTILITY WATER PUMP NO. 3	MAIN DIST. POWER BLOCK	MOTOR	

UTILITY WATER PUMPS CONTROL DIAGRAM (D)

SCALE: NTS

SHEET NOTES:

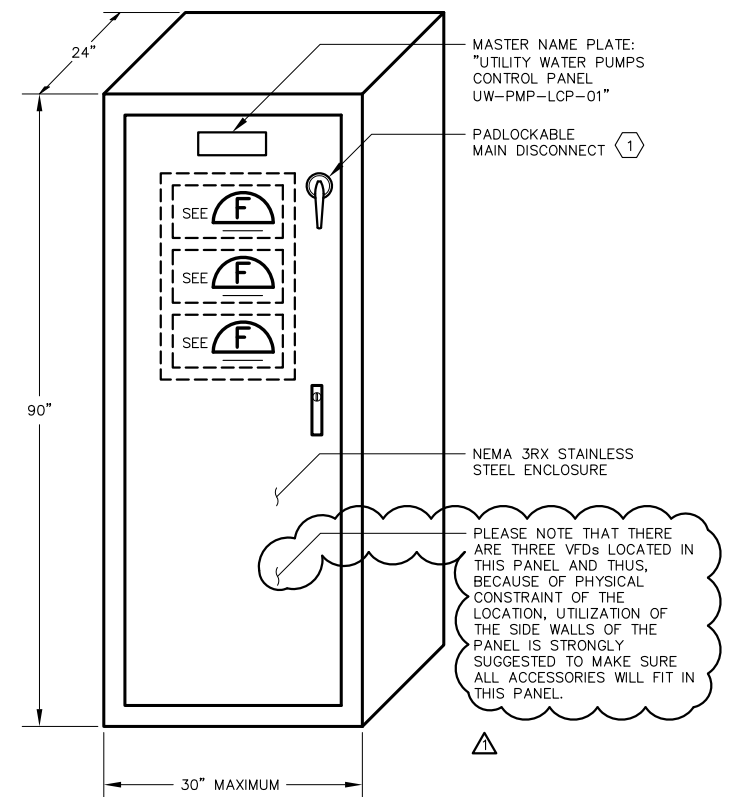
- THIS PANEL SHALL BE NEMA 3RX (STAINLESS STEEL) WITH ALL DEVICES MOUNTED ON THE PANEL'S DOOR SUITABLE FOR CORROSIVE ENVIRONMENT. SEE DIV 16 SPECS FOR DETAILED REQUIREMENTS.
- THIS INDICATOR MAY BE DELETED IF THE KEYPAD ALREADY HAS THIS FUNCTION.
- REMOVE EXISTING CONDUCTOR IN EXISTING CONDUITS AS SHOWN.
- MOTOR FEEDERS TO PUMP CONTROL PANEL SHALL BE VIA A NEW PULL BOX. SEE DETAIL A/E-32.



TYPICAL CONTROL DEVICES (F)

TYPICAL FOR THREE PUMPS

SCALE: NTS



UTILITY WATER PUMPS CONTROL PANEL (E)

SCALE: NTS

FILENAME: 286F-E30 Addm 2_3-28-17 01:46pm Loc: XREFS: X-SWCSO-TBLU KCC--



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD
1	03/2017	DN	DTN
2			APVD

CONFORMED DRAWING

NOTICE:

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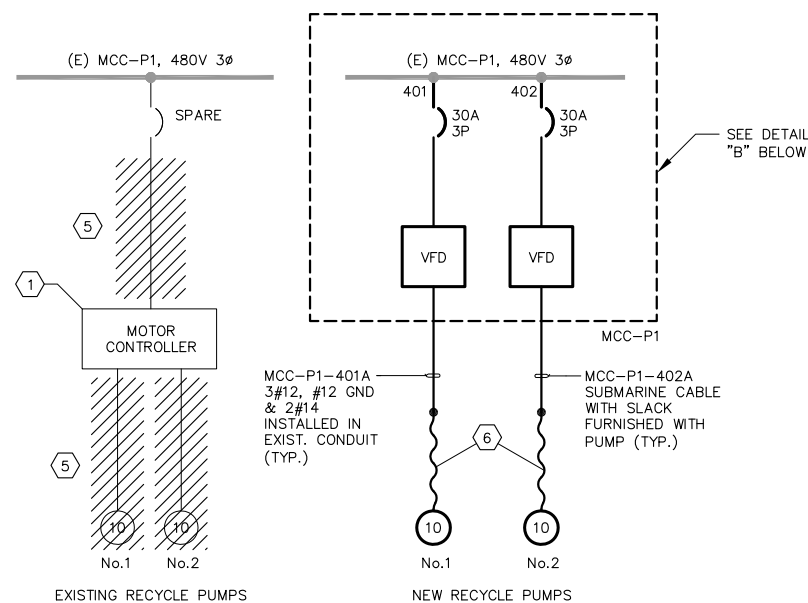
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DRAWN	LD
CHECKED	DN
APPROVED:	STEVE CLARY RMC ENGINEER CE-30318
SUBMITTED:	MARK TAKEMOTO RMC PROJECT ENGINEER CE-64369



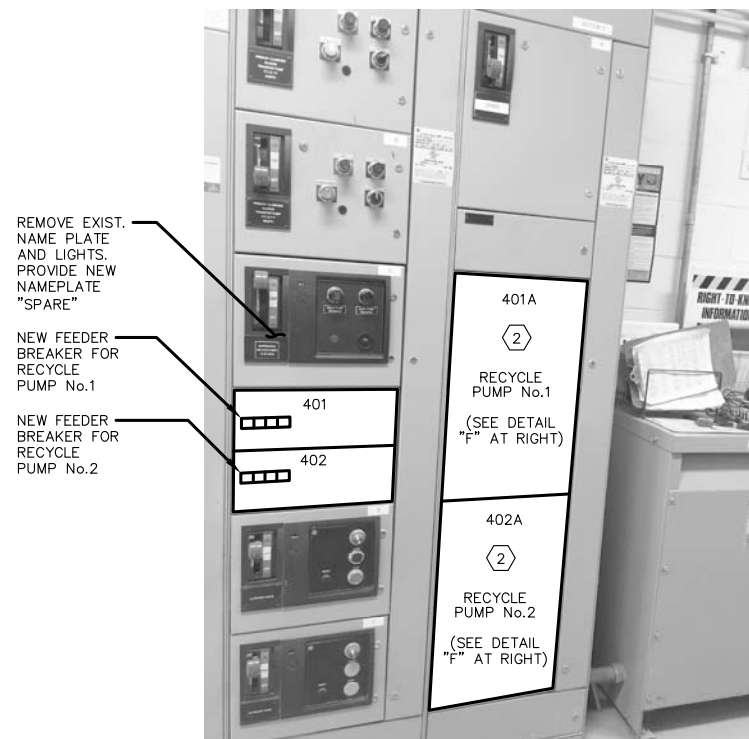
TREATMENT AND WET WEATHER FLOW UPGRADE

UTILITY WATER PUMP CONTROL DIAGRAM AND CONTROL PANEL

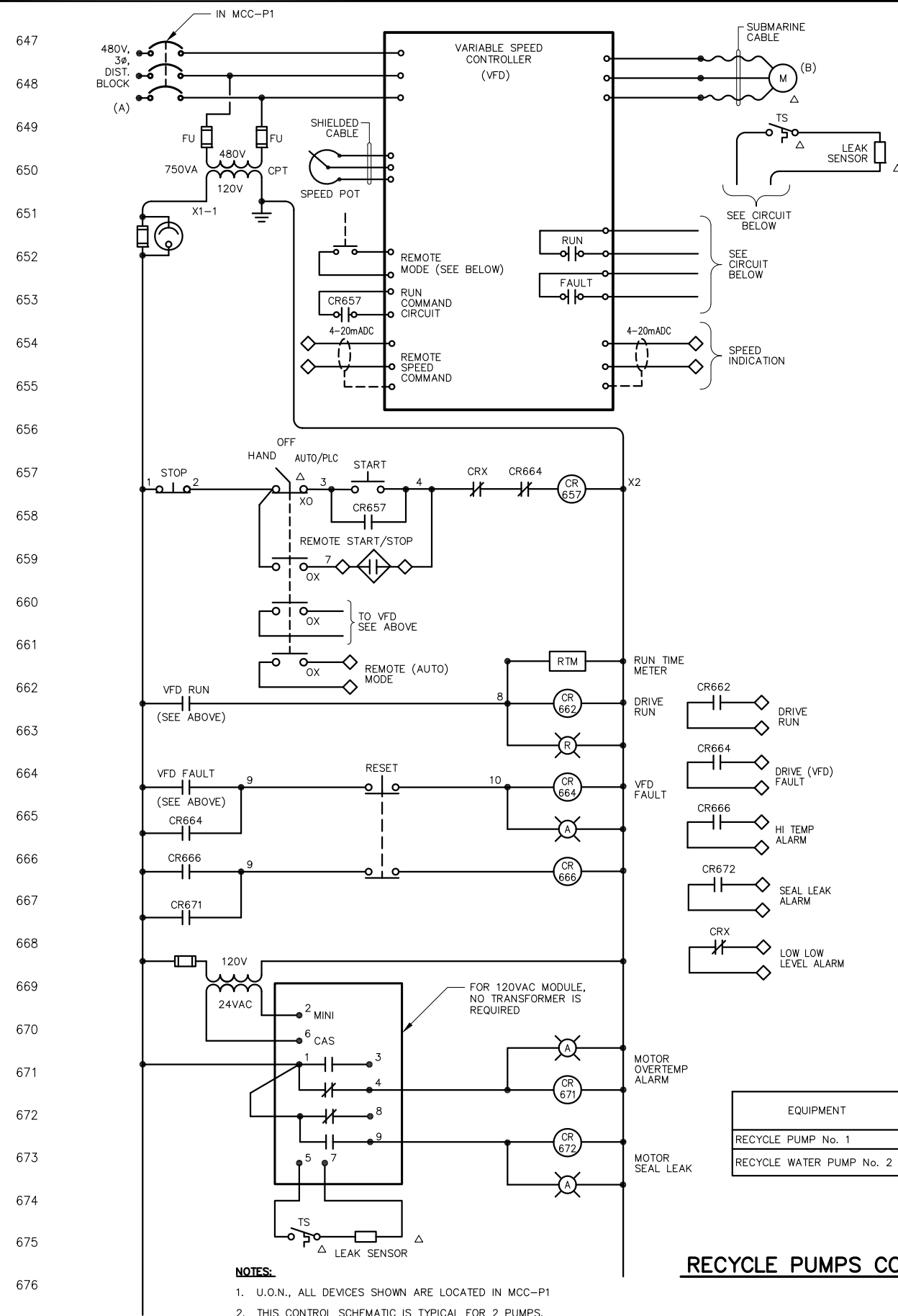
DWG NO	E-30
SHEET NO	196 OF 226
PROJ NO	055-006
DATE	MARCH 2017



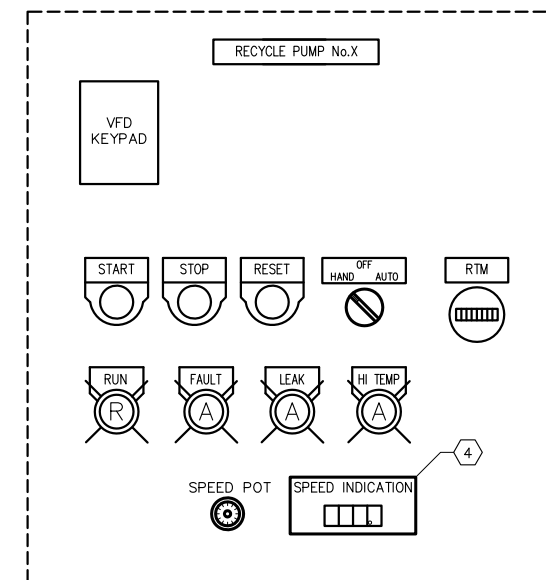
EXISTING MCC-P1 ONE-LINE MODIFICATIONS A



EXISTING MCC-P1 MODIFICATIONS **B**
SCALE: NTS



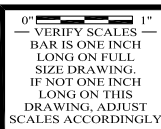
- NOTES:**
1. U.O.N., ALL DEVICES SHOWN ARE LOCATED IN MCC-P1
 2. THIS CONTROL SCHEMATIC IS TYPICAL FOR 2 PUMPS.



TYPICAL CONTROL DEVICES (F)
TYPICAL FOR TWO PUMPS SCALE: NTS



EQUIPMENT	(A)	(B)	NOTES
RECYCLE PUMP No. 1	NEW FEEDER BREAKER	SUBMERSIBLE MOTOR	
RECYCLE WATER PUMP No. 2	NEW FEEDER BREAKER	SUBMERSIBLE MOTOR	



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REV	DATE	BY	APVD

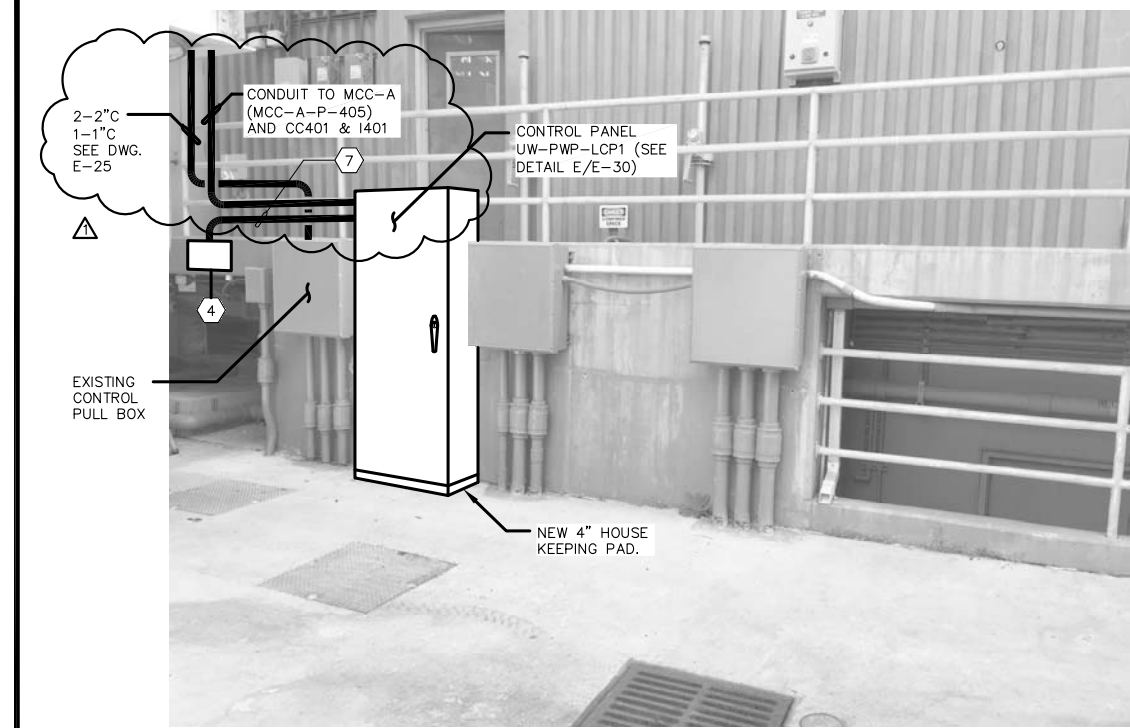
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DRAWN	LD	
CHECKED	DN	
		APPROVED: <u>STEVE CLARY</u> RMC ENGINEER CE-30318



EXISTING MCC-P1 MODIFICATIONS AND RECYCLE PUMPS

DWG NO	E-31
SHEET NO	197 OF 226
PROJ NO	055-006
DATE	MARCH 2017

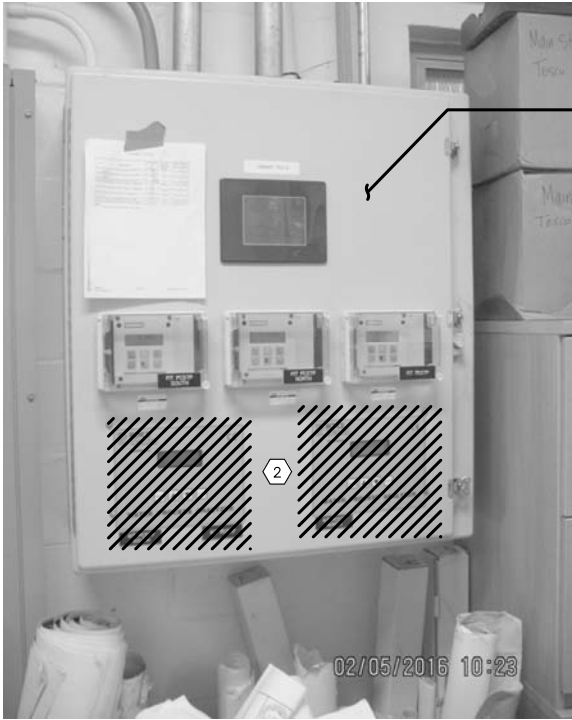


UTILITY WATER PUMPS
CONTROL PANEL LOCATIONNS **(A)**
SCALE: NTS

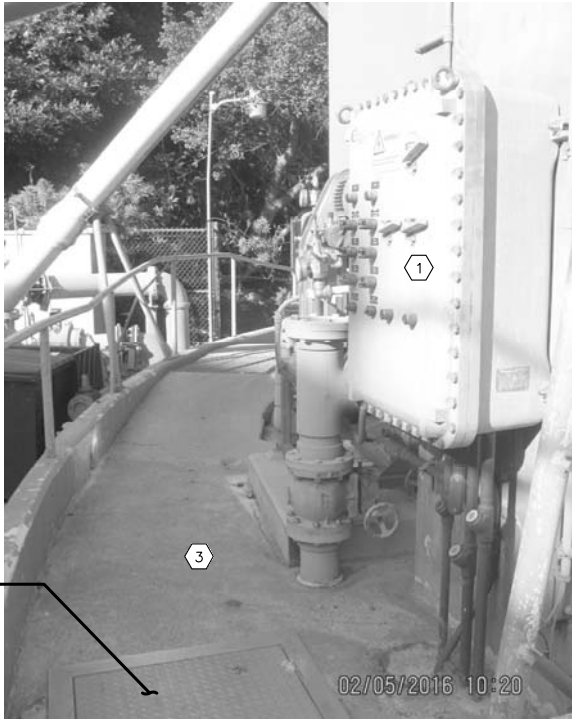


EXISTING MCC-A MODIFICATIONS **(B)**
SCALE: NTS

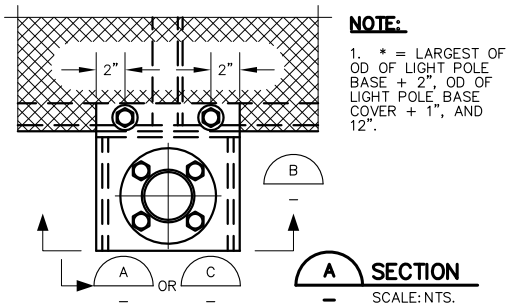
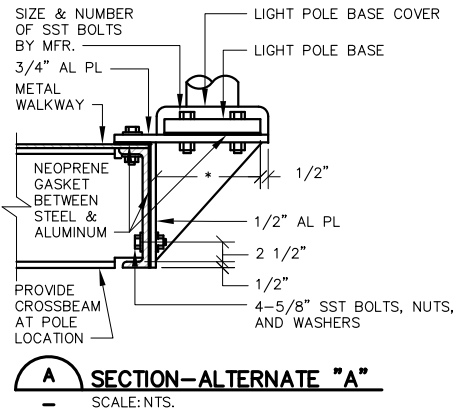
- SHEET NOTES:**
- 1 REMOVE ALL INTERNAL AND EXTERNAL DEVICES IN THIS PANEL. PLUG EACH HOLE WITH PROPER HEAVY DUTY PLUG. THIS BOX WILL BECOME A PULL BOX WITHOUT ANY INTERNAL ARCING DEVICES.
 - 2 REMOVE EXISTING ANALYZER CONTROLLERS AND ASSOCIATED WIRINGS. INSTALL NEW BLANK TO COVER THE EXISTING CUTOUTS TO MAKE ROOM FOR NEW DIN RAIL MOUNTED I/O FOR THE EXISTING PLC-6 LOCATED INSIDE THIS PANEL.
 - 3 THIS AREA IS CLASS I DIV1 HAZARDOUS LOCATION INSTALLATION AND MATERIALS AS WELL AS EQUIPMENT SHALL BE CLASSIFIED AS SUCH.
 - 4 FURNISH AND INSTALL A NEMA 4X STAINLESS STEEL PULL BOX 18"X18"X8" DEEP FOR CONDUITS/CABLE TO FEED UTILITY WATER PUMPS.
 - 5 THIS EXISTING MOTOR STARTER AND ACCESSORIES SHALL REMAIN AS SPARE REMOVE EXISTING NAMEPLATE "RECLAIM PUMP No.2"
 - 6 REMOVE EXISTING MOTOR STARTER & ACCESSORIES OF EXISTING RECLAIM PUMP No.1. FURNISH AND INSTALL A NEW 150A 3P CIRCUIT BREAKER TO FEED UTILITY WATER PUMPS LOCAL CONTROL PANEL. PROVIDE AND INSTALL NEW NAMEPLATE "UTILITY WATER PUMPS CONTROL PANEL UW-PWP-LCP01."
 - 7 9#6, 3#10 GND & 6#14-2.5"C



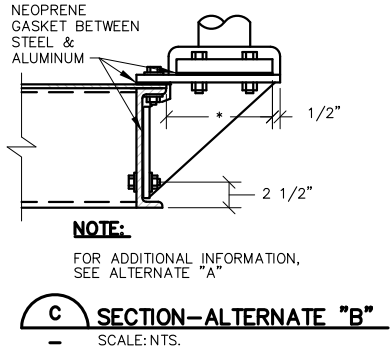
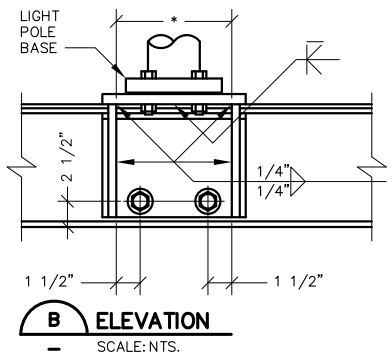
EXISTING PLC-6 MODIFICATIONS **(C)**
SCALE: NTS



EXISTING RECYCLE PUMP
CONTROLLER MODIFICATIONS **(D)**
SCALE: NTS



STAIR-MOUNTED LIGHT POLE DETAIL **(E)**
SCALE: NTS



FILENAME: 286F-E33_3-28-17_01-46pm Loc XREFS: X-SWCS0-TBLK <<--



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



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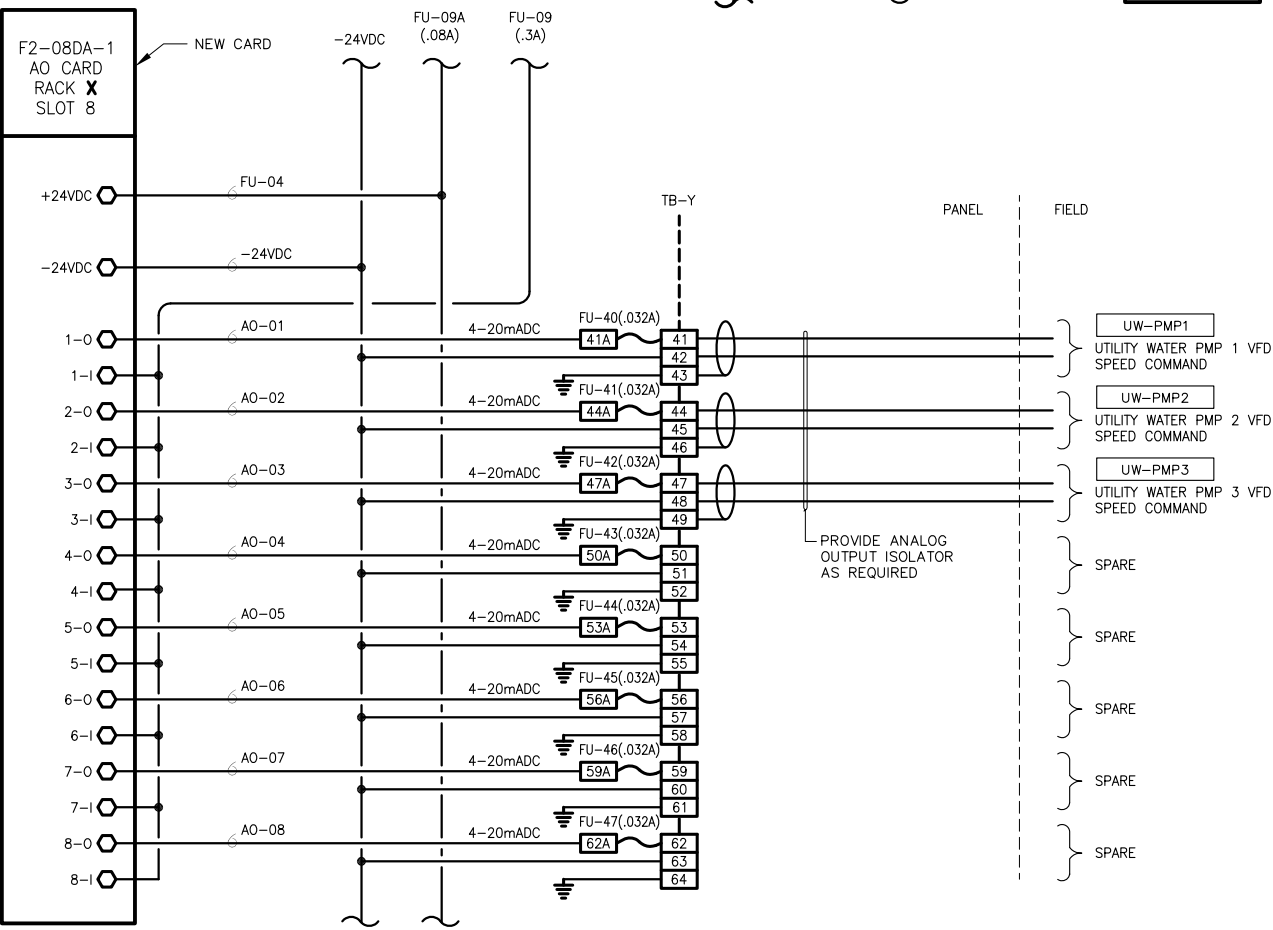
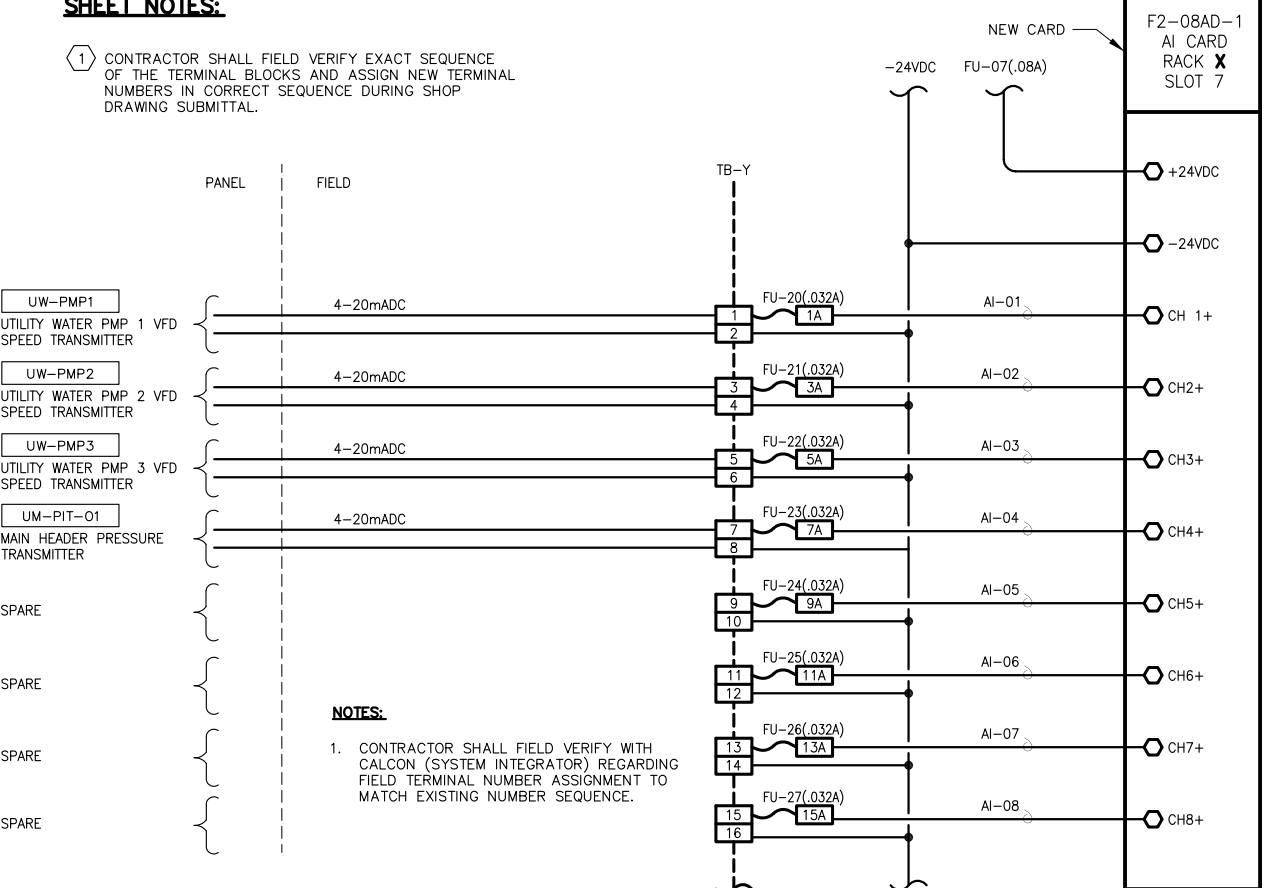
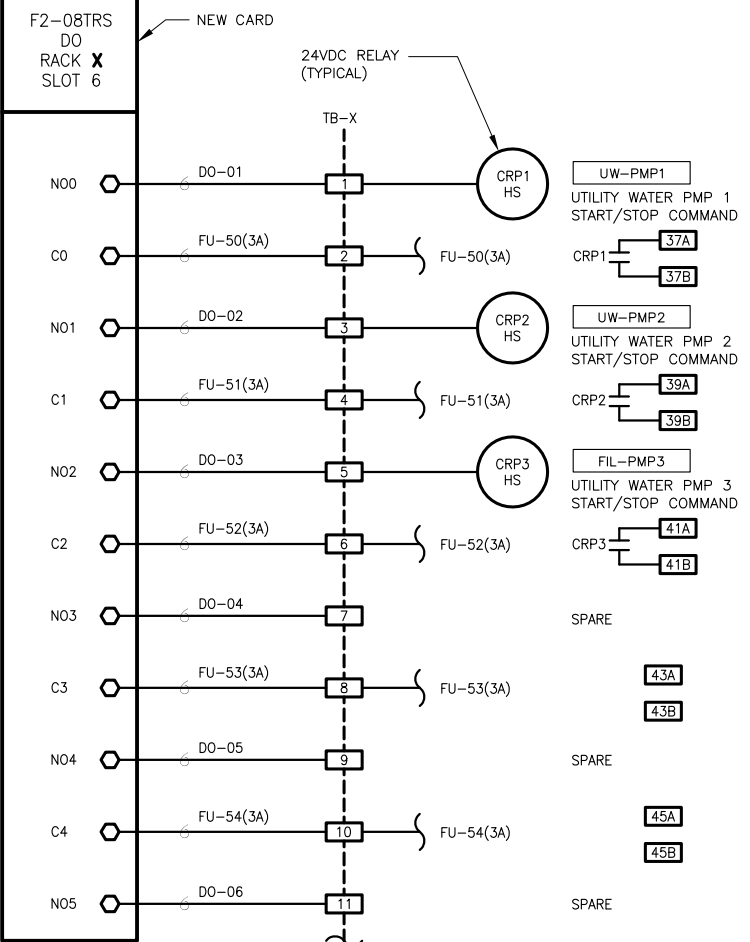
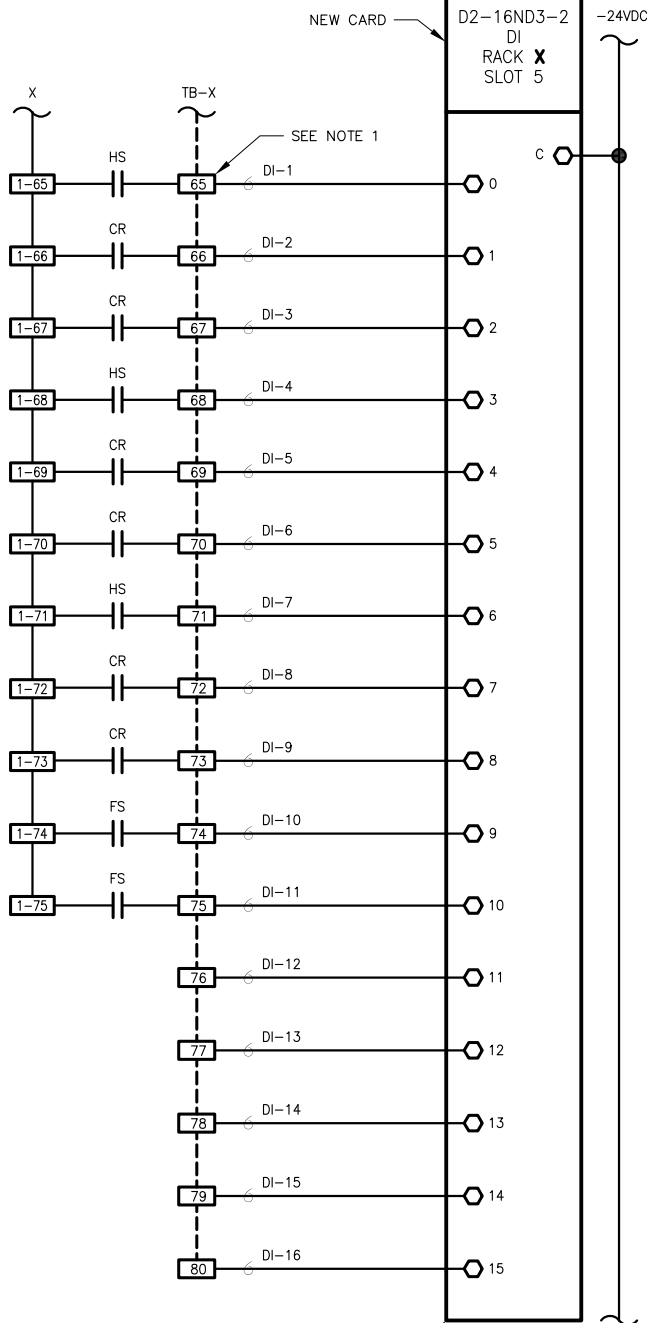
SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
**EXISTING MAIN PLANT
PLC MODIFICATIONS**

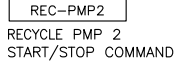
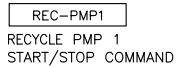
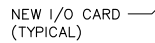
DWG NO **E-33**
SHEET NO **199** OF **226**
PROJ NO 055-006
DATE MARCH 2017

- UW-PMP1
UTILITY WATER PMP 1 VFD
IN AUTO
- UW-PMP1
UTILITY WATER PMP 1 VFD
RUN STATUS
- UW-PMP1
UTILITY WATER PMP 1 VFD
FAIL ALARM
- UW-PMP2
UTILITY WATER PMP 2 VFD
IN AUTO
- UW-PMP2
UTILITY WATER PMP 2 VFD
RUN STATUS
- UW-PMP2
UTILITY WATER PMP 2 VFD
FAIL ALARM
- UW-PMP3
UTILITY WATER PMP 3 VFD
IN AUTO
- UW-PMP3
UTILITY WATER PMP 3 VFD
RUN STATUS
- UW-PMP3
UTILITY WATER PMP 3 VFD
FAIL ALARM
- UW-LSH-01
UTILITY WATER FLOAT SWITCH
HI LEVEL ALARM
- UW-LSLL-01
UTILITY WATER FLOAT SWITCH
LOW LOW LEVEL ALARM
- SPARE
- SPARE
- SPARE
- SPARE
- SPARE



SHEET NOTES:
① CONTRACTOR SHALL FIELD VERIFY EXACT SEQUENCE
OF THE TERMINAL BLOCKS AND ASSIGN NEW TERMINAL
NUMBERS IN CORRECT SEQUENCE DURING SHOP
DRAWING SUBMITTAL.

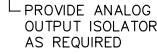
NOTES:
1. CONTRACTOR SHALL FIELD VERIFY WITH
CALCON (SYSTEM INTEGRATOR) REGARDING
FIELD TERMINAL NUMBER ASSIGNMENT TO
MATCH EXISTING NUMBER SEQUENCE.



1 CONTRACTOR SHALL FIELD VERIFY EXACT SEQUENCE OF THE TERMINAL BLOCKS AND ASSIGN NEW TERMINAL NUMBERS IN CORRECT SEQUENCE DURING SHOP DRAWING SUBMITTAL.



1. CONTRACTOR SHALL FIELD VERIFY WITH CALCON (SYSTEM INTEGRATOR) REGARDING FIELD TERMINAL NUMBER ASSIGNMENT TO MATCH EXISTING NUMBER SEQUENCE.



SCALE: NTS



0"  1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
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SCALES ACCORDINGLY



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CHECKED	DN

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



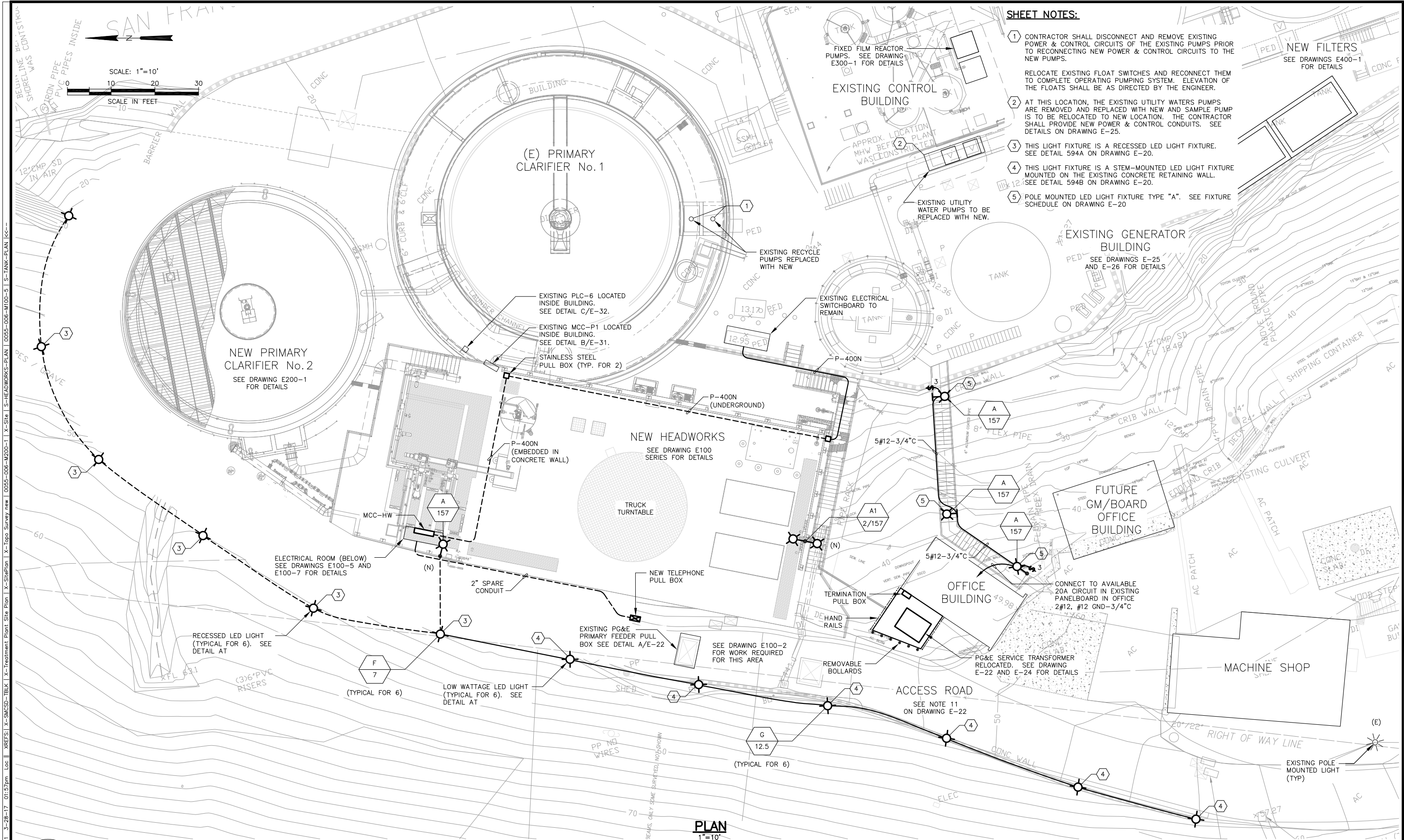
EXISTING PLC-6 MODIFICATIONS

DWG NO E-34

SHEET NO 200 OF 226

PROJ NO	055-006
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DATE	MARCH 2017
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SHEET NOTES:

- 1 CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING POWER & CONTROL CIRCUITS OF THE EXISTING PUMPS PRIOR TO RECONNECTING NEW POWER & CONTROL CIRCUITS TO THE NEW PUMPS.
- 2 AT THIS LOCATION, THE EXISTING UTILITY WATERS PUMPS ARE REMOVED AND REPLACED WITH NEW AND SAMPLE PUMP IS TO BE RELOCATED TO NEW LOCATION. THE CONTRACTOR SHALL PROVIDE NEW POWER & CONTROL CONDUITS. SEE DETAILS ON DRAWING E-25.
- 3 THIS LIGHT FIXTURE IS A RECESSED LED LIGHT FIXTURE. SEE DETAIL 594A ON DRAWING E-20.
- 4 THIS LIGHT FIXTURE IS A STEM-MOUNTED LED LIGHT FIXTURE MOUNTED ON THE EXISTING CONCRETE RETAINING WALL. SEE DETAIL 594B ON DRAWING E-20.
- 5 POLE MOUNTED LED LIGHT FIXTURE TYPE "A". SEE FIXTURE SCHEDULE ON DRAWING E-20

0"=1"

1"

VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY

REV

DATE

BY

APVD

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CHECKED DN

APPROVED: **STEVE CLARY**
RMC ENGINEER CE-30318

SUBMITTED: **MARK TAKEMOTO**
RMC PROJECT ENGINEER CE-64369

SAN MATEO COUNTY

SANITARY DISTRICT

TREATMENT AND WET WEATHER FLOW UPGRADE

OVERALL SITE PLAN

DWG NO **E100-1**

SHEET NO **201** OF **226**

PROJ NO **055-006**

DATE **MARCH 2017**

Last Saved By: LocDo 11-18-16 08:58am

SAN FRANCISCO BAY

SHEET NOTES:

1 PER CURRENT NFPA 820 AND NEC, AREA AROUND THE EXISTING DIGESTER WITHIN 5' FROM THE WALL OF THE DIGESTER SHALL BE CLASSIFIED AS CLASS I DIVISION 1 HAZARDOUS LOCATION. FOR AREA 5' FROM CLASS I DIVISION 1, AREA SHALL BE CLASS I DIVISION 2 HAZARDOUS LOCATION. ALL ELECTRICAL DEVICES AND EQUIPMENT LOCATED IN THIS AREA SHALL BE SUITABLE FOR USE IN SUCH LOCATION. CONDUITS ENTERING OR LEAVING THIS AREA SHALL BE PROVIDED WITH "EYS" SEALS.

2 PER CURRENT NFPA 820 AND NEC, THIS PULL BOX IS LOCATED IN CLASS I DIVISION 1 HAZARDOUS LOCATION, AND THUS SHALL BE CLASSIFIED AND SUITABLE FOR CLASS I DIV 1. THE BOX SHALL BE CAST IRON, EXPLOSION PROOF, INSIDE DIMENSIONS 12"x12"x6" MINIMUM TO ACCOMMODATE ONE 2" CONDUIT INCOMING AND ONE 2" CONDUIT OUTGOING. INSTALL PULL BOX AS HIGH AS POSSIBLE.

3 THIS PULL BOX SHALL BE STAINLESS STEEL NEMA 4X PULL BOX 12" X 12" X 8".

4 THESE CONDUITS SHALL BE INSTALLED ON THE EXISTING PIPING SUPPORT AS PER DETAIL D ON DRAWING E-22. THEY SHALL BE PVC COATED RIGID GALVANIZED STEEL.

5 ADDITIONAL CONDUIT SUPPORTS SHALL BE PROVIDED FOR THESE CONDUITS AT THIS AREA. CONDUIT SUPPORTS SHALL BE RIGID GALVANIZED STEEL (RGS) UNISTRUT CHANNELS PROPERLY FASTENED TO EXISTING STRUCTURE OR CONCRETE GROUND FLOOR WITH STAINLESS STEEL ANCHOR BOLTS.

6 ROUTE NEW 2" C FOR THE PHONE SERVICE ALONG EXISTING FENCE AND EXISTING UNISTRUT CHANNELS. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED.

7 SEE DRAWING E-25 FOR DETAILS OF REQUIRED WORK IN THIS AREA.

8 THESE UNDERGROUND PORTIONS OF THE CONDUITS SHALL BE PVC SCHEDULE 80.

9 CORE DRILL EXISTING CONCRETE SLAB AS REQUIRED FOR INSTALLATION OF NEW CONDUIT. SEAL AND CAULK AROUND CONDUIT WITH SEALING COMPOUND.

10 THIS PORTION OF EXISTING FEEDERS TO EXISTING ATS SHALL REMAIN.

11 EXCAVATION IS REQUIRED AT THIS AREA FOR REROUTING OF POWER CONDUIT (1-4") AND PHONE CONDUIT (2"). THERE ARE EXISTING UNDERGROUND UTILITIES WHICH SHALL BE FIELD VERIFIED PRIOR TO EXCAVATION TO AVOID DAMAGES TO THEM. SEE DRAWING E-22 FOR DETAILED REQUIREMENTS.

12 THESE EXISTING PORTIONS OF POWER AND PHONE CONDUITS SHALL BE KEPT FUNCTIONAL UNTIL ALTERNATE CONDUIT ROUTES HAVE BEEN INSTALLED AND READY FOR SWITCHOVER.

13 AFTER SUCCESSFUL COMPLETION OF THE PROJECT, THIS UNDERGROUND PORTION OF THE FEEDER SHALL BE ABANDONED IN PLACE.

14 AFTER SUCCESSFUL COMPLETION OF THE PROJECT, THIS EXPOSED PORTION OF THE PHONE CONDUIT SHALL BE REMOVED.

15 FURNISH AND INSTALL NEW 3" PVC DRAIN LINE FROM EXISTING PULL BOX TO EXISTING CATCH BASIN AS SHOWN IF IT HAS BEEN VERIFIED THAT THE EXISTING PULL BOX DOES NOT HAVE A DRAIN LINE. THE NEW DRAIN LINE SHALL PENETRATE AT THE INVERT OF THE PG&E PULL BOX AND SLOPE AT A MINIMUM 1% DOWN TO THE CATCH BASIN. PENETRATIONS SHALL BE CORE DRILLED AND SEALED WITH NON-SHRINKABLE GROUT AROUND THE PVC PIPE. IF THE DRAIN LINE EXISTS, UNLOG IT AND PROVIDE CREDIT FOR NOT INSTALLING NEW DRAIN LINE.

16 THIS TEMPORARY POWER CABLE ROUTE SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ACTUAL INSTALLATION DURING SWITCH OVER OPERATION.

17 INSTALL PHONE CONDUITS (2-2") ON TOP, POWER CONDUIT (2-3") BELOW. THESE FOUR CONDUITS SHALL BE SUPPORTED BY EXISTING SUPPORT POSTS AND NEW ADDITIONAL SUPPORTS AS REQUIRED.

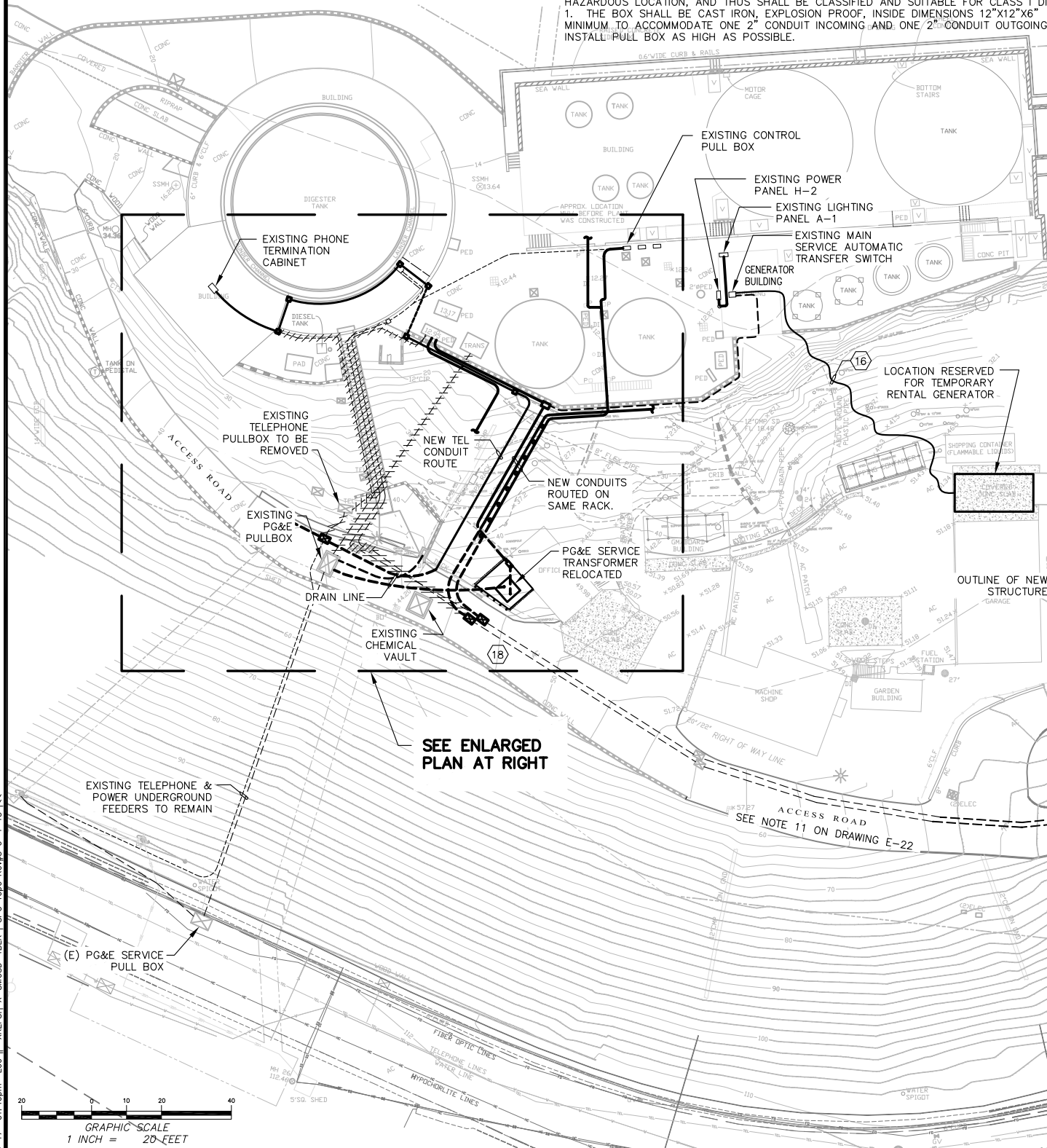
18 THE ENTIRE LENGTH OF THE TREATMENT PLANT'S ACCESS ROAD SHALL REMAIN ACCESSIBLE OUTSIDE OF CONSTRUCTION HOURS. DURING CONSTRUCTION, TRENCH PLATES SHALL BE AVAILABLE TO MINIMIZE TIME ACCESS IS RESTRICTED TO DISTRICT OPERATORS. ALL WORK PLANS RESULTING IN RESTRICTED ACCESS, OR ACCESS DELAYS, SHALL BE SUBMITTED TO THE DISTRICT IN ADVANCE AND SHALL INCLUDE A SCHEDULE AND TIMELINE FOR APPROVAL. THIS ACCESS ROAD SUPPORTS SOLIDS PROCESSING AND EMERGENCY PLANT ACCESS.

19 EXISTING PULL BOXES SHALL BE ABANDONED IN PLACE, AND SHALL BE FILLED WITH CONCRETE. RESURFACE ROAD AS REQUIRED.

20 CONTRACTOR SHALL REMOVE THIS EXISTING DIESEL FUEL TANK AND ASSOCIATED FUEL PIPING AFTER COMPLETE INSTALLATION OF NEW FUEL TANK LOCATED ON THE BASIN DECK NEAR TRUCK TURN TABLE.

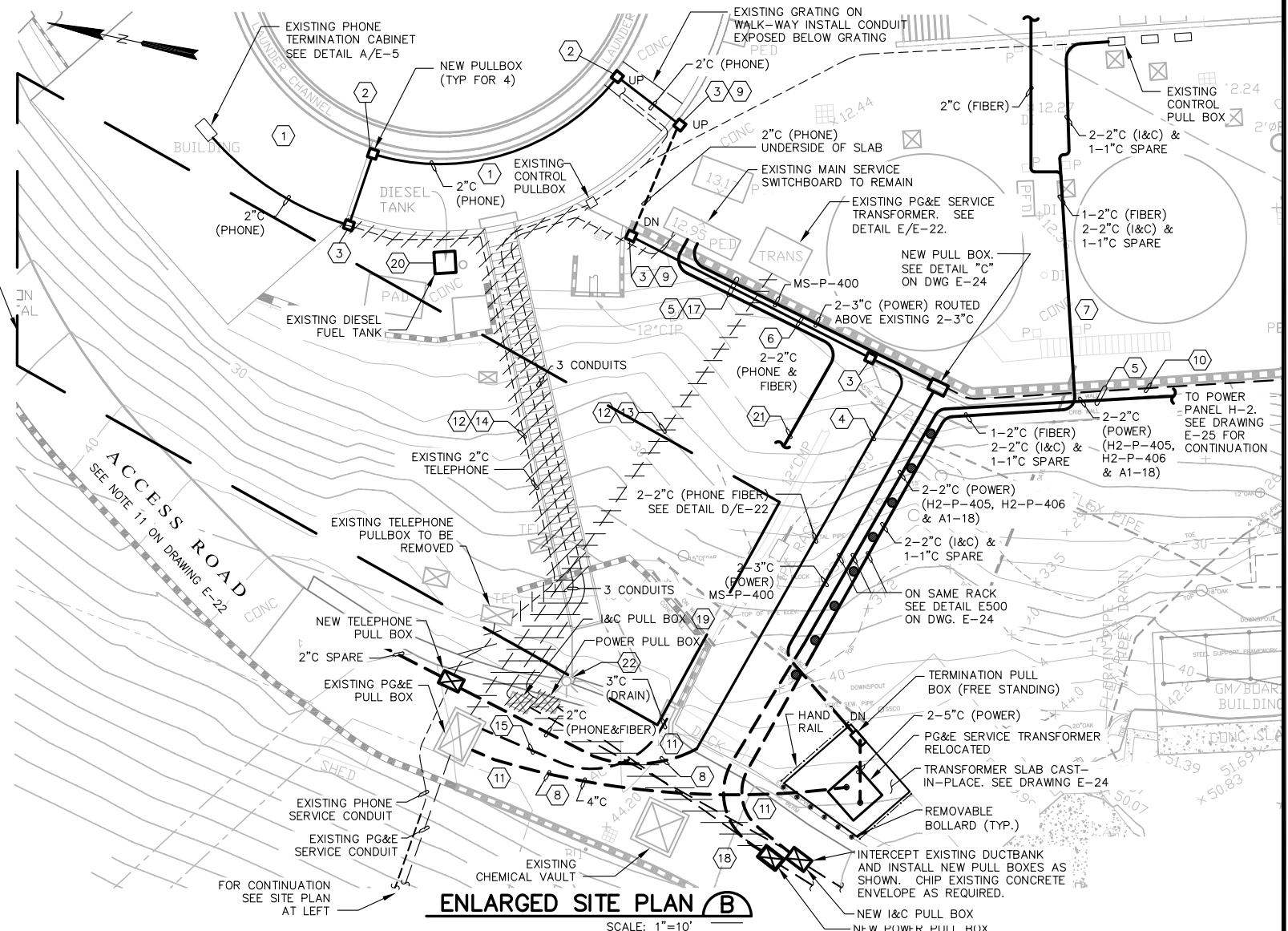
21 SEE DRAWING E100-1 FOR DETAIL OF THIS FEEDER P-400N.

22 DISCONNECT AND REMOVE THIS EXISTING POLE MOUNTED LIGHT FIXTURE.



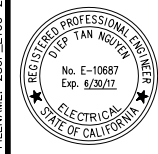
SEE ENLARGED PLAN AT RIGHT

SITE PLAN A
SCALE: 1"=20'



ENLARGED SITE PLAN B
SCALE: 1"=10'

FILENAME: 286F-E100-2 3-28-17 01:46pm Loc: XREFS1 X-SWCSO-IBLK1 SPC Topo Rev#3 6-4-13 Kcc--



0" 1" VERIFY SCALES - BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



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DRAWN	LD
CHECKED	DN

SUBMITTED:	MARK TAKEMOTO	RMC PROJECT ENGINEER	CE-64369
APPROVED:	STEVE CLARY	RMC ENGINEER	CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
HEADWORKS ELECTRICAL
PARTIAL ENLARGED SITE PLAN

DWG NO	E100-2
SHEET NO	202 OF 226
PROJ NO	055-006
DATE	MARCH 2017

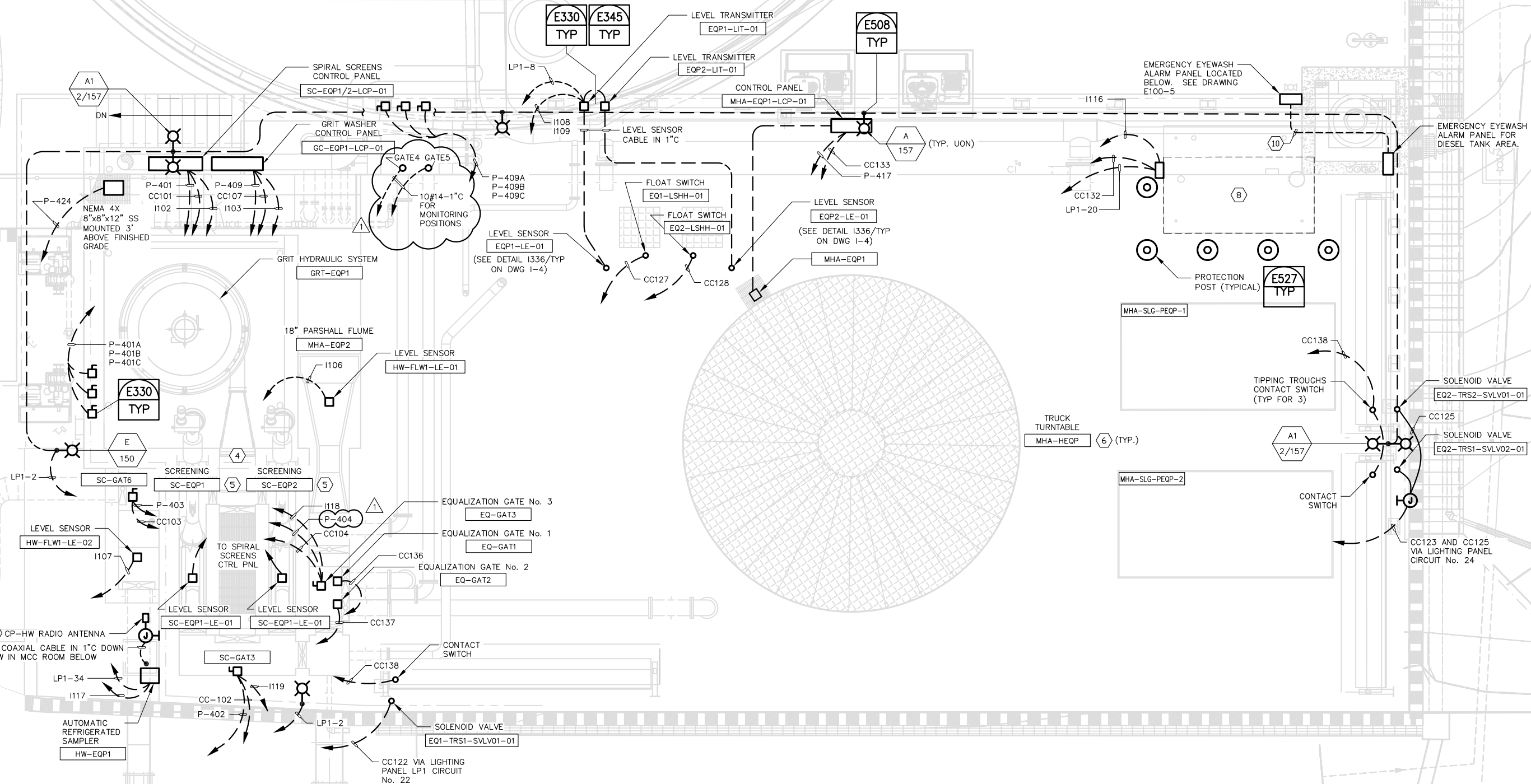
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PRIMARY CLARIFIER #2

PRIMARY CLARIFIER #1

SHEET NOTES:

- 1 ALL CONDUITS INSTALLED ON THIS PLAN SHALL BE EMBEDDED IN THE CONCRETE FLOOR SLAB.
- 2 LOCATIONS OF DISCONNECT SWITCHES SHALL BE ADJUSTED ACCORDINGLY IN THE FIELD AS PER ACTUAL FIELD CONDITIONS AND SHALL HAVE ACCESS AS REQUIRED BY NEC.
- 3 LOCATIONS OF LEVEL TRANSMITTERS, EMERGENCY SHUTDOWN STATIONS ETC. SHALL BE PROPERLY LOCATED WITH FRONT ACCESS.
- 4 THIS AREA IS CLASSIFIED AS CLASS 1 DIV2 HAZARDOUS LOCATION. ANY ELECTRICAL EQUIPMENT INSTALLED IN THIS AREA AND WITHIN 10' ENVELOPE SHALL BE SUITABLE FOR INSTALLATION IN SUCH CLASSIFIED LOCATION.
- 5 REFER TO CONTROL PANEL BLOCK DIAGRAM SHOWN ON DRAWING E-9 FOR DEVICES AND INSTRUMENTS FURNISHED BY THE PACKAGED EQUIPMENT SUPPLIER. SOME OF THESE DEVICES AND INSTRUMENTS ARE MOUNTED ON THE MECHANISM, SOME ARE SHIPPED LOOSE. ALL SHALL BE INSTALLED AND WIRED PER APPROVED SHOP DRAWINGS.
- 6 REFER TO CONTROL PANEL BLOCK DIAGRAM SHOWN ON DRAWING E-7 FOR DEVICES AND INSTRUMENTS FURNISHED BY THE PACKAGED EQUIPMENT SUPPLIER. THESE DEVICES AND INSTRUMENTS ARE MOUNTED ON THE MECHANISM AND SHALL BE WIRED PER APPROVED SHOP DRAWINGS.
- 7 ALL CONDUITS WITH CIRCUITS FED BY MCC-HW SHALL HAVE TAGS WITH PREFIX "MCC-HW".
- 8 SEE MECHANICAL DRAWING FOR DIESEL FUEL PIPING FROM THIS TANK TO EXISTING GENERATOR BUILDING.
- 9 SEE DETAIL A/E-28 FOR ANTENNA MOUNTING DETAIL.
- 10 THERE ARE TWO 1" C REQUIRED. THE POWER CONDUIT SHALL HAVE 2#12, #12 GND FOR POWER CIRCUIT LP1-31. THE CONTROL CONDUIT SHALL HAVE 2#14.



PLAN 2/3
1/4"=1'-0"



0"=1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY

REV	DATE	BY	APVD
03/2017	DN		DTN
			APVD

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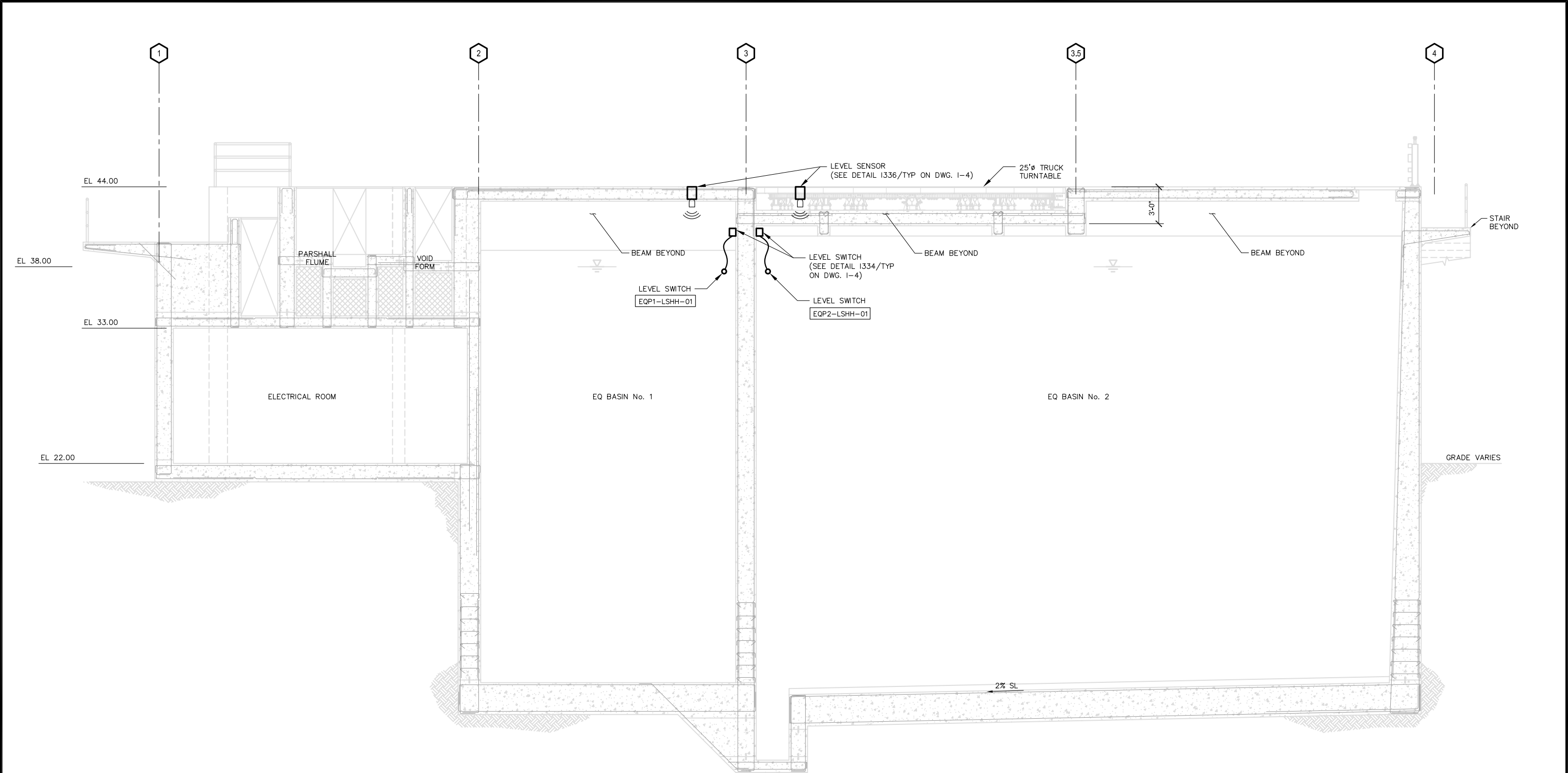
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DRAWN	LD
CHECKED	DN
SUBMITTED: MARK TAKEMOTO RMC PROJECT ENGINEER CE-64369	
APPROVED: STEVE CLARY RMC ENGINEER CE-30318	



TREATMENT AND WET WEATHER FLOW UPGRADE
HEADWORKS/GRITS & EQ BASIN TOP PLAN
POWER AND SIGNAL

DWG NO	E100-3
SHEET NO	203 OF 226
PROJ NO	055-006
DATE	MARCH 2017

FILENAME: 286F-E100-4_3-28-17_01:47pm Loc: XREFS\X-SMCSO-TELK\ S-HEADWORKS-SECT\c--



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



0" 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING
NOTICE:
THIS CONFORMED DRAWING HAS BEEN
PREPARED BASED ON ORIGINAL SIGNED
DOCUMENTS DATED **NOVEMBER 2016** AND
SUBSEQUENT ADDENDA

DESIGNED	TP
DRAWN	LD
CHECKED	DN

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
HEADWORKS/GRIT & EQ BASIN
CROSS SECTION DETAIL

DWG NO	E100-4
SHEET NO	204 OF 226
PROJ NO	055-006
DATE	MARCH 2017

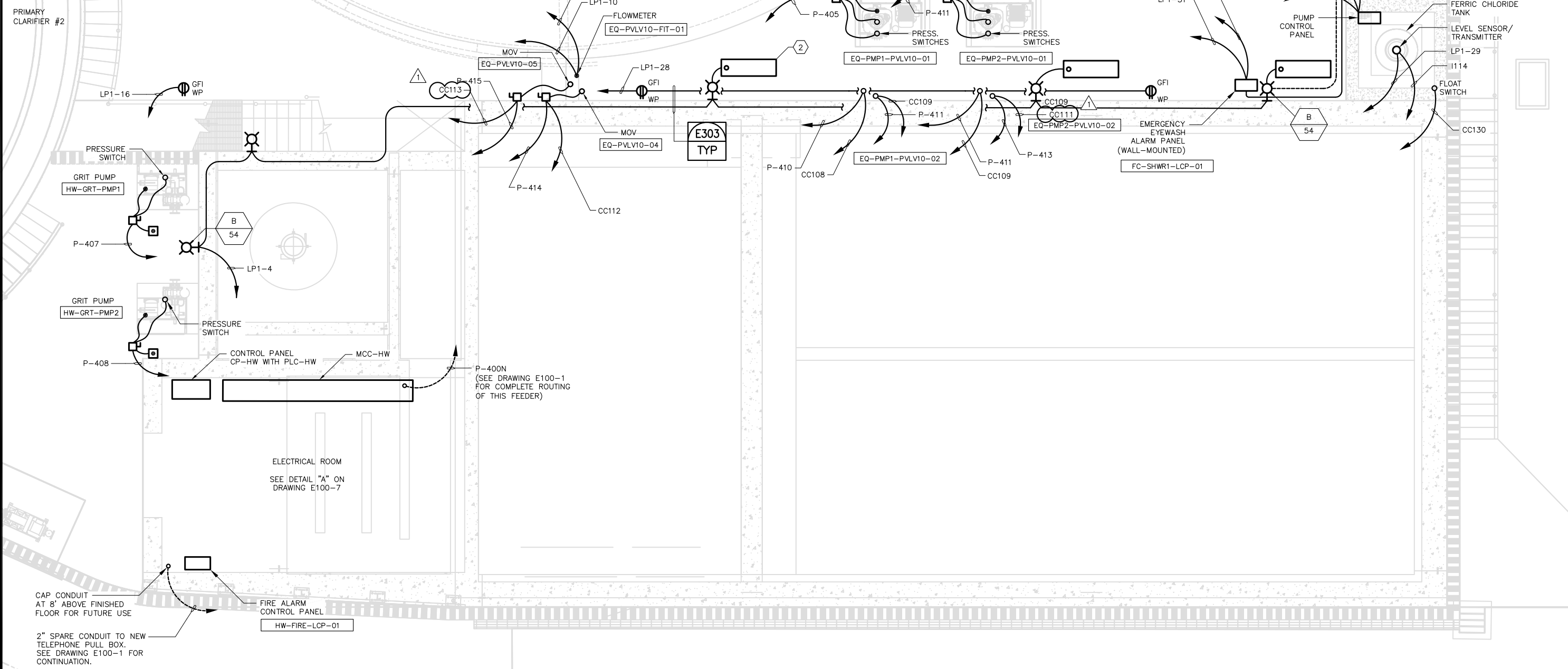
FILENAME:	286F_E100-5 Addendum 1	3-28-17	01:47pm	Loc	XREFS:	X-SMCDSD-TBLK	X-Treatment	Plant site plan	X-Topo	Survey new	0055-006-M100-4	0055-006-M100-2	S-HEADWORKS-PLAN	X-Site	<<-
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SHEET NOTES:

- 1 AREA FROM WALL OF DIGESTER TO 5' SHALL BE CLASS 1 DIVISION 1 HAZARDOUS LOCATION. AREA 5' BEYOND CLASS 1 DIVISION 1. AREA SHALL BE CLASS 1 DIVISION 2 HAZARDOUS LOCATION. EQUIPMENT SHALL BE LOCATED BEYOND 10' ENVELOPE IF POSSIBLE OTHERWISE THEY SHALL BE RATED FOR SUCH HAZARDOUS LOCATION.

2 FIXTURE TYPE C INSTALLED BELOW WALKWAY. TYPICAL FOR 3.

3 REFER TO MECHANICAL DRAWINGS M-100 SERIES FOR EXACT LOCATIONS OF EQUIPMENT AND DEVICES REQUIRING POWER AND OR CONTROLS.



PLAN 
1/4"=1'-0"



0"  1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



△			
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△			
△			
△	03/2017	DN	DTN
REV	DATE	BY	APVD

CONFORMED DRAWING
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DESIGNED	TP
DRAWN	LD
CHECKED	DN

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APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

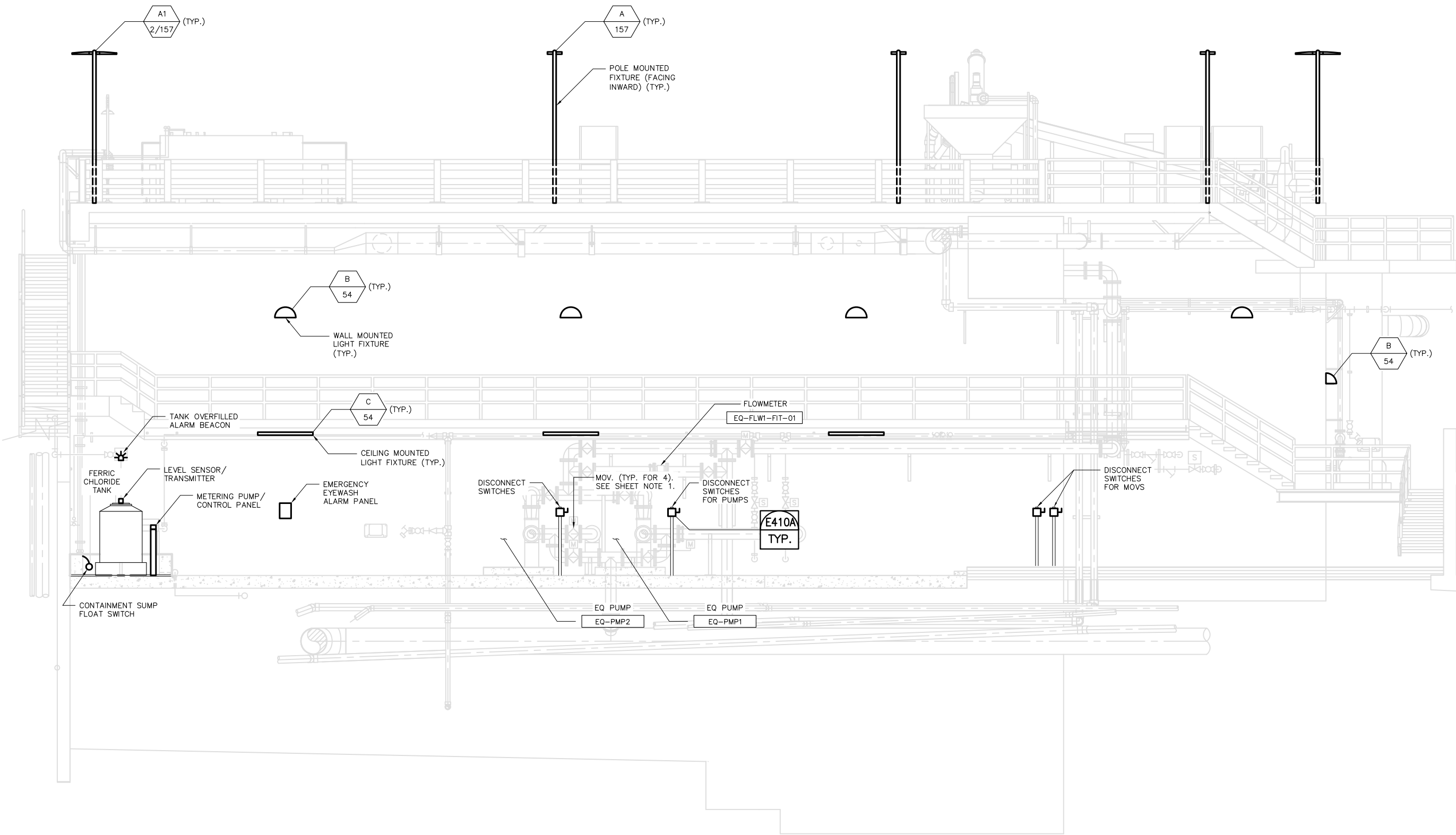


TREATMENT AND WET WEATHER FLOW UPGRADE

HEADWORKS/GRIT & EQ BASIN
BOTTOM PLAN-POWER AND SIGNAL

DWG NO	E100-5
SHEET NO	205 OF 226
PROJ NO	055-006
DATE	MARCH 2017

SHEET NOTES:
1 SEE FLOOR PLAN DRAWING E100-5 FOR COMPLETE EQUIPMENT AND CONTROL DEVICES LOCATED IN THIS AREA.



SECTION **G** 1
SCALE: 1/4" = 1'-0"

FILENAME: 286F-E100-6 3-28-17 01:47pm Loc || XREFS: | X-SMCSO-IBLK | X-Headworks Sections | X-SitePlan |<<--



0" 1"
VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



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REV	DATE	BY	APVD

CONFORMED DRAWING
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PREPARED BASED ON ORIGINAL SIGNED
DOCUMENTS DATED **NOVEMBER 2016** AND
SUBSEQUENT ADDENDA

DESIGNED	TP
DRAWN	LD
CHECKED	DN

SUBMITTED: **MARK TAKEMOTO**
RMC PROJECT ENGINEER CE-64369

APPROVED: **STEVE CLARY**
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

**EQUALIZATION CROSS SECTION
LIGHTING ELEVATION DETAIL**

DWG NO	E100-6
SHEET NO	206 OF 226
PROJ NO	055-006
DATE	MARCH 2017

FILENAME: 286F-E100-7 Addendum 1 3-28-17 01:47pm Loc XREFS: X-SMCSO-TBLK K<<--



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD
1	03/2017	DN	DTN

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DRAWN	LD
CHECKED	DN

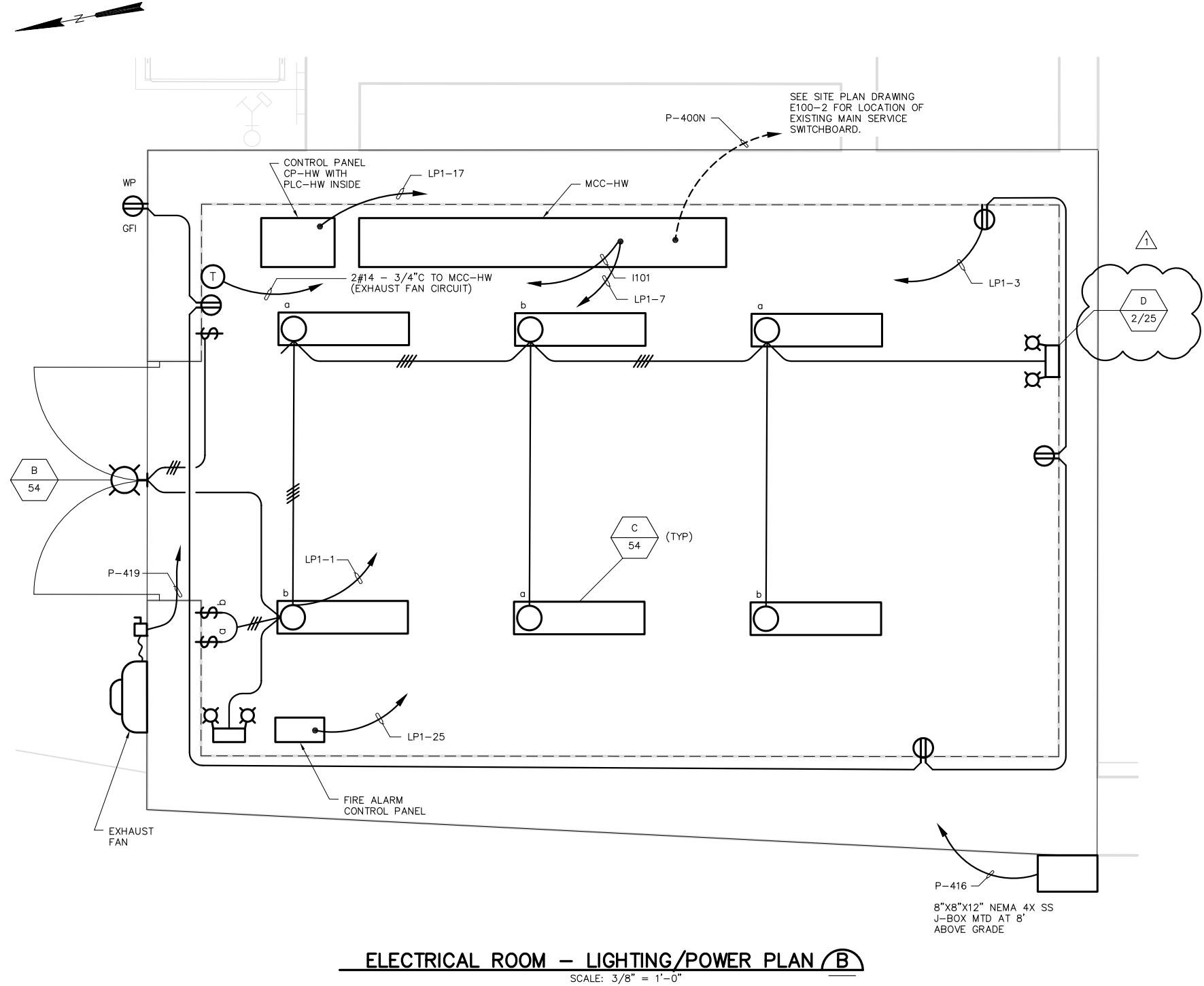
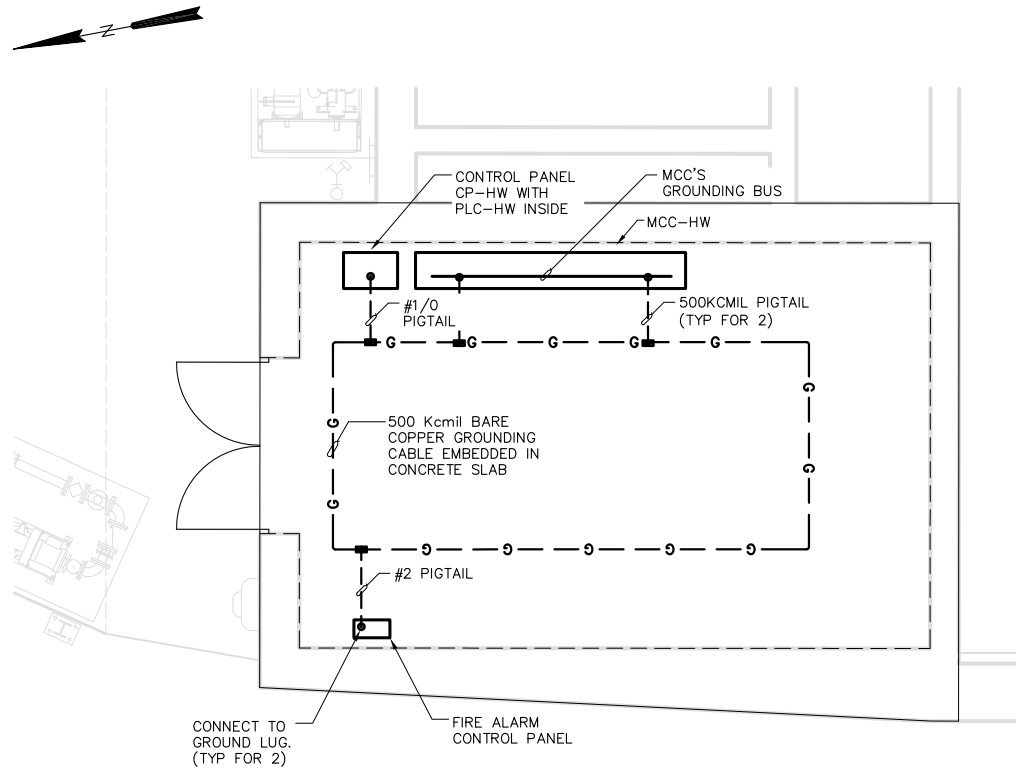
RMC PROJECT ENGINEER CE-64369
RMC ENGINEER CE-30318

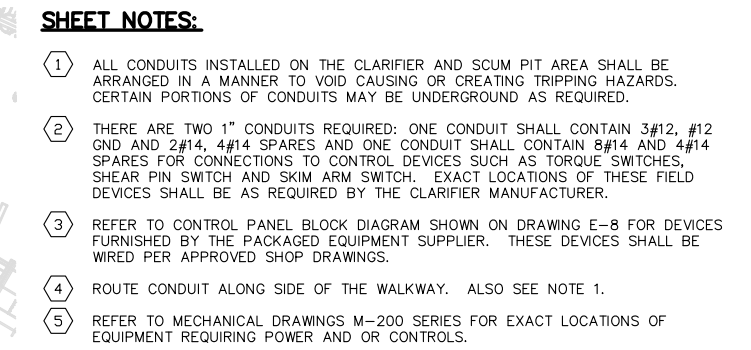


TREATMENT AND WET WEATHER FLOW UPGRADE
ELECTRICAL ENLARGED PLAN
MCC ROOM - POWER, LIGHTING
AND SIGNAL

DWG NO E100-7
SHEET NO 207 OF 226
PROJ NO 055-006
DATE MARCH 2017

ELECTRICAL ROOM – GROUNDING PLAN (A)
SCALE: 3/16" = 1'-0"



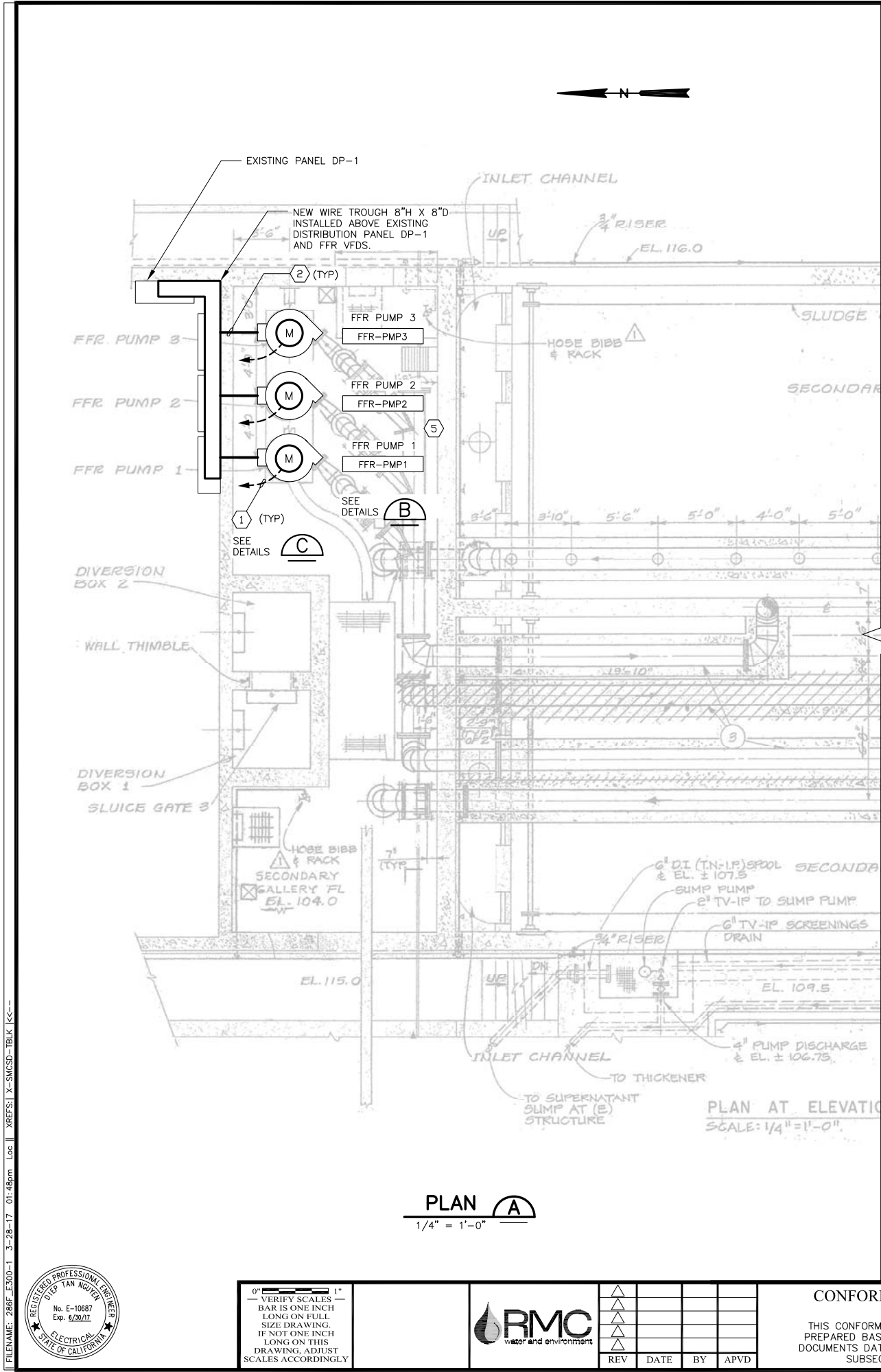


**SEE DRAWING E100-5
FOR REQUIRED WORK
AT THIS AREA**

PLAN 

E: $1/4'' = 1'-0''$

	0" = 1"					CONFORMED DRAWING NOTICE: THIS CONFORMED DRAWING HAS BEEN PREPARED BASED ON ORIGINAL SIGNED DOCUMENTS DATED NOVEMBER 2016 AND SUBSEQUENT ADDENDA	DESIGNED TP	SUBMITTED: MARK TAKEMOTO RMC PROJECT ENGINEER CE-64369 APPROVED: STEVE CLARY RMC ENGINEER CE-30318		TREATMENT AND WET WEATHER FLOW UPGRADE PRIMARY SLUDGE/SCUM PUMPS PARTIAL PLAN AND SECTION	DWG NO E200-1
	VERIFY SCALES						DRAWN LD				SHEET NO 208 OF 226
	BAR IS ONE INCH LONG ON FULL SIZE DRAWING.						CHECKED DN				PROJ NO 055-006
	IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY										DATE MARCH 2017



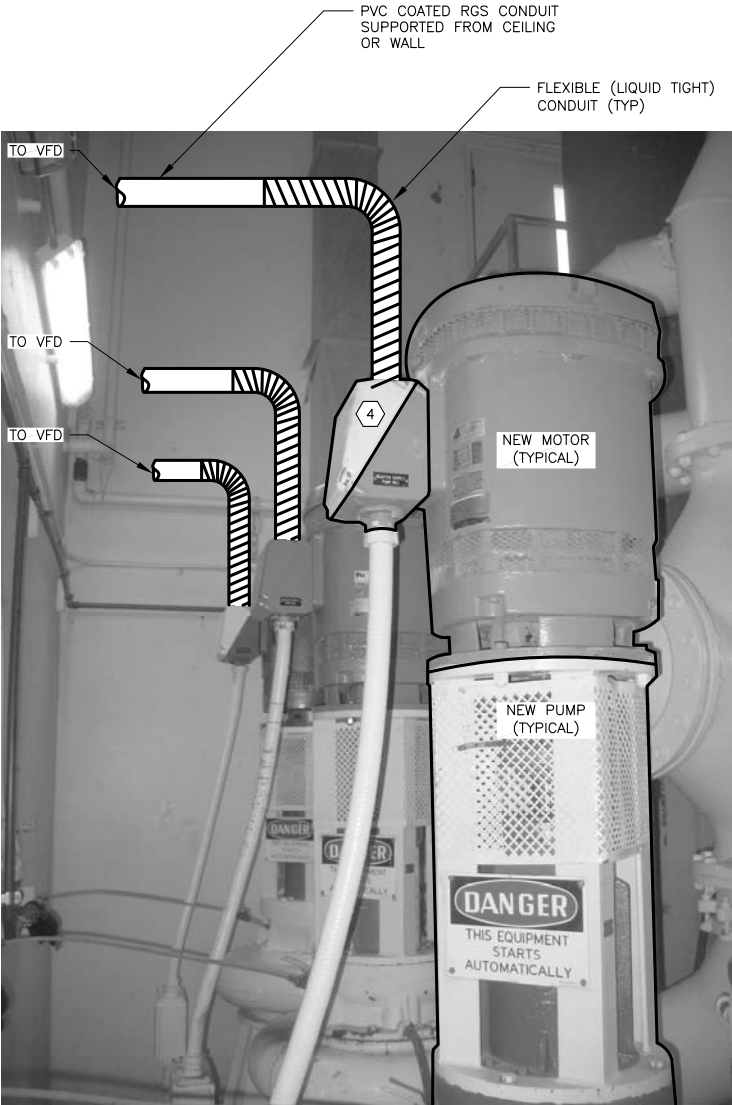
NEW WIRE TROUGH 8"H X 8"D
INSTALLED ABOVE EXISTING
DISTRIBUTION PANEL
DP-1 AND FFR VFDS.



(E) DP-1 AND FFR VFDS B
SCALE: NTS

SHEET NOTES:

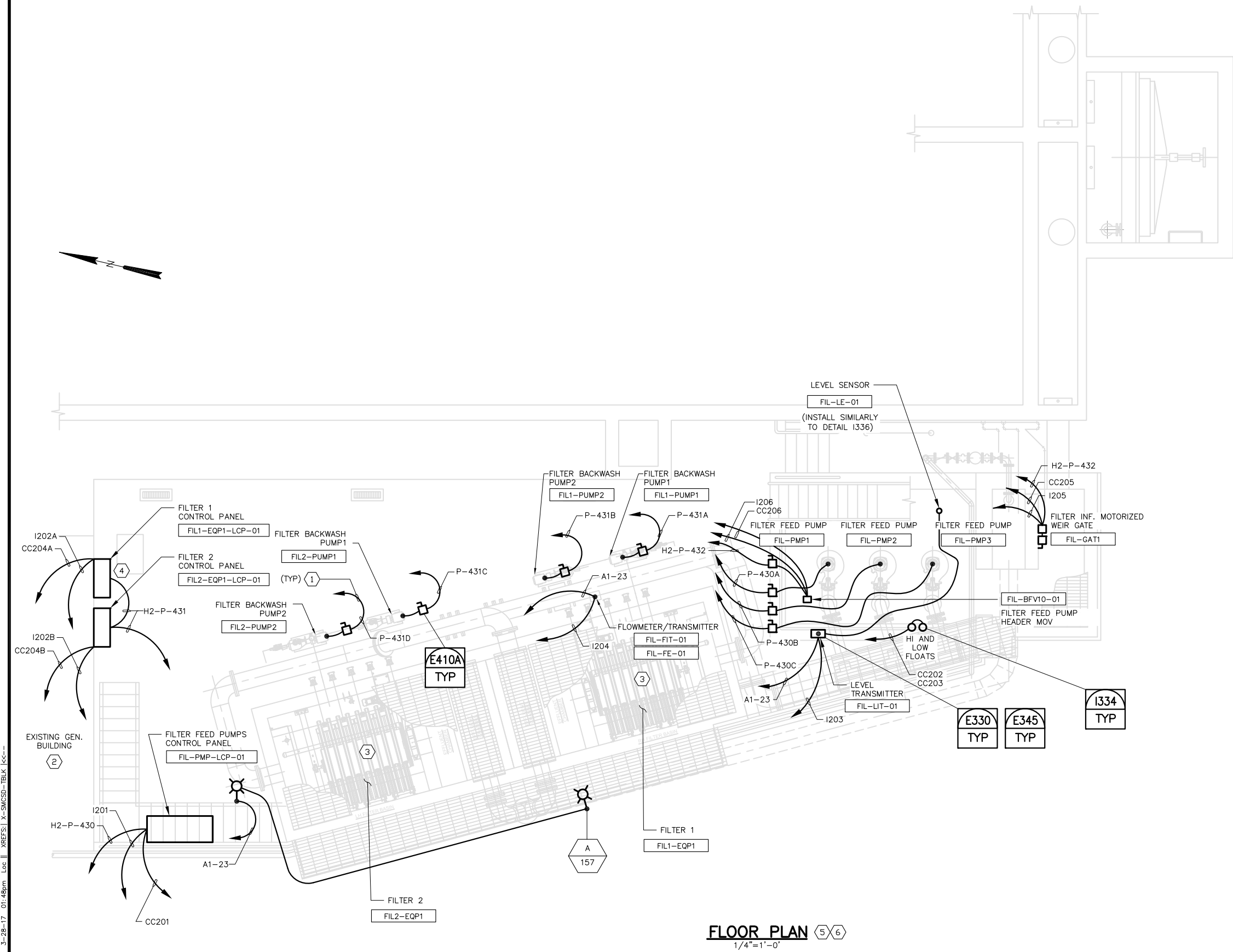
- 1 CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING POWER CONDUCTORS.
- 2 CORE DRILL WALL TO INSTALL NEW CONDUIT REQUIRED TO FEED NEW MOTOR AS SHOWN. CONDUIT SHALL BE SUPPORTED FROM UNISTRUT CHANNEL AND SHALL BE TRANSITIONED TO FLEXIBLE CONDUIT PRIOR TO TERMINATED ON THE MOTOR'S BULKHEAD AS SHOWN. PROVIDED AND INSTALL "EYS" FITTING FOR CONDUIT ENTERING THIS PUMP ROOM.
- 3 SEE DRAWING E-4 FOR REQUIRED WORK IN THIS POWER PANEL.
- 4 THE MOTOR TERMINATION J-BOX SHALL BE ONE SIZE LARGER TO ACCOMMODATE EXISTING AND NEW CONDUITS AS SHOWN. (TYPICAL FOR 3 MOTORS.)
- 5 FURNISH AND INSTALL NEW PRESSURE GAUGE FOR EACH OF THE PUMPS. SEE DETAIL 1101/TYP FOR REQUIREMENTS.
- 6 SEE DETAIL C/E-4 FOR REQUIRED MODIFICATIONS.



NEW FFR PUMPS/MOTORS C 5
SCALE: NTS

SHEET NOTES:

- 1
- ALL CONDUITS IN THIS AREA SHALL BE ROUTED EXPOSED ALONG EXISTING WALL BEHIND THE FILTERS TO THE CONTROL PANELS. PROVIDE NEW UNISTRUT CHANNELS AS REQUIRED TO SUPPORT THE CONDUITS.
- 2
- SEE DRAWING E-25 FOR EQUIPMENT AND DEVICES LOCATED IN THIS EXISTING GENERATOR BUILDING.
- 3
- REFER TO CONTROL PANEL BLOCK DIAGRAM SHOWN ON DRAWING E-6 FOR DEVICES AND INSTRUMENTS FURNISHED BY THE PACKAGED EQUIPMENT SUPPLIER. SOME OF THESE DEVICES AND INSTRUMENTS ARE SKID MOUNTED, SOME ARE SHIPPED LOOSE. ALL SHALL BE INSTALLED AND WIRED PER APPROVED SHOP DRAWINGS.
- 4
- THE FILTER CONTROL PANELS SHALL NOT BLOCK EXISTING GENERATOR'S INLET AIR GRILL.
- 5
- CONDUITS SHALL BE INSTALLED IN A MANNER THAT NO TRIPPING HAZARDS SHALL BE CREATED.
- 6
- REFER TO MECHANICAL DRAWNGS M-400 SERIES FOR EXACT LOCATIONS OF EQUIPMENT REQUIRING POWER AND OR CONTROLS.



FLOOR PLAN 5 6
1/4"=1'-0"

FILENAME: 286F-E400-1 3-28-17 01:48pm Loc: XREFS1 X-SMCSO-IBLK [CC--



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
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SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY



REV	DATE	BY	APVD

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DRAWN	LD
CHECKED	DN

SUBMITTED:	MARK TAKEMOTO RMC PROJECT ENGINEER CE-64369
APPROVED:	STEVE CLARY RMC ENGINEER CE-30318

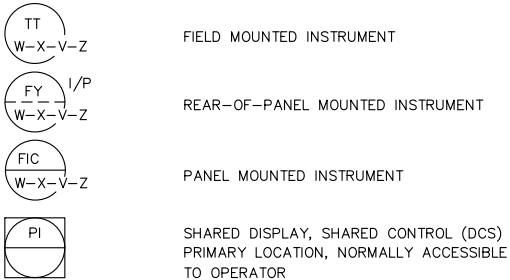
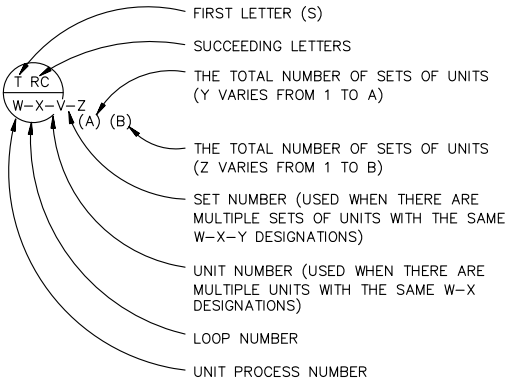


TREATMENT AND WET WEATHER FLOW UPGRADE
**EFFLUENT FILTERS PLAN
POWER AND SIGNAL**

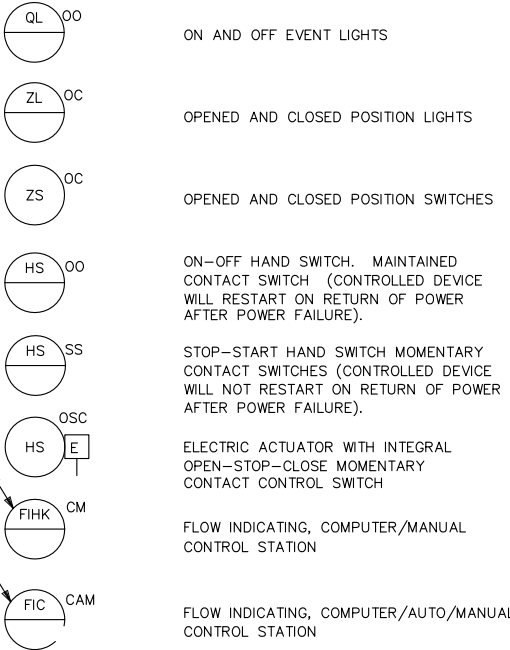
DWG NO	E400-1
SHEET NO	210 OF 226
PROJ NO	055-006
DATE	MARCH 2017

INSTRUMENT IDENTIFICATION

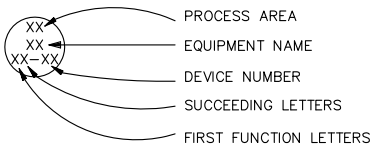
EXAMPLE SYMBOLS



SPECIAL CASES



ALTERNATE INSTRUMENT IDENTIFICATION



INTERNATIONAL SOCIETY FOR AUTOMATION (ISA) TABLE

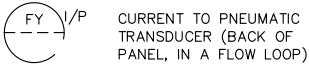
LETTER	FIRST LETTER(S)		SUCCEEDING LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (+)		ALARM		
B	BURNER FLAME		USERS CHOICE (+)	USERS CHOICE (+)	USERS CHOICE (+)
C	CONDUCTIVITY			CONTROL	
D	DENSITY (S.G)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	GAUGE		GLASS	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION				MIDDLE
N	USERS CHOICE (+)		USERS CHOICE (+)	USERS CHOICE (+)	USERS CHOICE (+)
O	USERS CHOICE (+)		ORIFICE		
P	PRESSURE (OR VACUUM)		POINT (TEST CONNECTION)		
Q	QUANTITY OR EVENT(+)	INTEGRATE			
R			RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (+)		MULTIFUNCTION (+)	MULTIFUNCTION (+)	MULTIFUNCTION (+)
V	VISCOSITY			VALVE OR DAMPER	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED (+)		UNCLASSIFIED (+)	UNCLASSIFIED (+)	UNCLASSIFIED (+)
Y	EVENT			RELAY OR COMPUTE (+)	
Z	POSITION			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.

TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

EXAMPLE:



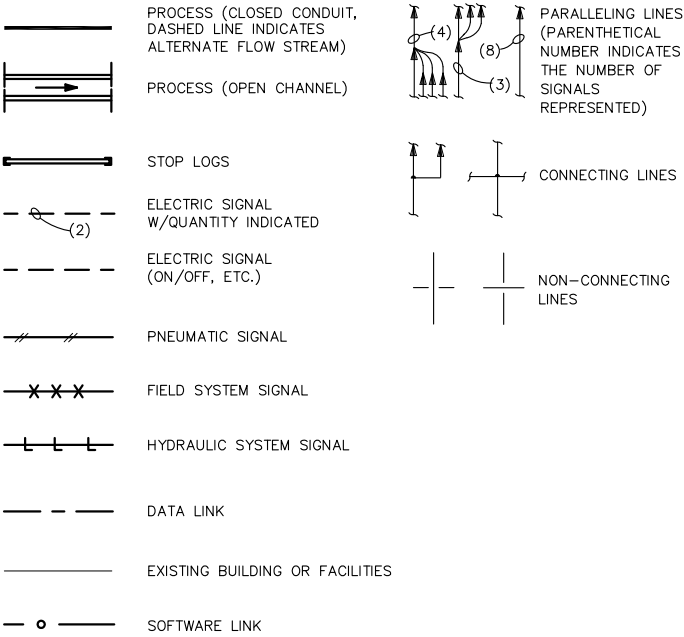
PVLVOX-XX

- P: PLUG
- C: CHECK
- B: BUTTERFLY
- S: SOLENOID
- BL: BALL

SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

- PA: PLANT ABBREVIATION
- W: UNIT PROCESS NUMBER
- D: ARV = AIR RELEASE VALVE
- AVRV = AIR AND VACUUM RELEASE VALVE
- E = EJECTOR
- FCV = FLOW CONTROL VALVE
- G = GATE
- LCV = LEVEL CONTROL VALVE
- M = MECHANICAL EQUIPMENT
- P = PUMP
- PCV = PRESSURE CONTROL VALVE
- VRV = VACUUM RELIEF VALVE
- PSV = PRESSURE RELIEF VALVE
- T = TANK
- TCV = TEMPERATURE CONTROL VALVE
- AHU = AIR HANDLING UNIT
- Y: LOOP NUMBER
- X: UNIT NUMBER

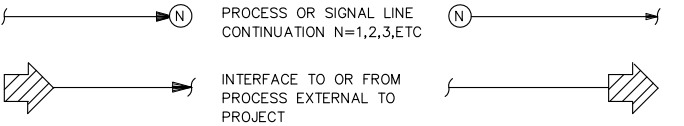
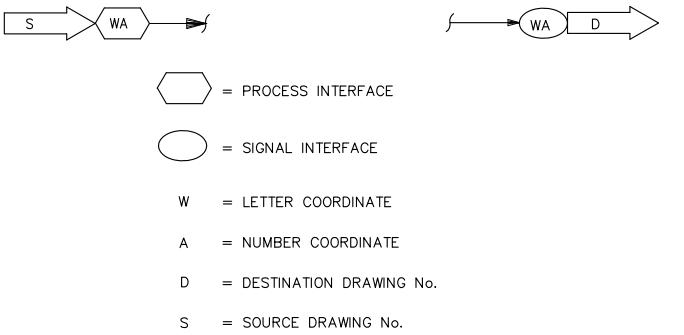
LINE LEGEND



ABBREVIATIONS & LETTER SYMBOLS

AI	ANALOG INPUT
AM	AUTO-MANUAL
AO	ANALOG OUTPUT
CAM	COMPUTER-AUTO-MANUAL
CM	COMPUTER-MANUAL
CP-X	CONTROL PANEL No. X
CG	COMBUSTIBLE GAS
CO	CARBON MONOXIDE
CTEL	CONNECT TO EXISTING LINE
CP/DCS	CONTROL PANEL/DCS
DSRSD	DUBLIN SAN RAMON SERVICES DISTRICT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DI	DISCRETE INPUT
DO	DISCRETE OUTPUT
(E)	EXISTING
ES	EMERGENCY STOP
FLP	FAIL IN LAST POSITION
FBM	FIELD BUS MODULE
FM	FORCE MAIN
FOR	FORWARD-OFF-REVERSE
FP-W-X	FIELD PANEL No. WX WHERE W = UNIT PROCESS NUMBER X = PANEL NUMBER
FR	FORWARD-REVERSE
FS	FAST - SLOW
GBT	GRAVITY BELT THICKENER
HW	HEADWORK
H ₂ S	HYDROGEN SULFIDE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
LA	LOCAL-AUTO
LP/DCS	LOCAL PANEL-DISTRIBUTED CONTROL SYSTEM
LOC	LOCAL (AT FIELD DEVICE)
LOR	LEFT OFF RIGHT
LOS	LOCKOUT STOP
LP	LOCAL PANEL
L/S	LEAD-STANDBY
LR	LOCAL-REMOTE
MA	MANUAL-AUTO
MCC-X	MOTOR CONTROL CENTER No. X
MW	MOTOR WINDINGS
NS	NORTH-SOUTH
OIT	OPERATOR INTERFACE TERMINAL
O ₂	OXYGEN
OC	OPEN-CLOSE (D)
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OCU	ODOR CONTROL UNIT
OO	ON-OFF - RTU REMOTE TERMINAL UNIT
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
REV	REVERSE
SBD	SODIUM BISULFITE DRAIN
SHD	SODIUM HYPOCHLORITE DRAIN
SLOS	START-LOCKOUT-STOP
S/D	SEDIMENTATION-DEWATERING
S/D/C	SEDIMENTATION-DEWATERING-CLOSED
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
VFD	VARIABLE FREQUENCY DRIVE
VHC	VOLATILE HYDROCARBON
*	PROVIDED AS PACKAGED EQUIPMENT

INTERFACE SYMBOLS



GENERAL NOTES

- P & ID'S ARE FOR INFORMATION ON CONTROL CONCEPTS AND INSTRUMENTATION ONLY. REFER TO PLANS AND SPECIFICATIONS FOR DETAILS.
- THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THE SYMBOLS ARE USED IN THIS PROJECT.
- REFER TO SPECIFICATION FOR LOCAL AND SCADA CONTROL LOGIC.

RTU TERMINATIONS

- △ DISCRETE INPUT
- ▽ DISCRETE OUTPUT
- ▲ ANALOG INPUT
- ▼ ANALOG OUTPUT



0" 1" VERIFY SCALES - BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY



△			
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REV	DATE	BY	APVD

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DRAWN	LD
CHECKED	DN

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

INSTRUMENTATION LEGEND AND GENERAL NOTES

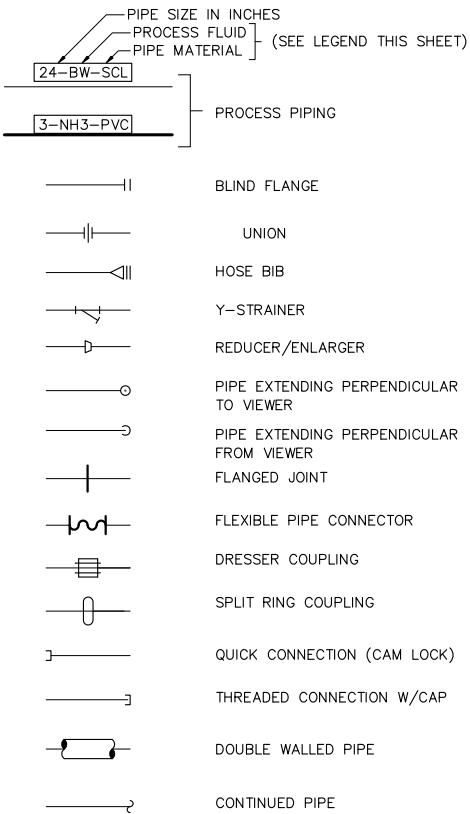
DWG NO **I-1**

SHEET NO **211** OF **226**

PROJ NO 055-006

DATE MARCH 2017

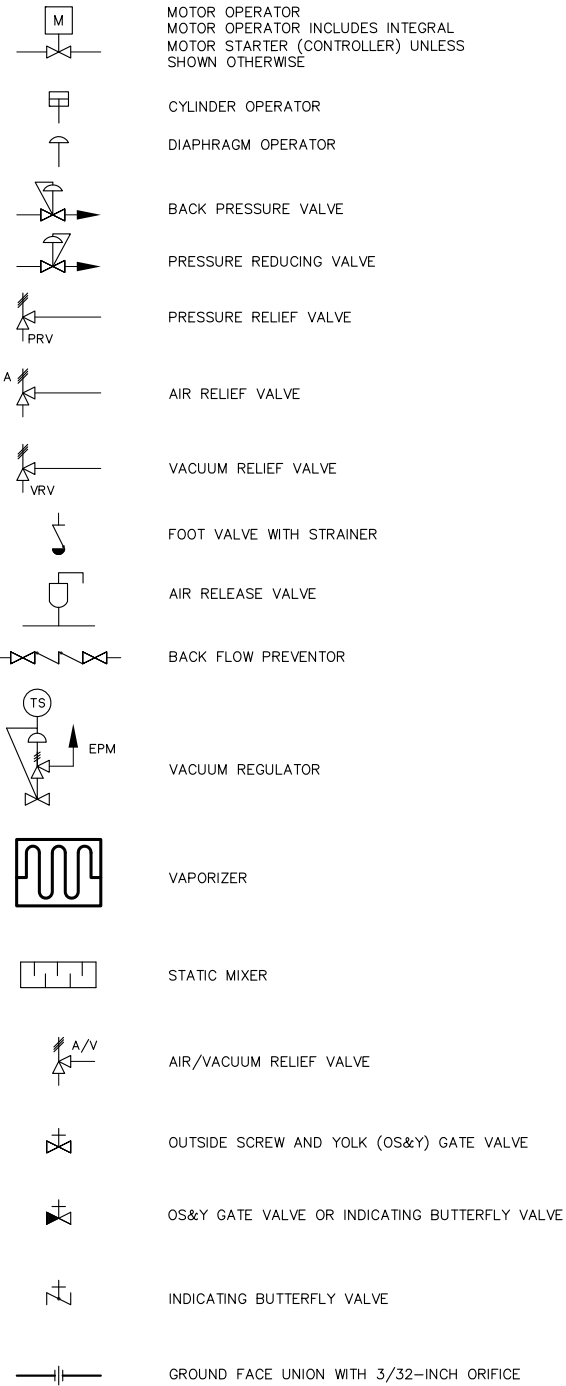
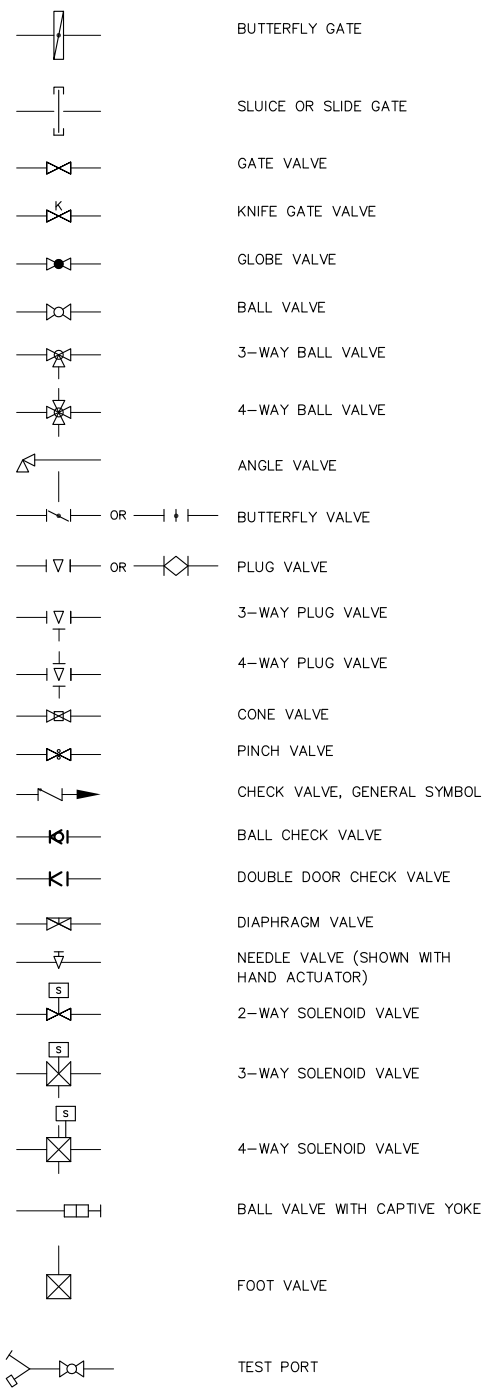
PIPE LINE SYMBOLS



PROCESS STREAMS

STREAM	DESCRIPTION
BW	BACKWASH
D	DRAIN FILTERED
FA	FORCED AIR
FC	FERRIC CHLORIDE
FE	FILTERED EFFLUENT
FPE	FINAL PLANT EFFLUENT
G	GRIT
PE	PRIMARY EFFLUENT
PS	PRIMARY SLUDGE
RW	RECYCLED WATER
SC	SCREENING CONVEYOR
SD	STORM DRAIN
SE	SECONDARY EFFLUENT
IN/PI	INFLUENT/PRIMARY INFLUENT
3W	PLANT UTILITY WATER

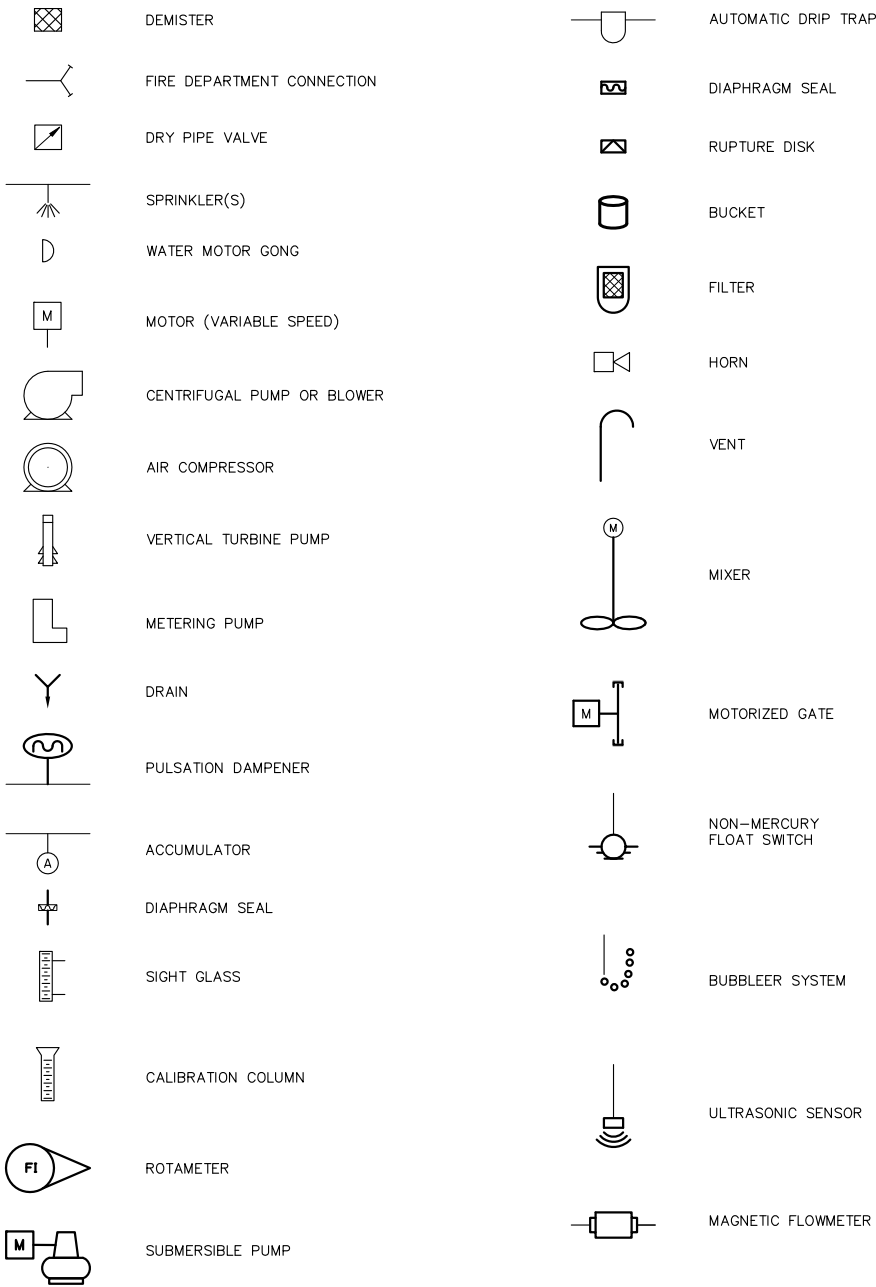
VALVE SYMBOLS



NOTES

1. REFER TO SHEET I-1 FOR ADDITIONAL INSTRUMENTATION EQUIPMENT IDENTIFICATION, LINE SYMBOLS, ADDITIONAL ABBREVIATIONS AND INSTRUMENT TAGGING CONVENTIONS.
2. THIS IS A GENERAL P&ID LEGEND SHEET. SOME SYMBOLS OR NOTATIONS MAY NOT BE USED ON THIS PROJECT.
3. STANDARD DETAILS SHALL BE USED FOR ALL PERMANENT WORK EVEN THOUGH THEY ARE NOT CALLED OUT AT ALL LOCATIONS WHERE THEY APPLY.
4. EACH OF THE OUTDOOR FIELD TRANSMITTERS SHALL BE PROVIDED WITH A SUN SHIELD PER ELECTRICAL DETAIL E345/TYP.
5. SEE ELECTRICAL DRAWINGS FOR CLASSIFIED HAZARDOUS LOCATIONS IN WHICH INSTRUMENTS, AUXILIARIES AND INSTALLATION SHALL BE SUITABLE FOR SUCH LOCATIONS.

MISCELLANEOUS SYMBOLS



FILENAME: 286F-02 3-28-17 01:49pm Loc | XREFS: X-SMCSB-TBLK | <<--



0" 1"
— VERIFY SCALES —
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
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DRAWING, ADJUST
SCALES ACCORDINGLY



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△			
REV	DATE	BY	APVD

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SUBMITTED: **MARK TAKEMOTO**
RMC PROJECT ENGINEER CE-64369

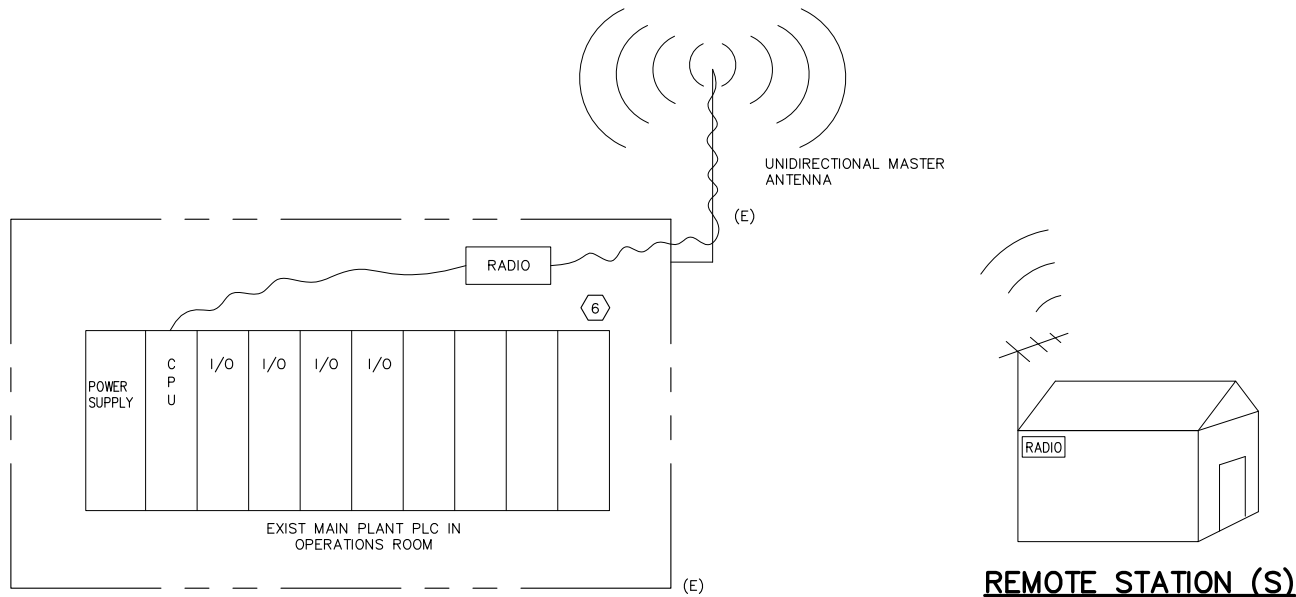
APPROVED: **STEVE CLARY**
RMC ENGINEER CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE

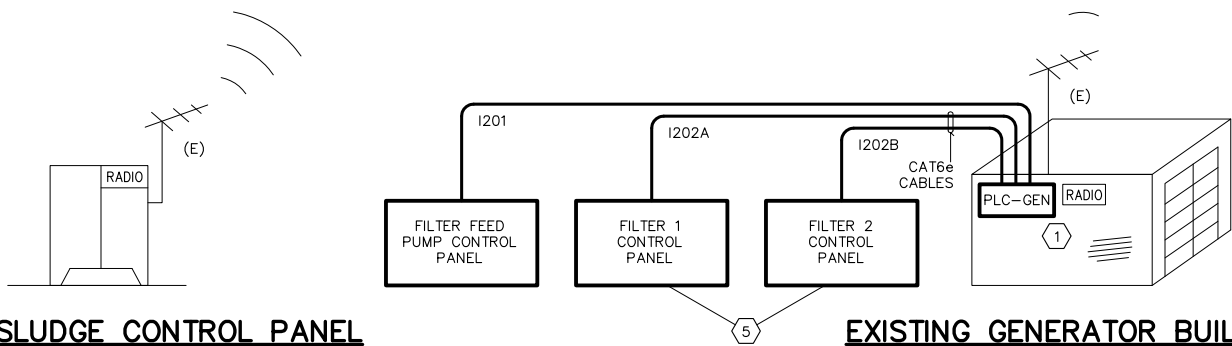
INSTRUMENTATION SYMBOLS AND NOTES

DWG NO	I-2
SHEET NO	212 OF 226
PROJ NO	055-006
DATE	MARCH 2017



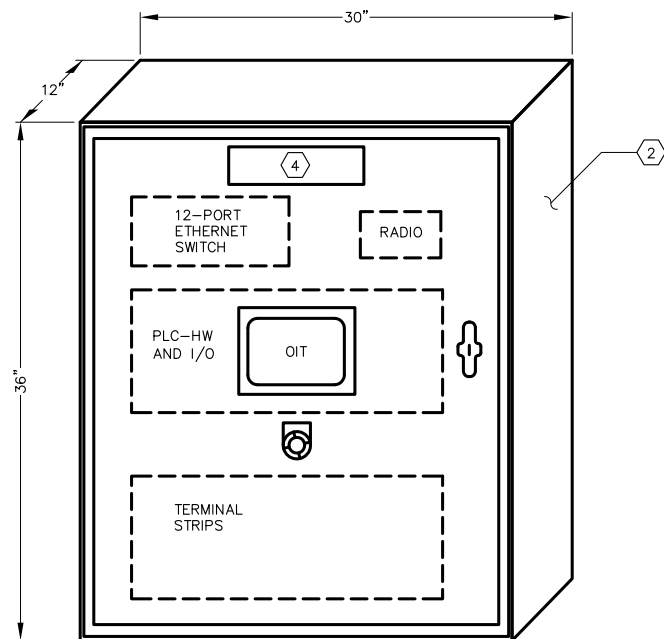
EXISTING CONTROL BUILDING

REMOTE STATION (S)
(TYPICAL)



EXISTING SLUDGE CONTROL PANEL

EXISTING GENERATOR BUILDING

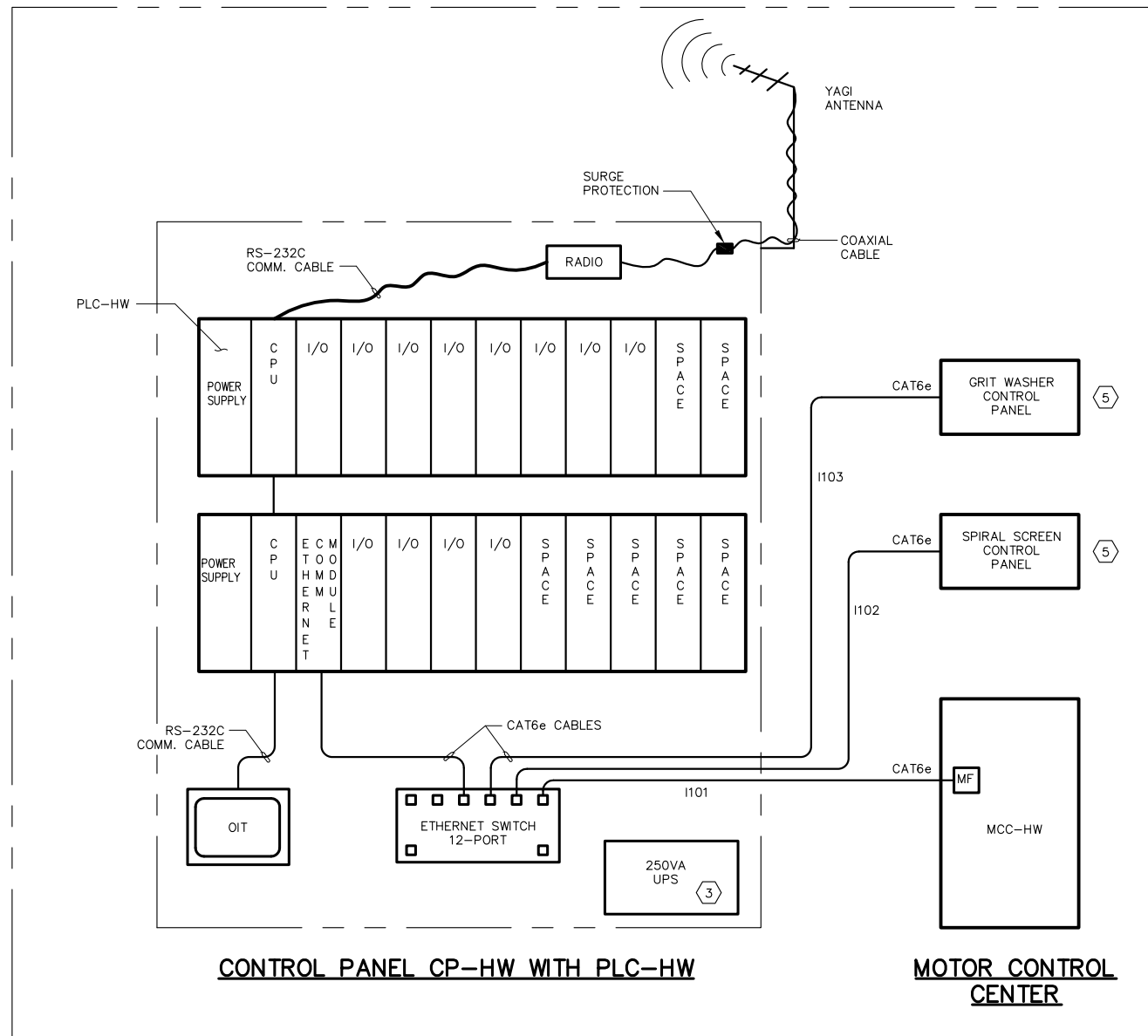


CONTROL PANEL CP-HW

SCALE: NTS

EXISTING LIBRARY BLDG

PARTIAL SCADA SYSTEM BLOCK DIAGRAM



CONTROL PANEL CP-HW WITH PLC-HW

MOTOR CONTROL CENTER

HEADWORKS

SHEET NOTES:

- THIS PLC-GEN IS EXISTING TO BE REMOVED AND REPLACED WITH NEW PLC. SEE DRAWINGS E-15A AND E-15B FOR ADDITIONAL DETAILS.
- SEE DETAIL A/E-12 FOR EXACT REQUIRED QUANTITY OF THE INTERIOR COMPONENTS.
- THIS 250VA UPS IS USED FOR PROVIDING REDUNDANT POWER BACKUP TO THE RADIO.
- MASTER NAMEPLATE "SCADA CONTROL PANEL CP-HW."
- THESE PACKAGE EQUIPMENT SHALL HAVE THE CAPABILITY TO COMMUNICATE WITH THE PLANT SCADA SYSTEM DIGITALLY VIA ETHERNET COMMUNICATION PORT LOCATED IN EACH EQUIPMENT.
- SEE DRAWING E-33 FOR REQUIRED NEW I/O CARDS TO BE PROVIDED AND INSTALLED IN THIS PLC.
- SEE DRAWING E-34 FOR REQUIRED NEW I/O CARDS TO BE PROVIDED AND INSTALLED IN THIS PLC.
- SEE DRAWING E-16 FOR REQUIRED INTERNAL WIRING CONNECTIONS.



0" = 1"
 VERIFY SCALES
 BAR IS ONE INCH
 LONG ON FULL
 SIZE DRAWING.
 IF NOT ONE INCH
 LONG ON THIS
 DRAWING, ADJUST
 SCALES ACCORDINGLY



REV	DATE	BY	APVD

CONFORMED DRAWING
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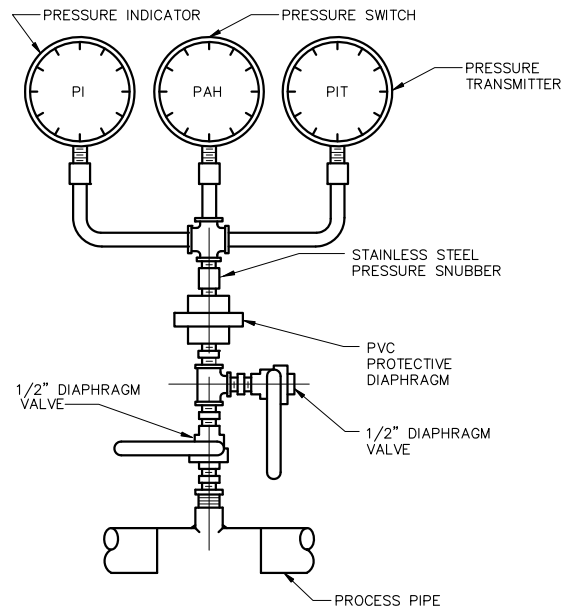
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DRAWN	LD
CHECKED	DN

SUBMITTED:	MARK TAKEMOTO	CE-64369
APPROVED:	STEVE CLARY	CE-30318



TREATMENT AND WET WEATHER FLOW UPGRADE
SCADA SYSTEM BLOCK DIAGRAM

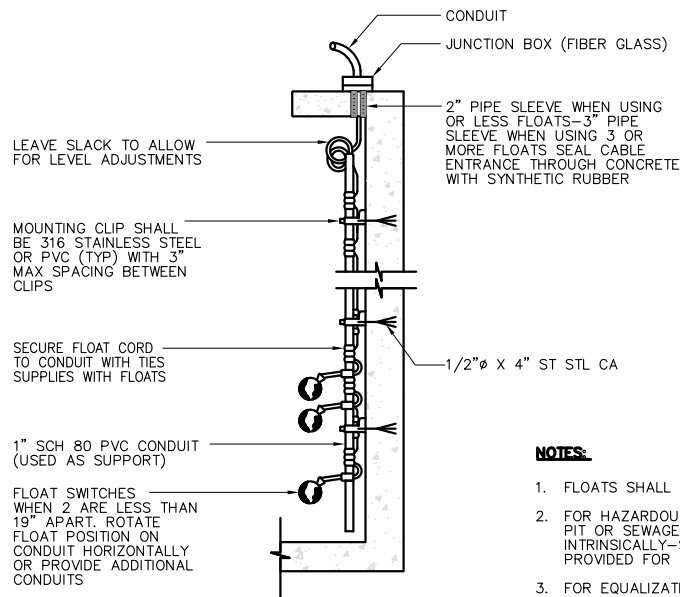
DWG NO	I-3
SHEET NO	213 OF 226
PROJ NO	055-006
DATE	MARCH 2017



NOTES:

1. USE STAINLESS STEEL DIAPHRAGM SEAL.
2. PROVIDE SUPPORT FOR INSTRUMENTS AS REQUIRED WITH RGS CHANNELS.
3. STAINLESS STEEL TAG SHALL BE PROVIDED FOR EACH INSTRUMENTS PER P&ID.
4. THIS DETAIL APPLIES TO STAND-ALONE PRESSURE SWITCH OR PRESSURE TRANSMITTER
5. MANIFOLD SHALL BE STAINLESS STEEL 3 VALVE TYPE WITH ISOLATION & BLEED VENT.

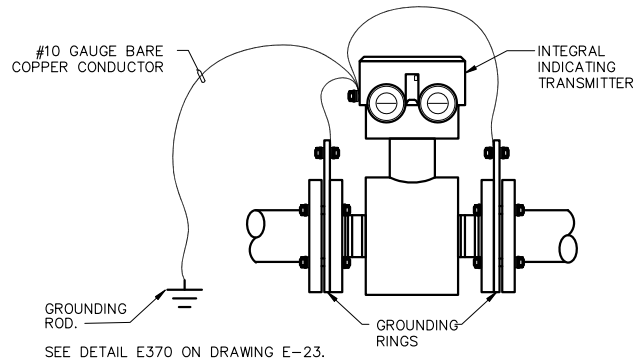
1101 PRESSURE GAUGE/TRANSMITTER DETAIL
TYP SCALE: NTS



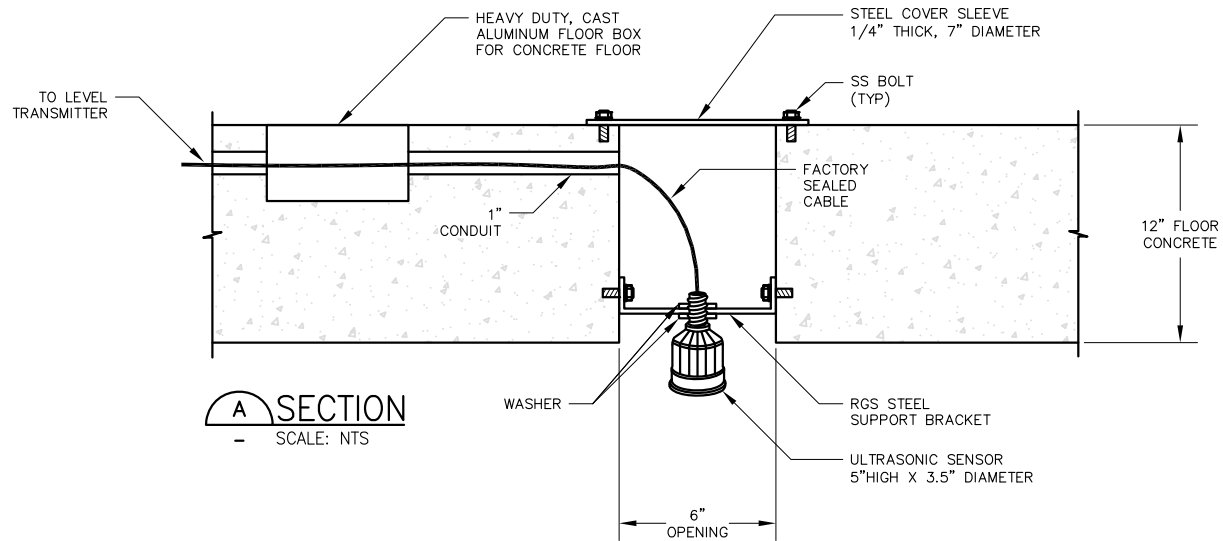
NOTES:

1. FLOATS SHALL BE NON-MERCURY TYPE.
2. FOR HAZARDOUS LOCATIONS SUCH AS SCUM PIT OR SEWAGE WET WELL, INTRINSICALLY-SAFE RELAY SHALL BE PROVIDED FOR EACH FLOAT SWITCH.
3. FOR EQUALIZATION BASINS, MOUNT FIBERGLASS JUNCTION BOX BELOW THE FLOOR SLAB.

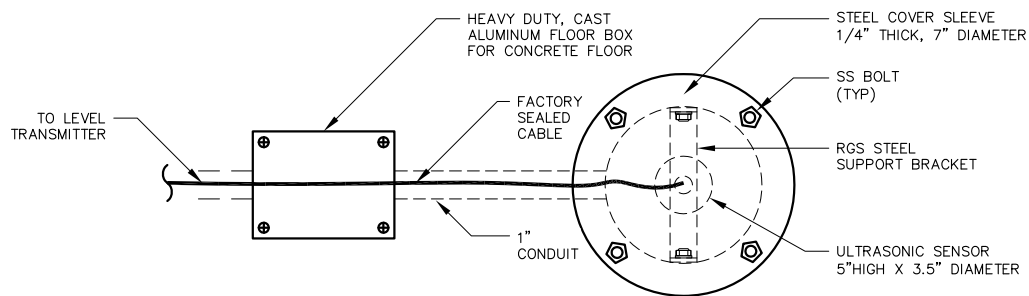
1334 FLOAT SWITCH MOUNTING
TYP SCALE: NTS



1102 MAGNETIC FLOWMETER GROUNDING DETAIL
TYP SCALE: NTS



A SECTION
SCALE: NTS



B PLAN VIEW
SCALE: NTS

1336 BASIN ULTRASONIC SENSOR INSTALLATION DETAIL
TYP SCALE: NTS

NOTES:

1. THIS INSTALLATION IS TYPICAL FOR TWO SENSORS LOCATED ON EQUALIZATION BASIN.
2. FACTORY-SEALED CABLE SLACKS SHALL BE PROVIDED TO REACH TRANSMITTER.



0" 1"
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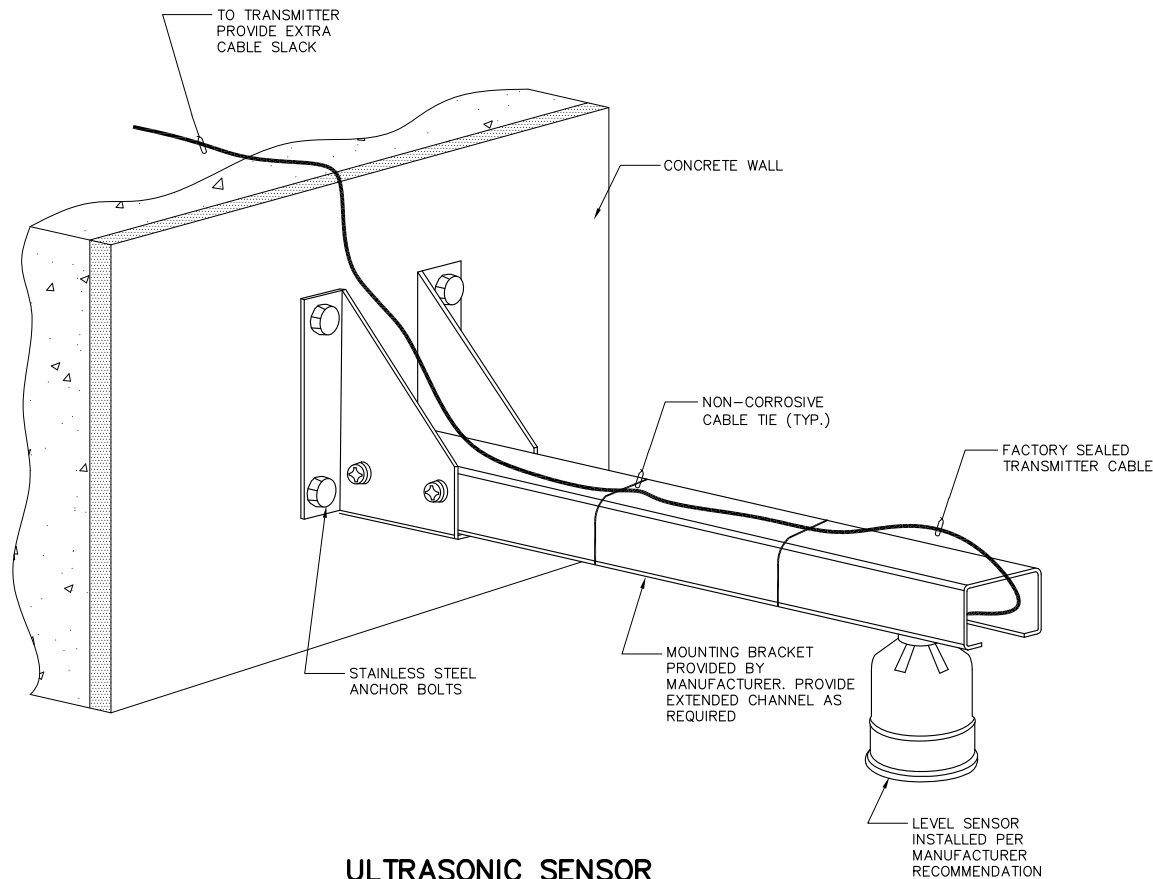
SUBMITTED:	MARK TAKEMOTO	CE-64369
APPROVED:	STEVE CLARY	CE-30318



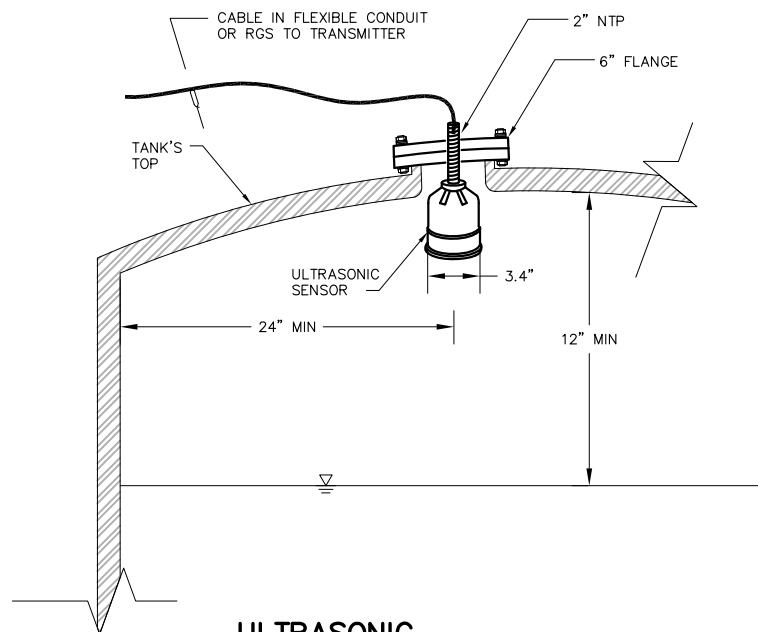
TREATMENT AND WET WEATHER FLOW UPGRADE
INSTRUMENTATION TYPICAL DETAILS
SHEET 1 OF 2

DWG NO	1-4
SHEET NO	214 OF 226
PROJ NO	055-006
DATE	MARCH 2017

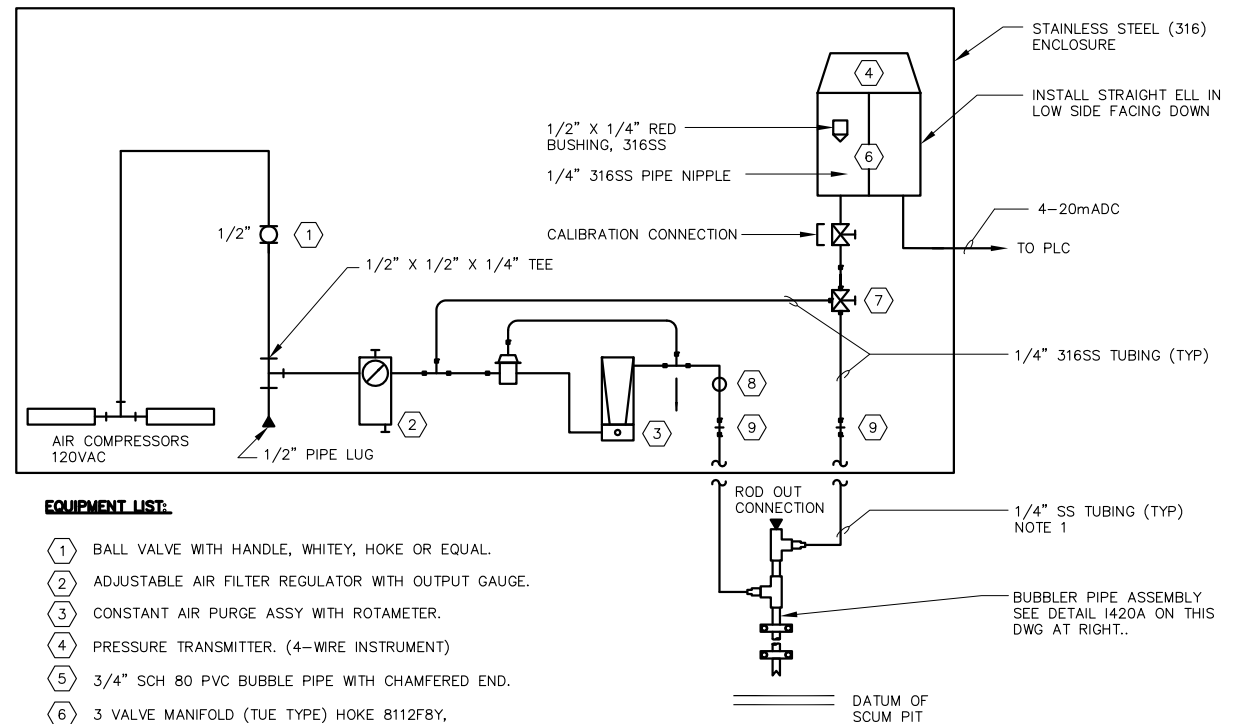
FILENAME: 286F-004 3-28-17 01:49pm Loc || XREFS: X-SMCSB-TBLK |<<--



1400
TYP **ULTRASONIC SENSOR FOR PARSHALL FLUME**
SCALE: NTS



1410
TYP **ULTRASONIC SENSOR FOR TANK**
SCALE: NTS



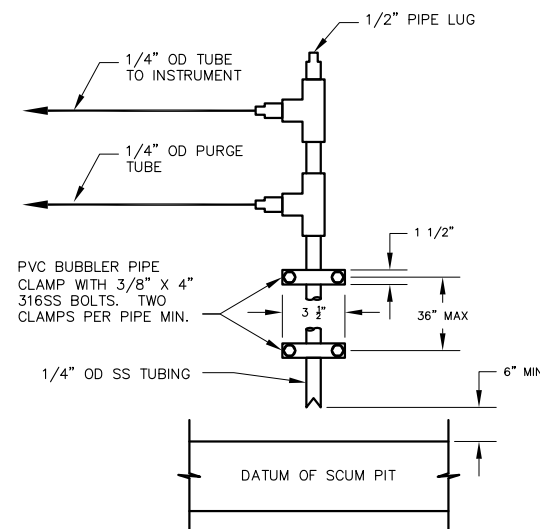
EQUIPMENT LIST:

- ① BALL VALVE WITH HANDLE, WHITEY, HOKE OR EQUAL.
- ② ADJUSTABLE AIR FILTER REGULATOR WITH OUTPUT GAUGE.
- ③ CONSTANT AIR PURGE ASSY WITH ROTAMETER.
- ④ PRESSURE TRANSMITTER. (4-WIRE INSTRUMENT)
- ⑤ 3/4" SCH 80 PVC BUBBLE PIPE WITH CHAMFERED END.
- ⑥ 3 VALVE MANIFOLD (TUE TYPE) HOKE 8112F8Y, ANDERSON-GREENWOOD M4TVS OR EQUAL.
- ⑦ AIR SWITCH 2 POSITION WITH ELEMENT LABEL: "PURGE-NORMAL", HOKE 7165, WHITEY 44 SERIES OR EQUAL.
- ⑧ CHECK VALVE (MAY BE INCORPORATED IN ROTAMETER).
- ⑨ 1/4" BULKHEAD UNION 316SS.

NOTES:

1. PVC TUBING SHALL BE INSTALLED IN RGS CONDUIT (EXPOSED), PVC40 (UNDERGROUND) FOR ADDITIONAL PROTECTION.
2. MASTER NAMEPLATE SHALL BE: "SCUM PIT BUBBLER PANEL PC2-LIT-01"

1420
TYP **BUBBLER PANEL**
SCALE: NTS



1420A
TYP **BUBBLER PIPE ASSEMBLY**
SCALE: NTS



0" 1"
— VERIFY SCALES —
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APPROVED: STEVE CLARY RMC ENGINEER CE-30318



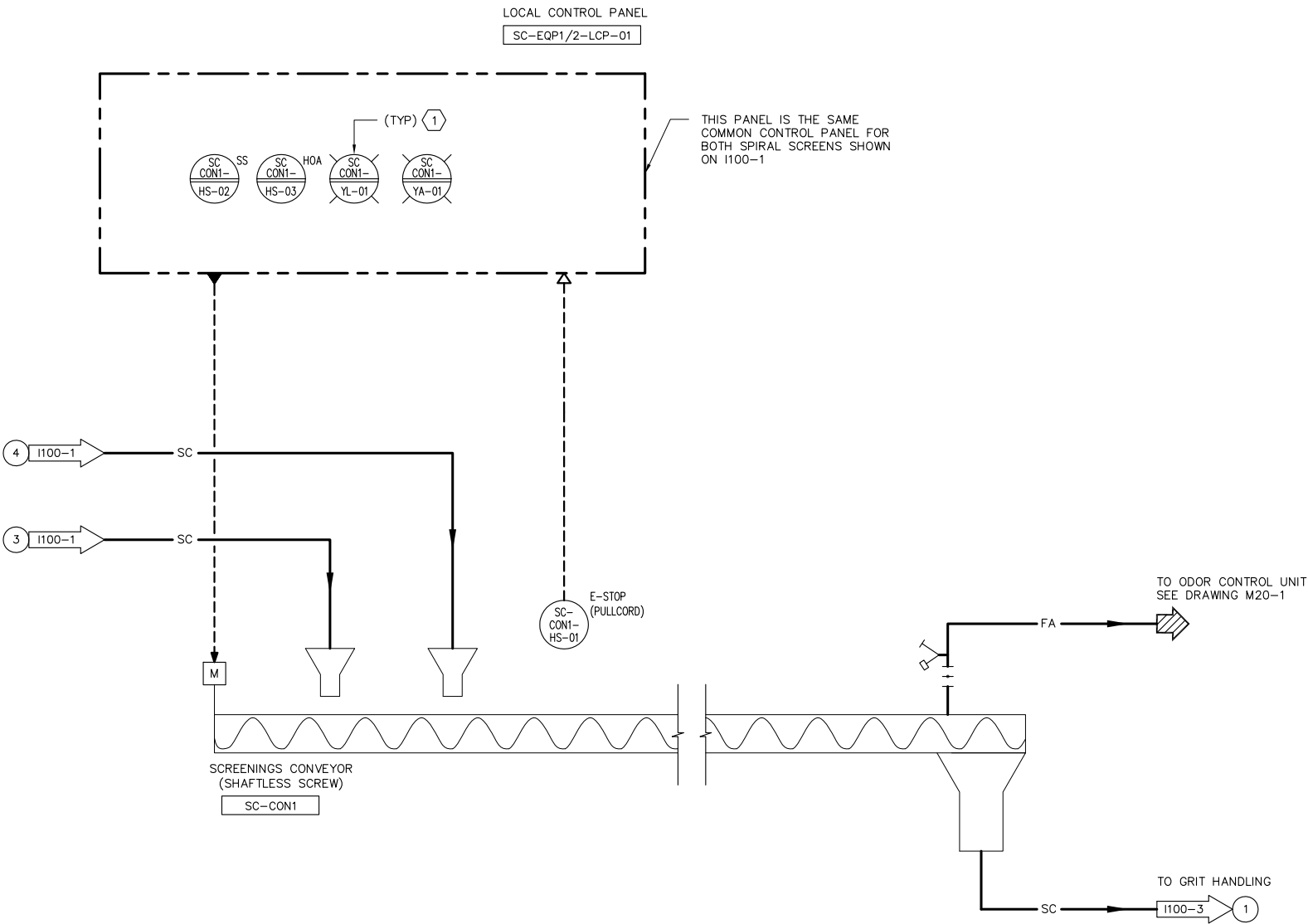
TREATMENT AND WET WEATHER FLOW UPGRADE
INSTRUMENTATION TYPICAL DETAILS
SHEET 2 OF 2

DWG NO	1-5
SHEET NO	215 OF 226
PROJ NO	055-006
DATE	MARCH 2017

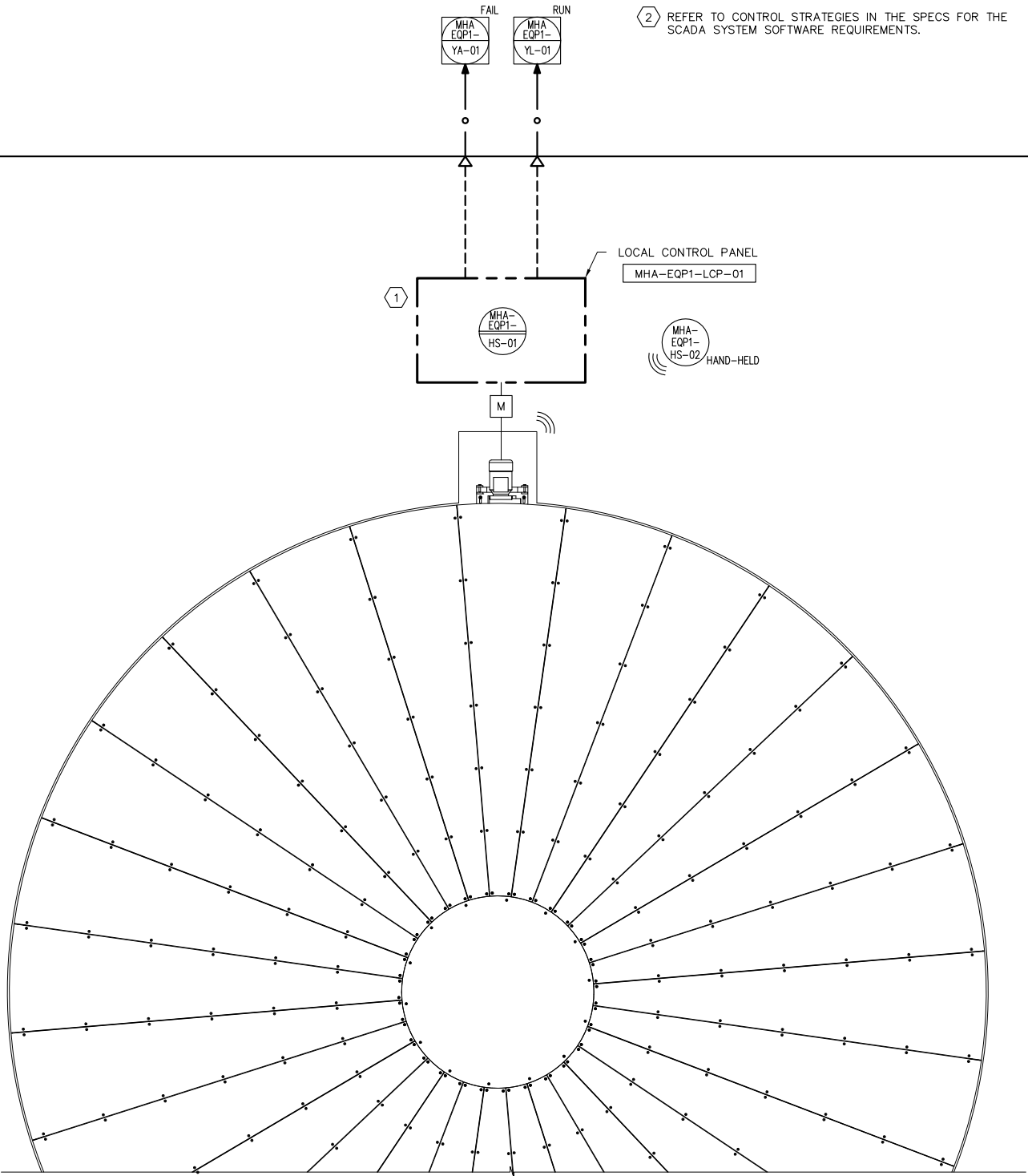
- SHEET NOTES:**
- 1 THIS PANEL SHALL BE PROVIDED WITH AN EXTERNALLY MOUNTED EMERGENCY SHUT DOWN (MUSHROOM TYPE) STATION.
 - 2 REFER TO CONTROL STRATEGIES IN THE SPECS FOR THE SCADA SYSTEM SOFTWARE REQUIREMENTS.

PLC/
HMI/
SCADA

2



SCREENING HANDLING A
SCALE: NTS



SCALE: NTS



0" 1"
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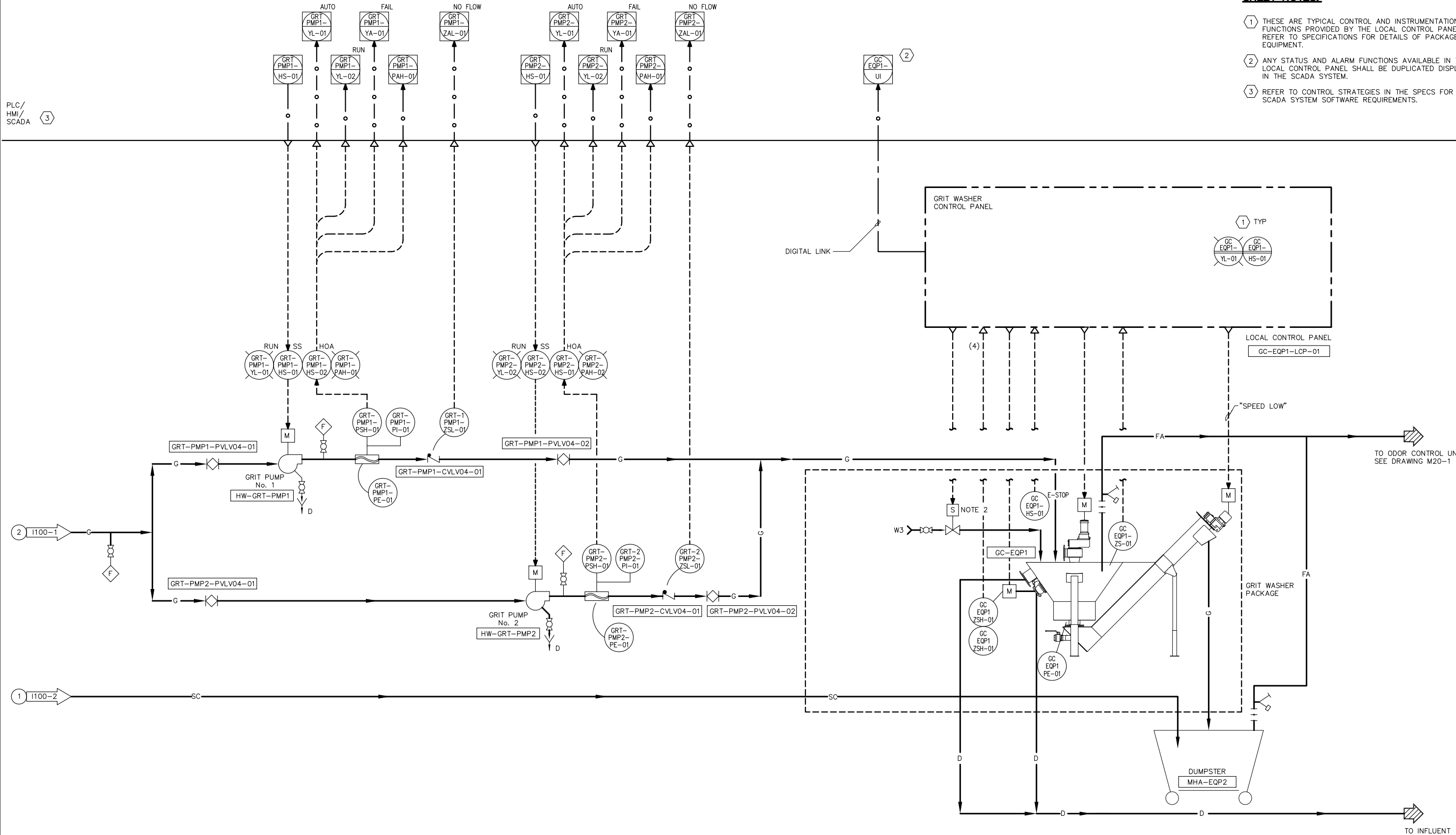
TREATMENT AND WET WEATHER FLOW UPGRADE
**P&ID
SCREENING HANDLING
AND TURNTABLE**

DWG NO	I100-2
SHEET NO	217 OF 226
PROJ NO	055-006
DATE	MARCH 2017

FILENAME: 286F_I100-2_3-28-17_01:49pm Loc: XREFS: X-SMCSO-TBLK <<--

SHEET NOTES:

- 1 THESE ARE TYPICAL CONTROL AND INSTRUMENTATION FUNCTIONS PROVIDED BY THE LOCAL CONTROL PANEL. REFER TO SPECIFICATIONS FOR DETAILS OF PACKAGED EQUIPMENT.
- 2 ANY STATUS AND ALARM FUNCTIONS AVAILABLE IN THE LOCAL CONTROL PANEL SHALL BE DUPLICATED DISPLAYED IN THE SCADA SYSTEM.
- 3 REFER TO CONTROL STRATEGIES IN THE SPECS FOR THE SCADA SYSTEM SOFTWARE REQUIREMENTS.



PLC/
HMI/
SCADA

2 I100-1

1 I100-2



0" 1"
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CHECKED	DN

SUBMITTED: MARK TAKEMOTO
RMC PROJECT ENGINEER CE-64369
APPROVED: STEVE CLARY
RMC ENGINEER CE-30318

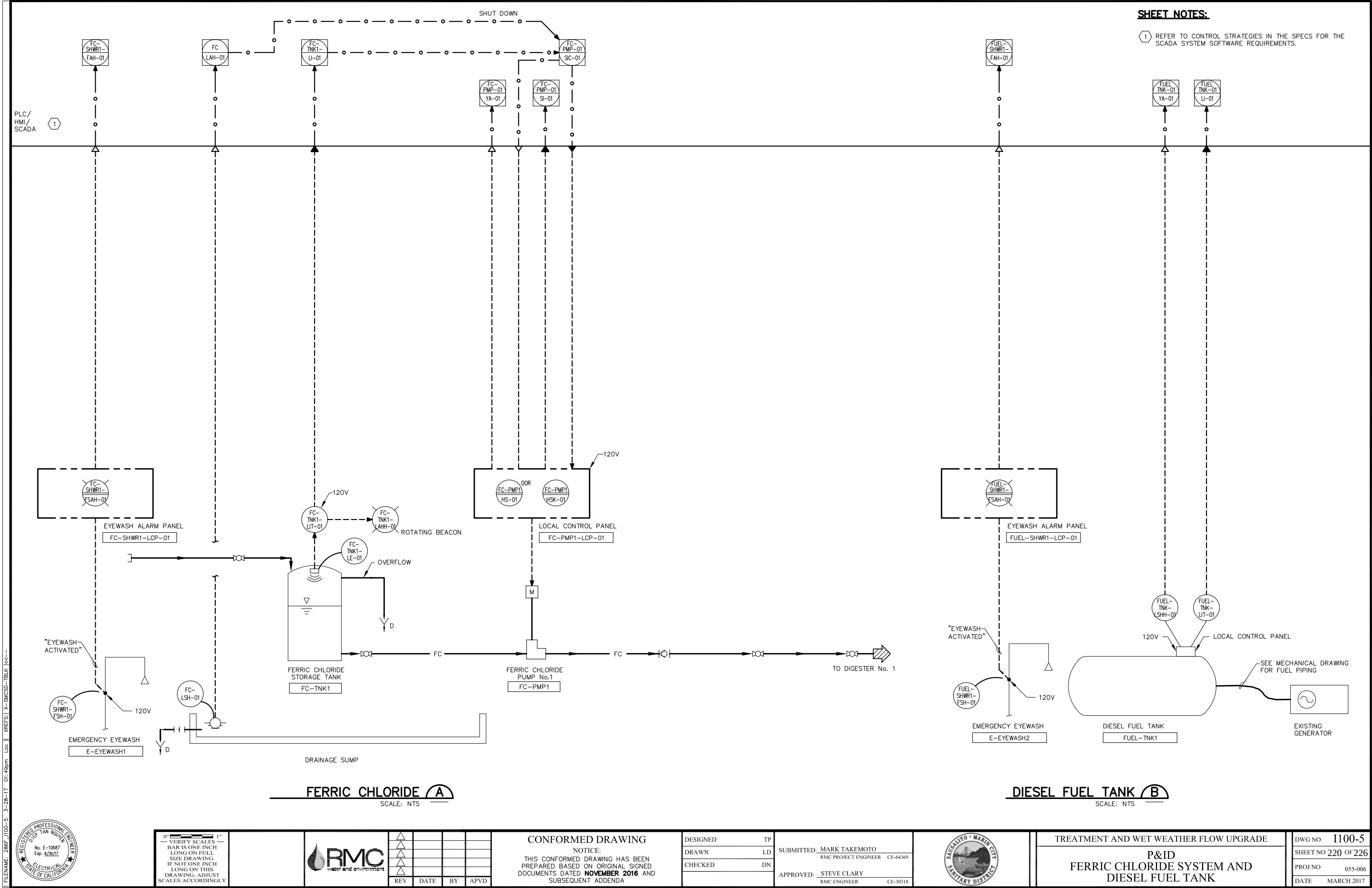


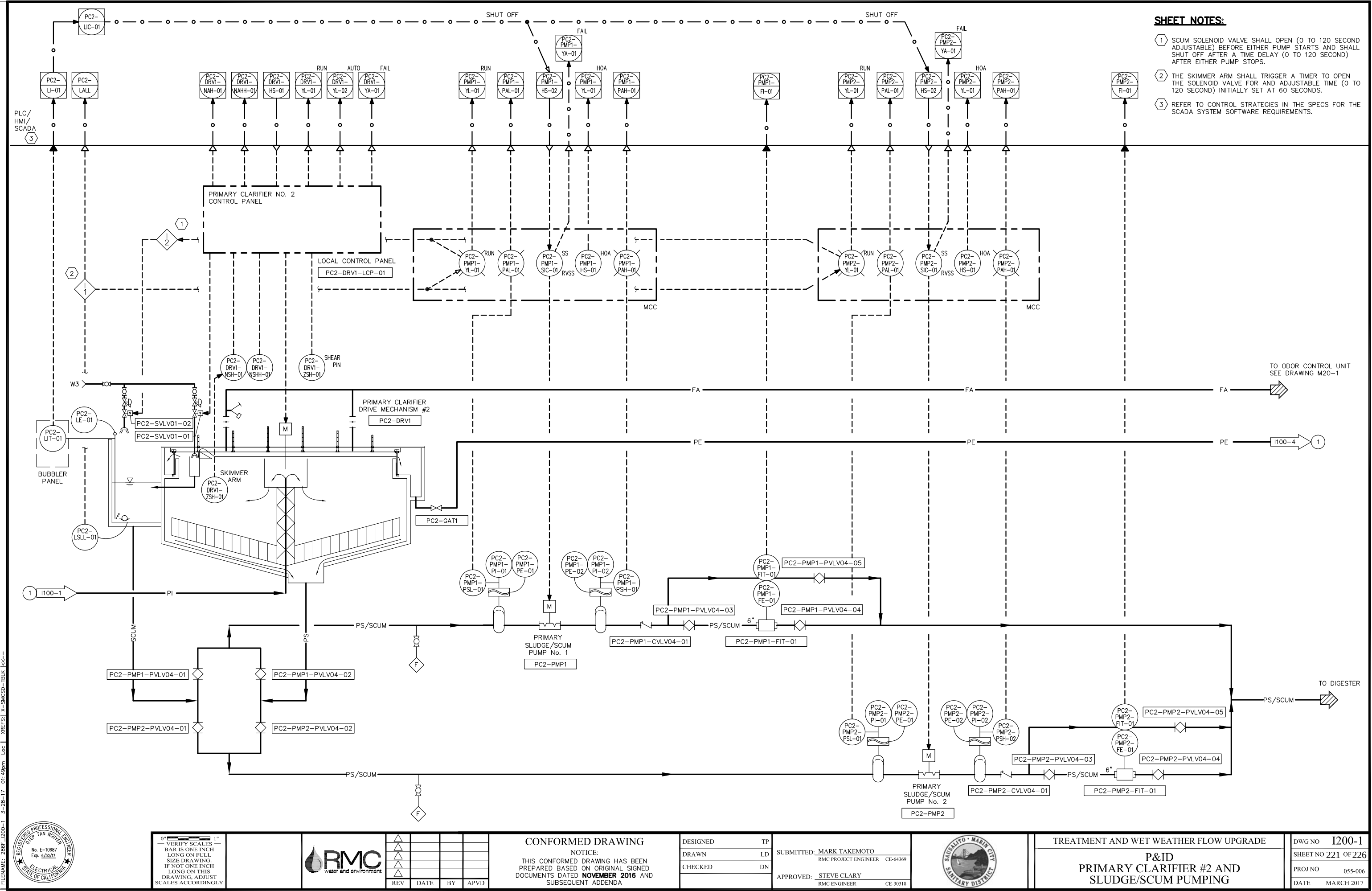
TREATMENT AND WET WEATHER FLOW UPGRADE
P&ID
GRIT HANDLING INSTRUMENTATION

DWG NO I100-3
SHEET NO 218 OF 226
PROJ NO 055-006
DATE MARCH 2017

FILENAME: 286F-I100-3 3-28-17 01:49pm Loc XREFS: X-SMCSO-TBLK K<<-







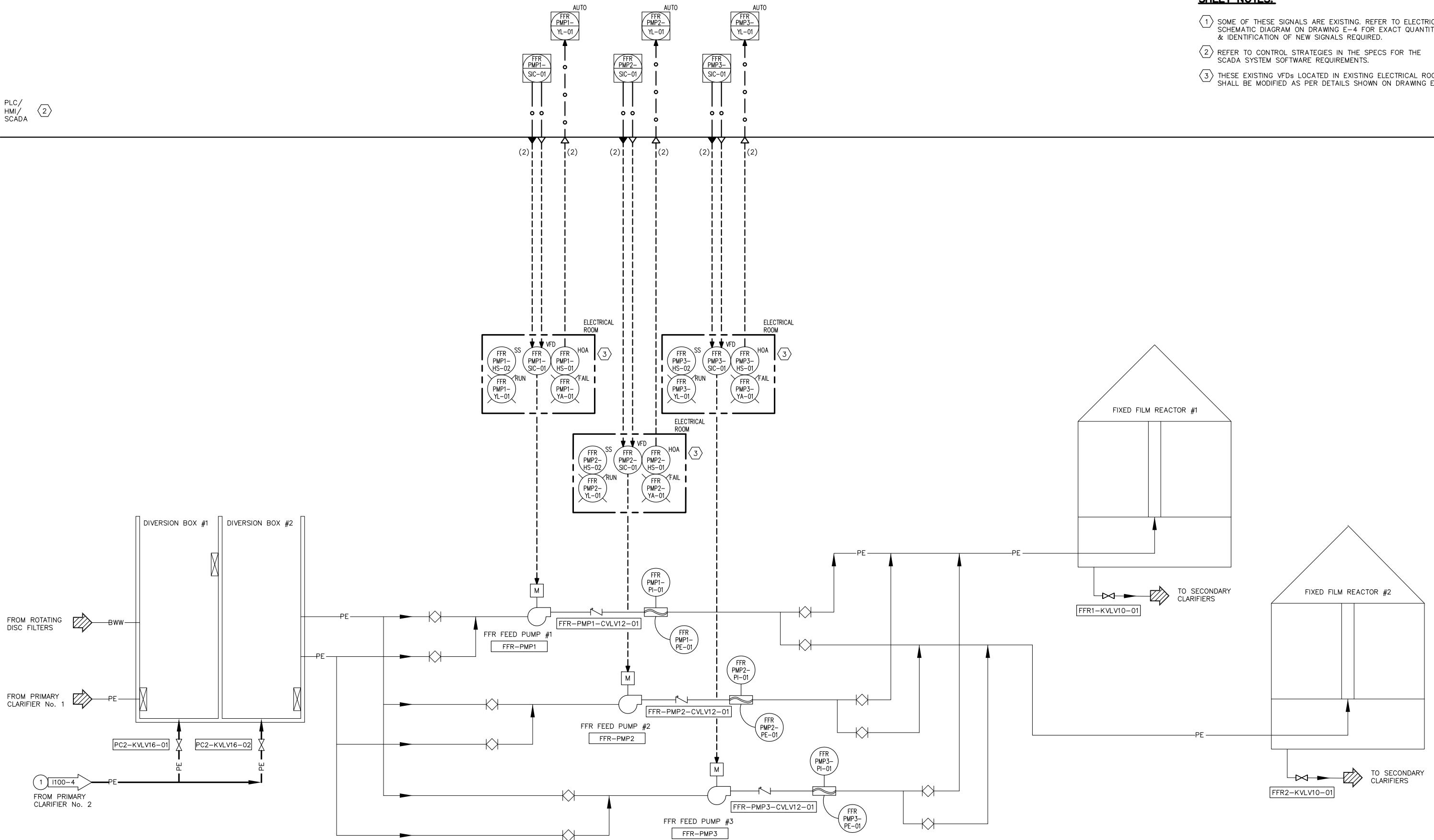
- SHEET NOTES:**
- 1 SCUM SOLENOID VALVE SHALL OPEN (0 TO 120 SECOND ADJUSTABLE) BEFORE EITHER PUMP STARTS AND SHALL SHUT OFF AFTER A TIME DELAY (0 TO 120 SECOND) AFTER EITHER PUMP STOPS.
 - 2 THE SKIMMER ARM SHALL TRIGGER A TIMER TO OPEN THE SOLENOID VALVE FOR AND ADJUSTABLE TIME (0 TO 120 SECOND) INITIALLY SET AT 60 SECONDS.
 - 3 REFER TO CONTROL STRATEGIES IN THE SPECS FOR THE SCADA SYSTEM SOFTWARE REQUIREMENTS.

PLC/
HMI/
SCADA

2

SHEET NOTES:

- 1 SOME OF THESE SIGNALS ARE EXISTING. REFER TO ELECTRICAL SCHEMATIC DIAGRAM ON DRAWING E-4 FOR EXACT QUANTITY & IDENTIFICATION OF NEW SIGNALS REQUIRED.
- 2 REFER TO CONTROL STRATEGIES IN THE SPECS FOR THE SCADA SYSTEM SOFTWARE REQUIREMENTS.
- 3 THESE EXISTING VFDs LOCATED IN EXISTING ELECTRICAL ROOM SHALL BE MODIFIED AS PER DETAILS SHOWN ON DRAWING E-4.



FILENAME: 286F-1300-1 3-28-17 01:49pm Loc: XREFS: X-SMCSO-TB-K K<<--



0" 1"
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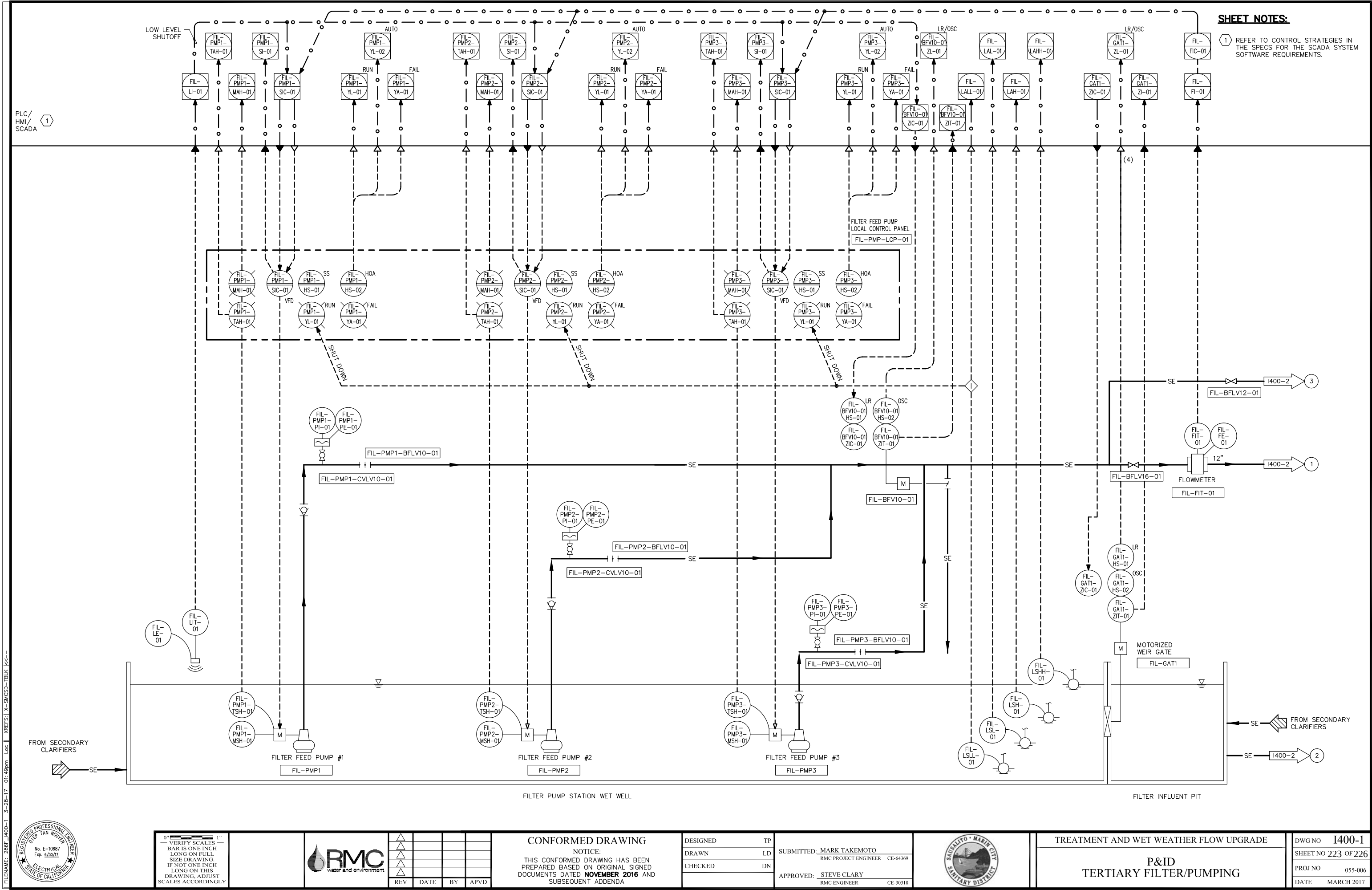
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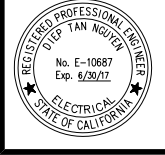


TREATMENT AND WET WEATHER FLOW UPGRADE
P&ID
FIXED FILM REACTOR SUPPLY PUMPING

DWG NO	I300-1
SHEET NO	222 OF 226
PROJ NO	055-006
DATE	MARCH 2017



FILENAME: 286F-1400-1 3-28-17 01:49pm Loc: XREFS: X-SMCSO-TB-K K<<<



0" = 1" —
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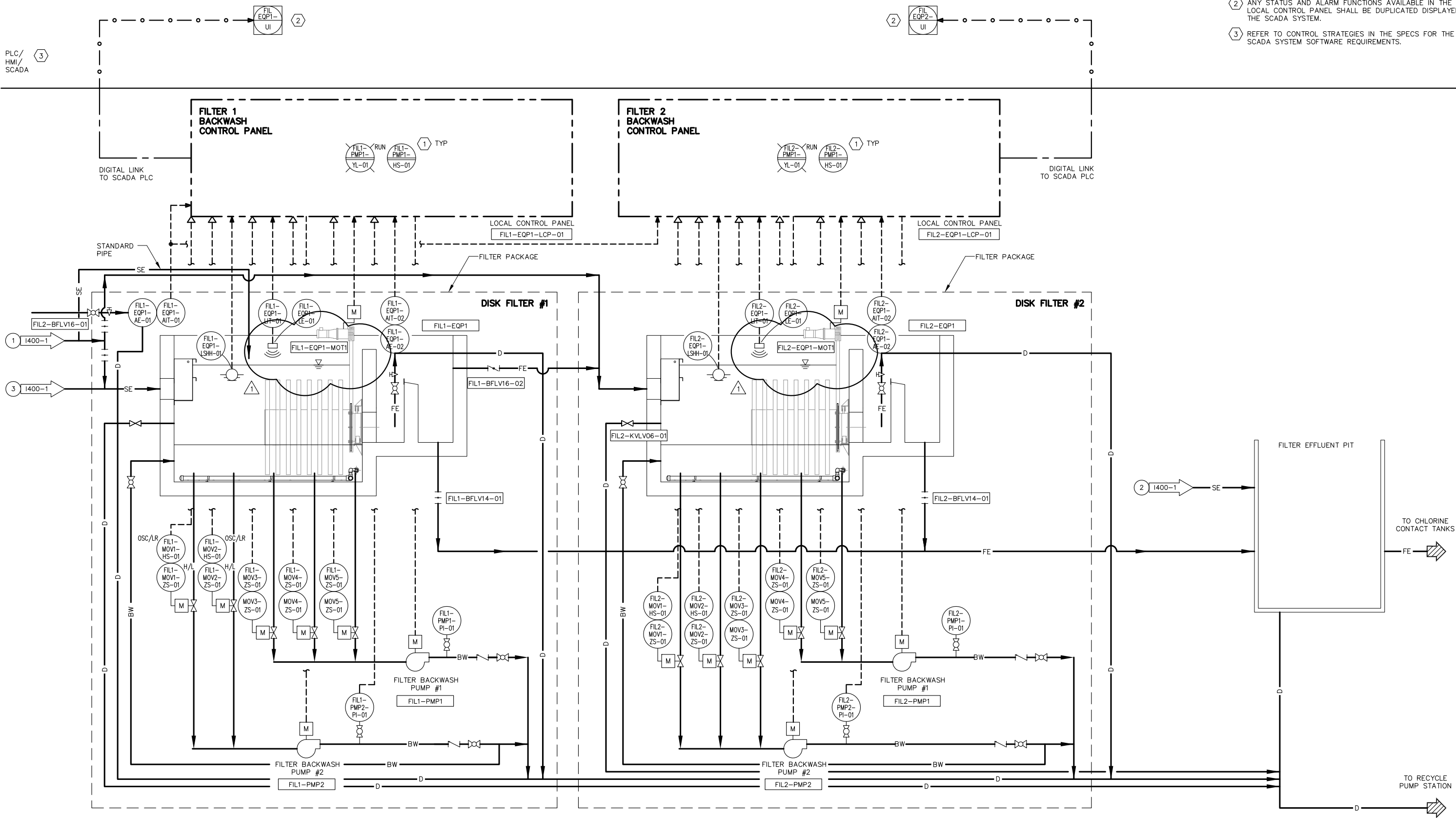
TREATMENT AND WET WEATHER FLOW UPGRADE

P&ID

TERTIARY FILTER/PUMPING

DWG NO	1400-1
SHEET NO	223 OF 226
PROJ NO	055-006
DATE	MARCH 2017

- SHEET NOTES:**
- 1 THESE ARE TYPICAL CONTROL AND INSTRUMENTATION FUNCTIONS PROVIDED BY THE LOCAL CONTROL PANEL. REFER TO SPECIFICATIONS FOR DETAILS OF PACKAGED EQUIPMENT.
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0" = 1"

VERIFY SCALES —
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SIZE DRAWING.
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DRAWING, ADJUST
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RMC

water and environment

REV

DATE

BY

APVD

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DN

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RMC PROJECT ENGINEER CE-64369

APPROVED: STEVE CLARY

RMC ENGINEER CE-30318

SANUELITO • MARIN CITY

SANITARY DISTRICT

TREATMENT AND WET WEATHER FLOW UPGRADE

P&ID

TERTIARY FILTER PACKAGES

DWG NO

1400-2

SHEET NO

224 OF 226

PROJ NO

055-006

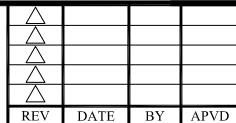
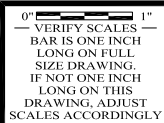
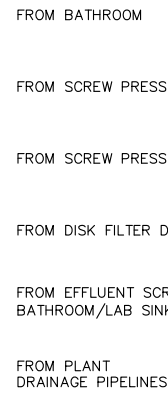
DATE

MARCH 2017

FILENAME: 286F-1400-2 Addendum 1 3-28-17 01:50pm Loc XREFS: X-SMCSB-TBLX <<--

Last Saved By: Loc 3-28-17 01:41pm

1 REFER TO CONTROL STRATEGIES IN THE SPECS FOR THE SCADA SYSTEM SOFTWARE REQUIREMENTS.



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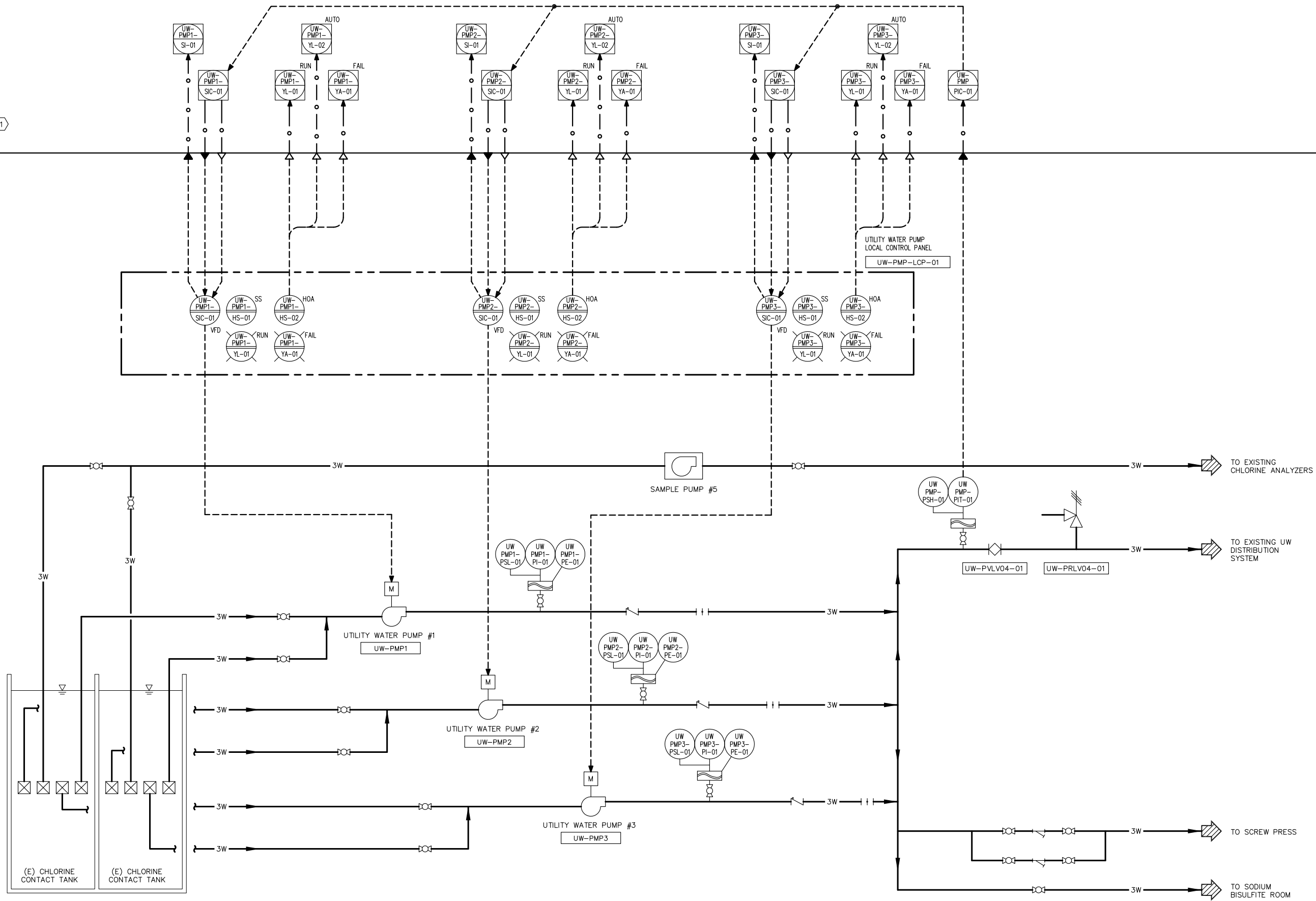


WG NO	I500-1
SHEET NO	225 OF 226
PROJ NO	055-006
DATE	MARCH 2017

SHEET NOTES:
1 REFER TO CONTROL STRATEGIES IN THE SPECS FOR THE SCADA SYSTEM SOFTWARE REQUIREMENTS.

PLC/
HMI/
SCADA

1



FILENAME: 286F-1600-1 3-28-17 01:50pm Loc: XREFS: X-SMCSO-TBLK K<<--



0" = 1"
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RMC PROJECT ENGINEER	
APPROVED: STEVE CLARY	CE-30318
RMC ENGINEER	



TREATMENT AND WET WEATHER FLOW UPGRADE
P&ID
UTILITY WATER PUMP STATION

DWG NO	1600-1
SHEET NO	226 OF 226
PROJ NO	055-006
DATE	MARCH 2017