

# Construction Plans for

# CITY OF MANTECA

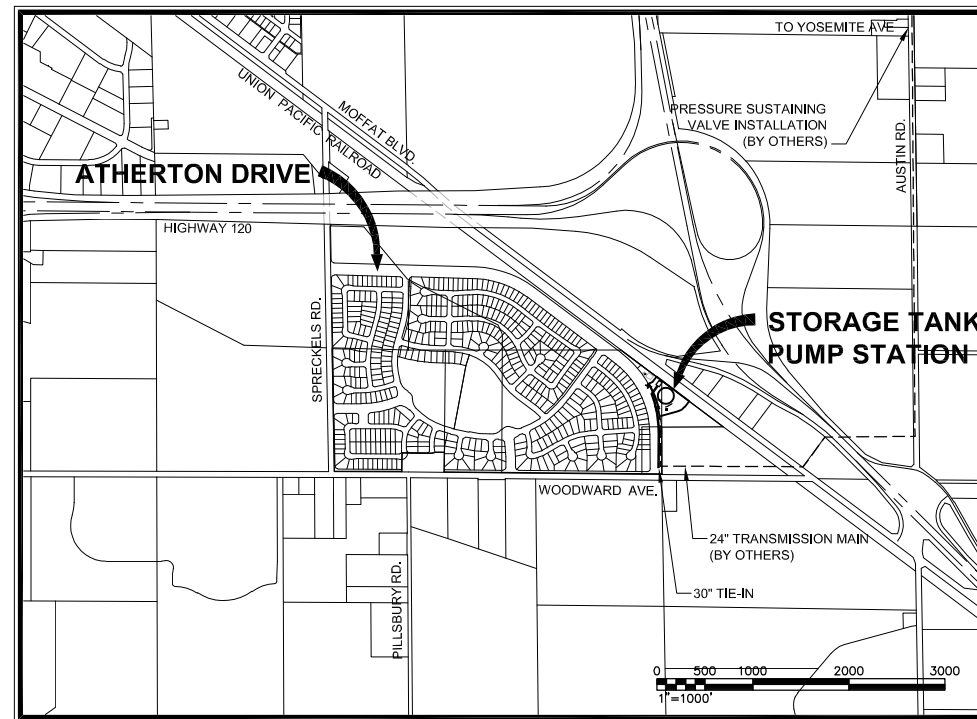
# WATER STORAGE TANK AND BOOSTER PUMP STATION DESIGN BUILD PROJECT

## 30% LEVEL DESIGN

MARCH 2013

### DRAWING INDEX

DWG. NO.	SHT. NO.	DRAWING TITLE
<b>GENERAL</b>		
1	G1	TITLE SHEET, VICINITY MAP AND DRAWING INDEX
2	G2	SYMBOLS ABBREVIATIONS AND GENERAL NOTES
3	G3	DESIGN / BUILD NOTES
<b>CIVIL</b>		
4	C1	SITE GRADING AND PAVING PLAN
5	C2	YARD PIPING PLAN
6	C3	TANK PLAN, SECTION AND DETAILS
7	C4	DETAILS
8	C5	DETAILS
<b>ARCHITECTURAL</b>		
9	A1	ARCHITECTURAL ELEVATIONS
10	A2	ARCHITECTURAL FLOOR AND ROOF PLAN
<b>MECHANICAL</b>		
11	M1	BOOSTER PUMP STATION PLAN, SECTION AND DETAILS
<b>ELECTRICAL</b>		
12	E1	SYMBOLS AND ABBREVIATIONS
13	E2	SINGLE LINE DIAGRAM, MCC AND SWITCHBOARD ELEVATION
14	E3	ELECTRICAL SITE PLAN
15	E4	BUILDING POWER AND LIGHTING PLANS
<b>INSTRUMENTATION</b>		
16	I1	PROCESS AND INSTRUMENTATION DIAGRAM SYMBOLS AND ABBREVIATIONS
17	I2	PROCESS AND INSTRUMENTATION DIAGRAM WATER STORAGE TANK
18	I3	PROCESS AND INSTRUMENTATION DIAGRAM BOOSTER PUMP STATION
19	I4	PROCESS AND INSTRUMENTATION DIAGRAM TREATMENT AND GENERATOR



**VICINITY MAP**

SCALE: 1" = 1000'

BUILDING CODE DATA LEGEND		
DESCRIPTION OF USE	WATER TANK	BOOSTER PUMP STATION
OCCUPANCY	NONE	F-1
TYPE OF CONSTRUCTION	STEEL TANK	TYPE V-N
FLOOR AREA	N/A	-
HEIGHT	31 FEET	16' (ONE STORY)

**NOTE:**

- THIS DESIGN PACKAGE REPRESENTS AN APPROXIMATE 30% LEVEL OF DESIGN REFLECTING SITE CONFIGURATION, PIPING, EQUIPMENT AND FACILITIES FEATURES AND SHALL BE THE BASIS FOR THE CONSTRUCTION READY DETAILED DESIGN DOCUMENTS REQUIRED BY THESE DESIGN BUILD CONTRACT DOCUMENTS.

**PRELIMINARY NOT FOR CONSTRUCTION**

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<p><b>USE OF DOCUMENTS</b></p> <p>THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.</p>	<p><b>SCALES</b></p> <p>0 — 1" = 25mm</p> <p>IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.</p>		<p>DESIGNED: RSY</p> <p>DRAWN: CC</p> <p>CHECKED: ARP</p>	<p>CITY OF MANTECA MANTECA, CALIFORNIA</p> <p><b>WATER STORAGE TANK AND BOOSTER PUMP STATION</b></p> <p>Kennedy/Jenks Consultants 10850 GOLD CENTER DRIVE, SUITE 350, RANCHO CORDOVA, CALIFORNIA 95670</p>	<p><b>TITLE SHEET, VICINITY MAP AND DRAWING INDEX</b></p>	<p>FILE NAME: 127001400g01</p> <p>JOB NO.: 1270014.00</p> <p>DATE: FEBRUARY 2013</p> <p>SHEET <b>G1</b> OF 19</p>	
NO.	REVISION	DATE	BY				

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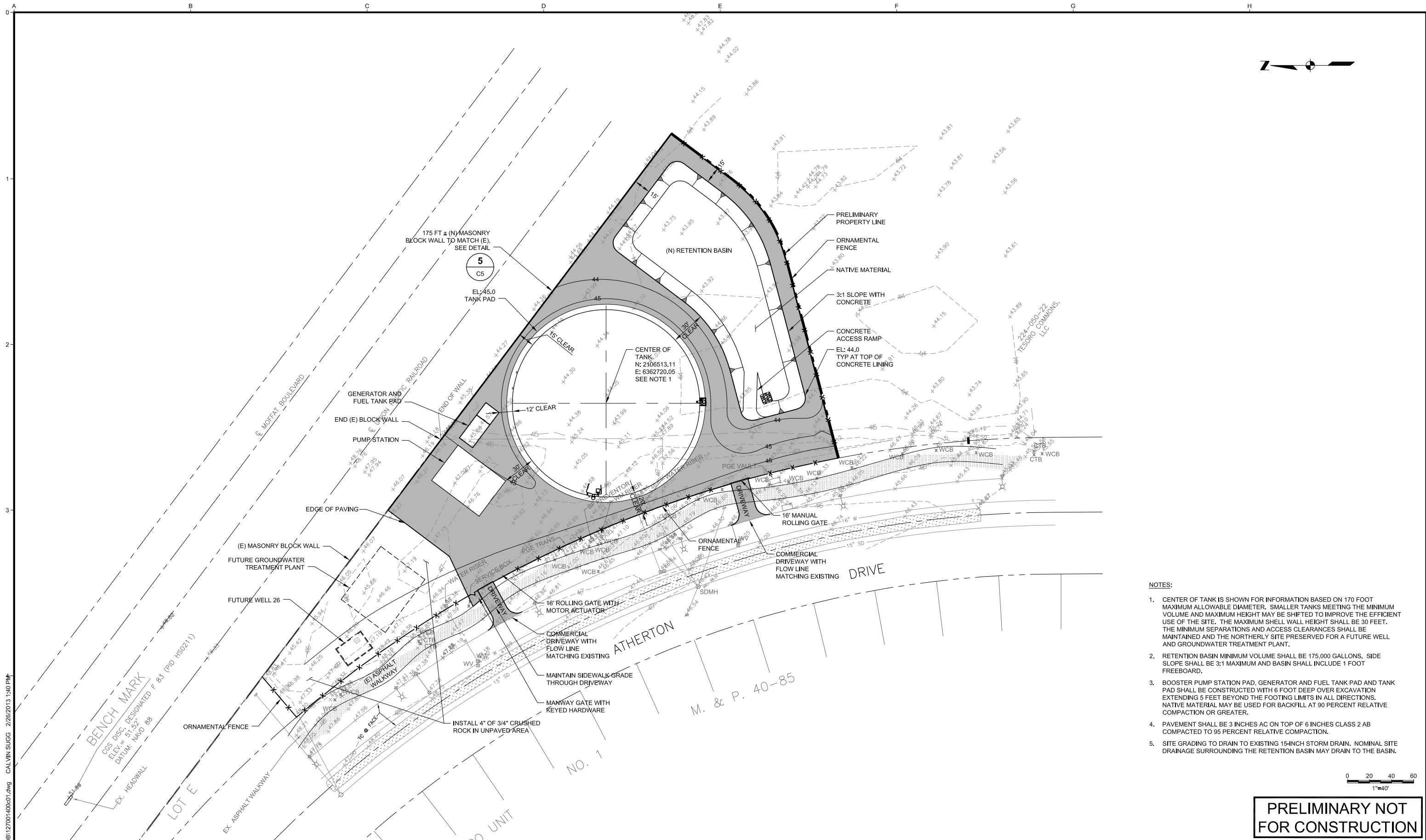
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THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PRESERVATION OF ALL SUCH FACILITIES IN THE AREA OF CONSTRUCTION AND SHALL NOTIFY UTILITIES FORTY-EIGHT HOURS IN ADVANCE OF ANY CONSTRUCTION.</li> <li>3. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE REMOVAL OR RELOCATION OF ALL EXISTING UTILITIES WITH RESPECTIVE UTILITY COMPANIES.</li> <li>4. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE CITY ENGINEER.</li> <li>5. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL LIGHTS, SIGNS, BARRICADES, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT ISSUE OF "MANUAL OF TRAFFIC CONTROL WARNING SIGNS, LIGHTS AND DEVICES FOR USE IN PERFORMANCE OF WORK ON HIGHWAYS" PUBLISHED BY THE STATE OF CALIFORNIA BUSINESS AND TRANSPORTATION AGENCY.</li> <li>6. THE OFFICE OF THE CITY ENGINEER SHALL BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF ANY WORK BEING PERFORMED.</li> <li>7. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF MANTECA, DEPARTMENT OF PUBLIC WORKS STANDARD PLANS AND SPECIFICATIONS; AND THE LATEST EDITION OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS.</li> <li>8. CONTRACTOR SHALL CONDUCT SUCH FIELD INVESTIGATION AS NECESSARY TO CONFIRM EXISTING SOIL AND GEOTECHNICAL CONDITION AS MAY INFLUENCE THE DESIGN.</li> <li>9. A SEVEN (7) DAY NOTICE SHALL BE GIVEN FOR ANY PLANNED DISRUPTION AND THE CITY OF MANTECA OR ASSOCIATED UTILITY COMPANY AND RESIDENCES TO BE AFFECTED SHALL BE NOTIFIED IMMEDIATELY UPON ANY UTILITY SERVICE DISRUPTION OTHER THAN SPECIFIED ON THESE IMPROVEMENT PLANS.</li> <li>10. DUST SHALL BE CONTROLLED PER SECTION 10 OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS.</li> <li>11. AN ENCROACHMENT PERMIT SHALL BE OBTAINED FROM THE CITY OF MANTECA, DEPARTMENT OF PUBLIC WORKS AND ALL OTHER APPLICABLE AGENCIES PRIOR TO COMMENCEMENT OF WORK WITHIN EXISTING RIGHT-OF-WAY.</li> <li>12. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL ITEMS DISTURBED DURING CONSTRUCTION TO THE SATISFACTION OF THE OWNER INCLUDING UTILITIES, DRAINAGE, CULVERTS, PRIVATE DRIVEWAYS AND FENCING.</li> <li>13. THE CONTRACTOR SHALL SECURE A TRENCH PERMIT FROM THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO EXCAVATION OF ANY TRENCH OVER FIVE FEET IN DEPTH.</li> <li>14. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS ABOVE 50°F.</li> <li>15. MANHOLE CASTINGS AND COVERS SHALL BE ADJUSTED TO FINAL GRADES BY THE PAVING CONTRACTOR AFTER PAVING REPAIRS OR IMPROVEMENTS ARE COMPLETED.</li> <li>16. ALL WATER LINES SHALL BE TESTED AND DISINFECTED IN COMPLIANCE WITH THE REQUIREMENTS OF AWWA C-651, THE CITY OF MANTECA'S STANDARD PLANS AND SPECIFICATION, PRIOR TO FINAL ACCEPTANCE.</li> <li>17. EXISTING OVERHEAD ELECTRIC AND TELEPHONE TRANSMISSION LINES MAY BE LOCATED AT OR NEAR THE SITE. THESE OVERHEAD UTILITIES ARE NOT SHOWN ON THE DRAWINGS. EXTREME CAUTION SHALL BE USED WHEN WORKING IN THE VICINITY OF OVERHEAD UTILITIES SO AS TO PREVENT INJURY TO WORKMEN OR DAMAGE TO THE UTILITIES.</li> <li>18. THE CONSTRUCTION READY DETAILED DESIGN DRAWINGS SHALL BE COORDINATED AND USED IN CONJUNCTION WITH FAVORABLY REVIEWED PIPE AND EQUIPMENT SHOP DRAWINGS.</li> <li>19. THE CONTRACTOR IS RESPONSIBLE FOR ASSURING THAT ALL PIPELINES, VALVES AND FITTINGS ARE ADEQUATELY RESTRAINED AGAINST JOINT SEPARATION WHETHER OR NOT RESTRAINED JOINTS ARE SHOWN ON THE DRAWINGS.</li> </ol>
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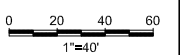
<p><b>USE OF DOCUMENTS</b></p> <p>THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.</p>	<p><b>SCALES</b></p> <p>0 1" = 1"</p> <p>0 25mm = 1"</p> <p>IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.</p>		<p>DESIGNED: RSY</p> <p>DRAWN: CC</p> <p>CHECKED: ARP</p>	<p>CITY OF MANTECA MANTECA, CALIFORNIA</p> <p><b>WATER STORAGE TANK AND BOOSTER PUMP STATION</b></p> <p>Kennedy/Jenks Consultants 10850 GOLD CENTER DRIVE, SUITE 350, RANCHO CORDOVA, CALIFORNIA 95670</p>	<p><b>SYMBOLS, ABBREVIATIONS AND GENERAL NOTES</b></p>	<p>FILE NAME: 127001400g02</p> <p>JOB NO.: 1270014.00</p> <p>DATE: FEBRUARY 2013</p> <p>SHEET OF 19</p> <p style="font-size: 24pt; font-weight: bold; text-align: center;">G2</p>
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- NOTES:**
- CENTER OF TANK IS SHOWN FOR INFORMATION BASED ON 170 FOOT MAXIMUM ALLOWABLE DIAMETER. SMALLER TANKS MEETING THE MINIMUM VOLUME AND MAXIMUM HEIGHT MAY BE SHIFTED TO IMPROVE THE EFFICIENT USE OF THE SITE. THE MAXIMUM SHELL WALL HEIGHT SHALL BE 30 FEET. THE MINIMUM SEPARATIONS AND ACCESS CLEARANCES SHALL BE MAINTAINED AND THE NORTHERLY SITE PRESERVED FOR A FUTURE WELL AND GROUNDWATER TREATMENT PLANT.
  - RETENTION BASIN MINIMUM VOLUME SHALL BE 175,000 GALLONS. SIDE SLOPE SHALL BE 3:1 MAXIMUM AND BASIN SHALL INCLUDE 1 FOOT FREEBOARD.
  - BOOSTER PUMP STATION PAD, GENERATOR AND FUEL TANK PAD AND TANK PAD SHALL BE CONSTRUCTED WITH 6 FOOT DEEP OVER EXCAVATION EXTENDING 5 FEET BEYOND THE FOOTING LIMITS IN ALL DIRECTIONS. NATIVE MATERIAL MAY BE USED FOR BACKFILL AT 90 PERCENT RELATIVE COMPACTION OR GREATER.
  - PAVEMENT SHALL BE 3 INCHES AC ON TOP OF 6 INCHES CLASS 2 AB COMPACTED TO 95 PERCENT RELATIVE COMPACTION.
  - SITE GRADING TO DRAIN TO EXISTING 15-INCH STORM DRAIN. NOMINAL SITE DRAINAGE SURROUNDING THE RETENTION BASIN MAY DRAIN TO THE BASIN.



**PRELIMINARY NOT FOR CONSTRUCTION**

**USE OF DOCUMENTS**

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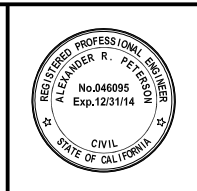
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**SCALES**

0 1" = 40'

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.



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RSY

DRAWN  
HCS

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ARP

CITY OF MANTECA  
MANTECA, CALIFORNIA

**WATER STORAGE TANK  
AND BOOSTER PUMP STATION**

Kennedy/Jenks Consultants  
10850 GOLD CENTER DRIVE, SUITE 350, RANCHO CORDOVA, CALIFORNIA 95670

**SITE GRADING AND PAVING PLAN**

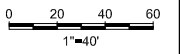
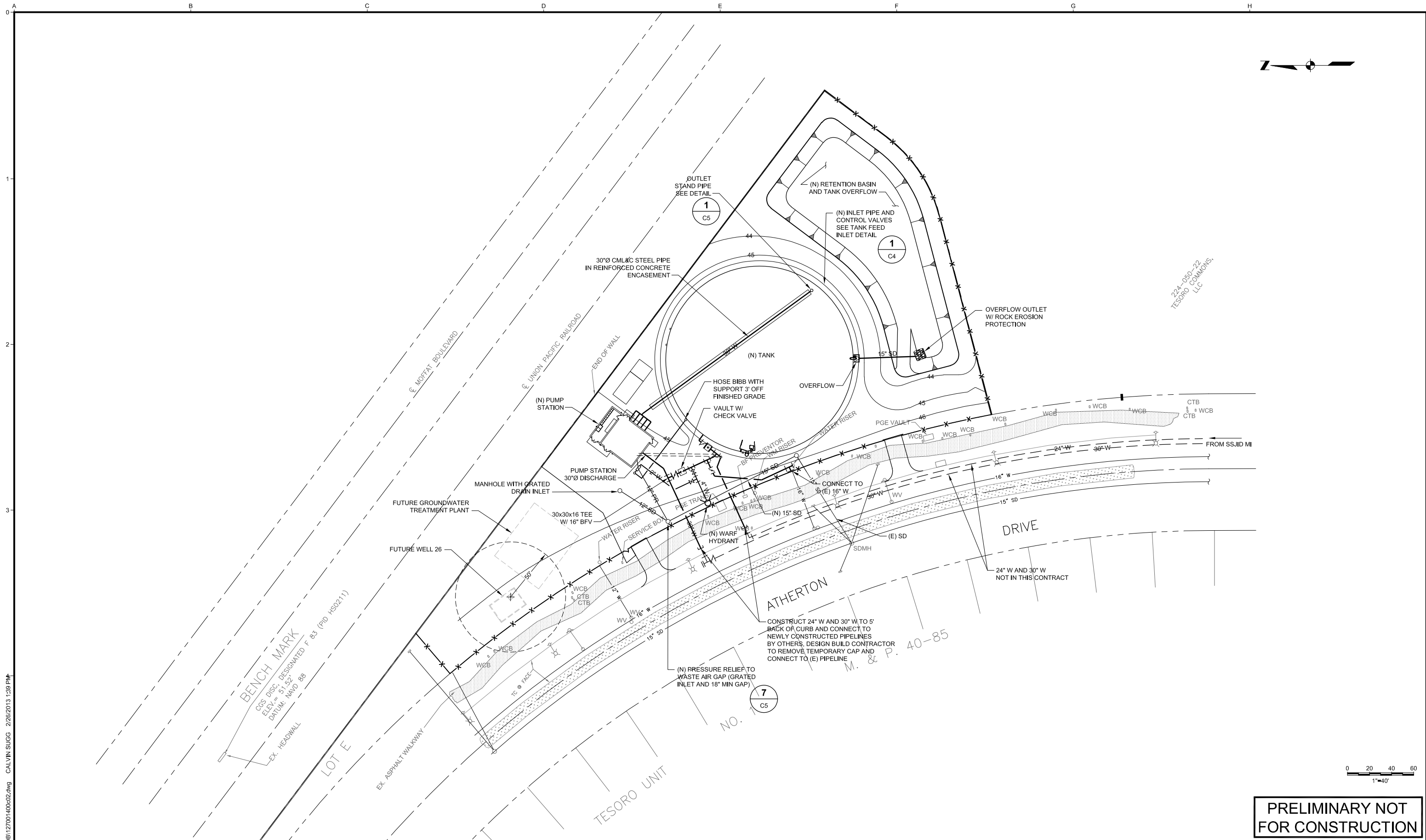
FILE NAME  
127001400c01

JOB NO.  
1270014.00

DATE  
FEBRUARY 2013

SHEET OF 19  
**C1**

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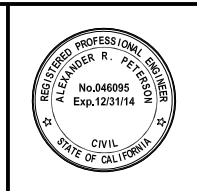
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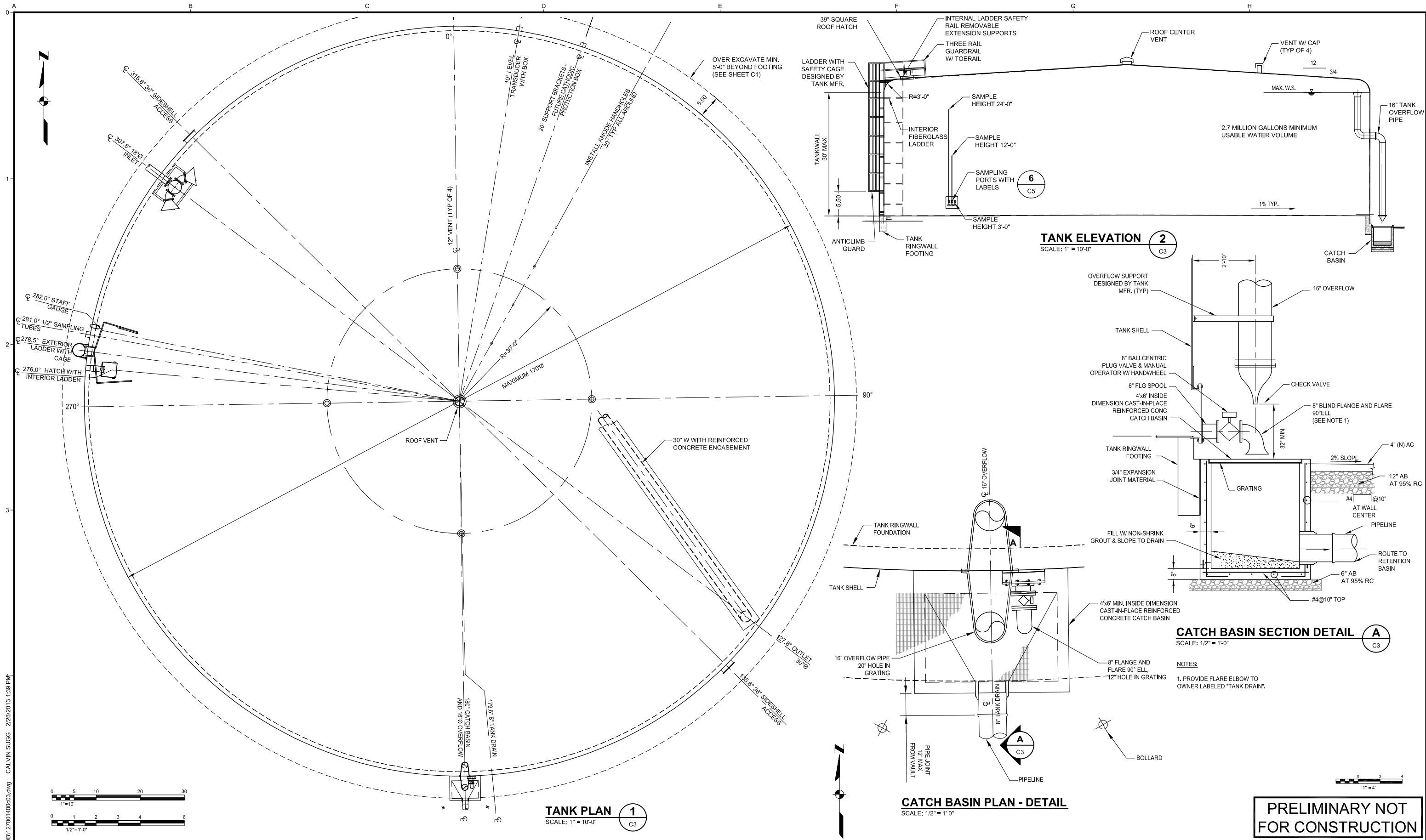


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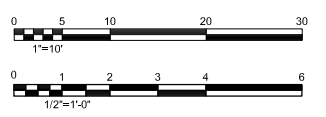
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 MANTECA, CALIFORNIA  
**WATER STORAGE TANK AND BOOSTER PUMP STATION**  
 Kennedy/Jenks Consultants  
 10850 GOLD CENTER DRIVE, SUITE 350, RANCHO CORDOVA, CALIFORNIA 95670

**YARD PIPING PLAN**

FILE NAME: 127001400c02  
 JOB NO.: 1270014.00  
 DATE: FEBRUARY 2013  
 SHEET OF 19  
**C2**



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**TANK PLAN 1**  
SCALE: 1" = 10'-0" C3

**TANK ELEVATION 2**  
SCALE: 1" = 10'-0" C3

**CATCH BASIN SECTION DETAIL A**  
SCALE: 1/2" = 1'-0" C3

**CATCH BASIN PLAN - DETAIL**  
SCALE: 1/2" = 1'-0" C3

**NOTES:**  
1. PROVIDE FLARE ELBOW TO OWNER LABELED 'TANK DRAIN'.

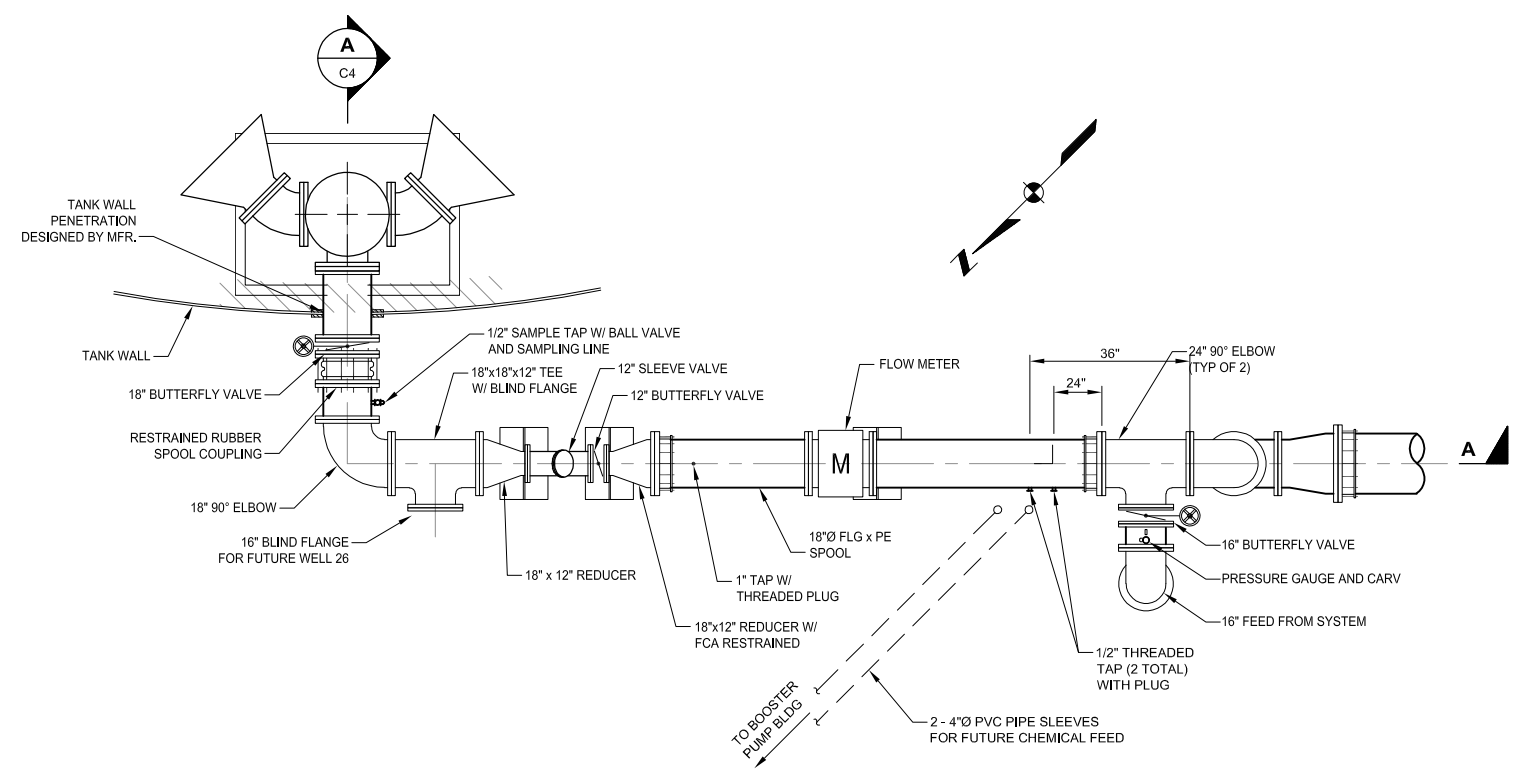
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								JOB NO. 1270014.00
								DATE FEBRUARY 2013
								SHEET OF 19 <b>C3</b>

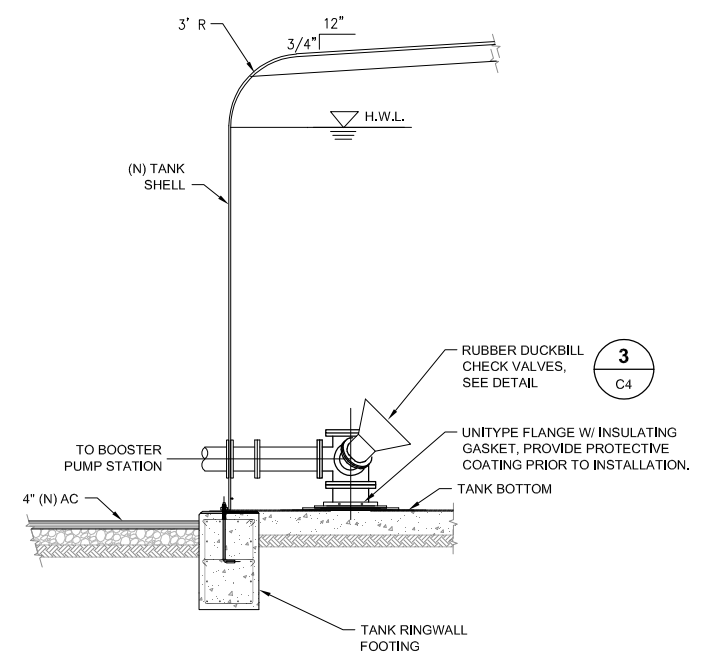


**SCALES**  
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 IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

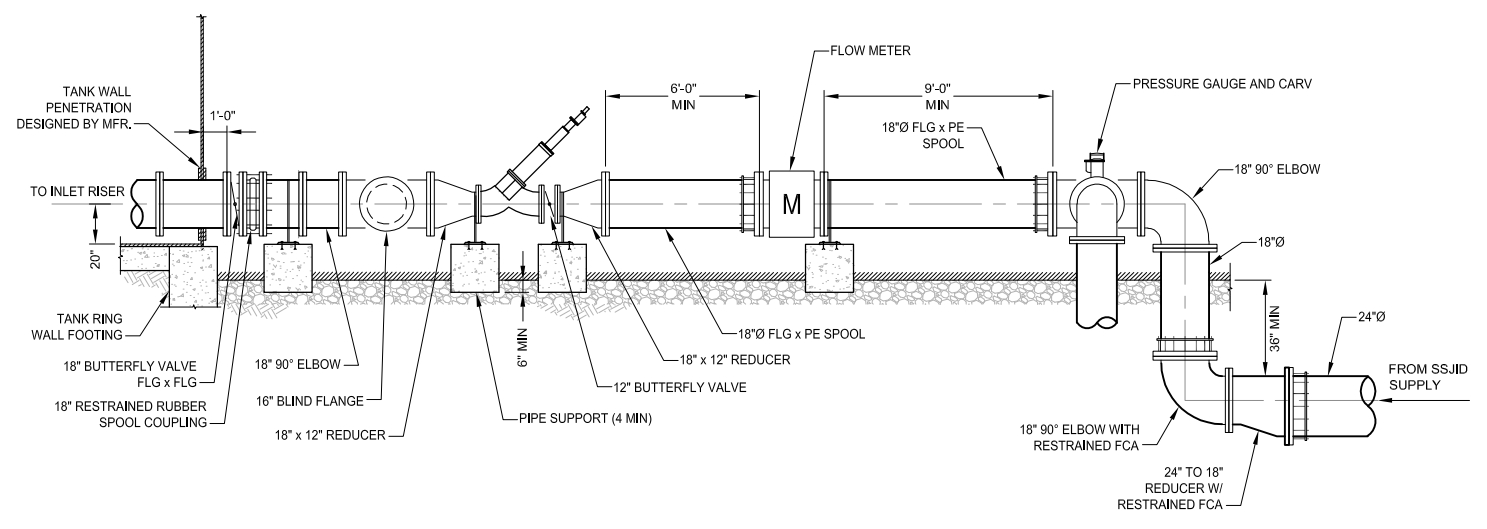
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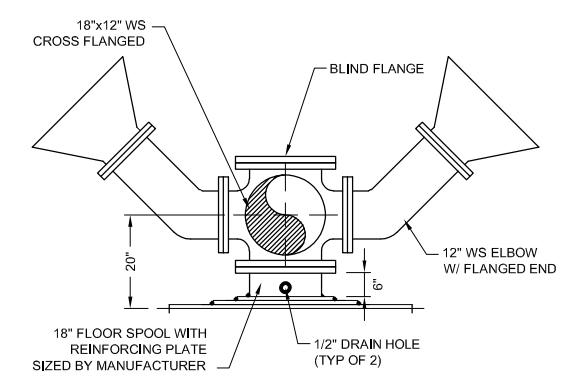
**TANK FEED INLET DETAIL 1**  
SCALE: NTS



**INLET TANK RISER DETAIL 2**  
SCALE: NTS



**SECTION A**  
SCALE: NTS



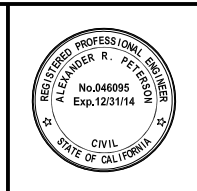
**INLET TANK RISER FLOOR CONNECTION SECTION 3**  
SCALE: NTS

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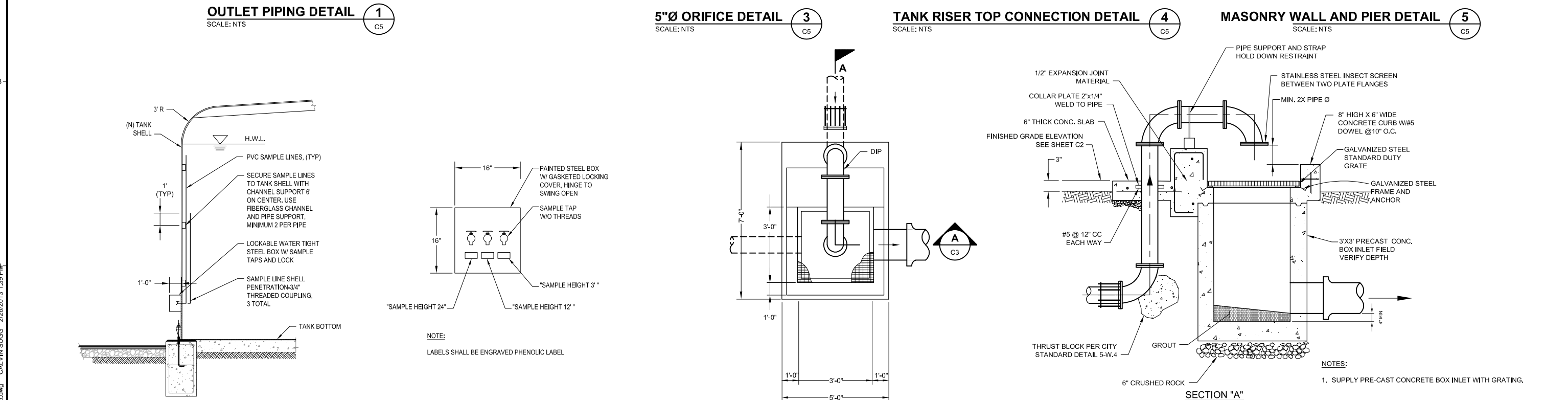
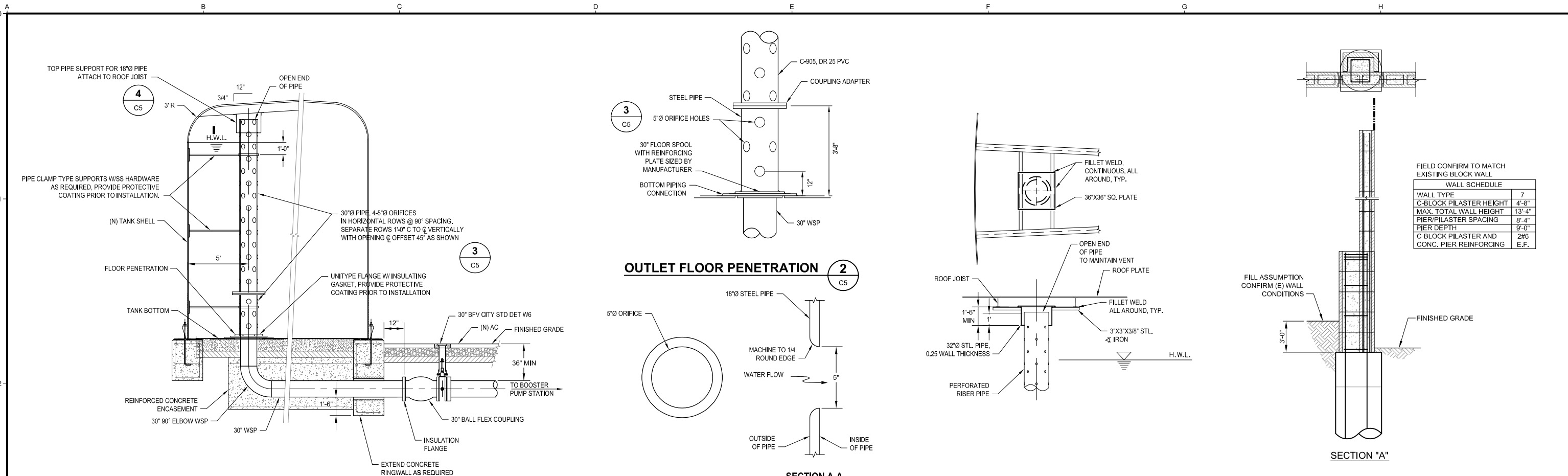


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**WATER STORAGE TANK AND BOOSTER PUMP STATION**  
Kennedy/Jenks Consultants  
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**DETAILS**

FILE NAME: 127001400c04  
JOB NO.: 1270014.00  
DATE: FEBRUARY 2013  
SHEET OF 19  
**C4**

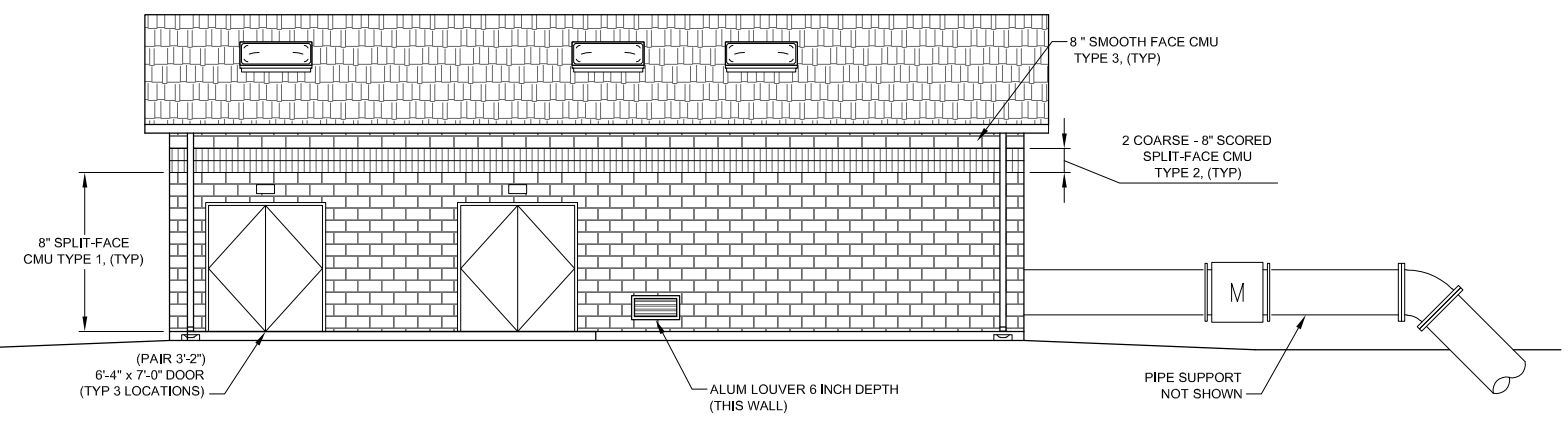


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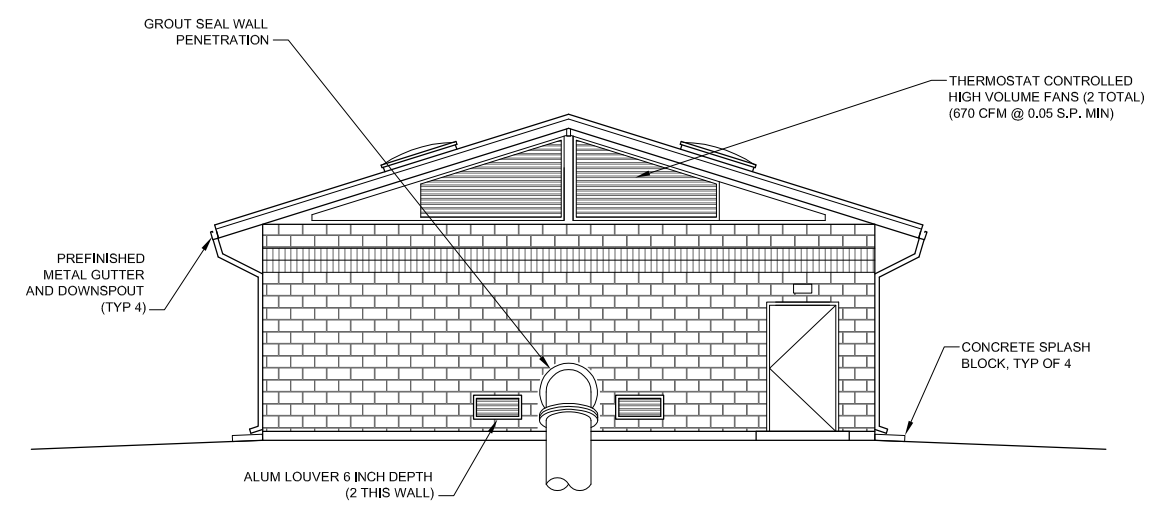
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		NO.	REVISION	DATE	BY																		
DRAWN HCS	JOB NO. 1270014.00																						
CHECKED ARP	DATE FEBRUARY 2013	SHEET OF 19	<b>C5</b>																				

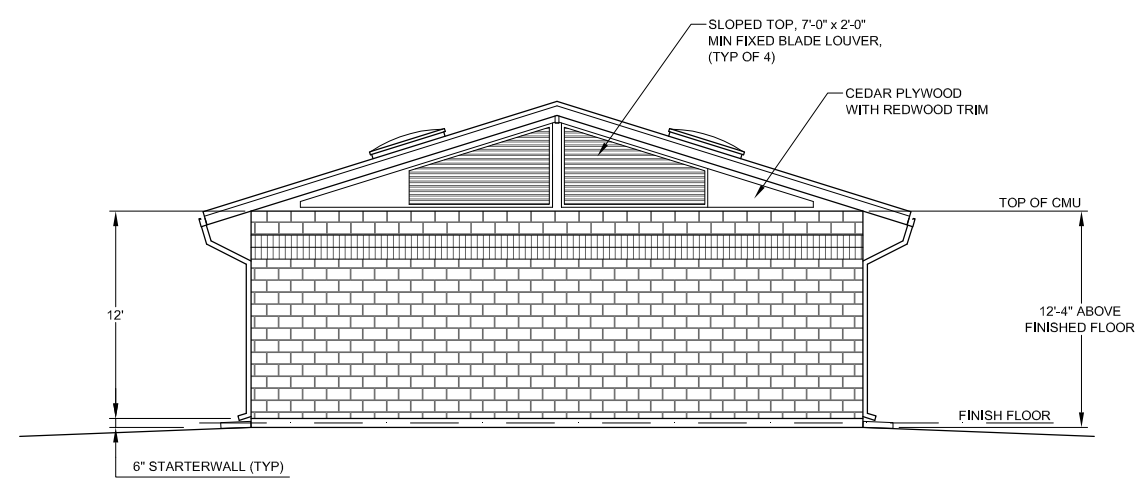
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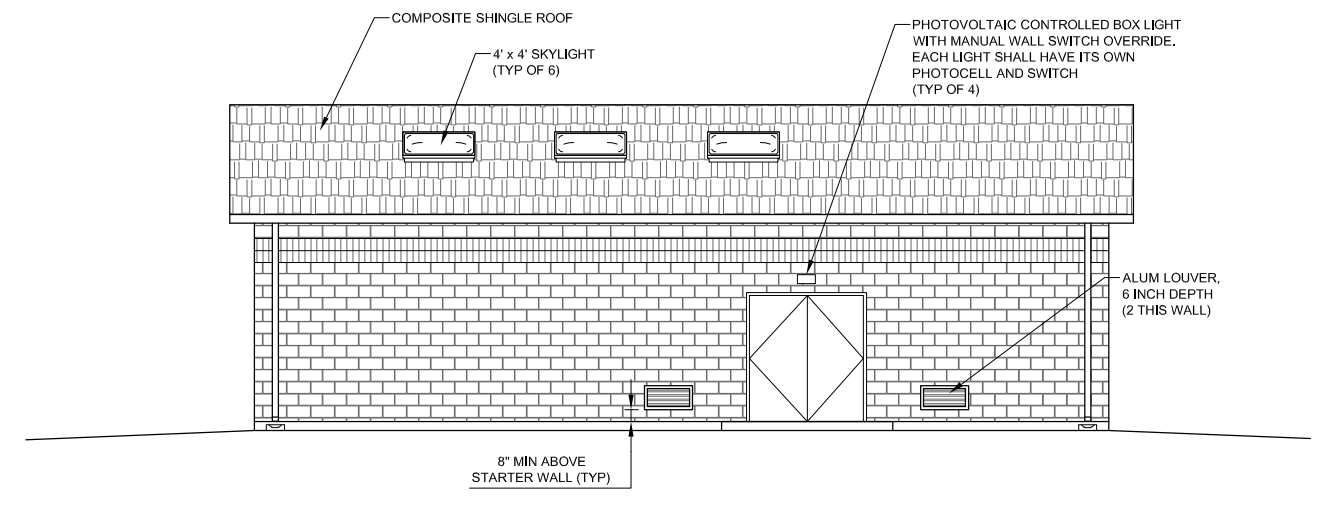
**WEST ELEVATION** 1  
SCALE: 1" = 3/16"  
A2



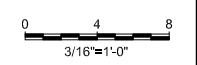
**SOUTH ELEVATION** 2  
SCALE: 1" = 3/16"  
A2



**NORTH ELEVATION** 1  
SCALE: 1" = 3/16"  
A2



**EAST ELEVATION** 2  
SCALE: 1" = 3/16"  
A2

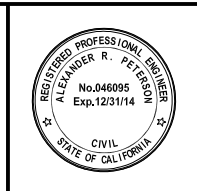


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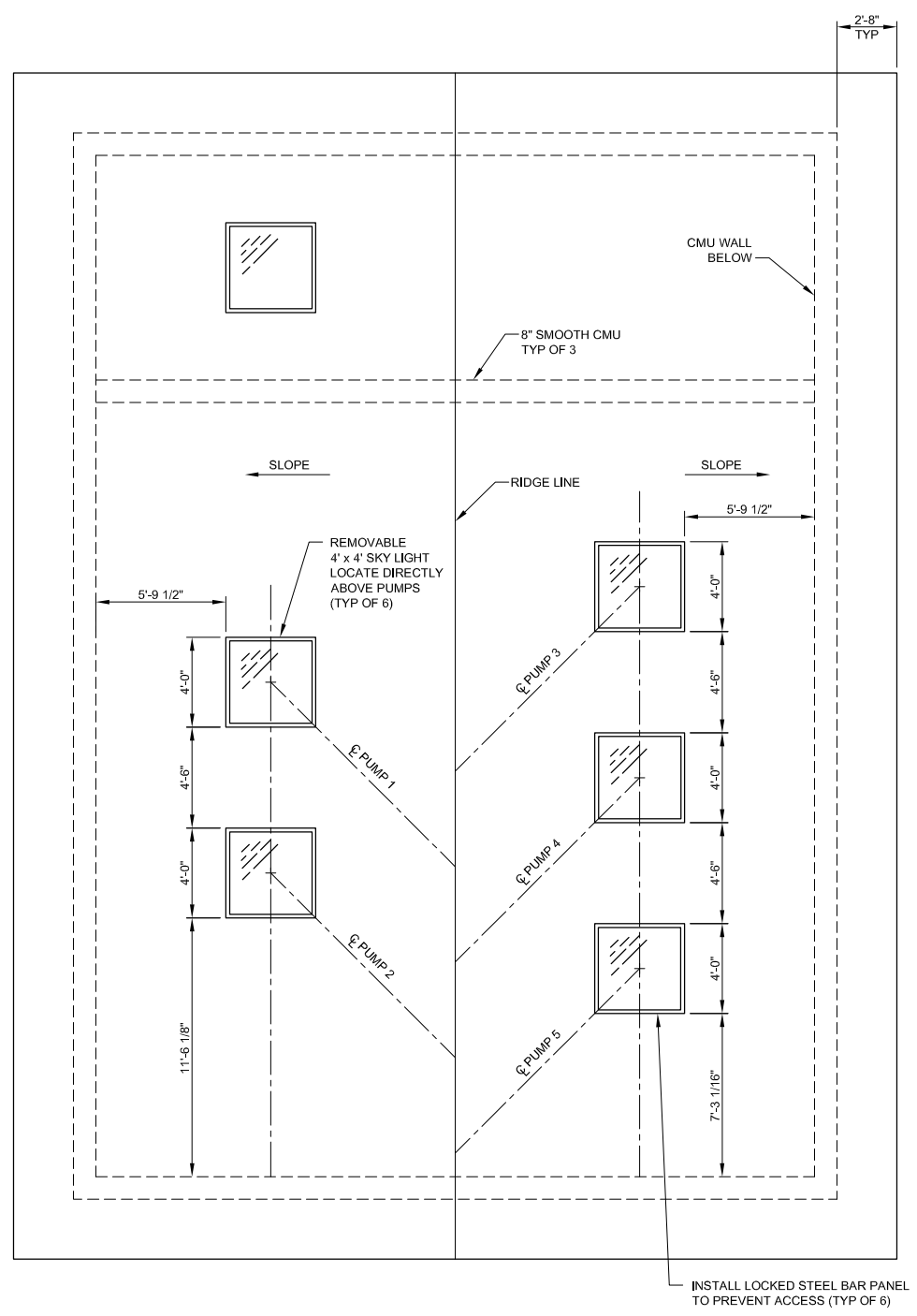
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**WATER STORAGE TANK AND BOOSTER PUMP STATION**  
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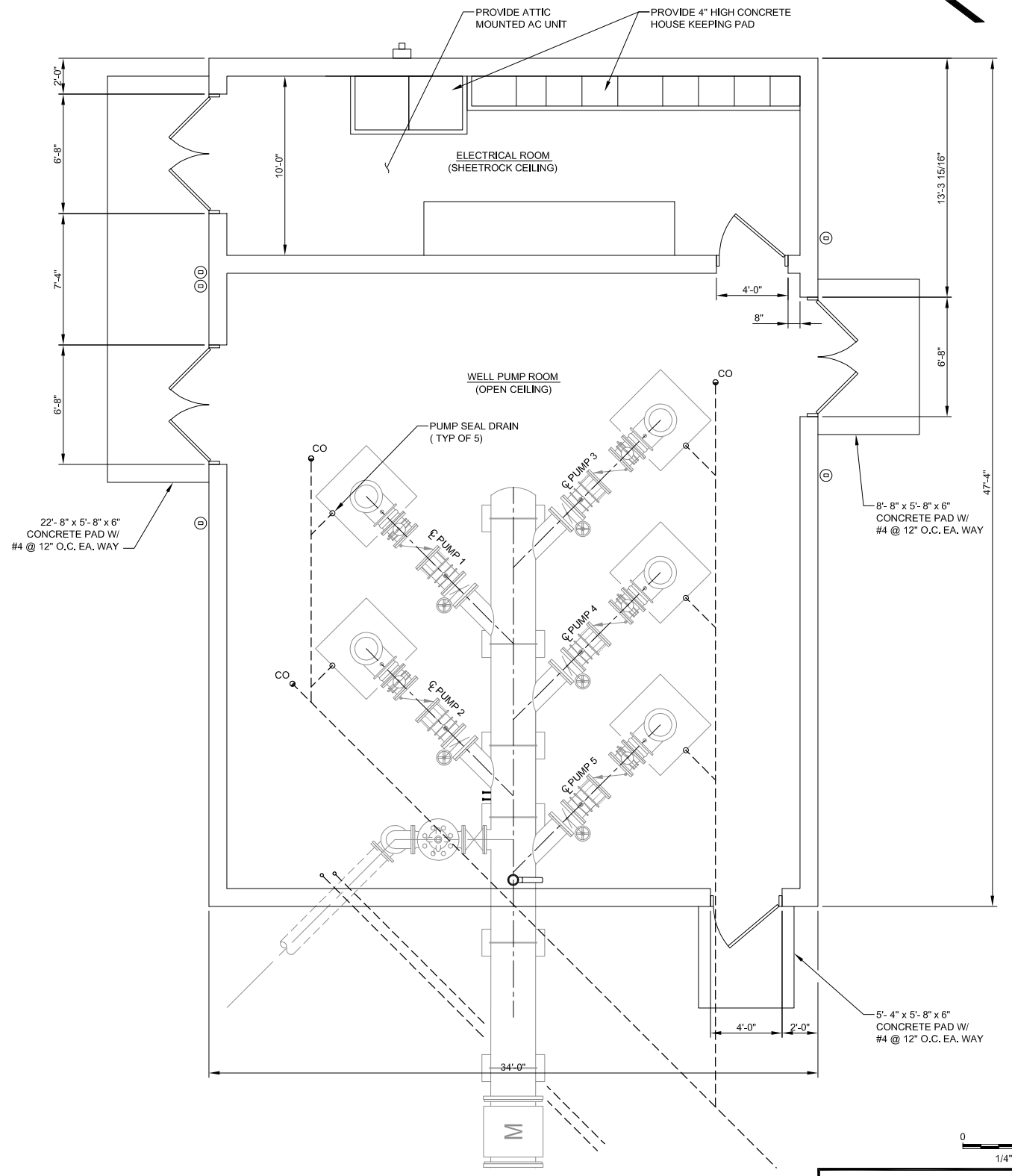
**ARCHITECTURAL ELEVATIONS**

FILE NAME: 127001400a01  
JOB NO.: 1270014.00  
DATE: FEBRUARY 2013  
SHEET OF 19  
**A1**

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



**FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

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**USE OF DOCUMENTS**

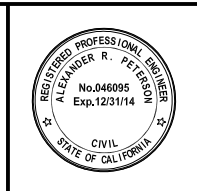
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**SCALES**

0 1" 25mm

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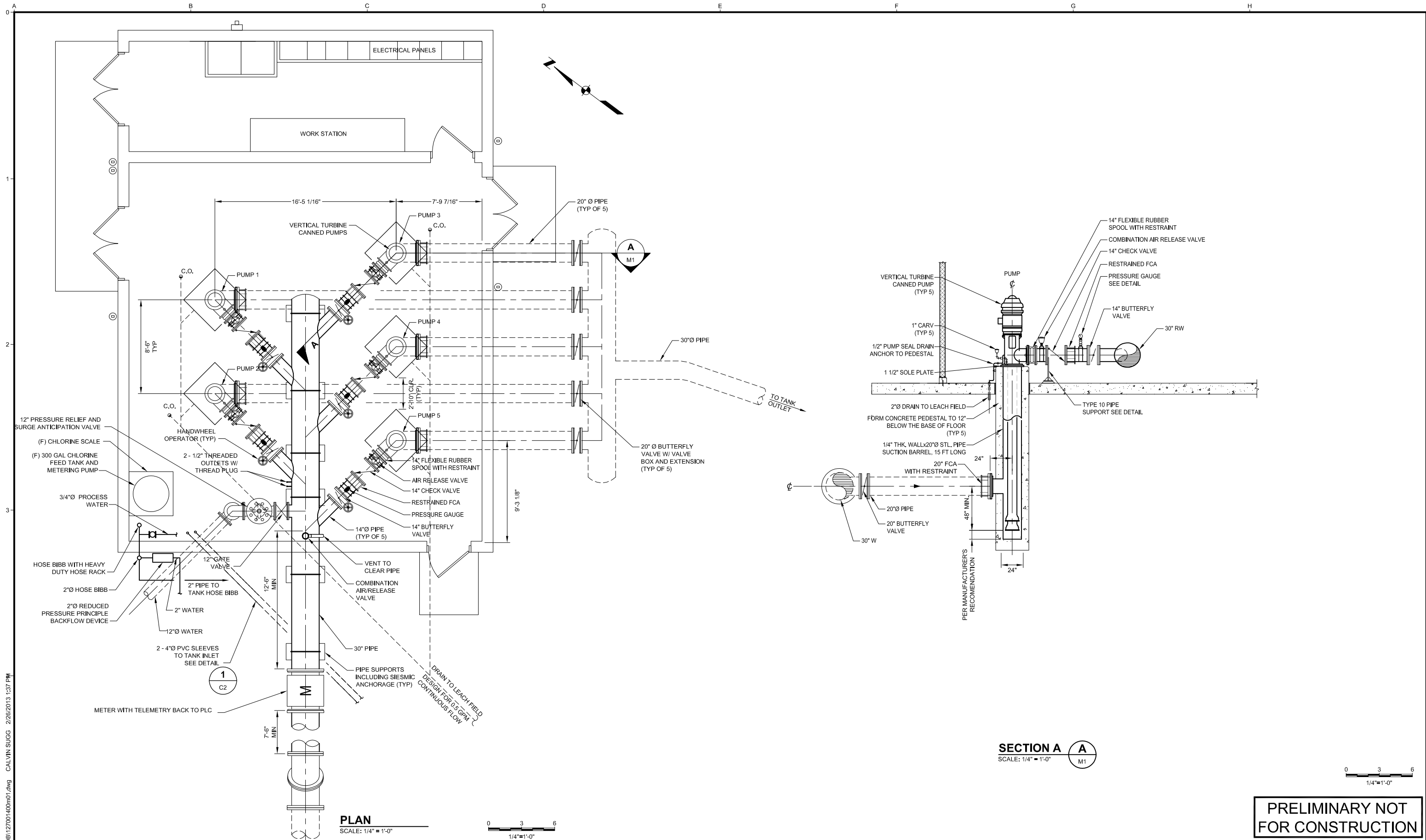
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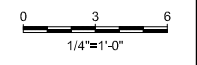
**ARCHITECTURAL FLOOR AND ROOF PLAN**

FILE NAME: 127001400a02  
JOB NO.: 1270014.00  
DATE: FEBRUARY 2013  
SHEET OF 19  
**A2**



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

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



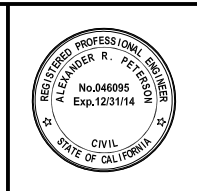
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**BOOSTER PUMP STATION PLAN SECTIONS AND DETAILS**

FILE NAME: 127001400m01  
JOB NO.: 1270014.00  
DATE: FEBRUARY 2013  
SHEET OF 19  
**M1**

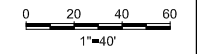
**SYMBOLS LIST**

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CONDUIT & WIRE IDENTIFICATION TAG		JUNCTION BOX		NAMEPLATE
	AMMETER 250 DEGREE SCALE		GROUND		ANALYZER ELEMENT
	VOLT METER 250 DEGREE SCALE		ALARM HORN		FLOW ELEMENT
	WATT HOUR METER AND SOCKET		THERMOSTAT		FLOW INDICATOR TRANSMITTER
	PHASE FAILURE RELAY		HEATER, ELECTRIC		FLOW SWITCH
	ELAPSED TIME METER		CIRCUIT BREAKER OPERATING HANDLE		LEVEL ELEMENT
	CONTROL STATION (SEE WIRING DIAGRAMS) COMBINATION STARTER		MOTOR, HORSEPOWER SIZE NOTED		LEVEL INDICATOR TRANSMITTER
	LOCK-OFF-STOP SELECTOR SWITCH		MOTOR STARTER CONTACTOR COIL		LEVEL SWITCH HIGH
	VOLT METER SWITCH, 4 POSITION		MANUAL MOTOR STARTER		LEVEL SWITCH LOW
	AMMETER POSITION, 4 POSITION		DISCONNECT SWITCH - NON FUSED		LEVEL TRANSMITTER
	TRANSFORMER		DISCONNECT SWITCH - FUSED		LEVEL TRANSMITTER
	CONTROL POWER TRANSFORMER		DISCONNECT SWITCH		OXYGEN ELEMENT
	CURRENT TRANSFORMER		DISCONNECT SWITCH WITH START PB LOS & AUX CONTACT		PRESSURE INDICATOR
	METER & CURRENT TRANSFORMER		INDICATION FUSE HOLDER AMPERE SIZE SHOWN		PRESSURE SWITCH HIGH
	SELECTOR SWITCH		CURRENT TRIP RELAY		PRESSURE INDICATOR TRANSMITTER
	TIME DELAY RELAY		FUSE, AMPERE SIZE SHOWN		PHOTOELECTRIC
	LATCHING RELAY		CONDUIT RUN ON/IN WALL OR CEILING		SOLENOID VALVE
	CONTROL RELAY		CONDUIT RUN UNDER FLOOR/GROUND		LIMIT INTRUSION SWITCH
	INDUSTRIAL RELAY (MACHINE TOOL)		DENOTES NUMBER OF #12 WIRES, NO MARKS = 3/4"C, 2 #12		
	LIMIT SWITCH		DENOTES WIRE FOR GROUND FAULT CIRCUIT INTERRUPTER OR GROUND		
	INTRINSICALLY SAFE RELAY		CIRCUIT RUN DIRECT TO DESTINATION		
	TERMINAL BLOCK POINT		SEAL-OFF FITTING		
	ANTENNA MAST		WIRES CONNECTED		
	GROUND ROD		WIRES NOT CONNECTED		
			GROUND BUS		
			NEUTRAL BUS		
			PULL BOX		
			CONTACT NORMALLY OPEN		
			CONTACT NORMALLY CLOSED		
			OVERLOAD DEVICE CONTACT		
			OVERLOAD DEVICE ELEMENT		
			DISCONNECT SWITCH		
			WHITE PILOT LIGHT		

LIMIT SWITCHES			
	CLOSE ON REACHING LIMIT		
	CLOSE ON LEAVING LIMIT		
TIMED CONTACTS			
SYMBOL	NORMAL	OPEN TO CLOSED	CLOSED TO OPEN
	OPEN	DELAYED	INSTANTANEOUS
	CLOSED	INSTANTANEOUS	DELAYED
	OPEN	INSTANTANEOUS	DELAYED
	CLOSED	DELAYED	INSTANTANEOUS
SENSING SWITCHES			
CLOSE ON		SENSED VARIABLE	
RISING	FALLING		
		FLOW	
		LEVEL	
		PRESSURE	
		TEMPERATURE	

**ABBREVIATIONS**

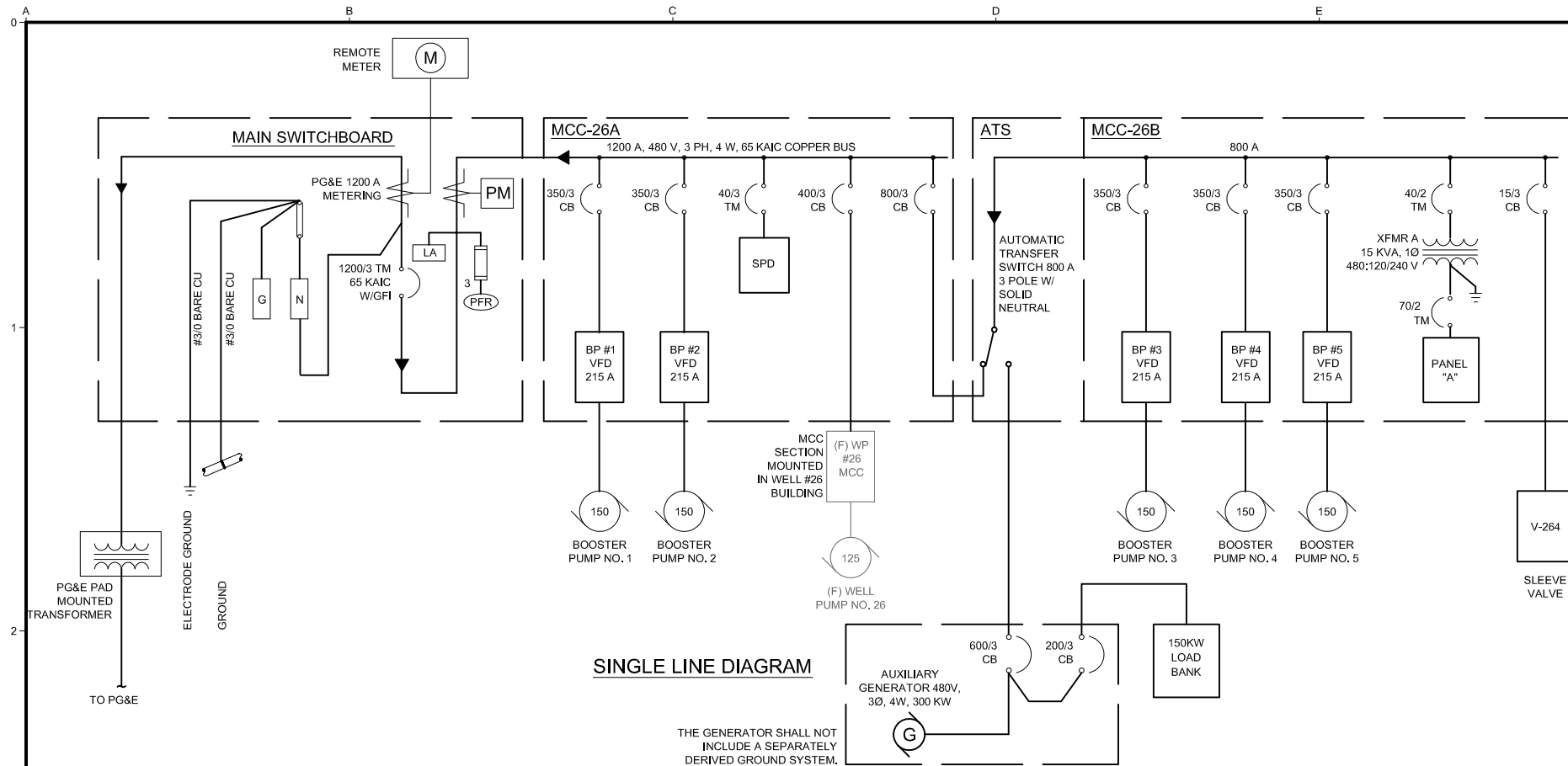
A	AMPERES	ISR	INTRINSICALLY SAFE RELAY	POC	POINT OF CONNECTION
AFD	ADJUSTABLE FREQUENCY	INST	INSTANTANEOUS	POT	POTENTIOMETER SHIELDED,
AIC	AMPS INTERRUPTING CAPACITY	JB	JUNCTION BOX	PR	PAIR CABLE
AI	ANALOG INPUT DRIVE	KVA	KILOVOLT AMPERES	PT	POTENTIAL TRANSFORMER
AO	ANALOG OUTPUT	KW	KILOWATT	PTT	PUSH TO TEST
BC	BARE COPPER	LA	LIGHTNING ARRESTER	PWR	POWER
BP	BOOSTER PUMP	LC	LIGHTNING CONTROL	R	RED
C	CONDUIT	LCP	LOCAL CONTROL PANEL	(R)	EXISTING TO BE REMOVED OR RELEASED
CB	CIRCUIT BREAKER	LOS	LOCK OFF STOP PUSH BUTTON	RSC	RIGID STEEL CONDUIT
CH	CHANNEL	LPU	LINE PROTECTION UNIT	RSC/PVC	RIGID STEEL PVC COATED
CNTL	CONTROL	mA	MILLIAMPERES	RVAT	REDUCED VOLTAGE AUTOTRANSFORMER
CP	CONTROL PANEL	MCC	MOTOR CONTROL CENTER	SOV	SOLENOID OPERATED VALVE
CPT	CONTROL POWER TRANSFORMER	MCP	MOTOR CIRCUIT PROTECTOR	SP	SOLENOID PANEL
CR	CONTROL RELAY	MFG	MANUFACTURER	SPD	SURGE PROTECTION DEVICE
CT	CURRENT TRANSFORMER	MOT	MOTOR OVERTEMPERATURE SENSOR	SWBD	SWITCHBOARD
CU	COPPER	MSB	MAIN SWITCHBOARD	SZ	SIZE
DI	DIGITAL INPUT	MT	EMPTY CONDUIT (W/ PULLROPE)	TB	TERMINAL BOX
DO	DIGITAL OUTPUT	NTS	NOT TO SCALE	TERM	TERMINAL BOX
(E)	EXISTING	N	NEUTRAL	TD	TIME DELAY RELAY
EYS	CATALOG NUMBER OF TYPICAL GAS TIGHT CONDUIT SEAL	N/A	NOT APPLICABLE	TC	TIME CLOCK
ETM	ELAPSED TIME METER	NA	NON AUTOMATIC	TM	THERMAL MAGNETIC
F	FUSE, FILTER	(N)	NEW	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
(F)	FUTURE	N.I.C.	NOT IN CONTRACT	TWSP	TWISTED SHIELDED PAIR
FSP	FILTER SOLENOID PANEL	NP	NAMEPLATE	TWP	TWISTED PAIR
FVNR	FULL VOLTAGE NON REVERSING	OI	OPERATOR INTERFACE	UPS	UNINTERRUPTABLE POWER SUPPLY
FVR	FULL VOLTAGE REVERSING	OL	OVERLOAD DEVICE	UON	UNLESS OTHERWISE NOTED
GND	GROUND	PB	PULLBOX	V	VOLTS, VOLTAGE
G	GREEN	PFR	POWER FAILURE RELAY	WP	WEATHERPROOF
GFI	GROUND FAULT CIRCUIT INTERRUPTER	PLC	PROGRAMMABLE CONTROLLER	WW	WET WELL
HIM	HUMAN INTERFACE MODULE	PNL	PANEL	XFMR	TRANSFORMER
HPS	HIGH PRESSURE SODIUM	PM	POWER MONITOR	XP	EXPLOSION PROOF
ID	INSIDE DIMENSION				



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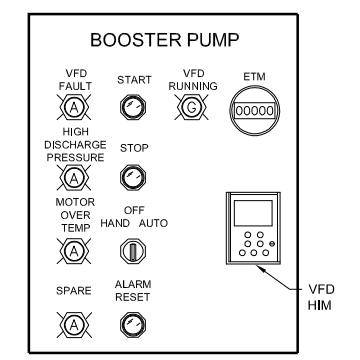
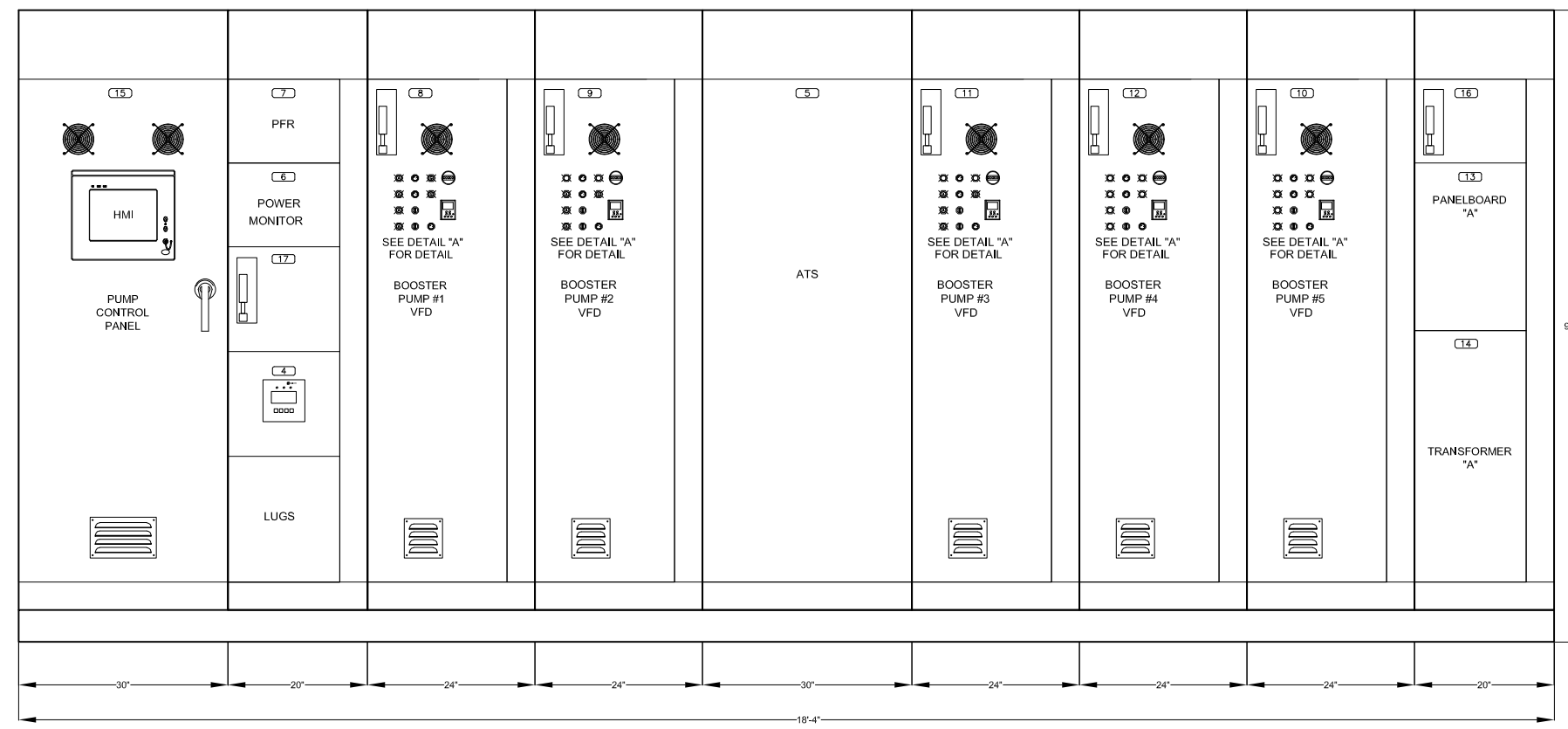
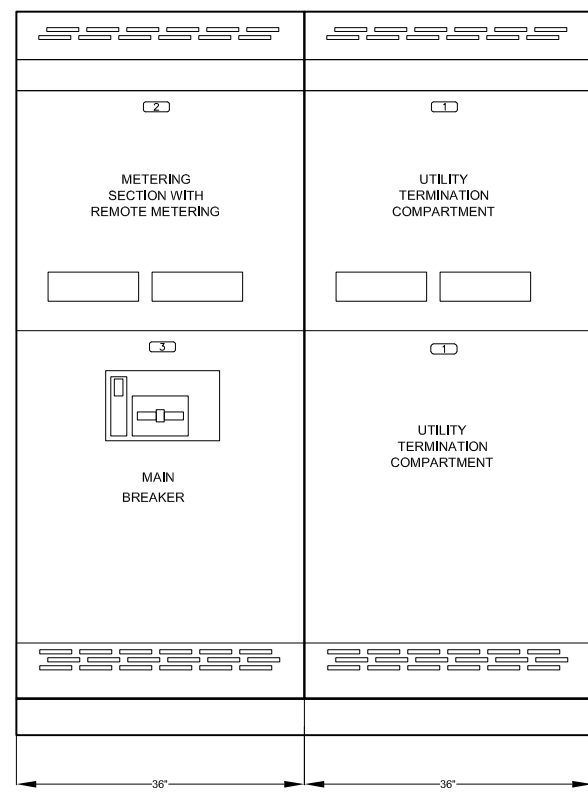
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	<p>NO.</p> <p>REVISION</p> <p>DATE</p> <p>BY</p>	<p>CHECKED</p> <p>A. PETERSON</p>		<p>DESIGNED</p> <p>C. CECIL</p>			<p>JOB NO.</p> <p>1270014.00</p>
<p>Kennedy/Jenks Consultants</p> <p>10850 GOLD CENTER DRIVE, SUITE 350, RANCHO CORDOVA, CALIFORNIA 95670</p>						<p>SHEET OF 19</p> <p><b>E1</b></p>	<p>DATE</p> <p>FEBRUARY 2013</p>



PANELBOARD A SCHEDULE									
120/240 VOLTS, SINGLE PHASE, 3 WIRE			100 AMP BUS		70 AMP MAIN		MOUNTING: SURFACE		
CKT. NO.	DESCRIPTION	VOLT-AMPS		AMPS/ POLES	CKT. NO.	DESCRIPTION	VOLT-AMPS		AMPS/ POLES
		A	B				A	B	
1	SPARE	-		20/1	2	PLC PANEL	500		20/1
3	LIGHTS - INTERIOR		650	20/1	4	AC UNIT		1500	30/2
5	LIGHTS - EXTERIOR	100		20/1	6		1500		
7	LIGHTS - EMERGENCY		200	20/1	8	SPARE			20/1
9	MOTORIZED GATE	800		20/1	10	BATTERY CHARGER	500		20/1
11	CATHODIC PROTECTION		300	20/1	12	FUEL PUMP		700	20/1
13	EXHAUST FAN NO. 1	500		20/1	14	FLOW METER FIT-269	100		20/1
15	EXHAUST FAN NO. 2		500	20/1	16	SLEEVE VALVE (V-264)		700	20/1
17	RECEPTACLES - EXTERIOR	200		20/1	18	CHLORINE SCALE AND PUMP		400	20/1
19	RECEPTACLES - EXTERIOR		400	20/1	20	FLOW METER FIT-264	100		20/1
21	RECEPTACLES - INTERIOR	400		20/1	22	GEN HTR		700	20/2
23	RECEPTACLES - INTERIOR		600	20/1	24	GEN HTR		700	20/2
SUBTOTALS		2000	2650				2500	2900	
PHASE TOTALS							4500	5550	
TOTAL VOLT-AMPS									100050

LOAD CALCULATION			
MAIN SWITCHBOARD/ MCC	UTILITY	GEN	STEP
WELL PUMP NO. 26 (FUTURE)	156.0 AMPS	0.0 AMPS	
PUMP NO. 1	187.5 AMPS	0.0 AMPS	
PUMP NO. 2	187.5 AMPS	0.0 AMPS	
PUMP NO. 3	187.5 AMPS	187.5 AMPS	4
PUMP NO. 4	187.5 AMPS	187.5 AMPS	3
PUMP NO. 5	0.0 AMPS	187.5 AMPS	2
PANEL "A"	10.0 AMPS	10.0 AMPS	1
25% OF LARGEST MOTOR	47.0 AMPS	0.0 AMPS	
TOTAL LOAD	963.0 AMPS	385.0 AMPS	
KVA @ 480 V	800 KVA	315 KVA	

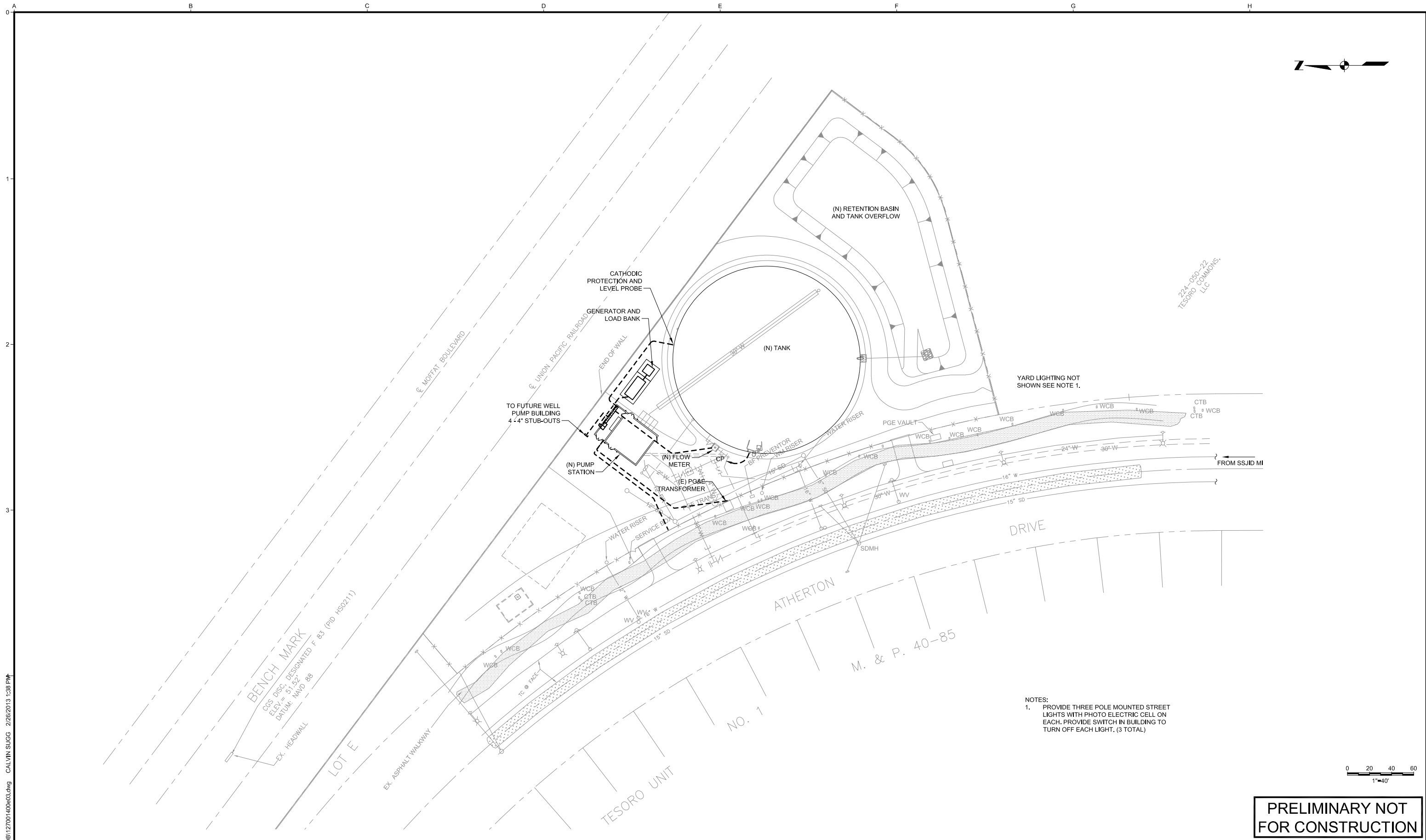
NAMEPLATE SCHEDULE		
NO.	LETTER	INSCRIPTION
1	SIZE	PG&E PULL SECTION
2	1/4"	PG&E METER
3		SERVICE DISCONNECT
4		SURGE PROTECTION DEVICE
5		AUTOMATIC TRANSFER SWITCH
6		POWER MONITOR
7		POWER FAILURE RELAY
8		BOOSTER PUMP 1 VFD
9		BOOSTER PUMP 2 VFD
10		BOOSTER PUMP 3 VFD
11		BOOSTER PUMP 4 VFD
12		BOOSTER PUMP 5 VFD
13		PANELBOARD "A"
14		TRANSFORMER "A"
15		PUMP STATION CONTROL PANEL
16		SLEEVE VALVE
17		WELL PUMP NO. 28 MCC



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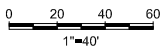
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				DRAWN C. CECIL			JOB NO. 1270014.00
				CHECKED A. PETERSON	Kennedy/Jenks Consultants 10850 GOLD CENTER DRIVE, SUITE 350, RANCHO CORDOVA, CALIFORNIA 95670		DATE FEBRUARY 2013
							SHEET OF 19 <b>E2</b>



22-030-22  
TESORO COMMONS, LLC

YARD LIGHTING NOT SHOWN SEE NOTE 1.

NOTES:  
1. PROVIDE THREE POLE MOUNTED STREET LIGHTS WITH PHOTO ELECTRIC CELL ON EACH. PROVIDE SWITCH IN BUILDING TO TURN OFF EACH LIGHT. (3 TOTAL)



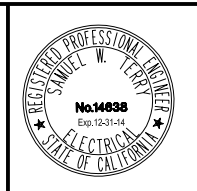
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NO.	REVISION	DATE	BY

**SCALES**  
0 1" 25mm  
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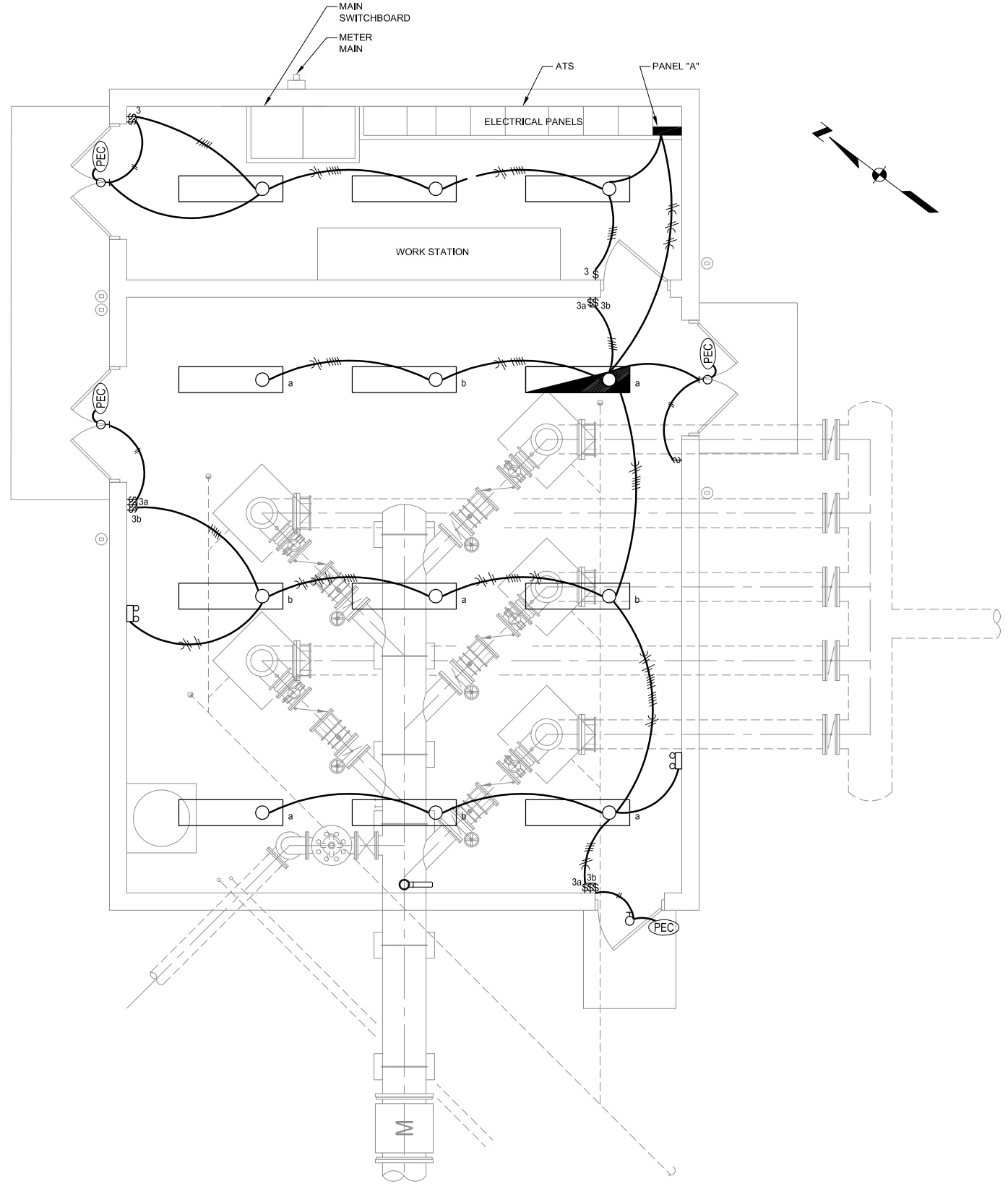
DESIGNED  
S. TERRY  
DRAWN  
C. CECIL  
CHECKED  
A. PETERSON

CITY OF MANTECA  
MANTECA, CALIFORNIA  
**WATER STORAGE TANK AND BOOSTER PUMP STATION**  
Kennedy/Jenks Consultants  
10850 GOLD CENTER DRIVE, SUITE 350, RANCHO CORDOVA, CALIFORNIA 95670

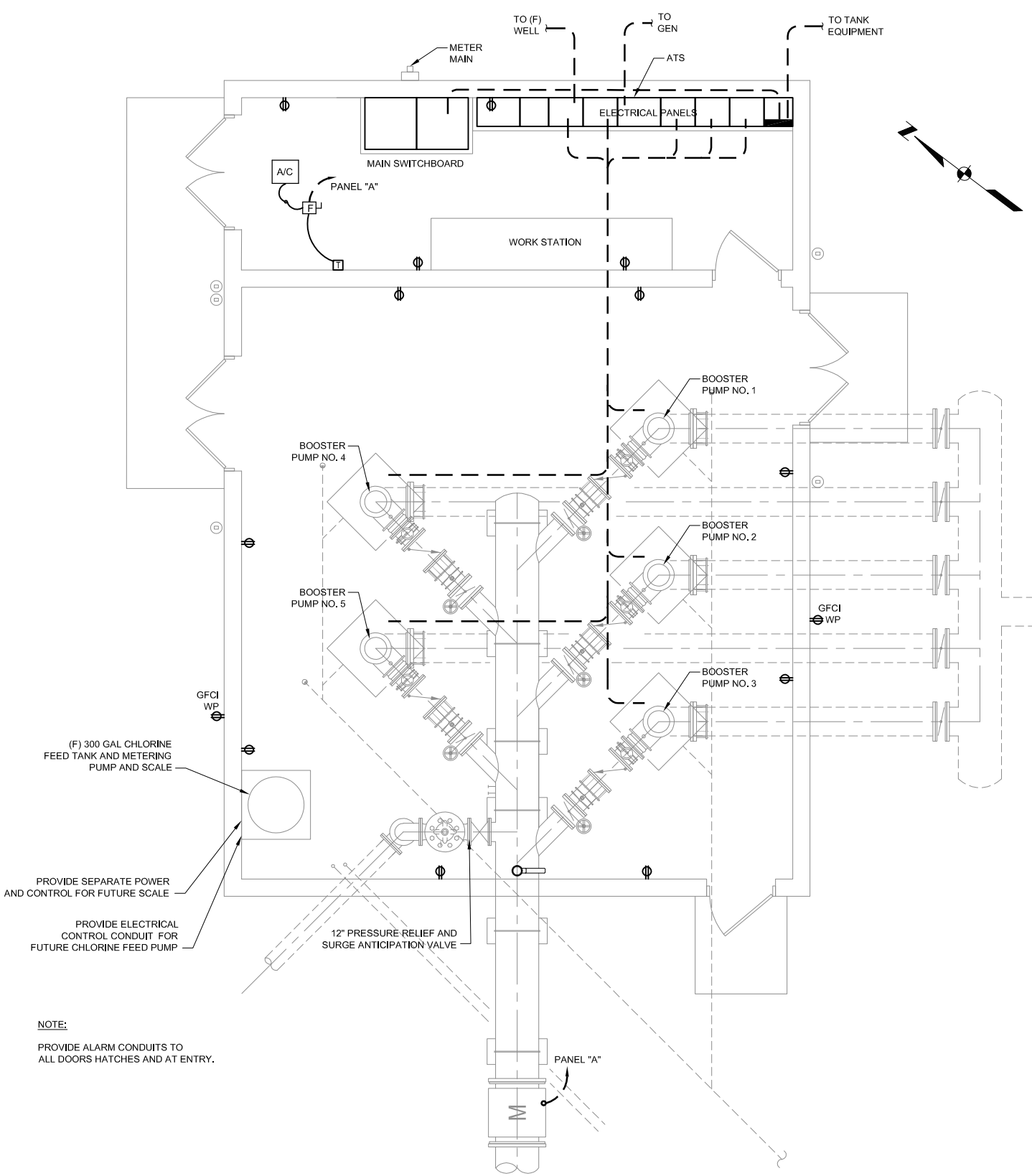
**ELECTRICAL SITE PLAN**

FILE NAME  
127001400e03  
JOB NO.  
1270014.00  
DATE  
FEBRUARY 2013  
SHEET OF 19  
**E3**

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**ELECTRICAL LIGHTING PLAN**  
SCALE: 1/4" = 1'-0"



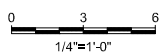
(F) 300 GAL CHLORINE FEED TANK AND METERING PUMP AND SCALE

PROVIDE SEPARATE POWER AND CONTROL FOR FUTURE SCALE

PROVIDE ELECTRICAL CONTROL CONDUIT FOR FUTURE CHLORINE FEED PUMP

**NOTE:**  
PROVIDE ALARM CONDUITS TO ALL DOORS HATCHES AND AT ENTRY.

**ELECTRICAL POWER PLAN**  
SCALE: 1/4" = 1'-0"



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**USE OF DOCUMENTS**

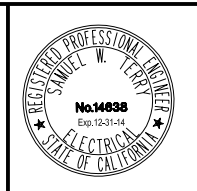
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NO.	REVISION	DATE	BY

**SCALES**

0 1" 25mm

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DESIGNED  
S. TERRY

DRAWN  
C. CECIL

CHECKED  
A. PETERSON

CITY OF MANTECA  
MANTECA, CALIFORNIA

**WATER STORAGE TANK AND BOOSTER PUMP STATION**

Kennedy/Jenks Consultants  
10850 GOLD CENTER DRIVE, SUITE 350, RANCHO CORDOVA, CALIFORNIA 95670

**BUILDING POWER AND LIGHTING PLANS**

FILE NAME  
127001400e04

JOB NO.  
1270014.00

DATE  
FEBRUARY 2013

SHEET OF 19  
**E4**

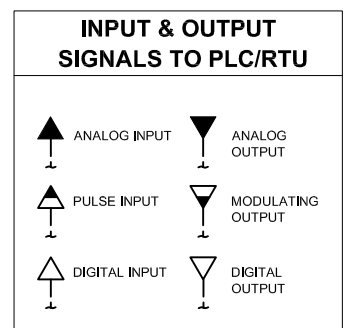
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### SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PHASE FAILURE RELAY		RESISTOR		GLOBE VALVE
	TIME DELAY RELAY (DELAY ON DE-ENERGIZATION)		SOLENOID VALVE		PRESSURE CONTROL VALVE
	TIME DELAY RELAY (DELAY ON ENERGIZATION)		CONTACT NORMALLY OPEN		ALTITUDE VALVE
	LATCHING RELAY		CONTACT NORMALLY CLOSED		AIR RELEASE VALVE
	CONTROL RELAY		LIMIT SWITCH, NORMALLY OPEN		BUTTERFLY VALVE
	CONTACTOR/ STARTER		LIMIT SWITCH, NORMALLY CLOSED		CHECK VALVE
	LIMIT SWITCH		TIME DELAY CONTACT, NORMALLY CLOSED TIME OPEN		MOTORIZED OPERATED VALVE
	INTRINSICALLY SAFE RELAY		TIME DELAY CONTACT, NORMALLY OPEN TIME CLOSE		SLEEVE VALVE
	INDICATION FUSE HOLDER AMPERE SIZE SHOWN		TIME DELAY CONTACT, NORMALLY OPEN TIME OPEN		FLEXIBLE COUPLING
	FUSE, AMPERE SIZE SHOWN		TIME DELAY CONTACT, NORMALLY CLOSED TIME CLOSED		BALL VALVE
	WIRES CONNECTED		FLOAT SWITCH CLOSE ON HIGH LEVEL		REDUCER
	WIRES NOT CONNECTED		FLOAT SWITCH CLOSE ON LOW LEVEL		BUBBLER ELEMENT
	GROUND		PRESSURE SWITCH CLOSE HIGH PRESSURE		FLOAT SWITCH
	SHEET NOTE TAG		PRESSURE SWITCH CLOSE LOW PRESSURE		LEVEL PROBE
	MAGNETIC FLOW METER		DISCONNECT SWITCH		PROPELLER FLOW METER ELEMENT
	MOTOR		PUSH BUTTON, NORMALLY OPEN OR MOMENTARILY CLOSED		METERING PUMP
	ELECTRICAL SIGNAL		PUSH BUTTON, NORMALLY CLOSED OR MOMENTARILY OPEN		BLOWER
	ELECTRIC POWER		TEMPERATURE SWITCH, NORMALLY CLOSED OPEN ON HIGH TEMP (CUT OUT)		CALIBRATION COLUMN
	ELECTRIC CONTROL		TEMPERATURE SWITCH, NORMALLY OPEN CLOSE ON HIGH TEMP		SLEEVE VALVE
	PNEUMATIC SIGNAL		WHITE PILOT LIGHT, PUSH TO TEST		MIXER
	CAPILARY TUBING (FILLED SYSTEM)		GREEN PILOT LIGHT, PUSH TO TEST		SUMP PUMP
	HYDRAULIC SIGNAL		RED PILOT LIGHT, PUSH TO TEST		
	SONIC OR ELECTROMAGNETIC SIGNAL				
	SOFTWARE OR DATA LINK		TO AND FROM REFERENCE TAG		
	DRAIN		TO AND FROM SHEET TAG		
	SIGNAL CONVERTER				
	WELL PUMP				
	VENT				
	ELECTRIC SUPPLY OR AIR SUPPLY				
	MOTOR				
	PUMP				
	ETHERNET NETWORK CONNECTION				

### ABBREVIATIONS

A	AMPS	LPU	LINE PROTECTION UNIT
AC	ALTERNATING CURRENT	mA	MILLIAMPERES
AI	ANALOG INPUT	MOV	MOTOR OPERATED VALVE
AFD	ADJUSTABLE FREQUENCY DRIVE	MUX	MULTIPLEXER
AO	ANALOG OUTPUT	N	NEUTRAL
AS	AIR SUPPLY SOURCE	N.O.	NORMALLY OPEN
BW	BACKWASH	N.C.	NORMALLY CLOSED
C	CLOSE	NTS	NOT TO SCALE
CP	CONTROL PANEL	O	OPEN
CR	CONTROL RELAY	PNL	PANEL
Cu	COPPER	PSIG	POUNDS PER SQUARE INCH GAGE
DC	DIRECT CURRENT	POT	POTENTIOMETER
DI	DIGITAL INPUT	P/I	PRESSURE TO CURRENT DEVICE
DO	DIGITAL OUTPUT	PID	PROPORTIONAL, INTEGRATION, DERIVATIVE
D.O.	DISSOLVED OXYGEN	PLC	PROGRAMMABLE LOGIC CONTROLLER
DPDT	DOUBLE POLE DOUBLE THROW	PR	SHIELDED, PAIR CABLE
ES	ELECTRICAL POWER SOURCE	PS	PRESSURE SWITCH
ETM	ELAPSED TIME METER	PTT	PUSH TO TEST
FC	FAIL CLOSED	PV	PROCESS VARIABLE
FLP	FAIL LAST POSITION	R	RED
FO	FAIL OPEN	RTU	REMOTE TELEMETRY UNIT
F	FILTER	SV	SOLENOID VALVE
FS	FLOAT SWITCH	SCFM	STANDARD CUBIC FEET PER MINUTE
FSP	FILTER SOLENOID PANEL	SP	SOLENOID PANEL
FV	FLOW VALVE	SS	STAINLESS STEEL
GPM	GALLONS PER MINUTE	TDD, TDE	TIME DELAY RELAY
G	GREEN	TWSP	TWISTED SHIELDED PAIR
G.GND	GROUND	TWP	TWISTED PAIR
HOA	HAND OFF AUTO	TYP	TYPICAL
HP	HORSEPOWER	V	VOLTS, VOLTAGE
I	INTERLOCK	VLV	VALVE
I/I	CURRENT TO CURRENT DEVICE	W	WHITE
I/E	CURRENT TO VOLTAGE DEVICE	UPS	UNINTERRUPTIBLE POWER SUPPLY
I/O	INPUT/OUTPUT		
I/P	CURRENT TO PRESSURE DEVICE		
ISR	INTRINSICALLY SAFE RELAY		



### P & I DIAGRAM INSTRUMENT IDENTIFICATION

CODE LETTER	FIRST LETTER(S)		SUCCEEDING LETTER(S)		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER FLAME				
C	CONDUCTIVITY			CONTROL	CLOSE
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE		ELEMENT		
F	FLOW	RATIO			
G	GAGING		GLASS		
H	HAND				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN		CONTROL STATION	
K	TIME				
L	LEVEL		LIGHT		LOW
M	MOISTURE	MOMENTARY			MIDDLE
N	STATUS				
O	OPERATOR		ORFICE		OPEN
P	PRESSURE		POINT		
Q	EVENT	TOTALIZE			
R	RESET		RECORD		
S	SPEED	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION		
V	VIBRATION			VALVE	
W	WEIGHT		WELL		
X	SWITCH		TROUBLE/FAIL		
Y	EVENT/STATE			COMPUTE/RELAY	
Z	POSITION			ACTUATE	

### GENERAL INSTRUMENT OR FUNCTION SYMBOLS

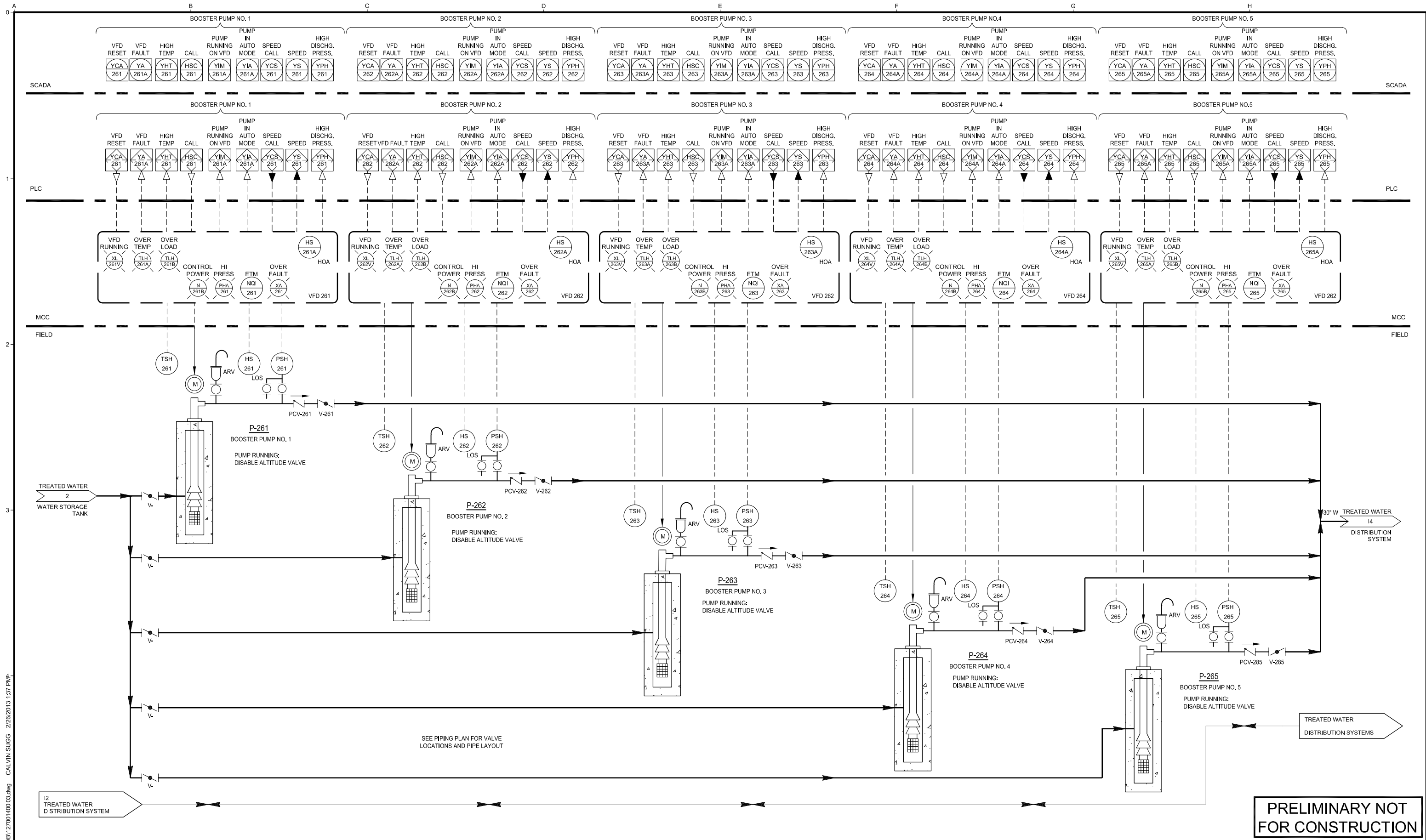
	LOCATION NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	LOCATION NORMALLY NOT ACCESSIBLE TO OPERATOR	SECONDARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS				
SHARED DISPLAY, SHARED CONTROL				
COMPUTER FUNCTION				
PROGRAMMABLE LOGIC CONTROL				

- NOTES:
- REVIEW PIPING PLANS FOR ADDITIONAL VALUES NOT SHOWN ON INSTRUMENTATION SHEETS.
  - SEE PIPING PLAN FOR VALVE LOCATIONS AND PIPE LAYOUT

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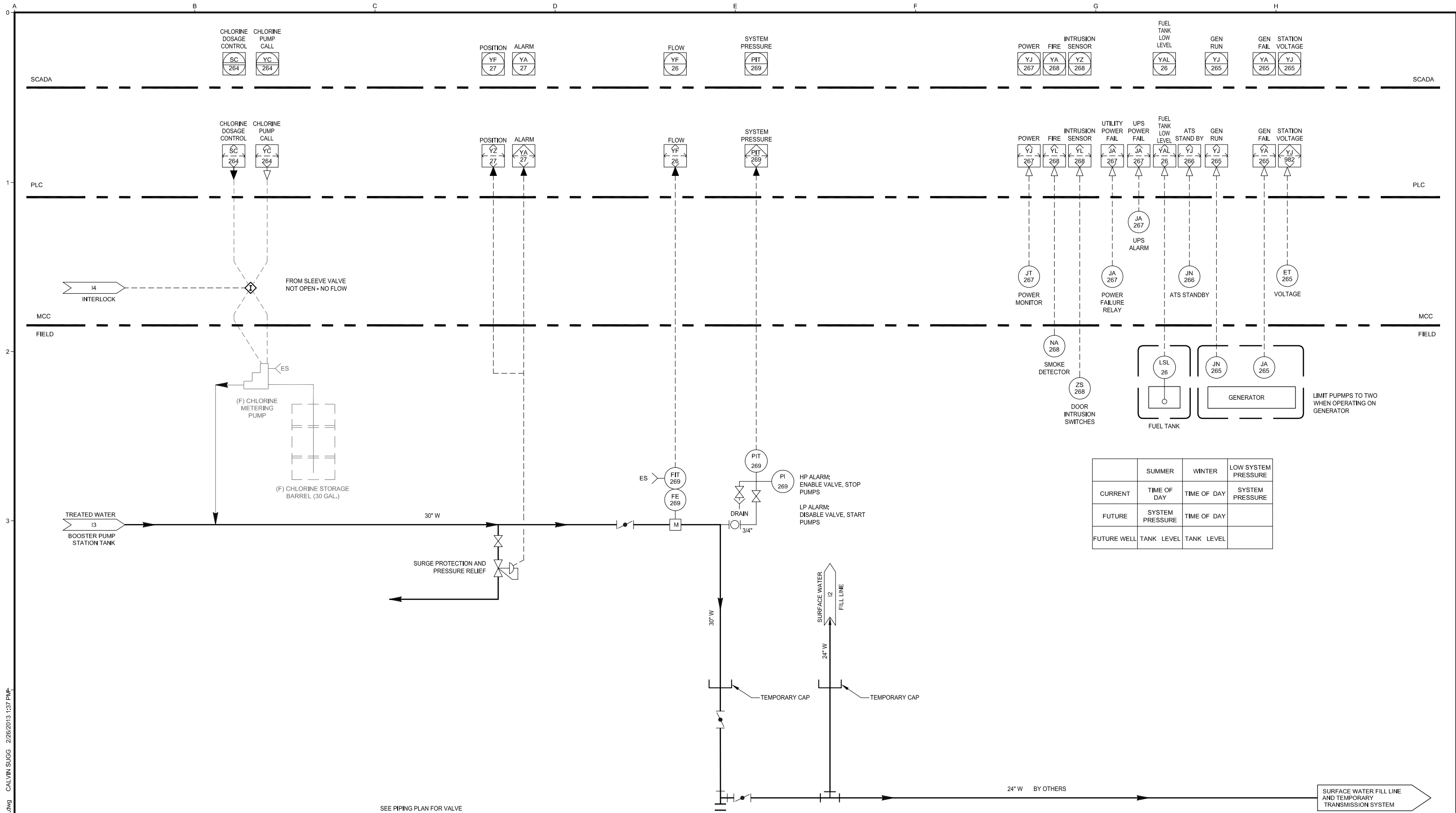




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	SUMMER	WINTER	LOW SYSTEM PRESSURE
CURRENT	TIME OF DAY	TIME OF DAY	SYSTEM PRESSURE
FUTURE	SYSTEM PRESSURE	TIME OF DAY	
FUTURE WELL	TANK LEVEL	TANK LEVEL	

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