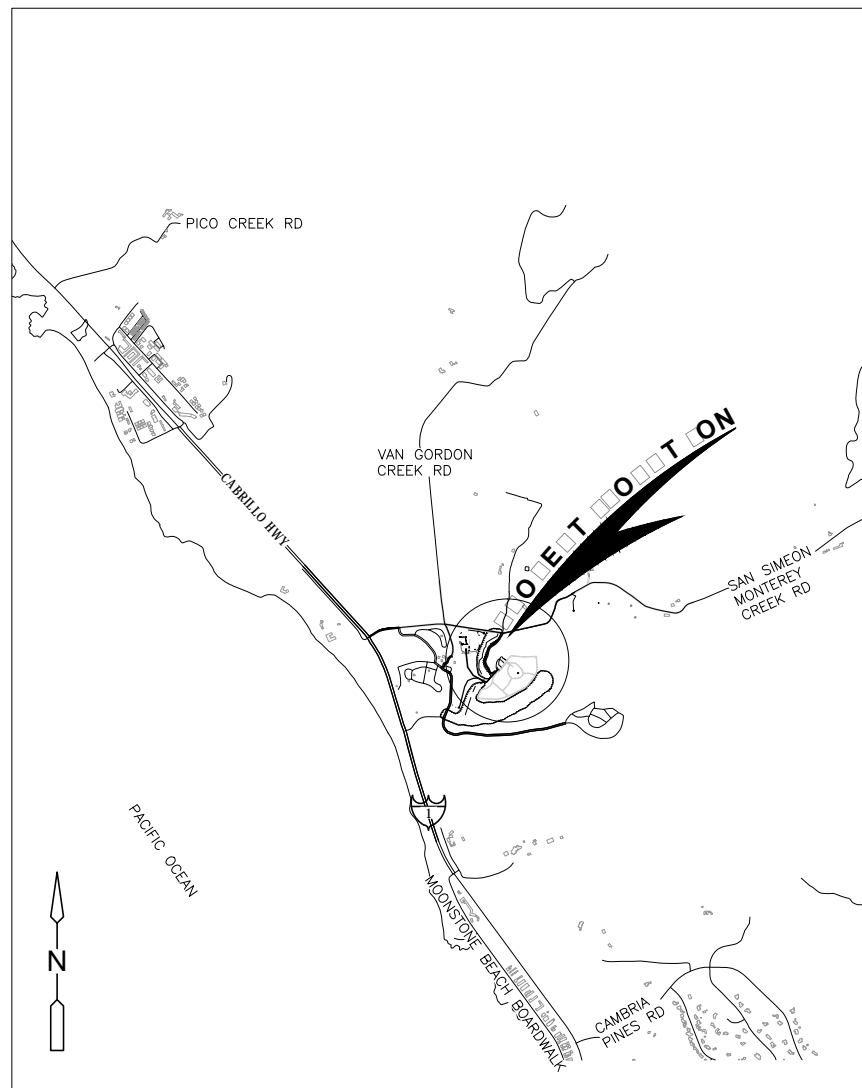


# CAMBRIA, CALIFORNIA

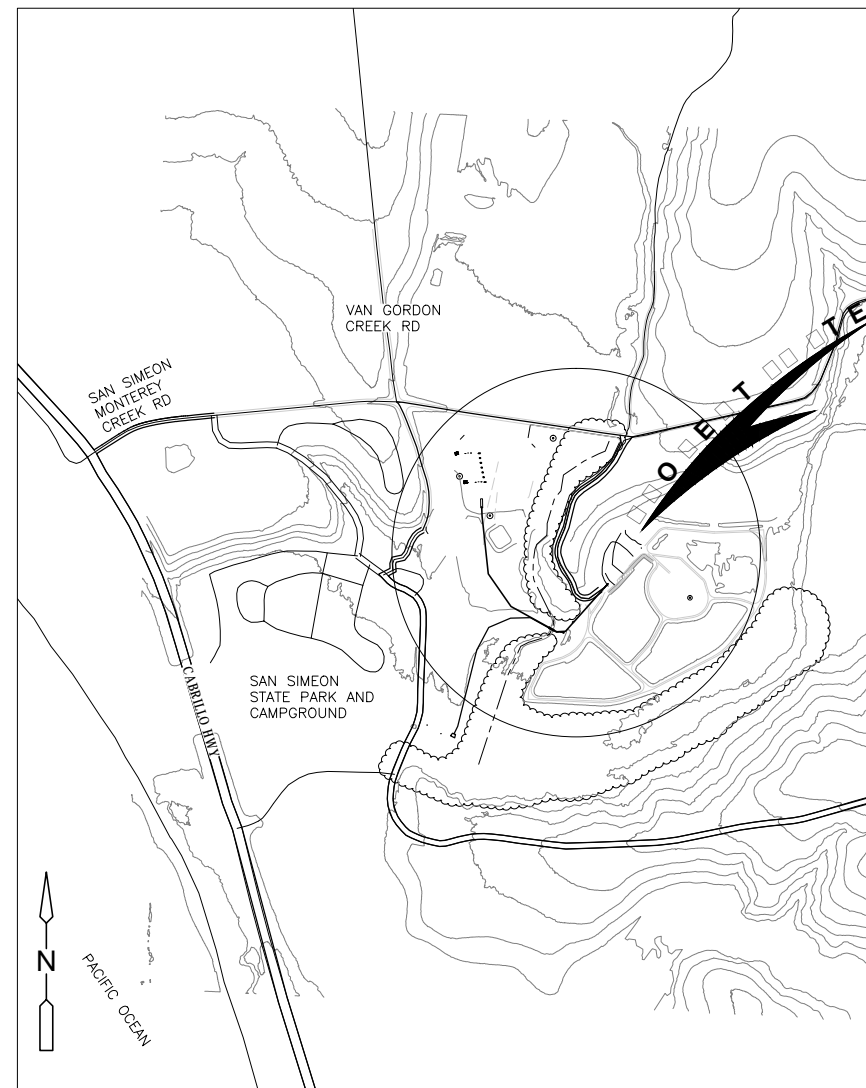
## EMERGENCY WATER SUPPLY PROJECT

RECORD DRAWING  
MAY 20, 2016

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37	I-12	P&ID - BRINE EVAPORATION SYSTEM
38	I-13	P&ID - SODIUM BISULFITE STORAGE AND TRANSFER SYSTEM
H201 INNOVATION SUPPLY P&IDS		
	O-14024-C01-0290	INFLUENT TANK AND MF FEED PUMP - P&ID
	O-14024-C01-0300	MF STRAINER - P&ID
	O-14024-C01-0310	MICROFILTRATION SKID - P&ID
	O-14024-C01-0360	MF BACKPULSE SYSTEM - P&ID
	O-14024-C01-0370	MF CIP SYSTEM W/ VFD CONTROLLED PUMP - P&ID
	O-14024-C01-0400	RO FEED SUPPLY PUMP SKID - P&ID
	O-14024-C01-0410	PRIMARY RO TRAIN 1 - P&ID
	O-14024-C01-0411	PRIMARY RO TRAIN 2 - P&ID
	O-14024-C01-0420	THIRD STAGE RO BOOSTER PUMP - P&ID
	O-14024-C01-0421	THIRD STAGE RO - P&ID
	O-14024-C01-0470	RO CIP SYSTEM - P&ID
	O-14024-C01-0800-1	MF CLEANING CHEMICALS - P&ID
	O-14024-C01-0800-2	MF CLEANING CHEMICALS - P&ID
	O-14024-C01-0810	BULK CHEMICAL SYSTEMS - P&ID
	O-14024-C01-0950	AIR COMPRESSOR SYSTEM - P&ID
	O-14024-C01-0990	PRODUCT WATER TANK AND PUMP STATION - P&ID
TROJAN SUPPLY P&IDS		
	TYPICAL	P&ID - UV SYSTEM OVERVIEW
	TYPICAL	P&ID - UV
	TYPICAL	P&ID - HYDROGEN PEROXIDE DOSING SYSTEM
H201 INNOVATION SUPPLY GENERAL ARRANGEMENT DRAWINGS		
	UF GENERAL ARRANGEMENT	
	RO TRAIN #1 GENERAL ARRANGEMENT	
	RO TRAIN #2 GENERAL ARRANGEMENT	
	THIRD STAGE RO GENERAL ARRANGEMENT (NOT INCLUDED IN THIS SET)	
	CHEMICAL SYSTEM GENERAL ARRANGEMENT	
	CONTROL BUILDING GENERAL ARRANGEMENT	
TROJAN SUPPLY GENERAL ARRANGEMENT DRAWINGS		
	UV GENERAL ARRANGEMENT	



VICINITY MAP



LOCATION MAP

**RECORD DRAWING**

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON A COMBINATION OF INFORMATION PROVIDED BY OTHERS AND BY CDM SMITH. TO THE BEST OF THE ENGINEER'S BELIEF AND KNOWLEDGE, THE INCLUDED RECORD INFORMATION IS REASONABLY ACCURATE.

By *Evan Chu You* Date 5/20/16

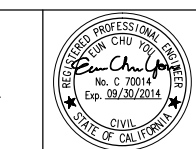
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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	5/20/16	DI	ECY	RECORD DRAWING

DESIGNED BY: E. YOU  
 DRAWN BY: O. NAHNAS  
 SHEET CHK'D BY: R. CHALMERS  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

**WARNING**  
 0 1/2" 1"  
 IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY



**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**TITLE SHEET AND SHEET INDEX**

PROJECT NO. 138760-104133  
 SHEET: 1 OF 38  
 DRAWING NO. **G-01**

**GENERAL CIVIL NOTES**

- THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF EXISTING UNDERGROUND UTILITIES IS IN ACCORDANCE WITH LOCATOR MARKINGS, SURVEYS AND AVAILABLE "AS-BUILT" DRAWINGS. THE LOCATIONS ARE NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF UTILITIES AT EXCAVATIONS AND CROSSINGS. THE CONTRACTOR SHALL POTHOLE AS REQUIRED, AND VERIFY DEPTH AND LOCATION OF EXISTING PIPELINES, CULVERTS, AND UTILITIES THAT MAY AFFECT PIPELINE VERTICAL OR HORIZONTAL ALIGNMENT FOR UTILITY CROSSINGS DETERMINED TO HAVE MORE CONSTRUCTABILITY COMPLEXITY.
- ALL EXISTING UTILITIES SHALL BE PROTECTED IN PLACE. RELOCATION OF EXISTING UTILITIES IS ONLY ALLOWED WHERE SHOWN OR APPROVED BY THE ENGINEER AND UTILITY OWNER.
- CONTRACTOR TO VERIFY BENCHMARK ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONUMENTATION AND/OR BENCH MARKS WHICH MAY BE DISTURBED OR DESTROYED BY CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILED BY THE LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AS REQUIRED BY THE LAND SURVEYOR'S ACT.

**BASIS OF BEARING:**

**HORIZONTAL DATUM:** NAD 83 (2011) ZONE 5. 2010 EPOCH  
**VERTICAL DATUM:** NGVD 29  
**BENCHMARK:** N.G.S. CONTROL POINT FV 2076  
 ELEVATION: 82.6 (CONVERTED FROM PUBLISHED NAVD 88 ELEVATION OF 85.3')

**CONTROL POINTS:**

PT#	NORTHING	EASTING	ELEVATION
501	2417957.06	5635066.16	17.67'
502	2418156.89	5634441.44	51.24'
503	2418382.38	5634430.46	58.95'
510	2418885.91	5634630.63	53.54'
514	2419734.25	5636285.00	45.39'
516	2418987.41	5633702.59	65.77'
519	2417367.34	5633736.26	17.09'
600	2417685.04	5632422.80	24.88'
604	2421108.55	5629967.85	82.56'

BOUNDARY INFORMATION SHOWN HERE ON IS BASE ON RECORD DATA.

- CONTRACTOR SHALL FIELD LOCATE NEW UTILITIES AND EXISTING UTILITIES EXPOSED DURING CONSTRUCTION.
- ALL SURFACE FEATURES REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED IN KIND UNLESS DIRECTED OTHERWISE BY THE ENGINEER. ALL PAVEMENT MARKING DAMAGED OR REMOVED BY TRENCHING SHALL BE REPAIRED.
- THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
- CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- MATERIAL QUANTITIES LISTED IN THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL DEVELOP SCHEDULE OF VALUES SHOWING HIS OWN MATERIAL AND WORK EFFORT TAKEOFF FOR THE PURPOSES OF THE CONSTRUCTION OF PROPOSED IMPROVEMENTS.
- THE CONTRACTOR SHALL CONTACT "UNDERGROUND SERVICE ALERT" (USA) AT 1-800-422-4133 FOR FIELD LOCATION OF UTILITIES AT LEAST 48 HOURS PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING USA, UTILITY OWNERS, THE OWNER, AND REVIEWING EXISTING DOCUMENTS ON THE CONSTRUCTION OF THE OWNERS FACILITY TO DETERMINE THE LOCATION OF ALL UTILITIES AND OTHER INFRASTRUCTURE WITHIN THE AREAS OF PROPOSED IMPROVEMENTS AND CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL NOT DISTURB ANY PROPERTY OUTSIDE THE CONSTRUCTION LIMITS SHOWN ON THE DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL STORM WATER, SILT AND EROSION CONTROL DURING ALL PHASES OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR OBTAINING ALL ASSOCIATED CONSTRUCTION PERMITS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL EXCESS EXCAVATED MATERIAL, SOILS, AND DEMOLITION DEBRIS TO AN OFF-SITE LOCATION AT NO ADDITIONAL CHARGE TO THE AGENCY. EXCAVATED SOIL USED FOR TRENCH BACK FILLING SHALL BE TEMPORARILY STOCKPILED AND SHALL NOT CONTAIN CONSTRUCTION DEBRIS, ROCK OR OTHER DELETERIOUS SUBSTANCES. CONTAMINATED SOIL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
- EXCEPT AS MODIFIED BY THE CONTRACT DOCUMENTS, ALL WORK SHALL BE IN ACCORDANCE WITH ALL LOCAL, COUNTY AND STATE REQUIREMENTS. THE CONTRACTOR SHALL HAVE A COPY OF ALL COUNTY AND APPLICABLE STANDARD SPECIFICATIONS AND DRAWINGS AT THE WORK SITE AT ALL TIMES.
- SEE INDIVIDUAL SHEETS FOR ADDITIONAL ABBREVIATIONS, SYMBOLS, LEGENDS, DETAILS AND NOTES, IF ANY. NOT ALL "STANDARD" ITEMS SHOWN MAY BE APPLICABLE TO THIS PROJECT.
- THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF OSHA AND STATE REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT EXISTING THRUST BLOCKS DURING CONSTRUCTION. EXISTING THRUST BLOCKS SHALL NOT BE UNDERMINED.
- CONTRACTOR SHALL MAINTAIN ACCESS ON ALL PAVED AND UNPAVED ROADS.
- ALL OPENINGS INTO THE PIPELINE SHALL BE SECURELY PLUGGED AT THE END OF EACH WORK DAY.
- PIPE DELIVERED TO THE SITE SHALL BE PROTECTED BY THE CONTRACTOR FROM DAMAGE OR CONTAMINATION PRIOR TO PLACING IN TRENCH.

**GENERAL VALVE NOTES**

- ADJUST ALL VALVE BOXES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED. ALL VALVE BOXES IN ROADWAYS SHALL BE TRAFFIC RATED.
- LOCATIONS OF ISOLATION VALVES, BLOWOFFS, AIR VALVES AND FIRE HYDRANTS MAY NOT BE SHOWN IN EXACT LOCATION ON PLANS FOR CLARITY. LOCATE VALVES PER ASSOCIATED DETAILS AND FIELD CONDITIONS. PROVIDE COORDINATE LOCATIONS ON AS-BUILT DRAWINGS.

**GENERAL NOTES**

- THE CONTRACTOR SHALL COMPLY WITH ALL ENVIRONMENTAL AND THIRD PARTY PERMITS AS REQUIRED BY THE WORK.
- ALL BURIED PIPING SHALL BE DESIGNED AS FULLY-RESTRAINED SYSTEMS VIA REACTION BACKING (THRUST BLOCKS) OR RESTRAINED JOINTS. RESTRAINT SYSTEMS SHALL ALLOW COMPLETE PIPING SYSTEM DISASSEMBLY WITHOUT DESTRUCTIVE MEASURES. ALL PLUGS, CAPS, TEES AND BENDS IN BURIED PRESSURE PIPING SYSTEMS SHALL BE ANCHORED BY MEANS OF REACTION BACKING OR RESTRAINED JOINTS.
- POTABLE WATER PIPING SYSTEMS SHALL BE FLUSHED AND DISINFECTED IN ACCORDANCE WITH AWWA C651.
- BURIED VALVES SHALL BE THE SAME AS EXPOSED, UNLESS OTHERWISE SPECIFIED. ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM AND VALVE BOX, AND SHALL BE COATED WITH A PETROLATUM BASED MASTIC OR WAX BASED WRAPPING TAPE; COATING BY CARBOLINE, DENSO, OR TRENTON THAT USES A PRIMER PASTE WITH TAPE.
- NOT ALL PIPE FITTINGS OR APPURTENANCES MAY BE CALLED OUT OR SHOWN BUT ARE REQUIRED TO BE PROVIDED BY THE CONTRACTOR TO PROVIDE A COMPLETE PIPING SYSTEM.
- CONNECTIONS BETWEEN DIFFERENT PIPE CLASSES SHALL BE MADE WITH A CONNECTION RATED FOR THE HIGHER PRESSURE CLASS.
- HORIZONTAL AND VERTICAL DEFLECTIONS OF THE PIPE SHALL BE OBTAINED BY BENDING OF THE PIPE OR DEFLECTION OF JOINTS, FABRICATED FITTINGS, OR A COMBINATION OF BOTH. JOINT DEFLECTIONS SHALL BE LIMITED TO 75% OF THE MANUFACTURER'S MAXIMUM ALLOWABLE DEFLECTION UNLESS APPROVED BY THE ENGINEER.

**GENERAL MECHANICAL NOTES**

- FOR DATA NOT SHOWN ON PIPE LAYOUT DRAWINGS, THE APPROPRIATE P&ID'S SHALL GOVERN.
- EQUIPMENT ANCHORAGE SHALL BE DESIGNED BY THE EQUIPMENT SUPPLIER WITH SET AND LEVELING DONE BY THE CONTRACTOR. AFTER SETTING ALL BASE PLATES SHALL BE GROUTED PER MANUFACTURERS RECOMMENDATIONS.
- DIELECTRIC COUPLINGS, INSULATING FLANGES AND FLANGE KITS, OR UNIONS SHALL BE INSTALLED AT ALL CONNECTIONS OF ALL DISSIMILAR TYPES OF PIPES AND MATERIALS.
- PIPES SHALL SLOPE UNIFORMLY (OR BE STRAIGHT) BETWEEN CENTERLINES AND/ OR INVERT ELEVATIONS SHOWN.
- ALL PIPING ADJACENT TO EQUIPMENT, FITTINGS, VALVES, COUPLINGS, INSTRUMENT DEVICES AND OTHER APPURTENANCES SHALL BE PROPERLY SUPPORTED AND/OR ANCHORED ACCORDING TO ALL MANUFACTURER'S RECOMMENDATIONS.
- WHEN PIPE SUPPORTS ARE NOT PLASTIC COATED, SHIELDED OR LINED, ALL PVC, COPPER AND SS PIPING SHALL BE WRAPPED AT SUPPORT POINTS WITH 70 MILS TEFLON OR PVC TAPE.

**CHEMICAL TUBING AND CONTAINMENT MATERIALS**

Chemical	Abbreviation	Concentration	Carrier Tubing Material	Containment Pipe Material
Aqua Ammonia	AA	19%	PP	PVC
Sodium Hypochlorite	SHC	12.50%	PP	PVC
Antiscalant	ASC	100%	PP	PVC
Sulfuric Acid	SA	93%	PTFE	PVC
Calcium Chloride	CC	34.70%	PP	PVC
Sodium Hydroxide	SH	25%	PP	PVC
Hydrogen Peroxide	HPO	27.50%	PTFE	PVC
Citric Acid	CA	50%	PP	PVC

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REV. NO.	DATE	DRWN	CHKD	RECORD DRAWING	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING	

DESIGNED BY: C. LINDSEY  
 DRAWN BY: O. NAHNAS  
 SHEET CHK'D BY: R. CHALMERS  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

**WARNING**  
 0 1/2" 1"  
 IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY



**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**GENERAL NOTES, LEGENDS & ABBREVIATIONS**

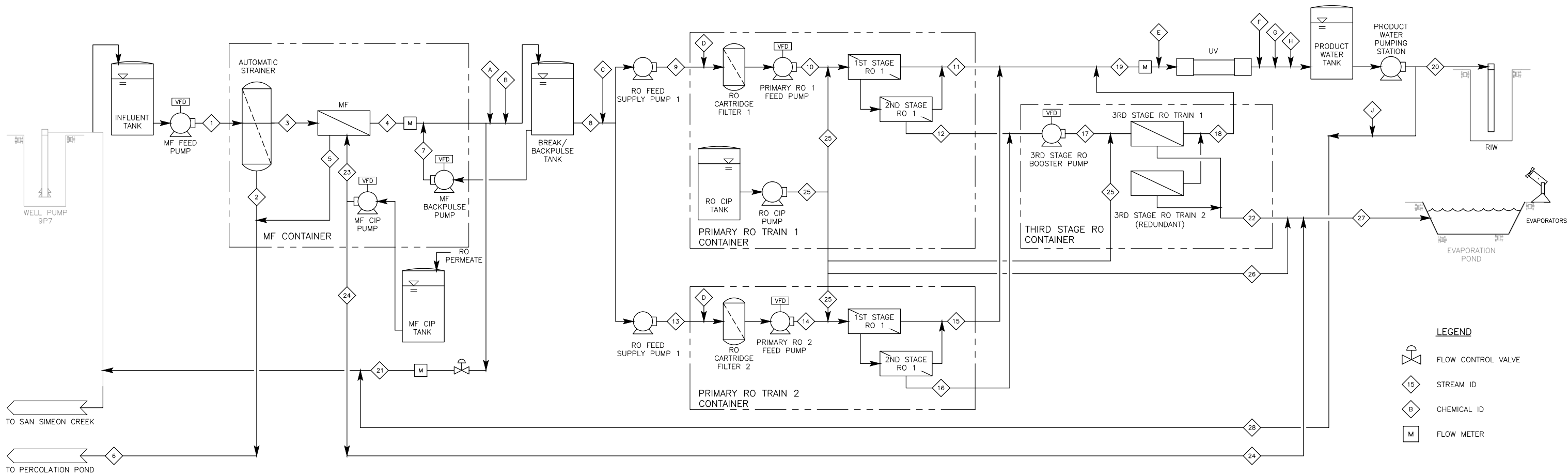
PROJECT NO. 138760-104133  
 SHEET: 2 OF 38  
 DRAWING NO.  
**G-02**

**RECORD DRAWING**

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By: *E. You* Date: 2/27/15

**CDM Smith**



**LEGEND**

- FLOW CONTROL VALVE
- STREAM ID
- CHEMICAL ID
- FLOW METER

**FLOW BALANCE**

AUTOMATIC STRAINER RECOVERY	99%
MF RECOVERY	95%
PRIMARY RO RECOVERY	83%
THIRD STAGE RO RECOVERY	53%
OVERALL RO RECOVERY	92%

FLOW STREAM	AWTP FEED	AUTOMATIC STRAINER WASTE	MF FEED	MF FILTRATE	MF BACKWASH WASTE (NOTE 1)	MF AND AUTOMATIC STRAINER COMBINED WASTE	MF BACKWASH FEED (NOTE 1)	TOTAL RO FEED	PRIMARY RO 1 FEED SUPPLY	PRIMARY RO 1 FEED	PRIMARY RO 1 PERMEATE	PRIMARY RO 1 CONCENTRATE	PRIMARY RO 2 FEED SUPPLY	PRIMARY RO 2 FEED	PRIMARY RO 2 PERMEATE	PRIMARY RO 2 CONCENTRATE	THIRD STAGE RO FEED	THIRD STAGE RO PERMEATE	COMBINED RO PERMEATE/UV FEED	PRODUCT WATER TO RECHARGE INJECTION WELL (RIW)	MF FILTRATE TO SAN SIMEON CREEK LAGOON	THIRD STAGE RO CONCENTRATE	MF CIP FEED (NOTE 1)	MF CIP WASTE (NOTE 1)	RO CIP FEED (NOTE 1)	RO CIP WASTE (NOTE 1)	EVAPORATION POND INFLUENT	PRODUCT WATER BLEND TO LAGOON
FLOW STREAM ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Average Flow (GPM)	629	6	623	592	31	37	31	492	246	246	204	42	246	246	204	42	84	44	452	452	100	39	0.34	0.34	0.01	0.01	40	50
Maximum Flow (GPM)	753	20	733	696	1,606	1,626	1,606	502	251	251	208	43	251	251	208	43	85	45	462	462	100	40	780	468	200	200	468	50
Design Pressure (psi)	40	5	30	5	5	5	30	6	30	150	15	104	30	150	15	104	156	15	15	30	30	20	30	20	45	20	20	30
TDS (mg/L)	1,374	1,374	1,374	1,374	1,374	1,374	1,374	1,374	1,365	1,365	107	7,485	1,365	1,365	107	7,485	7,485	1,517	245	245	1,374	14,246	-	-	-	-	245	

CHEMICAL	AQUEOUS AMMONIA	SODIUM HYPOCHLORITE	SULFURIC ACID	THRESHOLD INHIBITOR	HYDROGEN PEROXIDE	SODIUM HYPOCHLORITE	CALCIUM CHLORIDE	SODIUM HYDROXIDE	SODIUM BISULFITE
CHEMICAL STREAM ID	A	B	C	D	E	F	G	H	J
Bulk Chemical Concentration	19%	12.5%	93%	100%	25%	12.5%	34.7%	25%	25%
Chemical Dose, Avg	1.0 mg/L	4.0 mg/L	30 mg/L	2.0 mg/L	3.0 mg/L	15 mg/L	30 mg/L	33 mg/L	2.2 mg/L
Dosing Rate, Avg	5.7 gpd	26 gpd	14 gpd	0.6 gpd	7.7 gpd	69 gpd	49 gpd	74 gpd	0.5 gpd

- NOTES**
- INTERMITTENT FLOW.
  - ALL CHEMICAL DOSING SKIDS EXCEPT THRESHOLD INHIBITOR WILL BE INSTALLED IN CHEMICAL CONTAINER (NOT SHOWN). THRESHOLD INHIBITOR DOSING SKIDS WILL BE INSTALLED IN PRIMARY RO TRAIN 1 AND PRIMARY RO TRAIN 2 CONTAINERS.
  - RO FLOW CONDITIONS ARE BASED ON AN AVERAGE MEMBRANE AGE OF 3 YEARS.

**RECORD DRAWING**

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By: *Eun Chul You* Date: 5/20/16

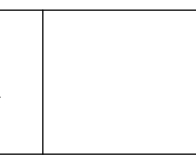
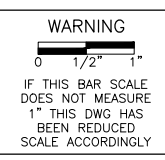
**CDM Smith**

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REV. NO.	DATE	DRWN	CHKD	REMARKS
4	5/10/16	DI	ECY	RECORD DRAWING
3	10/6/14			REVISED PER RWQCB COMMENTS
2	9/9/14			REVISED TO CHANGE LOCATION OF FLOW SPLIT TO SAN SIMEON CREEK LAGOON
1	9/5/14			REVISED TO UPDATE FLOWS

DESIGNED BY: E. YOU  
 DRAWN BY: O. NAHHAS  
 SHEET CHK'D BY: R. CHALMERS  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014



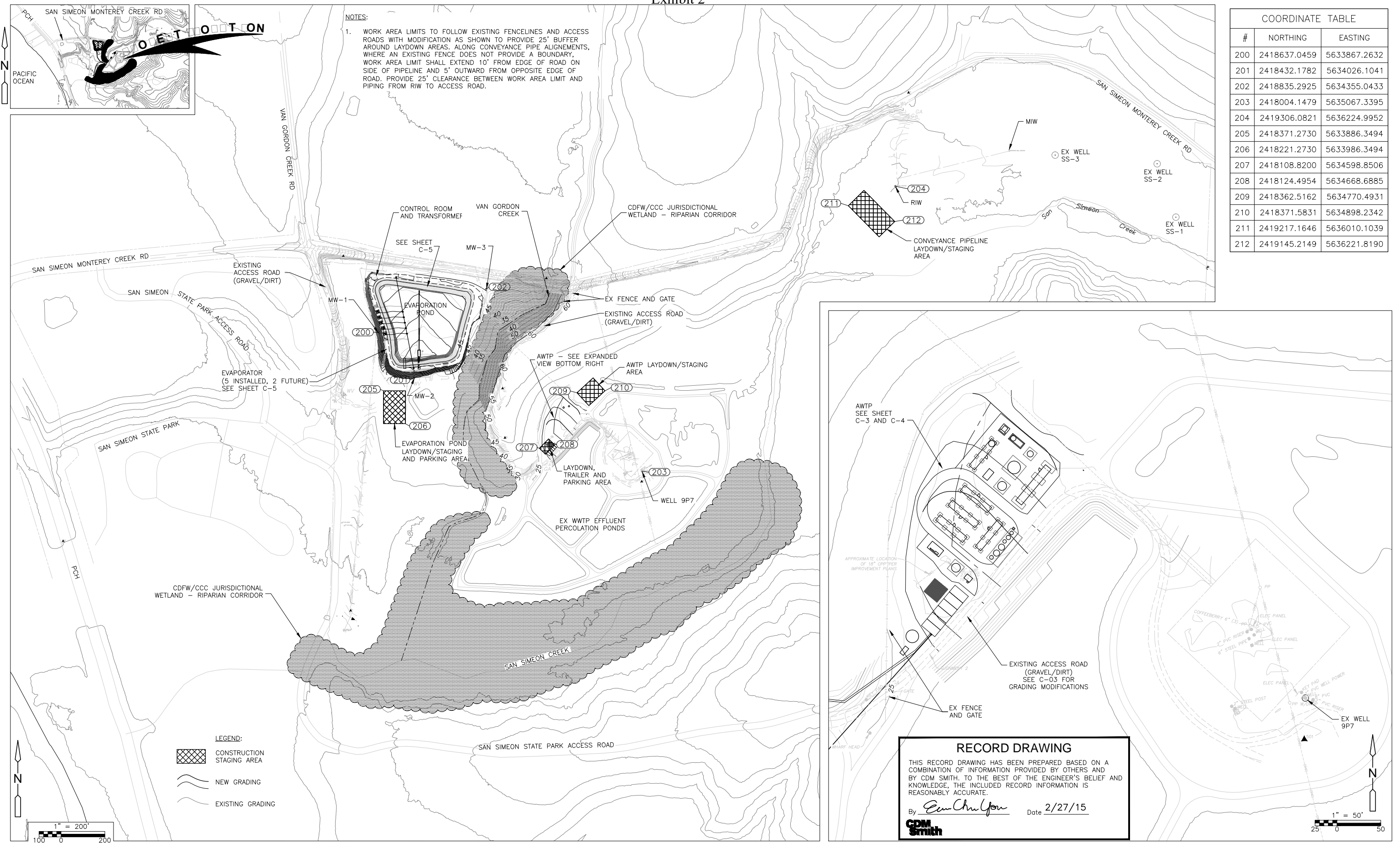
**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS FLOW DIAGRAM**

PROJECT NO. 138760-104133  
 SHEET: 3 OF 38  
 DRAWING NO. **P-01**

COORDINATE TABLE		
#	NORTHING	EASTING
200	2418637.0459	5633867.2632
201	2418432.1782	5634026.1041
202	2418835.2925	5634355.0433
203	2418004.1479	5635067.3395
204	2419306.0821	5636224.9952
205	2418371.2730	5633886.3494
206	2418221.2730	5633986.3494
207	2418108.8200	5634598.8506
208	2418124.4954	5634668.6885
209	2418362.5162	5634770.4931
210	2418371.5831	5634898.2342
211	2419217.1646	5636010.1039
212	2419145.2149	5636221.8190

NOTES:  
 1. WORK AREA LIMITS TO FOLLOW EXISTING FENCELINES AND ACCESS ROADS WITH MODIFICATION AS SHOWN TO PROVIDE 25' BUFFER AROUND LAYDOWN AREAS, ALONG CONVEYANCE PIPE ALIGNMENTS, WHERE AN EXISTING FENCE DOES NOT PROVIDE A BOUNDARY. WORK AREA LIMIT SHALL EXTEND 10' FROM EDGE OF ROAD ON SIDE OF PIPELINE AND 5' OUTWARD FROM OPPOSITE EDGE OF ROAD. PROVIDE 25' CLEARANCE BETWEEN WORK AREA LIMIT AND PIPING FROM RIW TO ACCESS ROAD.



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**LEGEND:**  
 CONSTRUCTION STAGING AREA  
 NEW GRADING  
 EXISTING GRADING

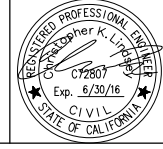
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 By *Eun Chul You* Date 2/27/15

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

DESIGNED BY: C. LINDSEY  
 DRAWN BY: O. NAHHAS  
 SHEET CHK'D BY: R. CHALMERS  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

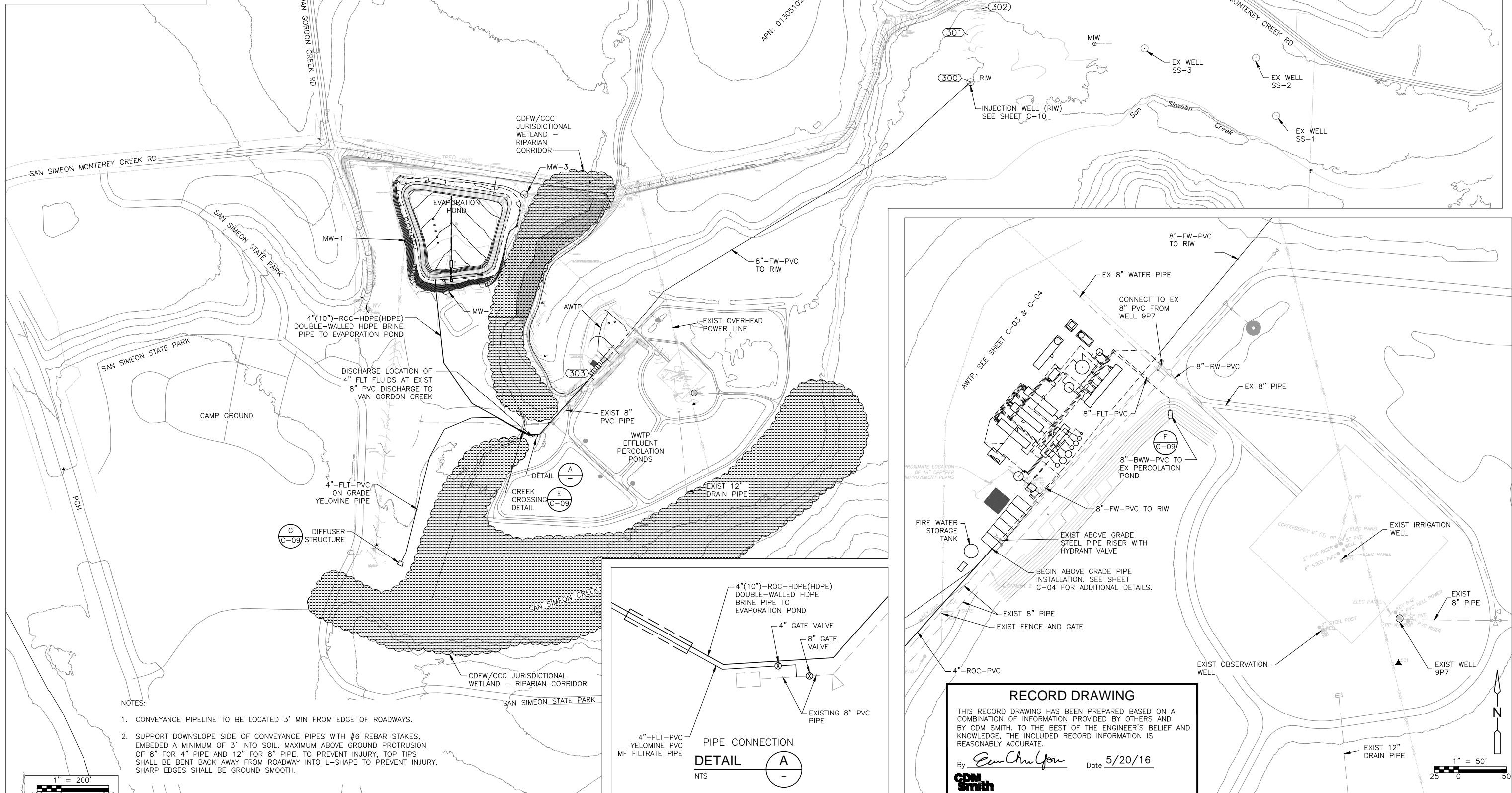
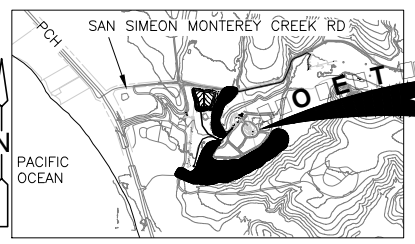
**WARNING**  
  
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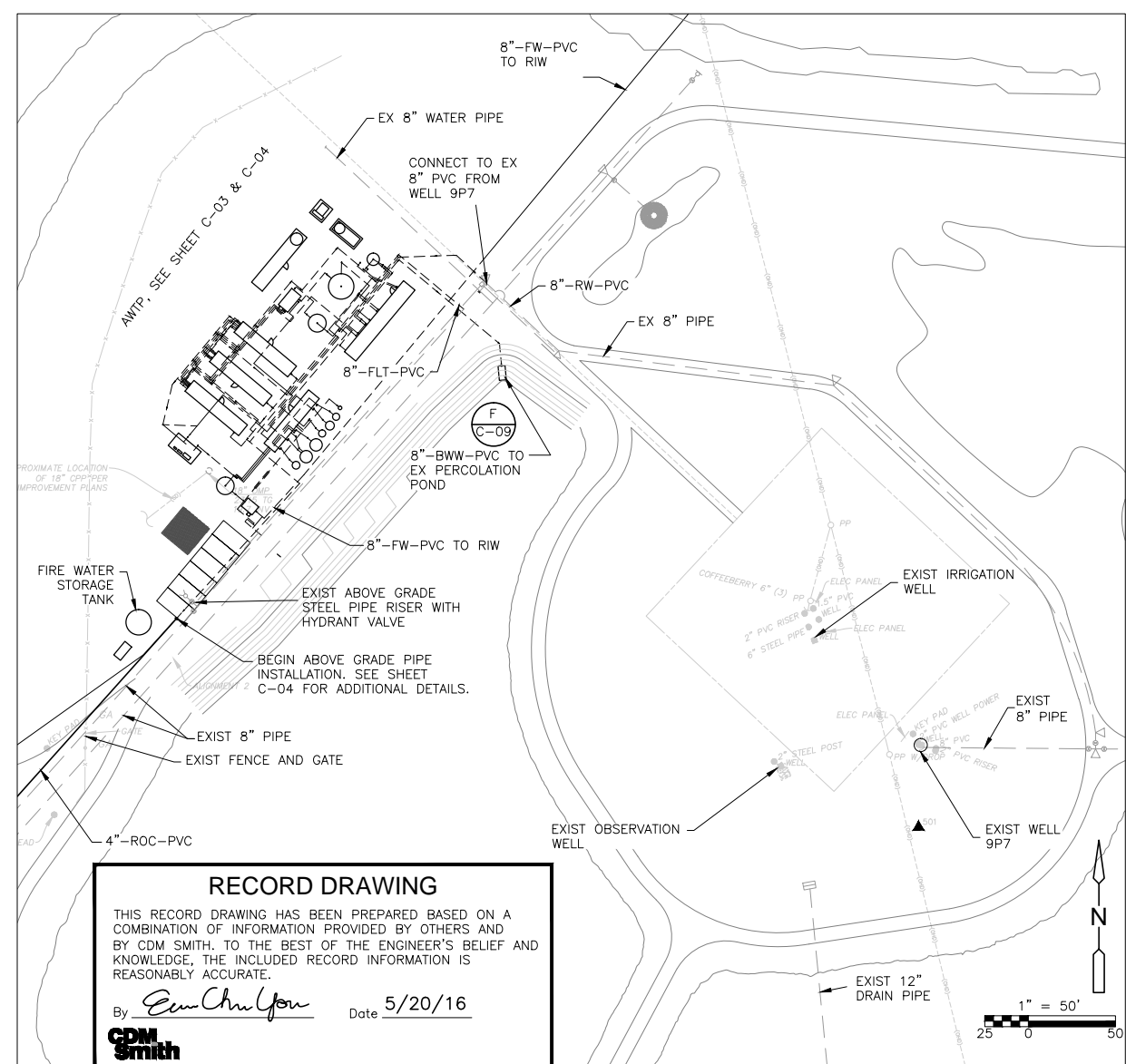
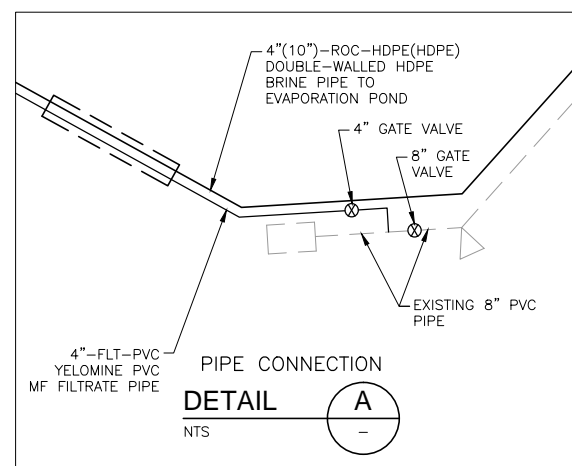
**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**OVERALL SITE PLAN**  
 PROJECT NO. 138760-104133  
 SHEET: 4 OF 38  
 DRAWING NO. **C-01**

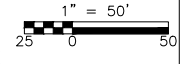


NOTES:

1. CONVEYANCE PIPELINE TO BE LOCATED 3' MIN FROM EDGE OF ROADWAYS.
2. SUPPORT DOWNSLOPE SIDE OF CONVEYANCE PIPES WITH #6 REBAR STAKES, EMBEDDED A MINIMUM OF 3' INTO SOIL. MAXIMUM ABOVE GROUND PROTRUSION OF 8" FOR 4" PIPE AND 12" FOR 8" PIPE. TO PREVENT INJURY, TOP TIPS SHALL BE BENT BACK AWAY FROM ROADWAY INTO L-SHAPE TO PREVENT INJURY. SHARP EDGES SHALL BE GROUND SMOOTH.



**RECORD DRAWING**  
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 By *Emm Chu You* Date 5/20/16  
**CDM Smith**



REV. NO.	DATE	DRWN	CHKD	REMARKS
3	5/20/16	DI	ECY	RECORD DRAWING
2	10/1/14	DI	ECY	REVISED PER RWQCB
1	9/8/14	DI	ECY	REVISED PER RWQCB

DESIGNED BY: C. LINDSEY  
 DRAWN BY: O. NAHHAS  
 SHEET CHK'D BY: R. CHALMERS  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

**WARNING**  
 0 1/2" 1"  
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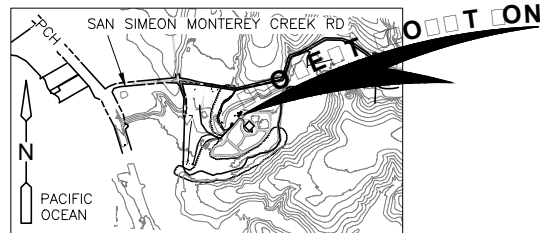


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

CONVEYANCE PIPING PLAN

PROJECT NO. 138760-104133  
 SHEET: 5 OF 38  
 DRAWING NO. C-02

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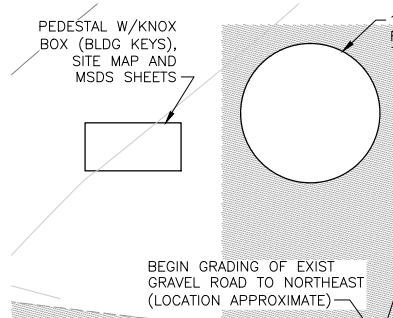
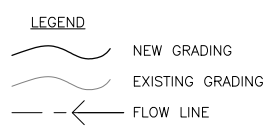


DESIGNATION	LENGTH	WIDTH	THICKNESS	NOTES
F1	4'-0"	4'-0"	24"	
F2	16'-0"	7'-0"	24"	
F3	14'-0"	14'-0"	24"	
F4	14'-0"	11'-0"	12"	TURNDOWN EXTERIOR PER DETAIL G/S-02
F5	18'-0"	8'-0"	12"	TURNDOWN EXTERIOR PER DETAIL G/S-02
F6	11'-6"	11'-6"	24"	
F7	20'-0"	20'-0"	24"	
F8	44'-0"	10'-0"	12"	
F9	4'-6"	4'-6"	24"	
F10	-	-	-	TURNDOWN EXTERIOR PER DETAIL G/S-02

- PAVEMENT NOTES:**
- AWTP ACCESS ROAD SHALL BE 6" CLASS II AGGREGATE BASE TO 95% RELATIVE COMPACTION WITH 12" SUBGRADE COMPACTED TO 95% RELATIVE COMPACTION.
  - AREA WITHIN THE LIMITS OF ACCESS ROAD AND 8' AROUND EACH CONCRETE PAD LOCATED OUTSIDE OF ROAD SHALL BE COVERED WITH 3/4" GRAVEL MINIMUM 2" DEEP.
  - INSTALL BOLLARDS 1'-0" FROM AWTP ACCESS ROAD AT APPROX. LOCATIONS SHOWN. AVOID INTERFERENCE WITH YARD PIPING AS SHOWN ON SHEET C-04

COORDINATE TABLE		
#	NORTHING	EASTING
1	2418152.8948	5634683.9951
2	2418192.5182	5634739.5364
3	2418157.1865	5634710.0801
4	2418219.7244	5634738.1363
5	2418118.1914	5634687.6002
6	2418221.7962	5634772.3538
7	2418192.0990	5634636.9710
8	2418258.1539	5634692.0414
9	2418245.7437	5634649.1463
10	2418236.5268	5634641.4621
11	2418317.5562	5634723.0778
12	2418294.8884	5634747.1437
13	2418283.7461	5634761.2894
14	2418268.7685	5634748.8025
15	2418247.2622	5634730.8726
16	2418265.6243	5634782.2450
17	2418219.5394	5634743.8238
18	2418266.3451	5634706.4217
19	2418303.4753	5634708.7346

20	2418269.6797	5634680.5590
21	2418221.9791	5634712.0072
22	2418178.6145	5634676.1794
23	2418207.1102	5634641.9998
24	2418250.1546	5634678.2117
25	2418198.1600	5634731.2075
26	2418164.3645	5634703.0320
27	2418210.9671	5634715.8459
28	2418177.1715	5634687.6704
29	2418176.1913	5634635.4904
30	2418165.4122	5634648.4195
31	2418152.0955	5634658.4059
32	2418143.1306	5634669.1590
33	2418141.4002	5634677.4811
34	2418162.7797	5634690.8781
35	2418210.4007	5634730.5800

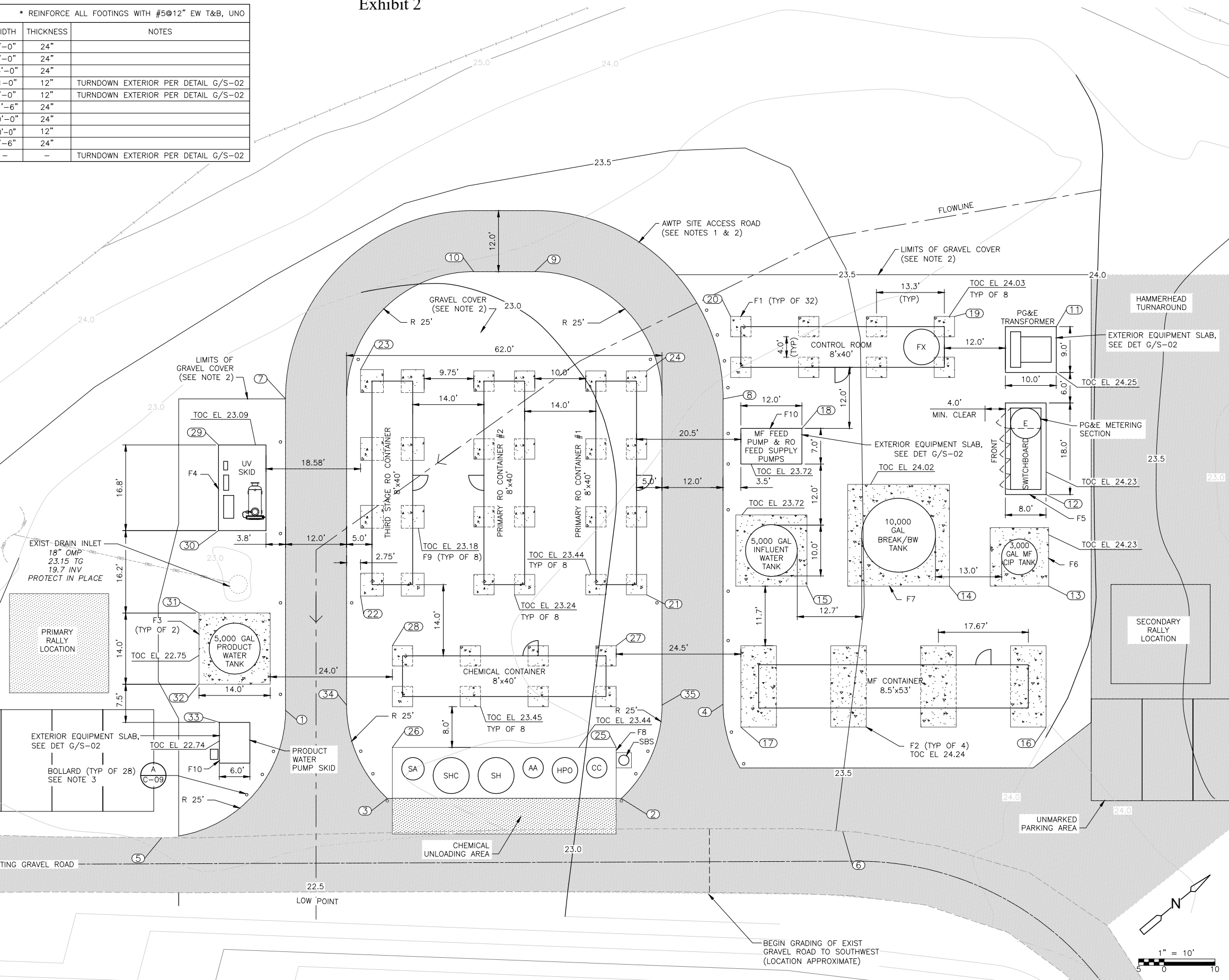


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By *Eun Chul You* Date 2/27/15

**CDM Smith**



REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

DESIGNED BY: C. LINDSEY  
 DRAWN BY: O. NAHHAS  
 SHEET CHK'D BY: R. CHALMERS  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

**WARNING**  
 1/2" = 1"  
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 111 Academy Way, Suite 150  
 Irvine, California 92617  
 Tel: (949) 752-5452

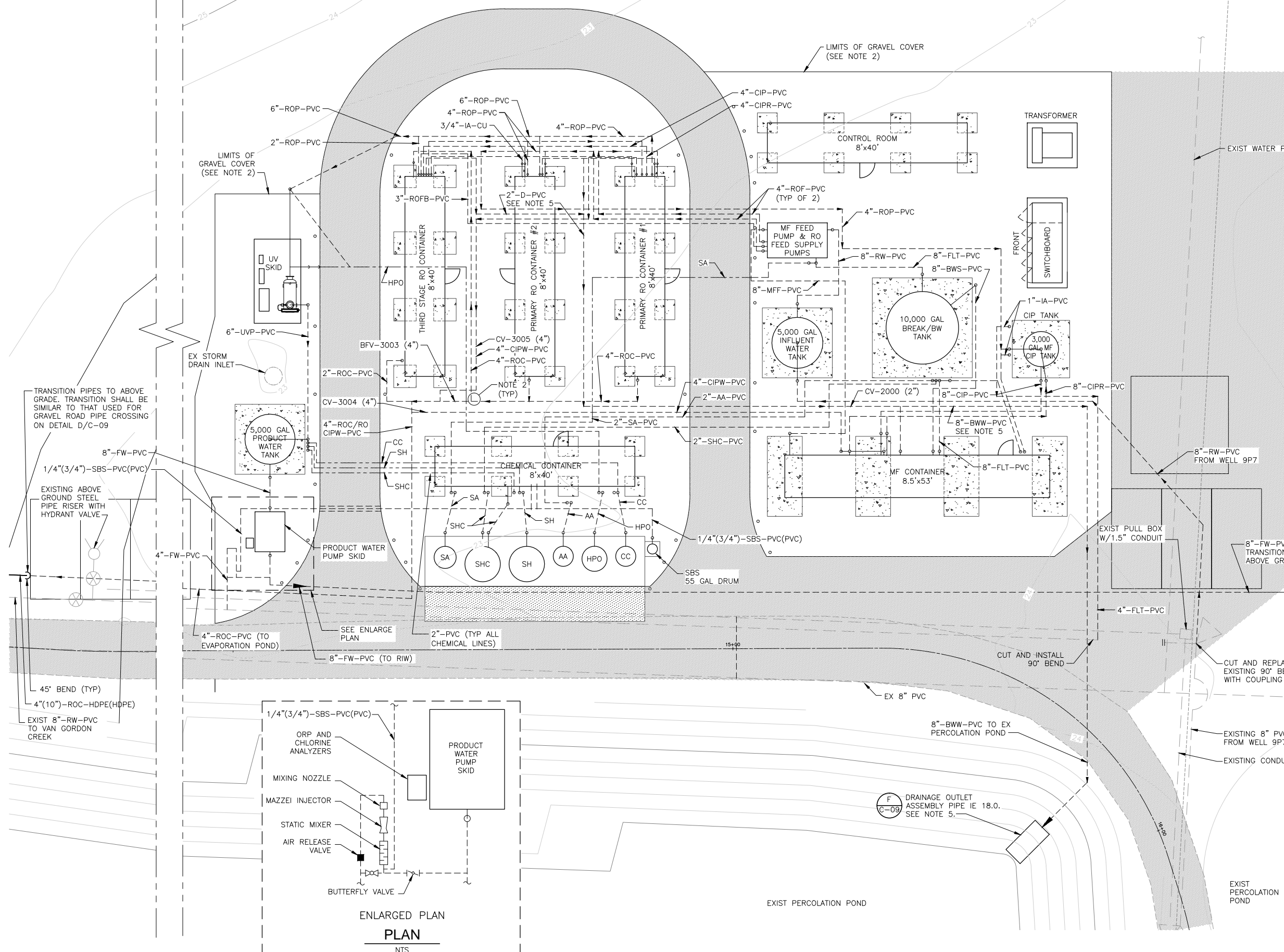
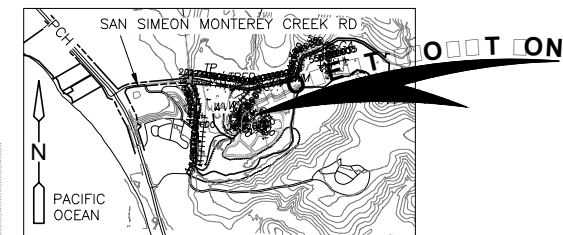


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**AWTP GRADING AND DRAINAGE PLAN**

PROJECT NO. 138760-104133  
 SHEET: 6 OF 38  
 DRAWING NO. **C-03**

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- NOTES:**
1. ALL PIPING AND HOSE TO BE INSTALLED BELOW GRADE WITHIN THE LAYOUT AREA OF THE AWTP. PIPE AND/OR HOSE TO TURN VERTICALLY TO SURFACE NO MORE THAN 3 FEET FROM PROCESS CONNECTIONS LOCATED ABOVE GRADE.
  2. VALVES AND OTHER APPURTENANCES ARE NOT SHOWN. SEE P&IDS FOR REQUIRED VALVE AND APPURTENANCE LOCATIONS WITH RESPECT TO FLOW STREAM. IN SOME CASES, BELOW GRADE VALVES MUST BE PROVIDED TO ISOLATE FLOW STREAM CONNECTIONS. PROVIDE APPROPRIATE COATING, VALVE RISERS/BOXES AND CATHODIC PROTECTION TO SUBGRADE VALVES.
  3. YARD PIPING LAYOUT IS APPROXIMATE. FINAL ALIGNMENTS TO BE BASED UPON VENDOR DRAWINGS SHOWING EXACT LOCATIONS OF INLET AND OUTLET CONNECTIONS.
  4. PROVIDE TRUE UNION COUPLINGS FOR 2" PVC CHEMICAL CONTAINMENT PIPE WHERE PIPING TRANSITIONS TO BELOW GRADE.
  5. INSTALL 2"-D-PVC AND 8"-BWW-PVC W/1% SLOPE MINIMUM FOR GRAVITY FLOW.

- ABBREVIATIONS:**
- CC CALCIUM CHLORIDE
  - HPO HYDROGEN PEROXIDE
  - SA SULFURIC ACID
  - ASC ANTI-SCALANT/THRESHOLD INHIBITOR
  - SHC SODIUM HYPOCHLORITE
  - AA AQUEOUS AMMONIA
  - SH SODIUM HYDROXIDE
  - CA CITRIC ACID
  - BWW BRACKISH WASTE
  - FLT FILTRATE
  - FW FINISHED WATER
  - ROC RO CONCENTRATE
  - ROF RO FEED
  - ROP RO PRODUCT
  - RW RAW WATER
  - UVP UV PRODUCT

- LEGEND**
- BELOW GRADE CHEMICAL HOSE (DOUBLE CONTAINED)
  - - - ABOVE GRADE CHEMICAL HOSE (DOUBLE CONTAINED)
  - ABOVE GRADE PROCESS PIPING
  - - - BELOW GRADE PROCESS PIPING

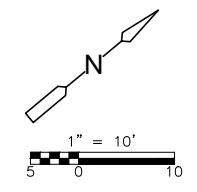
- MATERIAL**
- PTFE POLYTETRAFLUOROETHYLENE
  - PVC POLYVINYL CHLORIDE

**RECORD DRAWING**

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By *Emm Chu You* Date 5/20/16

**CDM Smith**



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REV. NO.	DATE	DRWN	CHKD	REMARKS
2	5/20/16	DI	ECY	RECORD DRAWING
1	10/6/14	DI	ECY	REVISED PER RWQCB COMMENTS

DESIGNED BY: C. LINDSEY  
 DRAWN BY: O. NAHHAS  
 SHEET CHK'D BY: R. CHALMERS  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

**WARNING**

1/2" = 1"

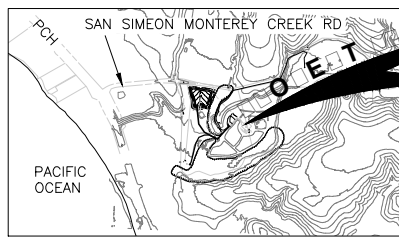
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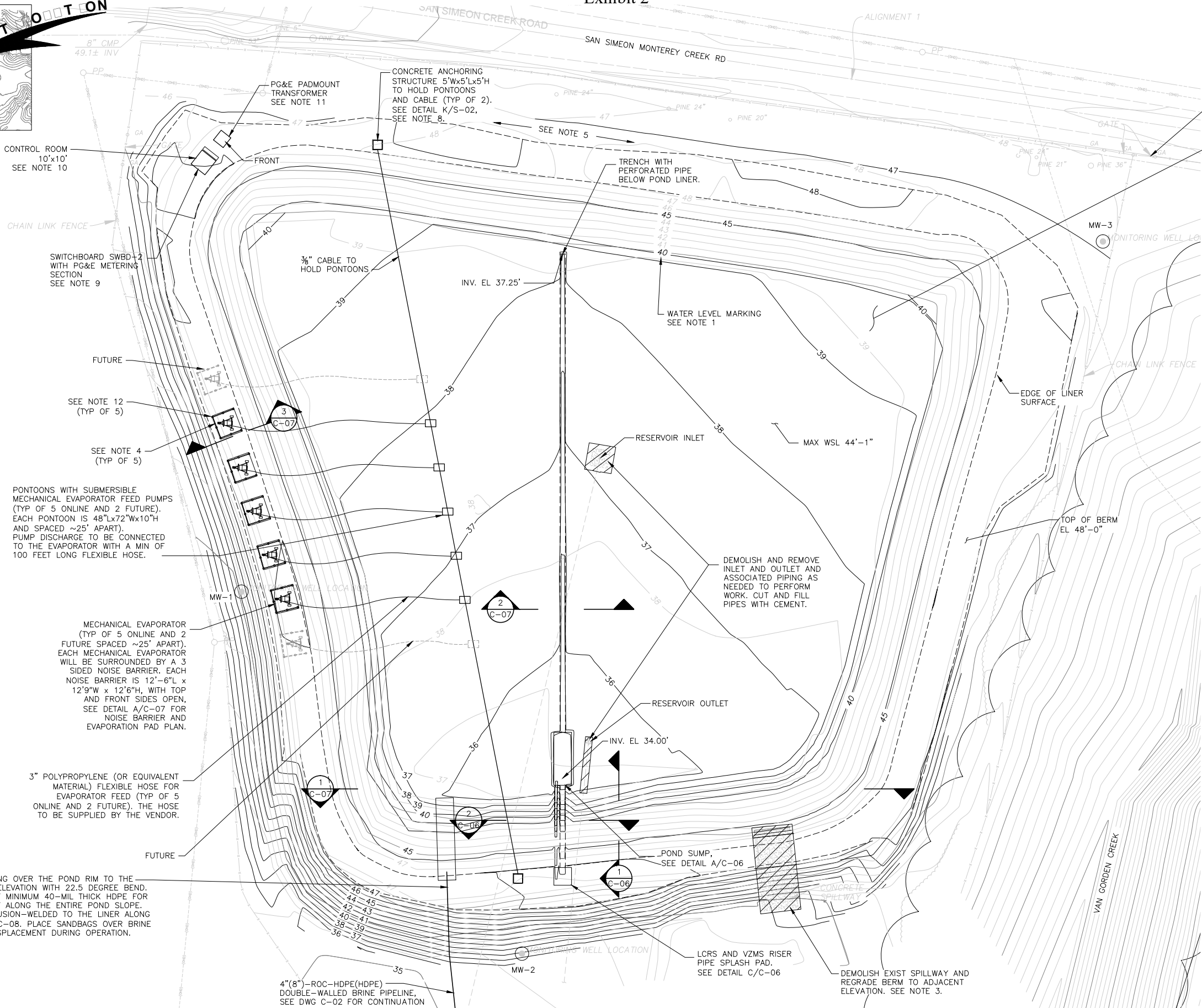
**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**AWTP YARD PIPING PLAN**

PROJECT NO. 138760-104133  
 SHEET: 7 OF 38  
 DRAWING NO. **C-04**



COORDINATES		
#	NORTHING	EASTING
100	NOT USED	NOT USED
101	NOT USED	NOT USED
102	2418887.0764	5633844.9715
103	2418879.2448	5633838.7533
104	NOT USED	NOT USED
105	NOT USED	NOT USED
106	NOT USED	NOT USED
107	NOT USED	NOT USED
108	NOT USED	NOT USED
109	NOT USED	NOT USED
110	NOT USED	NOT USED
111	NOT USED	NOT USED
112	2418892.8005	5633851.4317
113	2418898.2827	5633855.7844
150	2418472.1201	5634021.3430
151	2418892.4811	5633941.8378
152	2418887.4811	5633941.8378
153	NOT USED	NOT USED
154	2418527.4956	5634049.1664
155	2418557.4956	5634049.1664
156	2418480.9146	5634044.1664
157	2418480.9146	5634054.1664
158	2418477.1201	5634021.3430
159	2418828.2835	5634049.1693
200	2418637.0459	5633867.2632



EX FENCE AND GATE

EVAPORATION POND TO BE LINED WITH IMPERMEABLE HDPE LAYER, LEACHATE COLLECTION AND REMOVAL SYSTEM (LCRS), AND VADOSE ZONE MONITORING SYSTEM (VZMS). REFER TO SHEETS C-6 THROUGH C-8 FOR DETAILS.

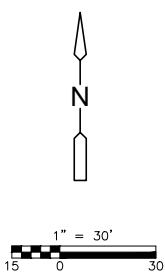
- NOTES:**
1. MARKINGS ON POND INTERIOR SHALL IDENTIFY ELEVATIONS EVERY FOOT. THE TEXT SHALL BE AT 2 FOOT INTERVALS AND BE 18" TALL; THE HORIZONTAL ELEVATION MARKINGS SHALL BE 6" TALL AND AT LEAST 3 FT WIDE.
  2. PROOFROLL AND COMPACT THE BOTTOM OF THE POND, SIDE SLOPE AND THE TOP OF BERM TO PROVIDE A COMPETENT SURFACE FOR SUPPORT OF THE LINER.
  3. REMOVE AND RECOMPACT THE UPPER 12 INCHES BELOW THE EXPOSED SUBGRADE OF THE DEMOLISHED SPILLWAY TO PROVIDE A COMPETENT SUBGRADE PRIOR TO PLACING FILL TO MATCH THE TOP OF THE ADJACENT BERM. ALL FILL SHALL BE COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION IN ACCORDANCE WITH ASTM D1557 AT A MOISTURE AT LEAST 2 PERCENT HIGHER THAN OPTIMUM.
  4. REMOVE AND RECOMPACT THE FOOTPRINT TO PROVIDE A ZONE OF COMPACTED FILL FOR PAD SUPPORT. PROVIDE AT LEAST 2' OF COMPACTED FILL. THE FILL SHALL EXTEND AT LEAST 3' LATERALLY BEYOND THE LIMITS OF THE PAD.
  5. RE-GRADE AS NEEDED ON THE NORTH END TOP OF POND TO PREVENT STORM WATER RUNOFF FROM ENTERING THE POND. FLOWS CAN BE DIRECTED TO THE EAST AS NEEDED.
  6. PROVIDE GASOLINE-POWERED LCRS DEWATERING PUMP FOR USE AS-NEEDED, GODWIN MODEL GWP-50HX WITH WHEEL KIT OR APPROVED EQUAL TO BE STORED IN AWTP CONTROL ROOM CONTAINER. PROVIDE CABLE WATER LEVEL METER TO MONITOR WATER LEVEL IN LCRS AND VZMS AS NEEDED, SOLINST MODEL 102M MINI WITH MINIMUM 75 FT CABLE LENGTH AND TYPE P1 PROBE, OR APPROVED EQUAL.
  7. PENETRATE FENCE AS NEEDED, PROVIDE KNUCKLED ENDS AROUND PIPE.
  8. RECOMPACT UPPER 12" BENEATH CONCRETE ANCHORING STRUCTURE TO AT LEAST 90% RELATIVE COMPACTION PER ASTM D1557.
  9. SWITCHBOARD SHALL BE CONSTRUCTED ON 18'X8'X12" CONCRETE SLAB PER DETAIL G/S-02.
  10. CONTROL ROOM SHALL BE CONSTRUCTED ON 12'X12'X12" CONCRETE SLAB PER DETAIL G/S-02.
  11. PG&E TRANSFORMER SHALL BE CONSTRUCTED ON 8'-2"x4"x12" CONCRETE SLAB PER DETAIL G/S-02.
  12. SPILL CONTAINMENT SLAB PER DETAIL A, C-07.

**RECORD DRAWING**

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By *Eun Chiu You* Date 5/20/16

**CDM Smith**



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REV. NO.	DATE	DRWN	CHKD	REMARKS
5	5/20/16	DI	ECY	RECORD DRAWING
4	10/6/14			REVISED POND BURY BRINE POND INLET PIPING
3	8/29/14			REVISED PER RWQCB COMMENTS
2	8/20/14			REVISED PER RWQCB COMMENTS
1	8/5/14	ON	ECY	REVISED PER TITLE 27 TM4

DESIGNED BY: E. SMITH  
 DRAWN BY: O. NAHHAS  
 SHEET CHK'D BY: R. CHALMERS  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

**WARNING**  
 0 1/2" 1"  
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**CDM Smith**  
 111 Academy Way, Suite 150  
 Irvine, California 92617  
 Tel: (949) 752-5452

PROFESSIONAL ENGINEER  
 EUN CHIU YOU  
 No. C 70014  
 Exp. 09/30/2014  
 CIVIL  
 STATE OF CALIFORNIA

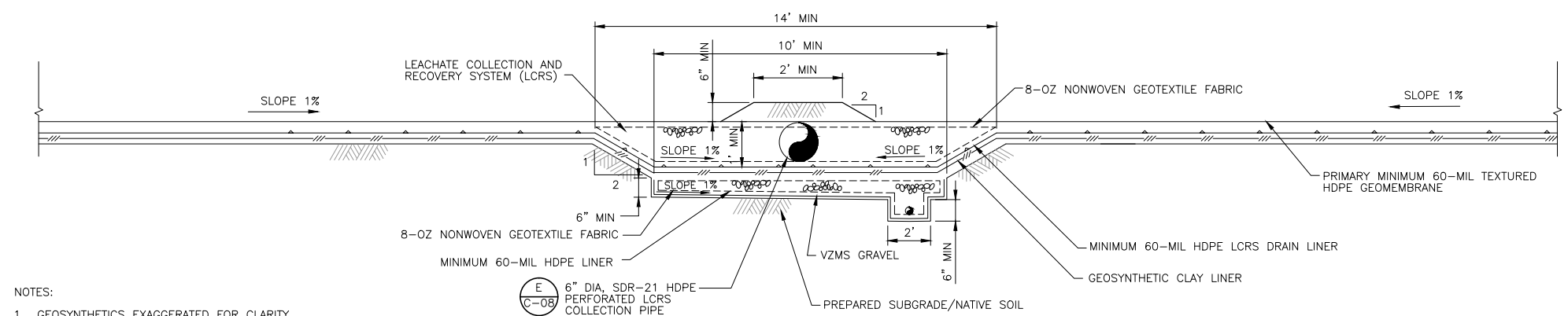


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**BRINE EVAPORATION POND PLAN**

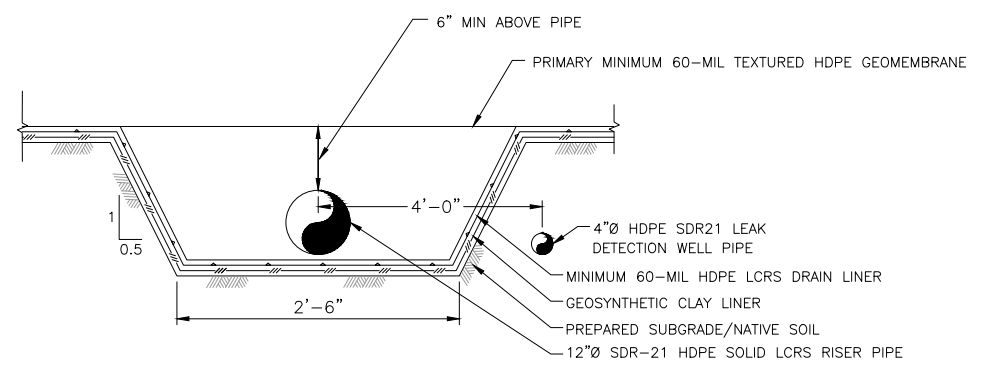
PROJECT NO. 138760-104133  
 SHEET: 8 OF 38  
 DRAWING NO. **C-05**



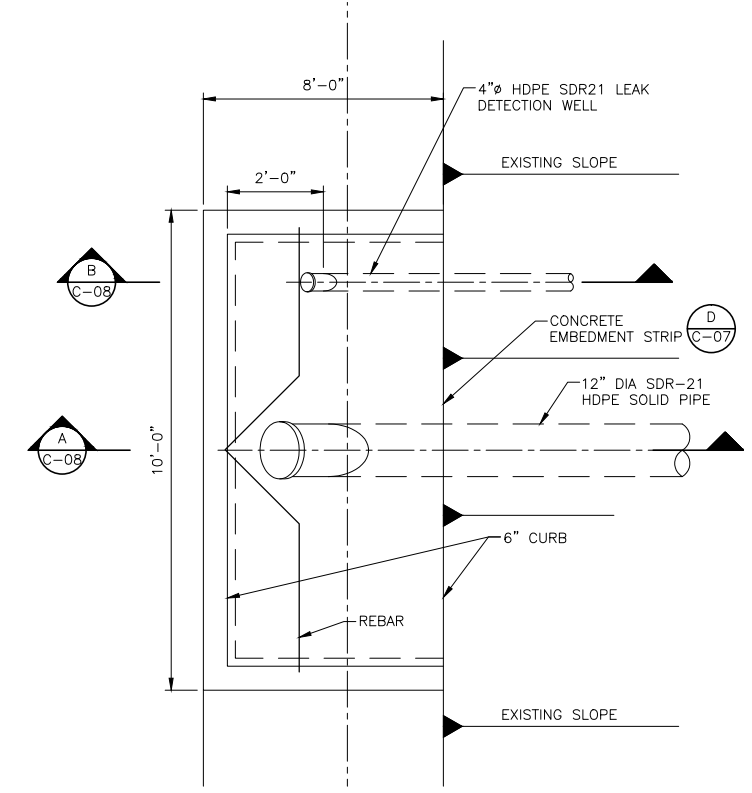


NOTES:  
1. GEOSYNTHETICS EXAGGERATED FOR CLARITY.

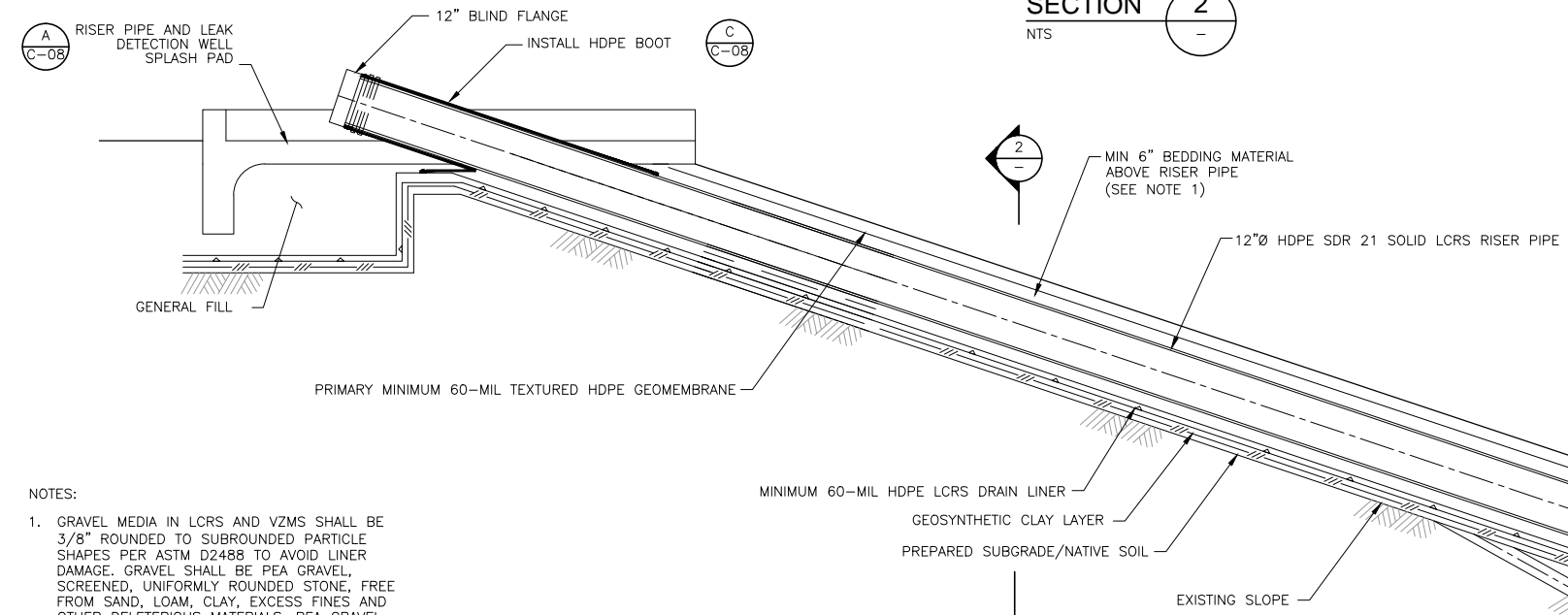
TYPICAL POND SUMP  
DETAIL  
SECTION 1



TYPICAL RISER PIPE TRENCH  
SECTION 2



LCRS PUMP OUT RISER PIPE  
AND VZMS RISER PIPE SPLASH PAD  
DETAIL  
SECTION 3



TYPICAL LONGITUDINAL SUMP  
AT LCRS RISER PIPE  
SECTION 1

NOTES:  
1. GRAVEL MEDIA IN LCRS AND VZMS SHALL BE 3/8" ROUNDED TO SUBROUNDED PARTICLE SHAPES PER ASTM D2488 TO AVOID LINER DAMAGE. GRAVEL SHALL BE PEA GRAVEL, SCREENED, UNIFORMLY ROUNDED STONE, FREE FROM SAND, LOAM, CLAY, EXCESS FINES AND OTHER DELETERIOUS MATERIALS. PEA GRAVEL SHALL CONFORM TO THE FOLLOWING GRADATION LIMITS:

SIEVE SIZE	PERCENT FINER BY WEIGHT
1/2-IN	100
3/8-IN	90
NO.4	25
NO.8	5
NO.16	0

GRAVEL SHALL HAVE CARBONATE CONTENT OF NO MORE THAN 1%.  
GRAVEL SHALL HAVE DURABILITY INDEX OF NOT LESS THAN 40.

**RECORD DRAWING**

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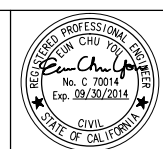
By Eun Chul You Date 5/20/16

**CDM Smith**

REV. NO.	DATE	DRWN	CHKD	REMARKS
4	5/20/16	DI	ECY	RECORD DRAWING
3	10/6/14			REVISED PER RWQCB COMMENTS
2	8/29/14			REVISED PER RWQCB COMMENTS
1	8/20/14			REVISED PER RWQCB COMMENTS

DESIGNED BY: E. SMITH  
DRAWN BY: O. NAHHAS  
SHEET CHK'D BY: R. CHALMERS  
CROSS CHK'D BY: E. YOU  
APPROVED BY: S. NEDIC  
DATE: JULY 23, 2014

**WARNING**  
1/2" = 1"  
IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY



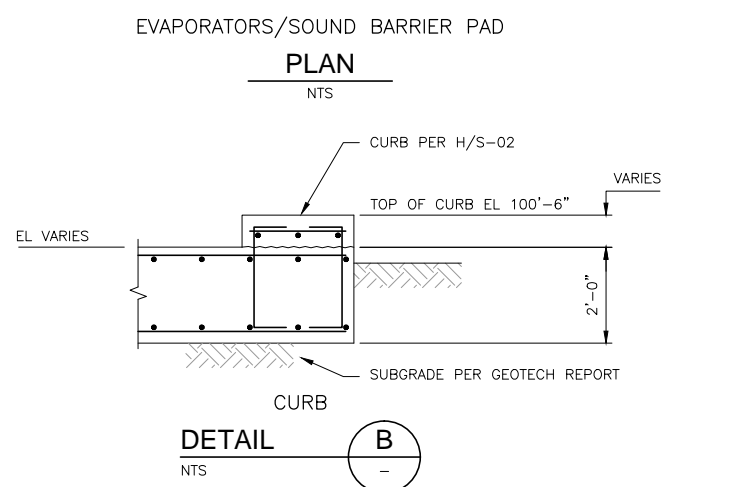
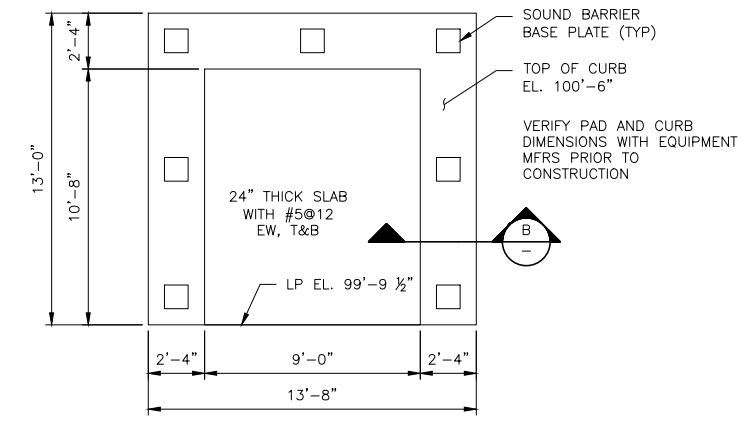
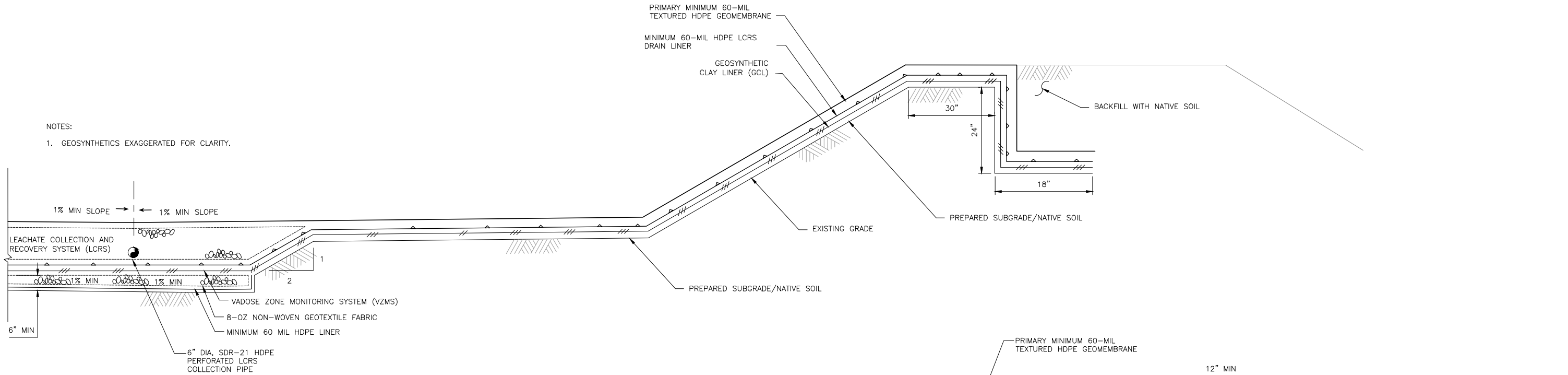
**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
CAMBRIA COMMUNITY SERVICES DISTRICT

**BRINE EVAPORATION POND SECTIONS AND DETAILS I**

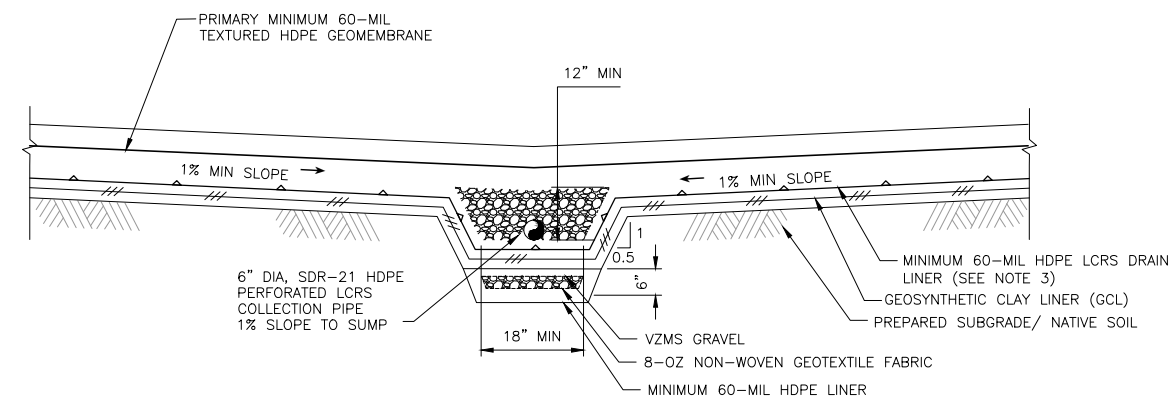
PROJECT NO. 138760-104133  
SHEET: 9 OF 38  
DRAWING NO. **C-06**

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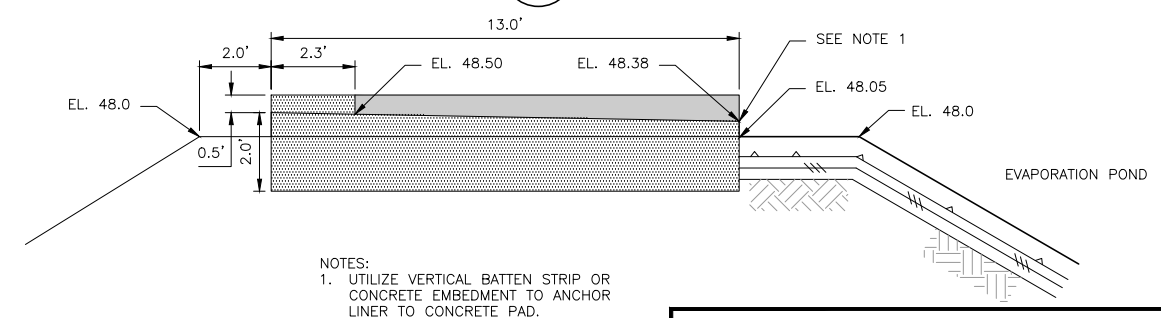
NOTES:  
1. GEOSYNTHETICS EXAGGERATED FOR CLARITY.



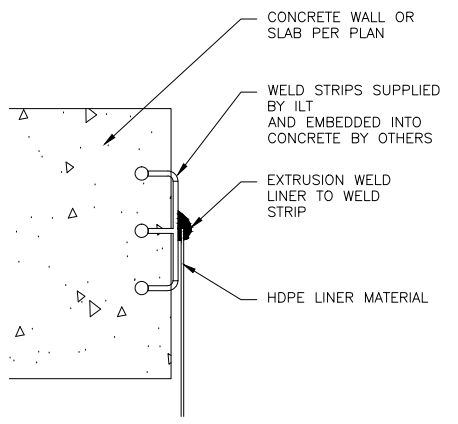
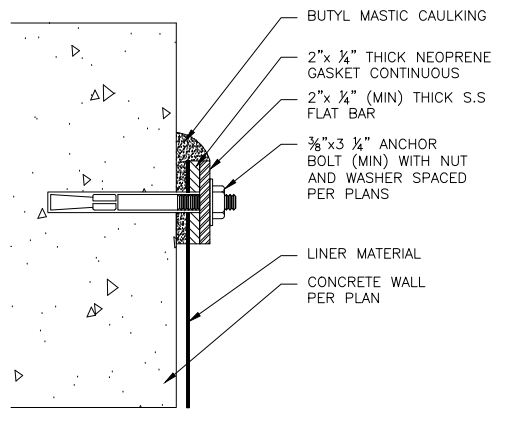
TYPICAL DOUBLE LINER SYSTEM AT SUMP  
SECTION 1  
NTS



TYPICAL DOUBLE LINER SYSTEM  
SECTION 2  
NTS



EVAPORATION POND  
SECTION 3  
NTS



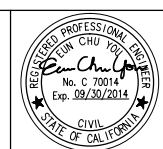
**RECORD DRAWING**  
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 By *Evan Chiu* Date 5/20/16

APPROVED FOR CONSTRUCTION

REV. NO.	DATE	DRWN	CHKD	REMARKS
5	5/20/16	ID	ECY	RECORD DRAWING
4	10/1/14			REVISED PER RWQCB COMMENTS
3	9/8/14			REVISED PER RWQCB COMMENTS
2	8/29/14			REVISED PER RWQCB COMMENTS
1	8/20/14			REVISED PER RWQCB COMMENTS

DESIGNED BY: E. SMITH  
 DRAWN BY: O. NAHHAS  
 SHEET CHK'D BY: R. CHALMERS  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

**WARNING**  
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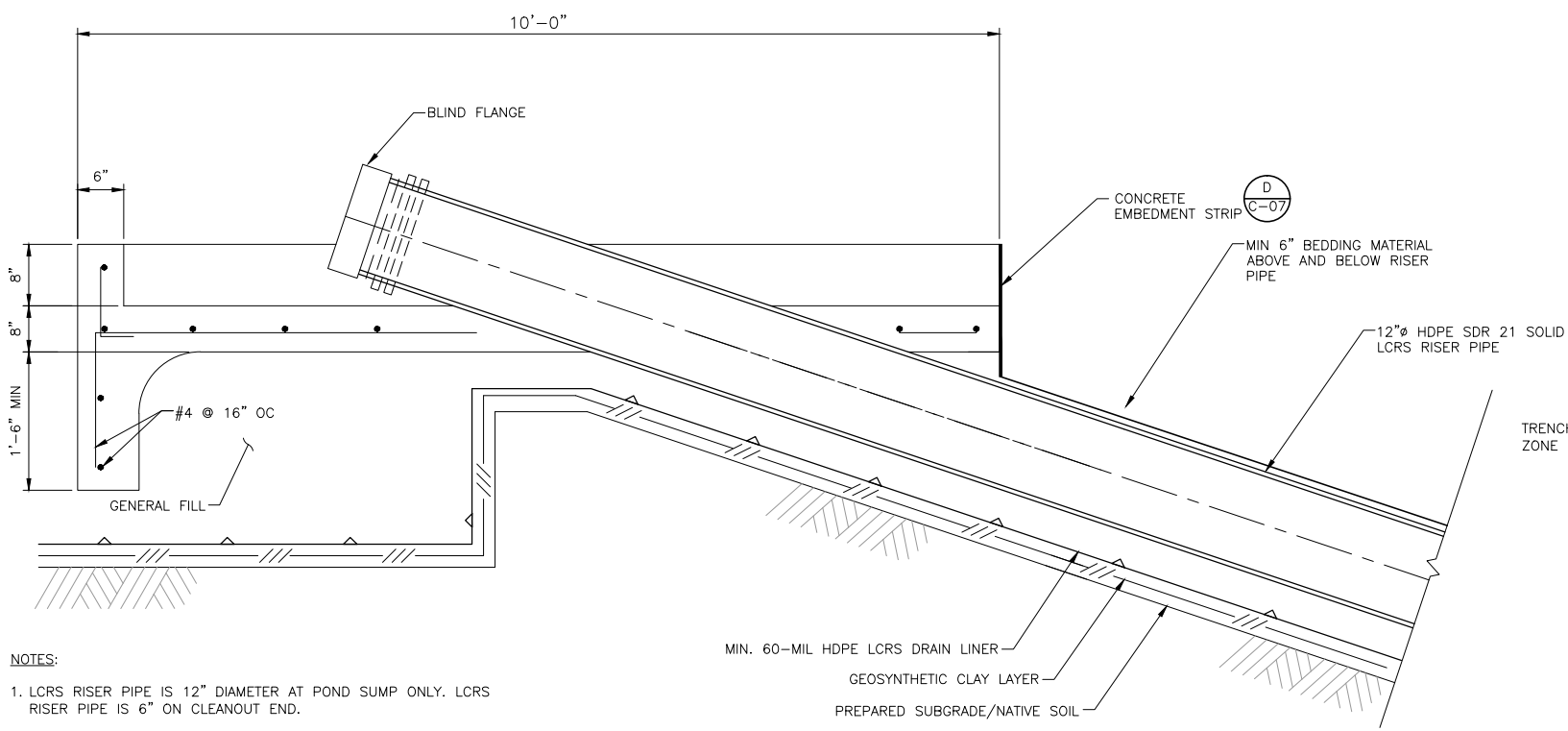


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**BRINE EVAPORATION POND SECTIONS AND DETAILS II**

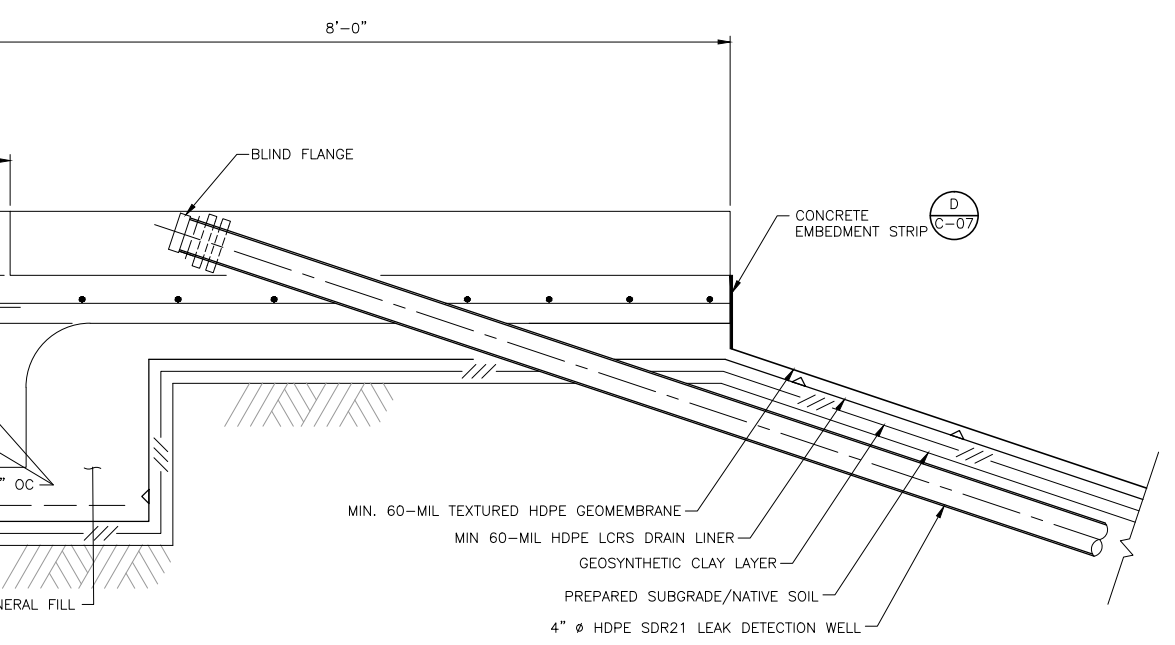
PROJECT NO. 138760-104133  
 SHEET: 10 OF 38  
 DRAWING NO. **C-07**

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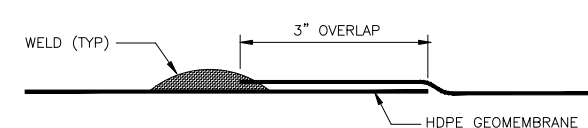
SPLASH PAD DETAIL SECTION AT LCRS RISER PIPE

DETAIL A  
NTS

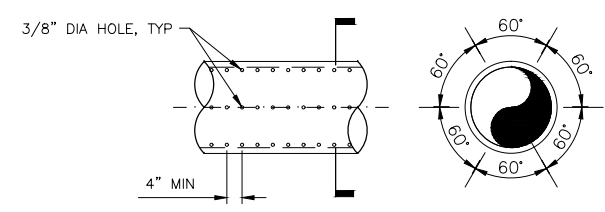


SPLASH PAD DETAIL SECTION AT VZMS RISER PIPE

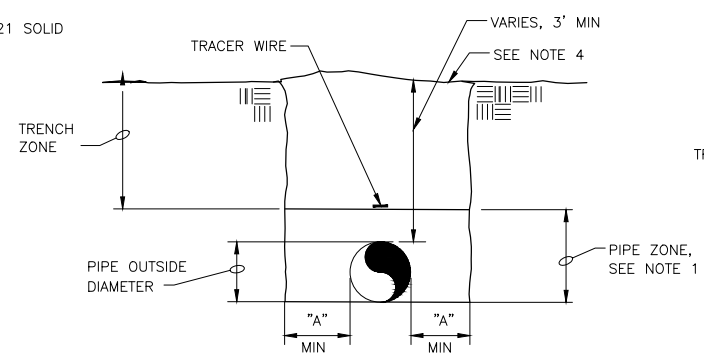
DETAIL B  
NTS



TYPICAL EXTRUDED WELD  
DETAIL D  
NTS

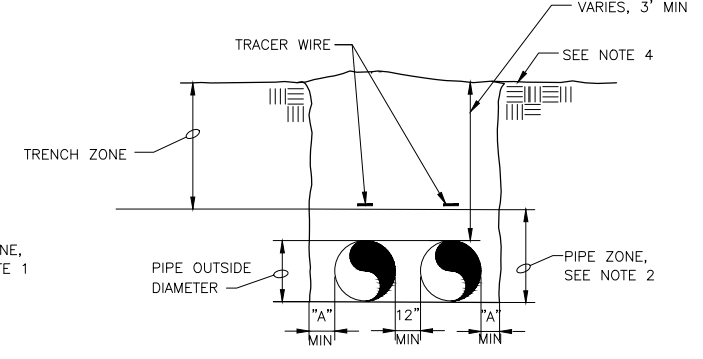


COLLECTOR PIPE PERFORATION  
DETAIL E  
NTS



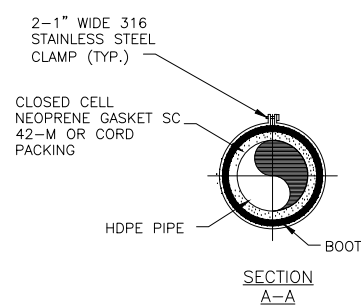
PIPE ZONE		
NOMINAL PIPE DIA (IN.)	HEIGHT ABOVE TOP OF PIPE (IN.)	"A" (IN.)
4	6	2
8	6	4

- NOTE
- PIPE ZONE DEPTH AND "A" SHALL BE VALUES SHOWN IN TABLE ABOVE.
  - 90% RELATIVE COMPACTION IN PIPE ZONE; 95% RELATIVE COMPACTION 12-INCHES DEEP (GRAVEL + SUBGRADE) IN TRENCH ZONE WHERE ROADWAYS OR STRUCTURES EXIST ABOVE, OTHERWISE 90% RELATIVE COMPACTION IS PERMISSIBLE.
  - TRENCH EXCAVATION LESS THAN 5 FEET MAY REQUIRE SHORING DUE TO SOIL INSTABILITY.
  - SEE DETAIL D ON SHEET C-09 IN AREAS WHERE PIPING IS INSTALLED BELOW ROADS.

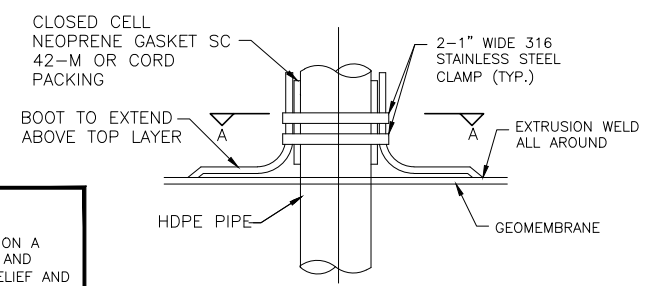


PIPE ZONE		
NOMINAL PIPE DIA (IN.)	HEIGHT ABOVE TOP OF PIPE (IN.)	"A" (IN.)
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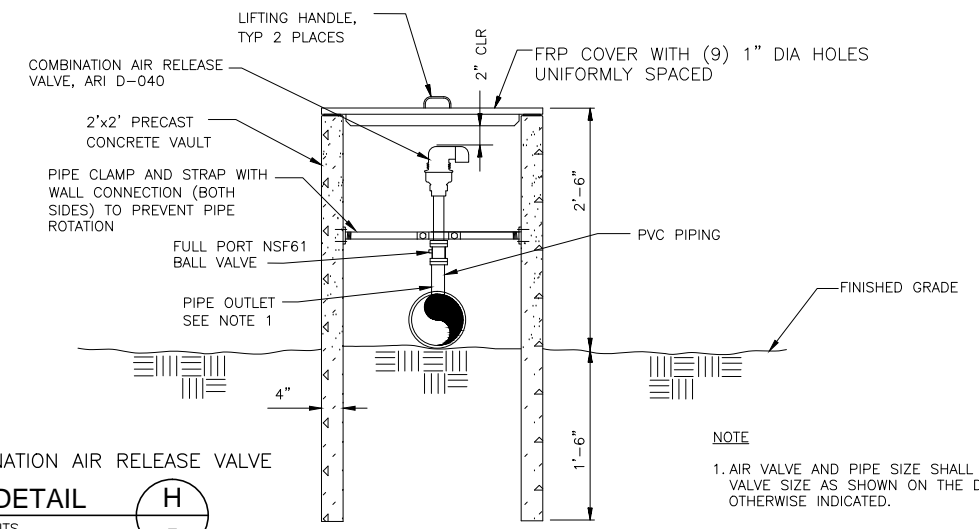
SECTION A-A



HDPE BOOT  
DETAIL C  
NTS

SINGLE PIPE TRENCH BACKFILL  
DETAIL F  
NTS

MULTIPLE PIPE TRENCH BACKFILL  
DETAIL G  
NTS



COMBINATION AIR RELEASE VALVE  
DETAIL H  
NTS

- NOTE
- AIR VALVE AND PIPE SIZE SHALL MATCH AIR VALVE SIZE AS SHOWN ON THE DWGS, UNLESS OTHERWISE INDICATED.

**RECORD DRAWING**

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By: *Eun Chu You* Date: 5/20/16

**CDM Smith**

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3	5/20/16	DI	ECY	RECORD DRAWING
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1	8/20/14			REVISED PER RWQCB COMMENTS

DESIGNED BY:	E. SMITH
DRAWN BY:	O. NAHHAS
SHEET CHK'D BY:	R. CHALMERS
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

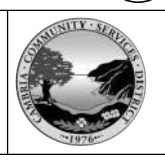
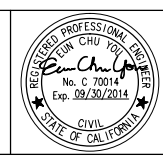
**WARNING**

0 1/2" 1"

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**CDM Smith**

111 Academy Way, Suite 150  
Irvine, California 92617  
Tel: (949) 752-5452

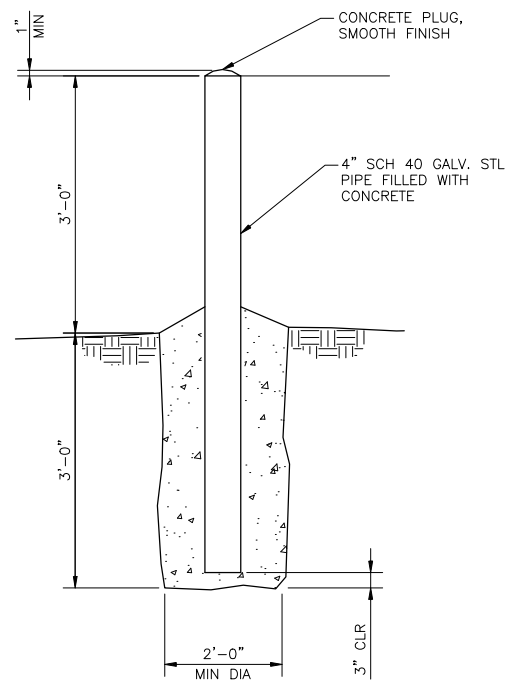


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**

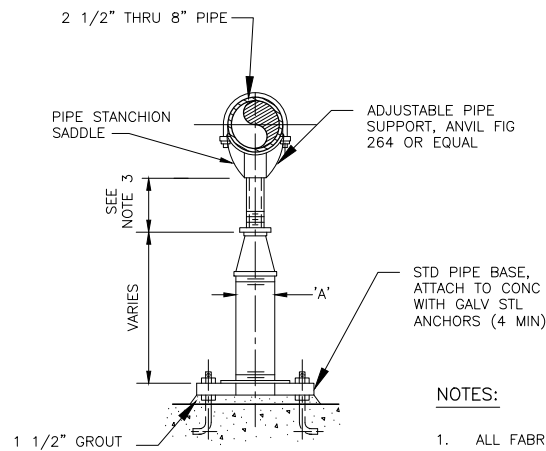
CAMBRIA COMMUNITY SERVICES DISTRICT

**CIVIL DETAILS I**

PROJECT NO. 138760-104133  
SHEET: 11 OF 38  
DRAWING NO. **C-08**



BOLLARD  
DETAIL A  
NTS

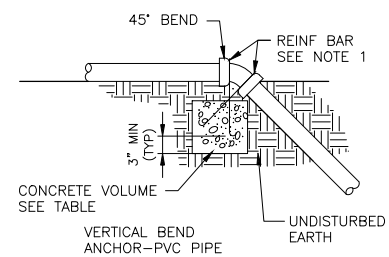


METAL PIPE SUPPORT  
DETAIL B  
NTS

DIMENSION TABLE	
PIPE SIZE	'A'
2-1/2"	2-1/2"
3"	2-1/2"
4"	3"
6"	3"
8"	3"

NOTES:

1. ALL FABRICATION MATERIALS GALVANIZED CARBON STEEL.
2. FORM STANCHION TO FIT PIPE OD.
3. LENGTH PER STANCHION MANUFACTURER (6" MIN).
4. FABRICATE SUPPORT FROM SCHED 40 MIN PIPE STOCK.
5. PROVIDE 1/8" NEOPRENE PAD BETWEEN PIPE AND SUPPORT, WIDTH AND LENGTH TO MATCH STANCHION.



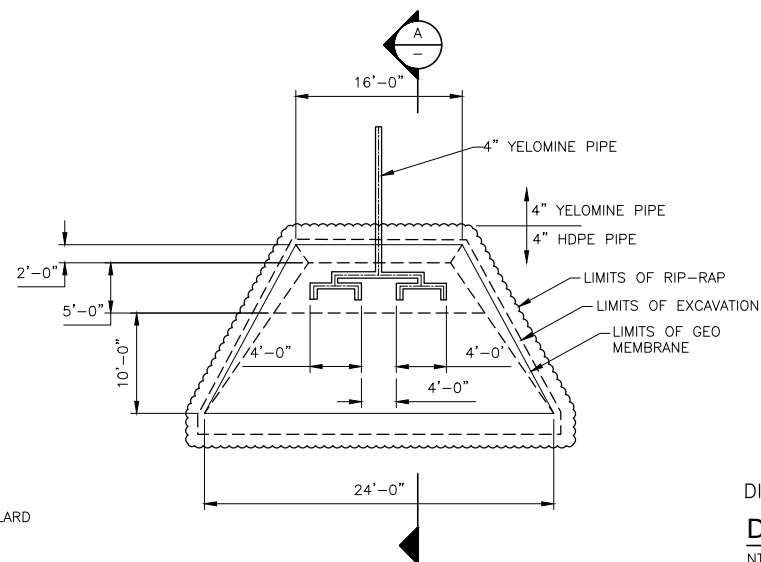
PROFILE

VOLUME OF THRUST BLOCK IN CUBIC YARDS	
FITTING SIZE	
4"	0.125
8"	0.296

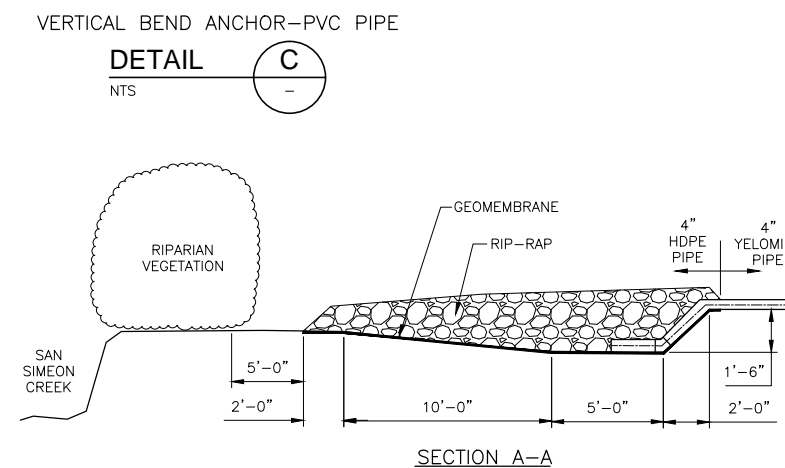
FITTING SIZE	ROD SIZE
4"	#4
8"	#6

THRUST BLOCK NOTES:

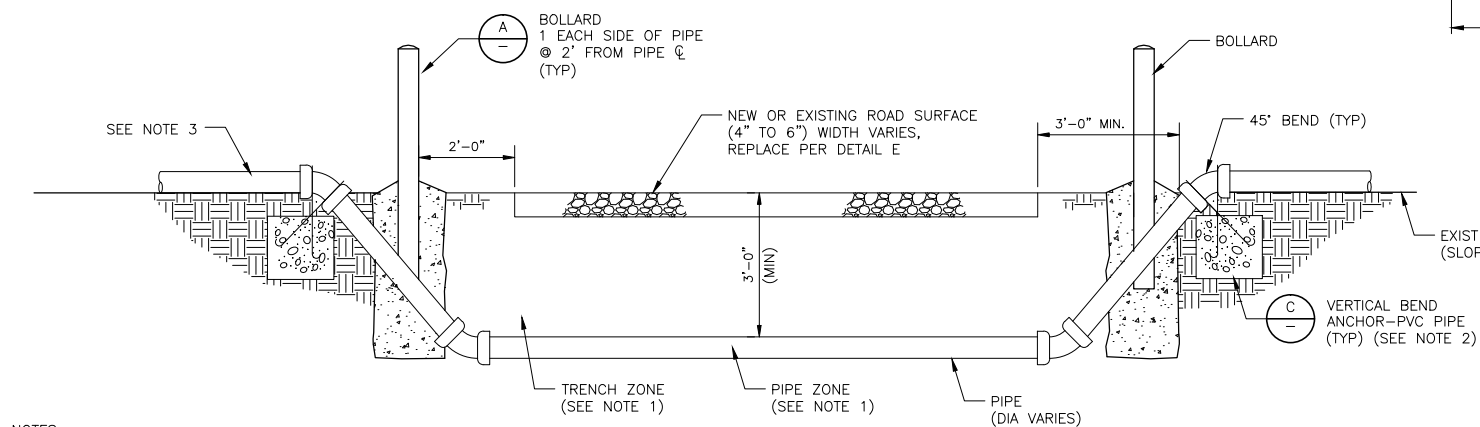
1. MASTIC COATED RODS OVER FITTING AND EMBEDDED IN CONCRETE (SEE TABLE FOR SIZES). COAT ENTIRE ROD PRIOR TO PLACING CONCRETE.
2. CONCRETE THRUST BLOCKING SHALL BE POURED AGAINST UNDISTURBED EARTH.
3. COMPACT TO 95% RELATIVE DENSITY OVER AND AROUND EACH THRUST BLOCK.
4. KEEP CONCRETE CLEAR OF JOINT AND JOINT ACCESSORIES.



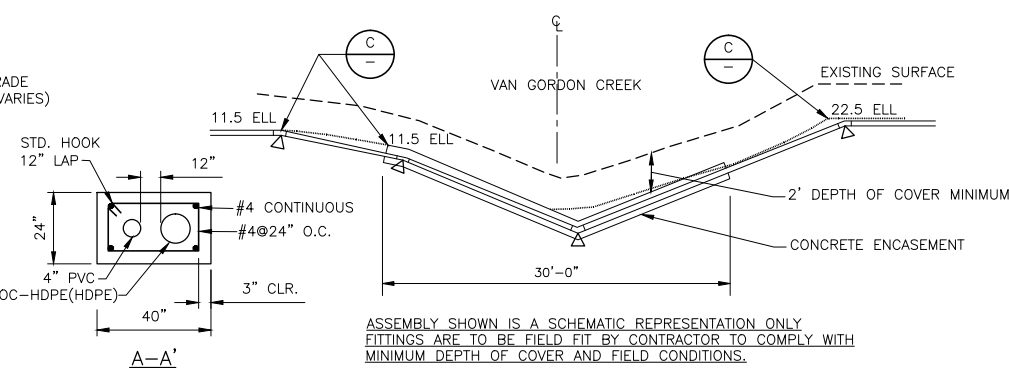
DIFFUSER STRUCTURE  
DETAIL G  
NTS



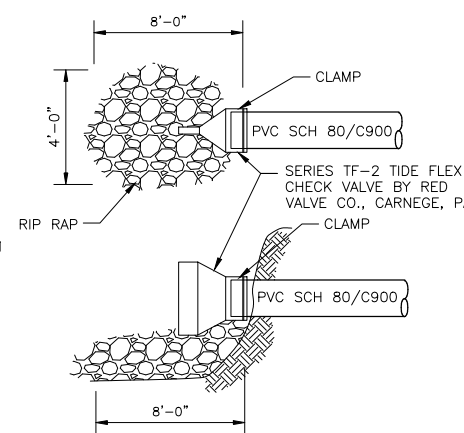
VERTICAL BEND ANCHOR-PVC PIPE  
DETAIL C  
NTS



ROAD PIPE CROSSING  
DETAIL D  
NTS



CREEK CROSSING  
DETAIL E  
NTS



DRAINAGE OUTLET ASSEMBLY  
DETAIL F  
NTS

- NOTES:
1. SEE DETAILS F & G, SHEET C-08 (AS APPLICABLE) FOR PIPE TRENCH DETAILS.
  2. PIPE ALIGNMENTS APPROACHING A ROAD CROSSING FROM DOWN SLOPE MAY OMIT 45° BENDS AS NEEDED.
  3. HORIZONTAL PIPE BENDS UP TO 90 DEGREES MAY BE USED BEFORE OR AFTER PIPE ANCHOR TO ACCOMMODATE PIPE ALIGNMENT.

**RECORD DRAWING**

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By *Evan Chiu* Date 5/20/16

**CDM Smith**

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1	10/1/14			REVISED PER RWQCB COMMENTS

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DRAWN BY:	O. NAHHAS
SHEET CHK'D BY:	R. CHALMERS
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

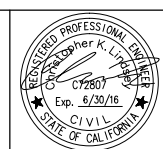
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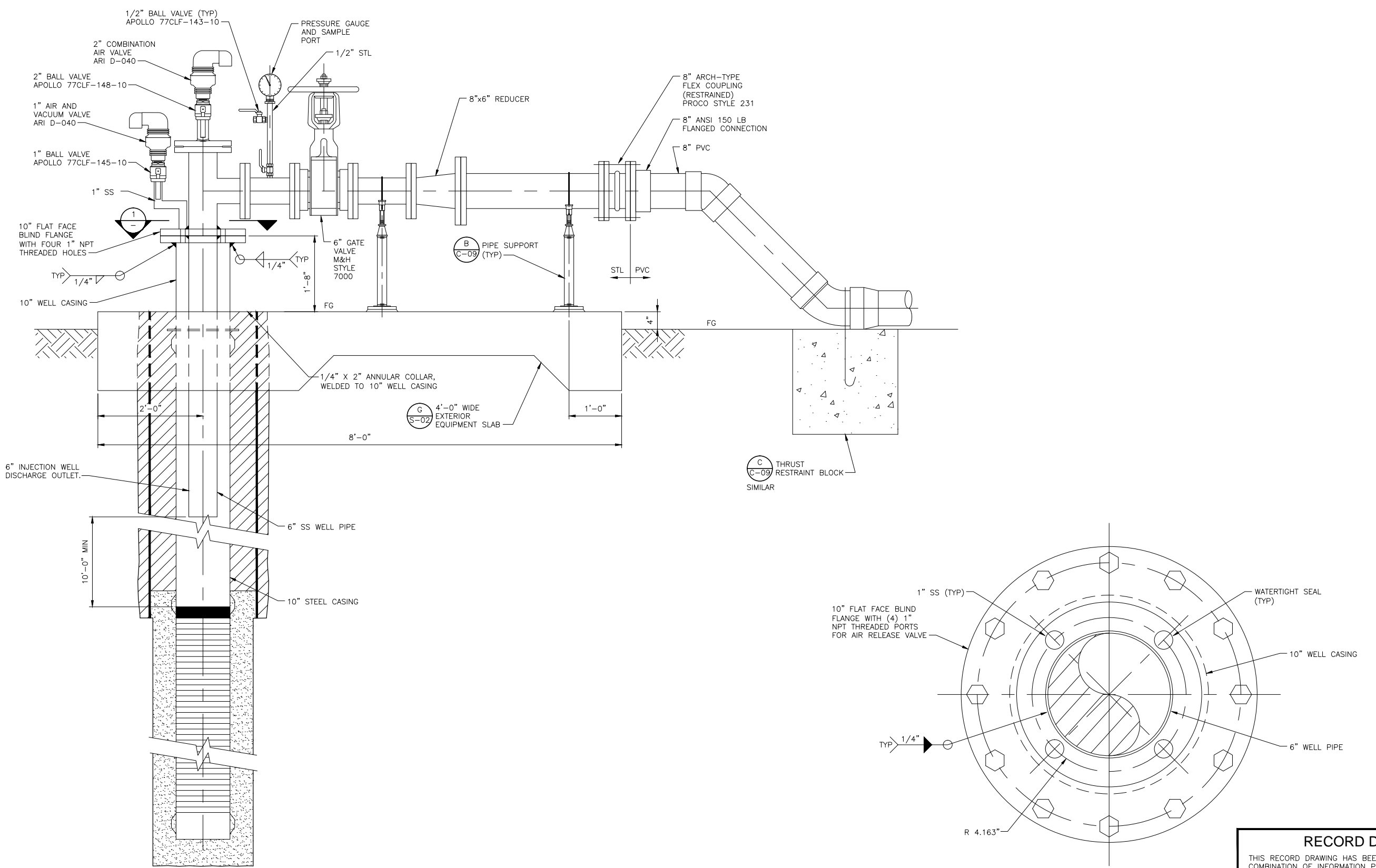


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**

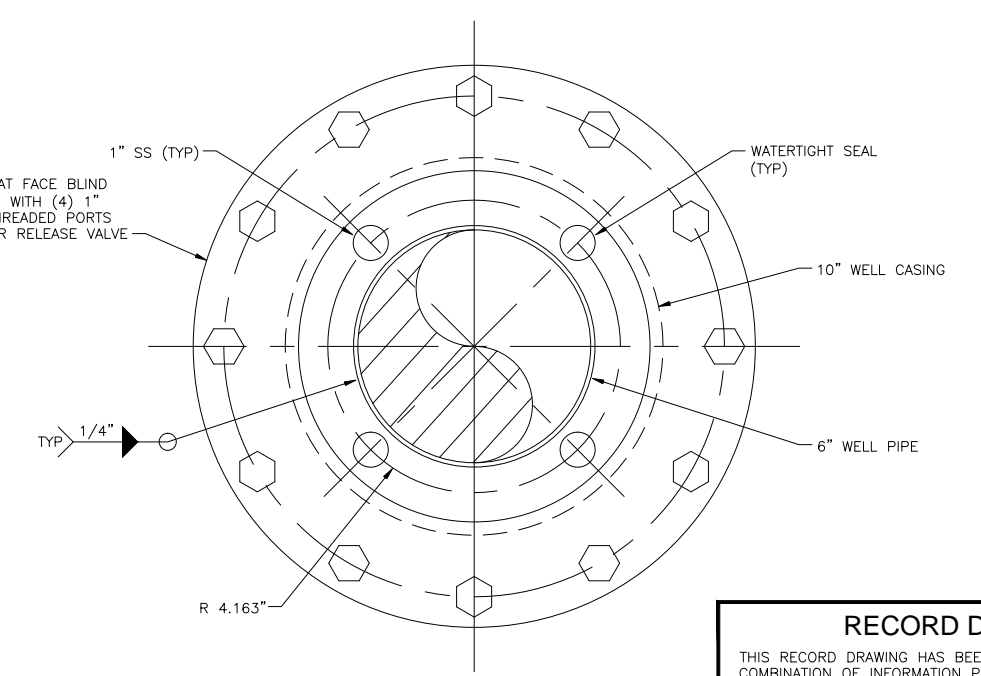
CAMBRIA COMMUNITY SERVICES DISTRICT

CIVIL DETAILS II

PROJECT NO. 138760-104133
SHEET: 12 OF 38
DRAWING NO. C-09



INJECTION WELL  
DETAIL  
NTS  
A



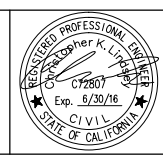
SECTION  
NTS  
1

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 By *Evan Chiu* Date 2/27/15  
**CDM Smith**

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SHEET CHK'D BY:	R. CHALMERS
CROSS CHK'D BY:	E. YOU
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**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

<b>INJECTION WELL DETAIL</b>	
PROJECT NO. 138760-104133	SHEET: 13 OF 38
DRAWING NO. <b>C-10</b>	

GENERAL STRUCTURAL NOTES

DESIGN CRITERIA:
CODES:
CBC-2013 (CALIFORNIA BUILDING CODE 2013)
ACI 318-11 (BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE)
DESIGN LOADS:
LIVE LOADS:
PROCESS FLOORS AND SLABS 200 PSF (NON-REDUCIBLE)
RISK CATEGORY IV
WIND DESIGN DATA:
BASIC WIND SPEED, Vult 115 MPH (ULTIMATE)
EXPOSURE CATEGORY VASD 89 MPH (NOMINAL)
SEISMIC DESIGN DATA:
SOIL SITE CLASS E
MAPPED SPECTRAL RESPONSE ACCELERATIONS
SHORT PERIOD Ss = 1.590g
ONE SECOND PERIOD S1 = 0.601g
SPECTRAL RESPONSE COEFFICIENTS
SHORT PERIOD Sds = 0.958g
ONE SECOND PERIOD Sd1 = 0.967g
SEISMIC DESIGN CATEGORY D
SEISMIC IMPORTANCE FACTOR, Ie 1.5
SNOW:
GROUND SNOW LOAD Pg 0 PSF

SEISMIC REQUIREMENTS - NON-STRUCTURAL COMPONENTS:
IN ACCORDANCE WITH THE REQUIREMENTS OF CBC AND BY REFERENCE ASCE 7-10, ALL MECHANICAL, ELECTRICAL AND NON-STRUCTURAL COMPONENTS AND EQUIPMENT AND ANCHORAGES FOR RISK CATEGORY IV AREAS SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 13 OF ASCE 7 WITH A COMPONENT IMPORTANCE FACTOR Ip=1.5.
COMPONENTS WITH HAZARDOUS SUBSTANCES SHALL BE SEISMICALLY CERTIFIED BY THE MANUFACTURER AS MAINTAINING CONTAINMENT FOLLOWING THE DESIGN EARTHQUAKE DESIGN MOTION PER ASCE 7-10.
FOR THIS PURPOSE ALL COMPONENTS AND EQUIPMENT SHALL BE CONSIDERED TO HAVE THE SAME SEISMIC DESIGN CATEGORY AS THAT OF THE STRUCTURE THEY OCCUPY OR TO WHICH THEY ARE ATTACHED.

FOUNDATIONS:
FOUNDATIONS ARE DESIGNED FOR A NET ALLOWABLE SOIL PRESSURE OF 600 PSF.
ALL EXTERIOR FOUNDATIONS SHALL EXTEND TO A DEPTH = 18".

GENERAL CONDITIONS:
ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE OTHER PROJECT DRAWINGS AND SPECIFICATIONS.
STANDARD DETAILS SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.
SEE CIVIL SITE PLANS FOR STRUCTURE LOCATION COORDINATES.
FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO CONSTRUCTION.
WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED SIZES.

CONSTRUCTION NOTES:
PRIOR TO INSTALLATION OF EQUIPMENT, COORDINATE AND CONFIRM THE ANCHORAGE REQUIREMENTS WITH THE MANUFACTURER. THE ANCHORAGE SYSTEM SHALL NOT DAMAGE THE CONCRETE.
CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD. THE PROJECT MANAGER SHALL BE NOTIFIED OF ANY DISCREPANCY BETWEEN DRAWINGS IMMEDIATELY UPON DISCOVERY.

CONCRETE ANCHORS AND DOWELS:
CONTRACTOR SHALL LOCATE EXISTING REBAR USING NON-DESTRUCTIVE METHODS PRIOR TO DRILLING HOLES FOR ADHESIVE AND EXPANSION ANCHORS. ADJUST SPACING OF ANCHORS TO MISS REINFORCING A MAXIMUM OF 1 1/2" FROM DETAILED LOCATIONS.

ADHESIVE FOR EMBEDDED DOWELS AND ANCHORS SHALL BE HILTI HIT-RE 500-SD (ICC EVALUATION REPORT 2322), OR APPROVED EQUAL. DRILLED HOLES SHALL BE SIZED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT TZ, (ICC EVALUATION REPORT 1917), OR ICC APPROVED EQUAL.

ICC REPORTS SHALL STATE THAT ANCHORS ARE COMPLIANT WITH THE 2012 IBC AND CAN BE USED TO RESIST EARTHQUAKE LOADS IN CRACKED, NORMAL-WEIGHT CONCRETE.

CAST-IN-PLACE CONCRETE:
REINFORCED CONCRETE SHALL CONFORM TO ACI 318.
REINFORCING STEEL FABRICATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CRSI MANUAL OF STANDARD PRACTICE.
CONCRETE WORK SHALL CONFORM TO ACI 301 (SPECIFICATIONS FOR STRUCTURAL CONCRETE).
MINIMUM CONCRETE COVER SHALL BE TO NEAREST EXPOSED SURFACE.
ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE 3/4" CHAMFER, UNLESS OTHERWISE NOTED.
WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAPPED, OR TERMINATED IN AN ACI STANDARD 90 DEGREE STANDARD HOOK DETAIL. LAP SPLICES SHALL CONFORM WITH THE TABLE ON THIS SHEET.

UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS SHALL BE DOWELED. DOWELS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS SPLICED TO THE DOWELS UNLESS OTHERWISE NOTED.
SLABS, BEAMS, AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318.
STIRRUP SUPPORT BARS SHALL BE PROVIDED AS REQUIRED TO SECURE TOP BARS AGAINST DISPLACEMENT.

UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER OVER #11 AND SMALLER REINF BARS SHALL BE AS FOLLOWS:
SLABS AND JOISTS:
FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES
FOR DRY CONDITIONS.....2"
FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR LOCATED OVER FLUIDS.....2"
BEAMS AND COLUMNS:
FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
STIRRUPS, SPIRALS AND TIES.....2"
PRINCIPAL REINFORCEMENT.....2 1/2"
FORMED CONCRETE SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR BEAMS LOCATED OVER FLUIDS:
STIRRUPS AND TIES.....2"
PRINCIPAL REINFORCEMENT.....2 1/2"
WALLS:
FORMED CONCRETE SURFACES FOR DRY CONDITIONS.....2"
FORMED CONCRETE SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH SOIL OR FLUIDS.....2"
FOOTINGS AND SLABS ON GRADE:
FORMED CONCRETE SURFACES.....2"
AT UNFORMED CONCRETE SURFACES CAST AGAINST THE SOIL OR CONCRETE WORK MATS.....3"

CONCRETE JOINT:
CONSTRUCTION JOINTS SHALL NOT BE PLACED AT LOCATIONS OTHER THAN THOSE SHOWN ON THE DRAWINGS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.

TYPICAL STRUCTURAL MATERIALS:
SEE PROJECT SPECIFICATIONS AND NOTES ON DRAWINGS FOR INDIVIDUAL STRUCTURES FOR DETAILED OR SPECIAL REQUIREMENTS.

CONCRETE
FILL, DUCT ENCASUREMENT, WHERE NOTED: CLASS A (f'c = 2500 PSI)
STRUCTURAL CONCRETE; W/C ≤ 0.54 CLASS B (f'c = 3000 PSI)
REINFORCING STEEL: ASTM A615, GRADE 60 (Fy = 60,000 PSI)
REINFORCING STEEL (WELDABLE): ASTM A706, GRADE 60 (Fy = 60,000 PSI)
CEMENT: ASTM C150, TYPE II
AIR ENTRAINMENT: 3.5 TO 5.0 PERCENT

STRUCTURAL STEEL
SHAPES - W AND WT: ASTM A992 (Fy = 50 KSI)
SHAPES - S, M, HP, C, MC, L, PLATE AND BAR: ASTM A36 (Fy = 36 KSI)
HOLLOW STRUCTURAL SECTIONS:
ROUND: ASTM A500, GRADE B (Fy = 42 KSI)
SQUARE AND RECTANGULAR: ASTM A500, GRADE B (Fy = 46 KSI)
ANCHOR RODS: ASTM F1554, 3/4"Ø MINIMUM UNO (Fy = 36 KSI)
WELDING ELECTRODES: E70XX (Ft = 70 KSI)
ASSEMBLY BOLTS: HIGH STRENGTH ASTM A325-N

SPECIAL INSPECTION REQUIREMENTS

SPECIAL INSPECTIONS SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN CHAPTER 17 OF THE CALIFORNIA BUILDING CODE.

IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE BUILDING CODE, THE PERMIT APPLICANT WILL PROVIDE QUALIFIED PERSONNEL TO PERFORM THE FOLLOWING SPECIAL INSPECTIONS AND SHALL FURNISH INSPECTION REPORTS FROM THE SPECIAL INSPECTOR TO THE ENGINEER AND BUILDING OFFICIAL. THIS DOES NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY TO PERFORM THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE INSPECTOR 24 HOURS IN ADVANCE OF ALL INSPECTIONS.

THE FOLLOWING ITEMS, AS A MINIMUM, SHALL RECEIVE SPECIAL INSPECTION:
CONCRETE CONSTRUCTION (1704.4)
SOILS (1704.7)

STRUCTURAL OBSERVATION:
THE ENGINEER OF RECORD BELIEVES THAT THIS CONSTRUCTION IS OF A MINOR NATURE. ACCORDINGLY, STRUCTURAL OBSERVATION IS NOT REQUIRED SUBJECT TO APPROVAL BY THE AUTHORITY HAVING JURISDICTION.

ABBREVIATIONS:

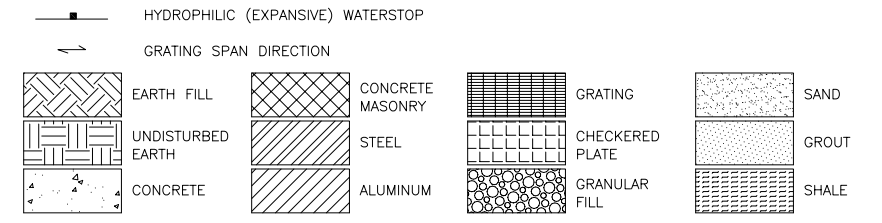
Table with 2 columns: Abbreviation and Full Name. Includes terms like #, %, @, AB, ABV, ADDL, AGG, AL, ALT, APPROX, ARCH, B TO B, BEV, BLK, BLKG, B.O., BOT, BRG, C TO C, CIRC, CJ, CL OR C, CLR, CMU, COL, COMP, CONC, CONN, CONT, CPLG, CRS, CSK, CTG, CTR, d, DET, Ø OR DIA, DIAG, DIR, DL, DO, DWG, DWL, EA, EB, EF, EL, ELEC, EMBED, EQ, EQPT, ES, EW, EXP ANCH, EXP JT, EXST, EXT, f'c, f'm, FAB, FD, FDN, FF, FHMS, FHWS, FIN, FL, FRP, FT, FTG, GA, GALV, GI, GLB, GR, GRG, HAS, HD, HDR, HOR, HP, HR, HSS, HVAC, IAW, ID, INSIDE DIAMETER, IF, IN, INT, INVT, JT, KO, L, LLH, LLL, LNTL, LOC, LONG, LP, LT, LW, MAS, MATL, MAX, MB, MCJ, MECH, MIN, MISC, MO, NF, NSG, NTS, OC, OD, OF, OPNG, OPP, OPP HD, OPT, PCF, PCJ, PJF, PL OR P, PLYWD, PREFAB, PROJ, PSF, PSI, PYMT, R, RAD, RC, REF, REINF, REQD, REV, RLG, RO, RT, SCHED, SCJ, SECT, SFR, SIM, SP, SPECS, SQ, SST, STD, STIF, STIR, SYM, T, T&B, TF, THD, TOC, TOW, TRNSV, TSL, TYP, UNO, VB, VERT, W, W/, W/O, WP, WS, WWF.

ABBREVIATION NOTES:
ABBREVIATIONS AND DESIGNATIONS FOR STEEL MEMBERS MAY BE FOUND IN THE CURRENT MANUAL OF STEEL CONSTRUCTION BY AISC.

ABBREVIATIONS OF TECHNICAL SOCIETIES AND TRADE ASSOCIATIONS MAY BE FOUND IN THE SPECIFICATIONS.

WELDING SYMBOLS AND ABBREVIATIONS MAY BE FOUND IN AWS 2.4.

STRUCTURAL LEGEND AND SYMBOLS:
(E) INDICATES EQUIPMENT PAD PER DETAILS H OR J ON SHEET S-02. COORDINATE SIZE WITH EQUIPMENT REQUIREMENTS.



APPROVED FOR CONSTRUCTION

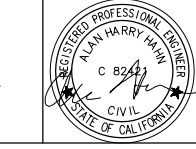
RECORD DRAWING
THIS RECORD DRAWING HAS BEEN PREPARED BASED ON A COMBINATION OF INFORMATION PROVIDED BY OTHERS AND BY CDM SMITH. TO THE BEST OF THE ENGINEER'S BELIEF AND KNOWLEDGE, THE INCLUDED RECORD INFORMATION IS REASONABLY ACCURATE.
By: E. You Date: 2/27/15
CDM Smith

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Table with columns: REV. NO., DATE, DRWN, CHKD, REMARKS. Row 1: 1, 2/27/15, DI, EY, RECORD DRAWING.

DESIGNED BY: A. HAHN
DRAWN BY: A. JOHNSON
SHEET CHK'D BY: P. BLOMBERG
CROSS CHK'D BY: E. YOU
APPROVED BY: S. NEDIC
DATE: JULY 23, 2014

WARNING
0 1/2" 1"
IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY



CAMBRIA EMERGENCY WATER SUPPLY PROJECT
CAMBRIA COMMUNITY SERVICES DISTRICT

AWTP STRUCTURAL GENERAL NOTES
PROJECT NO. 138760-104133
SHEET: 14 OF 37
DRAWING NO. S-01

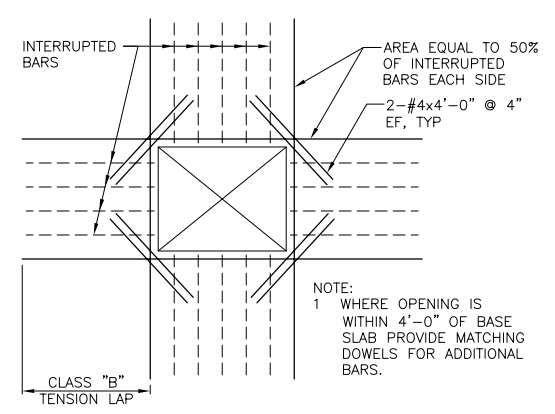
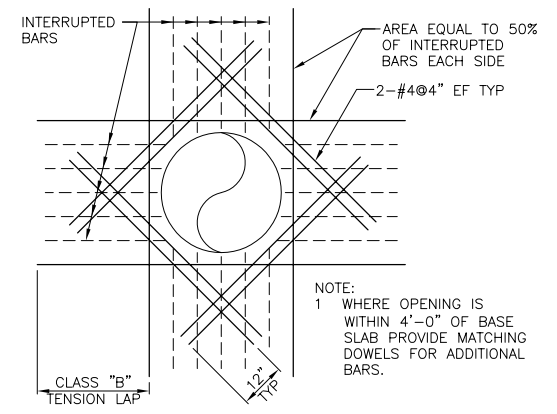
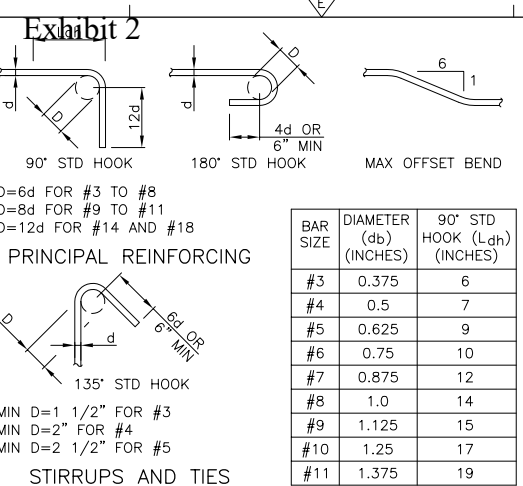
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BAR SIZE	DIAMETER (db) (INCHES)	WALLS AND SLABS				BEAMS AND COLUMNS			
		DEVELOPMENT LENGTH (L <sub>d</sub> ) (INCHES)		CLASS B LAP SPLICE (INCHES)		DEVELOPMENT LENGTH (L <sub>d</sub> ) (INCHES)		CLASS B LAP SPLICE (INCHES)	
		"TOP" BARS	OTHER	"TOP" BARS	OTHER	"TOP" BARS	OTHER	"TOP" BARS	OTHER
#3	0.375	12	12	16	16	19	15	24	19
#4	0.5	15	12	20	16	25	19	32	25
#5	0.625	19	15	24	19	31	24	40	31
#6	0.75	22	17	29	22	37	29	48	37
#7	0.875	33	25	42	33	54	42	70	54
#8	1.0	37	29	48	37	62	48	80	62
#9	1.125	46	36	60	46	70	54	91	70
#10	1.25	57	44	74	57	79	61	102	79
#11	1.375	68	53	89	68	87	67	113	87

**NOTES:**

- "TOP" BARS IS HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
- CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED SHALL:
  - NOT BE LESS THAN d<sub>b</sub>, HAVE CLEAR COVER NOT LESS THAN d<sub>b</sub>, AND STIRRUPS OR TIES THROUGHOUT L<sub>d</sub> NOT LESS THAN THE CODE MINIMUM OR;
  - CLEAR SPACING OF BARS WHERE d<sub>b</sub>=DIAMETER OF REINFORCING BAR AND L<sub>d</sub>=DEVELOPMENT LENGTH.
- FOR SPECIAL SPLICE REQUIREMENTS FOR COLUMNS AND END BEARING SPLICES IN COMPRESSION SEE ACI 318 CHAPTER 12.
- TABLE IS BASED ON f'c = 4000 PSI AND fy = 60,000 PSI. LAP SPLICE AND DEVELOPMENT LENGTHS SHALL BE INCREASED FOR LOWER CONCRETE COMPRESSIVE STRENGTH AS FOLLOWS:
 

	MULTIPLIER		MULTIPLIER
f'c 2500 PSI	1.27	f'c 3500 PSI	1.07
f'c 3000 PSI	1.16	f'c 4500 PSI	0.94

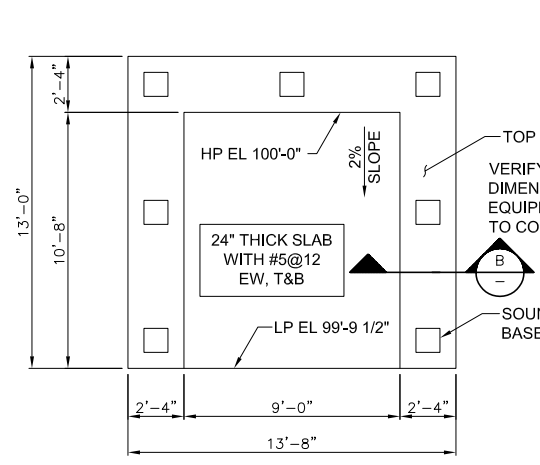
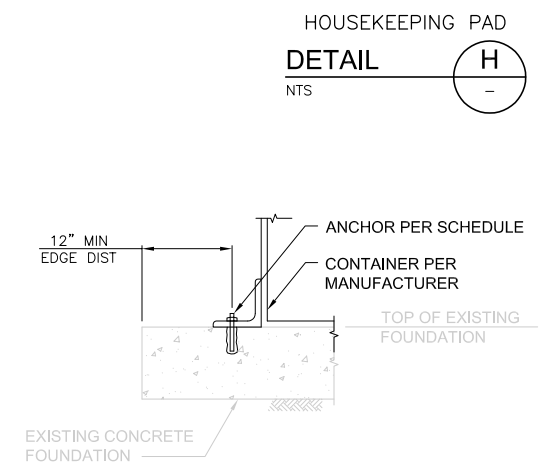
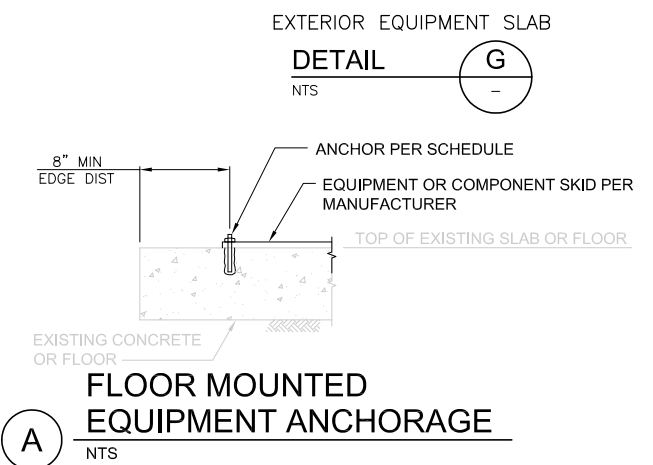
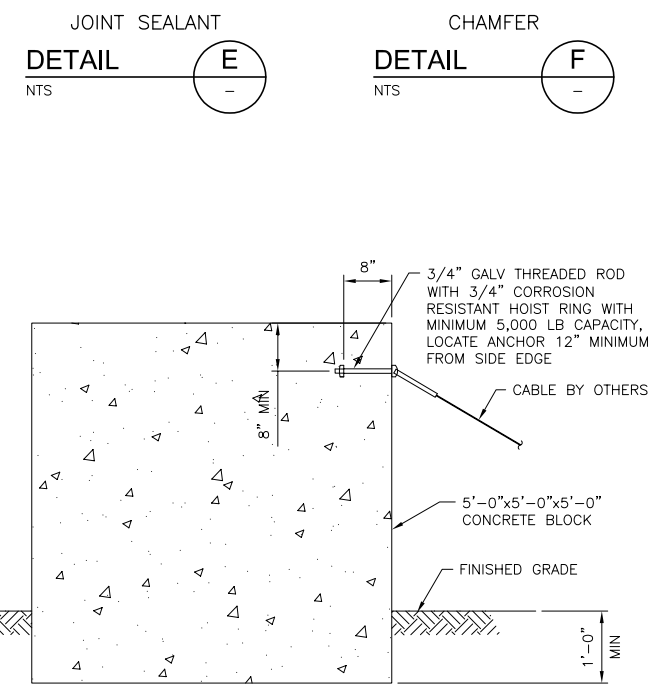
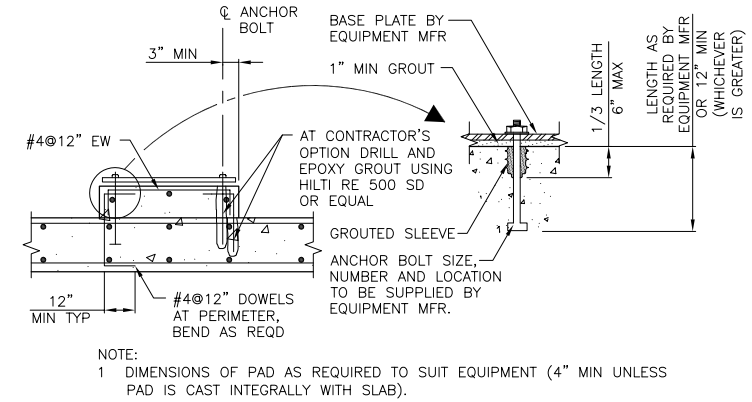
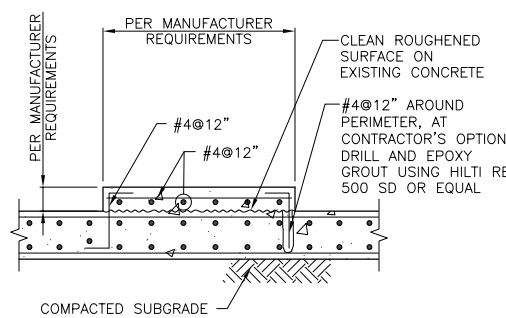
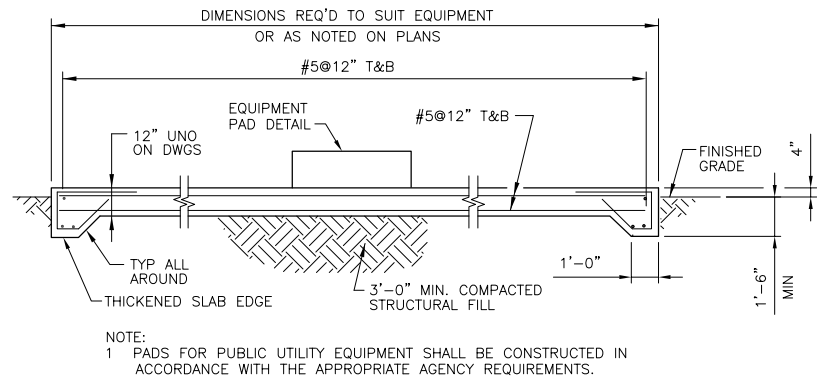
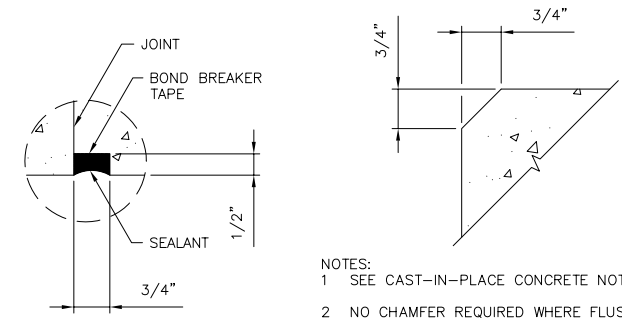


STANDARD HOOK AND LAP SPLICE IN CONCRETE  
**DETAIL A**  
NOT TO SCALE

BAR BENDS  
**DETAIL B**  
NTS

REINFORCEMENT AT CIRCULAR OPENINGS GREATER THAN 12"  
**DETAIL C**  
NTS

REINFORCEMENT AT RECTANGULAR OPENINGS GREATER THAN 12"  
**DETAIL D**  
NTS



COMPONENT	ANCHORAGE TYPE	NOTES
UV SKIDS	GALV 5/8" Ø HILTI HIT-HY 200 OR KWIK BOLT TZ WITH 3 3/8" EMBED	MINIMUM FOUNDATION PLAN SHALL BE 17'-0" X 9'-6"
SWITCHBOARDS	GALV 1/2" Ø HILTI HIT-HY 200 OR KWIK BOLT TZ WITH 3 1/4" EMBED	
MF & RO FEED PUMP SKID	GALV 3/8" Ø HILTI HIT-HY 200 OR KWIK BOLT TZ WITH 3 3/8" EMBED	
PRODUCT WATER PUMP SKID	GALV 3/8" Ø HILTI HIT-HY 200 OR KWIK BOLT TZ WITH 3 3/8" EMBED	

COMPONENT	ANCHORAGE TYPE	NOTES
40' LONG CONTAINER	GALV 3/4" Ø ROD WITH HILTI HIT-HY 200 EPOXY WITH 9" EMBED	
MF CONTAINER	GALV 3/4" Ø ROD WITH HILTI HIT-HY 200 EPOXY WITH 9" EMBED	

**RECORD DRAWING**

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By *Evan Chu You* Date 2/27/15

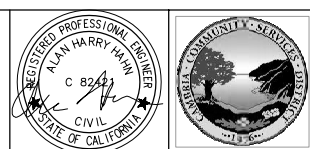
**CDM Smith**

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

DESIGNED BY: A. HAHN  
DRAWN BY: A. JOHNSON  
SHEET CHK'D BY: P. BLOMBERG  
CROSS CHK'D BY: E. YOU  
APPROVED BY: S. NEDIC  
DATE: JULY 23, 2014

**WARNING**  
0 1/2" 1"  
IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY

**CDM Smith**  
111 Academy Way, Suite 150  
Irvine, California 92617  
Tel: (949) 752-6452



**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
CAMBRIA COMMUNITY SERVICES DISTRICT

**AWTP STRUCTURAL DETAILS**

PROJECT NO. 138760-104133  
SHEET: 15 OF 37  
DRAWING NO. S-02

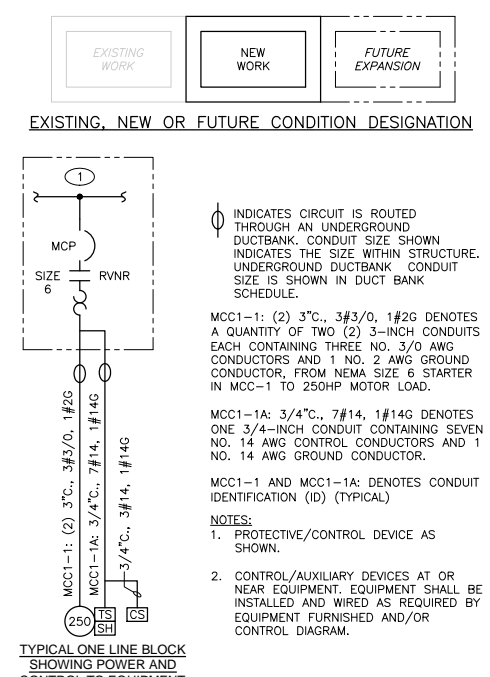
Table with 3 columns: ONE LINE OR CONTROL DIAGRAM, PLAN, DESCRIPTION. Contains symbols for power circuit breakers, fuses, relays, switches, and other electrical components.

Table with 3 columns: ONE LINE OR CONTROL DIAGRAM, PLAN, DESCRIPTION. Contains symbols for meters, transducers, relays, capacitors, and control devices.

Table with 3 columns: ONE LINE OR CONTROL DIAGRAM, PLAN, DESCRIPTION. Contains symbols for pilot lights, time delay relays, liquid level switches, pressure switches, temperature switches, torque switches, and solenoid valves.

Table with 3 columns: ONE LINE OR CONTROL DIAGRAM, PLAN, DESCRIPTION. Contains symbols for lightning arresters, ground rods, fuses, heaters, inductors, tachometers, contacts, heaters, interlocks, terminal blocks, detectors, motors, and enclosures.

NOTES: 1. IN GENERAL CONDUIT ROUTING FOR EQUIPMENT AND DEVICES IS NOT SHOWN ON THE PLANS... 2. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUITS REPRESENT A SUGGESTED ARRANGEMENT... 3. SWITCHGEAR AND MOTOR CONTROL CENTER COMPARTMENT DESIGNATIONS AS INDICATED BELOW... 4. INTERPRETATION OF ELECTRICAL DRAWINGS: CIRCUIT IDENTIFICATION, ROUTING, AND SIZES OF CONDUITS AND WIRES ARE SHOWN ON THE FOLLOWING DRAWINGS...



GENERAL NOTE THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

RECORD DRAWING THIS RECORD DRAWING HAS BEEN PREPARED BASED ON A COMBINATION OF INFORMATION PROVIDED BY OTHERS AND BY CDM SMITH... By: Eum Cho You Date: 2/27/15

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Table with 5 columns: REV. NO., DATE, DRWN, CHKD, REMARKS. Contains revision history for the drawing.

DESIGNED BY: B.J. FRANSEN DRAWN BY: T. NGUYEN SHEET CHK'D BY: C. PAGADUAN CROSS CHK'D BY: E. YOU APPROVED BY: S. NEDIC DATE: JULY 23, 2014

WARNING 1" = 1/2" = 1" IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY. CDM Smith 111 Academy Way, Suite 150 Irvine, California 92617 Tel: (949) 752-5452

CAMBRIA EMERGENCY WATER SUPPLY PROJECT CAMBRIA COMMUNITY SERVICES DISTRICT

ELECTRICAL NOTES, LEGEND AND ABBREVIATIONS 1 OF 2 PROJECT NO. 138760-104133 SHEET: 16 OF 38 DRAWING NO. E-01



Table with 2 columns: SYMBOL, DESCRIPTION. Contains symbols for various lighting fixtures (incandescent, fluorescent, emergency, etc.) and their descriptions.

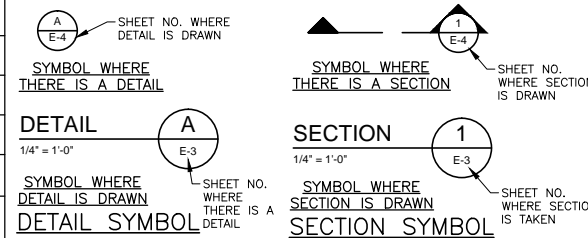
Table with 2 columns: SYMBOL, DESCRIPTION. Contains symbols for switches (single pole, double pole, three way, etc.), occupancy sensors, and communication systems.

Table with 2 columns: SYMBOL, DESCRIPTION. Contains symbols for ground systems, communication systems, security systems, and fire alarm systems.

Table with 2 columns: SYMBOL, DESCRIPTION. Contains symbols for fire alarm systems (master box, horns, strobes, manual pull stations, etc.).

Table of ABBREVIATIONS (CONTINUED) listing symbols and their meanings, such as ELEV (Elevation), EM (Emergency), ENCL (Enclosure), etc.

Table of ABBREVIATIONS listing symbols and their meanings, such as A (Amps), AC (Alternating Current), AFF (Above Finished Floor), etc.



GENERAL NOTE
THIS IS A STANDARD LEGEND.
SOME SYMBOLS MAY NOT
APPEAR ON THE DRAWINGS.

RECORD DRAWING
THIS RECORD DRAWING HAS BEEN PREPARED BASED ON A
COMBINATION OF INFORMATION PROVIDED BY OTHERS AND
BY CDM SMITH. TO THE BEST OF THE ENGINEER'S BELIEF AND
KNOWLEDGE, THE INCLUDED RECORD INFORMATION IS
REASONABLY ACCURATE.
By: [Signature] Date: 2/27/15

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Table with 5 columns: REV. NO., DATE, DRWN, CHKD, REMARKS. Contains revision history for the drawing.

Table with 2 columns: DESIGNED BY, DRAWN BY, SHEET CHK'D BY, CROSS CHK'D BY, APPROVED BY, DATE. Lists the design team and approval date.

WARNING
1/2" = 1"
IF THIS BAR SCALE DOES NOT MEASURE
1" THIS DWG HAS
BEEN REDUCED
SCALE ACCORDINGLY

CDM Smith logo and contact information: 111 Academy Way, Suite 150, Irvine, California 92617, Tel: (949) 752-5452

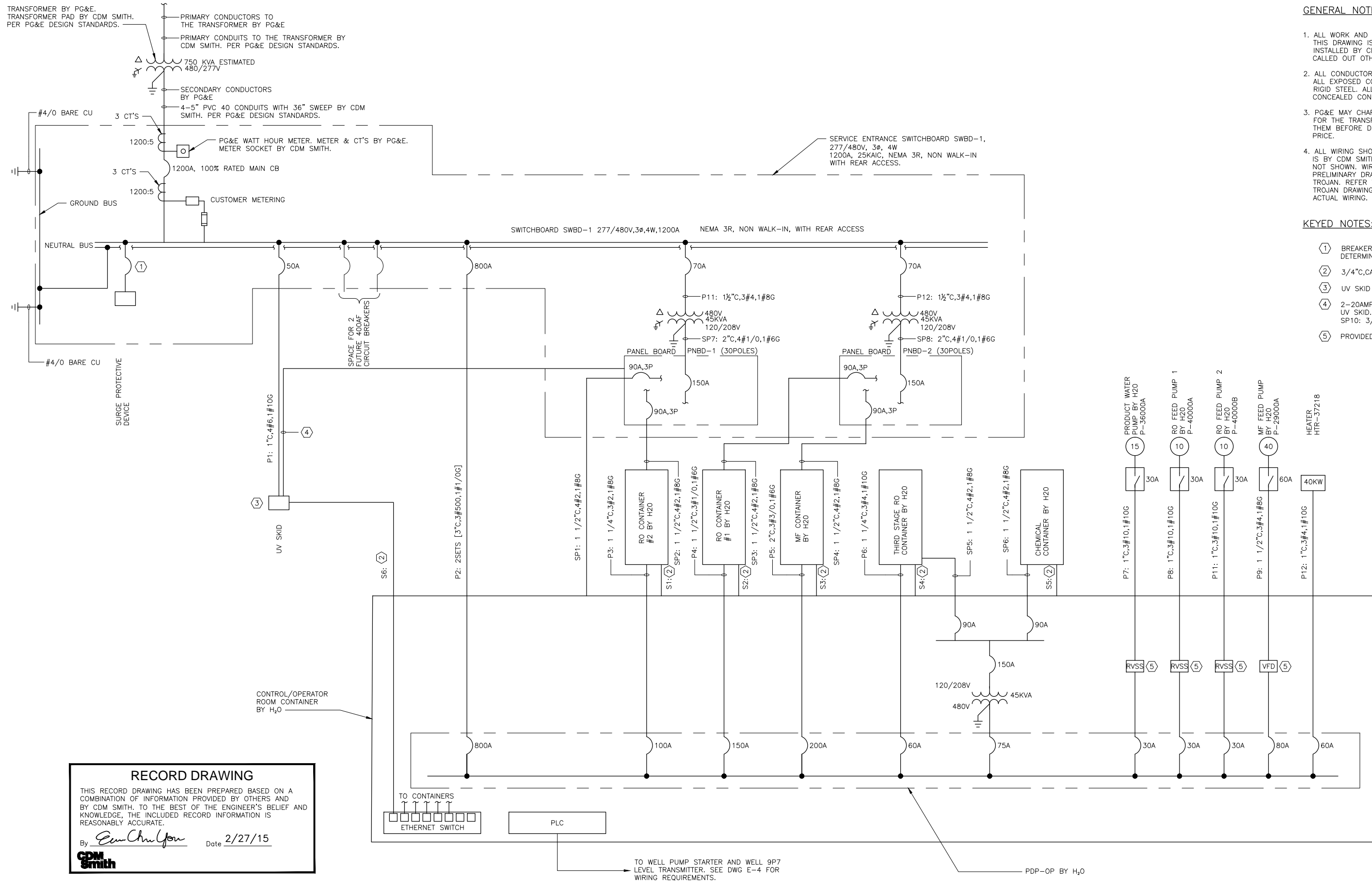
Professional Engineer seal for Bradley J. Franzen, No. E 17427, Exp. 09-30-14.

CAMBRIA EMERGENCY
WATER SUPPLY PROJECT
CAMBRIA COMMUNITY SERVICES DISTRICT

ELECTRICAL NOTES,
LEGEND AND ABBREVIATIONS
2 OF 2
E-02

PROJECT NO. 138760-104133
SHEET: 17 OF 38
DRAWING NO. E-02

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GENERAL NOTES:

- ALL WORK AND EQUIPMENT SHOWN ON THIS DRAWING IS PURCHASED AND INSTALLED BY CDM SMITH UNLESS CALLED OUT OTHERWISE.
- ALL CONDUCTOR IS COPPER XHHW-2 ALL EXPOSED CONDUIT IS GALVANIZED RIGID STEEL. ALL BURIED OR CONCEALED CONDUIT IS PVC 40.
- PG&E MAY CHARGE UP-FRONT COSTS FOR THE TRANSFORMER. CHECK WITH THEM BEFORE DETERMINING FINAL BID PRICE.
- ALL WIRING SHOWN ON THIS DRAWING IS BY CDM SMITH. VENDOR WIRING IS NOT SHOWN. WIRING IS BASED ON PRELIMINARY DRAWINGS FROM H2O AND TROJAN. REFER TO FINAL H2O AND TROJAN DRAWINGS TO DETERMINE ACTUAL WIRING.

KEYED NOTES:

- BREAKER AMPERAGE SHALL BE DETERMINED BY THE MFR
- 3/4" C, CAT6 TO ETHERNET SWITCH
- UV SKID REQUIRES 277/480V.
- 2-20AMP, 1P CKTS FEEDING THE UV SKID. SP10: 3/4" C, 4#12, 1#12G PROVIDED BY H2O.

**RECORD DRAWING**

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By *Eun Chul You* Date 2/27/15

**CDM Smith**

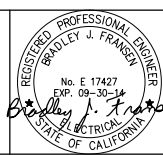
DESIGNED BY:	B.J. FRANSEN
DRAWN BY:	K. RAY
SHEET CHK'D BY:	C. PAGADUAN
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

**WARNING**

0 1/2" = 1"

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**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**

CAMBRIA COMMUNITY SERVICES DISTRICT

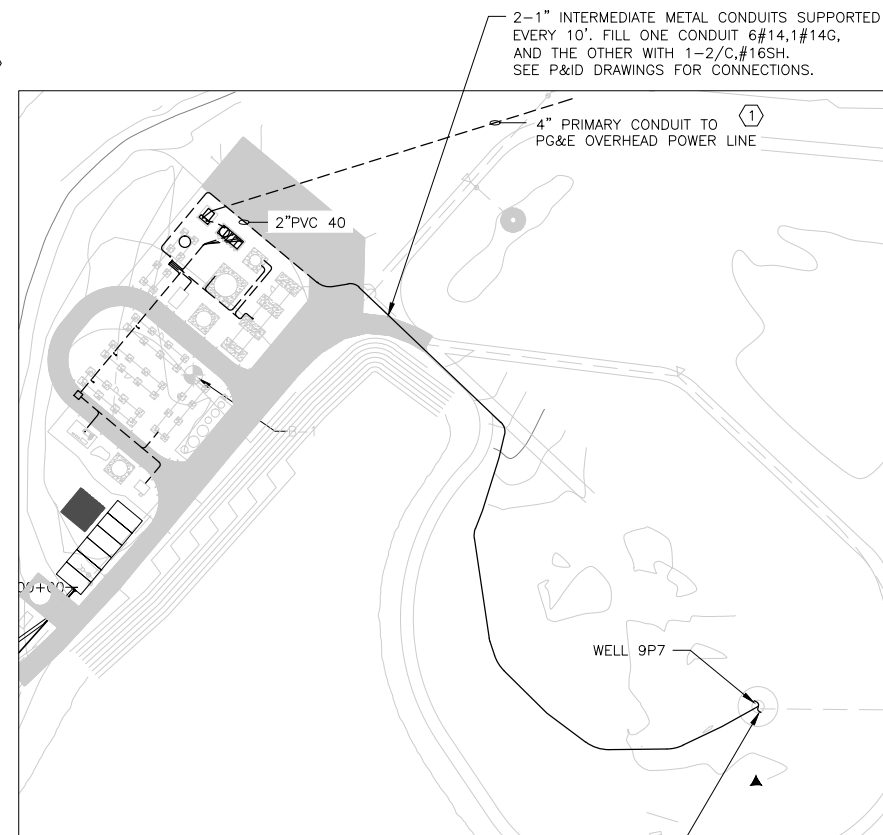
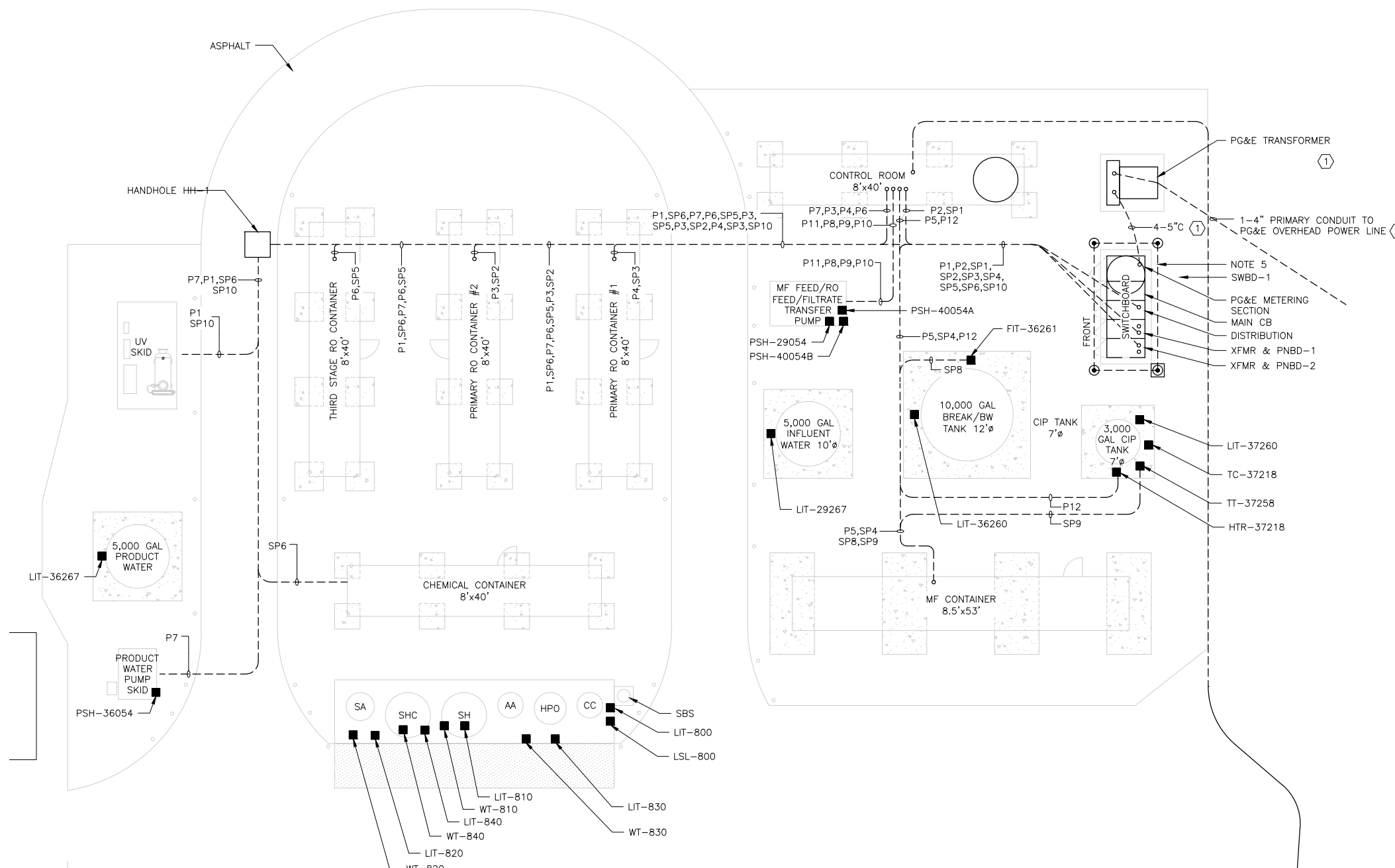
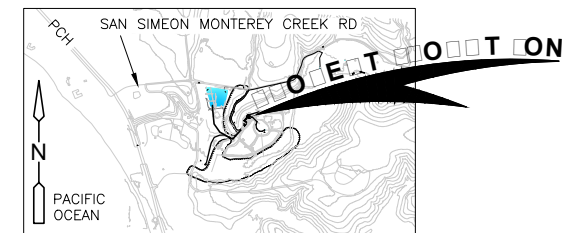
**ELECTRICAL SINGLE LINE DIAGRAM - AWTP**

APPROVED FOR CONSTRUCTION

PROJECT NO.	138760-104133
SHEET:	18 OF 38
DRAWING NO.	E-03

LEGEND

- CONCEALED OR BURIED CONDUIT
- \_\_\_\_\_ EXPOSED CONDUIT
- P = 480V CIRCUIT
- SP = 120/208V CIRCUIT



GENERAL NOTES:

1. ALL EXPOSED CONDUIT SHALL BE GRP. ALL BURIED OR CONCEALED CONDUIT SHALL BE PVC 40. ALL BURIED CONDUIT SHALL BE CONCRETE ENCASE. REINFORCING IS NOT REQUIRED.
2. NOT USED
3. THIS PLAN SHOWS POWER CKTS ONLY. ROUTING OF INSTRUMENTATION AND CONTROL CKTS SHALL FOLLOW THE SAME GENERAL ROUTING.
4. ALL WIRING SHOWN ON THIS DWG IS BY CDM SMITH. VENDOR WIRING IS NOT SHOWN.
5. #4/0 BARE CU GROUND GRID.

KEYED NOTES:

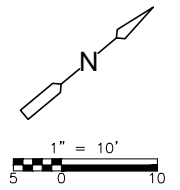
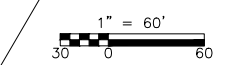
- ① SEE PG&E DESIGN DRAWING 31082932. PG&E CONTACT IS JAMES HAAS (805)546-5234.

**RECORD DRAWING**

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON A COMBINATION OF INFORMATION PROVIDED BY OTHERS AND BY CDM SMITH. TO THE BEST OF THE ENGINEER'S BELIEF AND KNOWLEDGE, THE INCLUDED RECORD INFORMATION IS REASONABLY ACCURATE.

By *Emilio You* Date 5/20/16

**CDM Smith**

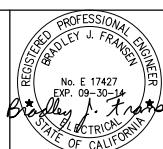


pw:\dcdp\p1\FW\_XM1\138760\104133\04 Design Services NM\_PDR\02 Civil\10 CADD\C-02.dwg  
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REV. NO.	DATE	DRWN	CHKD	REMARKS
2	5/20/16	DI	ECY	RECORD DRAWING
1	2/27/15	DI	ECY	RECORD DRAWING

DESIGNED BY: B.J. FRANSEN  
 DRAWN BY: K. RAY  
 SHEET CHK'D BY: C. PAGADUAN  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

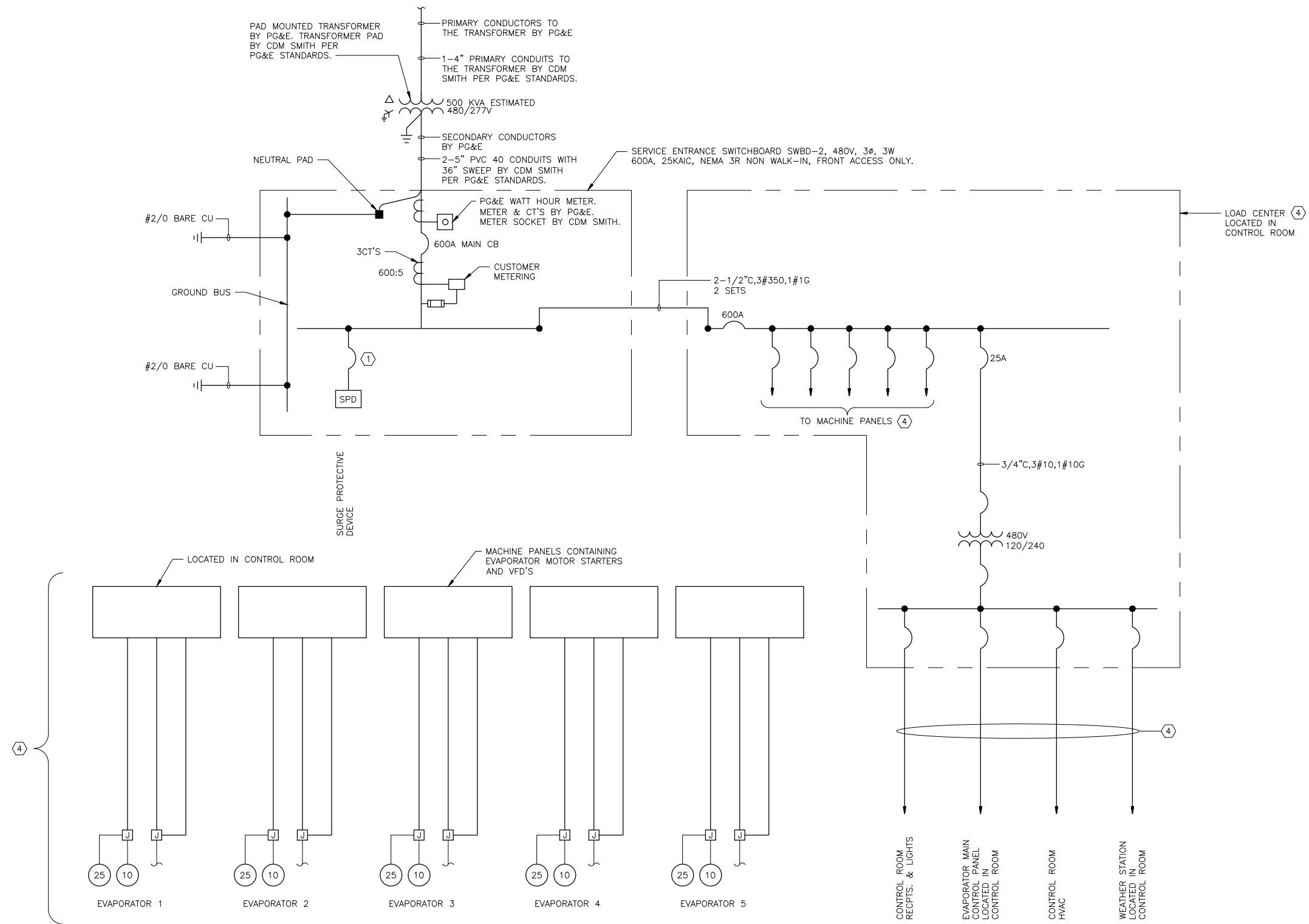
**WARNING**  
 0 1/2" 1"  
 IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY



**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

PROJECT NO. 138760-104133	<p><b>ELECTRICAL POWER AND CONTROL PLAN - AWTP</b></p> <p><b>E-04</b></p>
SHEET: 19 OF 38	
DRAWING NO.	

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- GENERAL NOTES:**
1. ALL WORK AND EQUIPMENT SHOWN ON THIS DRAWING IS PURCHASED AND INSTALLED BY CDM SMITH UNLESS CALLED OUT OTHERWISE.
  2. ALL CONDUCTOR IS COPPER XHHW-2 ALL EXPOSED CONDUIT IS GALVANIZED RIGID STEEL. ALL BURIED OR CONCEALED CONDUIT IS PVC 40.
  3. PG&E MAY CHARGE UP-FRONT COSTS FOR THE TRANSFORMER. CHECK WITH THEM BEFORE DETERMINING FINAL BID PRICE.

- KEYED NOTES:**
- ① BREAKER AMPERAGE SHALL BE DETERMINED BY THE MFR.
  - ② NOT USED
  - ③ NOT USED
  - ④ PROVIDED BY EVAPORATOR VENDOR.

**RECORD DRAWING**

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON A COMBINATION OF INFORMATION PROVIDED BY OTHERS AND BY CDM SMITH. TO THE BEST OF THE ENGINEER'S BELIEF AND KNOWLEDGE, THE INCLUDED RECORD INFORMATION IS REASONABLY ACCURATE.

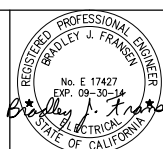
By *Eric Chu You* Date 2/27/15

**CDM Smith**

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

DESIGNED BY: B.J. FRANSEN  
 DRAWN BY: K. RAY  
 SHEET CHK'D BY: C. PAGADUAN  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

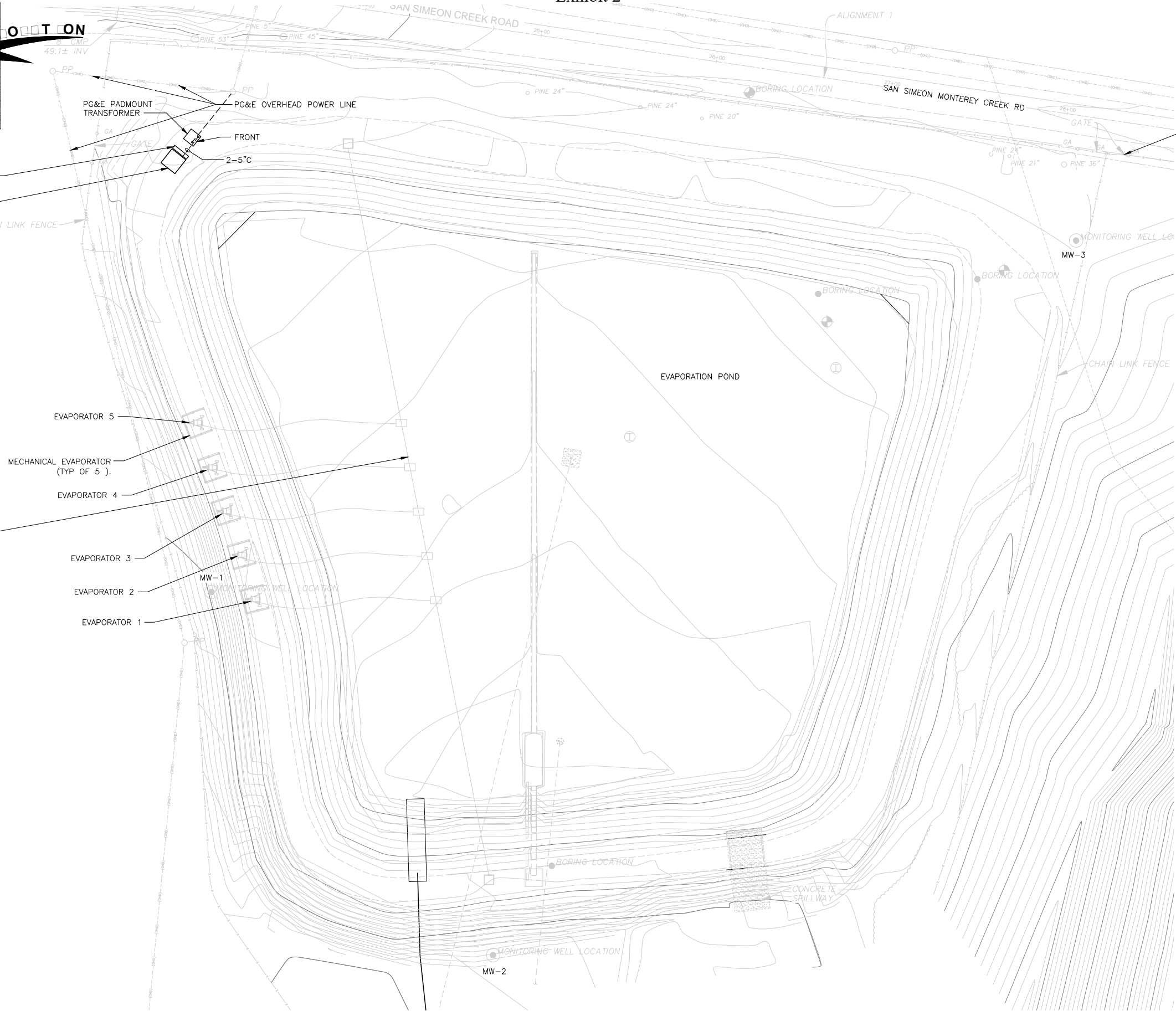
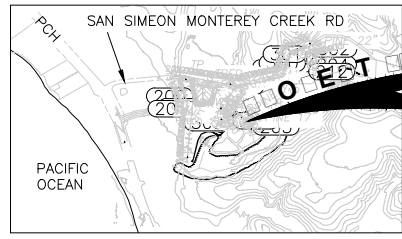
**WARNING**  
 0 1/2" 1"  
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**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**ELECTRICAL SINGLE LINE DIAGRAM- EVAPORATION POND**

PROJECT NO. 138760-104133  
 SHEET: 20 OF 38  
 DRAWING NO. **E-05**



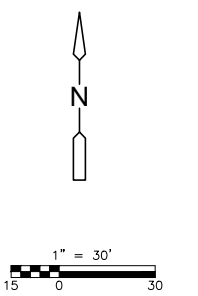
- PG&E PADMOUNT TRANSFORMER
- PG&E OVERHEAD POWER LINE
- FRONT
- 2-5"C
- SWITCHBOARD SWBD-2 WITH PG&E METERING SECTION
- CONTROL ROOM 10'X10'
- CHAIN LINK FENCE
- EVAPORATOR 5
- MECHANICAL EVAPORATOR (TYP OF 5 )
- EVAPORATOR 4
- EVAPORATOR 3
- EVAPORATOR 2
- EVAPORATOR 1
- MW-1
- MW-2
- MW-3
- MONITORING WELL LOCATION
- BORING LOCATION
- BORING LOCATION
- BORING LOCATION
- CONCRETE SPILLWAY
- EX FENCE AND GATE
- GATE
- ALIGNMENT 1
- SAN SIMEON CREEK ROAD
- SAN SIMEON MONTEREY CREEK RD
- PCH
- PACIFIC OCEAN
- 49.1± INV
- PINE 5"
- PINE 5"
- PINE 45"
- PINE 24"
- PINE 24"
- PINE 20"
- PINE 24"
- PINE 21"
- PINE 36"

SUBMERSIBLE PUMP FLOAT 8'x8' (TYP OF 5) APPROX. 150' AWAY FROM BERM AND SPACED 50' APART, WITH ANCHORS ON BOTH THE NORTH BERM AND SOUTH BERM AND CABLES/ROPES FOR RETRIEVAL AND MAINTENANCE.

**RECORD DRAWING**

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON A COMBINATION OF INFORMATION PROVIDED BY OTHERS AND BY CDM SMITH. TO THE BEST OF THE ENGINEER'S BELIEF AND KNOWLEDGE, THE INCLUDED RECORD INFORMATION IS REASONABLY ACCURATE.

By Eun Chul You Date 2/27/15



C:\Users\NahhosCM\Desktop\CAMBRIA P&ID\CA\C-05.dwg  
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DESIGNED BY:	B.J.FRANSEN
DRAWN BY:	K.RAY
SHEET CHK'D BY:	C. PAGADUAN
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

**WARNING**  
0 1/2" 1"  
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**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
CAMBRIA COMMUNITY SERVICES DISTRICT

**ELECTRICAL POWER AND CONTROL EVAPORATION POND PLAN**

PROJECT NO. 138760-104133  
SHEET: 21 OF 38  
DRAWING NO. **E-06**

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150 AMP MAIN BREAKER										PANELBOARD PNB-D-1										LOCATION: SWBD-1									
150 AMP BUS RATING 30 POLES										10 KA SHORT CIRCUIT RATING										ENCLOSURE RATING: NEMA 1									
208/120 VOLTS 3 PHASE 4 WIRE 60 Hz.										ELECTRONIC GRADE: NO										MOUNTING: SURFACE									
CIRCUIT NO.	DESCRIPTION	LOAD KVA			BREAKER AMPS/POLES	NOTES	CIRCUIT NO.	DESCRIPTION	LOAD KVA			BREAKER AMPS/POLES	NOTES																
		PHASE A	PHASE B	PHASE C					PHASE A	PHASE B	PHASE C																		
1	SPARE				20 /1		2	SPARE	0	0		20 /2																	
3			5.4			4																							
5	CONTROL ROOM CONTAINER			5.4	90 /3	6	SPARE			0		/1																	
7		5.4				8	SPARE			0		/1																	
9			5.4			10	SPARE			0		/1																	
11	PRIMARY RO CONTAINER 2			5.4	90 /3	12	SPARE					15 /1																	
13		5.4				14	SPARE					15 /1																	
15					20 /2	16	SPARE					15 /1																	
17	SPARE					18	LUV SKID			0.6		20 /1																	
19	SPARE				20 /1	20	LUV SKID	0.6				20 /1																	
21	SPARE				20 /1	22	SPACE					/1																	
23	SPARE				20 /1	24	SPACE					/1																	
25	SPARE				20 /1	26	SPACE					/1																	
27	SPARE				20 /1	28	SPACE					/1																	
29	SPARE				20 /1	30	SPACE					/1																	
TOTAL PHASE KVA THIS SIDE		10.8	10.8	10.8		TOTAL PHASE KVA THIS SIDE		0.6	0	0.6																			
						TOTAL KVA PER PHASE		11.4	10.8	11.4																			
						TOTAL THREE PHASE KVA		33.6																					

NOTES:	NOTES CONT.:
1. PROVIDE LOCKING HARDWARE	2. 5 ma GROUND FAULT INTERRUPTER (GFI) CIRCUIT BREAKER
3. 30 ma GFI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE)	4. PROVIDE LOCKING HARDWARE & PAINT BREAKER HANDLE RED (FACP)
5. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G	6. BRANCH CIRCUIT WIRING: 3/4"C, 3#10 & 1#12G
7. BRANCH CIRCUIT WIRING: 3/4"C, 2#12 & 1#12G	8.

150 AMP MAIN BREAKER										PANELBOARD PNB-D-2										LOCATION: SWBD-1									
150 AMP BUS RATING 30 POLES										10 KA SHORT CIRCUIT RATING										ENCLOSURE RATING: NEMA 1									
208/120 VOLTS 3 PHASE 4 WIRE 60 Hz.										ELECTRONIC GRADE: NO										MOUNTING: SURFACE									
CIRCUIT NO.	DESCRIPTION	LOAD KVA			BREAKER AMPS/POLES	NOTES	CIRCUIT NO.	DESCRIPTION	LOAD KVA			BREAKER AMPS/POLES	NOTES																
		PHASE A	PHASE B	PHASE C					PHASE A	PHASE B	PHASE C																		
1	SPARE				20 /1		2	SPACE				/1																	
3			5.4			4	SPACE					/1																	
5	MF CONTAINER			5.4	90 /3	6				5.4																			
7		5.4				8	PRIMARY RO CONTAINER 1	5.4			90 /3																		
9	SPARE				20 /1	10			5.4			/1																	
11	SPARE				20 /1	12	SPARE			0		/1																	
13	SPARE				20 /1	14	SPARE	0				/1																	
15	SPARE				20 /1	16	SPARE		0			/1																	
17	SPARE				20 /1	18	SPACE					/1																	
19	SPARE				20 /1	20	SPACE					/1																	
21	SPARE				15 /1	22	SPACE					/1																	
23	SPARE				15 /1	24	SPACE					/1																	
25	SPARE				15 /1	26	SPACE					/1																	
27	SPARE				15 /1	28	SPACE					/1																	
29	SPARE				15 /1	30	SPACE					/1																	
TOTAL PHASE KVA THIS SIDE		5.4	5.4	5.4		TOTAL PHASE KVA THIS SIDE		5.4	5.4	5.4																			
						TOTAL KVA PER PHASE		10.8	10.8	10.8																			
						TOTAL THREE PHASE KVA		32.4																					

NOTES:	NOTES CONT.:
1. PROVIDE LOCKING HARDWARE	2. 5 ma GROUND FAULT INTERRUPTER (GFI) CIRCUIT BREAKER
3. 30 ma GFI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE)	4. PROVIDE LOCKING HARDWARE & PAINT BREAKER HANDLE RED (FACP)
5. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G	6. BRANCH CIRCUIT WIRING: 3/4"C, 3#10 & 1#12G
7. BRANCH CIRCUIT WIRING: 3/4"C, 2#12 & 1#12G	8.

**RECORD DRAWING**

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By: *Eun Chu You* Date: 2/27/15

**CDM Smith**

DESIGNED BY: B.J. FRANSEN
DRAWN BY: T. NGUYEN
SHEET CHK'D BY: C. PAGADUAN
CROSS CHK'D BY: E. YOU
APPROVED BY: S. NEDIC
DATE: JULY 23, 2014

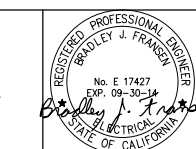
  

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

**WARNING**

0 1/2" 1"

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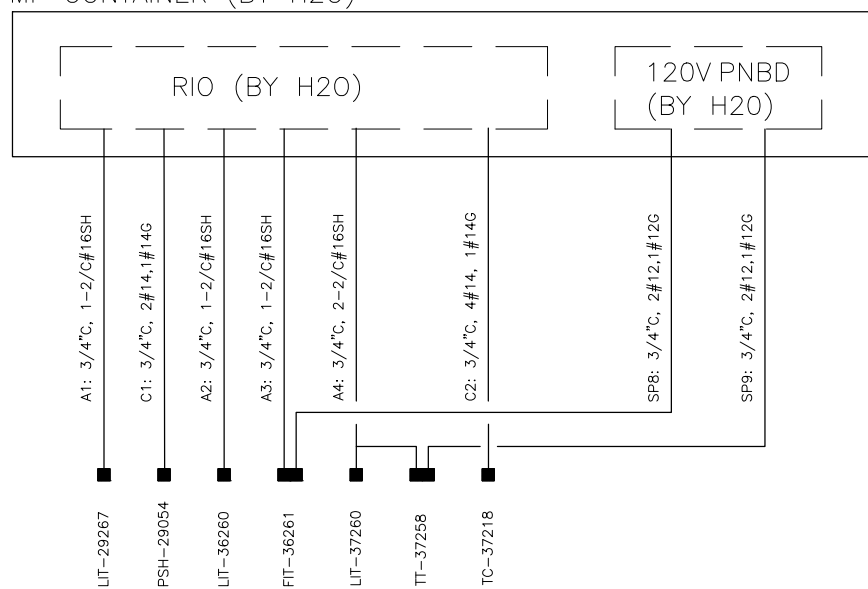
**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**

CAMBRIA COMMUNITY SERVICES DISTRICT

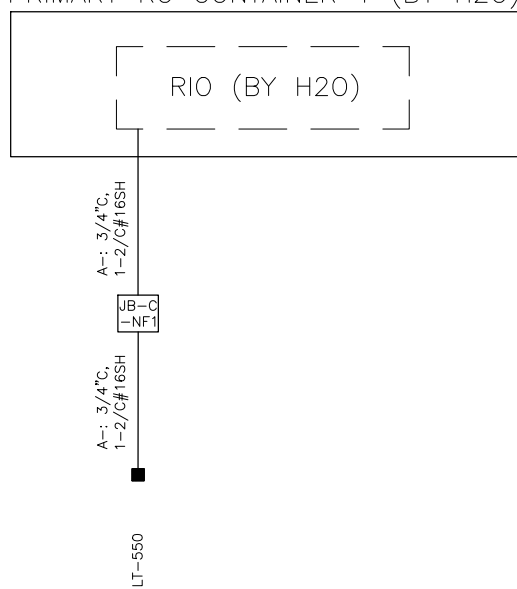
**ELECTRICAL LIGHTING PANEL BOARD AND FIXTURE SCHEDULES**

PROJECT NO. 138760-104133  
SHEET: 22 OF 38  
DRAWING NO. **E-07**

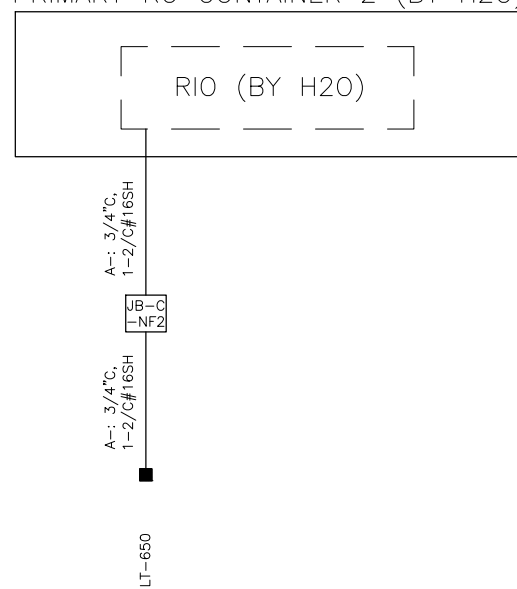
MF CONTAINER (BY H2O)



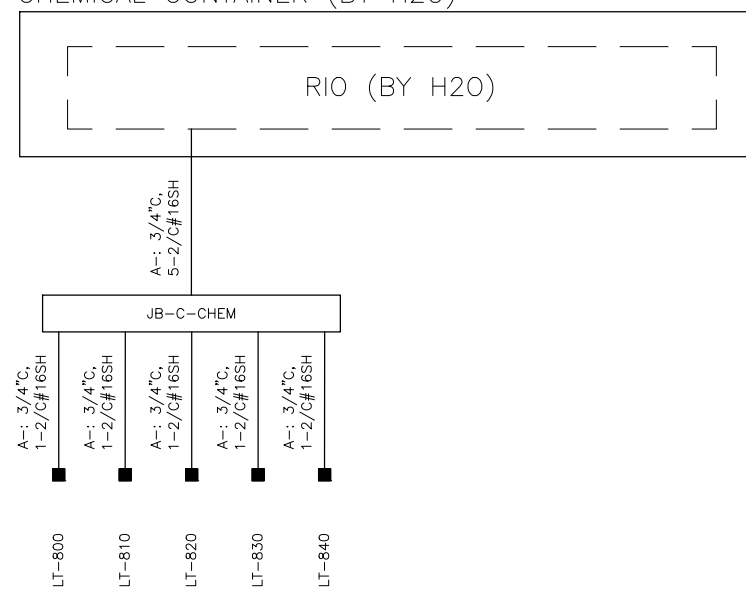
PRIMARY RO CONTAINER 1 (BY H2O)



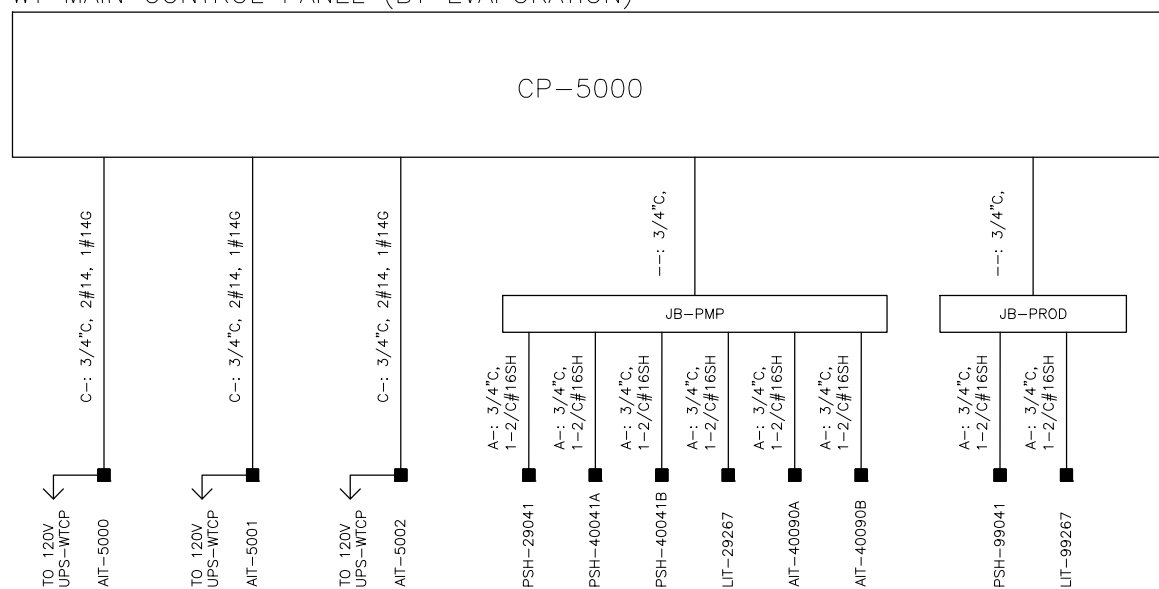
PRIMARY RO CONTAINER 2 (BY H2O)



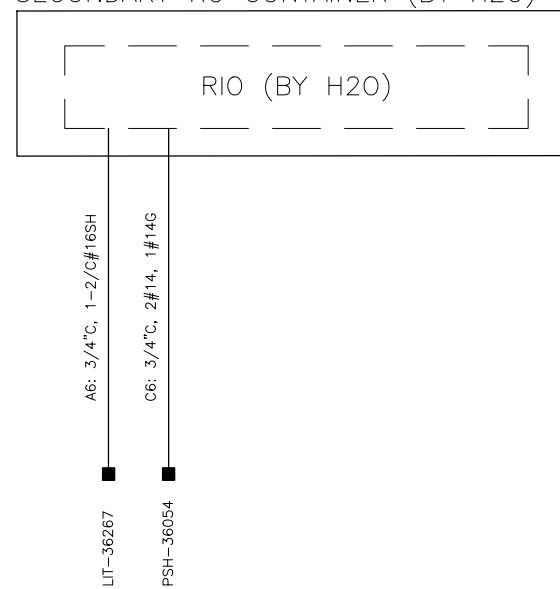
CHEMICAL CONTAINER (BY H2O)



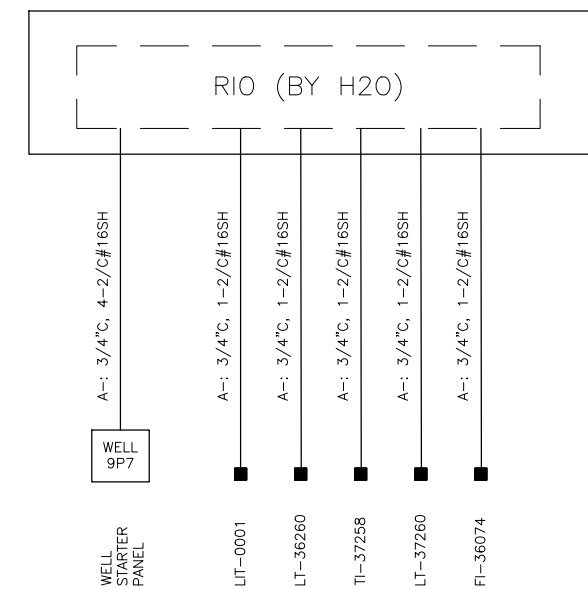
WT MAIN CONTROL PANEL (BY EVAPORATION)



SECONDARY RO CONTAINER (BY H2O)



ULTRAFILTRATION MAIN CONTROL PANEL



RECORD DRAWING

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By Eun Chul Youn Date 2/27/15



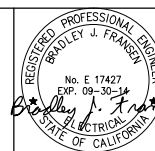
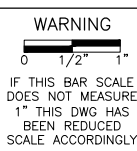
GENERAL NOTES:

- ALL WIRING SHOWN ON THIS DWG IS BY CDM SMITH. VENDOR WIRING IS NOW SHOWN. WIRING IS BASED ON PRELIMINARY DRAWINGS FROM H2O. REFER TO FINAL H2O DRAWINGS TO DETERMINE ACTUAL WIRING.

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DESIGNED BY:	B.J. FRANSEN
DRAWN BY:	T. NGUYEN
SHEET CHK'D BY:	C. PAGADUAN
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

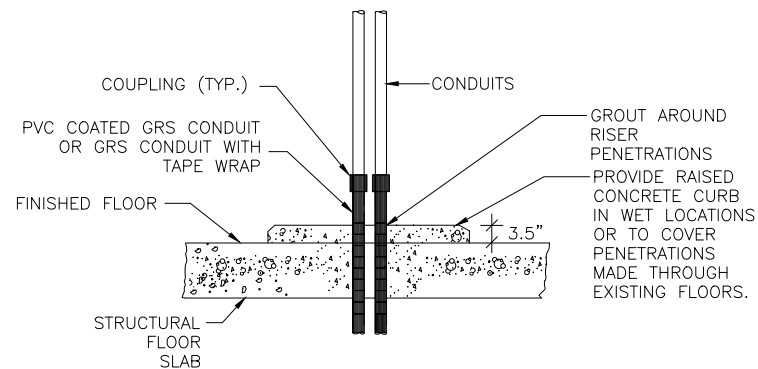
REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING



CAMBRIA EMERGENCY WATER SUPPLY PROJECT  
CAMBRIA COMMUNITY SERVICES DISTRICT

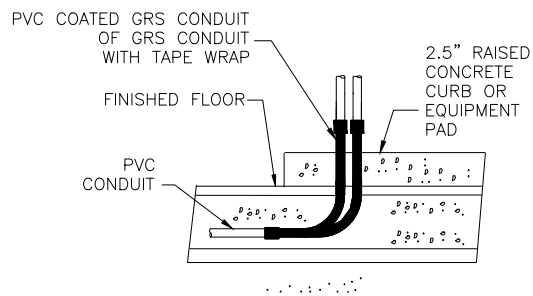
INSTRUMENTATION AND CONTROL SINGLE LINE DIAGRAM

PROJECT NO.	138760-104133
SHEET:	23 OF 38
DRAWING NO.	E-08



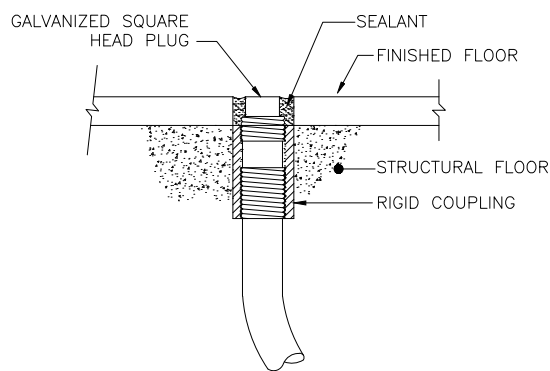
TYPICAL CONDUIT FLOOR PENETRATION SECTION

DETAIL A  
NTS



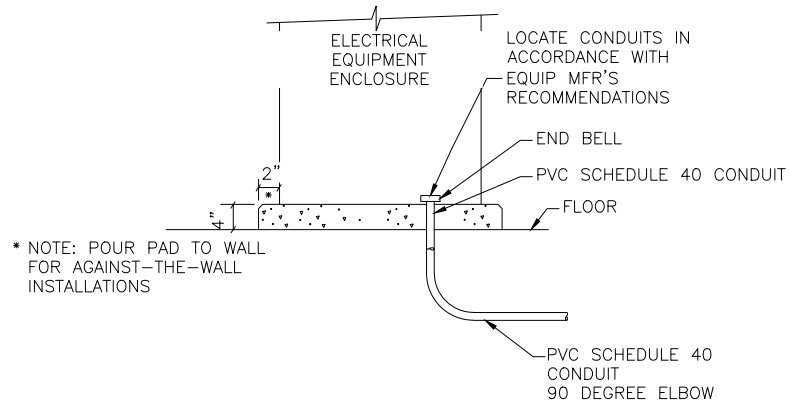
TYPICAL EMBEDDED CONDUIT STUB-UP SECTION

DETAIL B  
NTS



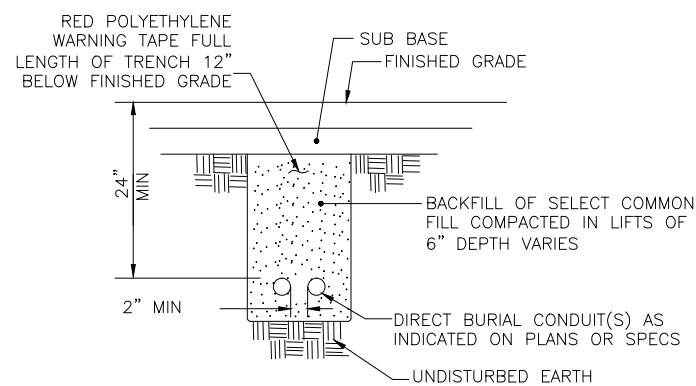
FUTURE CONDUIT TERMINATION IN FLOOR

DETAIL D  
NTS



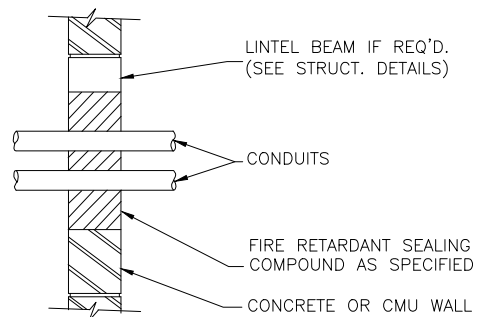
ELECTRICAL EQUIPMENT PAD

DETAIL E  
NTS



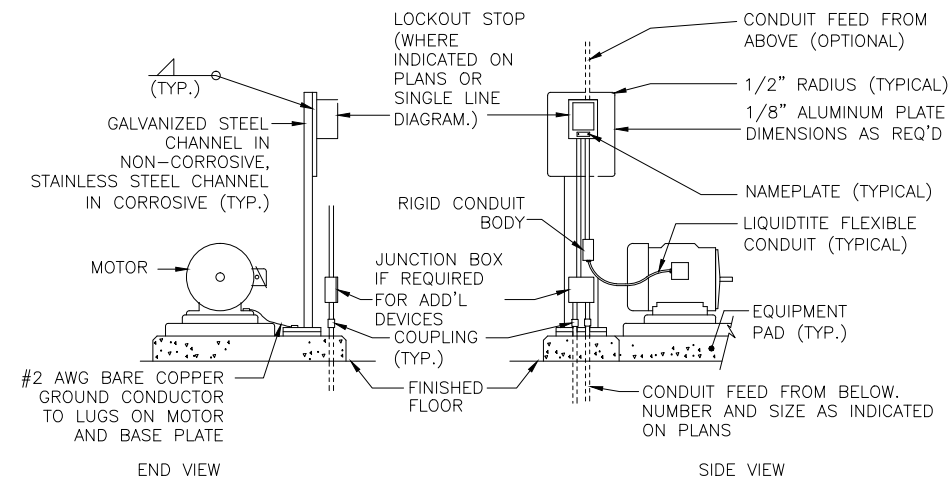
DIRECT BURIED CONDUIT

DETAIL G  
NTS



TYPICAL ABOVE GRADE WALL NON WATERTIGHT CONDUIT PENETRATION

DETAIL H  
NTS



TYPICAL MOTOR INSTALLATION

DETAIL F  
NTS

**RECORD DRAWING**  
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 By *Eun-Chul Yoon* Date 2/27/15  
**CDM Smith**

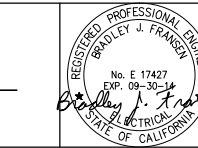
**GENERAL NOTES:**  
 1. STANDARD DETAILS APPLY TO ALL RELEVANT LOCATIONS WHETHER SPECIFICALLY REFERENCED OR NOT.

C:\cdm\perezsm\637087\1-E-09.dwg SAVED:5/10/16 PRINTED:5/17/16 BY:PEREZSM

DESIGNED BY:	B.J.FRANSEN
DRAWN BY:	T.NGUYEN
SHEET CHK'D BY:	C. PAGADUAN
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

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 IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY

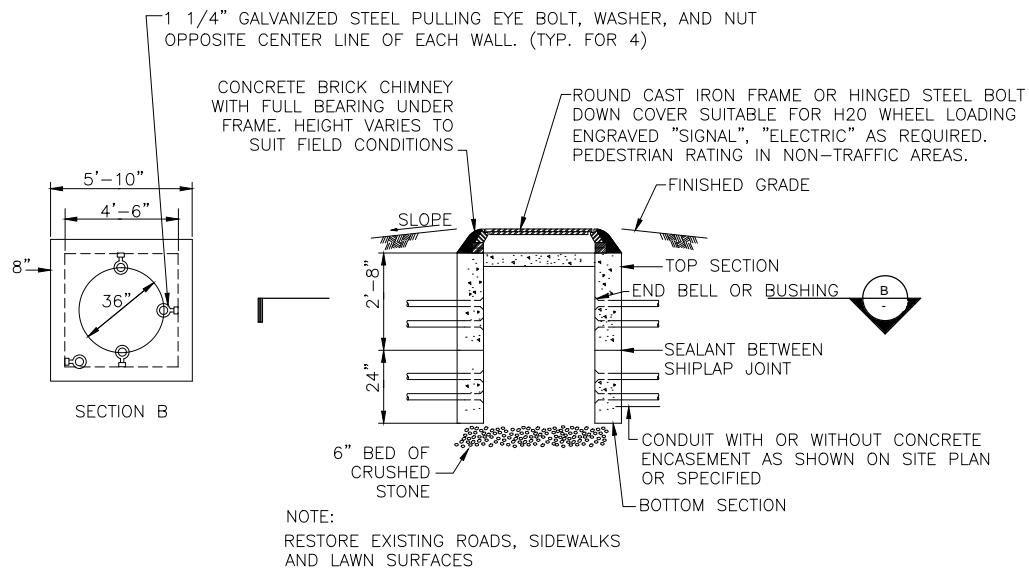


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

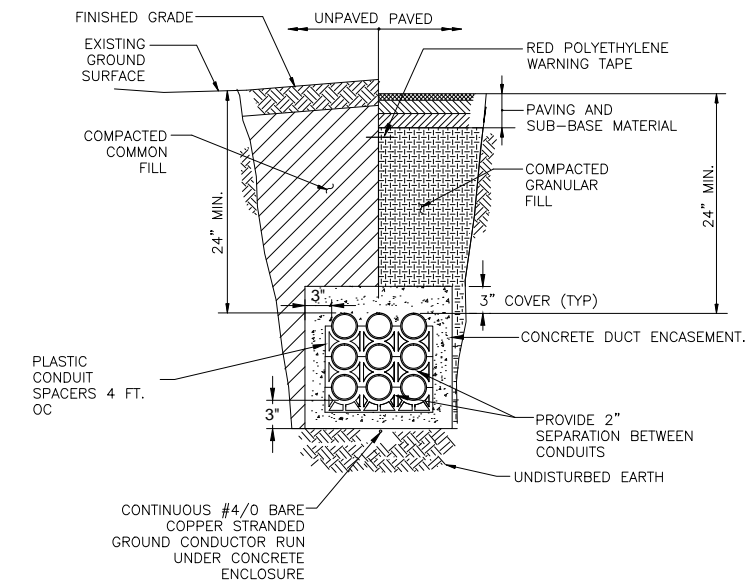
**ELECTRICAL DETAILS 1 OF 2**

PROJECT NO. 138760-104133  
 SHEET: 24 OF 38  
 DRAWING NO. **E-09**

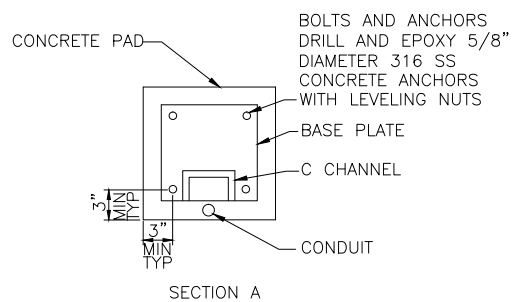




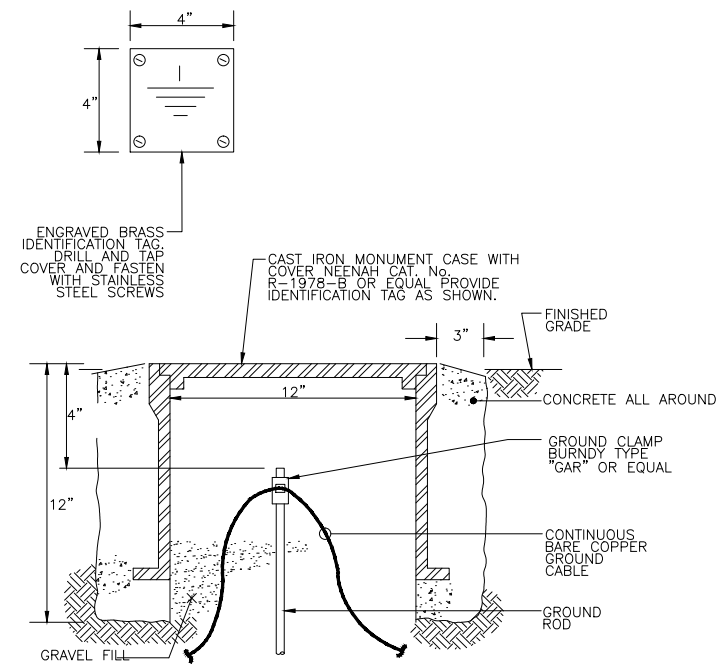
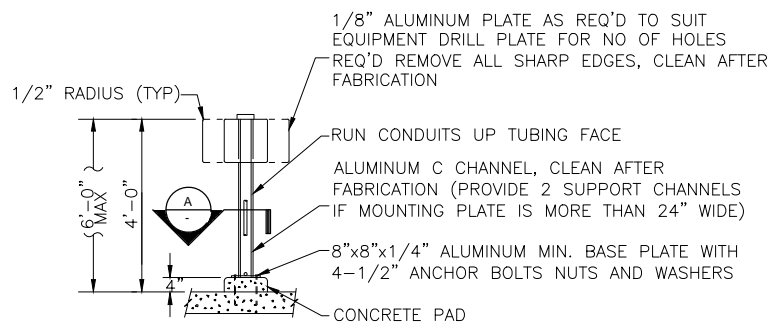
ELECTRICAL HANDHOLE  
**DETAIL M**  
 NTS



UNDERGROUND DUCT BANK  
**DETAIL K**  
 NTS



EQUIPMENT MOUNTING STAND  
**DETAIL L**  
 NTS



GROUND ROD AND WELL  
**DETAIL N**  
 N.T.S.

**RECORD DRAWING**  
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 By *Eun Chu You* Date 2/27/15  
**CDM Smith**

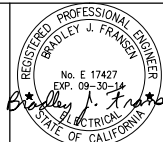
**GENERAL NOTES:**  
 1. STANDARD DETAILS APPLY TO ALL RELEVANT LOCATIONS WHETHER SPECIFICALLY REFERENCED OR NOT.

C:\cdm\perezsm\d1637087\E-10.dwg SAVED: 5/10/16 PRINTED: 5/17/16 BY: PEREZSM

DESIGNED BY:	B.J. FRANSEN
DRAWN BY:	T. NGUYEN
SHEET CHK'D BY:	C. PAGADUAN
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

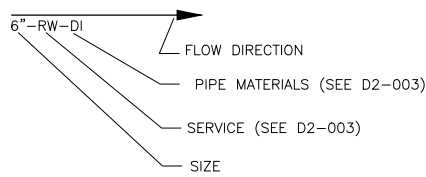
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 0 1/2" 1"  
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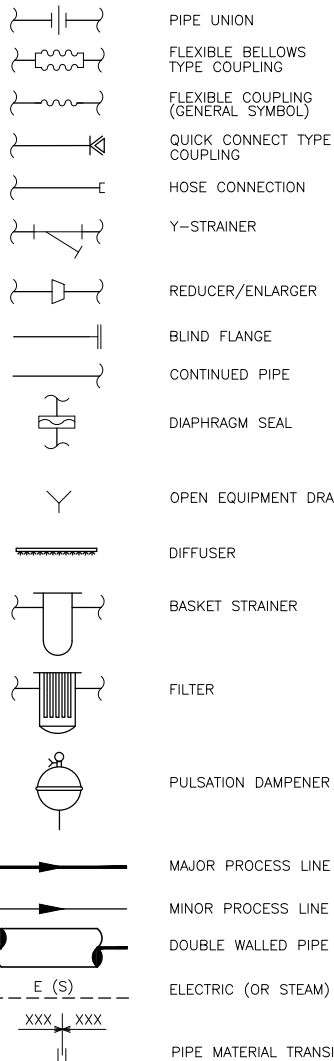
**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

Exhibit 2

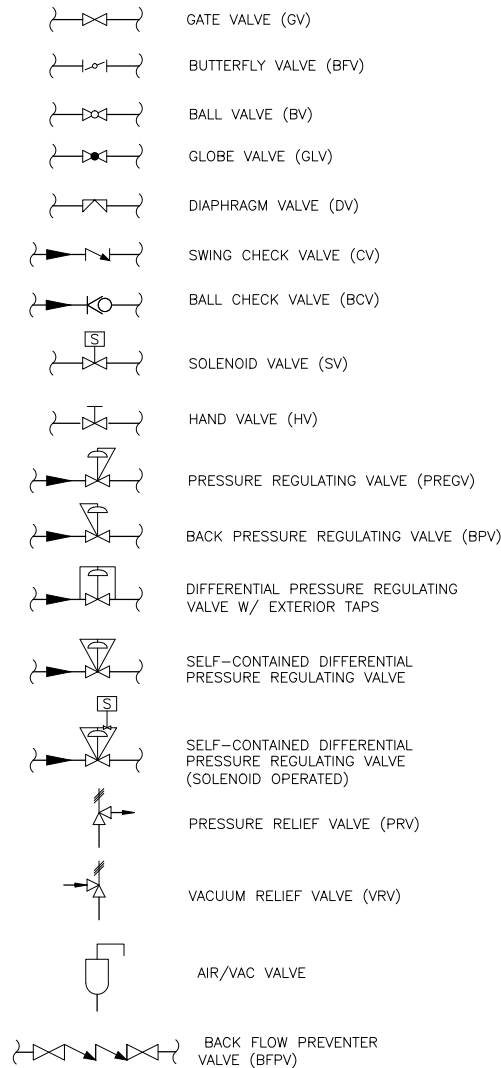
TYPICAL PIPE TAG NUMBERS & DESIGNATION



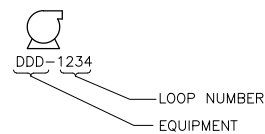
PIPE LINE SYMBOLS



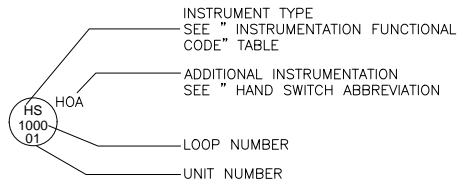
VALVE SYMBOLS



TYPICAL EQUIPMENT TAG NUMBERS & DESIGNATION



TYPICAL TAG NUMBERS & DESIGNATION



HAND SWITCH ABBREVIATIONS

- AO = AUTO/OFF
- AM = AUTO/MANUAL
- CM = COMPUTER/MANUAL
- ES = EMERGENCY STOP
- FR = FORWARD/REVERSE
- FOR = FORWARD/OFF/REVERSE
- FS = FAST/SLOW
- FOS = FAST/OFF/SLOW
- HOA = HAND/OFF/AUTO
- LLS = LEAD/LAG/STANDBY
- LOC = LOCAL/OFF/COMPUTER
- LOR = LOCAL/OFF/REMOTE
- LOS = LOCKOUT/STOP
- LA = LOCAL/AUTO
- L/R = LOCAL/REMOTE
- OC = OPEN/CLOSE
- OCA = OPEN/CLOSE/AUTO
- OO = ON/OFF
- OOA = ON/OFF/AUTO
- OSC = OPEN/STOP/CLOSE
- RSL = RAISE/STOP/LOWER
- RST = RESET
- SS = START/STOP
- SOR = START/OFF/RESET

ELECTRICAL / AIR SOURCES

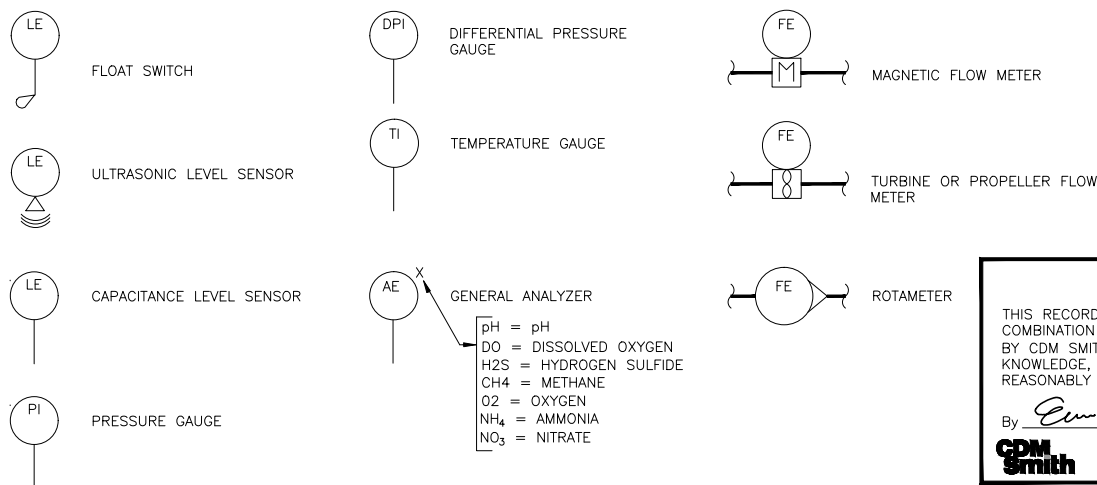
- UPS → UPS POWER VIA PCSS PROVIDED UPS DIRECT CONNECTION
- UPS → UPS POWER VIA PCSS PROVIDED UPS LIGHTING PANEL
- ES → PCSS SUPPLIED PANEL ELECTRICAL SOURCE
- ES → VENDOR SUPPLIED PANEL ELECTRICAL SOURCE
- ES → NON-PCSS SUPPLIED PANEL ELECTRICAL SOURCE
- IA → INSTRUMENT AIR SOURCE

NOTE 1: ALL POWER SOURCES ARE 120 VAC UNLESS OTHERWISE STATED ON THE DRAWINGS

NOTE 2: REFER TO UPS SPECIFICATIONS FOR POWER REQUIREMENTS OF PANEL

NOTE 3: REFER TO OTHER SPECIFICATION SECTIONS FOR POWER REQUIREMENTS OF INSTRUMENTS

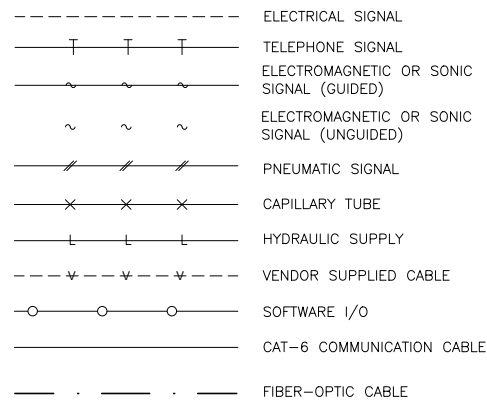
PRIMARY ELEMENTS



ABBREVIATIONS AND LETTER SYMBOLS

- AC ALTERNATING CURRENT
- DC DIRECT CURRENT
- HMI HUMAN-MACHINE INTERFACE
- PLC PROGRAMMABLE LOGIC CONTROLLER

INSTRUMENT LINE SYMBOLS

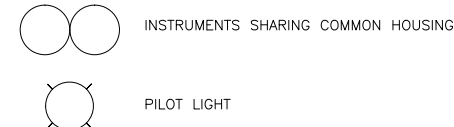


GENERAL NOTES

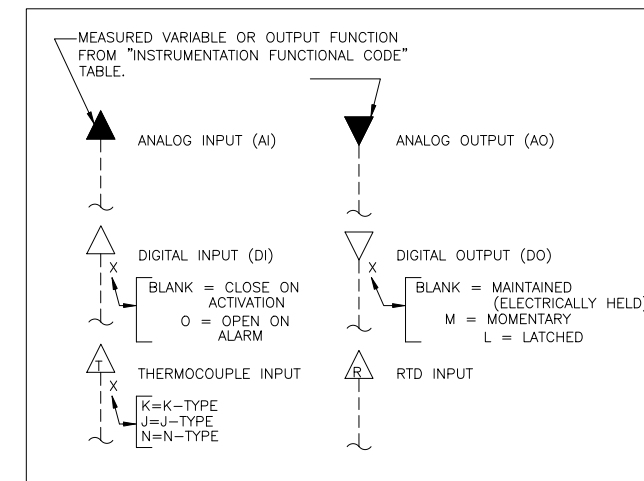
1. THIS LEGEND APPLIES TO P&IDS ONLY AND MAY DIFFER FROM LEGENDS FOR OTHER SHEETS.
2. IN GENERAL THIS LEGEND SHEET AND THE P&IDS ARE BASED ON INTERNATIONAL SOCIETY OF AUTOMATION (ISA) STANDARDS FOR PRACTICES FOR INSTRUMENTATION. SOME MODIFICATIONS, ADDITIONS AND ALTERATIONS HAVE BEEN MADE AS REQUIRED TO ACCOMMODATE PROJECT REQUIREMENTS.
3. SOME PROCESS ITEMS, SUCH AS EQUIPMENT ISOLATION VALVES, BYPASS LINES, ETC., WHICH ARE NOT CRITICAL FOR AN UNDERSTANDING OF THE INSTRUMENTATION FUNCTIONS ARE NOT SHOWN ON THE P&IDS.
4. SEE ELECTRICAL AND MECHANICAL SHEETS AND SPECIFICATIONS FOR ADDITIONAL CONTROL AND INTERLOCK REQUIREMENTS.
5. LIGHTER WEIGHT LINES, SHOWN AS \_\_\_\_\_, INDICATE EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE EXISTING. WEIGHTED LINES, SHOWN AS \_\_\_\_\_, OR HEAVIER \_\_\_\_\_, INDICATE EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE NEW.

GENERAL INSTRUMENT OR FUNCTION SYMBOLS

	LOCATION NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	LOCATION NORMALLY NOT ACCESSIBLE TO OPERATOR
PRIMARY LOCATION OR CONTROL PANEL			
SECONDARY LOCATION OR CONTROL PANEL			



I/O SIGNALS



RECORD DRAWING

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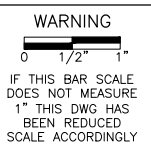
By Eun Ah You Date 2/27/15



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DESIGNED BY: H. NGUYEN	DATE: 2/27/15	DRWN: DI	CHKD: EY	RECORD DRAWING
DRAWN BY: J. ISIDORO				
SHEET CHK'D BY: M. RIDLEY				
CROSS CHK'D BY: E. YOU				
APPROVED BY: S. NEDIC				
DATE: JULY 23, 2014				

REMARKS
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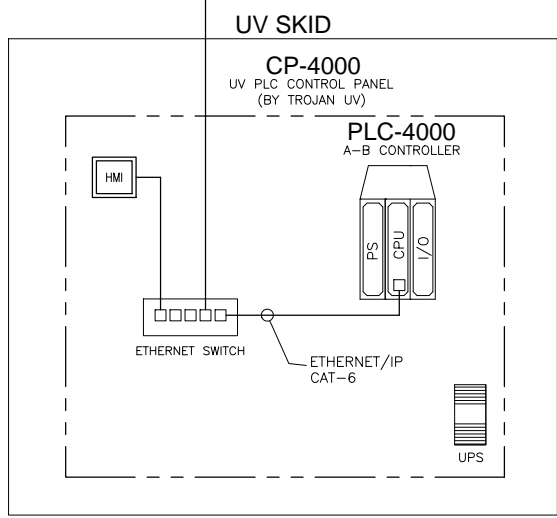
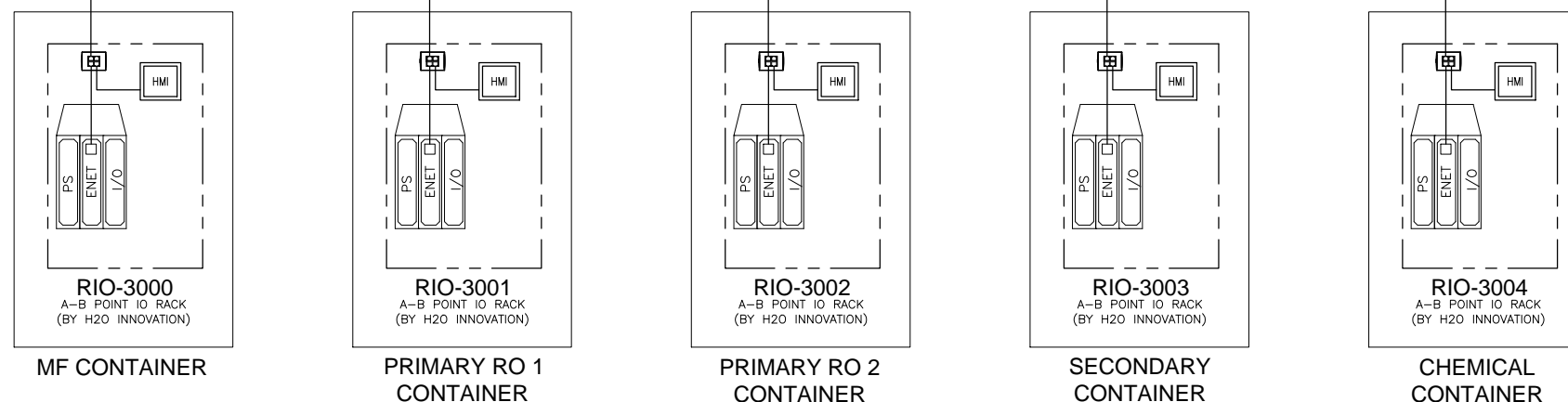
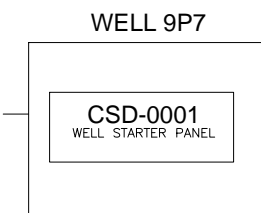
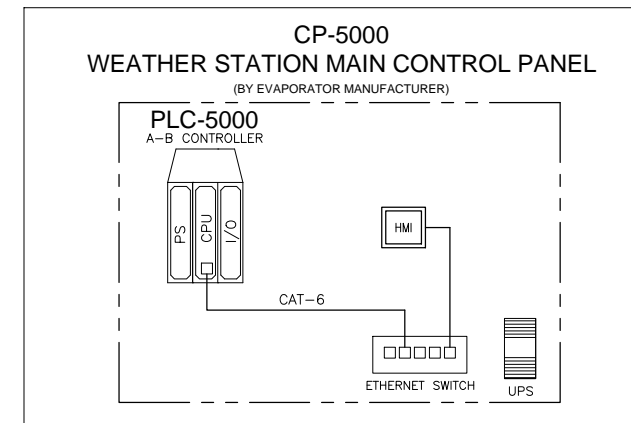
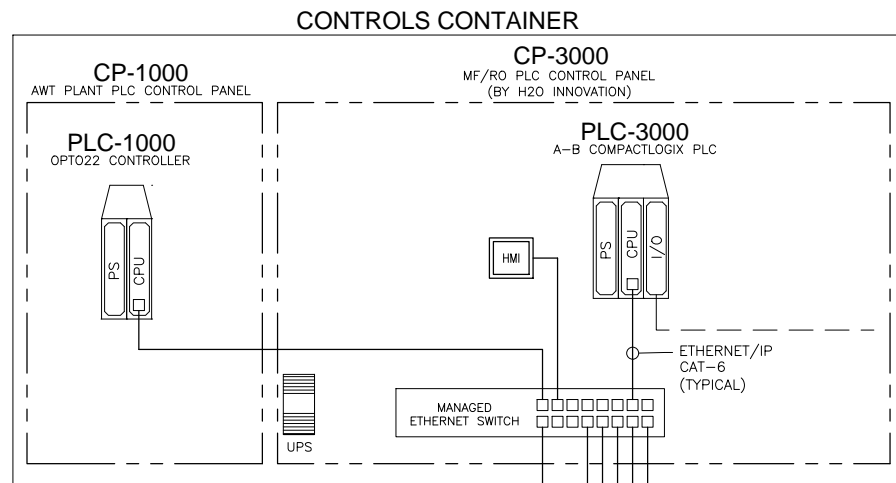
CAMBRIA EMERGENCY WATER SUPPLY PROJECT  
CAMBRIA COMMUNITY SERVICES DISTRICT

PROCESS AND INSTRUMENTATION LEGEND, SYMBOLS, AND ABBREVIATIONS

PROJECT NO. 138760-104133  
SHEET: 26 OF 38  
DRAWING NO. I-01

NOTE:

1. THE AWT PLANT CONTROLLER WILL BE INTEGRATED INTO THE EXISTING BROADBAND ETHERNET WIRELESS NETWORK. THE AWT PLANT WILL BE MONITORED BY SCADA SYSTEM AT WWTP OFFICE, 5500 HEATH LANE. THE ETHERNET BRIDGE RADIO WILL BE PROVIDED AND INSTALLED BY OTHER. RADIO PROGRAMMING AND ASSOCIATED OPTO 22 PLC PROGRAMMING SHALL BE BY OTHER.



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By *Evan Chiu* Date 2/27/15

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DESIGNED BY:	H. NGUYEN
DRAWN BY:	J. ISIDORO
SHEET CHK'D BY:	M. RIDLEY
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

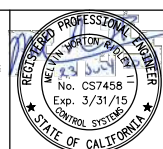
  

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

**WARNING**

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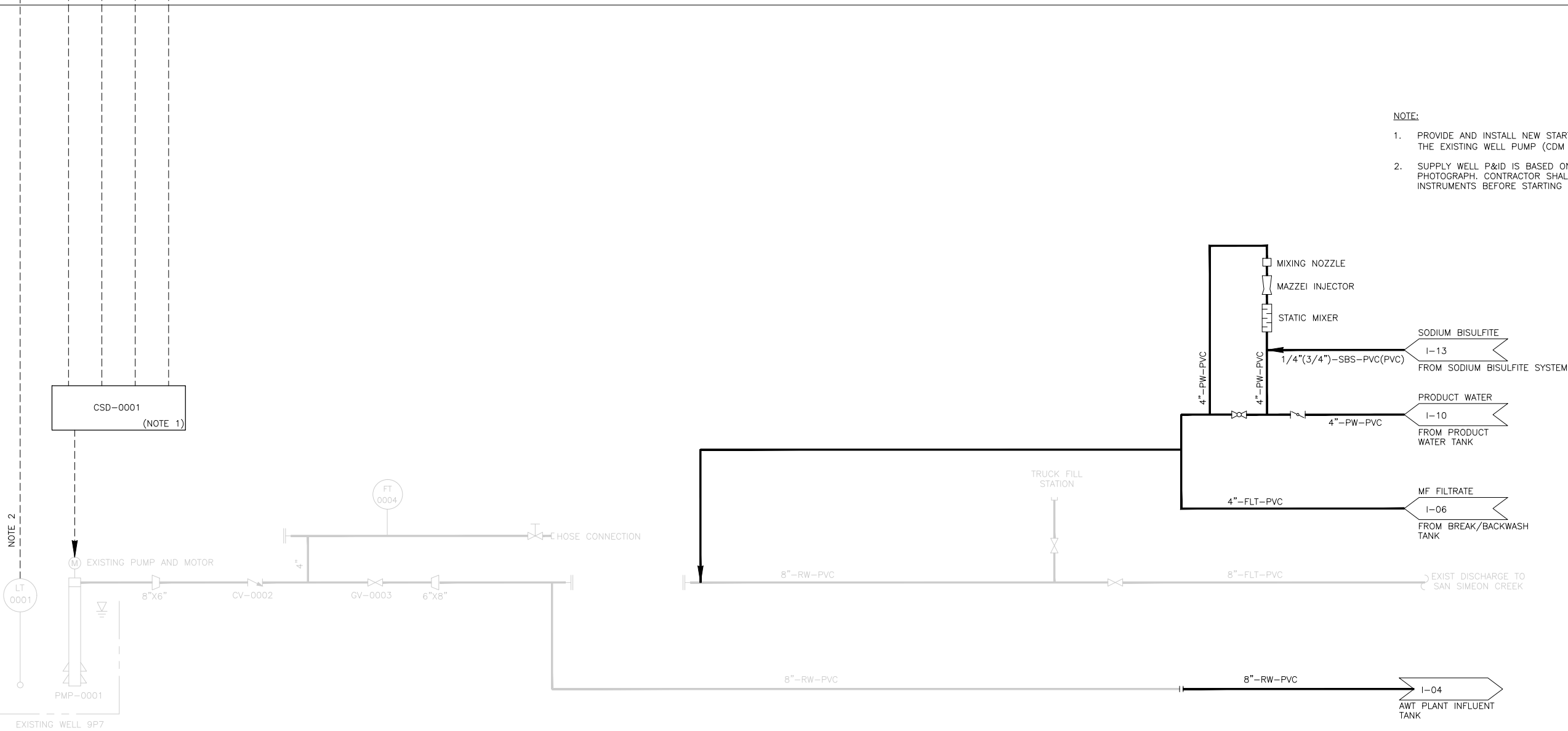
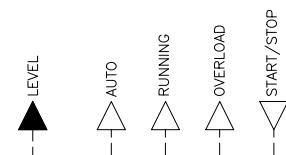


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION OVERALL SYSTEM ARCHITECTURE**

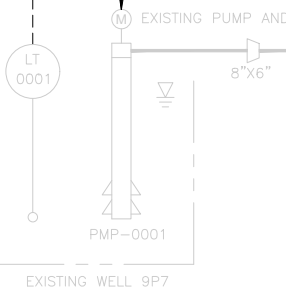
PROJECT NO. 138760-104133  
SHEET: 27 OF 38  
DRAWING NO. **I-02**

MF/RO PLC (VENDOR PACKAGE AT AWT PLANT)



- NOTE:**
1. PROVIDE AND INSTALL NEW STARTER PANEL FOR THE EXISTING WELL PUMP (CDM SMITH SUPPLY).
  2. SUPPLY WELL P&ID IS BASED ON FIELD PHOTOGRAPH. CONTRACTOR SHALL FIELD VERIFY INSTRUMENTS BEFORE STARTING WORK.

NOTE 2



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By *Evan Chulifon* Date 5/20/16

**CDM Smith**

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REV. NO.	DATE	DRWN	CHKD	REMARKS
2	5/20/16	DI	ECY	RECORD DRAWING
1	10/6/14			REVISED PER RWQCB COMMENTS

DESIGNED BY: H. NGUYEN  
 DRAWN BY: J. ISIDORO  
 SHEET CHK'D BY: M. RIDLEY  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

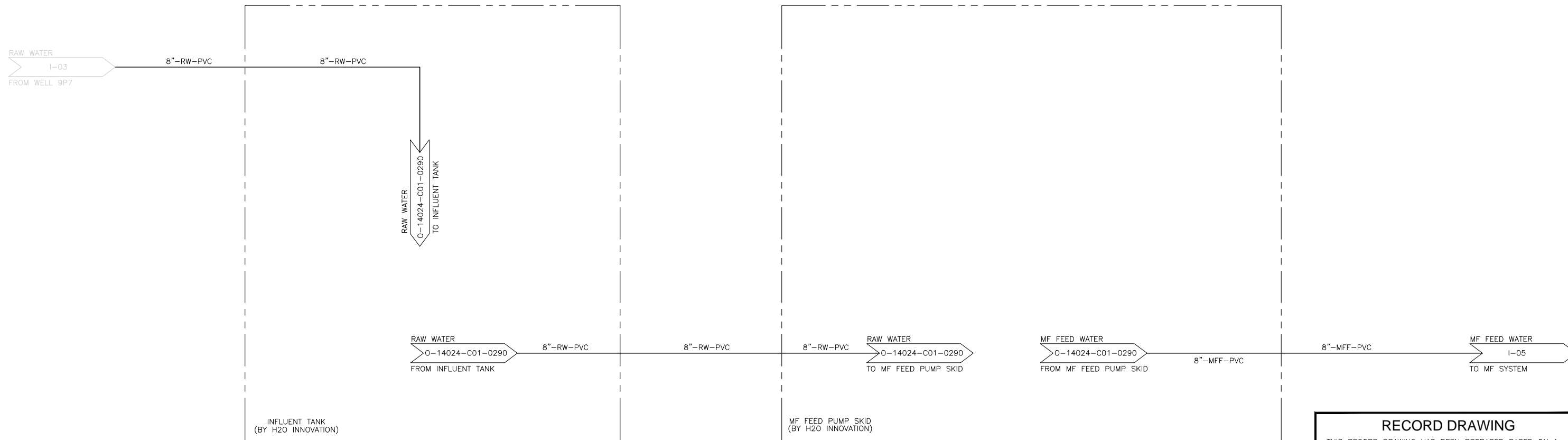
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 0 1/2" 1"  
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**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION SUPPLY WELL**

PROJECT NO. 138760-104133  
 SHEET: 28 OF 38  
 DRAWING NO. **I-03**



**RECORD DRAWING**  
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 By Eun Chul You Date 5/20/16

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REV. NO.	DATE	DRWN	CHKD	REMARKS
2	5/20/16	DI	ECY	RECORD DRAWING
1	10/6/14			REVISED PER RWQCB COMMENTS

DESIGNED BY: H. NGUYEN  
 DRAWN BY: J. ISIDORO  
 SHEET CHK'D BY: M. RIDLEY  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

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**CDM Smith**  
 111 Academy Way, Suite 150  
 Irvine, California 92617  
 Tel: (949) 752-5452

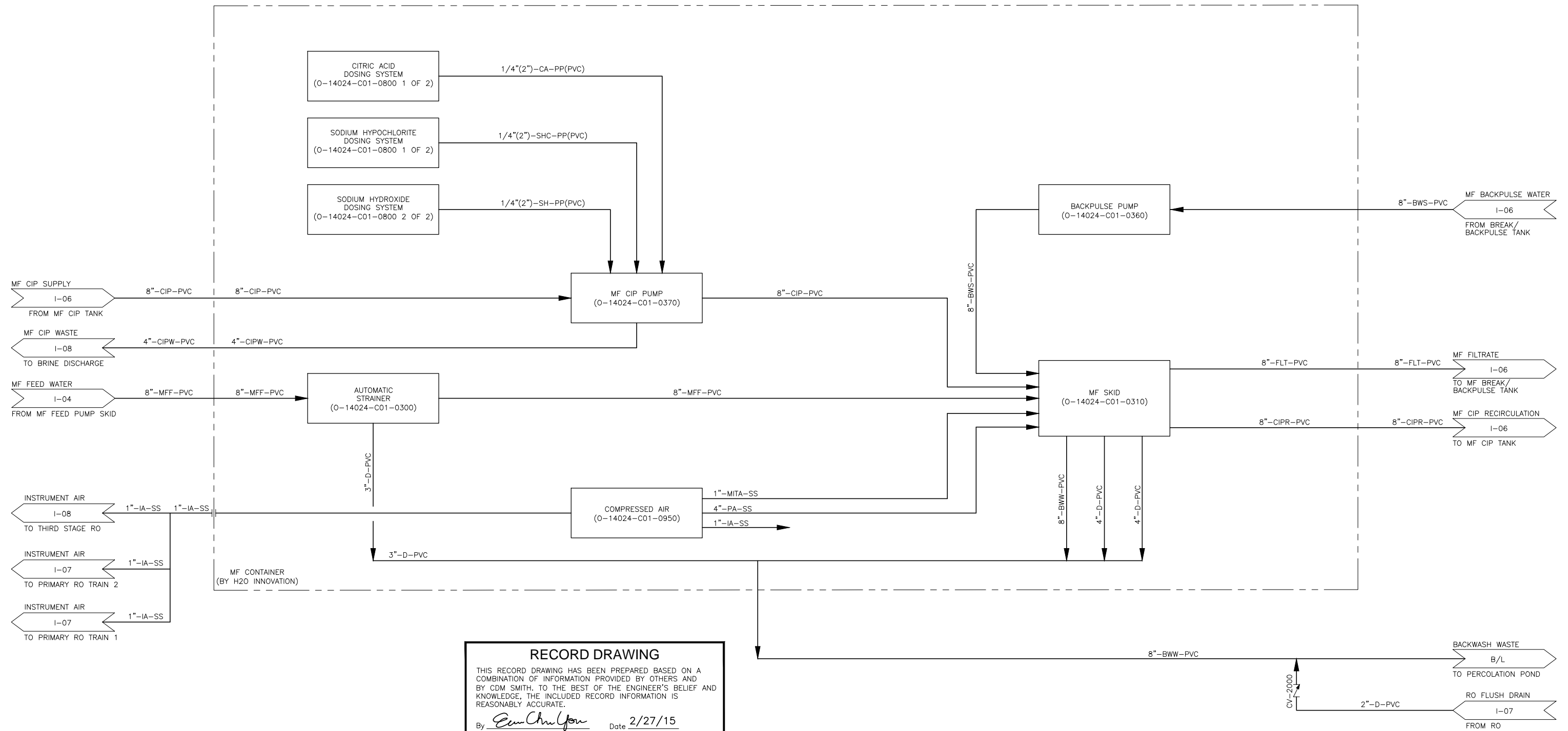


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION INFLUENT TANK AND MF FEED PUMP STATION**

PROJECT NO. 138760-104133  
 SHEET: 29 OF 38  
 DRAWING NO. **I-04**

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By *Eun Chul You* Date 2/27/15

**CDM Smith**

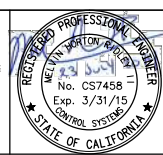
REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

DESIGNED BY: H. NGUYEN  
 DRAWN BY: J. ISIDORO  
 SHEET CHK'D BY: M. RIDLEY  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

**WARNING**

0 1/2" 1"

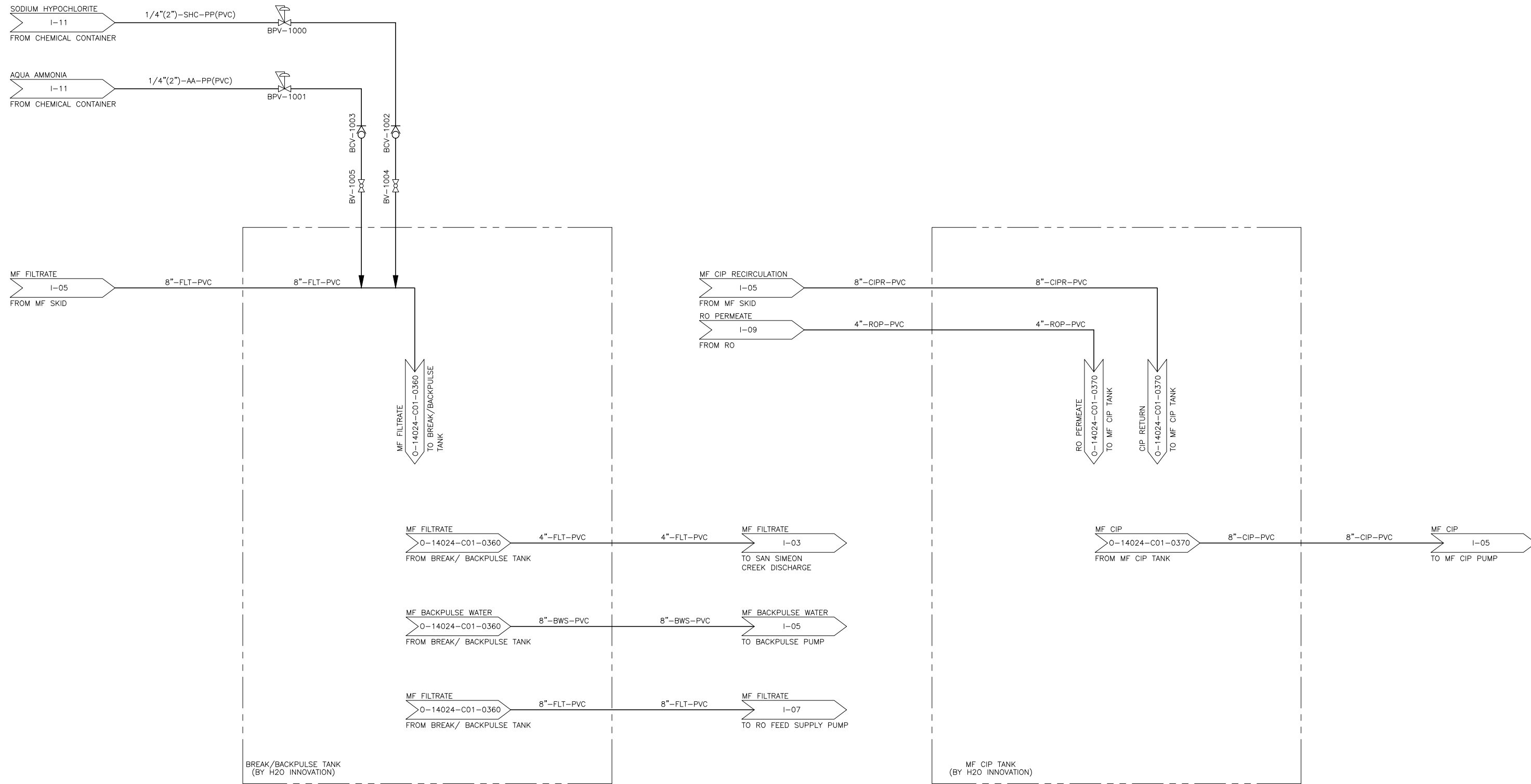
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**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION MF CONTAINER**

PROJECT NO. 138760-104133  
 SHEET: 30 OF 38  
 DRAWING NO. **I-05**



**RECORD DRAWING**

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By *Evan Chu-Yan* Date 5/20/16

**CDM Smith**

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REV. NO.	DATE	DRWN	CHKD	REMARKS
2	5/20/16	DI	ECY	RECORD DRAWING
1	10/6/14			REVISED PER RWQCB COMMENTS

DESIGNED BY: H. NGUYEN  
 DRAWN BY: J. ISIDORO  
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 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

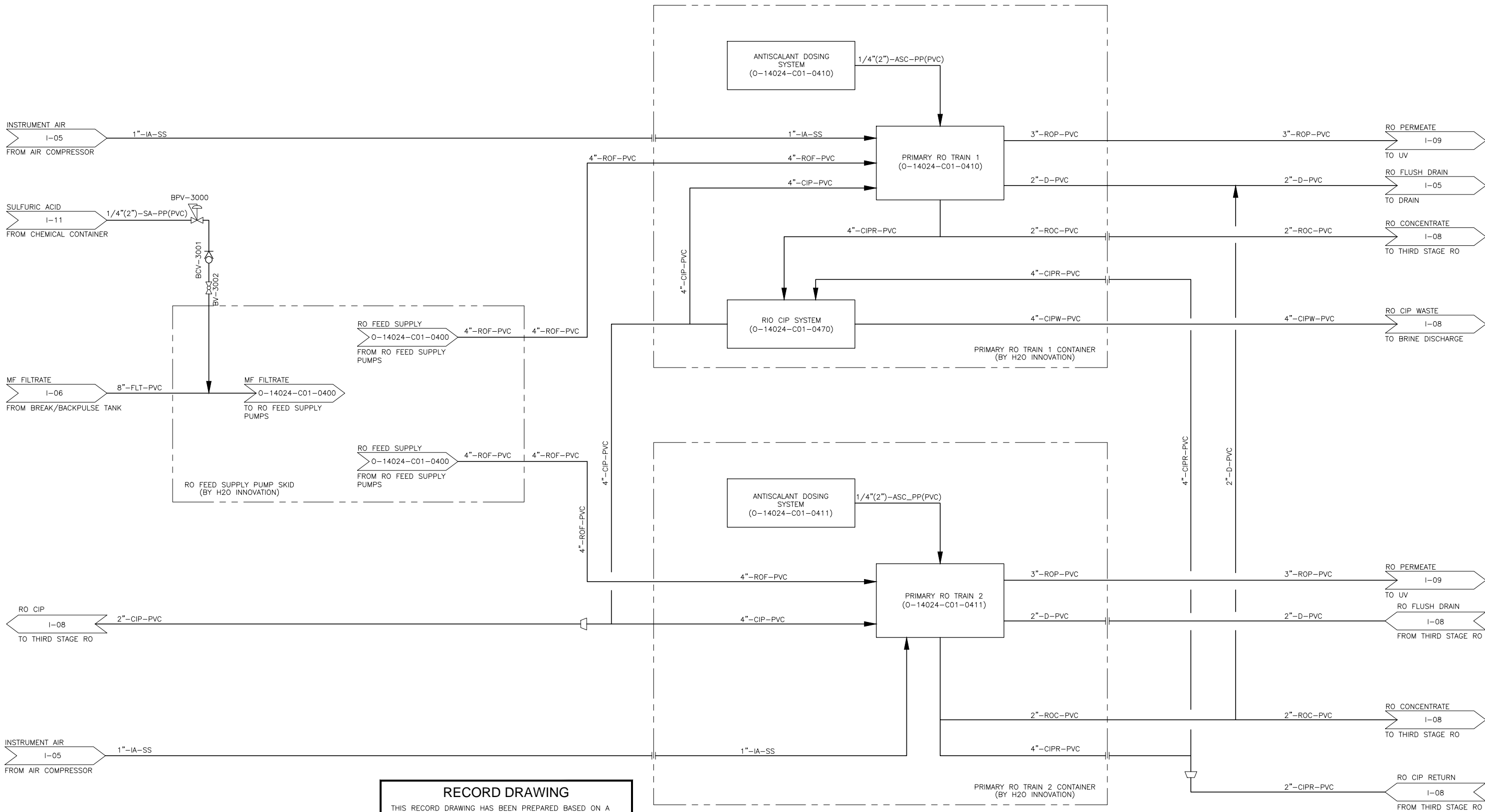
**WARNING**  
  
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**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION DIAGRAM  
 BREAK/BACKWASH TANK AND MF CIP TANK**

PROJECT NO. 138760-104133  
 SHEET: 31 OF 38  
 DRAWING NO. **I-06**



**RECORD DRAWING**

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By *Eun Chu You* Date 2/27/15

**CDM Smith**

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DESIGNED BY:	H. NGUYEN
DRAWN BY:	J. ISIDORO
SHEET CHK'D BY:	M. RIDLEY
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

**WARNING**

0 1/2" 1"

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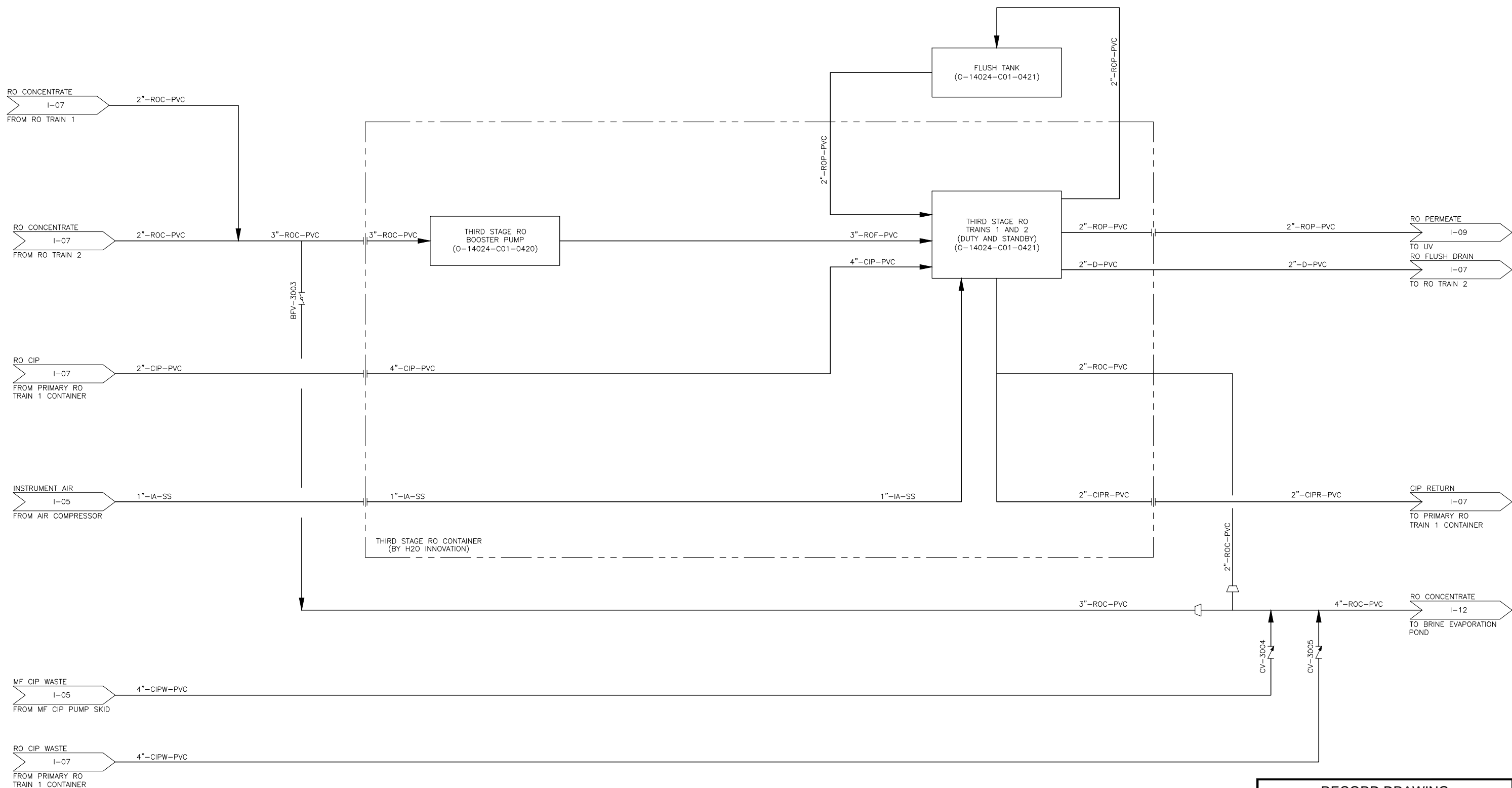
**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**

CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION  
RO FEED SUPPLY PUMPS AND  
PRIMARY RO TRAINS 1 AND 2**

PROJECT NO. 138760-104133  
SHEET: 32 OF 38  
DRAWING NO. **I-07**





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By *Eun Chul You* Date 2/27/15

**CDM Smith**

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DESIGNED BY:	H. NGUYEN
DRAWN BY:	J. ISIDORO
SHEET CHK'D BY:	M. RIDLEY
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

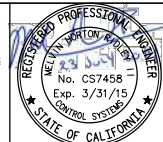
  

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

**WARNING**

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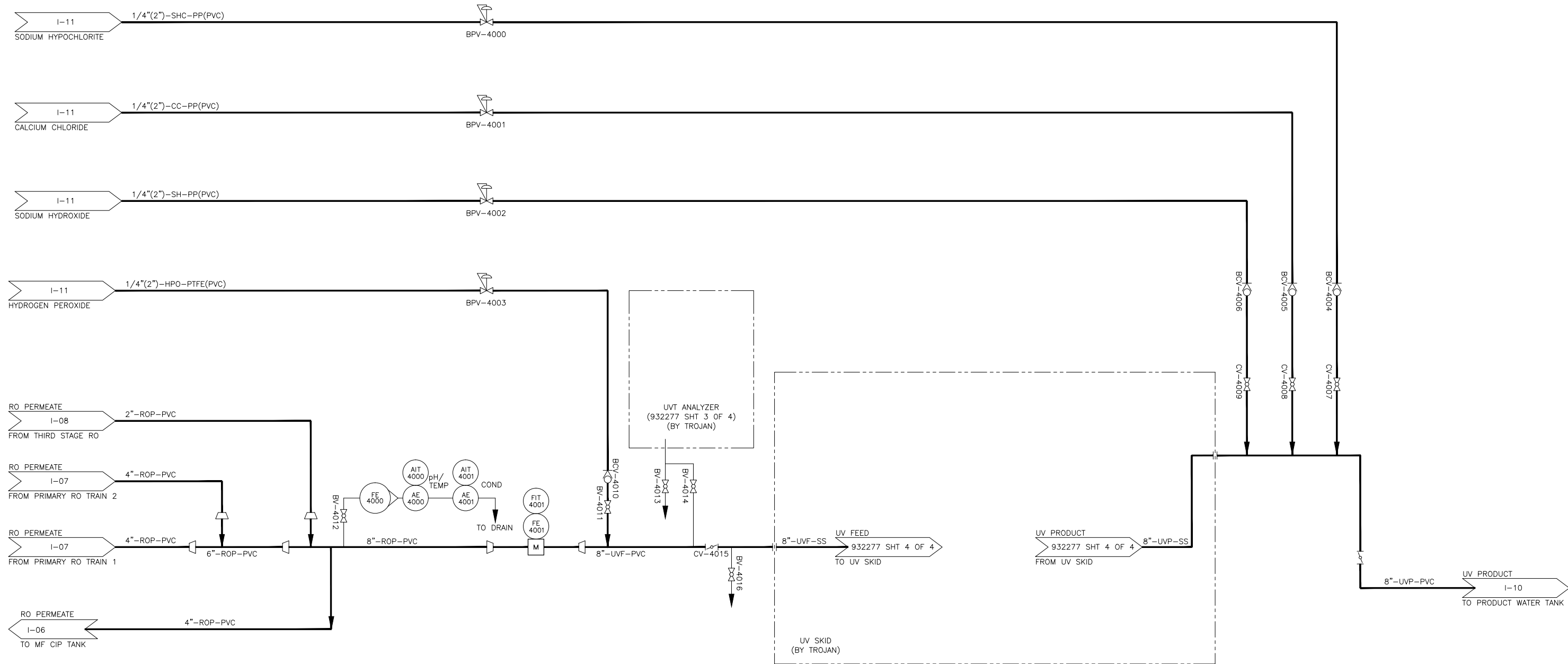
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**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION THIRD STAGE RO**

PROJECT NO. 138760-104133  
SHEET: 33 OF 38  
DRAWING NO. **I-08**



**RECORD DRAWING**

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By Evan Chu Yon Date 2/27/15

**CDM Smith**

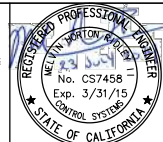
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DESIGNED BY:	H. NGUYEN
DRAWN BY:	J. ISIDORO
SHEET CHK'D BY:	M. RIDLEY
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/15	DI	ECY	RECORD DRAWING

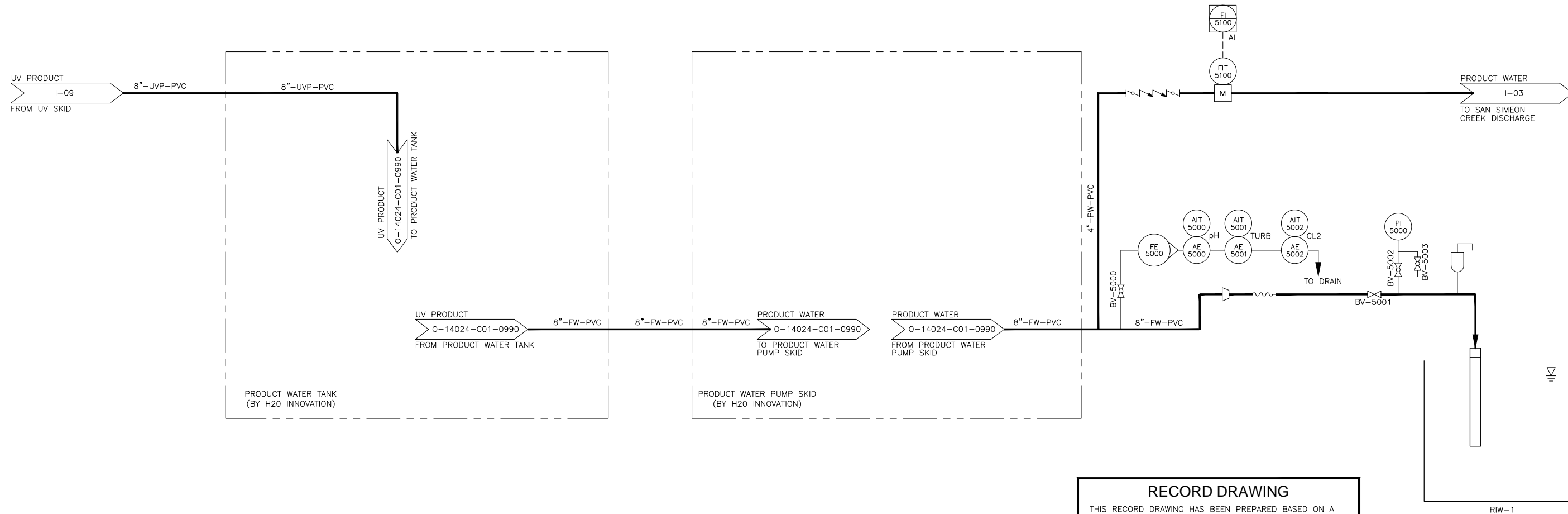
**WARNING**  
  
 IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY



**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION**  
 UV

PROJECT NO. 138760-104133  
 SHEET: 34 OF 38  
 DRAWING NO. **I-09**



**RECORD DRAWING**

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By: *Eun Cho Youn* Date: 5/20/16

**CDM Smith**

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DESIGNED BY:	H. NGUYEN
DRAWN BY:	J. ISIDORO
SHEET CHK'D BY:	M. RIDLEY
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

REV. NO.	DATE	DRWN	CHKD	REMARKS
2	5/20/16	DI	ECY	RECORD DRAWING
1	10/6/14			REVISED PER RWQCB COMMENTS

**WARNING**

0 1/2" 1"

IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY

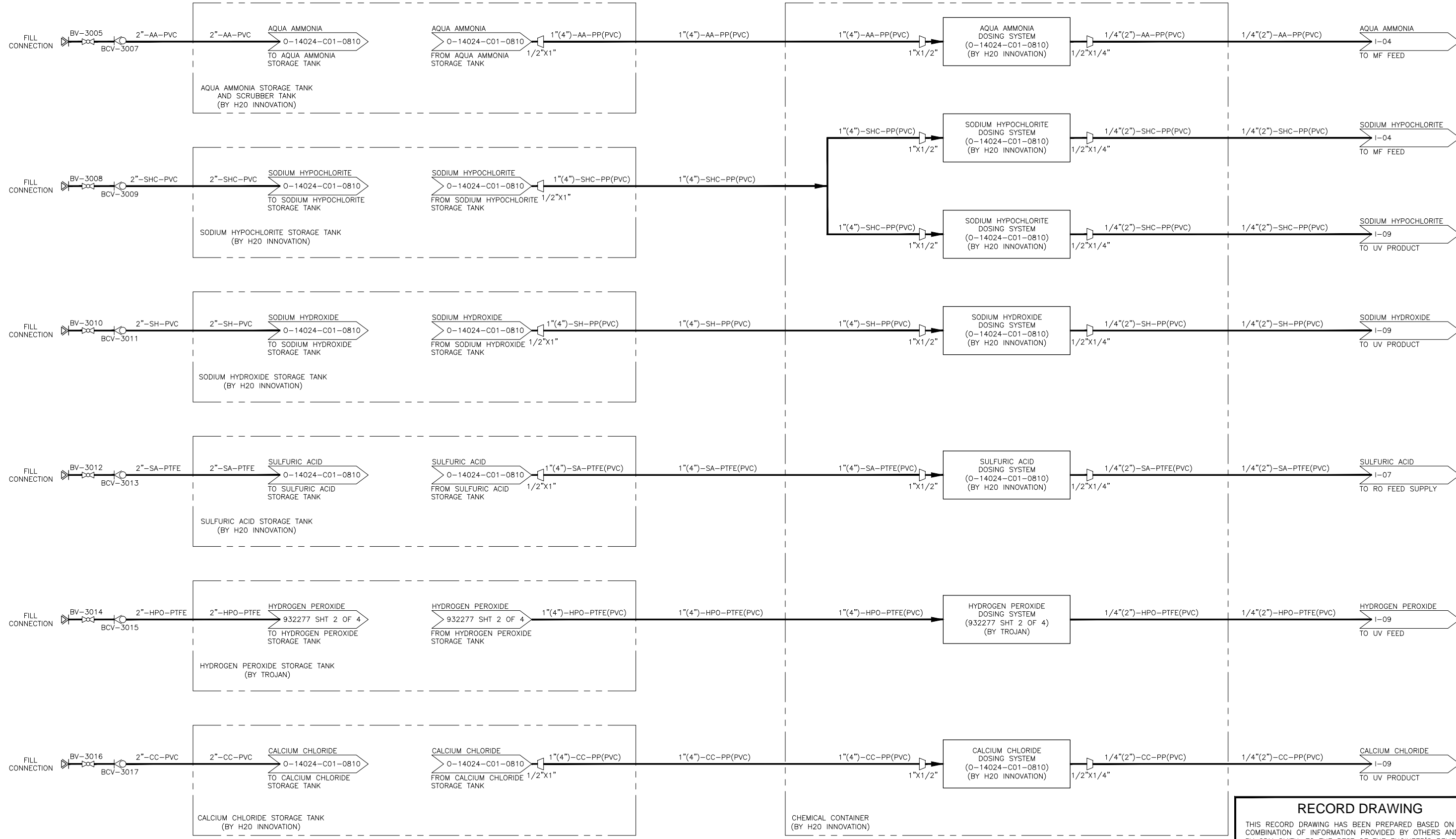


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION DIAGRAM  
PRODUCT WATER TANK, PUMP STATION  
AND RIW INJECTION**

PROJECT NO. 138760-104133  
SHEET: 35 OF 38  
DRAWING NO. **I-10**

Exhibit 2



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 By *Eun Chiu You* Date *2/27/15*  
**CDM Smith**

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DESIGNED BY:	H. NGUYEN
DRAWN BY:	T. KARTHICK
SHEET CHK'D BY:	M. RIDLEY
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

**WARNING**  
 0 1/2" 1"  
 IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY

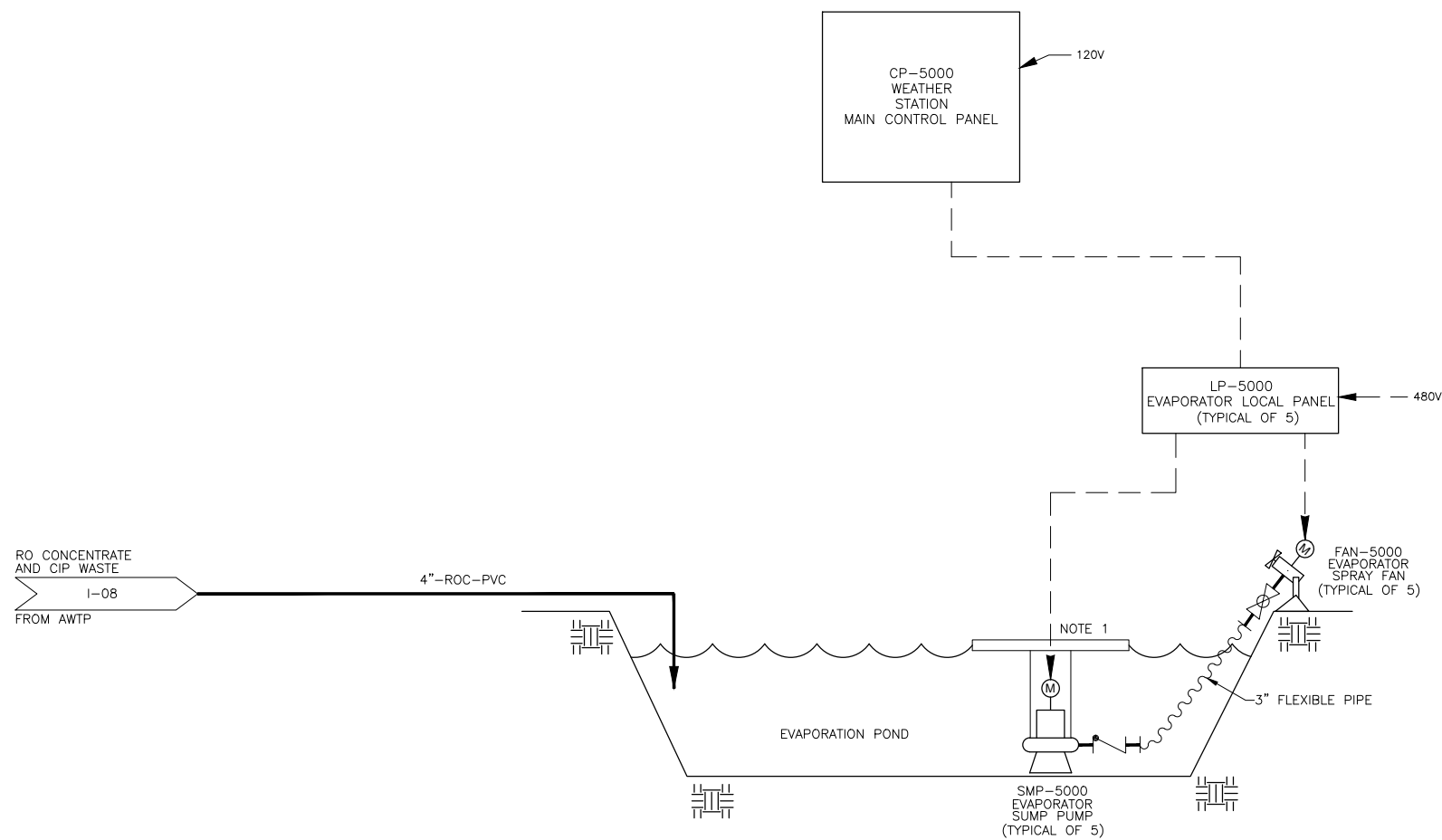


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION DIAGRAM CHEMICAL SYSTEMS**

PROJECT NO. 138760-104133  
 SHEET: 36 OF 38  
 DRAWING NO. **I-11**

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**NOTE:**

1. THE SUBMERSIBLE PUMPS WILL BE ANCHORED AT FLOATING STRUCTURE

**RECORD DRAWING**

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By *Evan Chulifon* Date 2/27/15

**CDM Smith**

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	5/10/16	DI	ECY	RECORD DRAWING

DESIGNED BY: H. NGUYEN  
 DRAWN BY: T. KARTHICK  
 SHEET CHK'D BY: M. RIDLEY  
 CROSS CHK'D BY: E. YOU  
 APPROVED BY: S. NEDIC  
 DATE: JULY 23, 2014

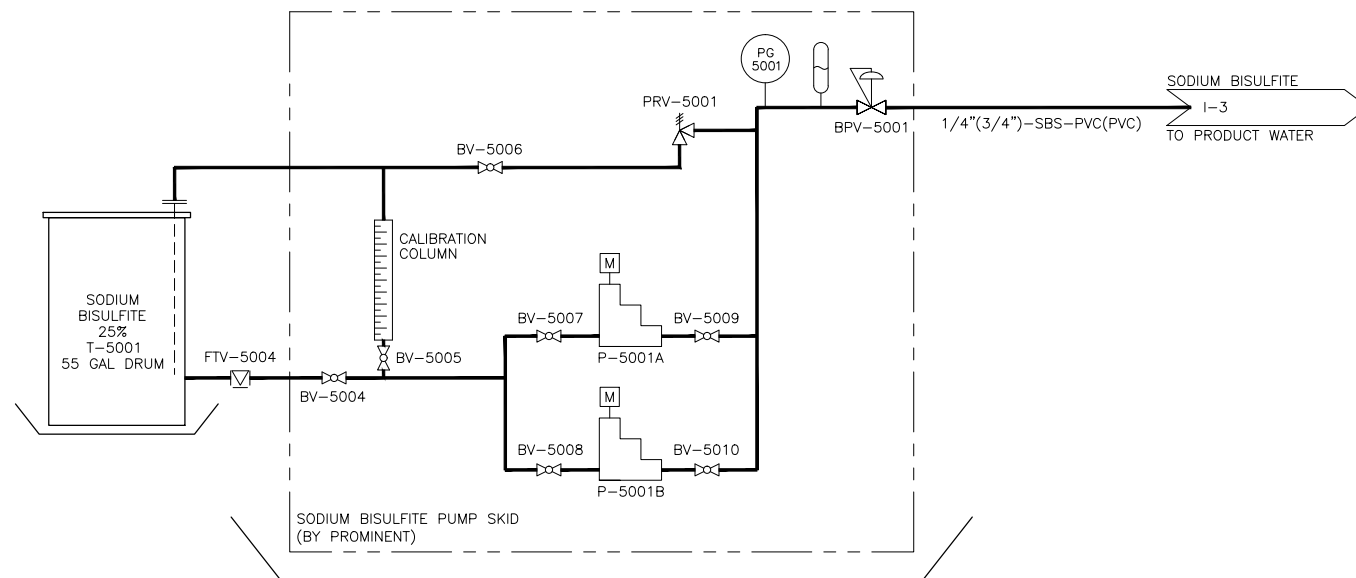
**WARNING**  
 0 1/2" 1"  
 IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY



**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
 CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION DIAGRAM  
 BRINE EVAPORATION SYSTEM**

PROJECT NO. 138760-104133  
 SHEET: 37 OF 38  
 DRAWING NO. I-12



**RECORD DRAWING**

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By *Eun Chu You* Date 2/27/15

**CDM Smith**

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DESIGNED BY:	H. NGUYEN
DRAWN BY:	T. KARTHICK
SHEET CHK'D BY:	M. RIDLEY
CROSS CHK'D BY:	E. YOU
APPROVED BY:	S. NEDIC
DATE:	JULY 23, 2014

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	5/10/16	MP	ECY	RECORD DRAWING

**WARNING**

0 1/2" 1"

IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY

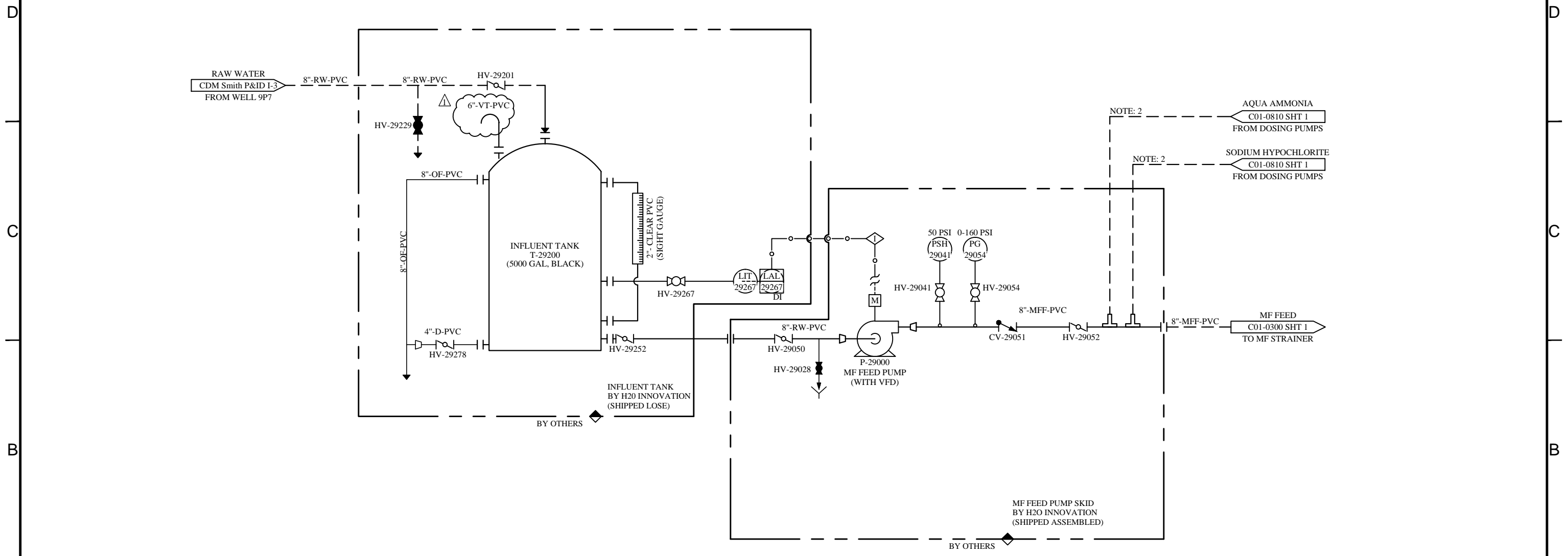


**CAMBRIA EMERGENCY WATER SUPPLY PROJECT**  
CAMBRIA COMMUNITY SERVICES DISTRICT

**PROCESS AND INSTRUMENTATION DIAGRAM  
SODIUM BISULFITE STORAGE  
AND TRANSFER SYSTEM**

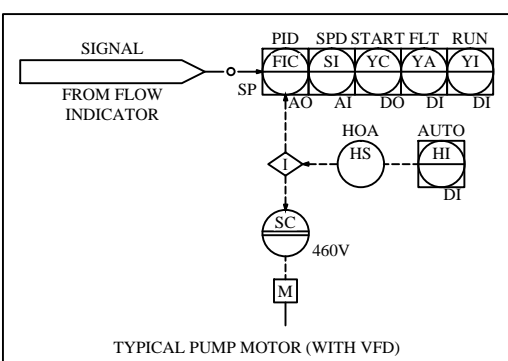
PROJECT NO. 138760-104133  
SHEET: 38 OF 38  
DRAWING NO.  
**I-13**

4 3 2 1



NOTE: 2  
AQUA AMMONIA  
C01-0810 SHT 1  
FROM DOSING PUMPS

NOTE: 2  
SODIUM HYPOCHLORITE  
C01-0810 SHT 1  
FROM DOSING PUMPS



NOTE  
1. TANK SUPPLIED BY H2O AND SHIPPED LOOSE  
2. INJECTION PORTS PROVIDED FOR CHEMICAL CONNECTIONS TO BE PLUMBED IN THE FIELD.

NOTE:  
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1	22/10/2014	AS BUILT	D.M.	B.K.	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.

**h<sub>2</sub>o**  
Innovation  
knowledge to share. do smart things.

UNLESS NOTED OTHERWISE  
INTERPRETATION:  
ANSI Y14.5

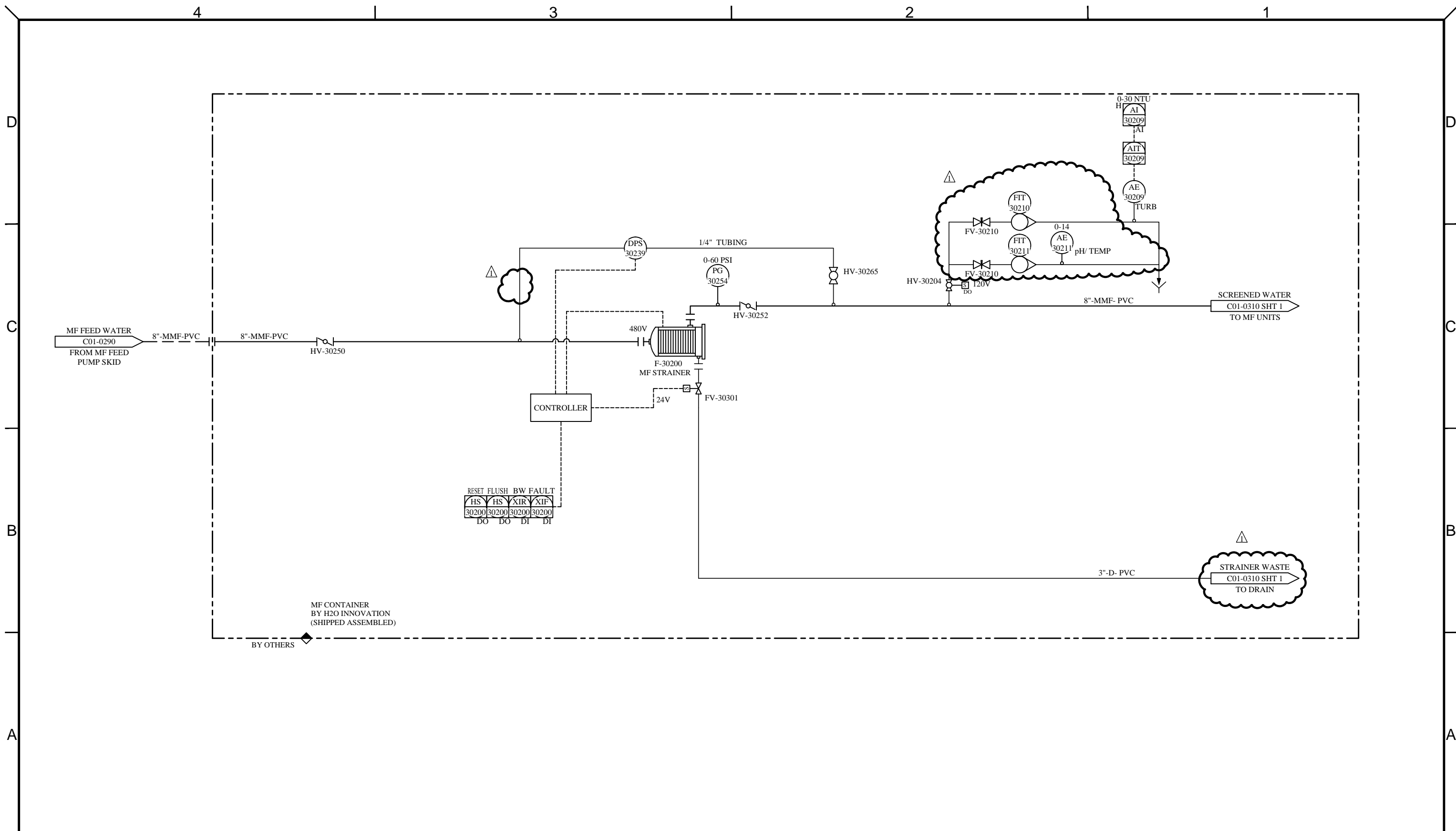
TOLERANCES:  
FRACTIONS:  $\frac{1}{16}$ ,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$   
DECIMALS: 0.001, 0.005, 0.010, 0.015, 0.030, 0.050, 0.100, 0.150, 0.300, 0.500, 1.000, 1.500, 2.000, 3.000, 4.000, 5.000, 6.000, 8.000, 10.000, 12.000, 15.000, 20.000, 25.000, 30.000, 40.000, 50.000, 60.000, 80.000, 100.000, 120.000, 150.000, 200.000, 250.000, 300.000, 400.000, 500.000, 600.000, 800.000, 1000.000  
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HOLE SIZES:  $\frac{1}{16}$ ,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$   
HOLE CENTERS:  $\frac{1}{16}$ ,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$

DO NOT SCALE PRINTS

CAMBRIA COMMUNITY SERVICE  
DISTRICT EMERGENCY WATER  
SUPPLY PROJECT

TITLE: INFLUENT TANK AND MF FEED PUMP PROCESS & INSTRUMENTATION DIAGRAM		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0290	REVISION 1
SHEET: 1 of 1		

4 3 2 1



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1	22/10/2014	AS BUILT	D.M.	B.K.	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.



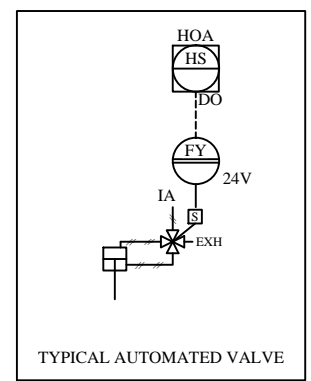
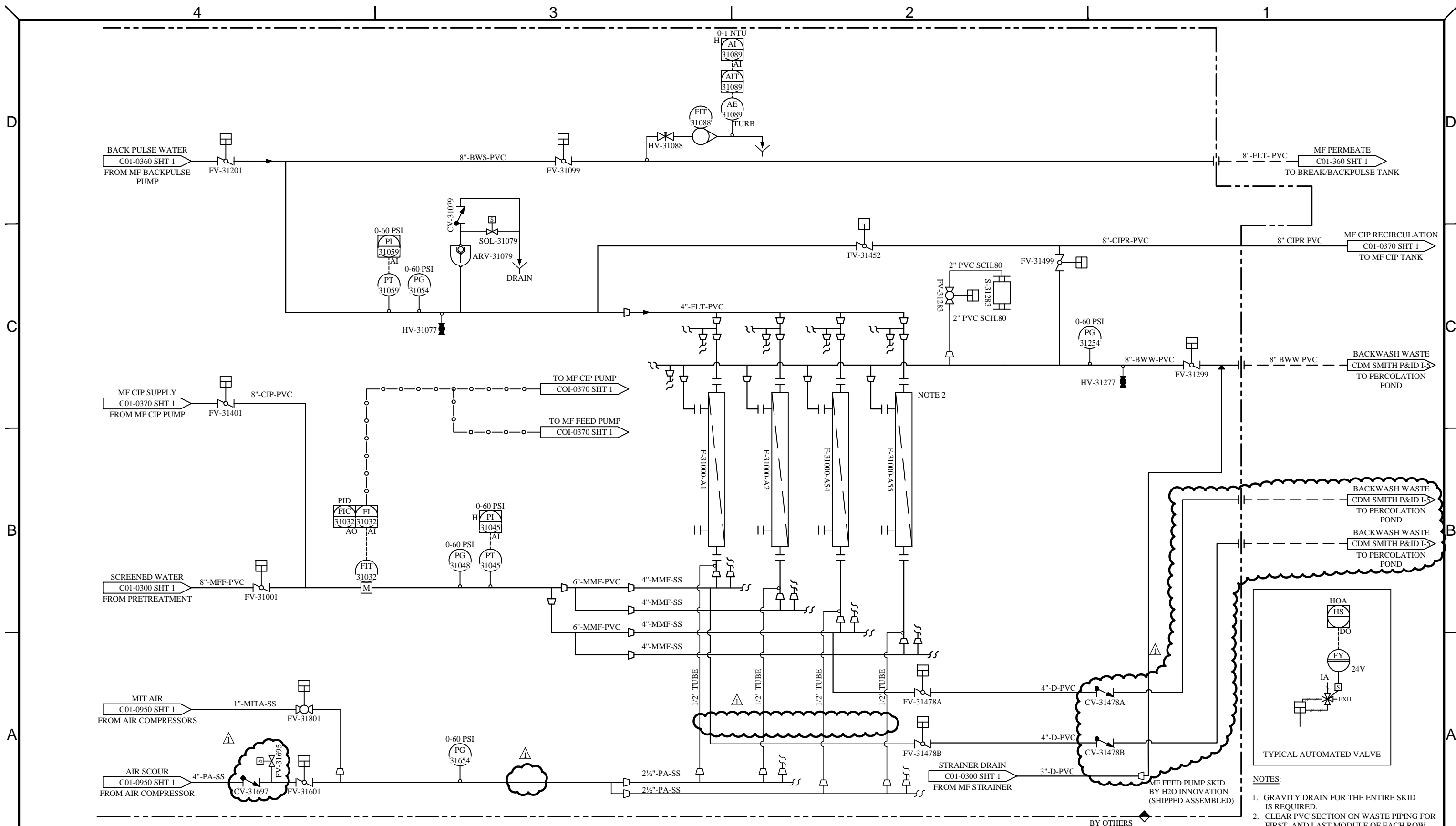
UNLESS NOTED OTHERWISE  
 INTERPRETATION: ANSI Y14.5  
 TOLERANCES: FRACTIONS: 1/16, 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1.0  
 DECIMALS: 0.001, 0.005, 0.010, 0.015, 0.020, 0.030, 0.040, 0.050, 0.060, 0.070, 0.080, 0.090, 0.100  
 ANGLES: 0.001, 0.005, 0.010, 0.015, 0.020, 0.030, 0.040, 0.050, 0.060, 0.070, 0.080, 0.090, 0.100  
 HOLE SIZES: 1/16, 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1.0  
 HOLE CENTERS: 1/16, 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1.0  
 DO NOT SCALE PRINTS

**CAMBRIA COMMUNITY SERVICES  
 DISTRICT EMERGENCY WATER  
 SUPPLY PROJCT**

TITLE: <b>MF STRAINER          PROCESS &amp; INSTRUMENTATION DIAGRAM</b>		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0300	REVISION 1
SHEET: 1 of 1		



Exhibit 2



- NOTES:
- GRAVITY DRAIN FOR THE ENTIRE SKID IS REQUIRED.
  - CLEAR PVC SECTION ON WASTE PIPING FOR FIRST AND LAST MODULE OF EACH ROW.

NOTE:  
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DRAWING REVISION		REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
REV	DATE					
1	22/10/2014	AS BUILT	D.M.	B.K.	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.



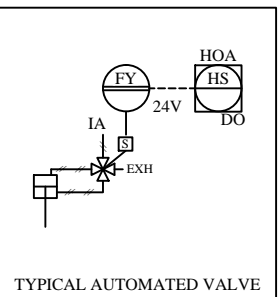
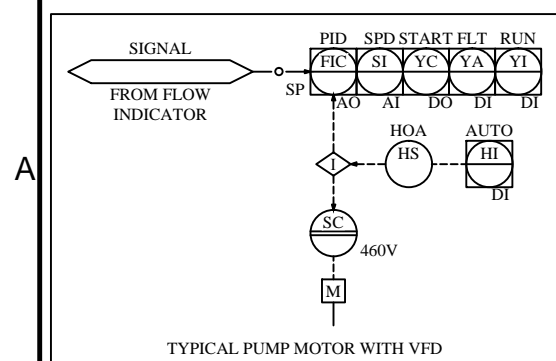
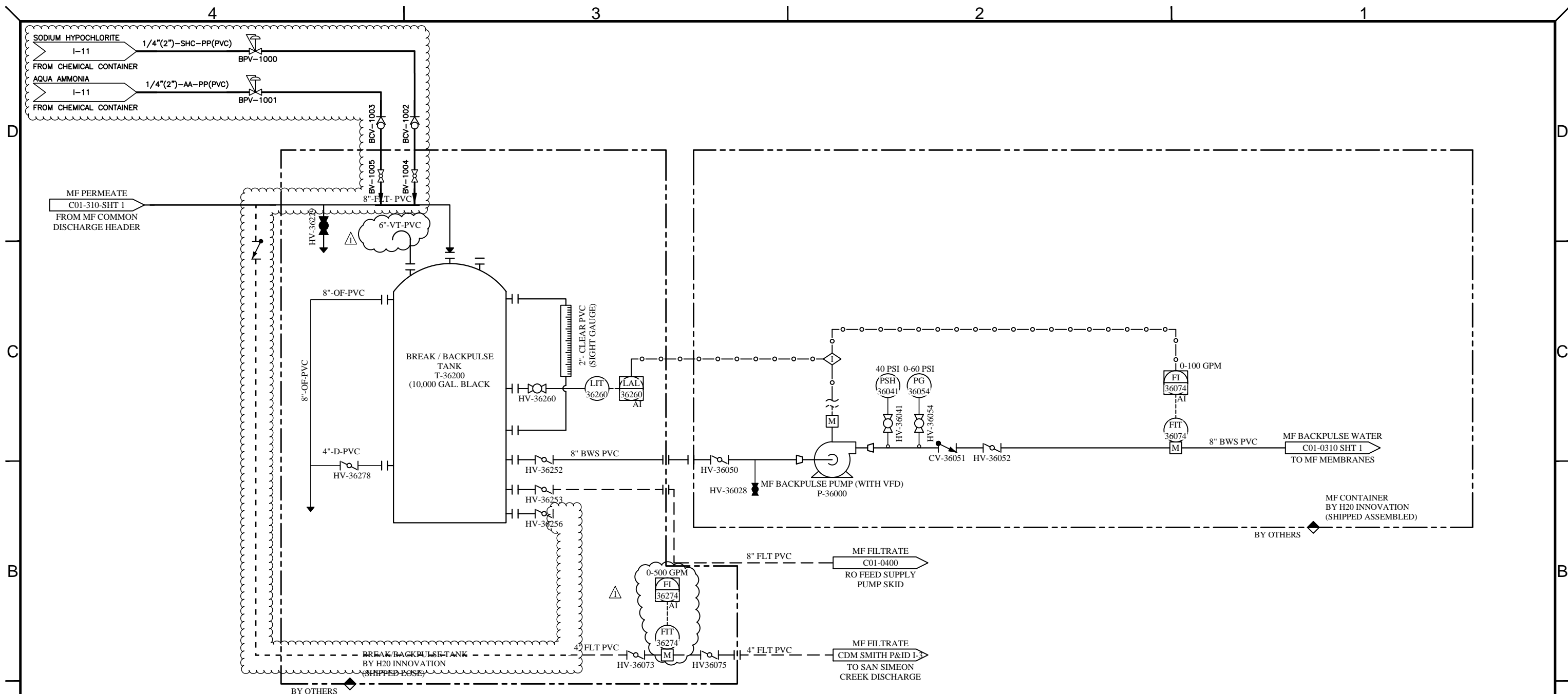
UNLESS NOTED OTHERWISE  
INTERPRETATION:  
ANSI Y14.5

TOLERANCES:  
FRACTIONS: 1/16" ± 0.0030  
DECIMALS: 0.001 ± 0.0015  
ANGLES: 30° ± 0.015  
HOLE SIZES: 1/8" ± 0.0030  
HOLE CENTERS: 1/16" ± 0.0030

DO NOT SCALE PRINTS

CAMBRIA COMMUNITY SERVICES  
DISTRICT EMERGENCY WATER  
SUPPLY PROJCT

TITLE: MF SKID PROCESS & INSTRUMENTATION DIAGRAM		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0310	REVISION 1
SHEET: 1 of 1		



**NOTES:**  
 1. THE BACKPULSE TANK IS LOCATED OUTSIDE THE CONTAINER. ALL VALVES, INSTRUMENTS, AND PIPING ARE SHIPPED LOOSE TO BE INSTALLED BY OTHERS.

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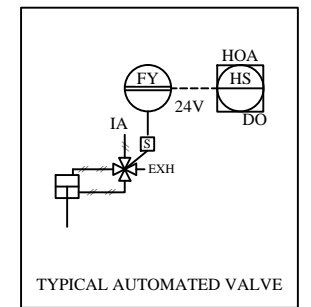
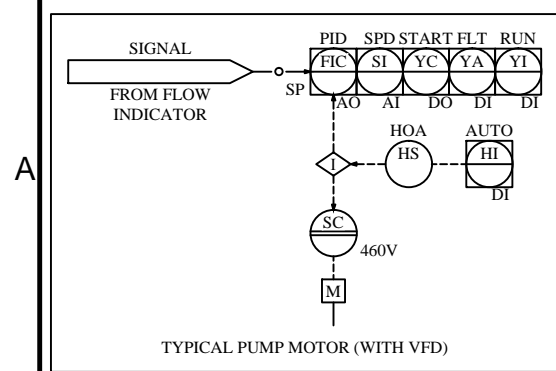
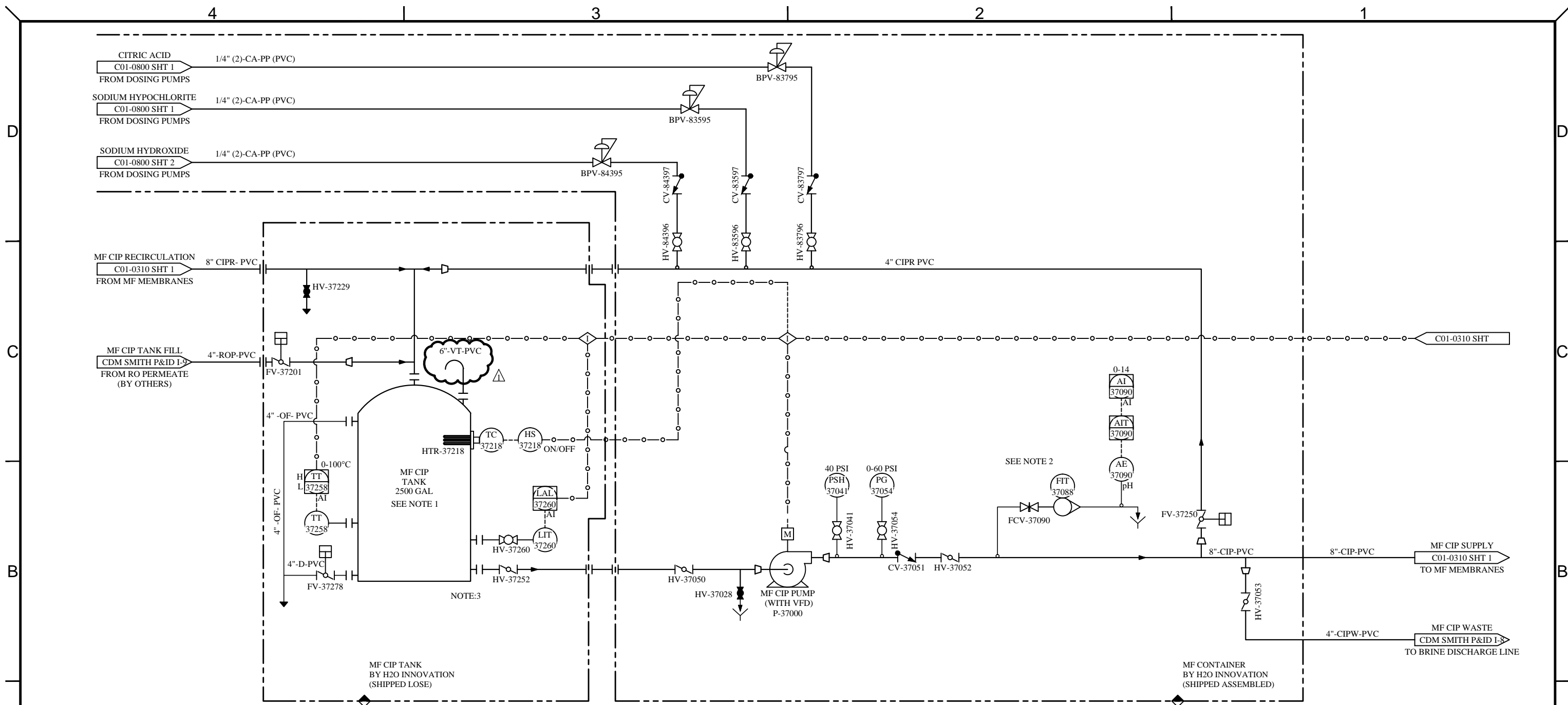
DRAWING REVISION						
REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
1	22/10/2014	AS BUILT	D.M.	B.K.	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.



UNLESS NOTED OTHERWISE  
 INTERPRETATION: ANSI Y14.5  
 TOLERANCES: FRACTIONS: 1/16, 1/8, 3/16, 1/2, 5/8, 3/4, 7/8, 1.0  
 DECIMALS: 0.001, 0.005, 0.010, 0.015, 0.020, 0.030, 0.040, 0.050, 0.060, 0.070, 0.080, 0.090, 0.100  
 ANGLES: 15°, 30°, 45°, 60°, 75°, 90°, 105°, 120°, 135°, 150°, 165°, 180°  
 HOLE SIZES: 1/16, 1/8, 3/16, 1/2, 5/8, 3/4, 7/8, 1.0  
 HOLE CENTERS: 1/16, 1/8, 3/16, 1/2, 5/8, 3/4, 7/8, 1.0  
 DO NOT SCALE PRINTS

**CAMBRIA COMMUNITY SERVICES DISTRICT EMERGENCY WATER SUPPLY PROJECT**

TITLE: <b>BREAK / BACKWASH TANK AND MF BACKWASH PUMP PROCESS &amp; INSTRUMENTATION DIAGRAM</b>		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0360	REVISION: 1
SHEET: 1 of 1		



- NOTES:**
1. THE CIP TANK IS LOCATED OUTSIDE THE CONTAINER. ALL VALVES, INSTRUMENTS, AND PIPING ARE SHIPPED LOOSE TO BE INSTALLED BY OTHERS.
  2. INSTRUMENT TO BE PLUMBED SO IT STAYS FLOODED
  3. ELBOW DOWN IN CIP TANK FOR MF CIP PUMP SUCTION.

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REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
1	22/10/2014	AS BUILT	D.M.	B.K.	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.

**h<sub>2</sub>O Innovation**  
knowledge to share. do your part.

UNLESS NOTED OTHERWISE  
INTERPRETATION: ANSI Y14.5

TOLERANCES:  
FRACTIONS: 1/16" ±0.003  
DECIMALS: 0.001 ±0.005  
ANGLES: 0.001 ±0.01  
HOLE SIZES: 1/16" ±0.005  
HOLE CENTERS: 1/16" ±0.005

DO NOT SCALE PRINTS

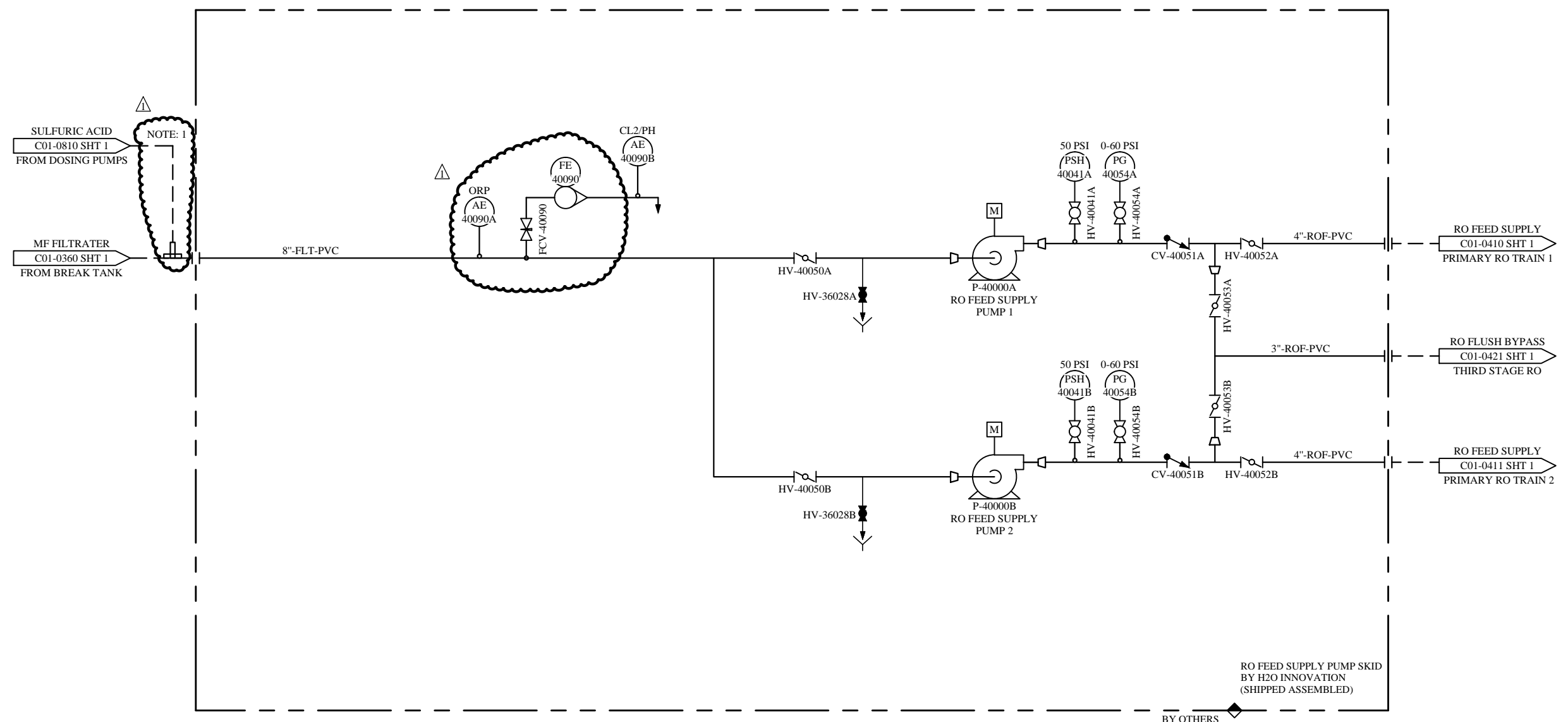
**CAMBRIA COMMUNITY SERVICES  
DISTRICT EMERGENCY WATER  
SUPPLY PROJECT**

TITLE: <b>MF CIP SYSTEM W/ VFD CONTROLLED PUMP PROCESS &amp; INSTRUMENTATION DIAGRAM</b>		REVISION <b>1</b>
SCALE: N/A	DRAWING NUMBER: P15848-C01-0370	SHEET: 1 of 1

4 3 2 1

D  
C  
B  
A

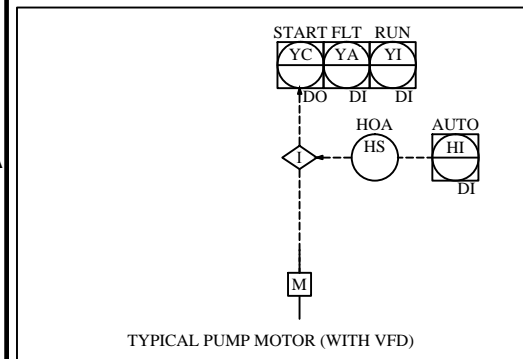
D  
C  
B  
A



RO FEED SUPPLY PUMP SKID  
BY H2O INNOVATION  
(SHIPPED ASSEMBLED)

BY OTHERS

NOTE:  
1. INJECTION PORTS PROVIDED FOR  
CHEMICAL CONNECTION TO BE  
PLUMBED IN THE FIELD



NOTE:  
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DRAWING REVISION						
REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
1	22/10/2014	AS BUILT	D.M.	B.K.	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.

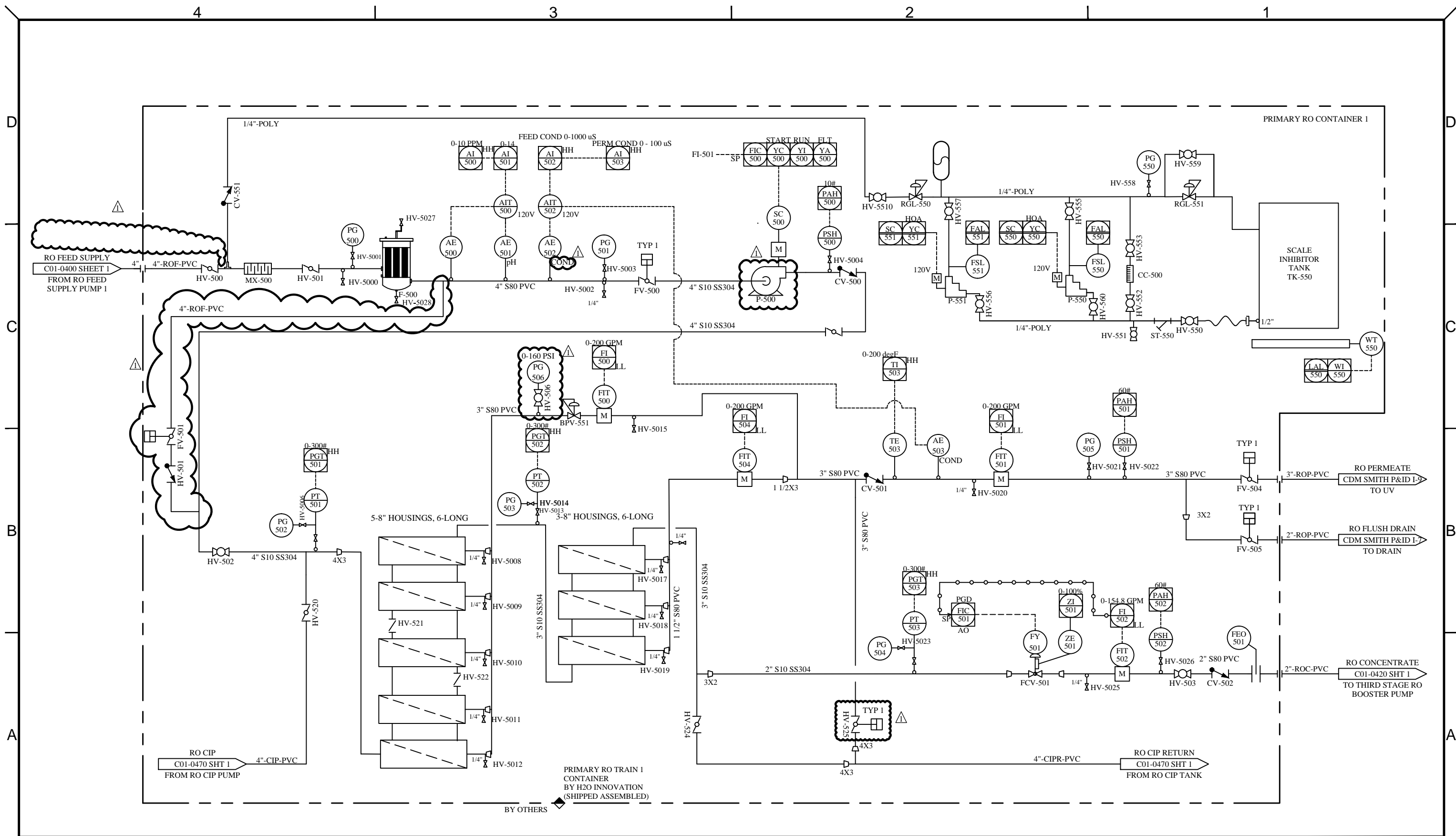


UNLESS NOTED OTHERWISE  
INTERPRETATION: ANSI Y14.5  
TOLERANCES: FRACTIONS: 1/16" - 3/32" DECIMALS: 0.001" - 0.015" ANGLES: 0.001" - 0.015" HOLE SIZES: 0.001" - 0.015" HOLE CENTERS: 0.001" - 0.015"  
DO NOT SCALE PRINTS

CAMBRIA COMMUNITY SERVICES  
DISTRICT EMERGENCY WATER  
SUPPLY PROJECT

TITLE: RO FEED SUPPLY PUMP SKID PROCESS & INSTRUMENTATION DIAGRAM		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0400	REVISION 1
SHEET: 1 of 1		

4 3 2 1



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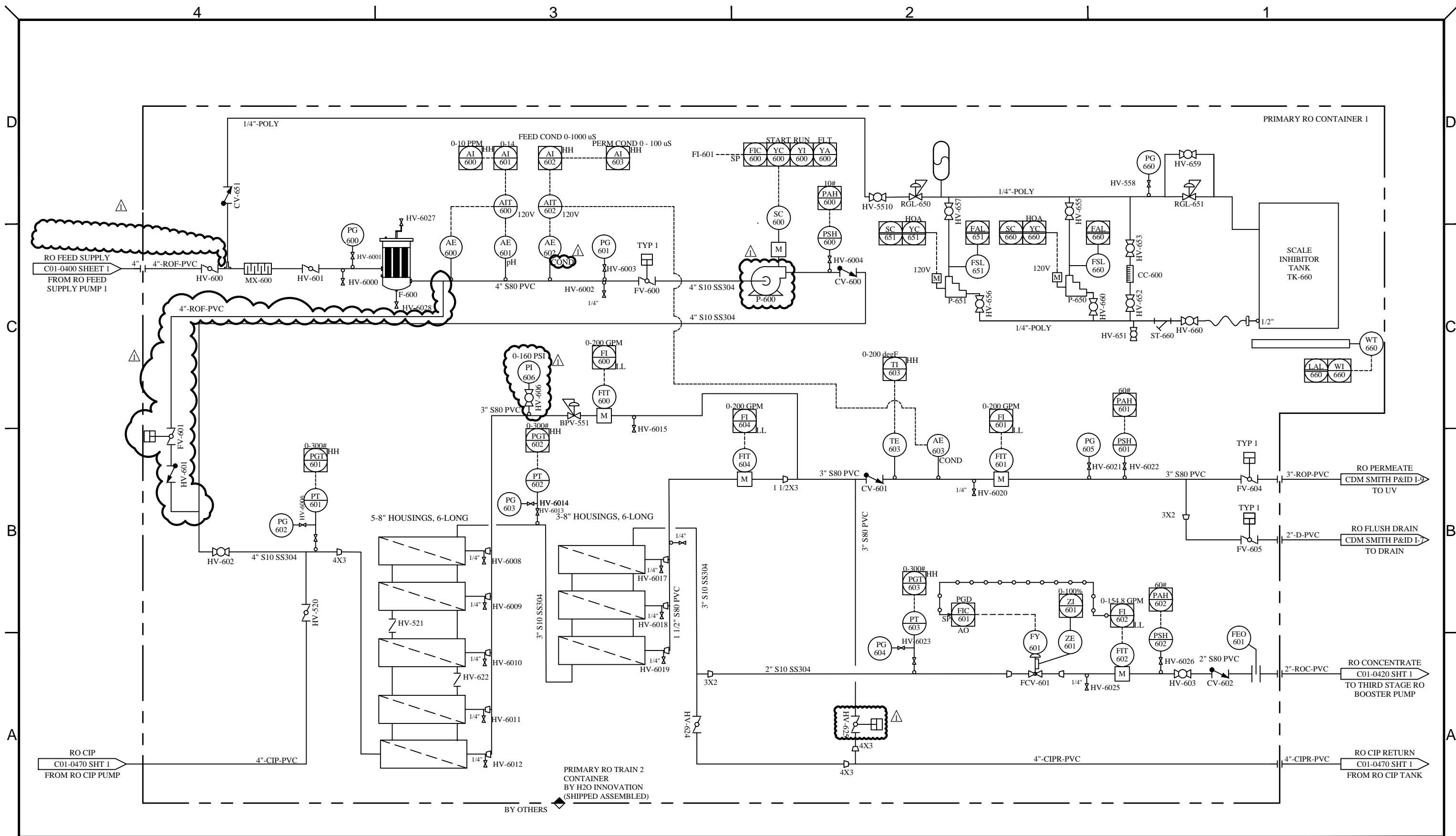
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0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.



UNLESS NOTED OTHERWISE  
 INTERPRETATION:  
 ANSI Y14.5  
 TOLERANCES:  
 FRACTIONS: 1/16, 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/2, 2, 3, 4, 6, 8, 12, 18, 24, 36, 48, 72, 96, 144, 180, 216, 288, 360  
 DECIMALS: 0.001, 0.005, 0.010, 0.015, 0.020, 0.030, 0.040, 0.050, 0.060, 0.070, 0.080, 0.090, 0.100, 0.150, 0.200, 0.250, 0.300, 0.400, 0.500, 0.600, 0.700, 0.800, 0.900, 1.000  
 ANGLES: 15°, 30°, 45°, 60°, 75°, 90°, 105°, 120°, 135°, 150°, 165°, 180°  
 HOLE SIZES: 1/16, 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/2, 2, 3, 4, 6, 8, 12, 18, 24, 36, 48, 72, 96, 144, 180, 216, 288, 360  
 HOLE CENTERS: 1/16, 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/2, 2, 3, 4, 6, 8, 12, 18, 24, 36, 48, 72, 96, 144, 180, 216, 288, 360  
 DO NOT SCALE PRINTS

**CAMBRIA COMMUNITY SERVICES  
 DISTRICT EMERGENCY WATER  
 SUPPLY PROJECT**

TITLE: <b>PRIMARY RO TRAIN 1          PROCESS &amp; INSTRUMENTATION DIAGRAM</b>		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0410	REVISION 1
SHEET: 1 of 1		



**NOTE:**  
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 THE PURPOSE OF THIS DOCUMENT IS TO FACILITATE THE INSTALLATION, MAINTENANCE AND OPERATION OF THE EQUIPMENT REPRESENTED BY SAID PRINT. NO OTHER USE OF THIS DOCUMENT SHALL BE MADE WITHOUT EXPRESS WRITTEN CONSENT FROM H<sub>2</sub>O INNOVATION.

DRAWING REVISION						
REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
1	05/08/2014	AS BUILT	M.C.	B.K.	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.



UNLESS NOTED OTHERWISE  
 INTERPRETATION:  
 ANSI Y14.5

TOLERANCES:  
 FRACTIONS: 1/16" 3/32" 1/8" 3/16" 1/4"  
 DECIMALS: 0.001 0.010 0.020 0.030 0.050 0.100  
 ANGLES: 15° 30° 45° 60° 90° 120° 135° 150° 180°  
 HOLE SIZES: 1/32" 1/16" 3/32" 1/8" 3/16" 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4" 1 1/2" 2" 3" 4" 6" 8" 12"  
 HOLE CENTERS:  
 1/32" 1/16" 3/32" 1/8" 3/16" 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4" 1 1/2" 2" 3" 4" 6" 8" 12"

DO NOT SCALE PRINTS

**CAMBRIA COMMUNITY SERVICES  
 DISTRICT EMERGENCY WATER  
 SUPPLY PROJECT**

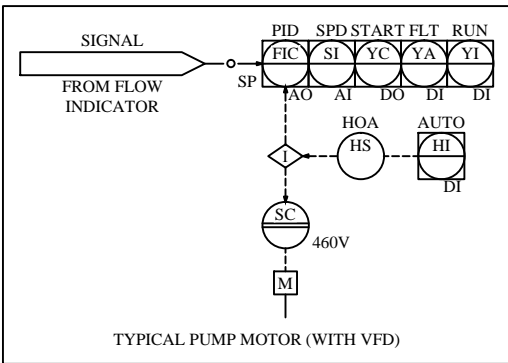
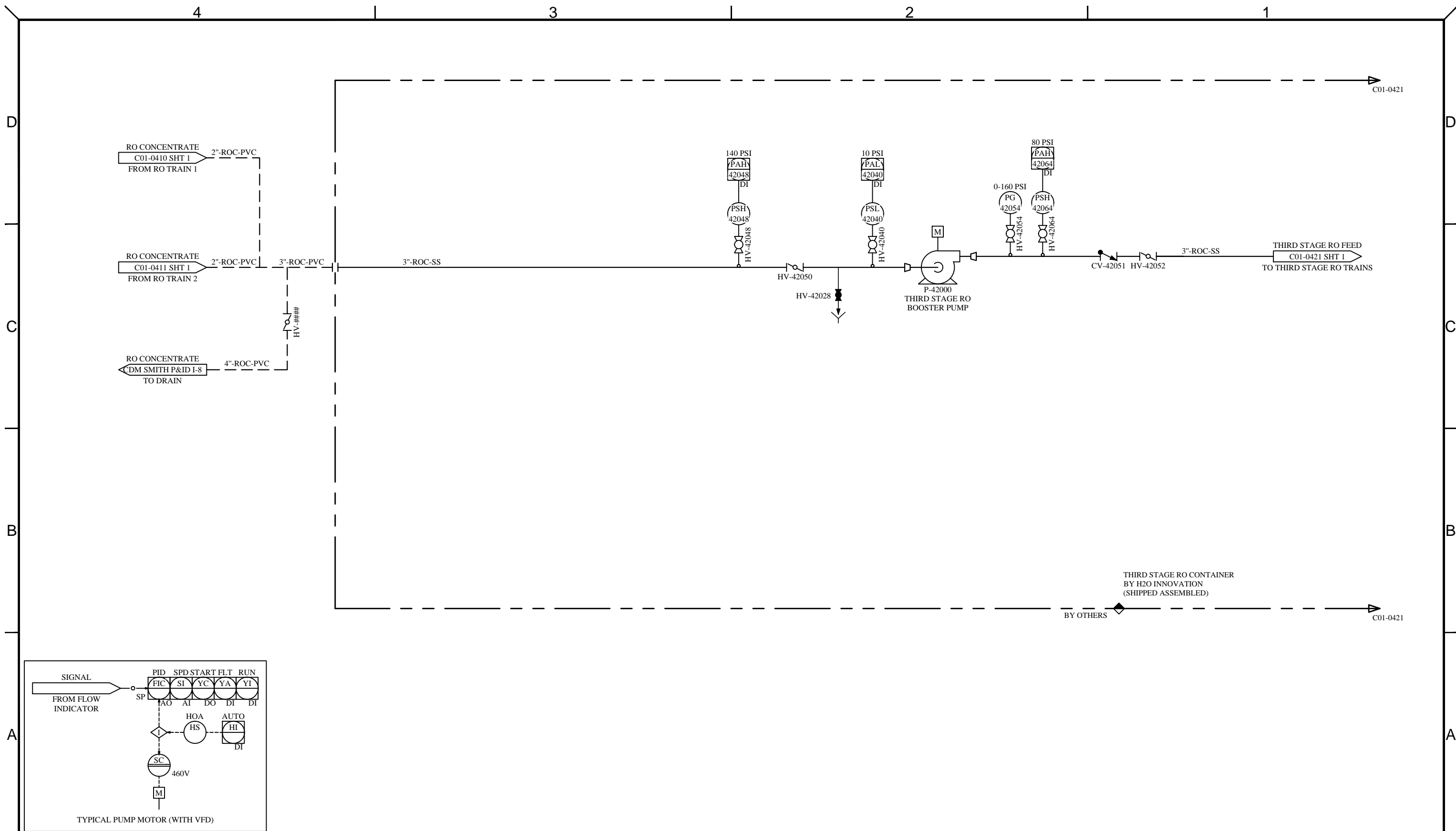
TITLE:  
**PRIMARY RO TRAIN 2  
 PROCESS & INSTRUMENTATION DIAGRAM**

SCALE: N/A

DRAWING NUMBER: P15848-C01-0411

REVISION: 1

SHEET: 1 of 1



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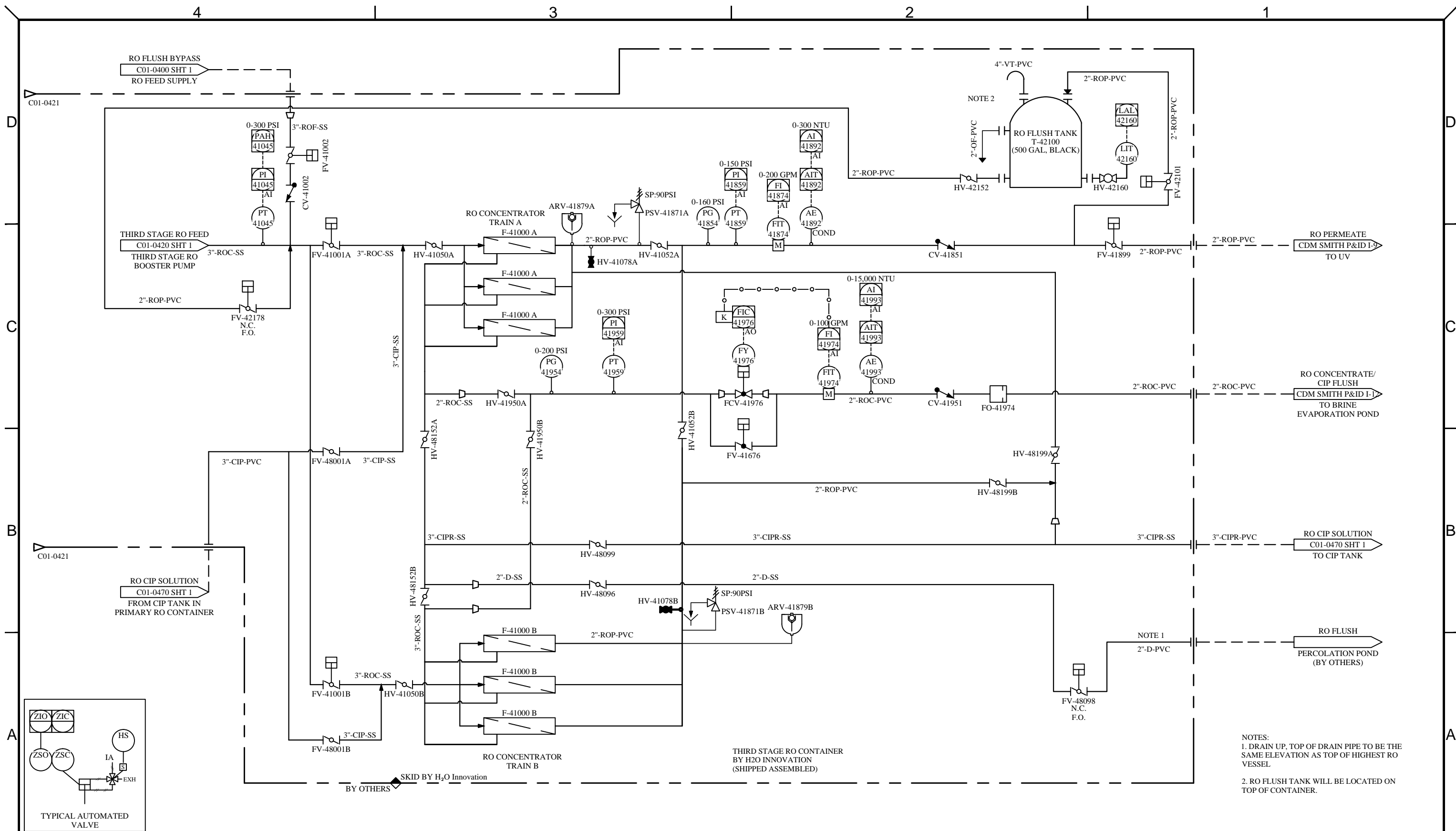
DRAWING REVISION						
REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
1	23/10/2014	AS BUILT	D.M.	B.K.	B.K.	B.K.
0	23/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.



UNLESS NOTED OTHERWISE  
 INTERPRETATION: ANSI Y14.5  
 TOLERANCES:  
 FRACTIONS: 1/16"  
 DECIMALS: 0.0005  
 ANGLES: 0.0001  
 HOLE SIZES: 1/16"  
 HOLE CENTERS: 1/16"  
 DO NOT SCALE PRINTS

**CAMBRIA COMMUNITY SERVEES  
 DISTRICT EMERGENCY  
 SUPPLY PROJECT**

TITLE: <b>THIRD STAGE RO BOOSTER PUMP          PROCESS &amp; INSTRUMENTATION DIAGRAM</b>		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0420	REVISION 1
SHEET: 1 of 1		



NOTES:  
 1. DRAIN UP, TOP OF DRAIN PIPE TO BE THE SAME ELEVATION AS TOP OF HIGHEST RO VESSEL.  
 2. RO FLUSH TANK WILL BE LOCATED ON TOP OF CONTAINER.

**NOTE:**  
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DRAWING REVISION		REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
REV	DATE					
1	23/10/2014	AS BUILT	D.M.	B.K.	B.K.	B.K.
0	23/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.

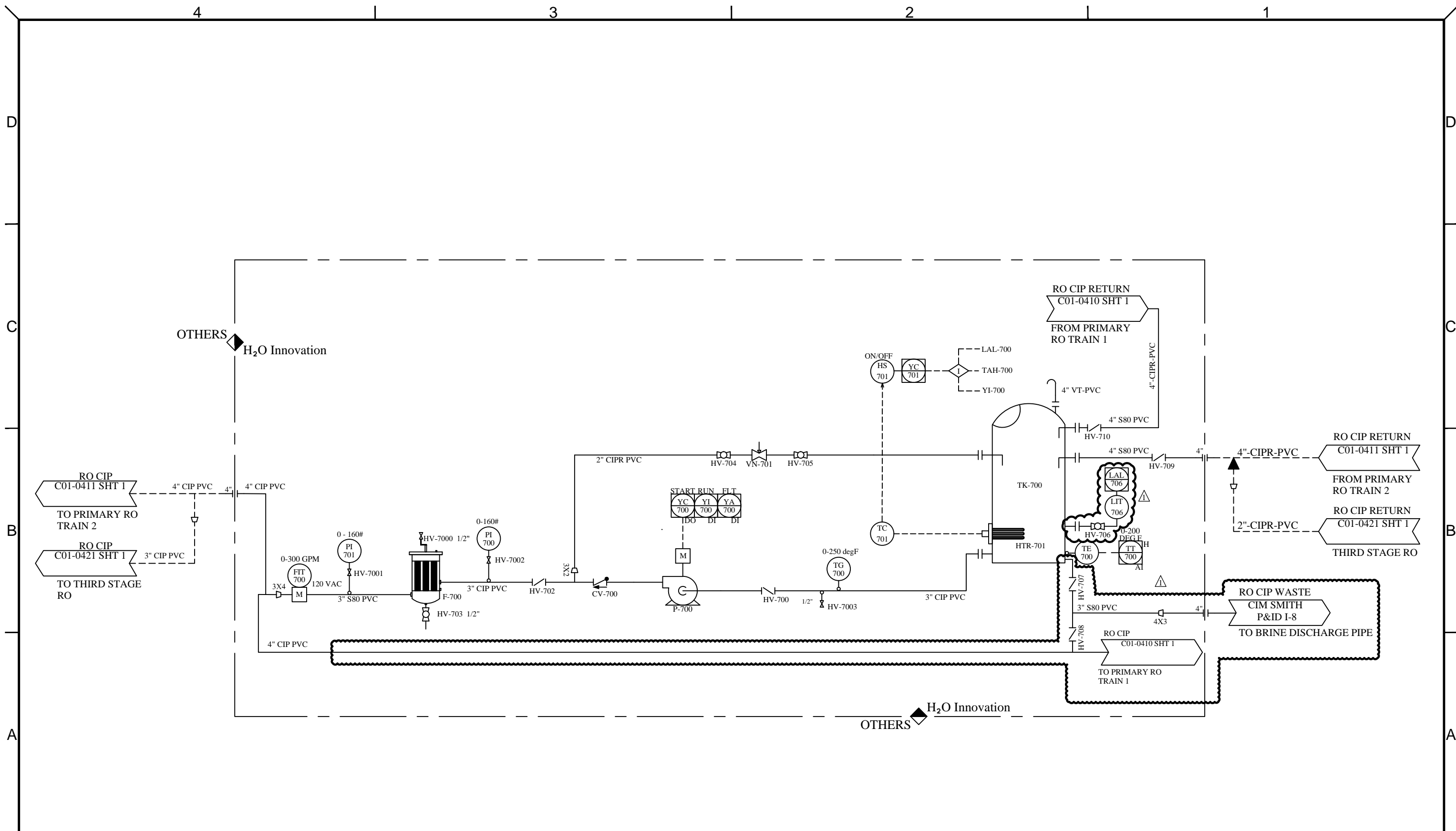


UNLESS NOTED OTHERWISE  
 INTERPRETATION:  
 ANSI Y14.5  
 TOLERANCES:  
 FRACTIONS: 1/16" 1/32" 1/64"  
 DECIMALS: 0.001" 0.005" 0.015" 0.030"  
 ANGLES: 0.001" 0.005" 0.015" 0.030"  
 HOLE SIZES:  
 HOLE CENTERS:  
 DO NOT SCALE PRINTS

**CAMBRIA COMMUNITY SERVICES  
 EMERGENCY WATER  
 SUPPLY PROJECT**

TITLE: <b>THIRD STAGE RO          PROCESS &amp; INSTRUMENTATION DIAGRAM</b>		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0421	REVISION 1
SHEET: 1 of 1		





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DRAWING REVISION		REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
REV	DATE					
1	05/08/2014	AS BUILT	M.C.	B.K.	B.K.	B.K.
0	23/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.



UNLESS NOTED OTHERWISE  
 INTERPRETATION:  
 ANSI Y14.5  
 TOLERANCES:  
 FRACTIONS: 1/4, 1/8, 3/16, 1/32  
 DECIMALS: 0.001, 0.005, 0.015, 0.030  
 ANGLES: 0.001, 0.015, 0.030  
 HOLE SIZES: 1/16, 1/8, 3/16, 1/4  
 HOLE CENTERS: 1/16, 1/8, 3/16, 1/4  
 DO NOT SCALE PRINTS

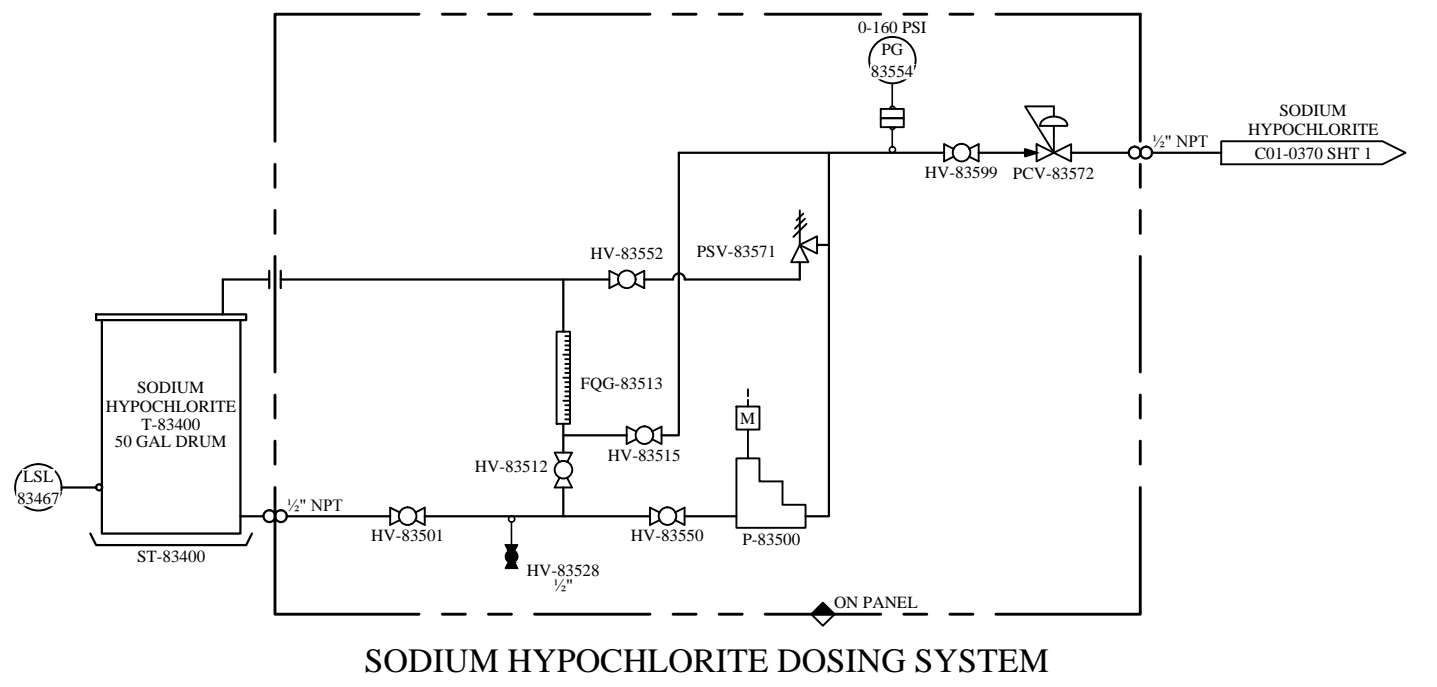
**CAMBRIA COMMUNITY SERVICES  
 EMERGENCY WATER  
 SUPPLY PROJECT**

TITLE: <b>RO CIP SYSTEM          PROCESS &amp; INSTRUMENTATION DIAGRAM</b>		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0470	REVISION 1
SHEET: 1 of 1		

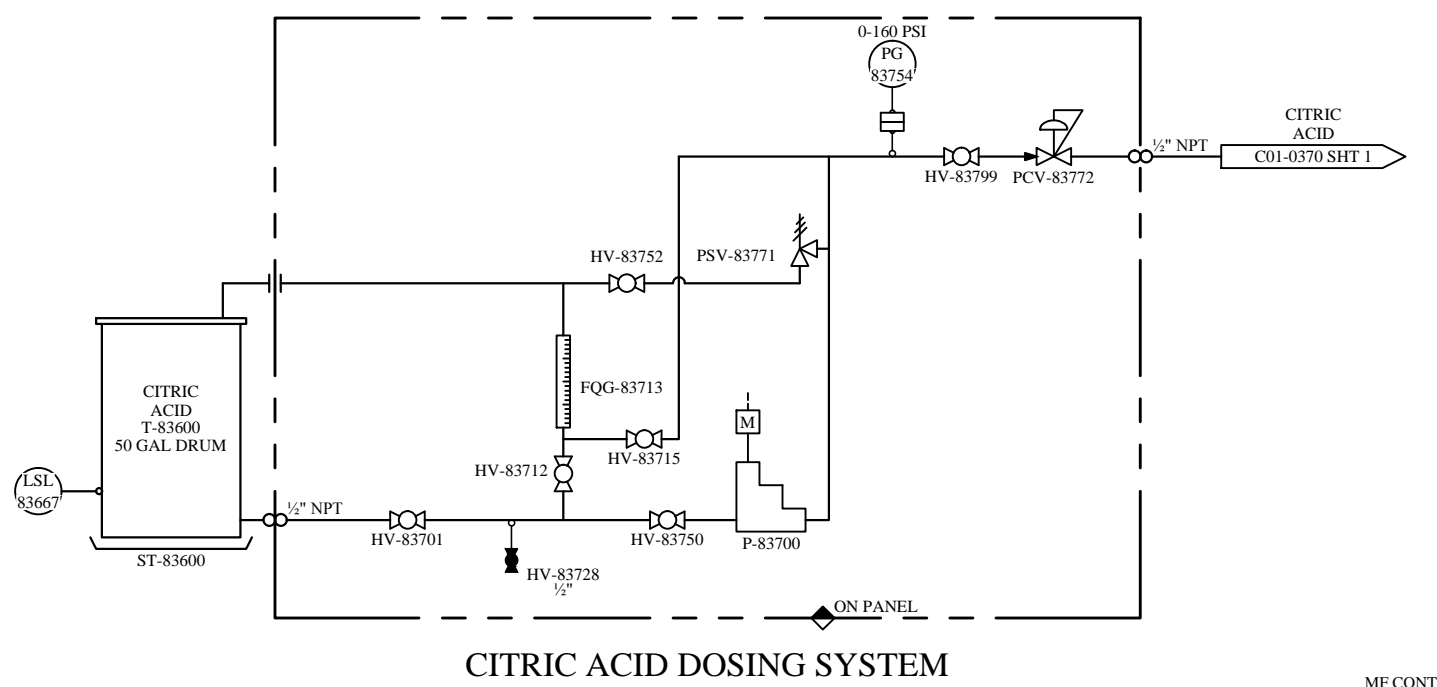
4 3 2 1

D  
C  
B  
A

D  
C  
B  
A



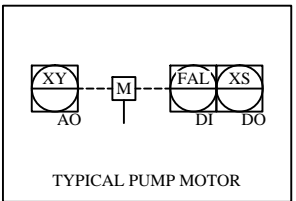
SODIUM HYPOCHLORITE DOSING SYSTEM



CITRIC ACID DOSING SYSTEM

MF CONTAINER  
BY H2O INNOVATION  
(SHIPPED ASSEMBLED)

BY OTHERS



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DRAWING REVISION		DRAWN	CHKD	ENG	APPVD
REV	DATE (DD/M/YYYY)	REVISION DESCRIPTION			
1	23/10/2014	AS BUILT	D.M.	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.

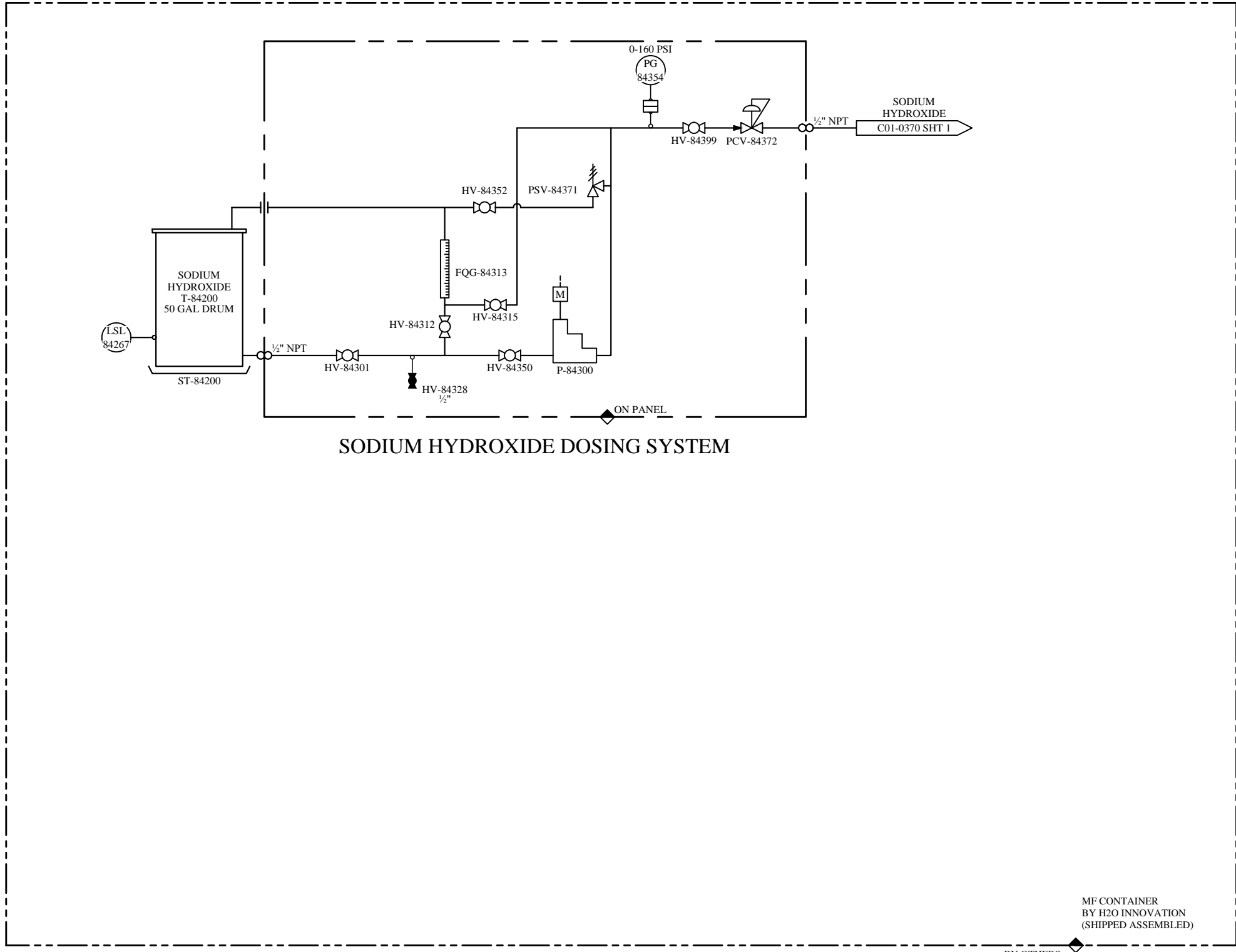


UNLESS NOTED OTHERWISE  
INTERPRETATION: ANSI Y14.5  
TOLERANCES: FRACTIONS: 1/16" - 1/8" DECIMALS: 0.001" - 0.015" ANGLES: 0.001" - 0.015" HOLE SIZES: 0.001" - 0.015" HOLE CENTERS: 0.001" - 0.015"  
DO NOT SCALE PRINTS

CAMBRIA COMMUNITY SERVICES  
DISTRICT EMERGENCY  
SUPPLY PROJECT

TITLE: MF CLEANING CHEMICALS PROCESS & INSTRUMENTATION DIAGRAM		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0800	REVISION 1
SHEET: 1 of 2		

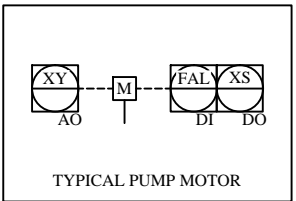
4 3 2 1



SODIUM HYDROXIDE DOSING SYSTEM

MF CONTAINER  
BY H2O INNOVATION  
(SHIPPED ASSEMBLED)

BY OTHERS



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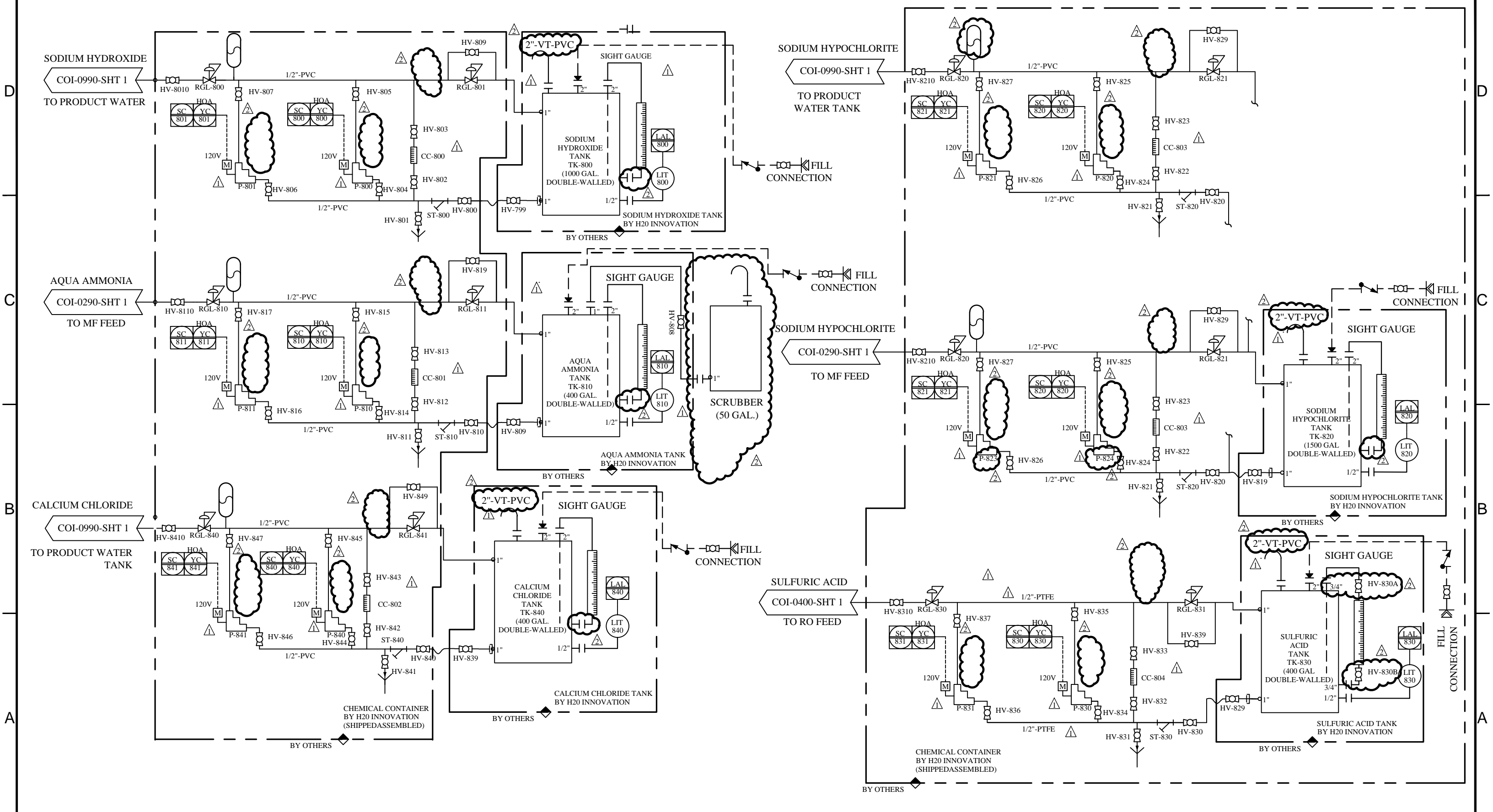
DRAWING REVISION						
REV	DATE (DD/M/YYYY)	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
1	23/10/2014	AS BUILT	D.M.	B.K.	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.



UNLESS NOTED OTHERWISE  
INTERPRETATION: ANSI Y14.5  
TOLERANCES: FRACTIONS: 1/16, 1/32, 1/64, 3/32, 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1.0  
DECIMALS: 0.001, 0.005, 0.010, 0.015, 0.020, 0.030, 0.040, 0.050, 0.060, 0.070, 0.080, 0.090, 0.100, 0.125, 0.150, 0.175, 0.200, 0.250, 0.300, 0.375, 0.450, 0.500, 0.625, 0.750, 0.875, 1.000  
ANGLES: 0.001, 0.005, 0.010, 0.015, 0.020, 0.030, 0.040, 0.050, 0.060, 0.070, 0.080, 0.090, 0.100, 0.125, 0.150, 0.175, 0.200, 0.250, 0.300, 0.375, 0.450, 0.500, 0.625, 0.750, 0.875, 1.000  
HOLE SIZES: 0.001, 0.005, 0.010, 0.015, 0.020, 0.030, 0.040, 0.050, 0.060, 0.070, 0.080, 0.090, 0.100, 0.125, 0.150, 0.175, 0.200, 0.250, 0.300, 0.375, 0.450, 0.500, 0.625, 0.750, 0.875, 1.000  
HOLE CENTERS: 0.001, 0.005, 0.010, 0.015, 0.020, 0.030, 0.040, 0.050, 0.060, 0.070, 0.080, 0.090, 0.100, 0.125, 0.150, 0.175, 0.200, 0.250, 0.300, 0.375, 0.450, 0.500, 0.625, 0.750, 0.875, 1.000  
DO NOT SCALE PRINTS

CAMBRIA COMMUNITY SERVICES  
DISTRICT EMERGENCY  
SUPPLY PROJECT

TITLE: MF CLEANING CHEMICALS PROCESS & INSTRUMENTATION DIAGRAM		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0800	REVISION 1
SHEET: 2 of 2		



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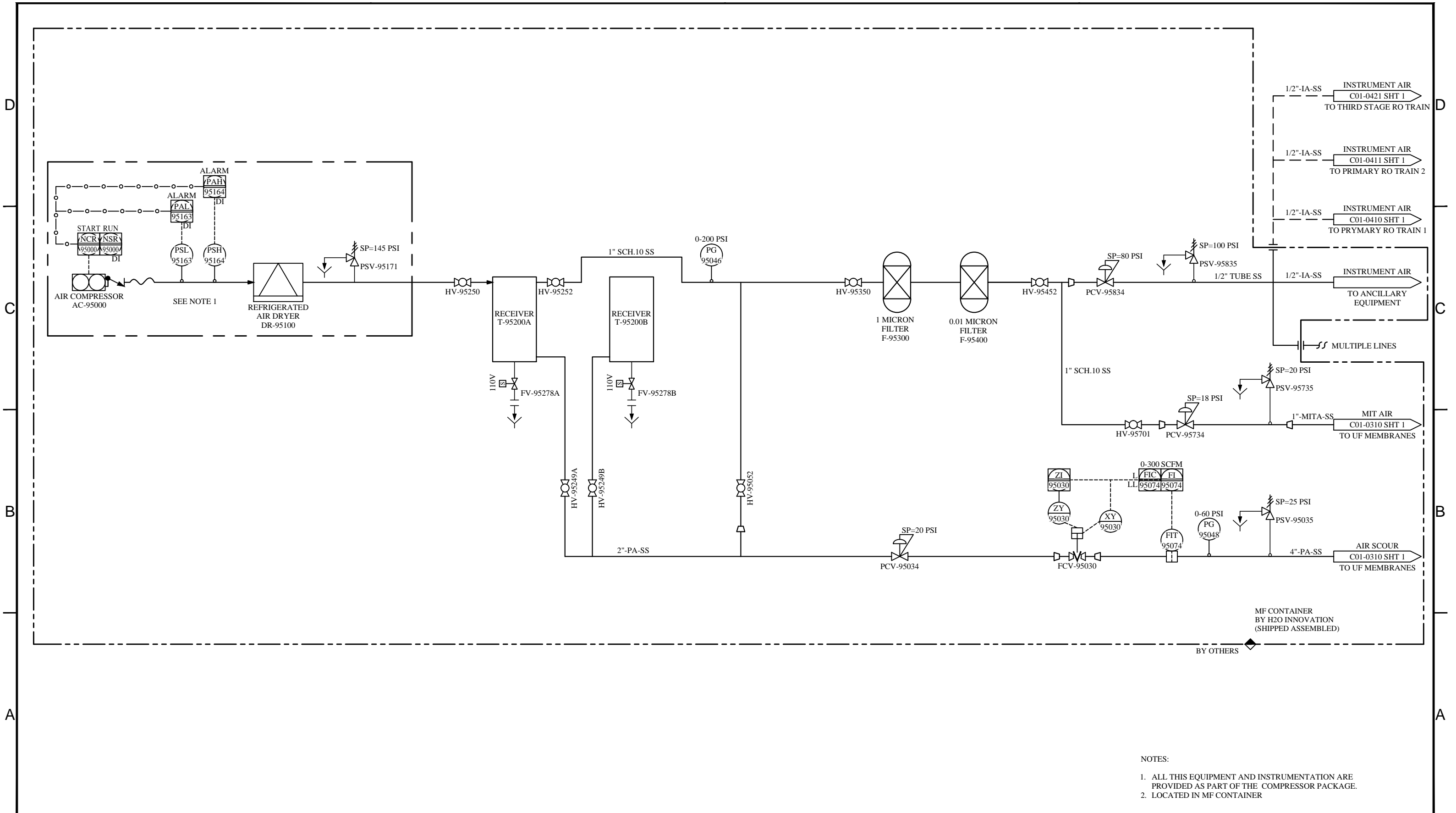
DRAWING REVISION						
REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
2	22/09/2014	AS BUILT	DM	SL	B.K.	B.K.
1	09/09/2014	MODIFICATIONS TO ORIGINAL DESIGN	BG	SL	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.



UNLESS NOTED OTHERWISE  
 INTERPRETATION: ANSI Y14.5  
 TOLERANCES: FRACTIONS: 45°  
 DECIMALS: 0.001  
 ANGLES: 0.01°  
 HOLE SIZES: 45°  
 HOLE CENTERS: 45°  
 DO NOT SCALE PRINTS

**CAMBRIA COMMUNITY SERVICES  
 DISTRICT EMERGENCY  
 SUPPLY PROJECT**

TITLE: <b>BULK CHEMICAL SYSTEMS          PROCESS &amp; INSTRUMENTATION DIAGRAM</b>		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0810	REVISION 2
SHEET: 2 of 1		



- NOTES:
1. ALL THIS EQUIPMENT AND INSTRUMENTATION ARE PROVIDED AS PART OF THE COMPRESSOR PACKAGE.
  2. LOCATED IN MF CONTAINER

**NOTE:**  
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 THE PURPOSE OF THIS DOCUMENT IS TO FACILITATE THE INSTALLATION, MAINTENANCE AND OPERATION OF THE EQUIPMENT REPRESENTED BY SAID PRINT. NO OTHER USE OF THIS DOCUMENT SHALL BE MADE WITHOUT EXPRESS WRITTEN CONSENT FROM H<sub>2</sub>O INNOVATION.

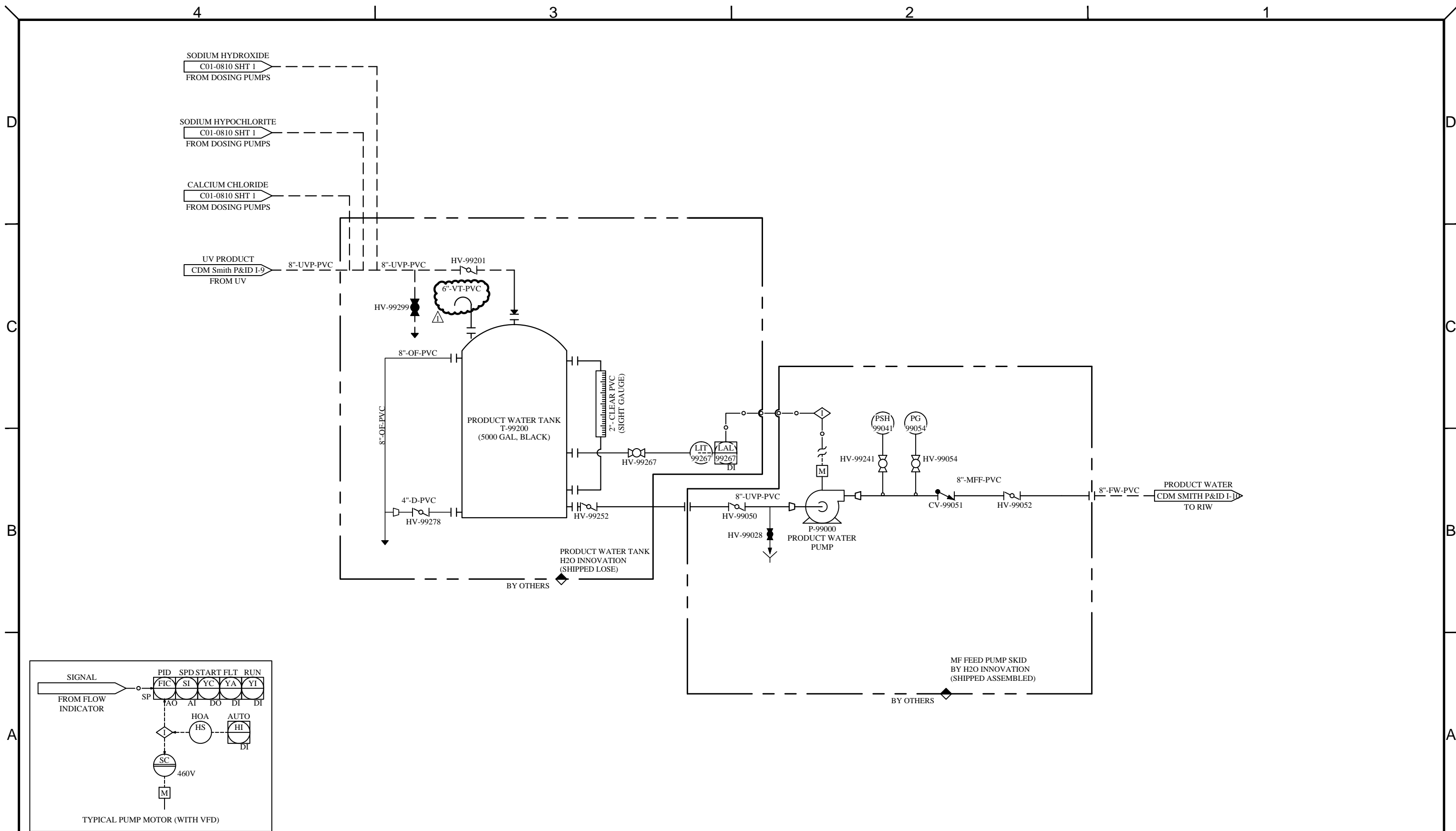
DRAWING REVISION						
REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
1	23/10/2014	AS BUILT	D.M.	B.K.	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.



UNLESS NOTED OTHERWISE  
 INTERPRETATION: AND Y14.5  
 TOLERANCES: #/100  
 FRACTIONS: #/100  
 DECIMALS: 0.XX: ±0.005  
 0.XXX: ±0.015  
 ANGLES: ±0.5°  
 HOLE SIZES: #/16"  
 HOLE CENTERS: #/16"  
 DO NOT SCALE PRINTS

**CAMBRIA COMMUNITY SERVICES  
 DISTRICT EMERGENCY WATER  
 SUPPLY PROJECT**

TITLE: <b>AIR COMPRESSOR SYSTEM          PROCESS &amp; INSTRUMENTATION DIAGRAM</b>		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0950	REVISION <b>1</b>
SHEET: 1 of 1		



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DRAWING REVISION						
REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
1	22/10/2014	AS BUILT	D.M.	B.K.	B.K.	B.K.
0	27/07/2014	INITIAL RELEASE	M.P.	B.K.	B.K.	B.K.

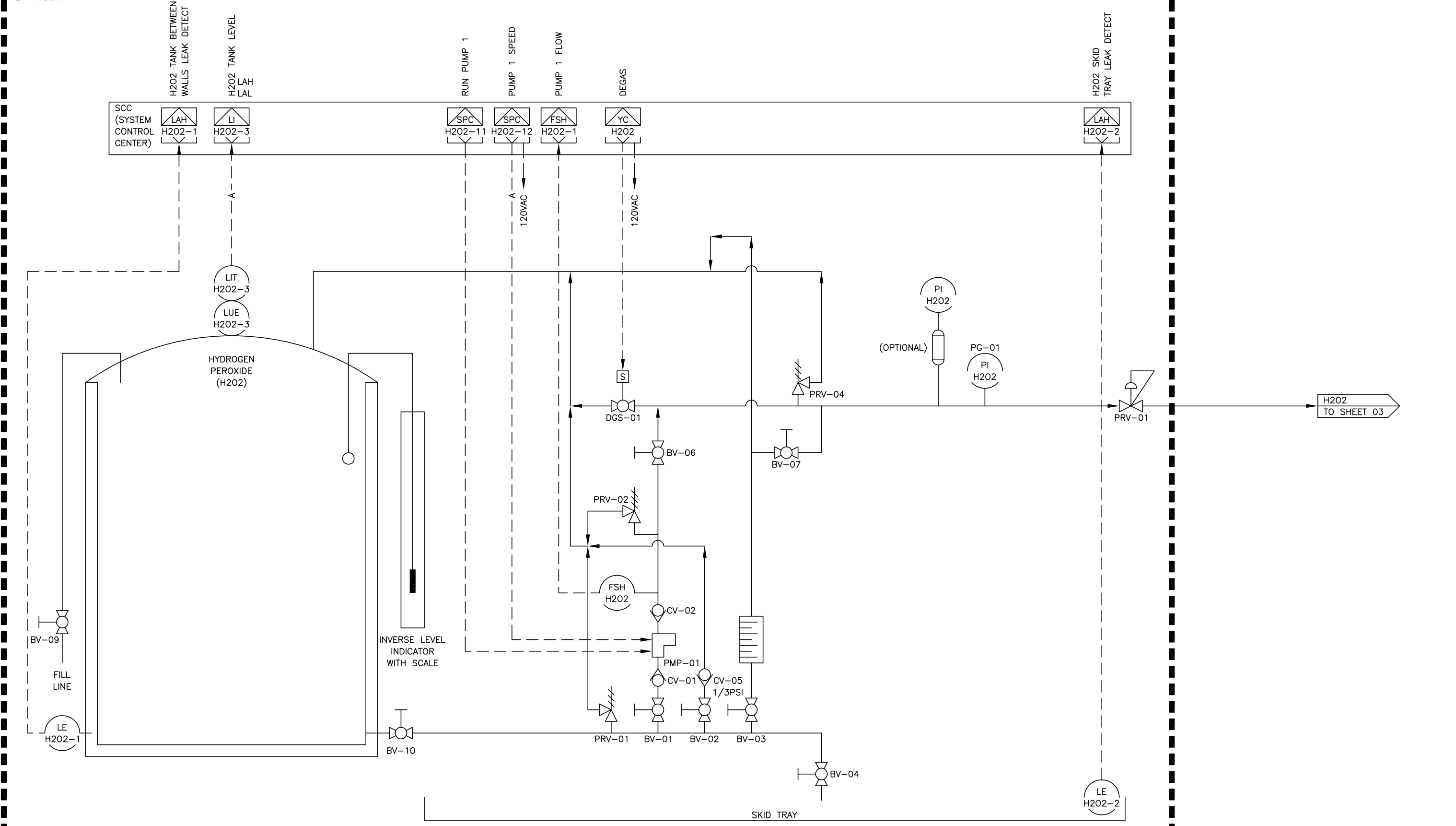


UNLESS NOTED OTHERWISE  
 INTERPRETATION: ANSI Y14.5  
 TOLERANCES:  
 FRACTIONS: 1/16" - 3/16"  
 DECIMALS: 0.001" - 0.010"  
 ANGLES: 0.001" - 0.010"  
 HOLE SIZES: 1/16" - 3/16"  
 HOLE CENTERS: 1/16" - 3/16"  
 DO NOT SCALE PRINTS

**CAMBRIA COMMUNITY SERVICES  
 DISTRICT EMERGENCY WATER  
 SUPPLY PROJECT**

TITLE: PRODUCT WATER TANK AND PUMP STATION PROCESS & INSTRUMENTATION DIAGRAM		
SCALE: N/A	DRAWING NUMBER: P15848-C01-0990	REVISION 1
SHEET: 1 of 1		

BY OTHERS  
BY TROJAN



BY TROJAN  
BY OTHERS

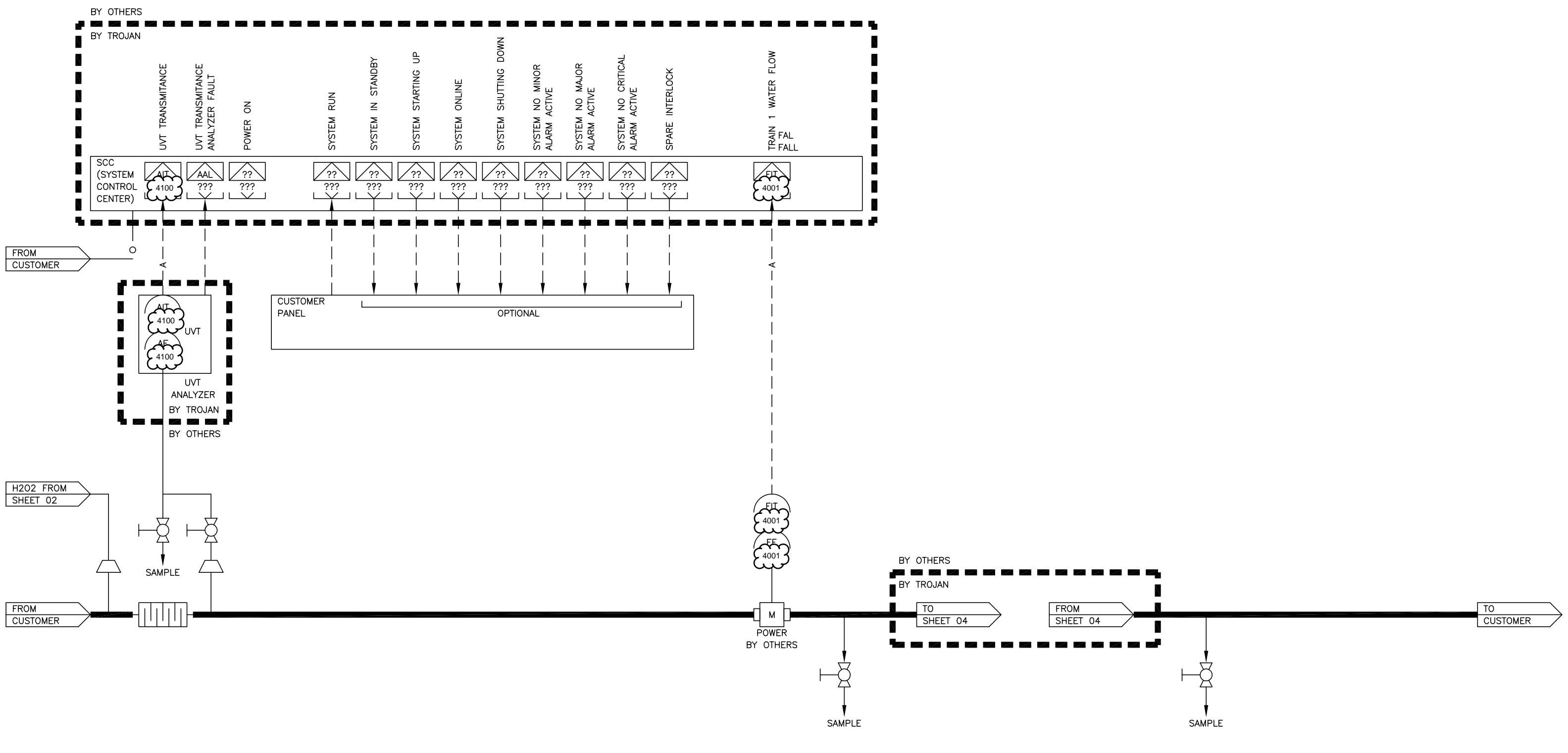
EMERGENCY WATER SYSTEM

**PRELIMINARY**  
NOT FOR CONSTRUCTION



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DESCRIPTION		P&ID, CAMBRIA EWS CA SYSTEM LAYOUT	
0	0.5	1.0	1.0
1.0"	ON ORIGINAL DWG	SCALE:	NTS
REVISOR	DATE	APPROVED	DATE
BY HHG	2014-07-18	BY HHG	2014-07-18
DWG NO.	932536	SHEET	02 OF 04
REV	01	SIZE	D

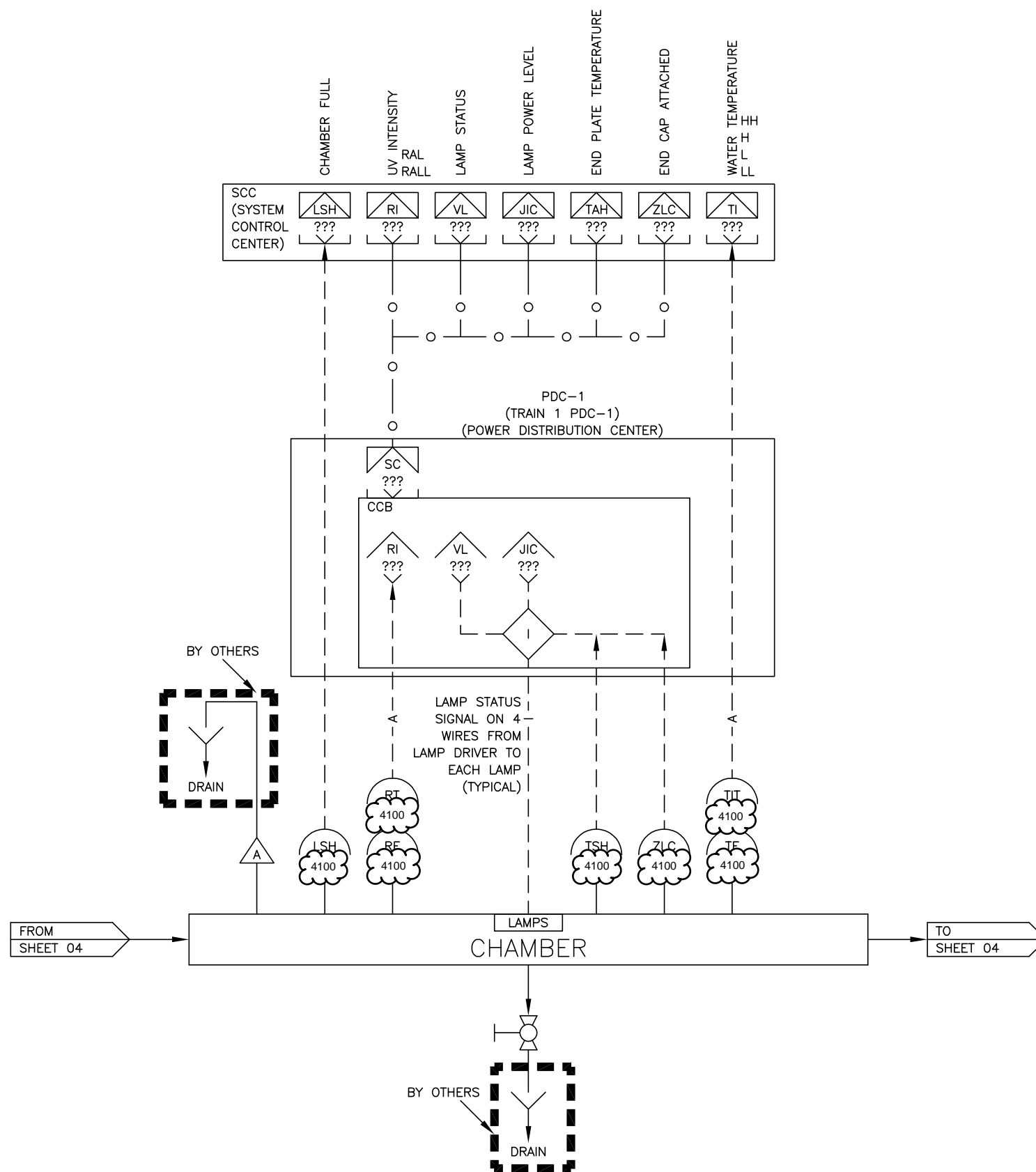


**PRELIMINARY**  
NOT FOR CONSTRUCTION

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DESCRIPTION			
EMERGENCY WATER SYSTEM			
P&ID, CAMBRIA EWS CA SYSTEM LAYOUT			
0	0.5	1.0	REVISED BY HHG
1.0" ON ORIGINAL DWG			CHECKED BY MLP
SCALE: NTS			APPROVED BY HHG
APPROVAL DATE 2014-07-18			DWG NO. 932519
SHEET 03 OF 04			REV 01





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EMERGENCY WATER SYSTEM			
DESCRIPTION P&ID, CAMBRIA EWS CA TRAIN LAYOUT			
0 0.5 1.0 1.0" ON ORIGINAL DWG SCALE: NTS	REVISIONS REVISOR: HHG CHECKED BY: MLP APPROVED BY: HHG APPROVAL DATE: 2014-07-18	DWG NO. 932536 SHEET 04 OF 04	REV 01 SIZE D