

McKinleyville Community Services District



ANNUAL WASTEWATER MANAGEMENT FACILITY MONITORING & DISCHARGE REPORT FOR 2014

NPDES No. CA0024490
WDID No. 1B820840HUM

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March 1, 2015

Regional Water Quality Control Board, North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, California 95403

**McKINLEYVILLE COMMUNITY SERVICES DISTRICT
WASTEWATER MANAGEMENT FACILITY ANNUAL REPORT, FOR 2014**

The McKinleyville Community Services District operates the wastewater collection, treatment, and disposal facilities that serve 6391 customer units in the unincorporated area of McKinleyville in Northern Humboldt County. The system operates under Order Number WQ 2011-0008-DWQ, National Pollution Discharge Elimination System (NPDES) Permit No. CA0024490, WDID No. 1B820840HUM and issued by the California State Water Resources Control Board.

Tables 1 and 2 summarize the existing permit elements for reference.

Table 1. Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	45	65			
	lbs/day	604	873			
Total Suspended Solids	mg/L	83				
	lbs/day	1108				
pH	pH Units				6.5	8.5
Settleable Matter	mg/L	0.1		0.2		
Chlorine Residual	mg/L	0.01		0.02		
Nitrate as Nitrogen	mg/L	10				
4,4'-DDT	ug/L	0.00059		0.0027		
bis(2-ethylhexyl) phthalate	ug/L	1.8		3.6		

Table 2. Summary of Monitoring Location Names and Descriptions.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
	M-INF	Treatment facility headworks
All	M-001	Chlorine contact chamber following dechlorination
001	M-002	Outfall to the Mad River under the Hammond Trail railroad bridge
002	M-003	Outfall to Mad River percolation ponds
003	M-004	Recycled wastewater irrigation of Lower Fisher Ranch
004	M-005	Discharge to land on Upper Fisher Ranch
005	M-006	Recycled wastewater irrigation of Hiller Storm Water Treatment Wetland
006	M-007	Recycled wastewater irrigation of Pialorsi Ranch
	M-008	Overflow from the Hiller Storm Water Treatment Wetland
	R-001	Mad River at Highway 101 Bridge
	R-002	North bank of Mad River as close as possible to the discharge point under the Hammond Trail Bridge
	W-001	Well M-1 adjacent to Fisher Road
	W-002	Well M-2 on the SW corner of the intersection of School and Fisher Roads
	W-006	Well M-6 south of W-9 and west of W-7
	W-007	Well M-7 in the upper portion of the Fisher parcel
	W-008	Well M-8 400 feet west of the intersection of School and Fisher Roads
	W-009	Well M-9 adjacent to School Road
	W-014	Well down gradient of the Hiller Storm Water Treatment Wetlands
	W-015	Well within the Lower Fisher Ranch irrigation area
	W-016	Well within the Pialorsi Ranch irrigation area

Compliance:

Biochemical Oxygen Demand (BOD) Testing:

Discharge Point 001 requirement for BOD are 45 mg/L, 604 lbs/day and 65% removal for the monthly average and a weekly average limit of 65 mg/L and 873 lbs/day. Discharge Point 002 requirement for BOD is 45 mg/L monthly average and a weekly average limit of 65 mg/L. Discharge Point 003- 006 requirements for BOD are 45 mg/L monthly.

BOD limitations for 2014 were not exceeded.

Total Suspended Solids Testing (TSS):

Discharge Point 001 requirement for TSS is 83 mg/L, 1108 lbs/day and 65% removal for the monthly average. Discharge Points 002- 006 requirements are 83 mg/L for the monthly average.

TSS limitations for 2014 were not exceeded.

3x5 Total Coliform/ Disinfection Testing:

The effluent limitations for coliform 3x5 testing is a maximum monthly median, a most probable number (MPN) of 23 per 100 milliliters and a daily maximum of 230 MPN and are the same for Discharge Point 001- 006. Coliform limitations for Monthly Median and Daily Maximum were in compliance in 2014.

Settleable Matter Testing:

The effluent limitations for settleable Matter testing are listed in Table 1 and are for Discharge Point 001. Settable Matter limitations for 2014 were not exceeded.

Chlorine Residual Testing:

The effluent limitations for Chlorine Residual testing are listed in Tables 1 and are for Discharge Point. Residual limitations for 2014 were not exceeded.

Nitrate as Nitrogen Testing:

The effluent limitations for Nitrate as Nitrogen testing are listed in Tables 1 and are for Discharge Point 001 and 002. Nitrate as Nitrogen limitations for 2014 were not exceeded.

4,4'-DDT; bis(2-ethylhexyl) phthalate and carbon tetrachloride Testing:

The effluent limitations for these constituents are Table 1 and are for Discharge Point 001. The limitations for 2014 were in compliance.

Acute Toxicity Monitoring:

The acute toxicity monitoring bioassay criteria for Discharge Point 001 requires a 96-hour fish bioassay test conducted at M-001 in undiluted effluent. Two test species were required, *Ceriodaphnia dubia* (C.dubia) and Rainbow Trout. The method for conducting this test requires the laboratory maintain the test sample the same pH as when the effluent sample was collected and that ammonia, pH and temperature be recorded on 24-hour intervals and reported with the bioassay test results.

It was determined that the C. dubia was too sensitive to the buffering agent used to maintain the pH and mortality rates were beyond the limits set forth in the permit so pH control of the C. dubia was discontinued. After the first year of testing the most sensitive species was to be determined and continue testing that species only but we have continued to conduct testing on both species.

The minimum compliance for any one test is 70% survival. The median for all bioassays during any calendar month is at least 90%. If the results of any 96-hour bioassay test are not in compliance a follow up test is required within 7 day of notification. The results for Acute Testing were in compliance in 2014 with the exception of a March and November test for C. dubia that required follow up testing which was in compliance.

Compliance with the percent survival criteria for the water flea has been problematic for the facility over the last few years, given the higher pH and warmer temperatures (25 °C) present during the water flea acute toxicity testing procedures. In comparison, the percent survival for the rainbow trout has generally been in compliance, in part due to the colder temperature used for the rainbow trout tests (12 °C) and the continued use of the pH-adjustment buffer to maintain a steady pH for the duration of the test.

In February 2014, additional modifications were made to the water flea acute toxicity test procedures in accordance with the testing guidelines presented in the EPA guidance document *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA, 2002). The modifications included changing the water flea acute toxicity testing procedure from a static process to a static-renewal process, meaning the water flea organisms were transferred daily to fresh aliquots of warmed M-001 effluent. The use of the static renewal process was intended to help reduce the potential for pH drift during the test procedure. The test temperature was also modified so that the tests were run at 20 °C rather than at 25 °C. Although the 25 °C test temperature is recommended by the EPA, the 20 °C test temperature is acceptable according to the EPA WET testing guidelines (EPA, 2002).

Non-Compliance:

Acute Toxicity Testing

The Requirement for Acute Toxicity testing is a minimum of 70% survival for any one test and median for all tests in one month of 90%. Acute Testing remained in compliance throughout the calendar year for Rainbow Trout and *C. dubia* remained in compliance from January to December with the exception of March and November. Please review Table 3 for results.

Table 3 Monthly and Accelerated Testing

Date	Test	Trout	Cerio
Collected		Survival	Survival
3/5/2014	Monthly	95%	85%
4/1/2014	Accelerated	100%	90%
11/25/2014	Monthly	100%	15%
12/4/2014	Accelerated #1	-	85%
12/16/2014	Accelerated #2	-	100%
1/6/2015	Control Failure	-	
1/27/2015	Accelerated #3	-	90%

Conclusion

It has been a long standing observation that our ammonia levels are high and un-ionized ammonia cause toxicity in the right conditions. Due to the toxicity of the pH buffering agent and the high temperatures required for *C. dubia* test, pH fluctuations and temperatures far outside those characteristic in our effluent cause unionized ammonia to increase to become toxic.

The District, with concurrence of the Regional Board, has decided to run the acute toxicity as a side by side comparison with the second testing criteria at 20°C for *C. dubia* along with daily renewal of effluent which is consistent with the method.

Chronic Toxicity Monitoring:

The chronic toxicity monitoring bioassay criteria for Discharge Point 001 requires a 96-hour static renewal or 96-hour static non-renewal testing. The sample is a 24-hour composite and is representative of the volume and quality of the discharge. The sampling is conducted at M-001 WWMF Effluent. Test species for chronic testing are a vertebrate, the fathead minnow, *Pimephales promelas* (larval survival and growth test), an invertebrate, the water flea, *Ceriodaphnia dubia* (survival and reproduction test), and a plant, the green alga, *Selenastrum capricornutum* (growth test). The District conducted chronic toxicity testing one time during the 2014 discharge season. The testing results for Acute Testing are detailed in Table 4

Table 4 Chronic Toxicity Testing for 2014

Dilution Water	Date	Test Species				
		Flathead minnow		Water flea		Algae
		Survival	Growth	Survival	Reproduction	Growth
Diluted w/ Lab Control Water	March 2014	TUc = 1.3	TUc = 2	TUc = 1.3	TUc = 4	1.3

Accelerated Monitoring Requirements:

If the result of any chronic toxicity test exceeds the chronic toxicity trigger of 1.0 TUc and the testing meets all test acceptability criteria, the District shall initiate accelerated monitoring. Accelerated monitoring shall consist of four additional effluent samples, one test conducted approximately every week, over a four-week period. Testing shall commence within 14 days of receipt of the sample results of the exceedance of the chronic toxicity effluent limitation. The following protocol was used for accelerated monitoring and the TRE implemented and detailed in a study submitted during the 2009 discharge season.

Conclusion:

It was concluded that the mortality experienced in regular testing and verified in the monitoring study was due to ammonia. Ammonia toxicity has been addressed in the 20 Year Facility Plan and a preferred alternative has been identified for the plant upgrade that will reliably remove ammonia. Design began in early 2013 with construction beginning in 2014 with Dredging and draining the pond. An interim solution for ammonia removal will also be explored.

Other Projects and Commentary on the Treatment Process:

Treatment Process Trends:

The success of a particular process can be gauged by tracking the removal of BOD and TSS. Chart 1 demonstrates average BOD concentration in mg/L from 2005 through 2014. The average BOD in 2014 was 22 mg/L and continues to remain well below 45mg/L, our current limit.

Chart 1 Annual Average BOD Concentrations

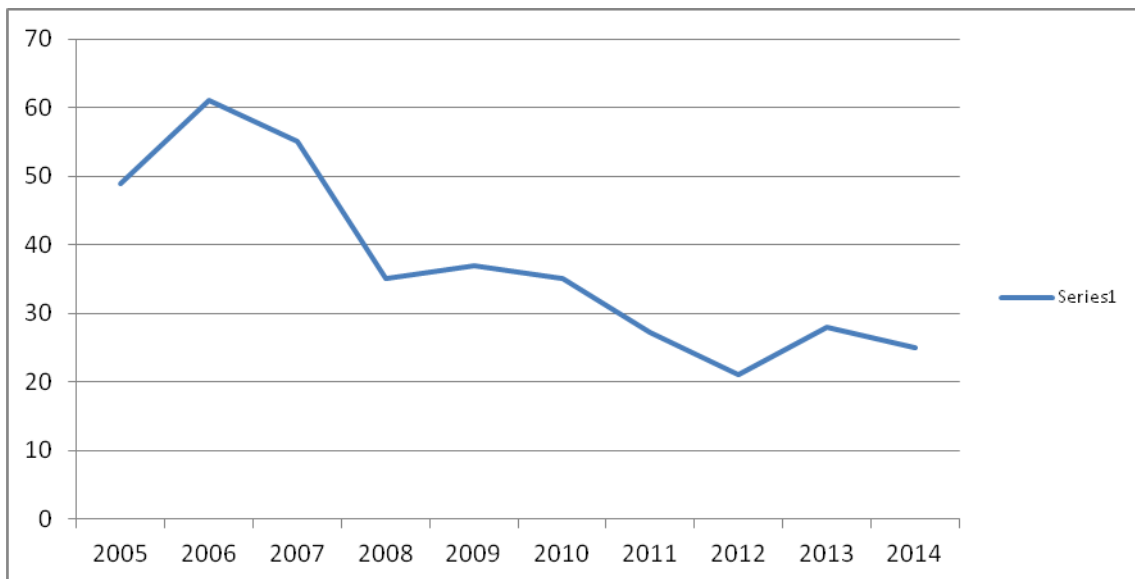


Chart 2 demonstrates average TSS concentration in mg/L from 2005 through 2014. The average TSS in 2014 was below 30 mg/L and is well below the level it was in 2005.

Chart 2 Annual Average TSS Concentrations

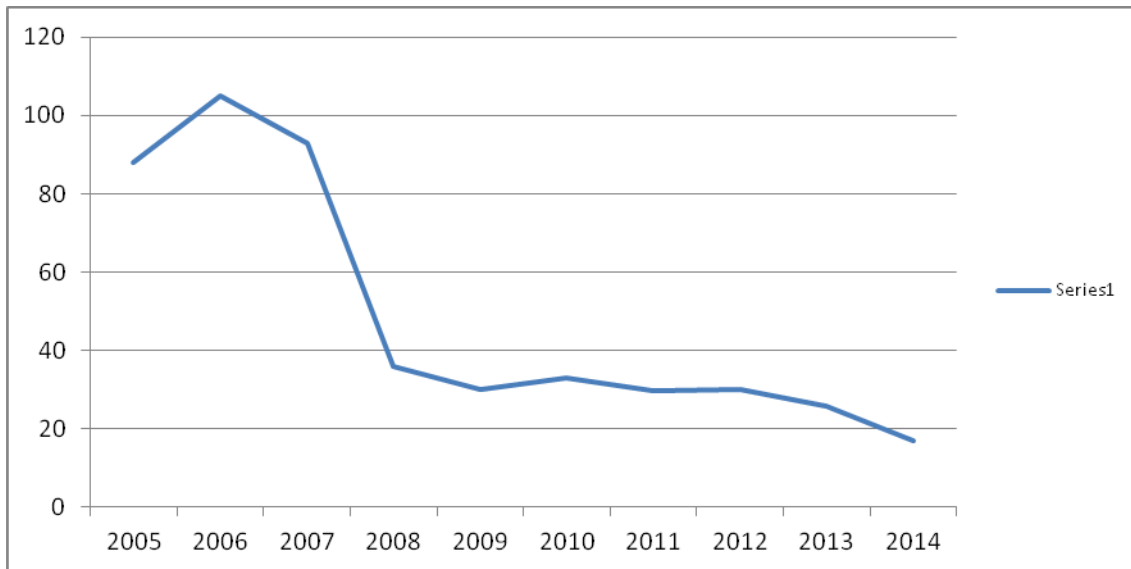
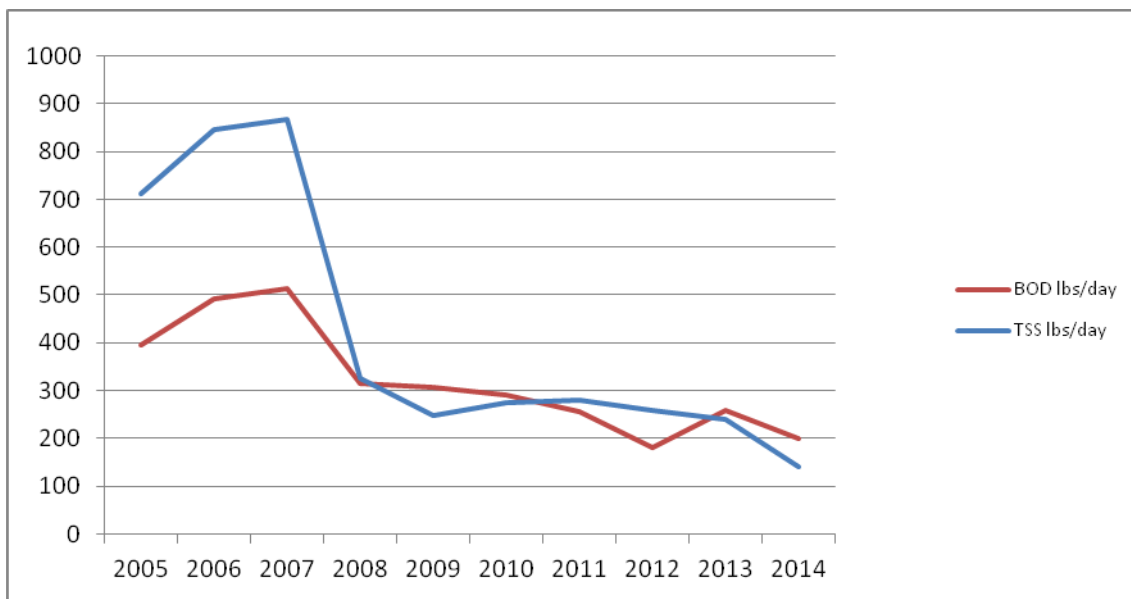


Chart 3 is the product of the flow and the concentration, is identified as mass loading and measured in pounds per day. BOD and TSS continue to trend lower.

Chart 3 Annual Average BOD and TSS Mass Loading



Charts 1-3 demonstrate the steady trend upward of BOD and TSS from 2005 through the time of the treatment marsh upgrade project completion in 2006. From 2006 through 2007 the performance of the treatment process can be demonstrated by the drastic improvement. From 2007 through 2011 the efficiency of the process continues to trend down. The blip upward in BOD experience in 2012 but trended back down in 2014.

Main Area of Concern:

Nitrogen Removal

Ammonia has been identified as the main area of concern as demonstrated through biological testing and the appearance of Nitrate in the ground water adjacent to the irrigation sites. Though our permit does not directly limit ammonia we recognize the importance of addressing the concern. The District is committed to reversing the trend of ammonia toxicity in our effluent stream. The 20 Year Facility Plan directly addresses and is dedicated to the removal by treatment of this constituent. Construction of a new treatment plant started in 2014 which should provide reliable ammonia removal.

Summary of Work Completed in 2014

Letz Sewer Station Pump Upgrade: Attachment 1

The Letz Sewer Lift Station had two 4" pumps that needed an upgrade. One of the 4" pumps was removed and replaced with a 6" pump. The motor was upgraded from a 15 hp to a 20 hp. The pump was aligned to match the outlet piping and a suction coupler was fabricated to connect the suction pipe to the pump body. Other than the fabricated suction coupler, all work was done in house. The pump previously pumped 4.8 hours a day during dry weather flows and currently pumps 1.6 hours per day dry weather flows.

Biosolids Removal: Attachment 2

Synagro was awarded the contract to provide biosolids removal services for the Wastewater Management Facility (WWMF) Pond 1A. It was estimated that approximately 950 dry tons of biosolids were needed to be removed and disposed in accordance to the Contract Documents prepared by Kennedy/Jenks Consultants and accepted by the Owner. Approximately 600 dry tons were removed from Pond 1A leaving approximately 4" to 10" of solids. The District agreed to have Synagro move into Pond 1B to collect the remaining 320 dry tons in order to lock in the price per ton in the existing contract.

Prior to the Biosolids removal, District staff removed the aerators from Pond 1A and strategically placed them into Ponds 1B, 2, and 3 to help the treatment process. Previously, the influent was divided into Pond 1A and 1B equally but was directed into just Pond 1B when Pond 1A was taken off-line. An aerator was also placed into Pond 4 for additional treatment.

WWMF Upgrade 90% Design Drawings: Attachment 3

In 2013 MCSD contracted Kennedy/ Jenks to design the WWMF upgrade. The Design is at the 90% phase which has been commented on by the District. The District has also contracted a couple more sets of eyes to aid in the process. The new treatment process will be designed in Pond 1A which has had Biosolids removal and approximately 90% drained.

20 Year Facilities Plan

The District also completed significant work in 2011 on the 20-year facilities plan for the District WWMF. An initial draft of the facilities plan was published in August 2011 for a peer review by Kennedy Jenks. In October 2011 a revised draft was published and circulated for public review and comment. The final draft of the facilities plan was published in January 2012 and accepted by the District board on February 1, 2012. The full document can be located at the District web site by following this link.

<http://mckinleyvillecsd.com/document-library/20%20Year%20Facilities%20Plan>

INDEX OF ATTACHMENTS and EXHIBITS

ATTACHMENT 1: Letz Sewer Station Pump Upgrade PG 10

ATTACHMENT 2: Biosolids Removal PG 13

ATTACHMENT 3: WWMF Upgrade 90% Design Drawings PG 17

EXHIBIT A: Tabular and Graphical Data PG 133

Influent and Effluent Monthly Totals
Influent and Effluent Maximum Day

EXHIBIT B: Tabular PG 135

CFS, River Dilution, Effluent Flow and Effluent Distribution

EXHIBIT C: Tabular and Graphical Data PG 139

Monthly Totals for Effluent Flow and Discharge Disposal Locations
Annual Effluent Distribution Pie Chart
Daily Totals for Effluent Flow and Discharge Disposal Locations

EXHIBIT D: Tabular Data PG 152

Monthly Monitoring Report (Permit exceedances highlighted in yellow)

EXHIBIT E: Tabular Data PG 164

Influent and Effluent Testing Monthly Averages
Daily Influent and Effluent Testing

EXHIBIT F: Tabular and Graphical Data PG 165

30-day Average BOD and NFR Worksheet
30 Day BOD and NFR Maximum, Minimum and Average Chart
BOD and NFR 30 Average Concentration Chart
BOD and NFR 30 Average lbs/day Chart
BOD and NFR 30 Day Average Removal Comparisons
BOD Influent, Effluent and Terminal Pond Comparisons

EXHIBIT G: Tabular and Graphical Data PG 172

Monthly Averages for pH, temperature Ionized and Unionized Ammonia
Relationship between Temperature and Ammonia Percent Removal Chart
Influent and Effluent Average Total Ammonia Chart

EXHIBIT H: Tabular Data PG 175

Discharge Data R-001, R-002 and M-001
Discharge Data R-003
Discharge Data R-004 and R-005
Well Monitoring Data

EXHIBIT I: Tabular Graphical Data PG 177

Pond Sludge Depths
Remaining Sludge Capacity Chart
Monthly/ Annual Averages for Pond Ammonia
Monthly/ Annual Averages for Pond Temperature
Monthly/ Annual Averages for Pond pH
Monthly/ Annual Averages for Pond Dissolved Oxygen
Monthly/ Annual Averages for Pond Level

EXHIBIT J: Tabular and Graphical Data PG 184

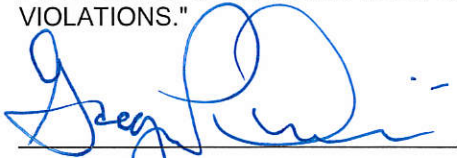
Monthly Total Aerator Hours
Monthly Total Aerator Hours versus Ammonia % Removal Chart
Monthly Total Aerator Hours versus Effluent BOD Chart
Monthly Total Aerator Hours versus BOD Percent Removal Chart

EXHIBIT K: Tabular Data PG 188

Monthly Total Electric, Cl₂, SO₂, and Rain Gage Data
TKN, Alkalinity, and Nitrate Special Testing

If you have any questions, please contact this office.

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED, IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."



GREGORY ORSINI, GENERAL MANAGER

Letz Rd. Sewer Lift Station

A Tale of Two "Cities"
...helping each other out

Letz Rd. Sewer Lift Station



An unexpected boon...

- Humboldt CSD replaced two 6" and two 3" Gorman Rupp pumps with submersible versions, leaving this...



Your Average Humboldt County Winter Day

Even with our limited infiltration, these days were hard on our 4" pumps at Letz Station



A little prep work...

- The used parts were sanded and repainted.
- The interiors were ceramic coated.
- The rotating assembly was rebuilt largely from HCSD parts.

Ceramic Coating



Getting our hands dirty...

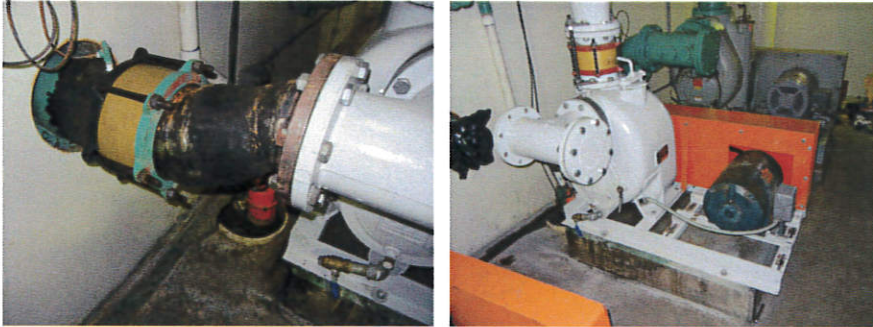
Pump ready to be aligned with existing outlet.



Starting to come together



Ready to start pumping



Not every part was donated...

- Offset Suction Coupler
- Suction Check Valve Seat
- 2 Mechanical Couplers
- Motor Starter Heaters



Proof is in the Pump Hours

After fine tuning, this is what we found:

Pump #1
15 hp
4.8 hrs/day

Pump #2
20 hp
1.6 hrs/day

Pump #3
50 hp
1.1 hrs/day

The crew saved the district approx.
\$25,000 on this project.



MCKINLEYVILLE COMMUNITY SERVICES DISTRICT

BIOSOLIDS REMOVAL PROJECT

Synagro was awarded the contract

- Synagro was awarded the contract to provide biosolids removal services for the Wastewater Management Facility (WWMF) Pond 1A.
- The Contractor shall remove and properly dispose of or beneficially reuse biosolids which currently reside in the District's Pond 1A. It is estimated that approximately 950 dry tons of biosolids are needed to be removed and disposed in accordance to the Contract Documents prepared by Kennedy/Jenks Consultants and accepted by the Owner.

Notification

- Synagro was required to submit a Traffic Plan.
- The Traffic Plan was used to notify customers within the truck route.
- Customers were notified by mail, door hangers and IVR.
- Signs were made and posted around all entrances to the WWMF.
- A PSA was sent out to media.



Mobilization

A crane was used to carefully place the Dredge into the Pond.



Mobilization

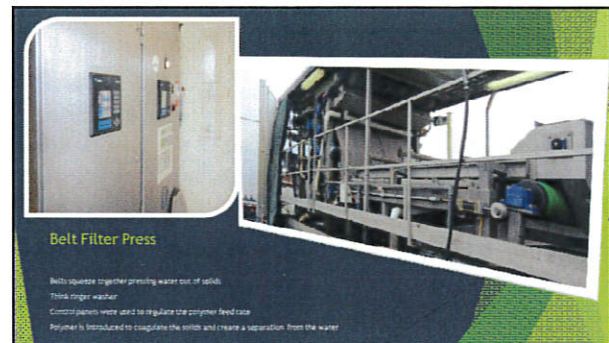
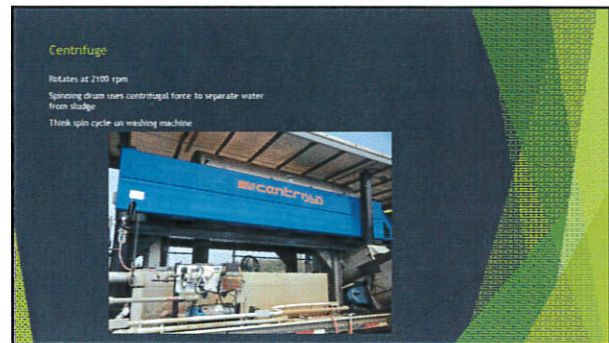
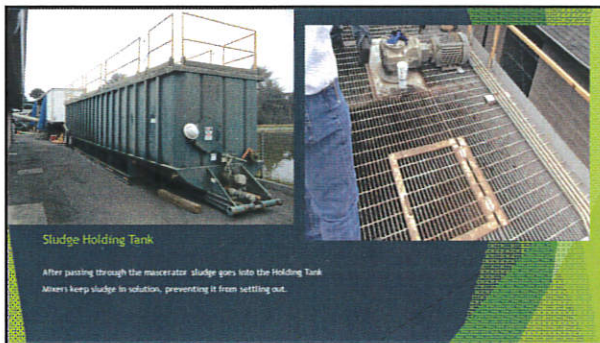
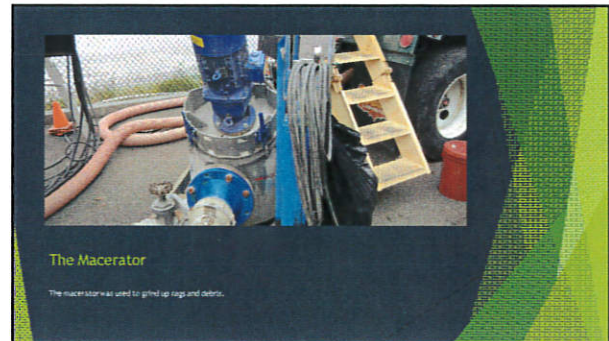
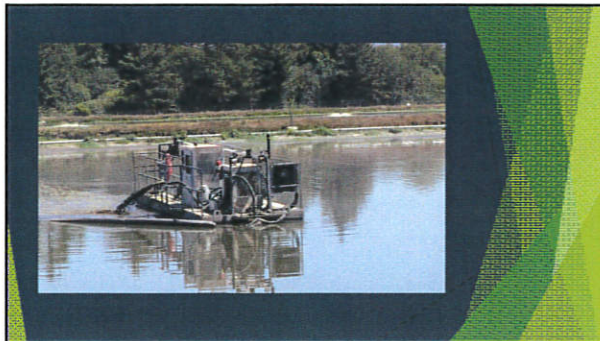
Equipment and materials were hauled in on trailers.
Set up took approximately 5 days.

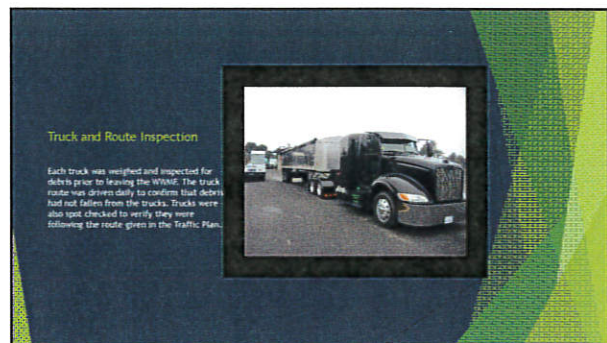
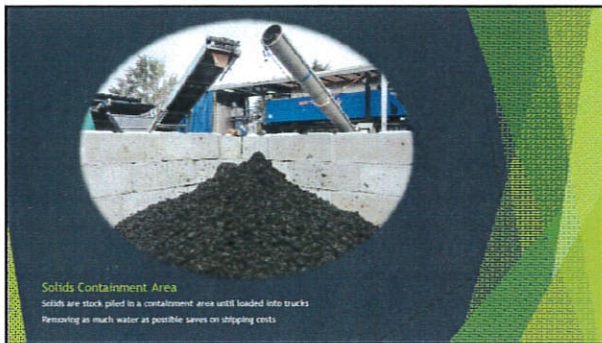


Dredge

The Dredge removed most of the solids in Pond 1A leaving approximately 4" to 6".
The discharge pipe is used for the operator to identify the quality of product being pumped.

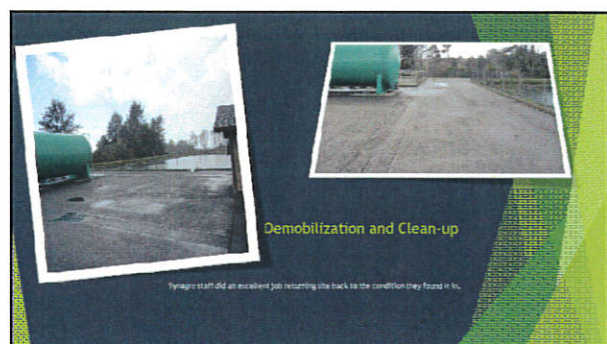






Daily inspections and reports

Broward Project Daily Inspection									
Inspector	DA	DA	DA	DA	DA	DA	DA	DA	DA
	1	2	3	4	5	6	7	8	9
I certify that this report should be filed as accurately as possible unless noted otherwise.									
Signature: _____									
DATE	TIME	LOCATION OF DRY TANKS & EQUIPMENT							
Witness: _____									
Comments: _____									
Take pictures daily of progress, violations or changes in process.									
Comments: _____									
These pictures will be taken from each tank being bailed. Once from the 10' transfer tank, one from the 10' transfer tank and one from the 10' transfer tank. (Leave the 10' transfer tank open in the middle of the transfer of the tank into the company. The debris will be removed from the company and placed in the tank storage area.)									
Comments: _____									
On transfer of water from Pond 1A _____ (Pond 1B) _____ (Pond 1C) _____									
Comments: _____									
Signature: _____									
Signature: _____									
Signature: _____									



90% SUBMITTAL

McKINLEYVILLE COMMUNITY SERVICES DISTRICT WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS



PREPARED FOR:
**McKINLEYVILLE
COMMUNITY
SERVICES
DISTRICT**

1656 SUTTER ROAD
McKINLEYVILLE, CA 95519

K/J PROJECT NO. 1368004

OCTOBER 2014

VOLUME 3 OF 3:
DRAWINGS

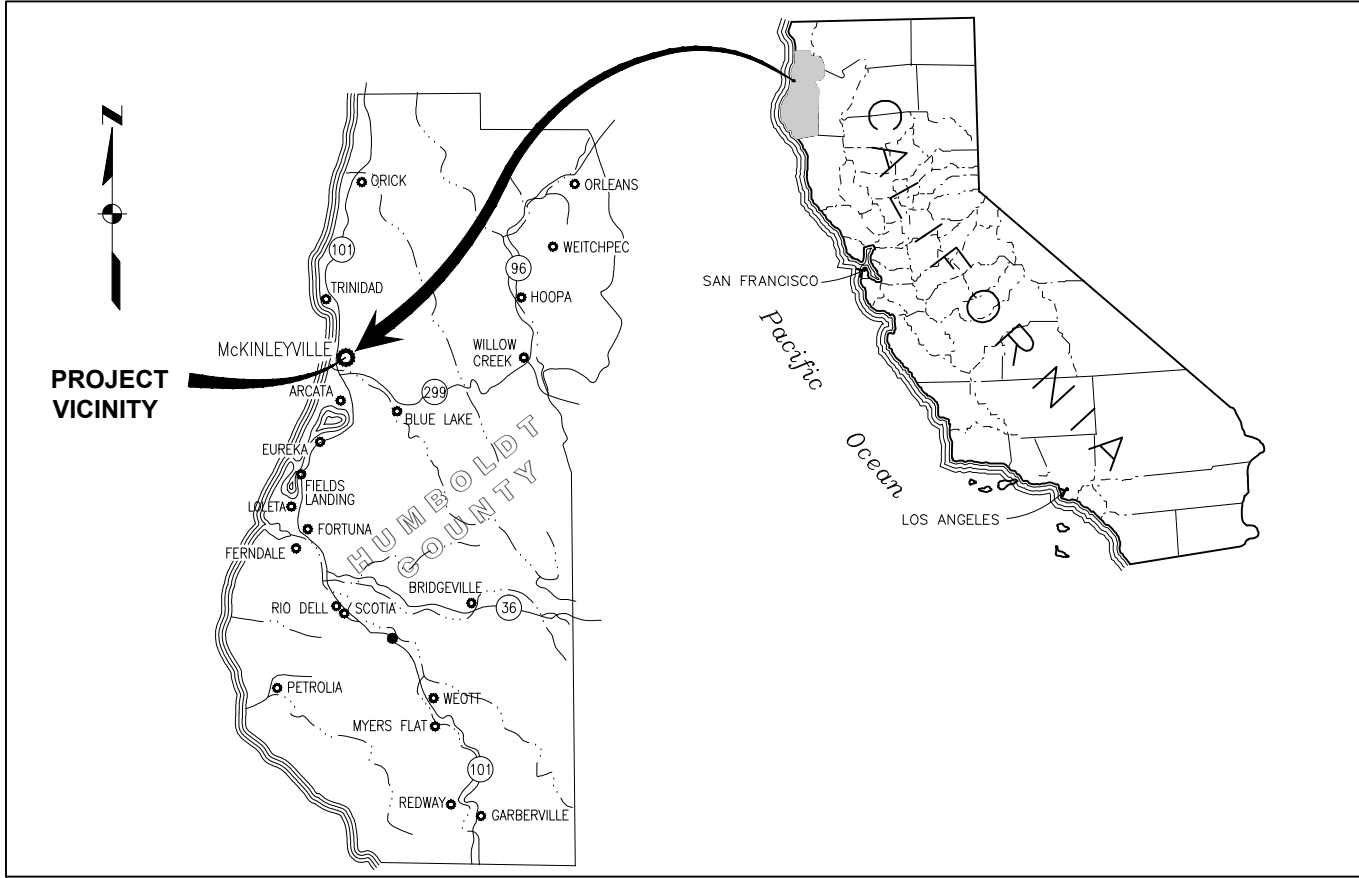
Kennedy/Jenks Consultants
Engineers & Scientists

CONTRACT DRAWINGS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT

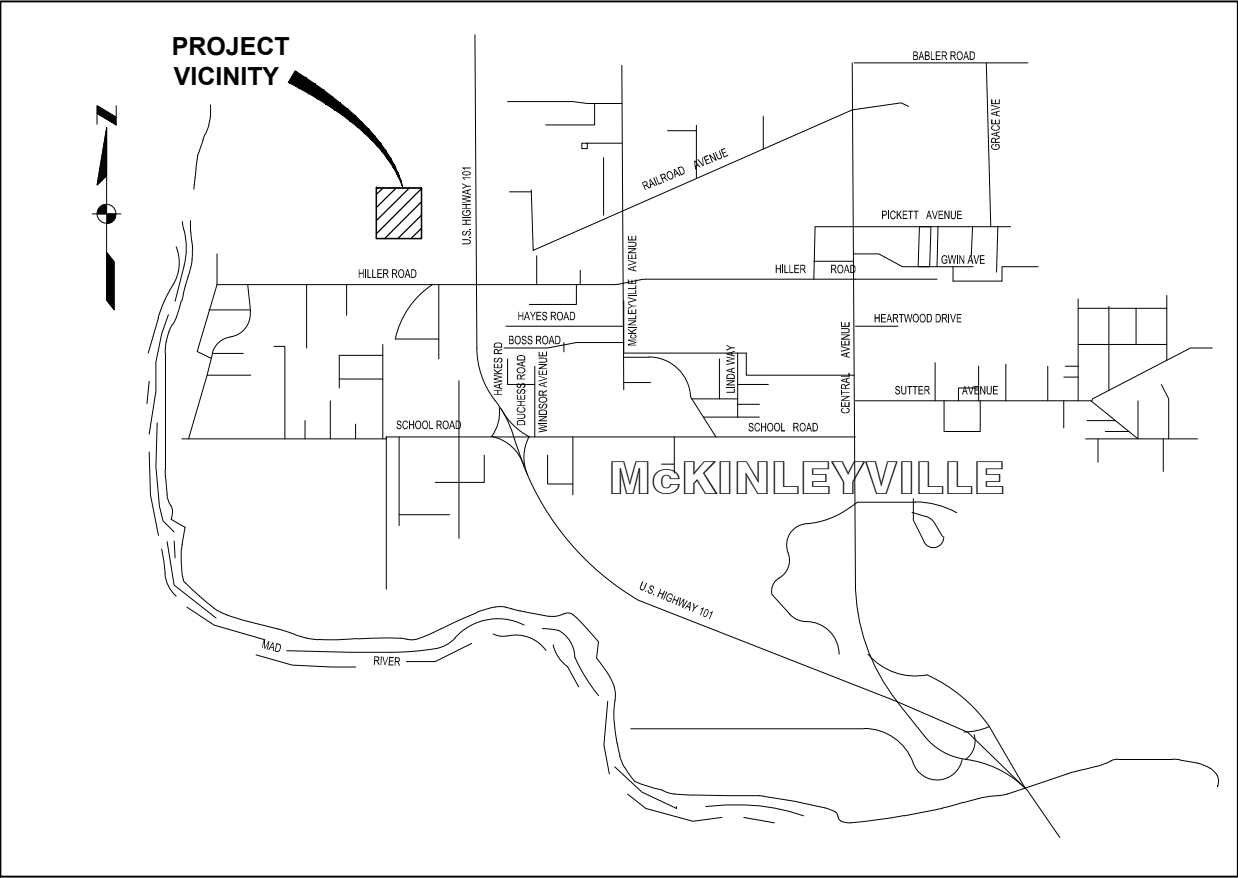
McKINLEYVILLE, CALIFORNIA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS



REGION MAP

NO SCALE



VICINITY MAP

NO SCALE

90% SUBMITTAL

USE OF DOCUMENTS <small>THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.</small>					SCALES 0 1" 25mm IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.		DESIGNED WMH	McKINLEYVILLE COMMUNITY SERVICES DISTRICT McKINLEYVILLE, CA WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS	TITLE SHEET, REGION MAP AND VICINITY MAP	FILE NAME 1368004-G001 JOB NO. 1368004.00 DATE OCTOBER 2014 SHEET OF G001
							DRAWN GAS			
							CHECKED RRH			
							18	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA		
	NO.	REVISION	DATE	BY						

10/24/2014 12:36 PM
GENE STEVENSON
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SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
GENERAL	
G001	TITLE SHEET, REGION MAP AND VICINITY MAP
G002	LIST OF SHEETS
G003	DESIGNATION SYSTEMS AND ABBREVIATIONS
G004	SYMBOLS AND DRAWING REFERENCE
G005	GENERAL MECHANICAL PIPING NOTES, SYMBOLS AND PIPING SCHEDULE
G006	BASIS OF DESIGN
G007	PLANT FLOW SCHEMATIC
G008	HYDRAULIC PROFILE
DEMOLITION	
D101	DEMOLITION PLAN
CIVIL	
C001	CIVIL DETAILS - 1
C002	CIVIL DETAILS - 2
C003	CIVIL DETAILS - 3
C004	CIVIL DETAILS - 4
C100	GENERAL SITE PLAN AND CONTRACTOR'S STAGING AREA
C102	SITE GRADING AND PAVING PLAN - 1
C103	SITE GRADING AND PAVING PLAN - 2
C104	SITE GRADING AND PAVING PLAN - 3
C105	SITE GRADING AND PAVING PLAN - 4
C106	SITE UNDERGROUND PIPING PLAN - 1
C107	SITE UNDERGROUND PIPING PLAN - 2
C108	SITE UNDERGROUND PIPING PLAN - 3
C109	SITE UNDERGROUND PIPING PLAN - 4
STRUCTURAL	
S001	STRUCTURAL NOTES, SPECIAL INSPECTION & TESTING & ABBREVIATIONS
S002	STRUCTURAL REINFORCED CONCRETE NOTES AND STANDARD DETAILS
S003	STRUCTURAL REINFORCED CONCRETE STANDARD DETAILS II
S004	STRUCTURAL REINFORCED CONCRETE MASONRY UNITS STANDARD DETAILS
S221	STRUCTURAL HEADWORKS FOUNDATION PLAN
S222	STRUCTURAL HEADWORKS TOP PLAN
S223	HEADWORKS SECTIONS
S224	HEADWORKS SECTIONS II
S271	VACTOR WASTE RECEIVING STATION FOUNDATION PLAN AND SECTION
S272	VACTOR WASTE RECEIVING STATION SECTIONS
S411	STRUCTURAL CALCIUM HYDROXIDE STORAGE PAD PLAN AND SECTION
S425	MIXED LIQUOR FLOW DISTRIBUTION STRUCTURE PLAN, SECTIONS, DETAIL
S431	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING FOUNDATION PLAN
S432	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING ROOF PLAN
S433	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING SECTIONS AND DETAILS
S434	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING TRUSS LOADING REQUIREMENTS
S441	SECONDARY CLARIFIER STRUCTURAL PLAN
S442	STRUCTURAL SECONDARY CLARIFIERS SECTION
ARCHITECTURAL	
A001	CODE SUMMARY AND SITE LAYOUT
A002	DOOR AND FINISH SCHEDULE, ARCHITECTURAL DETAILS
A111	CONTROL BUILDING DEMOLITION PLAN
A112	CONTROL BUILDING FLOOR PLAN AND INTERIOR ELEVATIONS
A431	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING FLOOR PLAN AND PARTITION TYPES
A432	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING EXTERIOR ELEVATIONS

MECHANICAL	
M001	MECHANICAL DETAILS - 1
M002	MECHANICAL DETAILS - 2
M003	MECHANICAL DETAILS - 3
M004	MECHANICAL DETAILS - 4
M005	MECHANICAL DETAILS - 5
M006	MECHANICAL DETAILS - 6
M221	HEADWORKS PLAN
M222	HEADWORKS SECTIONS - 1
M223	HEADWORKS SECTIONS - 2
M271	VACTOR WASTE RECEIVING STATION PLAN AND SECTION
M272	VACTOR WASTE RECEIVING STATION SECTIONS
M411	CALCIUM HYDROXIDE STORAGE AND METERING PLANS AND SECTIONS
M421	AERATION BASIN 1 PLAN
M422	AERATION BASIN 1 SECTIONS
M425	MIXED LIQUOR FLOW DISTRIBUTION STRUCTURE PLAN AND SECTION
M431	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING PLAN
M432	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING SECTIONS
M433	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING HVAC & PLUMBING PLAN
M434	PLUMBING AND HVAC EQUIPMENT SCHEDULES
M441	SECONDARY CLARIFIERS PLAN
M442	SECONDARY CLARIFIERS SECTION
M443	SECONDARY CLAIRIFIER SECTIONS - 2
M444	SECONDARY CLAIRFIERS SECTIONS AND DETAILS
M831	TANK DRAIN AND SUPERNATANT PUMP STATION PLAN AND SECTIONS
M832	CHLORINE CONTACT BASIN AREA MODIFICATIONS PLAN
M833	CHLORINE CONTACT BASIN AREA MODIFICATIONS SECTION AND DETAILS
M834	EJECTOR PUMP STATION PLAN AND SECTION
ELECTRICAL	
E001	ELECTRICAL LEGEND AND ABBREVIATIONS
E002	ELECTRICAL DETAILS - 1
E003	ELECTRICAL DETAILS - 2
E010	SINGLE LINE DIAGRAM - DEMOLITION
E011	SINGLE LINE DIAGRAM
E021	ELEMENTARY DIAGRAMS SHEET 1
E022	ELEMENTARY DIAGRAMS SHEET 2
E023	ELEMENTARY DIAGRAMS SHEET 3
E024	ELEMENTARY DIAGRAMS SHEET 4
E031	CONDUIT AND WIRE SCHEDULE - 1
E032	CONDUIT AND WIRE SCHEDULE - 2
E033	PANELBOARD SCHEDULES
E034	FIXTURE SCHEDULE
E035	SWITCHBOARD AND MCC ELEVATIONS AND SCHEDULES
E100	ELECTRICAL OVERALL SITE PLAN AND POND #4 PUMP STATION MODIFICATIONS PLAN
E101	ELECTRICAL SITE PLAN
E111	ELECTRICAL CONTROL BUILDING DEMOLITION AND MODIFICATIONS PLANS
E221	HEADWORKS POWER AND SIGNAL PLAN
E411	CALCIUM HYDROXIDE STORAGE AND METERING POWER AND SIGNAL PLAN
E421	AERATION BASIN 1 POWER AND SIGNAL PLAN
E422	AERATION BASIN 2 POWER AND SIGNAL PLAN
E431	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING POWER PLAN
E432	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING SIGNAL PLAN
E433	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING LIGHTING PLAN
E441	SECONDARY CLARIFIERS POWER AND SIGNAL PLAN
E831	TANK DRAIN AND SUPERNATANT PUMP STATION POWER AND SIGNAL PLAN
E832	CHLORINE CONTACT BASIN AREA POWER AND SIGNAL PLAN
E833	EJECTOR PUMP STATION POWER AND SIGNAL PLAN AND SECTION

P&ID	
I001	PROCESS AND INSTRUMENTATION SYMBOLS
I004	SCADA NETWORK COMMUNICATIONS DIAGRAM
I221	PROCESS AND INSTRUMENTATION SCREENING
I411	PROCESS AND INSTRUMENTATION CALCIUM HYDROXIDE STORAGE & METERING
I421	PROCESS AND INSTRUMENTATION AERATION BASINS
I431	PROCESS AND INSTRUMENTATION AERATION AIR BLOWERS
I441	PROCESS AND INSTRUMENTATION SECONDARY CLARIFIERS
I442	PROCESS AND INSTRUMENTATION SECONDARY EFFLUENT PUMPING
I451	PROCESS AND INSTRUMENTATION RAS AND WAS PUMPING
I741	PROCESS AND INSTRUMENTATION BIOSOLIDS STORAGE BASIN
I811	PROCESS AND INSTRUMENTATION STANDBY GENERATOR AND FUEL SYSTEM
I831	PROCESS AND INSTRUMENTATION TANK DRAIN & SUPERNATANT PUMPING
I832	PROCESS AND INSTRUMENTATION UTILITY WATER PUMPING
I833	PROCESS AND INSTRUMENTATION EJECTOR PUMPING

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							1368004-G002				
							JOB NO.				
							1368004.00				
							DATE				
							OCTOBER 2014				
							SHEET OF				
							CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA			G002
						RRH 19					

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EQUIPMENT DESIGNATIONS		EQUIPMENT NUMBER PREFIXES		ABBREVIATIONS									
<div>NEW EQUIPMENT</div> <div>FIRST TWO DIGITS REFER TO PROCESS AREA WHERE EQUIPMENT IS LOCATED; SEE LIST THIS SHEET</div> <div><div>P-4512</div><div>SEQUENTIAL NUMBER OF EQUIPMENT IN PROCESS AREA</div></div> <div>EQUIPMENT PREFIX SEE LIST THIS SHEET</div> <div>EXISTING EQUIPMENT</div> <div>P-4512</div> <div>FUTURE EQUIPMENT</div> <div>P-4512</div>		<div>ACU AIR CONDITIONING UNIT (SELF-CONTAINED)</div> <div>AD AIR DRYER</div> <div>AF AIR FILTER (VENTILATION AND AIR CONDITIONING ONLY)</div> <div>AGT AGITATOR</div> <div>AHU AIR HANDLING UNIT(SELF-CONTAINED)</div> <div>ASC ADJUSTABLE SPEED CONTROLLER (ELECTRONIC)</div> <div>ASD ADJUSTABLE SPEED DRIVE (MECHANICAL)</div> <div>ATS AUTOMATIC TRANSFER SWITCH</div> <div>AV ANGLE VALVE</div> <div>BLO BLOWER</div> <div>BLR BOILER</div> <div>BP BACKFLOW PREVENTER</div> <div>BUV BUTTERFLY VALVE</div> <div>BV BALL VALVE</div> <div>CFR CHEMICAL FEEDER (CALCIUM HYDROXIDE, CHLORINATOR, SULFONATOR, ETC.)</div> <div>COL COLLECTOR</div> <div>COM COMMUNUTOR</div> <div>CON CONVEYOR (BELT, BUCKET ELEVATOR, SCREW, ETC.)</div> <div>CP COMPRESSOR (AIR, GAS, ETC.)</div> <div>CPT COMPACTOR (SCREENINGS, ETC.)</div> <div>CPU COMPUTER</div> <div>CRN CRANE (BRIDGE, JIB, ETC., PLUS HOIST-ENTIRE PACKAGE)</div> <div>CV CHECK VALVE</div> <div>CYL CYLINDER (HYDRAULIC, PNEUMATIC, CHLORINE SUPPLY, ETC.)</div> <div>DA DEAERATOR</div> <div>DFC DIGESTER FLOATING COVER</div> <div>DIS DISTRIBUTOR (ARM TYPE, EDUCTOR, EJECTOR, DIFFUSER, ETC.)</div> <div>DPR DAMPER</div> <div>DU DRIVE UNIT</div> <div>E ENGINE</div> <div>EB ENGINE-BLOWER MODULE</div> <div>EG ENGINE-GENERATOR MODULE</div> <div>FAN FAN</div> <div>FCU FAN COIL UNIT</div> <div>FCV FLOW CONTROL VALVE</div> <div>FDR CHEMICAL FEEDER</div> <div>FPU FLUID POWER UNIT (HYDRAULIC, ETC.)</div> <div>FV FLOW CONTROL VALVE (NON SELF-ACTING)</div> <div>GBV GLOBE VALVE</div> <div>GBT GRAVITY BELT THICKENER</div> <div>GRD GRINDER</div> <div>GEN GENERATOR</div> <div>GT GATE (SLUICE, SLIDE, FLAP, ETC.)</div> <div>GV GATE VALVE</div> <div>HEX HEAT EXCHANGER</div> <div>HH HANDHOLE (ELECTRICAL)</div> <div>HST HOIST</div> <div>HOP HYDRAULIC OPERATOR</div> <div>HTR HEATER (BASEBOARD, DUCT, ETC.)</div> <div>HTT HEAT TRACE TAPE</div> <div>INJ INJECTOR (INDUCTOR)</div> <div>KV TIME (K) CONTROLLED VALVE</div> <div>LCV LEVEL CONTROL VALVE</div> <div>LV LEVEL CONTROLLED VALVE (NON SELF-ACTING)</div> <div>LVR LOUVER</div>		<div>M MOTOR (ELECTRIC, PNEUMATIC, ETC)</div> <div>MCC MOTOR CONTROL CENTER</div> <div>MH MANHOLE (ELECTRICAL)</div> <div>MME MISCELLANEOUS EQUIPMENT</div> <div>MOP MOTOR OPERATOR</div> <div>MTS MANUAL TRANSFER SWITCH</div> <div>MUX MULTIPLEXER</div> <div>MV MUD VALVE</div> <div>MIX MIXER</div> <div>ORT ODOR REDUCTION TOWER</div> <div>P PUMP</div> <div>PBX PULL BOX (ELECTRICAL)</div> <div>PBD PANELBOARD</div> <div>PCHV PINCH VALVE</div> <div>PCV PRESSURE CONTROL VALVE (SELF- ACTING)</div> <div>PDCV PRESSURE DIFFERENTIAL CONTROL VALVE</div> <div>PEJ PNEUMATIC EJECTOR</div> <div>PLC PROGRAMMABLE LOGIC CONTROLLER</div> <div>PNL PANEL (CONTROL, PURGE, CABINET, CONSOLE, ETC.)</div> <div>POP PNEUMATIC OPERATOR</div> <div>PRV PRESSURE CONTROLLED VALVE (NON SELF-ACTING)</div> <div>PSV PRESSURE SAFETY VALVE (VACUUM OR PRESSURE RELIEF)</div> <div>PV PLUG VALVE</div> <div>PVL PRESSURE VESSEL (AIR RECEIVER, ETC)</div> <div>SBD SWITCHBOARD (ELECTRICAL)</div> <div>SC SPEED CONTROLLER</div> <div>SCL SCALE</div> <div>SCN SCREEN (BAR, ROTARY, ETC)</div> <div>SEP SEPARATOR (SEDIMENTATION TRAP, DRIP TRAP, CYCLONE, STRAINER, ETC)</div> <div>SLR SILENCER</div> <div>SMP SAMPLER</div> <div>SRT SEPTAGE RECEIVING TANK</div> <div>STP SOUND TRAP</div> <div>SV SOLENOID VALVE</div> <div>SWG SWITCHGEAR</div> <div>T TANK (NON-PRESSURIZED TYPE: DIGESTER, STORAGE, ETC.)</div> <div>TBX TERMINAL BOX, BOARD, OR CABINET (ELECTRICAL, INSTRUMENTATION, TELEPHONE)</div> <div>TEL TELEPHONE EQUIPMENT</div> <div>TFR TRANSFORMER</div> <div>TSV TELESOPING VALVE</div> <div>UH UNIT HEATER</div> <div>US UTILITY STATION</div> <div>VIB VIBRATOR</div> <div>WHR WASHER (GRIT, ETC.)</div> <div>YV EVENT (Y) CONTROLLED VALVE (NON SELF-ACTING)</div>		<div>(FOR PIPE SYSTEM ABBREVIATIONS REFER TO THE PIPE SCHEDULE ON SHEET G005)</div> <div>& AND</div> <div>@ AT</div> <div>X BY</div> <div>CL CENTERLINE</div> <div> CHANNEL</div> <div>Ø DIAMETER</div> <div># NUMBER</div> <div>PL PROPERTY LINE</div> <div>□ SQUARE</div> <div>∠, L STRUCTURAL ANGLE</div> <div>AB ANCHOR BOLT</div> <div>ABT ABOUT</div> <div>AC ASPHALTIC CONCRETE</div> <div>ADJ ADJACENT</div> <div>AHU AIR HANDLING UNIT</div> <div>ANCH ANCHOR</div> <div>AL ALUMINUM</div> <div>APPROX APPROXIMATE</div> <div>APWA AMERICAN PUBLIC WORKS ASSOCIATION</div> <div>ARCH. ARCHITECTURAL</div> <div>ARV AIR RELIEF VALVE</div> <div>ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS</div> <div>ATS AUTOMATIC TRANSFER SWITCH</div> <div>AVG AVERAGE</div> <div>AVR AIR/VACUUM RELIEF VALVE</div> <div>AWWA AMERICAN WATER WORKS ASSOCIATION</div> <div>BC BEGINNING OF CURVE</div> <div>BDR BUILDING DRAIN</div> <div>B.F. BLIND FLANGE</div> <div>BFP BACKFLOW PREVENTER</div> <div>BFV BUTTERFLY VALVE</div> <div>BLDG BUILDING</div> <div>BM BEAM, BENCHMARK</div> <div>BO BLOWOFF</div> <div>BOD BIOLOGICAL OXYGEN DEMAND</div> <div>BOS BOTTOM OF STEEL</div> <div>BOT BOTTOM</div> <div>BS BLACK STEEL</div> <div>BV BALL VALVE</div> <div>B&S BALL AND SOCKET</div> <div>CAH CALCIUM HYDROXIDE</div> <div>CB CATCH BASIN</div> <div>CBOD BIOCHEMICAL OXYGEN DEMAND</div> <div>CC CENTER TO CENTER</div> <div>CCP CONCRETE CYLINDER PIPE</div> <div>CCWR CLOSED-LOOP COOLING WATER RETURN</div> <div>CCWS CLOSED-LOOP COOLING WATER SUPPLY</div> <div>CHKD CHECKED</div> <div>CHKR CHECKERED</div> <div>CI CAST IRON</div> <div>CIP CAST IN PLACE</div> <div>CJ CONSTRUCTION JOINT</div> <div>CL PIPE CLASS, CENTERLINE</div> <div>CL2 CHLORINE</div> <div>CLR CLEAR, CLEARANCE</div> <div>CM CENTIMETER</div> <div>CMU CONCRETE MASONRY UNIT</div> <div>CMP CORRUGATED METAL PIPE</div> <div>CO COMPANY, CLEAN OUT</div> <div>COL COLUMN</div> <div>COLR COLOR</div> <div>CON CONDUCTIVITY</div> <div>CONC CONCRETE</div> <div>CONST CONSTRUCTION</div> <div>CONT CONTINUOUS</div> <div>CPLG COUPLING</div> <div>CPP CORRUGATED PLASTIC PIPE</div> <div>CPVC CHLORINATED POLYVINYL CHLORIDE</div> <div>CSTC CRUSHED SURFACING TOP COURSE</div> <div>CT CERAMIC TILE</div> <div>CU COPPER, CUBIC</div> <div>CW CITY WATER</div> <div>D DEPTH</div> <div>DET DETAIL</div> <div>DF DIESEL FUEL</div> <div>DI DUCTILE IRON</div> <div>DIA. DIAMETER</div> <div>DIP DUCTILE IRON PIPE</div> <div>DN DOWN</div> <div>DR DRAIN</div> <div>DWS DESIGN WATER SURFACE</div> <div>E ELECTRIC, EAST</div> <div>EA EACH</div> <div>EC END OF CURVE</div> <div>EF EACH FACE</div> <div>e.g. FOR EXAMPLE</div> <div>EL, ELEV ELEVATION</div> <div>ELECT ELECTRICAL</div> <div>ENCL ENCLOSURE</div> <div>EP, EOP EDGE OF PAVEMENT</div> <div>EQ. EQUAL</div> <div>EQUIP EQUIPMENT</div> <div>EW EACH WAY</div> <div>EW/EF EACH WAY EACH FACE</div> <div>E.W.S. EYEWASH/SHOWER</div> <div>(E), EXIST EXISTING</div> <div>EXP EXPANSION</div> <div>EXT EXTERIOR, EXTENSION</div> <div>FAB FABRICATE</div> <div>FB FLAT BAR</div> <div>FBE FUSION BONDED EPOXY</div> <div>FD FLOOR DRAIN</div> <div>FF FINISHED FLOOR</div> <div>FCA FLANGE COUPLING ADAPTER</div> <div>FG FINISH GRADE</div> <div>FH FLAT HEAD OR FIRE HYDRANT</div> <div>FIN FINISH</div> <div>FL FLOW LINE</div> <div>FLEX FLEXIBLE</div> <div>FLG, FL FLANGE</div> <div>FOB FLAT ON BOTTOM</div> <div>FOT FLAT ON TOP</div> <div>FM FORCE MAIN</div> <div>FRP FIBERGLASS REINFORCED PLASTIC</div> <div>FSS FIBERGLASS STRUCTURAL SHAPE</div> <div>FT FEET</div> <div>FTG FOOTING</div> <div>G GAS</div> <div>GI GALVANIZED IRON</div> <div>GS GALVANIZED STEEL</div> <div>GA GAUGE</div> <div>GAL GALLON</div> <div>GALV GALVANIZED</div> <div>GPH GALLONS PER HOUR</div> <div>GPM GALLONS PER MINUTE</div> <div>GR GRADE, GROUND, GRAM</div> <div>GV GATE VALVE</div> <div>HB HOSE BIBB</div> <div>HGL HYDRAULIC GRADE LINE</div> <div>HORIZ HORIZONTAL</div> <div>HP HIGH POINT, HORSE POWER</div> <div>HPC SODIUM HYPOCHLORITE</div> <div>HPS HIGH PRESSURE STEAM</div> <div>HR HOUR</div> <div>HS HAND SWITCH</div> <div>HT HEIGHT</div> <div>HDPE HIGH DENSITY POLYETHYLENE</div> <div>HW HOT WATER</div> <div>HWL HIGH WATER LEVEL</div> <div>ID INSIDE DIAMETER</div> <div>IE INVERT ELEVATION</div> <div>IN INCH</div> <div>INV INVERT</div> <div>IPS IRON PIPE SIZE</div> <div>JT JOINT</div> <div>KW KILOWATT</div> <div>L ANGLE, LENGTH</div> <div>LB POUND</div> <div>LF LINEAL FEET</div> <div>LP LOW POINT</div> <div>LPC LOW PRESSURE CONDENSATE</div> <div>LT LEFT</div> <div>LT WT LIGHT WEIGHT</div> <div>LW LOW WATER</div> <div>LWL LOW WATER LEVEL</div> <div>LWS LOW WATER SURFACE</div> <div>MACH MACHINE</div> <div>MATL MATERIAL</div> <div>MAX MAXIMUM</div> <div>MB MACHINE BOLT</div> <div>MD MEASURE DOWN</div> <div>MECH MECHANICAL</div> <div>MGD MILLION GALLONS PER DAY</div> <div>M METER</div> <div>MM MILLIMETER</div> <div>MFR MANUFACTURER</div> <div>MH MANHOLE</div> <div>MIN MINIMUM</div> <div>MISC MISCELLANEOUS</div> <div>MJ MECHANICAL JOINT</div> <div>MG/L MILLIGRAMS PER LITER</div> <div>MON. MONUMENT</div> <div>MTL METAL</div> <div>MWS MAXIMUM WATER SURFACE</div> <div>MX MIXER</div> <div>N NORTH</div> <div>(N) NEW</div> <div>NC NORMALLY CLOSED</div> <div>NE NORTHEAST</div> <div>NGVD NATIONAL GEODETIC VERTICAL DATUM</div> <div>NG NATURAL GAS</div> <div>NH3 AMMONIA</div> <div>N.I.C. NOT IN CONTRACT</div> <div>NO. NUMBER</div> <div>NO NORMALLY OPEN</div> <div>NOM NOMINAL</div> <div>NPW NON-POTABLE WATER</div> <div>NRS NON-RISING STEM</div> <div>NST NATIONAL STANDARD THREAD</div> <div>NTS NOT TO SCALE</div> <div>N/A NOT APPLICABLE</div> <div>OC ON CENTER</div> <div>OD OUTSIDE DIAMETER</div> <div>OF OUTSIDE FACE/ OVERFLOW</div> <div>OPER OPERATOR</div> <div>OPNG OPENING</div> <div>ORP OXYGEN REDUCTION POTENTIAL</div> <div>OS&Y OUTSIDE SCREW & YOKE</div> <div>OSA OUTSIDE AIR</div> <div>P PRESSURE SENSOR</div> <div>PE PLAIN END, POLYETHYLENE</div> <div>PERIM PERIMETER</div> <div>PH HYDROGEN ION</div> <div>PIP PLASTIC IRRIGATION PIPE</div> <div>PK POINT KNOWN</div> <div>PL PLATE</div> <div>POC POINT OF CONNECTION</div> <div>PP POWER POLE</div> <div>PPD POUNDS PER DAY</div> <div>PRESS PRESSURE</div> <div>PRV PRESSURE REDUCING VALVE</div> <div>PS PUMP STATION</div> <div>PSI POUNDS PER SQUARE INCH</div> <div>PSF POUNDS PER SQUARE FOOT</div> <div>PSS PRESSURIZED SANITARY SEWER</div> <div>PT POINT</div> <div>PVC POLYVINYL CHLORIDE</div> <div>PVMT PAVEMENT</div> <div>PW PLANT WATER, POTABLE WATER</div> <div>PVI POINT OF VERTICAL INTERSECTION</div> <div>R RADIUS</div> <div>RAS RETURN ACTIVATED SLUDGE</div> <div>RCP REINFORCED CONCRETE PIPE</div> <div>RD ROAD</div> <div>RECIRC RECIRCULATION</div> <div>RED REDUCER</div> <div>REF REFERENCE</div> <div>REG REGULATOR</div> <div>REINF REINFORCING, REINFORCED</div> <div>REQD REQUIRED</div> <div>RF RETURN FLOW</div> <div>RJ RESTRAINED JOINT</div> <div>RPM REVOLUTIONS PER MINUTE</div> <div>R/W RIGHT OF WAY</div> <div>RIB RAPID INFILTRATION BASIN</div> <div>RS RAW SEWAGE</div> <div>S SEWER, SOUTH, SLOPE, SUBMERGED</div> <div>SA SAMPLE</div> <div>SE SOUTHEAST, SECONDARY EFFLUENT</div> <div>SW SOUTHWEST</div> <div>SAN SANITARY SEWER</div> <div>SCFM STANDARD CUBIC FEET PER MINUTE</div> <div>SCH SCHEDULE</div> <div>SDR STANDARD DIMENSION RATIO</div> <div>SEC SECOND</div> <div>SEP SEPTIC</div> <div>SEW SEWER</div> <div>SF SQUARE FEET</div> <div>SHT SHEET</div> <div>SMH SANITARY SEWER MANHOLE</div> <div>SIM SIMILAR</div> <div>SP SPACE, START POINT</div> <div>SPEC SPECIFICATIONS</div> <div>SQ SQUARE</div> <div>SS STAINLESS STEEL</div> <div>STA STATION</div> <div>STL STEEL</div> <div>STORM, SD STORM DRAIN</div> <div>STD STANDARD</div> <div>STRUCT STRUCTURAL</div> <div>T THERMOSTAT</div> <div>TA TOP OF ASPHALT</div> <div>TBM TEMPORARY BENCH MARK</div> <div>TC TOP OF CONCRETE, TOP OF CURB</div> <div>TDH TOTAL DYNAMIC HEAD</div> <div>TEL TELEPHONE</div> <div>T&B TOP AND BOTTOM</div> <div>TGE TOP OF GRATING ELEVATION</div> <div>TKN TOTAL KJELDAHL NITROGEN</div> <div>TOC TOP OF CONCRETE</div> <div>TOS TOP OF STEEL</div> <div>TOW TOP OF WALL</div> <div>TSS TOTAL SUSPENDED SOLIDS</div> <div>TURB TURBIDITY</div> <div>TYP TYPICAL</div> <div>UNO UNLESS NOTED OTHERWISE</div> <div>UW UTILITY WATER (NON-POTABLE WATER)</div> <div>VAR VARIES</div> <div>VIF VERIFY IN FIELD</div> <div>VTR, V.T.R. VENT TO ROOF</div> <div>VERT VERTICAL</div> <div>W WEST, WATER, WIDTH</div> <div>WAS WASTE ACTIVATED SLUDGE</div> <div>W/ WITH</div> <div>W/O WITHOUT</div> <div>W.M. WATER METER</div> <div>WRF WATER RECLAMATION FACILITY</div> <div>WS WATER SURFACE</div> <div>WTP WATER TREATMENT PLANT</div> <div>WW WASTEWATER</div> <div>WWTP WASTEWATER TREATMENT PLANT</div> <div>YD YARD</div>							
<div>USE OF DOCUMENTS</div> <div>THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.</div>		<div>NO.</div> <div>REVISION</div> <div>DATE</div> <div>BY</div>		<div>SCALES</div> <div>0 1"</div> <div>0 25mm</div> <div>IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.</div>		<div>DESIGNED</div> <div>WMH</div> <div>DRAWN</div> <div>GAS</div> <div>CHECKED</div> <div>RRH 20</div>		<div>McKINLEYVILLE COMMUNITY SERVICES DISTRICT</div> <div>McKINLEYVILLE, CA</div> <div>WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS</div> <div>Kennedy/Jenks Consultants</div> <div>SANTA ROSA, CALIFORNIA</div>		<div>DESIGNATION SYSTEMS AND ABBREVIATIONS</div>		<div>FILE NAME</div> <div>1368004-G003</div> <div>JOB NO.</div> <div>1368004.00</div> <div>DATE</div> <div>OCTOBER 2014</div> <div>SHEET</div> <div>G003</div> <div>OF</div>	

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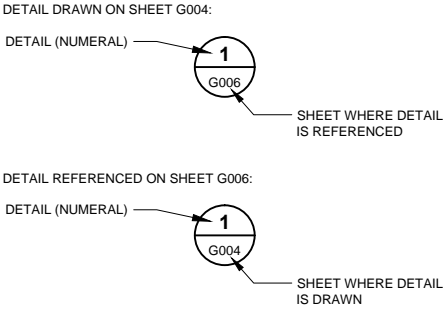
CIVIL/GENERAL SYMBOLS

FIRE PROTECTION WATER (EXISTING)	FW	FW	FW
SEWER (EXISTING)	SS	SS	SS
STORM DRAIN (EXISTING)	SD	SD	SD
WATER LINE (EXISTING)	W	W	W
GAS LINE (EXISTING)	G	G	G
TELEPHONE LINE (EXISTING)	UT	UT	UT
ELECTRICAL LINE (EXISTING)	CTV		
CABLE TV (EXISTING)	CTV		
CROSSING UTILITIES (EXISTING)			
FENCE	X	X	X
PROPERTY LINE/RIGHT-OF-WAY			
CONTRACTORS WORK AREA LIMITS	CL	CL	
CENTERLINE			
CULVERT WITH END SECTIONS			
HANDRAIL OR GUARDRAIL			
WATER SURFACE			
GRADE CHANGE LINE			
RIDGE LINE			
FLOW LINE			
DIRECTION OF DRAINAGE FLOW			
GRADED SLOPE			
DITCH OR SWALE			
CONTOUR MAJOR (NEW)		110	
CONTOUR MINOR (NEW)		110	
CONTOUR MAJOR (EXIST)		110	
CONTOUR MINOR (EXIST)		110	
CONTOUR (DEMO)		110	

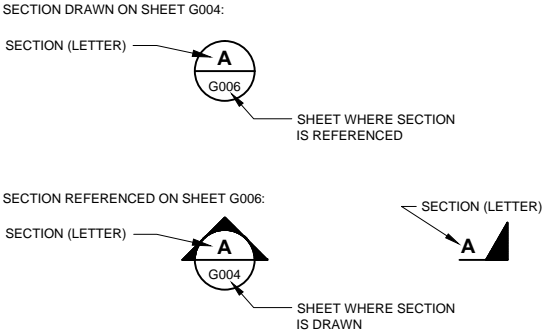
BENCH MARK	BM
SPOT ELEVATION	X 400.9
WATER METER	WM
FIRE HYDRANT	
UTILITY BOX (AS LABELED)	
POWER POLE	
STREET LIGHT	
STREET LIGHT AND TRAFFIC SIGNAL	
YARD LIGHT	
TRAFFIC SIGNAL	
TELEPHONE RISER	TEL
GUY ANCHOR	
CATCH BASIN	CB
DROP INLET	DI
MANHOLE	
CLEAN OUT	CO
DRIVEWAY	
HANDICAP ACCESS RAMP	
SURVEY PANEL	
MONUMENT OR SURVEY POINT	
SECTION CORNER	
ELEVATION MARK (REFERENCE)	
ELEVATION MARK (DESIGN)	
FLAG NOTE	1
UTILITY STATION (LETTER DESIGNATES TYPE)	A

STRUCTURE OR PIPE (NEW)	
STRUCTURE OR PIPE (EXISTING)	
DEMOLITION	
CONCRETE IN SECTION	
CONCRETE IN PLAN (NEW)	
CONCRETE IN PLAN (EXISTING)	
STEEL IN SECTION	
WOOD IN SECTION	
GRATING IN PLAN	
CHECKERED PLATE IN PLAN	
GRAVELED AREA IN PLAN OR SECTION	
GRASS TURF IN PLAN	
SAND IN SECTION	
BRICK OR CONCRETE BLOCK IN SECTION	
PLASTIC IN SECTION	
GRADE	
ASPHALT CONCRETE (NEW) (IN PLAN OR SECTION)	
ASPHALT CONCRETE (EXISTING) (IN PLAN OR SECTION)	

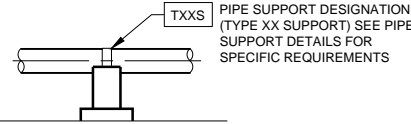
DETAIL REFERENCE




SECTION REFERENCE



PIPE SUPPORT DESIGNATION



90% SUBMITTAL

USE OF DOCUMENTS <small>THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.</small>					SCALES 0 1" 0 25mm <small>IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.</small>		DESIGNED WMH	McKINLEYVILLE COMMUNITY SERVICES DISTRICT McKINLEYVILLE, CA WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	SYMBOLS AND DRAWING REFERENCE	FILE NAME 1368004-G004
							DRAWN GAS				JOB NO. 1368004.00
							CHECKED RRH				DATE OCTOBER 2014
	NO.	REVISION	DATE	BY			21				SHEET OF G004

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PIPING SCHEDULE

ABREV	SYSTEM	SIZE	SERVICE	FLOW	PIPE TYPE	MATERIAL	LINING	VALVE SYSTEM	TEST PRESSURE	TEST MEDIUM	ALLOWABLE LEAKAGE	TEST DURATION
A	AERATION AIR	<2"	B/C	P	BS40, X-1	BS	-	F	15	A	NONE	4 HRS
A	AERATION AIR	≥4"	B/C	P	DIPB, N-1	DI	-	F	15	A	NONE	4 HRS
A	AERATION AIR	ALL	E/S	P	SSP, W-1	SS	-	F	15	A	NONE	4 HRS
CA	COMPRESSED AIR	ALL	B/E/C/S	P	CUP, T-1	CU	-	E	150	A	NONE	2 HRS
CH	CALCIUM HYDROXIDE	ALL	B/E/C/S	P	PVC-1, V-1	PVC	-	C	125	W	NONE	4 HRS
CV	CHEMICAL VENT	ALL	B/E	G	PVC-1, V-1	PVC	-	C	20	A	NONE	1 HR
D	DRAIN	ALL	B/E/C	G	CISP, N-3	CI	-	-	6	W	NONE	1 HR
HW	HOT WATER	<4"	B/E	P	CUP, T-1	CU	-	D	150	W	NONE	4 HRS
ML	MIXED LIQUOR	≥4"	B/C	G/P	DIPB, N-1	DI	CE	B	150	W	EQUATION A	4 HRS
ML	MIXED LIQUOR	≥3"	E/S	G/P	DIPF, N-2	DI	CE	B	150	W	NONE	4 HRS
PD	PUMPED DRAIN	ALL	B/C	P	DIPB, N-1	DI	CE	B	150	W	EQUATION A	4 HRS
PD	PUMPED DRAIN	<3"	E/S	P	GSP, Y-1	GS	-	B	150	W	NONE	4 HRS
PD	PUMPED DRAIN	≥3"	E/S	P	DIPF, N-2	DI	CE	B	150	W	NONE	4 HRS
PW	POTABLE WATER	<4"	B/E	P	CUP, T-1	CU	-	D	150	W	NONE	4 HRS
PW	POTABLE WATER	≥4"	B/C	P	DIPB, N-1	DI	CE	A	150	W	NONE	4 HRS
RAS	RETURN ACTIVATED SLUDGE	ALL	B/C	G/P	DIPB, N-1	DI	CE	B	150	W	EQUATION A	4 HRS
RAS	RETURN ACTIVATED SLUDGE	<3"	E/S	G/P	GSP, Y-1	GS	-	B	150	W	NONE	PS
RAS	RETURN ACTIVATED SLUDGE	≥3"	E/S	G/P	DIPF, N-2	DI	CE	B	150	W	NONE	Z
RS	RAW SEWAGE	ALL	B/C	G/P	DIPB, N-1	DI	CE	B	150	W	EQUATION A	E
RS	RAW SEWAGE	ALL	E/S	G/P	DIPF, N-2	DI	CE	B	150	W	NONE	4 HRS
SC	SCUM	ALL	B/C	G/P	DIPB, N-1	DI	CE	B	150	W	EQUATION A	4 HRS
SC	SCUM	<3"	E/S	G/P	GSP, Y-1	GS	-	B	150	W	NONE	4 HRS
SC	SCUM	≥3"	E/S	G/P	DIPF, N-2	DI	CE	B	150	W	NONE	4 HRS
SE	SECONDARY EFFLUENT	ALL	B/C	G/P	DIPB, N-1	DI	CE	A	150	W	EQUATION A	4 HRS
SE	SECONDARY EFFLUENT	<3"	E/S	G/P	GSP, Y-1	GS	-	A	150	W	W	4 HRS
SE	SECONDARY EFFLUENT	≥3"	E/S	G/P	DIPF, N-2	DI	CE	A	150	W	NONE	4 HRS
SN	SUPERNATANT	ALL	B/C	G/P	DIPB, N-1	DI	CE	B	150	W	EQUATION A	4 HRS
SN	SUPERNATANT	<3"	E/S	G/P	GSP, Y-1	GS	-	B	150	W	NONE	4 HRS
SN	SUPERNATANT	≥3"	E/S	G/P	DIPF, N-2	DI	CE	B	150	W	NONE	4 HRS
TD	TANK DRAIN	ALL	B/C	G/P	DIPB, N-1	DI	CE	B	150	W	EQUATION A	4 HRS
TD	TANK DRAIN	ALL	E/S	G/P	DIPF, N-2	DI	CE	B	150	W	NONE	4 HRS
UW	UTILITY WATER	<4"	B/C	P	PVC-1, V-1	PVC	-	A	125	W	NONE	4 HRS
UW	UTILITY WATER	≥4"	B/C	P	DIPB, N-1	DI	CE	A	150	W	EQUATION A	4 HRS
UW	UTILITY WATER	<4"	E/S	P	GSP, Y-1	GS	-	A	150	W	NONE	4 HRS
UW	UTILITY WATER	≥4"	E/S	P	DIPF, N-2	DI	CE	A	150	W	NONE	4 HRS
V	VENT	ALL	E	G	CISP, N-3	CI	-	-	6	W	NONE	1 HR
VTR	VENT THRU ROOF	ALL	E	G	CISP, N-3	CI	-	-	6	W	NONE	1 HR
WAS	WASTE ACTIVATED SLUDGE	ALL	B/C	G/P	DIPB, N-1	DI	CE	B	150	W	EQUATION A	4 HRS
WAS	WASTE ACTIVATED SLUDGE	ALL	E/S	G/P	DIPF, N-2	DI	CE	B	150	W	NONE	4 HRS

LEGEND

SIZE
NOMINAL DIAMETER IN INCHES

SERVICE
B = BURIED
E = EXPOSED
C = CONCRETE ENCASED
S = SUBMERGED

FLOW
G = GRAVITY
P = PRESSURE

PIPE TYPE
SEE SPECIFICATION 15050

MATERIAL
FOR REFERENCE ONLY, SEE SPECIFICATION 15050 FOR
DETAILED PIPE MATERIALS.

ABS = ACRYLONITRILE BUTADIENE STYRENE
BS = BLACK STEEL
CU = COPPER
DI = DUCTILE IRON
GS = GALVANIZED STEEL
HDPE = HIGH DENSITY POLYETHYLENE
POL = POLYPROPYLENE
PVC = POLYVINYL CHLORIDE
SS = STAINLESS STEEL

LINING
B = BITUMINOUS
CE = CERAMIC EPOXY
CM = CEMENT MORTAR

VALVE SYSTEM
SEE SPECIFICATION 15050 UNLESS NOTED.

TEST PRESSURE
PRESSURE IN PSI

TEST MEDIUM
A = AIR
W = WATER
FO = FUEL OIL

ALLOWABLE LEAKAGE
SEE PARAGRAPH 15050-3.08 FOR EQUATION A.

GENERAL MECHANICAL PIPING NOTES

1. INFORMATION PROVIDED ON THIS SHEET ARE MINIMUM REQUIREMENTS. REFER TO THE SPECIFICATION SECTION 15050 FOR ADDITIONAL REQUIREMENTS.

2. ALL PIPE JOINTS SHALL BE RESTRAINED UNLESS OTHERWISE NOTED.

3. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.

4. APPROPRIATE PIPE PENETRATION DETAILS SHALL BE USED.

5. ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST TIES, BLOCKS, OR ANCHORS, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
6. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS ARE ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.

7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PERFORMING THE CONNECTION OF THE PIPING AND ASSOCIATED APPURTENANCES INSTALLED UNDER THIS CONTRACT TO THE EXISTING PIPING AND FACILITIES, AND TO THE WORK OF OTHER CONTRACTORS.

8. PRIOR TO SUBMITTING PIPING DRAWINGS FOR ANY NEW PIPE THAT IS TO CONNECT TO AN EXISTING PIPE OR STRUCTURE, THE CONTRACTOR SHALL EXPOSE THE EXISTING PIPE OR STRUCTURE TO VERIFY ITS EXACT LOCATION, SIZE, MATERIALS, AND INVERT ELEVATIONS.

9. ALL PIPING IS TO BE PAINTED AND LABELED UNLESS NOTED OTHERWISE. LABELING SHALL INCLUDE FLOW DIRECTION ARROW AND PIPE USE.

10. ALL PIPING UNDER STRUCTURES TO BE CONCRETE ENCASED UNLESS NOTED OTHERWISE.

VALVE SYMBOLS

DESCRIPTION	SINGLE LINE	DOUBLE LINE	NOTE: VALVE SYMBOLS SHOWN WITH SOLID FILL DENOTES VALVE IS NORMALLY IN CLOSED POSITION.
GATE VALVE			
GLOBE VALVE			
PLUG VALVE			
SWING CHECK VALVE			
BALL CHECK VALVE			
BUTTERFLY (FLANGED)			
BUTTERFLY (WAFER)			
BALL VALVE			
DIAPHRAGM VALVE			
CAPILLARY CONTROL VALVE			
CONTROL VALVE (ELEVATION)			
CONTROL VALVE (PLAN)			
PINCH VALVE			
PRESSURE RELIEF VALVE (ELEVATION)			
PRESSURE RELIEF VALVE (PLAN)			
HOSE BIBB			

FLOWMETER SYMBOLS

DESCRIPTION	SINGLE LINE	DOUBLE LINE
MAGMETER		
TURBINE METER		
VENTURI METER		
THERMAL METER		

ACTUATOR SYMBOLS

MOTOR	
SOLENOID	
PNEUMATIC	

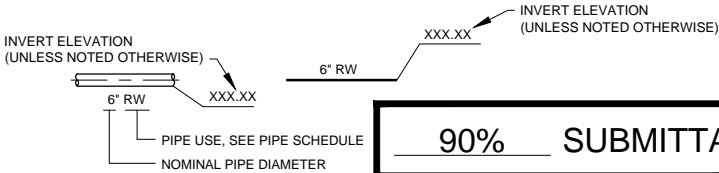
VALVE DESIGNATION

ACTUATOR SYMBOL	
VALVE EQUIPMENT NUMBER, ACTUATED VALVES ONLY.	FV 101

PIPE SYMBOLS

DESCRIPTION	SINGLE LINE	DOUBLE LINE
EXISTING PIPE		
NEW PIPE		
PIPE TO BE REMOVED		
FLANGED, WELD NECK		
FLANGED, SLIP ON		
GROOVED END MECHANICAL COUPLING		
SCREWED OR WELDED		
BELL & SPIGOT		
MECHANICAL JOINT		
ELBOW - STRAIGHT		
ELBOW - REDUCING		
ELBOW - DOWN		
ELBOW - UP		
CROSS		
REDUCER		
TEE		
TEE - DOWN		
TEE - UP		
UNION		
FLEXIBLE RUBBER CONNECTOR		
FLEXIBLE HOSE CONNECTOR		
EXPANSION JOINT		
FLANGED COUPLING ADAPTER		
FLEXIBLE COUPLING		
DISMANTLING JOINT		
FLOOR DRAIN		
CLEAN OUT		

PIPING DESIGNATION



USE OF DOCUMENTS

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NO.	REVISION	DATE	BY
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SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.



DESIGNED

WMH

DRAWN

GAS

CHECKED

RRH 22

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

GENERAL MECHANICAL PIPING NOTES, SYMBOLS
AND PIPING SCHEDULE

FILE NAME	1368004-G005
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
G005	

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WASTEWATER FLOW AND LOAD PROJECTIONS		
ITEM	CURRENT VALUE	YEAR 2030
POPULATION	14,500	19,415
FLOWS		
AVERAGE DRY WEATHER FLOW (ADWF), MGD	1.05	1.37
AVERAGE ANNUAL FLOW (AAF), MGD	1.17	1.53
AVERAGE WET WEATHER FLOW (AWWF), MGD	1.29	1.69
MAX MONTH DRY WEATHER FLOW (MMDWF), MGD	1.23	1.60
MAX MONTH WET WEATHER FLOW (MMWWF), MGD	1.63	2.13
PEAK DAY FLOW (PDF), MGD	2.36	3.08
PEAK INSTANTANEOUS FLOW (PIF), MGD	2.88	3.77
LOADS (BASED ON AAF)		
CBOD		
AVERAGE, PPD	2,442	3,191
MAXIMUM MONTH, PPD	3,496	4,569
PEAK DAY, PPD	4,736	6,188
TSS		
AVERAGE, PPD	2,186	2,857
MAXIMUM MONTH, PPD	4,334	5,664
PEAK DAY, PPD	5,800	7,580
TKN		
AVERAGE, PPD	449	587
MAXIMUM MONTH, PPD	478	625
PEAK DAY, PPD	507	664
AMMONIA-NITROGEN		
AVERAGE, PPD	348	455
MAXIMUM MONTH, PPD	507	662
PEAK DAY, PPD	518	667
AKALINITY		
MINIMUM DAY, MG/L	190	190
MINIMUM MONTH, MG/L	230	230
AVERAGE ANNUAL, MG/L	273	273
MAXIMUM MONTH, MG/L	310	310
PEAK DAY, MG/L	340	340
AKALINITY TO TKN RATIO (MG/L TO MG/L)		
MINIMUM MONTH	4.7	4.7
AVERAGE ANNUAL	5.9	5.9

DESIGN EFFLUENT LIMITS			
ITEM	MONTHLY AVERAGE	WEEKLY AVERAGE	MAXIMUM DAY
BIOCHEMICAL OXYGEN DEMAND (CBOD), mg/l	10	15	30
TOTAL SUSPENDED SOLIDS (TSS), mg/l	15	22	30
TOTAL NITROGEN, mg/l	8	10	15
AMMONIA-NITROGEN, MG/L	<1	2	3
PH	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5

- NOTES:**
- NPDES PERMIT LIMITS FOR DISCHARGE TO MAD RIVER OUTFALL ANTICIPATED TO BE INCORPORATED WHEN PERMIT IS RENEWED. DISCHARGE TO MAD RIVER ALLOWED FROM OCTOBER 1 THROUGH MAY 14 ONLY WHEN FLOW OF RIVER EXCEEDS VALUES SHOWN IN NPDES PERMIT.
 - DURING MAXIMUM MONTH FLOW AND LOADING CONDITION IN YEAR 2030.
 - REFER TO SHEET G003 FOR ABBREVIATIONS.
 - WASTEWATER FLOW AND LOAD PROTECTIONS WERE DEVELOPED FROM THE MCKINLEYVILLE COMMUNITY SERVICES WASTEWATER FACILITIES PLAN DATED JANUARY 2012 AND INFLUENT TKN AND ALKALINITY SAMPLING IN 2013.

EFFLUENT QUALITY LIMITS (NOTE 1)	
ITEM	VALUE
CBOD LIMITS	
MONTHLY AVERAGE, MG/L	30
WEEKLY AVERAGE, MG/L	45
TSS LIMITS	
MONTHLY AVERAGE, MG/L	30
WEEKLY AVERAGE, MG/L	45
TOTAL COLIFORM	
MONTHLY MEDIAN, ORGANISMS PER 100 ML	23
SINGLE SAMPLE LIMIT, ORGANISMS PER 100 ML	240
PH RANGE (MINIMUM TO MAXIMUM)	6.5-8.5
TOTAL CHLORINE RESIDUAL	
MONTHLY AVERAGE, MG/L	0.01
DAILY MAXIMUM, MG/L	0.02
TOTAL NITROGEN	
NITRATE-NITROGEN, MONTHLY AVERAGE MG/L	10
AMMONIA-NITROGEN, MONTHLY AVERAGE MG/L	<1

DESIGN DATA	
ITEM DESCRIPTION	VALUE
HILLER ROAD LIFT STATION PUMPS (EXISTING)	
TYPE	SELF-PRIMING, NONCLOG
NO. OF PUMPS	2
DRIVE TYPE	CONSTANT SPEED
STATION FIRM CAPACITY, GPM	836
PUMP HP, EACH	20
LEVEL CONTROL	FLOAT SWITCHES
FISHER ROAD LIFT STATION PUMPS (EXISTING)	
TYPE	CENTRIFUGAL, NON-CLOG
NO. OF PUMPS	4
DRIVE TYPE	CONSTANT SPEED
STATION FIRM CAPACITY, MGD	1,614
PUMP HP	2@30, 2@100
LEVEL CONTROL	ULTRASONIC LEVEL SENSOR
STAND-BY GENERATOR	
TYPE	DIESEL ENGINE
OUTPUT, KW	550
FUEL TANK CAPACITY, GAL	1,791
FUEL TANK CAPACITY, RUN TIME, HRS	24
TRANSFER SWITCH	AUTOMATIC
HEADWORKS	
MECHANICAL SCREEN	
TYPE	PERFORATED PLATE
NO. OF SCREENS	1
OPENING, INCHES	0.25
SCREEN CAPACITY, MGD	3.77
SCREEN HP, EACH	1
MANUAL SCREEN	
TYPE	BAR
OPENING, INCHES	0.75
SCREEN CAPACITY, MGD	3.77
SECONDARY TREATMENT	
AERATION BASINS	
TYPE	EARTHEN, LINED
NO. OF BASINS, TOTAL	2
VOLUME, EACH, MG	1.6
SIDE WATER DEPTH, FT	13.5
MIXED LIQUOR SUSPENDED SOLIDS, MG/L	3,000
SOLIDS RETENTION TIME, DAYS (NOTE 2)	40
HYDRAULIC RETENTION TIME, DAYS (NOTE 2)	1.5
F/M RATIO	0.06
BLOWERS	
TYPE	VARIABLE SPEED HIGH SPEED TURBO
NO. OF BLOWERS	3
BLOWER CAPACITY, EACH, SCFM	1,700
MINIMUM BLOWER OUTPUT, EACH, SCFM	680
MAXIMUM DISCHARGE PRESSURE, PSIG	7.5
BLOWER HP, EACH	100
CALCIUM HYDROXIDE (ALKALINITY ADDITION)	
NO. OF TOTES	4
VOLUME, EACH, GAL	300
CONCENTRATION, PERCENT	45
MAXIMUM MONTH USE, GPD	67
NO. OF FEED PUMPS	2
FEED PUMP TYPE	PERISTALTIC
SECONDARY CLARIFIERS	
NO. OF CLARIFIERS	2
DIAMETER, FT	50
SIDE WATER DEPTH, FT	16
SURFACE AREA, EACH, SQ FT	1,963
PEAK DAY OVERFLOW RATE, GPD/SQ FT	784
PEAK INSTANTANEOUS OVERFLOW RATE, GPD/SQ FT	958
PEAK SOLIDS LOADING RATE, PPD/SF	30
MECHANISM HP, EACH	0.5

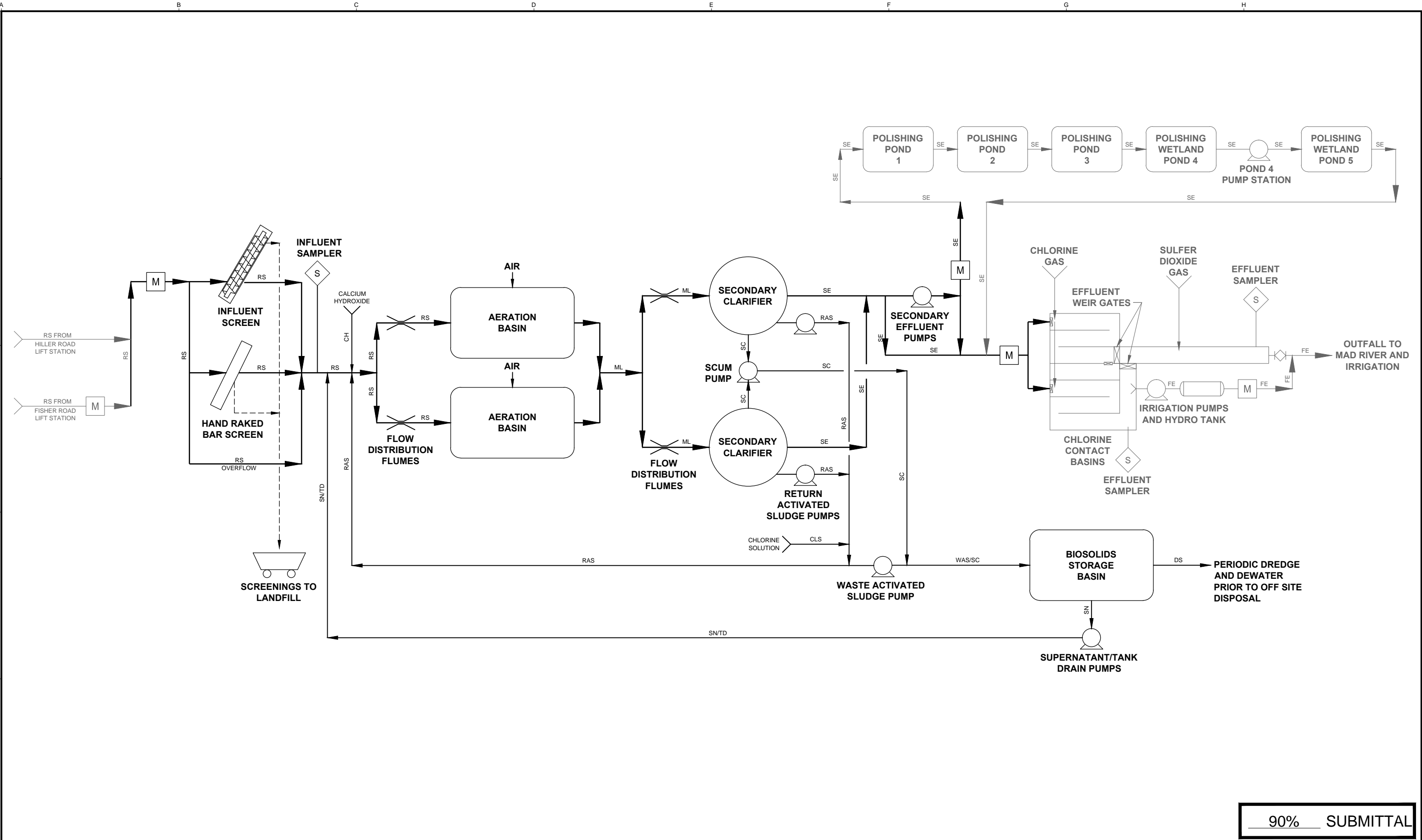
DESIGN DATA (CONT'D)	
ITEM DESCRIPTION	VALUE
SECONDARY TREATMENT CONTINUED	
SECONDARY EFFLUENT PUMPS	
TYPE	VERTICAL TURBINE
NO. OF PUMPS	2
DRIVE TYPE	ADJUSTABLE FREQUENCY DRIVE
PUMP CAPACITY, EACH, GPM	1,320
PUMP HP, EA	15
RAS PUMPS	
TYPE	SUBMERSIBLE, NON-CLOG
NO. OF PUMPS	4
DRIVE TYPE	ADJUSTABLE FREQUENCY DRIVE
PUMP CAPACITY, EACH, GPM	279 TO 558
PUMP HP, EACH	7.5
WAS PUMP	
TYPE	ROTARY LOBE
NO. OF PUMPS	1
DRIVE TYPE	ADJUSTABLE FREQUENCY DRIVE
PUMP CAPACITY, EACH, GPM	20 TO 100
PUMP HP, EACH	7.5
SCUM PUMP	
TYPE	SUBMERSIBLE, NON-CLOG
NO. OF PUMPS	1
DRIVE TYPE	CONSTANT SPEED
PUMP CAPACITY, EACH, GPM	125
PUMP HP, EACH	5
DISINFECTION	
CHLORINE CONTACT BASINS (EXISTING)	
NUMBER	2
LENGTH TO WIDTH RATIO	
CCB 1 AND CCB 2 IN SERIES	155
CCB 2	80
WATER DEPTH, FT	6.5
VOLUME, TOTAL, GAL	133,898
CCB 1	51,864
CCB 2	82,034
DETENTION TIME, MIN (YEAR 2030 FLOWS)	
WITH CCB 2 ONLY IN SERVICE	
AVERAGE DRY WEATHER FLOW (ADWF)	85
PEAK DAY FLOW (PDF)	38
PEAK INSTANTANEOUS FLOW (PIF)	30.0
WITH CCB 1 AND CCB 2 IN SERVICE	
AVERAGE DRY WEATHER FLOW (ADWF)	138
PEAK DAY FLOW (PDF)	61
PEAK INSTANTANEOUS FLOW (PIF)	50
CHLORINATORS (EXISTING)	
NUMBER	2
CAPACITY, PPD	1@200, 1@400
SULFINATOR (EXISTING)	
NUMBER	1
CAPACITY, PPD	200
IRRIGATION PUMPS (EXISTING)	
TYPE	VERTICAL TURBINE
NO. OF PUMPS	3
DRIVE TYPE	CONSTANT SPEED
PUMP CAPACITY, EACH, GPM	1,100
STATION FIRM CAPACITY, EACH, GPM	1,900
PUMP HP, EACH	25
HYDROPNEUMATIC TANK VOLUME, GAL	2,200

DESIGN DATA (CONT'D)	
ITEM DESCRIPTION	VALUE
POLISHING PONDS AND WETLANDS	
POLISHING PONDS (EXISTING)	
TYPE	EARTHEN
NUMBER	3
VOLUME, MG	
POLISHING POND 1	14.1
POLISHING POND 2	6.2
POLISHING POND 3	4.4
POLISHING WETLANDS (EXISTING)	
TYPE	EARTHEN
NUMBER	2
SURFACE AREA, ACRES	
POLISHING WETLAND POND 4	3.2
POLISHING WETLAND POND 5	2.9
WETLAND POND 4 PUMPS (EXISTING)	
TYPE	VERTICAL TURBINE
NO. OF PUMPS	2
DRIVE TYPE	ADJUSTABLE FREQUENCY DRIVE
PUMP CAPACITY, GPM	2,000
STATION FIRM CAPACITY, EACH, GPM	2,000
PUMP HP, EACH	5
LEVEL CONTROL	FLOAT SWITCHES
BIOSOLIDS STORAGE BASIN (BSB)	
WAS PUMPED TO BSB	
AVERAGE WAS SOLIDS, PPD	1,940
VOLATILE SUSPENDED SOLIDS, PPD	1,261
BIOSOLIDS STORAGE BASIN	
NUMBER	1
LOADING RATE REQUIRED, PPD VSS/1,000 SF	
SURFACE AREA	20
SURFACE AREA REQUIRED, SF	63,050
SURFACE AREA PROVIDED, SF	104,340
WATER CAP DEPTH, FT	3
WATER CAP VOLUME, MG	2.25
SLUDGE BLANKET DEPTH, MAXIMUM, FT	9
SLUDGE BLANKET VOLUME, MAXIMUM, MG	5.68
TOTAL LIQUID VOLUME, MG	7.93
AVERAGE SOLIDS CONCENTRATION OF SLUDGE	
BLANKET, PERCENT	8
MAXIMUM SOLIDS STORAGE CAPACITY OF BSB, DRY LBS	3,789,700
VOLATILE SOLIDS DESTRUCTION, PERCENT	35
SOLIDS IN STORAGE, PPD	1,498
LINER TYPE	60 mil HDPE
BSB STORAGE AVAILABLE	
DAYS	2,530
YEARS	6.9
SOLIDS BENEFICIAL USE	
ANNUAL SOLIDS PRODUCTION, DRY TONS/YEAR	273
TANK DRAIN/SUPERNATANT PUMPS	
TYPE	SUBMERSIBLE, NON-CLOG
NO. OF PUMPS	2
DRIVE TYPE	CONSTANT SPEED
PUMP CAPACITY, GPM	275
PUMP HP, EACH	5
UTILITY WATER PUMPS	
TYPE	SUBMERSIBLE TURBINE
NO. OF PUMPS	2
DRIVE TYPE	ADJUSTABLE FREQUENCY DRIVE
PUMP CAPACITY, EACH, GPM	105
PUMP HP, EACH	7.5

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							1368004-G006				
							JOB NO.				
							1368004.00				
							DATE				
							OCTOBER 2014				
							SHEET OF				
NO.	REVISION	DATE	BY				RRH	23	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	G006	

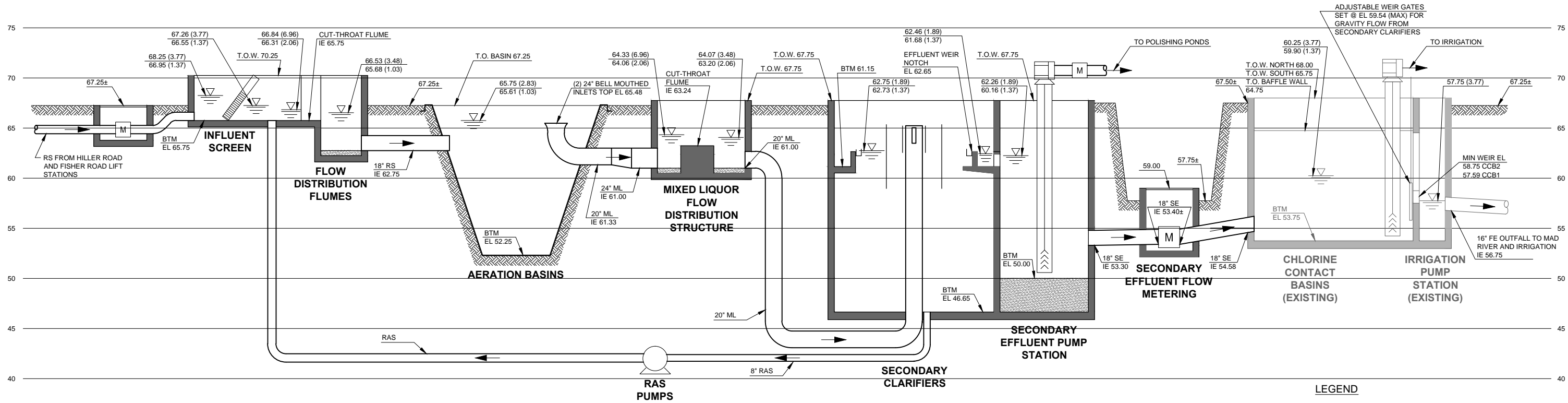
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							DRAWN GAS			JOB NO. 1368004.00
							CHECKED RRH			DATE OCTOBER 2014
							24			SHEET OF G007
	NO.	REVISION	DATE	BY						

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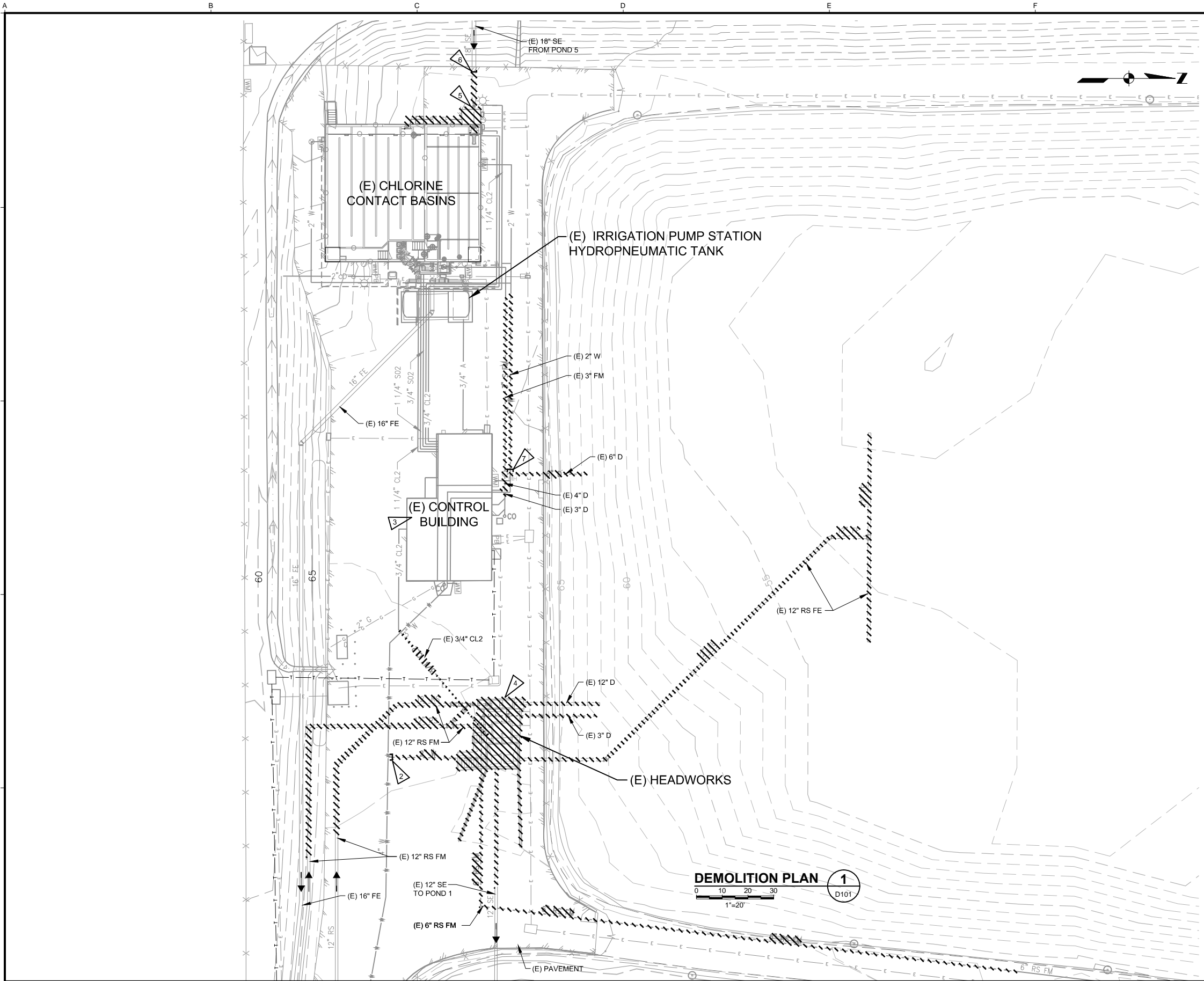
HYDRAULIC PROFILE 1
HORIZONTAL NO SCALE
0 1 2 3 4 5
VERT 1"=5'
G008

- LEGEND**
- WATER SURFACE ELEVATION ¹ (FLOW MGD) ²
WATER SURFACE ELEVATION ¹ (FLOW MGD) ³
- ELEVATIONS IN FEET BASED ON MEASUREMENTS TO NGS BENCHMARK "H 1088". ELEVATION = 139.00'
 - VALUE ABOVE LINE RESULTS FROM PLANT PEAK FLOW OF 3.77 MGD, A RAS FLOW OF 3.19 MGD AND TWO CLARIFIERS IN SERVICE.
 - VALUE BELOW LINE RESULTS FROM PLANT AVERAGE DRY WEATHER FLOW OF 1.37 MGD, A RAS FLOW OF 0.69 MGD AND ONE CLARIFIER IN SERVICE.

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	WMH	1368004-G008								
	DRAWN	JOB NO.								
	GAS	1368004.00								
	CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	DATE							
	RRH 25		OCTOBER 2014							
		SHEET	OF							
NO.	REVISION	DATE	BY	G008						

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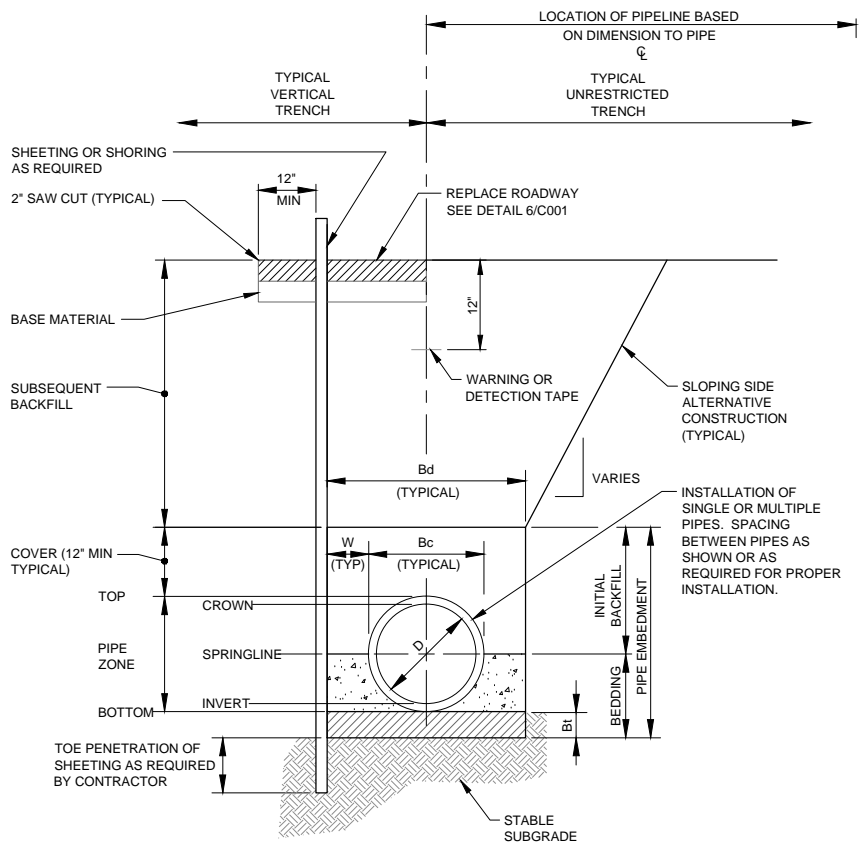


- NOTES:**
1. FOR WORK SEQUENCE AND DEMOLITION REQUIREMENTS, SEE SPECIFICATION SECTIONS 01010 AND 02050.
 2. PROVIDE WATERTIGHT CAP ON EXISTING 2" W TO EXISTING HEADWORKS.
 3. SEE SHEET A 111 AND E101 FOR DEMOLITION INSIDE CONTROL BUILDING.
 4. DEMOLISH ALL STRUCTURES, PIPING AND EQUIPMENT ASSOCIATED WITH THE EXISTING HEADWORKS. BACKFILL EXCAVATION WITH STRUCTURAL FILL PER SPECIFICATION SECTION 02301.
 5. DEMOLISH EXISTING VALVE VAULT, SE PIPING AND ASSOCIATED 8-INCH SLUICE GATES IN CHLORINE CONTACT BASINS.
 6. PROVIDE CONCRETE PLUG INSIDE END OF EXISTING PIPE. PLUG LENGTH SHALL EQUAL 2 TIMES PIPE DIAMETER.
 7. PROVIDE WATERTIGHT CAP ON EXISTING 2" W TO EXISTING CHLORINE CONTACT BASINS.

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	WMH	1368004-D101												
	DRAWN	WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS					JOB NO.							
	GAS						1368004.00							
	CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA					DATE							
	RRH 26						OCTOBER 2014							
											SHEET	OF	D101	
	NO.	REVISION	DATE	BY										

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TRENCH NOTES:

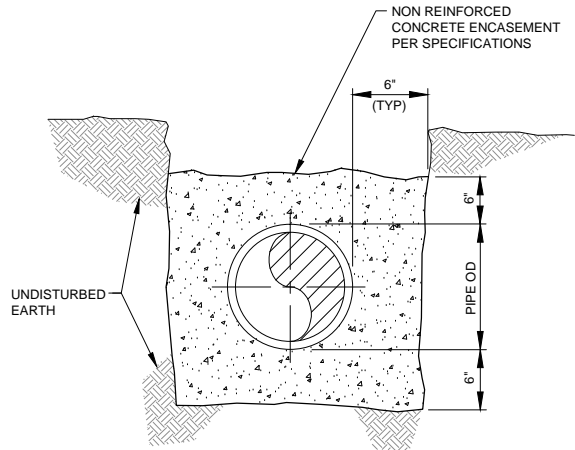
- FOR BEDDING AND INITIAL BACKFILL, SEE SPECIFICATION SECTION 02301. PROVIDE 95% COMPACTION.
- FOR SUBSEQUENT BACKFILL, SEE SPECIFICATION SECTION 02301. PROVIDE 95% COMPACTION.
- PROVIDE WARNING TAPE ABOVE METALLIC PIPING AND DETECTION TAPE ABOVE NON-METALLIC PIPING PER SECTION 02301.

TYPICAL TRENCH LIMITATIONS:

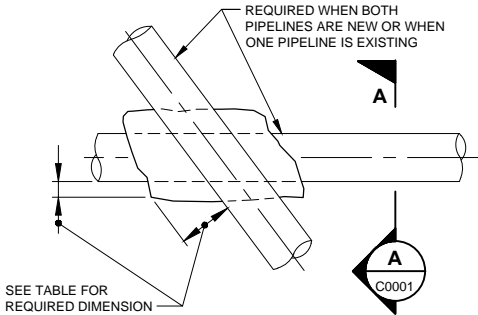
Bd = WIDTH FROM BOTTOM TO 12" ABOVE PIPING
W = CLEARANCE TO WALL, EXCLUDING SHEETING. (TO EARTH)
D = PIPE INSIDE DIAMETER. I.E. (NOMINAL PIPE SIZE)
Bc = PIPE OUTSIDE DIAMETER
Bt = DEPTH OF BEDDING FROM BOTTOM OF PIPE TO BOTTOM OF TRENCH

"D" MIN INCHES	"W" MIN INCHES	"W" MAX INCHES	"Bt" MIN INCHES
0 - 6	6	12	4
8 - 24	8	12	6

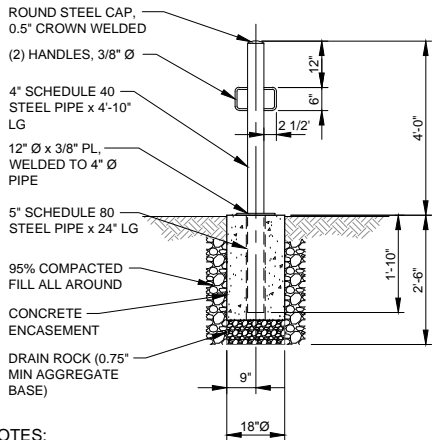
TYPICAL TRENCH DETAIL 1
NO SCALE



CONCRETE ENCASEMENT DETAIL 2
NO SCALE



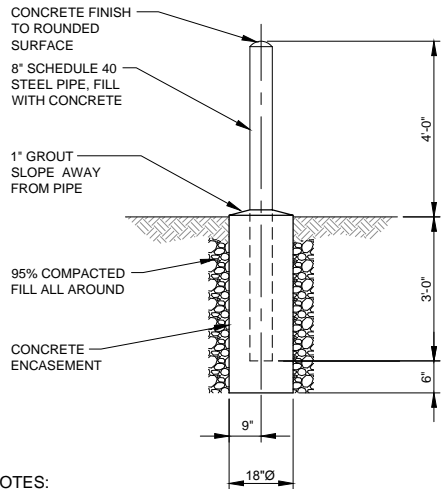
CONCRETE SUPPORT FOR PIPE CROSSING DETAIL 4
NO SCALE



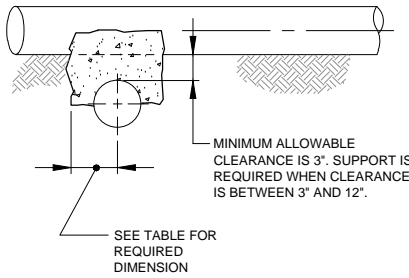
NOTES:

- STEEL PIPE SHALL BE SEAMLESS, CONFORMING TO TO ASTM A53, GRADE A.
- HOT DIP GALVANIZED PIPE IN ACCORDANCE WITH ASTM A525, G-90 COMMERCIAL

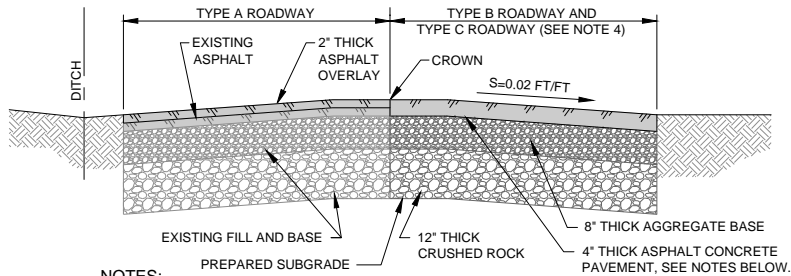
REMOVABLE BOLLARD DETAIL 5
NO SCALE



BOLLARD DETAIL 3
NO SCALE



PIPE CROSSING SECTION A
NO SCALE



NOTES:

- THE 2% CROWN SHOWN APPLIES TO STANDARD ROAD SECTIONS ONLY. OTHER SURFACED AREAS SHALL BE GRADED AS SHOWN.
- ASPHALT CONCRETE PAVEMENT TO BE PROVIDED IN TWO 2-INCH LIFTS PER SECTION 02705.
- REFER TO SECTIONS 02301 AND 02705 FOR SUBGRADE PREPARATION, AGGREGATE BASE AND ROCK FILL REQUIREMENTS.
- TYPE C ROADWAY DOES NOT INCLUDE ASPHALT CONCRETE PAVEMENT.

TYPICAL ROADWAY SECTION 6
NO SCALE

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REVA NO.	DESCRIPTION	VALUE	BY
	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.



DESIGNED

WMH

DRAWN

GAS

CHECKED

RRH 27

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

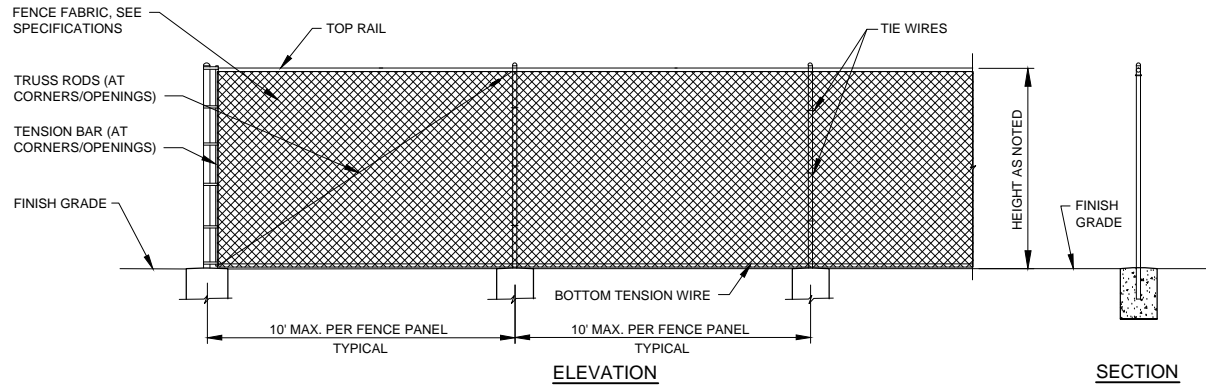
WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

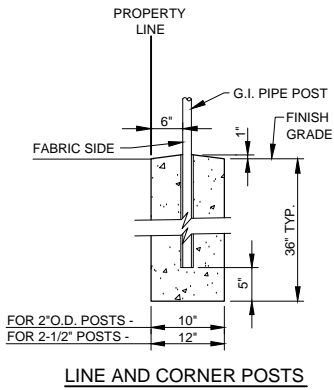
CIVIL DETAILS - 1

FILE NAME
1368004-C001
JOB NO.
1368004.00
DATE
OCTOBER 2014
SHEET
OF
C001

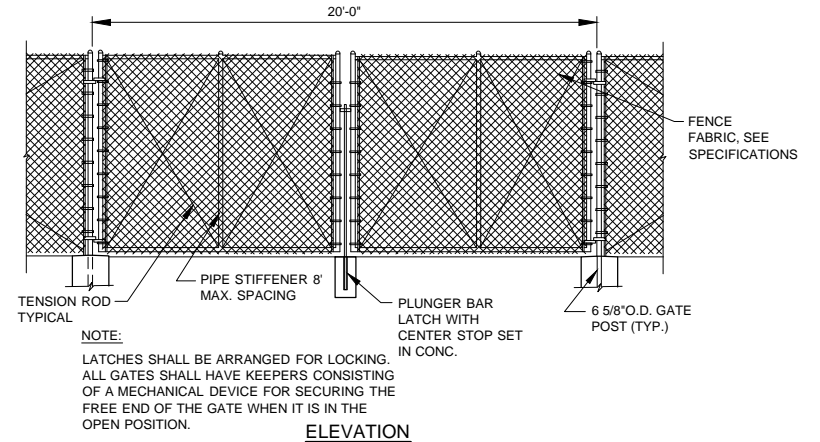
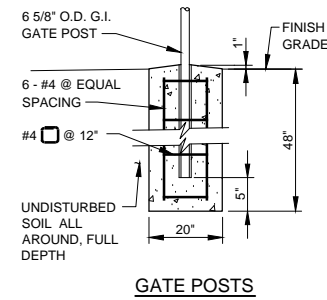
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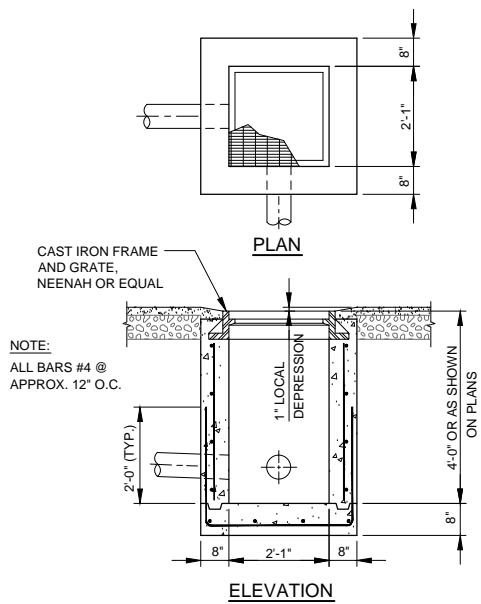
CHAIN LINK FENCE DETAIL 7
NO SCALE



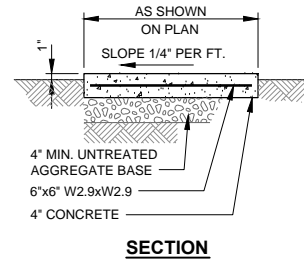
FENCE POST INSTALLATION DETAIL 8
NO SCALE



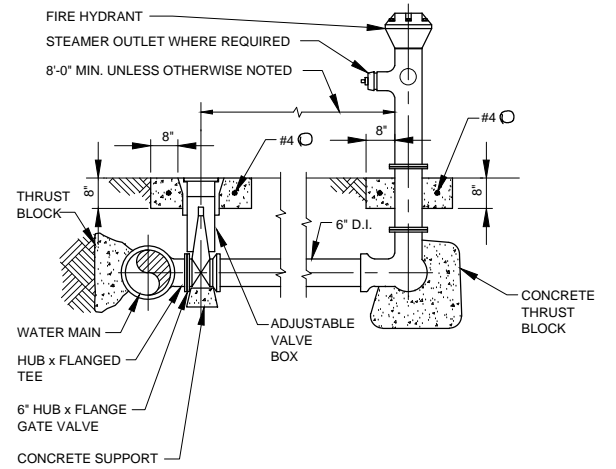
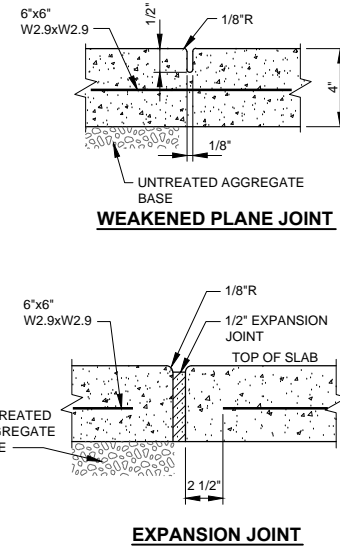
DOUBLE SWING GATE DETAIL 9
NO SCALE



CATCH BASIN DETAIL 10
NO SCALE



CONCRETE SIDEWALK DETAIL 11
NO SCALE



FIRE HYDRANT DETAIL 12
NO SCALE

90% SUBMITTAL

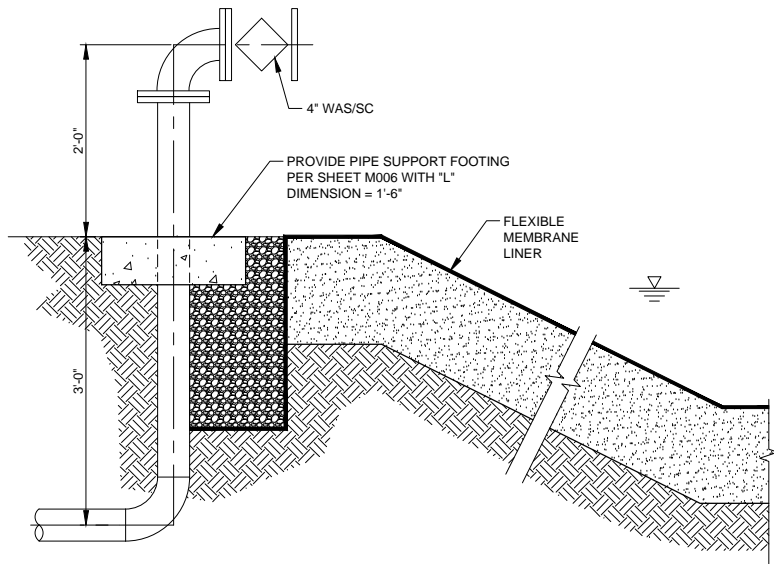
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								JOB NO. 1368004.00
								DATE OCTOBER 2014
								SHEET C002
								OF

REVISION	DESCRIPTION	DATE	BY
NO.			

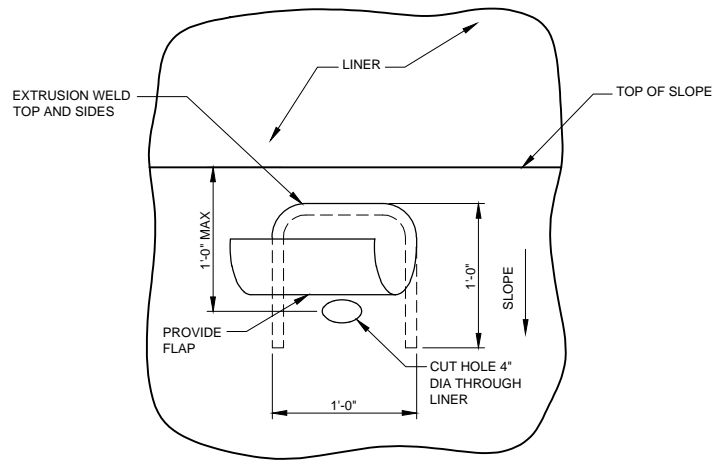
SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.



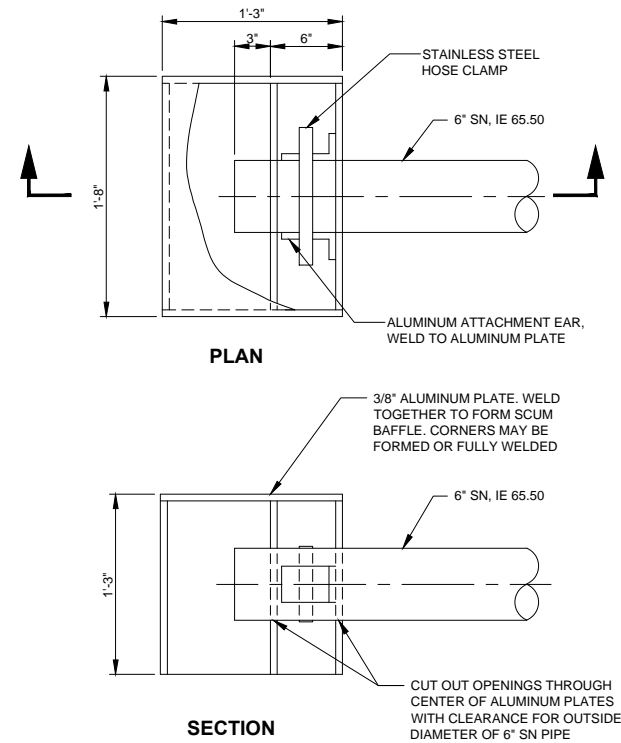
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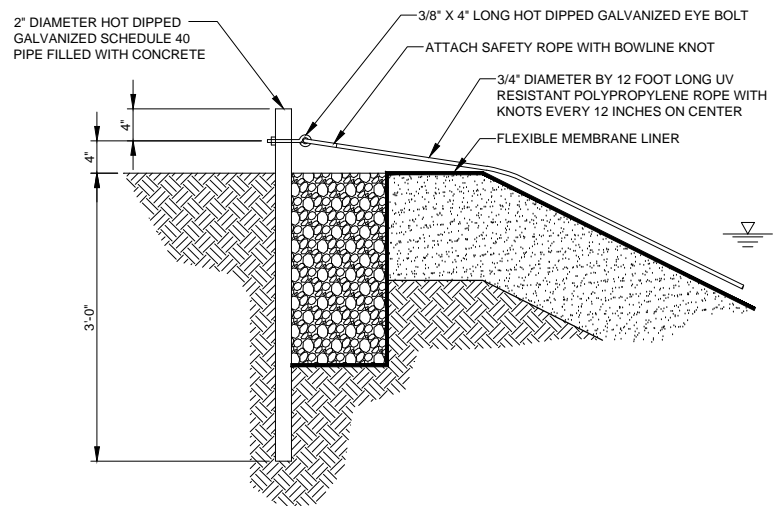
DETAIL - WAS/SC OUTLET 13
C106 C108, C109
0 1
1"=1'-0"



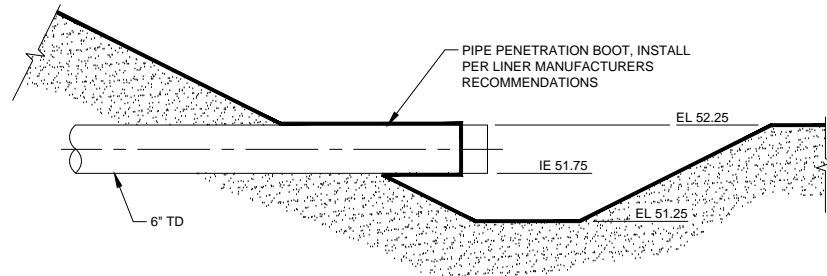
DETAIL - VENT LINER 14
M421 C102, C104, C105
0 1
1 1/2"=1'-0"



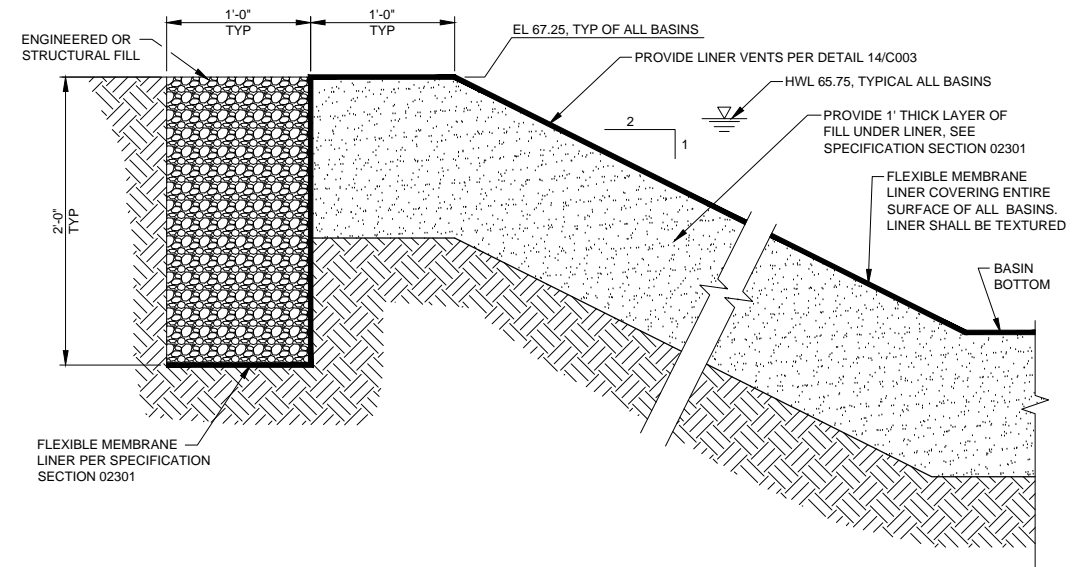
DETAIL - SCUM BAFFLE 15
C107
0 1
1 1/2"=1'-0"



DETAIL - SAFETY ROPE 16
M421 C102, C104, C105
0 1
1"=1'-0"



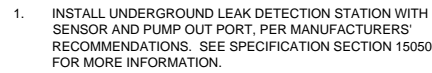
DETAIL - TANK DRAIN INLET 17
M421
0 1
1"=1'-0"



SECTION B
M421 C102, C104, C105
0 1
1 1/2"=1'-0"

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						1368004-C003			
						JOB NO.			
						1368004.00			
						DATE			
							WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS		OCTOBER 2014



(E) 18" SE

12" x 18" ECCENTRIC REDUCER WITH FLAT SIDE ON TOP

3'-0"

FE 4456

10'-0"

12" SE

FLEXIBLE GROOVE TYPE COUPLING, VICTAULIC STYLE 31, OR EQUAL, TYP (6) PLCS

12" x 18" ECCENTRIC REDUCER WITH FLAT SIDE ON TOP

18" SE TO CHLORINE CONTACT BASINS, SEE SHEET C106 FOR CONTINUATION

A
C004

PROVIDE A GROOVED PIPE SPOOL TO REPLACE MAG METER DURING MAINTENANCE. PIPE SPOOL SHALL BE INSTALLED AND TESTED PRIOR TO BEING REPLACED BY MAG METER.

5' x 5' x 7.4'± DEEP (INSIDE DIMENSIONS) PRECAST CONCRETE VAULT WITH 3' x 3' SINGLE LEAF ACCESS HATCH. VAULT AND HATCH SHALL BE RATED FOR AASHTO HS20-44 LOADING.

TYPE X1 PIPE PENETRATION PER SHEET M001, TYP (6) PLCS

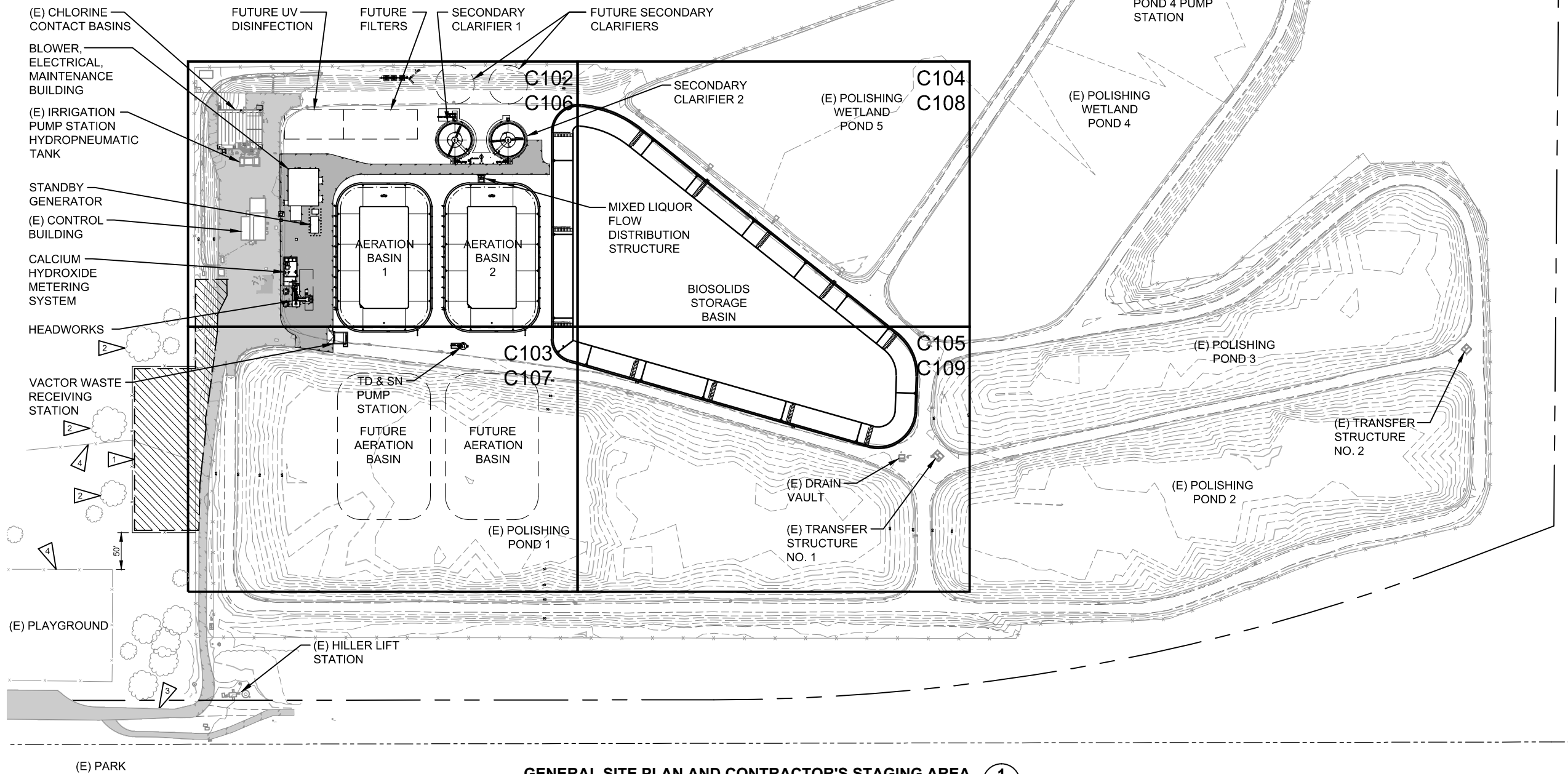
18" SE

18" SE FROM POND 5, SEE SHEET C106 FOR CONTINUATION

18" SE FROM SECONDARY EFFLUENT PUMP STATION, SEE SHEET C106 FOR CONTINUATION

FILE NAME	1368004-C004
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
C004	

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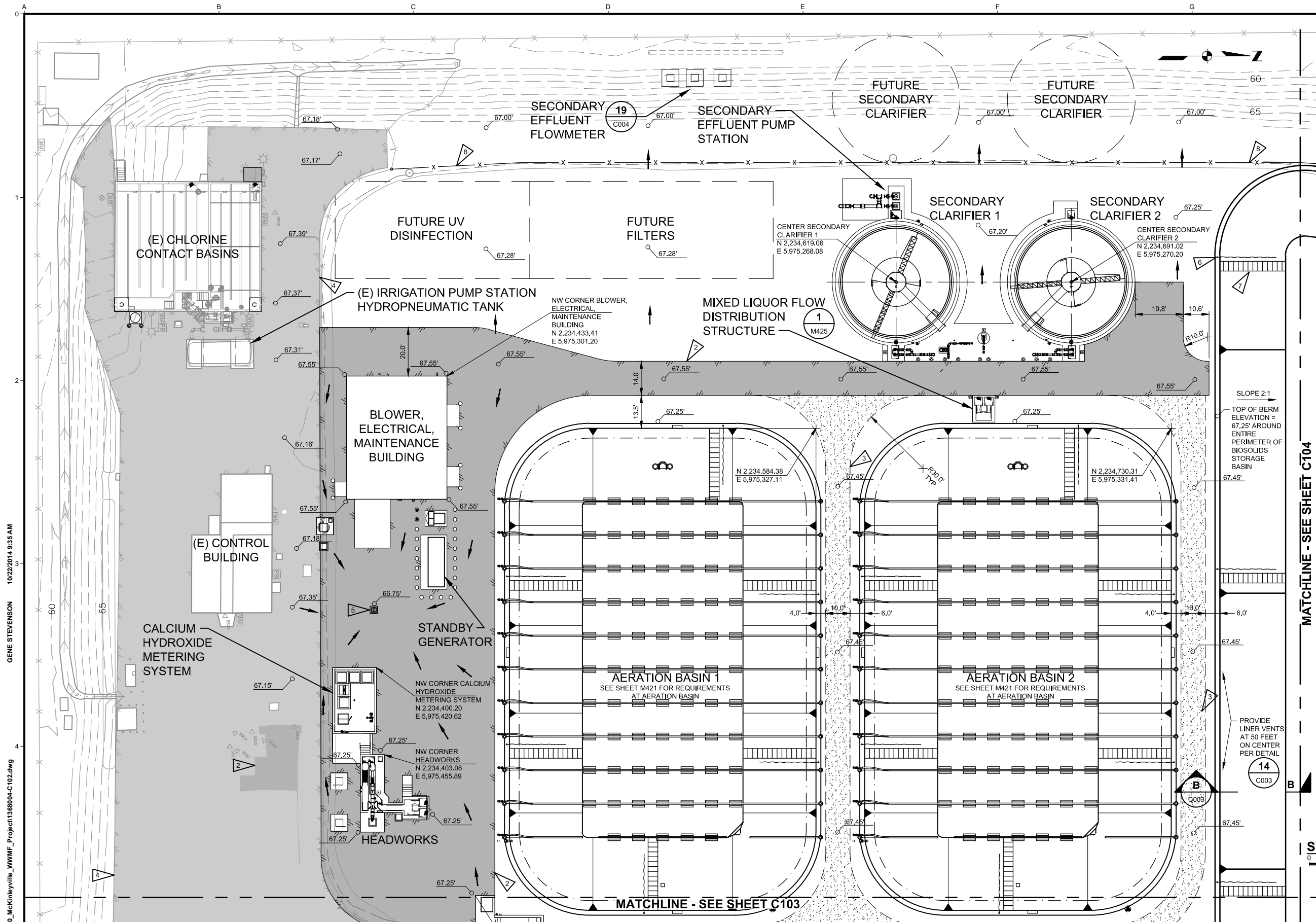


- GENERAL CIVIL NOTES:**
1. THE BEARINGS FOR THIS SURVEY ARE BASED ON ZONE 1 OF THE CALIFORNIA COORDINATE SYSTEM (NAVD 88).
 2. THE ELEVATIONS FOR THIS SURVEY ARE BASED ON MEASUREMENTS TO NGS BENCHMARK "H 1088". ELEVATION = 139.00'
 3. THREE SURVEY CONTROL POINTS WILL BE LOCATED AT THE PROJECT SITE BY THE OWNER PRIOR TO CONSTRUCTION.
- NOTES:**
1. CONTRACTOR'S STAGING AREA. REFER TO SPECIFICATION SECTION 01500 FOR REQUIREMENTS.
 2. PROTECT EXISTING TREES FROM DAMAGE.
 3. A SPEED LIMIT OF 10 MPH ON ACCESS ROADS SHALL BE STRICTLY ENFORCED BY THE CONTRACTOR. EXTREME CAUTION IN THE PLAYGROUND AND PARK AREA SHALL BE TAKEN BY ALL CONSTRUCTION RELATED TRAFFIC.
 4. EXISTING FENCING.

GENERAL SITE PLAN AND CONTRACTOR'S STAGING AREA 1
C100

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	NO.	REVISION	DATE	BY			DRAWN GAS			JOB NO. 1368004.00
							CHECKED RRH	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA		DATE OCTOBER 2014
							31			SHEET C100 OF



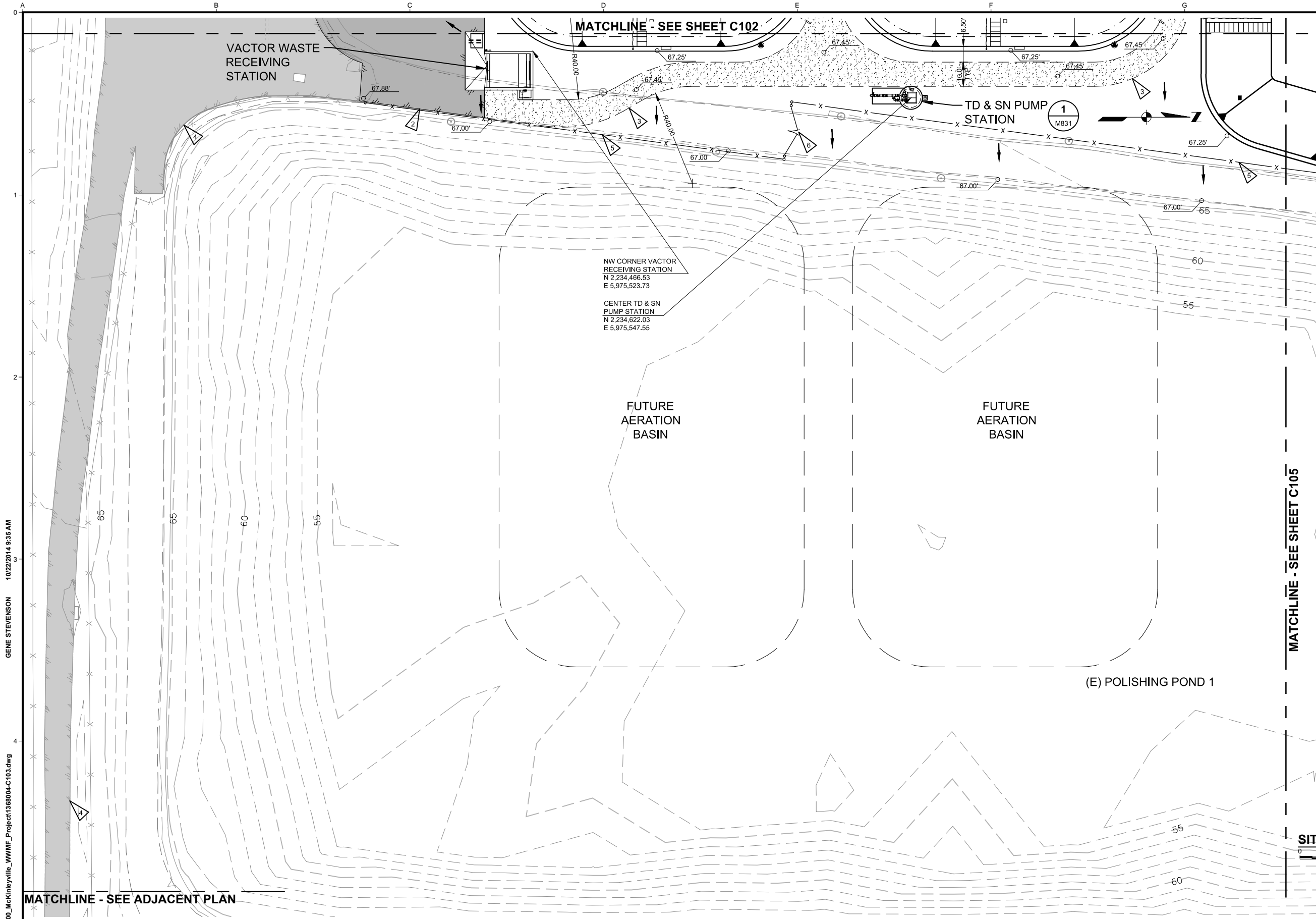
- NOTES:**
1. REFER TO GENERAL CIVIL NOTES ON SHEET C100.
 2. PROVIDE TYPE-B ROADWAY PER DETAIL 6/C001.
 3. PROVIDE TYPE-C ROADWAY PER DETAIL 6/C001.
 4. PROVIDE TYPE-A ROADWAY PER DETAIL 6/C001 OVER AREAS OF EXISTING PAVEMENT WHICH ARE UNDAMAGED BY CONSTRUCTION. OVER AREAS OF EXISTING PAVEMENT WHICH ARE DAMAGED BY CONSTRUCTION, PROVIDE TYPE B ROADWAY PER DETAIL 6/C001.
 5. PROVIDE CATCH BASIN PER DETAIL 10/C002.
 6. SAFETY ROPE, TYPICAL OF (12) PLACES ON BIOSOLIDS STORAGE BASIN. SEE DETAIL 16/C003.
 7. SAFETY LADDER PER SECTION 02712. TYPICAL OF (12) PLACES ON BIOSOLIDS STORAGE BASIN.
 8. PROVIDE 6-FOOT HIGH CHAIN LINK FENCE. SEE DETAIL 7/C002.

SITE GRADING AND PAVING PLAN - 1 **1**
0 10 20 30
1"=20'

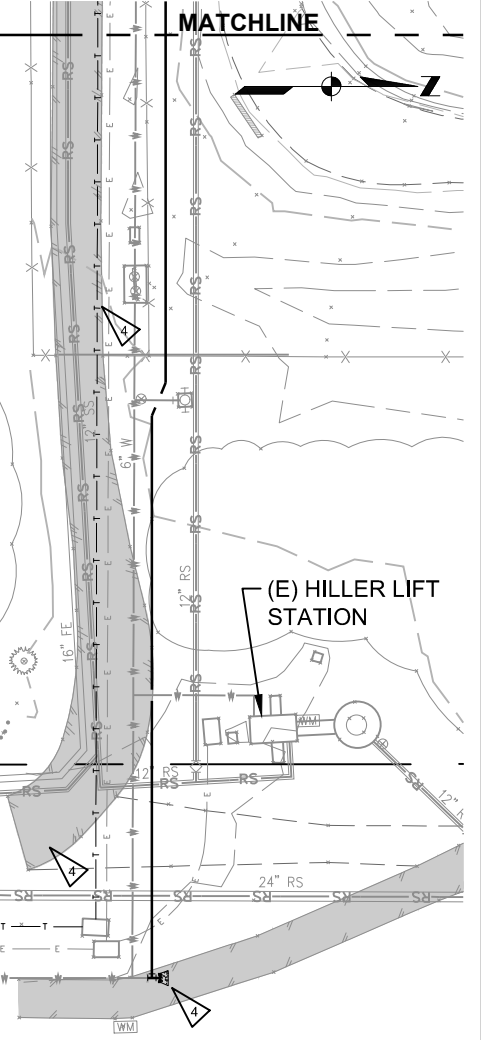
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<div>USE OF DOCUMENTS</div> <div>THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.</div>				<div>SCALES</div> <div>0 1" 0 25mm</div> <div>IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.</div>				<div>REGISTERED PROFESSIONAL ENGINEER</div> <div>ROMAN R. HOUSER</div> <div>No. C54215 Exp. 12/31/15</div> <div>CIVIL</div> <div>STATE OF CALIFORNIA</div>		<div>DESIGNED</div> <div>WMH</div> <div>DRAWN</div> <div>GAS</div> <div>CHECKED</div> <div>RRH 32</div>		<div>McKINLEYVILLE COMMUNITY SERVICES DISTRICT</div> <div>McKINLEYVILLE, CA</div> <div>WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS</div> <div>Kennedy/Jenks Consultants</div> <div>SANTA ROSA, CALIFORNIA</div>		<div>SITE GRADING AND PAVING PLAN - 1</div>				<div>FILE NAME</div> <div>1368004-C102</div> <div>JOB NO.</div> <div>1368004.00</div> <div>DATE</div> <div>OCTOBER 2014</div> <div>SHEET OF</div> <div>C102</div>	
<div>NO.</div> <div>REVISION</div> <div>DATE</div> <div>BY</div>																			



- NOTES:**
1. REFER TO GENERAL CIVIL NOTES ON SHEET C100.
 2. PROVIDE TYPE-B ROADWAY PER DETAIL 6/C001.
 3. PROVIDE TYPE-C ROADWAY PER DETAIL 6/C001.
 4. PROVIDE TYPE-A ROADWAY PER DETAIL 6/C001 OVER AREAS OF PAVEMENT WHICH ARE UNDAMAGED BY CONSTRUCTION. OVER AREAS OF EXISTING PAVEMENT WHICH ARE DAMAGED BY CONSTRUCTION, PROVIDE TYPE-B ROADWAY PER DETAIL 6/C001.
 5. PROVIDE 6-FOOT HIGH CHAIN LINK FENCE. SEE DETAIL 7/C002.
 6. PROVIDE 20-FOOT WIDE, 6-FOOT TALL DOUBLE SWING GATE. SEE DETAIL 9/C002.

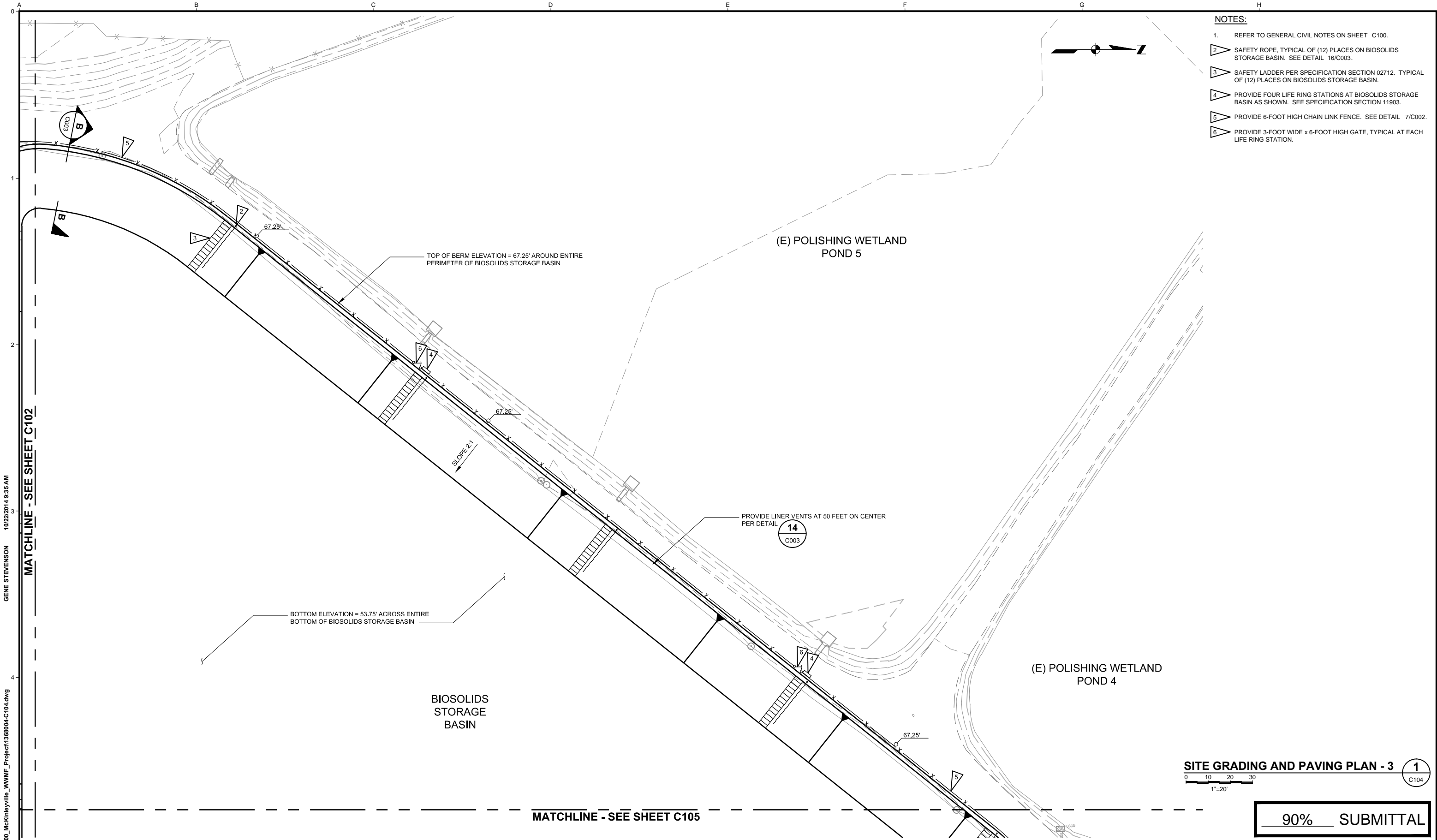


SITE GRADING AND PAVING PLAN - 2 1
C103

90% SUBMITTAL

USE OF DOCUMENTS <small>THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.</small>					SCALES 0 1" 25mm <small>IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.</small>		DESIGNED WMH	McKINLEYVILLE COMMUNITY SERVICES DISTRICT McKINLEYVILLE, CA WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS	SITE GRADING AND PAVING PLAN - 2	FILE NAME 1368004-C103
	NO.	REVISION	DATE	BY			DRAWN GAS			JOB NO. 1368004.00
							CHECKED RRH	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA		DATE OCTOBER 2014
							33			SHEET OF C103

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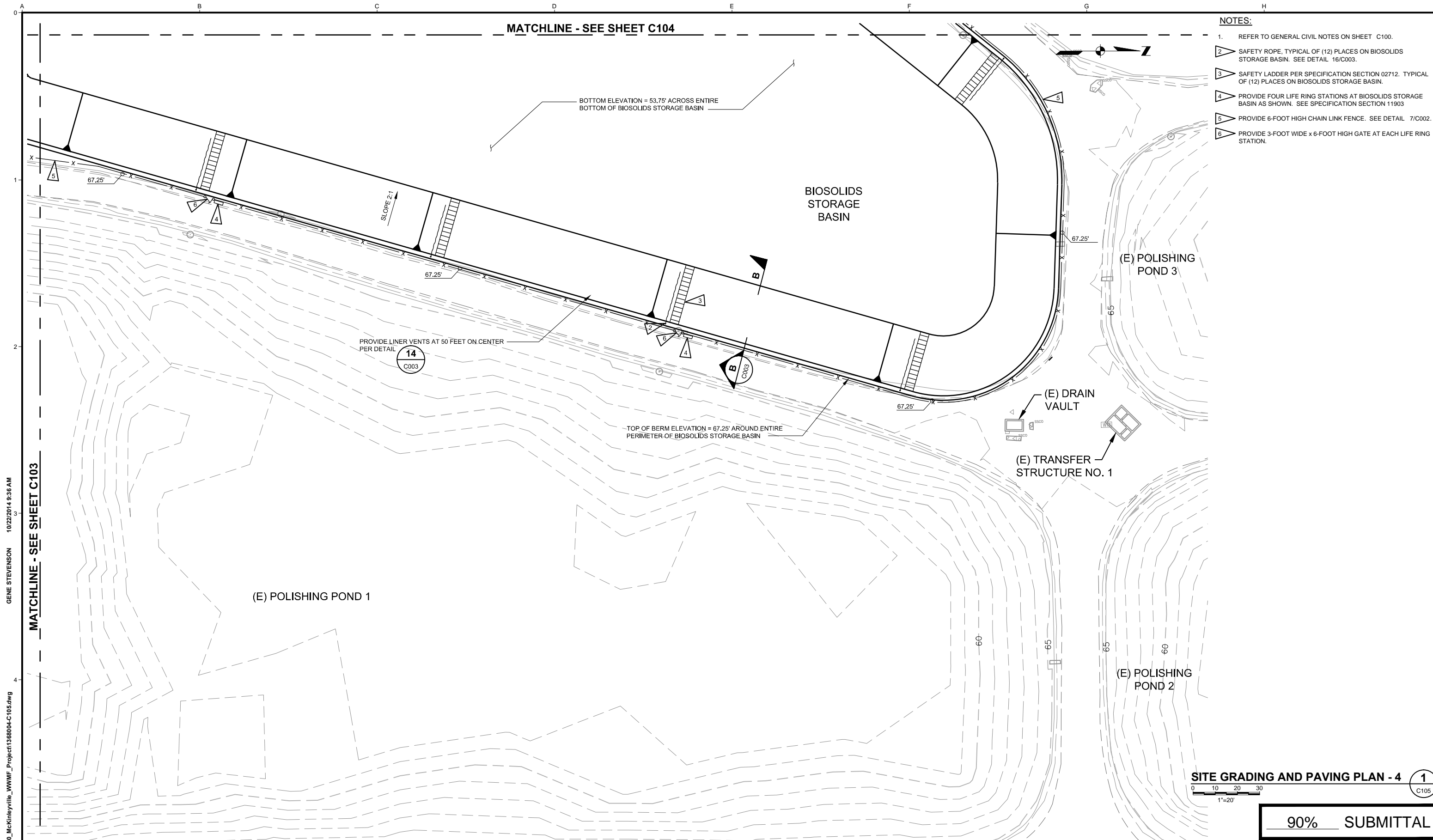


- NOTES:**
1. REFER TO GENERAL CIVIL NOTES ON SHEET C100.
 2. SAFETY ROPE, TYPICAL OF (12) PLACES ON BIOSOLIDS STORAGE BASIN. SEE DETAIL 16/C003.
 3. SAFETY LADDER PER SPECIFICATION SECTION 02712. TYPICAL OF (12) PLACES ON BIOSOLIDS STORAGE BASIN.
 4. PROVIDE FOUR LIFE RING STATIONS AT BIOSOLIDS STORAGE BASIN AS SHOWN. SEE SPECIFICATION SECTION 11903.
 5. PROVIDE 6-FOOT HIGH CHAIN LINK FENCE. SEE DETAIL 7/C002.
 6. PROVIDE 3-FOOT WIDE x 6-FOOT HIGH GATE, TYPICAL AT EACH LIFE RING STATION.

SITE GRADING AND PAVING PLAN - 3 **1**
C104

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										1368004-C104
										JOB NO.
										1368004.00
										DATE
										OCTOBER 2014
							CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	SHEET OF	C104
						RRH 34				
	NO.	REVISION	DATE	BY						



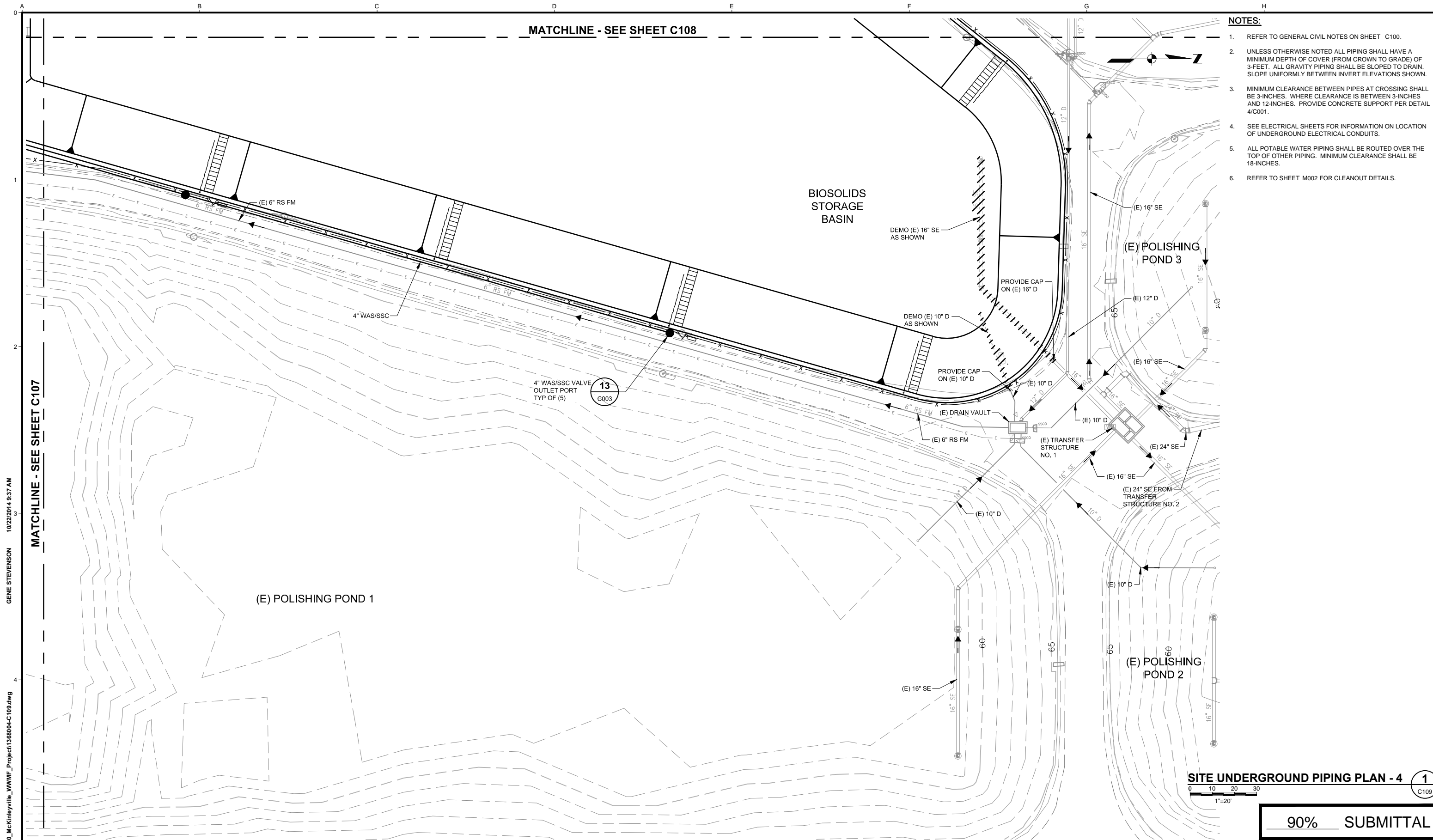
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 4. PROVIDE FOUR LIFE RING STATIONS AT BIOSOLIDS STORAGE BASIN AS SHOWN. SEE SPECIFICATION SECTION 11903
 5. PROVIDE 6-FOOT HIGH CHAIN LINK FENCE. SEE DETAIL 7/C002.
 6. PROVIDE 3-FOOT WIDE x 6-FOOT HIGH GATE AT EACH LIFE RING STATION.

SITE GRADING AND PAVING PLAN - 4 **1**
C105

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GENE STEVENSON 10/22/2014 9:36 AM
MATCHLINE - SEE SHEET C103



\\EUG1\CAD\CAD2013\1368004.00_McKinleyville_WWMP_Project\1368004-C109.dwg
GENE STEVENSON 10/22/2014 9:37 AM

MATCHLINE - SEE SHEET C107

USE OF DOCUMENTS THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.					SCALES 0 1" 25mm IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.		DESIGNED WMH	McKINLEYVILLE COMMUNITY SERVICES DISTRICT McKINLEYVILLE, CA WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	SITE UNDERGROUND PIPING PLAN - 4	FILE NAME 1368004-C109
							DRAWN GAS			JOB NO. 1368004.00
							CHECKED RRH			DATE OCTOBER 2014
							39			SHEET C109 OF
	NO.	REVISION	DATE	BY						

GENERAL

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE 2012 INTERNATIONAL BUILDING CODE, (THE 2013 CALIFORNIA BUILDING CODE), AND THE REFERENCED BUILDING CODE STANDARDS.
2. THESE NOTES AS WELL AS THE TYPICAL DETAILS APPLY TO ALL PARTS OF THE PROJECT, UNLESS NOTED OTHERWISE.
3. SHOP DRAWINGS FOR THIS CONTRACT SHALL BE COORDINATED WITH FAVORABLY REVIEWED EQUIPMENT MANUFACTURER'S DRAWINGS.
4. DIMENSIONS NOTED WITH AN ASTERISK, "*", ARE TO BE COORDINATED WITH FAVORABLY REVIEWED SUBMITTAL BY THE EQUIPMENT MANUFACTURER.

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED BY THE LOCAL BUILDING INSPECTOR AND AS DESCRIBED IN THE SPECIFICATIONS.
2. THE CONTRACTOR SHALL SELECT, INSTALL AND MAINTAIN SHORING, SHEETING, BRACING AND SLOPING AS NECESSARY TO MAINTAIN SAFE EXCAVATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING FULL COMPLIANCE WITH 29 CFR PART 1926 OSHA SUBPART EXCAVATIONS AND TRENCHES REQUIREMENTS. ALL EARTHWORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH APPLICABLE LAW, INCLUDING LOCAL ORDINANCES, (CALIFORNIA, CALIFORNIA CIVIL CODE AND CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY REGULATIONS), AND APPLICABLE OSHA REQUIREMENTS.

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48-HOURS BEFORE PLACEMENT OF REINFORCING STEEL AND CONCRETE SO THAT THE SUBGRADE OF EXCAVATIONS MAY BE INSPECTED BY THE GEOTECHNICAL ENGINEER.
2. THE GEOTECHNICAL ENGINEER SHALL VERIFY BACKFILL MATERIAL AND BACKFILLING PROCEDURES AND PROVIDE SOIL COMPACTION TESTS.
3. STRUCTURAL OBSERVATION SHALL BE PROVIDED BY THE DESIGN ENGINEER(S) OF RECORD OR THEIR AUTHORIZED REPRESENTATIVES IN ACCORDANCE WITH IBC 2012 SECTION 1710. STRUCTURAL OBSERVATION SHALL CONSIST OF SITE VISITS AT INTERVALS APPROPRIATE TO THE STAGE OF CONSTRUCTION TO OBSERVE CONSTRUCTION IN PROGRESS AND REVIEW OF TESTING AND INSPECTION REPORTS FOR GENERAL COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS RELATING TO THE STRUCTURAL WORK AND THE NONSTRUCTURAL COMPONENTS AND EQUIPMENT ANCHORAGE.
4. SPECIAL INSPECTION IN ACCORDANCE WITH IBC 2012, SECTION 1704, SHALL BE REQUIRED AS INDICATED IN THE SPECIAL INSPECTION AND TESTING SCHEDULE ON THIS SHEET.

1. GEOTECHNICAL INVESTIGATIONS FOR DESIGN PURPOSES FOR THIS PROJECT WERE MADE BY LACO ASSOCIATES, INC. IN A REPORT DATED SEPTEMBER 11, 2013.
2. IN ACCORDANCE WITH THE IBC CHAPTER 18 THE SOILS ARE GENERALLY CLASSIFIED SILTY SANDS UNDERMINED BY MAXIMUM 12 INCHES.
3. THE DESIGN BEARING CAPACITY OF THE SOILS IS 2,000 PSF FOR FOOTINGS, BEARING CAPACITY OF SOILS ARE FOR DEAD AND LIVE LOADS FOR FOUNDATIONS. BEARING VALUES MAY BE INCREASED BY ONE-THIRD WHEN TRANSIENT LOADS SUCH AS WIND OR SEISMIC LOADS ARE INCLUDED.
4. SOILS SHALL BE EXCAVATED TO THE ELEVATIONS INDICATED ON THE DRAWINGS FOR FOUNDATIONS. EXCAVATED SOILS SHALL BE REPLACED WITH NATIVE OR COMPACTED STRUCTURAL FILL, AS SPECIFIED AND APPROVED BY THE GEOTECHNICAL ENGINEER. EXCAVATED MATERIAL SHALL BE REPLACED WITH STRUCTURAL FILL AS SHOWN ON THE DRAWINGS. FOUNDATIONS SHALL BE CONSTRUCTED AGAINST UNDISTURBED NATIVE COMPETENT MATERIAL OR COMPACTED STRUCTURAL FILL.

1.	MINIMUM LOADING REQUIREMENTS PER CHAPTER 16 OF THE 2012 INTERNATIONAL BUILDING CODE IN LATEST REVISION.	
2.	DEAD LOAD:	AS CALCULATED
3.	LIVE LOADS:	
	CATWALKS FOR MAINTENANCE ACCESS	40 PSF UNIFORM, 300 LBS POINT
	ELEVATED SLABS & WALKWAYS	100 PSF UNIFORM
	FIXED LADDERS	300 LBS POINT
	FIXED STAIRWAYS & EXIT-WAYS	100 PSF UNIFORM, 300 LBS POINT PER T
	HANDRAILS, GUARDRAILS AND GRAB BARS	50 PLF AT TOP RAIL, 200 LBS POINT
	FLOOR - HEAVY MANUFACTURING/STORAGE	250 PSF UNIFORM, 3,000 LBS POINT
	FLOOR - GARAGE (TRUCKS)	AASHTO HS20-44
	ROOF (REDUCTION FOR UNIFORM LOAD)	20 PSF UNIFORM, 2,000 LBS POINT
	GRATING, CHECKERED PLATE, ACCESS HATCHES	EQUAL TO FLOOR LIVE LOAD
	SIDEWALKS & VEHICULAR DRIVEWAYS	250 PSF UNIFORM, 8,000 LBS POINT AAS
	UNRESTRICTED VEHICULAR ACCESS	HS20-44
	CONCRETE VAULTS AND COVERS	AASHTO HS20-44
4.	WIND LOAD:	
	BASIC WIND SPEED	115 MPH
	EXPOSURE	D
5.	SNOW LOAD:	
	IMPORTANCE FACTOR, I	1.15
	BASIC GROUND SNOW LOAD, P_g	0 PSF
6.	SEISMIC LOAD:	
	RISK CATEGORY	III
	SEISMIC IMPORTANCE FACTOR, I	1.25
	SEISMIC IMPORTANCE FACTOR, I_p	1.50
	SOIL PROFILE TYPE	D
	SITE COEFFICIENT S_s	2.674
	SITE COEFFICIENT S_1	1.048
	SEISMIC DESIGN RESPONSE PARAMETER S_{DS}	1.783
	SEISMIC DESIGN RESPONSE PARAMETER S_{D1}	1.048
	SEISMIC DESIGN CATEGORY	F
	SITE COEFFICIENT F_a	1.0
	SITE COEFFICIENT F_v	1.0
	OVERSTRENGTH AND DUCTILITY COEFFICIENT, R	5.0
	RESPONSE MODIFICATION FACTOR, R_w	3.0
	SEISMIC AMPLIFICATION FACTOR, Ω	2.5 FOR MASONRY
	LONG PERIOD TRANSITION PERIOD, T_L	8 SEC
	ANALYSIS METHOD	EQUIVALENT LATERAL FORCE METHOD
	BASE SHEAR	88.6 k FOR LOWER ELECTRICAL AND

1. REINFORCING BARS SHALL BE ASTM A615-GRADE 60.
2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
3. ARRANGEMENT AND DETAILING OF REINFORCING STEEL, INCLUDING BAR SUPPORTS AND SPACERS, SHALL BE IN ACCORDANCE WITH THE LATEST ACI 315 DETAILING MANUAL.
4. REINFORCING SPALL LAP IN ACCORDANCE WITH THE CONCRETE REINFORCEMENT SPlice TABLE, UNLESS OTHERWISE SHOWN. WHEN BARS OF DIFFERENT SIZE LAP TO EACH OTHER, SPlice LENGTH FOR THE SMALLER BAR SHALL BE USED. ALL BARS SHALL HAVE THE SAME SIZE AND SPACING AS THAT OF THE REINFORCING STEEL. THEY ARE SPliced AND SHALL HAVE A MINIMUM LAP AS NOTED ABOVE. BAR SPICES SHALL BE STAGGERED.
5. HOOK REINFORCING BARS INTERRUPTED BY OPENINGS.
6. NO WELDING OF REINFORCING BARS SHALL BE PERMITTED, UNLESS APPROVAL IN WRITING IS OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION.
7. DIMENSIONS TO REINFORCING ARE TO BAR CENTERLINES, UNLESS NOTED OTHERWISE. BAR COVER IS CLEAR DISTANCE BETWEEN THE BAR AND THE CONCRETE SURFACE. UNLESS NOTED OR SHOWN OTHERWISE BAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

FOOTINGS AND BASE SLABS:	
FORMED SURFACES AND BOTTOMS ON CONCRETE WORK MAT	2-INCH
TOP SURFACES EXPOSED TO EARTH, WATER, OR WEATHER	2-INCH
BOTTOMS AND SIDES IN CONTACT WITH EARTH	3-INCH
SUSPENDED SLABS:	
FORMED SURFACES EXPOSED TO EARTH, WATER, OR WEATHER	2-INCH
TOP AND BOTTOM BARS DRY CONDITION	1-INCH
BEAMS AND COLUMNS:	
DRY CONDITIONS:	
STIRRUPS, SPIRALS, AND TIES	1 1/2-INCH
PRINCIPAL REINFORCEMENT	2-INCH
EXPOSED TO EARTH, WATER, OR WEATHER:	
STIRRUPS, SPIRALS, AND TIES	2-INCH
PRINCIPAL REINFORCEMENT	2 1/2-INCH
WALLS:	
LESS THAN 12-INCHES THICK	1 1/2-INCH
12 INCHES OR OVER IN THICKNESS	2 1/2-INCH

1. CEMENT SHALL BE ASTM C150 TYPE II FOR ALL STRUCTURES. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (PSI) AS NOTED IN THE TABLE BELOW AND AS FURTHER DEFINED IN THE SPECIFICATIONS:

CONCRETE STRENGTH (PSI)		
TYPE	STRENGTH	LOCATION
B	4,500	SEVERE SANITARY - (CLARIFIER, HEADWORKS)
D	4,500	BLDG SEVERE WEATHER - (BUILDINGS)
E	2,500	MISCELLANEOUS STRUCTURES AND SITework
G	125 (MAX)	CLSM/CHF - SEE SPECIFICATION SECTION 02065

2. CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318-08 INCLUDING BAR BENDS AND HOOKS, UNLESS DETAILED OTHERWISE.
3. SUBMIT CONCRETE AND MASONRY LIFT DRAWINGS SHOWING THE LOCATION OF CONSTRUCTION JOINTS, WATERSTOPS AND OTHER TYPES OF JOINTS OTHER THAN SPECIFIED OR SHOWN ON THE DRAWINGS FOR FAVORABLE REVIEW BY THE ENGINEER BEFORE START OF WORK ON FORMS, REINFORCING STEEL OR PLACING CONCRETE. ANY ADDITIONAL VERTICAL OR HORIZONTAL CONSTRUCTION JOINTS SHALL HAVE A STANDARD KEYWAY AND SHALL BE FAVORABLY REVIEWED BY THE ENGINEER. REFER TO SPECIFICATIONS AND TYPICAL DETAILS FOR ADDITIONAL INFORMATION. CONSTRUCTION JOINTS SHALL BE ROUGHENED TO 1/4-INCH AMPLITUDE.
4. OPENINGS, PIPE SLEEVES, CONDUITS, INSERTS AND OTHER EMBEDDED ITEMS SHALL BE IN PLACE BEFORE CONCRETE IS PLACED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, LANDSCAPING, HVAC, PLUMBING, INSTRUMENTATION AND OTHER PLANS FOR ITEMS REQUIRING SLEEVES AND EMBEDMENTS IN CONCRETE WHICH ARE NOT INDICATED OR SHOWN ON STRUCTURAL DRAWINGS, NO PIPES OR SLEEVES SHALL PASS THROUGH STRUCTURAL MEMBERS (UNLESS SHOWN ON STRUCTURAL DRAWINGS), COORDINATE WITH EQUIPMENT MANUFACTURERS DRAWINGS FOR ANCHOR DEVICES.
5. UNLESS OTHERWISE NOTED, ALL EXPOSED EDGES AND CORNERS SHALL BE CHAMFERED 3/4-INCH, INTERIOR FLOOR SLABS AND EXTERIOR SIDEWALKS SHALL HAVE TOOLED 3/8-INCH RADIUS CONSTRUCTION JOINT.
6. EACH FACE CONCRETE SHALL BE REINFORCED A MINIMUM OF NO. 5 BARS AT 12-INCHES EACH WAY.
7. CONCRETE ENCASE ALL PIPES AND CONDUITS UNDER CONCRETE SLABS AND FOOTINGS

1. SEE DRAWING S-4.

1. UNLESS NOTED OTHERWISE, STRUCTURAL ALUMINUM SHALL BE GRADE 6061-T6.
2. THE FABRICATOR AND INSTALLER MUST BE A STATE LICENSED CONTRACTOR REGULARLY ENGAGED IN CUSTOM FABRICATION AND INSTALLATION OF WELDED AND BOLTED STRUCTURAL ALUMINUM.
3. WELD PROCEDURES SHALL BE QUALIFIED TO AWS D1.2. WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS, WELDING SHALL USE ONLY APPROVED ELECTRODES, WELDING SHALL CONFORM TO THE PROVISIONS OF THE LATEST STRUCTURAL WELDING CODE (AWS D1.2).
4. CONNECTIONS SHALL USE ANSI TYPE 304, STAINLESS STEEL BOLTS UNLESS NOTED OTHERWISE. PROVIDE SHERMAN-BLUMBERG OR EQUIVALENT CONNECTING DEVICES.
5. ALL ALUMINUM IN CONTACT WITH CONCRETE, PLASTER OR OTHER METALS SHALL RECEIVE AN ISOLATION COATING IN ACCORDANCE WITH THE SPECIFICATIONS.

1. UNLESS OTHERWISE NOTED, STRUCTURAL STEEL SHALL CONFORM TO ASTM A36, W- AND WT-SHAPES SHALL CONFORM TO ASTM A992, PLATES CONNECTING TO W- AND WT- SHAPES SHALL CONFORM TO ASTM A572 GRADE 50, HOLLOW STRUCTURAL SECTIONS SHALL CONFORM TO ASTM A500 GRADE B, STEEL PIPE SHALL CONFORM TO ASTM A53 TYPE E OR S.
2. ALL STRUCTURAL STEEL BE FABRICATED BY AN AISC CERTIFIED FABRICATOR IN CONFORMANCE WITH THE LATEST AISI SPECIFICATION PARTS 1 THRU 4 AND THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
3. CONNECTIONS AND BOLTS SHALL CONFORM TO THE AISI ALLOWABLE STRESS DESIGN SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, CONNECTIONS SHALL USE ASTM A325x4 BOLTS UNLESS NOTED OTHERWISE, PROVIDE WASHERS AT ALL CONNECTIONS WITH OVERSIZE OR SHOT PILETTES.
4. WELD ELECTRODES SHALL CONFORM TO AWS A5.1 OR A5.5 E70XX ELECTRODES. WELDING SHALL BE DONE BY CERTIFIED WELDERS, WELDING SHALL USE ONLY APPROVED ELECTRODES, WELDING SHALL CONFORM TO THE PROVISIONS OF THE LATEST STRUCTURAL WELDING CODE (AWS D1.1).
5. UNLESS NOTED OTHERWISE, STRUCTURAL STEEL COMPONENTS AND CONNECTIONS SHALL BE PAINTED OR PROTECTIVE COATED IN ACCORDANCE WITH THE SPECIFICATIONS.

1. FRAMING LUMBER SHALL BE DOUGLAS FIR-LARCH AND BE GRADE MARKED PER W.C.C.I.B. SPECIFICATIONS:
 - A) STUDS:
 - Z" TO 4" THICK, 2" TO 4" WIDE, INTERIOR, NON-BEARING PARTITIONS, STUD GRADE.
 - Z" TO 4" THICK, 2" AND WIDER, EXTERIOR, BEARING WALLS, NO. 1 AND BETTER GRADE.
 - B) JOISTS AND RAFTERS:
 - Z" TO 4" THICK, 2" TO 4" WIDE, SELECT STRUCTURAL GRADE.
 - Z" TO 4" THICK, 5" AND WIDER, NO. 1 AND BETTER GRADE.
 - C) BEAMS AND HEADERS:
 - Z" TO 4" THICK, 5" AND WIDER, NO. 1 AND BETTER GRADE.
 - 5" THICK AND GREATER, ALL WIDTHS, NO. 1 AND BETTER GRADE.
 - D) POSTS AND COLUMNS:
 - Z" TO 4" THICK, 2" TO 4" WIDE, NO. 1 AND BETTER GRADE.
 - 5" THICK AND GREATER, ALL WIDTHS, SELECT STRUCTURAL GRADE.
 - E) TOP PLATES:
 - Z" THICK X 4" WIDE, INTERIOR, NON-BEARING PARTITIONS, STUD GRADE.
 - Z" THICK X 4" WIDE, EXTERIOR, BEARING WALLS, NO. 1 AND BETTER GRADE.
 - F) BLOCKING:
 - Z" TO 4" THICK, 2" AND WIDER, STUD GRADE.
 - G) SILL PLATES:
 - Z" THICK X 4" WIDE, INTERIOR, NON-BEARING PARTITIONS, PRESSURE TREATED STUD GRADE.
 - Z" TO 4" THICK, 4" AND WIDER, EXTERIOR, PRESSURE TREATED NO. 1 AND BETTER GRADE.
2. STRUCTURAL PLYWOOD SHALL BE DOUGLAS FIR CONFORMING TO COMMERCIAL STANDARDS PSI-74 AND GRADE STAMPED N.F.P.A. ALL ROOFS AND WALLS SHALL BE SHEATHED AND ALL UNSUPPORTED EDGES SHALL BE BLOCKED ACCORDING TO THE TYPICAL NAILING SCHEDULE:
 - A) ROOF SHEATHING:
 - EAVES - 4x8x3/4" SHEETS, APPEARANCE GRADE A-C EXT (A SIDE DOWN).
 - OTHER - 4x8x3/4" SHEETS, APPEARANCE GRADE C-D EXT.
 - B) WALL SHEATHING:
 - 4x8-1/2" SHEETS, APPEARANCE GRADE B-C EXT. (B SIDE INTERIOR).
3. ALL LUMBER HARDWARE (HANGERS, FRAMING ANCHORS, STRAPS, ETC) AS SHOWN ARE STRONG-TIE CONNECTORS AS MANUFACTURED BY SIMPSON COMPANY OF SAN LEANDRO, CALIFORNIA. APPROVED EQUAL HARDWARE MAY BE SUBSTITUTED IF FAVORABLY REVIEWED BY THE ENGINEER.
4. NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED, OR DRILLED UNLESS SPECIFICALLY SHOWN OR APPROVED BY THE ENGINEER.
5. MAXIMUM MOISTURE CONTENT OF LUMBER SHALL NOT EXCEED 19% FOR ALL FRAMING LUMBER.

1. PROVIDE WASHERS UNDER HEADS AND NUTS OF ALL BOLTS BEARING ON WOOD.
2. ALL NAILING SHALL BE STAGGERED TO AVOID SPLITTING OF MEMBERS.
3. BOLTS USED IN FRAMING SHALL BE ASTM A307 WITH STANDARD HEX HEAD DIMENSIONS CONFORMING TO ANSI/ASME B18.21.
4. PLATES USED IN ROOF FRAMING SHALL BE ASTM A36 OR ASTM A572 GRADE 50.
5. PROVIDE AND INSTALL ALL BOLTS AND NAILS TO ALL CONNECTORS PER THE MANUFACTURER'S RECOMMENDATIONS.
6. ALL NAILING SHALL BE IN ACCORDANCE WITH CHAPTER 23 OF THE CALIFORNIA BUILDING CODE, 2010 EDITION. USE COUNT TYPE NAILS UNLESS OTHERWISE SPECIFIED. ALL FASTENERS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED FASTENERS (MEETING ASTM A153) AND CONNECTORS (ASTM A663 CLASS C185 SHEET), OR BETTER.

- | | | | |
|----|--|---|---|
| | | | CONTROLLED FILL |
| | <input type="checkbox"/> | <input checked="" type="checkbox"/> | PRIOR TO PLACEMENT OF CONTROLLED FILL, VERIFY PROPER SUBGRADE PREPARATION |
| | <input type="checkbox"/> | <input checked="" type="checkbox"/> | CLASSIFICATION AND TESTING OF CONTROLLED FILL |
| | <input type="checkbox"/> | <input checked="" type="checkbox"/> | EXCAVATION SUPPORT & SHORING |
| | <input type="checkbox"/> | <input checked="" type="checkbox"/> | UNDERPINNING |
| 6. | SPECIAL CASES | | |
| | ANCHORAGE TO EXISTING CONCRETE/MASONRY (SPEC 05090): | | |
| | <input checked="" type="checkbox"/> | CONTINUOUS INSTALLATION INSPECTION | |
| | <input checked="" type="checkbox"/> | PROOF LOAD TEST PER SPEC 05090 | |
| | | (SUBMIT TEST LOADS TO ENGINEER PRIOR TO TEST) | |
| | | - 10% OF ANCHORS FOR DOWELS | |
| | | - 10% OF ANCHORS FOR SILL PLATE BOLTS | |
| | | - 50% OF ANCHORS FOR EQUIP ANCHORAGE | |
| | | - 100% OF ANCHORS FOR HOLD-DOWN BOLTS | |
| | | - 100% FOR ALL OTHER ANCHORS | |

1. CONCRETE INSPECTION:		
CONT	PER	
[X]	[]	CONTINUOUS PLACEMENT INSPECTION
[]	[X]	VERIFY $f'_{c} \geq 2,500$ PSI OR TYPE E CONCRETE
[X]	[]	EXCEPT DESIGN MIX
[]	[X]	AT TIME SAMPLE TAKEN FOR STRENGTH, SLUMP, UNIT WEIGHT, AIR AND TEMPERATURE TESTS.
[]	[X]	PROPER CURING AND TEMPERATURE
[X]	[]	BOLTS INSTALLED IN CONCRETE
[]	[X]	REINFORCING PLACEMENT
[]	[X]	FORMWORK
[]	[X]	STRESSING & GROUTING OF TENDONS

- | | |
|-------------|--|
| TESTING: | |
| [X] | 4 CYLINDERS PER 100 CUBIC YARDS* |
| | TEST: 2 @ 7 DAYS, 2 @ 28 DAYS. |
| | * EACH MIX PLACED, EACH DAY PLACED |
| | EXCEPT f_c 2,500 PSI OR TYPE E CONCRETE |
| [X] | SUMP TEST - PER 50 CY & AT STRENGTH SAMPLE |
| [X] | AIR TEST - PER STRENGTH SAMPLES |
| [] | SHRINKAGE TEST - 3 SPECIMENS PER STRENGTH SCHEDULE |
| [] | UNIT WEIGHT TEST - PER STRENGTH SAMPLES |
| 2. STEEL | |
| INSPECTION: | |
| CONT | PER |
| [] | [X] HIGH STRENGTH BOLT, NUT AND WASHERS |
| | CONFORM TO ASTM STANDARDS SPECIFIED |
| [] | [X] BOLT MFR CERTIFICATE OF COMPLIANCE |
| [] | [X] BEARING-TYPE CONNECTIONS |
| [] | [X] SLIP-CRITICAL CONNECTIONS |
| [] | [X] SINGLE PASS FILLET WELDS $\leq 5/16"$ |
| [X] | [] SINGLE PASS FILLET WELDS $> 5/16"$ |
| [X] | [] MULTIPASS FILLET WELDS |
| [X] | [] ALL CJP AND PJP GROOVE WELDS |
| [] | [X] FLOOR AND ROOF DECK WELDS |
| [] | [X] STEEL FRAMING COMPLIANCE W/ CONST DOCUMENTS |
| [] | [X] MAGNETIC PARTICLE TESTING 25% OF FILLET WELDS |
| [X] | [] UT ON ALL CJP WELDS |

3. STRUCTURAL MASONRY fm=1,500 psi
VERIFICATION OF fm: ☐ PRISM TESTS
☐ PRISM TEST RECORD
☒ UNIT STRENGTH
- ☐ LEVEL I INSPECTION IN ACCORDANCE WITH IBC TABLE 1704.5.1
☒ LEVEL II INSPECTION IN ACCORDANCE WITH IBC TABLE 1704.5.3

TEST	BEFORE	DURING
PRISMS	[]	[X] 3/5,000 sf
UNITS	[X]	[]
GROUT	[X]	[X] 3/WEEK
MORTAR	[]	[X] 3/WEEK

4. WOOD
INSPECTION :
CONT PER
[X] [] VERIFY NAILING, SHEATHING, AND MEMBER
DIMENSIONS OF DIAPHRAGMS AND SHEAR WALLS
[] [X] VERIFY HOLD DOWNS & RETIGHTENING OF ANCHORS

- | 5. SOILS | |
|-------------------------|--|
| INSPECTION AND TESTING: | |
| CONT | PER |
| [] | [X] |
| | VERIFY MATERIAL BELOW FOOTING IS ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY |
| [] | [X] |
| | VERIFY EXCAVATIONS EXTEND TO PROPER DEPTH |
| [X] | [] |
| | VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT OF CONTROLLED FILL |
| [] | [X] |
| | PRIOR TO PLACEMENT OF CONTROLLED FILL, VERIFY PROPER SUBGRADE PREPARATION |
| [] | [X] |
| | CLASSIFICATION AND TESTING OF CONTROLLED FILL |
| [] | [X] |
| | EXCAVATION SUPPORT & SHORING |
| [] | [X] |
| | UNDERPINNING |

6. SPECIAL CASES
ANCHORAGE TO EXISTING CONCRETE/MASONRY (SPEC 05090):
[X] CONTINUOUS INSTALLATION INSPECTION
[X] PROOF LOAD TEST PER SPEC 05090

- 10% OF ANCHORS FOR DOWELS
 - 10% OF ANCHORS FOR SILL PLATE BOLTS
 - 50% OF ANCHORS FOR EQUIP ANCHORAGE
 - 100% OF ANCHORS FOR HOLD-DOWN BOLTS
 - 100% FOR ALL OTHER ANCHORS
- NOTE: POST-INSTALLED FASTENERS ARE ONLY TO BE INSTALLED WHERE

NOTE: POST-INSTALLED FASTENERS ARE ONLY TO BE INSTALLED WHERE SPECIFICALLY INDICATED AND SHALL RECEIVE SPECIAL INSPECTION AND TESTING IN ACCORDANCE WITH SECTION 05090.

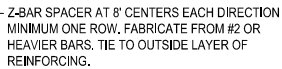
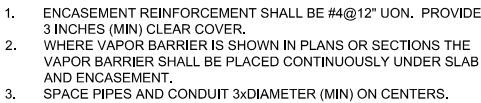
- THE FOLLOWING ARE NOT USED:
7. PILE FOUNDATIONS
 8. SHOTCRETE
 9. INSULATING CONCRETE FILL
 10. SPRAY-APPLIED FIRE RESISTIVE MATERIALS
 11. SMOKE CONTROL SYSTEMS
 12. REINFORCED GYPSUM CONCRETE

	AND	JT	JOINT
@	AT		
#	NUMBER	KIP	1,000 POUNDS
Ø	DIAMETER	KSI	KIPS PER SQUARE INCH
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIAL	L/L	ANGLE
AB	AGGREGATE BASE, ANCHOR BOLT	LB(S)	POUNDS
ACI	AMERICAN CONCRETE INSTITUTE	LB/SF	POUND(S) PER SQUARE FOOT
ADDIT	ADDITIONAL	LL	LIVE LOAD
ADJ	ADJACENT	LLH	LONG LEG HORIZONTAL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LLV	LONG LEG VERTICAL
		LLB	LONG LEG BACK-TO-BACK
		LONGIT	LONGITUDINAL
		LT	LIGHT
AISI	AMERICAN IRON AND STEEL INSTITUTE	LW	LIGHT WEIGHT
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION	MATL	MATERIAL
		MAX	MAXIMUM
ALUM	ALUMINUM	MB	MACHINE BOLT
ALT	ALTERNATE	MC	MOISTURE CONTENT
APA	AMERICAN PLYWOOD ASSOCIATION	MC	MISCELLANEOUS CHANNEL
		MECH	MECHANICAL
APROX	APPROXIMATE		
ARCH	ARCHITECTURAL	MIN	MINIMUM
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MISC	MISCELLANEOUS
AWS	AMERICAN WELDING SOCIETY	(N)	NEW
		ND	NON-DESTRUCTIVE TEST(ING)
B/	BOTTOM OF	NIC	NOT IN CONTACT
BLKG	BLOCKING	NO	NUMBER
BLDG	BUILDING	NOM	NOMINAL
BM	BEAM	NS	NEAR SIDE
BM-1	BEAM MEMBER 1	NSG	NON-SHRINK GROUT
BN	BOUNDARY NAILING	NTS	NOT TO SCALE
BOT	BOTTOM		
BP	BASE PLATE	OC	ON CENTERS
BS	BOTH SIDES	OD	OUTSIDE DIAMETER
BTWN	BETWEEN	OPH	OPPOSITE HAND, OVERHEAD
		OPNG(S)	OPENING(S)
		OPP	OPPOSITE
C	CHANNEL		
CALC'S	CALCULATIONS		
CC/C/C	CONCRETE-TO-CENTER	PAF	POWDER ACTUATED
CJ	CONSTRUCTION JOINT		FASTENER
CJP	COMPLETE JOINT PENETRATION	PER	PERIODIC
ç	CENTERLINE	PL	PLATE
CLR	CLEAR	PLF	POUND PER LINEAL FOOT
CNJ	CONTROL JOINT	PP	PARTIAL PENETRATION
COL	COLUMN	PSF	POUND PER SQUARE FOOT
CONC	CONCRETE	PSI	POUND PER SQUARE INCH
CONST	CONSTRUCTION	PT(S)	POINT(S)
CONT	CONTINUOUS	PT	PRESSURE TREATED
DBL	DOUBLE	R, RAD	RADIUS
DIA	DIAMETER	RECT	RECTANGLE, RECTANGULAR
DIM	DIMENSION	REINF	REINFORCING, -MENT
DL	DEAD LOAD	REQ'D	REQUIRED
DN	DOWN		
DWG(S)	DRAWINGS	SCH	SCHEDULE
		SF	SQUARE FOOT
(E)	EXISTING	SHT	SHEET
EA	EACH	SIM	SIMILAR
EF	EACH FACE	SLBB	SHORT LEGS BACK-TO-BACK
EL	ELEVATION	SLH	SHORT LEG HORIZONTAL
ELEC	ELECTRICAL	SLV	SHORT LEG VERTICAL
EMBED	EMBEDMENT	SMS	SHEET METAL SCREW
EN	EDGE NAILING	SPEC(S)	SPECIFICATION(S)
EQ	EQUAL	SQ	SQUARE
EQUIP	EQUIPMENT	SS	STAINLESS STEEL
ES	EACH SIDE	SSD	SATURATED SURFACE DRY
EW	EACH WAY	STAG	STAGGER
EXP	EXPANSION	STD	STANDARD
EXT	EXTERIOR	STIFF	STIFFENER
		STL	STEEL
(F)	FUTURE	STRUC	STRUCTURE
FD	FLOOR DRAIN	SUSP	SUSPENDED
FF	FINISH FLOOR	SYM	SYMMETRICAL
FIN	FINISH		
FLR	FLOOR	T/	TOP OF
FN	FIELD NAILING	T&B	TOP AND BOTTOM
FNDN	FOUNDATION	TS	STRUCTURAL TUBING
FRP	FIBERGLASS REINFORCED PLASTIC	TYP	TYPICAL
FT	FOOT/FEET	UON	UNLESS OTHERWISE NOTED
FTG	FOOTING	UT	ULTRASONIC TESTING
GA	GAGE/GAUGE	VERT	VERTICAL
GALV	GALVANIZED	VIF	VERIFY IN FIELD
GLB	GLULAM BEAM		
		W/	WITH
HORIZ	HORIZONTAL	W/O	WITHOUT
HSS	HOLLOW STRUCTURAL SECTION	W	WIDE FLANGE
HT	HOLLOW	WP	WORK POINT
HWL	HIGH WATER LEVEL	WT	WEIGHT, STRUCTURAL TEE
			WALL THICKNESS
IBC	INTERNATIONAL BUILDING CODE	WWF	WELDED WIRE FABRIC
ICC	INTERNATIONAL CODE COUNCIL		
IN	INCH	YD	YARD
INT	INTERIOR		

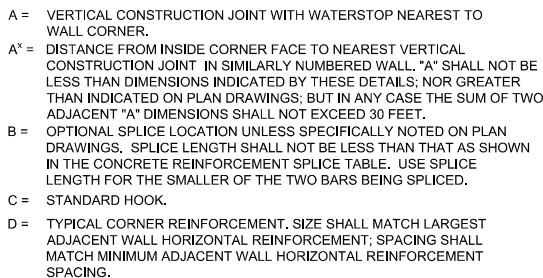
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	PDS	JOB NO.	1368004.00								
	DRAWN	CL/JL	DATE	OCTOBER 2014							
	CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	SHEET	OF							
	DLB 40		S001								
		NO.	REVISION	DATE			BY				

1. LAP SPICE LENGTHS ARE DEPENDENT ON THE FOLLOWING CRITERIA AND ARE IN CONFORMANCE WITH ACI 318-08. NOTIFY THE DESIGN ENGINEER IF THERE ARE ANY DIFFERENCES THAN THE FOLLOWING CRITERIA FOR APPLICABLE CHANGES IN LAP SPICE LENGTH.
2. LAP SPICE LENGTHS ARE IN INCHES FOR GRADE 60 REINFORCING IN NORMAL-WEIGHT CONCRETE WITH f_c GREATER THAN OR EQUAL TO 3,000 PSI.
3. CENTER-TO-CENTER SPACING OF REINFORCING SHALL BE GREATER THAN TWICE THE CONCRETE COVER PLUS ONE BAR DIAMETER.
4. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW BARS.
5. FOR EPOXY-COATED REINFORCING OR LIGHTWEIGHT AGGREGATE CONCRETE CONSULT THE DESIGN ENGINEER FOR LAP SPICE LENGTHS.



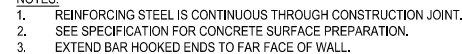
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1. VERTICAL REINFORCING NOT SHOWN.
2. THESE DETAILS SHALL BE APPLICABLE TO ALL WALL CORNERS UNLESS NOTED OTHERWISE ON THE DRAWINGS.

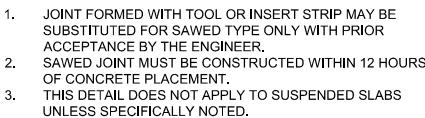


9



1. LOCATE WATERSTOP WITH WIRE TIES OR LONGITUDINAL KEY BLOCKING BETWEEN TWO CONTINUOUS CURTAINS OF REINFORCING.
2. AT INTERSECTIONS OF CONSTRUCTION JOINTS, CONNECT WATERSTOP TOGETHER TO FORM CONTINUOUS WATER BARRIER.
3. PROVIDE ROUGHENED SURFACE BETWEEN CONCRETE POURS.
4. REFER TO SPEC'S FOR INSTALLATION & DETAILED PRODUCT REQ'S.
5. EXTEND BAR HOOKED ENDS TO FAR FACE OF WALL.

1. PROVIDE ADDITIONAL VERTICAL REINF EQUAL TO THE LENGTH OF THE UNINTERRUPTED BARS.
2. EXTEND HORIZONTAL ADDITIONAL REINF 5'-0" MIN BEYOND EITHER SIDE OF OPENING (HOOK BARS IF 5'-0" NOT AVAILABLE).
3. THIS DETAIL APPLIES TO ALL WALLS AND SLABS USED FOR RETAINING LIQUIDS AND SOIL.



AL42

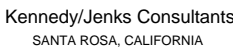
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SCALES

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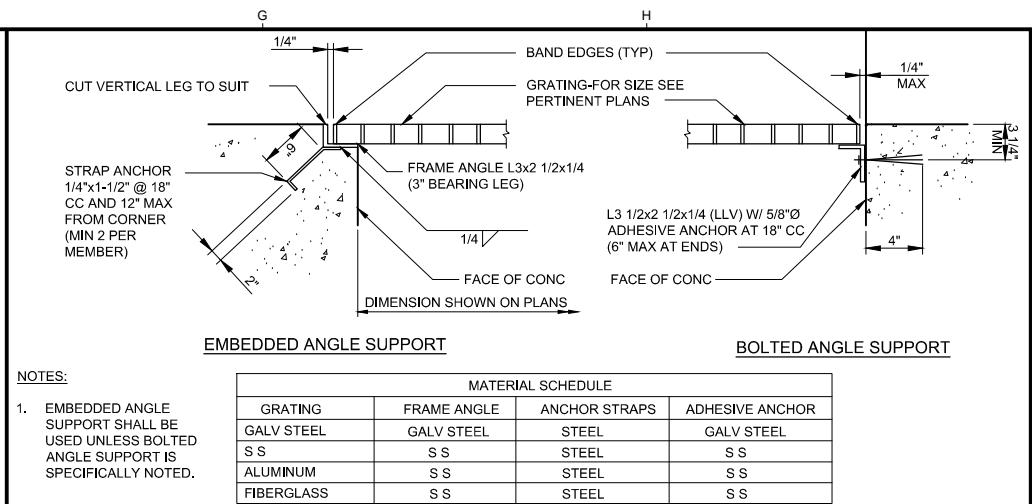
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IF THIS BAR IS NOT
DIMENSION SHOWN
ADJUST SCALES
ACCORDINGLY.

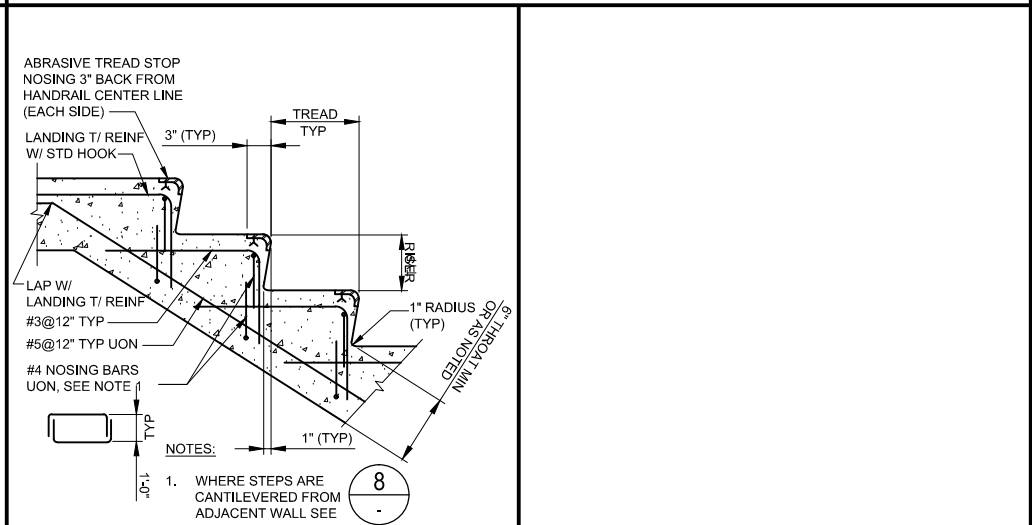


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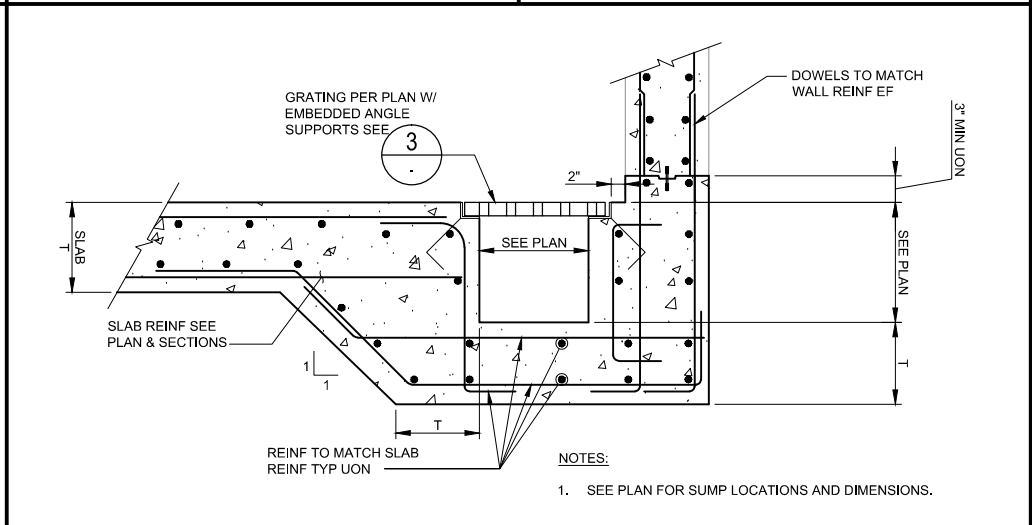
S002



3



CONCRETE STAIR TREAD
NTS



TYPICAL SUMP PIT
NTS

90% SUBMITTAL

10/22/2014 9:41 AM
GENE STEVENSON
\\Eug1\cad\CAD\20131\368004_00_McKinleyville_WWMF_Project\368004-S004.dwg

STRUCTURAL MASONRY GENERAL NOTES

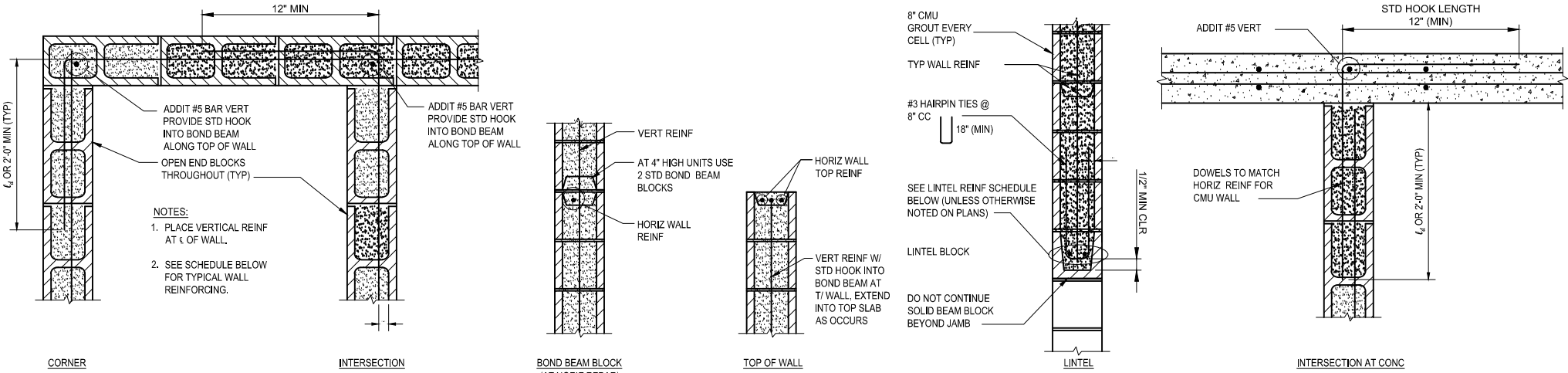
- CONCRETE MASONRY UNITS: BLOCKS SHALL HAVE A LIGHTWEIGHT CLASSIFICATION AND CONFORM TO ASTM C90, LATEST EDITION. MINIMUM COMPRESSIVE STRENGTH OF UNITS OF 1,900 PSI WHEN AIR CURED FOR 28-DAYS. MINIMUM COMPRESSIVE STRENGTH OF 1,500 PSI OF MASONRY WALL ASSEMBLAGE AT 28-DAYS.
- MORTAR: PROPORTION MORTAR TO CONFORM TO THE REQUIREMENTS OF ASTM C270 FOR TYPE S MORTAR. DO NOT USE MASONRY CEMENT. DO NOT RETEMPER MORTAR. ANY MORTAR UNUSED WITHIN 2 HOURS OR GROUT THAT IS UNUSED WITHIN 1 1/2 HOURS AFTER INITIAL MIXING SHALL BE REMOVED FROM THE WORK.
- GROUT: PROPORTION COARSE GROUT IN ACCORDANCE WITH ASTM C476. COMPRESSIVE STRENGTH SHALL BE TESTED IN ACCORDANCE WITH ASTM C1019. INCREASE CEMENT CONTENT OF THE GROUT, AS NECESSARY TO ACHIEVE THE SPECIFIED MASONRY ASSEMBLY STRENGTH (f_m) AND ADEQUATE WORKABILITY. GROUT SHALL HAVE A SLUMP BETWEEN 8 AND 10-INCHES AT THE TIME OF PLACEMENT. ALL CELLS SHALL BE FILLED SOLIDLY WITH GROUT. ALL GROUT SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION UNLESS SELF CONSOLIDATING GROUT HAS BEEN SPECIFICALLY APPROVED BY THE ENGINEER.
- ADMIXTURES: ADMIXTURES ARE NOT PERMITTED IN MORTAR OR GROUT UNLESS FAVORABLY REVIEWED BY THE ENGINEER.
- AGGREGATES: SAND FOR MORTAR SHALL CONFORM TO ASTM C144 EXCEPT NOT LESS THAN 4% OF THE SAND SHALL PASS THE NUMBER 100 SIEVE. AGGREGATE FOR GROUT SHALL CONFORM TO ASTM C404, EXCEPT WHEN OTHER GRADINGS ARE SPECIFICALLY APPROVED BY THE ENGINEER.
- WATER USED FOR MORTAR AND GROUT SHALL BE CLEAN AND FREE FROM DELETERIOUS AMOUNTS OF ACIDS, SALTS, ALKALI, AND ORGANIC MATERIALS.
- REINFORCEMENT: REINFORCING SHALL BE ASTM A615-GRADE 60 UNLESS OTHERWISE NOTED. REINFORCEMENT SHALL BE FULLY EMBEDDED IN GROUT. EMBEDDED ITEMS SHALL BE SECURED IN PLACE PRIOR TO GROUTING. PROVIDE A MINIMUM OF 1-INCH GROUT AROUND BOLTS IN MASONRY. PLACE HORIZONTAL REINFORCING IN BOND BEAM UNITS. VERTICAL REINFORCING SHALL BE HELD IN PLACE AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 200 BAR DIAMETERS. UTILIZE REBAR POSITIONERS TO ACHIEVE VERTICAL REINFORCING PLACEMENT. HORIZONTAL REINFORCING SHALL BE PLACED IN BOND BEAM UNITS, EXCEPT LINTEL UNITS SHALL BE USED OVER OPENINGS. MINIMUM SPLICE LENGTH SHALL EQUAL THE STRAIGHT BAR DEVELOPMENT LENGTH SHOWN IN THE TABLE BELOW.
- BEFORE PLACING BLOCK ON CONCRETE, CLEAN CONCRETE, ROUGHEN CONCRETE SO THAT AGGREGATE IS EXPOSED TO 1/4-INCH AMPLITUDE AND APPLY BONDING AGENT.
- LAY ALL MASONRY WITH RUNNING BOND UNLESS OTHERWISE NOTED. CONSTRUCT ALL MASONRY TO MAINTAIN AN UNOBSTRUCTED VERTICAL CONTINUITY OF THE CELLS TO BE FILLED. THE VERTICAL ALIGNMENT SHALL BE SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED VERTICAL FLUE IN ACCORDANCE WITH THE GROUT SPACE REQUIREMENTS IN TABLE 7 OF THE SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1).
- CONSTRUCTION JOINTS: WHEN GROUTING IS STOPPED FOR A PERIOD OF 1 HOUR OR LONGER, FORM HORIZONTAL CONSTRUCTION JOINTS BY STOPPING THE GROUT POUR 1 1/2 INCHES MINIMUM BELOW THE UPPER-MOST UNIT, EXCEPT AT THE TOP OF WALLS.
- CONTROL JOINTS: LOCATE CONTROL JOINTS AS SHOWN ON PLANS OR AT 20'-0" MAXIMUM SPACING WHERE NOT SHOWN BUT NOT LESS THAN 2'-0" FROM A JAMB OR OPENING. PLACE LEDGER, LINTEL, OR TOP OF WALL BEAM REINFORCING CONTINUOUS THROUGH EXPANSION AND CONTROL JOINTS. WRAPPING BARS WITH 1/8-INCH THICK BOND BREAKING TAPE 2'-0" BOTH SIDES OF JOINT. DO NOT SPLICE BOND BEAM REINFORCING WITHIN 6'-0" OF AN EXPANSION OR CONTROL JOINT.
- SPECIAL INSPECTION: WHERE THE BUILDING, STRUCTURE OR STRUCTURAL ELEMENT REQUIRES SPECIAL INSPECTION AS NOTED ON THE PLANS AND THE REINFORCING SCHEDULE BELOW, THE CONTRACTOR SHALL MAINTAIN ALL WORK ACCESSIBLE AND EXPOSED FOR INSPECTION IN ACCORDANCE WITH IBC CHAPTER 17. ALL WORK SHALL BE INSPECTED BY THE OWNER'S REPRESENTATIVE OR THE BUILDING OFFICIAL. INSPECTION SHALL INCLUDE BUT NOT BE LIMITED TO CHECKING CELLS FOR DEBRIS PRIOR TO GROUTING AND SIZE AND PLACEMENT OF REINFORCEMENT, ANCHORS, AND OTHER EMBEDDED ITEMS.
- REINFORCEMENT TOLERANCES: IN ACCORDANCE WITH THE SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1), UNLESS OTHERWISE NOTED VERTICAL WALL REINFORCEMENT SHALL BE PLACED AT CENTER CELL WITHIN A TOLERANCE OF $\pm 1/2$ INCH IN THE DIRECTION PERPENDICULAR TO THE WALL AND ± 1 INCH IN THE PLANE OF THE WALL.

MASONRY REINFORCING DEVELOPMENT TABLE		
BAR SIZE	STRAIGHT (l_d)	STD HOOK (l_d)
#3	12"	5"
#4	17"	7"
#5	29"	9"
#6	54"	10"
#7	63"	12"
#8	72"	13"

- NOTES:
- DEVELOPMENT LENGTH IN INCHES FOR 8-INCH (MIN) THICK CMU WALLS, 60 KSI REINFORCING, f_m GREATER THAN OR EQUAL TO 1500 PSI, AND REINFORCING SPACED NOT LESS THAN 4 INCHES ON CENTER.
 - FOR EPOXY COATED BARS INCREASE THE DEVELOPMENT LENGTHS BY 50%.

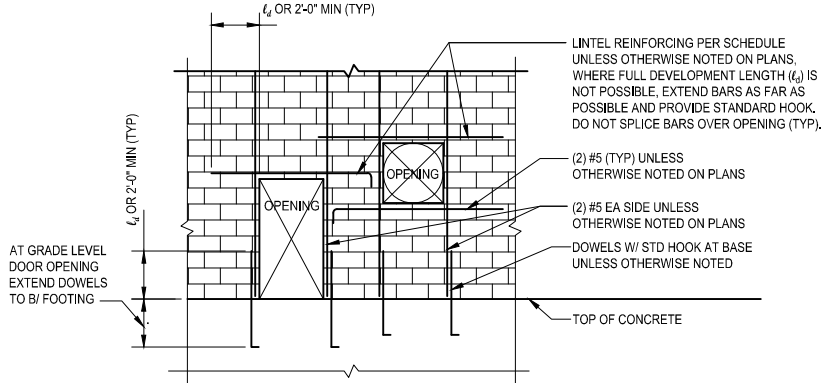
TYPICAL WALL REINFORCING SCHEDULE					
BUILDING	WALL THICKNESS	VERT REINF	HORIZ REINF	REMARKS	INSPECTION
BLOWER, ELECTRICAL, MAINTENANCE BLDG AND ALL WALLS	8"	#7 @ 16"	#4 @ 24"	2-#5 @ CONT AT TOP	SPECIAL INSP REQ'D

SCHEDULE REINF SHALL APPLY IN ALL CASES UNLESS NOTED OTHERWISE ON SPECIFIC DETAILS OR SECTIONS.



TYPICAL REINFORCEMENT AT CONCRETE MASONRY UNIT WALLS

NTS



- NOTES:
- FOR WALL REINFORCING, SEE "TYPICAL WALL REINFORCING SCHEDULE" THIS SHEET. SEE RELATED SECTIONS AND DETAILS THIS SHEET.
 - EXTEND JAMB BARS FROM THE FLOOR TO ROOF WHERE OPENING EXCEEDS 4'-0" IN WIDTH; OTHERWISE EXTEND l_d OR 2'-0" MIN.
 - DOWELS FOR JAMB BARS SHALL MATCH JAMB REINFORCING SCHEDULE.

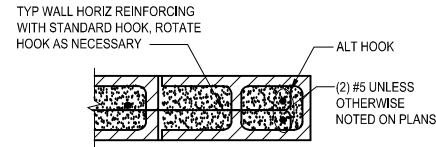
LINTEL REINFORCING SCHEDULE	
OPENING WIDTH	REINFORCEMENT
LESS THAN 4'-0"	2-#5
4'-0" TO 8'-0"	2-#6
8'-0" TO 12'-0"	2-#7

ELEVATION

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

TYPICAL CMU ELEVATION

NTS



JAMB OR END OF WALL PLAN

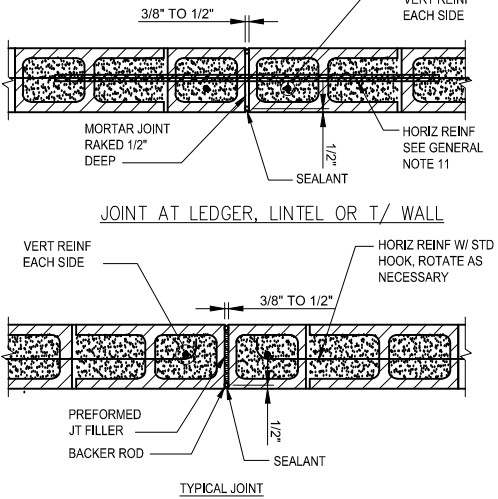
NTS

BOLT EMBEDMENT SCHEDULE	
BOLT SIZE	EMBED
1/2"	4"
5/8"	4"
3/4"	5"
7/8"	6"
1"	7"

- NOTES:
- THE MINIMUM BOLT SPACING SHALL BE 2x EMBEDMENT LENGTH.
 - THE MINIMUM EDGE DISTANCE SHALL BE THE EMBEDMENT LENGTH AND 6 INCHES TO END OF WALL.

TYPICAL BOLT EMBEDMENT

NTS



TYPICAL CONTROL JOINT PLAN

NTS

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
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DESIGNED

PDS

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CL/JL

CHECKED

DLB 43

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

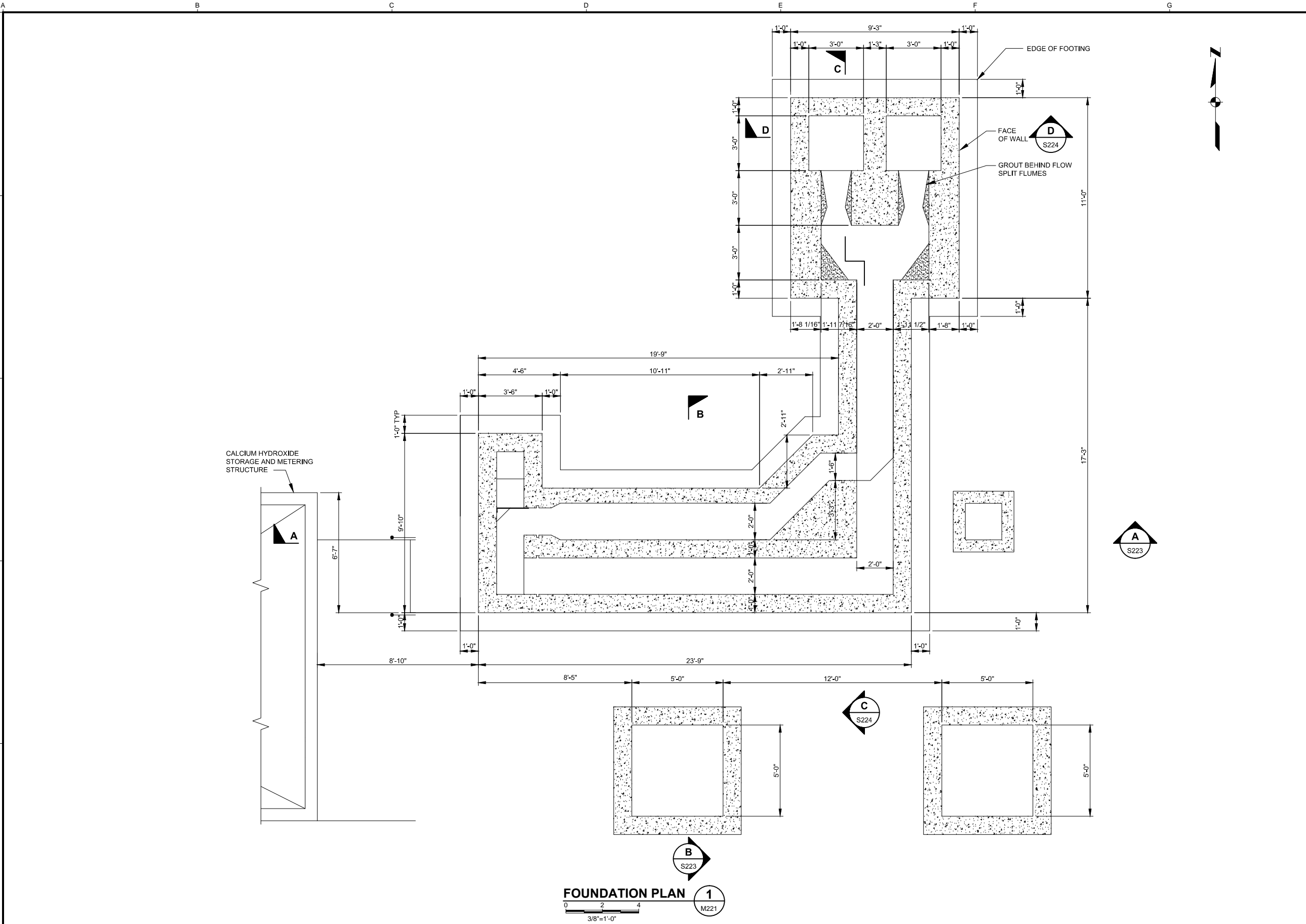
WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

STRUCTURAL REINFORCED
CONCRETE MASONRY UNITS
STANDARD DETAILS

FILE NAME
1368004-S004
JOB NO.
1368004.00
DATE
OCTOBER 2014
SHEET OF
S004

\\Eug\cad\CAD\2013\1368004.00_McKinleyville_WWTF_Project\1368004-S221.dwg 10/22/2014 9:41 AM GENE STEVENSON



NOTES:

1. PROVIDE STEEL TROWEL FINISH FOR CHANNEL SLAB.
2. PROVIDE FILLED AND RUBBED FINISH FOR THE CHANNEL WALLS.

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	NO.	REVISION	DATE	BY	

SCALES

0 1" 25mm

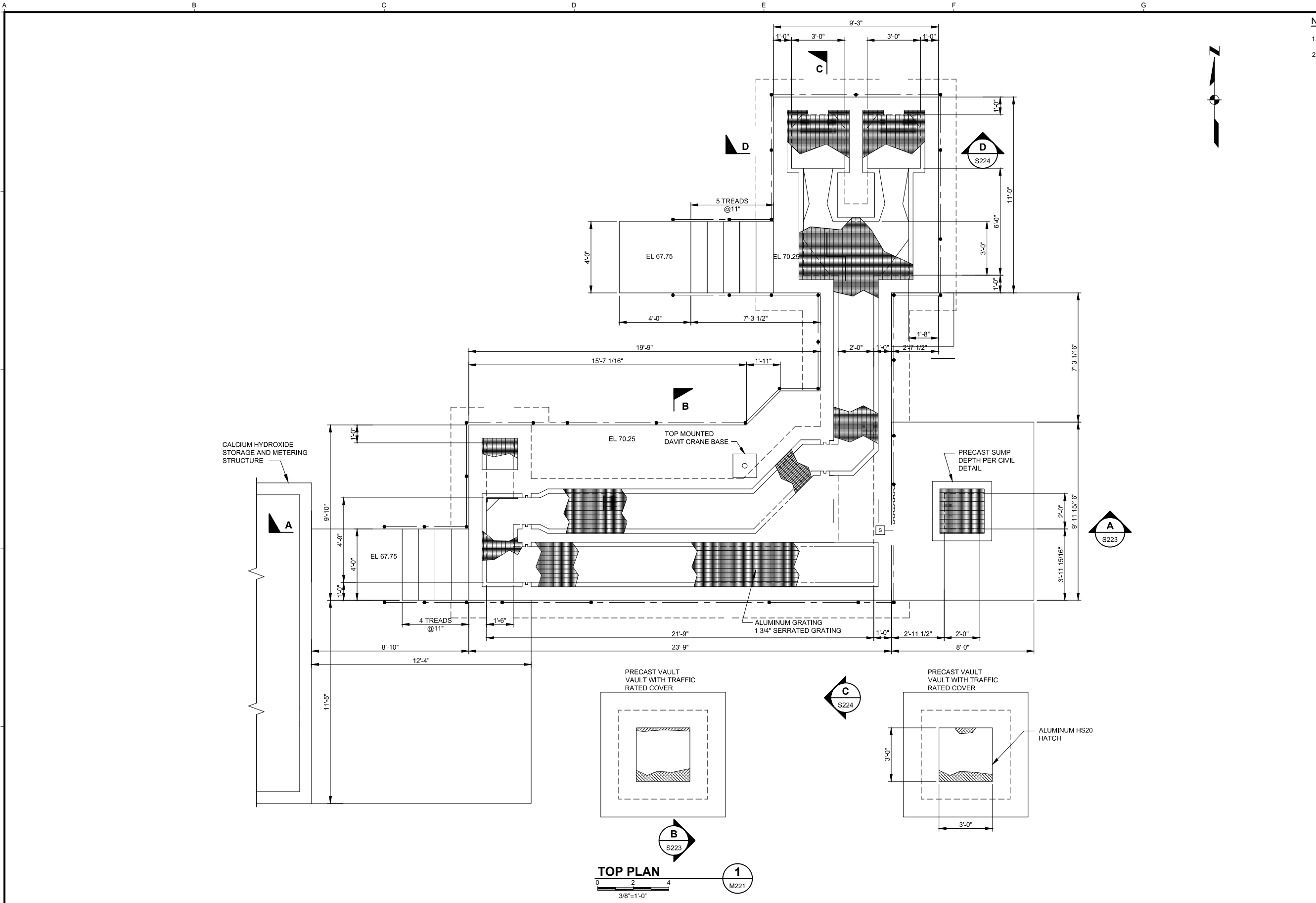
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER
PETER DANIEL STIMMONS
No. C70891
Exp. 6/30/15
CIVIL
STATE OF CALIFORNIA

DESIGNED PDS	McKINLEYVILLE COMMUNITY SERVICES DISTRICT McKINLEYVILLE, CA WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA
DRAWN CCL/JL	
CHECKED DLB 44	

STRUCTURAL HEADWORKS FOUNDATION PLAN	
FILE NAME 1368004-S221	
JOB NO. 1368004.00	
DATE OCTOBER 2014	
SHEET S221	OF

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- NOTES:
1. GRATING SHALL BE ALUMINUM WITH SERRATED SURFACE.
 2. PROVIDE A COURSE BROOM FINISH.

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NO.	REVISION	DATE	BY

SCALES

0 1" 25mm

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DESIGNED PDS

DRAWN CCL/JL

CHECKED DLB

45

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

**STRUCTURAL HEADWORKS
TOP PLAN**

FILE NAME 1368004-S222

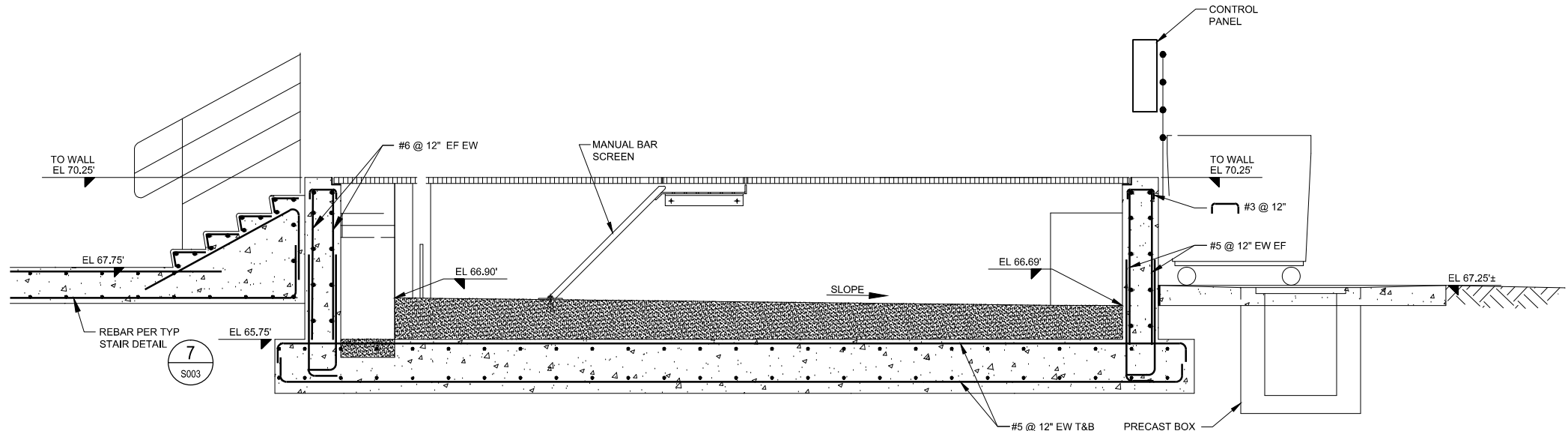
JOB NO. 1368004.00

DATE OCTOBER 2014

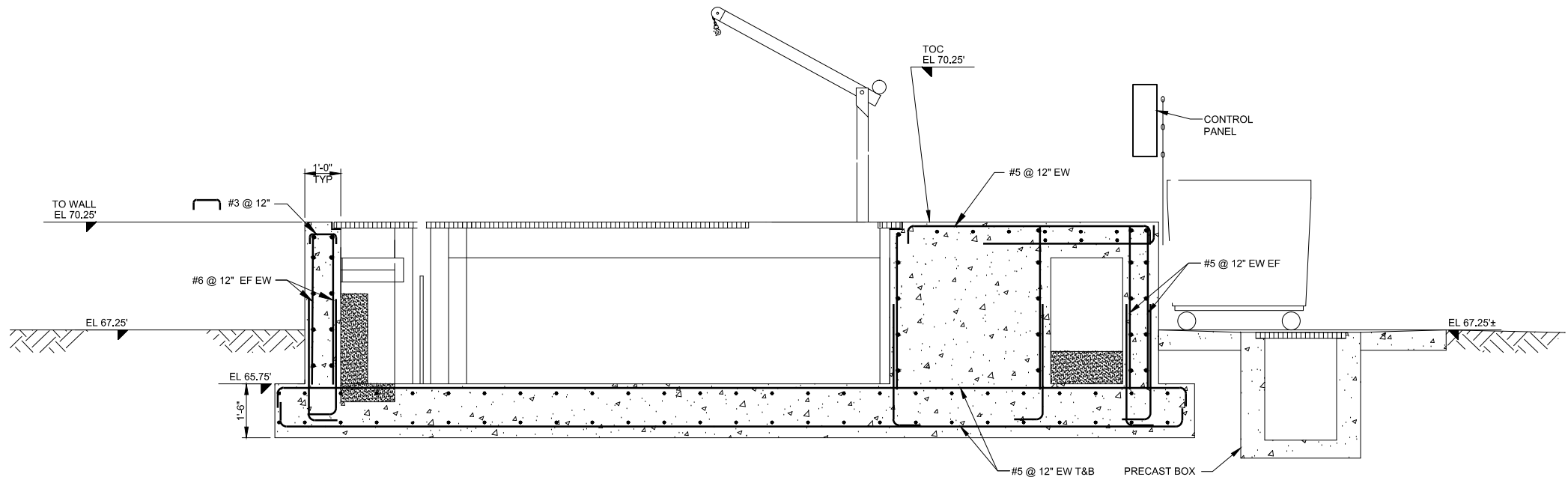
SHEET OF **S222**

90% SUBMITTAL

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SECTION A
0 1 2 3
1/2"=1'-0"

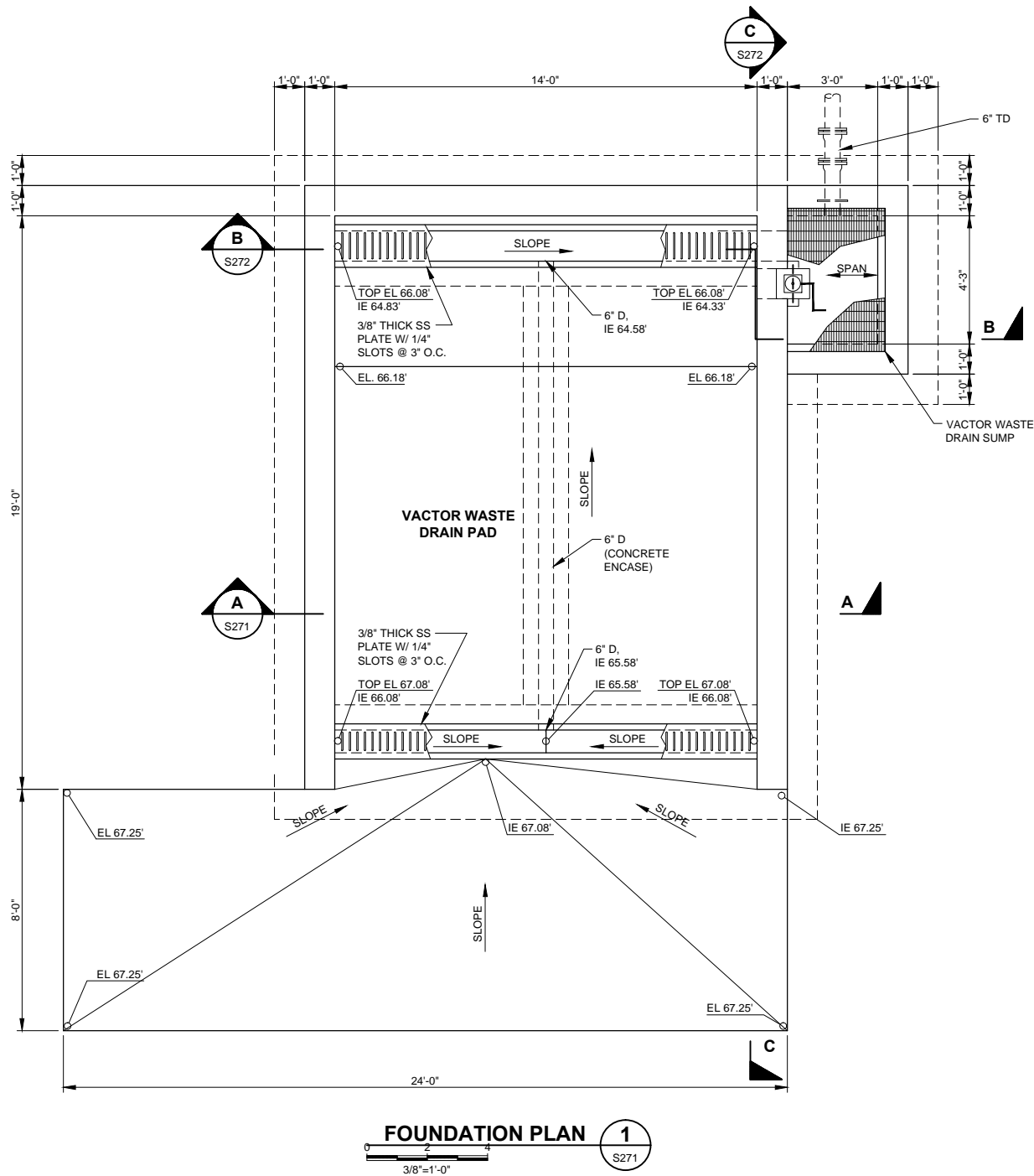


SECTION B
0 1 2 3
1/2"=1'-0"

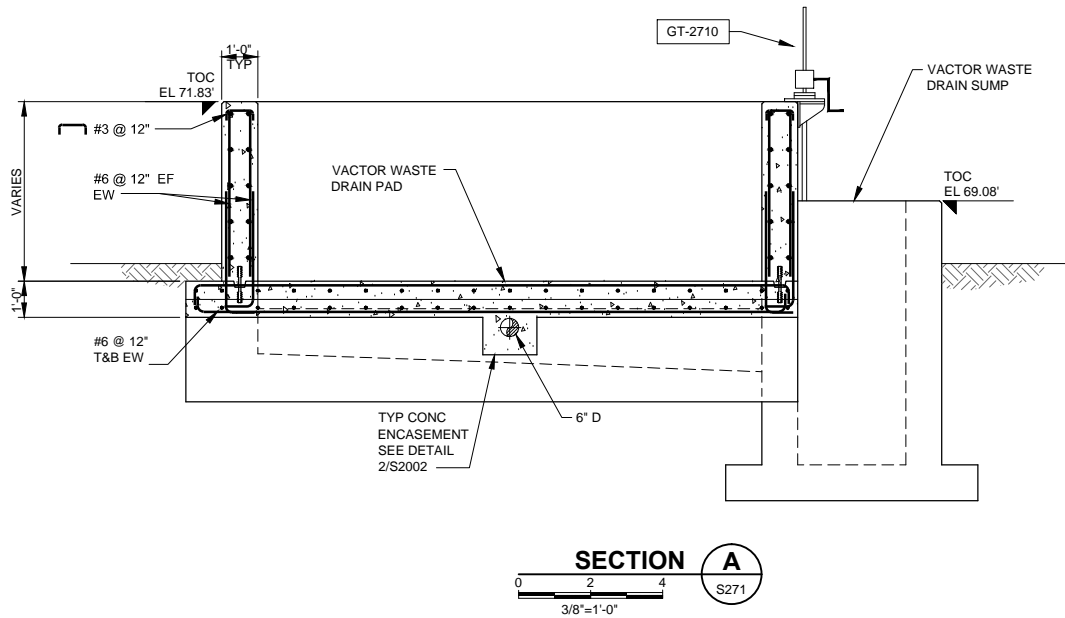
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	PDS	1368004-S223								
	DRAWN	JOB NO.								
	CCL	1368004.00								
	CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	DATE							
	DLB 46		OCTOBER 2014							
			SHEET	OF						
NO.	REVISION	DATE	BY	S223						

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- NOTES:
- GRATING SHALL BE SERRATED PRESSURE LOCKED 19-4 GRATING WITH 2-1/2"x3/16" BEARING BARS.
 - CONCRETE FINISHES:
INTERIOR FACE OF WALLS SHALL RECEIVE A FILLED AND RUBBED FINISH.
EXTERIOR FACE OF WALLS SHALL RECEIVE A FILLED FINISH.
FLOOR SLAB SHALL RECEIVE A FLOAT FINISH.
 - SEE MECHANICAL DRAWINGS FOR ADDITIONAL OPENINGS IN WALLS.
 - SEE STANDARD STRUCTURAL NOTES AND DETAILS FOR ADDITIONAL DETAILS.
 - SPACE CONSTRUCTION JOINTS IN SLAB NOT EXCEEDING 20'-0" ON CENTER
AND CONSTRUCTION JOINTS IN WALL NOT EXCEEDING 30'-0" ON CENTER.



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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.



DESIGNED
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DLB
48

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA
WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS
Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

VACTOR WASTE RECEIVING STATION
FOUNDATION PLAN AND SECTION

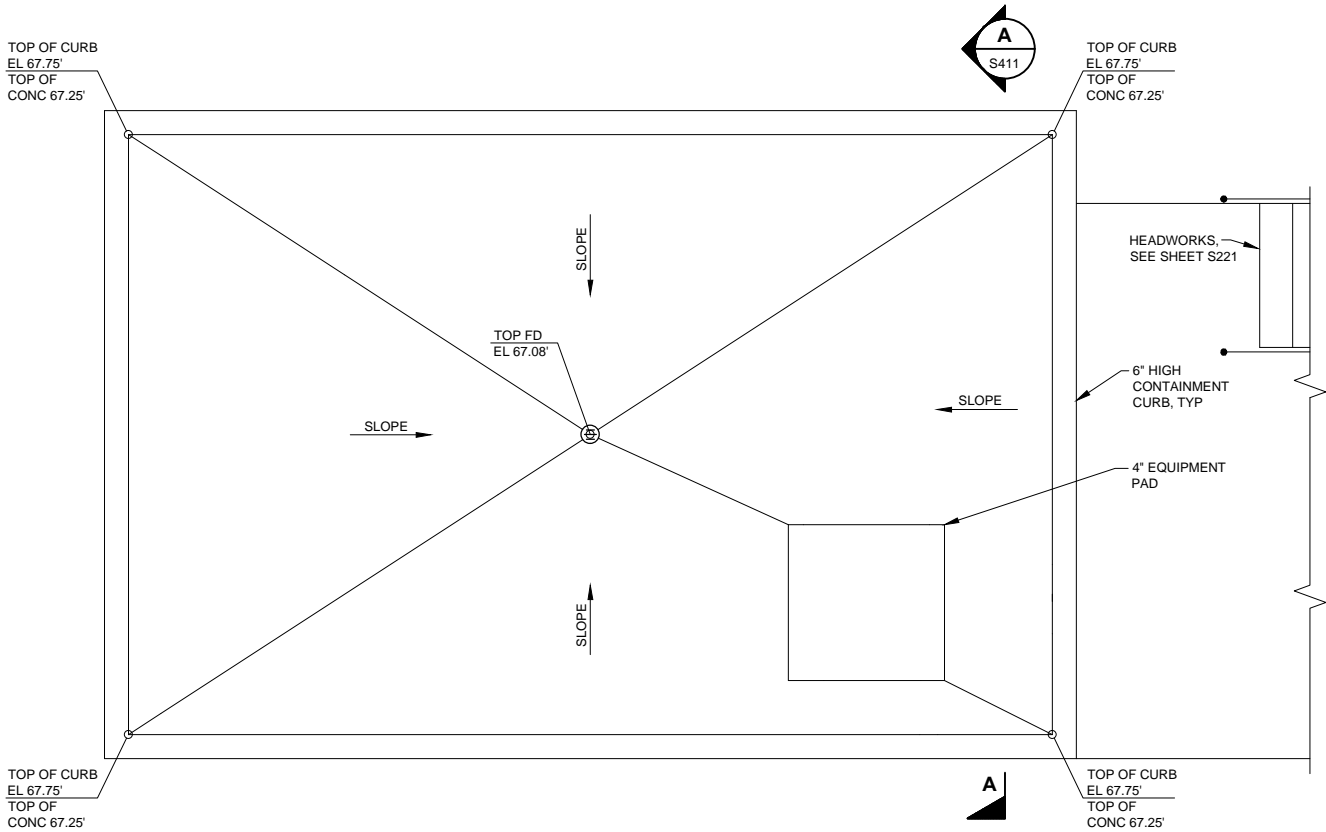
FILE NAME
1368004-S271
JOB NO.
1368004.00
DATE
March 2013
SHEET
S271



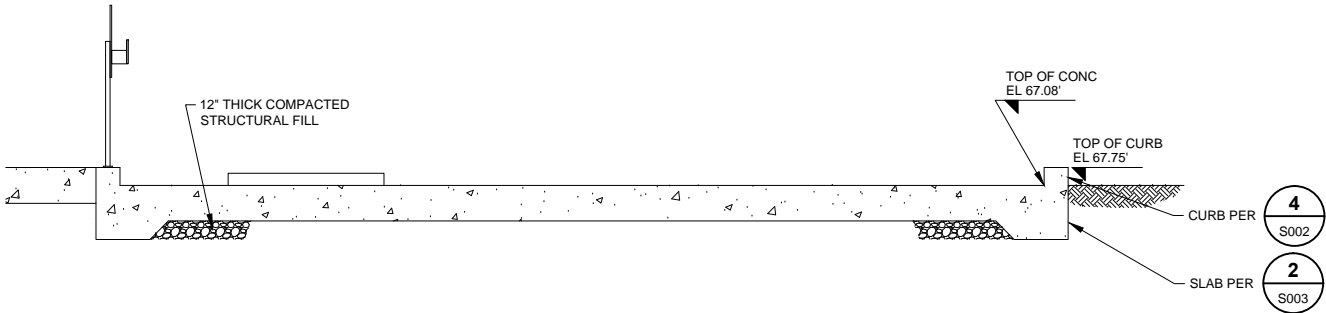
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JOB NO.	1368004.00
DATE	March 2013
SHEET	OF
S272	

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NOTES:
1. CONCRETE SLAB SHALL RECEIVE A COARSE BROOM FINISH.



CALCIUM HYDROXIDE STORAGE PAD PLAN
1
S411
3/8"=1'-0"

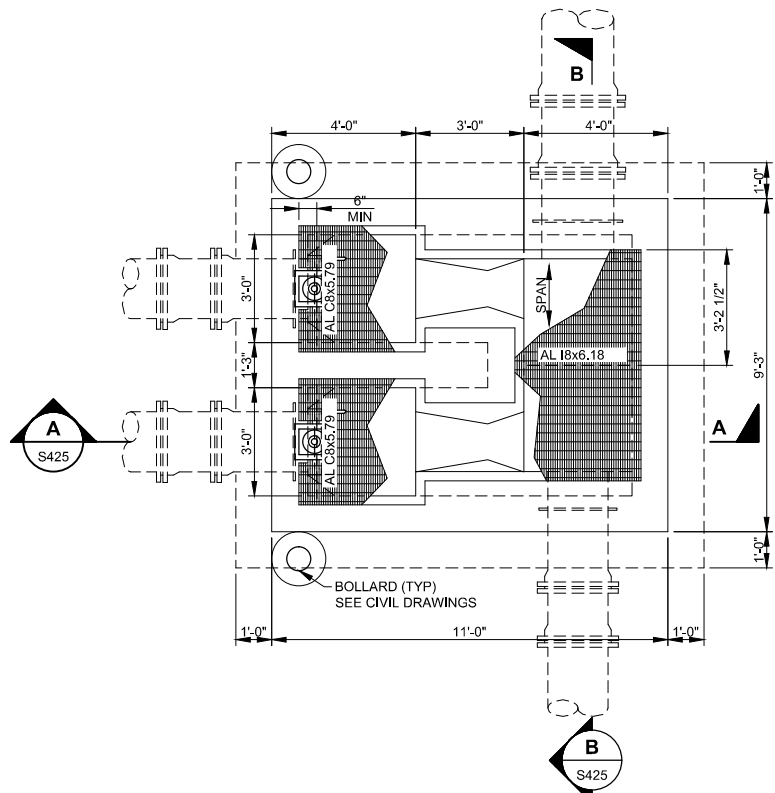


SECTION
A
S411
3/8"=1'-0"

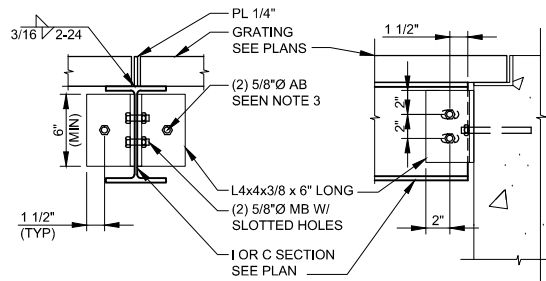
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							DRAWN PDS			JOB NO. 1368004.00
							CHECKED DLB 50			DATE OCTOBER 2014
	NO.	REVISION	DATE	BY						SHEET OF S411

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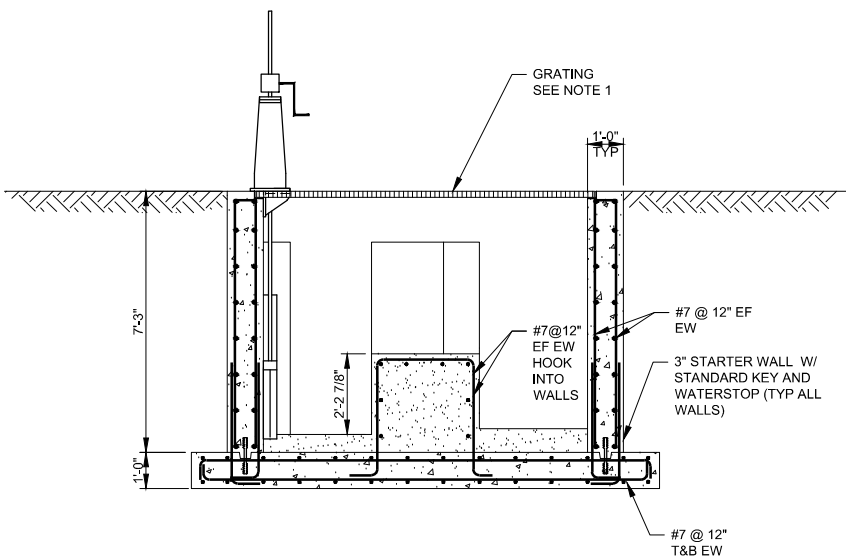


MIXED LIQUOR FLOW DISTRIBUTION STRUCTURE PLAN 1
C106
3/8"=1'-0"

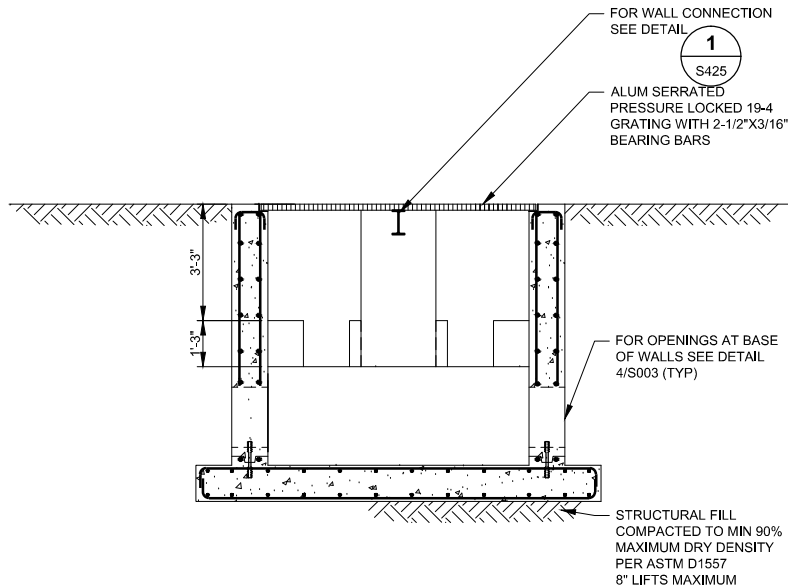


- NOTES:
1. STRUCTURAL SHAPES AND PLATES SHALL BE ALUM UNLESS OTHERWISE NOTED.
 2. ANCHOR BOLTS AND FASTENERS SHALL BE 316 STAINLESS STEEL.
 3. ANCHORS SHALL BE EPOXY ADHESIVE ANCHORS AT 5" MINIMUM EMBED.

DETAIL 1
S425
NOT TO SCALE



SECTION A
S425
3/8"=1'-0"



SECTION B
S425
3/8"=1'-0"

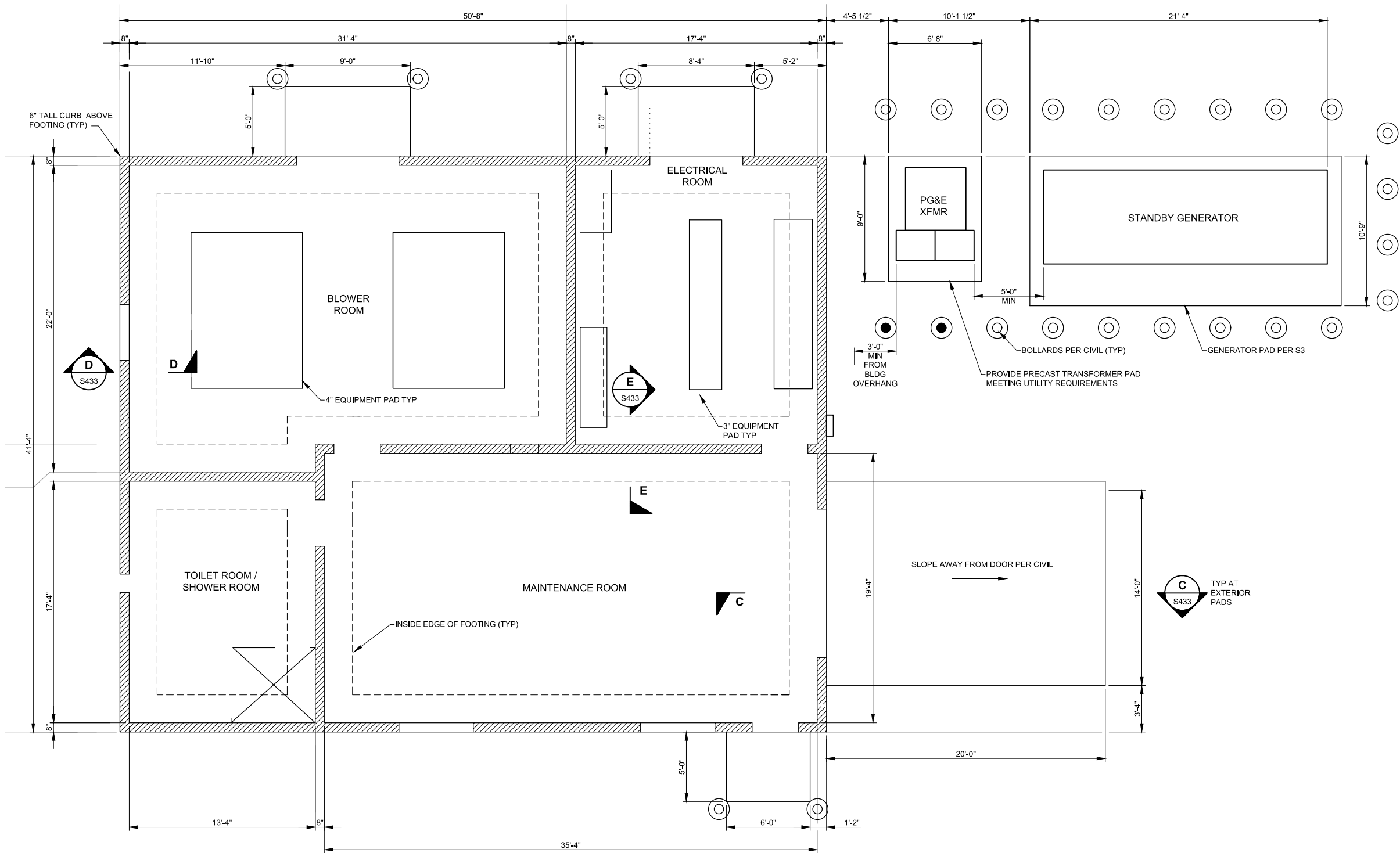
- NOTES:
1. GRATING SHALL BE SERRATED PRESSURE LOCKED 19-4 GRATING WITH 2-1/2"x3/16" BEARING BARS.
 2. CONCRETE FINISHES:
INTERIOR FACE OF WALLS SHALL RECEIVE A FILLED AND RUBBED FINISH.
EXTERIOR FACE OF WALLS SHALL RECEIVE A FILLED FINISH.
FLOOR SLAB SHALL RECEIVE A FLOAT FINISH.
 3. SEE MECHANICAL DRAWINGS FOR ADDITIONAL OPENINGS IN WALLS.
 4. SEE STANDARD STRUCTURAL NOTES AND DETAILS FOR ADDITIONAL DETAILS.
 5. SPACE CONSTRUCTION JOINTS IN SLAB NOT EXCEEDING 20'-0" ON CENTER AND CONSTRUCTION JOINTS IN WALL NOT EXCEEDING 30'-0" ON CENTER.
 6. GRATING IS RATED FOR A LIVE LOAD OF 40 PSF.

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	DRAWN						JOB NO.	1368004.00					
	ET						DATE	March 2013					
	CHECKED						SHEET	OF					
	DLB 51	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA					S425						
		NO.	REVISION	DATE			BY						

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1368004-S431.dwg

- NOTES:
1. PROVIDE A STEEL TROWEL FINISH FOR INTERIOR SLABS.
 2. PROVIDE A COURSE BROOM FINISH FOR EXTERIOR SLABS.



FOUNDATION PLAN

0 3 6
1/4"=1'-0"

1
S431

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.



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52

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

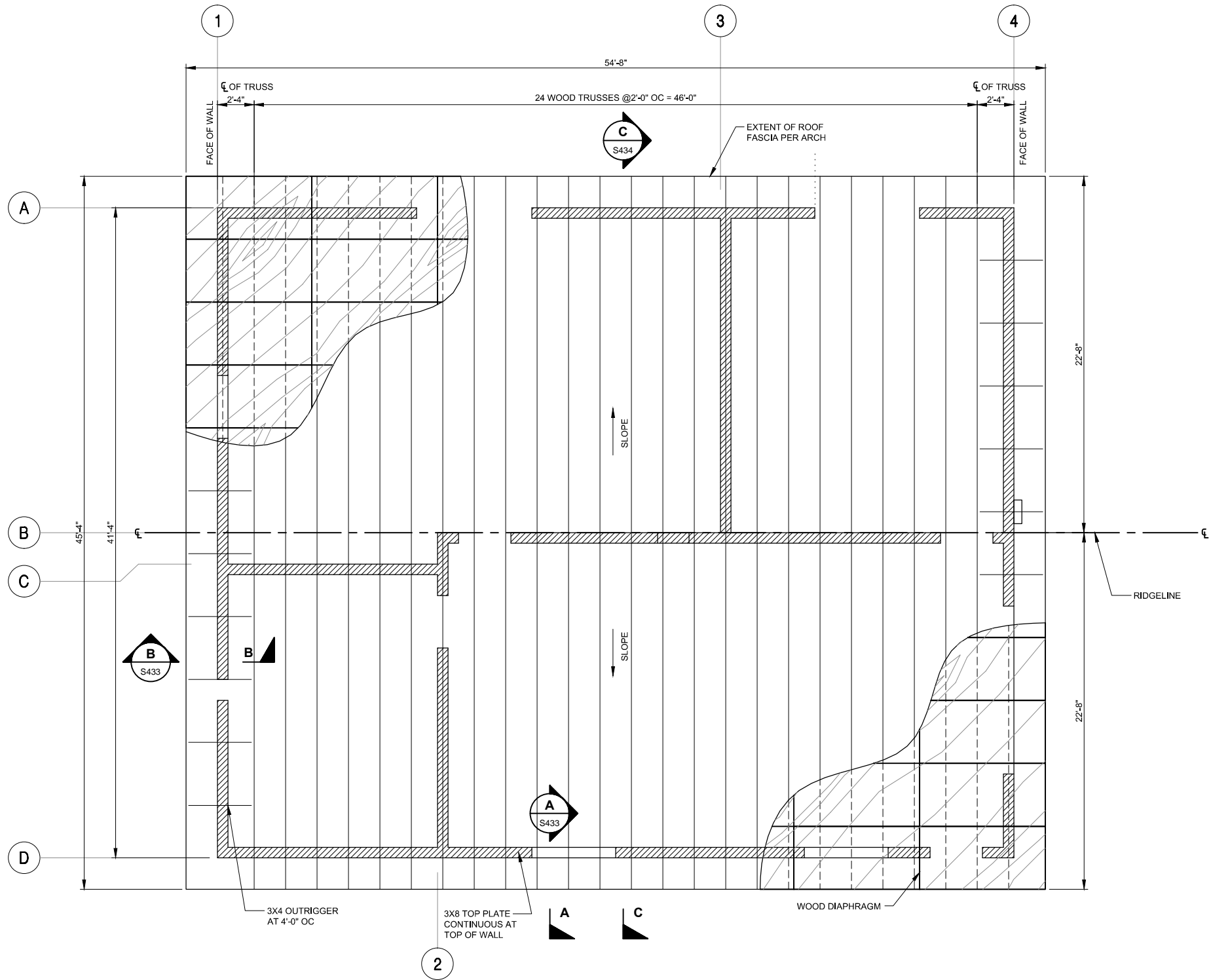
Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

BLOWER, ELECTRICAL AND MAINTENANCE
BUILDING FOUNDATION PLAN

FILE NAME
1368004-S431
JOB NO.
1368004.00
DATE
OCTOBER 2014
SHEET
OF
S431

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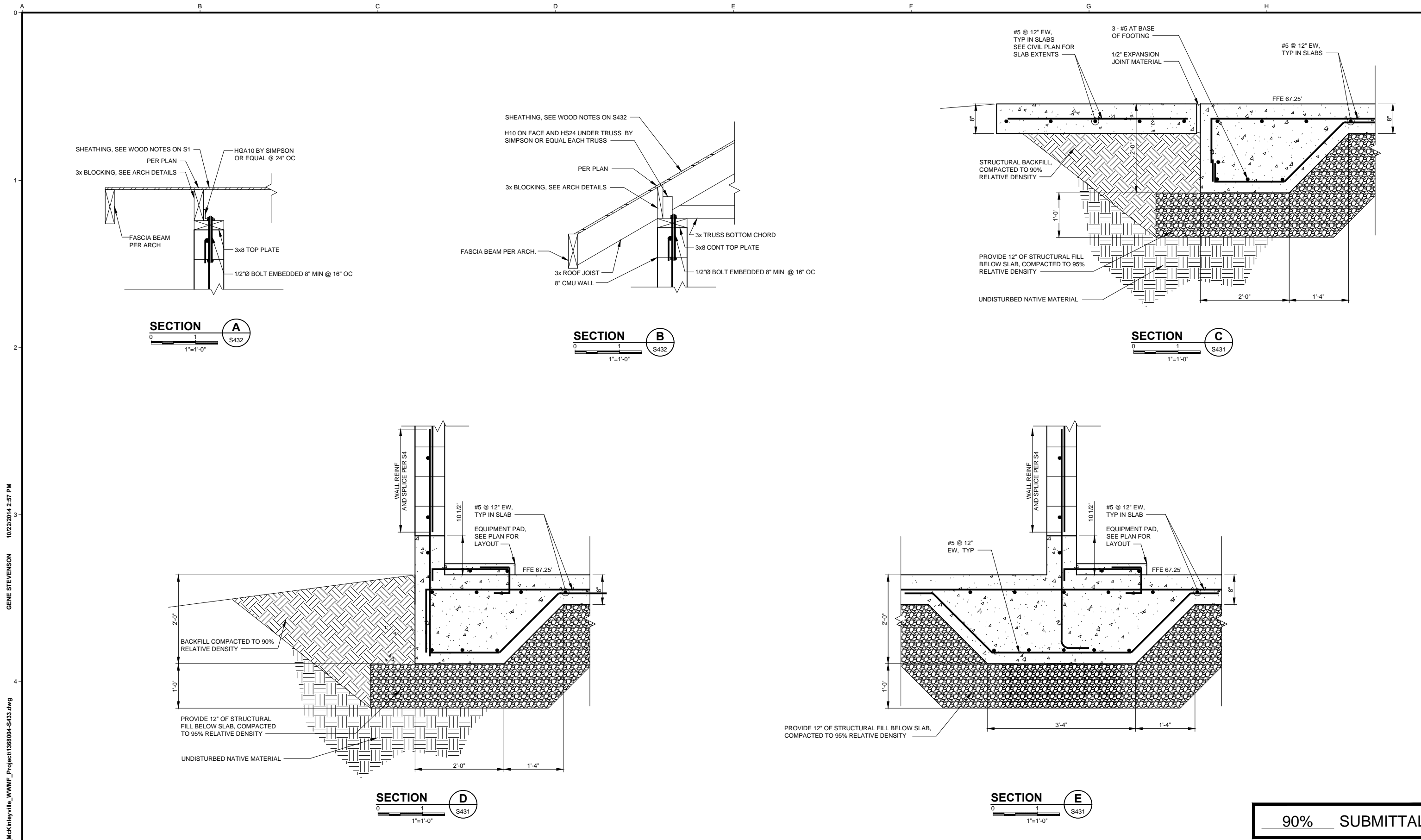
- NOTES:**
- WOOD DIAPHRAGM SHALL BE STRUC #1 23/32 SHEATHING.
 - FIELD NAILING SHALL BE AT 4" OC EDGE NAILING SHALL BE 2" OC.
 - SEE NOTES ON SHEET S434 FOR TRUSS LOADING AND DESIGN CRITERIA.
 - DIAPRAGHM SHALL BE BLOCKED WITH 3x NOMINAL BLOCKING AT ALL PANEL EDGES.



ROOF PLAN
1
M431
1/4" = 1'-0"

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							DRAWN CL/JL			JOB NO. 1368004.00
							CHECKED DLB			DATE OCTOBER 2014
	NO.	REVISION	DATE	BY			53			SHEET OF S432



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						DRAWN CCL			JOB NO. 1368004.00
						CHECKED DLB			DATE OCTOBER 2014
						54			SHEET OF S433
NO.	REVISION	DATE	BY						

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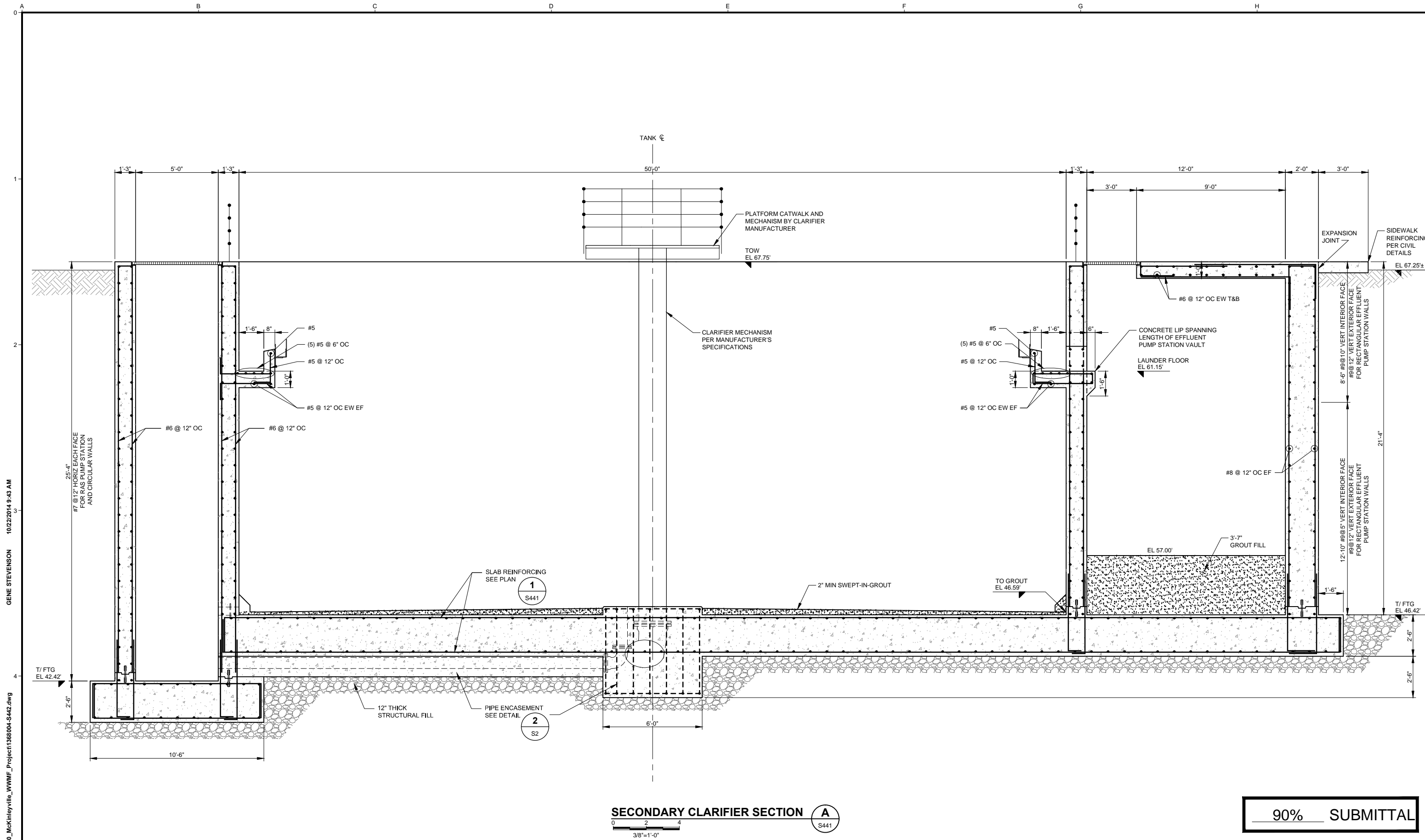
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	PDS	JOB NO.	1368004.00								
	DRAWN	DATE	OCTOBER 2014								
	GAS	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	SHEET	OF							
	CHECKED		55	S434							
	DLB										
NO.	REVISION	DATE	BY								



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							DRAWN			JOB NO.	1368004.00
							CCL			DATE	OCTOBER 2014
							CHECKED			SHEET	OF
							DLB 56			S441	
<p align="center">Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA</p>	NO.	REVISION	DATE	BY							



SECONDARY CLARIFIER SECTION A
3/8"=1'-0"

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									JOB NO. 1368004.00
									DATE OCTOBER 2014
									SHEET OF S442
	NO.	REVISION	DATE	BY					

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS		
CODE SUMMARY TABLE - SEE NOTE 10		
BLDG NO.	BLDG NAME & SHEET NUMBER	INFORMATION
1	BLOWER, ELECTRICAL MAINTENANCE BLDG (A431)	<ul style="list-style-type: none"> CONSTRUCTION: TYPE V-B; SINGLE STORY, LOAD BEARING CMU WALLS, WOOD FRAMING, AND CLASS A SHINGLE ROOF. ACTUAL HEIGHT; 22'-0"±, ALLOWABLE HEIGHT; 40'-0"/1 STORY ACTUAL AREA; 2,250 SF BASE, ALLOWABLE (CBC TABLE 503): 9,000 SF OCCUPANCY CLASSIFICATION (CBC 306.2); F-1, SINGLE OCCUPANCY HAZARDOUS MATERIALS - NONE NOT FIRE SPRINKLERED, NOT REQUIRED PER CBC 903.2.4. (NO REQUIREMENTS ARE PROVIDED BY COUNTY OF HUMBOLT BLDG AND PLANNING REGARDING COMMERCIAL BLDGS. ACCESSIBILITY: EXEMPT PER CBC 11B-203.5 INDIRECTLY CONDITIONED SPACE: 4,300 WATTS x 3.413 = 14,675 BTU'S PER HOUR, 14,675/2,250 SF = 6.52 BTUHSF. LESS THAN 10 THEREFORE CONSIDERED INDIRECTLY CONDITIONED SPACE AND EXEMPT FROM ENVELOPE AND MECHANICAL SYSTEM COMPLIANCE WITH THE CALIFORNIA ENERGY CODE.
2	(E) CONTROL BLDG CONTROL ROOM (A111)	<ul style="list-style-type: none"> CONSTRUCTION: TYPE II-B; ONE STORY, LOAD BEARING CMU WALLS, COMPOSITE SHINGLE ROOF ACTUAL HEIGHT; 15'-0"±, ALLOWABLE HEIGHT; 55 FEET/2 STORIES ACTUAL (E) BLDG AREA; 1,500 ± SF, BASE , ALLOWABLE SF 9,000 SQ. FT. (CBC TABLE 503): - THIS PROJECT AREA OF WORK - CONTROL ROOM EQUIP REMOVAL , AND SHOP STORAGE EQUIP REMOVAL OCCUPANCY CLASSIFICATION B, S-1. BUILDING IS NOT FIRE SPRINKLERED ACCESSIBILITY: STORAGE AND GARAGE - EXEMPT PER CBC 1105B.3.4 & 1103B.1, EXCEPTION 1. ACCESSIBILITY REQUIRED FOR B AND A-3 OCCUPANCIES. THE WORK BEING DONE IN THIS BUILDING IS LIMITED TO THE REMOVAL OF ELECTRICAL EQUIPMENT AND INSTALLATION OF CASEWORK. THERE IS NO CHANGE IN USE OR OCCUPANCY. IT IS ASSUMED THAT NO FURTHER WORK IS REQUIRED TO UPGRADE THIS FACILITY TO MEET THE REQUIREMENTS OF CURRENT CODES SINCE THERE IS MINIMAL WORK BEING DONE.
3	AERATION BASIN NO.1 (M42.1)	<ul style="list-style-type: none"> CONSTRUCTION: TYPE II-B; CONCRETE WALLS AND NO ROOF ACTUAL HEIGHT; 18'-0"±, ALLOWABLE HEIGHT: 55 FEET/2 STORIES ACTUAL AREA; 4,500 SF BASE, ALLOWABLE (CBC TABLE 503): 8,500 SF, SEE NOTE 5. OCCUPANCY CLASSIFICATION (CBC 312); U, SINGLE OCCUPANCY HAZARDOUS MATERIALS - NONE NOT FIRE SPRINKLERED, SEE NOTE 6. ACCESSIBILITY: EXEMPT PER CBC 11B-203.5
4	AERATION BASIN NO.2 (NORTH OF BASIN NO. 1) SEE (M42.1)	<ul style="list-style-type: none"> CONSTRUCTION: TYPE II-B; CONCRETE WALLS AND NO ROOF ACTUAL HEIGHT; 18'-0"±, ALLOWABLE HEIGHT: 55 FEET/2 STORIES ACTUAL AREA; 4,500 SF BASE, ALLOWABLE (CBC TABLE 503): 8,500 SF, SEE NOTE 5. OCCUPANCY CLASSIFICATION (CBC 312); U, SINGLE OCCUPANCY HAZARDOUS MATERIALS - NONE NOT FIRE SPRINKLERED, SEE NOTE 6. ACCESSIBILITY: EXEMPT PER CBC 11B-203.5

CODE INFORMATION

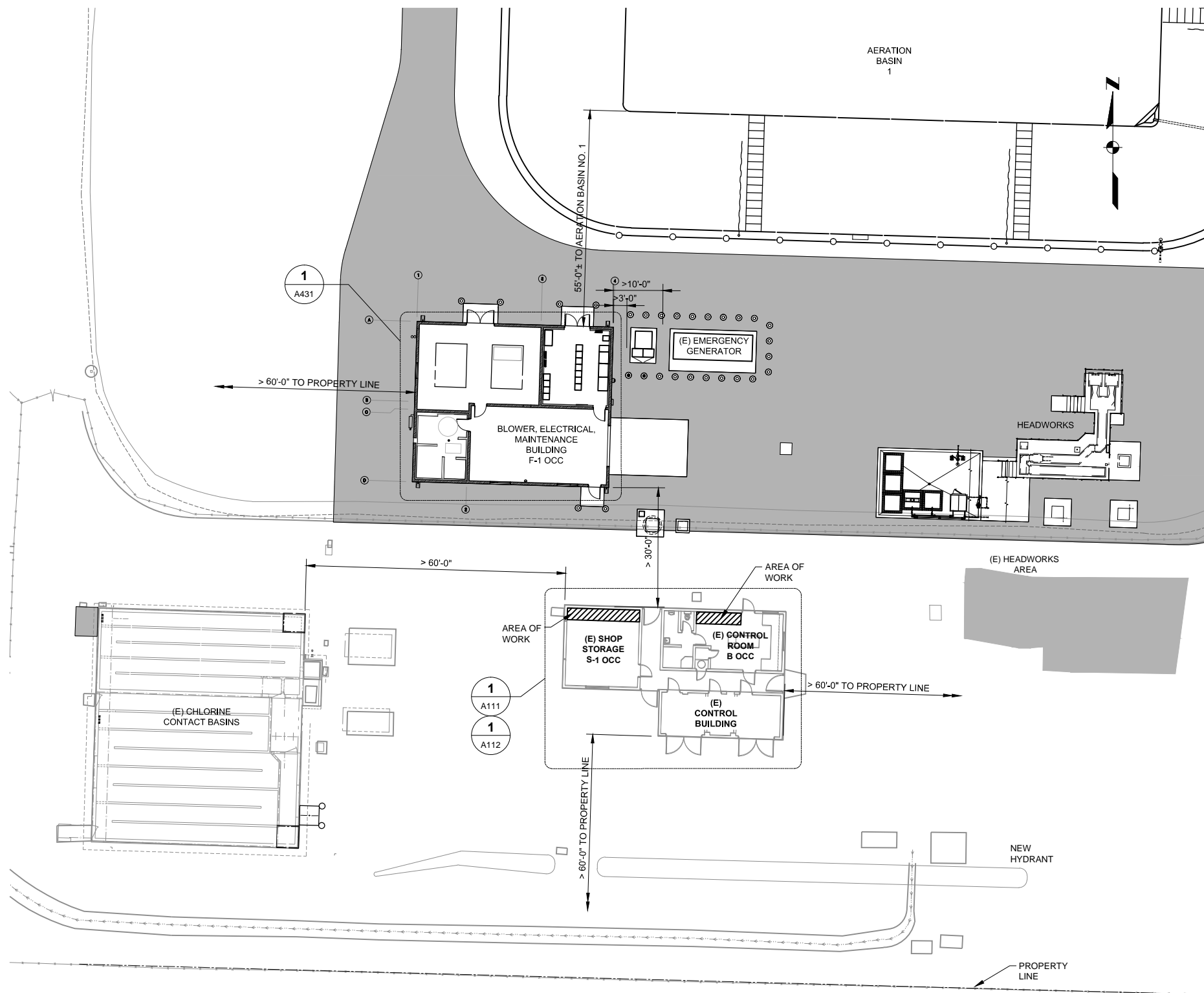
ANALYSIS IS BASED ON THE FOLLOWING:

- 2013 CALIFORNIA BUILDING CODE (CBC)
- 2013 CALIFORNIA FIRE CODE (CFC)
- 2013 CALIFORNIA PLUMBING CODE (CPC)
- 2013 CALIFORNIA MECHANICAL CODE (CMC)
- 2013 CALIFORNIA ELECTRICAL CODE (CEC)
- 2013 CALIFORNIA ENERGY CODE
- STATE OF CALIFORNIA CAL-OSHA STANDARDS

CLIMATE ZONE: ZONE 1

NOTES

- | | |
|---|---|
| 1. INFORMATION SHOWN FOR CODE ANALYSIS ONLY. | 7. AUTOMATIC SPRINKLER SYSTEM IS NOT REQUIRED PER CBC 903.2.4 |
| 2. FOR SITE INFORMATION SEE CIVIL DRAWINGS | 8. PROVIDE "NO SMOKING WITHIN 25 FEET OF BUILDING" SIGNAGE, POST NEAR BUILDING ENTRANCE IN COMPLIANCE WITH THE 2013 CALIFORNIA GREEN STANDARDS GUIDE. |
| 3. PROCESS EQUIPMENT IS NOT SHOWN FOR CLARITY. SEE MECHANICAL DRAWINGS. | 9. THE CODE SUMMARY HAS BEEN PROVIDED WITH THE UNDERSTANDING THAT MCKINLEYVILLE COMMUNITY SERVICES DISTRICT ACTS AS THEIR OWN JURISDICTION HAVING AUTHORITY AND IS EXEMPT FROM HUMBOLT COUNTY BUILDING REVIEW AND THAT NO WORK IS REQUIRED TO UPGRADE THE EXISTING FACILITIES TO UPGRADE ACCESSIBILITY, ENERGY OR SPRINKLING TO MEET CURRENT CODE REQUIREMENTS. |
| 4. PARKING SPACE AND ADJACENT AREAS SHALL HAVE SLOPES NOT TO EXCEED 1 UNIT VERTICAL IN 50 UNITS HORIZONTAL (1.8-PERCENT SLOPE) IN ALL DIRECTIONS INCLUDING CROSS SLOPES. | |
| 5. CBC TABLE 503 AREA LIMITATION FOR U OCCUPANCIES SHOULD NOT PRESENT PERMITTING ISSUES FOR BASIN-TYPE STRUCTURES THAT ARE SIZED TO ACCOMMODATE WATER PROCESSING REQUIREMENTS. | |
| 6. AERATION BASINS NO. 1 AND NO. 2 ARE CONSTRUCTED OF NON-COMBUSTIBLE CONCRETE AND ARE FILLED WITH WATER. CONSEQUENTLY THEY PRESENT NO FIRE HAZARD AND ARE COMMONLY NOT FIRE SPRINKLERED. | |



CODE SUMMARY AND SITE LAYOUT

1

A00

0 8' 16' 32'

SCALE: 1/16"=1'-0"

SCALE: 1/16"=1'-0"

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	HLV	JOB NO.								
	DRAWN	1368004.00								
	HLV	DATE								
	CHECKED	1368004.00								
WGR 58	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	SHEET OF								
		A001								
NO.	REVISION	DATE	BY							




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							JOB NO.			1368004.00	
							DATE			OCTOBER 2014	
							CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA		SHEET	OF
	NO.	REVISION	DATE	BY			WGR58			A001	




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WGR 58	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	SHEET OF								
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	NO.	REVISION	DATE	BY			WGR58			A001	



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							<p>DRAWN</p> <p align="center">HLV</p>			<p>JOB NO.</p> <p align="center">1368004.00</p>
							<p>CHECKED</p> <p align="center">WGR 58</p>			<p>DATE</p> <p align="center">OCTOBER 2014</p>
							<p align="center">Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA</p>			<p>SHEET OF</p> <p align="center">A001</p>
	NO.	REVISION	DATE	BY						

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							<p>DRAWN</p> <p align="center">HLV</p>			<p>JOB NO.</p> <p align="center">1368004.00</p>
							<p>CHECKED</p> <p align="center">WGR 58</p>			<p>DATE</p> <p align="center">OCTOBER 2014</p>
							<p align="center">Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA</p>			<p>SHEET OF</p> <p align="center">A001</p>
	NO.	REVISION	DATE	BY						

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							<p>DRAWN</p> <p align="center">HLV</p>			<p>JOB NO.</p> <p align="center">1368004.00</p>
							<p>CHECKED</p> <p align="center">WGR 58</p>			<p>DATE</p> <p align="center">OCTOBER 2014</p>
							<p align="center">Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA</p>			<p>SHEET OF</p> <p align="center">A001</p>
	NO.	REVISION	DATE	BY						

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							DRAWN			JOB NO.	1368004.00
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							CHECKED	<p align="center">Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA</p>		SHEET	OF
	NO.	REVISION	DATE	BY			WGR 58			A001	

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							DRAWN			JOB NO.	1368004.00
							HLV			DATE	OCTOBER 2014
							CHECKED	<p align="center">Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA</p>		SHEET	OF
	NO.	REVISION	DATE	BY			WGR 58			A001	

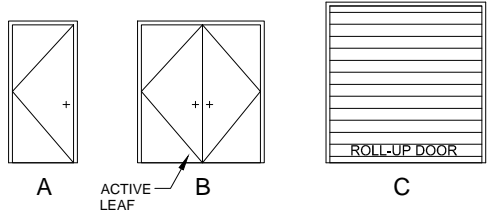
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	NO.	REVISION	DATE	BY			WGR 58			A001	

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DOOR SCHEDULE											
DOOR		DOOR			FRAME				ASSEMBLY		REMARKS
NO.	WIDTH X HEIGHT	TYPE	MATERIAL	THERMAL VALUE	MATERIAL	HEAD	JAMB	SILL	HARDWARE GROUP	FIRE RATING	
BLOWER, ELECTRICAL AND MAINTENANCE BUILDING											
100	PR 3'-6" X 8'-4"	B	HM	NA	HM	4/A004 SIM	9/A004 SIM	14/A004	2	-	NO FURRING
101	PR 3'-2" X 7'-8"	B	HM	NA	HM	4/A004	9/A004	14/A004	6	-	
102	3'-0" X 7'-0"	A	HM	NA	HM	4/A004 SIM	9/A004 SIM	14/A004	1	-	NO FURRING
103	R.O. 10'-8"x12'-6"	C	STL	NA	STL	9	10	2	5	-	CHAIN OPERATED
104	3'-0" X 7'-0"	A	HM	NA	HM	4/A004 SIM	9/A004 SIM	1	3	-	NO RAIN HOOD, NO FURRING, SMOOTH CMU
105	3'-0" X 7'-0"	A	HM	NA	HM	4/A004 SIM	9/A004 SIM	1	4	-	NO RAIN HOOD, SMOOTH CMU
106	3'-0" X 7'-0"	A	HM	NA	HM	4/A004 SIM	9/A004 SIM	1	7	-	NO RAIN HOOD, SMOOTH CMU

NOTE: DOOR DETAILS ARE LOCATED ON THIS SHEET U.O.N.

DOOR TYPES



ABBREVIATIONS

HM = HOLLOW METAL
M.O. = MASONRY OPENING IN CMU.
STL = STEEL
V.I.F. = VERIFY IN FIELD

DOOR SCHEDULE NOTES

- ALL EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE PER 2013 CBC 1008.1.9.
- SEE SPECIFICATION 08700 FOR HARDWARE GROUP NUMBERS IN THE DOOR SCHEDULE.
- U-VALUE IS IN BTU/HR*SF*F. VALUE SHOWN IS MAXIMUM ALLOWABLE.
- ALL HOLLOW METAL DOORS AND FRAMES IN THE SCHEDULE SHALL BE PAINTED, PAINT SYSTEM A.

PAINT SYSTEMS

PAINT SYSTEMS: UNLESS NOTED OTHERWISE, SEE SPECIFICATION SECTION 09900 FOR PAINTING SYSTEMS INDICATED IN THE FINISH SCHEDULE.

SEE SPECIFICATION SECTION 09960 FOR PAINT SYSTEMS FOR CONTAINMENT AREAS, PUMPS, PIPING, MECHANICAL AND ELECTRICAL ITEMS.

SYSTEM "A" = GLOSS GLOSS EXTERIOR LATEX
SYSTEM "B" = SEMI-GLOSS EXTERIOR LATEX
SYSTEM "C" = NOT USED
SYSTEM "D" = SEMI-GLOSS INTERIOR LATEX
SYSTEM "E" = EGGSHELL EXTERIOR LATEX
SYSTEM "F" = ANTI-GRAFFITI FINISH
SYSTEM "Z" = TRAFFIC LINE PAINT, SEE CIVIL DRAWINGS FOR LOCATION
SYSTEM "FS" = FLOOR SEALER

FINISH SCHEDULE

	ROOM	FLOOR		BASE		WALL								CEILING			REMARKS
NO.	NAME	MATERIAL	FINISH	MATERIAL	FINISH	NORTH		WEST		SOUTH		EAST		MATERIAL	FINISH	HEIGHT	
						MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH				
BLOWER, ELECTRICAL AND MAINTENANCE BUILDING																	
100	BLOWER ROOM	CONCRETE	BRM+FS	CONCRETE	FLD+FS	CMU	D	CMU	D	CMU	D	CMU	D	EXP. STRUCT.	D	VARIES	
101	ELECTRICAL ROOM	CONCRETE	BRM+FS	CONCRETE	FLD+FS	GYP BD	D	GYP BD	D	GYP BD	D	GYP BD	D	EXP. STRUCT.	D	VARIES	
101	MAINTENANCE ROOM	CONCRETE	BRM+FS	CONCRETE	FLD+FS	CMU	D	CMU	D	CMU	D	CMU	D	EXP. STRUCT.	D	VARIES	
101	TOILET ROOM/SHOWER ROOM	CT	FF	CT	FF	CT/GYP BD	D	CT/GYP BD	D	CT/GYP BD	D	CT/GYP BD	D	GYP BD	D	8'-0"	CERAMIC TILE WAINSCOT U.O.N. ON FLOOR PLAN
CONTROL BUILDING																	
200	CONTROL ROOM	CONCRETE	BRM+FS	CONCRETE	FLD+FS	(E)	D	(E)	D	(E)	D	(E)	D	(E)	D	(E)	

FINISH SCHEDULE NOTES

- PAINT ALL EXTERIOR HOLLOW METAL DOORS AND FRAMES PAINT SYSTEM (A)
- PAINT ALL GALVANIZED STEEL; PAINT SYSTEM (A) AND ALL EXPOSED INTERIOR STEEL PAINT SYSTEM (D) INCLUDING:
 - METAL FABRICATIONS
 - SHEET METAL FLASHINGS THAT ARE NOT FACTORY FINISHED
 - ROOF ACCESSORIES THAT ARE NOT FACTORY FINISHED
 - STEEL FRAME
 - BRACKETS AND PROTECTION PLATES
 - EXPOSED ROOF DECK
- PAINT EXPOSED EXTERIOR FERROUS METAL FABRICATIONS & STRUCTURAL STEEL PAINT SYSTEM (A) PRE-FINISHED ITEMS SHALL NOT BE PAINTED.
- PAINT ALL EXPOSED INTERIOR FERROUS STRUCTURAL STEEL PAINT SYSTEM (D)
- CONCRETE MASONRY UNITS SHALL HAVE A MINIMUM HEAT CAPACITY OF 9 BTU /HR*SF. SEE STRUCTURAL FOR ADDITIONAL INFO.
- SEAL ALL EXPOSED EXTERIOR MASONRY WITH WATER RESISTANT SEALER/ANTI-GRAFFITI COATING PER SPECIFICATION SECTION 07190.
- PROVIDE BLOCK FILLER AND PAINT ALL EXPOSED INTERIOR CMU SURFACES PAINT SYSTEM (D)
- PAINT EXTERIOR WOOD FASCIA, TRIM, AND FLASHING PAINT SYSTEM (B) PER SPECIFICATION 09900. COLOR AS SELECTED BY OWNER FROM MANUFACTURER'S FULL PALETTE.
- COLOR OF DOORS, FRAMES, GUTTERS, DOWNSPOUTS, SHALL BE SELECTED BY OWNER FROM MANUFACTURER'S FULL PALETTE.
- COAT ALUMINUM IN DIRECT CONTACT WITH CONCRETE, MASONRY, OR GROUT W/BITUMINOUS COATING.

FINISH SCHEDULE ABBREVIATIONS

BRM = BROOM
CONC = CONCRETE
CT = CERAMIC TILE
EXP = EXPOSED STRUCTURAL FRAMING
FF = FACTORY FINISH/ INTEGRAL FINISH
FLD = FIELD FINISH
FS = FLOOR SEALER
GYP BD = GYPSUM BOARD
PLY = ADX PLYWOOD
RES = RESILIENT BASE
ST = STEEL TROWEL
VAR = VARIES

FINISH SCHEDULE DEFINITIONS

PREFINISHED = FACTORY PAINTED ITEMS, STAINLESS STEEL, CHROME, BRASS, BRONZE, PLASTIC LAMINATE, ANODIZED ALUMINUM & NAME PLATES.

GALVANIZED & PRIMED COATINGS ARE NOT CONSIDERED "PREFINISHED."

CONTAINMENT COATINGS:

- SEE SPECIFICATIONS SECTIONS 09960.
- SEALERS & CURING COMPOUNDS SHALL BE REMOVED FROM THE CONCRETE SURFACES PRIOR TO INSTALLING COATINGS & FLOORING.

DOOR SILL DETAIL

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

1

A002

ROLL-UP DOOR SILL DETAIL

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

2

A002

CEILING DETAIL

SCALE: 3" = 1'-0"

3

A002

EXTERIOR CMU WALL DETAIL

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

EXTERIOR CMU WALL DETAIL

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

ROLL-UP DOOR HEAD DETAIL

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

ROLL-UP DOOR JAMB DETAIL

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

TYPICAL CEILING UPLIFT RESTRAINT DETAIL

SCALE: 1" = 1'-0"

11

A002

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SCALES

0 1" 25mm

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DESIGNED

HLV

DRAWN

HLV

CHECKED

WGR 59

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

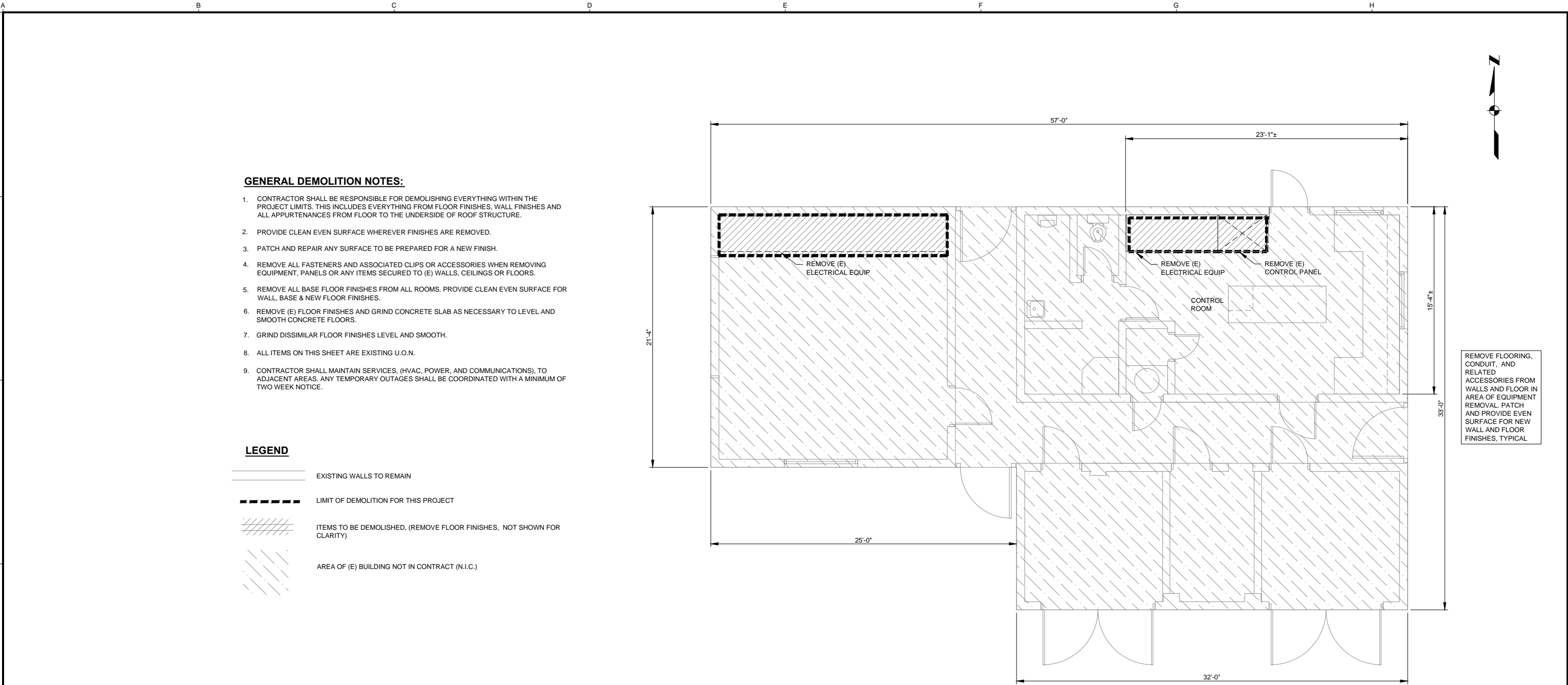
WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

DOOR AND FINISH SCHEDULE, ARCHITECTURAL DETAILS

FILE NAME
1368004-A002
JOB NO.
1368004.00
DATE
OCTOBER 2014
SHEET
OF
A002

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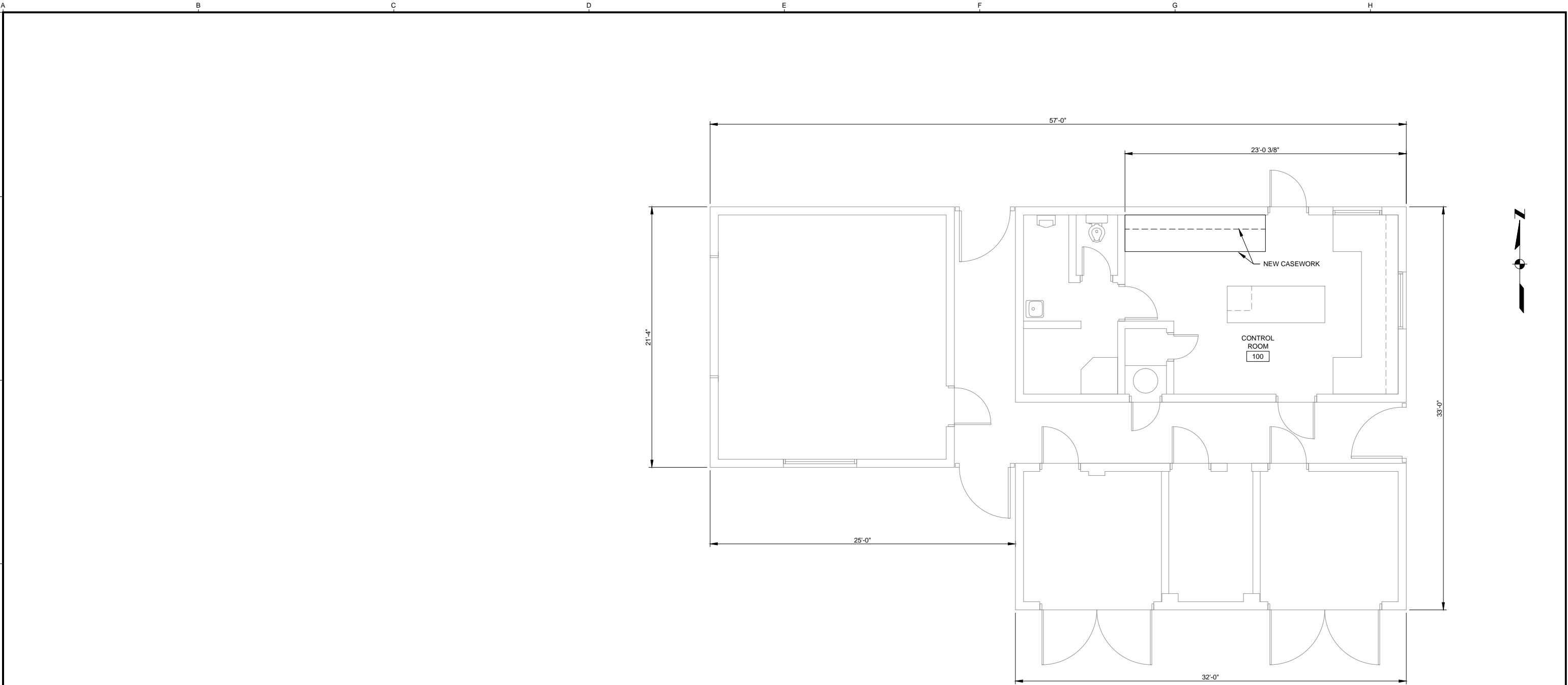


CONTROL BUILDING -DEMOLITION PLAN 1
0 2' 4' 8'
SCALE: 1/4"=1'-0" A111

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							DRAWN HLV			JOB NO. 1368004.00
							CHECKED WGR 60			DATE OCTOBER 2014
	NO.	REVISION	DATE	BY						SHEET A111 OF

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GENE STEVENSON 10/22/2014 9:59 AM



CONTROL BUILDING - FLOOR PLAN AND INTERIOR ELEVATIONS 1
A112

0 2' 4' 8'
SCALE: 1/4"=1'-0"

LEGEND

- 100 DOOR IDENTIFICATION TAG, SEE DOOR SCHEDULE SHEET A2.
- 100 ROOM IDENTIFICATION TAG, SEE INTERIOR FINISH SCHEDULE SHEET A2.
- FE FIRE EXTINGUISHER, WALL MOUNTED

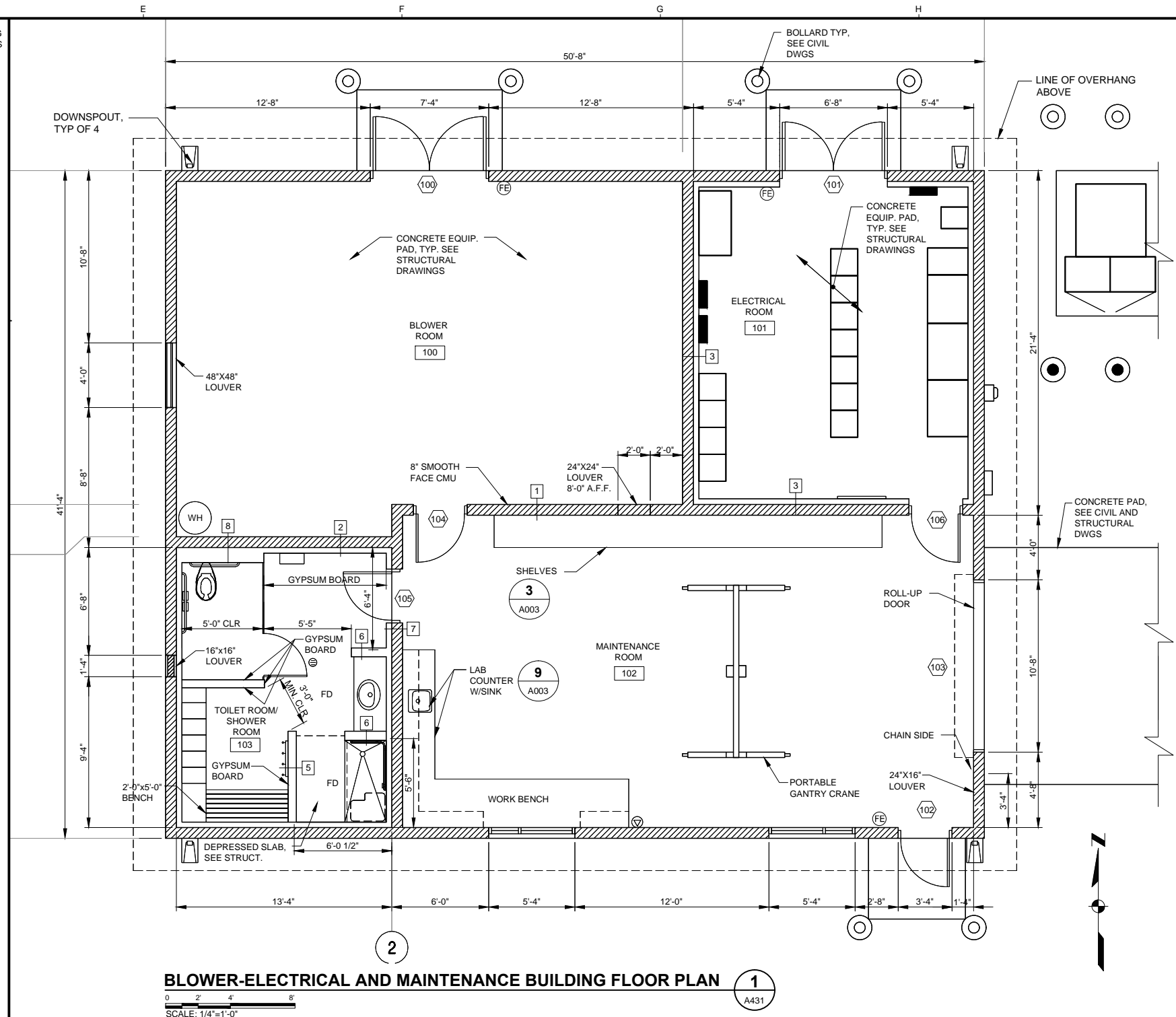
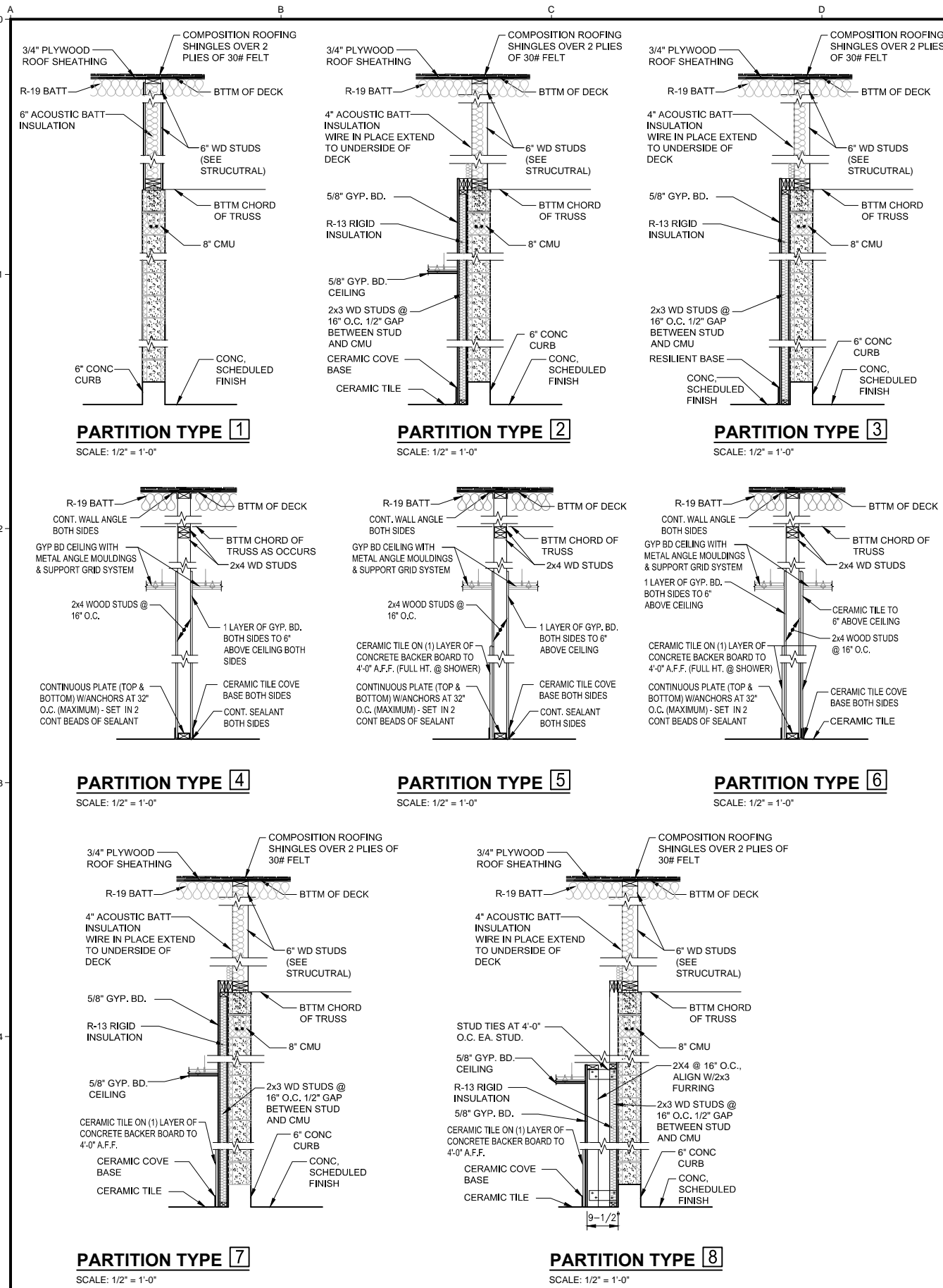
NOTES

- ALL DIMENSIONS ARE TO F.O. CMU OR F.O. STUD U.N.O.
- SEE COUNTER ELEVATION.
- PROVIDE ANTI-GRAFFITI COATING ON EXPOSED EXTERIOR CMU.

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	HLV	1368004-A112								
	DRAWN	JOB NO.								
	HLV	1368004.00								
	CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	DATE							
	WGR 61		OCTOBER 2014							
		SHEET	OF							
NO.	REVISION	DATE	BY	A112						

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GENE STEVENSON
10/22/2014 10:00 AM



LEGEND

- 100 DOOR IDENTIFICATION TAG, SEE DOOR SCHEDULE SHEET A2.
- 100 ROOM IDENTIFICATION TAG, SEE INTERIOR FINISH SCHEDULE SHEET A2.
- 8" CMU WALL
- FURRED 8" CMU WALL
- FE FIRE EXTINGUISHER, WALL MOUNTED
- 1 PARTITION TYPE, SEE PARTITION TYPES 1-8 THIS DRAWING

NOTES

- ALL DIMENSIONS ARE TO F.O. CMU OR F.O. STUD U.N.O.
 - SEE COUNTER ELEVATION.
 - PROVIDE ANTI-GRAFFITI COATING ON EXPOSED EXTERIOR CMU.
- PARTITION NOTES**
- AT FURRED CMU WALLS FASTEN 2x3 WD STUDS TO CMU @ 4'-0". PROVIDE 1/2" SHIM AT FASTENING LOCATION BETWEEN STUD AND CMU.U.

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							HLV					JOB NO. 1368004.00
							DRAWN					DATE OCTOBER 2014
							HLV					SHEET OF
							CHECKED					A431
	NO.	REVISION	DATE	BY			WGR 62					





1
A431

0 2' 4' 8'

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

SCALES

0  1"

0  25mm

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



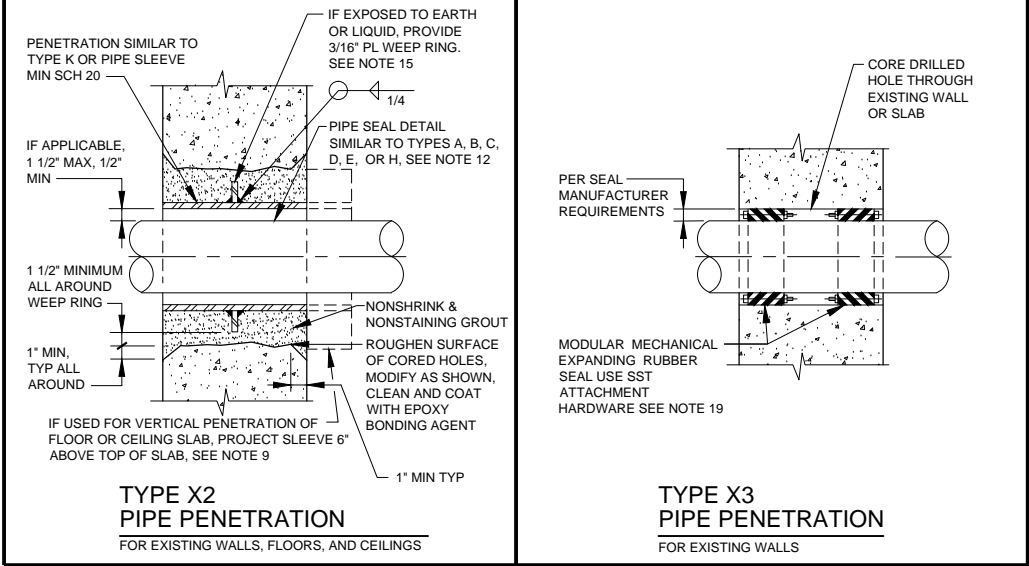
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

FILE NAME	1368004-A432
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
A432	

90% SUBMITTAL



PIPE PENETRATION NOTES:

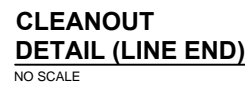
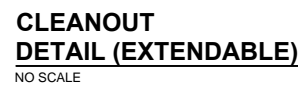
- GENERAL NOTE:

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	DRAWN	JOB NO.	1368004.00								
	GAS	DATE	OCTOBER 2014								
	CHECKED	SHEET	OF								
	RRH 64	M001									
	NO.	REVISION	DATE	BY			Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA				



TYPE III CLEANOUT



DRAINAGE NOTES:

1. UNLESS OTHERWISE SPECIFIED, AND EXCEPT IN PEDESTRIAN AREAS SUCH AS OFFICES, LAB AREAS, WASHROOMS, JANITOR ROOMS, ETC, ALL FLOOR DRAINS AND CLEANOUTS SHALL BE PROVIDED WITH GALVANIZED DUCTILE GRATES AND COVERS.
2. HORIZONTAL DRAINAGE SHALL HAVE A SLOPE OF 1/4 INCH PER FOOT OR AS SPECIFIED.
3. CLEANOUTS AND VENTS FOR HORIZONTAL DRAINAGE PIPES SHALL BE PROVIDED IN ACCORDANCE WITH APPLICABLE PLUMBING CODE.
4. THIS DRAWING IS GENERAL IN NATURE. SOME DRAINS AND CLEANOUTS SHOWN HEREON MAY NOT BE USED ON THE CONTRACT DRAWINGS.
5. WHERE SHOWN ON THE CONTRACT DRAWINGS, PROVIDE TYPE I, IV, V, AND VI WITH A FORMED 2" DIAMETER DISH AS ILLUSTRATED ON TYPE II AND III FLOOR DRAINS.
6. ALL DETAILS ON THIS SHEET ARE NOT TO SCALE.
7. SEE SECTION 15400 FOR ADDITIONAL INFORMATION.


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NO.	REVISION	DATE	BY

SCALES

0  1"

0 25mm

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



DESIGNED	
WM	

DRAWN	
GAS	

CHECKED	RR
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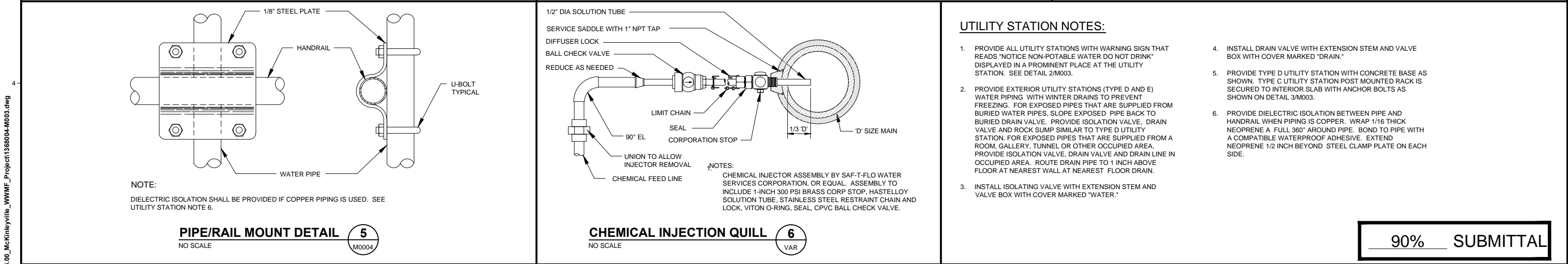
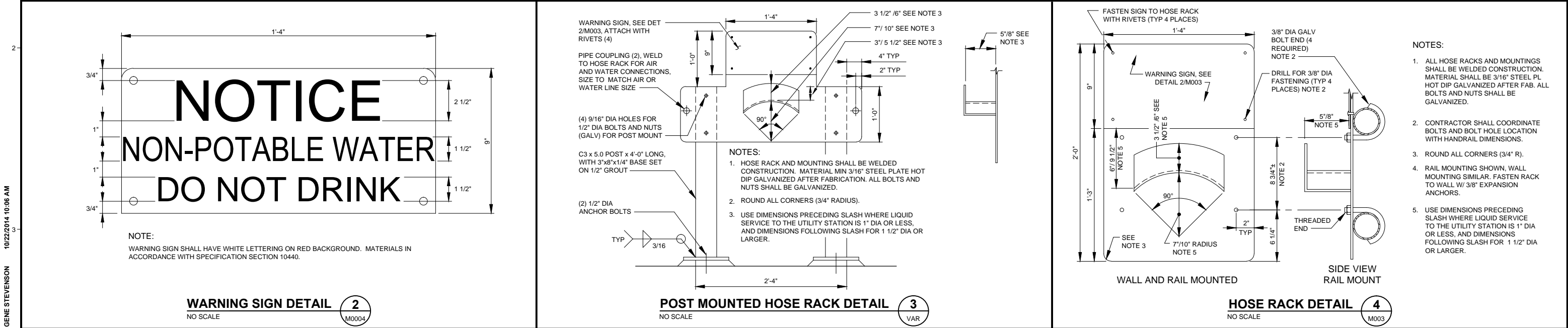
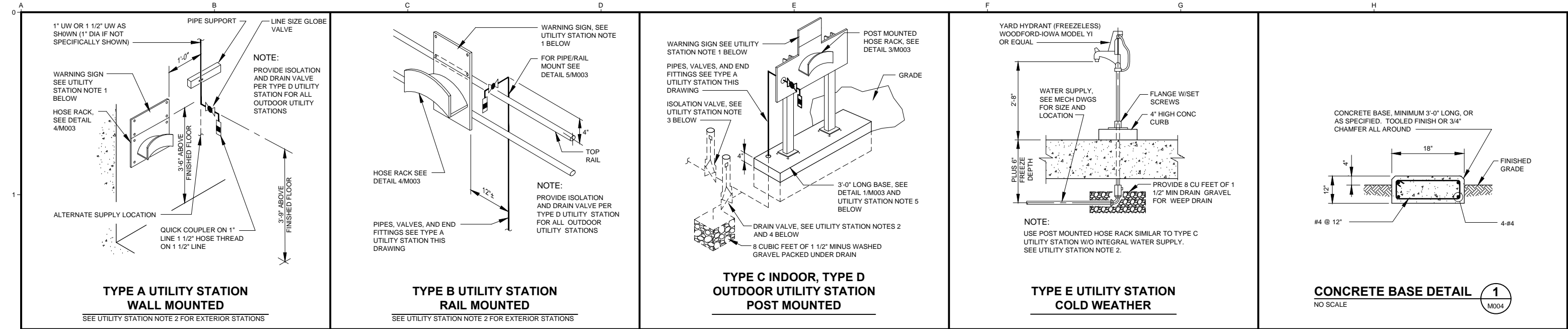
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

MECHANICAL DETAILS - 2

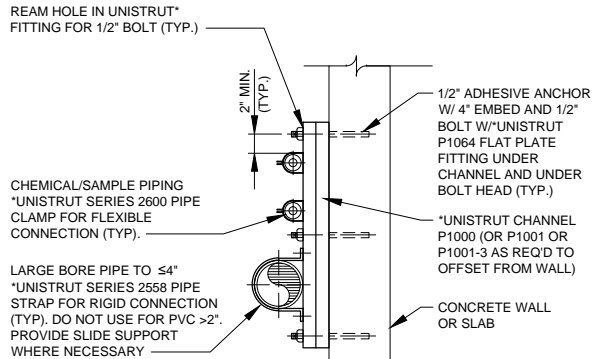
FILE NAME	1368004-M002
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
M002	



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										1368004-M003
										JOB NO.
										1368004.00
										DATE
									OCTOBER 2014	

GENERAL PIPE SUPPORT NOTES:

- PIPE SUPPORT MATERIAL SHALL BE AS SPECIFIED IN SPECIFICATION SECTION 15050-2.07.
- ALL ANCHOR BOLTS SHALL BE 316 STAINLESS STEEL PER SPECIFICATION SECTION 05090.
- COAT GALV STEEL PIPE SUPPORTS IN ACCORDANCE WITH SPECIFICATION SECTION 09960.
- PROVIDE NITRILE GASKET MATERIAL BETWEEN DISSIMILAR METALS TO ISOLATE METALS FROM GALVANIC CORROSION.
- SEE SHEET G004 FOR PIPE SUPPORT DESIGNATION SYSTEM.

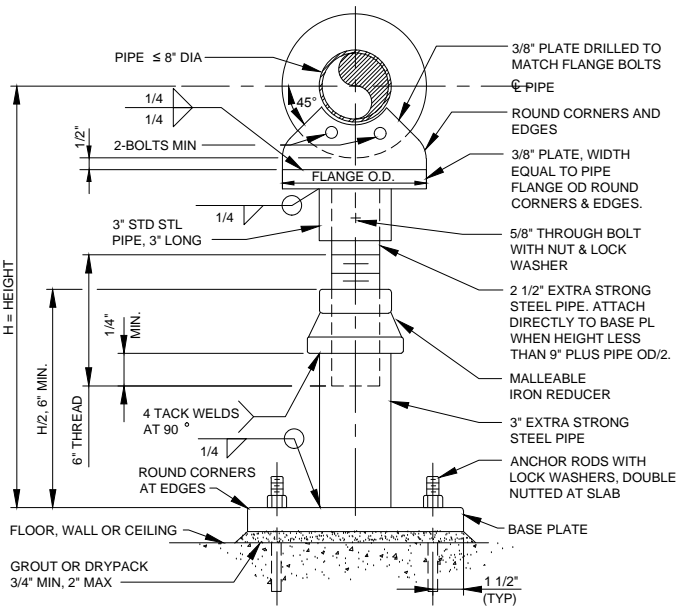


NOTE:
ADD ADDITIONAL ADHESIVE ANCHOR FOR EACH
ADDITIONAL PIPE.

* OR B-LINE INC., OR EQUAL.

TYPE 3 SUPPORT (T3S)

SCALE: NONE (SEISMIC RESTRAINT)

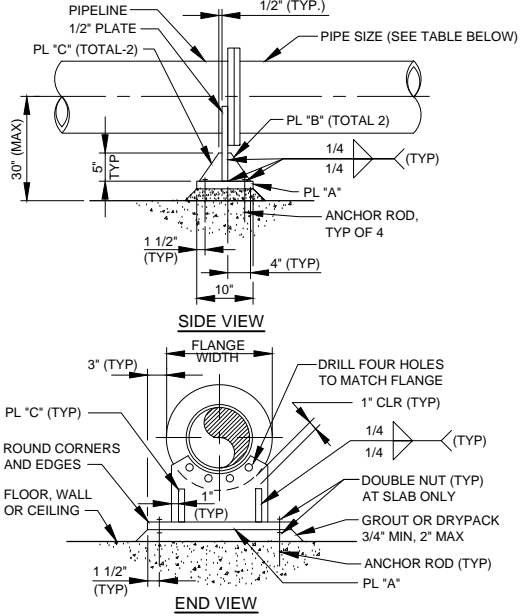


LOCATION	H (MAX.)	MEMBER	
		BASE PLATE	ANCHOR ROD
FLOOR	3'-0"	3/8 X 9 X 9	4-5/8"
CEILING	3'-0"	5/8 X 9 X 9	4-3/4"
WALL	1'-6"	5/8 X 9 X 9	4-3/4"

- NOTES:
- AS AN ALTERNATE, IF ADJUSTMENT IS NOT NECESSARY, DELETE 2 1/2" PIPE AND REDUCER AND WELD 3" STEEL PIPE DIRECTLY TO 3/8" PLATE ATTACHED TO PIPE FLANGE.
 - DO NOT CUT OR WELD AFTER GALVANIZING.
 - PIPE SUPPORT MAY BE ORIENTATED IN ANY DIRECTION.
 - SEE S0001 FOR MINIMUM PULLOUT VALUES, EMBEDMENTS AND NOTES FOR ANCHORS AND BOLTS.
 - SEE SECTION 15050 FOR MATERIALS.

TYPE 9 SUPPORT (T9S)

SCALE: NONE (SEISMIC RESTRAINT)

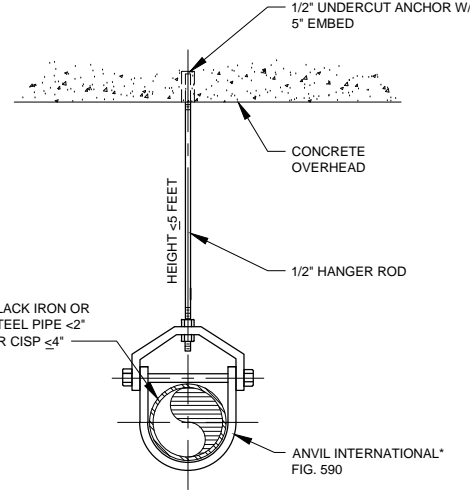


SUPPORT (T10S)				ANCHOR ROD	REMARKS
PIPE SIZE	PL. "A"	PL. "B"	PL. "C"		
≤ 12"	1/2"	-	-	3/4"	PL. "B" & "C" NOT REQ'D.
>12" ≤ 16"	1/2"	3/8"	-	3/4"	PL. "C" NOT REQ'D.
>16" ≤ 24"	3/4"	3/8"	3/8"	7/8"	-
>24" ≤ 30"	7/8"	3/8"	3/8"	7/8"	-

- NOTES:
- SEE S0001 FOR MINIMUM PULLOUT VALUES, EMBEDMENTS AND NOTES FOR ANCHORS AND BOLTS.
 - SEE SECTION 15050 FOR MATERIALS.

TYPE 10 SUPPORT (T10S)

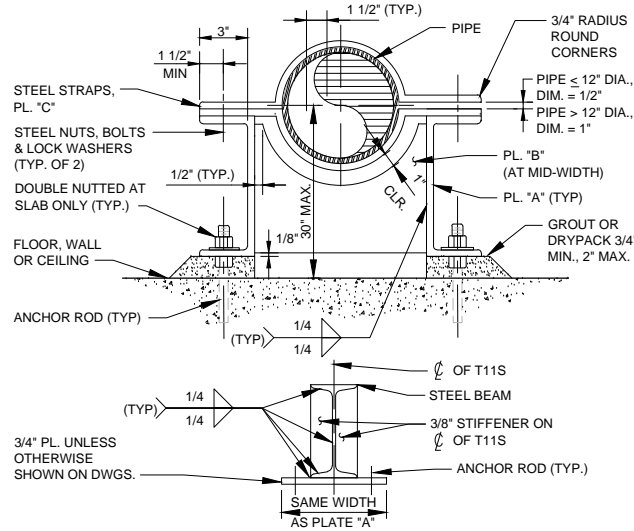
SCALE: NONE (SEISMIC RESTRAINT)



* OR FEE AND
MASON, OR EQUAL

TYPE 4 SUPPORT (T4S)

SCALE: NONE



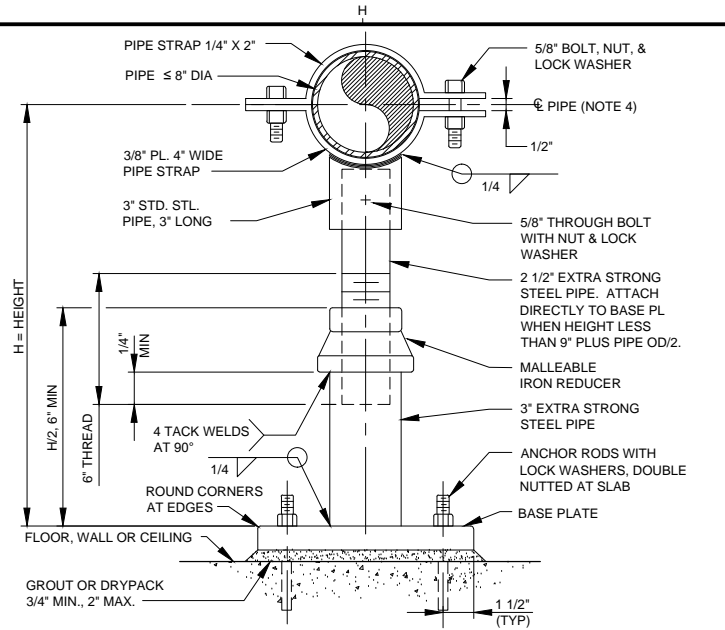
DETAIL AT STEEL BEAM

SUPPORT T11S			PIPE SIZE	ANCHOR ROD NUMBER & SIZE	STRAP BOLTS
MEMBERS					
PL. "A"	PL. "B"	PL. "C"			
3/8" X 6"	1/4"	3/8" X 6"	<12"	2-5/8"	1"
3/8" X 12"	3/8"	3/8" X 12"	≥12"<20"	4-3/4"	1 3/8"
3/4" X 12"	1/2"	1/2" X 12"	≥20"≤30"	4-3/4" @FLOOR 4-7/8" @WALL & CEILING	1 5/8"

- NOTES:
- WHEN BOLTED TO STEEL BEAM SEE DETAIL ABOVE.
 - SEE S0001 FOR MINIMUM PULLOUT VALUES, EMBEDMENTS AND NOTES FOR ANCHORS AND BOLTS.
 - SEE SECTION 15050 FOR MATERIALS.

TYPE 11 SUPPORT (T11S)

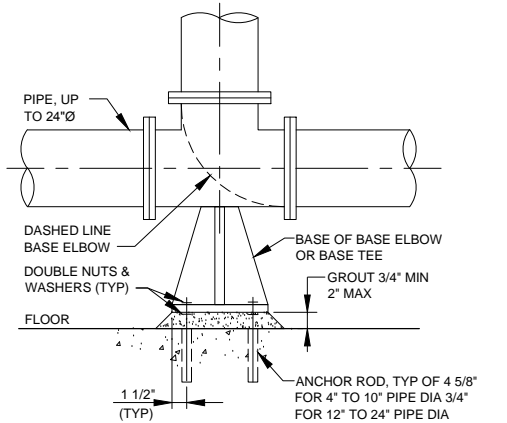
SCALE: NONE (SEISMIC RESTRAINT)



- NOTES:
- AS AN ALTERNATE, IF ADJUSTMENT IS NOT NECESSARY, DELETE PIPE AND REDUCER AND WELD 3" STEEL PIPE DIRECTLY TO BOTTOM PIPE STRAP.
 - DO NOT CUT OR WELD AFTER GALVANIZING.
 - PIPE SUPPORT MAY BE ORIENTATED IN ANY DIRECTION.
 - WHERE SLIDING SUPPORT REQUIRED, OMIT GAP AND SIZE STRAP SO THAT IT FITS LOOSE.
 - SEE S0001 FOR MINIMUM PULLOUT VALUES, EMBEDMENTS AND NOTES FOR ANCHORS AND BOLTS.
 - SEE SECTION 15050 FOR MATERIALS.

TYPE 8 SUPPORT (T8S)

SCALE: NONE (SEISMIC RESTRAINT)



- NOTES:
- SIZE OF BASE ELBOW OR TEE SHALL CONFORM TO PIPE SIZE.
 - SEE S0001 FOR MINIMUM PULLOUT VALUES, EMBEDMENTS AND NOTES FOR ANCHORS AND BOLTS.
 - SEE SECTION 15050 FOR MATERIALS.

TYPE 12 SUPPORT (T12S)

SCALE: NONE (SEISMIC RESTRAINT)

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NO.

REVISION

DATE

BY

SCALES

0 1"

0 25mm

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



DESIGNED

WMH

DRAWN

GAS

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RRH

67

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

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SANTA ROSA, CALIFORNIA

MECHANICAL DETAILS - 4

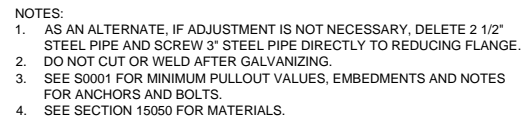
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1368004-M004

JOB NO.
1368004.00

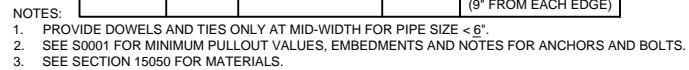
DATE
OCTOBER 2014

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OF

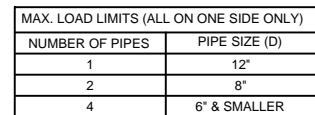
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SCALE: NONE (SEISMIC RESTRAINT)

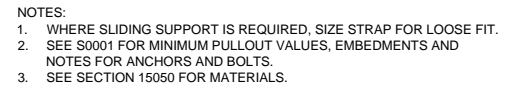


SCALE: NONE (SEISMIC RESTRAINT)

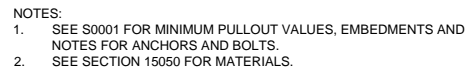


- NOTES:
1. BOTH SIDES OF PIPE SUPPORT MAY BE LOADED PROVIDED THE NUMBER OF PIPES PER SIDE IS NOT EXCEEDED.
 2. SEE S0001 FOR MINIMUM PULLOUT VALUES, EMBEDMENTS AND NOTES FOR ANCHORS AND BOLTS.
 3. SEE SECTION 15050 FOR MATERIALS.

SCALE: NONE (SEISMIC RESTRAINT)

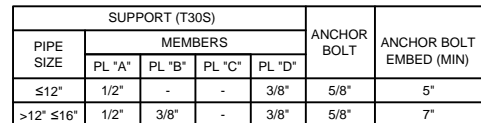


SCALE: NONE (SEISMIC RESTRAINT)



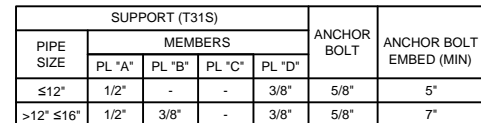
SCALE: NONE (SEISMIC RESTRAINT)

NOM. PIPE DIA "D"	"A"	BRACE EVERY (FT)
2 1/2"	1"	10
3"	1"	10
4"	1"	10
5"	1 1/2"	10
6"	1 1/2"	15
8"	1 1/2"	15
10"	1 1/2"	15
12"	1 1/2"	15
14"	2"	15
16"	2"	15
18"	2"	15
20"	2"	15



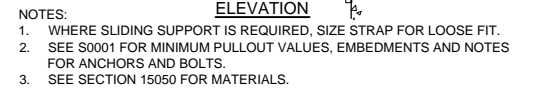
- NOTE:
1. HOT DIP AND GALVANIZE AFTER FABRICATION

SCALE: NONE



- NOTE:
1. HOT DIP AND GALVANIZE AFTER FABRICATION

SCALE: NONE (SEISMIC RESTRAINT)



SCALE: NONE

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OF KENNEDY/JENKS CONSULTANTS.

NO.	REVISION	DATE	BY

DIMENSION SHOWN
ADJUST SCALES



CHECKED

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

FILE NAME
1368004-M005

JOB NO.
1368004.00

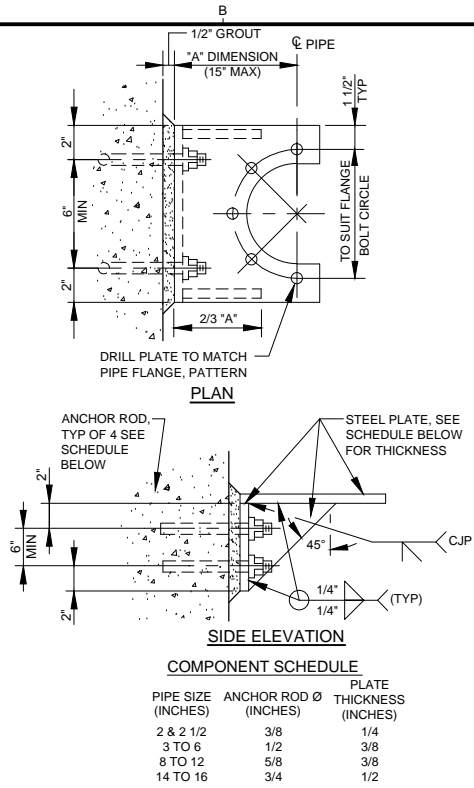
DATE
OCTOBER 2014

SHEET OF
M005

10/22/2014 10:06 AM

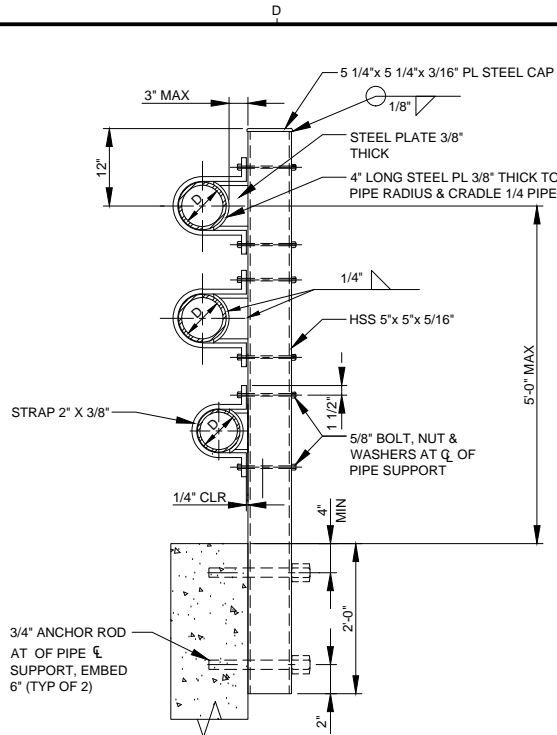
GENE STEVENSON

\\EUG1\CAD\CAD2013\1368004_00_McKinleyville_WWIMF_Project\1368004-M006.dwg



TYPE 33 SUPPORT (T33S)

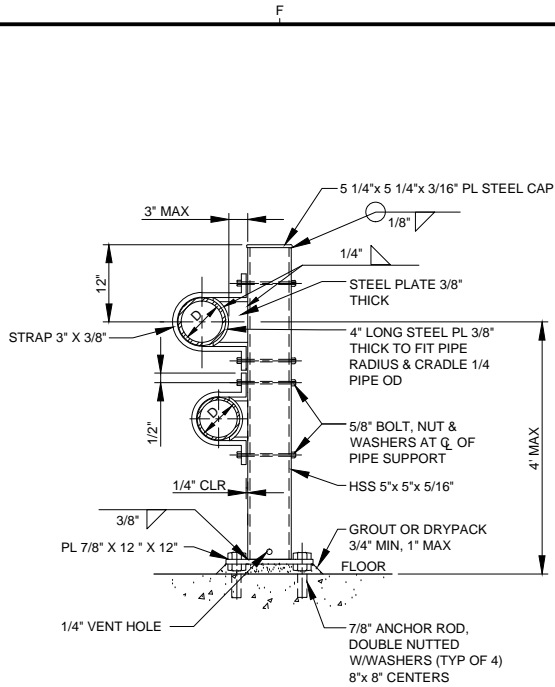
SCALE: NONE



TYPE 35 SUPPORT (T35S)

SCALE: NONE (SEISMIC RESTRAINT)

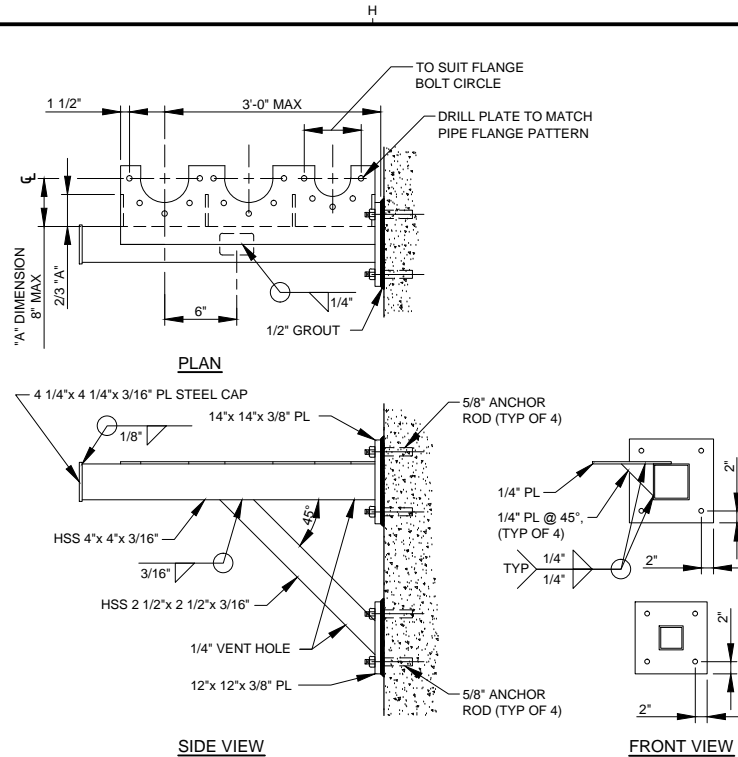
- NOTES:
1. PIPES MAY BE ATTACHED TO EITHER SIDE OF SUPPORT.
2. SEE S0001 FOR MINIMUM PULLOUT VALUES, EMBEDMENTS AND NOTES FOR ANCHORS AND BOLTS.
3. SEE SECTION 15050 FOR MATERIALS.



TYPE 36 SUPPORT (T36S)

SCALE: NONE (SEISMIC RESTRAINT)

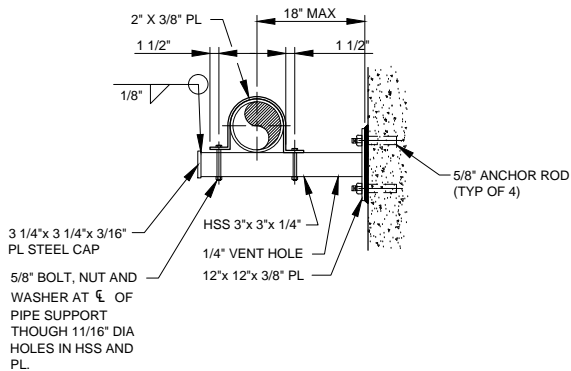
- NOTES:
1. SEE S0001 FOR MINIMUM PULLOUT VALUES, EMBEDMENTS AND NOTES FOR ANCHORS AND BOLTS.
2. SEE SECTION 15050 FOR MATERIALS.



TYPE 37 SUPPORT (T37S)

SCALE: NONE (SEISMIC RESTRAINT)

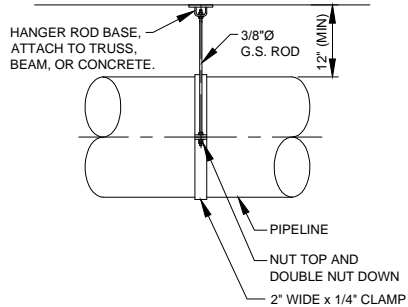
- NOTES:
1. SEE S0001 FOR MINIMUM PULLOUT VALUES, EMBEDMENTS AND NOTES FOR ANCHORS AND BOLTS.
2. SEE SECTION 15050 FOR MATERIALS.



TYPE 38 SUPPORT (T38S)

SCALE: NONE (SEISMIC RESTRAINT)

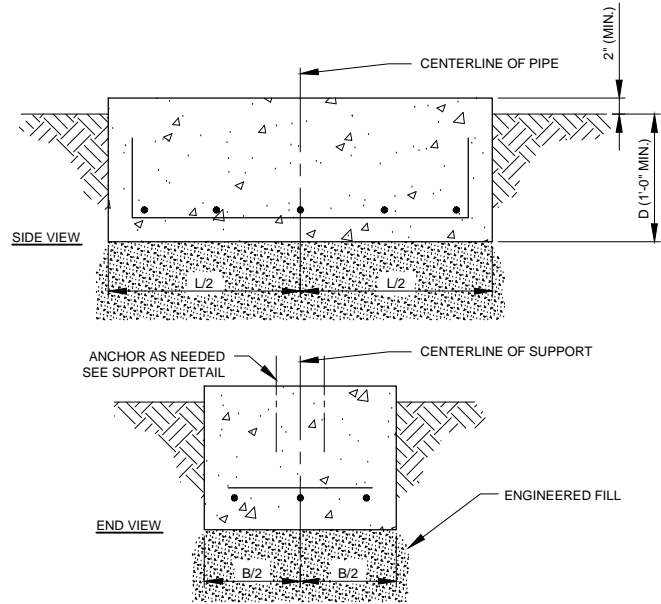
- NOTES:
1. WHERE SLIDING SUPPORT IS REQUIRED SIZE STRAP FOR LOOSE FIT.
2. SEE S0001 FOR MINIMUM PULLOUT VALUES, EMBEDMENTS AND NOTES FOR ANCHORS AND BOLTS.
3. SEE SECTION 15050 FOR MATERIALS.



TYPE 39 SUPPORT (T39S)

SCALE: NONE (SEISMIC RESTRAINT)

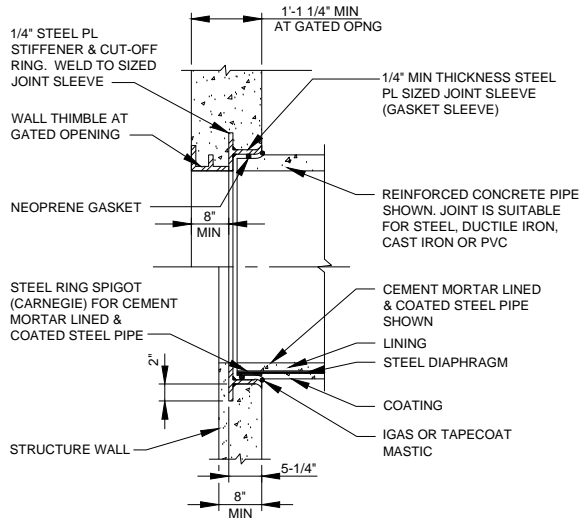
- NOTES:
1. WHERE SLIDING SUPPORT IS REQUIRED SIZE STRAP FOR LOOSE FIT.
2. SEE S0001 FOR MINIMUM PULLOUT VALUES, EMBEDMENTS AND NOTES FOR ANCHORS AND BOLTS.
3. SEE SECTION 15050 FOR MATERIALS.



PIPE SIZE	FOOTING			REBAR	REMARKS
	DIMENSIONS				
	B	L	D		
4" TO 6"	1'-6"	2'-6"	1'-2"	#4@12" EACH WAY (SEE SECTIONS)	FOR STEEL PLATE, ANCHOR BOLTS AND CONNECTIONS SEE PIPE SUPPORT DETAIL
8" TO 10"	1'-6"	3'-0"	1'-2"		
12" TO 16"	2'-0"	3'-6"	1'-4"		
18" TO 20"	2'-0"	4'-0"	1'-4"		
24"	2'-6"	4'-6"	1'-4"		

PIPE SUPPORT FOOTING

SCALE: NONE (SEISMIC RESTRAINT)



TYPICAL PIPE CONNECTION TO STRUCTURE DETAIL

SCALE: NONE

90% SUBMITTAL

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NO.	REVISION	DATE	BY

SCALES

0 1" 25mm

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



DESIGNED

WMH

DRAWN

GAS

CHECKED

RRH

69

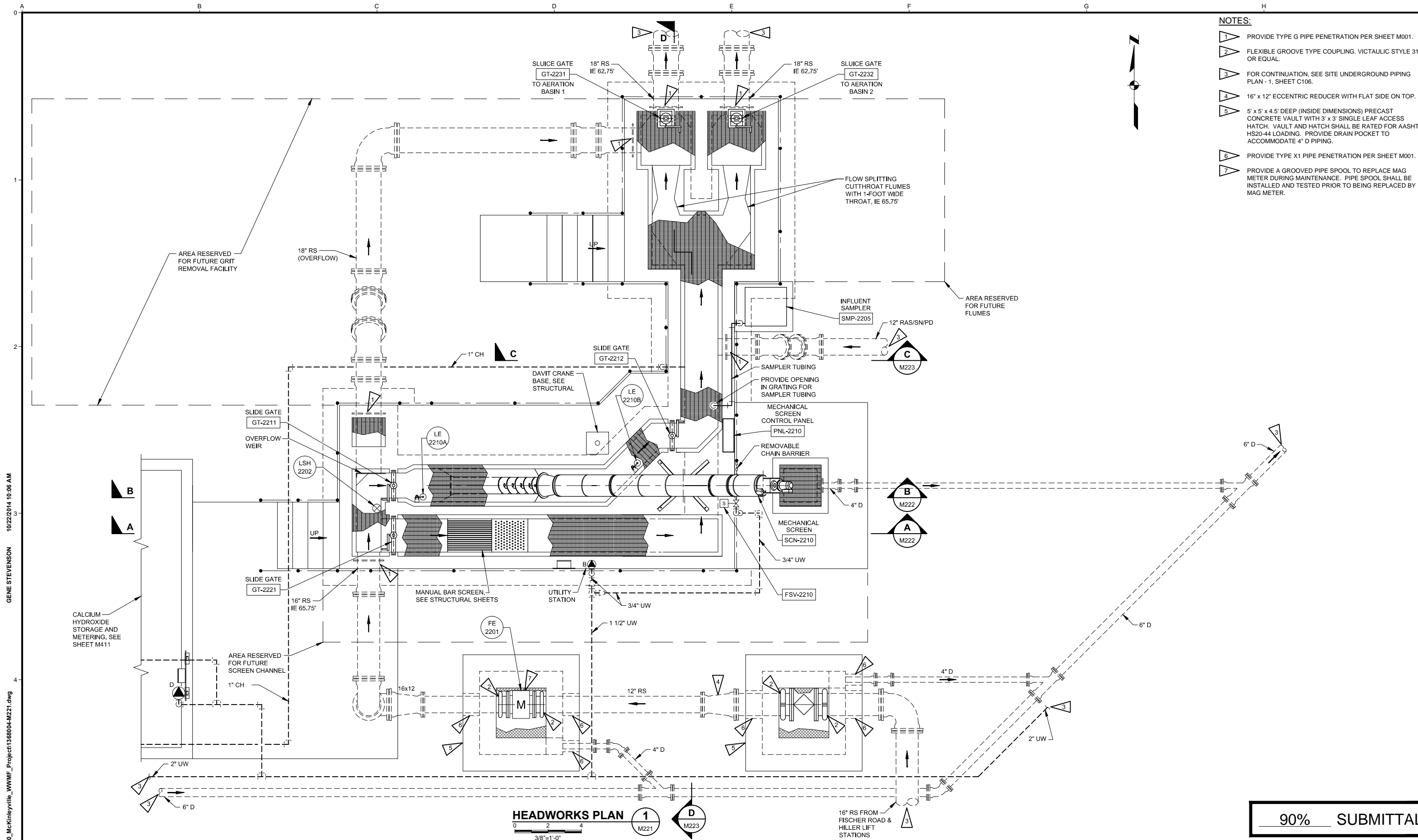
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

MECHANICAL DETAILS - 6

FILE NAME
1368004-M006
JOB NO.
1368004.00
DATE
OCTOBER 2014
SHEET
OF
M006



- NOTES:**
- 1 PROVIDE TYPE G PIPE PENETRATION PER SHEET M001.
 - 2 FLEXIBLE GROOVE TYPE COUPLING, VICTAULIC STYLE 31, OR EQUAL.
 - 3 FOR CONTINUATION, SEE SITE UNDERGROUND PIPING PLAN - 1, SHEET C106.
 - 4 16" x 12" ECCENTRIC REDUCER WITH FLAT SIDE ON TOP.
 - 5 5' x 5' x 4.5' DEEP (INSIDE DIMENSIONS) PRECAST CONCRETE VAULT WITH 3' x 3' SINGLE LEAF ACCESS HATCH. VAULT AND HATCH SHALL BE RATED FOR AASHTO HS20-44 LOADING. PROVIDE DRAIN POCKET TO ACCOMMODATE 4" D PIPING.
 - 6 PROVIDE TYPE X1 PIPE PENETRATION PER SHEET M001.
 - 7 PROVIDE A GROOVED PIPE SPOOL TO REPLACE MAG METER DURING MAINTENANCE. PIPE SPOOL SHALL BE INSTALLED AND TESTED PRIOR TO BEING REPLACED BY MAG METER.

10/22/2014 10:06 AM
GENE STEVENSON
\\EUG1\CAD\CADD\2013\1368004_00_McKinleyville_WWTF_Project\1368004-M221.dwg

HEADWORKS PLAN 1
3/8"=1'-0"

90% SUBMITTAL

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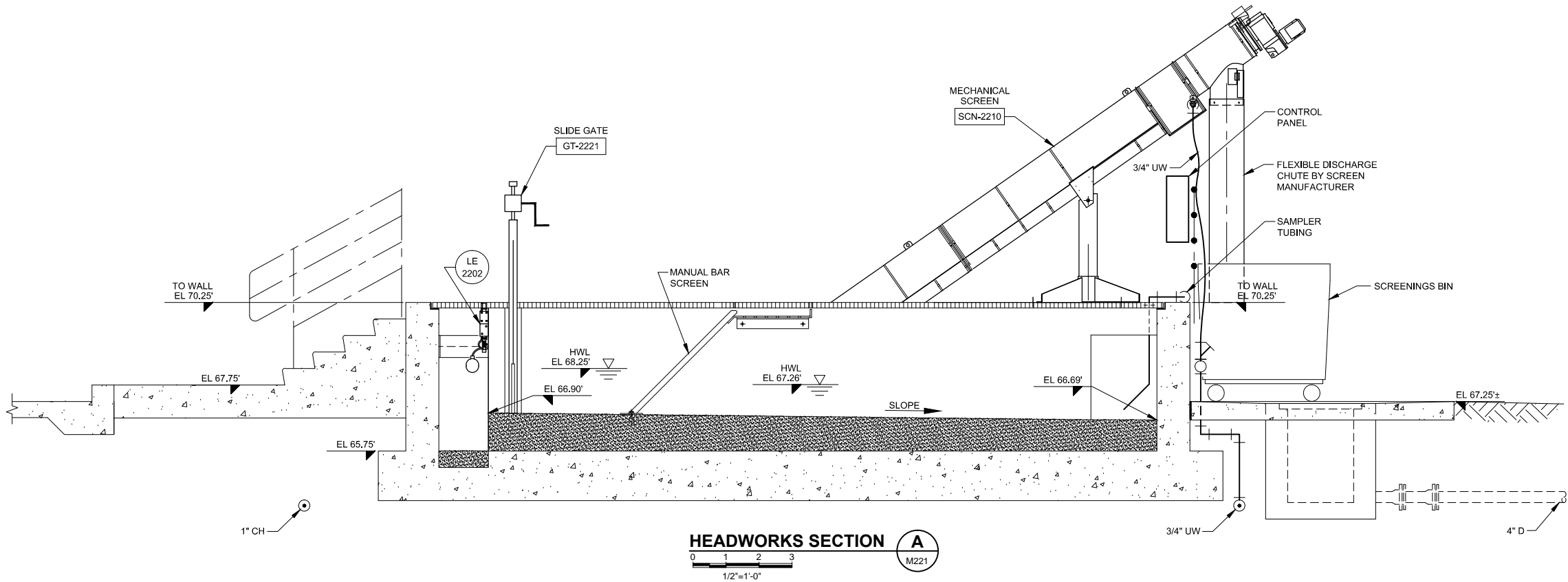
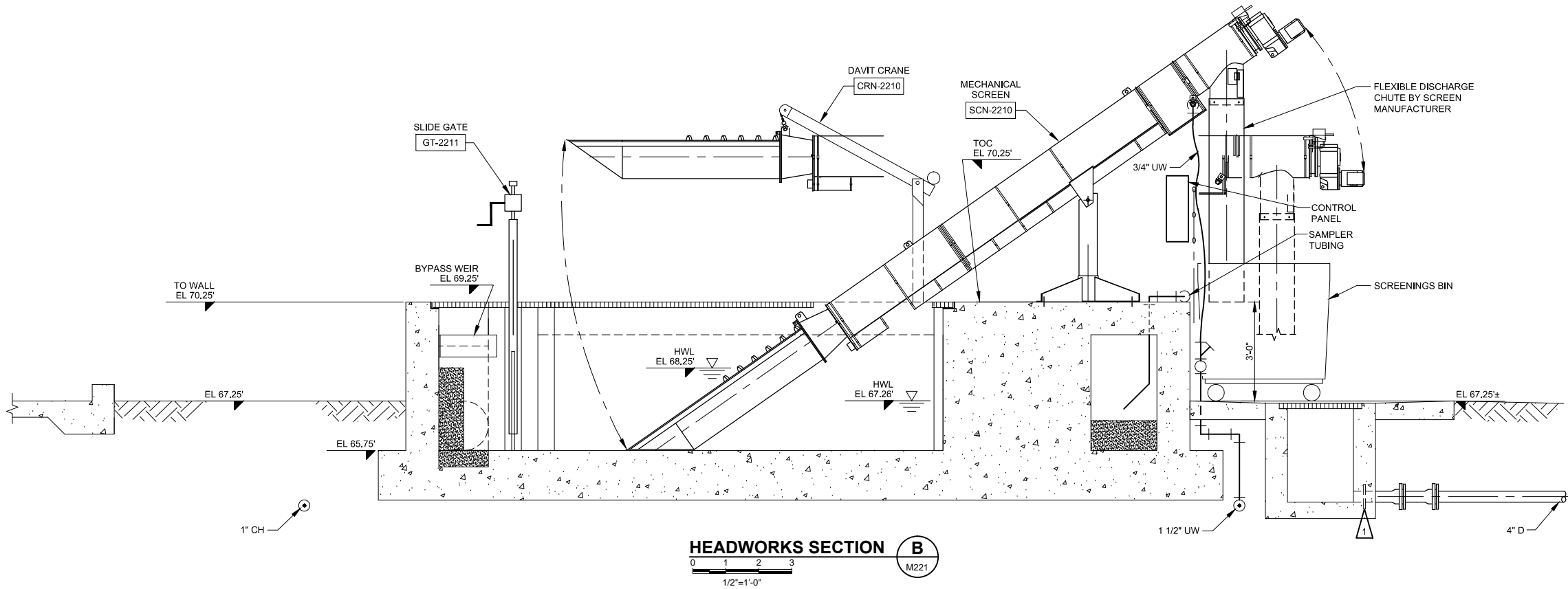
SCALES
0 2 4
3/8"=1'-0"

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


REGISTERED PROFESSIONAL ENGINEER
RODMAN R. HOUDE
No. C54215
Exp. 12/31/15
CIVIL
STATE OF CALIFORNIA

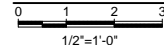
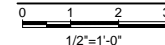
10/22/2014 10:06 AM GENE STEVENSON \\EUG\1\CADD\2013\1368004_00_McKinleyville_WWIMF_Project\1368004-M222.dwg

NOTES:
1 PROVIDE TYPE G PIPE PENETRATION PER SHEET M001.



90% SUBMITTAL

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								DRAWN GAS			JOB NO. 1368004.00
								CHECKED RRH			DATE OCTOBER 2014
								71			SHEET M222
	NO.	REVISION	DATE	BY							OF




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OF KENNEDY/JENKS CONSULTANTS.

NO.	REVISION	DATE	BY

SCALES

0  1"

0 25mm

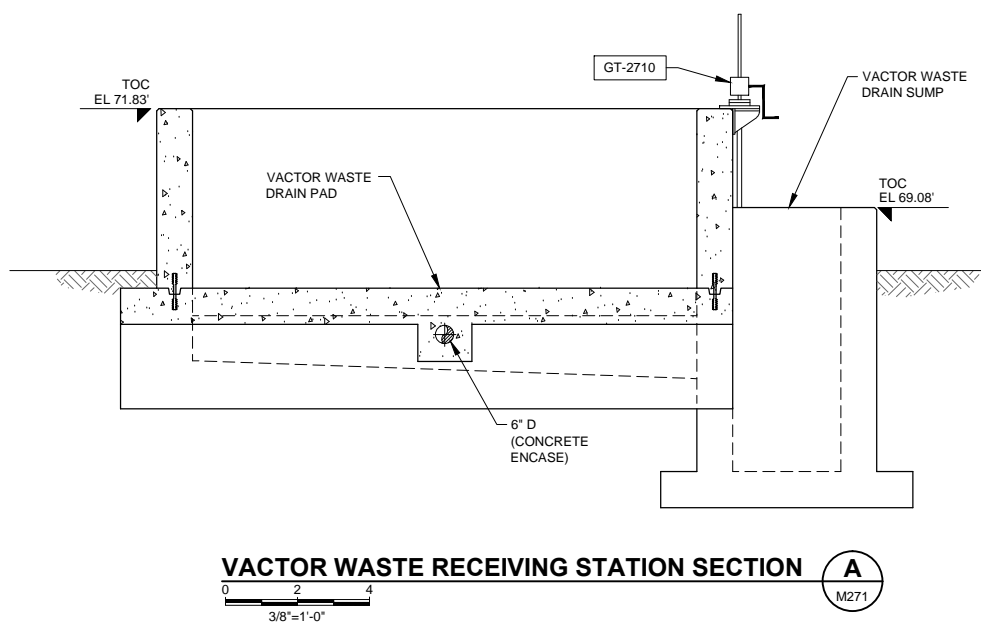
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DIMENSION SHOWN,
ADJUST SCALES
ACCORDINGLY.



72

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

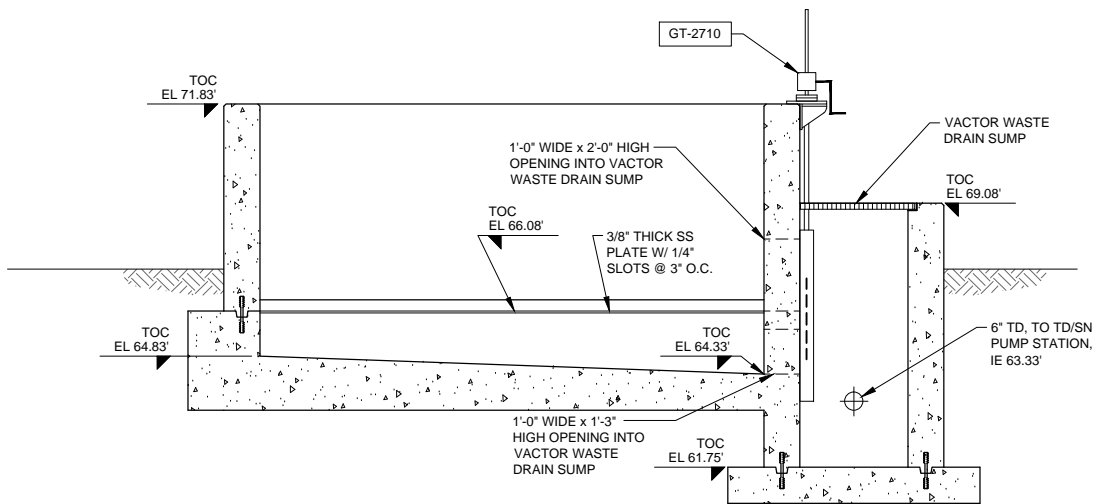
SHEET OF
M223



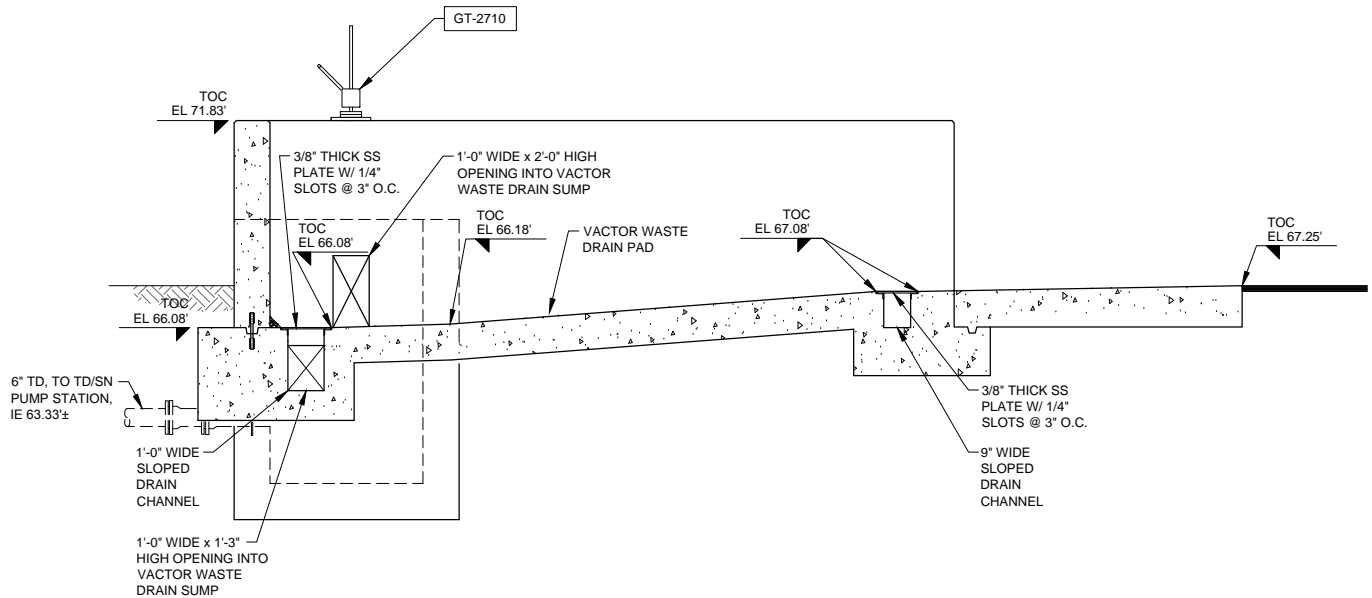
90% SUBMITTAL

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	WMH	JOB NO.	1368004.00								
	DRAWN	DATE	OCTOBER 2014								
	GAS	SHEET	OF								
	CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	RRH 73	M271							
	NO.						REVISION	DATE	BY		

\\EUG\1\CADD\2013\1368004.00_McKinleyville_WWMP_Project\1368004-M272.dwg 10/22/2014 10:07 AM GENE STEVENSON




VACTOR WASTE RECEIVING STATION SECTION B

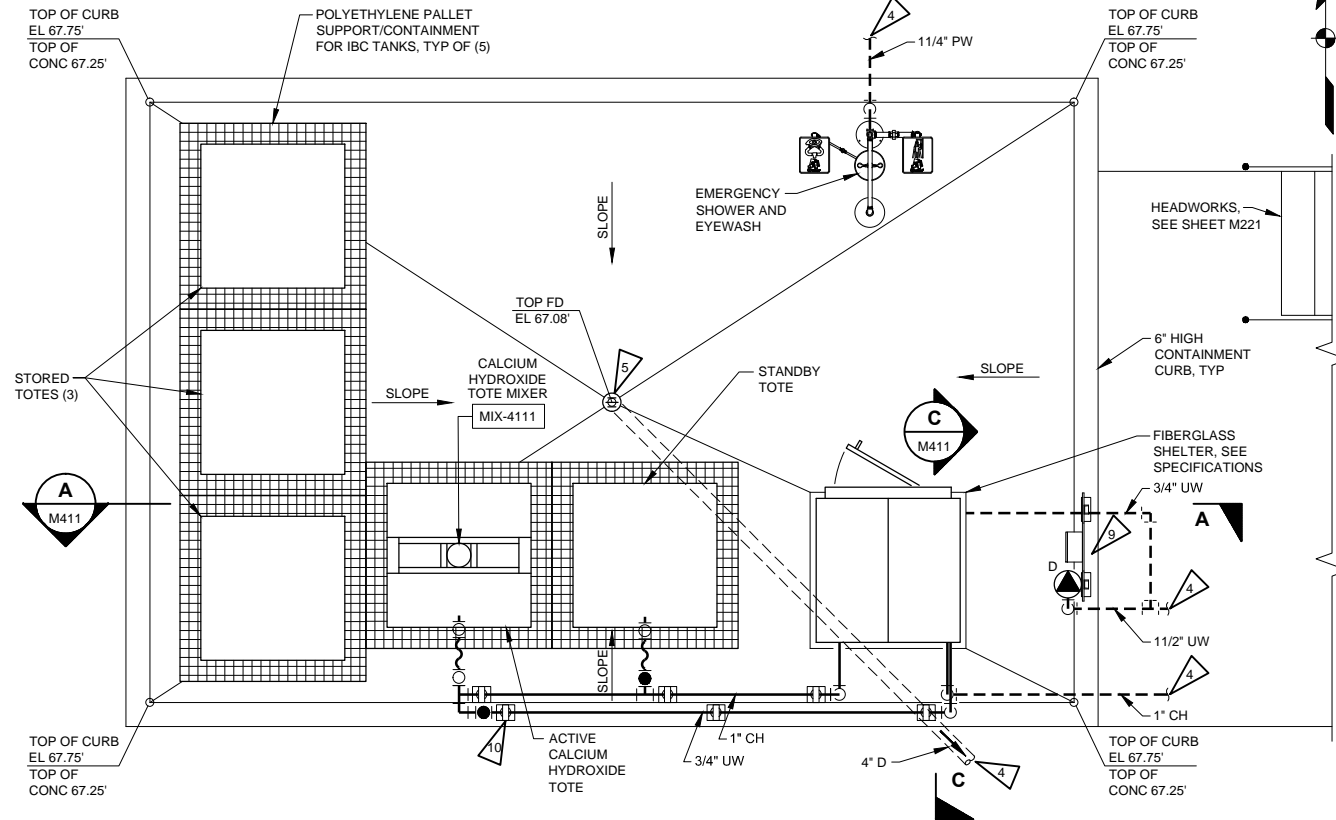


VACTOR WASTE RECEIVING STATION SECTION C

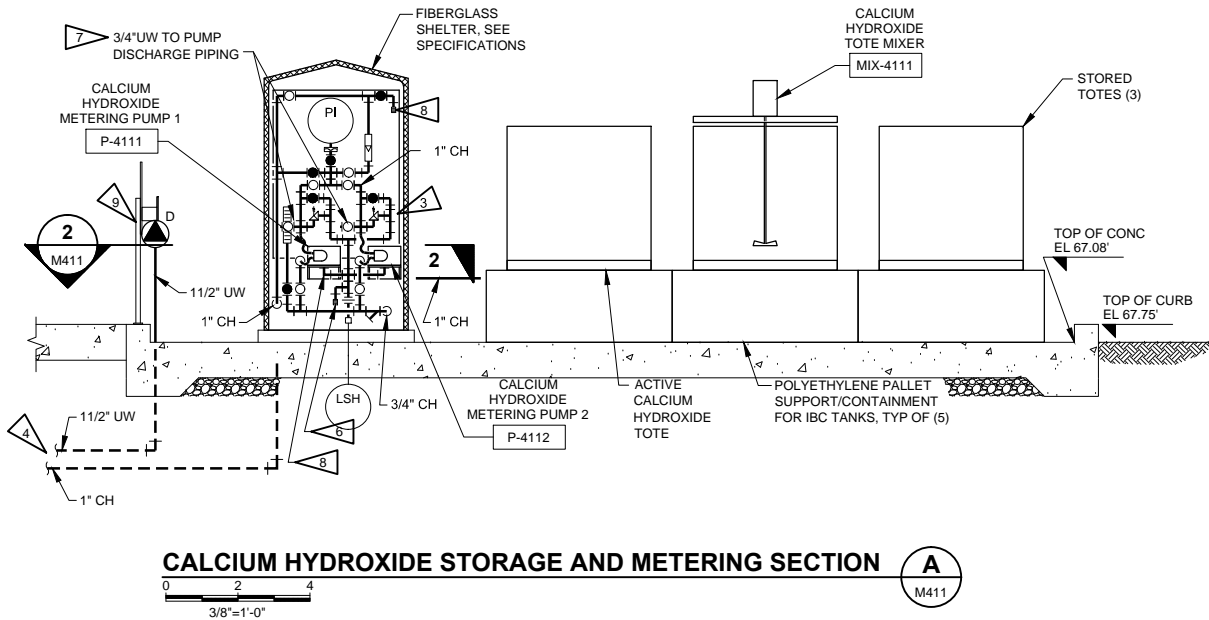
90% SUBMITTAL

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							DRAWN GAS			JOB NO. 1368004.00
							CHECKED RRH			DATE OCTOBER 2014
	NO.	REVISION	DATE	BY			74			SHEET M272

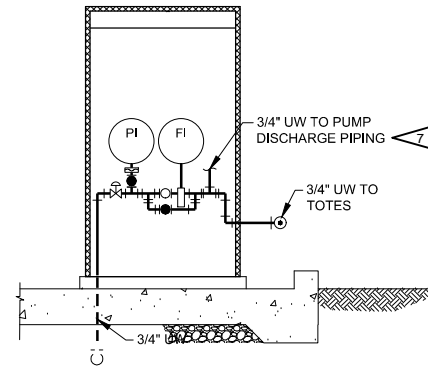
\\EUG1\CAD\CAD2013\1368004_00_McKinleyville_WWIMF_Project\1368004-M411.dwg 10/22/2014 10:07 AM GENE STEVENSON



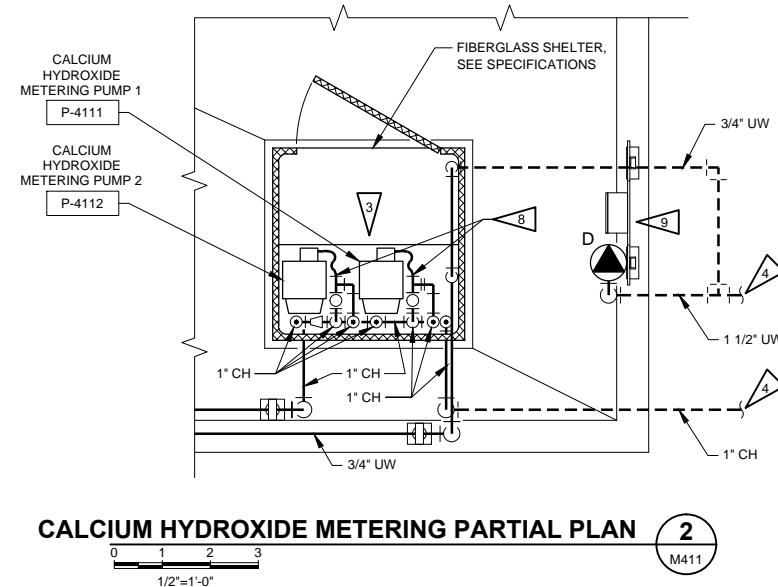
CALCIUM HYDROXIDE STORAGE AND METERING PLAN 1
3/8"=1'-0"



CALCIUM HYDROXIDE STORAGE AND METERING SECTION A
3/8"=1'-0"



CALCIUM HYDROXIDE METERING SECTION C
3/8"=1'-0"



CALCIUM HYDROXIDE METERING PARTIAL PLAN 2
1/2"=1'-0"

NOTES:

1. INCLUDE IN THE BASE BID PROVIDING WATERTIGHT CAPS ON ALL BURIED PIPING AND ELECTRICAL CONDUITS AT THE PERIMETER OF THE CONCRETE SLAB SHOWN AND PROVIDING TYPE A ROADWAY OVER THE AREA IN LIEU OF THE CONCRETE SLAB. THE TYPE A ROADWAY SHALL MATCH SURROUNDING GRADE AND SHALL SLOPE TO DRAIN.
2. ALTERNATE BID ITEM A2 INCLUDES ALL ABOVE GRADE WORK ASSOCIATED WITH CALCIUM HYDROXIDE STORAGE AND METERING (CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL, AND INSTRUMENTATION) SHOWN ON SHEETS C102, S411, M411 AND E411. ALTERNATE BID ITEM A2 SHALL INCLUDE A DEDUCTION OF THE BASE BID ITEMS FOR CAPPING THE PIPE AND CONDUITS AND THE TYPE A ROADWAY.
3. ALL PIPE WITHIN FIBERGLASS SHELTER TO BE SCH 80 PVC. SOLVENT USED FOR SOLVENT WELDED PVC JOINTS SHALL MEET ASTM F-493 AND BE FORMULATED FOR USE WITH CALCIUM HYDROXIDE. ACCEPTABLE PRODUCTS INCLUDE IPS 724 OR EQUAL. PRIMERS SHALL MEET ASTM F-656 AND BE IPS P-70, OR EQUAL. BALL VALVES ARE PVC ASAHI/AMERICA TYPE 21, OR EQUAL WITH PTFE SEATS AND O-RINGS. BALL CHECK VALVES ARE PVC BODY, ASAHI/AMERICA, OR EQUAL WITH PTFE SEATS AND O-RINGS. Y-STRAINER IS PVC BODY, TRUE UNION STYLE, ASAHI/AMERICA, OR EQUAL.
4. FOR CONTINUATION, SEE SITE UNDERGROUND PIPING PLAN - 1, SHEET C106.
5. PROVIDE TYPE II FLOOR DRAIN PER SHEET M002.
6. PROVIDE BARBED HOSE FITTING WITH POLYPROPYLENE TUBING ROUTED TO WASTE CONTAINER (5 GAL BUCKET).
7. FOR ADDITIONAL INFORMATION ON PIPE ROUTING SEE SHEET I411.
8. PROVIDE BARBED HOSE FITTING.
9. TYPE D UTILITY STATION, SEE SHEET M004.
10. PROVIDE TYPE 8 SUPPORT PER SHEET M004. TYP OF (6) PLACES.

90% SUBMITTAL

USE OF DOCUMENTS

THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.



DESIGNED
WMH

DRAWN
GAS

CHECKED
RRH 75

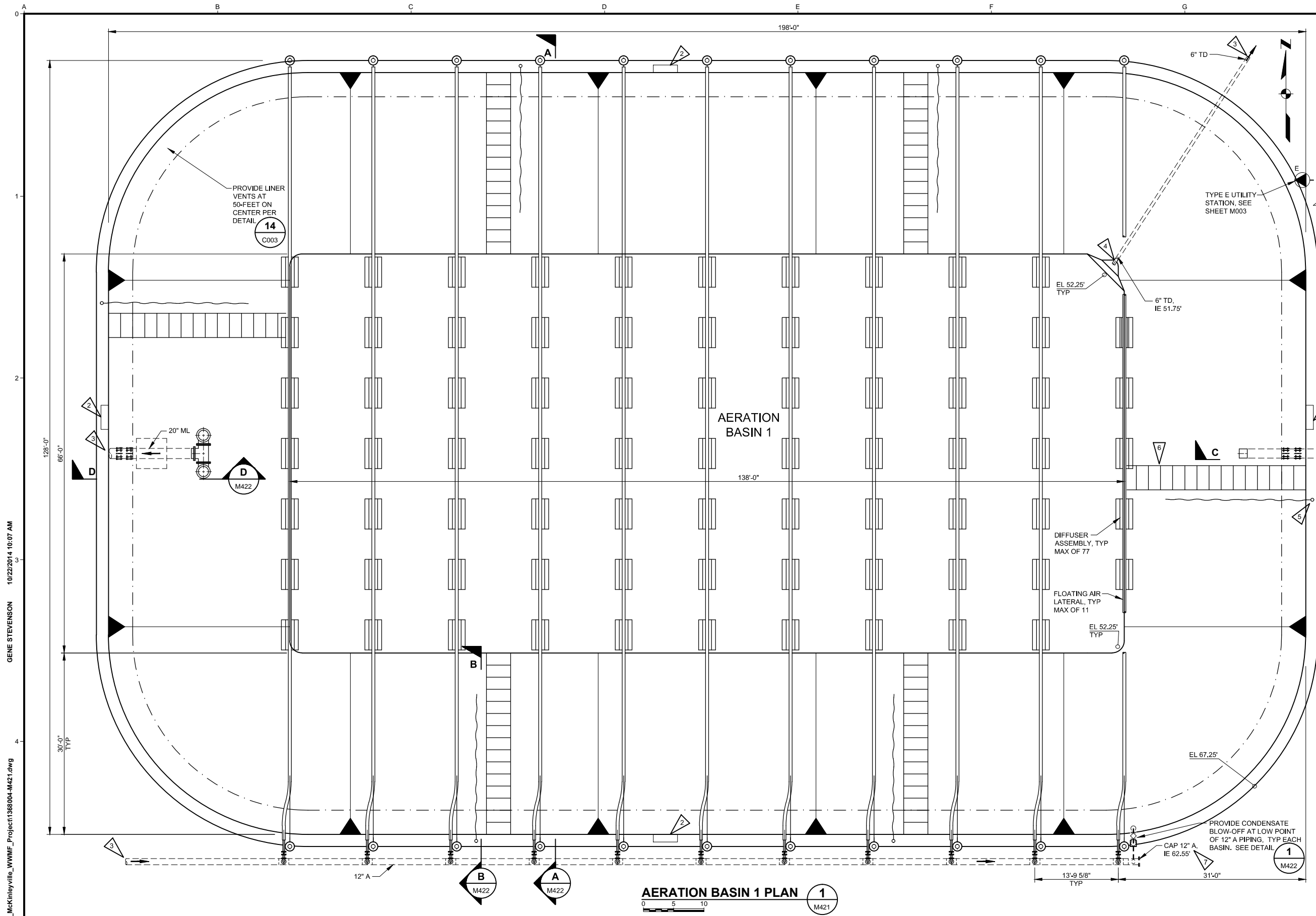
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

CALCIUM HYDROXIDE STORAGE AND METERING PLANS AND SECTIONS

FILE NAME	1368004-M411
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
M411	



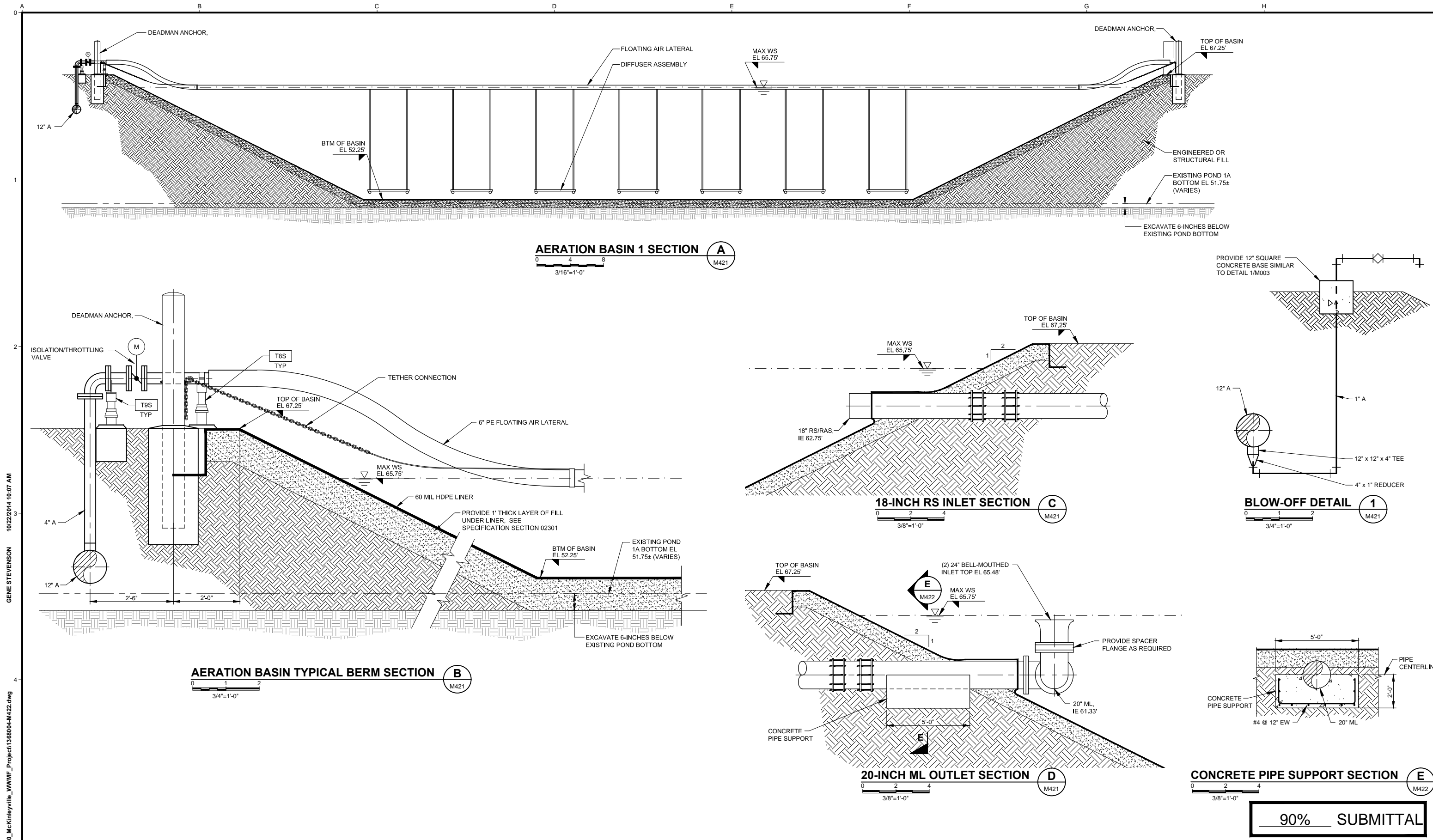
- NOTES:**
1. AERATION BASIN 1 IS SHOWN. AERATION BASIN 2 IS SIMILAR WITH VARIED EQUIPMENT AND PIPING ORIENTATION. SEE SITE GRADING AND PAVING PLAN - 1, SHEET C102 AND SITE UNDERGROUND PIPING PLAN - 1, SHEET C106 FOR ORIENTATIONS.
 2. PROVIDE FOUR LIFE RING STATIONS AT EACH AERATION BASIN AS SHOWN. SEE SPECIFICATION SECTION 11903.
 3. FOR CONTINUATION. SEE SITE UNDERGROUND PIPING PLAN - 1, SHEET C106.
 4. 6" TD PIPE INLET. SEE DETAIL **17** C003
 5. SAFETY ROPE. TYPICAL 6 PLACES PER AERATION BASIN. SEE DETAIL **16** C003
 6. SAFETY LADDER PER SECTION 02712. TYPICAL 6 PLACES PER AERATION BASIN.
 7. PROVIDE UNIFORM SLOPE ON 12" A PIPING BETWEEN HIGH POINT OUTSIDE BLOWER ROOM TO LOW POINT AT CONDENSATE BLOW-OFF.

AERATION BASIN 1 PLAN **1** M421

1/8"=1'-0"

90% SUBMITTAL

USE OF DOCUMENTS <small>THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.</small>	<table><tr><td>NO.</td><td>REVISION</td><td>DATE</td><td>BY</td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr></table>	NO.	REVISION	DATE	BY					SCALES 0 1" 25mm IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.		DESIGNED WMH	McKINLEYVILLE COMMUNITY SERVICES DISTRICT McKINLEYVILLE, CA	AERATION BASIN 1 PLAN	FILE NAME 1368004-M421
		NO.	REVISION	DATE	BY										
DRAWN GAS	JOB NO. 1368004.00														
CHECKED RRH	76	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	SHEET M421												

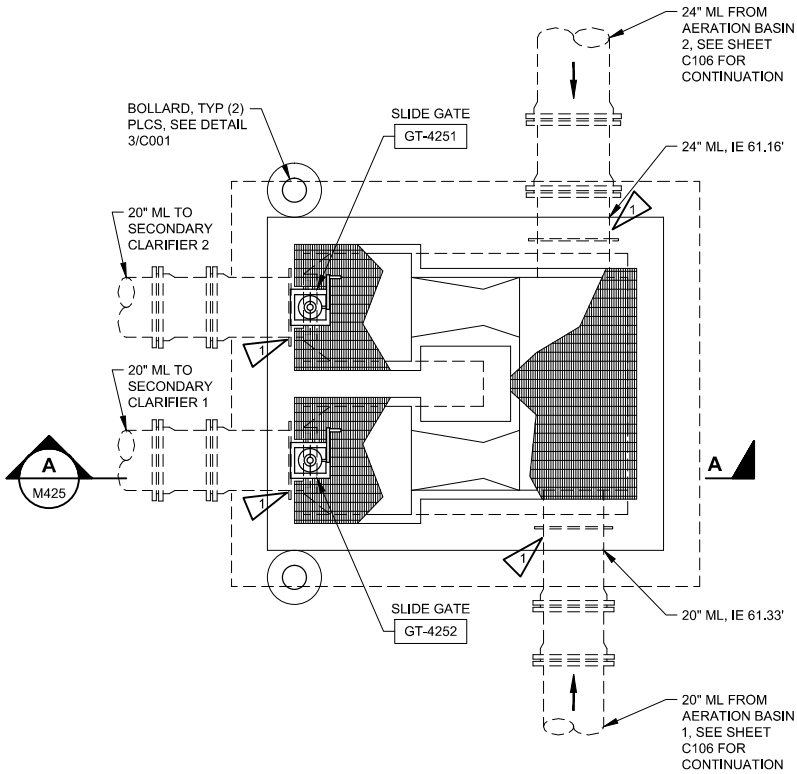


90% SUBMITTAL

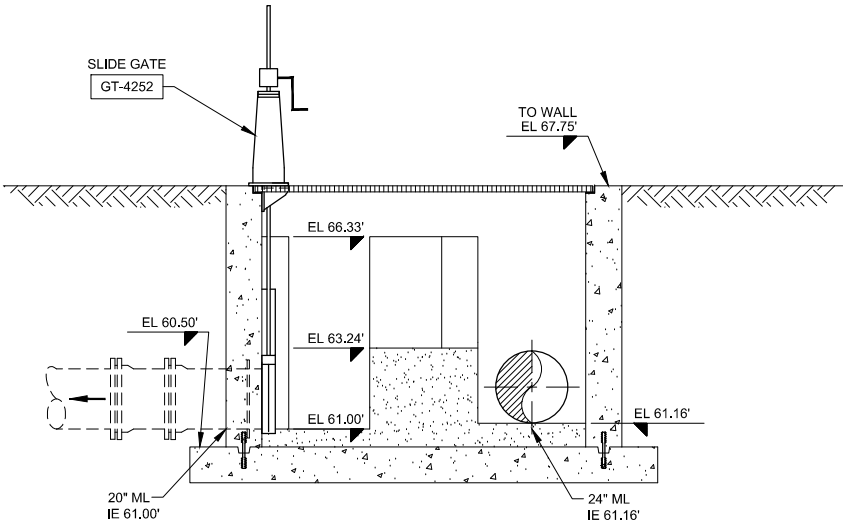
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							JOB NO.	1368004.00				
							DATE	OCTOBER 2014				
							SHEET	OF				
								M422				
	NO.	REVISION	DATE	BY			CHECKED	RRH 77				

10/22/2014 10:08 AM GENE STEVENSON \\EUG\1\CADD\2013\1368004.00_McKinleyville_WWMP_Project\1368004-M425.dwg

NOTES:
1 PROVIDE TYPE G PIPE PENETRATION PER SHEET M001.




MIXED LIQUOR FLOW DISTRIBUTION STRUCTURE PLAN 1
3/8"=1'-0" C106



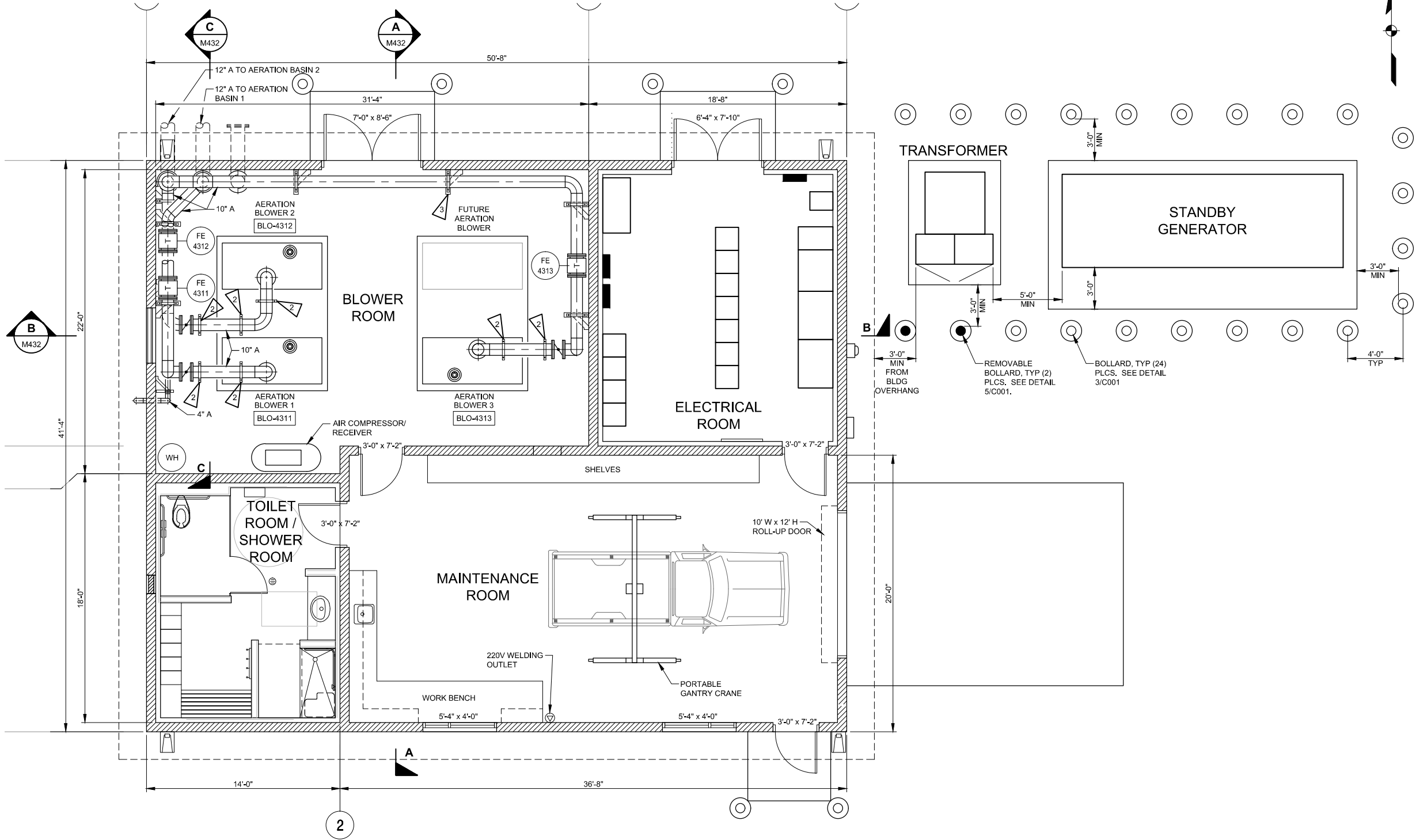
MIXED LIQUOR FLOW DISTRIBUTION STRUCTURE SECTION A
3/8"=1'-0" M425

90% SUBMITTAL

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							DRAWN GAS			JOB NO. 1368004.00
							CHECKED RRH			DATE OCTOBER 2014
	NO.	REVISION	DATE	BY			78			SHEET OF M425

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

10/22/2014 10:08 AM
GENE STEVENSON
\\EUG1\CAD\CAD2013\1368004_00_McKinleyville_WWMP_Project\1368004-M431.dwg



- NOTES:**
1. PROVIDE SLIDING SUPPORTS FOR ALL AERATION AIR PIPING. STEEL STRAPS SHALL NOT BE TIGHTENED, ALLOWING FOR PIPE CONTRACTION AND EXPANSION. PROVIDE DOUBLE NUTS ON STEEL STRAPS.
 2. PROVIDE TYPE 39 PIPE SUPPORT PER SHEET M005, TYP (7) PLACES.
 3. PROVIDE TYPE 32 PIPE SUPPORT PER SHEET M005, TYP (8) PLACES.

BLOWER-ELECTRICAL AND MAINTENANCE BUILDING PLAN 1
M431

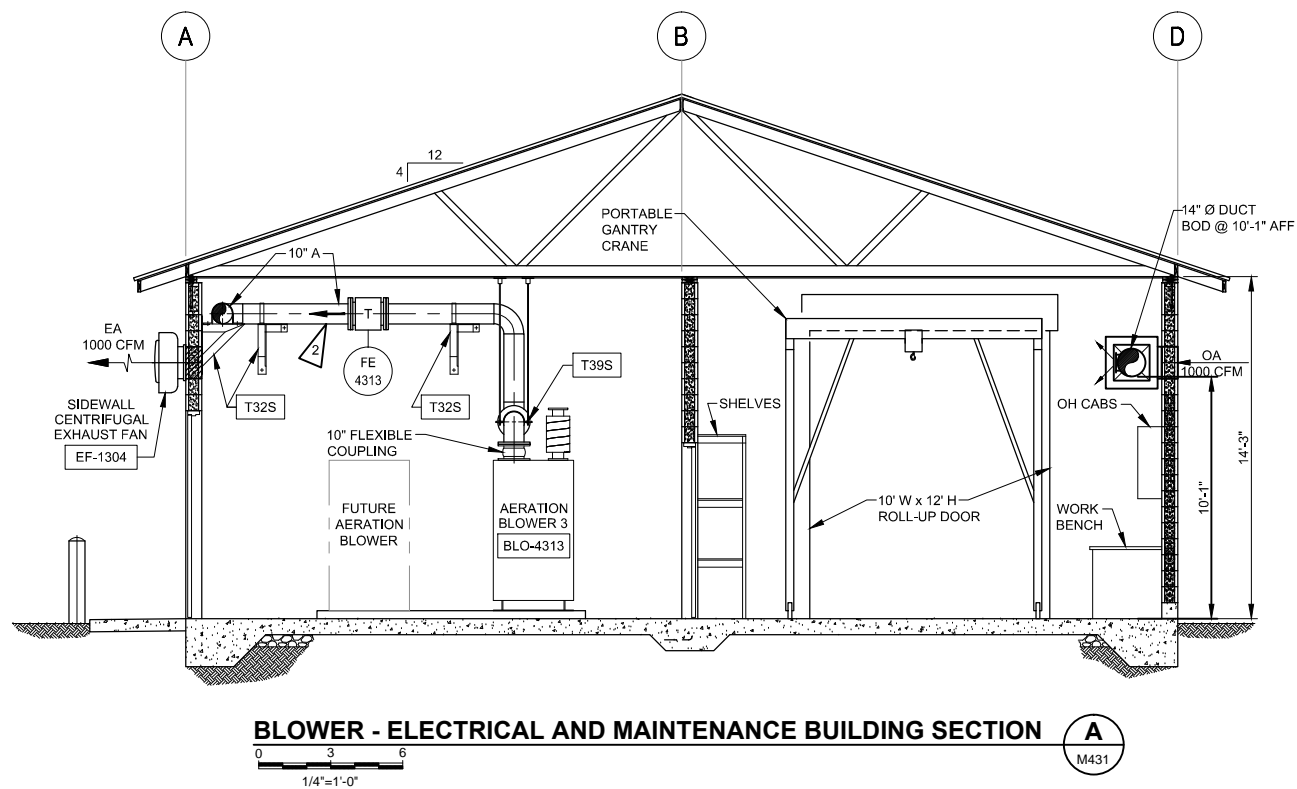
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	NO.	REVISION	DATE	BY				JOB NO. 1368004.00 DATE OCTOBER 2014 SHEET OF M431

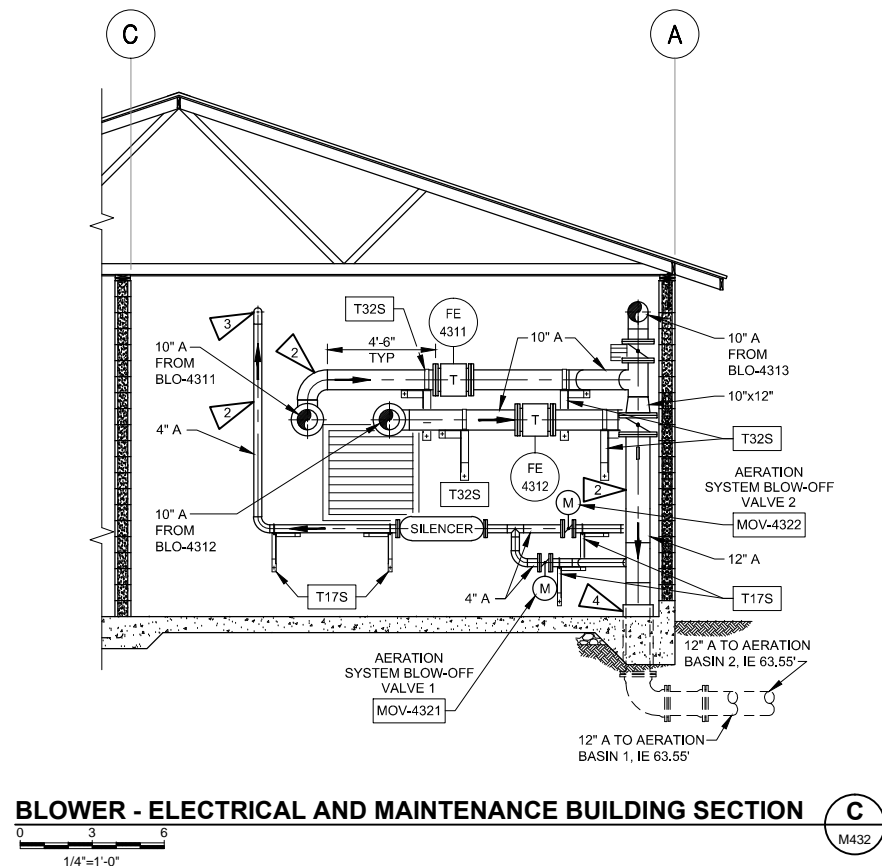
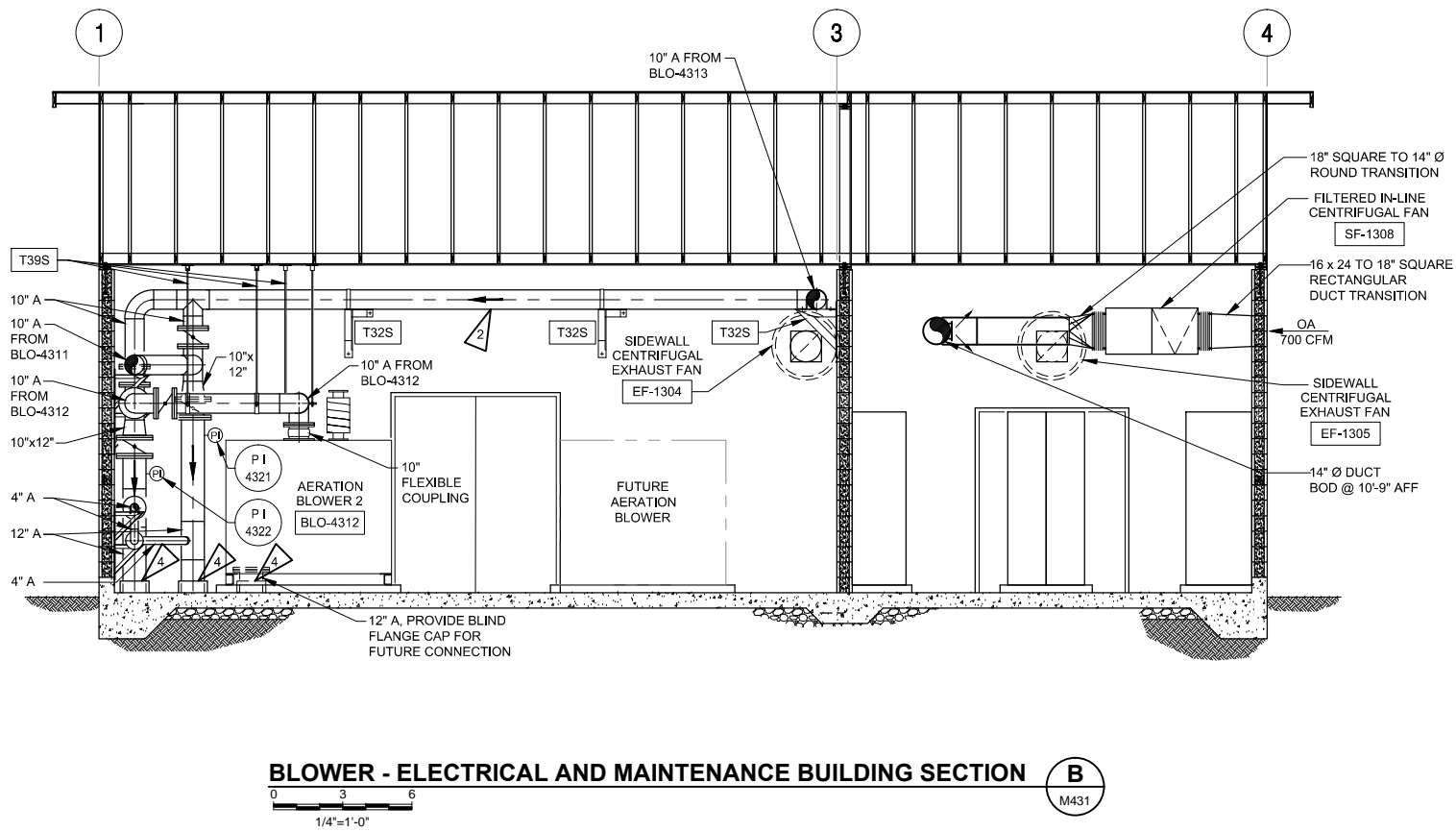
SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.



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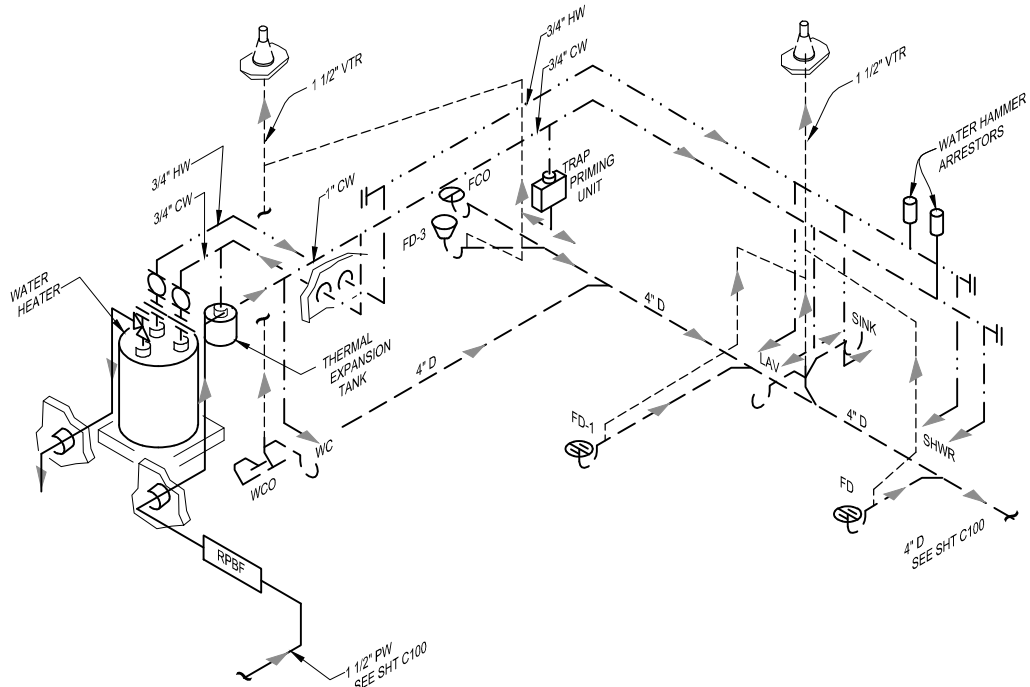
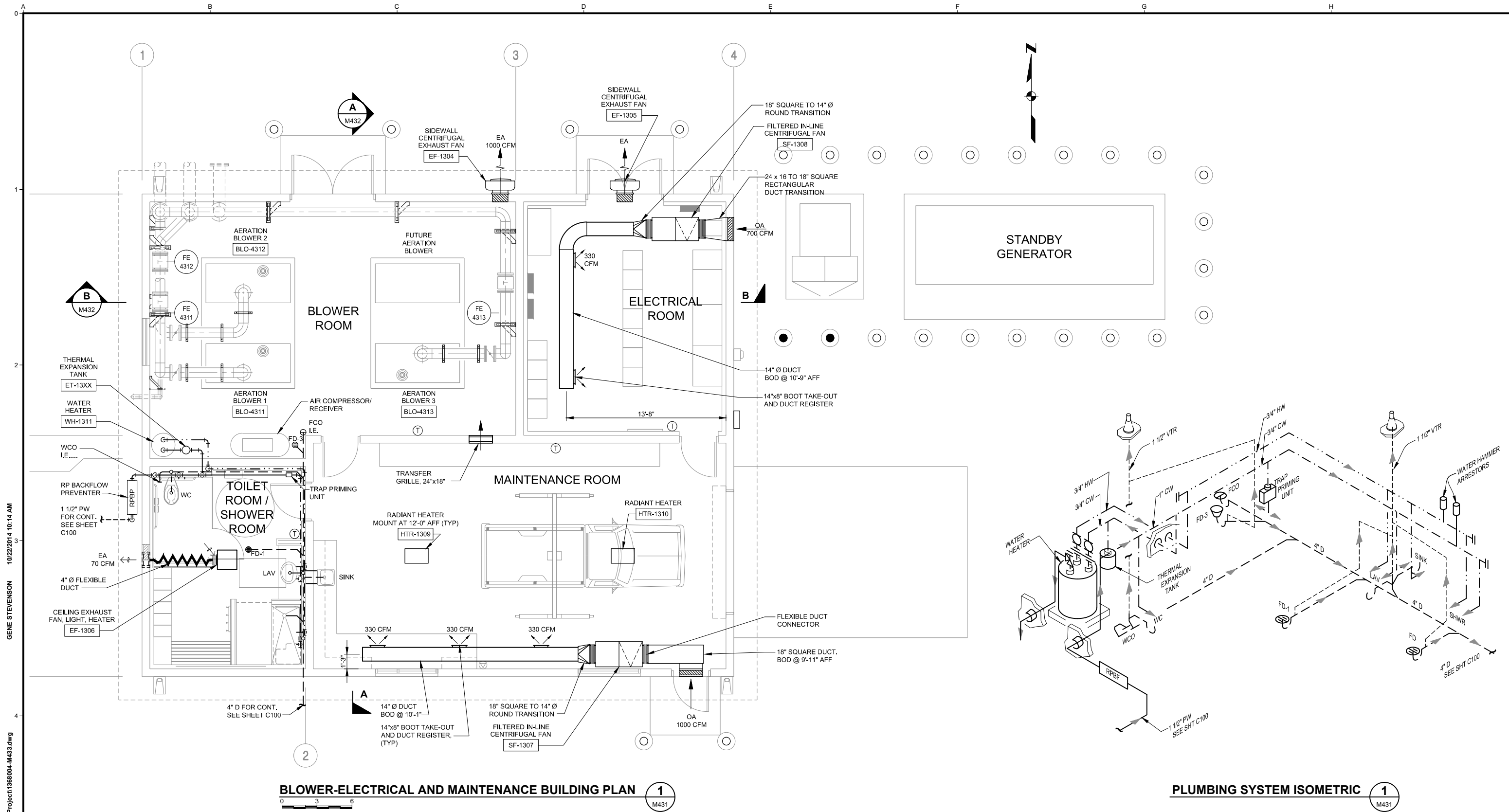


- NOTES:**
1. PROVIDE SLIDING SUPPORTS FOR ALL AERATION AIR PIPING. STEEL STRAPS SHALL NOT BE TIGHTENED, ALLOWING FOR PIPE CONTRACTION AND EXPANSION. PROVIDE DOUBLE NUTS ON STEEL STRAPS.
 2. INSULATE EXPOSED AERATION AIR PIPING FOR PERSONNEL PROTECTION TO POINT PIPING EXITS BLOWER ROOM. SEE SPECIFICATION SECTION 15050 FOR INSULATION REQUIREMENTS.
 3. PROVIDE TYPE X1 PIPE PENETRATION PER SHEET M001. DELETE NON-SHRINK GROUT SHOWN. PROVIDE HIGH TEMPERATURE BACKING ROD AND SEALANT ON BOTH SIDES OF WALL.
 4. PROVIDE TYPE A PIPE PENETRATION PER SHEET M001. TYP (3) PLACES.



90% SUBMITTAL

USE OF DOCUMENTS THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.					<div>SCALES</div> <div><div>0</div><div>1"</div></div> <div><div>0</div><div>25mm</div></div> <div>IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.</div>	<div>REGISTERED PROFESSIONAL ENGINEER</div> <div>RODMAN R. HOUSER</div> <div>No. C54215</div> <div>Exp. 12/31/15</div> <div>CIVIL</div> <div>STATE OF CALIFORNIA</div>	DESIGNED	McKINLEYVILLE COMMUNITY SERVICES DISTRICT McKINLEYVILLE, CA	BLOWER, ELECTRICAL AND MAINTENANCE BUILDING SECTIONS	FILE NAME
	WMH	1368004-M432								
	DRAWN	JOB NO.								
	GAS	1368004.00								
	CHECKED	RRH 80	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	DATE						
				OCTOBER 2014						
NO.	REVISION	DATE	BY	SHEET OF						
				M432						

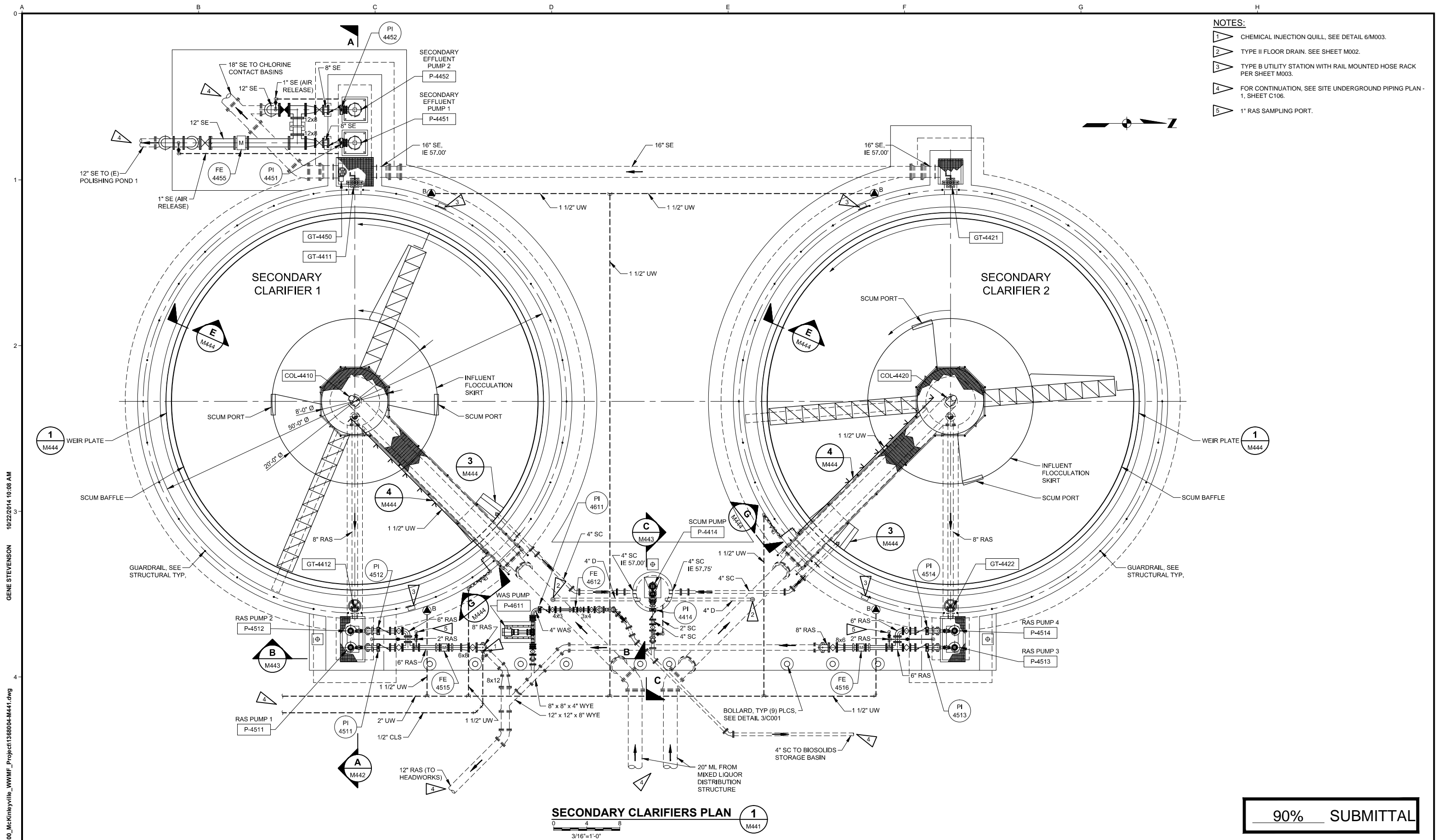


BLOWER-ELECTRICAL AND MAINTENANCE BUILDING PLAN 1
M431

PLUMBING SYSTEM ISOMETRIC 1
M431

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<div>USE OF DOCUMENTS</div> <div>THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.</div>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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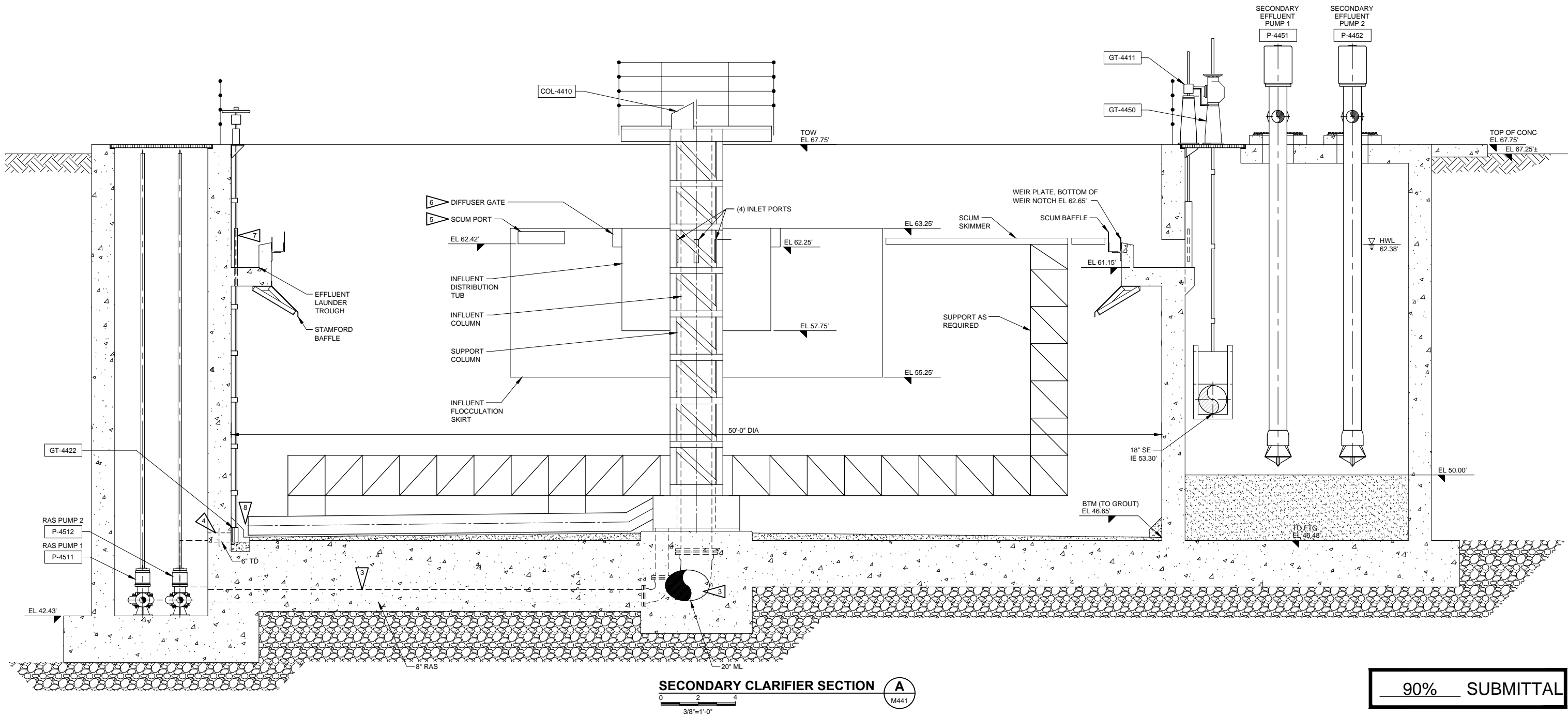


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						JOB NO.			1368004.00	
						DATE			OCTOBER 2014	
						SHEET OF			M441	
						DRAWN	WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA		
						GAS				
				CHECKED						
				RRH83						
	NO.	REVISION	DATE	BY						

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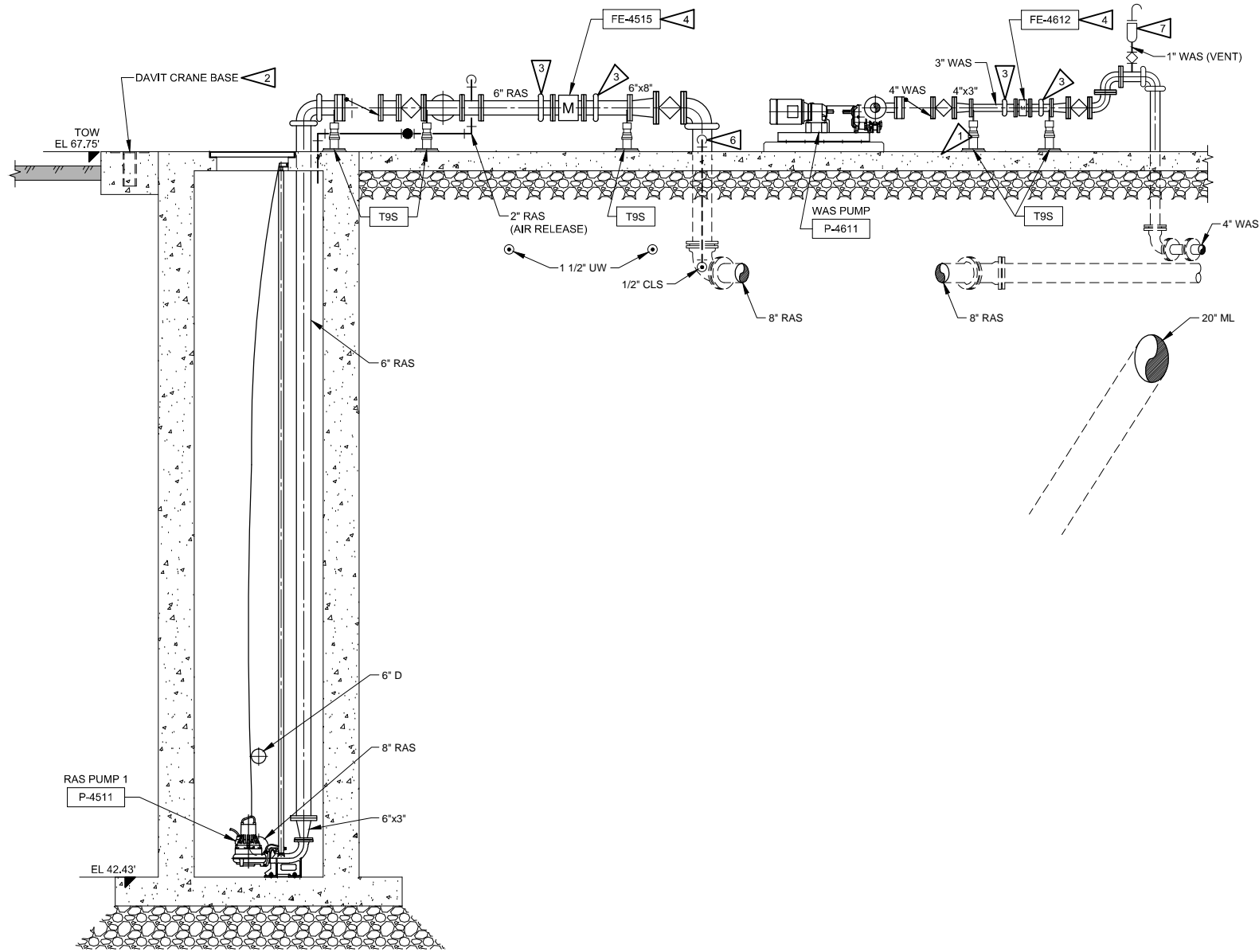
- NOTES:**
1. INSTALLATION OF CLARIFIER EQUIPMENT SHOWN IS APPROXIMATE. CLARIFIER COMPONENTS ROTATED FOR CLARITY. FINAL INSTALLATION SHALL BE DONE IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
 2. CLEARANCE BETWEEN CLARIFIER BOTTOM AND SLUDGE COLLECTION HEADER SHALL BE 1/2-INCH MINIMUM AND 1 1/4-INCH MAXIMUM.
 3. PIPING UNDER CLARIFIERS IS CONCRETE ENCASED. SEE STRUCTURAL SHEETS FOR DETAILS.
 4. PROVIDE TYPE G PIPE PENETRATION PER SHEET M001.
 5. PROVIDE TWO SCUM PORTS 8" HIGH BY 30" WIDE WITH AN ADJUSTABLE WEIR AT 180° APART.
 6. SIX EVENLY SPACED DIFFUSER GATES 12" HIGH BY 15" WIDE.
 7. PROVIDE STAINLESS STEEL PIPE SLEEVE THROUGH THE BOTTOM SLAB OF THE LAUNDER FOR THE GATE OPERATOR STEM. EXTEND TOP OF SLEEVE TO EL 63.25'. SLEEVE INNER DIAMETER NO MORE THAN 1/2" LARGER THAN THE GATE OPERATOR STEM.
 8. PROVIDE NO MORE THAN 3" OF CLEARANCE BETWEEN THE SUCTION HEADER AND THE GROUTED FILLET.



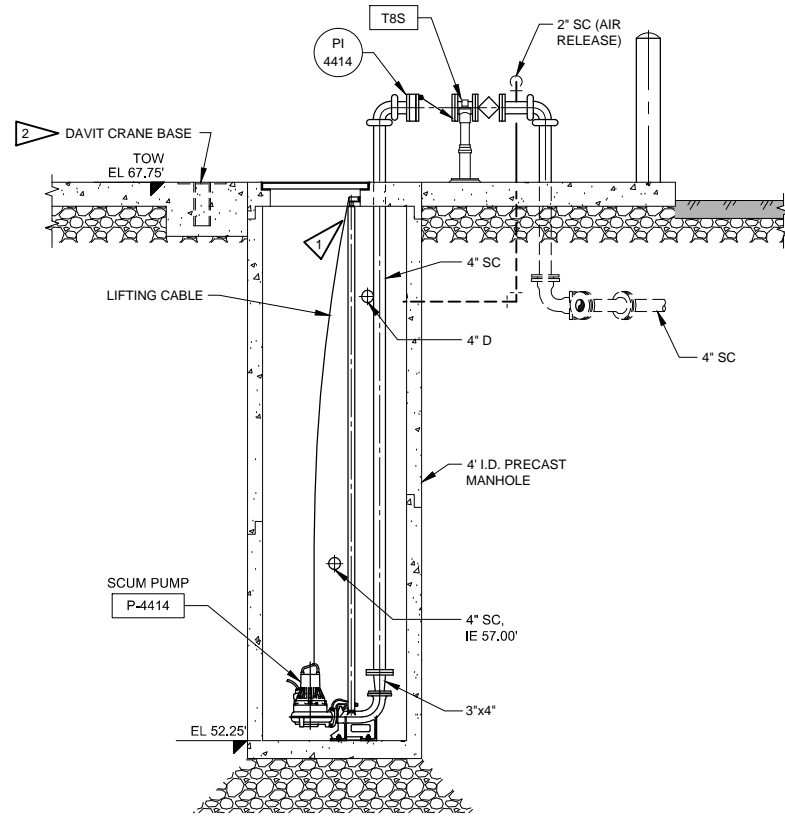
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							DRAWN GAS			JOB NO. 1368004.00
							CHECKED RRH			DATE OCTOBER 2014
							84			SHEET OF M442
NO.	REVISION	DATE	BY							

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RAS AND WAS PUMPS SECTION **B**
0 2 4
3/8"=1'-0"



SCUM PUMP SECTION **C**
0 2 4
3/8"=1'-0"

- NOTES:**
- 1 EXCESS LIFTING CABLE FOR USE WITH DAVIT CRANE SHALL BE COILED AND SECURED BETWEEN HATCH AND SAFETY GRATING.
 - 2 CAST IN PLACE DAVIT CRANE BASE. SEE SECTION 14625.
 - 3 RIGID GROOVE - TYPE FLANGE ADAPTER.
 - 4 PROVIDE A MINIMUM OF 5 PIPE DIAMETERS OF STRAIGHT PIPE UPSTREAM AND 2 PIPE DIAMETERS OF STRAIGHT PIPE DOWNSTREAM OF THE FLOW METER.
 - 5 DRAIN CONNECTION. PROVIDE 1" BALL VALVE.
 - 6 CHEMICAL INJECTION QUILL. SEE DETAIL 6/M003.
 - 7 ROUTE EFFLUENT FROM THE AIR RELEASE VALVE TO NEAREST FLOOR DRAIN.

90% SUBMITTAL

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT
DIMENSION SHOWN,
ADJUST SCALES
ACCORDINGLY.



DESIGNED
WMH
DRAWN
GAS
CHECKED
RRH **85**

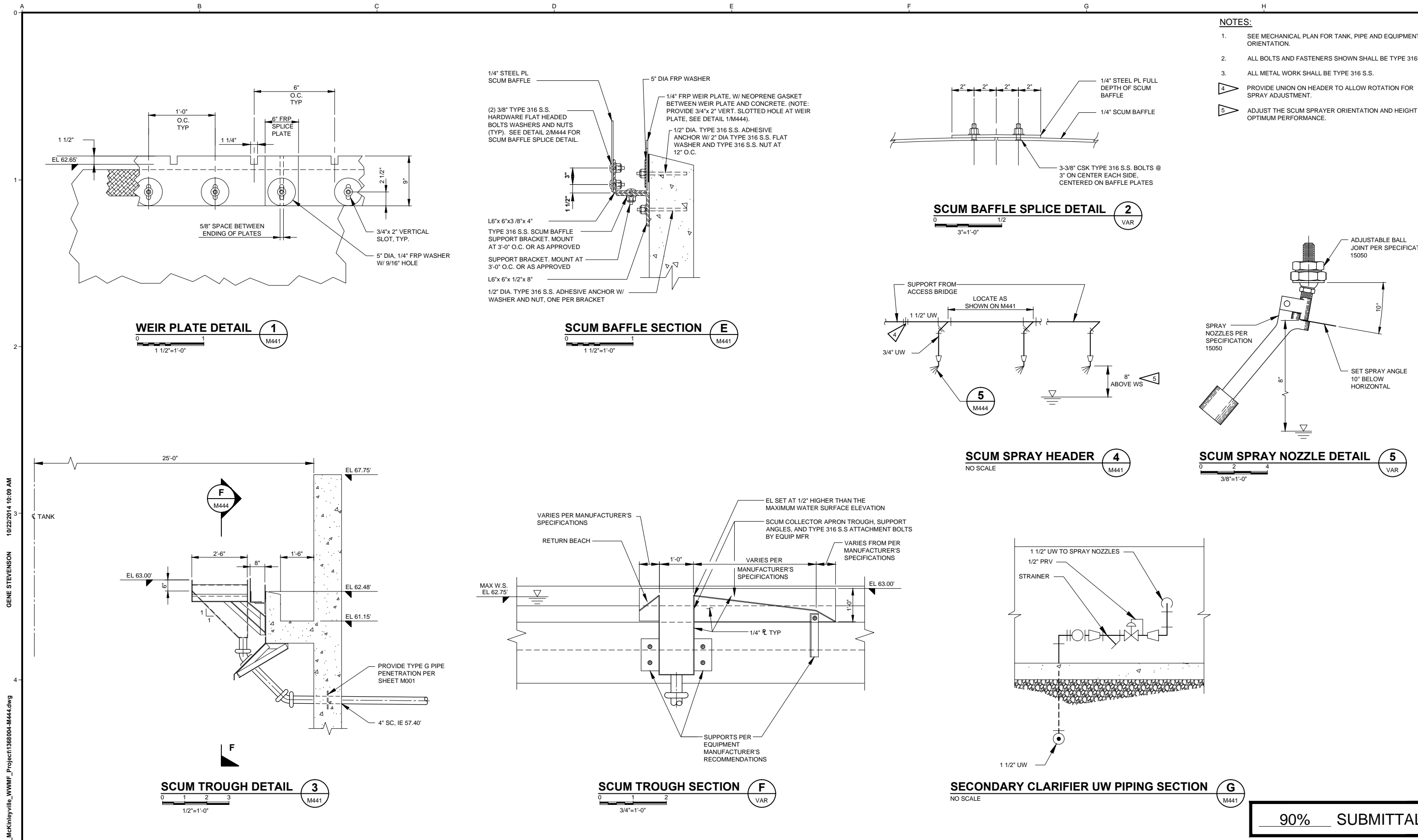
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

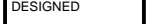
Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

**SECONDARY CLAIRIFIER
SECTIONS - 2**

FILE NAME
1368004-M443
JOB NO.
1368004.00
DATE
OCTOBER 2014
SHEET **M443** OF

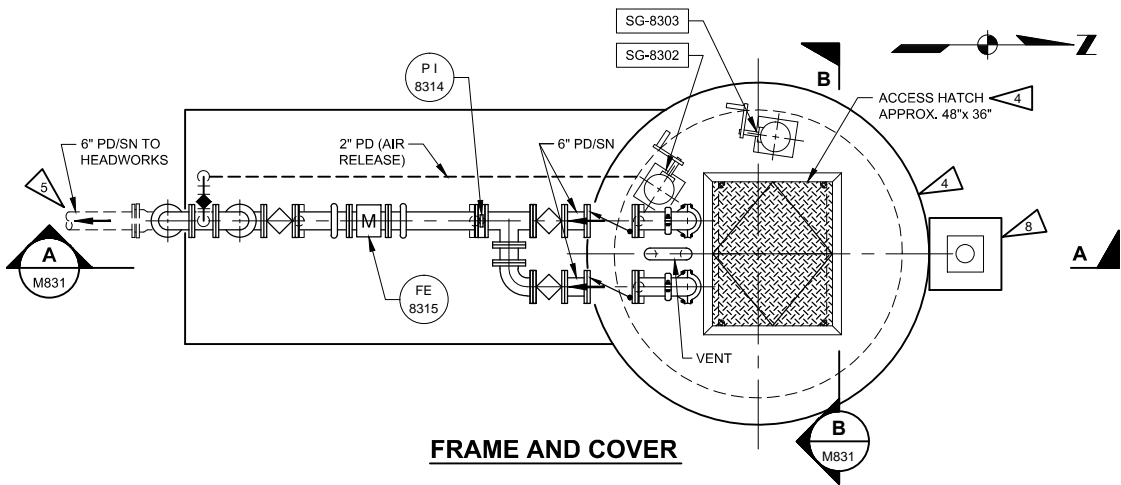


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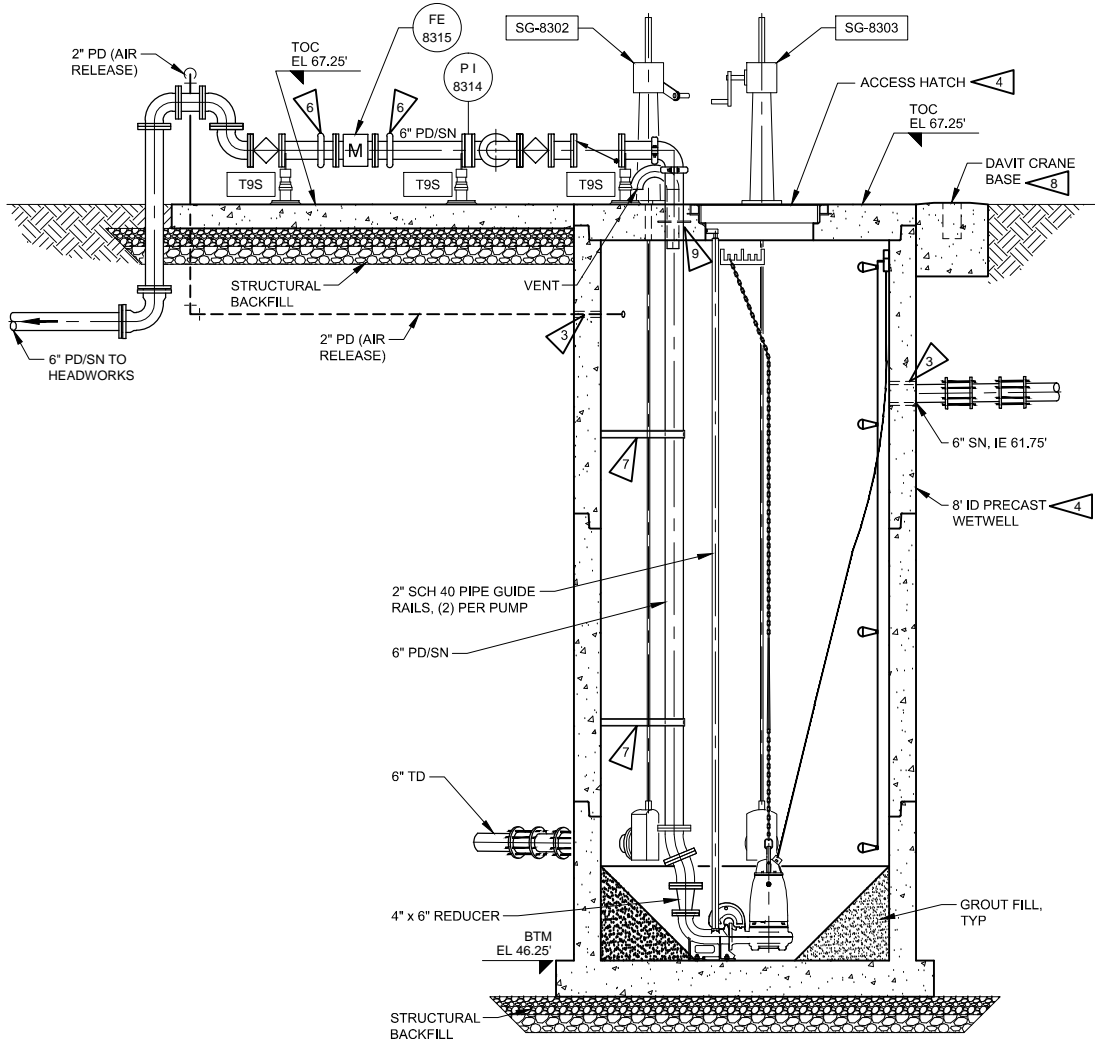
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						JOB NO. 1368004.00				
						DATE OCTOBER 2014				
						SHEET OF M444				
	NO.	REVISION	DATE	BY						

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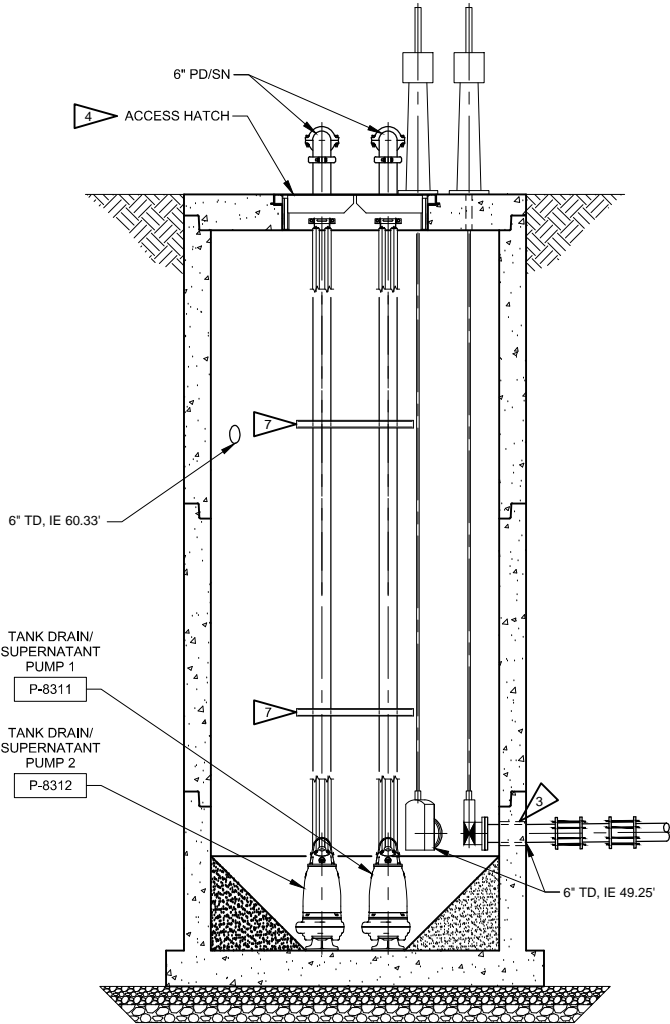
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TANK DRAIN AND SUPERNATANT PUMP STATION PLAN 1
3/8"=1'-0"



TANK DRAIN AND SUPERNATANT PUMP STATION SECTION A
3/8"=1'-0"



TANK DRAIN AND SUPERNATANT PUMP STATION SECTION B
3/8"=1'-0"

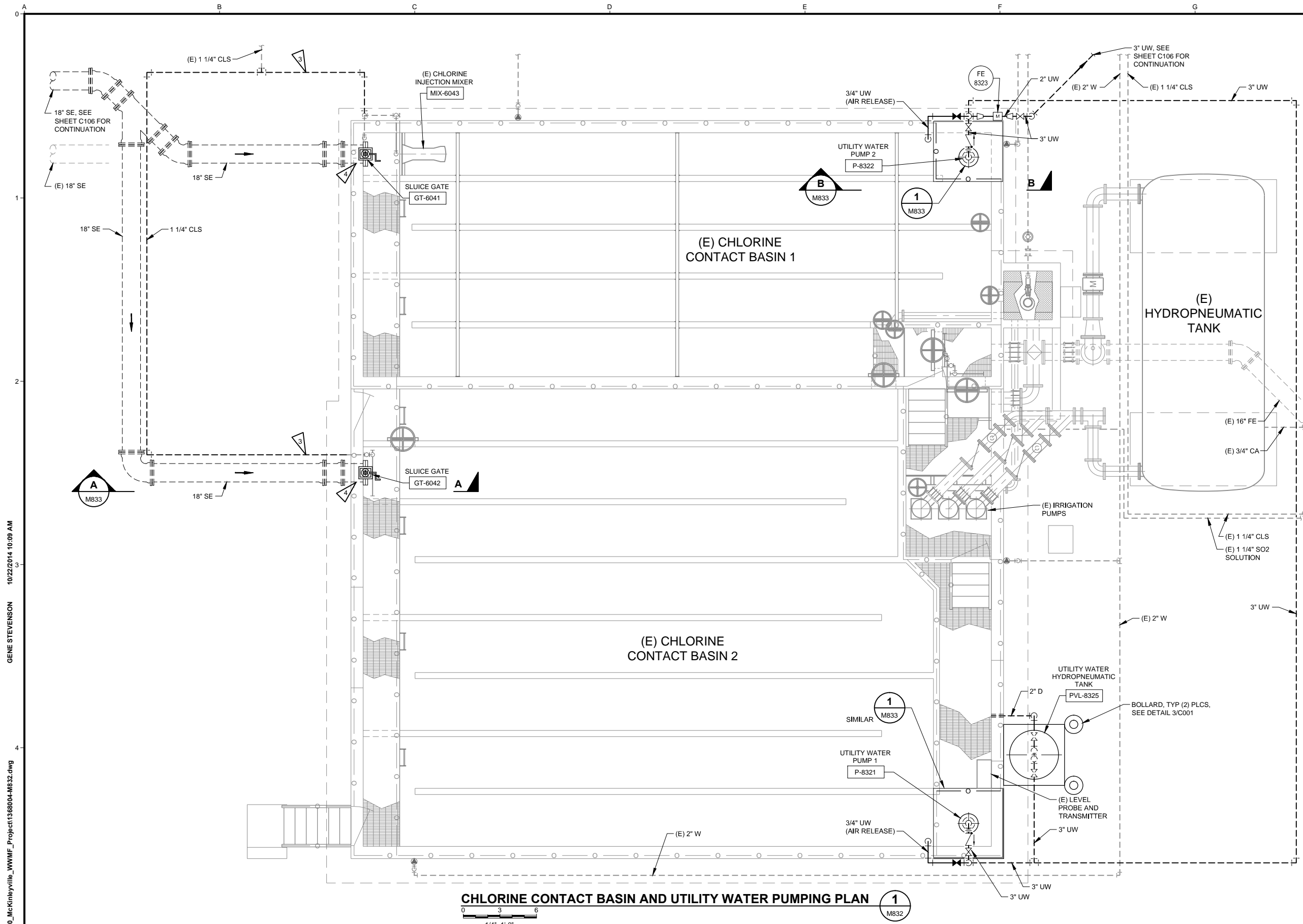
- NOTES:
1. CONCRETE AND REINFORCEMENT FOR PRECAST CONCRETE SECTIONAL MANHOLES AND UTILITY VAULTS SHALL COMPLY WITH ALL NOTES AND REQUIREMENTS OF SHEETS S001 AND S002.
 2. EXCAVATIONS DEEPER THAN 5-FEET SHALL BE BENCHED AT A SLOPE OF 1:1 OR APPROPRIATELY SHORED.
 3. PROVIDE TYPE X1 PIPE PENETRATION PER SHEET M001.
 4. MANHOLES AND HATCHES SHALL BE RATED FOR AASHTO HS20-44 LOADING.
 5. FOR CONTINUATION, SEE SITE UNDERGROUND PIPING PLAN - 1, SHEET C106.
 6. FLEXIBLE GROOVE TYPE COUPLING, VICTAULIC STYLE 31, OR EQUAL.
 7. PROVIDE PIPE SUPPORT PER SHEET M004, M005 AND M006.
 8. CAST IN PLACE DAVIT CRANE BASE. SEE SECTION 14625.
 9. PROVIDE TYPE G PIPE PENETRATION PER SHEET M001.

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						JOB NO. 1368004.00			
						DATE OCTOBER 2014			
						SHEET OF			
						M831			
	NO.	REVISION	DATE	BY		CHECKED RRH 87	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA		

SCALES
0 1" 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.





- NOTES:**
1. REFER TO SHEET D101 FOR DEMOLITION IN THIS AREA.
 2. ONLY ONE CHLORINE CONTACT BASIN (CCB) SHALL BE TAKEN OUT OF SERVICE AT A TIME. CCB 2 SHALL ONLY BE TAKEN OUT OF SERVICE DURING TIMES WHEN PLANT IS DISCHARGING TO THE MAD RIVER. SEE SPECIFICATION SECTION 01010 FOR ADDITIONAL REQUIREMENTS.
 3. PROVIDE NEW 1 1/4\"/>
 4. PROVIDE TYPE X3 PIPE PENETRATION PER SHEET M001.

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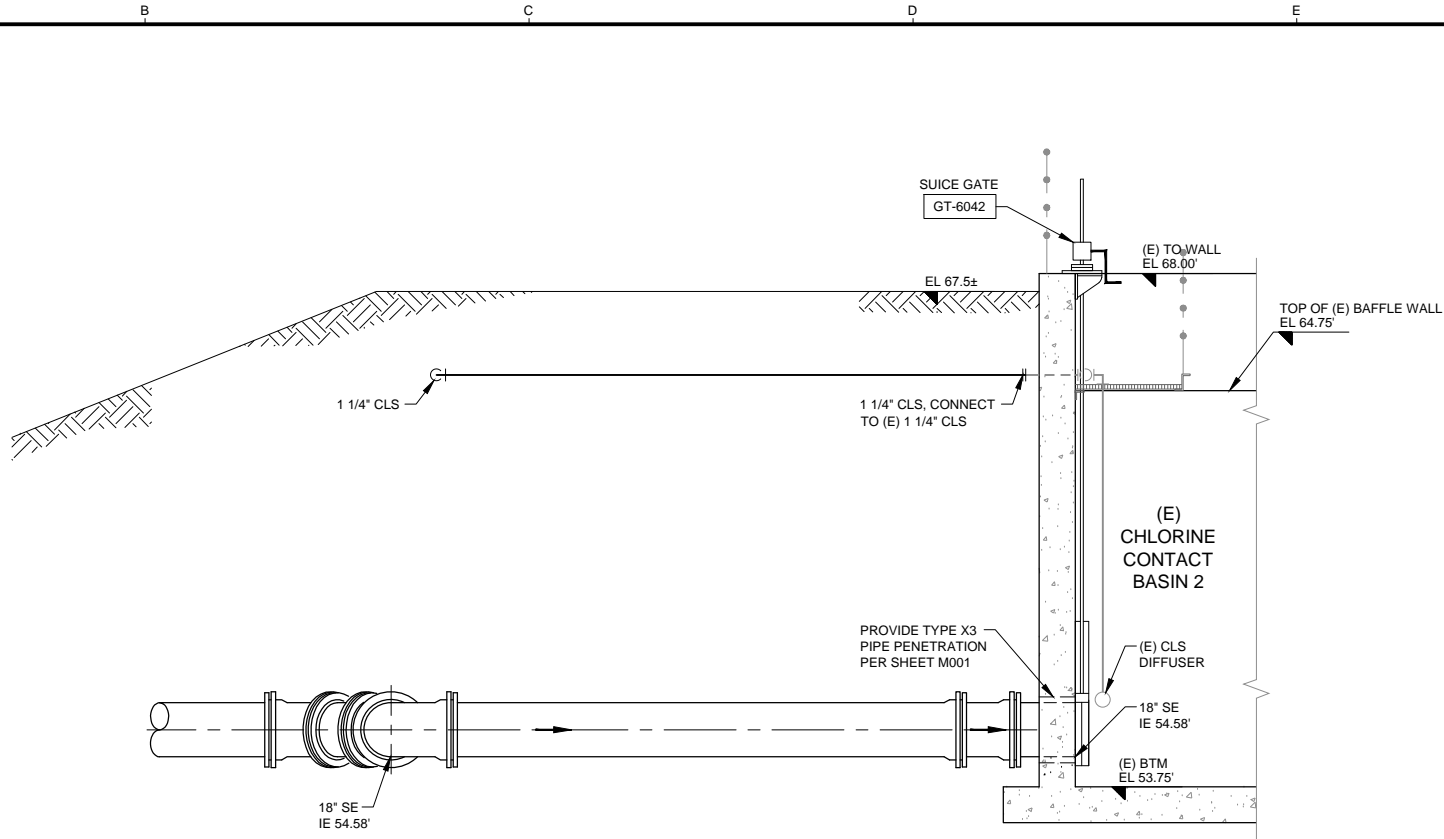
CHLORINE CONTACT BASIN AND UTILITY WATER PUMPING PLAN 1
M832

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1/4"=1'-0"

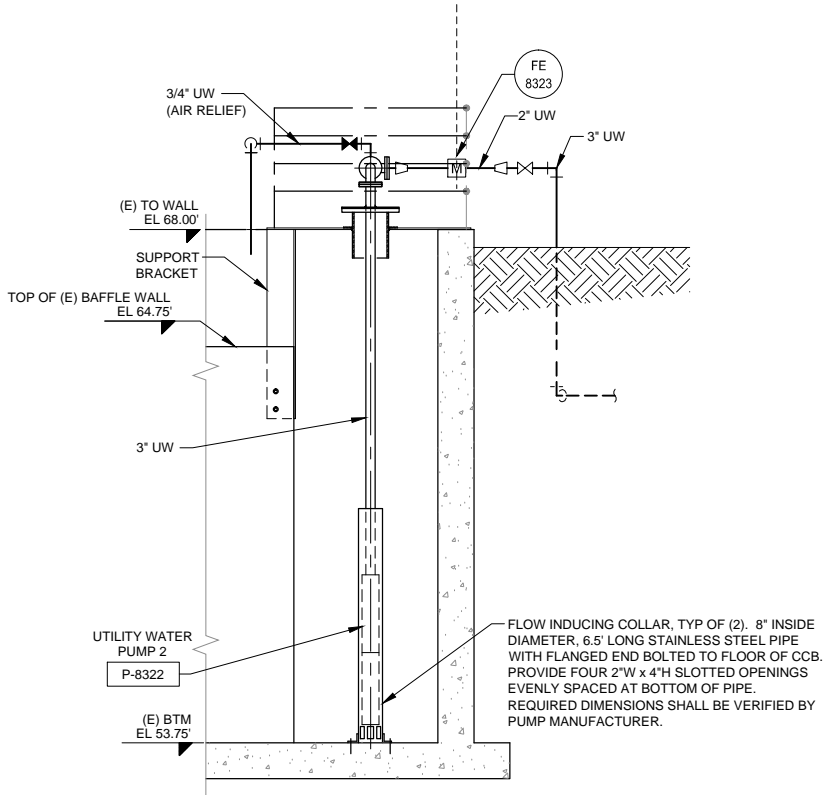
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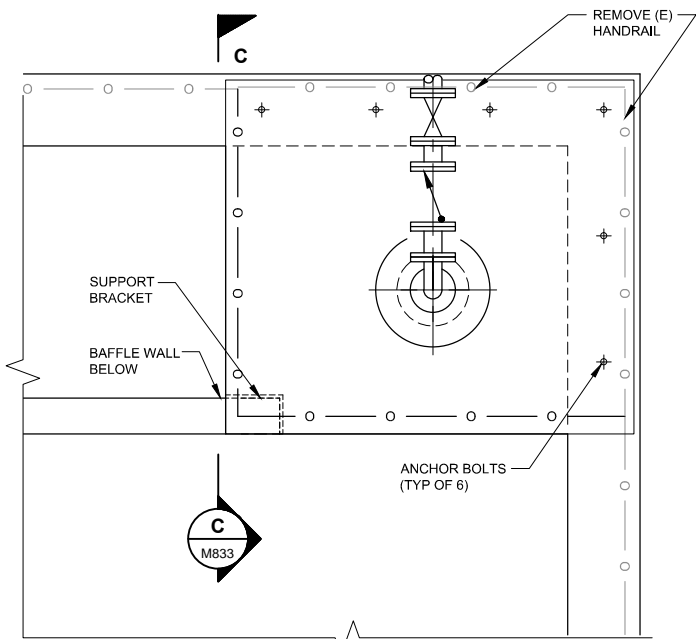
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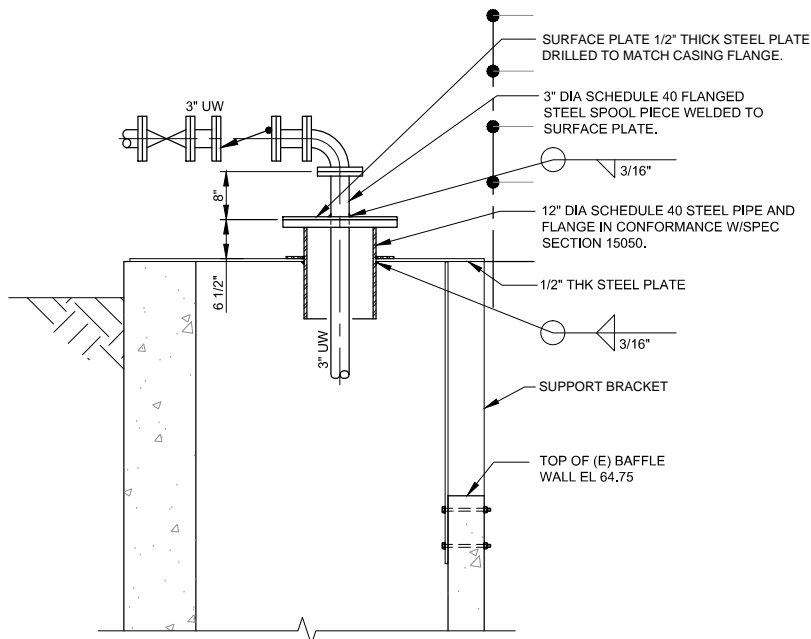
CHLORINE CONTACT BASIN SECTION A
3/8"=1'-0"



UTILITY WATER PUMP STATION SECTION B
3/8"=1'-0"



UW PUMP SUPPORT ASSEMBLY DETAIL 1
3/4"=1'-0"



UW PUMP SUPPORT ASSEMBLY SECTION C
3/4"=1'-0"

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SCALES

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DESIGNED

WMH

DRAWN

GAS

CHECKED

RRH

89

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McKINLEYVILLE, CA

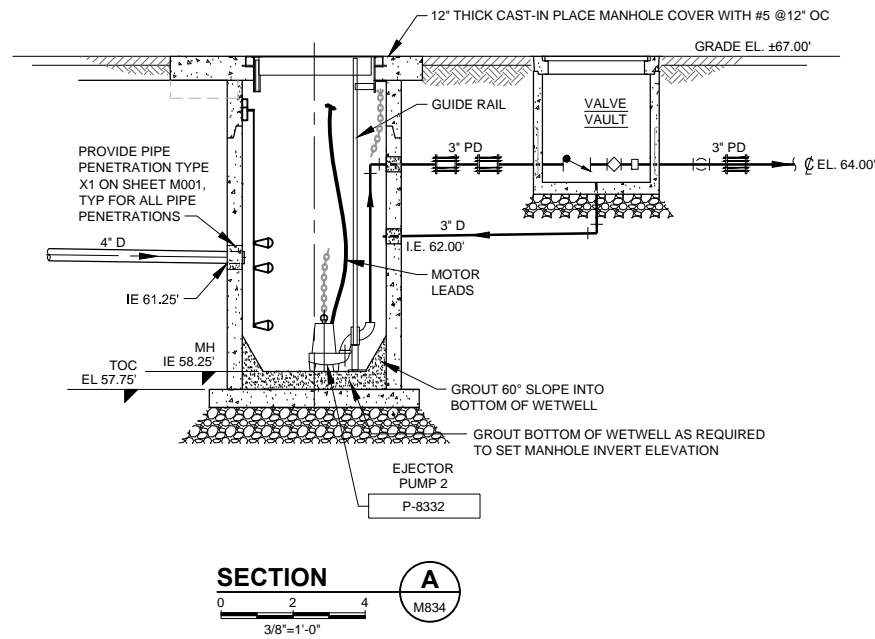
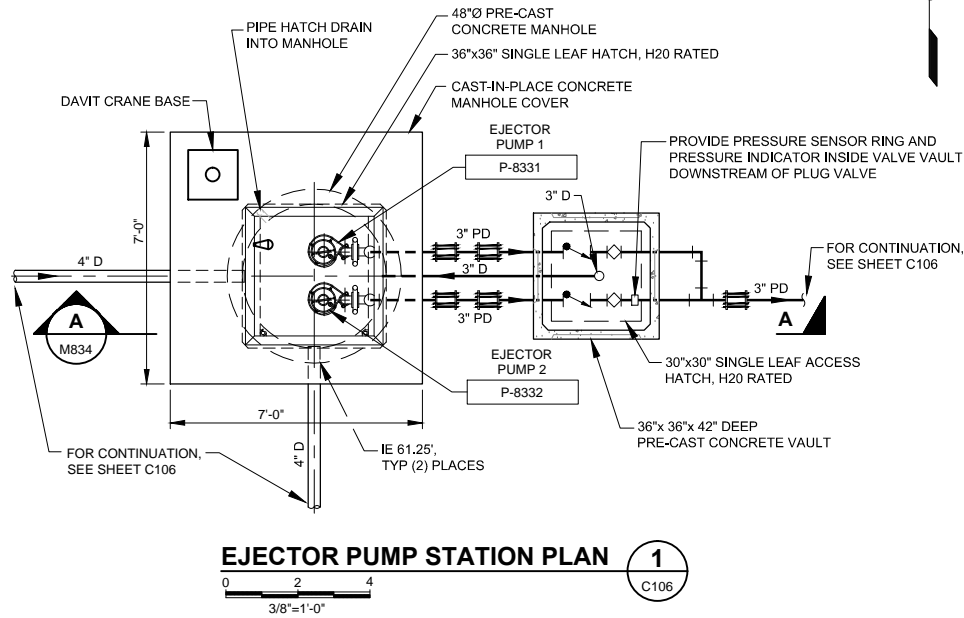
WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

CHLORINE CONTACT BASIN AREA
MODIFICATIONS SECTION AND DETAILS

FILE NAME	1368004-M833
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
M833	

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REVA NO.	DESCRIPTION	VALUE	BY
	REVISION	DATE	BY

SCALES

0 1" 25mm

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DESIGNED

WMH

DRAWN

GAS

CHECKED

RRH

90

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WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

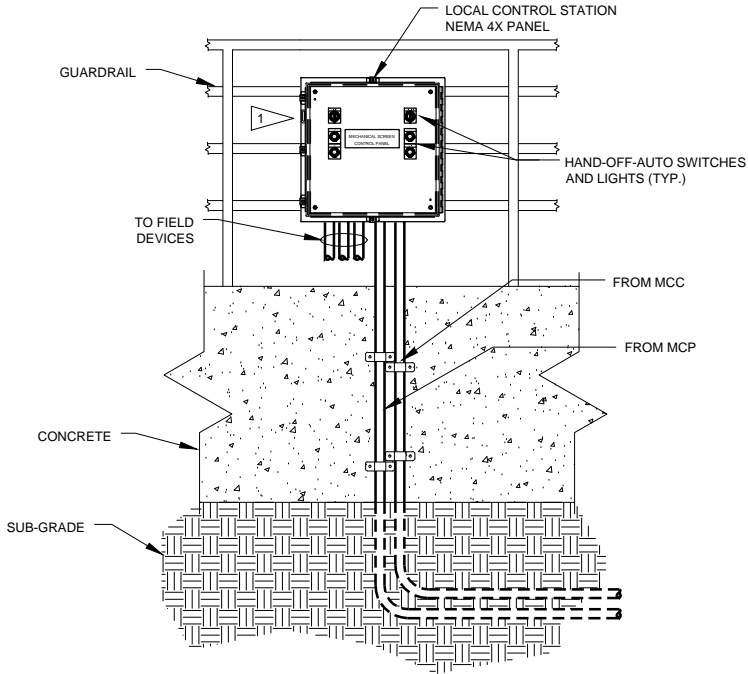
Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

EJECTOR PUMP STATION PLAN AND SECTION

FILE NAME	1368004-M834
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
	M834



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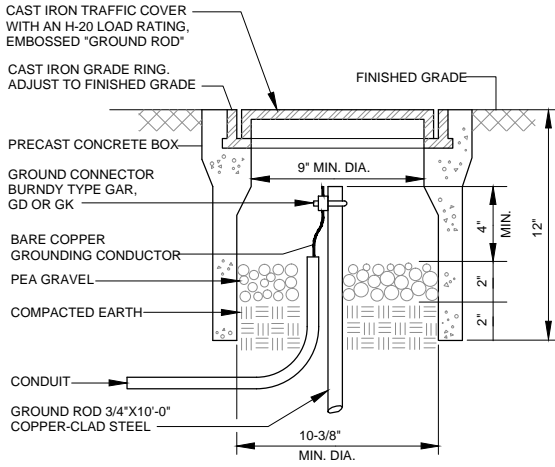


TYPICAL LCS PANEL MOUNT TO GUARDRAIL DETAIL

1

NOT TO SCALE

E221

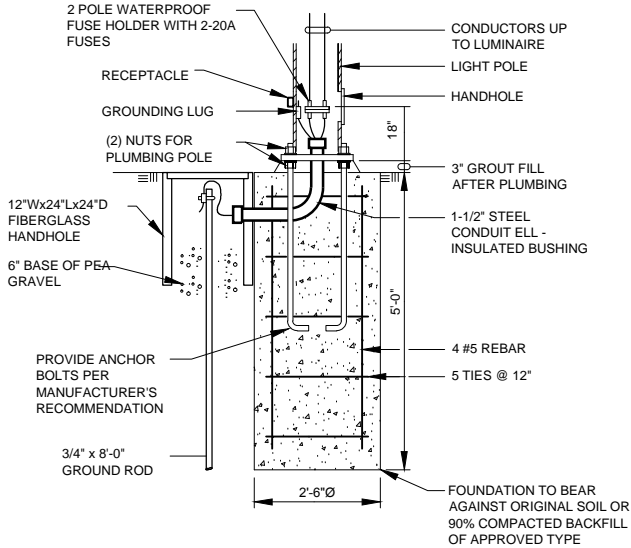


GROUND ROD BOX DETAIL

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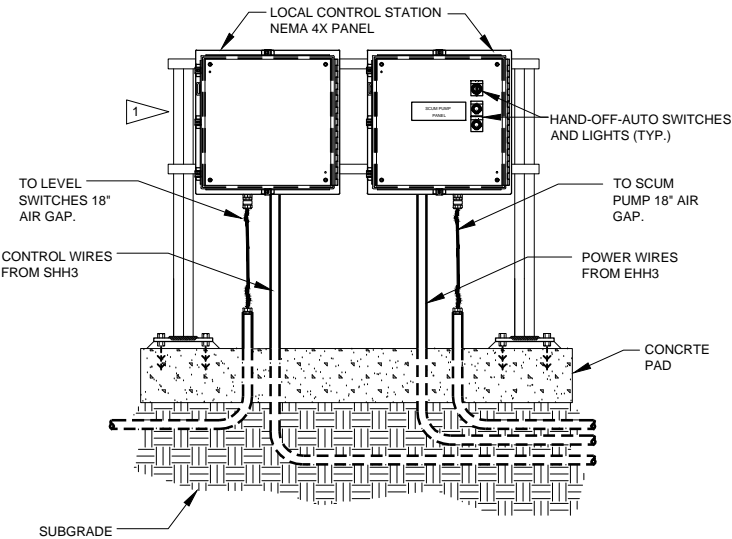


TYPICAL LIGHTING POLE BASE DETAIL

3

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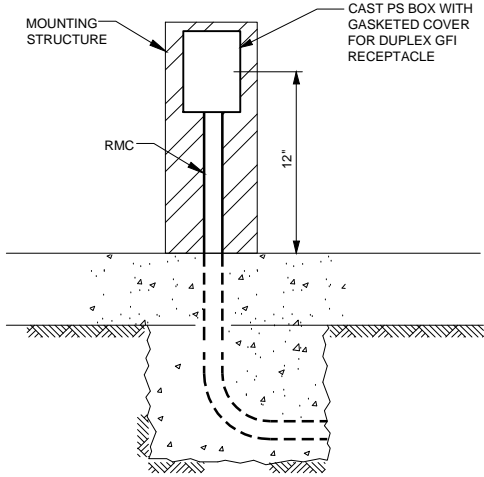


TYPICAL STAND ALONE PANEL DETAIL

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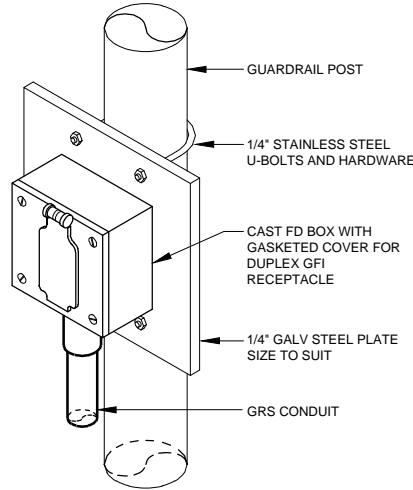


TYPICAL RECEPTACLE MOUNTING

5

NOT TO SCALE

E441



TYPICAL RECEPTACLE MOUNTING ON GAURDRAIL

6

NOT TO SCALE

E441

NOTES:

1 PANELS TO BE SIZED ACCORDINGLY BY CONTRACTOR.

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SCALES
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0 25mm
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DESIGNED	PAR
DRAWN	JEV
CHECKED	TIW/AGS

92

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McKINLEYVILLE, CA

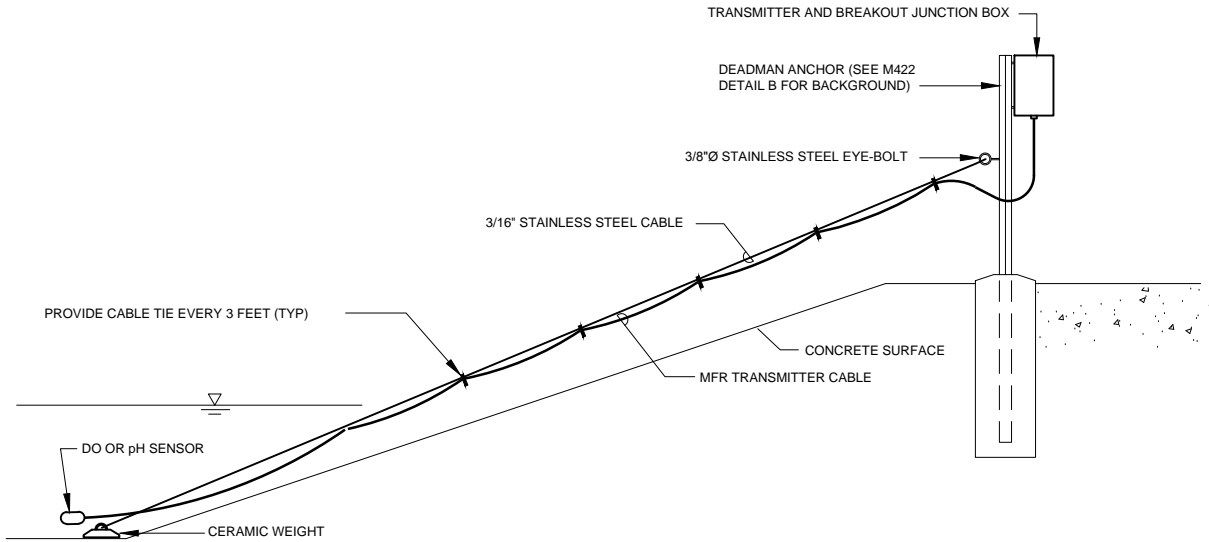
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ELECTRICAL DETAILS - 1

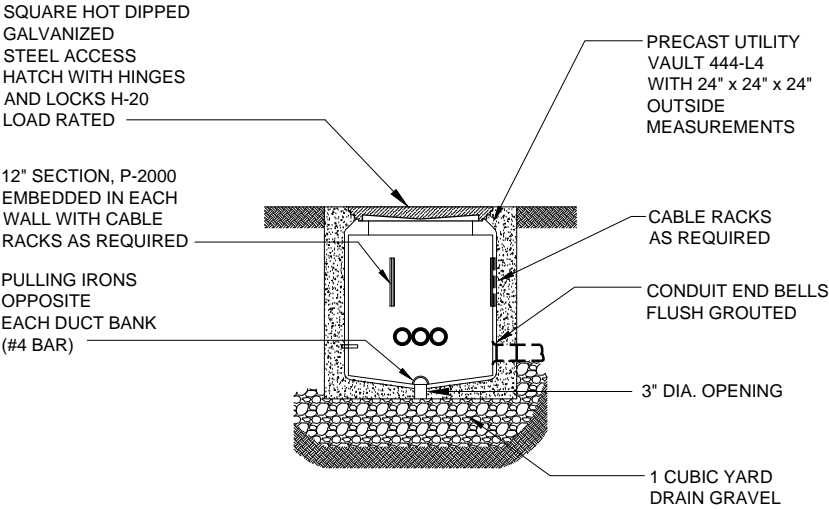
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JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
E002	

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DISSOLVED OXYGEN AND pH TRANSMITTER INSTALLATION
NOT TO SCALE

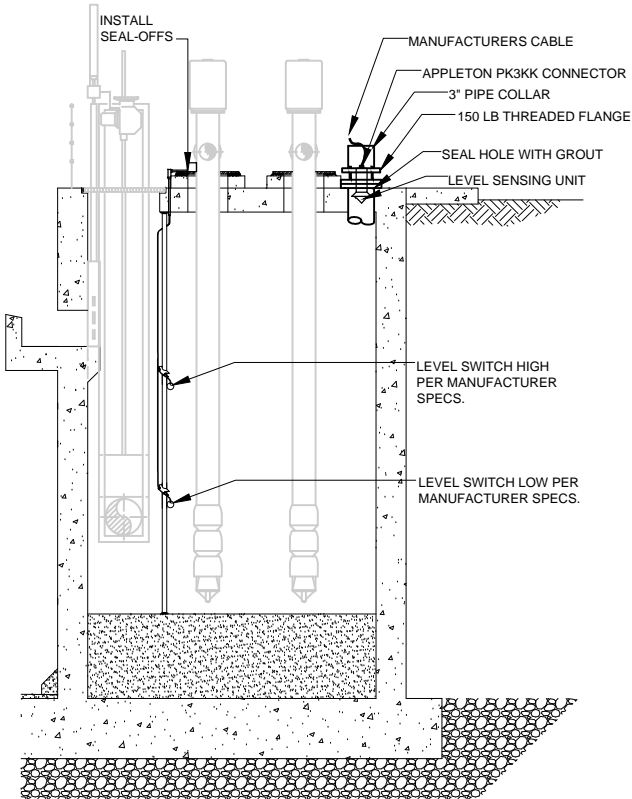
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TYPICAL HANDHOLE COVER DETAIL
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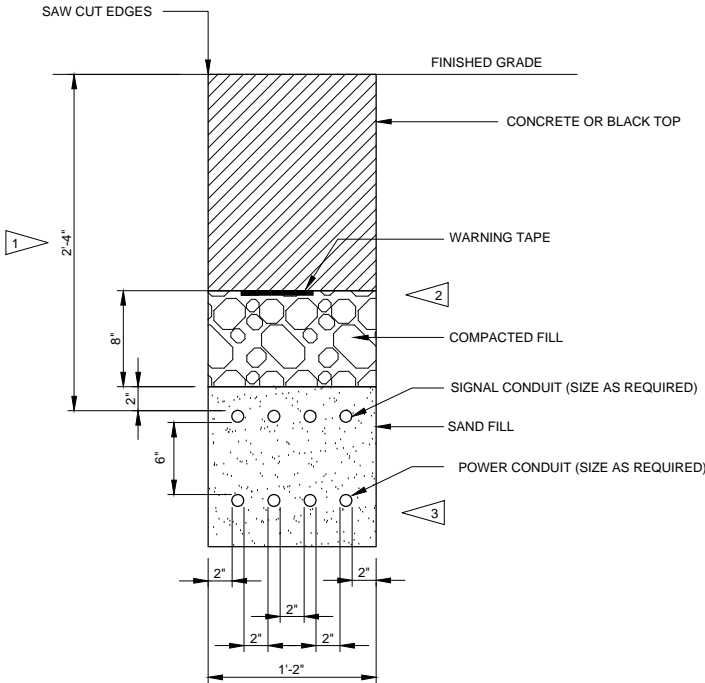
8
E101

- NOTES:
- 1 ALL DIMENSIONS ARE MINIMUMS
 - 2 MAKE SURE SUB-GRADE COMPACTION IS PER SPECIFICATIONS.
 - 3 MAKE SURE ALL SIGNAL & 24 VOLT CONTROL WIRES ARE RUN IN A SEPARATE CONDUIT FROM POWER WIRES 120VAC OR GREATER.



TYPICAL LEVEL FLOAT SWITCH INSTALLATION DETAIL
NOT TO SCALE

9
E441



TYPICAL TRENCH DETAIL
NOT TO SCALE

10
E101

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0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.



DESIGNED
PAR
DRAWN
JEV
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AGS/TIV
93

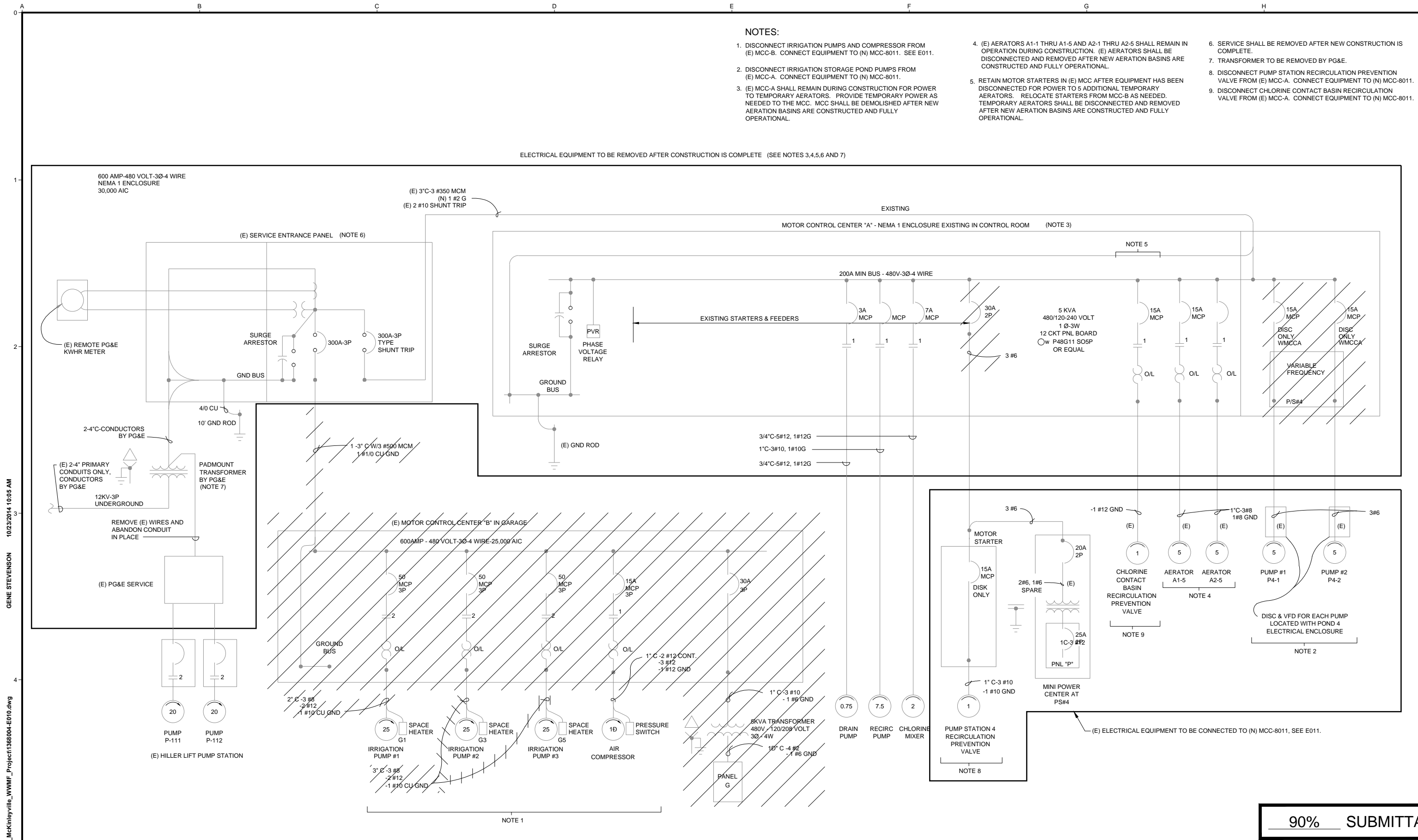
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
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ELECTRICAL DETAILS - 2

FILE NAME
1368004-E003
JOB NO.
1368004.00
DATE
OCTOBER 2014
SHEET
OF
E003



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[illegible]

The diagram illustrates the wiring for three level sensors connected to a PLC control panel. The sensors are LSL-4414, LSH-4414, and LSHH-4414. They are connected to PLC I/O modules (ISR 4, 5, and 6) via a 24VDC power supply. The wiring is as follows:

- LSL-4414:** Connected to PLC I/O module ISR 4. The sensor's output is connected to the PLC I/O module's output terminal, which is labeled "LEVEL LOW".
- LSH-4414:** Connected to PLC I/O module ISR 5. The sensor's output is connected to the PLC I/O module's output terminal, which is labeled "LEVEL HIGH".
- LSHH-4414:** Connected to PLC I/O module ISR 6. The sensor's output is connected to the PLC I/O module's output terminal, which is labeled "LEVEL HIGH-HIGH ALARM".

NOTE 1: A common ground connection is shown for the sensors and the PLC I/O modules, indicating that they share a common reference point.

NOTE:

1. INTRINSIC SAFETY WIRING TO BE ISOLATED FROM ALL OTHER WIRE IN ITS OWN CONDUIT. PUT RED BARRIER TAPE AROUND ISR RELAY, WIRING AND CONDUIT IN CONTROL PANEL TO DESIGNATE INTRINSICALLY SAFE BARRIER AREA.

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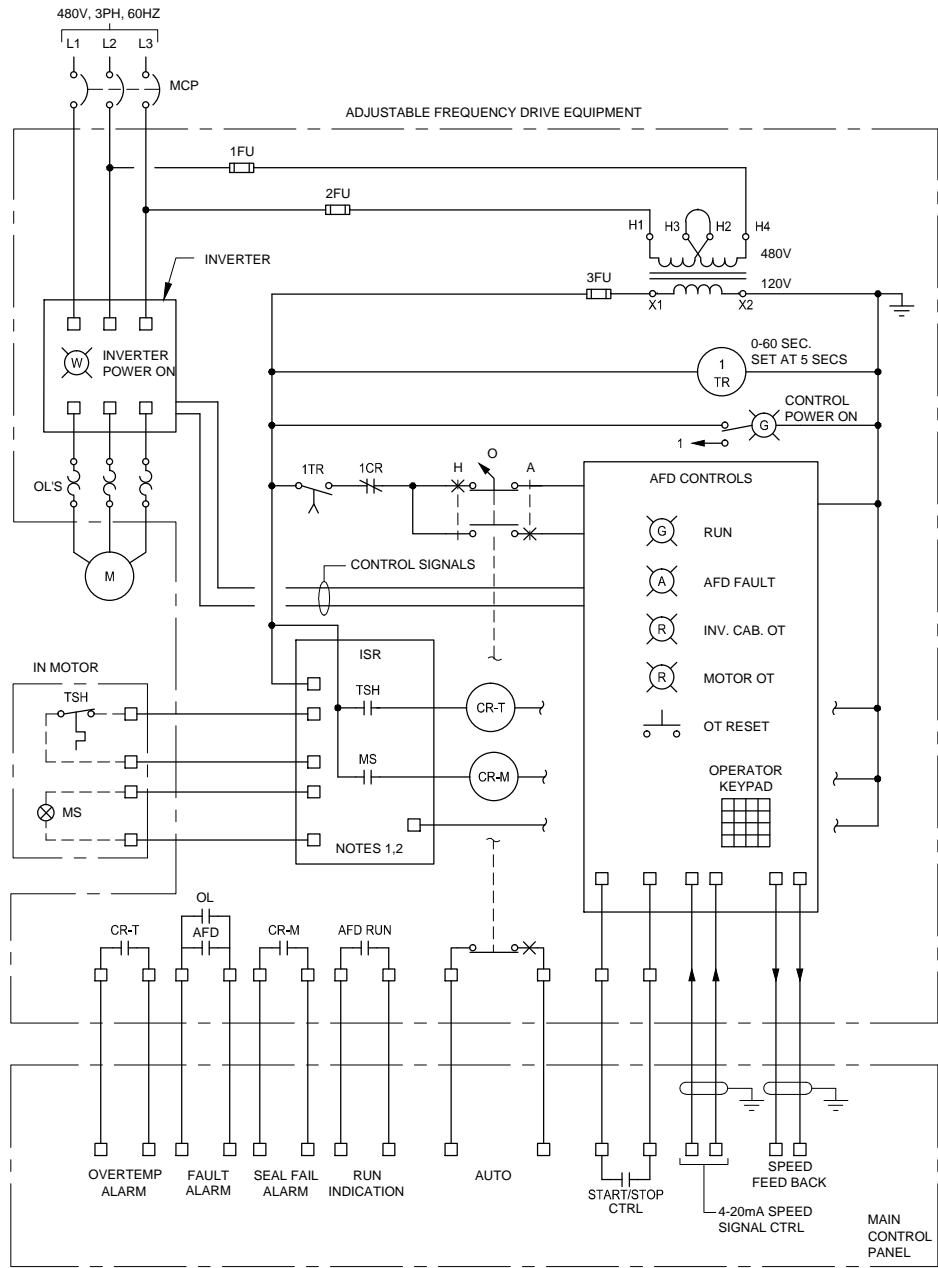


DIAGRAM 5

DESCRIPTION	EQUIP NOS.
RAS PUMPS	P-4511, P-4512, P-4513, P-4514

- NOTES:
- ADJUST WIRING AS REQUIRED TO MEET PUMP SUPPLIER'S RECOMMENDED PUMP PROTECTION REQUIREMENTS.
 - RESET BUTTON LOCATED ON MCC CUBICLE DOOR.

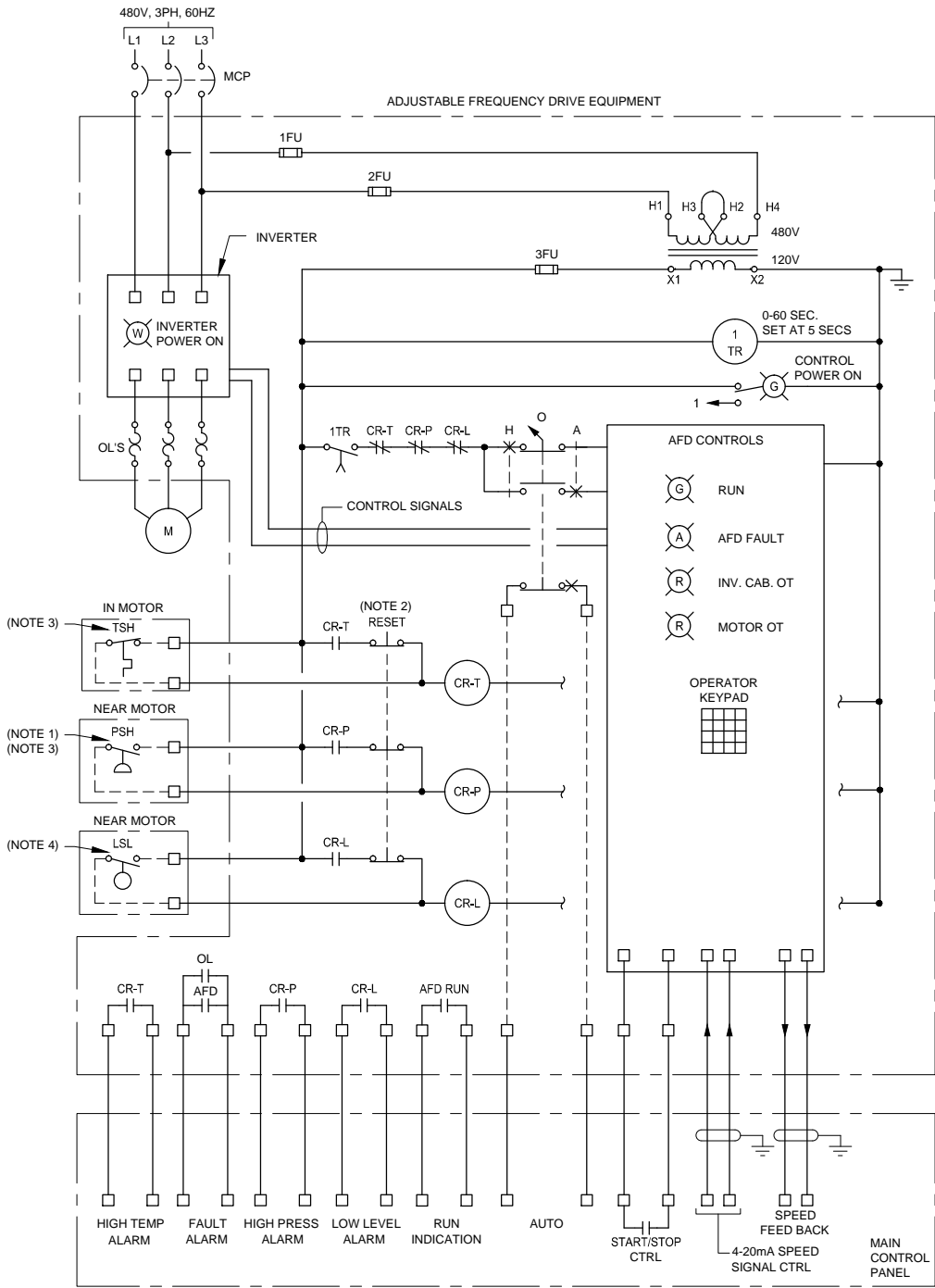


DIAGRAM 6

DESCRIPTION	EQUIP NOS.
WAS PUMP	P-4611
SECONDARY EFFLUENT PUMPS	P-4431, P-4432
(E) IRRIGATION STORAGE PUMPS	P-6511, P-6512
UTILITY WATER PUMPS	P-8321, P-8322

- NOTES:
- PSH NOT REQUIRED FOR SECONDARY EFFLUENT PUMPS & UTILITY WATER PUMPS.
 - RESET BUTTON LOCATED ON MCC CUBICLE DOOR.
 - PSH, LSL & TSH NOT REQUIRED FOR IRRIGATION STORAGE PUMPS 1 & 2.
 - LSL NOT REQUIRED FOR SECONDARY EFFLUENT PUMPS AND WAS PUMPS

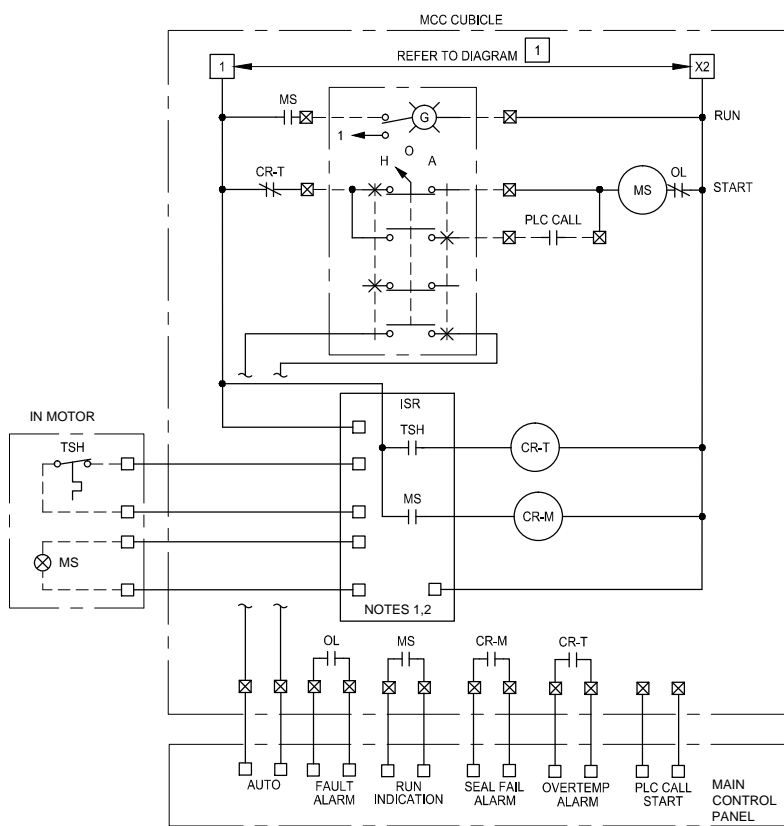


DIAGRAM 7

DESCRIPTION	EQUIP NO.
TD/SN PUMPS	P-8311, P-8312

- NOTES:
- ADJUST WIRING AS REQUIRED TO MEET PUMP SUPPLIER'S RECOMMENDED PUMP PROTECTION REQUIREMENTS.
 - RESET BUTTON LOCATED ON MCC CUBICLE DOOR.

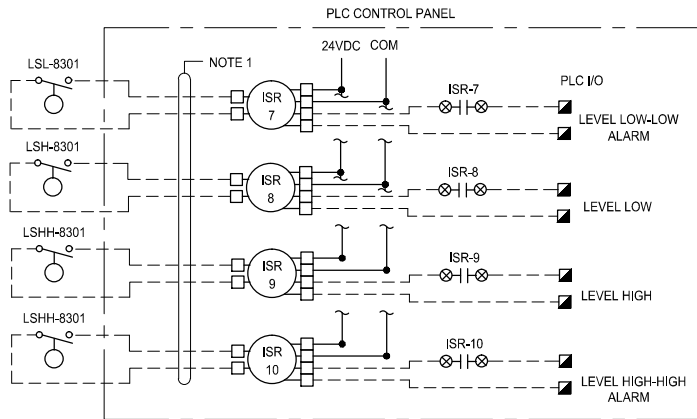


DIAGRAM 8

DESCRIPTION	EQUIP NOS.
LEVEL SWITCH WIRING	P-8311, P-8312

- NOTE:
- INTRINSIC SAFETY WIRING TO BE ISOLATED FROM ALL OTHER WIRE IN ITS OWN CONDUIT. PUT RED BARRIER TAPE AROUND ISR RELAY, WIRING AND CONDUIT IN CONTROL PANEL TO DESIGNATE INTRINSICALLY SAFE BARRIER AREA.

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NO. REVISION DATE BY

SCALES
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0" = 25mm
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DESIGNED

JBC/PAR

DRAWN

JL/JEV

CHECKED

TIW/AGS 97

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ELEMENTARY DIAGRAMS SHEET 2

FILE NAME
1368004-E022
JOB NO.
1368004.00
DATE
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SHEET
OF
E022

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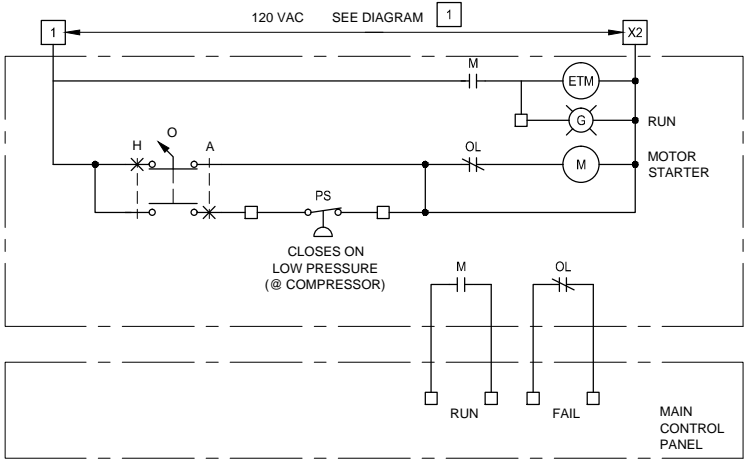


DIAGRAM 9

DESCRIPTION	EQUIP. NO.
AIR COMPRESSOR	-

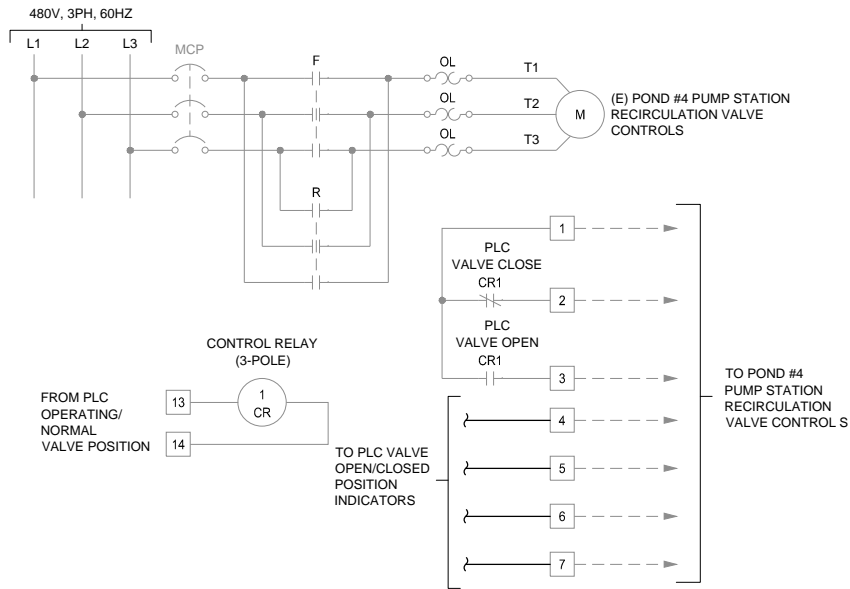


DIAGRAM 10

DESCRIPTION	EQUIP. NO.
POND #4 PUMP STATION RECIRCULATION PREVENTION VALVE	-

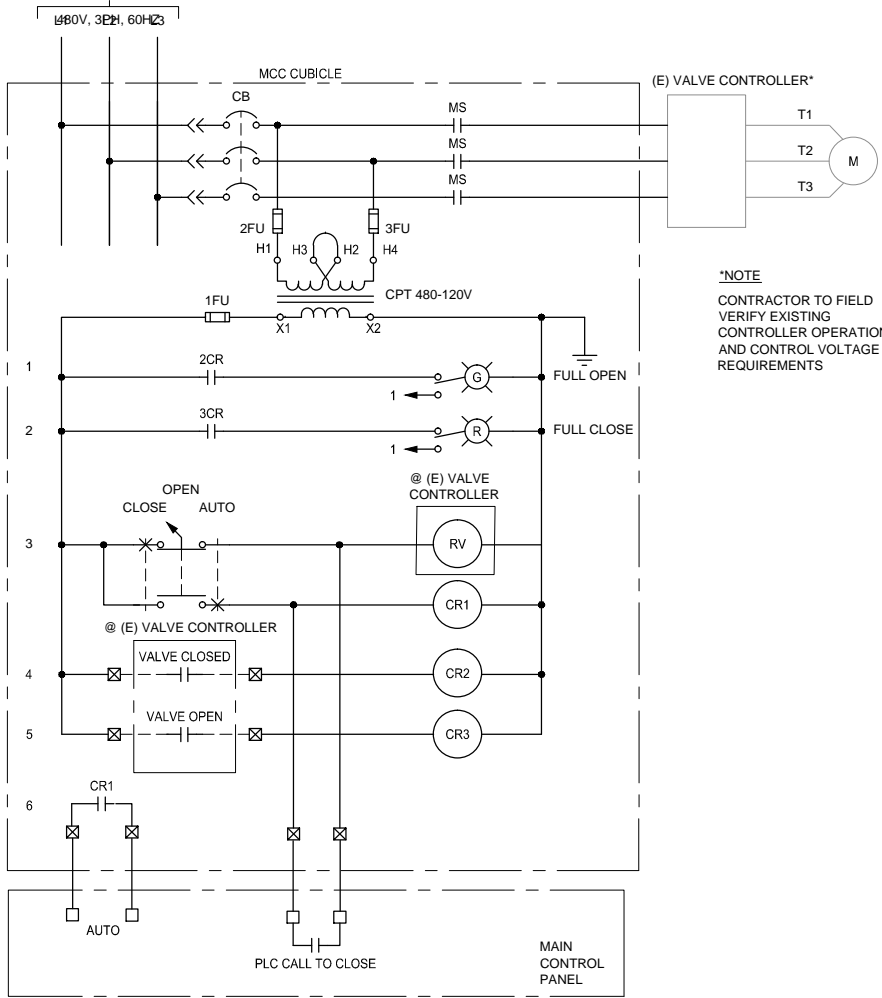


DIAGRAM 11

DESCRIPTION	EQUIP. NO.
(E) CHLORINE CONTACT BASIN PREVENTION VALVE	-

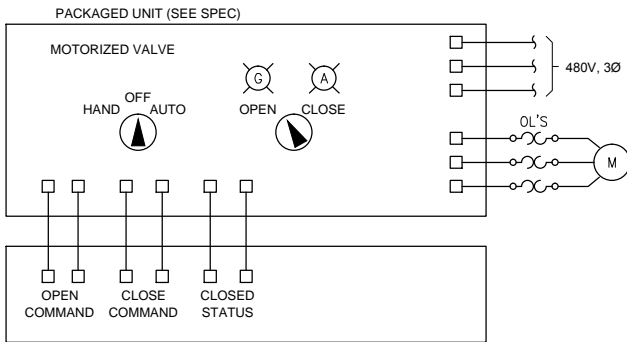


DIAGRAM 12

DESCRIPTION	EQUIP. NO.
MOTOR OPERATED VALVES	-

*NOTE
CONTRACTOR TO FIELD
VERIFY EXISTING
CONTROLLER OPERATIONS
AND CONTROL VOLTAGE
REQUIREMENTS

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McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

ELEMENTARY DIAGRAMS
SHEET 3

FILE NAME	1368004-E023
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
E023	

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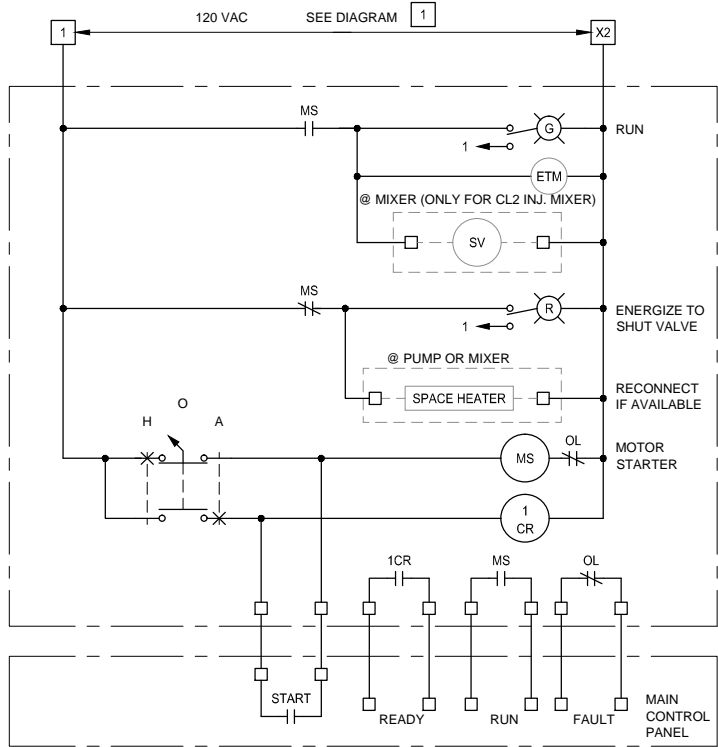
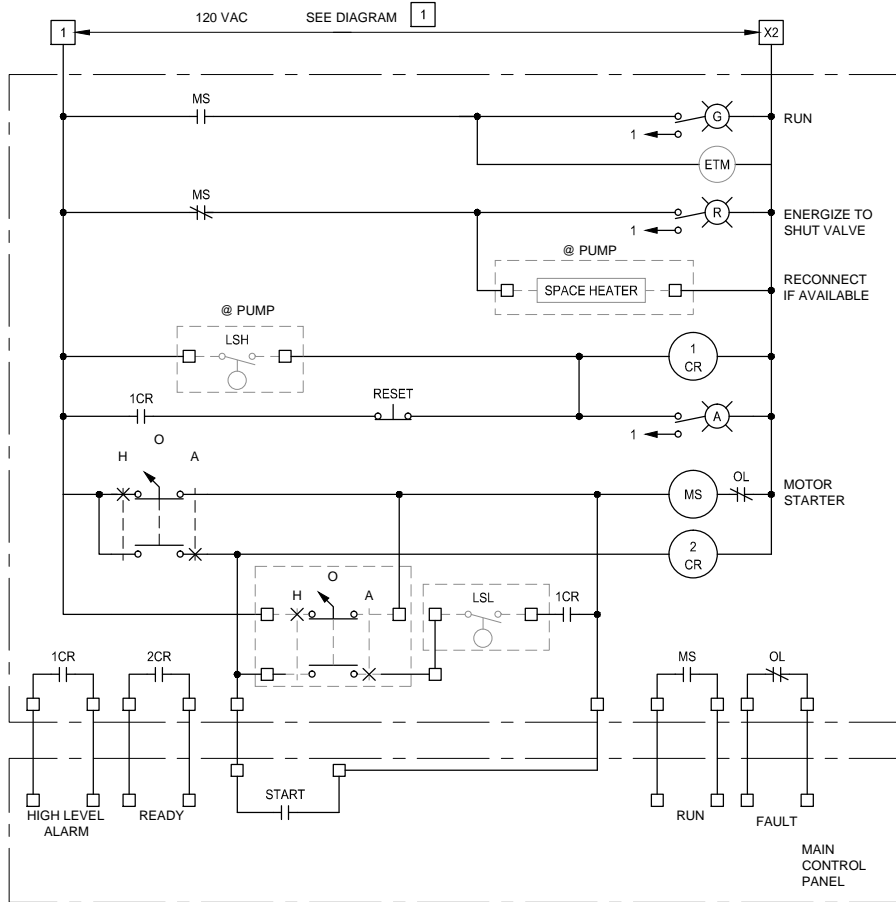
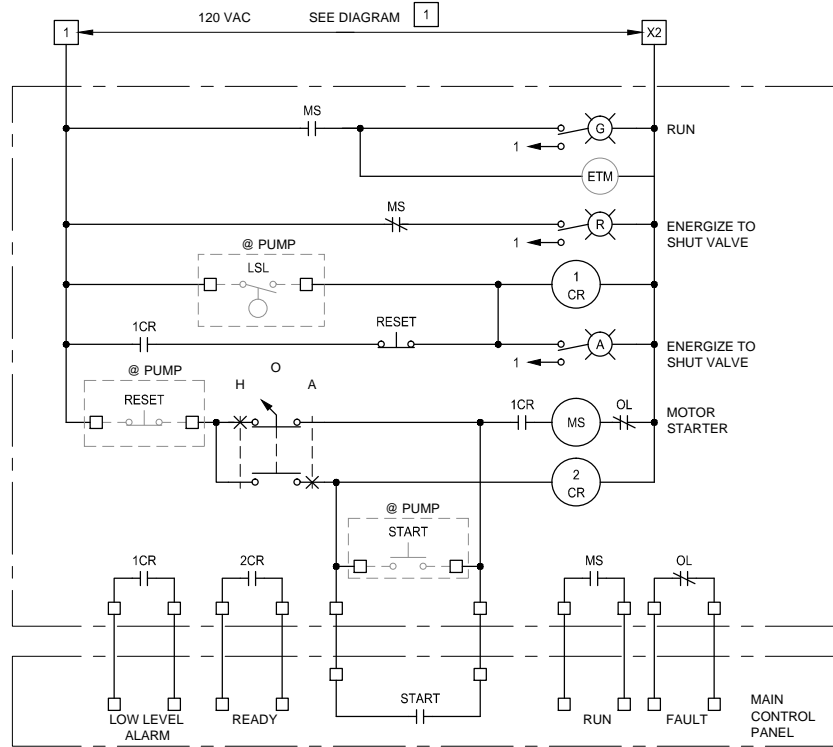


DIAGRAM 13	
DESCRIPTION	EQUIP NO.
(E) CHLORINE INJECTION MIXER	-
(E) IRRIGATION PUMP 1	P-6511
(E) IRRIGATION PUMP 2	P-6512
(E) IRRIGATION PUMP 3	P-6513



DESCRIPTION	EQUIP NO.
(E) CHLORINE DRAIN PUMP	-



DESCRIPTION	EQUIP NO.
(E) RECIRCULATIN PUMP	-

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McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

ELEMENTARY DIAGRAMS SHEET 4

FILE NAME	1368004-E024
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
E024	

CONDUIT AND WIRE SCHEDULE							
TAG	FROM	TO	CONDUIT	POWER	CONTROL	SIGNAL	NOTES
MAIN POWER DISTRIBUTION							
PATSA	GENERATOR CONNECTION PANEL	MAIN SWITCH BOARD, MSB-8010	(3) 3"	3#400KCMIL, 1#3/0G			WIREFILL PER CONDUIT
PMCC8011	MAIN SWITCH BOARD, MSB-8010	MOTOR CONTROL CENTER 8011	(2) 2 1/2"	3#250KCMIL, 1#3G			WIREFILL PER CONDUIT
PMCC8012	MAIN SWITCH BOARD, MSB-8010	MOTOR CONTROL CENTER 8012	(3) 3"	3#500KCMIL, 1#3/0G			WIREFILL PER CONDUIT
PGND	MOTOR CONTROL CENTER 8012	GROUND ROD BOX AND UFER GROUND	3/4"	1#3/0G			
P-DP8021	MOTOR CONTROL CENTER 8012	DP-8021	1 1/2"	3#1/0, 1#8G			
P-DP8022	MOTOR CONTROL CENTER 8012	DP-8022	1 1/2"	3#1/0, 1#8G			
C GEN	MAIN CONTROL PANEL	STANDBY GENERATOR CP	3/4"		14#14		4#14 SHALL BE SPARES
CATS	MAIN CONTROL PANEL	ATS	3/4"		8#14		4#14 SHALL BE SPARES
S100	MAIN CONTROL PANEL	FIT-4311, FIT-4312 AND FIT-4313 JB	1"			3#18 TSP	
P GEN	GENERATOR	ATS	1"	3#400KCMIL, 1#3/0G			
ELECTRICAL BUILDING							
P102	MOTOR CONTROL CENTER 8012	XFMR-8033	1"	3#4, 1#8G			
P103	XFMR-8033	LP-8033	1 1/2"	3#1/0, 1#8G			
P104	MOTOR CONTROL CENTER 8012	AIR COMPRESSOR, CP-1301	3/4"	3#12, 1#12G			
P122	MOTOR CONTROL CENTER 8012	AERATION BLOWER 1, BLO-4310	1 1/2"	3#2/0, 1#8G			
P123	MOTOR CONTROL CENTER 8012	AERATION BLOWER 2, BLO-4311	1 1/2"	3#2/0, 1#8G			
P124	MOTOR CONTROL CENTER 8012	AERATION BLOWER 3, BLO-4312	1 1/2"	3#2/0, 1#8G			
P125	MOTOR CONTROL CENTER 8013	(F) AERATION BLOWER	1 1/2"				SPARE CONDUIT
C100	MAIN CONTROL PANEL	MOTOR CONTROL CENTER 8011					
C101	MAIN CONTROL PANEL	MOTOR CONTROL CENTER 8012					
C122	MAIN CONTROL PANEL	AERATION BLOWER 1, BLO-4310	3/4"		6#14	2#18 TSP	2#14 SHALL BE SPARE
C123	MAIN CONTROL PANEL	AERATION BLOWER 2, BLO-4311	3/4"		6#14	2#18 TSP	2#14 SHALL BE SPARE
C124	MAIN CONTROL PANEL	AERATION BLOWER 3, BLO-4312	3/4"		6#14	2#18 TSP	2#14 SHALL BE SPARE
C125	MAIN CONTROL PANEL	(F) AERATION BLOWER	3/4"				SPARE CONDUIT
S100	MAIN CONTROL PANEL	MOTOR CONTROL CENTER 8011					
S101	MAIN CONTROL PANEL	MOTOR CONTROL CENTER 8012					
S102	MAIN CONTROL PANEL	JB FOR FIT 4313/4314	3/4"			2#18 TSP	
D122	MAIN CONTROL PANEL	AERATION BLOWER 1, BLO-4310	3/4"			CAT6	
D123	MAIN CONTROL PANEL	AERATION BLOWER 2, BLO-4311	3/4"			CAT6	
D124	MAIN CONTROL PANEL	AERATION BLOWER 3, BLO-4312	3/4"			CAT6	
D125	MAIN CONTROL PANEL	(F) AERATION BLOWER					SPARE CONDUIT
(E) CONTROL BUILDING							
P129	MOTOR CONTROL CENTER 8011	XFMR-8031	3/4"	3#8, 1#10G			
P130	XFMR-8031	LP-8031	1 1/2"	3#1, 1#8G			
P131	MOTOR CONTROL CENTER 8011	XFMR-8032	3/4"	2#4, 1#8G			
P132	XFMR-8032	LP-8032	1 1/2"	2#1, 1#8G			
P133	MOTOR CONTROL CENTER 8011	(E) AIR COMPRESSOR, CP-8515	3/4"	3#12, 1#12G	2#14		
P134	MOTOR CONTROL CENTER 8011	(E) CONTROL BUILDING	1"				SPARE CONDUIT
C129	CONTROL WIRES FROM (D) PCP	MAIN CONTROL PANEL	XX		XX		
S129	SIGNAL WIRES FROM (D) PCP	MAIN CONTROL PANEL	XX			XX	
F100	REMOTE I/O PANEL	MAIN CONTROL PANEL	2			FIBER	
HILLER LIFT STATION							
P140	MOTOR CONTROL CENTER 8011	(E) HILLER LIFT STATION PUMP 1, P-111	1"	3#8, 1#8G			
P141	MOTOR CONTROL CENTER 8011	(E) HILLER LIFT STATION PUMP 2, P-112	1"	3#8, 1#8G			
C140	MAIN CONTROL PANEL	SH-4	(2) 1"				SPARE CONDUITS
2200 HEADWORKS							
P220	MOTOR CONTROL CENTER 8012	SCREEN CONTROL PANEL PNL-2210	1"	3#12, 1#12G			
P221	SCREEN CONTROL PANEL PNL-2210	SCREEN DRIVE SCN-2210	3/4"	3#12, 1#12G			
P222	PANELBOARD LP-8033 IN ELECT BUILDING	INFLUENT SAMPLER	1"	2#12, 1#12G			
P223	MAIN CONTROL PANEL	INFLUENT FLOW TRANSMITTER FIT-2201	1"	2#12, 1#12G			
P224	PANELBOARD LP-8033 IN ELECT BUILDING	HEADWORKS AREA RECEPTACLES	1"	2#10, 1#10G			

CONDUIT AND WIRE SCHEDULE							
TAG	FROM	TO	CONDUIT	POWER	CONTROL	SIGNAL	NOTES
2200	HEADWORKS (CONT.)						
S220	MAIN CONTROL PANEL	INFLUENT FLOW TRANSMITTER FIT-2201	1"			1#18 TSP	
S221	SCREEN CONTROL PANEL PNL-2210	LEVEL ELEMENT LE-2210A	3/4"				VENDOR CABLE
S222	SCREEN CONTROL PANEL PNL-2210	LEVEL ELEMENT LE-2210B	3/4"				VENDOR CABLE
S223	MAIN CONTROL PANEL	HEADWORKS AREA	1"				SPARE, STUB AT 12" AFF AND CAP
P230	MOTOR CONTROL CENTER 8012	FUTURE GRIT CONTROL AREA	2"				EMPTY, FOR FUTURE USE
C230	MAIN CONTROL PANEL	FUTURE GRIT CONTROL AREA	1"				EMPTY, FOR FUTURE USE
S230	MAIN CONTROL PANEL	FUTURE GRIT CONTROL AREA	1"				EMPTY, FOR FUTURE USE
4200	AERATION BASIN S						
P401	EHH1	J1 FOR MOV'S/AIT'S AT AERATION BASIN 1	2"	37#12, 1#10G			
P402	EHH1	J3 FOR MOV'S/AIT'S AT AERATION BASIN 2	2"	37#12, 1#10G			
P403	EHH1	J1 AT AERATION BASIN 1	2"				SPARE
P404	EHH1	J3 AT AERATION BASIN 2	2"				SPARE
P405	MCC-8011	(E) PB	2"	9#6, 1#6			
P406	(E) PB	(E) IRRIGATION STORAGE PUMPS 1 AND 2	(E) 2"	9#6, 1#6			
P407	MOTOR CONTROL CENTER 8012	(E) PULL BOX (2' X 3' X 3')	(E) 1"	3#12, 1#12	4#14		REMOVE (E) 5#12, 1#G WIRES
P408	(E) PULL BOX (2' X 3' X 3')	(E) RECIRCULATION PUMP	(E) 3/4"	3#12, 1#12	4#14		REMOVE (E) 5#12, 1#G WIRES
P224	LP-8033	EHH1 FOR AIT-4201A, AIT-4201B/AIT-4201A, AIT-4201B	1"	4#12, 1#12G			
P225	DP-8021	EHH1 FOR MOV'S/AIT'S AT AERATION BASIN 1	1 1/2"	33#12, 1#12G			
P226	DP-8022	EHH1 FOR MOV'S/AIT'S AT AERATION BASIN 2	1 1/2"	33#12, 1#12G			
C401	MAIN CONTROL PANEL	J2 FOR MOV'S AT AERATION BASIN 1 JB	2"		132#14		22#14 SHALL BE SPARES
C402	MAIN CONTROL PANEL	J4 FOR MOV'S AT AERATION BASIN 1 JB	2"		132#14		22#14 SHALL BE SPARES
C403	MAIN CONTROL PANEL	J2 AT AERATION BASIN 1 JB	2"				SPARE
C404	MAIN CONTROL PANEL	J4 AT AERATION BASIN 2 JB	2"				SPARE
S401	MAIN CONTROL PANEL	JB FOR AIT-4201A, AIT-4201B	1"			2#18 TSP	
S402	MAIN CONTROL PANEL	JB FOR AIT-4202A, AIT-4202B	1"			2#18 TSP	
C406	MAIN CONTROL PANEL	(E) IRRIGATION STORAGE PUMPS 1 AND 2	(E) 2"		8#14		REMOVE (E) 2#12 TSP, AND REMOVE (E) 8#12, 1#12G FOR PUMPS AND RECIRCULATION VALVE, (N) 2#14 SHALL BE SPARE
4400	SECONDARY CLARIFIER S						
P440	MOTOR CONTROL CENTER 8012	SLUDGE COLLECTOR 1 COL-4410	1"	3#12, 1#12G	6#14		INCLUDES TORQUE SWITCHES
P441	MOTOR CONTROL CENTER 8012	SLUDGE COLLECTOR 2 COL-4420	1"	3#12, 1#12G	6#14		INCLUDES TORQUE SWITCHES
P442	MOTOR CONTROL CENTER 8012	SCUM PUMP P-4414 JUNCTION BOX	1"	3#12, 1#12G	4#14		MSH AND TSH
P443	PANLEBOARD LP-8033 IN ELECT BUILDING	RECEPTACLES	1"	2#10, 1#10G			
P444	MOTOR CONTROL CENTER 8012	HANDHOLE EHH3	1"				SPARE
P445	PANLEBOARD LP-8033 IN ELECT BUILDING	HANDHOLE EHH3	1"				SPARE
P450	MOTOR CONTROL CENTER 8012	RAS PUMP 1 P-4511 JUNCTION BOX	1"	3#12, 1#12G			
P451	MOTOR CONTROL CENTER 8012	RAS PUMP 2 P-4512 JUNCTION BOX	1"	3#12, 1#12G			
P452	MOTOR CONTROL CENTER 8012	RAS PUMP 3 P-4513 JUNCTION BOX	1"	3#12, 1#12G			
P453	MOTOR CONTROL CENTER 8012	RAS PUMP 4 P-4514 JUNCTION BOX	1"	3#12, 1#12G			
P454	MOTOR CONTROL CENTER 8012	WAS PUMP 1 P-4611	1"	3#12, 1#12G			
P455	MAIN CONTROL PANEL	HANDHOLE EHH3	1"	10#12, 5#12G			FLOW AND LEVEL TRANSMITTERS
P456	HANDHOLE EHH3	FLOW TRANSMITTER FIT-4515	1"	2#12, 1#12G			
P457	HANDHOLE EHH3	FLOW TRANSMITTER FIT-4516	1"	2#12, 1#12G			
P458	HANDHOLE EHH3	FLOW TRANSMITTER FIT-4612	1"	2#12, 1#12G			
P459	HANDHOLE EHH3	TRANSMITTERS FIT-4455 AND LIT-4454	1"	4#12, 2#12G			LOOP TO LIT-4454
P460	MOTOR CONTROL CENTER 8012	SEC. EFFLUENT PUMP 1 P-4451	1"	3#8, 1#8G			OVERSIZE FOR FUTURE
P461	MOTOR CONTROL CENTER 8012	SEC. EFFLUENT PUMP 2 P-4452	1"	3#8, 1#8G			OVERSIZE FOR FUTURE
C440	MOTOR CONTROL CENTER 8012	SCUM PUMP P-4414 LCS	1"		15#14		2 SPARE
C441	MOTOR CONTROL CENTER 8012	RAS PUMP 1 P-4511 JUNCTION BOX	1"		4#14		MSH AND TSH
C442	MOTOR CONTROL CENTER 8012	RAS PUMP 2 P-4512 JUNCTION BOX	1"		4#14		MSH AND TSH
C450	MOTOR CONTROL CENTER 8012	RAS PUMP 3 P-4513 JUNCTION BOX	1"		4#14		MSH AND TSH
C451	MOTOR CONTROL CENTER P-4414	RAS PUMP 4 P-4514 JUNCTION BOX	1"		4#14		MSH AND TSH
C452	MOTOR CONTROL CENTER 8012	WAS PUMP 1 P-4611	1"		4#14		TSH AND PSH-4611
C453	MOTOR CONTROL CENTER 8012	HANDHOLE SHH3	1"				SPARE
C454	MAIN CONTROL PANEL	HANDHOLE SHH3	1"				SPARE
C455	MOTOR CONTROL CENTER 8012	SEC. EFFLUENT PUMP 1 P-4451	1"		2#14		TSH
C456	MOTOR CONTROL CENTER 8012	SEC. EFFLUENT PUMP 2 P-4452	1"		2#14		TSH
S450	MAIN CONTROL PANEL	HANDHOLE SHH3	1"		4#14	5#18 TSP	FITS AND LEVEL SWITCHES
S451	HANDHOLE SHH3	FLOW TRANSMITTER FIT-4515	1"			1#18 TSP	
S452	HANDHOLE SHH3	FLOW TRANSMITTER FIT-4516	1"			1#18 TSP	
S453	HANDHOLE SHH3	FLOW TRANSMITTER FIT-4612	1"			1#18 TSP	
S454	HANDHOLE SHH3	TRANSMITTERS FIT-4455 AND LIT-4454	1"		4#14	2#18 TSP	LOOP TO LIT-4454 AND LEVEL SWS
S455	MAIN CONTROL PANEL	HANDHOLE SHH3	1"				SPARE
S456	MAIN CONTROL PANEL	HANDHOLE SHH3	1"				SPARE
4100	CALCIUM HYDROXIDE SYSTEM						
P410	PANLEBOARD LP-8033 IN ELECT BUILDING	JUNCTION BOX 1 AT CONCRETE PAD	1"	4#12, 2#12G			
P411	JUNCTION BOX 1 AT CONCRETE PAD	RECEPTACLES FOR TOTE MIXERS	1"	2#12, 1#12G			

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CONDUIT AND WIRE SCHEDULE							
TAG	FROM	TO	CONDUIT	POWER	CONTROL	SIGNAL	NOTES
8300 TD/SN AND UTILITY WATER SYSTEMS							
P830	MOTOR CONTROL CENTER 8012	TD/SN PUMP 1 P-8311 JUNCTION BOX	1"	3#10, 1#12G	2#14		
P831	MOTOR CONTROL CENTER 8012	TD/SN PUMP 2 P-8312 JUNCTION BOX	1"	3#10, 1#12G	2#14		
C830	MOTOR CONTROL CENTER 8012	TD/SN PUMP 1 P-8311 JUNCTION BOX	1"		10 #14		3 SPARE
C831	MOTOR CONTROL CENTER 8012	TD/SN PUMP 2 P-8312 JUNCTION BOX	1"		10 #14		3 SPARE
C832	MAIN CONTROL PANEL	TD/SN LEVEL SWITCHES JUNCTION BOX	1"		8#14		
8300 CHLORINE CONTACT BASIN AREA							
P801	MOTOR CONTROL CENTER 8012	UTILITY WATER PUMP 1 JB	1"	3#12, 1#12G	2#14		
P802	MOTOR CONTROL CENTER 8012	UTILITY WATER PUMP 2 JB	1"	3#12, 1#12G	2#14		
P803	MOTOR CONTROL CENTER 8012	(E) CHLORINE INJECTION MIXER	1"	3#12, 1#12G	4#14		
P804	MAIN CONTROL PANEL	FIT-6517, 8323 JB	1"	4#12, 1#12G			
P805	MOTOR CONTROL CENTER 8011	(E) IRRIGATION PUMP 1, P-6511	1"	3#12, 1#12G	2#14		
P806	MOTOR CONTROL CENTER 8011	(E) IRRIGATION PUMP 2, P-6512	1"	3#12, 1#12G			
P807	MOTOR CONTROL CENTER 8011	(E) IRRIGATION PUMP 3, P-6513	1"	3#12, 1#12G			
P808	MOTOR CONTROL CENTER 8011	(E) CL2 CONTACT BASIN RESIRC PREV VLV	1"	3#12, 1#12G	6#14		
P809	(E) PULL BOX	(E) CL2 CONTACT BASIN DRAIN PUMP	(E) 1"	3#12, 1#12G	4#14		
P810	MOTOR CONTROL CENTER 8011	(E) PULL BOX	(E) 1"	3#12, 1#12G	7#14		
P811	MOTOR CONTROL CENTER 8012	EHXX	1"				SPARE
P812	MOTOR CONTROL CENTER 8013	EHXX	1"				SPARE
S801	MAIN CONTROL PANEL	FIT-6517, 8323 AND PIT-8324 JB	1"			3#18TSP	
S802	MAIN CONTROL PANEL	SHHX	1"				SPARE
C801	MAIN CONTROL PANEL	SHHX	1"				SPARE
8300 EJECTOR PUMP STATION							
P820	MOTOR CONTROL CENTER 8012	EJECTOR PUMP STATION CONTROL PANEL	1"	3#12, 1#12G			
C820	MAIN CONTROL PANEL	EJECTOR PUMP STATION CONTROL PANEL	1"		8#14		
P821	EJECTOR PUMP STATION CONTROL PANEL	EJECTOR PUMP STATION POWER J-BOX	1"	6#12, 2#12G			
C821	EJECTOR PUMP STATION CONTROL PANEL	EJECTOR PUMP STATION CONTROL J-BOX	1"		8#14		FOR LEVEL SWITCHES
9100 SCADA AND MISCELLANEOUS							
910							
911							
912							

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REGISTERED PROFESSIONAL ENGINEER

JOSUEA B. DELA CRUZ

No. E19470

Exp. 6/30/15

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STATE OF CALIFORNIA

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McKINLEYVILLE COMMUNITY SERVICES DISTRICT

McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants

SANTA ROSA, CALIFORNIA

CONDUIT AND WIRE SCHEDULE - 2

FILE NAME

1368004-E032

JOB NO.

1368004.00

DATE

OCTOBER 2014

SHEET

OF

E032

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DISTRIBUTION PANEL (DP-8021) @ BLOWER, ELECTRICAL AND MAINTANENCE BLDG													
480 VOLTS, THREE PHASE, 3 WIRE				BU S: 100A		AIC: 42KA		MAIN: 100A/3P		MOUNTING: SURFACE			
CKT. NO.	DESCRIPTION	CONNECTED KVA			TRIP AMPS/ POLES	CKT. NO.	DE S C R I P T I O N	CONNECTED KVA			TRIP AMPS/ POLES		
		A	B	C				A	B	C			
1	Aeration Basin 1 Aeration Lateral Valve 1	0.3			20/3	2	Aeration Basin 1 Aeration Lateral Valve 8	0.3			20/3		
3			0.3			4			0.3				
5				0.3		6				0.3			
7		0.3				8		0.3					
9	Aeration Basin 1 Aeration Lateral Valve 2		0.3		20/3	10	Aeration Basin 1 Aeration Lateral Valve 9		0.3		20/3		
11				0.3		12				0.3			
13		0.3				14		0.3					
15			0.3			16			0.3				
17	Aeration Basin 1 Aeration Lateral Valve 3			0.3	20/3	18	Aeration Basin 1 Aeration Lateral Valve 10			0.3	20/3		
19		0.3				20		0.3					
21			0.3			22			0.3				
23				0.3		24				0.3			
25	Aeration Basin 1 Aeration Lateral Valve 5	0.3			20/3	26	Water Heater	1.5			20/3		
27			0.3			28			1.5				
29				0.3		30				1.5			
31		0.3				32							
33	Aeration Basin 1 Aeration Lateral Valve 6		0.3		20/3	34						20/3	
35				0.3		36							
37		0.3				38							
39			0.3			40							
41	Aeration Basin 1 Aeration Lateral Valve 7			0.3	20/3	42					20/3		
PHASE SUBTOTALS (KVA):		2.1	2.1	2.1				2.7	2.7	2.7			
PHASE TOTALS (KVA):								4.8	4.8	4.8			
TOTAL (KVA):											14.4 KVA		
TOTAL (AMPERES):											17 A		

DISTRIBUTION PANEL (DP-8022) @ BLOWER, ELECTRICAL AND MAINTANENCE BLDG												
480 VOLTS, THREE PHASE, 3 WIRE				BU S: 100A		AIC: 42KA	MAIN: 100A/3P	MOUNTING: SURFACE				
CKT. NO.	DESCRIPTION	CONNECTED KVA			TRIP AMPS/ POLES	CKT. NO.	DE S C R I P T I O N	CONNECTED KVA			TRIP AMPS/ POLES	
		A	B	C				A	B	C		
1	Aeration Basin 2 Aeration Lateral Valve 1	0.3			20/3	2	Aeration Basin 2 Aeration Lateral Valve 8	0.3			20/3	
3			0.3			4			0.3			
5				0.3		6				0.3		
7		0.3				8		0.3				
9	Aeration Basin 2 Aeration Lateral Valve 2		0.3		20/3	10	Aeration Basin 2 Aeration Lateral Valve 9		0.3		20/3	
11				0.3		12				0.3		
13		0.3				14		0.3				
15			0.3			16			0.3			
17	Aeration Basin 2 Aeration Lateral Valve 3			0.3	20/3	18	Aeration Basin 2 Aeration Lateral Valve 10			0.3	20/3	
19		0.3				20		0.3				
21			0.3			22			0.3			
23				0.3		24				0.3		
25	Aeration Basin 2 Aeration Lateral Valve 5	0.3			20/3	26					20/3	
27			0.3			28						
29				0.3		30						
31		0.3				32						
33	Aeration Basin 2 Aeration Lateral Valve 6		0.3		20/3	34					20/3	
35				0.3		36						
37		0.3				38						
39			0.3			40						
41	Aeration Basin 2 Aeration Lateral Valve 7			0.3	20/3	42				20/3		
PHASE SUBTOTALS (KVA):		2.1	2.1	2.1				1.2	1.2	1.2		
PHASE TOTALS (KVA):								3.3	3.3	3.3		
TOTAL (KVA):											9.9 KVA	
TOTAL (AMPERES):											12 A	

LIGHTING PANEL (LP-8031) (E) CONTROL BUILDING												
208 /120 VOLTS, THREE PHASE, 4 WIRE				BU S: 225A	AIC: 10KA	MAIN: 200A/3P	MOUNTING: SURFACE					
CKT. NO.	DE S C R I P T I O N	CONNECTED KVA			TRIP AMPS/ POLES	CKT. NO.	DE S C R I P T I O N	CONNECTED KVA			TRIP AMPS/ POLES	
		A	B	C				A	B	C		
1	(E) FLOWMETER @ CL2 BASIN	0.1			20/1	2	(E) CONTROL BLDG LIGHTS	1.0			20/1	
3	(E) RCPTS @ CL2 BASIN		0.4		20/1	4	(E) CONTROL BLDG LIGHTS		1.4		20/1	
5	(E) POLE LIGHTS @ CL2 BASIN			0.2	20/1	6	(E) CONTROL BLDG LIGHTS			1.2	20/1	
7	(E) POLE LIGHTS @ HEADWORKS	0.1			20/1	8	(E) CONTROL BLDG LIGHTS	1.5			20/1	
9	(E) RCPTS @ HEADWORKS		0.2		20/1	10	(E) CONTROL BLDG RCPTS		1.0		20/1	
11	(E) UNIT HEATER, UH-2 FAN			0.4	20/1	12	(E) CONTROL BLDG RCPTS			1.0	20/1	
13	(E) UNIT HEATER, UH-1 FAN	0.4			20/1	14	(E) CONTROL BLDG RCPTS	1.0			20/1	
15	(E) CONTROL BLDG RCPTS		0.6		20/1	16	(E) CONTROL BLDG RCPTS		1.1		20/1	
17	(E) ISLAND COUNTER RCPTS			0.8	20/1	18	(E) CONTROL BLDG RCPTS			1.3	20/1	
19	(E) CL2 DRAIN VAULT RCPT	1.0			20/1	20	(E) CHLORINATOR A 9-1	0.1			20/1	
21	(E) SO2 HEATER RCPT		1.0		20/1	22	(E) CHLORINATOR A 9-2		0.1		20/1	
23	(E) FURNACE FAN			1.2	20/1	24	(E) CHLORINATOR A 9-3			0.1	20/1	
25	MAIN CONTROL PANEL	1.0			20/1	26	(E) CL2 LEAK DETECTOR AG-1	0.2			20/1	
27	OUTSIDE ALARM & F.A.		0.1		20/1	28	(E) CL2 LEAK DETECTOR AG-2		0.2		20/1	
29	CL2 HEATER RCPT			1.0	20/1	30	(E) MAIN C.B. SHUNT TRIP			-	20/1	
31	SPARE	-			20/1	32		0.5			20/3	
33	SPARE	-	-		20/1	34	(E) HOIST		0.5			
35	SPARE	-		-	20/1	36				0.5		
37	SPARE	-		-	20/1	38		0.5			20/3	
39	SPACE		-			40	(E) HOIST		0.5			
41			-	-		42				0.5		
PHASE SUBTOTALS (KVA):		2.6	2.3	3.6				4.8	4.8	4.6		
PHASE TOTALS (KVA):								7.4	7.1	8.2		
TOTAL KVA:											22.7 KVA	
TOTAL AMPERES:											63 A	

LIGHTING PANEL (LP-8032) (E) CONTROL BUILDING												
240 /120 VOLTS, SINGLE PHASE, 3 WIRE				BU S: 200A	AIC: 10KA	MAIN: 100A/2P	MOUNTING: SURFACE					
CKT. NO.	DE S C R I P T I O N	CONNECTED KVA	TRIP AMPS/ POLES	CKT. NO.	DE S C R I P T I O N	CONNECTED KVA	TRIP AMPS/ POLES	CKT. NO.	DE S C R I P T I O N	CONNECTED KVA	TRIP AMPS/ POLES	
1				20/1	2			20/1				20/1
3				20/1	4			20/1				20/1
5				20/1	6			20/1				20/1
7				20/1	8			20/1				20/1
9				20/1	10			20/1				20/1
11				20/1	12			20/1				20/1
13				20/1	14			20/1				20/1
15				20/1	16			20/1				20/1
17				20/1	18			20/1				20/1
19				20/1	20			20/1				20/1
21				20/1	22			20/1				20/1
23				20/1	24			20/1				20/1
PHASE SUBTOTALS (KVA):		0.0							0.0			
TOTAL KVA:									KVA	0.0		
TOTAL AMPERES:									A	0.0		

LIGHTING PANEL (LP-8033) @ BLOWER, ELECTRICAL AND MAINTANENCE BLDG												
208 /120 VOLTS, THREE PHASE, 4 WMRE					BU S: 225A	AIC: 10KA	MAIN: 200A/3P		MOUNTING: SURFACE			
CKT. NO.	DESCRIPTION	CONNECTED KVA			TRIP AMPS/ POLES	CKT. NO.	DE S C R I P T I O N	CONNECTED KVA			TRIP AMPS/ POLES	
		A	B	C				A	B	C		
1		-			20/1	2		-			20/2	
3		-	-		20/1	4	WELDING RECEPTACLE	-	-			
5	ELECTRICAL ROOM LTG/EF-1305/SF-1308			1.1	20/1	6	ELECTRICAL ROOM RECEPTACLE			-	20/1	
7	BLOWER ROOM LIGHTING/EF-1304	0.6			20/1	8	BLOWER ROOM RECEPTACLES	-			20/1	
9	SHOWER ROOM LIGHTING		-		20/1	10	EF-1306		1.4		20/1	
11	WORK BENCH LIGHTING 1			-	20/1	12	WORK BENCH 1 RECEPTACLE			-	20/1	
13	WORK BENCH LIGHTING 2	-			20/1	14	WORK BENCH 2 RECEPTACLE	-			20/1	
15	MAINTENANCE RM INTERIOR LTG/SF-1307		0.8		20/1	16	MAINTENANCE RM/SHOWER RM RECEPTACLES		-		20/1	
17	BUILDING EXTERIOR LIGHTING			-	20/1	18	HTR-1309			1.5	20/1	
19	MAIN CONTROL PANEL	1.0			20/1	20	HTR-1310	1.5			20/1	
21	STBY GEN JACKET WATER HEATER		0.5		20/1	22	CALCIUM HYDROXIDE TOTE MIXERS		2.0		20/1	
23	AERATION BASIN POLE LIGHTS			0.8	20/1	24	CALCIUM HYDROXIDE FIBERGLASS SHELTER			1.0	20/1	
25	SECONDARY CLARIFIER POLE LIGHTS	0.1			20/1	26					20/1	
27	POLE LIGHT RECEPTACLES		1.8		20/1	28					20/1	
29					20/1	30					20/1	
31					20/2	32					20/1	
33						34					20/1	
35					20/2	36					20/1	
37						38					20/1	
39					20/2	40					20/1	
41						42					20/1	
PHASE SUBTOTALS (KVA):		1.7	3.1	1.9				1.5	3.4	2.5		
PHASE TOTALS (KVA):								3.2	6.5	4.4		
TOTAL KVA:						14.1 KVA						
TOTAL AMPERES:						39 A						

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NO.	REVISION	DATE	BY

SCALES

01"25mm

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REGISTERED PROFESSIONAL ENGINEER

JOSEFA B. DELA CRUZ

No. E19470

Exp. 6/30/15

ELECTRICAL

STATE OF CALIFORNIA

DESIGNED

JL/RFB/JEV

DRAWN

JL

CHECKED

TIW/AG

103

McKINLEYVILLE COMMUNITY SERVICES DISTRICT

McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants

SANTA ROSA, CALIFORNIA

FIXTURE SCHEDULE

FILE NAME

1368004-E034

JOB NO.

1368004.00

DATE

OCTOBER 2014

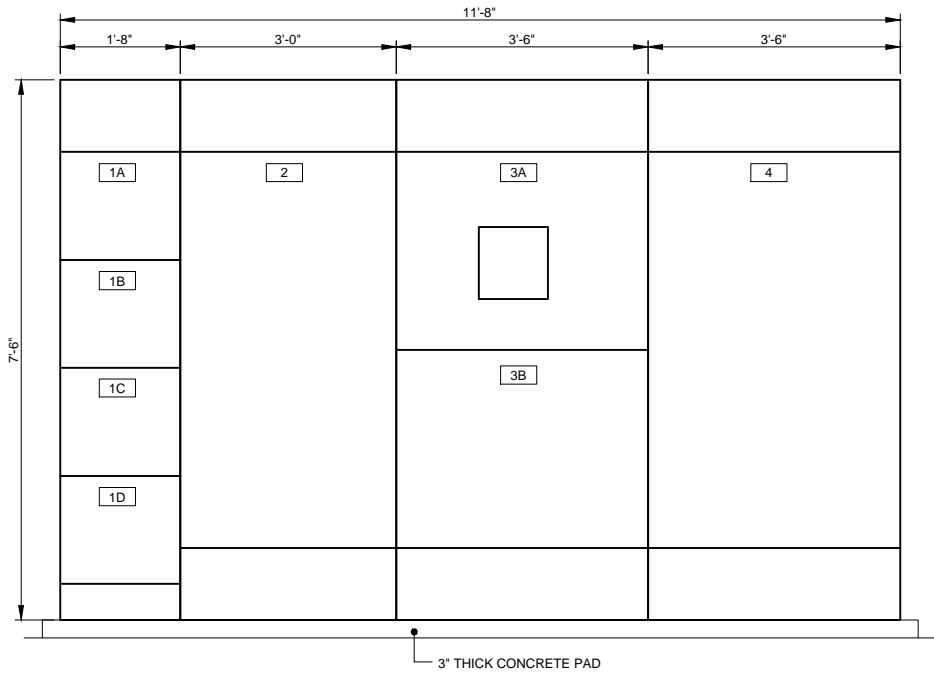
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OF

E034

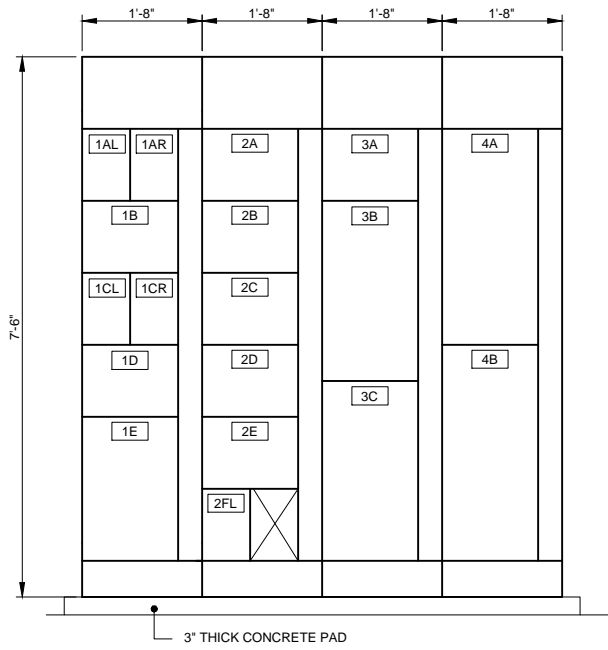
LIGHT FIXTURE SCHEDULE							
FIXTURE TYPE	LAMP			1 Ø VOLTS	MOUNTING ARRANGEMENT	DESCRIPTION	CATALOG NUMBER
	No.	TYPE	WATTS				
A	2	4' LED 40 LUMENS 4000 KELVIN	40	120	PENDANT	LONG-LIFE LED COUPLED WITH HIGH-EFFICIENCY DRIVERS FOR EXTENDED SERVICE LIFE. 50,000 HOURS AT 4000 DEGREES KELVIN.OPTICS ARE VOLUMETRIC ILLUMINATION ACHIEVED BY A MIX OF VERTICAL AND HORIZONTAL WORK SURFACES. SUSPENSION KIT FOR CEILING MOUNT.	LITHONIA LIGHTING STL4 40L D40 LP840 NX EL14L (STACGF) OR EQUAL.
A1	2	4' LED 40 LUMENS 4000 KELVIN	40	120	SURFACE	LONG-LIFE LED COUPLED WITH HIGH-EFFICIENCY DRIVERS FOR EXTENDED SERVICE LIFE. 50,000 HOURS AT 4000 DEGREES KELVIN.OPTICS ARE VOLUMETRIC ILLUMINATION ACHIEVED BY A MIX OF VERTICAL AND HORIZONTAL WORK SURFACES.	LITHONIA LIGHTING STL4 40L D40 LP840 NX EL14L OR EQUAL.
A2	1	LED 800 LUMENS 08L 7.5W 4000K	7.5	120	SURFACE	LONG-LIFE LED COUPLED WITH HIGH-EFFICIENCY DRIVERS FOR EXTENDED SERVICE LIFE. 50,000 HOURS AT 4000 DEGREES KELVIN.OPTICS ARE AN IMPACT MODIFIED LINEAR FACETED REFRACTOR.	LITHONIA LIGHTING WL2 08L EZ1 LP840 OR EQUAL.
B	1	30C LEDs 4000K	70	120	WALL	LED 60,000 HOURS, DIE-CAST SINGLE PIECE ALUMINUM HOUSING, MOLDED ACRYLIC LENS, DARK BRONZE POWDER COAT FINISH. UL LISTED FOR WET LOCATION. PHOTOCCELL ACCESSORIES INCLUDED.	LITHONIA LIGHTING CSXW LED 30C 700 40K T2M 120 BBW PE DDBXD
C	1	SS 64 LED'S TYPE 3, 7000 LUMENS	69	120	POLE	SINGLE LIGHT UNIT, LED COOL WHITE 5000 DEGREES KELVIN. 60,000 TO 100,000 HOURS. ONE-PIECE, DIE-FORMED ALUMINUM. CLEAR TEMPERED OPTICAL GRADE FLAT GLASS LENS. BRONZE FINISH. TAPERED REAR DESIGN FOR ROUND OR SQUARE MOUNT POLES.	LSI INDUSTRIES XASU 3 LED 64 SS CW UE BRZ
C1	2	SS 64 LED'S TYPE 3, 7000 LUMENS	69	120	POLE	DOUBLE LIGHT UNIT, LED COOL WHITE 5000 DEGREES KELVIN. 60,000 TO 100,000 HOURS. ONE-PIECE, DIE-FORMED ALUMINUM. CLEAR TEMPERED OPTICAL GRADE FLAT GLASS LENS. BRONZE FINISH. TAPERED REAR DESIGN FOR ROUND OR SQUARE MOUNT POLES.	LSI INDUSTRIES XASU 3 LED 64 SS CW UE BRZ
EX1	1	LED	2	120	RECESS IN CEILING	EXIT SIGN, SELF-POWERED UNIT WITH MAINTENANCE FREE NICKEL CADMIUM BATTERY POWERED FOR 90 MINUTES, 6" GREEN LETTERS ON CLEAR ACRYLIC PANEL, PUSH-TO-TEST SWITCH AND CHARGING INDICATOR LIGHT, PROVIDE CHEVRON ARROW AS INDICATED ON DRAWING.	HOLOPHANE MAGELLAN ED SERIES MAEDEL-C1-GC (SINGLE FACE) MAEDEL-C2-GC (DOUBLE FACE) OR EQUAL
EX2	1	LED	2	120	RECESS IN WALL	EXIT SIGN, SELF-POWERED UNIT WITH MAINTENANCE FREE NICKEL CADMIUM BATTERY POWERED FOR 90 MINUTES, 6" GREEN LETTERS ON CLEAR ACRYLIC PANEL, PUSH-TO-TEST SWITCH AND CHARGING INDICATOR LIGHT, PROVIDE CHEVRON ARROW AS INDICATED ON DRAWING.	HOLOPHANE MAGELLAN ED SERIES MAEDEL-W1-GC OR EQUAL

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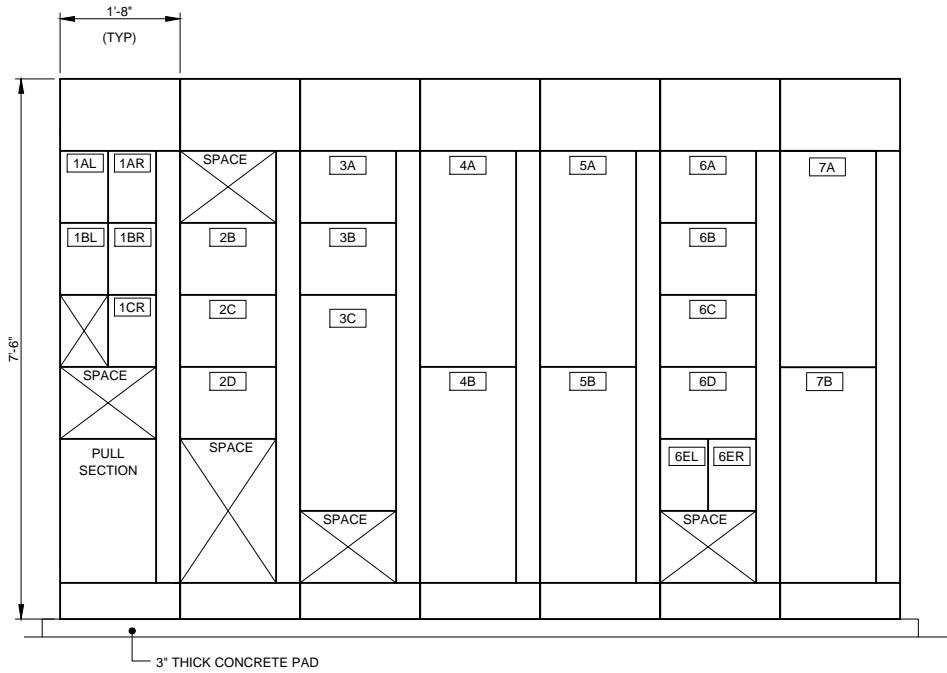
MAIN SWITCHBOARD MSB-8010 1
E035
0 1 2
3/4"=1'-0"

MAIN SWITCHBOARD (MSB-8010) NAMEPLATE SCHEDULE	
NO.	DESCRIPTION
1A	SURGE PROTECTION DEVICE
1B	MCC-8011 CIRCUIT BREAKER
1C	MCC-8012 CIRCUIT BREAKER
1D	SPACE
2	AUTOMATIC TRANSFER SWITCH
3A	UTILITY COMPARTMENT
3B	MAIN BREAKER
4	PULL SECTION



MCC-8011 2
E035
0 1 2
3/4"=1'-0"

MCC (MCC-8011) NAMEPLATE SCHEDULE	
NO.	DESCRIPTION
1AL	XFMR 8031 CIRCUIT BREAKER
1AR	XFMR 8032 CIRCUIT BREAKER
1B	(E) AIR COMPRESSOR CP-6515
1CL	(E) HILLER ROAD LIFT STATION PUMP 1, P-111
1CR	(E) HILLER ROAD LIFT STATION PUMP 2, P-112
1D	(E) CHLORINE INJECTION MIXER, MIX-6043
1E	MAIN BREAKER
2A	(E) IRRIGATION PUMP 1, P-6511
2B	(E) IRRIGATION PUMP 2, P-6512
2C	(E) IRRIGATION PUMP 3, P-6513
2D	(E) CHLORINE CONTACT BASIN RECIRCULATION PREVENTION VALVE
2E	(E) DRAIN PUMP
2FL	(E) POND STATION #4 PUMP STATION RECIRCULATION PREVENTION VALVE
3A	(E) RECIRCULATION PUMP
3B	(E) IRRIGATION STORAGE PUMP 1, P-6521
3C	(E) IRRIGATION STORAGE PUMP 2, P-6522
4A	SECONDARY CLARIFIER SLUDGE COLLECTOR 1, COL-4410
4B	SECONDARY CLARIFIER SLUDGE COLLECTOR 2, COL-4420



MCC-8012 3
E035
0 1 2
3/4"=1'-0"

MCC (MCC-8012) NAMEPLATE SCHEDULE	
NO.	DESCRIPTION
1AL	XFMR 8033 CIRCUIT BREAKER
1AR	SERVICE AIR COMPRESSOR CP-1301
1BL	DISTRIBUTION PANELBOARD DP-8021
1BR	DISTRIBUTION PANELBOARD DP-8022
1CL	SPARE
1CR	(F) GRIT SYSTEM
2A	
2B	SUPERNATANT PUMP 1, P-8311
2C	SUPERNATANT PUMP 2, P-8312
2D	SECONDARY CLARIFIER SCUM PUMP P-4414
3A	UTILITY WATER PUMP 1, P-8321
3B	UTILITY WATER PUMP 2, P-8322
3C	WAS PUMP P-4611
4A	RAS PUMP 1, P-4511
4B	RAS PUMP 2, P-4512
5A	RAS PUMP 3, P-4513
5B	RAS PUMP 4, P-4514
6A	AERATION BLOWER 1, BLO-4311
6B	AERATION BLOWER 2, BLO-4312
6C	AERATION BLOWER 3, BLO-4313
6D	(F) AERATION BLOWER 4, BLO-4314
6EL	EJECTOR PUMP CONTROL PANEL CIRCUIT BREAKER (P8331, P8332)
6ER	MECHANICAL SCREEN CONTROL PANEL
7A	SECONDARY EFFLUENT PUMP 1, P4451
7B	SECONDARY EFFLUENT PUMP 2, P4452

NOTES:

1. BUCKETS 7A AND 7B SHALL BE SIZED FOR FUTURE 30 HP PUMPS.

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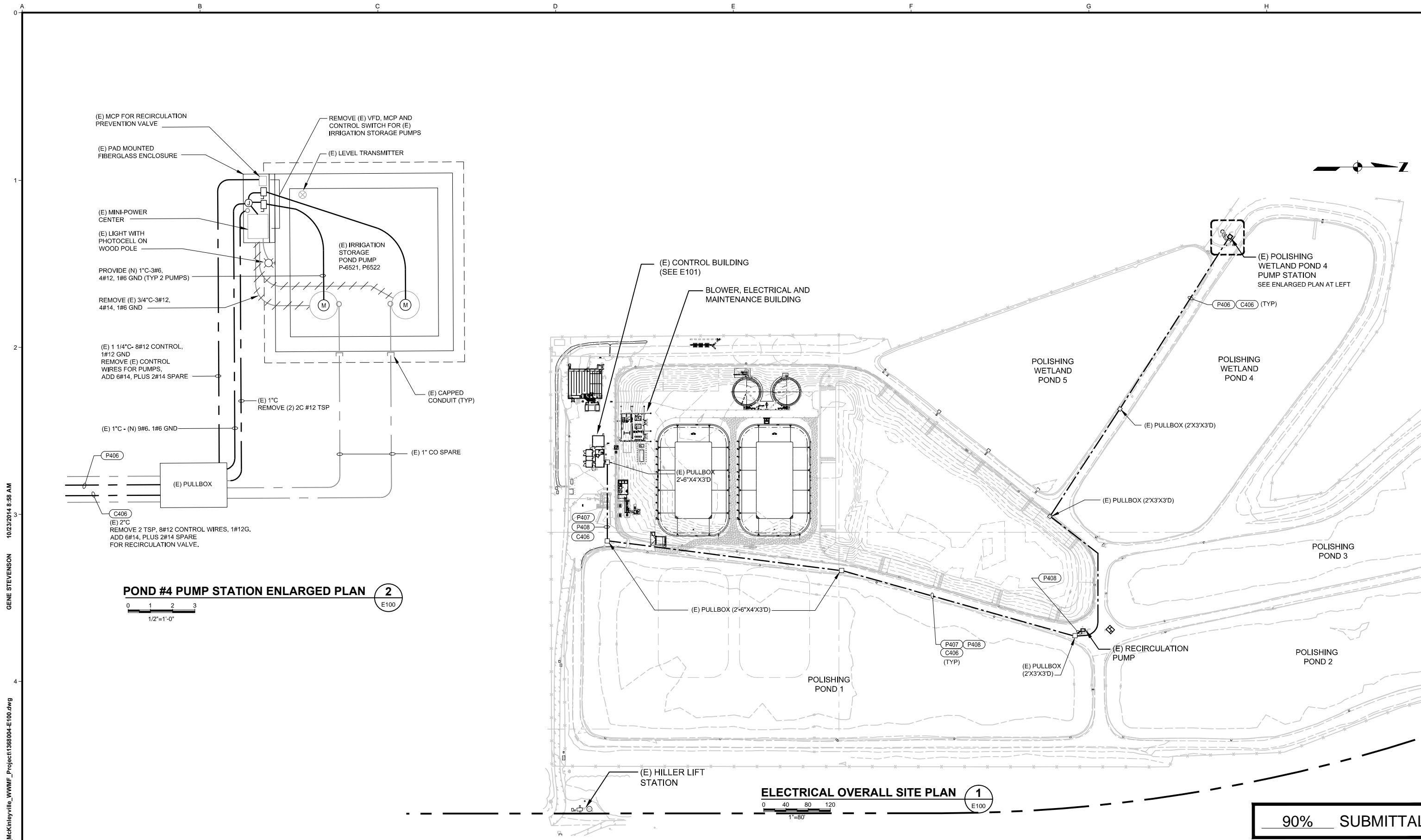
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

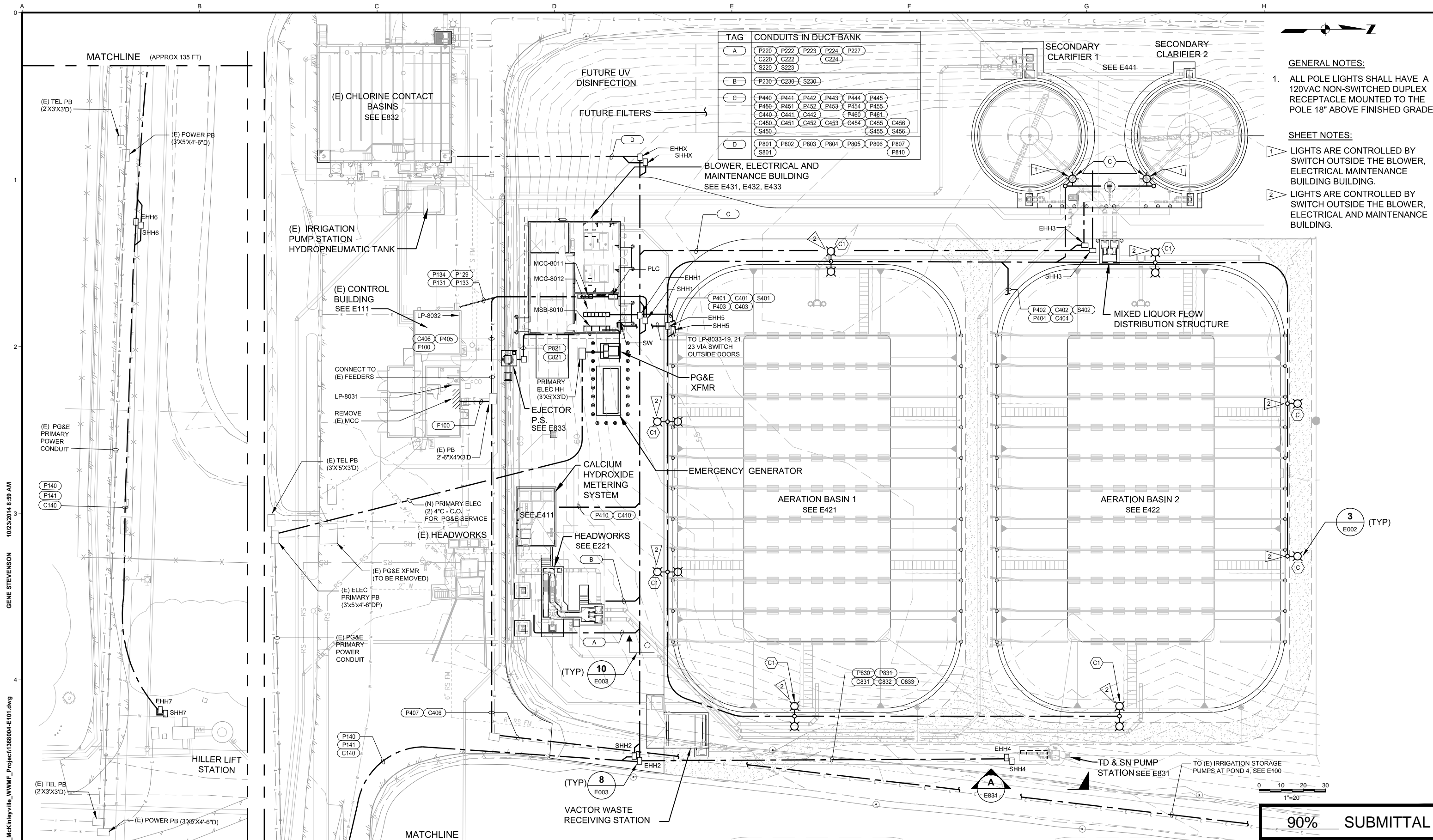
Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

SWITCHBOARD AND MCC ELEVATIONS AND SCHEDULES

FILE NAME	1368004-E035
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
E035	



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		NO.	REVISION	DATE	BY													
SCALES																		
0 1" 25mm																		
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.																		
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CHECKED TIW/AG	105				DATE OCTOBER 2014	SHEET OF	E100											



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NO.	REVISION	DATE	BY

SCALES

0" = 1"

0" = 25mm

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

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JBC/PAR/TIW

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JL/JEV

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TIW/AG

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

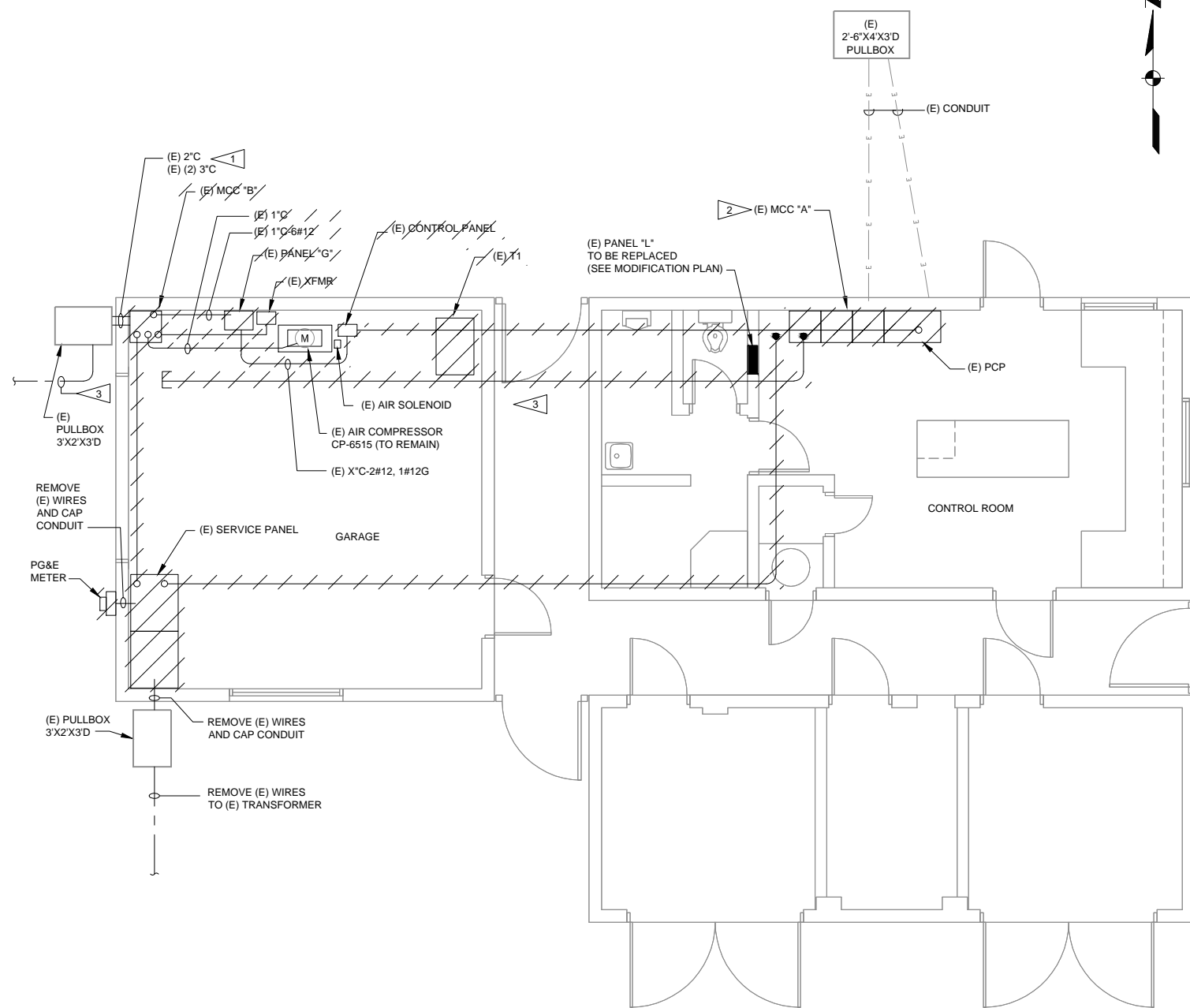
ELECTRICAL SITE PLAN

FILE NAME
1368004-E101

JOB NO.
1368004.00

DATE
OCTOBER 2014

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E101



CONTROL BUILDING -DEMOLITION PLAN

0 2' 4' 8'

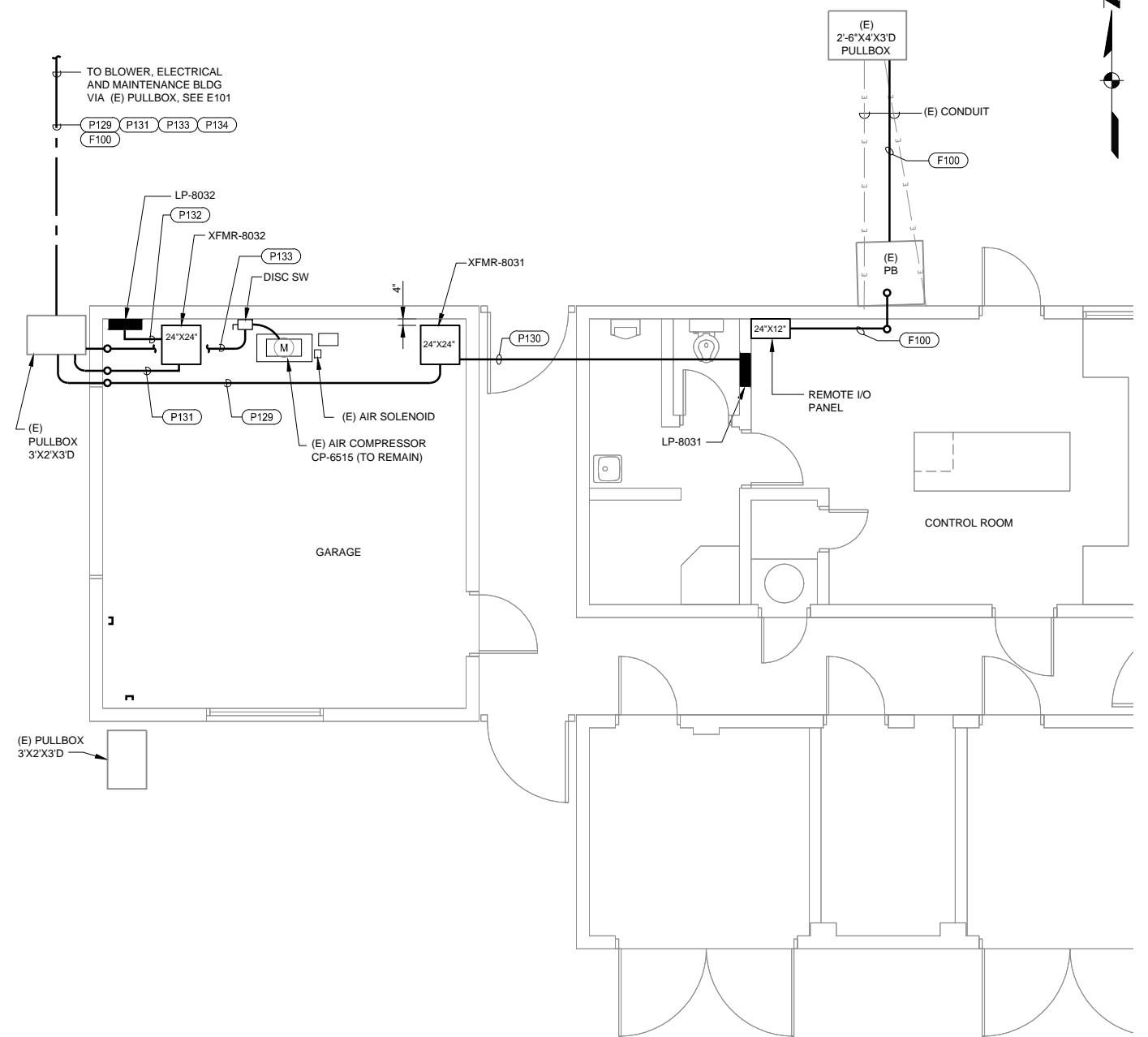
SCALE: 1/4"=1'-0"

E111

- ## SHEET NOTES:
- 1 REMOVE (E) WIRES IN (E) CONDUITS, ABANDON CONDUITS IN PLACE. FOR REUSE SEE MODIFICATIONS PLAN.
 - 2 SEE NOTES 3 & 4 ON SHEET E010.
 - 3 REMOVE (E) WIRES FROM (E) MCC-A TO (E) CHLORINE CONTACT BASIN RECIRCULATION VALVE.
REMOVE (E) CONDUIT WITHIN (E) CONTROL BUILDING FOR (E) CHLORINE CONTACT BASIN RECIRCULATION VALVE.
ROUTE (E) CONDUIT TO (E) 3'X2'X3'D PULLBOX AS SPARE. SEE SHEET E832 FOR (N) CONDUIT AND WIRE ROUTE FOR THE VALVE.

GENERAL NOTE:

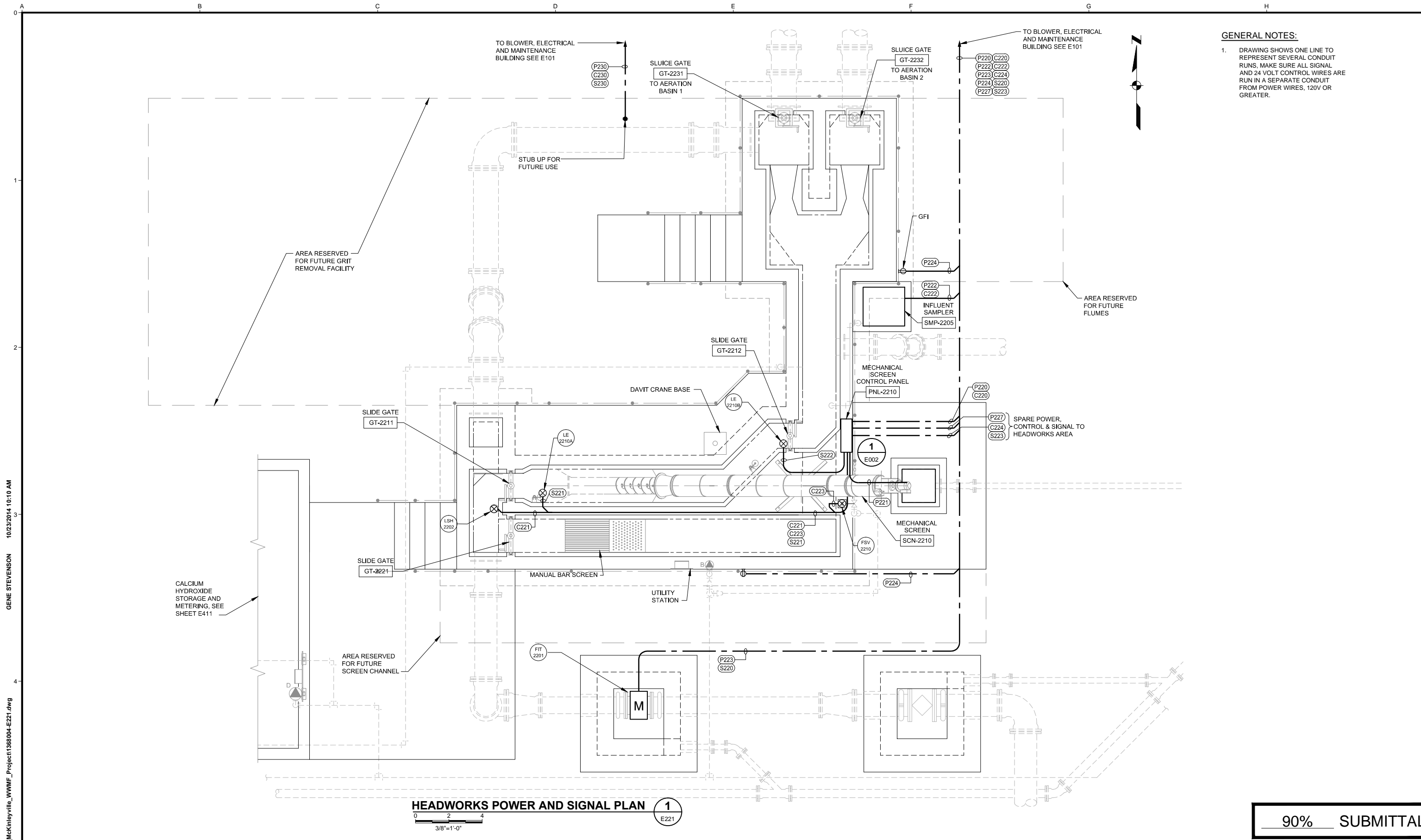
1. CONDUIT IN CONTROL ROOM SHALL BE CONCEALED ABOVE THE CEILING AND IN THE WALLS. ELSEWHERE, CONDUIT MAY BE EXPOSED.



CONTROL BUILDING - MODIFICATIONS PLAN 1
E111

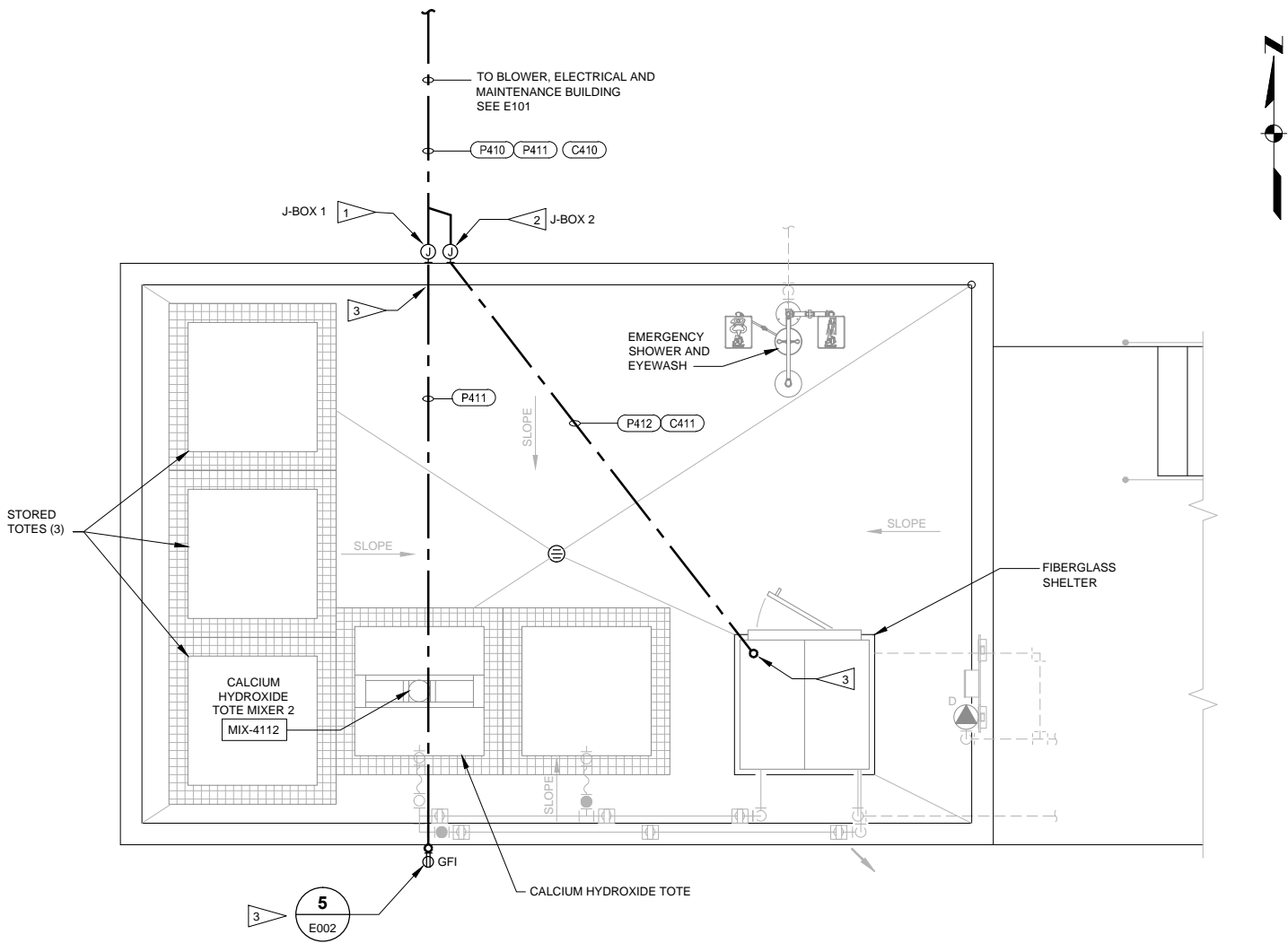
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	JBC/JL	JOB NO.	1368004-00								
	DRAWN	DATE	OCT 2014								
	JL	WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS									
	CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA					SHEET	OF			
TW/AGS				E111							



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							DRAWN JEV			JOB NO. 1368004.00
							CHECKED TIW/AG			DATE OCTOBER 2014
	NO.	REVISION	DATE	BY			108			SHEET OF E221

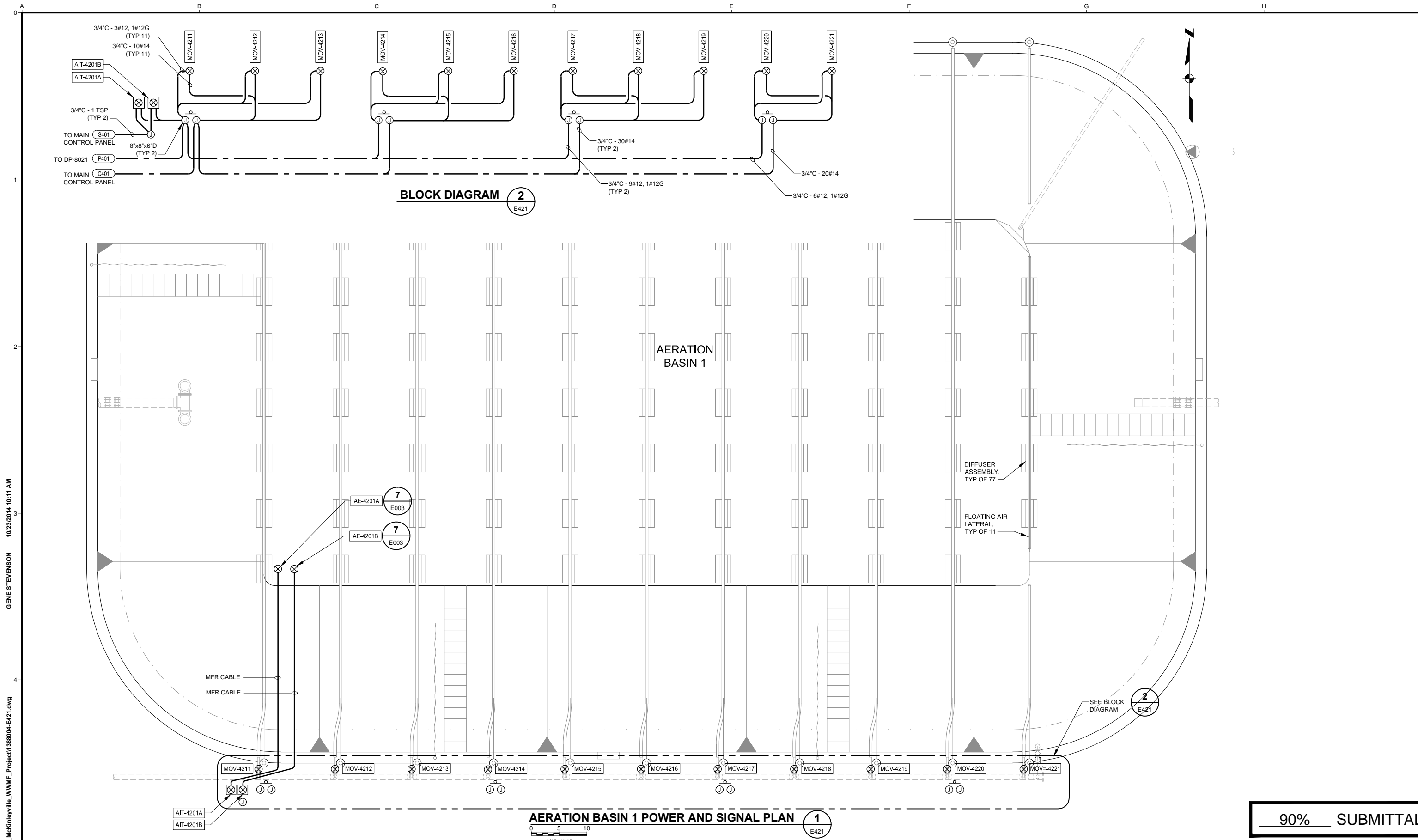
\\Eug\cad\CAD\2013\1368004_00_McKinleyville_WWTF_Project\1368004-E411.dwg 10/23/2014 8:59 AM GENE STEVENSON



CALCIUM HYDROXIDE STORAGE AND METERING PLAN 1
0 2 4
3/8"=1'-0" E411

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							DRAWN JL			JOB NO. 1368004.00
							CHECKED TIW/AG			DATE OCTOBER 2014
	NO.	REVISION	DATE	BY			109			SHEET OF E411



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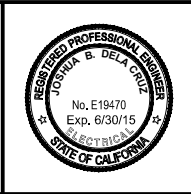
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NO.	REVISION	DATE	BY	

SCALES

0 1" 10

0 25mm

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



DESIGNED	JBC
DRAWN	RFB
CHECKED	
TIW/AG	110

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

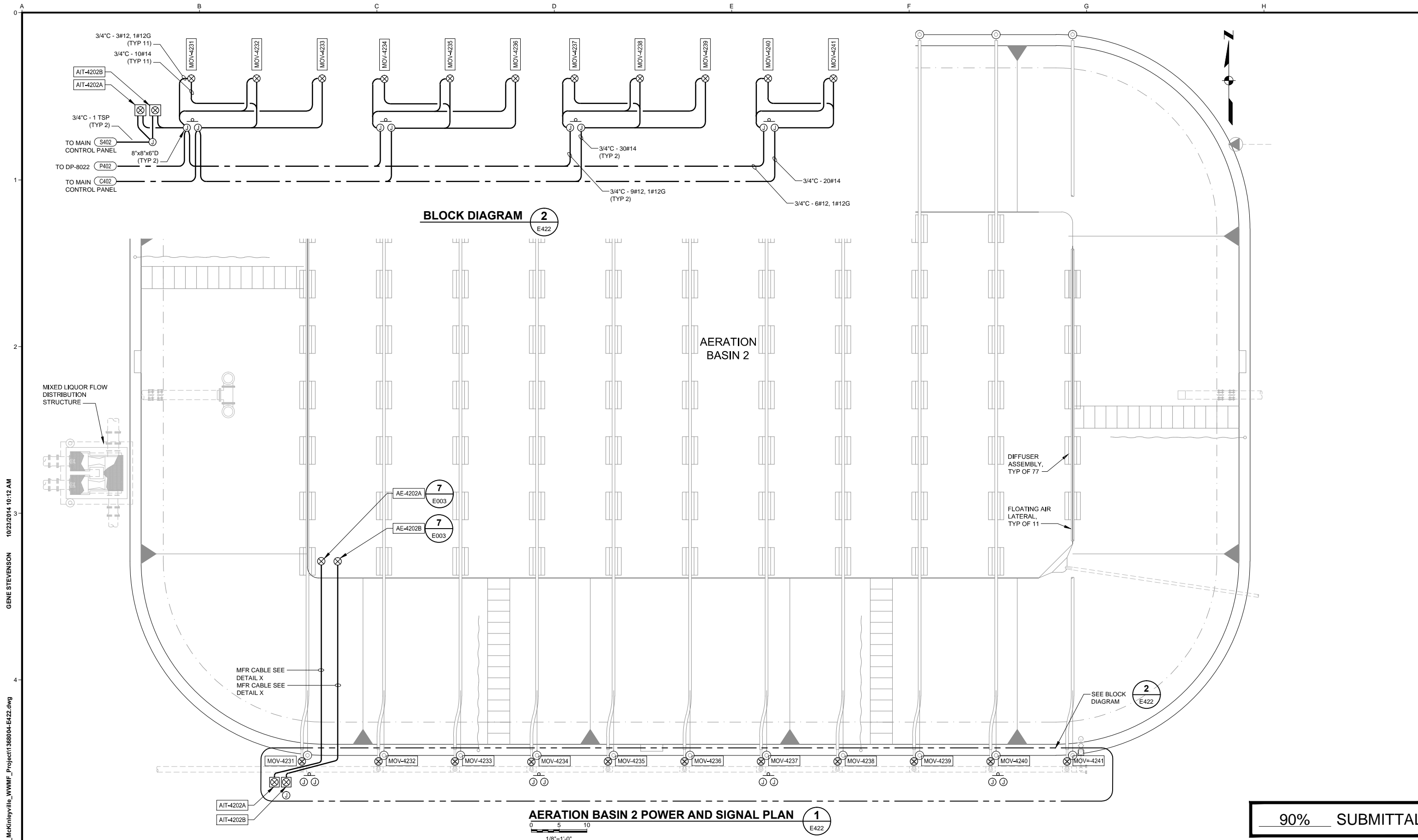
WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

**AERATION BASIN 1
POWER AND SIGNAL PLAN**

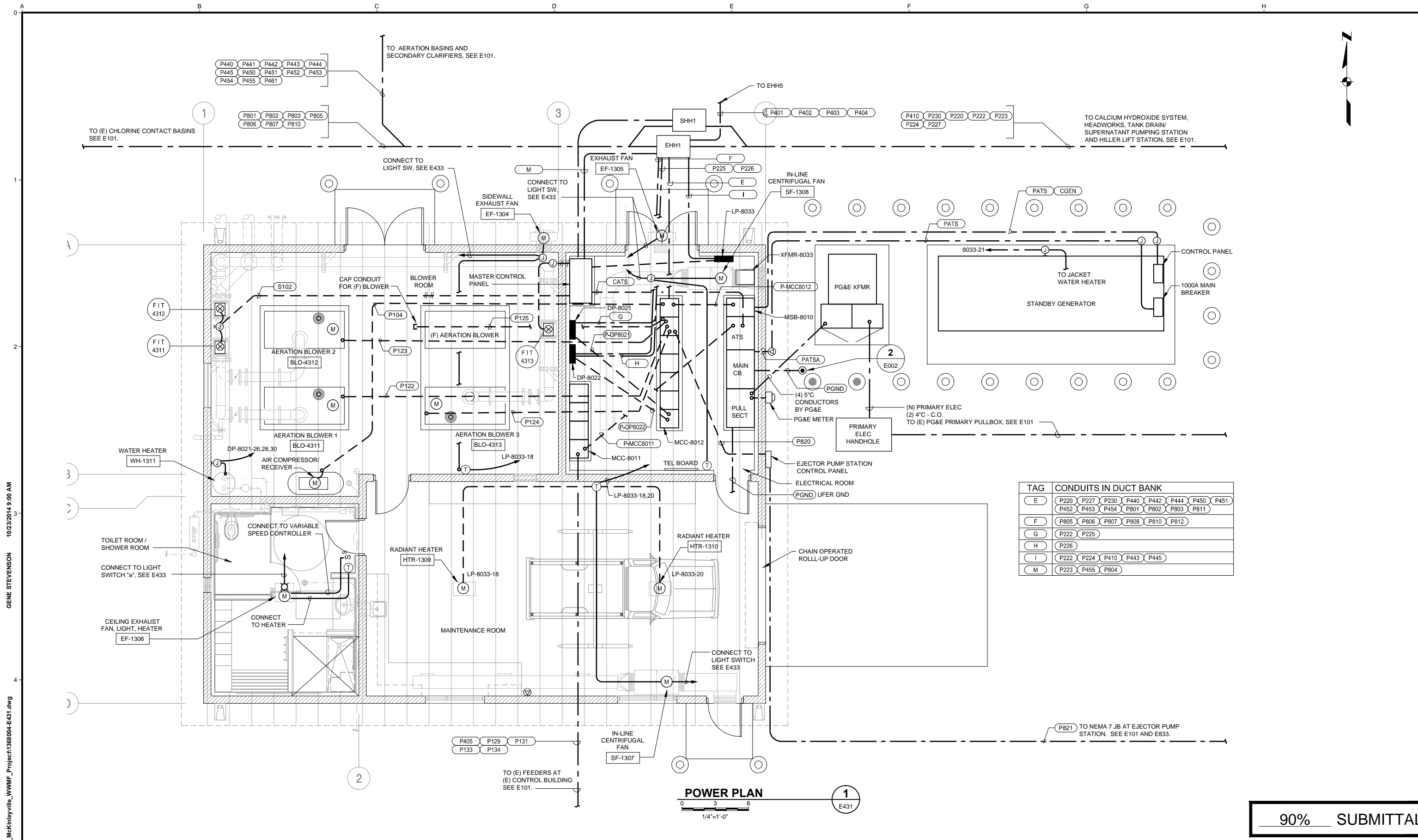
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JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
E421	

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							JOB NO. 1368004.00			
							DATE OCTOBER 2014			
							SHEET OF E422			
	NO.	REVISION	DATE	BY			CHECKED TIW/AG			



TAG	CONDUITS IN DUCT BANK									
E	P220	P227	P230	P440	P442	P444	P450	P451	P452	P453
F	P805	P806	P807	P808	P810	P812				
G	P222	P225								
H	P226									
I	P222	P224	P410	P443	P445					
M	P223	P455	P804							

POWER PLAN

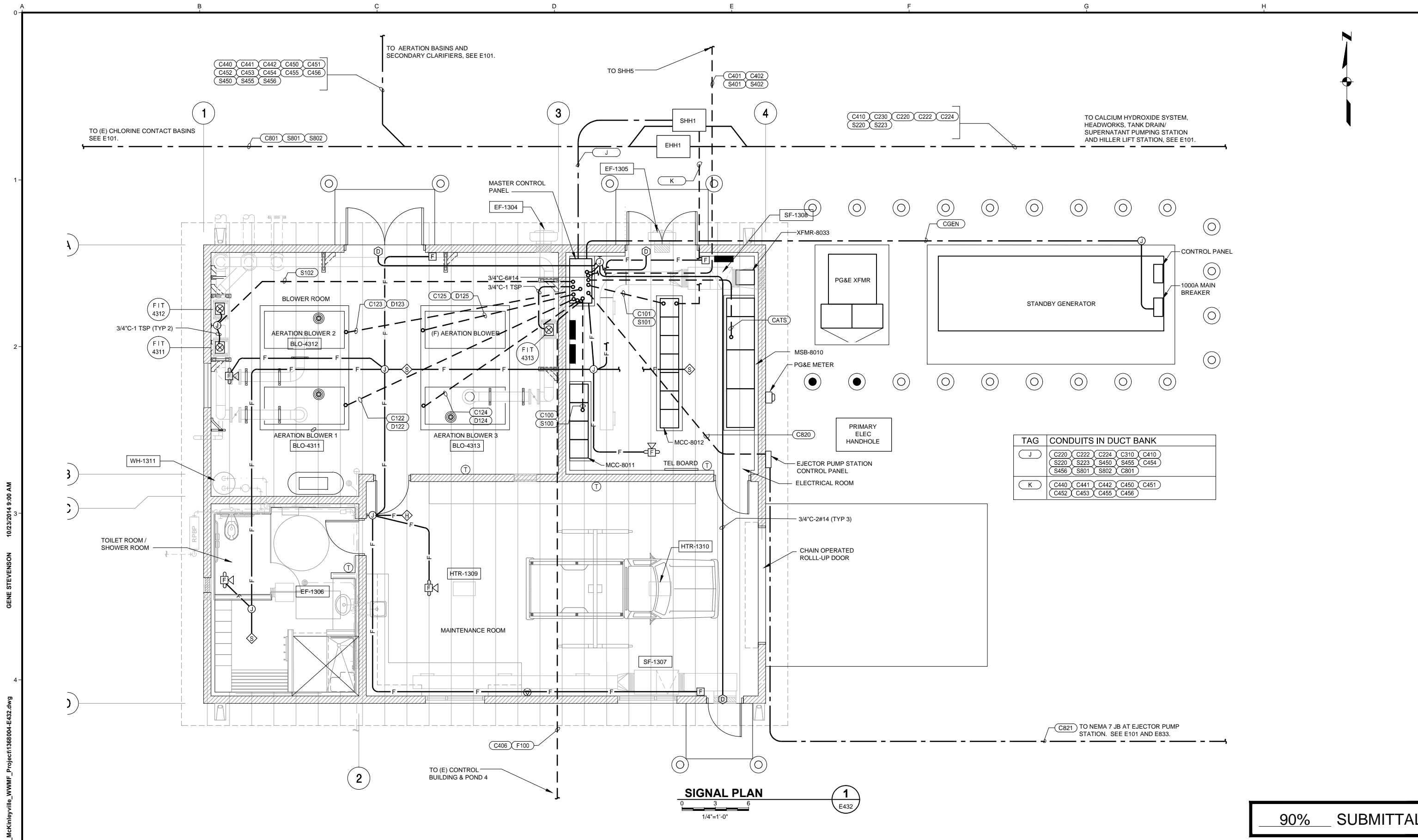
0 3 6
1/4"=1'-0"

1
E431

90% SUBMITTAL

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								DRAWN JL			JOB NO. 1368004.00		
								CHECKED TIW/AG			DATE OCTOBER 2014		
								112	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA				SHEET OF
													E431



TAG	CONDUITS IN DUCT BANK					
J	C220	C222	C224	C310	C410	
	S220	S223	S450	S455	C454	
	S456	S801	S802	C801		
K	C440	C441	C442	C450	C451	
	C452	C453	C455	C456		

SIGNAL PLAN

1
E432

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NO.	REVISION	DATE	BY

SCALES

0" = 1"

0" = 25mm

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DESIGNED
JBC

DRAWN
JL

CHECKED
TIW/AG

113

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

BLOWER, ELECTRICAL AND MAINTENANCE BUILDING SIGNAL PLAN

FILE NAME
1368004-E432

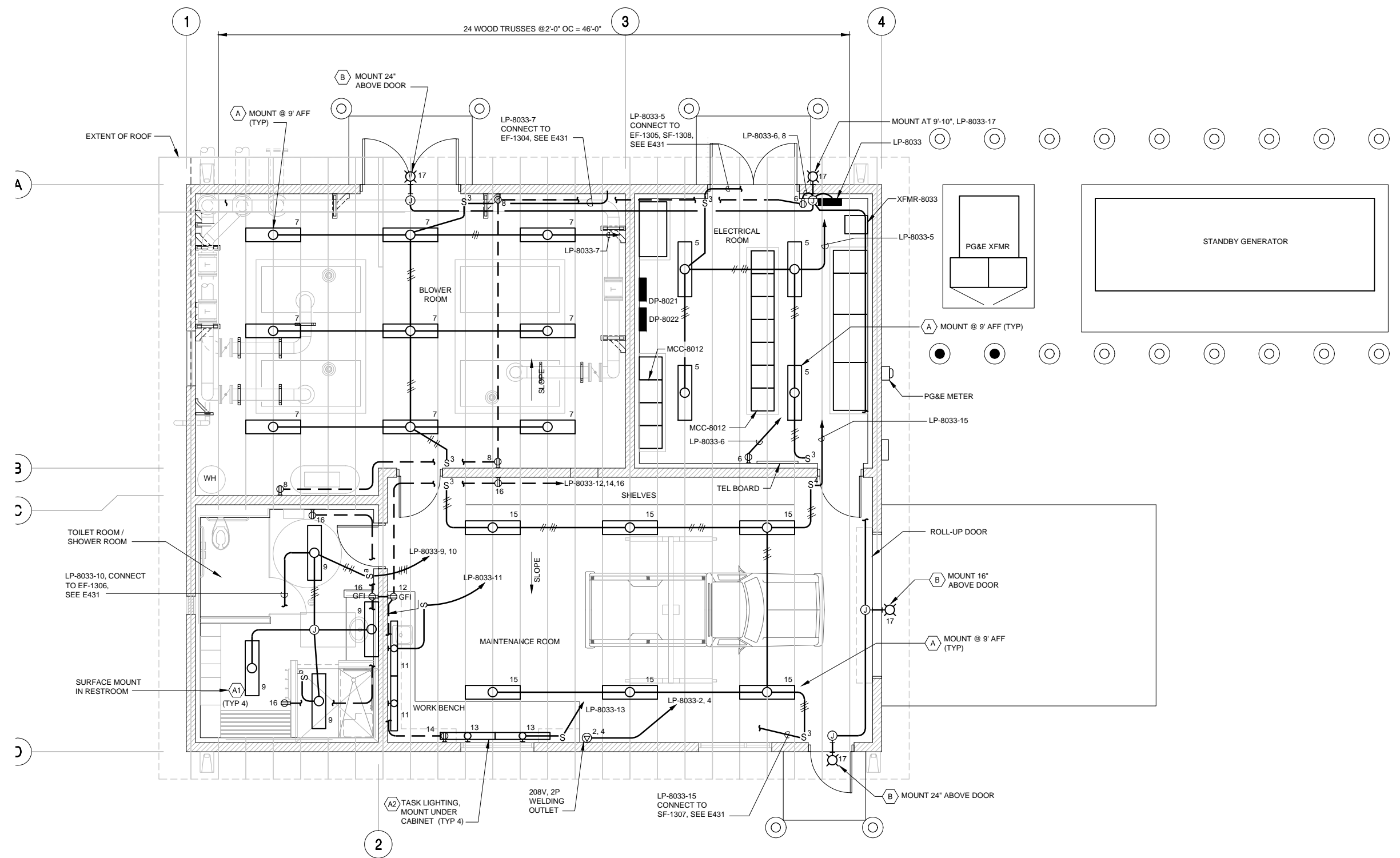
JOB NO.
1368004.00

DATE
OCTOBER 2014

SHEET
OF

E432

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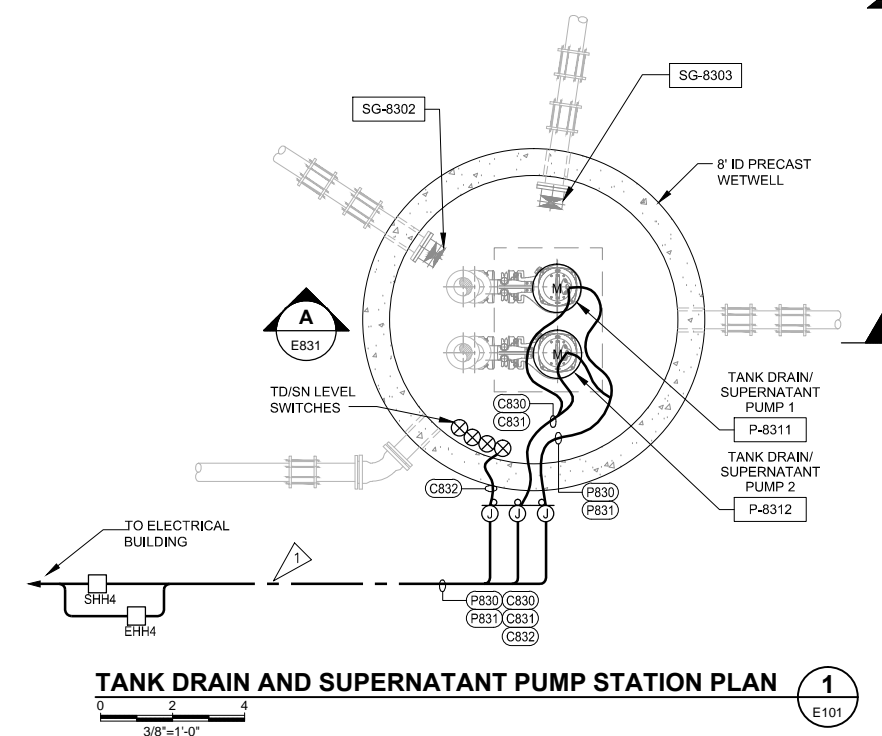


LIGHTING PLAN
1
E433
1/4"=1'-0"

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						JL			1368004-E433
						JL			JOB NO.
									1368004.00
									DATE
									OCTOBER 2014
									SHEET OF
									E433
NO.	REVISION	DATE	BY			TIW/AG	114		

DRAWING SHOWS ONE LINE TO REPRESENT SEVERAL CONDUIT RUNS. MAKE SURE ALL SIGNAL AND 24 VOLT CONTROL WIRES ARE RUN IN A SEPARATE CONDUIT FROM POWER WIRES, 120V OR GREATER.




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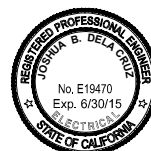
NO.	REVISION	DATE	BY

SCALES

0 1"

0  25mm

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

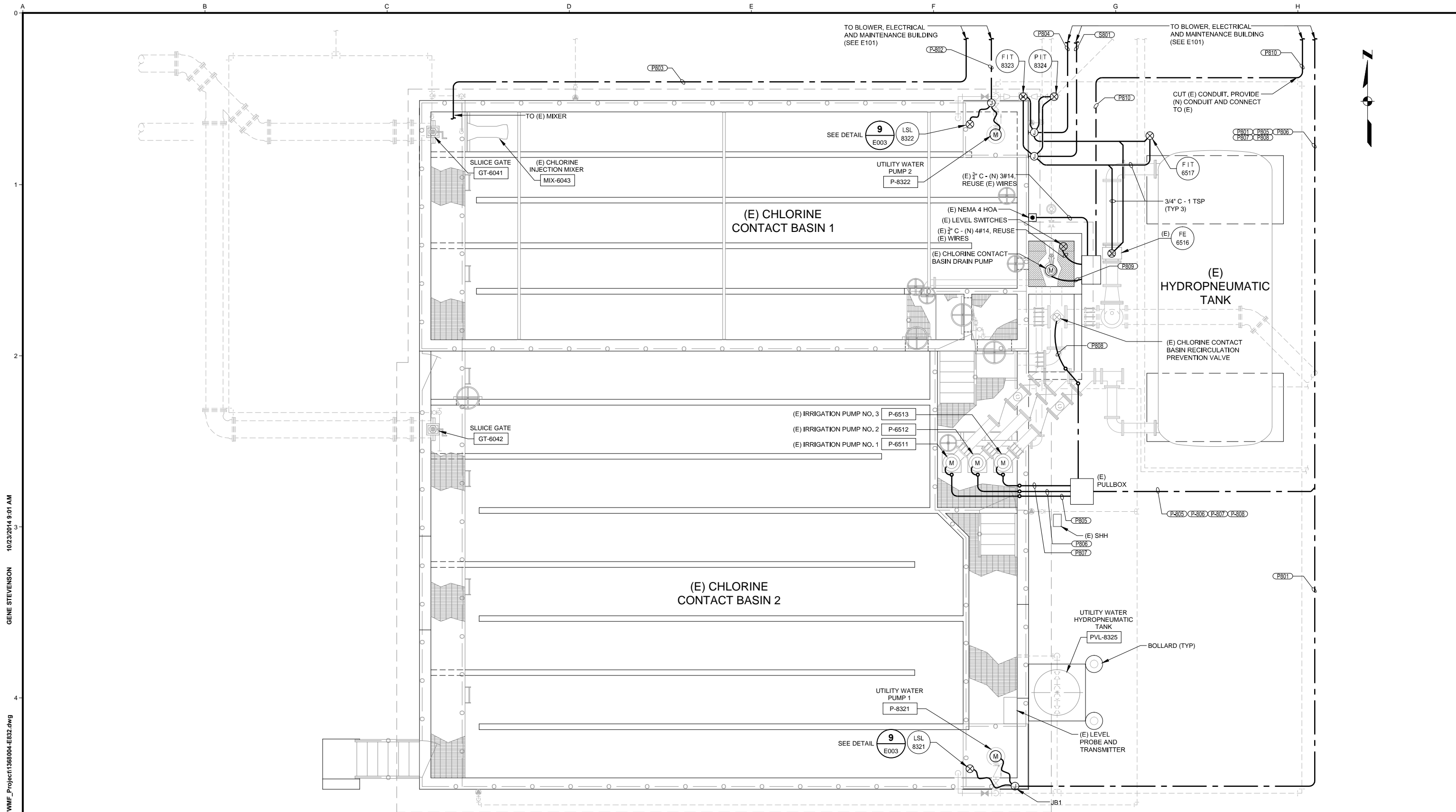


DESIGNED	PAB
DRAWN	JEV
CHECKED	TIW/A

WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

FILE NAME	1368004-E831
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
E831	

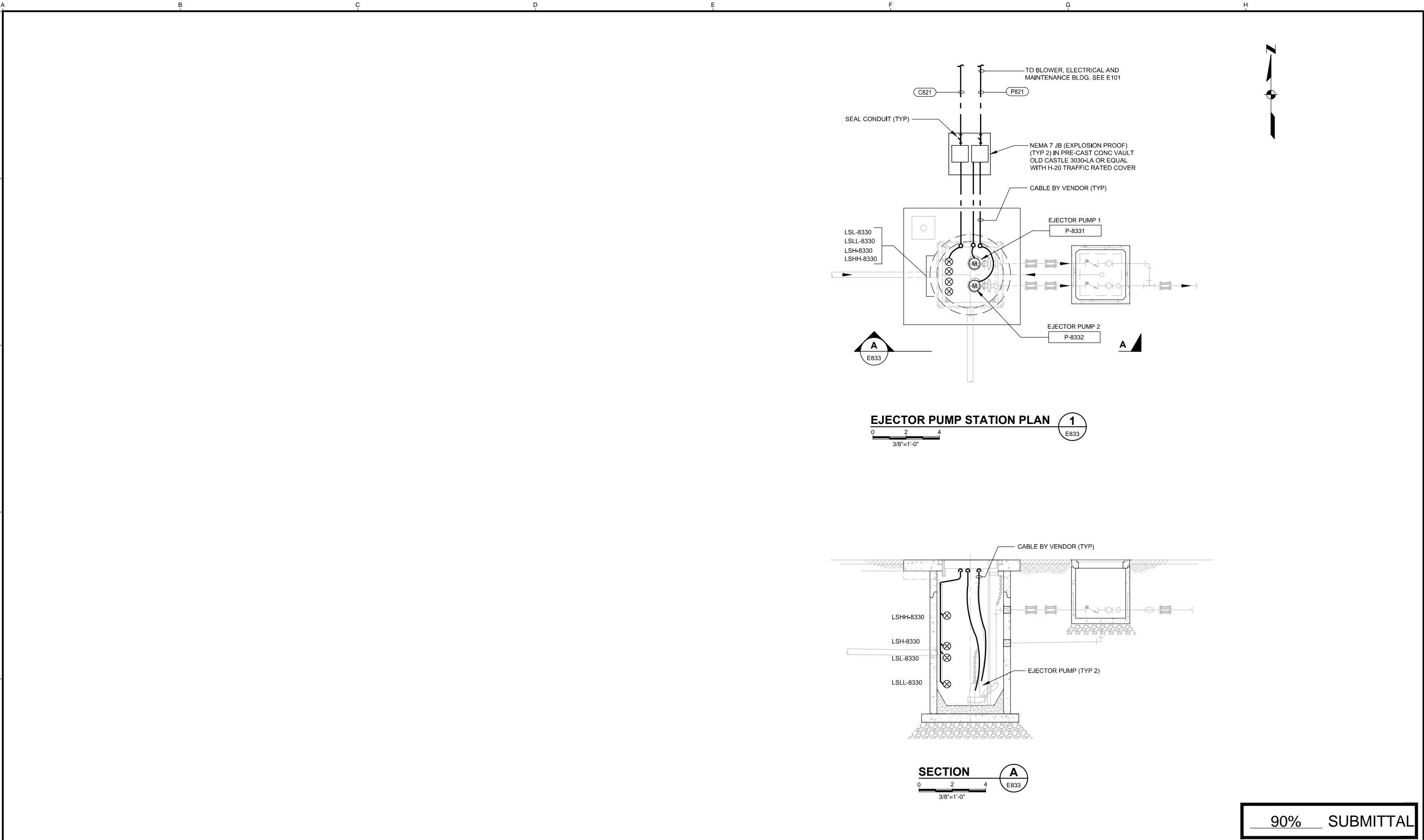


CHLORINE CONTACT BASIN AND UTILITY WATER PUMPING PLAN 1
E832

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	JBC	1368004-E832								
	DRAWN	WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS	JOB NO.							
	RFB		1368004.00							
	CHECKED		DATE							
TIW/AG	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	OCTOBER 2014								
117									SHEET	
									E832	

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							DRAWN JL			JOB NO. 1368004.00
							CHECKED TIW/AG			DATE OCTOBER 2014
	REVA NO.	DESCRIPTION REVISION	VALUE DATE	BY BY			118			SHEET E833 OF

FLOW PRIMARY ELEMENTS	
	ORIFICE PLATE
	SINGLE PORT PITOT
	TUBE OR PITOT-VENTURI TUBE VENTURI TUBE
	AVERAGING PITOT TUBE
	FLUME
	WEIR
	TURBINE OR PROPELLER-TYPE PRIMARY ELEMENT
	THERMAL MASS FLOWMETER
	POSITIVE DISPLACEMENT TYPE FLOW TOTALIZING INDICATOR
	VORTEX SENSOR
	TARGET TYPE SENSOR
	FLOW NOZZLE
	MAGNETIC FLOWMETER
	SONIC FLOWMETER
	ROTAMETER
	ROTAMETER WITH INTEGRAL VALVE
	FLOAT LEVEL ELEMENT

LINES	
	MAIN PROCESS
	SECONDARY PROCESS
	TERTIARY
	REFERENCES ENTERING OR LEAVING SHEET
	LINE CONTINUATION TO OR FROM DRAWING REFERENCE
	PIPE SYSTEM (SEE PIPE SCHEDULE SHEET G005)
	PIPE SIZE IN INCHES
	ELECTRICAL SIGNAL
	SOFTWARE OR DATALINK
	PNEUMATIC
	HYDRAULIC
	CAPILLARY TUBE
	ELECTROMAGNETIC OR SONIC (GUIDED)

MECHANICAL		ELECTRICAL	
	OR		CONNECTED
			NOT CONNECTED

MISCELLANEOUS	
	FLANGE
	UNION
	Y STRAINER
	FLOW STRAIGHTENING VANE
	TEE
	SCREWED CAP
	QUICK DISCONNECT
	WELDED CAP
	BLIND FLANGE
	REDUCER
	HOSE BIBB CONNECTION
	DIAPHRAGM SEAL
	ANNULAR SEAL
	RUPTURE DISK, PRESSURE
	RUPTURE DISK, VACUUM
	PURGE
	CONNECTOR PLUG
	ADJUSTABLE FREQUENCY DRIVE
	INJECTOR
	DRAIN
	THERMOMETER WELL
	SAMPLER
	INTERLOCK. NUMBER IS THE CROSS REFERENCE TO A SPECIFIC ELEMENTARY DIAGRAM OR TO A SPECIFIC CONTROL STRATEGY DESCRIBED IN THE SPECS
	EXPANSION JOINT
	FLEXIBLE COUPLING
	FLANGED COUPLING ADAPTER
	SLUICE GATE OR SLIDE GATE
	• AV - AIR VALVE
	F - FILTER
	T - TRAP
	FH - FIRE HYDRANT
	WATER LINE
	GRAVITY FLOW
	AIR RELIEF VALVE
	AIR RELEASE
	LEVEL PROBE
	CHEMICAL DIFFUSER
	STATIC MIXER
	CALIBRATION CYLINDER
	PULSATION DAMPER
	INDICATOR LIGHT

EQUIPMENT

SCREEN

DIFFUSER

(M) MIXER

(M) PROPPELLER PUMP

(M) VERTICAL TUBINE PUMP

(C) BLOWER

(C) PUMP

[L] METERING PUMP

[W] PUMP PROGRESSIVE CAVITY

[R] ROTARY PUMP

[P] PRS PUMP

[S] SUBMERSIBLE PUMP

[M] SUBMERSIBLE PUMP

DU DRIVE UNIT

[X] GATE - NORMALLY CLOSED

[O] GATE - NORMALLY OPEN

NOTES:

- THIS IS A GENERALIZED LEGEND SHEET. THIS CONTRACT MAY NOT USE ALL INFORMATION SHOWN.
- INFORMATION SHOWN MAY NOT BE ALL INCLUSIVE. SEE ALSO ISA S5.1, S5.3 AND S7.3.
- INSTRUMENTS MARKED WITH AN ASTERISK ARE FURNISHED WITH THE EQUIPMENT.
- REFER TO ISA RP7.7 FOR INSTRUMENT AIR QUALITY STANDARDS.

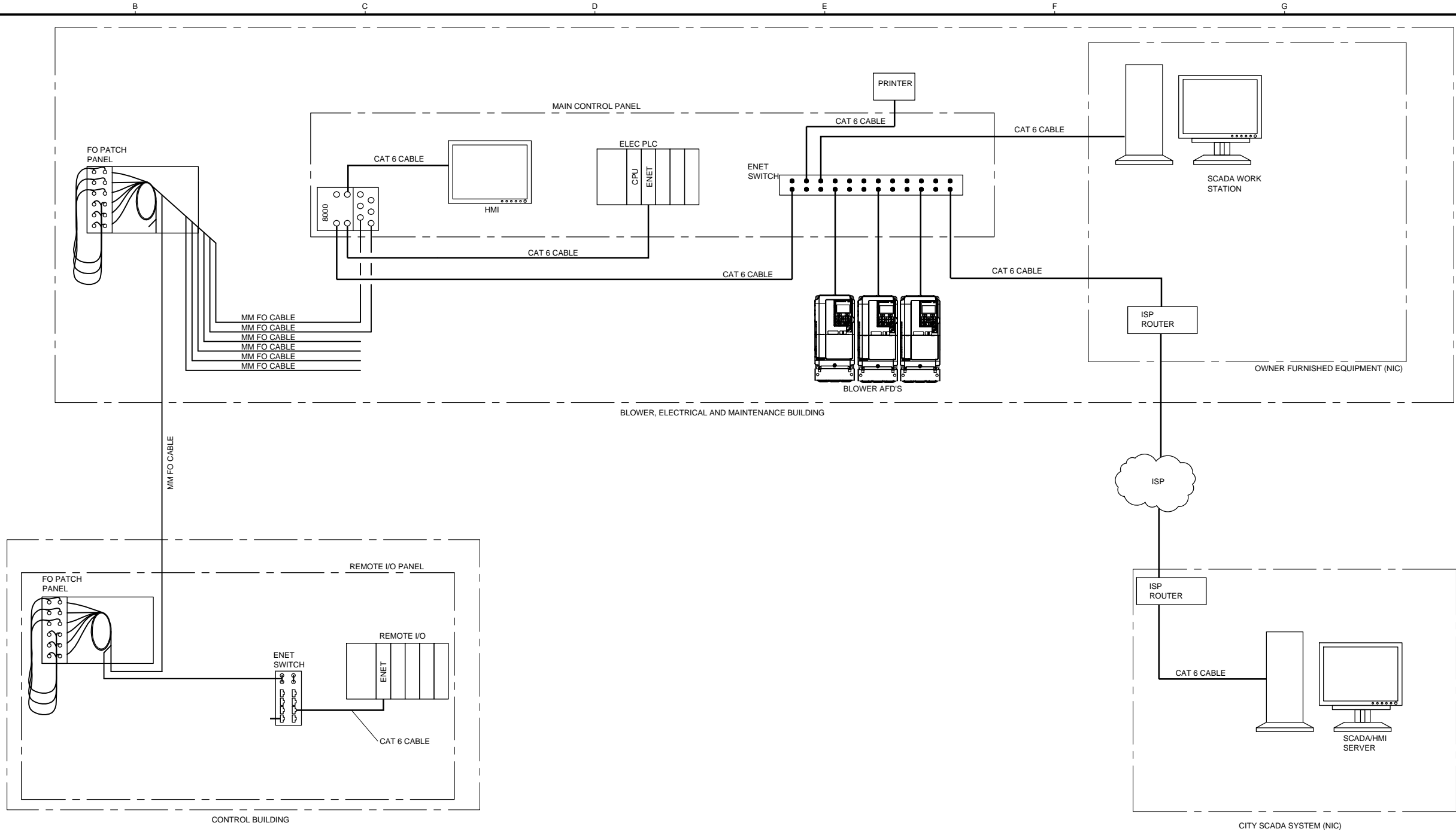
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2. INFORMATION SHOWN MAY NOT BE ALL INCLUSIVE. SEE ALSO ISA S5.1, S5.3 AND S7.3.
3. INSTRUMENTS MARKED WITH AN ASTERISK ARE FURNISHED WITH THE EQUIPMENT.
4. REFER TO ISA RP7.7 FOR INSTRUMENT AIR QUALITY STANDARDS.

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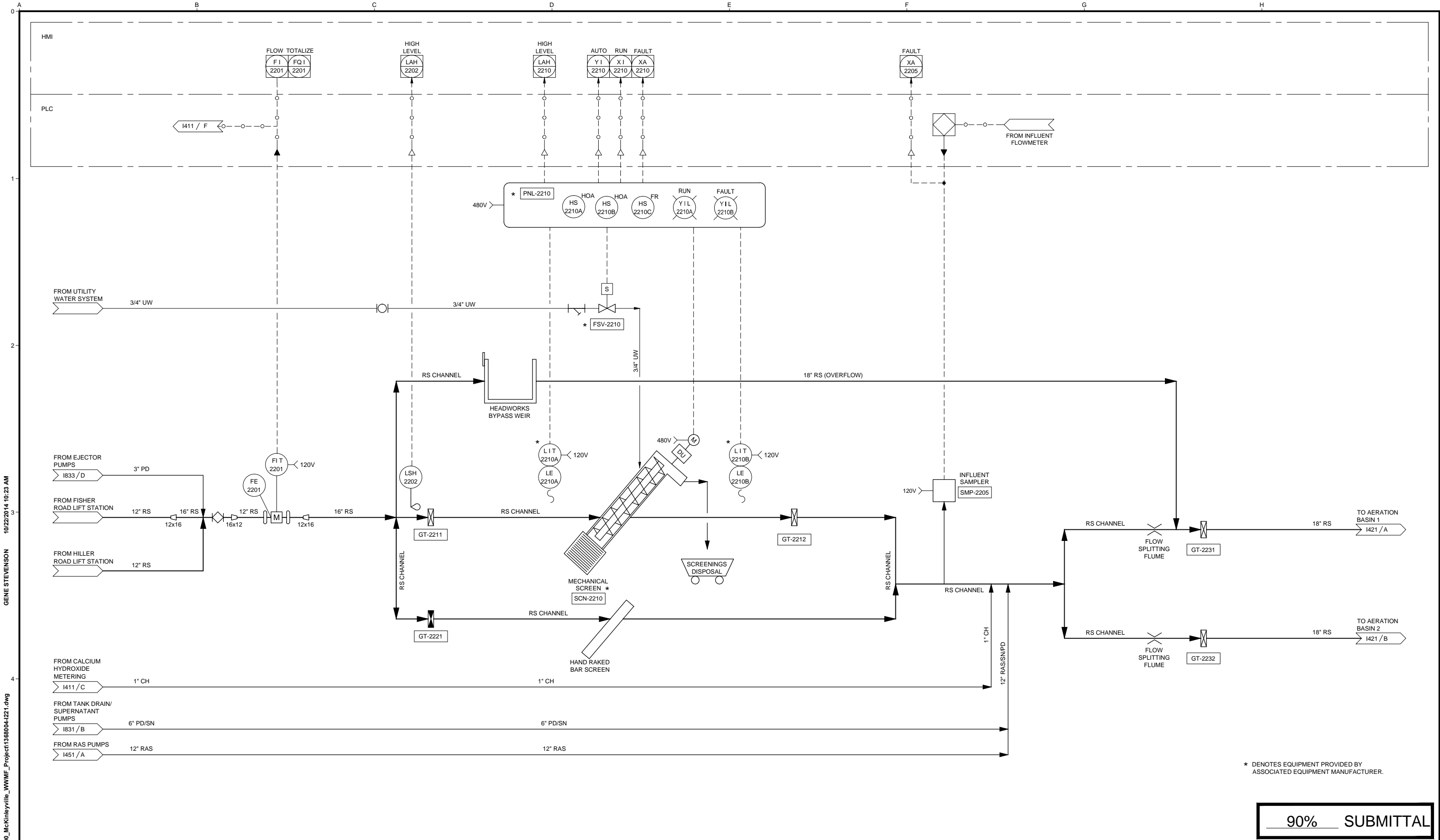
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	WMH	JOB NO.	1368004.00								
	DRAWN	DATE	OCTOBER 2014								
	GAS	SHEET	OF								
	CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	119	1001							
	AGS										

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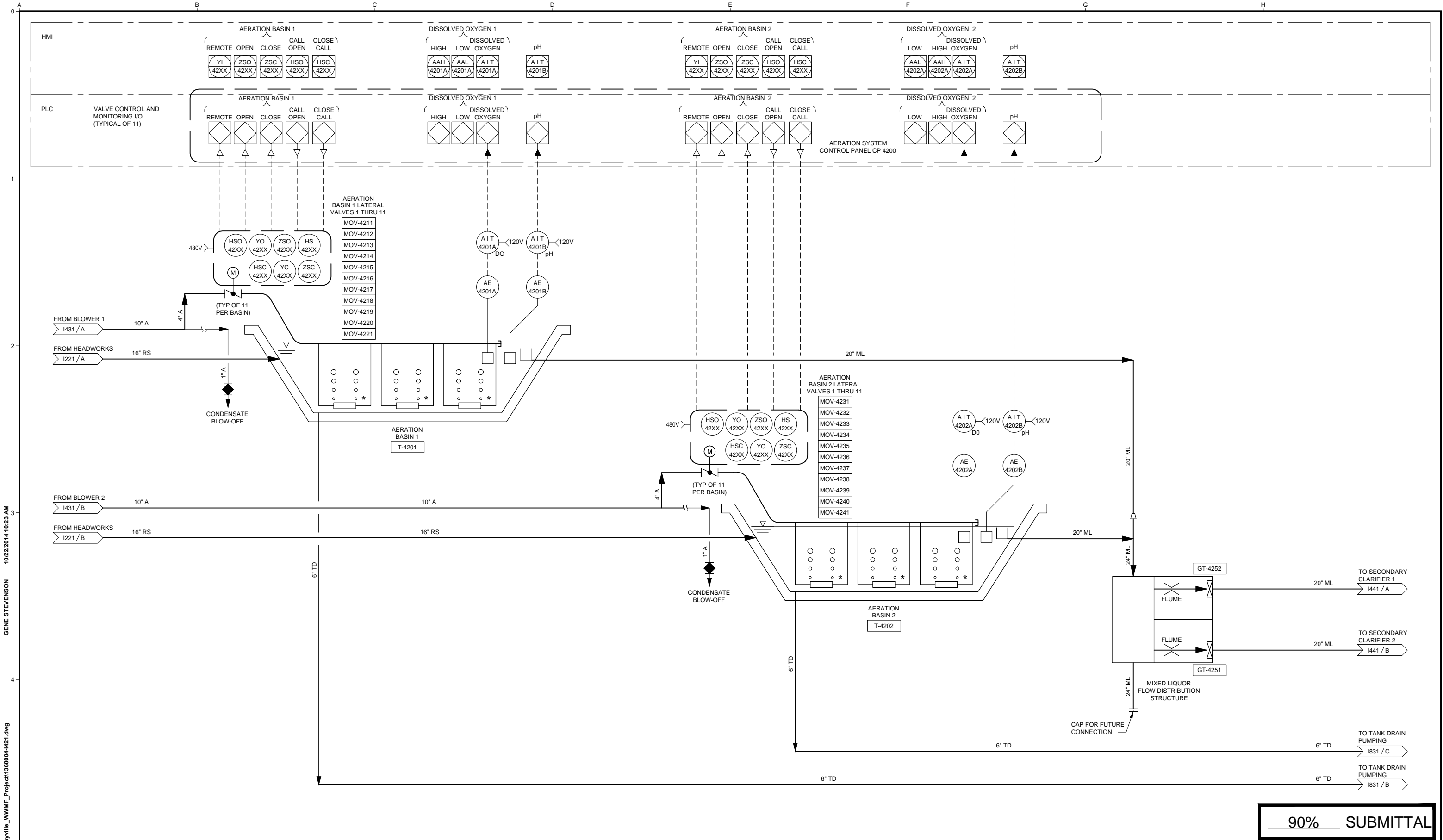
USE OF DOCUMENTS <small>THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.</small>					SCALES 0 1" 0 25mm <small>IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.</small>		DESIGNED PAR	McKINLEYVILLE COMMUNITY SERVICES DISTRICT McKINLEYVILLE, CA WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS	SCADA NETWORK COMMUNICATIONS DIAGRAM	FILE NAME 1368004-1004
							DRAWN GAS			JOB NO. 1368004.00
							CHECKED AGS			DATE OCTOBER 2014
	NO.	REVISION	DATE	BY			120	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA		SHEET OF 1004



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							JOB NO.			1368004.00	
							DATE			OCTOBER 2014	
							SHEET			1221	
							OF				
	NO.	REVISION	DATE	BY							



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	DRAWN	JOB NO.	1368004.00								
	GAS	DATE	OCTOBER 2014								
	CHECKED	SHEET	OF								
	AGS122	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	I411								
NO.	REVISION	DATE	BY								



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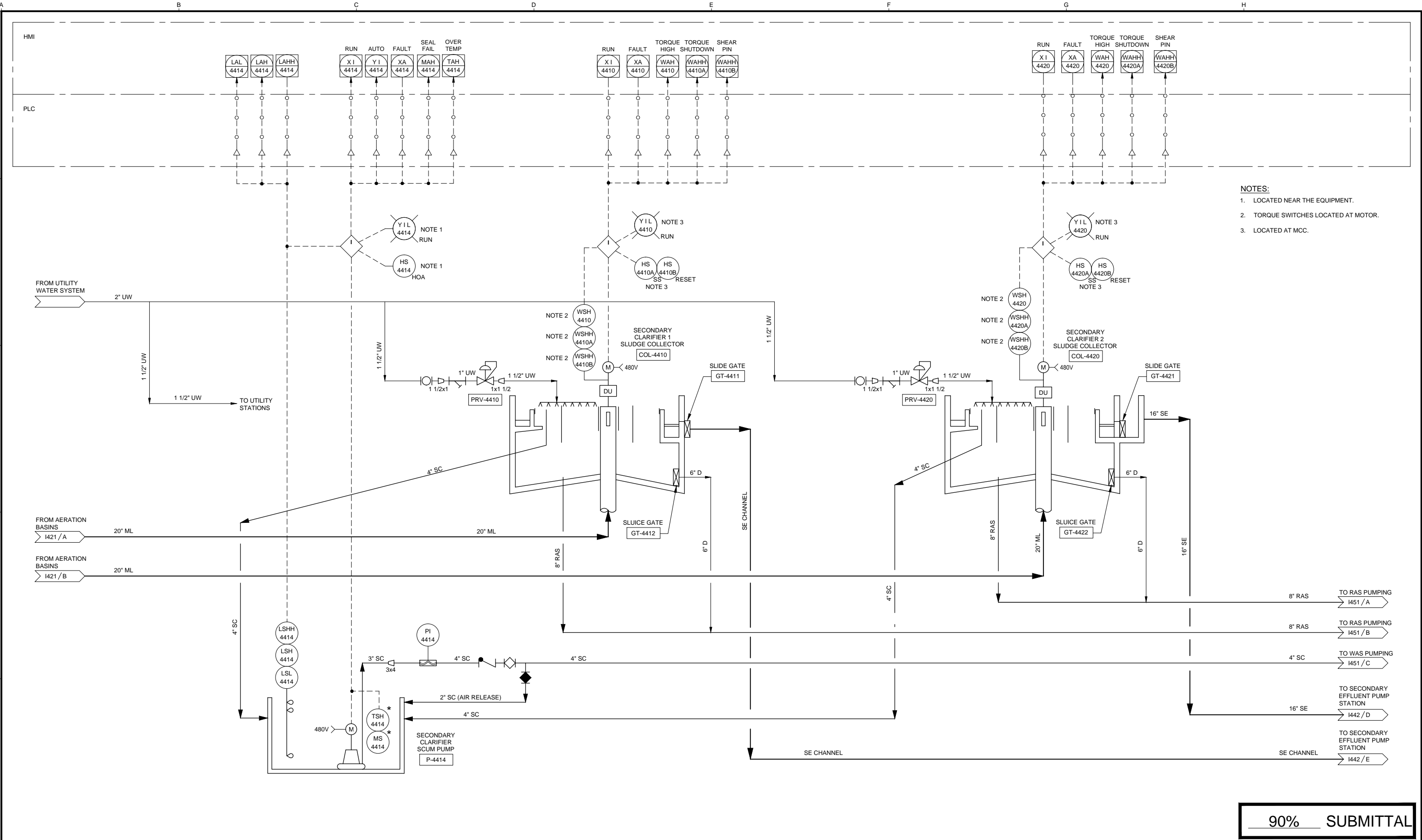
USE OF DOCUMENTS <small>THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.</small>						<div>SCALES 0 1" 25mm IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.</div> <div></div>	DESIGNED WMH	McKINLEYVILLE COMMUNITY SERVICES DISTRICT McKINLEYVILLE, CA WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	PROCESS AND INSTRUMENTATION AERATION BASINS	FILE NAME 1368004-1421
							DRAWN GAS			JOB NO. 1368004.00
							CHECKED AGS			DATE OCTOBER 2014
	NO.	REVISION	DATE	BY			123			SHEET OF 1421

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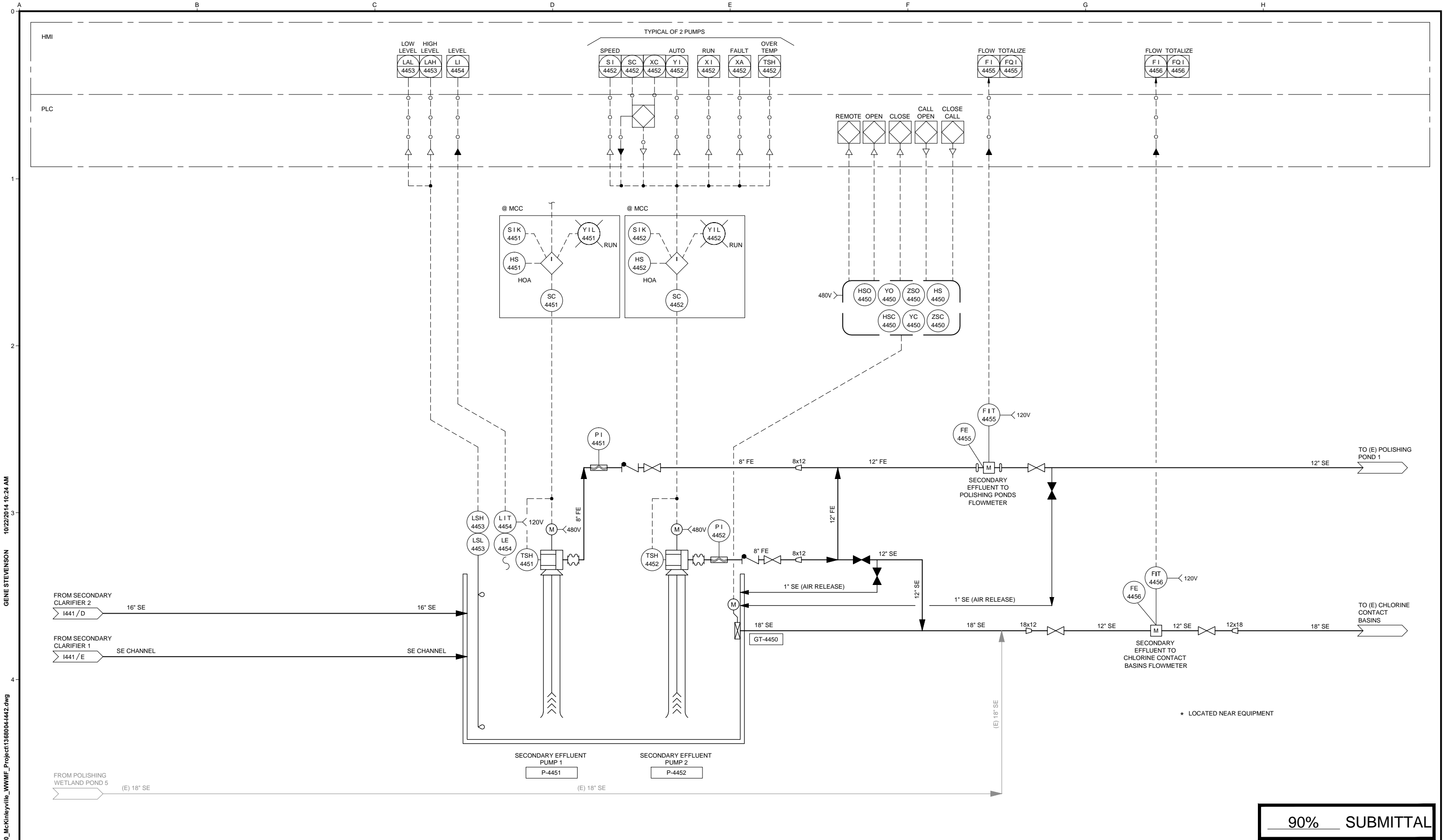
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							JOB NO.			1368004.00	
							DATE			OCTOBER 2014	
							SHEET			OF	
							I431				
	NO.	REVISION	DATE	BY			CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA			
							AGS 124				

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	WMH	JOB NO.	1368004.00								
	DRAWN	DATE	OCTOBER 2014								
	GAS	CHECKED									
	TIV	125	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	SHEET			OF	1441			
	NO.	REVISION	DATE	BY							



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SCALES

0 1" 25mm

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



DESIGNED	WMH
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126	

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CA

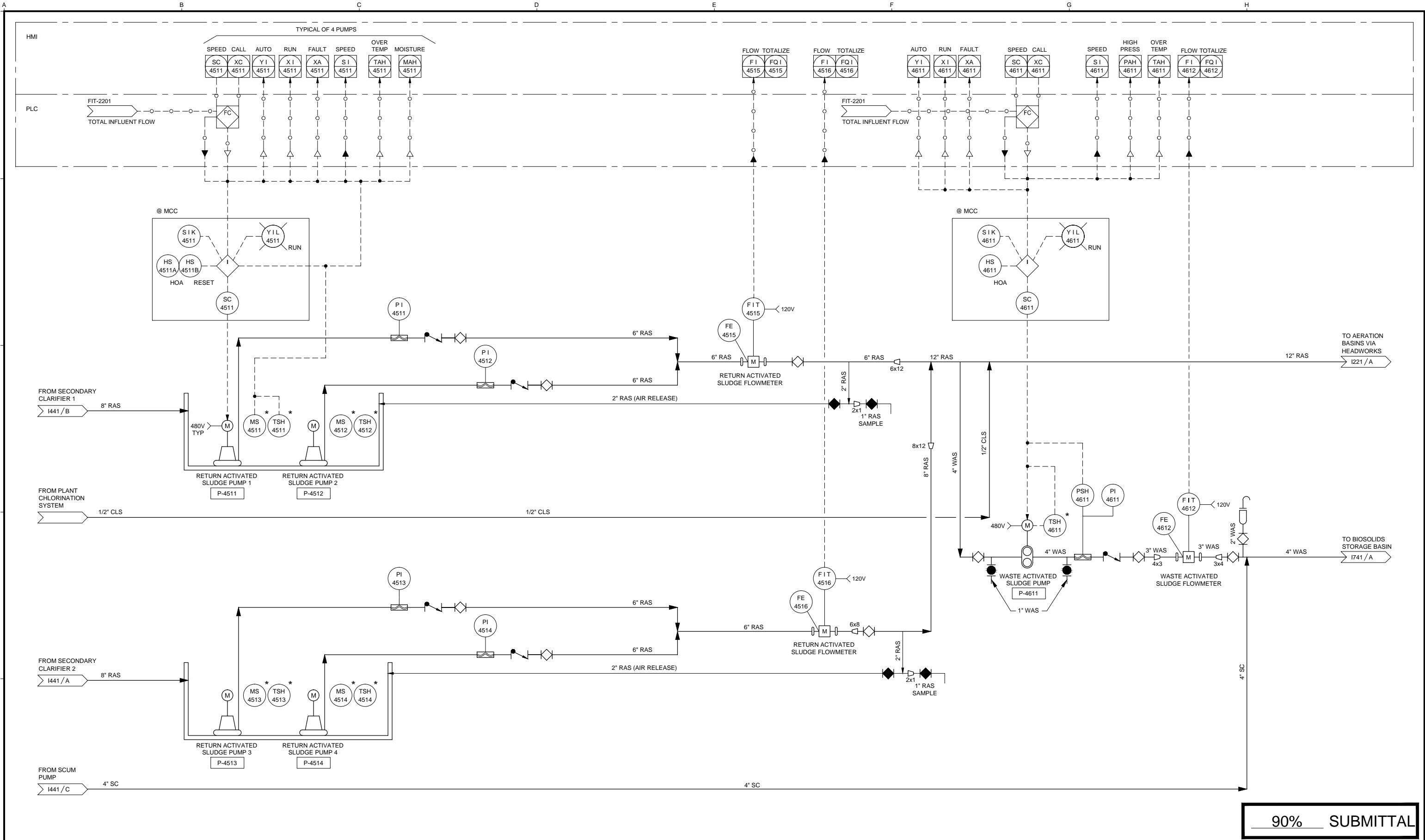
WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS

Kennedy/Jenks Consultants
SANTA ROSA, CALIFORNIA

PROCESS AND INSTRUMENTATION SECONDARY EFFLUENT PUMPING	
FILE NAME	1368004-1442
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
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FILE NAME	1368004-1442
JOB NO.	1368004.00
DATE	OCTOBER 2014
SHEET	OF
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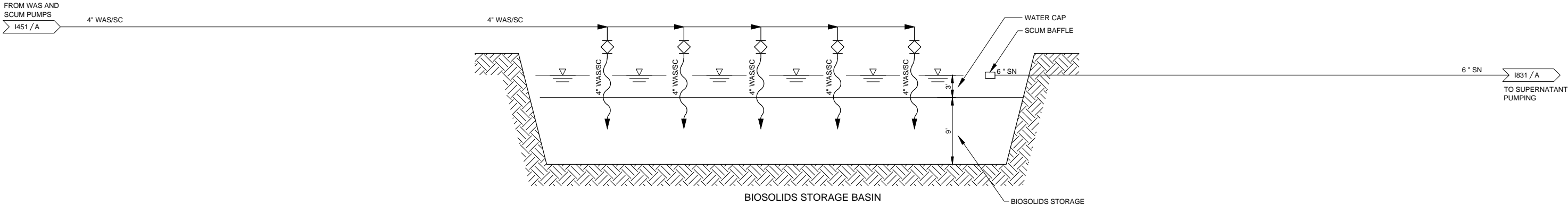


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						WMH			1368004-1451
						DRAWN			JOB NO.
						GAS			1368004.00
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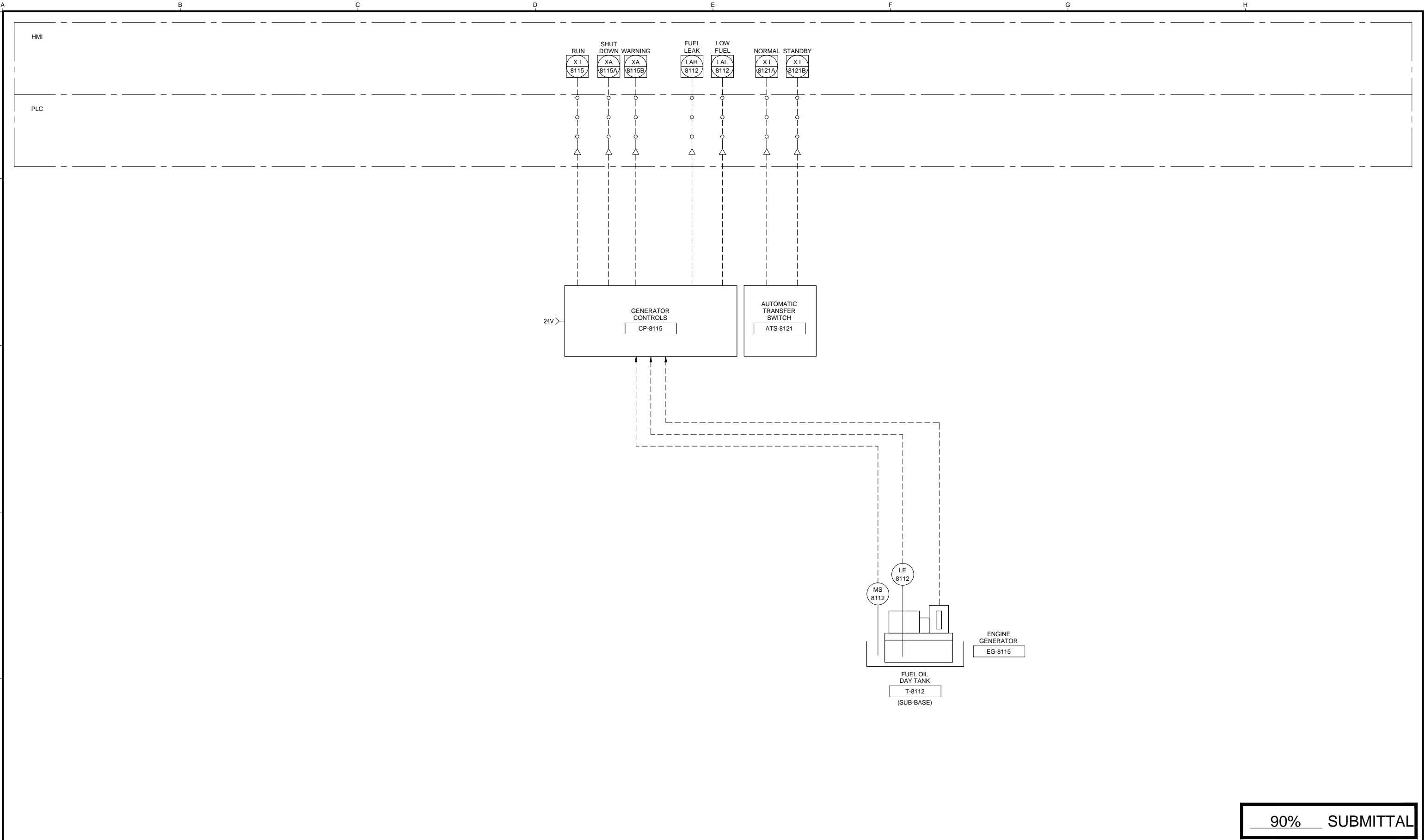
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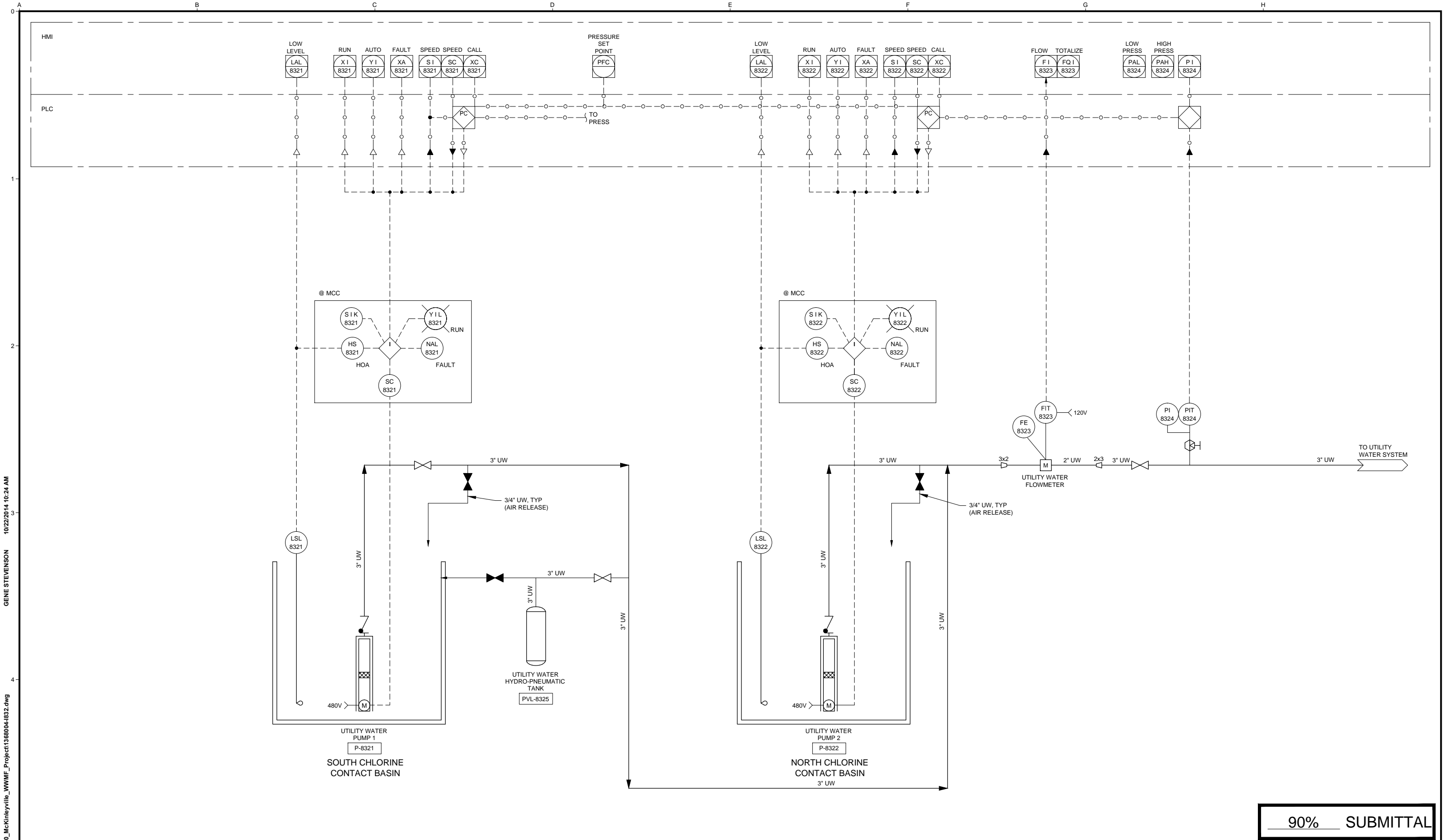
USE OF DOCUMENTS THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.					<div>SCALES</div> <div>01"25mm</div> <div>IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.</div>	<div>REGISTERED PROFESSIONAL ENGINEER</div> <div>TONY L. WAKIM</div> <div>No. 7021</div> <div>Exp. 12/31/15</div> <div>CONTROL SYSTEMS</div> <div>STATE OF CALIFORNIA</div>	DESIGNED	McKINLEYVILLE COMMUNITY SERVICES DISTRICT McKINLEYVILLE, CA WASTEWATER MANAGEMENT FACILITY IMPROVEMENTS Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	PROCESS AND INSTRUMENTATION BIOSOLIDS STORAGE BASIN	FILE NAME 1368004-1741 JOB NO. 1368004.00 DATE OCTOBER 2014 SHEET 1741 OF
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							DRAWN GAS			JOB NO. 1368004.00
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	DRAWN	JOB NO.								
	GAS	1368004.00								
	CHECKED	Kennedy/Jenks Consultants SANTA ROSA, CALIFORNIA	DATE							
	AGS 131		OCTOBER 2014							
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