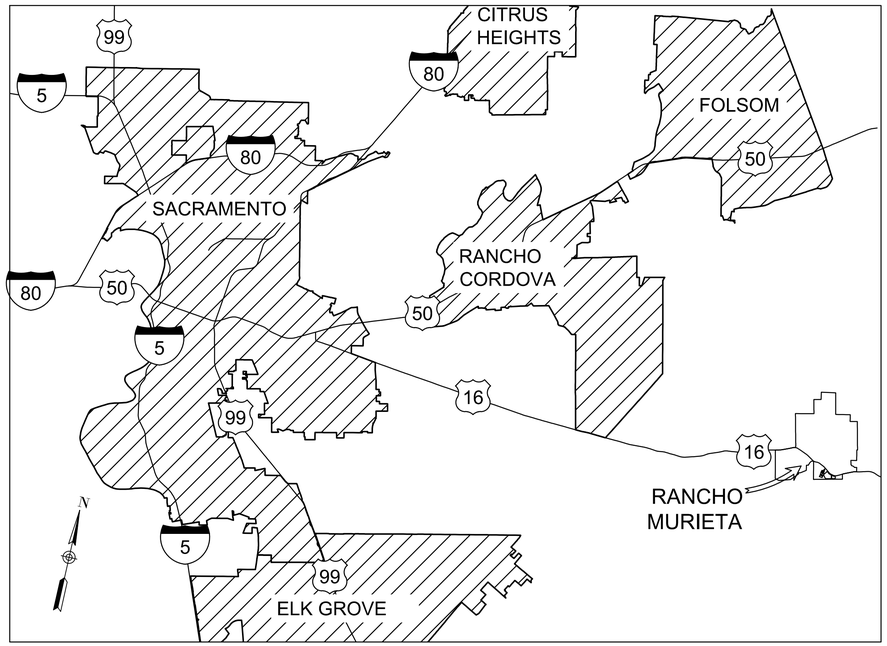
RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WASTEWATER TREATMENT FACILITY

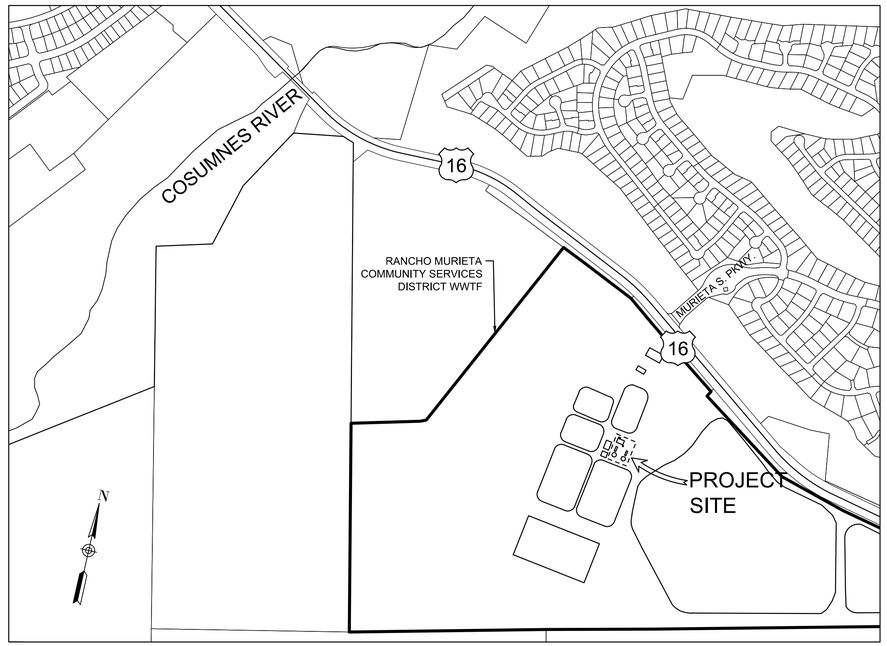
SACRAMENTO COUNTY, CALIFORNIA

SODIUM HYPOCHLORITE SYSTEM IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION
PHASE 1

CIP PROJECT NO. 23-14-02



VICINITY MAP



LOCATION MAP

BID SET
SEPTEMBER 2024

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE
COVER SHEET

PROJECT NO. 50158288

G0.10

SHEET NO. 1 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–G–0–10.dwg, 9/13/2024 11:19 AM, Tran, KT Khuong

DRAWING INDEX

KEY TO DRAWING NUMBERS

DISCIPLINES:

G – GENERAL
C – CIVIL
CD – CIVIL DETAIL
D – DEMOLITION
S – STRUCTURE
M – MECHANICAL
E – ELECTRICAL

WORK AREAS:

0 – GENERAL
1 – PHASE 1 – SODIUM HYPOCHLORITE SYSTEM

EXAMPLE SHEET NO.:

C — DISCIPLINE
2.01
2 — SEQUENTIAL NUMBER IN WORK AREA FOR A GIVEN DISCIPLINE
01 — WORK AREA

GENERAL NOTES

1. THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH ALL UTILITY COMPANIES/OR DISTRICTS THE LOCATION AND PLACEMENT OF UTILITIES DURING CONSTRUCTION OPERATIONS.
2. EXISTING FACILITIES INCLUDING BUT NOT RESTRICTED TO CULVERTS, PIPING, VALVES FITTINGS AND MISCELLANEOUS METAL WHICH ARE REMOVED BUT NOT REUSED ARE THE PROPERTY OF RMCSD AND SHALL BE SALVAGED AND RELOCATED TO AN AREA IN RANCHO MURIETA AS INDICATED BY THE DISTRICT.
3. THE TYPES, LOCATIONS, SIZES AND DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE IMPROVEMENT PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND FACILITIES. HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THE DELINEATION OF SUCH UNDERGROUND FACILITIES, NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR FACILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THOSE UTILITIES SHOWN AND ANY WHICH MAY EXIST AND ARE NOT SHOWN PRIOR TO COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL EXPOSE ALL UNDERGROUND FACILITIES THAT ARE TO BE CONNECTED TO OR THAT ARE IN THE PATH OF THE PROPOSED IMPROVEMENTS FOR VERIFICATION OF LOCATION AND ELEVATION PRIOR TO THE COMMENCING CONSTRUCTION.
4. CONTRACTOR TO VERIFY ALL DIMENSIONS OF EXISTING FACILITIES BEFORE SUBMITTAL OF SHOP DRAWINGS.
5. APPROVAL OF THE ENGINEER OR HIS AUTHORED REPRESENTATIVE, IS REQUIRED ON COMPLETED WORK PRIOR TO BACKFILLING TRENCHES FOR PIPES. WORK DONE WITHOUT SUCH APPROVAL SHALL BE AT THE CONTRACTOR'S RISK. SUCH APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PERFORMING THE WORK IN AN ACCEPTABLE MANNER.
6. THE CONTRACTOR SHALL NOTIFY THE DISTRICT IMMEDIATELY REGARDING ANY DISCREPANCIES OR AMBIGUITIES WHICH MAY EXIST IN THE PLANS OR SPECIFICATIONS. THE DISTRICT'S INTERPRETATION OR CORRECTION THEREOF SHALL BE CONCLUSIVE.
7. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND LICENSES AND PAYING ALL ASSOCIATED FEES REQUIRED FOR THE CONSTRUCTION AND COMPLETION OF THE PROJECT.
9. THE CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCHMARKS AND SURVEY REFERENCE POINTS, AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT.
10. THE CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS DURING THE PERFORMANCE OF THIS CONTRACT WORK.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. THE COST OF REPLACING EXISTING IMPROVEMENTS SHALL BE AT THE CONTRACTOR'S EXPENSE.
12. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE DISTRICT AND THE DESIGN ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DISTRICT OR THEIR AGENTS.
13. EXCAVATIONS OF 5 FEET OR MORE IN DEPTH WILL REQUIRE AN EXCAVATION PERMIT FROM THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY. FOR TRENCHES 5 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL COMPLY WITH SECTION 5-1.02A OF THE CALTRANS STANDARDS, CHAPTER 9 OF THE STATE OF CALIFORNIA LABOR CODE, AND APPLICABLE LOCAL CODES OR ORDINANCES.
14. WHENEVER PAVEMENT IS BROKEN OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE SPECIFICATIONS, THE CONTRACTOR SHALL REPLACE THE PAVEMENT, AFTER PROPER BACKFILLING, WITH PAVEMENT MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL PAVING. THE FINISHED PAVEMENT SHALL BE SUBJECT TO THE APPROVAL OF THE DISTRICT. PAVEMENT REPLACEMENT SHALL CONSIST OF AC THICKNESS 1-INCH GREATER THAN EXISTING AC THICKNESS WITH BASE COURSE AB THICKNESS EQUAL TO EXISTING BASE COURSE THICKNESS. PAVEMENT THICKNESS SHOWN ARE BASED ON RECORD DRAWINGS AND SHALL BE CONFIRMED IN THE FIELD BY CONTRACTOR.
15. THE CONTRACTOR'S ATTENTION IS DIRECTED TO: SECTION 1540 (A) (1) OF THE CONSTRUCTION SAFETY ORDERS (TITLE 8 CALIFORNIA ADMINISTRATION CODE SECTION 1540), ISSUED BY THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD PURSUANT TO THE CALIFORNIA OCCUPATIONS SAFETY AND HEALTH ACT OF 1973, AS AMENDED, WHICH STATES: (A) "PRIOR TO OPENING AN EXCAVATION, THE CONTRACTOR SHALL DETERMINE WHETHER UNDERGROUND INSTALLATIONS; I.E., SEWER, WATER, FUEL, ELECTRIC LINES, ETC., WILL BE ENCOUNTERED AND IF SO, WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED. WHEN THE EXCAVATION APPROACHES THE LOCATION OF SUCH UNDERGROUND INSTALLATION, THE EXACT LOCATION SHALL BE DETERMINED BY CAREFUL PROBING OR HAND DIGGING; AND, WHEN IT IS UNCOVERED, ADEQUATE PROTECTION SHALL BE PROVIDED FOR THE EXISTING INSTALLATION BY THE CONTRACTOR.
16. DUST SHALL BE CONTROLLED PER SECTION 10 OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS AND PROJECT TECHNICAL SPECIFICATIONS. RECYCLED WATER FOR DUST CONTROL IS AVAILABLE AT NO COST AT WWTF.
17. ALL DRAINAGE PATTERNS SHALL BE MAINTAINED AT ALL TIMES DURING AND AFTER CONSTRUCTION.
18. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE DISTRICT.
19. THE DISTRICT SHALL BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF ANY WORK BEING PERFORMED.
20. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL ITEMS DISTURBED DURING CONSTRUCTION TO THE SATISFACTION OF THE DISTRICT INCLUDING UTILITIES, DRAINAGE, DRIVEWAYS, AND FENCING.
21. EXISTING OVERHEAD ELECTRIC AND TELEPHONE TRANSMISSION LINES MAY BE LOCATED AT OR NEAR THE SITE. THESE OVERHEAD UTILITIES ARE NOT SHOWN ON THE DRAWINGS. EXTREME CAUTION SHALL BE USED WHEN WORKING IN THE VICINITY OF OVERHEAD UTILITIES SO AS TO PREVENT INJURY TO WORKMEN OR DAMAGE TO THE UTILITIES.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING RECORD DRAWINGS FOR ALL UNDERGROUND WORK THROUGHOUT THE COURSE OF CONSTRUCTION. SUCH DRAWINGS SHALL RECORD THE LOCATION AND GRADE (DISTRICT DATUM) OF ALL UNDERGROUND IMPROVEMENTS AND SHALL BE DELIVERED TO THE DISTRICT PRIOR TO CONSIDERATION OF THE ACCEPTANCE OF WORK.
23. CONTRACTOR SHALL COORDINATE AND NOTIFY THE DISTRICT WHEN WORK IS READY FOR INSPECTIONS. PRESENCE OR ABSENCE OF THE DISTRICT WILL NOT RELIEVE CONTRACTOR OF FULL RESPONSIBILITY FOR PROPER PERFORMANCE OR WORK.
24. CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL MATERIALS THAT ARE TO BE REMOVED FROM THE SITE INCLUDING SURPLUS EXCAVATION MATERIALS AND DEBRIS. CONTRACTOR SHALL MAINTAIN THE SITE IN A SAFE, NEAT, AND ORDERLY CONDITION.

GENERAL NOTES

25. CONTRACTOR SHALL COMPLY WITH ALL STATE AND CITY LAWS AND ORDINANCES RELATING TO SAFETY AND CHARACTER OF WORK, EQUIPMENT AND LABOR PERSONNEL. THIS SHALL INCLUDE, BUT NOT LIMITED TO SHORING OF TRENCHES, VENTILATION OF CONFINED SPACES, CONFORMANCE TO TRAFFIC CONTROL REQUIREMENTS, INCLUDING PROVISIONS AND MAINTENANCE OF BARRICADES, TRENCH COVERS, AND PREPARATION AND IMPLEMENTATION OF TRAFFIC CONTROL PLANS AS REQUIRED.
26. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, BARRICADES, SIGNS, FLAGMEN OR OTHER DEVICES NECESSARY FOR PUBLIC SAFETY. TRAFFIC CONTROL SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
27. TEN (10) DAY NOTICE SHALL BE GIVEN FOR ANY PLANNED DISRUPTION AND THE DISTRICT OR ASSOCIATED UTILITY COMPANY TO BE AFFECTED SHALL BE NOTIFIED IMMEDIATELY UPON ANY UTILITY SERVICE DISRUPTION OTHER THAN SPECIFIED PREVIOUSLY.
28. EXACT LIMITS OF PAVEMENT REMOVAL AND RECONSTRUCTION SHALL BE BE DETERMINED IN THE FIELD BY THE DISTRICT.
29. DEMOLITION OF EXISTING FEATURES SHALL BE LIMITED TO THE ITEMS SHOWN ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE ALL EXISTING FEATURES DAMAGED BY HIS OPERATIONS, AT HIS EXPENSE.
30. FEATURES SHOWN ON THE AERIAL PHOTOS AND SITE PHOTOGRAPHS ARE FOR INFORMATION ONLY AND MAY HAVE CHANGED SINCE PHOTOS WERE TAKEN. THE PHOTOS ARE NOT RECTIFIED AND MAY HAVE VARYING LEVELS OF DISTORTION. PHOTO SCALE IS APPROXIMATE.
31. CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL MATERIALS THAT ARE TO BE REMOVED FROM THE SITE INCLUDING SURPLUS EXCAVATION MATERIALS AND DEBRIS. CONTRACTOR SHALL MAINTAIN THE SITE IN A SAFE, NEAT, AND ORDERLY CONDITION. CONTRACTOR SHALL DELIVER MATERIALS OR EQUIPMENT TO BE SALVAGED AND RETURNED TO THE DISTRICT AT THE LOCATION TO BE DETERMINED BY THE DISTRICT.
32. SOME EXISTING ABANDONED UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES. WHERE SHOWN, ABANDONED UTILITIES ARE BASED ON FIELD OBSERVATIONS AND RECORD DOCUMENTS, AND MAY NOT BE ACCURATE. NO ATTEMPT WAS MADE TO IDENTIFY OR SHOW ALL ABANDONED UTILITIES. CONTRACTOR SHALL VERIFY ABANDONMENT OF UTILITIES NOT SHOWN ON THE PLANS PRIOR TO DISTURBANCE.
33. THE EXISTING SEWERS ARE KNOWN TO HAVE HIGH CONCENTRATIONS OF TOXIC AND/OR EXPLOSIVE GASES. SEWER WASTEWATER MAY CONTAIN INFECTIOUS AND/OR CONTAGIOUS DISEASES AND THE CONTRACTOR SHALL OBSERVE ALL NECESSARY PRECAUTIONS.
34. MANHOLE ENTRY AND/OR ENTRY TO ANY EXCAVATION GREATER THAN FOUR (4) FEET DEEP SHALL BE IN FULL COMPLIANCE WITH THE CONFINED SPACE ENTRY REQUIREMENTS OF CALIFORNIA AND FEDERAL OSHA.
35. CONTRACTOR SHALL COMPLY WITH ALL STATE AND DISTRICT LAWS AND ORDINANCES RELATING TO SAFETY AND CHARACTER OF WORK, EQUIPMENT AND LABOR PERSONNEL. THIS SHALL INCLUDE, BUT NOT LIMITED TO SHORING OF TRENCHES, VENTILATION OF CONFINED SPACES, CONFORMANCE TO TRAFFIC CONTROL REQUIREMENTS, INCLUDING PROVISIONS AND MAINTENANCE OF BARRICADES, TRENCH COVERS, AND PREPARATION AND IMPLEMENTATION OF TRAFFIC CONTROL PLANS AS REQUIRED.
36. CONTRACTOR SHALL PROVIDE CONTINUOUS ACCESS FOR CHEMICAL DELIVERIES TO THE CHEMICAL STORAGE FACILITY AND CONTROL BUILDING.

SEDIMENT & EROSION CONTROL NOTES

1. CONTRACTOR SHALL SUBMIT FOR DISTRICT REVIEW AND APPROVAL A STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
2. CONTRACTOR SHALL TAKE ALL APPROPRIATE MEASURES TO PROTECT THE STORM DRAINAGE SYSTEM AGAINST A POTENTIAL DISCHARGE FROM THE CONSTRUCTION SITE OR ACTIVITIES.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DISCHARGE INCURRED DUE TO THEIR ACTIVITIES OR FAILURE TO ACT APPROPRIATELY, INCLUDING ALL COSTS ASSOCIATED WITH EMERGENCY MITIGATION AND ABATEMENT.

UTILITY NOTES

1. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT CROSSING OF THE EXISTING AND PROPOSED UTILITIES PRIOR TO THE STAKING OF THE PROPOSED UTILITIES. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT CROSSING OF THE EXISTING AND PROPOSED UTILITIES PRIOR TO THE STAKING OF THE PROPOSED UTILITIES. THE CONTRACTOR SHALL VERIFY THAT NO GRADE CONFLICT DOES OCCUR. IF IN THE OPINION OF THE CONTRACTOR A GRADE CONFLICT DOES OCCUR, THE ENGINEER SHALL MAKE ANY GRADE ADJUSTMENT NECESSARY TO RESOLVE THE GRADE GRADE CONFLICT. NO ADJUSTMENT IN BID PRICES WILL BE ALLOWED AS A RESULT OF SUCH GRADE ADJUSTMENTS.
2. EXISTING UTILITIES ARE SHOWN BASED ON REVIEW OF HISTORICAL RECORD DRAWINGS. CONTRACTOR SHALL POTHOLE TO VERIFY IN FIELD HORIZONTAL AND VERTICAL LOCATION OF UTILITIES WITHIN PROPOSED UTILITY CORRIDORS.
3. CONTRACTOR SHALL TAKE ANY NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AT ANY UTILITY CROSSINGS.
4. PIPELINE STATIONING SHOWN IS APPROXIMATE.
5. PROVIDE MINIMUM CLEARANCE OF 12" AT PIPELINE CROSSINGS UNLESS INDICATED OTHERWISE.
6. PROVIDE MINIMUM LONGITUDINAL CLEARANCE OF 12" BETWEEN PIPELINES UNLESS INDICATED OTHERWISE.
7. MINIMUM COVER FOR PIPING SHALL BE 36" UNLESS INDICATED OTHERWISE.

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE
DRAWING INDEX & GENERAL NOTES

PROJECT NO. 50158288

G0.20

SHEET NO. 2 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-G-0-20.dwg, 9/13/2024 10:38 AM, Tran, KT Khuong

GENERAL ABBREVIATIONS

AB	AGGREGATE BASE	PP	POWER POLE
AGG	AGGREGATE	PT	POINT OF TANGENCY
ALUM	ALUMINUM	PVC	POLYVINYL CHLORIDE
AVE	AVERAGE	R	RADIUS
℄	CENTERLINE	RCP	REINFORCED CONCRETE PIPE
CLSM	CONTROLLED LOW STRENGTH MATERIAL	REF	REFER OR REFERENCE
CMP	CORRUGATED METAL PIPE	REINF	REINFORCE(D)
CONC	CONCRETE	RMJ	RESTRAINED MECHANICAL JOINT
COORD	COORDINATE	R.O.W.	RIGHT–OF–WAY
CU FT	CUBIC FEET	SCHED	SCHEDULE
CU IN	CUBIC INCH	SHT	SHEET
CY	CUBIC YARD	SLP	SLOPE
C–C	CENTER TO CENTER	SQ	SQUARE
DAF	DISSOLVED AIR FLOTATION	SQ FT	SQUARE FOOT
DET	DETAIL	SQ IN	SQUARE INCH
DIA, ø	DIAMETER	SST	STAINLESS STEEL
DIP	DUCTILE IRON PIPE	STL	STEEL
DWG, DRWG	DRAWING	TBM	TEMPORARY BENCH MARK
EA	EACH	TOS	TOP OF STEEL
EL, ELEV	ELEVATION	TR	TREE
ELB	ELBOW	TYP	TYPICAL
ELEC	ELECTRIC	UE	UNDERGROUND ELECTRIC
ENGR	ENGINEER	UON	UNLESS OTHERWISE NOTED
EX	EXISTING	V	VENT
FG	FINISHED GRADE		
FIG	FIGURE		
FL	FLANGED		
FLR	FLOOR		
FT	FOOT		
GSM	GALVANIZED SHEET METAL		
GPS	GLOBAL POSITIONING SYSTEM		
GSP	GALVANIZED STEEL PIPE		
GV	GATE VALVE		
HGT	HEIGHT		
H, HORIZ	HORIZONTAL		
ID	INSIDE DIAMETER		
IN	INCH		
INV, I.E.	INVERT ELEVATION		
LB/CU FT	POUNDS PER CUBIC FOOT		
LF	LINEAR FEET		
MAX	MAXIMUM		
MECH	MECHANICAL		
MFR	MANUFACTURER		
MH	MANHOLE		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MJ	MECHANICAL JOINT		
NaOCl	SODIUM HYPOCHLORITE		
NIC	NOT IN CONTRACT		
NO.	NUMBER		
NTS	NOT TO SCALE		
OC	ON CENTER		
OD	OUTSIDE DIAMETER		
OHE	OVERHEAD ELECTRICAL		
PC	POINT OF CURVATURE		
PE	PLAIN END		
PI	POINT OF INTERSECTION		
P/L	PROPERTY LINE		

PIPING SYSTEM DESIGNATIONS

BE	BACKWASH EFFLUENT
BI	BACKWASH INFLUENT
DR	DRAIN
E	ELECTRIC
FE	FILTER EFFLUENT
NaOCl	SODIUM HYPOCHLORITE
PD	PLANT DRAIN
RW	RAW WATER
TE	TERTIARY EFFLUENT
SD	STORM DRAIN
SDFM	STORM DRAIN FORCE MAIN
SE	SECONDARY EFFLUENT
SL	SLUDGE
SS	SANITARY SEWER
SSD	SANITARY DRAIN
SSFM	SANITARY SEWER FORCE MAIN
W	PLANT WATER

MATERIAL DESIGNATIONS

- AGGREGATE BASE (A.B.)
- AGGREGATE BASE WALK
- ASPHALTIC CONCRETE (A.C.)
- CHECKERED PLATE
- CONCRETE
- CONCRETE MASONRY WALL
- EARTH
- EARTHWORK/GRADING
- NATIVE ROCK/RIP–RAP
- GRATING
- PLASTIC, RUBBER OR NEOPRENE
- SAND
- STUCCO

SECTION/DETAIL SYMBOLS

SECTION
SCALE: 1/2"=1'–0"

A / C2.2 — SECTION LETTER; SHEET WHERE SECTION IS REFERENCED

DETAIL
SCALE: 1/4"=1'–0"

2 / C2.2 — DETAIL NUMBER; SHEET WHERE DETAIL IS REFERENCED

A / C2.2 — SECTION LETTER; SHEET WHERE SECTION IS DRAWN

GENERAL SYMBOLS

- WV WATER VALVE
- W WATER METER
- FIRE HYDRANT
- DI
- SD STORM DRAIN MANHOLE
- S SANITARY BOX
- SS SANITARY SEWER MANHOLE
- CLEAN OUT
- ELB ELECTRIC BOX
- PG&E PG&E ELECTRICAL BOX
- CBL CABLE TV BOX
- TRANSFORMER
- EV ELECTRICAL VAULT
- STREET LIGHT
- SLB STREET LIGHT BOX
- JOINT TRENCH MARKER
- COM COMMUNICATION BOX
- SURVEY MONUMENT

Dewberry

RANCHO MURIETA
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SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
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APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

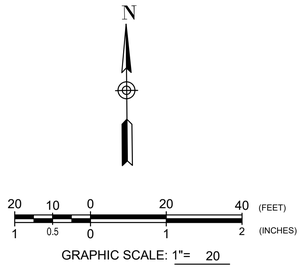
TITLE
ABBREVIATIONS & SYMBOLS

PROJECT NO. 50158288

G0.30

SHEET NO. 3 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–G–0–30.dwg, 9/13/2024 10:38 AM, Tran, KT Khuong



GRAPHIC SCALE: 1"= 20

UTILITY NOTE:
UNICO ENGINEERING HAS FIELD LOCATED ALL VISIBLE UTILITIES AND APPURTENANT STRUCTURES SHOWN HEREON. FIELD SURVEY WAS CONDUCTED ON FEBRUARY 17, 2024. THE LOCATIONS OF ANY UNDERGROUND UTILITIES SHOWN HEREON WERE BASED UPON FIELD EVIDENCE. ACTUAL DEPTHS AND ALIGNMENTS SHOULD BE VERIFIED PRIOR TO CONSTRUCTION.

DATUM NOTE:
HORIZONTAL DATUM: NAD 83 CALIFORNIA ZONE 2 2010 EPOCH DATE BASED ON OBSERVATIONS TO NGS MONUMENT AC9227
VERTICAL DATUM: NAVD 88 BASED ON OBSERVATIONS TO NGS MONUMENT AC9227

SURVEY CONTROL POINTS

CP NO.	ELEVATION	EASTING	NORTHING	DESCRIPTION
100	182.73	1939932.86	6823888.09	MAG NAIL
101	182.46	1939791.86	6824014.60	MAG NAIL
102	182.69	1939743.67	6823816.95	MAG NAIL

COORDINATE SYSTEM CODE:
CA83IIF

COORDINATE SYSTEM DESCRIPTION:
NAD83, CALIFORNIA STATE PLAN, ZONE II, US FOOT

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

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CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

SURVEY CONTROL MAP

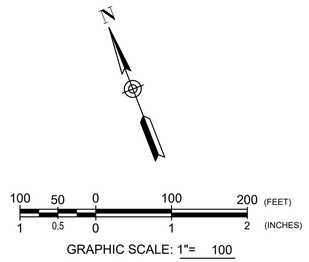
PROJECT NO. 50158288

G0.40

SHEET NO. 4 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–G–0–40.dwg, 9/13/2024 10:38 AM, Tran, KT Khuong

INGRESS/EGRESS ROUTE & STAGING AREA



GRAPHIC SCALE: 1"= 100

LEGEND:

CONTRACTOR INGRESS / EGRESS ROUTE

1. SEWAGE TREATMENT PLANT
2. EQUALIZATION BASIN
3. AERATION POND NO. 1
4. AERATION POND NO. 2
5. AERATION POND NO. 3
6. AERATION POND NO. 5
7. RESERVOIR NO. 1

KEY NOTES:

1. ACCESS TO SITE IS THROUGH A SECURITY GATE THAT IS NORMALLY CLOSED. ACCESS THROUGH THE GATE MUST BE REQUESTED/OBTAINED FROM PLANT STAFF. SECURITY GATE WILL REMAIN OPEN DURING NORMAL WORKING HOURS FOR CONTRACTOR CONVENIENCE.
2. STAGING AREA SHOULD BE COORDINATED WITH DISTRICT STAFF. CONTRACTOR TO CONSTRUCT ALL WEATHER SURFACE PRIOR TO MOVING ONSITE. STAGING PLAN SHALL BE SUBMITTED BY THE CONTRACTOR TO THE DISTRICT FOR APPROVAL.
3. FOLLOWING DEMOBILIZATION, STAGING AREAS SHALL BE RESTORED BY THE CONTRACTOR AS DIRECTED BY THE DISTRICT.

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TITLE

CONTRACTOR INGRESS/EGRESS & STAGING AREA

PROJECT NO. 50158288

G0.50

SHEET NO. 5 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–G–0–50.dwg, 9/13/2024 10:39 AM, Tran, KT Khuong

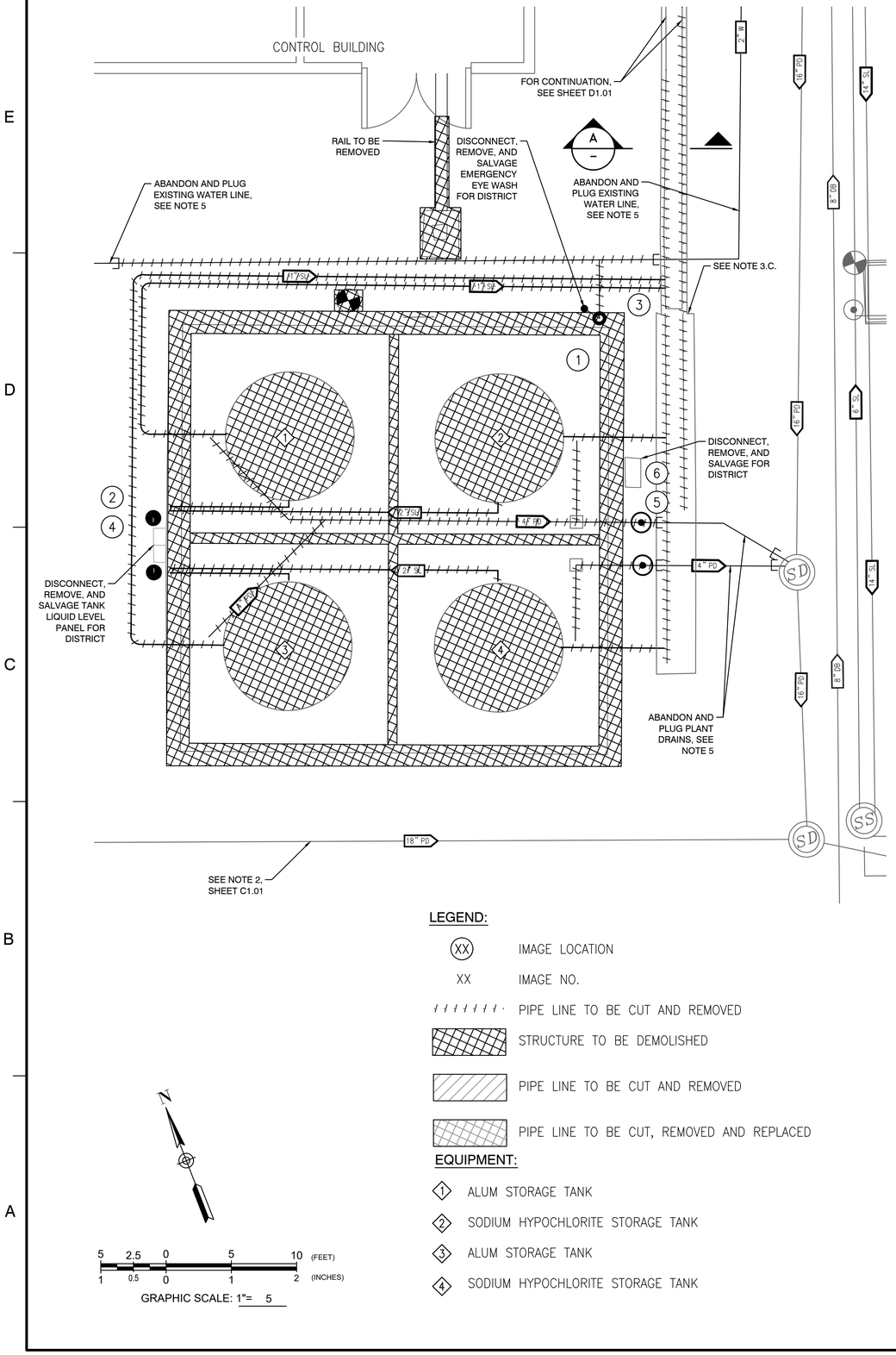


IMAGE NO. 1

AERIAL VIEW OF STORAGE TANKS

IMAGE NO. 2

ALUM STORAGE TANKS

IMAGE NO. 3

EMERGENCY EYEWASH STATION / HOSE RACK

IMAGE NO. 4

CHEMICAL TANK UNLOADING STATION / TANK LIQUID LEVEL PANEL

IMAGE NO. 5

SODIUM HYPOCHLORITE STORAGE TANKS

IMAGE NO. 6

SODIUM HYPOCHLORITE TRANSFER PUMP

LEGEND:

- (XX) IMAGE LOCATION
- XX IMAGE NO.
- PIPE LINE TO BE CUT AND REMOVED
- STRUCTURE TO BE DEMOLISHED
- PIPE LINE TO BE CUT AND REMOVED
- PIPE LINE TO BE CUT, REMOVED AND REPLACED

EQUIPMENT:

1. ALUM STORAGE TANK
2. SODIUM HYPOCHLORITE STORAGE TANK
3. ALUM STORAGE TANK
4. SODIUM HYPOCHLORITE STORAGE TANK

GRAPHIC SCALE: 1"= 5

DEMOLITION NOTES:

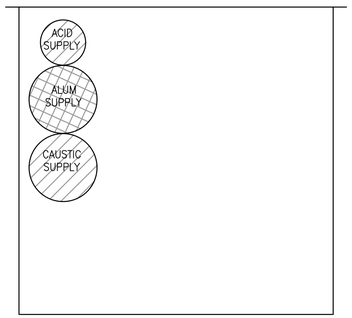
1. PRIOR TO DEMOLITION WORK COMMENCING, DISTRICT WILL EMPTY EXISTING STORAGE TANKS. BECAUSE THE STORAGE TANKS CANNOT BE EMPTIED COMPLETELY, THE CONTRACTOR SHALL ASSUME APPROXIMATELY 6" OF CHEMICAL WILL REMAIN IN TANKS AND REQUIRE DISPOSAL BY THE CONTRACTOR AT A PERMITTED SITE. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION VERIFYING PROPOSED DISPOSED SITE IS PERMITTED BY THE COUNTY AND/OR STATE REGULATORY AGENCIES.

2. DISTRICT WILL REQUIRE 30 DAYS ADVANCE NOTICE FROM THE CONTRACTOR TO SCHEDULE EMPTYING OF CHEMICAL TANKS.

3. TANKS DEMOLITION INCLUDES:
   - 3.a. REMOVAL OF STORAGE TANKS, TANKS ACCESSORIES, CHEMICAL PIPING, PIPING SUPPORTS, AND INSTRUMENTATIONS AND DISPOSAL OFFSITE. CONTRACTOR SHALL EXERCISE CAUTION IN REMOVING SODIUM HYPOCHLORITE STORAGE TANKS AND SALVAGE AS DIRECTED BY DISTRICT.
   - 3.b. DEMOLITION AND REMOVAL OF REINFORCED TANKS PAD, CONTAINMENT BAY WALLS, TRENCH DRAINS, SEPARATION WALLS, AND CONTAINMENT BAY FOUNDATIONS. EXCAVATION SHALL BE BACKFILLED WITH ENGINEERED FILL AND COMPACTED TO 95% R.C.
   - 3.c. CUT, CAP, REMOVE, AND DISPOSE OF UNDERGROUND PIPING. TRENCH EXCAVATION SHALL BE BACKFILLED WITH ENGINEERED FILL AND COMPACTED TO 95% R.C.

4. DEMOLITION OF PIPING WITHIN UTILITY TRENCHES
   - 4.a. CONTRACTOR SHALL ASSUME SOME RESIDUAL CHEMICAL MAY BE PRESENT IN CHEMICAL PIPING AND SHALL REMOVE AND DISPOSE OF OFFSITE.
   - 4.b. CONTRACTOR SHALL NOT DAMAGE UTILITY TRENCHES DURING REMOVAL OF CHEMICAL PIPING. CLEANING OF UTILITY TRENCHES OF DIRT, DEBRIS, ADD CHEMICAL RESIDUALS WILL BE REQUIRED BY THE CONTRACTOR PRIOR TO (P) CHEMICAL PIPING REPLACEMENT.
   - 4.c. PIPE SUPPORTS SHALL BE PROTECTED IN PLACE DURING PIPING DEMOLITION. SUPPORTS DAMAGED DURING PIPING DEMOLITION SHALL BE REPLACED AS DIRECTED BY THE DISTRICT.

5. CUT PIPE ENDS, FILL ABANDONED PIPE WITH SAND, AND PLUG ENDS.



SECTION
SCALE: NTS

A
-

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

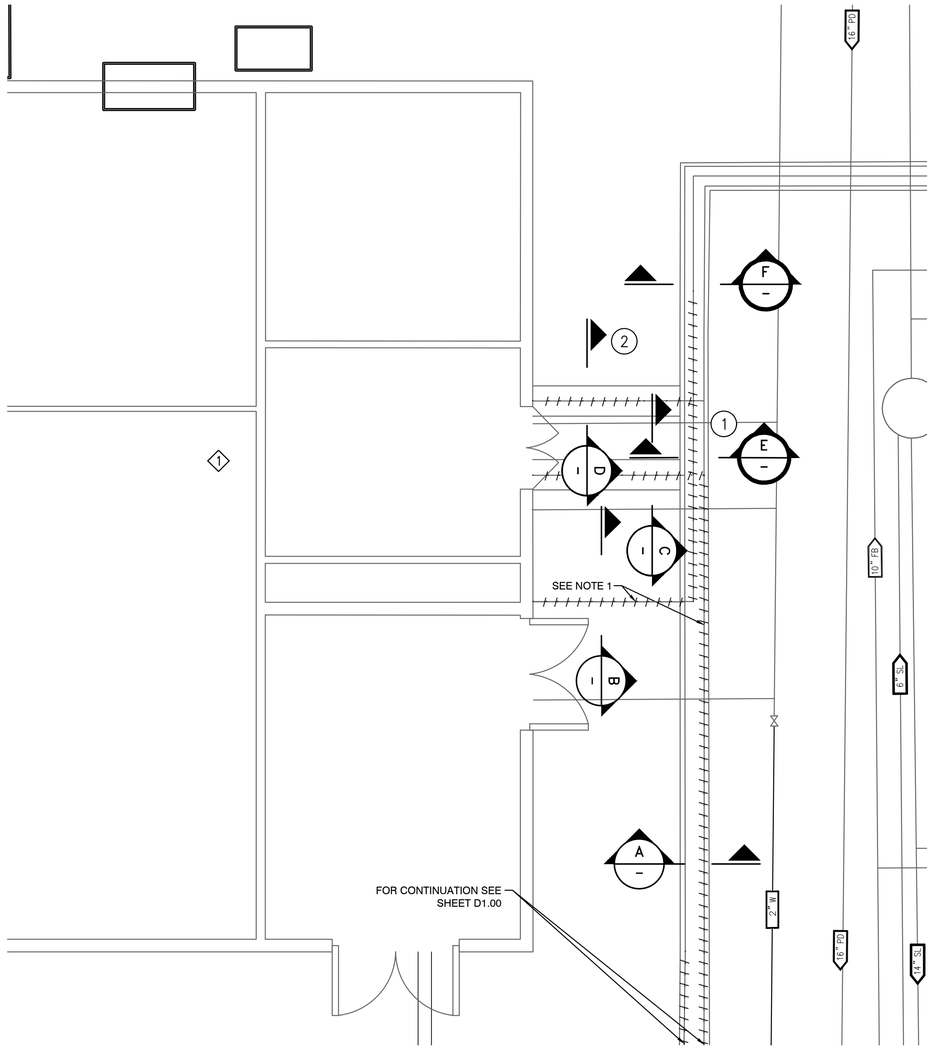
CHEMICAL STORAGE TANKS DEMOLITION PLAN

PROJECT NO. 50158288

D1.00

SHEET NO. 6 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–D–1–00.dwg, 9/13/2024 10:39 AM, Tran, KT Khuong



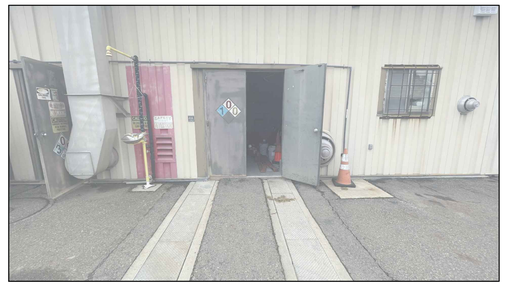
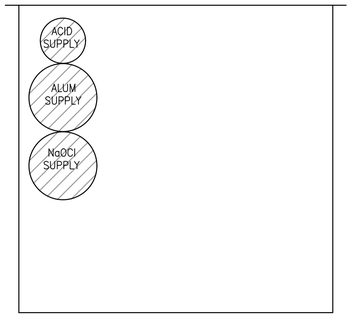


IMAGE NO. 1

CONTROL BUILDING UTILITY TRENCHES

IMAGE NO. 2

CONTROL BUILDING UTILITY TRENCHES



SECTION A
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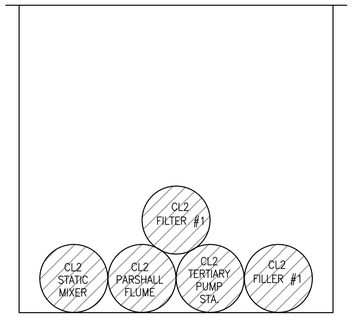

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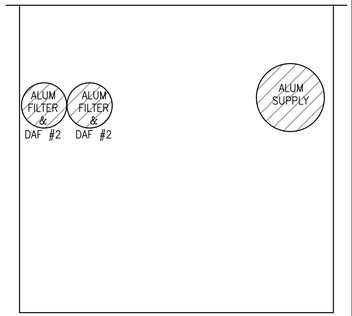

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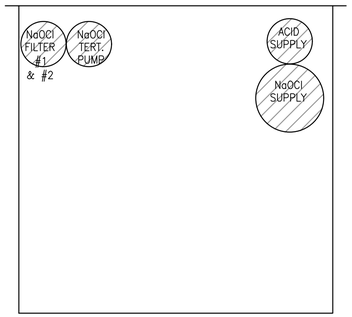

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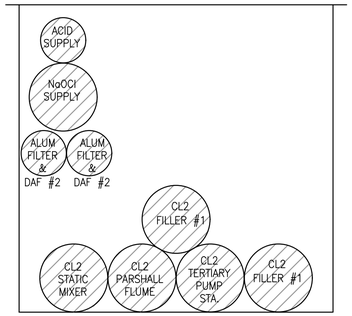
SCALE: NTS



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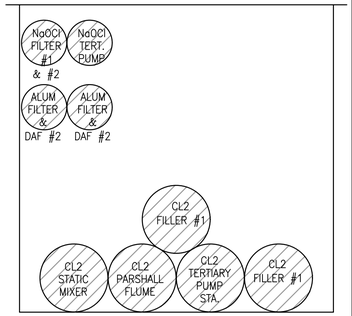
SCALE: NTS



SECTION F
SCALE: NTS

LEGEND:

(XX) IMAGE LOCATION

XX IMAGE NO.

PIPE LINE TO BE CUT AND REMOVED

PIPE LINE TO BE CUT AND REMOVED

EQUIPMENT:

(1) EXISTING CONTROL BUILDING

DEMOLITION NOTES:

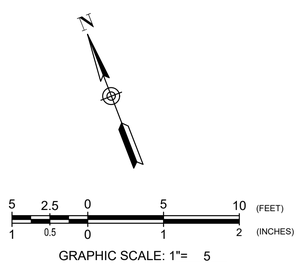
1 DEMOLITION OF PIPING WITHIN UTILITY TRENCHES

1.a. CONTRACTOR SHALL ASSUME SOME RESIDUAL CHEMICAL MAY BE PRESENT IN CHEMICAL PIPING AND SHALL REMOVE AND DISPOSE OF OFFSITE.

1.b. CONTRACTOR SHALL NOT DAMAGE UTILITY TRENCHES DURING REMOVAL OF CHEMICAL PIPING.

1.c. PIPE SUPPORTS SHALL BE PROTECTED IN PLACE DURING PIPING DEMOLITION. SUPPORTS DAMAGED DURING PIPING DEMOLITION SHALL BE REPLACED AS DIRECTED BY THE DISTRICT.

1.d. CLEANING OF UTILITY TRENCHES OF DIRT, DEBRIS, ADD CHEMICAL RESIDUALS WILL BE REQUIRED BY THE CONTRACTOR PRIOR TO (P) CHEMICAL PIPING REPLACEMENT.



GRAPHIC SCALE: 1"= 5

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

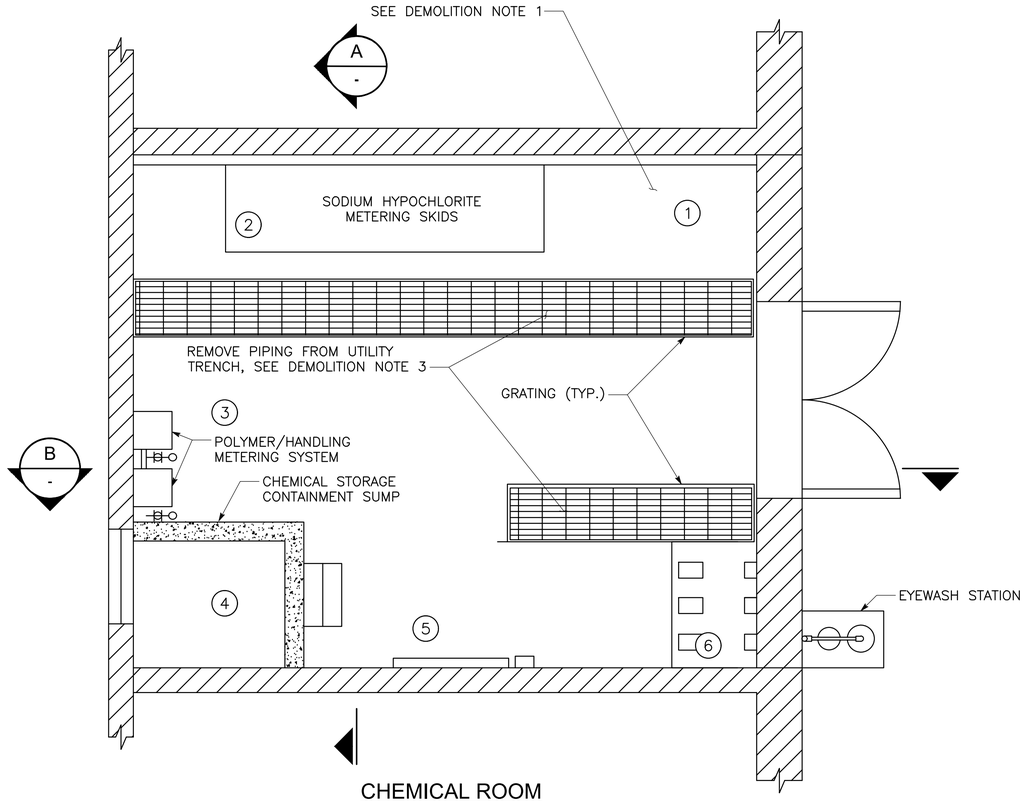
CHEMICAL PIPING DEMOLITION PLAN

PROJECT NO. 50158288

D1.01

SHEET NO. 7 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–D–1–01.dwg, 9/13/2024 10:39 AM, Tran, KT Khuong



CHEMICAL ROOM
SCALE: 6" = 1'-0"

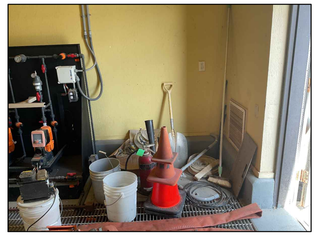


IMAGE NO. 1

IMAGE NO. 2

IMAGE NO. 3

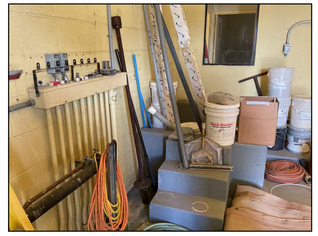


IMAGE NO. 4

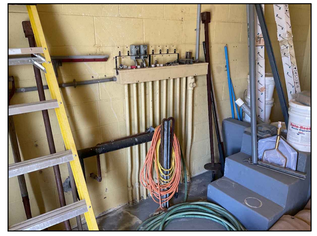


IMAGE NO. 5

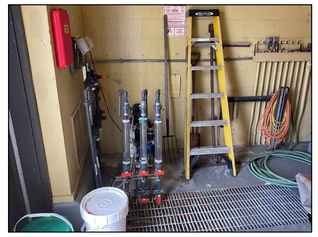


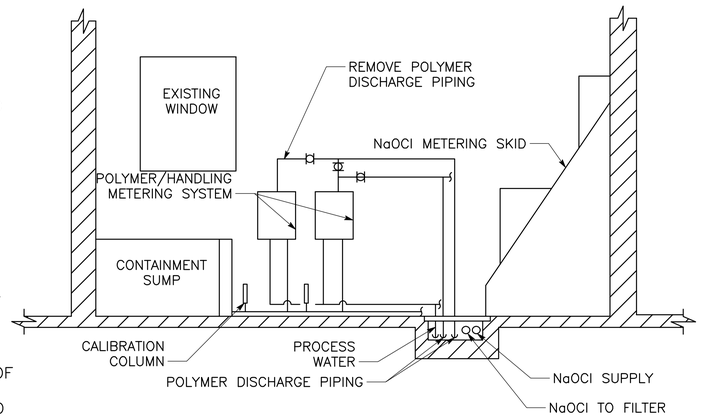
IMAGE NO. 6

LEGEND:

(XX) IMAGE NUMBER, SEE UPPER RIGHT

DEMOLITION NOTES:

1. REMOVE AND DISPOSE OF MATERIALS AND PREPARE SPACE FOR INSTALLATION OF THIRD SODIUM HYPOCHLORITE METERING SKID.
2. REMOVE POLYMER HANDLING/METERING SYSTEM AND SALVAGE FOR DISTRICT.
3. DEMOLITION OF PIPING WITHIN UTILITY TRENCHES
   - 3.a. CONTRACTOR SHALL ASSUME SOME RESIDUAL CHEMICAL MAY BE PRESENT IN CHEMICAL PIPING AND SHALL REMOVE AND DISPOSE OF OFFSITE.
   - 3.b. CONTRACTOR SHALL NOT DAMAGE UTILITY TRENCHES DURING REMOVAL OF CHEMICAL PIPING.
   - 3.c. PIPE SUPPORTS SHALL BE PROTECTED IN PLACE DURING PIPING DEMOLITION. SUPPORTS DAMAGED DURING PIPING DEMOLITION SHALL BE REPLACED AS DIRECTED BY THE DISTRICT.



SECTION
SCALE: 6" = 1'-0"
A
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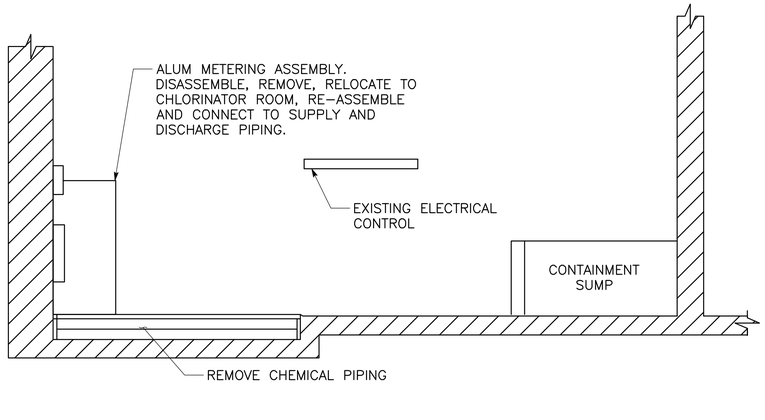


SECTION
SCALE: 6" = 1'-0"
B
-

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

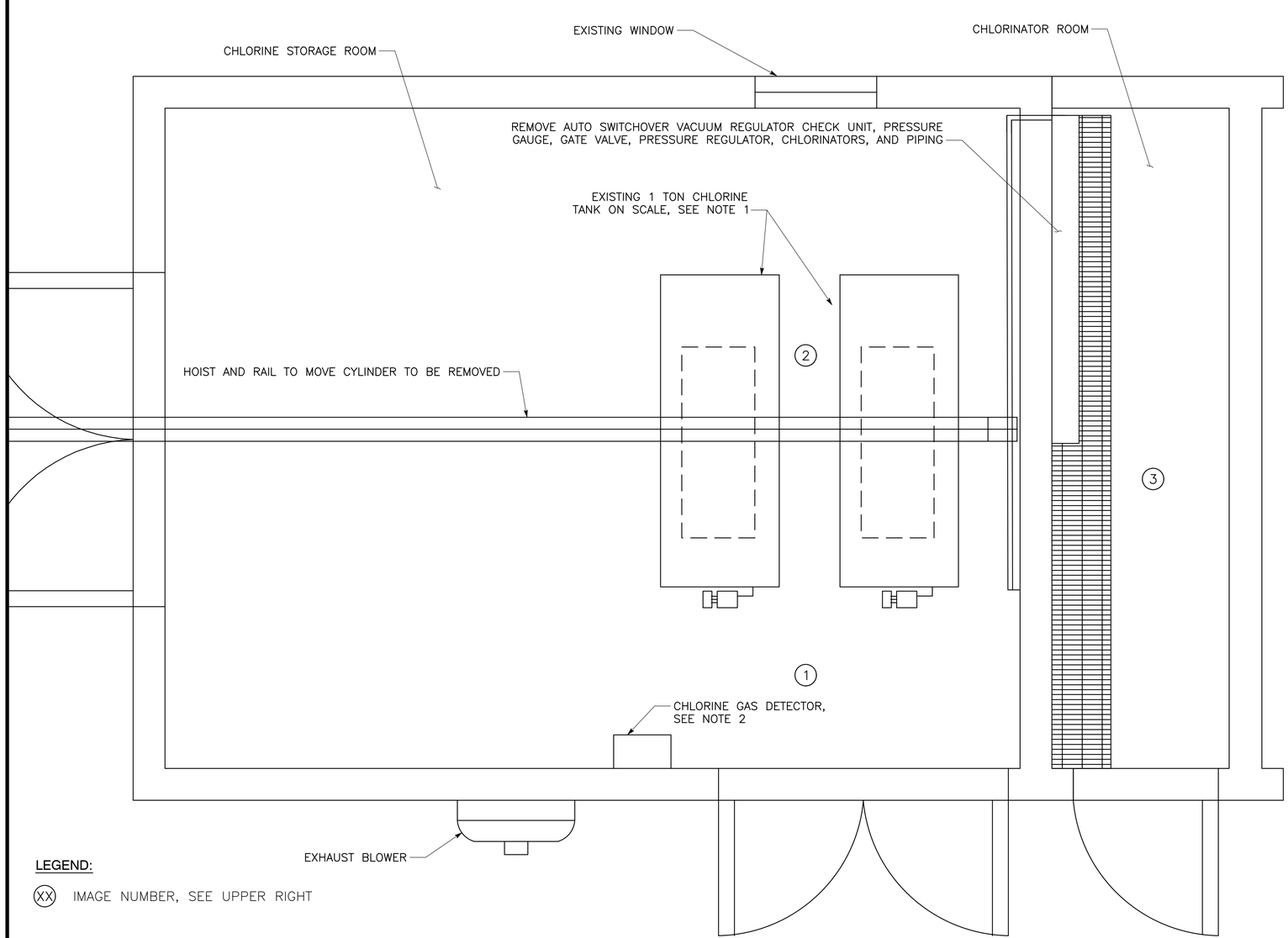
CONTROL BUILDING
CHEMICAL ROOM
DEMOLITION PLAN

PROJECT NO. 50158288

D1.02

SHEET NO. 8 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-D-1-02.dwg, 9/13/2024 10:39 AM, Tran, KT Khuong



LEGEND:

(XX) IMAGE NUMBER, SEE UPPER RIGHT

DEMOLITION NOTES:

1. DISTRICT TO REMOVE 1–TON CYLINDERS. CONTRACTOR TO REMOVE SCALE AND SALVAGE FOR DISTRICT.
2. REMOVE CHLORINE GAS DETECTOR AND SALVAGE FOR DISTRICT.

CHLORINE STORAGE ROOM - CHLORINATOR ROOM

SCALE: 6" = 1'–0"

IMAGE NO. 1

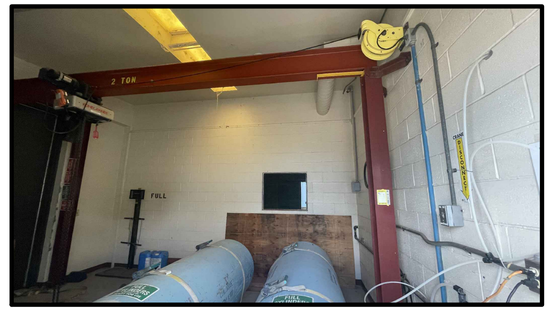


IMAGE NO. 2

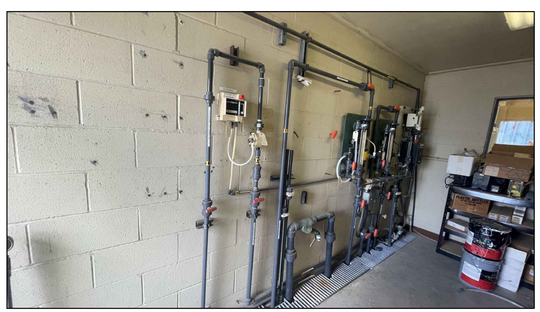


IMAGE NO. 3

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

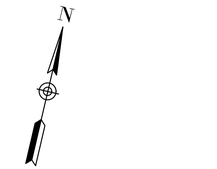
CONTROL BUILDING
CHLORINATOR ROOM
CHLORINE STORAGE ROOM
DEMOLITION PLAN

PROJECT NO. 50158288

D1.03

SHEET NO. 9 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–D–1–03.dwg, 9/13/2024 10:39 AM, Tran, KT Khuong



20 10 0 20 40 (FEET)
1 0.5 0 1 2 (INCHES)

GRAPHIC SCALE: 1"= 20

LEGEND:

1. CHLORINE CONTACT BASIN
2. CONTROL BUILDING
3. CHEMICAL STORAGE TANKS (ALUM & NaOCl)
4. DAF NO.1
5. DAF NO.2
6. EQUALIZATION BASIN
7. AERATION POND NO. 1
8. AERATION POND NO. 2
9. AERATION POND NO. 3
10. AERATION POND NO. 5
11. FILTER NO. 1
12. FILTER NO. 2
13. EQUIPMENT PAD
14. PLANT WATER HYROPNEUMATIC TANK
15. FLOW DIVERSION VAULT
16. METER VAULT
17. STATIC MIXER
18. PARSHALL FLUME
19. BACKWASH PUMPS
20. PLANT WATER PUMPS
21. TERTIARY LIFT STATION

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

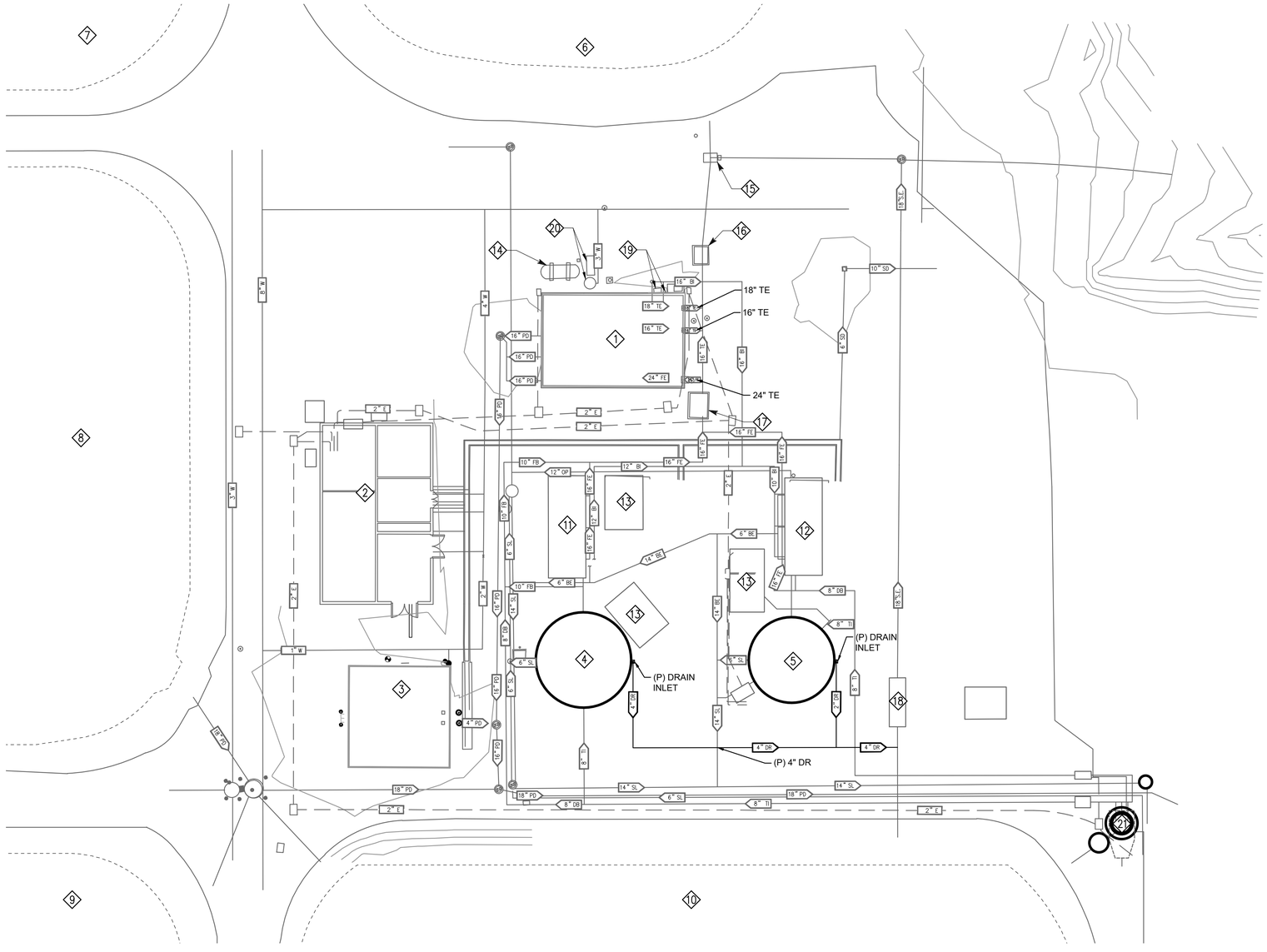
OVERALL
SITE
PLAN

PROJECT NO. 50158288

C0.01

SHEET NO. 10 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–C–0–01.dwg, 9/13/2024 10:39 AM, Tran, KT Khuong

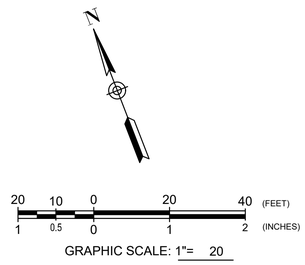


LEGEND:

1. CHLORINE CONTACT BASIN
2. CONTROL BUILDING
3. CHEMICAL STORAGE TANKS (ALUM & NaOCl)
4. DAF NO.1
5. DAF NO.2
6. EQUALIZATION BASIN
7. AERATION POND NO. 1
8. AERATION POND NO. 2
9. AERATION POND NO. 3
10. AERATION POND NO. 5
11. FILTER NO. 1
12. FILTER NO. 2
13. DAF EQUIPMENT PAD
14. PLANT WATER HYROPNEUMATIC TANK
15. FLOW DIVERSION VAULT
16. METER VAULT
17. STATIC MIXER
18. PARSHALL FLUME
19. BACKWASH PUMPS
20. PLANT WATER PUMPS
21. TERTIARY LIFT STATION

PIPING SYSTEM DESIGNATIONS

BE	BACKWASH EFFLUENT
BI	BACKWASH INFLUENT
DR	DRAIN
E	ELECTRIC
FE	FILTER EFFLUENT
NaOCl	SODIUM HYPOCHLORITE
PD	PLANT DRAIN
RW	RAW WATER
TE	TERTIARY EFFLUENT
SD	STORM DRAIN
SDFM	STORM DRAIN FORCE MAIN
SE	SECONDARY EFFLUENT
SL	SLUDGE
SS	SANITARY SEWER
SSD	SANITARY DRAIN
SSFM	SANITARY SEWER FORCE MAIN
W	PLANT WATER



GRAPHIC SCALE: 1"= 20

Dewberry

RANCHO MURIETA COMMUNITY SERVICES DISTRICT WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

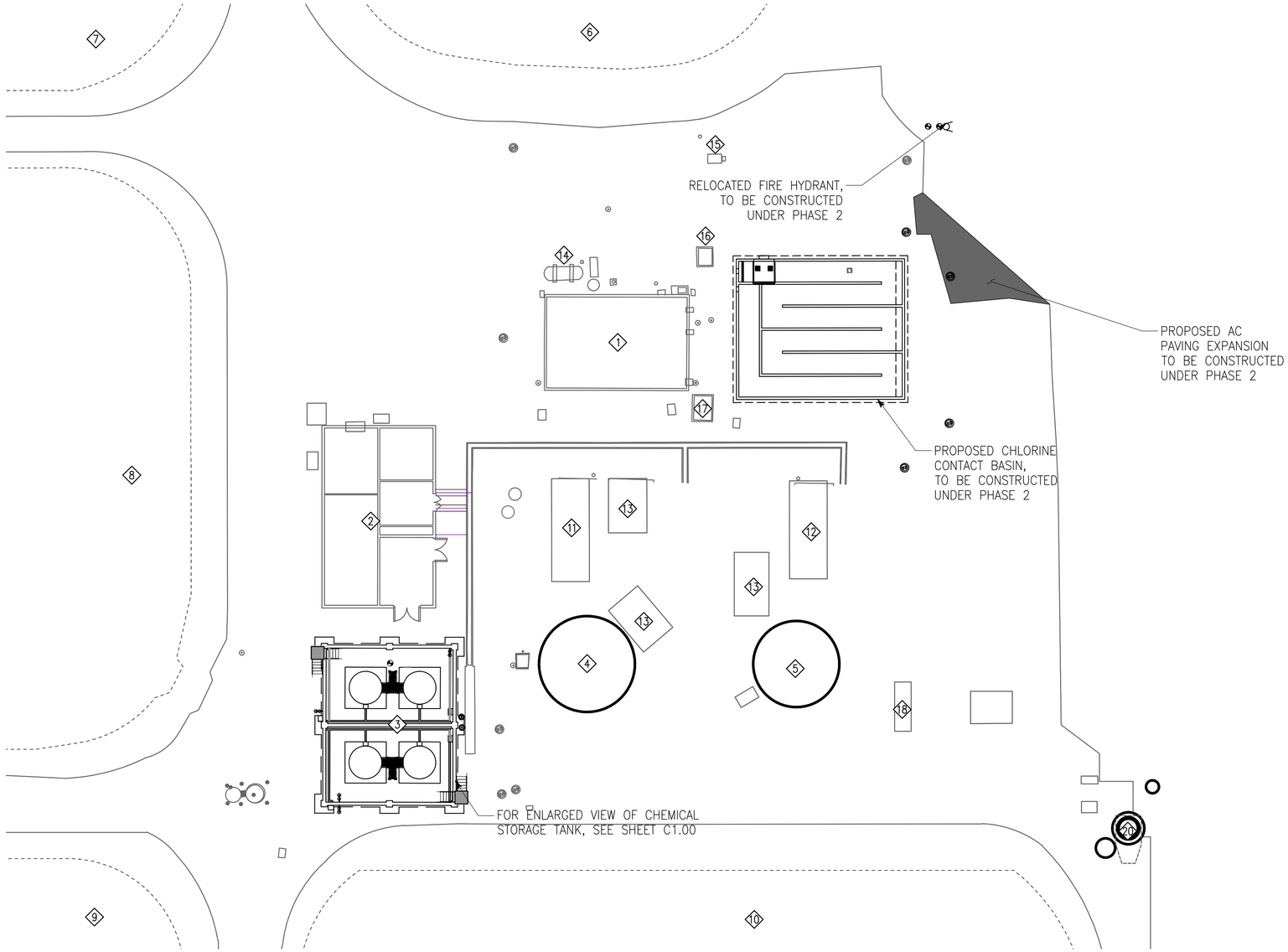
OVERALL SITE PIPING PLAN

PROJECT NO. 50158288

C0.02

SHEET NO. 11 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–C–0–02.dwg, 9/13/2024 10:39 AM, Tran, KT Khuong



LEGEND:

1. EXISTING CHLORINE CONTACT BASIN
2. CONTROL BUILDING
3. PROPOSED CHEMICAL STORAGE TANKS
4. DAF NO.1
5. DAF NO.2
6. EQUALIZATION BASIN
7. AERATION POND NO. 1
8. AERATION POND NO. 2
9. AERATION POND NO. 3
10. AERATION POND NO. 5
11. FILTER NO. 1
12. FILTER NO. 2
13. EQUIPMENT PAD
14. PLANT WATER HYDROPNEUMATIC TANK
15. FLOW DIVERSION VAULT
16. TERTIARY EFFLUENT METER VAULT
17. STATIC MIXER
18. SECONDARY EFFLUENT PARSHALL FLUME
19. PROPOSED CHLORINE CONTACT BASIN
20. TERTIARY LIFT STATION

20 10 0 20 40 (FEET)
1 0.5 0 1 2 (INCHES)
GRAPHIC SCALE: 1"= 20

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

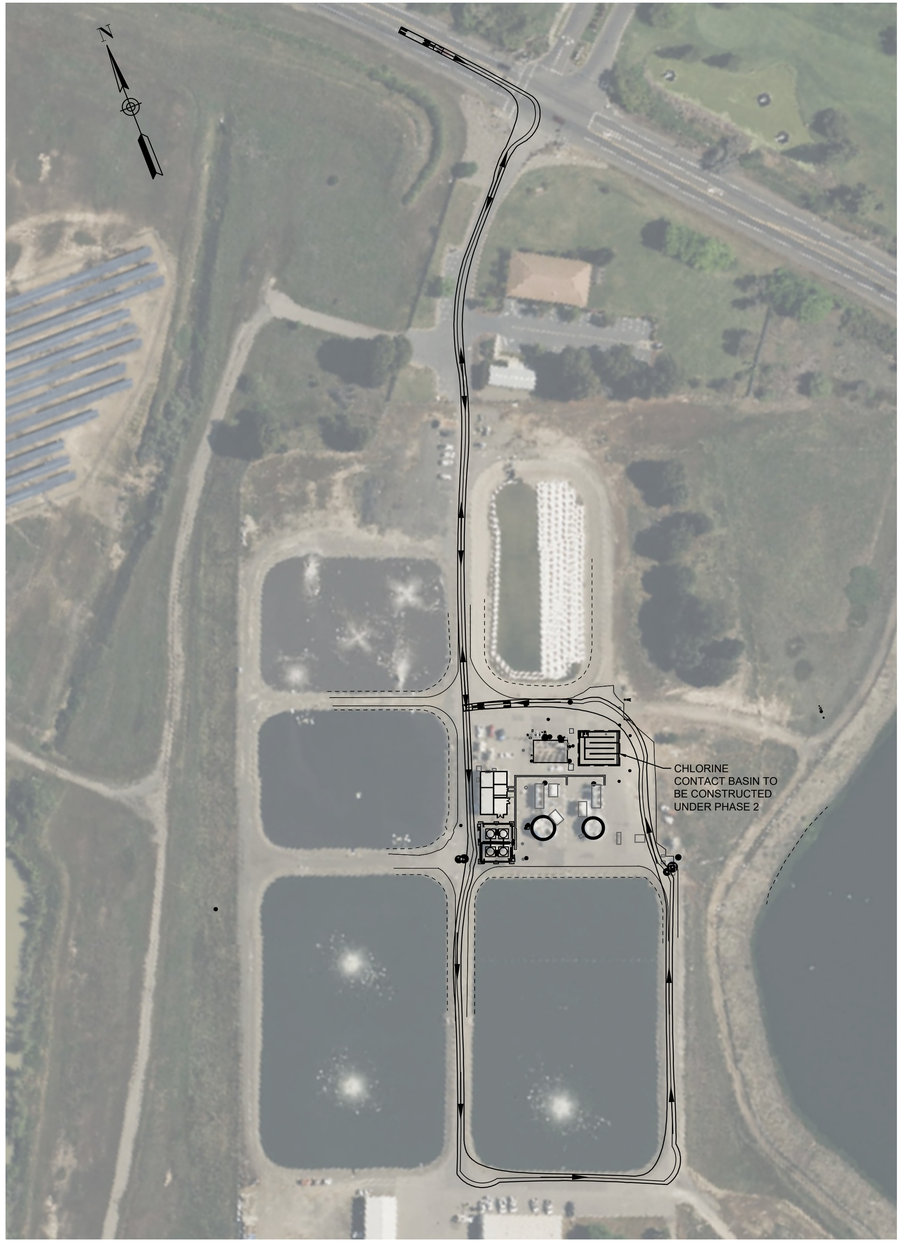
PROPOSED IMPROVEMENTS PLAN VIEW

PROJECT NO. 50158288

C0.03

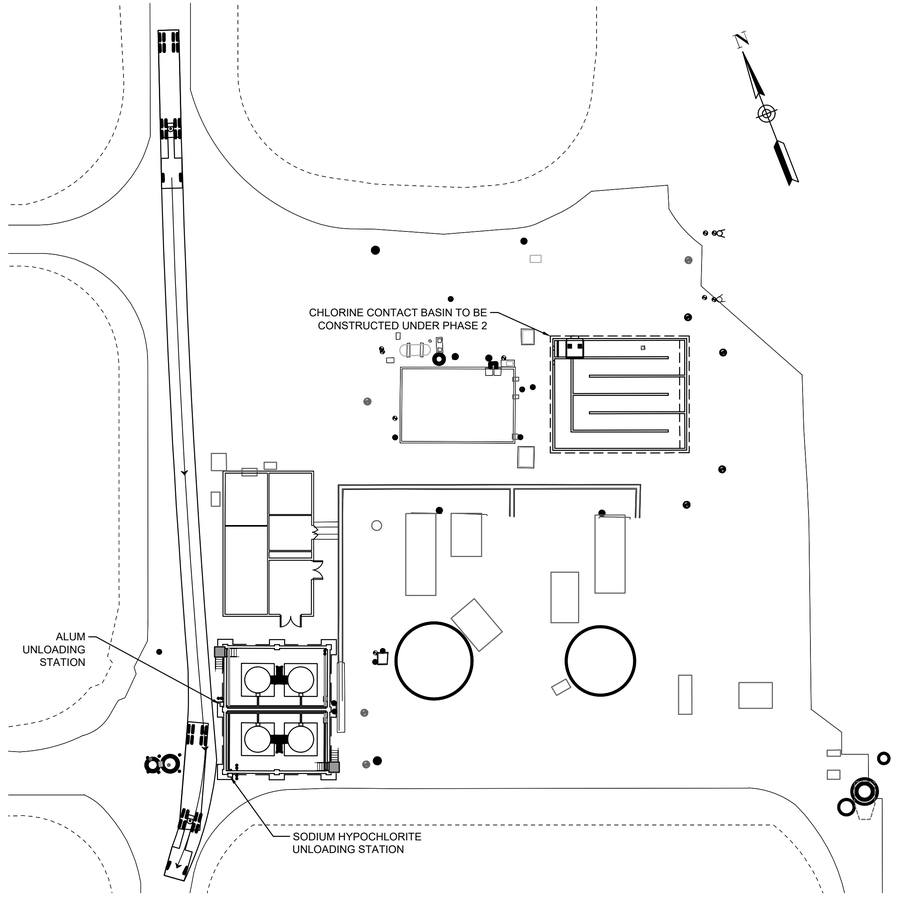
SHEET NO. 12 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–C–0–03.dwg, 9/13/2024 10:39 AM, Tran, KT Khuong



OVERALL CHEMICAL DELIVERY TRUCK ROUTE

100 50 0 100 200 (FEET)
1 0.5 0 1 2 (INCHES)
GRAPHIC SCALE: 1"= 100



TRUCK INGRESS ROUTE

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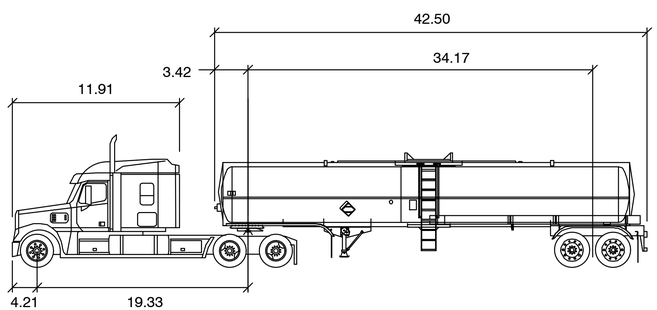
1 0.5 0 1 2 (INCHES)
GRAPHIC SCALE: 1"= 30



CHEMICAL DELIVERY TRUCK SPECIFICATIONS	
TRACTOR WIDTH	8.21 FT
TRAILER WIDTH	8.20 FT
TRACTOR TRACK	8.00 FT
TRAILER TRACK	8.00 FT
OVERALL LENGTH	62.62 FT
LOCK TO LOCK TIME	6.0 SEC
STEERING LOCK ANGLE	42.0 DEG
ARTICULATING ANGLE	70 DEG

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
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KEY PLAN

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DRAWN BY K. TRAN
APPROVED BY D. RICHARD
CHECKED BY D.RICHARD
DATE 9/13/2024

TITLE

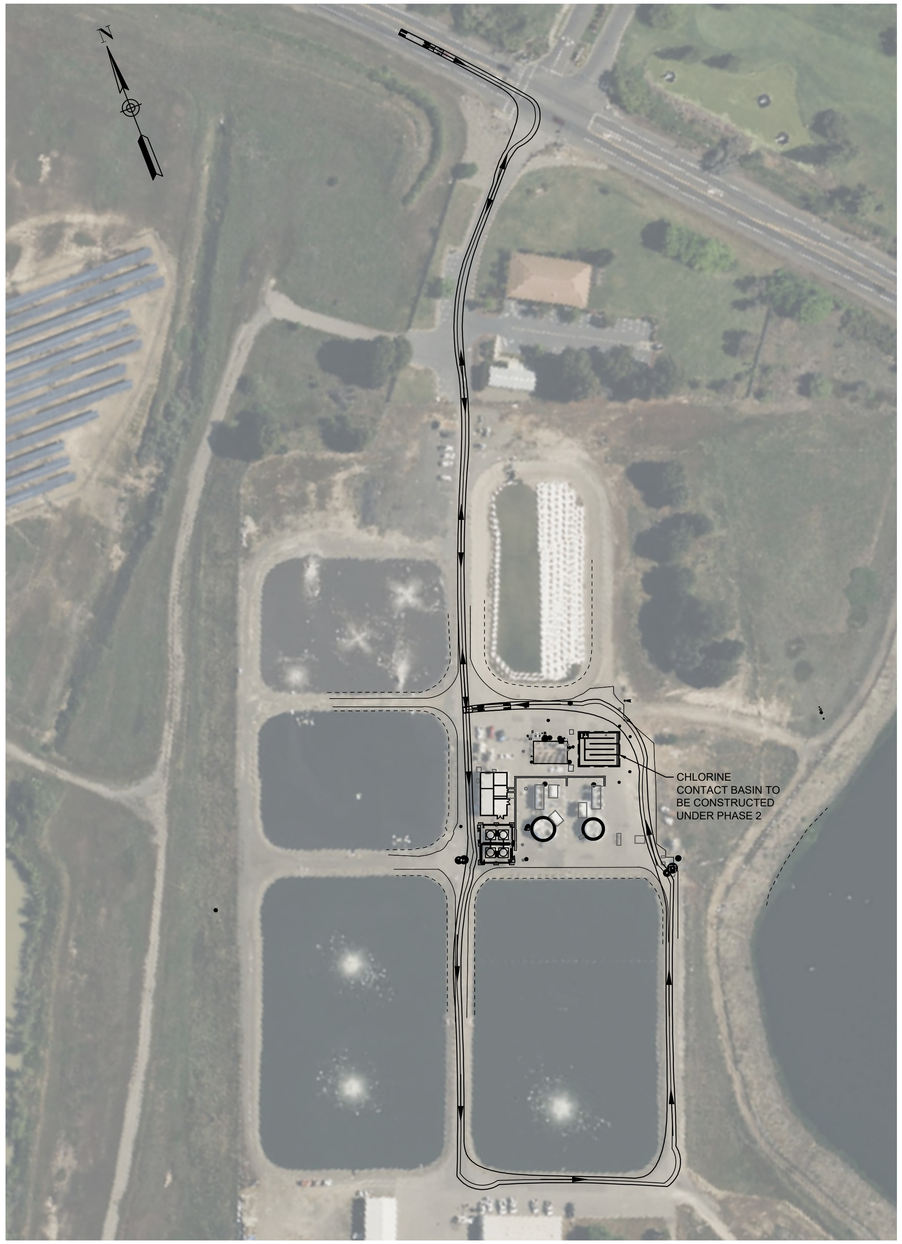
CHEMICAL DELIVERY TRUCK INGRESS ROUTE

PROJECT NO. 50158288

C0.04

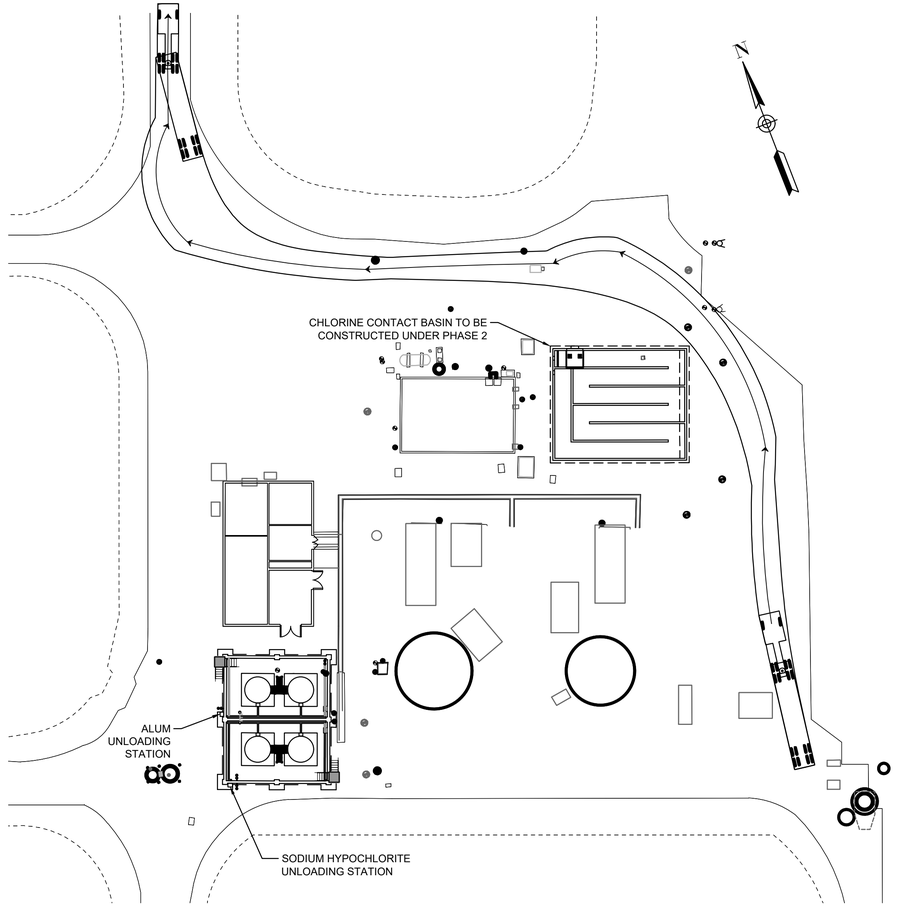
SHEET NO. 13 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-C-0-04-05.dwg, 9/13/2024 10:40 AM, Tran, KT Khuong



OVERALL CHEMICAL DELIVERY TRUCK ROUTE

100 50 0 100 200 (FEET)
1 0.5 0 1 2 (INCHES)
GRAPHIC SCALE: 1"= 100



TRUCK EGRESS ROUTE

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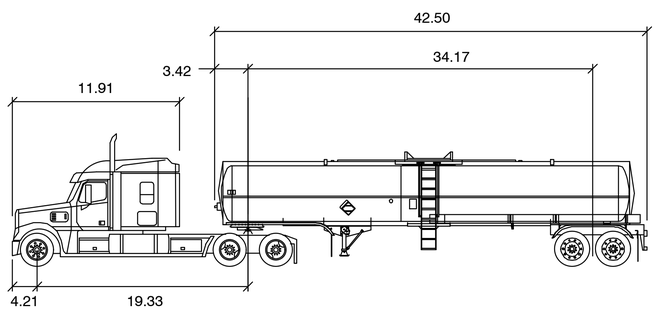
1 0.5 0 1 2 (INCHES)
GRAPHIC SCALE: 1"= 30



CHEMICAL DELIVERY TRUCK SPECIFICATIONS	
TRACTOR WIDTH	8.21 FT
TRAILER WIDTH	8.20 FT
TRACTOR TRACK	8.00 FT
TRAILER TRACK	8.00 FT
OVERALL LENGTH	62.62 FT
LOCK TO LOCK TIME	6.0 SEC
STEERING LOCK ANGLE	42.0 DEG
ARTICULATING ANGLE	70 DEG

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
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KEY PLAN

No.	DATE	BY	Description

REVISIONS

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APPROVED BY D. RICHARD
CHECKED BY D.RICHARD
DATE 9/13/2024

TITLE

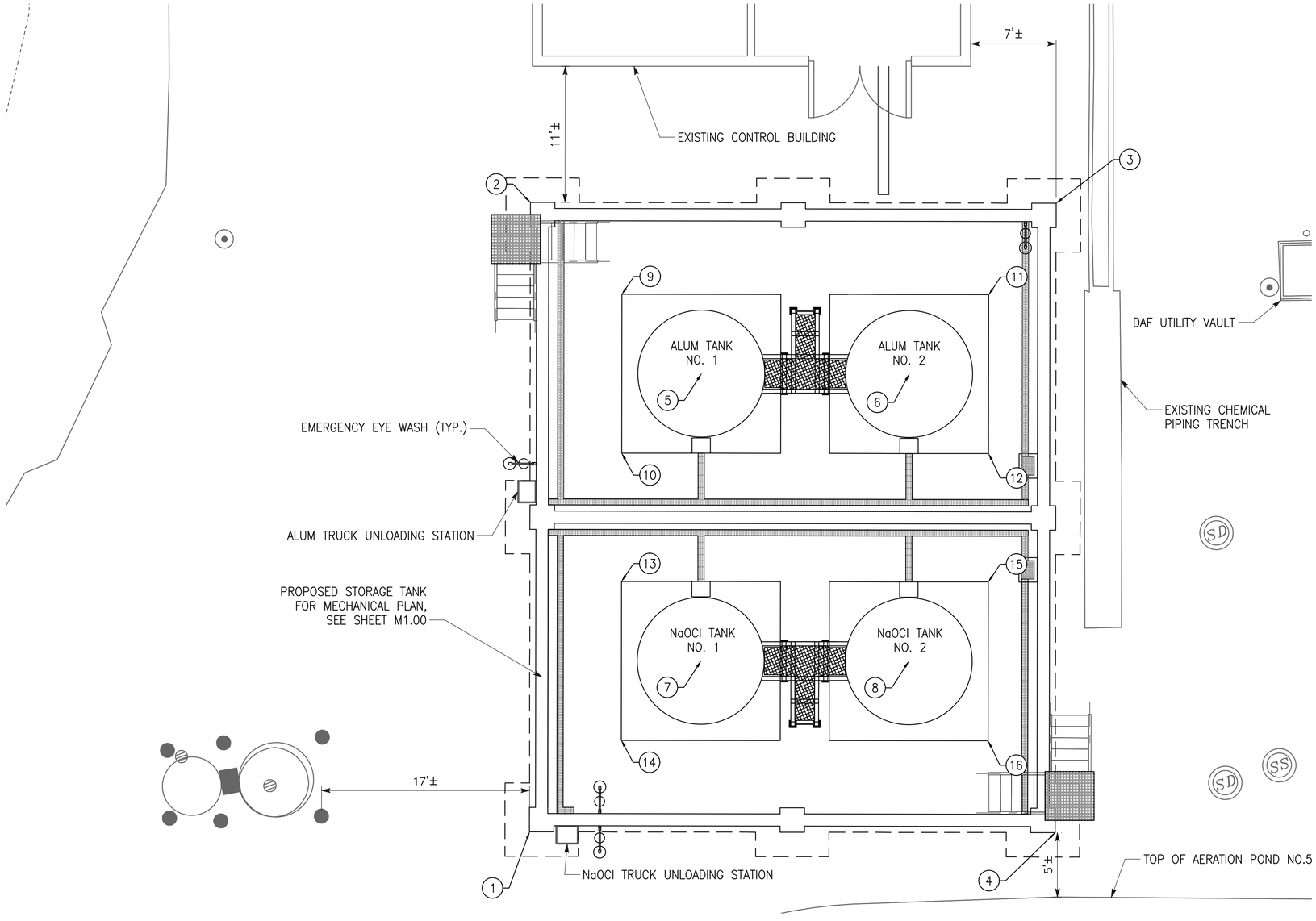
CHEMICAL DELIVERY TRUCK EGRESS ROUTE

PROJECT NO. 50158288

C0.05

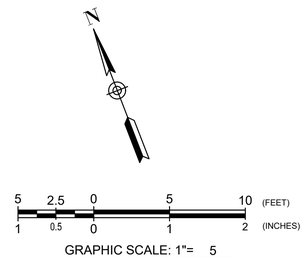
SHEET NO. 14 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-C-0-04-05.dwg, 9/13/2024 10:40 AM, Tran, KT Khuong



HORIZONTAL CONTROL POINT

NO.	EASTING	NORTHING	NO.	EASTING	NORTHING
1	6823760.42	1939769.78	9	6823782.97	1939808.30
2	6823778.60	1939817.97	10	6823778.38	1939796.14
3	6823818.83	1939802.78	11	6823811.04	1939797.71
4	6823800.65	1939754.60	12	6823806.45	1939785.54
5	6823786.76	1939799.92	13	6823774.67	1939786.31
6	6823802.66	1939793.92	14	6823770.08	1939774.15
7	6823778.46	1939777.94	15	6823802.74	1939775.72
8	6823794.36	1939771.93	16	6823798.15	1939763.56



GRAPHIC SCALE: 1"= 5

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
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STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

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APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

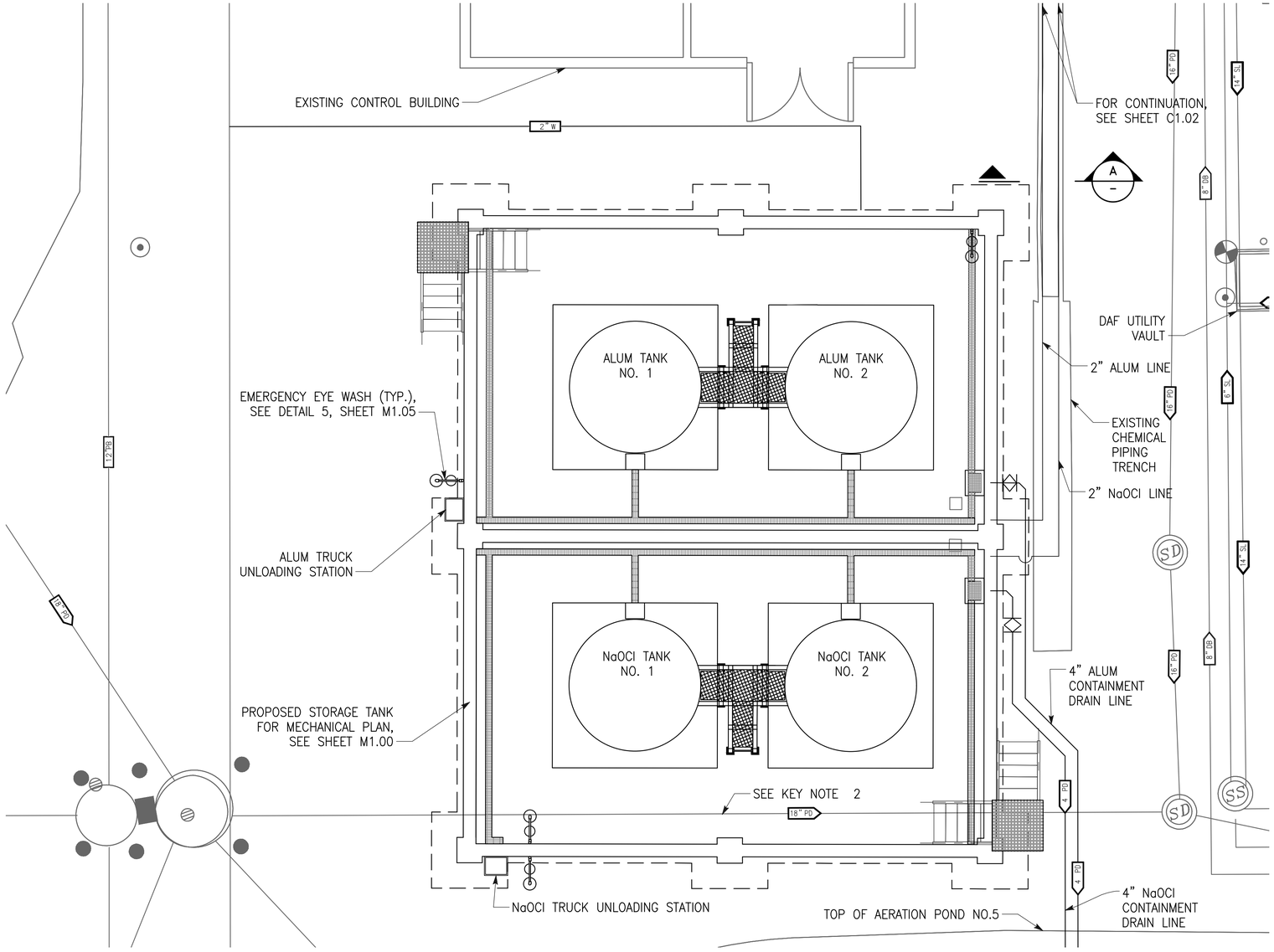
TITLE

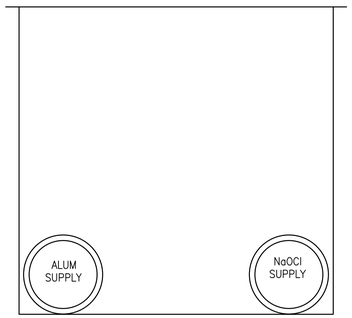
PROPOSED CHEMICAL STORAGE TANKS PLAN VIEW

PROJECT NO. 50158288

C1.00

SHEET NO. 15 OF 54

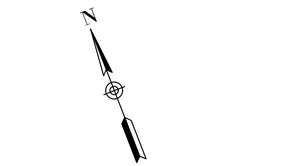




SECTION
SCALE: NTS

A
-

KEY NOTES:
1. FOR CHEMICAL PIPING WITHIN CONTAINMENT BAYS, SEE SHEET M1.00
2. REMOVE AND REPLACE PLANT DRAIN, SEE SHEET C1.03.
3. DOUBLE-WALLED PIPING SHALL BE FURNISHED FOR CHEMICAL PIPING OUTSIDE OF CONTAINMENT BAYS
4. FOR UNDERGROUND ELECTRICAL, SEE SHEET E0.05



GRAPHIC SCALE: 1"= 5

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
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No.	DATE	BY	Description

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APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

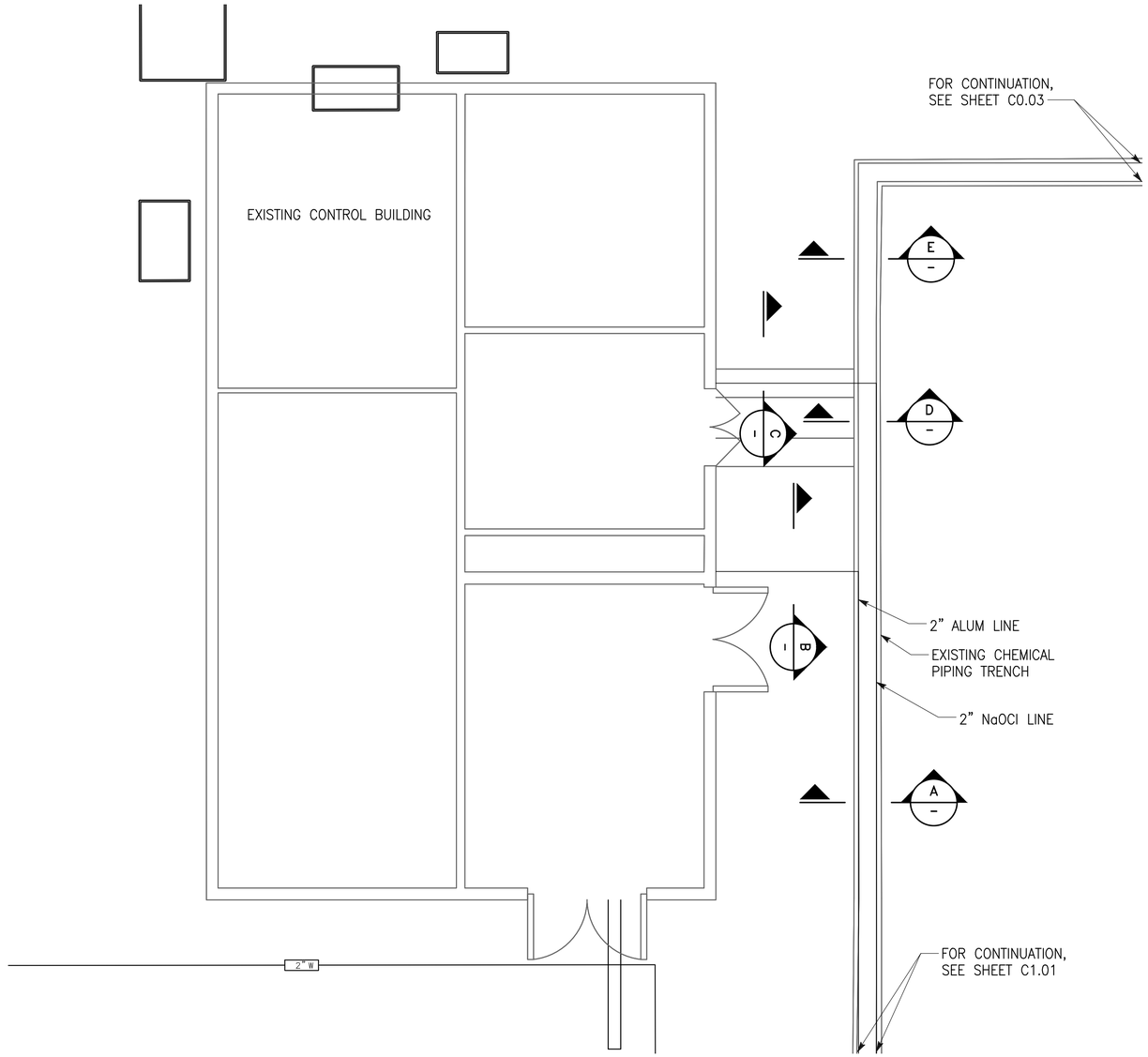
PROPOSED CHEMICAL STORAGE TANKS SITE PIPING PLAN

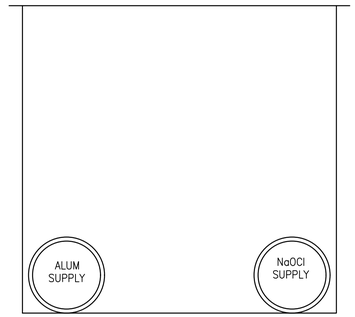
PROJECT NO. 50158288

C1.01

SHEET NO. 16 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-C-1-01.dwg, 9/13/2024 10:40 AM, Tran, KT Khuong





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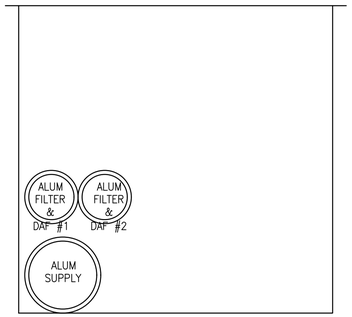

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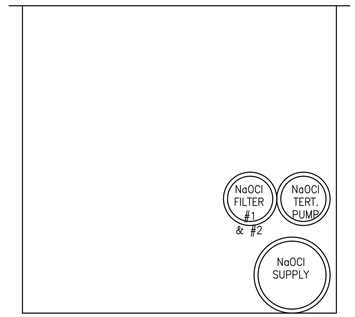

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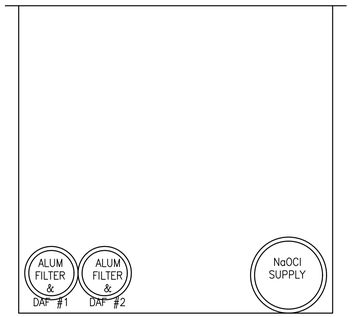

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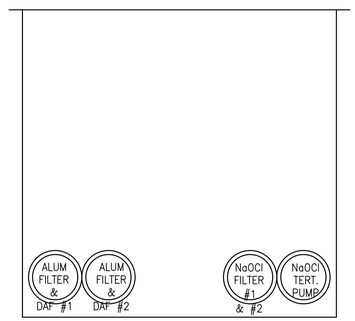

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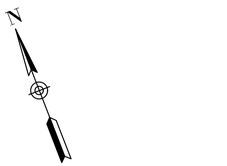

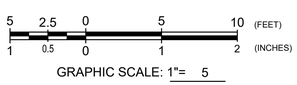

GRAPHIC SCALE: 1"= 5

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
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KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

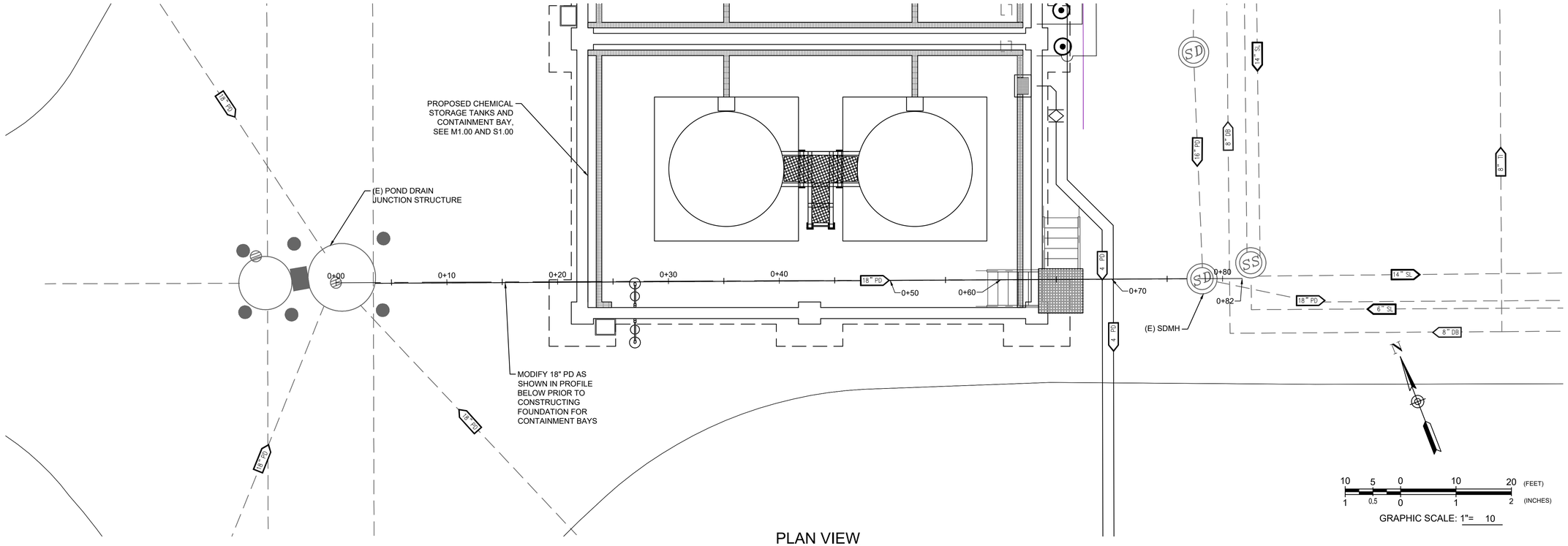
PROPOSED CHEMICAL PIPING PLAN

PROJECT NO. 50158288

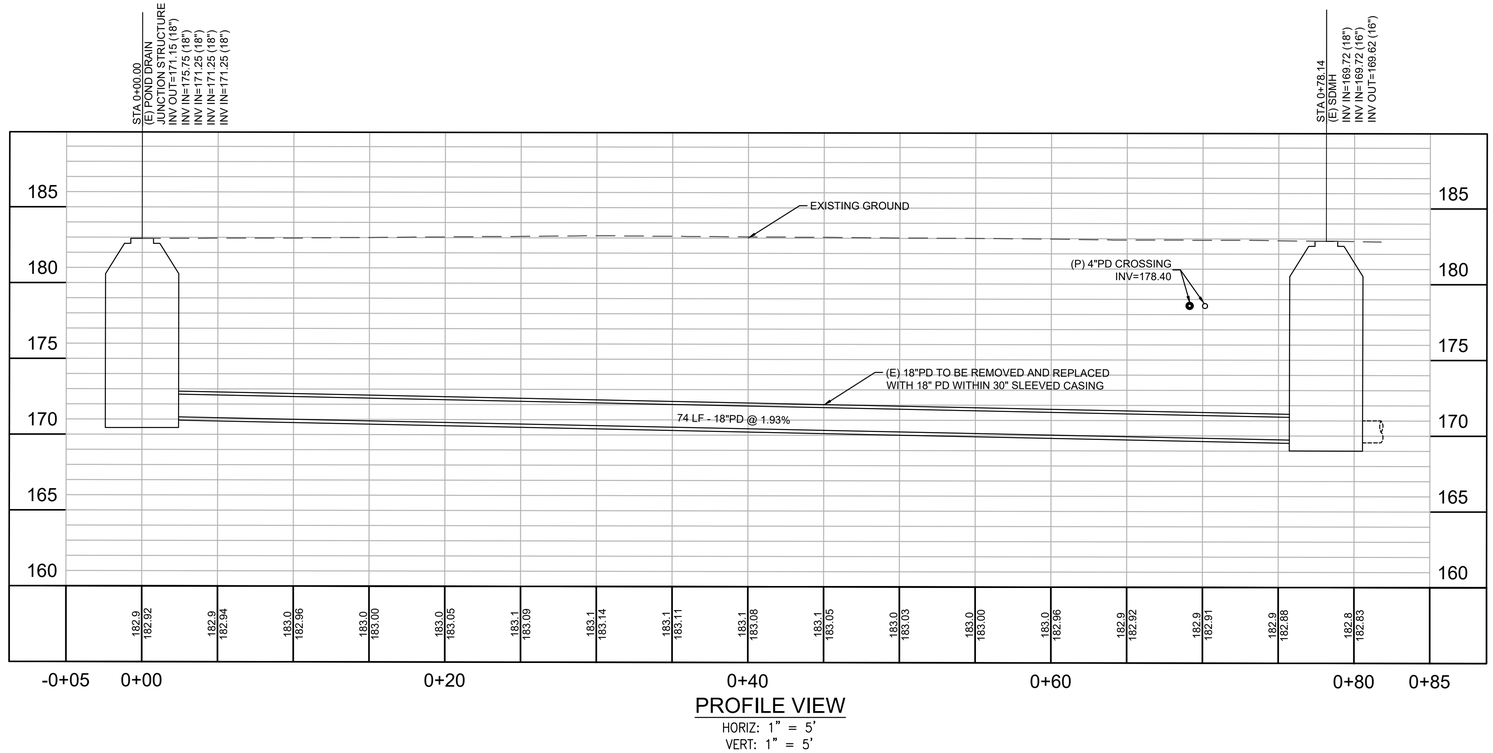
C1.02

SHEET NO. 17 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-C-1-02.dwg, 9/13/2024 10:40 AM, Tran, KT Khuong



PLAN VIEW



PROFILE VIEW

HORIZ: 1" = 5'
VERT: 1" = 5'

Dewberry

RANCHO MURIETA COMMUNITY SERVICES DISTRICT WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 2

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

PLANT DRAIN PIPING MODIFICATIONS

PROJECT NO. 50158288

C1.03

SHEET NO. 18 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–C–1–03.dwg, 9/13/2024 10:40 AM, Tran, KT Khuong

GENERAL NOTES

G1. SCOPE
THESE NOTES ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.

G2. APPLICABLE SPECIFICATIONS AND CODES
CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2018 EDITION OF THE IBC. THE ABOVE SHALL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR THE FOLLOWING NOTES ARE MORE RESTRICTIVE.

G3. ALTERNATIVE DESIGNS
THE STRUCTURAL SYSTEMS AND DETAILS ON THESE PLANS ARE THE PRIORITY DESIGN. ALTERNATIVE SYSTEMS AND DETAILS MAY BE USED IF THE CONTRACTOR SUBMITS PLANS WITH SUBSTANTIATING CALCULATIONS AND TEST DATA, AND IF THE ALTERNATIVE PLANS ARE ACCEPTED BY THE CONSTRUCTION MANAGER AND OWNER.

G4. DIMENSIONS
STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO MECHANICAL OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

G5. PROVISIONS FOR EQUIPMENT
DETAILS OF MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES, PIPING, AND EMBEDMENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DRAWINGS SHALL BE PROVIDED PRIOR TO CASTING CONCRETE.

G6. CONSTRUCTION LOADS
STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON COMPLETED STRUCTURES. DURING CONSTRUCTION, STRUCTURES SHALL BE PROTECTED BY BRACING AND SHORING WHEREVER EXCESSIVE LOADS MAY OCCUR.

G7. DESIGN LIVE LOADS

A. FLOOR AREAS:
1. MAIN LEVEL EXTERIOR SLAB ON GRADE AREAS – 250 PSF
2. SIDEWALKS – 100 PSF

B. GRATINGS, CHECKER PLATES, AND HATCHES – SAME LOADINGS AS ADJACENT FLOOR AREAS

C. STAIRS – 100 PSF

D. WALKWAYS – 100 PSF

E. WIND – 100 MPH. EXPOSURE C WITH 3 SECOND WIND GUST.

F. RANCHO MURIETA WWTP SITE SPECIFIC SEISMIC DESIGN SPECTRUM – 2018 I.B.C. CHAPTER 16

1. RISK CATEGORY = III
2. GROUND MOTION; Ss = 0.402 G, 0.2 SECOND RESPONSE S_1 = 0.207 G, 1.0 SECOND RESPONSE
3. DESIGN SPECTRAL ACCELERATION; Sds = 0.396 , Sd1 = 0.453
4. SITE CLASSIFICATION = D
5. SEISMIC DESIGN CATEGORY = D

G. LATERAL EARTH PRESSURE
(1) 127 PCF/FT SATURATED SOIL

H. SOIL BEARING PRESSURE:
THE MAXIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF.

I. BUILDING CODE:
1. 2019 CALIFORNIA BUILDING CODE WITH ASCE 7–16 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES AND ACI 350–06 CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES.
2. UNIFIED FACILITIES CRITERIA(UFC) STRUCTURAL ENGINEERING.

G8. SOILS
SEE GEOTECHNICAL EVALUATION REPORTS, WT REFERENCE 24–1035.1, DATED JULY 3, 2024. PROVIDED BY CRAWFORD & ASSOCIATES, INC.

G9. DRAINAGE SURFACES
SLOPE DRAINAGE SURFACE UNIFORMLY TO DRAIN. SLOPE SHALL BE 1/8" PER FOOT EXCEPT WHERE NOTED OTHERWISE ON THE PLANS.

G10. FLOOR DRAINS
SLOPE FLOOR TO DRAIN AT ELEVATIONS NOTED. SEE MECHANICAL DRAWINGS FOR SIZES AND TYPES.
FLOODPROOFING DESIGN CRITERIA
THE DESIGN OF ALL OF THE BELOW GRADE STRUCTURES REGARDLESS OF THEIR PROXIMITY TO THE 100 YEAR FLOODPLAIN INCLUDE ENVIRONMENTAL REQUIREMENTS LISTED IN ACI–350 THAT ALSO ADDRESS FLOODPROOFING DESIGN CRITERIA. THE DESIGN CRITERIA SPECIFIC TO FLOODPROOFING CONSIDERATIONS ARE AS FOLLOWS:

G10. FLOOR DRAINS
SLOPE FLOOR TO DRAIN AT ELEVATIONS NOTED. SEE MECHANICAL DRAWINGS FOR SIZES AND TYPES.
FLOODPROOFING DESIGN CRITERIA
THE DESIGN OF ALL OF THE BELOW GRADE STRUCTURES REGARDLESS OF THEIR PROXIMITY TO THE 100 YEAR FLOODPLAIN INCLUDE ENVIRONMENTAL REQUIREMENTS LISTED IN ACI–350 THAT ALSO ADDRESS FLOODPROOFING DESIGN CRITERIA. THE DESIGN CRITERIA SPECIFIC TO FLOODPROOFING CONSIDERATIONS ARE AS FOLLOWS:

A. ALL BELOW GRADE STRUCTURES ARE DESIGNED TO BE WATER–TIGHT FROM BOTH THE INNER AND OUTER WALL AND SLAB SURFACES. THE CONCRETE MEMBERS ARE DESIGNED TO RESIST HYDROSTATIC AND SATURATED SOIL LOADING. WATERSTOPS ARE INSTALLED AT ALL CONSTRUCTION JOINTS.

B. THE STRUCTURES ARE DESIGNED TO RESIST BUOYANT FORCES.

C. THE BELOW GRADE PORTIONS OF THE STRUCTURES ARE FOUNDED AT DEPTHS THAT ELIMINATE THE POSSIBILITY OF SCOUR.

D. THE ALLOWABLE SOIL BEARING PRESSURE IN SATURATED CONDITIONS HAS BEEN VERIFIED AND THAT CRITERIA HAS BEEN USED IN OUR DESIGN. ADDITIONALLY, IT HAS BEEN DETERMINED THAT LIQUEFACTION OF SATURATED SOIL WILL NOT BE A CONCERN ON THIS SITE.

CONCRETE

C1. APPLICABLE CODE
CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE ACI 301 SPECIFICATIONS FOR BUILDINGS, AND ACI 350 ENVIROMENTAL STRUCTURES.

C2. REINFORCING STEEL DETAILS
ALL DETAILING, FABRICATION, AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI–315), LATEST EDITION.

C3. DESIGN STRENGTHS
A. CONCRETE, Fc = 4500 PSI ULTIMATE COMPRESSIVE STRENGTH AT 28 DAYS AND AS OTHERWISE SPECIFIED.

B. REINFORCING STEEL, ASTM A615, GR.60, EXCEPT FOR TIES, STIRRUPS, AND BARS NOTED ON DRAWINGS TO BE FIELD BENT, WHICH SHALL BE GRADE 40. BARS TO BE WELDED SHALL BE ASTM A706.

C4. CONCRETE COVER
CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS WITH MINIMUM COVER OF ONE BAR DIAMETER.

A. CONCRETE CAST AGAINST EARTH – 3 INCHES.
B. CONCRETE TO BE IN CONTACT WITH LIQUID – 2 INCHES UNLESS OTHERWISE NOTED.
C. CONCRETE TO BE IN CONTACT WITH EARTH OR WEATHER.
1. BARS GREATER THAN #5 – 2 INCHES.
2. BARS #5 OR LESS – 1–1/2 INCHES.
D. CONCRETE NOT TO BE EXPOSED TO GROUND, WEATHER, OR LIQUID.
1. BEAMS AND COLUMNS – 1–1/2 INCHES.
2. SLABS, WALLS, AND JOISTS – 1 INCH.

C5. MINIMUM REINFORCEMENT
CONCRETE CONSTRUCTION SHALL BE REINFORCED CONCRETE EXCEPT WHERE PLAIN CONCRETE IS INDICATED ON THE DRAWINGS. UNLESS OTHERWISE NOTED, MINIMUM TEMPERATURE AND SHRINKAGE STEEL SHALL BE PROVIDED IN ACCORDANCE WITH ACI–350, LATEST REVISION.

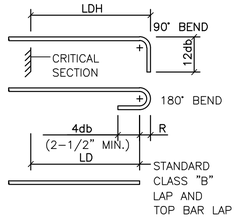
C6. ADDED TOP STEEL IN SLABS, EXCEPT AS NOTED ON DRAWINGS WHERE BEAMS OR WALLS ARE PARALLEL TO MAIN REINFORCING IN SLAB, PROVIDE #4 AT 18" TOP OF SLAB NORMAL TO BEAM OR WALL, AND EXTEND BARS 2'–0" BEYOND FACE OF BEAM OR WALL. WHEN SLAB IS ON ONE SIDE ONLY, TERMINATE BARS WITH STANDARD HOOK ON SIDE AWAY FROM SLAB.

C7. EXTRA ACCESSORY BARS
IN ADDITION TO NORMAL ACCESSORIES USED TO HOLD REINFORCING STEEL FIRMLY IN POSITION, EXTRA ACCESSORY BARS SHALL BE USED AS FOLLOWS:
A. IN SLABS #5 RAISER BARS AT 36" O.C. MAXIMUM TO SUPPORT TOP REINFORCING STEEL.
B. IN WALLS WITH TWO CURTAINS #3 U OR Z SHAPE SPACERS AT 6 FEET ON CENTER, EACH WAY

C8. BAR LAP SPLICES AND EMBEDMENT LENGTH DOWELS SHALL BE THE SAME SIZE AND SPACING AS BARS WITH WHICH THEY ARE LAPPED UNLESS OTHERWISE NOTED. ALL BAR SPLICES SHALL BE LAPPED, OR EMBEDDED, AS FOLLOWS UNLESS OTHERWISE NOTED.

REBAR SPLICE AND HOOK SCHEDULE

ASTM BAR SIZE	LD	CLASS B LAP	TOP BAR LAP	LDH
3	15"	19"	24"	6"
4	19"	25"	32"	7"
5	24"	31"	40"	9"
6	29"	37"	48"	12"
7	42"	54"	70"	15"
8	48"	62"	80"	18"
9	54"	70"	91"	21"
10	61"	79"	102"	25"



NOTES:

TOP BAR – DEFINED AS A BAR LOCATED SUCH THAT 12 IN. OR MORE OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE SPLICE.

MINIMUM OUTSIDE RADIUS OF BEND, R, SHALL BE 4db.
LD – STANDARD DEVELOPMENT LENGTH OF BAR
LDH – STANDARD DEVELOPMENT LENGTH OF HOOK
db – BAR DIAMETER

C9. RESTRICTED BAR ANCHORAGE IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED DUE TO THE LIMITED EXTENT OF THE ADJACENT CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.

C10. STANDARD HOOKS
BARS ENDING IN A RIGHT ANGLE BEND OR HOOK SHALL CONFORM TO THE REQUIREMENTS OF TABLE 1 OF ACI–315.

C11. SLOPING SLABS
MONOLITHIC SLABS WITH TOPS THAT ARE SLOPED SHALL HAVE BOTTOMS SLOPED THE SAME AMOUNT, MAINTAINING A UNIFORM SLAB THICKNESS, UNLESS OTHERWISE SHOWN.

C12. GROUND SUPPORTED SLABS
CONCRETE SLABS SUPPORTED BY GROUND, UNLESS OTHERWISE NOTED, SHALL BE 4" THICK REINFORCED WITH 4x4–6/6 WWF AT MID–DEPTH OF SLAB AND DOWELED ALONG THE EDGE OF SLAB TO ALL ADJACENT WALLS, COLUMNS, AND FOUNDATIONS WITH #4 DOWELS X 2'–0" THAT LAP 1'–0" WITH WWF AND EXTEND INTO WALLS, COLUMNS, AND FOUNDATIONS AT LEAST 9". IF SLAB IS DESIGNATED AS "ISOLATED SLAB" ON DRAWINGS, OMIT DOWELS AND SUBSTITUTE 3/8" THICK PREFORMED CLOSED CELL FOAM JOINT FILLER TO ISOLATE THE SLAB FROM CONTACT WITH THE STRUCTURE ALONG ITS PERIMETER. (SEE STRUCTURAL DRAWINGS)

C13. CHAMFERS
EXCEPT AS OTHERWISE REQUIRED, EXPOSED CONCRETE CORNERS AND EDGES SHALL HAVE 3/4" CHAMFERS. REENTRANT CORNERS SHALL NOT HAVE FILLETS.

C14. ANCHOR BOLTS
USE OF ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH DETAIL. ALL ANCHOR BOLTS SHALL BE STAINLESS STEEL U.N.O.

STEEL

ST1. APPLICABLE CODE
STEEL CONSTRUCTION SHALL CONFORM TO SPECIFICATIONS AND STANDARDS PRESENTED IN THE LATEST EDITION OF AISC STEEL CONSTRUCTION MANUAL.

ST2. MATERIAL
STRUCTURAL STEEL ROLLED SHAPES, INCLUDING PLATES AND ANGLES, SHALL BE ASTM A36. WIDE FLANGE SHAPES SHALL BE ASTM A992. CYLINDRICAL SHAPES SHALL BE ASTM A53. TUBE SHAPES SHALL BE ASTM A500, GRADE B. BOLTS, INCLUDING ANCHOR BOLTS, SHALL BE ASTM A307. STAINLESS STEEL SHAPES SHALL BE ASTM A276, TYPE 316, UNLESS NOTED OTHERWISE.

ST3. WELDING
WELDING SHALL BE DONE BY A CERTIFIED WELDER IN ACCORDANCE WITH AISC AND AWS CODES FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION.

ST4. ENCASED STEEL
STEEL COMPLETELY ENCASED IN CONCRETE SHALL NOT BE GALVANIZED OR PAINTED AND SHALL HAVE A CLEAN SURFACE FOR BONDING TO CONCRETE.

ST5. HEADED ANCHOR STUDS (HAS)
HEADED ANCHOR STUDS SHALL BE ATTACHED TO STRUCTURAL ELEMENTS WITH A WELDING MACHINE APPROVED BY THE STUD MANUFACTURER IN ACCORDANCE WITH THE MANUFACTURER'S WELDING SPECIFICATIONS.

ELEVATIONS

E1. DATUM
ELEVATIONS ARE BASED ON INFORMATION SHOWN ON THE CIVIL DRAWINGS.

E2. VERIFY EXISTING ELEVATIONS
ALL ELEVATIONS NOTED FOR EXISTING CONSTRUCTION ARE APPROXIMATE. (SEE NOTE M7)

FIELD VERIFICATION OF EXISTING CONSTRUCTION

F1. GENERAL
DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION ARE SHOWN FOR BIDDING ONLY.

F2. VERIFICATION REQUIRED
CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY EXISTING CONSTRUCTION TO VERIFY DIMENSIONS, ELEVATIONS, ETC. WHICH AFFECT THE WORK SHOWN ON THE DRAWINGS.

F3. REPORTING DISCREPANCIES
REPORT ANY VARIATIONS OR DISCREPANCIES TO THE OWNER BEFORE PROCEEDING.

STRUCTURE ABBREVIATIONS LIST

A.B.	AGGREGATE BASE	EQ.	EQUAL	PSI	POUNDS PER SQUARE INCH
AL	ALUMINIUM	E.W.	EACH WAY	PSF	POUNDS PER SQUARE FOOT
ALT	ALTERNATIVE	EXIST.	EXISTING	R	RADIUS
B.S.	BOTH SIDES	EXP.	EXPANSION	REINF.	REINFORCING
BOT.	BOTTOM	FTG.	FOOTING	REQ'D.	REQUIRED
CF	CUBIC FOOT	GALV.	GALVANIZED	STD.	STANDARD
C/L, ℄	CENTERLINE	GA.	GAUGE	SSFH	STAINLESS STEEL FLAT HEAD
CLR.	CLEAR	HSS	HOLLOW STRUCTURAL SECTION	SST	STAINLESS STEEL
COL.	COLUMN	HORIZ.	HORIZONTAL	SYMM.	SYMMETRICAL
CONC.	CONCRETE	KSI.	KIPS PER SQUARE INCH	T & B	TOP AND BOTTOM
CONT.	CONTINUOUS	LLV	LONG LEG VERTICAL MAX.	T.O.	TOP OF
DET.	DETAIL	MAX.	MAXIMUM	TOT.	TOTAL
DIA., ø	DIAMETER	MIN.	MINIMUM	TYP	TYPICAL
DIM.	DIMENSION	MPH	MILES PER HOUR	U.N.O.	UNLESS NOTED OTHERWISE
DWG	DRAWING	N.T.L.	NOT TO SCALE	V.I.F.	VERIFY IN FIELD
EA.	EACH	#	NUMBER	VERT.	VERTICAL
E.F.	EACH FACE	O.C.	ON CENTER	W.P.	WORKING POINT
ELEV.	ELEVATION	PL	PLATE	WSTP	WATERSTOP

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DARRELL JAMES HARDY
No. 93472
Exp. 06/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	DS
APPROVED BY	M.J. HARDY
CHECKED BY	M.J. HARDY
DATE	9/13/2024

TITLE
STRUCTURAL GENERAL NOTES NO. 1

PROJECT NO. 50158288

S0.01

SHEET NO. 19 OF 54

STRUCTURAL OBSERVATION:

1. STRUCTURAL OBSERVATION IS REQUIRED DURING AND AT SPECIFIC STAGES OF CONSTRUCTION.

   A. SPECIAL TEST AND INSPECTIONS OF STRUCTURAL ASSEMBLIES AND COMPONENTS TO BE PERFORMED IN COMPLIANCE WITH CBC. STRUCTURAL OBSERVATIONS ARE REQUIRED FOR SEISMIC RESISTANCE, LIST OF STRUCTURES REQUIRING OBSERVATION ARE AS FOLLOWS. CONTRACTOR TO COORDINATE WITH SEOR FOR SCHEDULING OBSERVATIONS BEFORE PLACEMENT OF CONCRETE.
      1. SLAB REINFORCEMENT AND WALL DOWELS
      2. WALL REINFORCEMENT

   B. DUTIES OF SPECIAL INSPECTOR:
      1.) GENERAL: REQUIRED DUTIES OF THE SPECIAL INSPECTOR ARE DESCRIBED IN CBC.
      2.) SELECTION OF THE MATERIAL REQUIRED TO BE TESTED SHALL BE BY THE OWNER'S TESTING LABORATORY AND NOT THE CONTRACTOR.

   C. SPECIAL TESTING AND INSPECTIONS:
      1.) OWNER RESERVES THE RIGHT TO POSITIVE MATERIAL IDENTIFICATION TEST:
         1. CONTRACTOR MUST MAKE MATERIAL(S) AVAILABLE FOR TESTING.
      2.) THE FOLLOWING TYPES OF WORK REQUIRE SPECIAL INSPECTION AS DESCRIBED IN CBC, REFER TO THE FOLLOWING VERIFICATION, TESTING AND INSPECTION SCHEDULES:
         1. CAST-IN-PLACE CONCRETE SPECIAL INSPECTION SCHEDULE.
         2. ESSENTIAL ARCHITECTURAL, MECHANICAL AND ELECTRICAL INSPECTION SCHEDULE.
         3. SOILS VERIFICATION AND INSPECTION SCHEDULE.
         4. STRUCTURAL STEEL SPECIAL INSPECTION SCHEDULE.

SPECIAL INSPECTION:

1. SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING STRUCTURAL MATERIALS AND CONSTRUCTION.

2. DIVISION 2 SITE CONSTRUCTION (EARTHWORK)
   A. EXCAVATION DEPTH.
   B. ADEQUACY OF EXPOSED SURFACES TO PROVIDE REQUIRED SUPPORT.
   C. PREPARATION OF SOILS / SURFACES SUPPORTING CONSTRUCTION.
   D. FILL AND BACKFILL.

3. DIVISION 3 CONCRETE:
   A. LOCATIONS.
   B. FORMWORK AND MEMBER SIZES.
   C. REINFORCING STEEL.
   D. ANCHORS: CAST-IN AND POST-INSTALLED.
   E. CONCRETE AND MIX AND PLACEMENT.
   F. PROTECTION AND CURING PROCEDURES.
   G. PRESTRESSED CONCRETE.

4. DIVISION 5 METALS:
   A. GENERAL ALL METALS:
      1.) MEMBER LOCATIONS.
      2.) MEMBER SIZES / TYPES.
      3.) ANCHORS – CAST-IN AND BUILT-IN ANCHOR BOLTS.
      4.) ANCHORS – POST-INSTALLED MECHANICAL AND ADHESIVE.
   B. STRUCTURAL STEEL (CARBON AND STAINLESS)
      1.) HIGH-STRENGTH BOLTING.
      2.) WELDING.
   C. STEEL DECKING
      1.) CONNECTIONS TO SUPPORTS.
      2.) SIDE CONNECTIONS BETWEEN ADJACENT SHEETS.

DEFERRED DESIGN SUBMITTALS:

AS DEFINED IN THE BUILDING CODE, DEFERRED DESIGN SUBMITTALS ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION, AND THAT ARE TO BE REVIEWED BY THE REGISTERED DESIGN PROFESSIONAL AND SUBSEQUENTLY SUBMITTED TO THE BUILDING OFFICIAL.

DEFERRED DESIGN SUBMITTALS FOR THIS PROJECT INCLUDE:

1. DIVISION 06 WOOD AND PLASTICS
   A. 06608 AND 06611
      FRP GRATING
      FRP STAIRWAYS
      STRUCTURAL BEAMS

2. DIVISION 13 SPECIAL CONSTRUCTION
   A. METAL BUILDING SYSTEMS

3. PROCESS / MECHANICAL EQUIPMENT ANCHORAGE WHERE GREATER THAN 400 LBS.

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
LUNELL JAMES HARDY
No. 93472
Exp. 06/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	DS
APPROVED BY	M.J. HARDY
CHECKED BY	M.J. HARDY
DATE	9/13/2024

TITLE

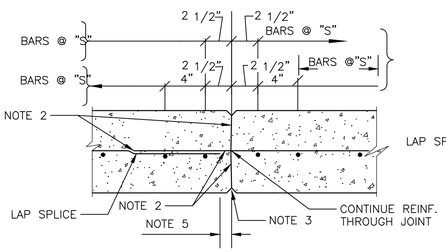
STRUCTURAL GENERAL NOTES NO. 2

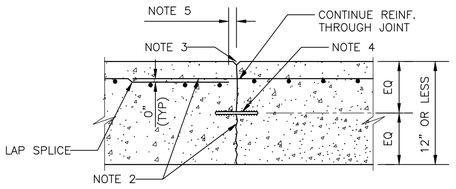
PROJECT NO. 50158288

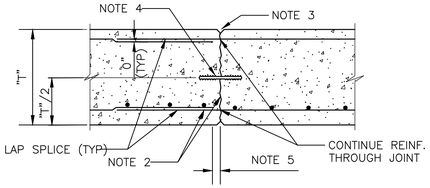
S0.02

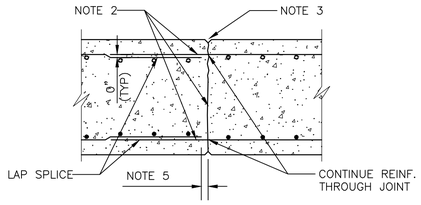
SHEET NO. 20 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\RMCSD-S-0-02.dwg, 9/13/2024 10:40 AM, Tran, KT Khuong







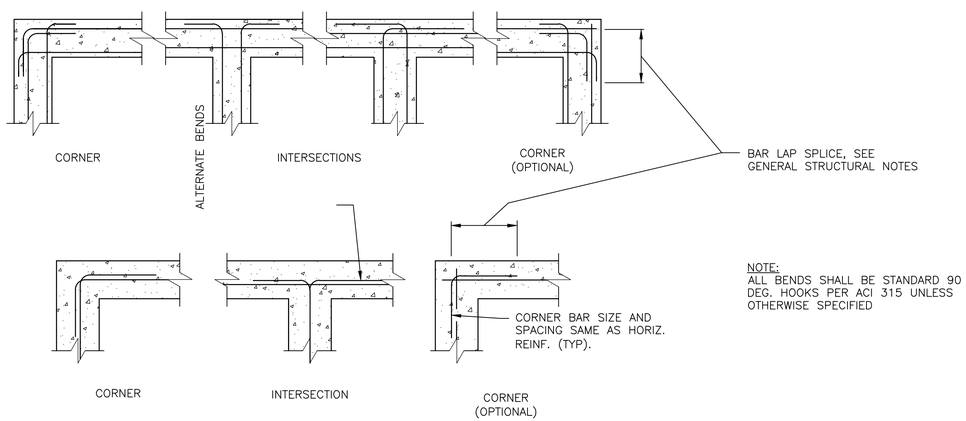


NOTES:

1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS. "T" EQUALS SLAB OR WALL THICKNESS.
2. ROUGHEN EXPOSED JOINT FACE TO A 1/4" AMPLITUDE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
3. JOINT EDGES:
   A. FOR WALLS AND BOTTOMS OF EXPOSED SLABS: FORM EDGES WITH 1/2" CHAMFER.
   B. FOR SLABS: EDGE TOP AND ENDS WITH 1/4" RADIUS.
4. 6" WATERSTOP CENTERED ON JOINT–SEE DETAIL 3/S0.05. THROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE IN SECOND POUR.
5. STOP REINFORCING 2" CLEAR OF JOINT.

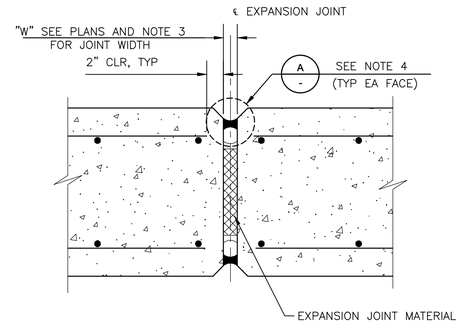
CONSTRUCTION JOINT 1 TYP
SCALE: NTS

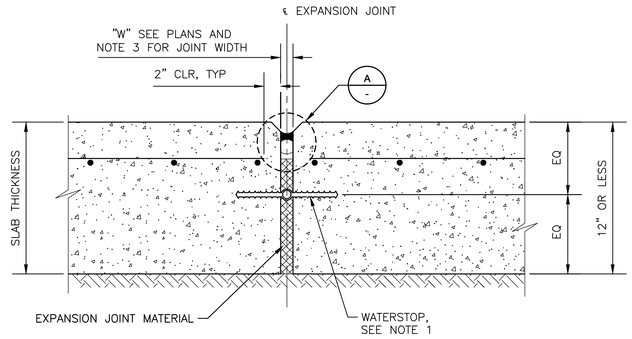
NOTE:
WHERE ADDITIONAL CORNER BARS ARE REQUIRED AT "TEE" WALL INTERSECTIONS PROVIDE ADDITIONAL HOOKED BARS AS SHOWN AND ADDITIONAL STRAIGHT HORIZONTAL BARS ON BOTH FACES OF THE PERPENDICULAR INTERSECTING WALL.

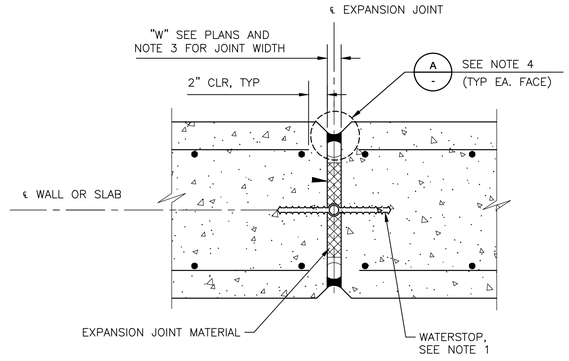


NOTE:
ALL BENDS SHALL BE STANDARD 90 DEG. HOOKS PER ACI 315 UNLESS OTHERWISE SPECIFIED

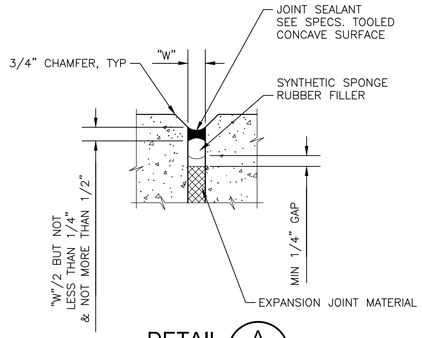
REINFORCING STEEL AT WALL INTERSECTIONS 3 TYP
SCALE: NTS







EXPANSION JOINT DETAILS 2 TYP
SCALE: NTS



DETAIL A -
SCALE: NTS

NOTES:

1. 9" WATERSTOP WITH CENTER BULB CENTERED ON JOINT–SEE DETAIL 3/S0.05. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE IN SECOND POUR.
2. JOINT EDGES:
   A. FOR WALLS AND BOTTOMS OF EXPOSED SLABS: FORM EDGES WITH 3/4" CHAMFER.
   B. FOR SLABS: EDGE TOP AND ENDS WITH 1/4" RADIUS.
3. "W"=1" UNLESS OTHERWISE INDICATED ON PLANS. (MIN JOINT WIDTH = 3/8". MAX JOINT WIDTH = 2")

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
JAMES HARDY
No. 93472
Exp. 06/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	DS
APPROVED BY	M.J. HARDY
CHECKED BY	M.J. HARDY
DATE	9/13/2024

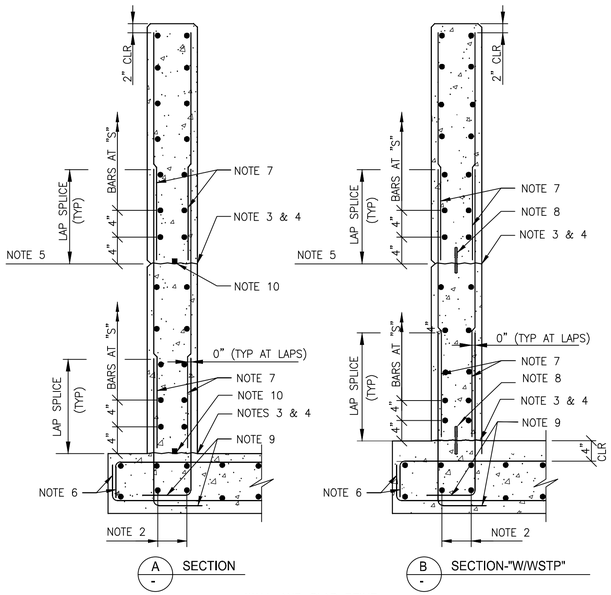
TITLE
STRUCTURAL DETAILS NO. 1

PROJECT NO. 50158288

S0.03

SHEET NO. 21 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\RMCSD–S–0–03.dwg, 9/13/2024 10:40 AM, Tran, KT Khuong



A SECTION

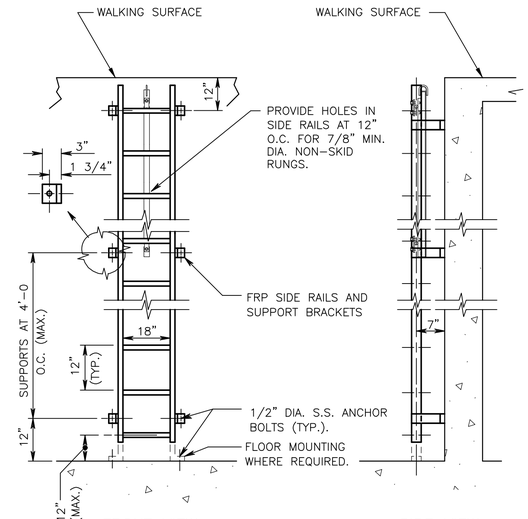
B SECTION-"W/WSTP"

WALL AND SLAB REINF SIZE AND SPACING AS INDICATED ON THE DRAWINGS

NOTES:

1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS.
2. PLACE AND ALIGN BARS BEFORE PLACING DOWELS. BAR SIZE TO MATCH SLAB BARS.
3. WATER-BLAST JOINT FACE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
4. PLACE CEMENT GROUT OVER JOINT FACE IMMEDIATELY BEFORE PLACING CONCRETE. (SEE SPECIFICATIONS).
5. CONSTRUCTION JOINT WHERE INDICATED ON THE DRAWINGS. WHERE WALL SURFACE IS EXPOSED TO VIEW IN THE FINISHED WORK, PROVIDE V-GROOVE.
6. STANDARD 90° HOOK WHERE INDICATED ON THE DRAWINGS. (ALTERNATE: PROVIDE 180° HOOK WHERE REQUIRED BY SLAB THICKNESS).
7. DOWELS: SAME SIZE AND SPACING AS VERTICAL WALL BARS, UNLESS OTHERWISE NOTED.
8. 6" PVC WATERSTOP CENTERED VERTICALLY ON JOINT. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE.
9. STANDARD 90° HOOK UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
10. WHERE DRAWINGS INDICATE "W/STRIPS WSTP" PROVIDE LOW EXPANSION HYDROPHILIC WATERSTOP AT TOP SURFACE OF JOINT AND CENTERED BETWEEN VERTICAL BARS.

CONSTRUCTION JOINT WALLS 1 TYP
SCALE: NTS



FRONT VIEW SIDE VIEW

NOTES:

1. LADDER TO BE MANUFACTURED BY STRUCTURAL FIBERGLASS, INC. OR ENGINEER APPROVED EQUAL.
2. EACH LADDER SHALL BE EQUIPPED WITH A MODEL 4 LADDER UP SAFETY POST TO BE MANUFACTURED BY BILCO OR ENGINEER APPROVED EQUAL.
3. LADDER MOUNTING HARDWARE SHALL BE STAINLESS STEEL U.N.O.

FRP LADDER 2 TYP
SCALE: NTS

Dewberry

RANCHO MURIETA
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WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
MICHELL JAMES HARDY
No. 93472
Exp. 06/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

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REVISIONS

DRAWN BY	DS
APPROVED BY	M.J. HARDY
CHECKED BY	M.J. HARDY
DATE	9/13/2024

TITLE

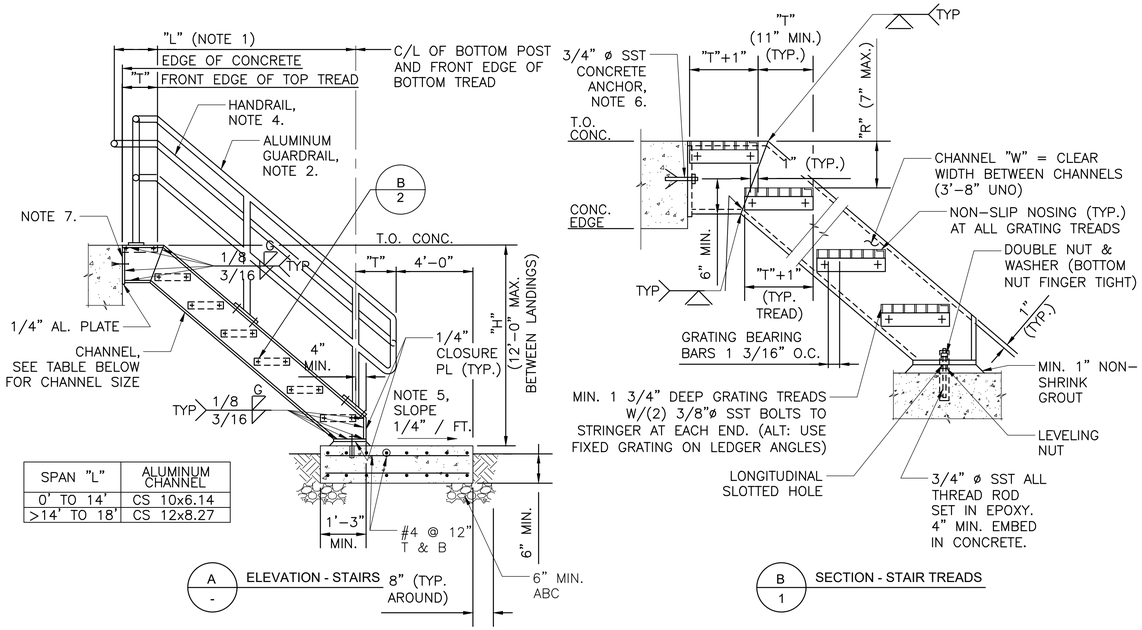
STRUCTURAL DETAILS NO. 2

PROJECT NO. 50158288

S0.04

SHEET NO. 22 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\RMCSD-S-0-04.dwg, 9/13/2024 10:41 AM, Tran, KT Khuong



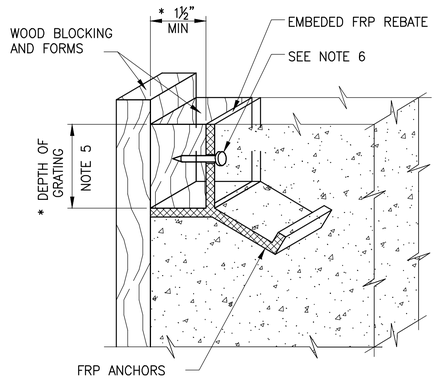
SPAN "L"	ALUMINUM CHANNEL
0' TO 14'	CS 10x6.14
>14' TO 18'	CS 12x8.27

NOTES:

1. SEE DRAWINGS FOR DIMENSIONS.
2. SEE DETAIL FOR ALUMINUM GUARDRAIL NOTES AND ALUMINUM GUARDRAIL DETAILS.
3. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE, AND INSTALL ISOLATION SLEEVES AND WASHERS BETWEEN DISSIMILAR METALS AS SPECIFIED.
4. PROVIDE HANDRAIL EXTENSIONS AS SHOWN AT BOTH SIDES OF STAIR, UNLESS HANDRAIL IS CONTINUOUS (AS AT SWITCHBACK STAIR).
5. AT EXTERIOR STAIRS, PROVIDE CONCRETE SLAB ON GRADE UNLESS OTHERWISE INDICATED ON THE DRAWINGS. MINIMUM CONCRETE SLAB WIDTH = STAIR CLEAR WIDTH ("W") PLUS 2'-0" (12" EACH SIDE). EDGE TOP CORNERS OF SLAB TO 1/4" RADIUS.
6. INSTALL CONCRETE ANCHORS MIN. 6" FROM BOTTOM AND 6" FROM SIDES / EDGES OF CONCRETE.
7. CONNECTION TO CONCRETE SHOWN. SEE DETAIL FOR CONNECTION AT METAL FRAMING.
8. FOR PROJECTS LOCATED IN CALIFORNIA, PROVIDE WARNING STRIPS FOR THE TOP AND BOTTOM TREAD ON INTERIOR STAIRS, AND FOR ALL TREADS ON EXTERIOR STAIRS, STRIPS SHALL BE CLEARLY CONTRASTING COLOR AT LEAST 2" WIDE. PLACE STRIP PARALLEL TO AND NOT MORE THAN 1" FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED.

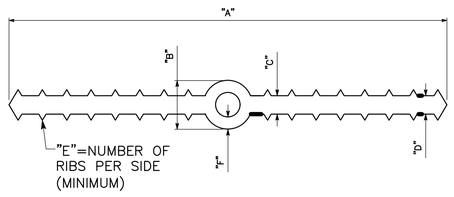
STAIRS - ALUMINUM - FLUSH TOP - TWO RAIL

SCALE: NTS — 1 TYP



GRATING REBATE

SCALE: NTS — 2 TYP



TYPE	"A"	"B"	"C"	"D"	"E"	"F"	APPLICATION
W/O CENTER BULB	6"	–	⅜"	⅜"	7	–	CONSTRUCTION AND CONTROL JOINTS
CENTER BULB	9"	1"	⅜"	⅜"	7	¼"	EXPANSION JOINTS 1" AND NARROWER

NOTES:
1. SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
2. DIMENSIONS ARE MINIMUM, UNLESS OTHERWISE NOTED.

PVC WATERSTOP SCHEDULE

NO SCALE — 3 TYP

Dewberry

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
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SEAL

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CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	DS
APPROVED BY	M.J. HARDY
CHECKED BY	M.J. HARDY
DATE	9/13/2024

TITLE
STRUCTURAL DETAILS NO. 3

PROJECT NO. 50158288

S0.05

SHEET NO. 23 OF 54

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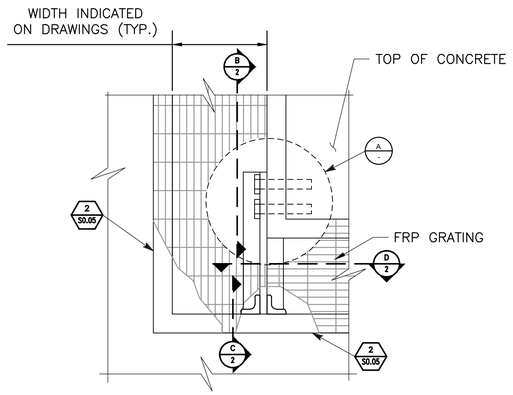
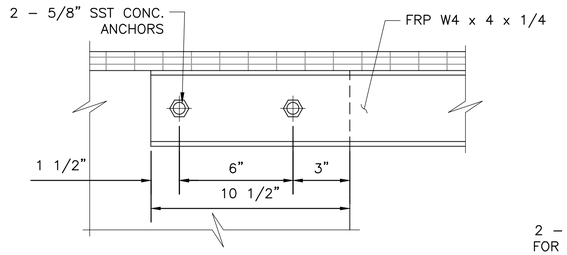


PLAN



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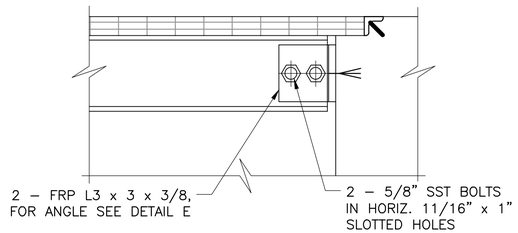
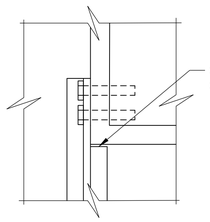


C / 1 SECTION



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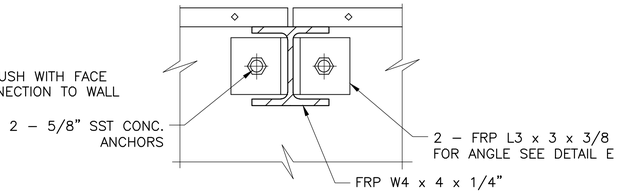
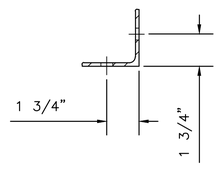


D / - SECTION



E / 1 DETAIL

GRATING - CORNER SUPPORT BEAM - FRP

SCALE: NTS

1 / TYP

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
JAMES HARDY
No. 93472
Exp. 06/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	DS
APPROVED BY	M.J. HARDY
CHECKED BY	M.J. HARDY
DATE	9/13/2024

TITLE

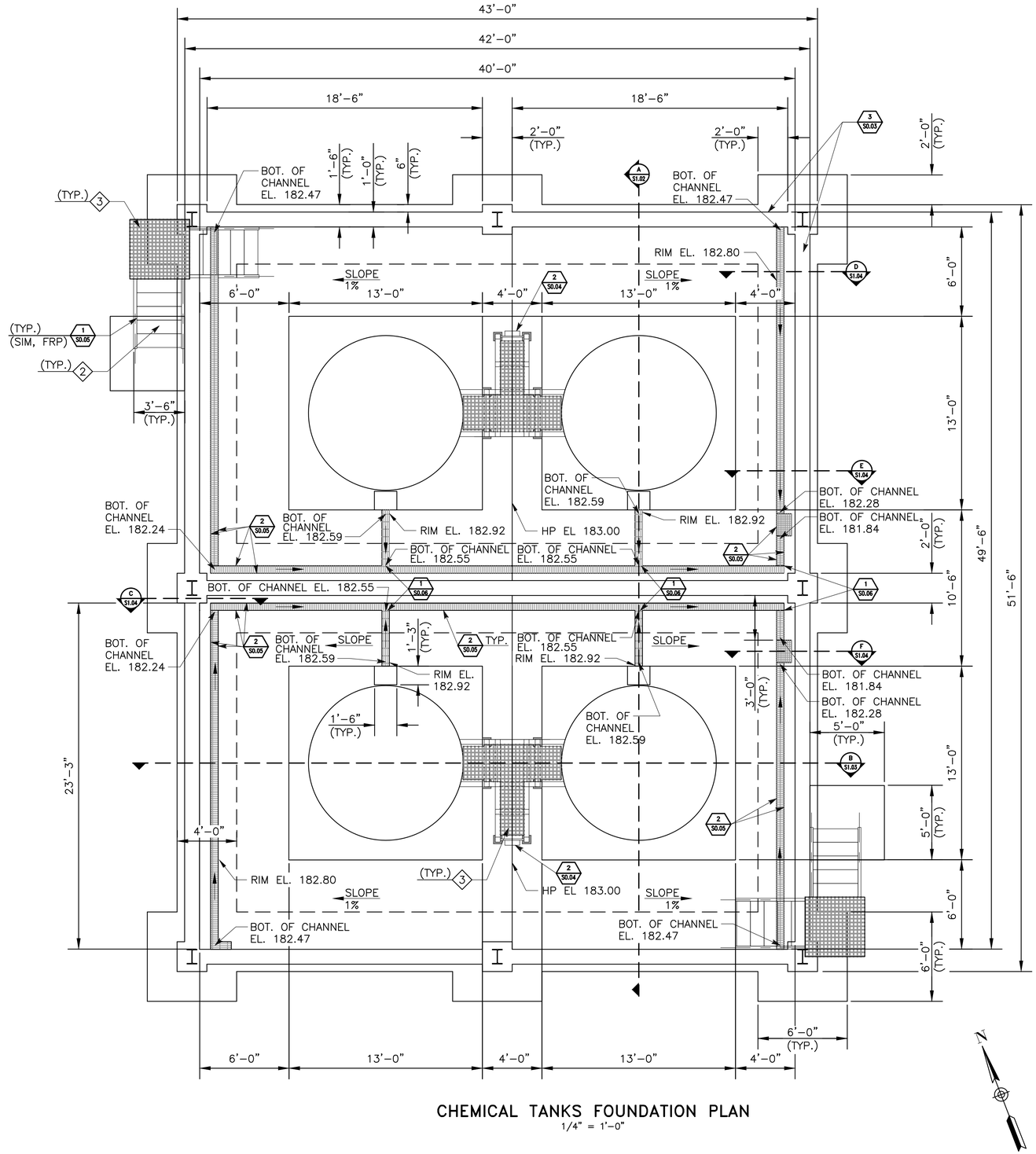
STRUCTURAL
DETAILS
NO. 4

PROJECT NO. 50158288

S0.06

SHEET NO. 24 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\RMCSD–S–0–06.dwg, 9/13/2024 10:41 AM, Tran, KT Khuong



CHEMICAL TANKS FOUNDATION PLAN
1/4" = 1'-0"

GENERAL NOTES:

1. FOR STRUCTURAL GENERAL NOTES SEE DRAWINGS S0.01 AND S0.02.
2. FOR LOCATION OF EQUIPMENT, PIPE SUPPORTS, ELECTRICAL, ETC. SEE MECHANICAL AND ELECTRICAL DRAWINGS.

KEY NOTES:

1. FRP BEAM & CONNECTION TO BE DESIGNED BY CONTRACTOR, SEE SPECIFICATION 06608, SUBMITTED CALCULATIONS TO BE STAMPED BY A CALIFORNIA REGISTERED PROFESSIONAL ENGINEER. ALL BOLTING & CONCRETE ANCHOR CONNECTIONS TO BE 316 SST H-20 LIVE LOAD.
2. STAIR MATERIAL TO BE FRP SEE SPECIFICATION 06608 & 06611, SUBMITTED CALCULATIONS TO BE STAMPED BY A CALIFORNIA REGISTERED PROFESSIONAL ENGINEER. ALL BOLTING & CONCRETE ANCHOR CONNECTIONS TO BE 316 SST.
3. FRP WALKWAY GRATING DESIGNED FOR 100 PSF LIVE LOAD, 200 LB LATERAL LIVE LOAD APPLIED TOP OF RAILING OR 50 LB/FT LIVE LOAD APPLIED TOP OF RAILING. SUBMIT CALCULATIONS OF ALL CONNECTION DESIGN, BEAM DESIGN, COLUMN DESIGN, AND ANCHOR DESIGN AND TO BE STAMPED BY A CALIFORNIA REGISTERED ENGINEER. SUBMIT SHOP DRAWINGS. SEE SPECIFICATION FOR FIBERGLASS REINFORCED GRATINGS.

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RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
MICHELL JAMES HARDY
No. 93472
Exp. 06/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	DS
APPROVED BY	M.J. HARDY
CHECKED BY	M.J. HARDY
DATE	9/13/2024

TITLE

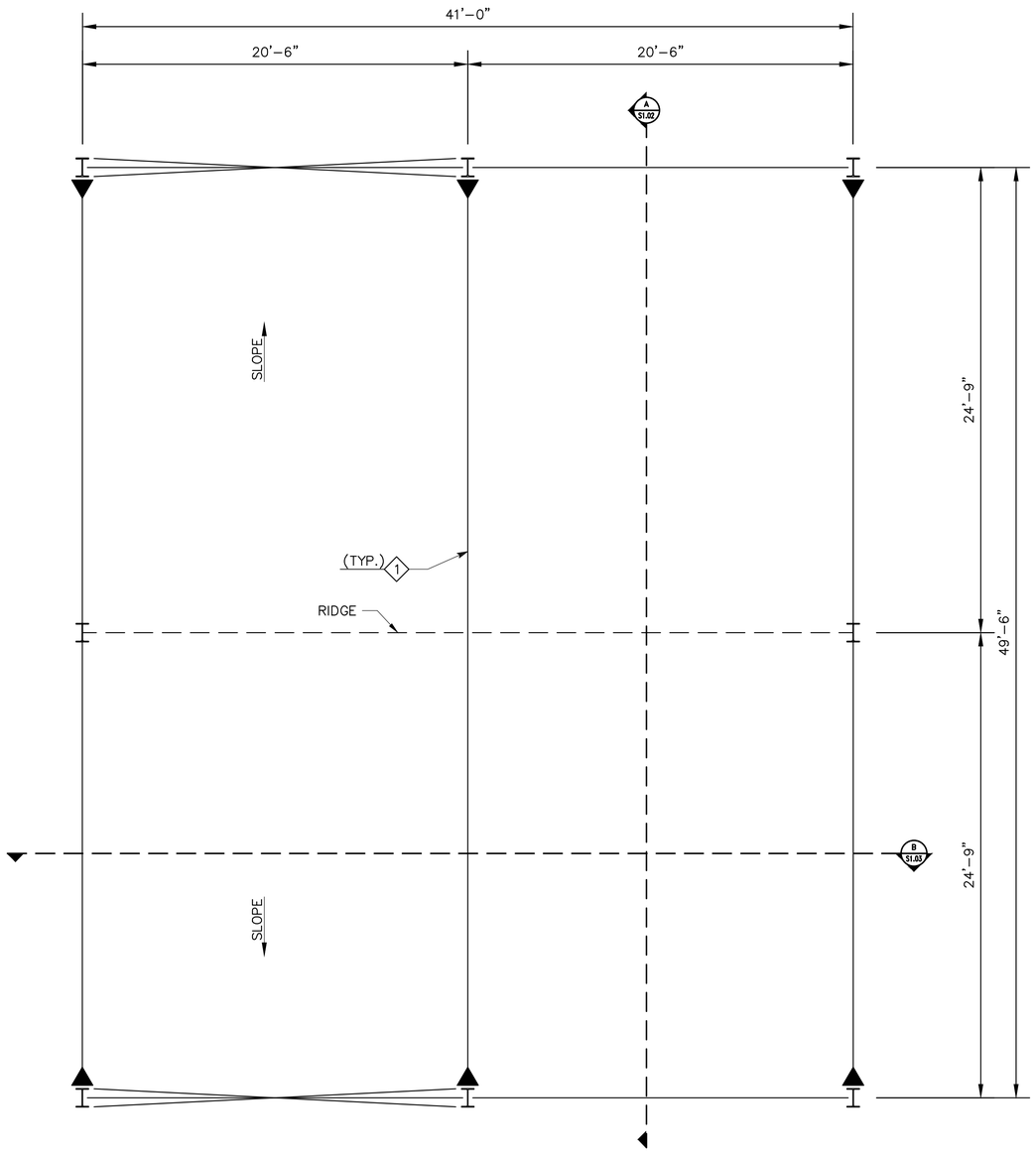
CHEMICAL TANKS FOUNDATION PLAN

PROJECT NO. 50158288

S1.00

SHEET NO. 25 OF 54

U:\50158288 - RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\RMCSD-S-1-00.dwg, 9/13/2024 10:41 AM, Tran, KT Khuong



CHEMICAL TANKS ROOF PLAN
1/4" = 1'-0"

GENERAL NOTES:

1. FOR STRUCTURAL GENERAL NOTES SEE DRAWING S-0.01
2. FOR LOCATION OF EQUIPMENT, PIPE SUPPORTS, ELECTRICAL, ETC. SEE MECHANICAL AND ELECTRICAL DRAWINGS.
3. STRUCTURAL DESIGN CRITERIA:
   1. DESIGN LIVE LOAD:
      a. RPPF: 20 PSF
      b. GRATING: 100 PSF
      c. FLOOR: 200 PSF
   2. DESIGN DEAD LOAD :
      a. EQUIPMENT SELF WEIGHT
      b. CONCRETE SELF WEIGHT (150PCF)
   3. SEISMIC DESIGN CRITERIA:
      a. ANALYSIS PROCEDURE: ASCE 7-16 § 12.8.1
      b. RISK CATEGORY : III
      c. BASIC SEISMIC FORCE-RESISTING SYSTEM:
      d. SEISMIC RESPONSE COEFFICIENT. NS DIRECTION Cs=0.1619, EW DIRECTION Cs=0.0619
   4. WIND DESIGN CRITERIA:
      A. EXPOSURE FACTOR: C
      B. IMPORTANCE FACTOR: IW = 1.0
4. CANOPY STRUCTURE MINIMUM DESIGN CRITERIA PER SPECIFICATION, METAL BUILDING SYSTEM:
   CANOPY METAL FINISH: COATED STEEL PER SPECIFICATION 09960
   BASIC SEISMIC FORCE RESISTING SYSTEM:
   N-S: STEEL SPECIAL MOMENT FRAME, ASCE 7-16 TABLE 12.2-1
   E-W: STEEL ECCENTRICALLY BRACED FRAME, ASCE 7-16 TABLE 12.2-1
   ROOF LIVE LOAD: MIMIUMUM 20 PSF
   WIND SPEED: 100 MPH
   DENOTES BRACES:
   DENOTES MOMENT FRAME:
   ALL COLUMNS SHALL BE PINNED CONNECTED TO THE FOUNDATION.

KEY NOTE:

1. METAL BUILDING SYSTEM TO BE DESIGNED AND ENGINEERED BY THE CONTRACTOR. SIDING, ROOF, ALL BRACES, BEAM, COLUMNS AND CONNECTIONS INCLUDING ANCHORING TO FOUNDATION IS PER THE CONTRACTOR'S DESIGN. SUBMIT SHOP DRAWINGS AND CALCULATIONS PER SPECIFICATION; METAL BUILDING SYSTEMS

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RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
RUSSELL JAMES HARDY
No. 93472
Exp. 06/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	DS
APPROVED BY	M. J. HARDY
CHECKED BY	M. J. HARDY
DATE	9/13/2024

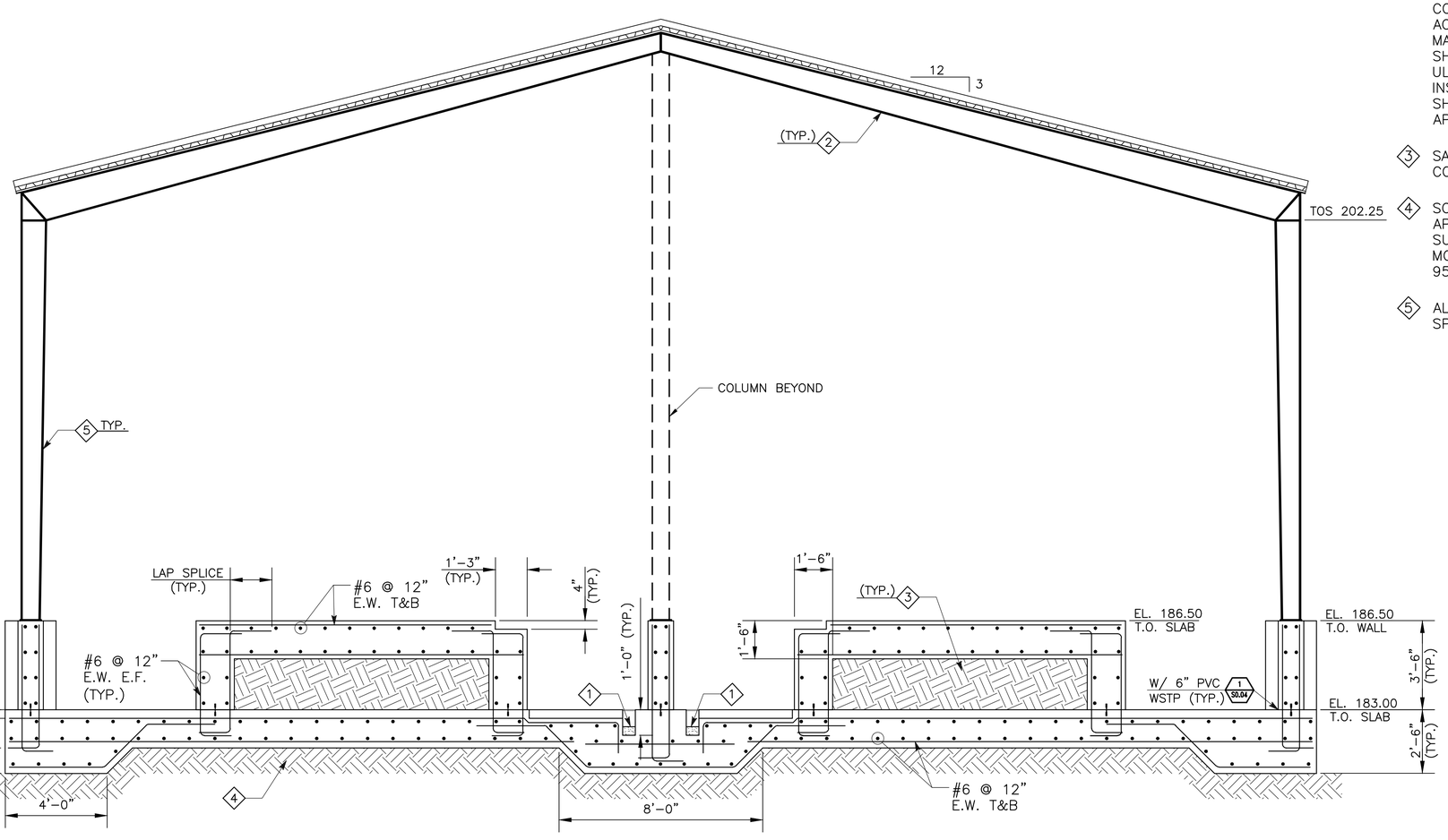
TITLE

CHEMICAL TANKS ROOF PLAN

PROJECT NO. 50158288

S1.01

SHEET NO. 26 OF 54



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

A
S1.00

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

KEY NOTES:

1. 2,000 PSI CONCRETE AS SPECIFIED IN 03300.
2. PLASTIC SPIKE BIRD DETERRENT SHALL BE INSTALLED TO PREVENT BIRDS FROM LANDING AND ROOSTING ON STRUCTURE SURFACES. BIRD DETERRENT SYSTEM SHALL BE UV STABILIZED POLYCARBONATE, HEAT AND WEATHER RESISTANT (+310 DEGREES FAHRENHEIT TO–200 DEGREES FAHRENHEIT), NON–CONDUCTIVE AND WILL NOT INTERFERE WITH ELECTRONIC SECURITY SYSTEMS OR TRANSMISSIONS, AND RIGID 1–PIECE CONSTRUCTION AS MANUFACTURED BY BIRD–B–GONE OR EQUAL. FINAL COLOR SELECTED BY OWNER FROM MANUFACTURER STANDARD COLOR CHART. SYSTEM MOUNTING SHALL BE IN ACCORDANCE WITH THE SUBSTRATE AND PER MANUFACTURER RECOMMENDATIONS. PRODUCT SHALL CARRY A 5 YEAR GUARANTEE AGAINST ULTRAVIOLET (UV) BREAKDOWN AND 2–YEAR INSTALLATION WARRANTY. PRODUCT SAMPLES SHALL BE SUBMITTED FOR ENGINEER REVIEW AND APPROVAL PRIOR TO INSTALLATION.
3. SAND PER ASTM C–33, 95% RELATIVE COMPACTION, MAXIMUM 8" LIFTS.
4. SCARIFY THE SUBGRADE TO A DEPTH OF APPROXIMATELY 12 INCHES. MOISTURE CONDITION SUBGRADE SOIL TO AT LEAST 2% OVER OPTIMUM MOISTURE CONTENT AND COMPACT TO A MINIMUM 95% RELATIVE COMPACTION PER ASTM D1557.
5. ALL EXPOSED STEEL SHALL BE COATED AS SPECIFIED IN 09800.

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RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
JARRELL JAMES HARDY
No. 93472
Exp. 06/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	DS
APPROVED BY	M. J. HARDY
CHECKED BY	M. J. HARDY
DATE	9/13/2024

TITLE

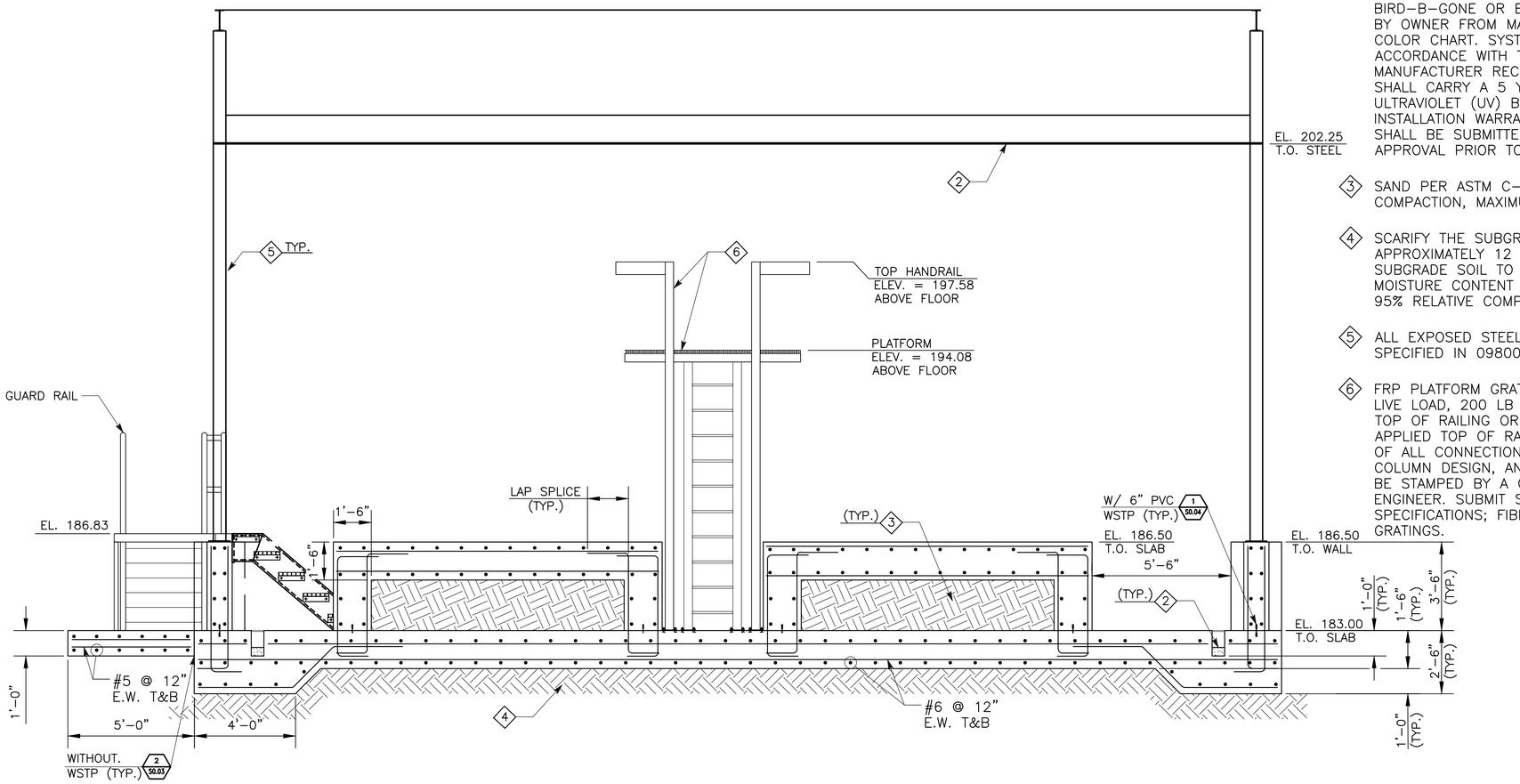
CHEMICAL TANKS SECTION NO. 1

PROJECT NO. 50158288

S1.02

SHEET NO. 27 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\RMCSD–S–1–02.dwg, 9/13/2024 10:41 AM, Tran, KT Khuong



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

B
S1.00

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

KEY NOTES:

1. 2,000 PSI CONCRETE AS SPECIFIED IN 03300.
2. PLASTIC SPIKE BIRD DETERRENT SHALL BE INSTALLED TO PREVENT BIRDS FROM LANDING AND ROOSTING ON STRUCTURE SURFACES. BIRD DETERRENT SYSTEM SHALL BE UV STABILIZED POLYCARBONATE, HEAT AND WEATHER RESISTANT (+310 DEGREES FAHRENHEIT TO-200 DEGREES FAHRENHEIT), NON-CONDUCTIVE AND WILL NOT INTERFERE WITH ELECTRONIC SECURITY SYSTEMS OR TRANSMISSIONS, AND RIGID 1-PIECE CONSTRUCTION AS MANUFACTURED BY BIRD-B-GONE OR EQUAL. FINAL COLOR SELECTED BY OWNER FROM MANUFACTURER STANDARD COLOR CHART. SYSTEM MOUNTING SHALL BE IN ACCORDANCE WITH THE SUBSTRATE AND PER MANUFACTURER RECOMMENDATIONS. PRODUCT SHALL CARRY A 5 YEAR GUARANTEE AGAINST ULTRAVIOLET (UV) BREAKDOWN AND 2-YEAR INSTALLATION WARRANTY. PRODUCT SAMPLES SHALL BE SUBMITTED FOR ENGINEER REVIEW AND APPROVAL PRIOR TO INSTALLATION.
3. SAND PER ASTM C-33, 95% RELATIVE COMPACTION, MAXIMUM 8" LIFTS.
4. SCARIFY THE SUBGRADE TO A DEPTH OF APPROXIMATELY 12 INCHES. MOISTURE CONDITION SUBGRADE SOIL TO AT LEAST 2% OVER OPTIMUM MOISTURE CONTENT AND COMPACT TO A MINIMUM 95% RELATIVE COMPACTION PER ASTM D1557.
5. ALL EXPOSED STEEL SHALL BE COATED AS SPECIFIED IN 09800.
6. FRP PLATFORM GRATING DESIGNED FOR 100 PSF LIVE LOAD, 200 LB LATERAL LIVE LOAD APPLIED TOP OF RAILING OR 50 LB/FT LIVE LOAD APPLIED TOP OF RAILING. SUBMIT CALCULATIONS OF ALL CONNECTION DESIGN, BEAM DESIGN, COLUMN DESIGN, AND ANCHOR DESIGN AND TO BE STAMPED BY A CALIFORNIA REGISTERED ENGINEER. SUBMIT SHOP DRAWINGS. SEE SPECIFICATIONS; FIBERGLASS REINFORCED GRATINGS.

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
JARRELL JAMES HARDY
No. 93472
Exp. 06/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	DS
APPROVED BY	M. J. HARDY
CHECKED BY	M. J. HARDY
DATE	9/13/2024

TITLE

CHEMICAL TANKS
SECTION
NO. 2

PROJECT NO. 50158288

S1.03

SHEET NO. 28 OF 54

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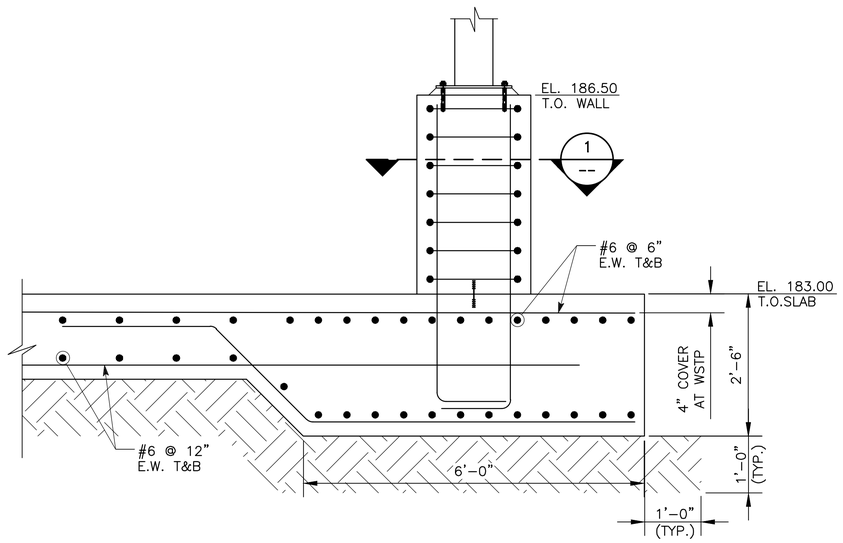
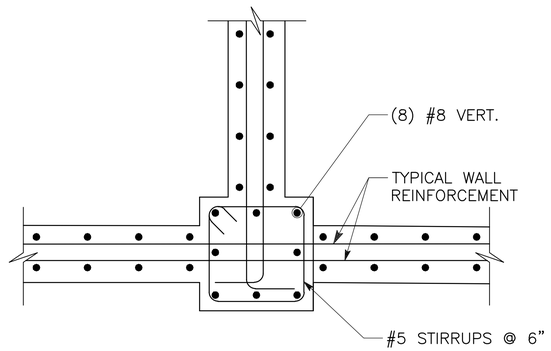
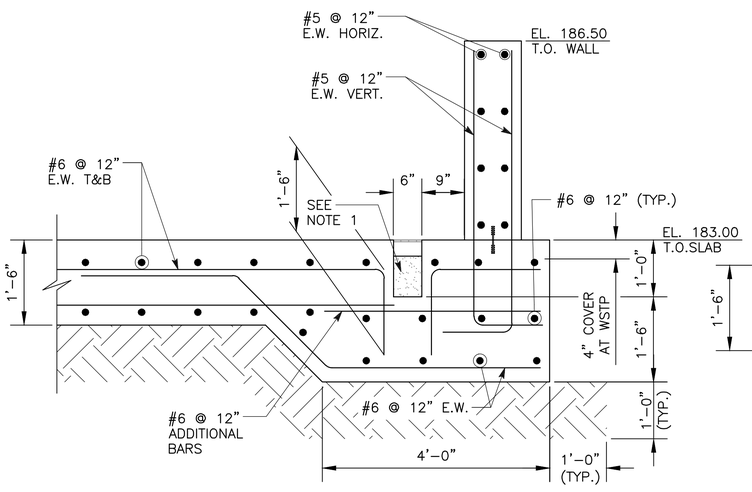
◇# KEY NOTE:
◇1 2,000 PSI CONCRETE AS SPECIFIED IN 03300.



SECTION
SCALE: 3/4" = 1'-0"
C / S1.00



DETAIL
SCALE: 3/4" = 1'-0"
1 / TYP.



SECTION
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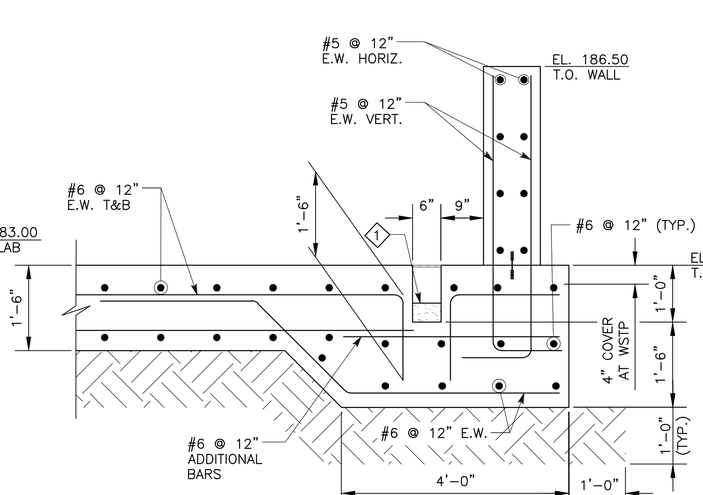
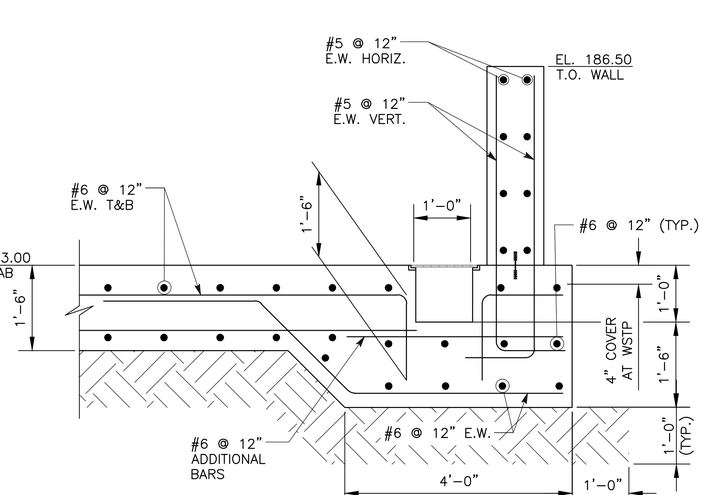
D / S1.00



SECTION
SCALE: 3/4" = 1'-0"
E / S1.00



SECTION
SCALE: 3/4" = 1'-0"
F / S1.00

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
JAMES HARDY
No. 93472
Exp. 06/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	DS
APPROVED BY	M.J. HARDY
CHECKED BY	M.J. HARDY
DATE	9/13/2024

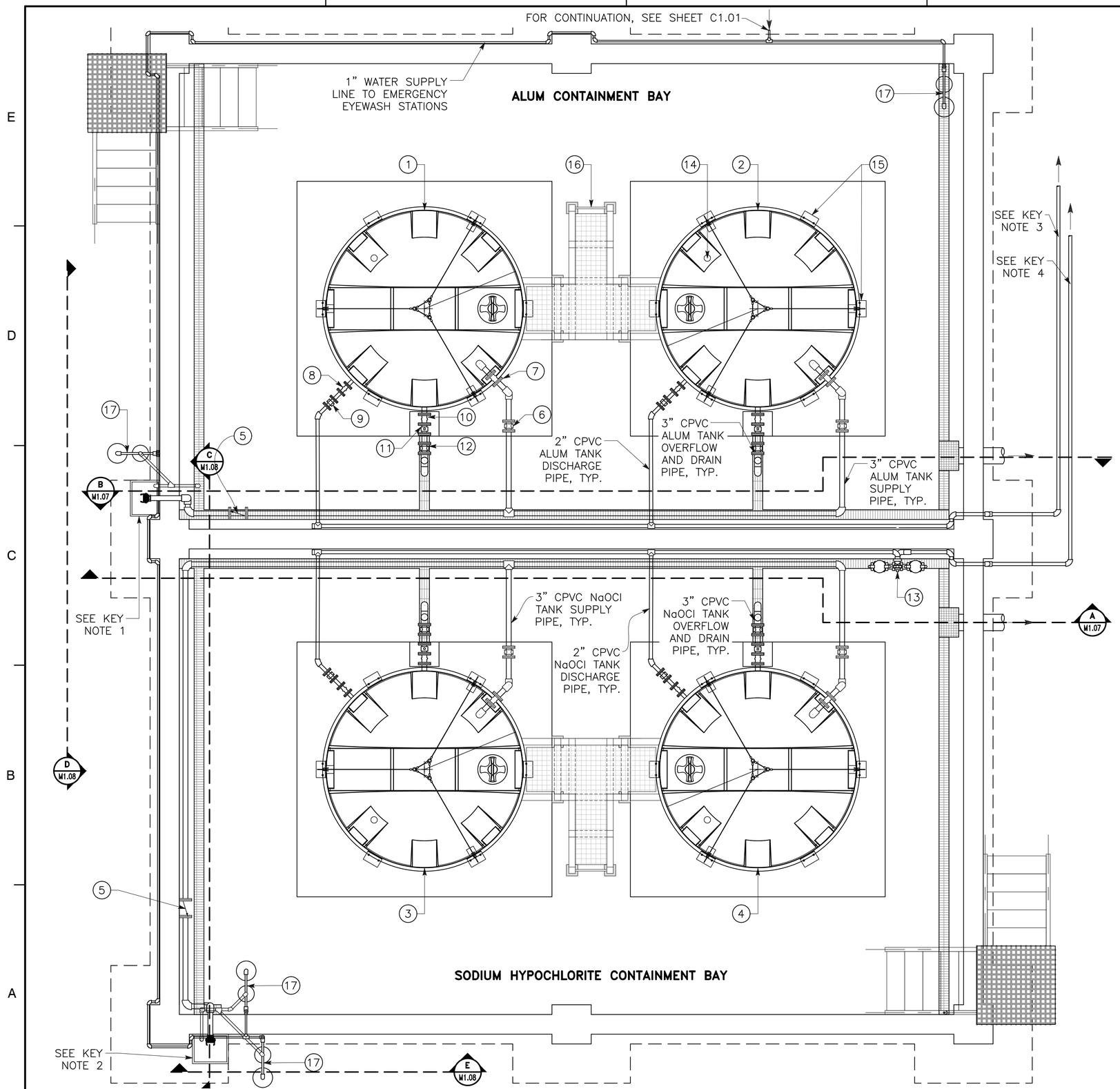
TITLE

CHEMICAL TANKS DETAILS

PROJECT NO. 50158288

S1.04

SHEET NO. 29 OF 54



EQUIPMENT LIST:

1. ALUM TANK NO.1 5,500 GAL
2. ALUM TANK NO.2 5,500 GAL
3. NaOCl TANK NO.1 5,500 GAL
4. NaOCl TANK NO.2 5,500 GAL
5. 3" CHECK VALVE, TYP.
6. 3" DIAPHRAGM VALVE, TYP.
7. 3" EXPANSION JOINT, TYP.
8. 2" EXPANSION JOINT, TYP.
9. 2" DIAPHRAGM VALVE, TYP.
10. 3" EXPANSION JOINT, TYP.
11. 3" PRESSURE TRANSMITTER, TYP.
12. 3" DIAPHRAGM VALVE, TYP.
13. 3" PVC BASKET STRAINER
14. 1–FT 8" CPVC MUSHROOM VENT, TYP.
15. TANK SEISMIC AND WIND RESTRAINT SYSTEM, TYP.
16. FRP LADDER, TYP.
17. EMERGENCY EYE WASH AND SHOWER, TYP OF 4.

KEY NOTES:

1. 3" CPVC ALUM SUPPLY LINE TANKER TRUCK CONNECTION, 22"X 18"X 10" 316 STAINLESS STEEL CATCHMENT BASIN.
2. 3" CPVC NaOCl SUPPLY LINE TANKER TRUCK CONNECTION, 22"X 18"X 10" 316 STAINLESS STEEL CATCHMENT BASIN.
3. 2" CPVC ALUM SUPPLY LINE WITHIN CHEMICAL PIPE TRENCH.
4. 2" CPVC NaOCl SUPPLY LINE WITHIN CHEMICAL PIPE TRENCH.
5. SEE SHEET C1.01 FOR ROUTING OF CHEMICAL PIPING OUTSIDE OF CONTAINMENT BAY.
6. FOR SUMP DRAIN LINES, SEE SHEET C1.01

N

0 1 2 3 4 8

3/8" = 1'–0"

Dewberry

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

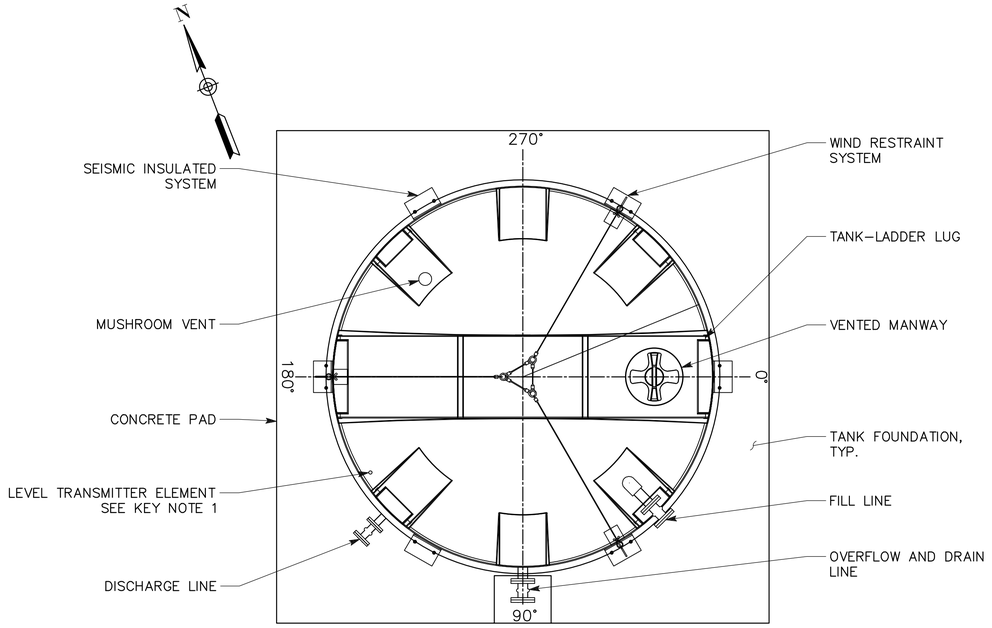
CHEMICAL TANKS MECHANICAL PIPING PLAN

PROJECT NO. 50158288

M1.00

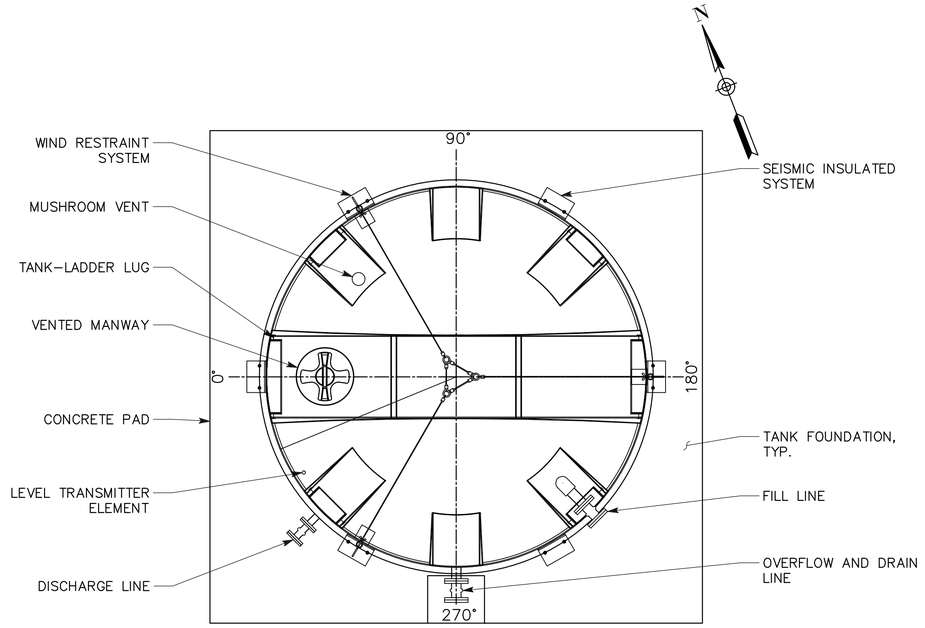
SHEET NO. 30 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–M–1–00–08.dwg, 9/13/2024 10:42 AM, Tran, KT Khuong



ALUM TANK NO.1 NOZZLE PLAN

SCALE: 1/2" = 1'–0"



ALUM TANK NO.2 NOZZLE PLAN

SCALE: 1/2" = 1'–0"

KEY NOTE:

1. COORDINATE LOCATION/PENETRATION – SEALING REQUIREMENTS WITH INSTRUMENTATION SYSTEM SUPPLIER

ALUM TANK NO.1 PENETRATIONS			
SITE	PENETRATION SIZE	DEG	ELEV. (FT)*
FILL LINE	3" DIA.	45	10.28
DISCHARGE LINE	2" DIA.	135	0.50 INVERT
OVERFLOW LINE	3" DIA.	90	9.30 INVERT
DRAIN LINE	3" DIA.	90	0.04 INVERT
VENTED MANWAY	15" DIA.	0	10.88
MUSHROOM VENT	4" DIA.	225	10.28
LEVEL TRANSMITTER ELEMENT	2" DIA.	148	10.28

*RELATIVE TO TANK FOUNDATION

ALUM TANK NO.2 PENETRATIONS			
SITE	PENETRATION SIZE	DEG	ELEV. (FT)*
FILL LINE	3" DIA.	225	10.28
DISCHARGE LINE	2" DIA.	315	0.50 INVERT
OVERFLOW LINE	3" DIA.	270	9.30 INVERT
DRAIN LINE	3" DIA.	270	0.04 INVERT
VENTED MANWAY	15" DIA.	0	10.88
MUSHROOM VENT	4" DIA.	45	10.28
LEVEL TRANSMITTER ELEMENT	2" DIA.	328	10.28

*RELATIVE TO TANK FOUNDATION

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RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

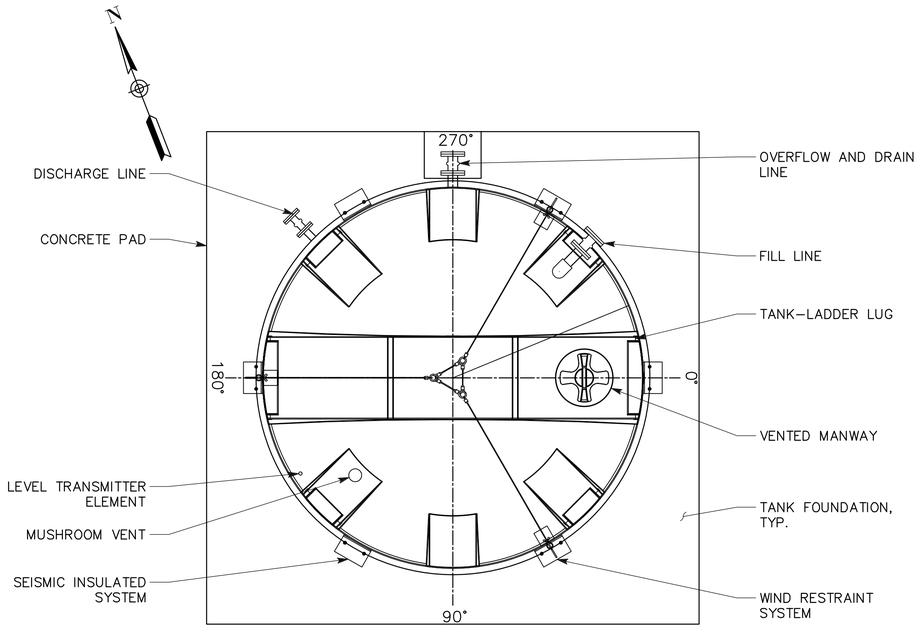
ALUM TANKS NOZZLE PLAN

PROJECT NO. 50158288

M1.01

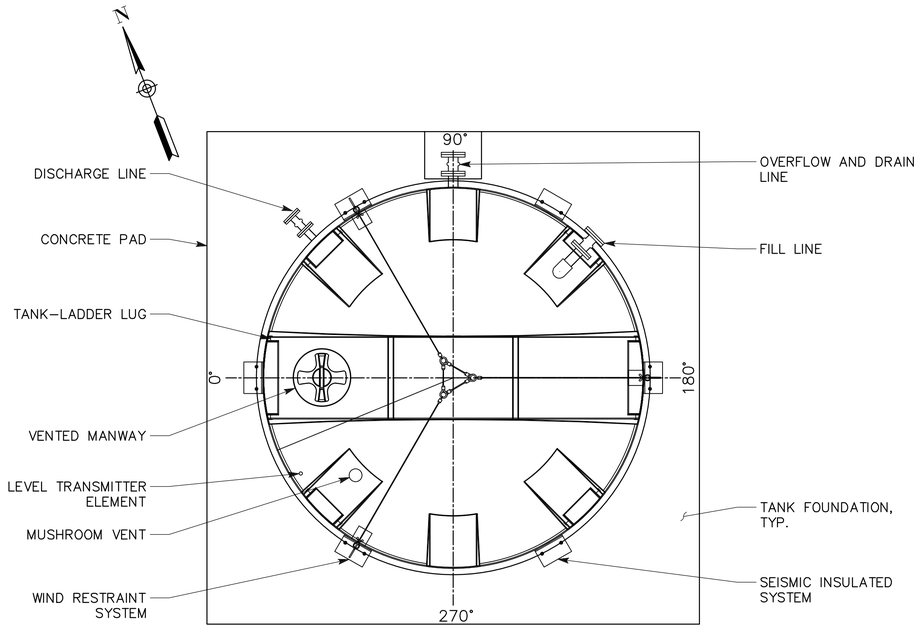
SHEET NO. 31 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–M–1–00–08.dwg, 9/13/2024 10:42 AM, Tran, KT Khuong



NaOCl TANK NO.1 NOZZLE PLAN

SCALE: 1/2" = 1'–0"



NaOCl TANK NO.2 NOZZLE PLAN

SCALE: 1/2" = 1'–0"

NaOCl TANK NO.1 PENETRATIONS			
SITE	PENETRATION SIZE	DEG	ELEV. (FT)*
FILL LINE	3" DIA.	315	10.28
DISCHARGE LINE	2" DIA.	225	0.50 INVERT
OVERFLOW LINE	3" DIA.	270	9.30 INVERT
DRAIN LINE	3" DIA.	270	0.04 INVERT
VENTED MANWAY	15" DIA.	0	10.88
MUSHROOM VENT	4" DIA.	135	10.28
LEVEL TRANSMITTER ELEMENT	2" DIA.	148	10.28

*RELATIVE TO TANK FOUNDATION

NaOCl TANK NO.2 PENETRATIONS			
SITE	PENETRATION SIZE	DEG	ELEV. (FT)*
FILL LINE	3" DIA.	135	10.28
DISCHARGE LINE	2" DIA.	45	0.50 INVERT
OVERFLOW LINE	3" DIA.	90	9.30 INVERT
DRAIN LINE	3" DIA.	90	0.04 INVERT
VENTED MANWAY	15" DIA.	0	10.88
MUSHROOM VENT	4" DIA.	315	10.28
LEVEL TRANSMITTER ELEMENT	2" DIA.	328	10.28

*RELATIVE TO TANK FOUNDATION

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY K. TRAN
APPROVED BY D. RICHARD
CHECKED BY D.RICHARD
DATE 9/13/2024

TITLE

NaOCl TANKS NOZZLE PLAN

PROJECT NO. 50158288

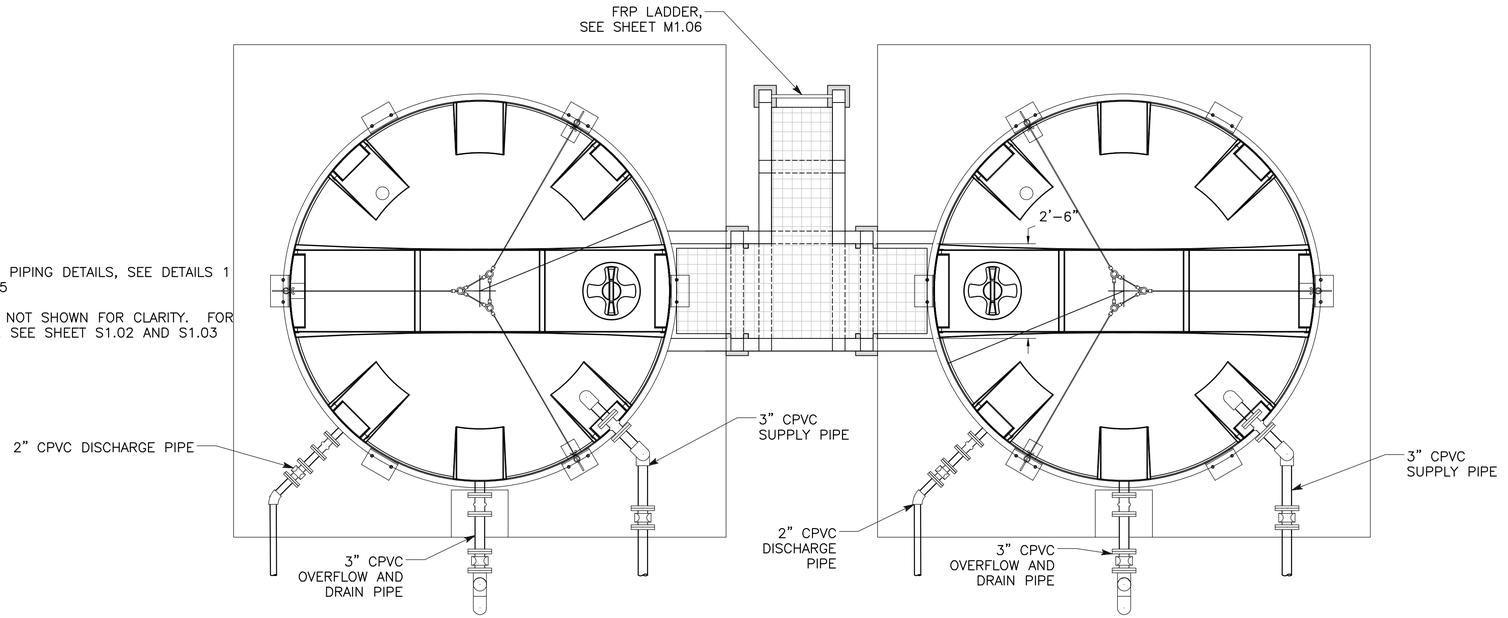
M1.02

SHEET NO. 32 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–M–1–00–08.dwg, 9/13/2024 10:42 AM, Tran, KT Khuong

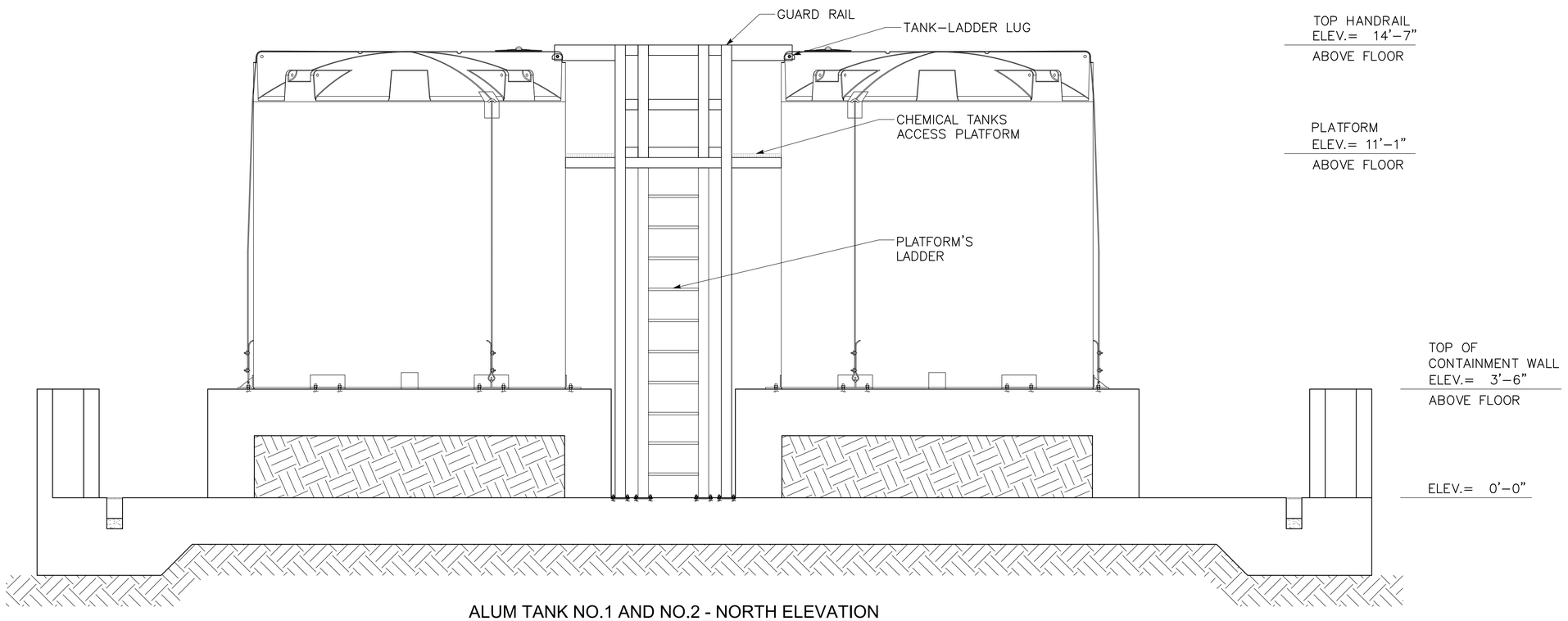
KEY NOTES:

1. FOR CHEMICAL TANK PIPING DETAILS, SEE DETAILS 1 AND 2, SHEET M1.05
2. CANOPY STRUCTURE NOT SHOWN FOR CLARITY. FOR CANOPY STRUCTURE, SEE SHEET S1.02 AND S1.03



ALUM TANK NO.1 AND NO.2 - PLAN VIEW

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



ALUM TANK NO.1 AND NO.2 - NORTH ELEVATION

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

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

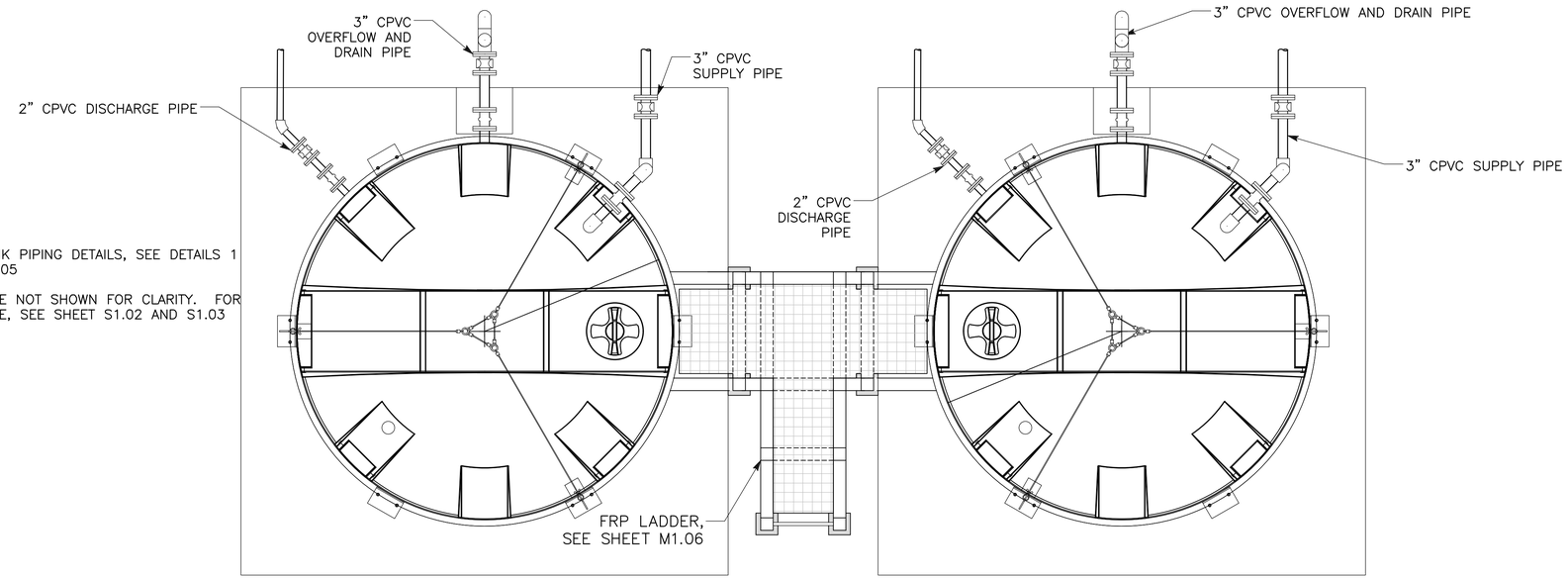
ALUM TANKS PLAN AND ELEVATION

PROJECT NO. 50158288

M1.03

SHEET NO. 33 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-M-1-00-08.dwg, 9/13/2024 10:42 AM, Tran, KT Khuong

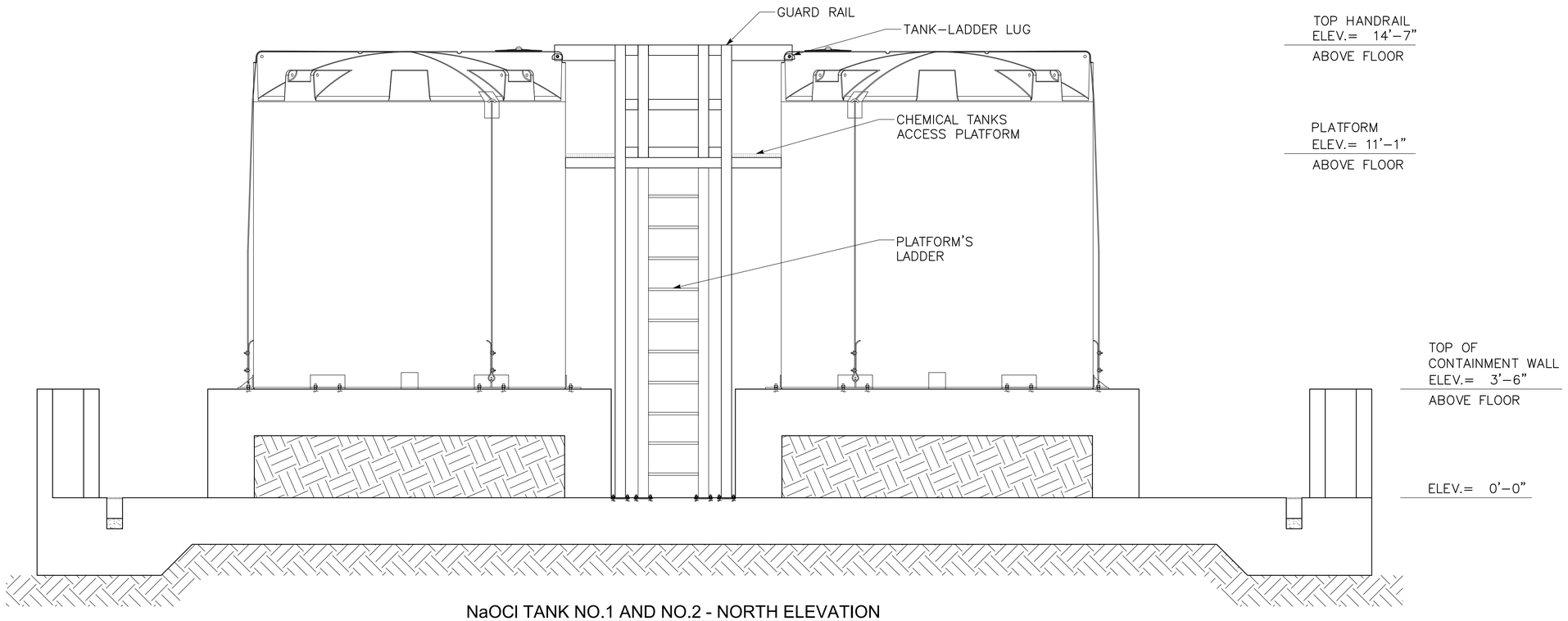


KEY NOTES:

1. FOR CHEMICAL TANK PIPING DETAILS, SEE DETAILS 1 AND 2, SHEET M1.05
2. CANOPY STRUCTURE NOT SHOWN FOR CLARITY. FOR CANOPY STRUCTURE, SEE SHEET S1.02 AND S1.03

NaOCl TANK NO.1 AND NO.2 - PLAN VIEW

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



NaOCl TANK NO.1 AND NO.2 - NORTH ELEVATION

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

Dewberry

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

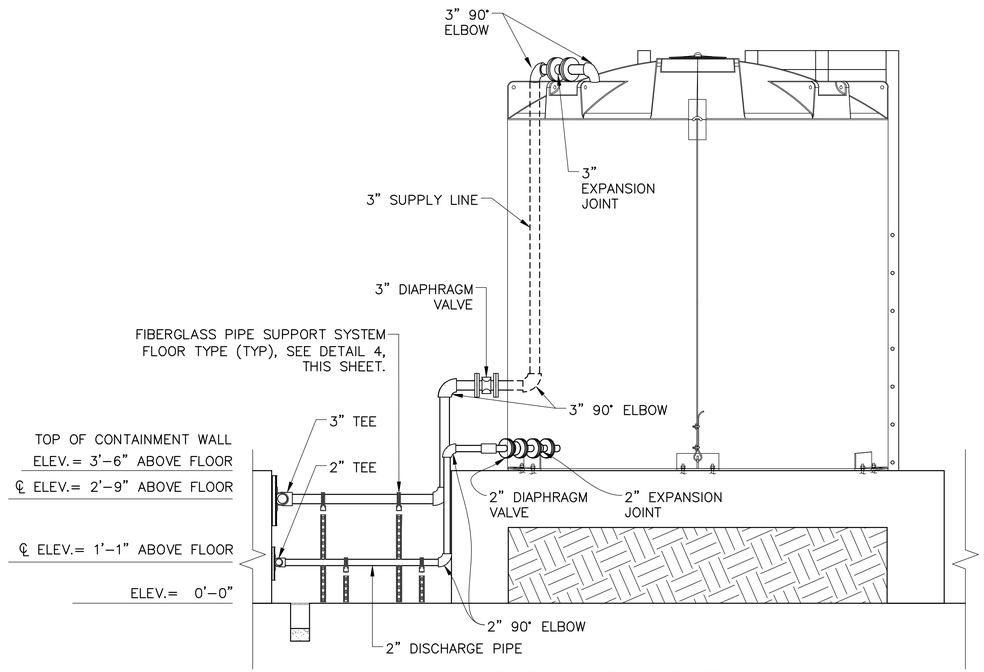
NaOCl TANKS PLAN AND ELEVATION

PROJECT NO. 50158288

M1.04

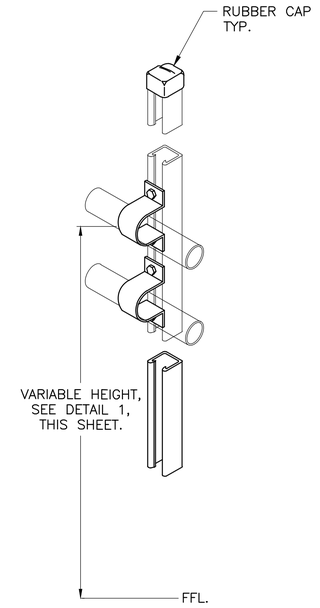
SHEET NO. 34 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-M-1-00-08.dwg, 9/13/2024 10:42 AM, Tran, KT Khuong



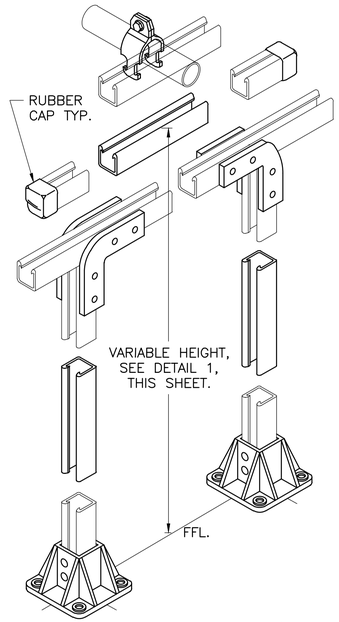
CHEMICAL TANK SUPPLY/ DISCHARGE PIPING ORIENTATION (1 / M1.03 ; 1 / M1.09)

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



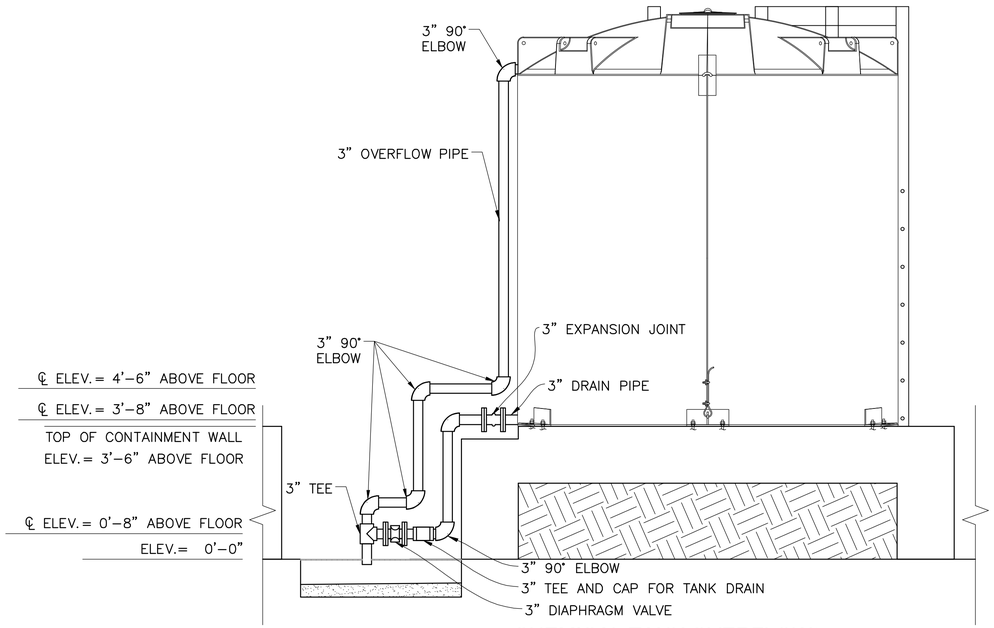
FIBERGLASS PIPE SUPPORT SYSTEM - WALL TYPE (3 / –)

SCALE: NTS



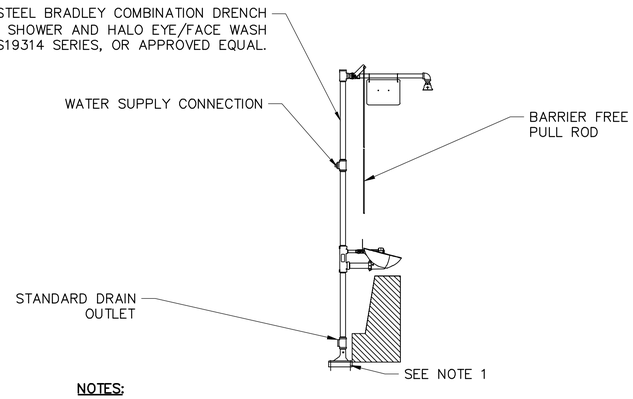
FIBERGLASS PIPE SUPPORT SYSTEM - FLOOR TYPE (4 / –)

SCALE: NTS



CHEMICAL TANK OVERFLOW/ DRAIN PIPING ORIENTATION (2 / M1.03 ; 2 / M1.04)

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



NOTES:

1. INSTALL 316 STAINLESS STEEL ANCHOR BOLTS WITH LEVELING NUTS, BOLTS TO PENETRATE 3" MIN IN CONCRETE.
2. PROVIDE 1½" MINIMUM NON SHRINK GROUT BELOW BASE.
3. CONNECT EMERGENCY EYEWASH TO 1" POTABLE WATER.

EMERGENCY EYE WASH AND SHOWER (5 / M1.08)

SCALE: NTS

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RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER — DAVID RICHARD — No. 33479 — EXP. 6/30/26 — CIVIL — STATE OF CALIFORNIA

KEY PLAN

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REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

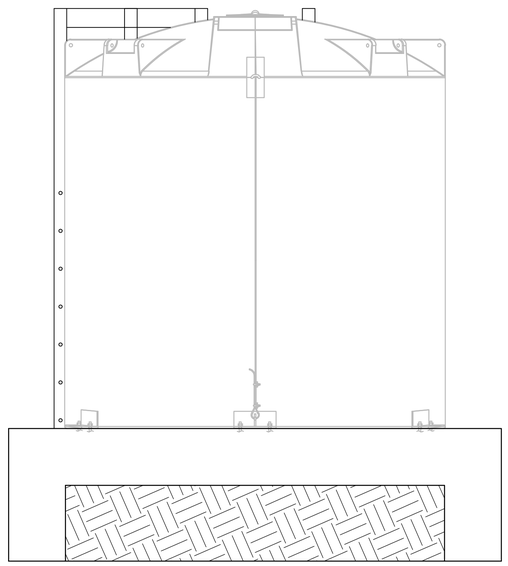
CHEMICAL TANK PIPING CONNECTION AND SUPPORT DETAILS

PROJECT NO. 50158288

M1.05

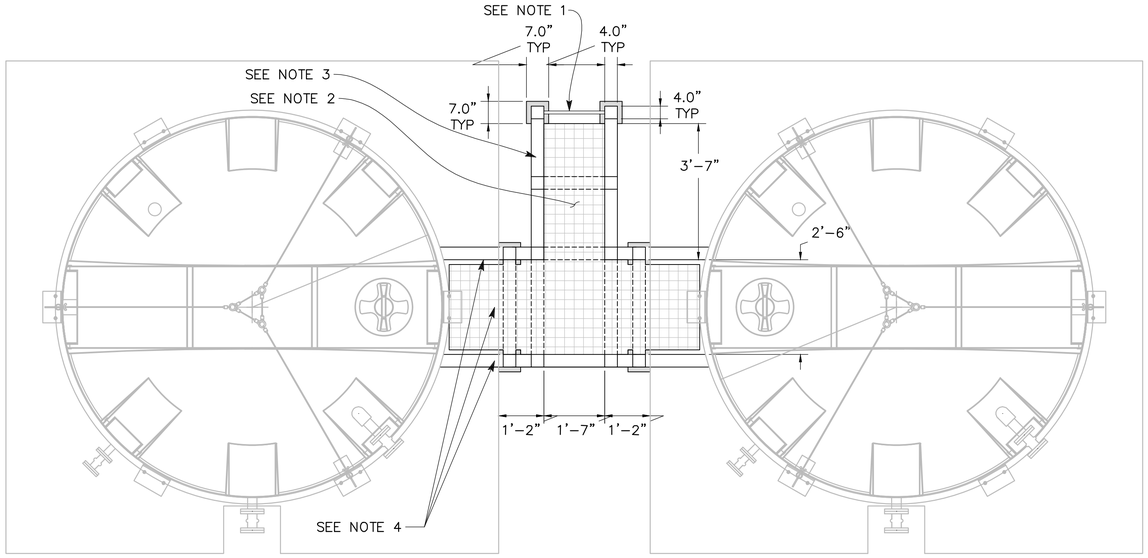
SHEET NO. 35 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-M-1-00-08.dwg, 9/13/2024 10:42 AM, Tran, KT Khuong



FRP LADDER AND PLATFORM EAST ELEVATION

SCALE: 1/2" = 1'–0"

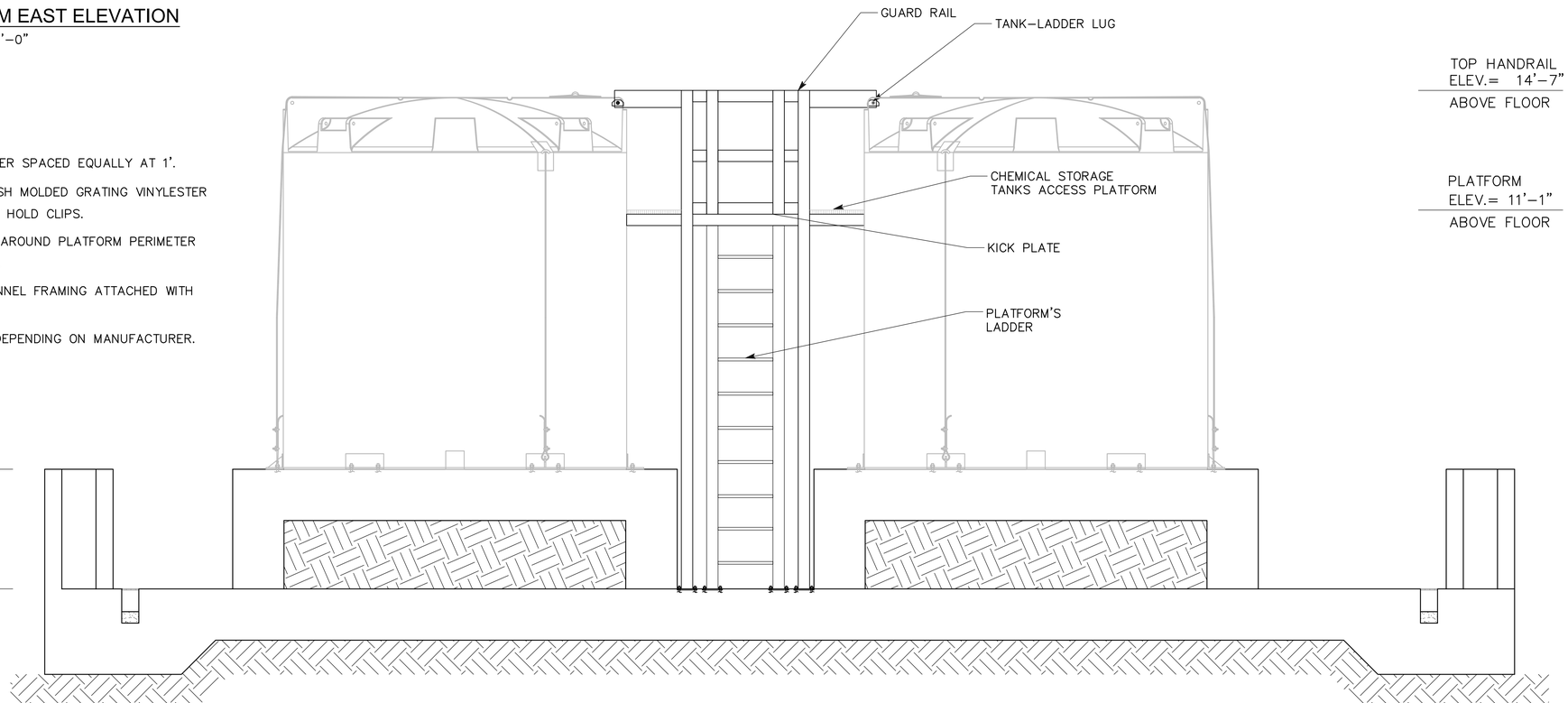


FRP LADDER AND PLATFORM FOR ALUM TANK NO.1 AND NO.2 - PLAN VIEW

SCALE: 1/2" = 1'–0"

NOTES:

1. FRP LADDER, 7 RUNG 1" DIAMETER SPACED EQUALLY AT 1'.
2. PLATFORM 1.5"x1.5" SQUARE MESH MOLDED GRATING VINYLESTER RESIN, ORANGE COLOR WITH SST HOLD CLIPS.
3. 2 RAIL HANDRAIL 3'–6" HEIGHT AROUND PLATFORM PERIMETER WITH KICKPLATE, YELLOW COLOR.
4. FRP 4" COLUMN LEGS AND CHANNEL FRAMING ATTACHED WITH SST HARDWARE.
5. DIMENSIONS SHOWN MAY VARY DEPENDING ON MANUFACTURER.



FRP LADDER AND PLATFORM FOR ALUM TANK NO.1 AND NO.2 - NORTH ELEVATION

SCALE: 1/2" = 1'–0"

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

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REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

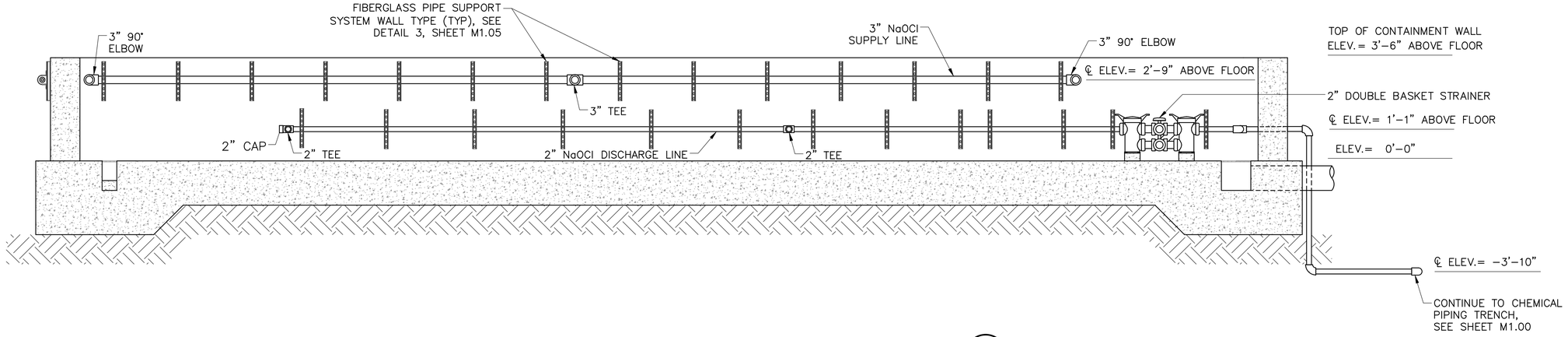
CHEMICAL TANK FRP LADDER AND PLATFORM PLAN AND ELEVATIONS

PROJECT NO. 50158288

M1.06

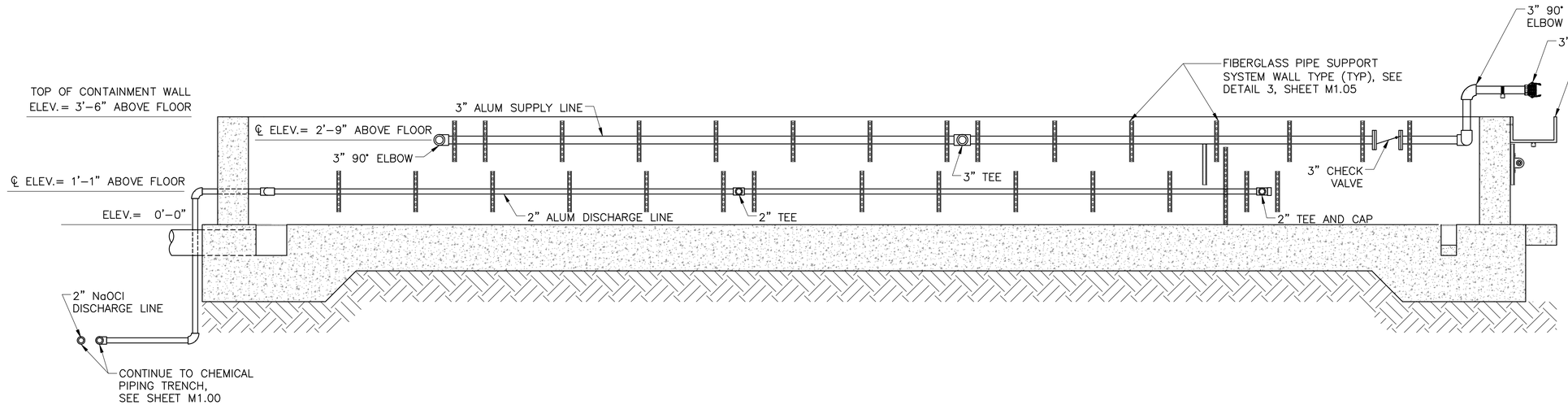
SHEET NO. 36 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD–P1–M–1–00–08.dwg, 9/13/2024 10:42 AM, Tran, KT Khuong



NaOCl TANK SUPPLY/DISCHARGE PIPING SECTION (A / M1.00)

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



ALUM TANK SUPPLY/DISCHARGE PIPING SECTION (B / M1.00)

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

NOTES:

1. PLASTIC PIPING SHALL BE SUPPORTED AT THE BASE OF ALL RISERS, AT CHANGES IN DIRECTION OR ELEVATION, ADJACENT TO FLEXIBLE COUPLINGS, AT PIPE CONNECTIONS TO EQUIPMENT, AT INTERVAL NOT TO EXCEED 5 FT ON ALL HORIZONTAL RUNS OF PIPE 4 IN AND SMALLER. PIPE SUPPORTS SHALL NOT BE INSTALLED IN EQUIPMENT ACCESS AREAS.
2. INSTALL 22"X18"X10" 316 STAINLESS STEEL CATCHMENT BASIN WITH FIBERGLASS SUPPORT, SEE SECTIONS D & E, SHEET M1.08. PROVIDE 2 SIMPSON 316 STAINLESS STEEL TITEN HD $\frac{3}{8}$"X4" SCREW ANCHORS TO WALL FACE. LOCATE SCREWS 3" BELOW TOP OF WALL/BASIN AND INSTALL WITH EPDM RUBBER WASHERS.

Dewberry

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

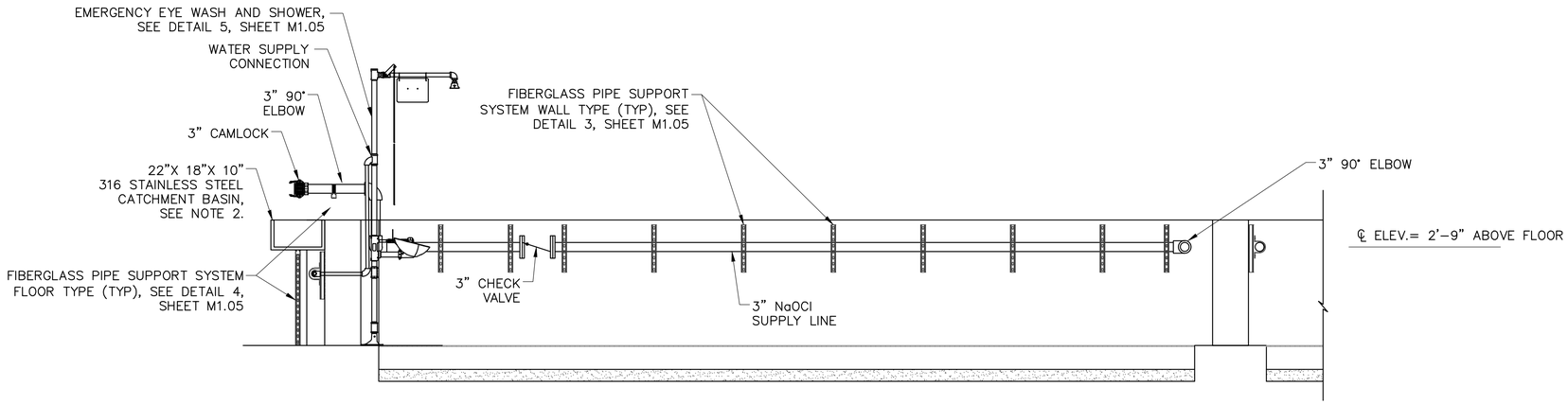
NaOCl & ALUM TANK DISCHARGE/SUPPLY PIPING SECTIONS

PROJECT NO. 50158288

M1.07

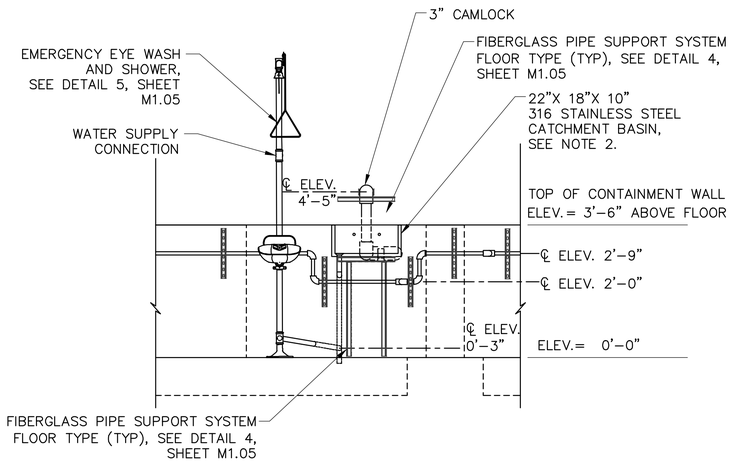
SHEET NO. 37 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-M-1-00-08.dwg, 9/13/2024 10:43 AM, Tran, KT Khuong



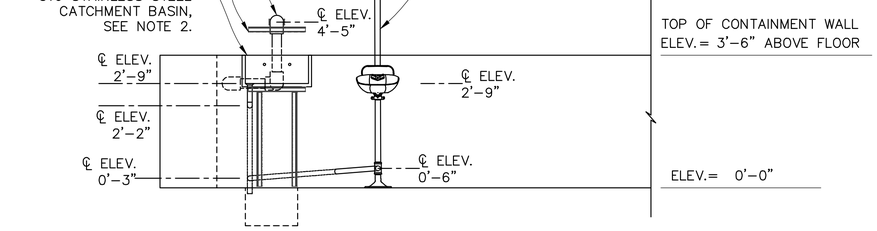
NaOCl TANK SUPPLY/DISCHARGE PIPING SECTION (C / M1.00)

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



ALUM SUPPLY LINE TANKER TRUCK CONNECTION - EAST ELEVATION (D / M1.00)

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



NaOCl SUPPLY LINE TANKER TRUCK CONNECTION - EAST ELEVATION (E / M1.00)

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

NOTES:

1. PLASTIC PIPING SHALL BE SUPPORTED AT THE BASE OF ALL RISERS, AT CHANGES IN DIRECTION OR ELEVATION, ADJACENT TO FLEXIBLE COUPLINGS, AT PIPE CONNECTIONS TO EQUIPMENT, AT INTERVAL NOT TO EXCEED 5 FT ON ALL HORIZONTAL RUNS OF PIPE 4 IN AND SMALLER. PIPE SUPPORTS SHALL NOT BE INSTALLED IN EQUIPMENT ACCESS AREAS.
2. INSTALL 22"X18"X10" 316 STAINLESS STEEL CATCHMENT BASIN WITH FIBERGLASS SUPPORT, SEE SECTIONS D & E, THIS SHEET. PROVIDE 2 SIMPSON 316 STAINLESS STEEL TITEN HD $\frac{3}{8}$"X4" SCREW ANCHORS TO WALL FACE. LOCATE SCREWS 3" BELOW TOP OF WALL/BASIN AND INSTALL WITH EPDM RUBBER WASHERS.

Dewberry

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER — DAVID RICHARD — No. 33479 — EXP. 6/30/26 — CIVIL — STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

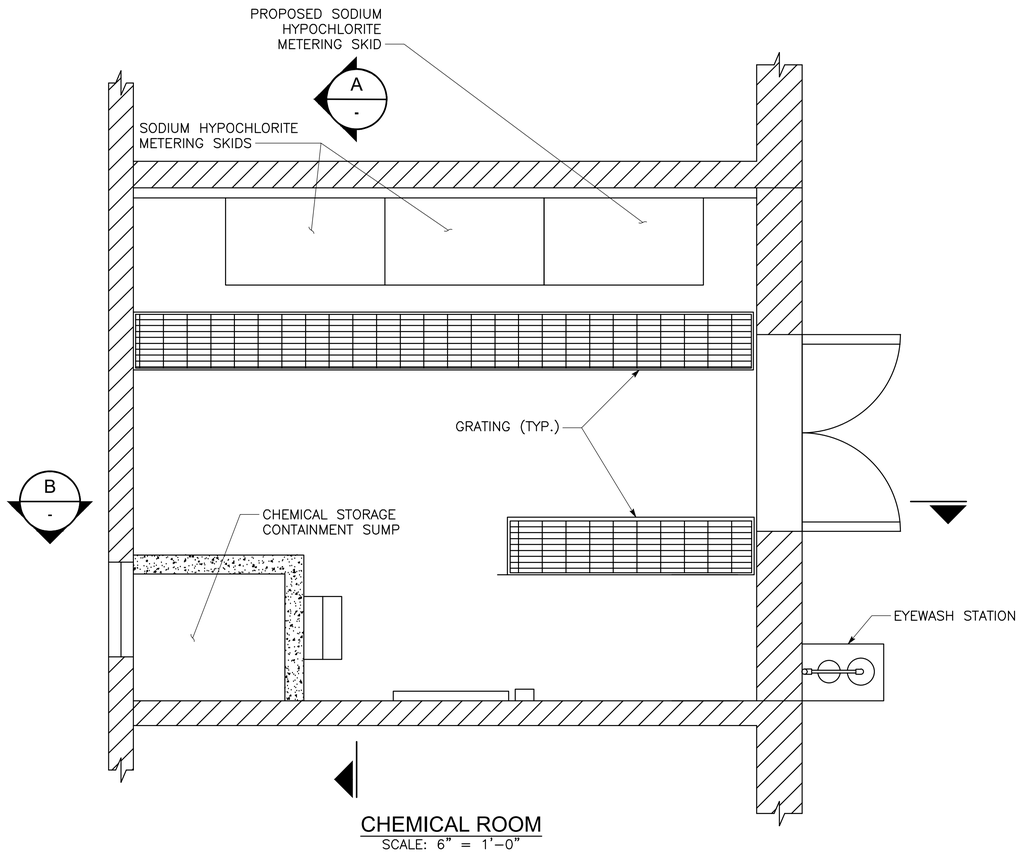
NaOCl TANK SUPPLY & DRAIN PIPING SECTIONS

PROJECT NO. 50158288

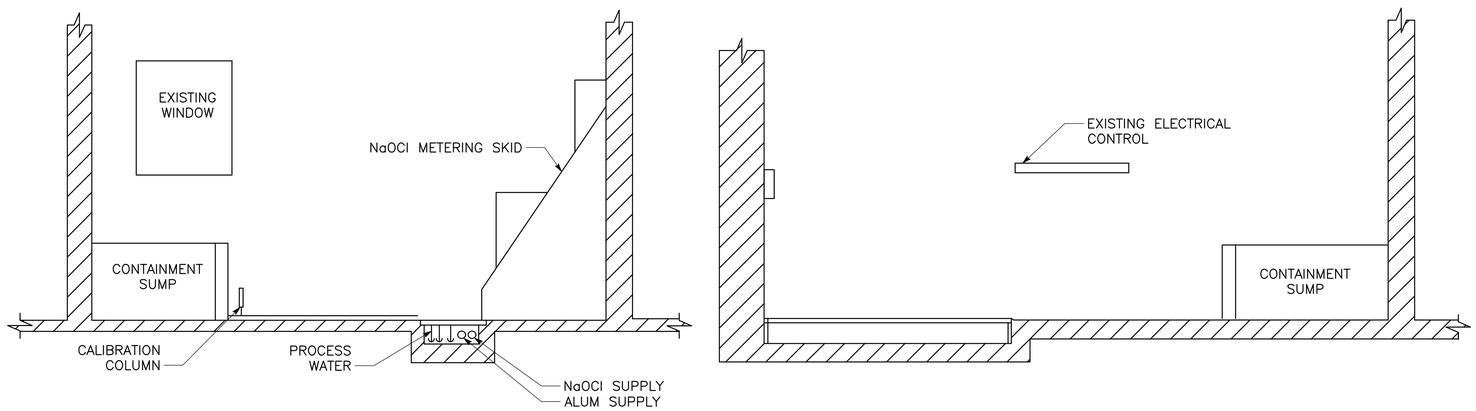
M1.08

SHEET NO. 38 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-M-1-00-08.dwg, 9/13/2024 10:43 AM, Tran, KT Khuong



CHEMICAL ROOM
SCALE: 6" = 1'-0"



SECTION
SCALE: 6" = 1'-0"
A
-

SECTION
SCALE: 6" = 1'-0"
B
-

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

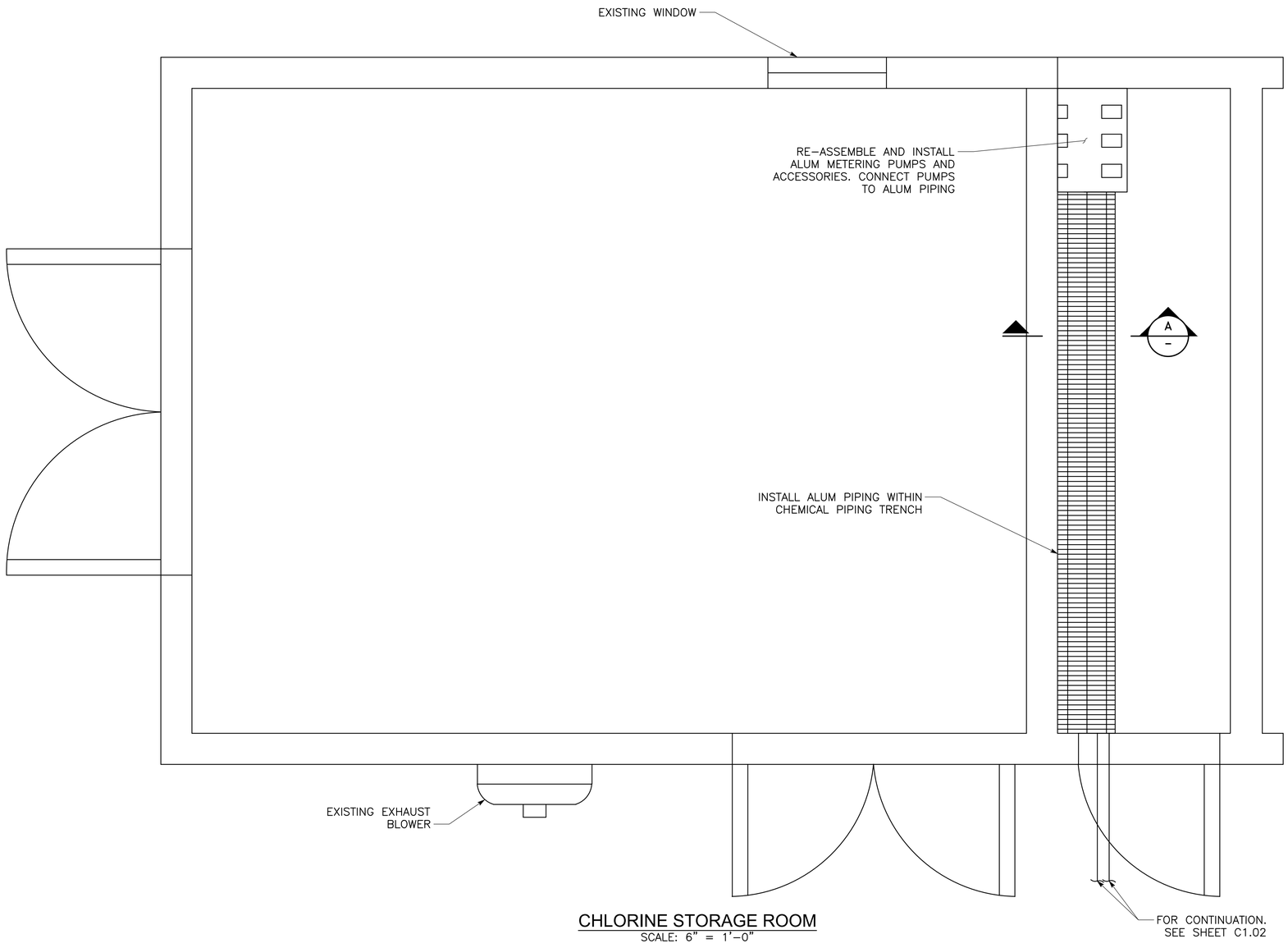
TITLE

CONTROL BUILDING CHEMICAL ROOM MODIFICATION

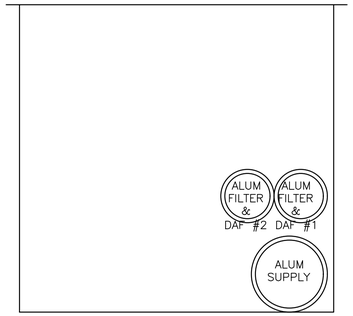
PROJECT NO. 50158288

M1.09

SHEET NO. 39 OF 54



CHLORINE STORAGE ROOM
SCALE: 6" = 1'-0"



SECTION
SCALE: NTS

A
-

Dewberry

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
DAVID RICHARD
No. 33479
EXP. 6/30/26
CIVIL
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TRAN
APPROVED BY	D. RICHARD
CHECKED BY	D.RICHARD
DATE	9/13/2024

TITLE

CONTROL BUILDING CHLORINATION ROOM MODIFICATION

PROJECT NO. 50158288

M1.10

SHEET NO. 40 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\RMCSD-P1-M-1-10.dwg, 9/13/2024 10:43 AM, Tran, KT Khuong

SYMBOLS LEGEND

- CONDUIT RUN UNDERGROUND OR IN CONCRETE
- CONDUIT HOME RUN TO PANEL DP1, CIRCUIT NO. 1 (DP–1)
  SHORT MARKS INDICATE NO. OF POWER CONDUCTORS, LONG DASH DENOTES NEUTRAL, SHORT DASH DENOTES LINE, CURVED LINE DENOTES GROUND
- EXPOSED CONDUIT
- CONDUIT BENDS TOWARD OBSERVER
- CONDUIT BENDS AWAY FROM OBSERVER
- GROUND GRID WIRE
- RAILING
- FLEXIBLE LIQUID - TIGHT CONDUIT CONNECTION
- P001 — INDICATES CONDUIT NUMBER SEE CABLE AND CONDUIT SCHEDULE
- X — POLE MOUNTED LIGHT FIXTURE
  X - LIGHTING SCHEDULE DESIGNATION
- 120V DUPLEX RECEPTACLE, NEMA CONFIGURATION 5-20.
- 100AT / 100AF — MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED: 100A - TRIP RATING IN AMPERES
  AT - AMPERES TRIP
  AF - AMPERES FRAME
  MCP - MOTOR CIRCUIT PROTECTOR
- MEDIUM VOLTAGE STARTER
- N.O. CONTACT
- N.C. CONTACT
- NORMALLY OPEN - TIME DELAY
- NORMALLY CLOSED - TIME DELAY
- 0L — OVERLOAD RELAY CONTACTS
- FUSE
- L — INDICATING LIGHT:
  G-GREEN
  R-RED
- FIELD TERMINATION (DEVICES)
- 52 — MEDIUM OR HIGH VOLTAGE DRAWOUT BREAKER
- FULL VOLTAGE NON-REVERSING STARTER, NEMA SIZE AS INDICATED BY *
- X — FLUORESCENT LIGHT FIXTURE
  X - LIGHTING SCHEDULE DESIGNATION
- LUG
- CONDUIT PENETRATION THROUGH WALL
- KEY NOTE
- J — JUNCTION BOX
- ETM — ELAPSED TIME METER
- CT — CURRENT TRANSFORMER, RATIO AND NUMBER OF CT'S AS NOTED
- FUSED DISCONNECT SWITCH 3 POLE UNLESS OTHERWISE NOTED
- HEATER
- CR — CONTROL RELAY
- M — MOTOR STARTER CONTACTOR
- 50/51 — INSTANTANEOUS AND TIME OVERCURRENT RELAY
- 51 — TIME OVERCURRENT RELAY
- 86 — LOCKOUT RELAY (HAND RESET)
- 59N — GROUND FAULT OVERVOLTAGE RELAY
- EMERGENCY LIGHTING PACK
- GROUND ROD
- PUSHBUTTON STATION
- DISCONNECT SWITCH
- THERMOSTAT OR MOTOR TEMP. SWITCH
- 5 — INDUCTION MOTOR, (NUMBER INDICATES HORSEPOWER)
- OVERLOAD RELAY
- ALARM HORN
- MOTION DETECTOR
- P1 — INDICATES CONDUIT NUMBER SEE CABLE AND CONDUIT SCHEDULE
- MP — METERING PUMP

ABBREVIATIONS

3W	3-WIRE
4W	4-WIRE
A	AMPERE
AC	ALTERNATING CURRENT
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
CPT	CONTROL POWER TRANSFORMER (IN INDIVIDUAL STARTER CUBICLE)
CMD	COMMAND
CR	CONTROL RELAY
Cu	COPPER
CV	CONTROL VALVE
DC	DIRECT CURRENT
DIA	DIAMETER
DOX	DIGITAL OUTPUT AUXILIARY
DPDT	DOUBLE PULL DOUBLE THROW
EGEN	EMERGENCY GENERATOR
FS	FLOW SWITCH
G, EG	EQUIPMENT GROUND
GFCT	GROUND FAULT CURRENT TRANSFORMER
GFI	GROUND FAULT INTERRUPTING
GRD	GROUND
HP	HORSEPOWER
HZ	HERTZ
INST	INSTANTANEOUS
JB	JUNCTION BOX
kV	KILO (1000) VOLT
kVA	KILO (1000) VOLT AMPERES
kW	KILO (1000) WATT
LD	LEAK DETECTION
LR	LATCHING RELAY
LS	LEVEL SWITCH
LSL	LEVEL SWITCH LOW
LT	LEVEL TRANSMITTER
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND
LTCH	LATCH
M	METER
MAX	MAXIMUM
MIN	MINIMUM
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MOV	MOTOR OPERATED VALVE
MPR	MOTOR PROTECTIVE RELAY
MTS	MANUAL TRANSFER SWITCH
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NO	NUMBER, NORMALLY OPEN
OL	OVERLOAD RELAY
P	POLE
PB	PULL BOX, PUSH BUTTON
pf	POWER FACTOR
PFR	PHASE FAILURE RELAY
PH, Ø	PHASE
PL	PILOT LIGHT
PLC	PROGRAMMABLE LOGIC CONTROLLER
PM	POWER METER
PRESS	PRESSURE
PRI	PRIMARY
PS	PRESSURE SWITCH
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RECT	RECTIFIER
RCPT	RECEPTACLE
RTD	RESISTANCE TEMPERATURE DETECTOR
RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
RVSS	REDUCED VOLTAGE SOFT STARTER
SEC	SECONDARY
SPD	SURGE PROTECTIVE DEVICE
SS	SELECTOR SWITCH, STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY
TDDO	TIME DELAY DROP OUT
TDPU	TIME DELAY PICKUP
TDR	TIME DELAY RELAY
Th-MAG	THERMAL-MAGNETIC
TSH	TEMPERATURE SWITCH HIGH
TSP	TWISTED SHIELDED PAIR
TST	TWISTED SHIELDED TRIAD
T-STAT	THERMOSTAT
TYP	TYPICAL
UG	UNDERGROUND
UPT	UNSHIELDED TWISTED PAIR
V	VOLTAGE, VOLTS
VFD	VARIABLE FREQUENCY DRIVE
VS	VIBRATION SWITCH
WP	WEATHERPROOF
W	WATTS
XFMR	TRANSFORMER
ZS	LIMIT SWITCH
XMTR	TRANSMITTER
(E)	EXISTING
(N)	NEW

LOOP DIAGRAM SYMBOLS

- TB-X
  - TERMINAL BLOCK
  - TERMINAL IDENTIFICATION
  - INSTRUMENT GROUND
  - VOLTAGE REFERENCE
  - OUTPUT
  - GROUND
- INSTRUMENT SIGNAL CABLE, SHIELDED TWISTED PAIR
- FIELD DEVICE WITH ITS TERMINALS
- G — GROUND
- N — NEUTRAL
- L — LINE
- CR — CONTROL RELAY

P&ID SYMBOLS

- GATE VALVE
- KNIFE GATE VALVE
- PLUG VALVE
- PINCH VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- SLIDE GATE
- PUMP
- AIR RELEASE VALVE
- FLOW METER
- SURGE CONTROL VALVE
- DISCRETE INPUT (DI)
- DISCRETE OUTPUT (DO)
- ANALOG INPUT (AI)
- ANALOG OUTPUT (AO)

GENERAL NOTE:

1. THIS IS A GENERAL LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.

Know what's **below.**
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UNDERGROUND SERVICE ALERT
UTILITY NOTIFICATION CENTER OF CALIFORNIA
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5 WORKING DAYS UTILITY NOTIFICATION
PRIOR TO CONSTRUCTION

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RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
KOOSHA TOOFAN
20418
Exp. SEPT. 30, 2025
Electrical Engineer
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TOOFAN
APPROVED BY	K. TOOFAN
CHECKED BY	8/9/2024
DATE	

TITLE

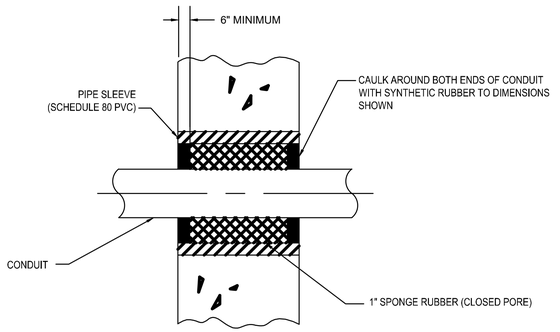
LEGEND & ABBREVIATIONS

PROJECT NO.

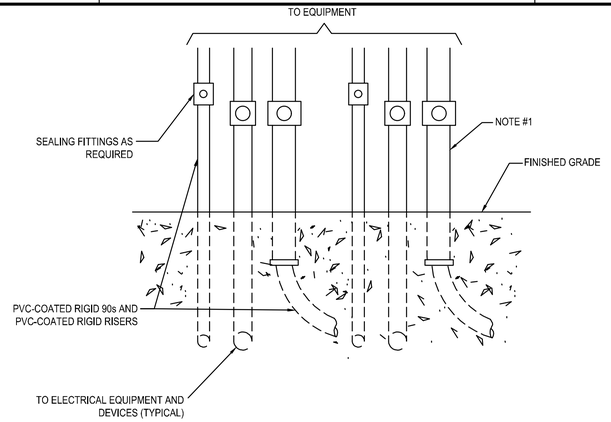
E0.01

SHEET NO. 41 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E0.01 – Legend & Abbreviations.dwg, 9/13/2024 10:43 AM, Tran, KT Khuong



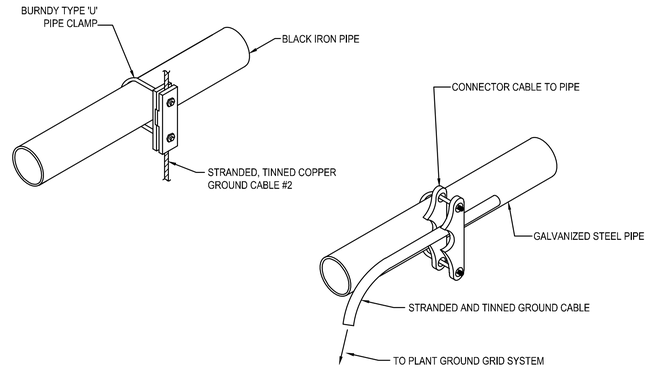
CONDUIT THROUGH BUILDING EXTERIOR WALL — D01
NOT TO SCALE



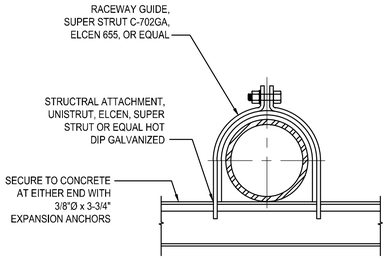
CONDUIT RISER (TYPICAL) — D02
NOT TO SCALE

DETAIL NOTES:

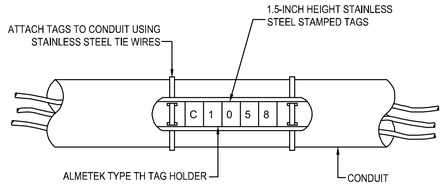
1. ALL CONDUITS FROM UNDERGROUND TO ABOVEGROUND 90s AND RISER PIPES SHALL BOTH BE PVC-COATED RIGID.



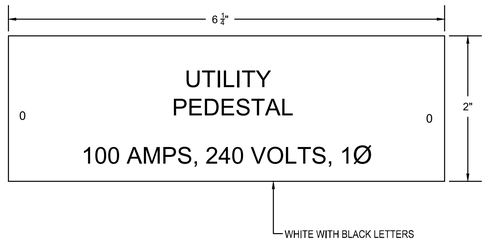
CONDUIT GROUNDING — D03
NOT TO SCALE



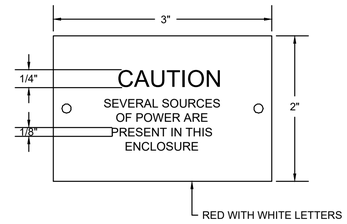
CONDUIT SUPPORT — D04
NOT TO SCALE



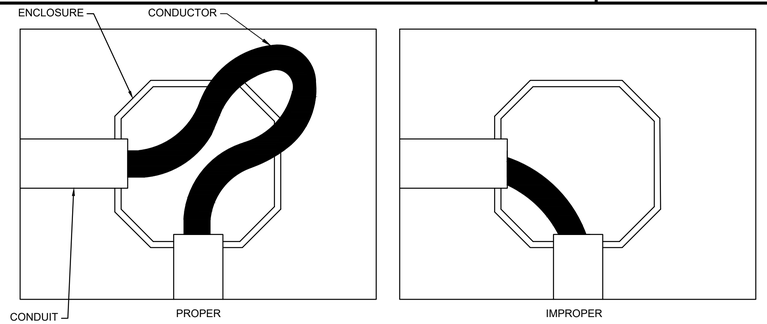
TYPICAL CONDUIT MARKING SYSTEM — D05
NOT TO SCALE



TYPICAL EQUIPMENT NAMEPLATE — D06
NOT TO SCALE



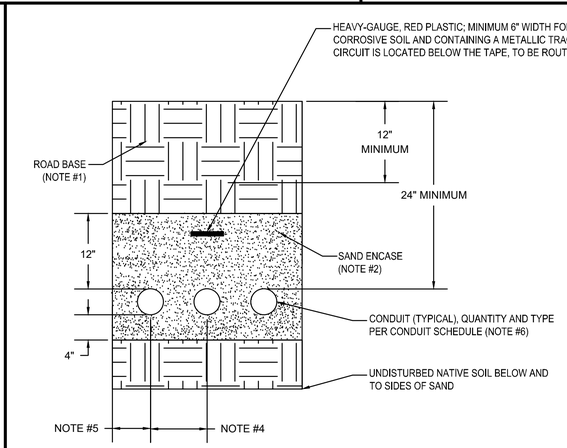
TYPICAL CAUTION NAMEPLATE — D07
NOT TO SCALE



PULL THROUGH ENCLOSURE — D08
NOT TO SCALE

DETAIL NOTES:

1. DO NOT PULL CABLES AND CONDUCTORS DIRECTLY ACROSS SHORT AND SHARP ANGLES. AFTER PULLING A CABLE OR CONDUCTOR COMPLETELY OUT OF ONE SIDE OF AN ENCLOSURE, FEED THE CABLE OR CONDUCTOR INTO THE OTHER SIDE OF THE ENCLOSURE AND PULL THAT SEGMENT.
2. MANUFACTURER'S MINIMUM CABLE AND CONDUCTOR BENDING RADII MUST BE MAINTAINED.
3. WHEN CABLES AND CONDUCTORS TRANSITION OUT OF CONDUITS IN ENCLOSURES, USE INSULATING BUSHINGS MADE OF PLASTIC AS REQUIRED TO MAINTAIN THE SAFETY OF CABLE AND CONDUCTOR RUNS.



DUCT BANK DETAIL — D09
NOT TO SCALE

DETAIL NOTES:

1. ROAD BASE SHALL BE COMPACTED TO 95% RELATIVE DENSITY.
2. CONTRACTOR SHALL MAINTAIN 4 INCHES OF SAND BELOW THE CONDUIT AND 12 INCHES OF SAND ABOVE THE CONDUIT. INSTALL CONTINUOUS LINE WARNING TAPE IN THE TOP LAYER OF SAND DURING TRENCH BACKFILLING.
3. USE MULTIPLE TAPES WHERE WIDTH OF MULTIPLE LINES INSTALLED EXCEEDS 16-INCHES OVERALL.
4. 2X CONDUIT DIAMETER OR 2" MINIMUM SPACING BETWEEN CONDUITS (TYPICAL).
5. SURROUND CONDUIT WITH 4" OF SAND ON ALL SIDES (MINIMUM).
6. PLACE CONDUIT RUNS IN PLASTIC SPACERS (RATED FOR DIRECT BURIAL) EVERY 5' ALONG LENGTH OF RUN. SPACERS NOT SHOWN IN DETAIL.

DETAILS ON THIS SHEET ARE TYPICAL ONLY AND ALL INSTALLATION AND REQUIREMENTS SHOULD BE COORDINATED WITH THE CONTRACTED VENDOR.

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RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
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SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
KOOSHA TOOFAN
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Exp. SEPT. 30, 2025
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KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY K. TOOFAN
APPROVED BY K. TOOFAN
CHECKED BY 8/9/2024
DATE

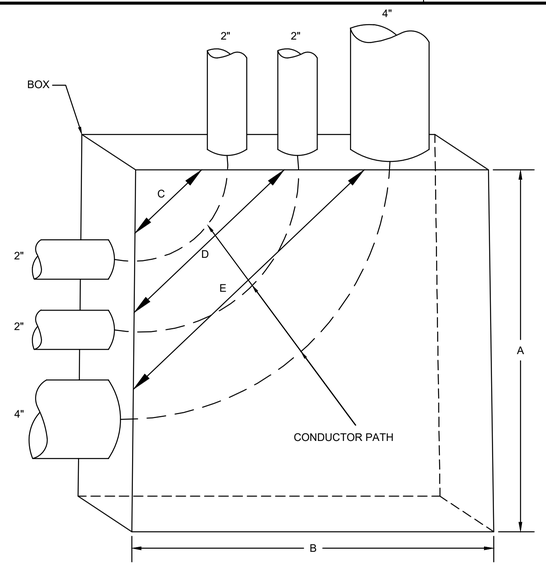
TITLE
ELECTRICAL DETAILS - 1

PROJECT NO.

E0.02

SHEET NO. 42 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E0.02 – Electrical Details – 1.dwg, 9/13/2024 10:43 AM, Tran, KT Khuong



RACEWAYS ENCLOSING SAME CONDUCTOR IN BOX D10

NOT TO SCALE

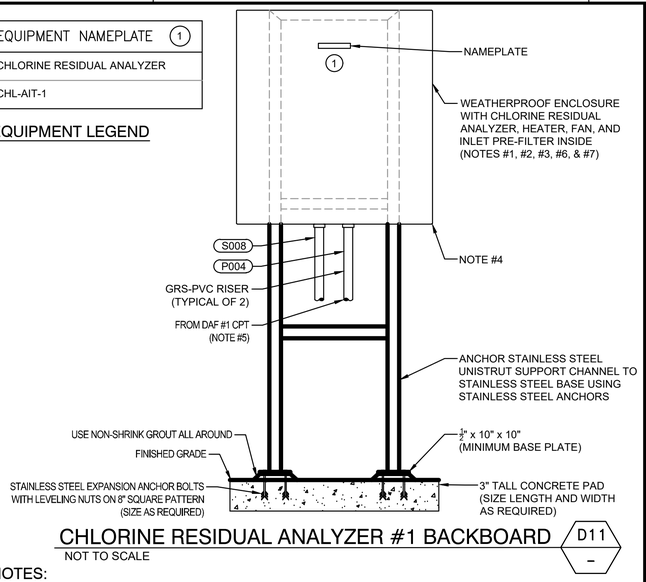
A = (6 x 4 INCH) + 2 INCH + 2 INCH = 28 INCH MINIMUM
B = (6 x 4 INCH) + 2 INCH + 2 INCH = 28 INCH MINIMUM
C = 6 x 2 INCH = 12 INCH MINIMUM REQUIRED BETWEEN RACEWAYS ENCLOSING THE SAME CONDUCTOR
D = 6 x 2 INCH = 12 INCH MINIMUM REQUIRED BETWEEN RACEWAYS ENCLOSING THE SAME CONDUCTOR
E = 6 x 4 INCH = 24 INCH MINIMUM REQUIRED BETWEEN RACEWAYS ENCLOSING THE SAME CONDUCTOR

DETAIL NOTES:

1. SEE NEC SECTION 314.28 FOR PULL BOX SIZING.
2. BOX DETAIL FOR 600V CABLES AND BELOW.

LINE #	EQUIPMENT NAMEPLATE (1)
1	CHLORINE RESIDUAL ANALYZER
2	CHL-AIT-1

EQUIPMENT LEGEND



CHLORINE RESIDUAL ANALYZER #1 BACKBOARD D11

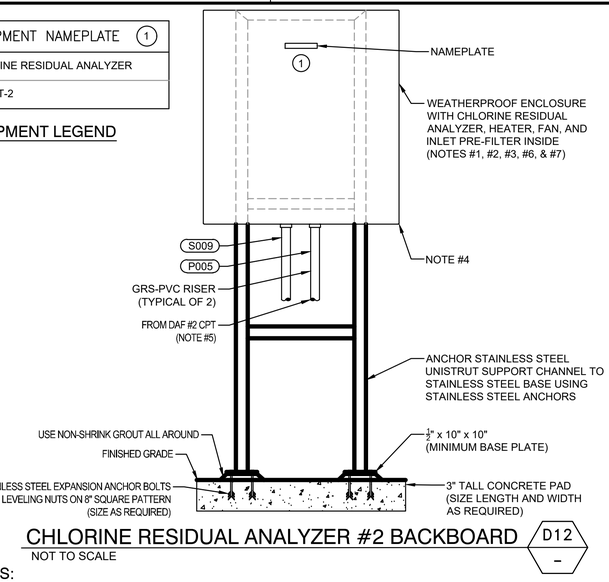
NOT TO SCALE

DETAIL NOTES:

1. SUPPLY WITH ENCLOSURE SUN SHIELD.
2. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. USE WASHER AND SPLIT LOCK WASHER UNDER ALL NUTS.
3. FIELD ADJUST PANEL HEIGHT AS REQUIRED WITH FINAL APPROVAL BY DISTRICT.
4. ENCLOSURE SHALL BE WEATHERPROOF NEMA 3R RATED.
5. FIELD INSTALL 3/4" CONDUIT FROM EXISTING DAF #1 CPT WITH (2) #12 Cu. THHN/THWN & (1) #12 Cu. GRD. PULLED.
6. INSTALL WEATHER RESISTANT AND RATED FOR OUTDOOR USE GFCI RECEPTACLE EQUIPPED WITH GROUND FAULT PROTECTION.
7. THE CONTRACTOR SHALL COORDINATE WITH THE DISTRICT TO SUPPLY THE EVOQUA CHLORINE ANALYZER AND ALL SUPPORTING HARDWARE, THIS INCLUDES, BUT IS NOT LIMITED TO, A FLOW SENSOR, CHLORINE SENSOR, PRESSURE GAUGE, PRESSURE REGULATOR, TUBING CONNECTOR, SAMPLE OUTLET, INLET PRE-FILTRATION, AND ALL NECESSARY ELECTRICAL AND MECHANICAL CONNECTIONS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ENSURING THE PROPER INTEGRATION OF THESE COMPONENTS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GUIDELINES, INCLUDING THE CORRECT INSTALLATION OF ANY ADDITIONAL ACCESSORIES OR COMPONENTS REQUIRED FOR FULL SYSTEM FUNCTIONALITY.

LINE #	EQUIPMENT NAMEPLATE (1)
1	CHLORINE RESIDUAL ANALYZER
2	CHL-AIT-2

EQUIPMENT LEGEND

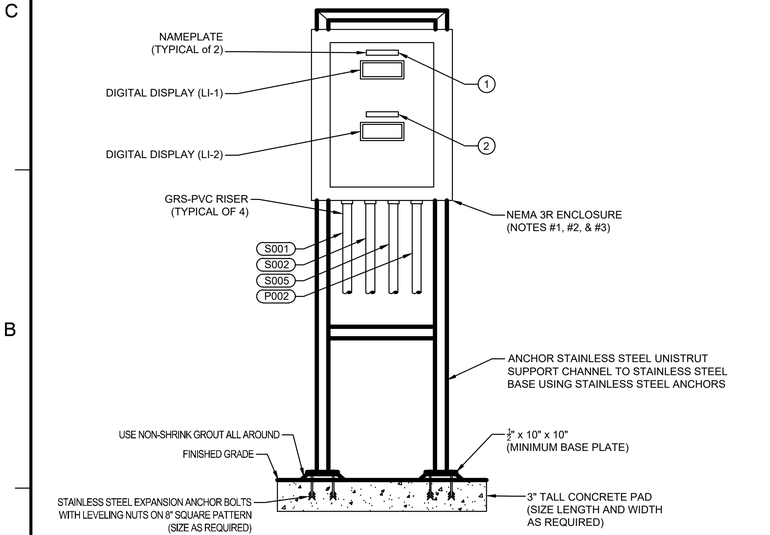


CHLORINE RESIDUAL ANALYZER #2 BACKBOARD D12

NOT TO SCALE

DETAIL NOTES:

1. SUPPLY WITH ENCLOSURE SUN SHIELD.
2. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. USE WASHER AND SPLIT LOCK WASHER UNDER ALL NUTS.
3. FIELD ADJUST PANEL HEIGHT AS REQUIRED WITH FINAL APPROVAL BY DISTRICT.
4. ENCLOSURE SHALL BE WEATHERPROOF NEMA 3R RATED.
5. FIELD INSTALL 3/4" CONDUIT FROM EXISTING DAF #2 CPT WITH (2) #12 Cu. THHN/THWN & (1) #12 Cu. GRD. PULLED.
6. INSTALL WEATHER RESISTANT AND RATED FOR OUTDOOR USE GFCI RECEPTACLE EQUIPPED WITH GROUND FAULT PROTECTION.
7. THE CONTRACTOR SHALL COORDINATE WITH THE DISTRICT TO SUPPLY THE EVOQUA CHLORINE ANALYZER AND ALL SUPPORTING HARDWARE, THIS INCLUDES, BUT IS NOT LIMITED TO, A FLOW SENSOR, CHLORINE SENSOR, PRESSURE GAUGE, PRESSURE REGULATOR, TUBING CONNECTOR, SAMPLE OUTLET, INLET PRE-FILTRATION, AND ALL NECESSARY ELECTRICAL AND MECHANICAL CONNECTIONS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ENSURING THE PROPER INTEGRATION OF THESE COMPONENTS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GUIDELINES, INCLUDING THE CORRECT INSTALLATION OF ANY ADDITIONAL ACCESSORIES OR COMPONENTS REQUIRED FOR FULL SYSTEM FUNCTIONALITY.



ALUM UNLOADING STATION ENCLOSURE D13

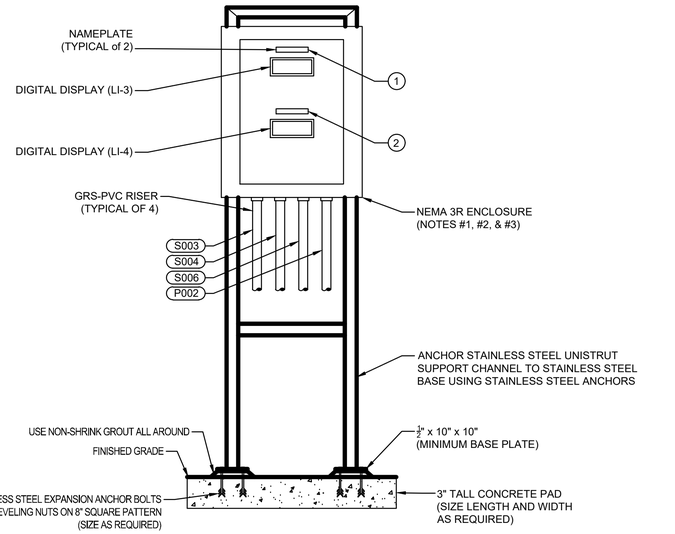
NOT TO SCALE

DETAIL NOTES:

1. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. USE WASHER AND SPLIT LOCK WASHER UNDER ALL NUTS.
2. FIELD ADJUST ENCLOSURE HEIGHT AS REQUIRED WITH FINAL APPROVAL BY DISTRICT'S REPRESENTATIVE.
3. ENCLOSURE SHALL BE A MINIMUM OF 36"(H) X 24"(W) X 18"(D) (SIZE ADJUSTED AS REQUIRED PER APPROVED SHOP DRAWINGS), STAINLESS STEEL, WITH A HINGED AND PADLOCKABLE FRONT DOOR, THE FRONT DOOR SHALL BE FABRICATED WITH A FULL-FRAME VIEWING POLYCARBONATE WINDOW WITH A 1.5" BEZEL ALL AROUND. THE ENCLOSURE SHALL HOUSE TWO (2) DIGITAL LEVEL INDICATORS.

#	EQUIPMENT NAMEPLATE (#)
1	ALUM TANK #1 LEVEL
2	ALUM TANK #2 LEVEL

EQUIPMENT LEGEND



NaOCl UNLOADING STATION ENCLOSURE D14

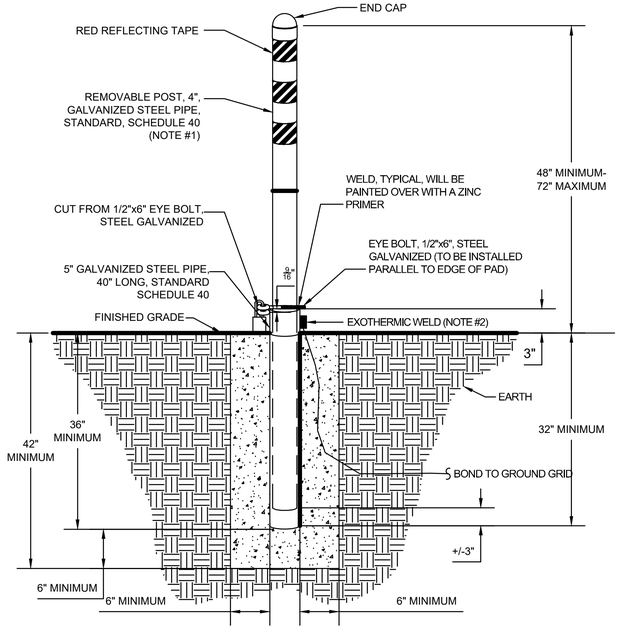
NOT TO SCALE

DETAIL NOTES:

1. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. USE WASHER AND SPLIT LOCK WASHER UNDER ALL NUTS.
2. FIELD ADJUST ENCLOSURE HEIGHT AS REQUIRED WITH FINAL APPROVAL BY DISTRICT'S REPRESENTATIVE.
3. ENCLOSURE SHALL BE A MINIMUM OF 36"(H) X 24"(W) X 18"(D) (SIZE ADJUSTED AS REQUIRED PER APPROVED SHOP DRAWINGS), STAINLESS STEEL, WITH A HINGED AND PADLOCKABLE FRONT DOOR, THE FRONT DOOR SHALL BE FABRICATED WITH A FULL-FRAME VIEWING POLYCARBONATE WINDOW WITH A 1.5" BEZEL ALL AROUND. THE ENCLOSURE SHALL HOUSE TWO (2) DIGITAL LEVEL INDICATORS.

#	EQUIPMENT NAMEPLATE (#)
1	NaOCl TANK #1 LEVEL
2	NaOCl TANK #2 LEVEL

EQUIPMENT LEGEND



REMOVABLE BOLLARD D15

NOT TO SCALE

DETAIL NOTES:

1. BOLLARD SHALL BE PAINTED USING OUTDOOR YELLOW OIL-BASED ENAMEL RUST PREVENTATIVE PAINT TO PREVENT CORROSION.
2. INSTALL GROUND WIRE FROM EACH BOLLARD TO THE SYSTEM GROUND GRID. INSTALL GROUND LUG ON PIPE PRIOR TO INSTALLING IN CONCRETE.

DETAILS ON THIS SHEET ARE TYPICAL ONLY AND ALL INSTALLATION AND REQUIREMENTS SHOULD BE COORDINATED WITH THE CONTRACTED VENDOR.

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RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
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KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY K. TOOFAN
APPROVED BY K. TOOFAN
CHECKED BY 8/9/2024
DATE

TITLE

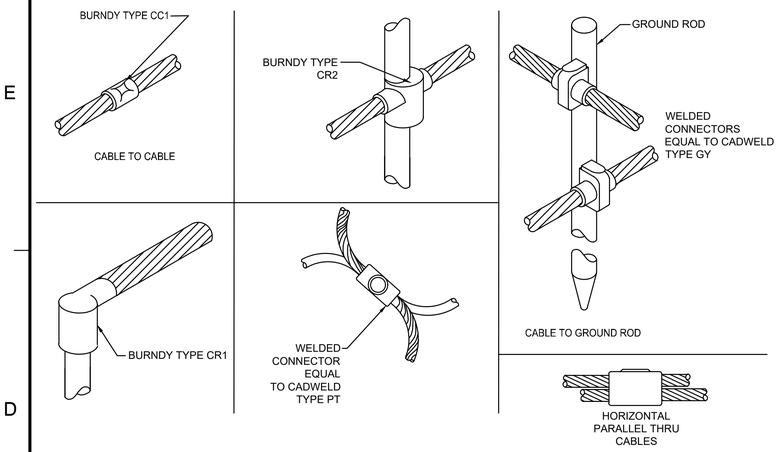
ELECTRICAL DETAILS - 2

PROJECT NO.

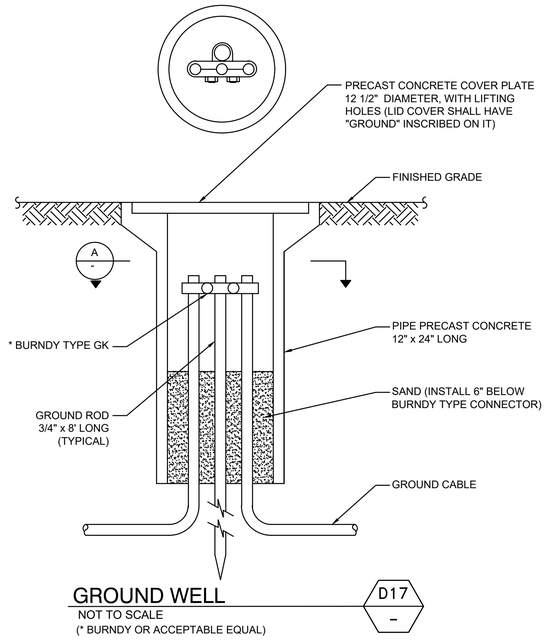
E0.03

SHEET NO. 43 OF 54

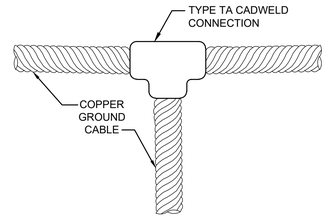
U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E0.03 – Electrical Details – 2.dwg, 9/13/2024 10:43 AM, Tran, KT Khuong



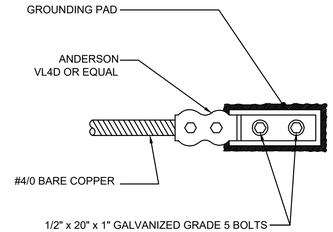
GROUND CONNECTIONS D16
NOT TO SCALE



GROUND WELL D17
NOT TO SCALE
(* BURNDY OR ACCEPTABLE EQUAL)



GROUND CABLE CONNECTION D18
NOT TO SCALE



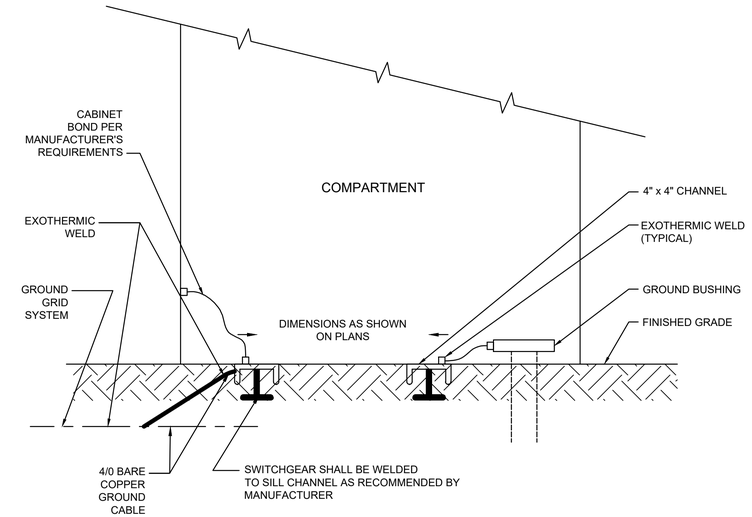
TYPICAL EQUIPMENT GROUND CONNECITON D19
NOT TO SCALE

CADWELD INSTALLATION NOTES

1. PREPARATION OF CABLE
   - A. CONDUCTORS SHOULD BE CLEAN, SHINY, AND DRY TO HELP ENSURE A GOOD WELD.
   - B. CORROSION MUST BE CLEANED FROM CONDUCTORS WITH A CARD CLOTH BRUSH OR A CABLE CLEANING BRUSH. KEEP TOOLS CLEAN TO AVOID CONTAMINATION.
   - C. OIL AND/OR GREASE SHOULD BE REMOVED FROM CONDUCTORS.
   - D. WET CONDUCTORS MUST BE DRIED WITH A TORCH HEAD OR OTHER SUITABLE MEANS.
   - E. BENT CONDUCTORS (OR CONDUCTORS WHICH HAVE BEEN "BIRD-CAGED") CAN PREVENT THE MOLD FROM CLOSING TIGHTLY, WHICH CAN CAUSE LEAKS.
2. PREPARATION OF GROUND RODS
   - A. GROUND ROD ENDS THAT HAVE BEEN MUSHROOMED BY DRIVING MUST BE CUT OFF AS THEY WILL HOLD THE MOLD OPEN AND CAUSE LEAKAGE DURING THE WELDING PROCEDURE.
   - B. GROUND ROD MUST BE CLEAN, SHINY AND DRY TO HELP ENSURE A GOOD WELD. CORROSION MUST BE REMOVED AS IT MAY CAUSE POROSITY IN THE WELD.
3. PERFORM WELDING
   - A. VERIFY THE FOLLOWING
     1. MOLD IS CORRECT FOR THE CONDUCTOR SIZE AND APPLICATION. DO NOT MODIFY MOLDS.
     2. WELDING MATERIAL INDICATED ON MOLD TAG IS AVAILABLE.
     3. HANDLE CLAMP AND/OR FRAME IS ATTACHED TO THE MOLD AND PROPERLY ADJUSTED.
     4. IGNITER UNIT IS IN WORKING ORDER.
     5. MAKE SURE MOLD IS CLEAN AND DRY AND IS IN GOOD CONDITION.
   - B. DRY THE MOLD BY HEATING WITH TORCH TO ABOUT 250° F (120° C).
   - C. POSITION MOLD ON CONDUCTOR AND/OR AGAINST SURFACE FOLLOWING APPROPRIATE INSTRUCTION SHEET PROVIDED WITH MOLD.
   - D. CLOSE MOLD. LOCK TIGHTLY WITH HANDLE CLAMPS / FRAME TOGGLES.
   - E. IGNITING WELDING MATERIAL. ALLOW APPROXIMATELY 30 SECONDS FOR COMPLETION OF THE REACTION AND SOLIDIFICATION OF WELD METAL.
   - F. OPEN AND REMOVE THE MOLD. USE CARE TO PREVENT CHIPPING THE MOLD AND CLEAN AS REQUIRED.

* COORDINATE INSTALLATION WITH MANUFACTURER

CADWELD INSTALLATION NOTES D20
NOT TO SCALE



ENCLOSURE GROUNDING D21
NOT TO SCALE
(* SECTION VIEW OF SWITCHGEAR SHOWING GROUNDING METHOD)

DETAILS ON THIS SHEET ARE TYPICAL ONLY AND ALL INSTALLATION AND REQUIREMENTS SHOULD BE COORDINATED WITH THE CONTRACTED VENDOR.

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RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
KOOSHA TOOFAN
20418
Exp. SEPT. 30, 2025
Electrical Engineer
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY K. TOOFAN
APPROVED BY K. TOOFAN
CHECKED BY 8/9/2024
DATE

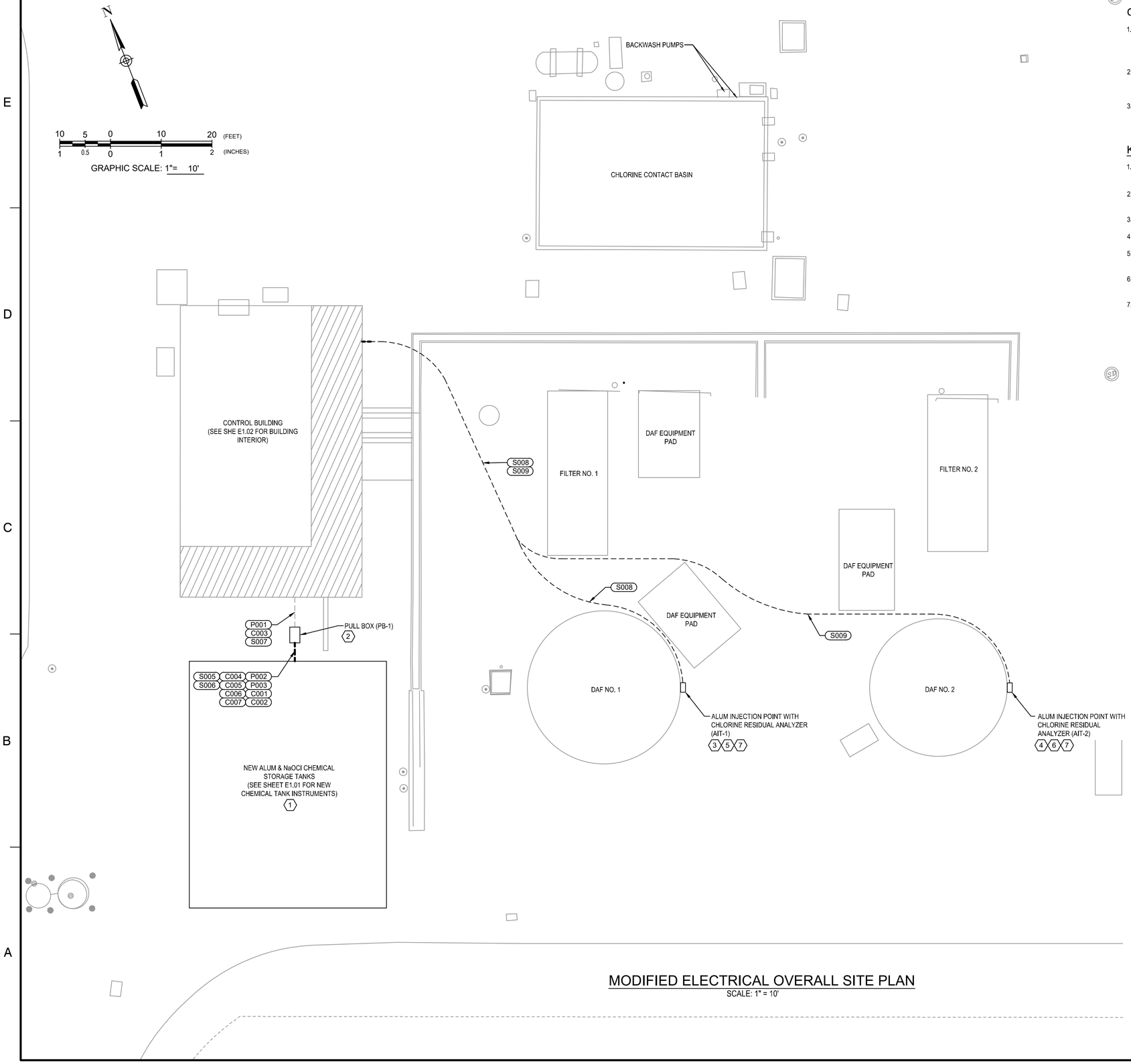
TITLE
GROUNDING DETAILS

PROJECT NO.

E0.04

SHEET NO. 44 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E0.04 – Grounding Details.dwg, 9/13/2024 10:44 AM, Tran, KT Khuong



MODIFIED ELECTRICAL OVERALL SITE PLAN
SCALE: 1" = 10'

GENERAL NOTES:

1. EXISTING UTILITIES ARE NOT SHOWN ON THIS SHEET. CONTRACTOR SHALL FIELD VERIFY EXACT UTILITY LOCATIONS PRIOR TO ROUGH IN. HAND DIG AROUND ALL UTILITIES IN CLOSE PROXIMITY TO THE INSTALLATION OF THE ELECTRICAL EQUIPMENT AND INSTRUMENTATION TO AVOID DAMAGING ANY UTILITY LINE.
2. CONDUIT ROUTING IS DIAGRAMMATICALLY SHOWN ON PLANS AND ARE ONLY APPROXIMATIONS. THE EXACT LOCATION AND ROUTING PATHS SHALL BE FIELD VERIFIED AND INSTALLED PER JURISDICTIONAL REQUIREMENTS.
3. THIS DRAWING IS BASED ON AVAILABLE CONSTRUCTION AND RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ELEVATIONS, LOCATIONS AND CONDITION OF EXISTING STRUCTURES, AND EQUIPMENT SHOWN ON THE DRAWINGS, AS REQUIRED. ALL PROJECT VERIFICATIONS SHALL BE PERFORMED PRIOR TO THE ROUGH-IN, AND CONTRACTOR SHALL COORDINATE ANY DISCREPANCIES WITH THE DISTRICT.

KEY NOTES:

1. NEW CHEMICAL TANKS REPLACING EXISTING CHEMICAL TANKS. SEE SHEET C0.02 FOR EXISTING CHEMICAL TANKS.
2. PULL BOX WITH H-20 TRAFFIC RATED LID SHALL HAVE MINIMUM INTERIOR DIMENSIONS OF 30 $\frac{3}{8}$" (L) x 17 $\frac{3}{8}$" (W). PULL BOX SHALL BE OLDCASTLE INFRASTRUCTURE B1730 OR APPROVED EQUAL.
3. SEE DETAIL D11 ON SHEET E0.03 FOR CHL-AIT-1 BACKBOARD STAND.
4. SEE SETAIL D12 ON SHEET E0.03 FOR CHL-AIT-2 BACKBOARD STAND.
5. CONDUIT P004 FOR CHLORINE RESIDUAL ANALYZER POWER SOURCE FROM DAF NO.1 CPT NOT SHOWN. SEE DETAIL D11 ON SHEET E0.03.
6. CONDUIT P005 FOR CHLORINE RESIDUAL ANALYZER POWER SOURCE FROM DAF NO.2 CPT NOT SHOWN. SEE DETAIL D12 ON SHEET E0.03.
7. CONTRACTOR SHALL COORDINATE FINAL CHLORINE ANALYZER EQUIPMENT INSTALLATION LOCATION WITH DISTRICT PRIOR TO ROUGH-IN.

LEGEND

NEW (BOLD LINES) ——

EXISTING (FADED LINES) ——

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WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

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KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY K. TOOFAN
APPROVED BY K. TOOFAN
CHECKED BY 8/9/2024
DATE

TITLE

MODIFIED ELECTRICAL OVERALL SITE PLAN

PROJECT NO.

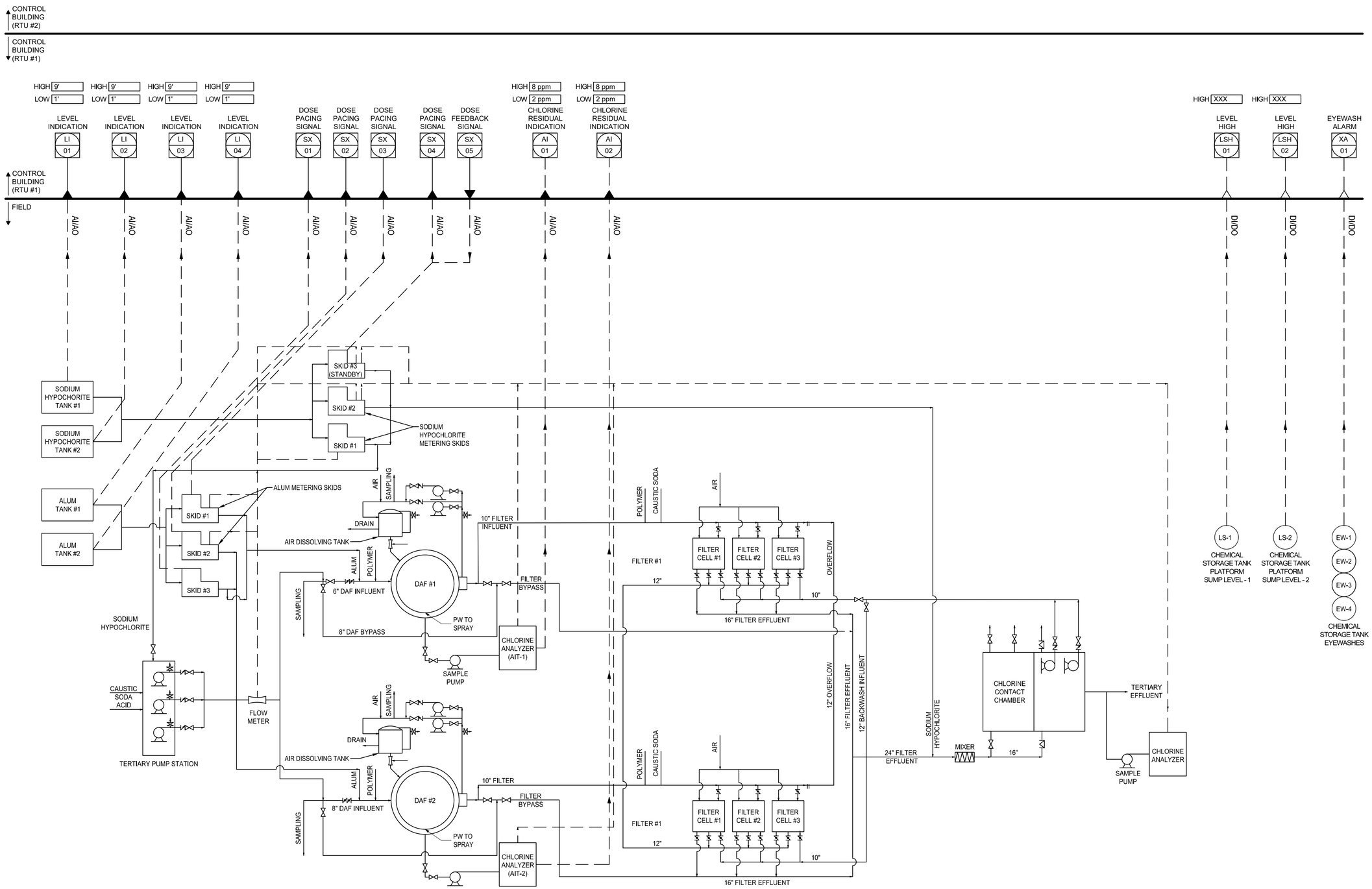
E0.05

SHEET NO. 45 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E0.05 – Electrical Overall Site Plan.dwg, 9/13/2024 10:44 AM, Tran, KT Khuong

GENERAL NOTE:

1. INPUTS / OUTPUTS SHOWN REFLECTS HARDWARE ADDED UNDER THIS CONTRACT ONLY.



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WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

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No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TOOFAN
APPROVED BY	K. TOOFAN
CHECKED BY	8/9/2024
DATE	

TITLE

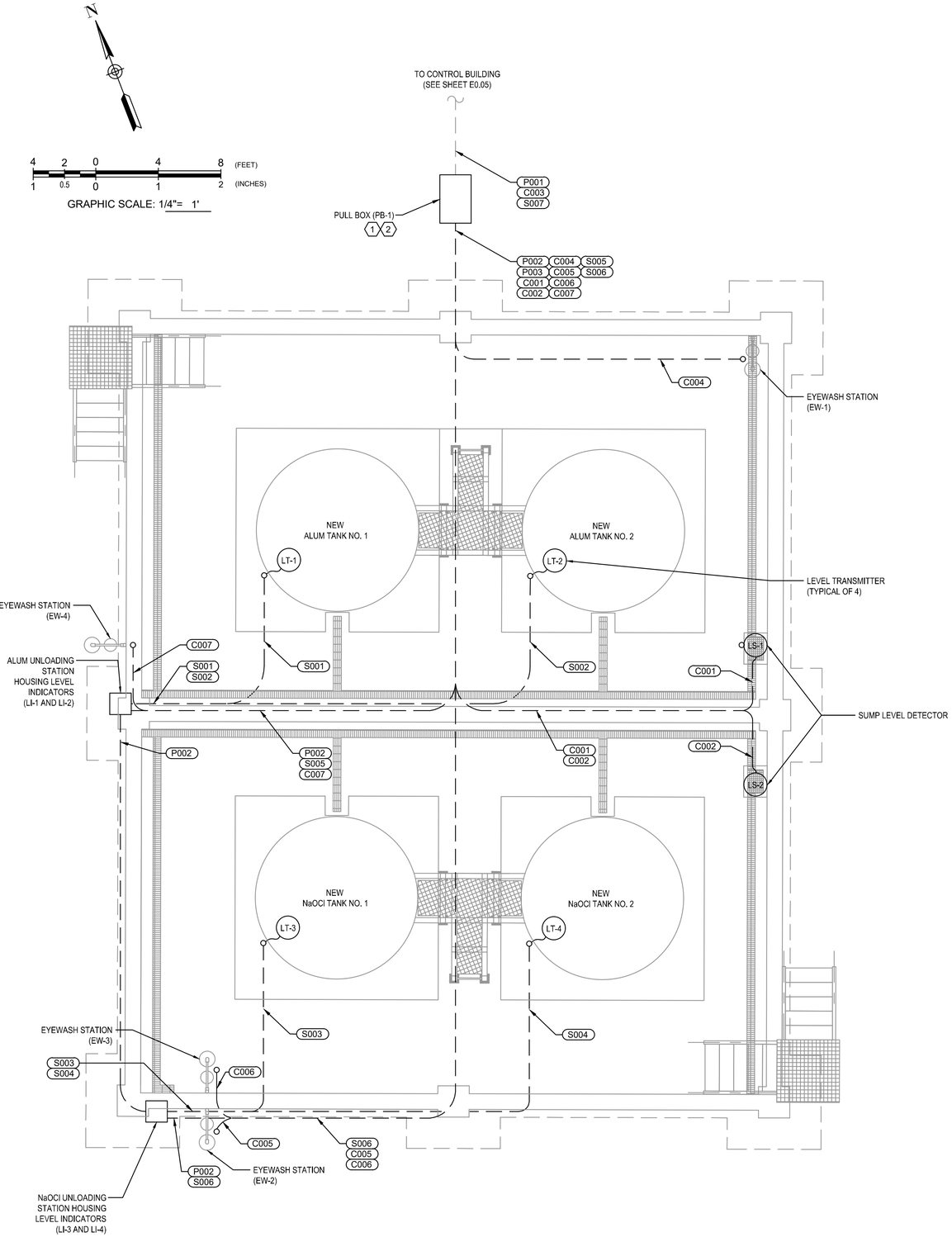
P&ID

PROJECT NO.

E1.00

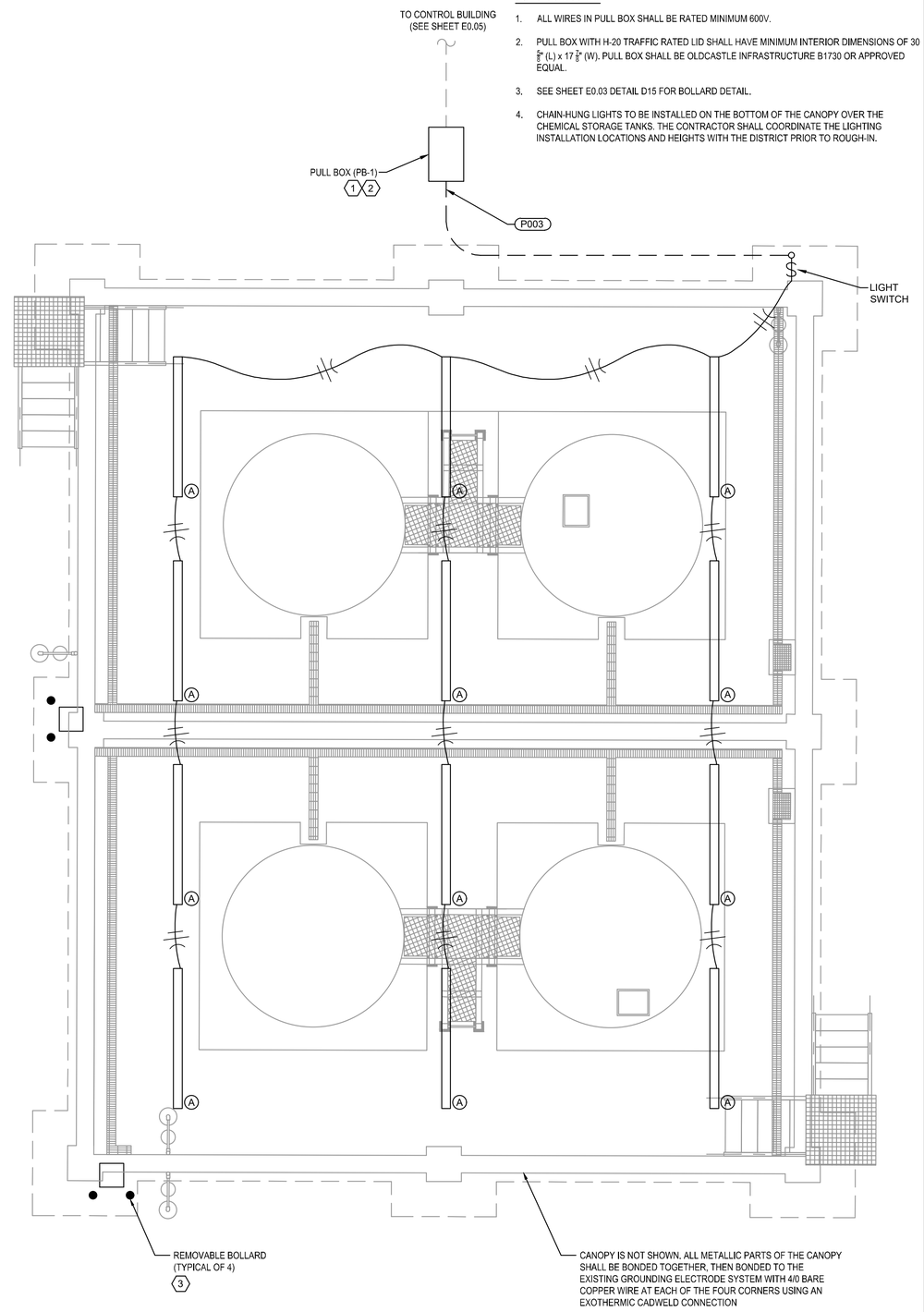
SHEET NO. 46 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E1.00 – P&ID.dwg, 9/13/2024 10:44 AM, Tran, KT Khuong



PROPOSED CHEMICAL STORAGE TANKS POWER & SIGNAL PLAN

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



PROPOSED CHEMICAL STORAGE TANKS LIGHTING PLAN 4

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

GENERAL NOTE:

1. SEE SHEET C0.02 FOR ADDITIONAL DETAILS ON THE FOUR (4) NEW CHEMICAL TANKS.

KEY NOTES:

1. ALL WIRES IN PULL BOX SHALL BE RATED MINIMUM 600V.
2. PULL BOX WITH H-20 TRAFFIC RATED LID SHALL HAVE MINIMUM INTERIOR DIMENSIONS OF 30 $\frac{5}{8}$" (L) x 17 $\frac{3}{8}$" (W). PULL BOX SHALL BE OLDCASTLE INFRASTRUCTURE B1730 OR APPROVED EQUAL.
3. SEE SHEET E0.03 DETAIL D15 FOR BOLLARD DETAIL.
4. CHAIN-HUNG LIGHTS TO BE INSTALLED ON THE BOTTOM OF THE CANOPY OVER THE CHEMICAL STORAGE TANKS. THE CONTRACTOR SHALL COORDINATE THE LIGHTING INSTALLATION LOCATIONS AND HEIGHTS WITH THE DISTRICT PRIOR TO ROUGH-IN.

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WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

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KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY K. TOOFAN
APPROVED BY K. TOOFAN
CHECKED BY 8/9/2024
DATE

TITLE

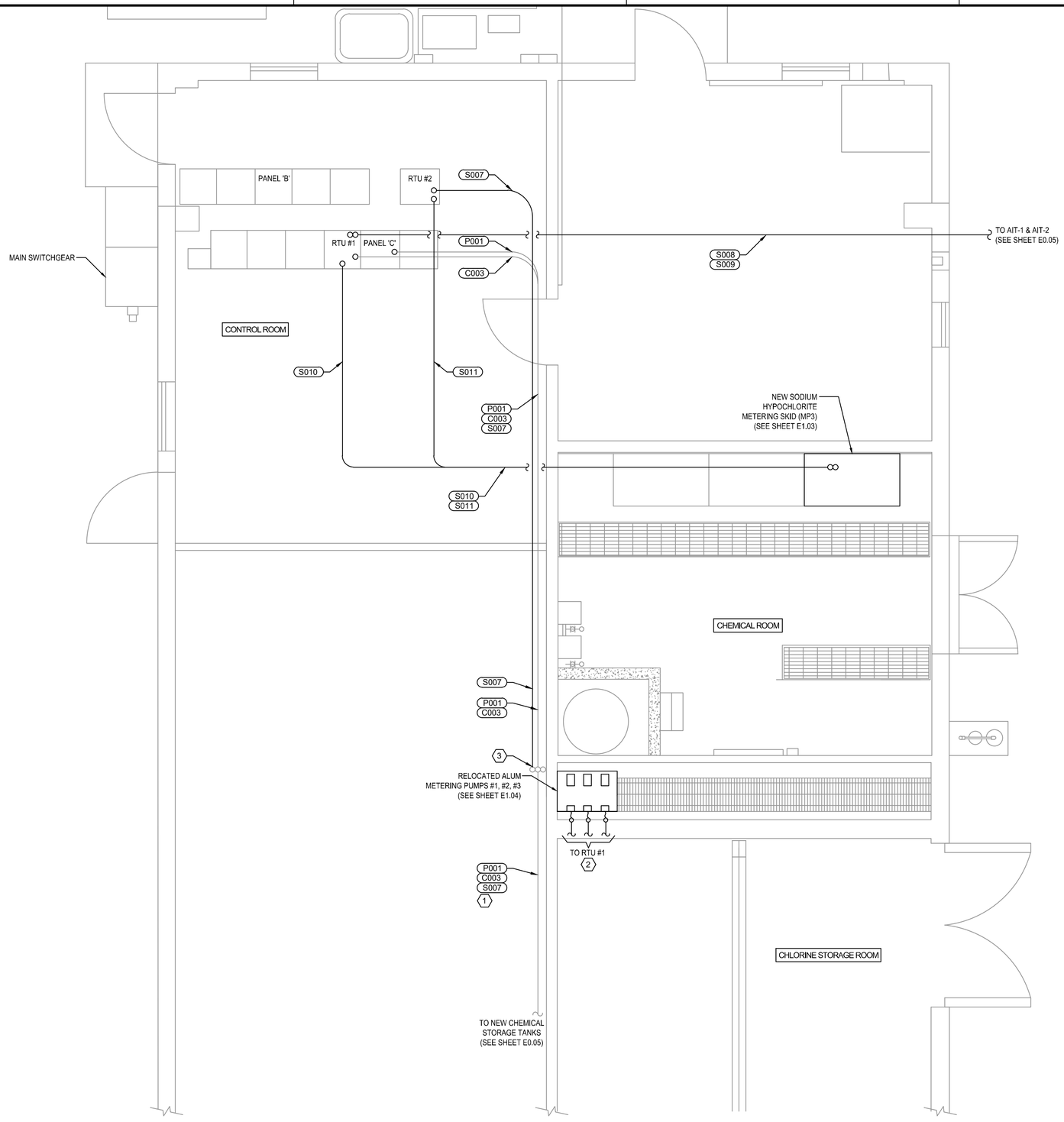
PROPOSED CHEMICAL STORAGE TANKS PLANS

PROJECT NO.

E1.01

SHEET NO. 47 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E1.01 – Electrical Chemical Storage Plan.dwg, 9/13/2024 10:44 AM, Tran, KT Khuong



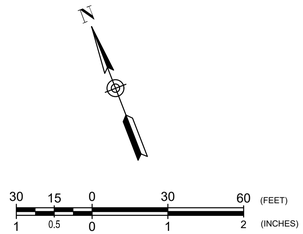
MODIFIED CONTROL BUILDING PLAN
SCALE: 1" = 30'

GENERAL NOTES:

1. EXISTING UTILITIES ARE NOT SHOWN ON THIS SHEET. CONTRACTOR SHALL FIELD VERIFY EXACT UTILITY LOCATIONS PRIOR TO ROUGH IN. HAND DIG AROUND ALL UTILITIES IN CLOSE PROXIMITY TO THE INSTALLATION OF THE ELECTRICAL EQUIPMENT AND INSTRUMENTATION TO AVOID DAMAGING ANY UTILITY LINE.
2. CONDUIT ROUTING IS DIAGRAMMATICALLY SHOWN ON PLANS AND ARE ONLY APPROXIMATIONS. THE EXACT LOCATION AND ROUTING PATHS SHALL BE FIELD VERIFIED AND INSTALLED PER JURISDICTIONAL REQUIREMENTS.
3. THIS DRAWING IS BASED ON AVAILABLE CONSTRUCTION AND RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ELEVATIONS, LOCATIONS AND CONDITION OF EXISTING STRUCTURES, AND EQUIPMENT SHOWN ON THE DRAWINGS, AS REQUIRED. ALL PROJECT VERIFICATIONS SHALL BE PERFORMED PRIOR TO THE ROUGH-IN, AND CONTRACTOR SHALL COORDINATE ANY DISCREPANCIES WITH THE ENGINEER.

KEY NOTES:

1. CONTRACTOR SHALL INTERCEPT EXISTING CONDUITS P001, C003, AND S007 AT A FIELD-SELECTED LOCATION TO MINIMIZE THE ADDITION OF NEW CONDUIT WHILE ROUTING TO RTU #1 AND PANEL 'C' AS REQUIRED, USING INSTALLED NEMA 1 RATED JUNCTION BOXES AND SUPPORTING HARDWARE AS NECESSARY. CONDUIT INTERCEPT LOCATIONS SHALL BE COORDINATED WITH THE DISTRICT PRIOR TO ROUGH-IN. REFER TO THE CONDUIT SCHEDULE ON SHEET E1.05 FOR THE EXISTING ROUTING OF CONDUITS AND THE REQUIRED NEW ROUTING.
2. EXTEND (1) NEW CONDUIT FROM EACH RELOCATED ALUM METERING PUMP TO INTERCEPT THE RESPECTIVE EXISTING CHEMICAL ROOM ALUM METERING PUMP CONDUIT(S), AND INSTALL NEW JUNCTION BOXES AS NECESSARY TO LIMIT THE NUMBER OF CONDUIT TURNS TO 360°. REPLACE OR ADD CABLE AND WIRE(S) AS NECESSARY TO FACILITATE CHANGE OF METERING PUMP CONTROL FROM DISCRETE OUTPUT TO ANALOG OUTPUT. THE QUANTITY OF EXISTING CONDUITS FROM THE CURRENT ALUM METERING PUMP SETUP TO RTU #1 MUST BE FIELD-VERIFIED PRIOR TO ROUGH-IN, AND ALL CABLE AND WIRES SHALL BE RATED NO LESS THAN 600V. REMOVE FILL FROM EXISTING CONDUIT, AND RE-PULL (1) 2/C #14 TWSP & (1) #12 Cu. GRD. TO LAND IN RTU #1. QUANTITY OF CONDUITS TO BE FIELD VERIFIED PRIOR TO ROUGH-IN.
3. EXISTING CONDUIT S007 ENDS IN THE GENERAL VICINITY MARKED. THE CONTRACTOR SHALL ADD NEW CONDUIT TO MATCH THE EXISTING, INCLUDING THE INSTALLATION OF A NEMA 1 RATED JUNCTION BOX AS NECESSARY TO INTERCEPT THE EXISTING CONDUIT S007 AND EXTEND TO EXISTING RTU #2, WITH FILL AS SHOWN ON SHEET E1.05.



GRAPHIC SCALE: 1"= 30'

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RANCHO MURIETA
COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

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Exp. SEPT. 30, 2025
Electrical Engineer
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KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY K. TOOFAN
APPROVED BY K. TOOFAN
CHECKED BY 8/9/2024
DATE

TITLE

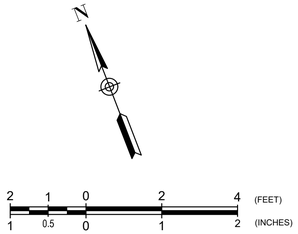
MODIFIED CONTROL BUILDING PLAN

PROJECT NO.

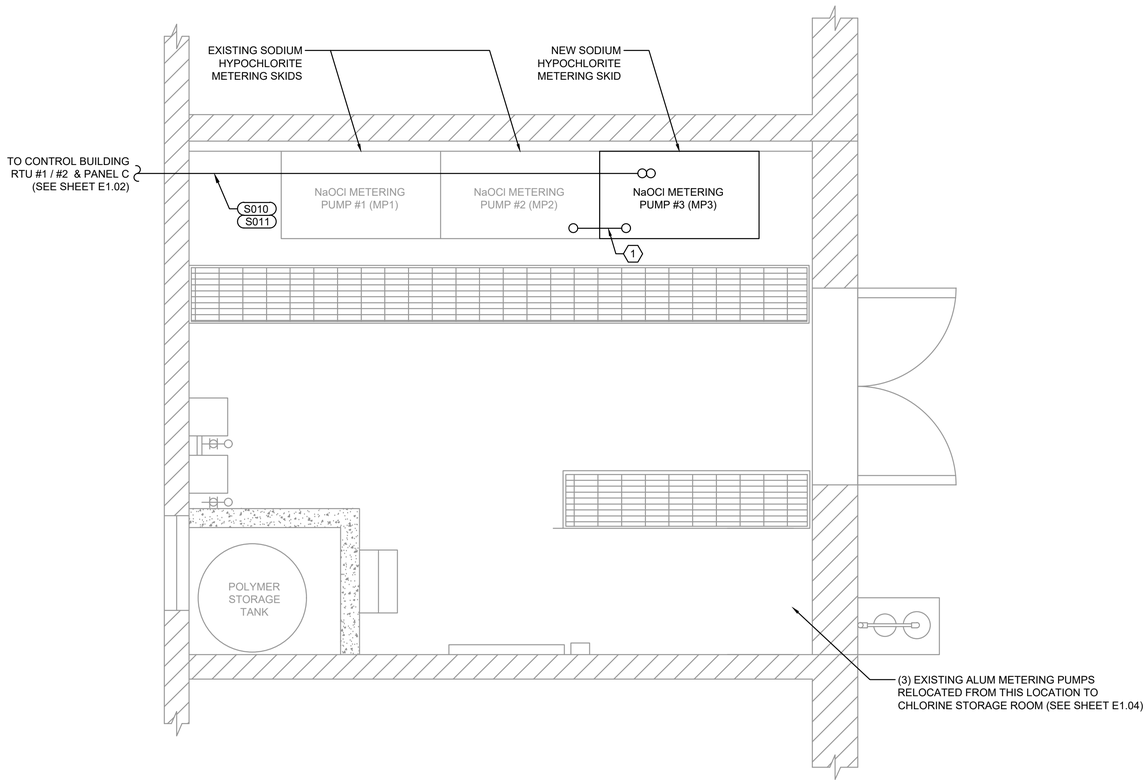
E1.02

SHEET NO. 48 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E1.02 – Control Building Plan.dwg, 9/13/2024 10:44 AM, Tran, KT Khuong



GRAPHIC SCALE: 1/2"= 1'



MODIFIED CHEMICAL ROOM PLAN

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

GENERAL NOTES:

1. EXISTING UTILITIES ARE NOT SHOWN ON THIS SHEET. CONTRACTOR SHALL FIELD VERIFY EXACT UTILITY LOCATIONS PRIOR TO ROUGH IN. HAND DIG AROUND ALL UTILITIES IN CLOSE PROXIMITY TO THE INSTALLATION OF THE ELECTRICAL EQUIPMENT AND INSTRUMENTATION TO AVOID DAMAGING ANY UTILITY LINE.
2. CONDUIT ROUTING IS DIAGRAMMATICALLY SHOWN ON PLANS AND ARE ONLY APPROXIMATIONS. THE EXACT LOCATION AND ROUTING PATHS SHALL BE FIELD VERIFIED AND INSTALLED PER JURISDICTIONAL REQUIREMENTS.
3. THIS DRAWING IS BASED ON AVAILABLE CONSTRUCTION AND RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ELEVATIONS, LOCATIONS AND CONDITION OF EXISTING STRUCTURES, AND EQUIPMENT SHOWN ON THE DRAWINGS, AS REQUIRED. ALL PROJECT VERIFICATIONS SHALL BE PERFORMED PRIOR TO THE ROUGH-IN, AND CONTRACTOR SHALL COORDINATE ANY DISCREPANCIES WITH THE ENGINEER.

KEY NOTE:

1. JUMPER POWER FEED FROM EXISTING NaOCl METERING PUMP #2 TO NEW NaOCl METERING PUMP #3 FOR POWER SUPPLY. INSTALLED CONDUIT SHALL BE GALVANIZED RIGID OR FLEXIBLE METAL AS REQUIRED, AND NEMA 1 JUNCTION BOXES SHALL BE INSTALLED AS NECESSARY. MATCH PHASE, GROUND WIRE SIZES, AND WIRE COUNT.

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COMMUNITY SERVICES DISTRICT
WWTF

SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
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Exp. SEPT. 30, 2025
Electrical Engineer
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KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY K. TOOFAN
APPROVED BY K. TOOFAN
CHECKED BY 8/9/2024
DATE

TITLE

MODIFIED CHEMICAL ROOM PLAN

PROJECT NO.

E1.03

SHEET NO. 49 OF 54

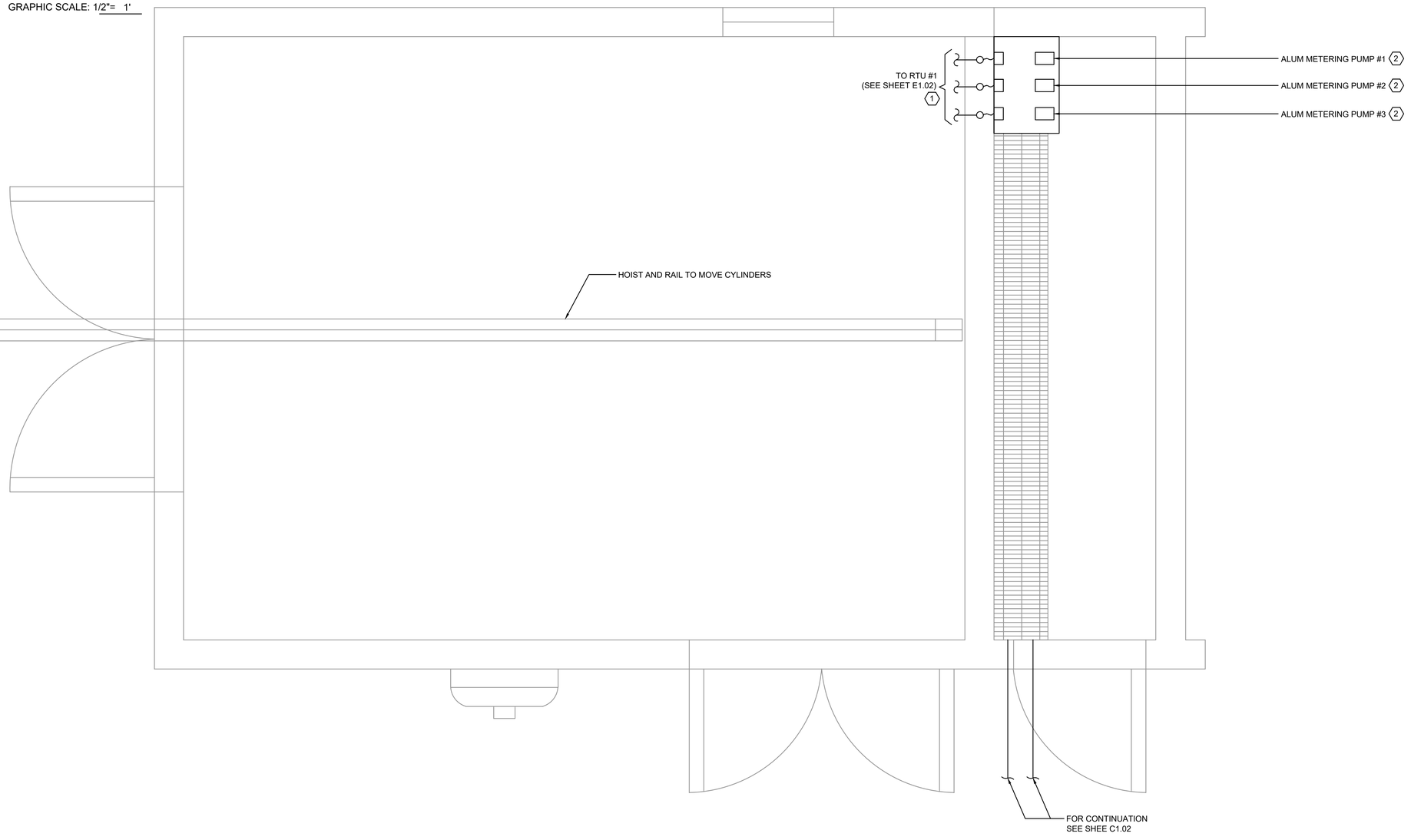
U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E1.03 – Control Building Chemical Room.dwg, 9/13/2024 10:44 AM, Tran, KT Khuong

KEY NOTES:

1. EXTEND (1) NEW CONDUIT FROM EACH RELOCATED ALUM METERING PUMP TO INTERCEPT THE RESPECTIVE EXISTING CHEMICAL ROOM ALUM METERING PUMP CONDUIT(S), AND INSTALL NEW JUNCTION BOXES AS NECESSARY TO LIMIT THE NUMBER OF CONDUIT TURNS TO 360°. REPLACE OR ADD CABLE AND WIRE(S) AS NECESSARY TO FACILITATE CHANGE OF METERING PUMP CONTROL FROM DISCRETE OUTPUT TO ANALOG OUTPUT. THE QUANTITY OF EXISTING CONDUITS FROM THE CURRENT ALUM METERING PUMP SETUP TO RTU #1 MUST BE FIELD-VERIFIED PRIOR TO ROUGH-IN, AND ALL CABLE AND WIRES SHALL BE RATED NO LESS THAN 600V.
2. EXISTING ALUM METER PUMP RELOCATED FROM CHEMICAL ROOM SHOWN ON E1.03.

2 1 0 4 4 (FEET)
1 0.5 0 1 2 (INCHES)

GRAPHIC SCALE: 1/2"= 1'



MODIFIED CHLORINE STORAGE ROOM
SCALE: 1/2" = 1'-0"

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COMMUNITY SERVICES DISTRICT
WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
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KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY	K. TOOFAN
APPROVED BY	K. TOOFAN
CHECKED BY	8/9/2024
DATE	

TITLE

MODIFIED CHLORINE STORAGE ROOM

PROJECT NO.

E1.04

SHEET NO. 50 OF 54

CONDUIT NUMBER	FROM	TO	CONDUIT SIZE	CONDUCTORS	NOTES
POWER					
P001 (1)	EXISTING CONTROL BUILDING (PANEL 'C')	PULL BOX (PB-1)	3" (2)	(4) #10 Cu. THHN/THWN & (2) #10 Cu. GRD.	NaOCl / ALUM DIGITAL DISPLAYS & LIGHTING
P002	PULL BOX (PB-1)	NaOCl & ALUM UNLOADING STATIONS	1"	(2) #10 Cu. THHN/THWN & (1) #12 Cu. GRD.	NaOCl / ALUM DIGITAL DISPLAYS
P003	PULL BOX (PB-1)	CHEMICAL STORAGE LIGHT SWITCH	1"	(2) #10 Cu. THHN/THWN & (1) #12 Cu. GRD.	LIGHTING
P004	DAF NO.1 CPT	DAF NO.1 CHLORINE RESIDUAL ANALYZER (AIT-1)	3/4"	(2) #12 Cu. THHN/THWN & (1) #12 Cu. GRD.	-
P005	DAF NO.2 CPT	DAF NO.1 CHLORINE RESIDUAL ANALYZER (AIT-2)	3/4"	(2) #12 Cu. THHN/THWN & (1) #12 Cu. GRD.	-
P006	-	-	-	-	-
P007	-	-	-	-	-
P008	-	-	-	-	-
P009	-	-	-	-	-
P010	-	-	-	-	-
P011	-	-	-	-	-
P012	-	-	-	-	-
CONDUIT NUMBER	FROM	TO	CONDUIT SIZE	CONDUCTORS	NOTES
CONTROL					
C001	NEW CHEMICAL STORAGE TANK SUMP LEVEL (LS-1)	PULL BOX (PB-1)	1"	(2) #12 Cu. THHN/THWN & (1) #12 Cu. GRD.	-
C002	NEW CHEMICAL STORAGE TANK SUMP LEVEL (LS-2)	PULL BOX (PB-1)	1"	(2) #12 Cu. THHN/THWN & (1) #12 Cu. GRD.	-
C003 (1)	PULL BOX (PB-1)	EXISTING CONTROL BUILDING (RTU #1 CABINET)	3" (2)	(12) #12 Cu. THHN/THWN & (1) #12 Cu. GRD.	LS-1, LS-2, EW-1, EW-2, EW-3, EW-4 SIGNALS
C004	EYEWASH STATION (EW-1)	PULL BOX (PB-1)	1"	(2) #12 Cu. THHN/THWN & (1) #12 Cu. GRD.	USAGE ALARM
C005	EYEWASH STATION (EW-2)	PULL BOX (PB-1)	1"	(2) #12 Cu. THHN/THWN & (1) #12 Cu. GRD.	USAGE ALARM
C006	EYEWASH STATION (EW-3)	PULL BOX (PB-1)	1"	(2) #12 Cu. THHN/THWN & (1) #12 Cu. GRD.	USAGE ALARM
C007	EYEWASH STATION (EW-4)	PULL BOX (PB-1)	1"	(2) #12 Cu. THHN/THWN & (1) #12 Cu. GRD.	USAGE ALARM
C008	-	-	-	-	-
C009	-	-	-	-	-
C010	-	-	-	-	-
CONDUIT NUMBER	FROM	TO	CONDUIT SIZE	CONDUCTORS	NOTES
SIGNAL					
S001	ALUM UNLOADING STATION (LI-1)	NEW ALUM TANK NO. 1 LEVEL ELEMENT (LT-1)	1"	(1) MANUFACTURER'S RECOMMENDED CABLE (5)(8)	LEVEL INDICATION
S002	ALUM UNLOADING STATION (LI-2)	NEW ALUM TANK NO. 2 LEVEL ELEMENT (LT-2)	1"	(1) MANUFACTURER'S RECOMMENDED CABLE (5)(8)	LEVEL INDICATION
S003	NaOCl UNLOADING STATION (LI-3)	NEW NaOCl TANK NO. 1 LEVEL ELEMENT (LT-3)	1"	(1) MANUFACTURER'S RECOMMENDED CABLE (5)(8)	LEVEL INDICATION
S004	NaOCl UNLOADING STATION (LI-4)	NEW NaOCl TANK NO. 2 LEVEL ELEMENT (LT-4)	1"	(1) MANUFACTURER'S RECOMMENDED CABLE (5)(8)	LEVEL INDICATION
S005	ALUM UNLOADING STATION (LI-1 & LI-2)	PULL BOX (PB-1)	1"	(2) 2/C #14 TWSP & (1) #12 Cu. GRD.	LEVEL INDICATION
S006	NaOCl UNLOADING STATION (LI-3 & LI-4)	PULL BOX (PB-1)	1"	(2) 2/C #14 TWSP & (1) #12 Cu. GRD.	LEVEL INDICATION
S007 (1)	PULL BOX (PB-1)	EXISTING CONTROL BUILDING (RTU #2 CABINET)	3" (3)	(4) 2/C #14 TWSP & (1) #12 Cu. GRD.	LEVEL INDICATION FOR LT-1, LT-2, LT-3, & LT-4
S008	EXISTING CONTROL BUILDING (RTU #1 CABINET)	DAF NO.1 CHLORINE RESIDUAL ANALYZER (AIT-1)	1"	(1) 2/C #14 TWSP & (1) #12 Cu. GRD.	CHLORINE RESIDUAL INDICATION
S009	EXISTING CONTROL BUILDING (RTU #1 CABINET)	DAF NO.2 CHLORINE RESIDUAL ANALYZER (AIT-2)	1"	(1) 2/C #14 TWSP & (1) #12 Cu. GRD.	CHLORINE RESIDUAL INDICATION
S010	NEW SODIUM HYPOCHLORITE METERING SKID (MP3)	EXISTING CONTROL BUILDING (RTU #1 CABINET)	1"	(1) 2/C #14 TWSP & (1) #12 Cu. GRD.	SPEED FEEDBACK
S011	NEW SODIUM HYPOCHLORITE METERING SKID (MP3)	EXISTING CONTROL BUILDING (RTU #2 CABINET)	1"	(1) 2/C #14 TWSP & (1) #12 Cu. GRD.	SPEED PACING
S012	-	-	-	-	-

CABLE & CONDUIT SCHEDULE

PANEL SCHEDULE (4)

PANEL: C TYPE: AS INSTALLED FRAME: 225A MAIN: 225A-3P

SERVICE: 120/208V, 3Ø-4 WIRE MOUNT: INSIDE MCC

LOAD	KW	CB	#	S/N	#	CB	KW	LOAD
ALUM FEED PUMP NO. 1	-	15/1	1	X	2	15/1	-	POLYMER MIXER NO. 1
FLOW METER	-	15/1	3		X	4	15/1	-	POLYMER MIXER NO. 2
SPARE	-	20/1	5	X		6	15/1	-	POLYMER MIXER NO. 3
TURBIDIMETER SAMPLE PUMP	-	15/1	7		X	8	20/1	-	PLUG-IN STRIP
TURBIDIMETER	-	15/1	9	X		10	20/1	-	PLUG-IN STRIP
CL2 RESIDUAL ANALYZER	-	15/1	11		X	12	20/1	-	PLUG-IN STRIP
EXHAUST HOOD FAN	-	15/1	13	X		14	20/1	-	PLUG-IN STRIP
SPARE	-	20/1	15		X	16	20/1	-	DAF MECH PAD LIGHTS
RECEPTACLES	-	20/1	17	X		18	20/1	-	DAF MECH PAD RECEPTACLES
(7)	-	20/1	19		X	20	15/1	-	SPARE
G.C. NORTH FLOW MOTOR	-	20/1	21	X		22	15/1	-	CHEMICAL STORAGE LIGHTING
G.C. SOUTH FLOW MOTOR	-	20/1	23		X	24	15/1	-	SPARE
SPARE	-	15/1	25	X		26	15/1	-	SPARE
SPARE	-	15/1	27		X	28	15/1	-	SPARE
SPARE	-	15/1	29	X		30	20/1	-	SPARE
SPACE ONLY	-	-	31		X	32	-	-	SPACE ONLY
SPACE ONLY	-	-	33	X		34	-	-	SPACE ONLY
SPACE ONLY	-	-	35		X	36	-	-	SPACE ONLY
SPACE ONLY	-	-	37	X		38	-	-	SPACE ONLY
SPACE ONLY	-	-	39		X	40	-	-	SPACE ONLY
SPACE ONLY	-	-	41	X		42	-	-	SPACE ONLY

LUMINAIRE SCHEDULE							
SYMBOL	QTY	LABEL	MOUNTING	DESCRIPTION	LUMINAIRE LUMENS	LUMINAIRE WATTS	TOTAL WATTS
(A)	12	LITHONIA CSVT L96 ALO4 MVOLT SWW3 80CRI	CHAIN-HUNG	LOW BAY WET LOCATION	SWITCHABLE	108 MAX	1296 MAX

LIGHTING SCHEDULE (6)

KEY NOTES:

1. ACTUAL TAG NAME OF EXISTING CONDUIT IS UNKNOWN AND SHALL BE RE-TAGGED AS SHOWN IN SCHEDULE ON THIS SHEET.
2. EXISTING CONDUIT CURRENTLY ROUTES FROM EXISTING CHEMICAL STORAGE TANK TO EXISTING CONTROL BUILDING MCC. SEE SHEET E0.05 AND E1.01 FOR REROUTING OF INTERCEPTION AND REROUTING OF CONDUIT.
3. EXISTING CONDUIT CURRENTLY ROUTES FROM EXISTING CHEMICAL STORAGE TANK TO EXISTING CONTROL BUILDING GAS STORAGE. SEE SHEET E0.05 AND E1.01 FOR REROUTING OF INTERCEPTION AND REROUTING OF CONDUIT.
4. PANEL C SHALL BE METERED FOR 30-DAYS, PER NEC 220.87, PRIOR TO CONNECTING THE INDICATED NEW LOADS TO ENSURE PANEL HAS SUFFICIENT CAPACITY.
5. CONTRACTOR SHALL FIELD VERIFY THE REQUIRED LENGTH OF LEVEL TRANSMITTER CABLE PRIOR TO ISSUANCE OF SHOP DRAWINGS.
6. CONTRACTOR SHALL VERIFY MOUNTING REQUIREMENTS OF ALL LIGHT FIXTURES AND COORDINATE WITH LIGHT FIXTURE SUPPLIER TO FURNISH ALL REQUIRED MOUNTING HARDWARE AND ACCESSORIES THAT ARE SUITABLE FOR THE SPECIFIC MOUNTING SURFACE AND ENVIRONMENT, REGARDLESS OF WHAT IS SPECIFIED IN THE LUMINARIES SCHEDULE.
7. CIRCUIT FEEDING NaOCl #1/#2 & ALUM #1/#2 LEVEL INDICATORS.
8. PROVIDE SERVICE LOOP OF 10' MINIMUM FOR LEVEL TRANSMITTER.

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WWTF
SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1
RANCHO MURIETA
SACRAMENTO COUNTY, CALIFORNIA

SEAL

REGISTERED PROFESSIONAL ENGINEER
KOOSHA TOOFAN
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Exp. SEPT. 30, 2025
Electrical Engineer
STATE OF CALIFORNIA

KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY K. TOOFAN
APPROVED BY K. TOOFAN
CHECKED BY 8/9/2024
DATE

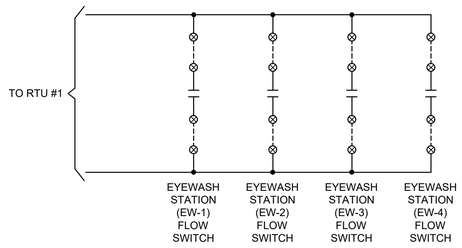
TITLE
SCHEDULES

PROJECT NO.

E1.05

SHEET NO. 51 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E1.05 – Schedules.dwg, 9/13/2024 10:44 AM, Tran, KT Khuong



CHEMICAL STORAGE EYEWASH STATION ACTIVATION SCHEMATIC

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SODIUM HYPOCHLORITE IMPROVEMENTS /
CHLORINE CONTACT BASIN EXPANSION - PHASE 1

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REVISIONS

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APPROVED BY K. TOOFAN
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DATE

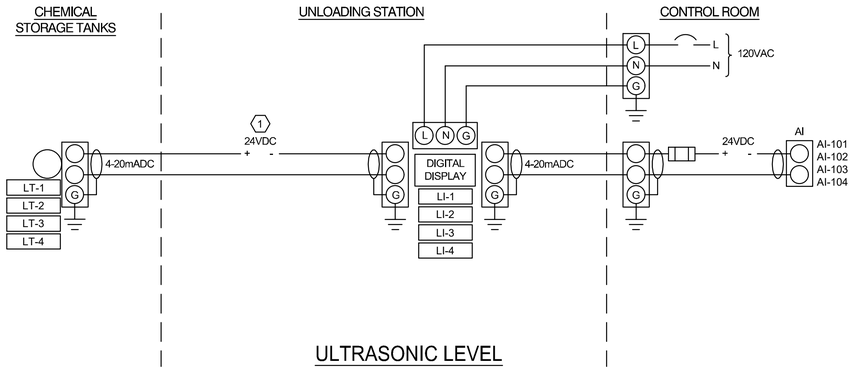
TITLE
SCHEMATICS

PROJECT NO.

E1.06

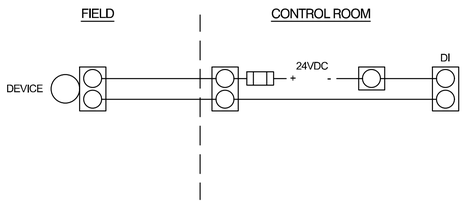
SHEET NO. 52 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E1.06 – Schematics.dwg, 9/13/2024 10:44 AM, Tran, KT Khuong

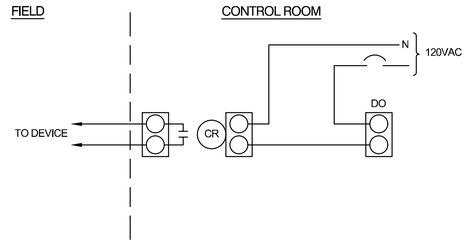


ULTRASONIC LEVEL INSTRUMENTATION LOOP (4-20mA DC)

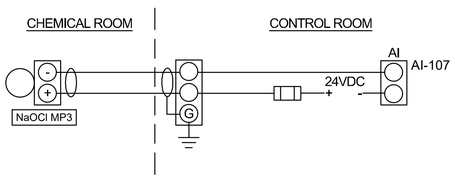
(TYPICAL OF 4)



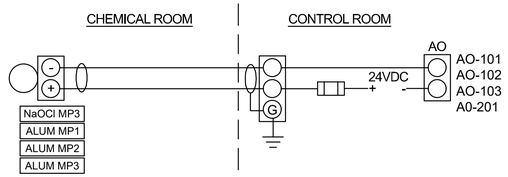
TYPICAL DIGITAL INPUT DIAGRAM



TYPICAL DIGITAL OUTPUT DIAGRAM

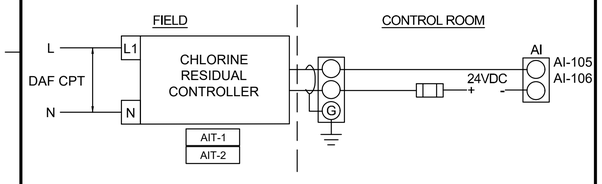


METERING PUMP ANALOG PACING INPUT INSTRUMENTATION LOOP (4-20mA DC)



METERING PUMP ANALOG PACING OUTPUT INSTRUMENTATION LOOP (4-20mA DC)

(TYPICAL OF 4)



CHLORINE RESIDUAL ANALYZER

(TYPICAL OF 2)

GENERAL NOTES:

1. APPLICATION SPECIFIED LOOP DIAGRAM SHALL BE PRODUCED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND ISA-S5.4. SUCH DIAGRAM SHALL BE FULLY DETAILED INCLUDING ALL EQUIPMENT AND LOCATIONS REACHED BY THE LOOP AND ITS BRANCHES. THEY SHALL INCLUDE INSTRUMENTS, ELECTRICAL EQUIPMENT, MECHANICAL PACKAGED EQUIPMENT, TERMINAL STRIPS, AND CABLE NUMBERS.
2. LOOPS WITH ASSOCIATED INPUTS AND OUTPUTS SHALL BE DRAWN COMPOSITELY. LOOP CONTINUITY VIA PROGRAMMABLE CONTROL FUNCTIONS SHALL BE DEPICTED SCHEMATICALLY, USING P&ID SYMBOLOGY.
3. THESE TYPICALLY LOOP DIAGRAMS ON THIS SHEET INDICATE REQUIRED METHODS OF ELECTRICAL CONFIGURATION. APPLICATION SPECIFIC WIRING SHALL BE IN CONFORMANCE, OR AN ENGINEERED APPROVED EQUIVALENT.
4. DISCRETE CONTROL CIRCUITS SHALL BE CONFIGURED TO FAIL SAFE (I.E. ON LOSS OF CONTINUITY OR LOSS OF POWER). ALARM CONTACTS SHALL FAIL TO THE ALARM CONDITION, WHICH SHALL BE OPEN. CONTROL CONTACTS SHALL FAIL TO THE IN OPERATIVE CONDITION UNLESS OTHERWISE SHOWN ON THE PLANS.
5. SIGNAL TRANSMISSION BETWEEN ELECTRONIC (OR ELECTRIC) INSTRUMENTS NOT LOCATED WITHIN A COMMON PANEL SHALL BE 4 TO 20MA AND OPERATE AT 24VDC UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE PLANS.
6. MILLIAMPERE (MA) SIGNALS FROM THE FIELD INSTRUMENTS SHALL BE CONVERTED TO VOLTAGE SIGNAL (1-5V) AT THE FIELD INPUT TERMINALS OF EACH PANEL, AND ALL INSTRUMENTS WITHIN THE PANEL SHALL BE PARALLEL WIRED.
7. MEASUREMENT LOOPS AND SHIELDS SHALL BE SINGLE POINT GROUNDED AT THE SOURCE PANEL BY BONDING TO THE INSTRUMENT PANEL SIGNAL GROUND BUS.
8. ISOLATING AMPLIFIERS SHALL BE PROVIDED WITHIN THE PANEL FOR FIELD EQUIPMENT POSSESSING A GROUNDED INPUT OR OUTPUT, EXCEPT WHEN THE PANEL CIRCUIT IS GALVANICALLY ISOLATED.
9. VOLTAGE LEVELS OF DISCRETE INPUT/OUTPUT TO/FROM PLC SHALL CONFORM WITH THE SEGREGATION OF VOLTAGES AND SCHEMATIC DIAGRAM SHOWN ON THE ELECTRICAL PLANS.
10. EACH LOOP SHALL BE INDIVIDUALLY PROTECTED BY FUSE OR BREAKER AT THE MASTER TERMINAL STRIP.

KEY NOTE:

1. 24VDC TRANSMITTER LOOP POWERED PROVIDED DIGITAL DISPLAY DEVICE.

INSTRUMENTATION LIST

DEVICE NUMBER	DESCRIPTION
LT-1	NEW ALUM TANK #1
LT-2	NEW ALUM TANK #2
LT-3	NEW NaOCl TANK #1
LT-4	NEW NaOCl TANK #2
AIT-1	NEW CHLORINE RESIDUAL ANALYZER #1
AIT-2	NEW CHLORINE RESIDUAL ANALYZER #2
ALUM MP1	EXISTING ALUM METERING PUMP #1
ALUM MP2	EXISTING ALUM METERING PUMP #2
ALUM MP3	EXISTING ALUM METERING PUMP #3
NaOCl MP3	NEW SODIUM HYPOCHLORITE METERING PUMP #3
LI-1	ALUM TANK #1 LEVEL INDICATOR
LI-2	ALUM TANK #2 LEVEL INDICATOR
LI-3	NaOCL TANK #1 LEVEL INDICATOR
LI-4	NaOCL TANK #2 LEVEL INDICATOR

INSTRUMENTATION LEGEND

LETTER	FIRST LETTER(S)		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYTICAL		ALARM		
B	BURNER / FLAME				
C	CONDUCTIVITY			CONTROLLER	
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE		ELEMENT (PRI)		
F	FLOW RATE	RATIO			
G	FIRE / SMOKE		GLASS		
H	HAND				HIGH
I	ELEC. CURRENT		INDICATOR		
J	POWER	SCAN			
K	TIME / SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE	MOMENTARY			MIDDLE
N	HYDROGEN ION				
O	DISSOLVED OXYGEN		ORIFICE		
P	PRESSURE / VACUUM		POINT CONNECTION		
Q	QUANTITY	INTEGRATE / TOTALIZE			
R	RADIATION		RECORDER		
S	SPEED / FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMITTER	
U	MULTIVARIABLE		MULTIFUNCTION		
V	VIBRATION / MECH. ANAL.			VALVE / DAMPER/ LOUVER	
W	WEIGHT / FORCE		WELL		
X	UNCLASSIFIED	X-AXIS			
Y	COMPUTER INTERFACE	Y-AXIS		RELAY/ COMPUTER/ CONVERTER	
Z	POSITION	Z-AXIS		DRIVER/ ACTUATOR/ FINAL CONTROL EL.	

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SODIUM HYPOCHLORITE IMPROVEMENTS / CHLORINE CONTACT BASIN EXPANSION - PHASE 1

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SACRAMENTO COUNTY, CALIFORNIA

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KEY PLAN

No.	DATE	BY	Description

REVISIONS

DRAWN BY K. TOOFAN
APPROVED BY K. TOOFAN
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DATE

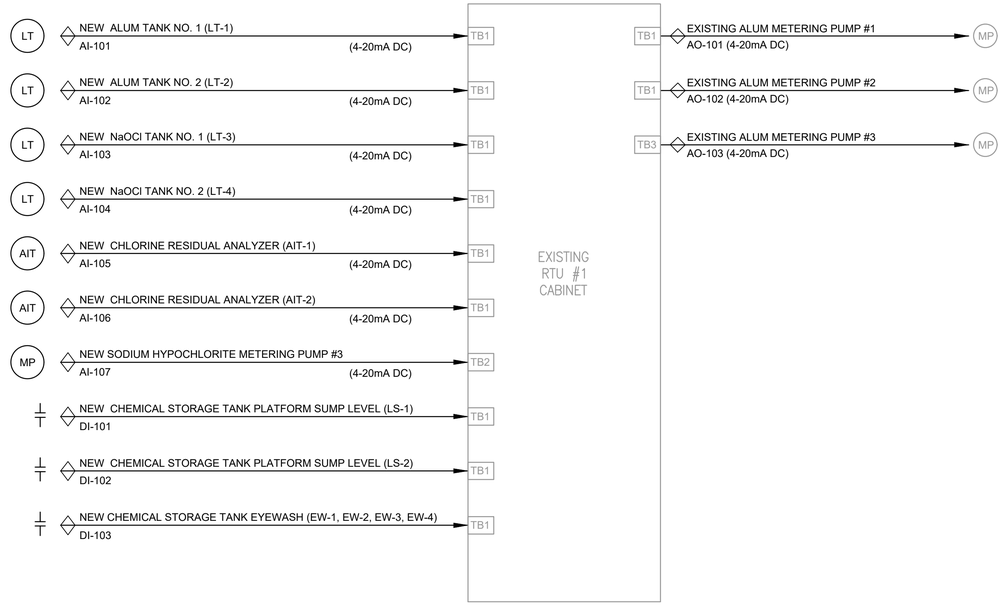
TITLE
LOOP DIAGRAMS

PROJECT NO.

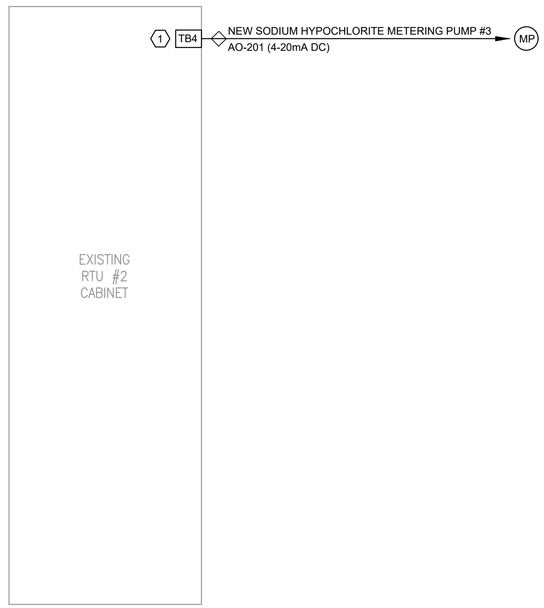
E1.07

SHEET NO. 53 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E1.07 – Loop Diagrams.dwg, 9/13/2024 10:44 AM, Tran, KT Khuong



EXISTING RTU #1 CONTROL DIAGRAM



EXISTING RTU #2 CONTROL DIAGRAM

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST INPUT/OUTPUT NUMBERING SHOWN ON THESE DRAWINGS TO MATCH EXISTING INPUT/OUTPUT NUMBERING SCHEME AND CONVENTION. COORDINATE WITH DISTRICT FOR FINAL APPROVED NUMBERING.

KEY NOTE:

1. THE CONTRACTOR SHALL REPLACE THE RTU #2 TB4 HDI CARD WITH AN HDIO CARD (WHICH INCLUDES 16 DIGITAL INPUTS, 8 DIGITAL OUTPUTS, 6 ANALOG INPUTS, AND 2 ANALOG OUTPUTS). THE CONTRACTOR SHALL ALSO PROVIDE THE CORRESPONDING HDIO TERMINAL BOARD AND HDIO CABLE TO SUPPORT THE ADDITIONAL ANALOG OUTPUT SIGNALS REQUIRED FOR THE PROJECT.

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DATE

TITLE
CONTROL DIAGRAM

PROJECT NO.

E1.08

SHEET NO. 54 OF 54

U:\50158288 – RMCSD WWTF Sodium Hypochlorite\400 Proj Design\435 Water\Plan\Phase 1\Electrical\E1.08 – Control Diagram.dwg, 9/13/2024 10:44 AM, Tran, KT Khuong