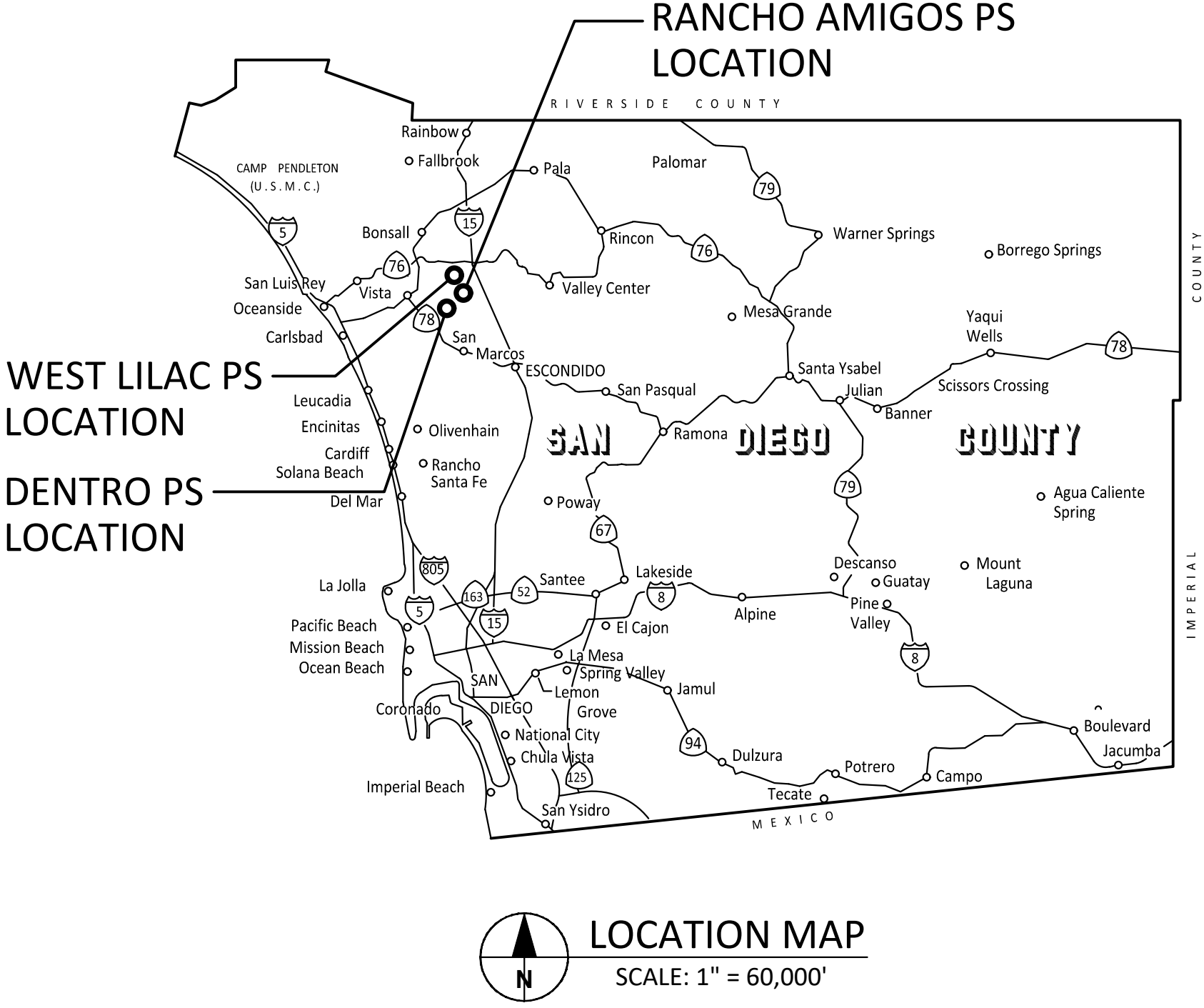


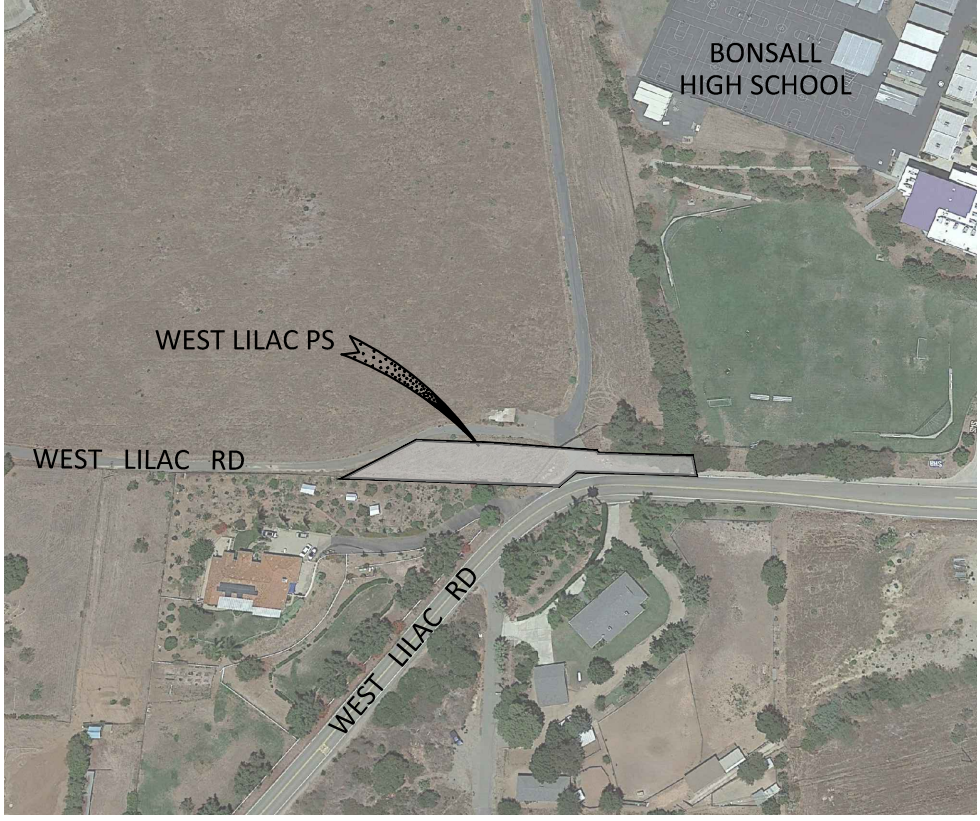
WATER IMPROVEMENT PLANS

WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

SEPTEMBER 2023



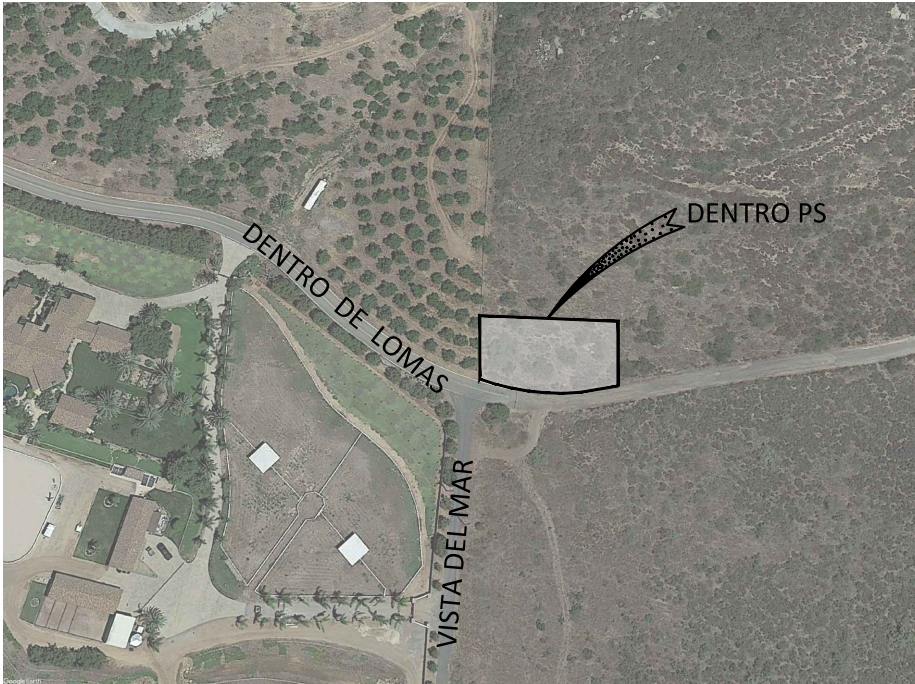
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WEST LILAC PUMP STATION SITE



RANCHO AMIGOS PUMP STATION SITE



DENTRO PUMP STATION SITE



PLAN DECLARATION

I HEREBY DECLARE THAT THE DESIGN OF THE IMPROVEMENTS AS SHOWN ON THESE PLANS COMPLIES WITH PROFESSIONAL ENGINEERING STANDARDS AND PRACTICES. AS THE ENGINEER IN RESPONSIBLE CHARGE OF THE DESIGN OF THESE IMPROVEMENTS, I ASSUME FULL RESPONSIBLE CHARGE FOR SUCH DESIGN. I UNDERSTAND AND ACKNOWLEDGE THAT THE PLAN CHECK OF THESE PLANS BY THE RAINBOW MUNICIPAL WATER DISTRICT IS A REVIEW FOR THE LIMITED PURPOSE OF ENSURING THE PLANS COMPLY WITH DISTRICT PROCEDURES AND OTHER APPLICABLE POLICIES AND ORDINANCES. THE PLAN CHECK IS NOT A DETERMINATION OF THE TECHNICAL ADEQUACY OF THE DESIGN OF THE IMPROVEMENTS. SUCH PLAN CHECK DOES NOT, THEREFORE, RELIEVE ME OF MY RESPONSIBILITY FOR THE DESIGN OF THESE IMPROVEMENTS.

AS ENGINEER OF WORK, I AGREE TO INDEMNIFY AND SAVE THE RAINBOW MUNICIPAL WATER DISTRICT, ITS OFFICERS, AGENTS, AND EMPLOYEES HARMLESS FROM ANY AND ALL LIABILITY, CLAIMS, DAMAGES OR INJURIES TO ANY PERSON OR PROPERTY WHICH MIGHT ARISE FROM THE NEGLIGENT ACTS, ERRORS OR OMISSIONS OF THE ENGINEER OF WORK, MY EMPLOYEES, MY EMPLOYEES AGENTS OR CONSULTANTS.

ADAM HOCH, PE C77635 9/7/2023
ENGINEER LICENSE NO. DATE

REFERENCE DRAWINGS	
554-8 & 9	LINE P (24" WTR) - PLAN & PROFILE
1975-256045	RMWD EASEMENT PLAT & LEGAL DESCRIPTION
583L	MOOSA CANYON LINE STA 114+00 - 143+00 (14" WTR) - PLAN & PROFILE
583M	MOOSA CANYON LINE STA 143+00 - 173+00 (14" WTR) - PLAN & PROFILE
6976-004,005	8" SEWER IMPROVEMENTS STA 11+00-24+50 - PLAN & PROFILE

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT AS THE ENGINEER IN RESPONSIBLE CHARGE OF WORK FOR THIS PROJECT, I HAVE SUPERVISED THE CONSTRUCTION OF THE ENGINEERING WORK AS SHOWN ON THESE PLANS INCLUDING THE PERIODIC OBSERVATION OF MATERIALS AND COMPLETED WORK TO DETERMINE GENERAL COMPLIANCE WITH PLANS AND SPECIFICATIONS, AND THAT THE COMPLETED CONSTRUCTION IS IN CONFORMANCE WITH THESE PLANS.

ENGINEER LICENSE NO. DATE

Underground Service Alert
DIGALERT
Call: TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

APPROVED FOR: COUNTY ENGINEER
BY: _____
DATE: _____

RAINBOW FIRE DEPARTMENT
APPROVED BY: _____
DATE: _____

I CERTIFY THAT THE DESIGN OF THE WATER SYSTEM IS IN ACCORDANCE WITH THE REQUIREMENTS PRESCRIBED BY THE SAN DIEGO COUNTY FIRE DEPARTMENT
ADAM HOCH DATE

BENCHMARK
ELEVATION: AS SHOWN
DATE: AS SHOWN
DATUM: AS SHOWN
DESCRIPTION: AS SHOWN
SEE BASIS OF COORDINATES & ELEVATIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

EXISTING UTILITY DISCLAIMER NOTE
APPROVAL OF THIS PLAN BY THE RAINBOW MUNICIPAL WATER DISTRICT DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OF, OR THE EXISTENCE OF, ANY UNDERGROUND UTILITY, PIPE, OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE DISTRICT ACCEPTS NO RESPONSIBILITY FOR ANY REIMBURSEMENT DUE TO ADDITIONAL FACILITIES OR TIME DELAYS AS A RESULT OF THESE ADDITIONAL FACILITIES.

OWNER/DEVELOPER
RAINBOW MUNICIPAL WATER DISTRICT
3707 OLD HWY 395
FALLBROOK, CA 92028
(760) 728-1178
WWW.RAINBOWMWD.COM

RAINBOW MUNICIPAL WATER DISTRICT
3707 OLD HWY 395
FALLBROOK, CA 92028
(760) 728-1178
WWW.RAINBOWMWD.COM
WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT
ENGINEERING & CIP MANAGER, CHAD WILLIAMS DATE

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH

ENGINEER OF RECORD:

ADAM HOCH P.E. 77635
EXP. 6/30/25
DATE: 9/7/2023

PLANS PREPARED BY:

HOCH CONSULTING
804 PIER VIEW WAY #100
OCEANSIDE, CA 92054
WWW.HOCHCONSULTING.COM

RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
VICINITY MAPS, LOCATION MAP & SHEET INDEX

PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **1**
OF 49 SHTS
FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

GENERAL NOTES AND REQUIREMENTS

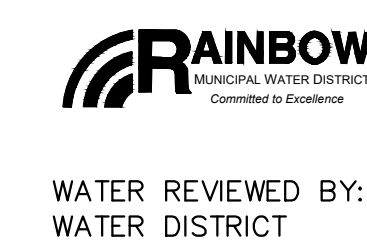
- A. THE CONTRACTOR SHALL NOTIFY THE SAN DIEGO GAS AND ELECTRIC COMPANY; AND PACIFIC BELL PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE WORK WITH COMPANY REPRESENTATIVES. FOR LOCATION OF ELECTRIC CABLE, GAS PIPING AND TELEPHONE CABLES AND APPURTENANCES, CONTACT UNDERGROUND SERVICE ALERT: 811, 48 HOURS PRIOR TO START OF CONSTRUCTION.
- B. THE CONTRACTOR SHALL NOTIFY THE ENGINEERING MANAGER AT LEAST FIVE (5) DAYS PRIOR TO STARTING WORK, SO THAT INSPECTION MAY BE PROVIDED. TELEPHONE NO. (760) 728-1178.
- C. SEPARATION REQUIREMENTS BETWEEN WATER AND SEWER LINES SHALL CONFORM TO CALIFORNIA DEPARTMENT OF PUBLIC HEALTH (CDPH) "WATER WORKS STANDARDS", ALL WORK SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITIONS OF THE CALIFORNIA OCCUPATIONAL AND HEALTH ADMINISTRATION (CAL-OSHA) - CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 8, STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, WITH SUPPLEMENTS (APWA SPECIFICATIONS), THE SAN DIEGO REGIONAL STANDARD DRAWINGS AND RMWD STANDARDS MANUAL.
- D. PRIOR TO CONSTRUCTION OF THE WATER AND/OR SEWER LINES, THE CONTRACTOR SHALL EXPOSE THE EXISTING WATER AND/OR SEWER LINES WHERE CONNECTIONS WILL OCCUR AND VERIFY THEIR ELEVATION AND LOCATION. APPROVAL BY THE ENGINEERING MANAGER A PROPOSED CONNECTION TO A RMWD FACILITY DOES NOT IMPLY APPROVAL OF THE CORRECTNESS OF THE ELEVATION AND/OR LOCATION SHOWN ON THE PLANS.
- E. CONTRACTOR SHALL NOT BACKFILL TRENCH UNTIL THE DISTRICT HAS INSPECTED THE PIPE OR STRUCTURE AND AUTHORIZES THE TRENCH TO BE BACKFILLED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ACCURATE "RECORD" DRAWINGS TO THE DISTRICT IMMEDIATELY AFTER CONSTRUCTION.
- F. APPROVAL BY THE DISTRICT IMPLIES NO PERMISSION OTHER THAN THAT WITHIN THE DISTRICT'S JURISDICTION. ALL PERMITS REQUIRED BY LAW SHALL BE ACQUIRED BY THE APPLICANT OR HIS CONTRACTOR. REQUIREMENTS OF RMWD SHALL TAKE PRECEDENCE OVER REQUIREMENTS OF OTHER AGENCIES ONLY WHERE RMWD REQUIREMENT ARE MORE STRINGENT.
- G. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM THE DIVISION OF COUNTY OF SAN DIEGO INDUSTRIAL SAFETY.
- H. PIPE JOINTS SHALL NOT BE PULLED AT ANY ANGLE GREATER THAN THE MAXIMUM ANGLE RECOMMENDED BY THE PIPE MANUFACTURER.
- I. THE PROPOSED WORK SHALL BE SUBORDINATED TO ANY OPERATIONS RMWD MAY CONDUCT, AND SHALL BE COORDINATED WITH SUCH OPERATIONS AS DIRECTED BY THE ENGINEERING MANAGER.
- J. A PRECONSTRUCTION MEETING SHALL OCCUR PRIOR TO CONSTRUCTION. ATTENDEES SHALL INCLUDE THE ENGINEERING MANAGER OR HIS DESIGNATE AND THE CONTRACTOR WHO WILL PERFORM THE WORK, AND OTHER GOVERNMENTAL AGENCIES AND/OR UTILITY COMPANIES AS NECESSARY. "CUT-SHEETS" SHALL BE PROVIDED TO THE DISTRICT PRIOR TO THIS MEETING FOR REVIEW.
- K. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT STATE OF CALIFORNIA MANUAL OF TRAFFIC CONTROLS. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL ON THE JOBSITE.
- L. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING, ADMINISTERING AN MAINTAINING A CONFINED SPACE ENTRY PROGRAM AND PERMIT.
- M. PIPE SHALL BE HANDLED WITH STRAPS (NO CHAINS) SO AS TO PROTECT PIPE JOINTS, LINING AND COATING, AND CAREFULLY BEDDED TO PROVIDE CONTINUOUS BEARING AND PREVENT SETTLEMENT. CABLE MAY BE USED ONLY WITH PRIOR APPROVAL FROM THE ENGINEERING MANAGER. PIPE SHALL BE PROTECTED AGAINST FLOTATION AT ALL TIMES. OPEN ENDS SHALL BE SEALED AT ALL TIMES WHEN CONSTRUCTION IS IN PROCESS.
- N. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL HIRE A VIDEO COMPANY APPROVED BY THE DISTRICT TO VIDEOTAPE THE CML&C WATER MAINS. THE ENGINEERING MANAGER WILL REVIEW SAID VIDEOTAPE FOR POTENTIAL CONSTRUCTION DEFECTS PRIOR TO ACCEPTANCE OF THE PROJECT. PAYMENT FOR ALL SUCH SERVICES SHALL BE BORNE BY THE CONTRACTOR.
- O. ALL DISTRICT FACILITIES SHALL HAVE A MINIMUM 5-FOOT CLEARANCE FROM OTHER UTILITIES. THIS PERTAINS TO ALL SECTIONS ON ALL SHEETS HEREIN.
- P. ALL ROUGH ROAD GRADING SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF WATER AND SEWER FACILITIES.
- Q. THE DESIGN ENGINEER SHALL PROVIDE THE ENGINEERING MANAGER WITH AS-BUILT PHOTO MYLARS AND ELECTRONIC FILE IN TIFF FORMAT.
- R. DISCLAIMER. APPROVAL OF THIS PLAN BY THE RMWD DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OF, OR THE EXISTENCE OF, ANY UNDERGROUND UTILITY, PIPE, OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT.

Underground Service Alert



Call:
TOLL FREE
1-800
227-2600

TWO WORKING DAYS BEFORE YOU DIG



3707 OLD HWY 395
FALLBROOK, CA 92028
(760) 728-1178
WWW.RAINBOWWD.COM

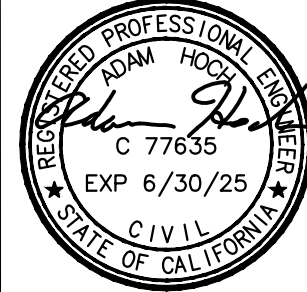
WATER REVIEWED BY: RAINBOW MUNICIPAL
WATER DISTRICT

ENGINEERING & CIP MANAGER, CHAD WILLIAMS

DATE

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH



ENGINEER OF RECORD:

Adam Hoch
ADAM HOCH P.E. 77635
EXP. 6/30/25
DATE: 9/7/2023

PLANS PREPARED BY:



804 PIER VIEW WAY #100
OCEANSIDE, CA 92054
www.hochconsulting.com

WATER NOTES AND REQUIREMENTS

- A. CONTRACTOR SHALL FURNISH AND INSTALL ALL FACILITIES IN ACCORDANCE WITH THE CURRENT RMWD'S DOMESTIC WATER, RECYCLED WATER AND SANITARY SEWER FACILITIES CONSTRUCTION STANDARDS MANUAL. CONTRACTOR SHALL BE IN POSSESSION OF RMWD STANDARDS MANUAL ON THE JOB SITE AT ALL TIMES. ANY CONSTRUCTION OR MATERIAL NOT COVERED IN RMWD STANDARDS MANUAL SHALL BE APPROVED BY THE DISTRICT.
- B. ALL PERMITS REQUIRED BY LAW SHALL BE ACQUIRED BY THE APPLICANT OR THEIR CONTRACTOR.
- C. CONTRACTOR SHALL CONFORM TO ALL CAL-OSHA, CCR, TITLE 8 SAFETY REQUIREMENTS.
- D. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION REQUESTING A SYSTEM SHUTDOWN FOR CONNECTIONS TO EXISTING SYSTEM. SAID NOTIFICATION SHALL BE MADE TO THE DISTRICT A MINIMUM OF TWO (2) WEEKS PRIOR TO SAID SHUTDOWN.
- E. CONTRACTOR SHALL DESIGNATE A QUALIFIED SUPERINTENDENT WITH FULL AUTHORITY TO ACT ON BEHALF OF THE CONTRACTOR. SAID SUPERINTENDENT SHALL BE ON THE JOB SITE AT ALL TIMES.
- F. CONTRACTOR SHALL PERFORM ALL ENCROACHMENT PERMIT WORK UNDER SAN DIEGO COUNTY DEPARTMENT OF PUBLIC WORKS, CITY OF OCEANSIDE OR THE CITY OF VISTA JURISDICTION, MORRO HILLS COMMUNITY SERVICES DISTRICT. IN ACCORDANCE WITH ALL REQUIREMENTS OF SAID REMOVAL, TEMPORARY PAVEMENT PLACEMENT, PERMANENT PAVEMENT PLACEMENT (INCLUDING BASE MATERIAL WITHIN THE COUNTY OF SAN DIEGO LIMITS) AND TEMPORARY AND PERMANENT TRAFFIC STRIPING.
- G. THE WATER LINE SHALL BE INSTALLED BY A PRIVATE CONTRACTOR WITH AN "A" OR "C34" LICENSE IN ACCORDANCE WITH RMWD STANDARDS MANUAL. THE CONTRACTOR SHALL BE APPROVED BY THE ENGINEERING MANAGER.
- H. MINIMUM COVER OVER THE WATER MAIN SHALL BE 42-INCHES FOR PIPES LESS THAN 12-INCHES DIAMETER. AND 48-INCHES FOR PIPES 12-INCHES DIAMETER, AND LARGER, UNLESS PRIOR APPROVAL IS OBTAINED FROM THE ENGINEERING MANAGER.
- I. WHEREVER A WATER LINE ENCOUNTERS A STORM DRAIN PIPE OR OTHER OBSTRUCTION, AND CROSSING OVER THE OBSTRUCTION WILL RESULT IN LESS THAN 30-INCHES OF COVER OVER THE WATER LINE, IT SHALL CROSS UNDER THE OBSTRUCTION (12-INCHES MINIMUM CLEARANCE).
- J. METER BOXES SHALL BE FIELD LOCATED TO CLEAR DRIVEWAYS AND LOCATED ACCURATELY ON THE AS-BUILT DRAWINGS. THE CONTRACTOR SHALL ADJUST METER BOXES TO SIDEWALK GRADE WHEN SIDEWALKS ARE POURED.
- K. ALL WATER MAINS AND FIRE HYDRANTS ARE DISTRICT OWNED AND MAINTAINED. THE DISTRICT MAINTAINS HOUSE WATER LATERALS FROM THE MAINLINE UP TO / INCLUDING THE METERS.
- L. CONTRACTOR TO ADJUST ALL VALVE COVERS, FIRE HYDRANTS, METER BOXES, ETC., TO GRADE AS DIRECTED BY THE DISTRICT.
- M. ALL NEW FIRE HYDRANTS TO BE CLOW 2050, OAE. FOR STATIC PRESSURE LESS THAN 200 PSI. ALL NEW FIRE HYDRANTS TO BE AVK, OAE. FOR STATIC PRESSURE GREATER THAN 200 PSI.
- N. LAYING DIRECTION OF WATER MAIN SHALL BE IN A GENERAL UPHILL DIRECTION.
- O. THE LOCATION OF AIR VALVES AND BLOW-OFFS TO BE VERIFIED BY THE ENGINEERING MANAGER IN THE FIELD.
- P. ALL VALVES SHALL HAVE ACCESS PIPING THAT CONSISTS OF SDR35 OR C900 AND THE 1208N LID COVERS. (RMWD STANDARD DRAWINGS W-19 AND W-20).
- Q. WATER METER SERVICE LATERALS SHALL BE 30-INCHES BELOW FINISH GROUND LEVEL. SERVICE STOP SHALL TERMINATE 9-INCHES BELOW FINISH GROUND LEVEL WITH LOCATION STAMPED IN CURB. ALL OTHERS TO TERMINATE ABOVE GROUND.
- R. THE CONTRACTOR SHALL INSTALL SUITABLE THRUST BLOCKS AT SELECTED VERTICAL AND/OR HORIZONTAL CHANGE OF DIRECTION IN ACCORDANCE WITH RMWD STA
- S. CONTRACTOR TO MAKE CONNECTIONS TO EXISTING MAINS ONLY AFTER SUCCESSFUL PRESSURE TESTING AND DISINFECTION OF NEW FACILITIES AS AUTHORIZED BY THE ENGINEERING MANAGER.
- T. ALL MATERIALS, TESTING AND INSPECTION OF PIPE SHALL BE IN CONFORMITY WITH THE REQUIREMENTS OF RMWD, AND THE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS. COUNTY, AND/OR THE AWWA SPECIFICATIONS WILL BE CAUSE FOR REJECTION. DARDS, WHETHER OR NOT SPECIFICALLY CALLED FOR OR SHOWN ON THE PLAN.

WATER NOTES AND REQUIREMENTS (CONT.)

- U. ALL WELDED STEEL PIPE USED SHALL BE CEMENT MORTAR LINED AND COATED, "7/8"-INCH THICK (MINIMUM) WITH FULLY WELDED JOINTS AND HAND HOLES, UNLESS NOTED OTHERWISE.
- V. ALL STEEL BENDS AND FITTINGS SHALL BE CEMENT MORTAR LINED AND COATED AND SHALL BE SHOP FABRICATED PER AWWA C-208-(LATEST). CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS (FROM A DISTRICT APPROVED FABRICATOR) FOR ALL AWWA SHOP FABRICATED FITTINGS TO THE DISTRICT FOR APPROVAL PRIOR TO CONSTRUCTION. SERVICE CONNECTIONS MADE TO EXISTING ACP, DIP, OR PVC PIPELINES SHALL UTILIZE A BRASS DOUBLE SERVICE STRAP CONNECTION.
- W. FOR HYDRO-STATIC TESTING PURPOSES, ALL WATER PIPES SHALL BE 50 PSI ABOVE THE CLASS RATING OF THE PIPE AT THE LOWEST POINT IN THE SECTION BEING TESTED; AND SHALL BE AT LEAST EQUAL TO THE DESIGN CLASS OF THE PIPE AT THE HIGHEST POINT IN THE LINE.
- X. THE MINIMUM REQUIREMENTS OF THE PIPELINE TRENCH SHALL BE PER RMWD STANDARD DRAWING W- 3.
- Y. PIPELINES AND APPURTENANCES SHALL TESTED, DISINFECTED, AND DECHLORINATED PER RMWD STANDARDS SECTION 15041, DEPARTMENT OF PUBLIC HEALTH, AND/OR ANY OTHER AGENCY HAVING JURISDICTION OVER THE WORK.
- Z. CONTRACTOR SHALL UNCOVER LOCATIONS OF CONNECTIONS PRIOR TO STARTING INSTALLATIONS TO ENSURE CONFORMANCE WITH LINES AND GRADES SHOWN ON THESE PLANS. ANY DEVIATION FROM THE PLANS MUST BE APPROVED BY THE DISTRICT PRIOR TO CONSTRUCTION.
- AA. THE EXISTENCE AND LOCATION OF WATER FACILITIES AS SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THE EXISTING WATER FACILITIES ARE AS SHOWN ON THE PLANS. THE DISTRICT SHALL NOT BE HELD RESPONSIBLE FOR ANY ERROR IN THE LOCATION AND ELEVATION OF THE EXISTING WATER FACILITIES. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT ANY EXISTING FACILITY SHOWN HEREON AND ANY OTHER WHICH IS NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
- BB. LOCATION AND ELEVATIONS OF IMPROVEMENTS TO BE DONE SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO CONSTRUCTION OF NEW WORK. THE CONTRACTOR WILL MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY BECAUSE OF ACTUAL LOCATION OF EXISTING FACILITIES.
- CC. CALL THE DISTRICT FIVE (5) WORKING DAYS PRIOR TO STARTING CONSTRUCTION, AND TWO (2) WEEKS IF SHUTDOWN IS REQUIRED. THE DISTRICT SHALL BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO ANY INSPECTION. TO ARRANGE FOR INSPECTION, CALL (760) 728-1178.
- DD. PIPE DEFLECTIONS FOR SHORT RADIUS CURVES AND ANGLE POINTS SHALL NORMALLY BE ACCOMPLISHED BY MEANS OF STANDARD FITTINGS, THE LOCATIONS OF WHICH SHALL BE DETAILED ON THE PLANS.
- EE. ALL WATER USED ON A CONSTRUCTION PROJECT MUST BE PAID FOR AND WILL BE METERED. THIS INCLUDES WATER FOR LOADING OF NEW WATERLINES, FLUSHING OF LINES, PRESSURE TESTING, ETC. CITATIONS WILL BE ISSUED TO PARTIES TAKING WATER FROM UNMETERED FACILITIES. A CONSTRUCTION WATER METER PERMIT MAY BE OBTAINED FROM THE DISTRICT.
- FF. SECTIONS OF THE FILLED WATER LINE THAT ARE REFERENCED TO THIS NOTE SHALL BE ENTIRELY SHOP FABRICATED (I.E., NO WELDING WILL BE ALLOWED).
- GG. PROPOSED WATER SYSTEM IMPROVEMENTS ARE LOCATED WITHIN THE MORRO PRESSURE ZONE (HWL = 823 FT.), SOUTH ZONE HGL = 1,011 FT.
- HH. THE CONTRACTOR SHALL INSTALL AN ISOLATION KIT AT POINTS OF CONNECTION OF DISSIMILAR MATERIAL. SEE CATHODIC PROTECTION REQUIREMENTS SHOWN ON PLAN.
- II. WATER METER ABANDONMENT REMOVAL THE SERVICE LATERAL AT THE MAINLINE MUST BE CUT AND A CAP OR PLUG MUST BE INSTALLED INTO THE CORPORATION VALVE, ENCASE ABANDONED CORPORATION VALVE IN CONCRETE AND REMOVE THE LATERAL FROM THE CORPORATION TO THE CURB STOP. CURRENT INSPECTION FEES WILL BE REQUIRED. SHUTDOWN FEES MAY BE REQUIRED.
- JJ. HIGH PRESSURE NOTES ON PLANS SHALL INCLUDE:

THIS IS A HIGH PRESSURE PROJECT. ALL PIPE, FITTINGS AND APPURTENANCE MUST MEET PRESSURE REQUIREMENTS

	RAINBOW MUNICIPAL WATER DISTRICT		SHEET NO.
	WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS		2
WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT		GENERAL AND WATER NOTES	OF 49SHTS
ENGINEERING & CIP MANAGER, CHAD WILLIAMS DATE		PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT	FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

BASIS OF COORDINATES & ELEVATIONS (WEST LILAC)

NAD 83 (2011.00 EPOCH)
 SD GPS 03 SLR 04
 N 2065548.364 N 2055612.163
 E 6284087.308 E 6266603.005
 EL. 308.26 (NAVD 88) EL. 199.675 (NAVD 88)
 RECORD OF SURVEY 21563 RECORD OF SURVEY 21563

NOTE:
 PROPERTY LINES AND RIGHT-OF-WAY LINES SHOWN HEREON WERE ESTABLISHED FROM AVAILABLE RECORD MAPS, ASSESSOR'S MAPS, AND TITLE REPORTS. SELECT RECORD MONUMENTS WERE TIED INTO THE PROJECT COORDINATE SYSTEM TO ORIENTATE RECORD MAPS. BEARINGS AND DISTANCES SHOWN HEREON REPRESENT A BEST FIT COMPILATION OF RECORD DATA. THESE PROPERTY LINES AND RIGHT-OF-WAY LINES ARE INTENDED TO BE USED FOR A GRAPHIC REPRESENTATION ONLY.

BASIS OF COORDINATES & ELEVATIONS (RANCHO AMIGOS)

THE COORDINATES AND BEARINGS SHOWN HEREON ARE BASED UPON THE CALIFORNIA COORDINATE SYSTEM OF 1983, CCS83, ZONE 6, CSRS NAD83(2011) 2017.50 EPOCH IN ACCORDANCE WITH THE CALIFORNIA PUBLIC RESOURCES CODE SECTIONS 8801-8819; SAID COORDINATES AND BEARINGS ARE BASED LOCALLY UPON FIELD-OBSERVED TIES TO THE FOLLOWING CALIFORNIA SPATIAL REFERENCE NETWORK STATIONS, OR EQUIVALENT:

REFERENCED CSRS STATIONS CONNECTED

STATION	LATITUDE	LONGITUDE	LAT(US FT)	LONG(US FT)
P474	33°21'18.687662"	-117°14'55.249300"	0.0069	0.0069
OCSB	33°14'26.393881"	-117°20'48.200286"	0.0071	0.0074
CLBD	33°08'07.381809"	-117°18'39.469399"	0.0072	0.0075

MAPPING ANGLE AND GRID FACTOR

STATION	NORTHING (US FT)	EASTING (US FT)	MAPPING ANGLE	COMBINATION FACTOR
201	2045780.55	6279120.76	-00°30'29"	0.99994767

ELEVATION (US FT) HEIGHT (US FT)
 254.89 145.49

NOTES: ALL COORDINATES AND DISTANCES SHOWN, UNLESS OTHERWISE NOTED, ARE IN TERMS OF THE U.S. SURVEY FOOT (US FT). AS USED IN THE TABLES ABOVE, ELEVATION REFERS TO THE CALIFORNIA ORTHOMETRIC HEIGHT ("COH88") OR EQUIVALENT OF THE POINT WHERE THE MAPPING ANGLE AND COMBINATION FACTOR WERE CALCULATED IN TERMS OF THE NORTH AMERICAN VERTICAL DATUM OF 1988 ("NAVD88") AND HEIGHT REFERS TO THE VERTICAL VALUE OF THE CALIFORNIA GEODETIC COORDINATE OR EQUIVALENT ELLIPSOID HEIGHT USED TO CALCULATE THE COMBINATION FACTOR.

DISTANCES SHOWN HEREON OR INVERSED FROM COORDINATES SHOWN HEREON ARE IN REFERENCE TO CCS83. TO APPROXIMATE LOCAL GROUND DISTANCES DIVIDE BY THE COMBINATION FACTOR PROVIDED HEREON.

VERTICAL DATUM AND BENCHMARK

VERTICAL DATUM: CSRS NAVD88
 BENCH MARK: P474
 ELEVATION: 712.05 (602.49 ELLIPSOID HEIGHT AND GEOID2012B -109.59 GEOID HEIGHT)
 DESCRIPTION: CGPS STATION P474

BASIS OF COORDINATES & ELEVATIONS (DENTRO)

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, NAD 83 ZONE 6, AS ESTABLISHED BETWEEN HORIZONTAL CONTROL STATIONS 53-54-XP7 AND 53-56-XP6 AS SAID STATIONS ARE PUBLISHED IN THE SAN DIEGO COUNTY CONTROL BOOK. I.E. N 48°58'41" E QUOTED BEARING FROM RECORDED MAPS OR DEEDS, MAY OR MAY NOT BE IN TERMS OF SAID COORDINATE SYSTEM. THE COMBINED SCALE FACTOR AT STATION 53-56-XP6 IS 0.9999192. GRID DISTANCE = GROUND DISTANCE X COMBINED SCALE FACTOR. ALL DISTANCES ARE SHOWN HRON ARE GROUND DISTANCE, UNLESS NOTED OTHERWISE.

GRADING & EROSION CONTROL NOTES

- GRADING ON THESE PLANS SHALL BE IN CONFORMANCE WITH CURRENT COUNTY OF SAN DIEGO STANDARDS AND SPECIFICATIONS AND RECOMMENDATIONS SET FORTH IN THE SOILS REPORTS.
- GRADED (CUT & FILL SLOPES), DISTURBED, OR ERODED AREAS THAT WILL NOT BE PERMANENTLY PAVED, COVERED BY STRUCTURE, OR PLANTED FOR A PERIOD OVER 90 DAYS SHALL BE TEMPORARILY RE-VEGETATED WITH A NON-IRRIGATED HYDROSEED MIX, GROUND COVER, OR EQUIVALENT MATERIAL.
- ALL GRADING SHALL BE DONE UNDER OBSERVATION AND TESTING BY A QUALIFIED CIVIL ENGINEER, GEOTECHNICAL ENGINEER, OR ENGINEERING GEOLOGIST.
- ALL FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% COMPACTION OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MOST RECENT VERSION OF ASTM D-1557 OR AN APPROVED ALTERNATIVE STANDARD.
- ALL EXPORT MATERIAL SHALL BE DISCHARGED TO A LEGAL SITE. THE APPROVAL OF THIS PROJECT DOES NOT ALLOW PROCESSING AND SALE OF THE MATERIAL. ALL SUCH ACTIVITIES REQUIRE A SEPARATE CONDITIONAL USE PERMIT.
- ALL 2:1 SLOPES SHALL BE PROTECTED WITH DROUGHT TOLERANT VEGETATION AS SOON AS POSSIBLE AFTER GRADING TO MINIMIZE THE POTENTIAL FOR EROSION. CONTRACTOR SHALL PROVIDE NATIVE HYDROSEED MIX CONSISTING OF CALIFORNIA POPPY (ESCHSCHOLZIA CALIFORNICA), BLUE ANNUAL LUPINE (LUPINUS SUCCULENTUS), ANNUAL FESCUE (VULPIA MYUROS), AND HYKON ROSE CLOVER (TRIFOLIUM HIRTUM) (INOCULATED SEED) OR APPROVED EQUAL AT A RATE OF 0.5 POUNDS OF SEED PER 1000 SQUARE FEET. CONTRACTOR SHALL APPLY A RECP BLANKET (TYPE B) IN ACCORDANCE WITH CALTRANS STANDARD SPECIFICATION SECTION 21.

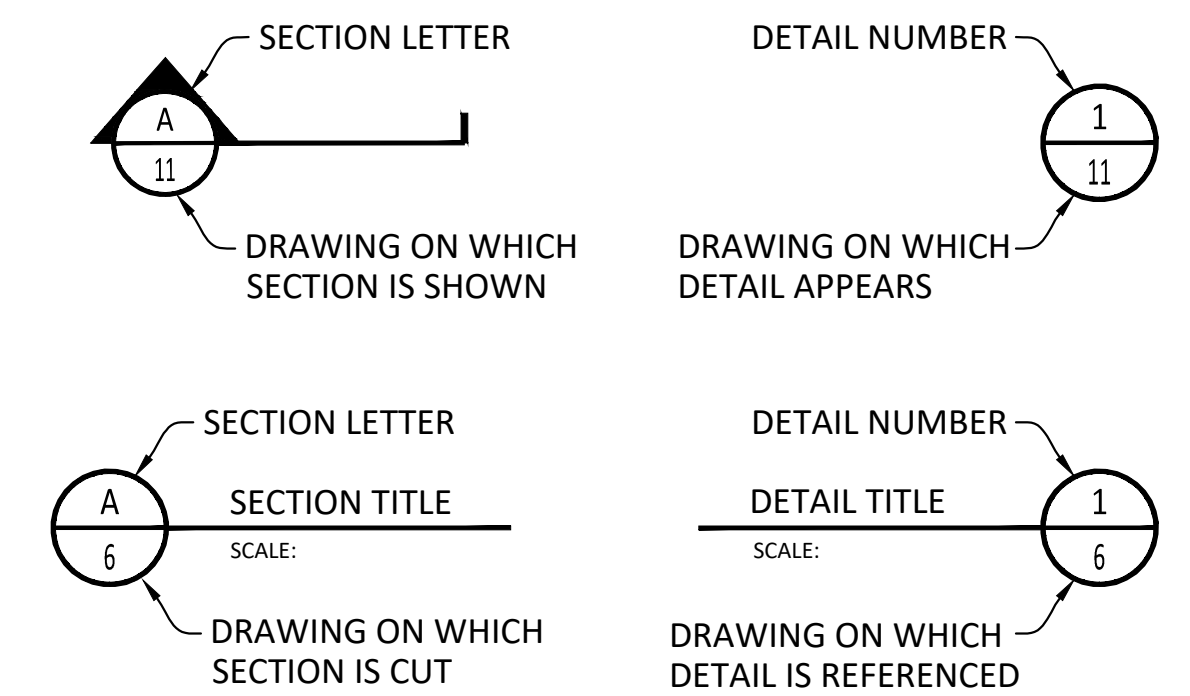
ABBREVIATIONS

AC ASPHALTIC CONCRETE
 APPROX APPROXIMATE
 ASSY ASSEMBLY
 BC BEGINNING OF CURVATURE
 CL CENTERLINE, CLASS
 COMB COMBINED
 CONC CONCRETE
 CONST CONSTRUCTION
 COR CORNER
 CML&C CEMENT MORTAR LINED & COATED
 CMP CORRUGATED METAL PIPE
 CP CATHODIC PROTECTION
 CPLG COUPLING
 DG DECOMPOSED GRANITE
 DRWY DRIVEWAY
 DWG DRAWING
 E EASTING
 EC END OF CURVATURE
 ECC ECCENTRIC
 EG EXISTING GROUND
 ELEC ELECTRICAL
 ELEV ELEVATION
 E'LY EASTERLY
 ESMT EASEMENT
 EX EXISTING
 FL FLOWLINE
 FLG FLANGE
 FM FORCE MAIN
 FS FINISH SURFACE
 GB GRADE BREAK
 GEN GENERATOR
 GV GATE VALVE
 HDPE HIGH DENSITY POLYETHYLENE
 HORIZ HORIZONTAL
 HP HIGH POINT/HIGH PRESSURE
 INT INTERSECTION
 LF LINEAR FEET
 LN LANE
 LT LEFT
 MAX MAXIMUM
 MH MANHOLE
 MJ MECHANICAL JOINT
 MOD MODIFIED
 MSB MAIN SWITCHBOARD
 N NORTHING
 NE NORTHEAST
 NG NATURAL GROUND
 NW NORTHWEST
 PCC PORTLAND CEMENT CONCRETE
 PE PLAIN END
 PH POTHOLE
 PI POINT OF INTERSECTION
 PROP POINT OF REVERSING CURVATURE
 PS PROPOSED
 PT PUMP STATION
 PNT POINT
 PVC POLYVINYL CHLORIDE
 PVMT PAVEMENT
 RCB REINFORCED CONCRETE BOX
 RCP REINFORCED CONCRETE PIPE
 RET RETAINING
 RFCA RESTRAINED FLANGE COUPLING
 ADAPTER
 R/W RIGHT OF WAY
 RT RIGHT
 SD STORM DRAIN
 SE SOUTHEAST
 SDCO STORM DRAIN CLEANOUT
 SDMH STORM DRAIN MANHOLE
 STD STANDARD
 STL STEEL
 SW SOUTHWEST
 SWR SEWER
 TEMP TEMPORARY
 TG TOP OF GRATE
 TRANS TRANSFORMER
 TYP TYPICAL
 UNK UNKNOWN
 VERT VERTICAL
 W'LY WESTERLY
 WTR WATER

LEGEND

EX INDEX CONTOUR
 PROP INDEX CONTOUR
 EX INTERMEDIATE CONTOUR
 PROP INTERMEDIATE CONTOUR
 EX RIGHT-OF-WAY
 PROP EASEMENT
 EX WATER METER
 EX FIRE HYDRANT
 EX WATER VALVE
 EX POWER POLE
 EX STREET LIGHT
 EX SEWER MANHOLE
 EX SEWER CLEANOUT
 EX STORM DRAIN MANHOLE
 EX TREE
 EX SIGN
 GEOTECHNICAL BORING
 SURVEY MONUMENT

SECTION & DETAIL IDENTIFICATION



Underground Service Alert



TWO WORKING DAYS BEFORE YOU DIG

 3707 OLD HWY 395 FALLBROOK, CA 92028 (760) 728-1178 WWW.RAINBOWWD.COM WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT	REV BY DATE REVISIONS APPR. DATE	 ENGINEER OF RECORD: ADAM HOCH P.E. 77635 EXP. 6/30/25 DATE: 9/7/2023	PLANS PREPARED BY: HOCH CONSULTING 804 PIER VIEW WAY #100 OCEANSIDE, CA 92054 WWW.HOCHCONSULTING.COM	RAINBOW MUNICIPAL WATER DISTRICT WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS BASIS OF COORDINATES & ELEVATIONS, ABBREVIATIONS & LEGEND		SHEET NO. 3 OF 49 SHEETS FILE NO.
	DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH			PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT		

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

RETAINING WALL TABLE				
NO.	BEARING/Delta	RADIUS	LENGTH	DESCRIPTION
1	N 87°16'08" W		173.67'	OUTSIDE FACE - RET WALL
2	N 40°43'52" E		39.14'	OUTSIDE FACE - RET WALL
3	N 05°03'22" E		7.13'	OUTSIDE FACE - RET WALL
4	N 84°56'38" W		6.67'	OUTSIDE FACE - RET WALL

SEE SHEET 7 FOR RETAINING WALL PROFILE.

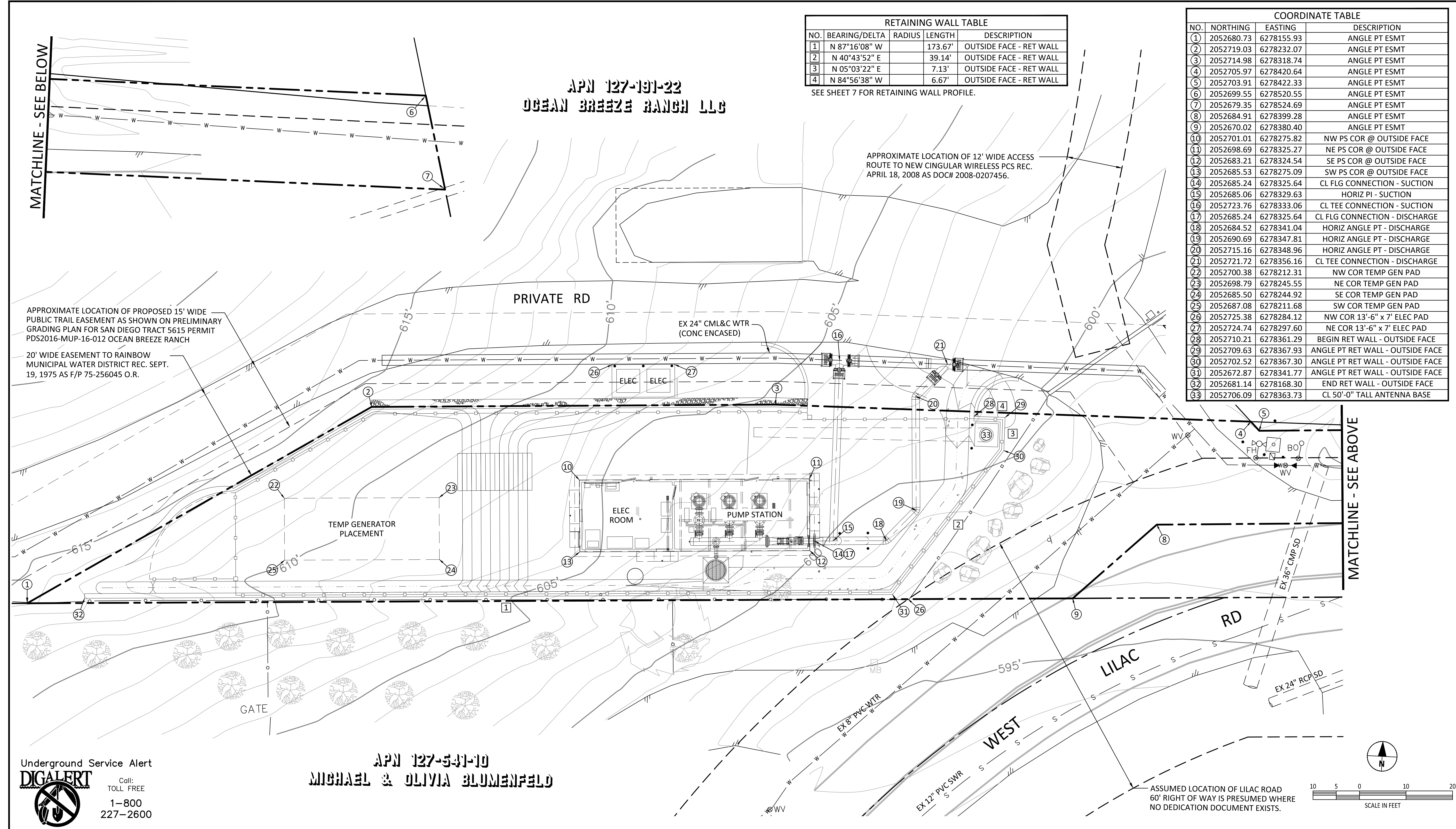
COORDINATE TABLE			
NO.	NORTHING	EASTING	DESCRIPTION
1	2052680.73	6278155.93	ANGLE PT ESMT
2	2052719.03	6278232.07	ANGLE PT ESMT
3	2052714.98	6278318.74	ANGLE PT ESMT
4	2052705.97	6278420.64	ANGLE PT ESMT
5	2052703.91	6278422.33	ANGLE PT ESMT
6	2052699.55	6278520.55	ANGLE PT ESMT
7	2052679.35	6278524.69	ANGLE PT ESMT
8	2052684.91	6278399.28	ANGLE PT ESMT
9	2052670.02	6278380.40	ANGLE PT ESMT
10	2052701.01	6278275.82	NW PS COR @ OUTSIDE FACE
11	2052698.69	6278325.27	NE PS COR @ OUTSIDE FACE
12	2052683.21	6278324.54	SE PS COR @ OUTSIDE FACE
13	2052685.53	6278275.09	SW PS COR @ OUTSIDE FACE
14	2052685.24	6278325.64	CL FLG CONNECTION - SUCTION
15	2052685.06	6278329.63	HORIZ PI - SUCTION
16	2052723.76	6278333.06	CL TEE CONNECTION - SUCTION
17	2052685.24	6278325.64	CL FLG CONNECTION - DISCHARGE
18	2052684.52	6278341.04	HORIZ ANGLE PT - DISCHARGE
19	2052690.69	6278347.81	HORIZ ANGLE PT - DISCHARGE
20	2052715.16	6278348.96	HORIZ ANGLE PT - DISCHARGE
21	2052721.72	6278356.16	CL TEE CONNECTION - DISCHARGE
22	2052700.38	6278212.31	NW COR TEMP GEN PAD
23	2052698.79	6278245.55	NE COR TEMP GEN PAD
24	2052685.50	6278244.92	SE COR TEMP GEN PAD
25	2052687.08	6278211.68	SW COR TEMP GEN PAD
26	2052725.38	6278284.12	NW COR 13'-6" x 7' ELEC PAD
27	2052724.74	6278297.60	NE COR 13'-6" x 7' ELEC PAD
28	2052710.21	6278361.29	BEGIN RET WALL - OUTSIDE FACE
29	2052709.63	6278367.93	ANGLE PT RET WALL - OUTSIDE FACE
30	2052702.52	6278367.30	ANGLE PT RET WALL - OUTSIDE FACE
31	2052672.87	6278341.77	ANGLE PT RET WALL - OUTSIDE FACE
32	2052681.14	6278168.30	END RET WALL - OUTSIDE FACE
33	2052706.09	6278363.73	CL 50'-0" TALL ANTENNA BASE

APN 127-191-22
OCEAN BREEZE RANCH LLC

APPROXIMATE LOCATION OF 12' WIDE ACCESS ROUTE TO NEW CINGULAR WIRELESS PCS REC. APRIL 18, 2008 AS DOC# 2008-0207456.

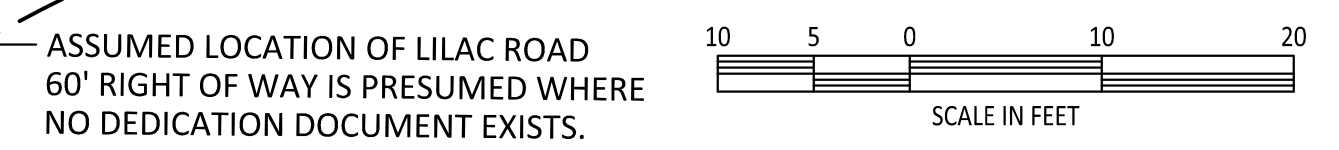
APPROXIMATE LOCATION OF PROPOSED 15' WIDE PUBLIC TRAIL EASEMENT AS SHOWN ON PRELIMINARY GRADING PLAN FOR SAN DIEGO TRACT 5615 PERMIT PDS2016-MUP-16-012 OCEAN BREEZE RANCH

20' WIDE EASEMENT TO RAINBOW MUNICIPAL WATER DISTRICT REC. SEPT. 19, 1975 AS F/P 75-256045 O.R.



APN 127-541-10
MICHAEL & OLIVIA BLUMENFELD

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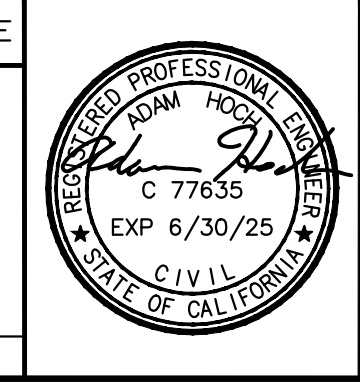
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(760) 728-1178
WWW.RAINBOWWD.COM

WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT

ENGINEERING & CIP MANAGER, CHAD WILLIAMS

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH



ENGINEER OF RECORD:
Adam Hoch
ADAM HOCH P.E. 77635
EXP. 6/30/25

DATE: 9/7/2023

PLANS PREPARED BY:
HOCH CONSULTING
804 PIER VIEW WAY #100
OCEANSIDE, CA 92054
www.hochconsulting.com

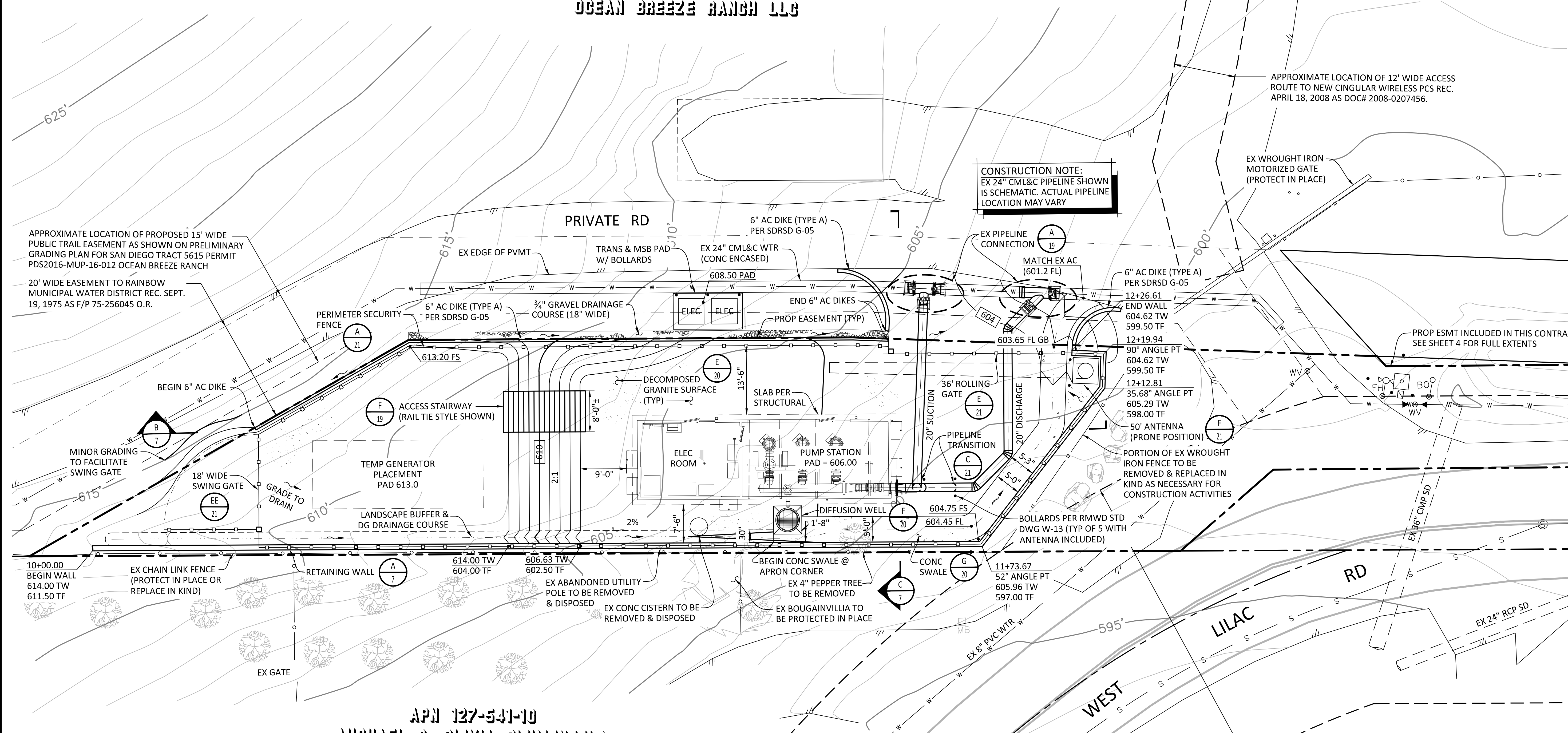
RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
WEST LILAC PUMP STATION HORIZONTAL CONTROL PLAN

PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **4**
OF 49 SHEETS
FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

APN 127-191-22
OCEAN BREEZE RANCH LLC



APPROXIMATE LOCATION OF PROPOSED 15' WIDE PUBLIC TRAIL EASEMENT AS SHOWN ON PRELIMINARY GRADING PLAN FOR SAN DIEGO TRACT 5615 PERMIT PDS2016-MUP-16-012 OCEAN BREEZE RANCH

20' WIDE EASEMENT TO RAINBOW MUNICIPAL WATER DISTRICT REC. SEPT. 19, 1975 AS F/P 75-256045 O.R.

CONSTRUCTION NOTE:
EX 24\"/>

APPROXIMATE LOCATION OF 12' WIDE ACCESS ROUTE TO NEW CINGULAR WIRELESS PCS REC. APRIL 18, 2008 AS DOC# 2008-0207456.

PROP ESMT INCLUDED IN THIS CONTRACT SEE SHEET 4 FOR FULL EXTENTS

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MICHAEL & OLIVIA BLUMENFELD

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EARTHWORK QUANTITIES TABLE					
GRADED AREA (ac)	CUT (cu yd)	FILL (cu yd)	FILL SLOPE (max ratio)	CUT SLOPE (max ratio)	TOTAL IMPORT (cu yd)
0.14	27.18	514.52	2:1	N/A	487.34

QUANTITIES ARE NOT ADJUSTED FOR SWELL OR COMPACTION. SEE SHEET 3 FOR GRADING NOTES.

RAINBOW MUNICIPAL WATER DISTRICT
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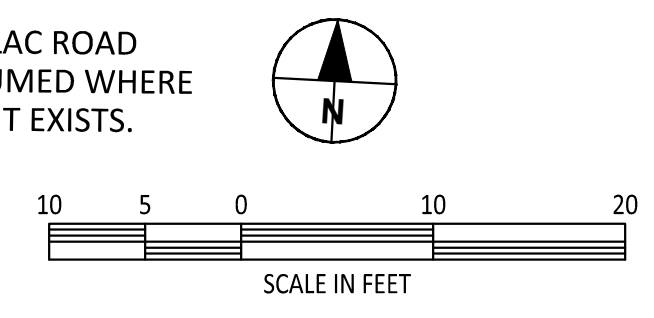


ENGINEER OF RECORD:
Adam Hoch
ADAM HOCH P.E. 77635
EXP. 6/30/25
DATE: 9/7/2023

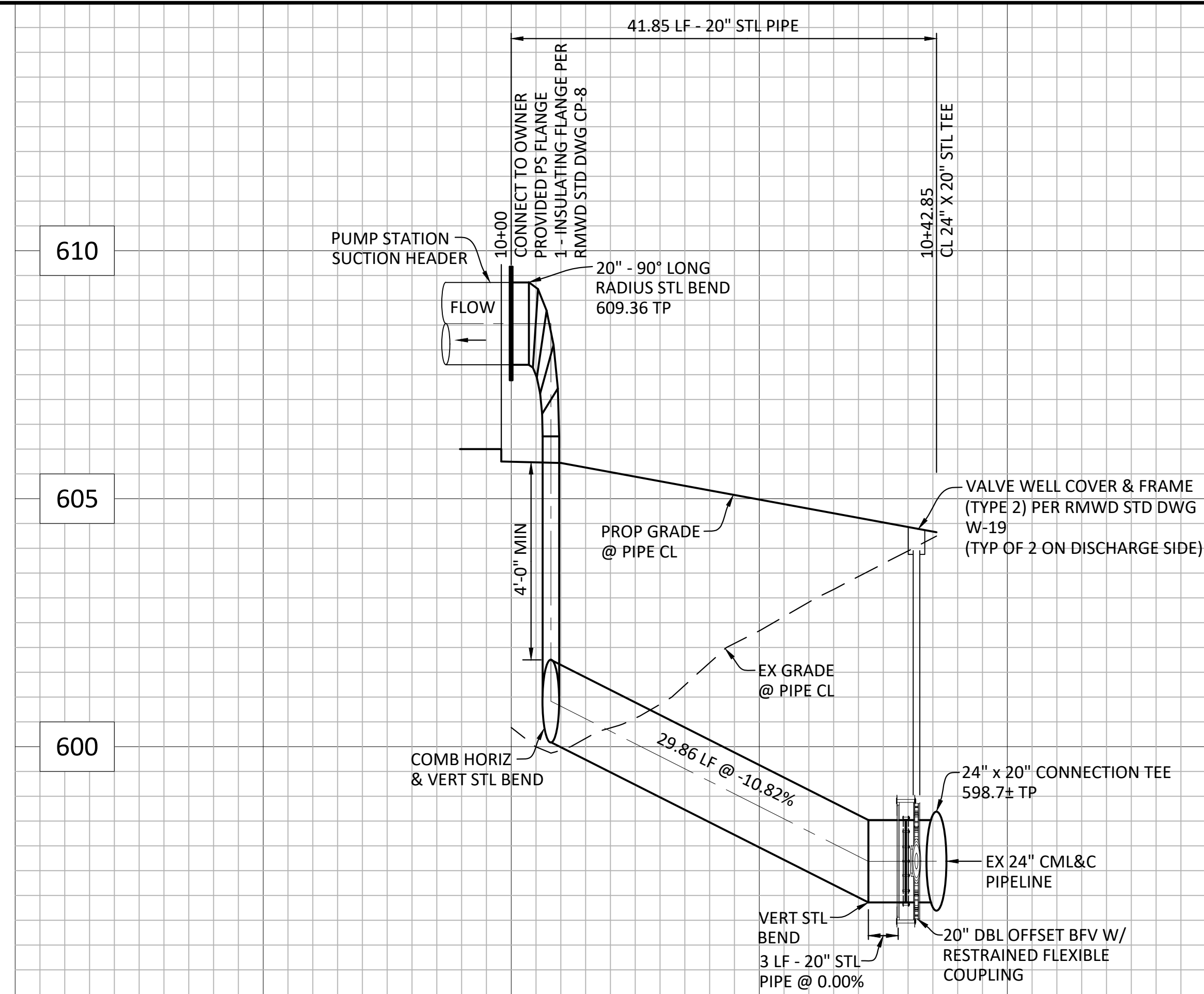
PLANS PREPARED BY:
HOCH CONSULTING
3004 PIER VIEW WAY #100
OCEANSIDE, CA 92054
www.hochconsulting.com

RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
WEST LILAC PUMP STATION DRAINAGE AND GRADING PLAN
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

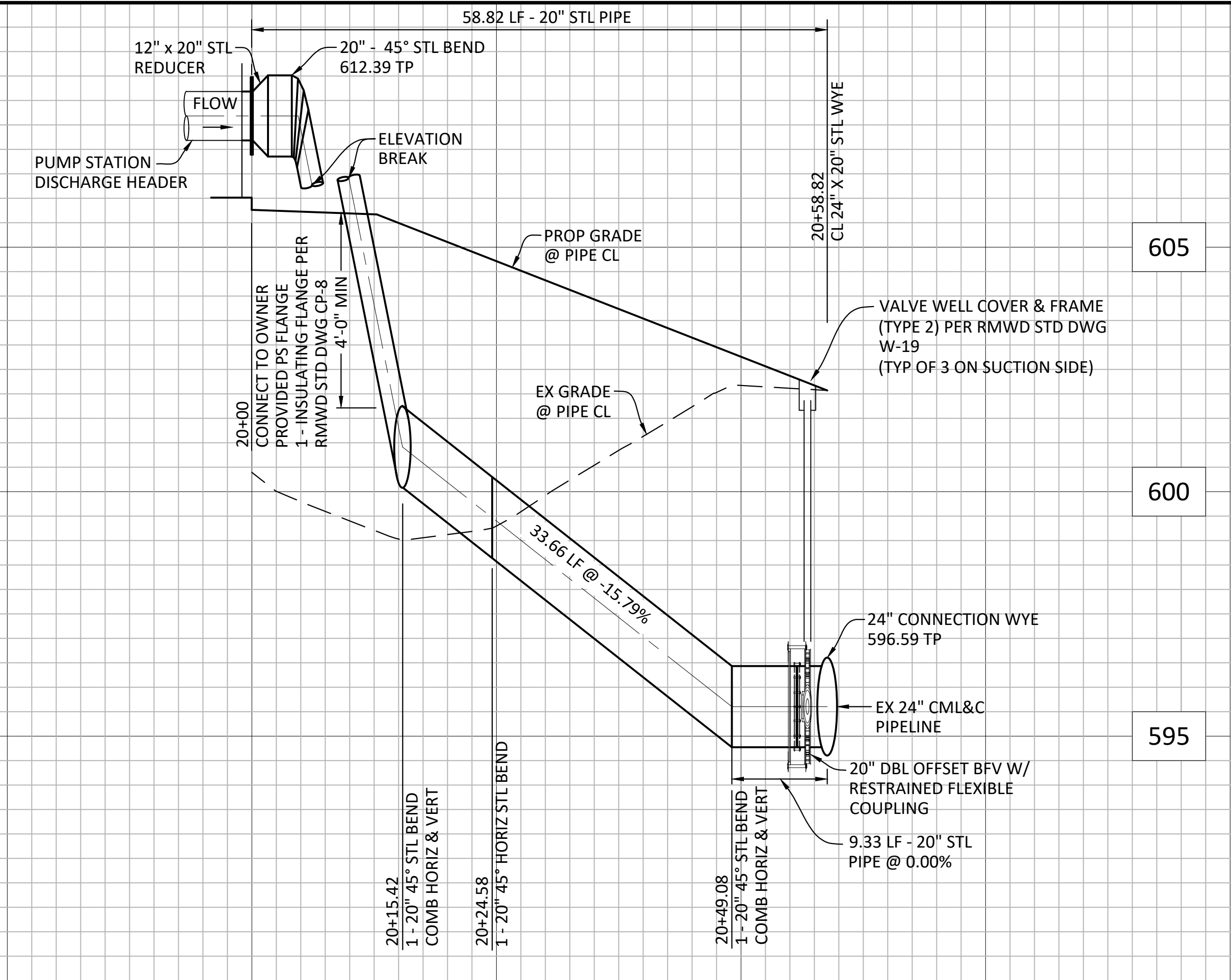
SHEET NO. **5**
OF 49 SHEETS
FILE NO.



ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



SUCTION PIPELINE PROFILE
 SCALE - HORIZ: 1" = 10'
 VERT: 1" = 2'

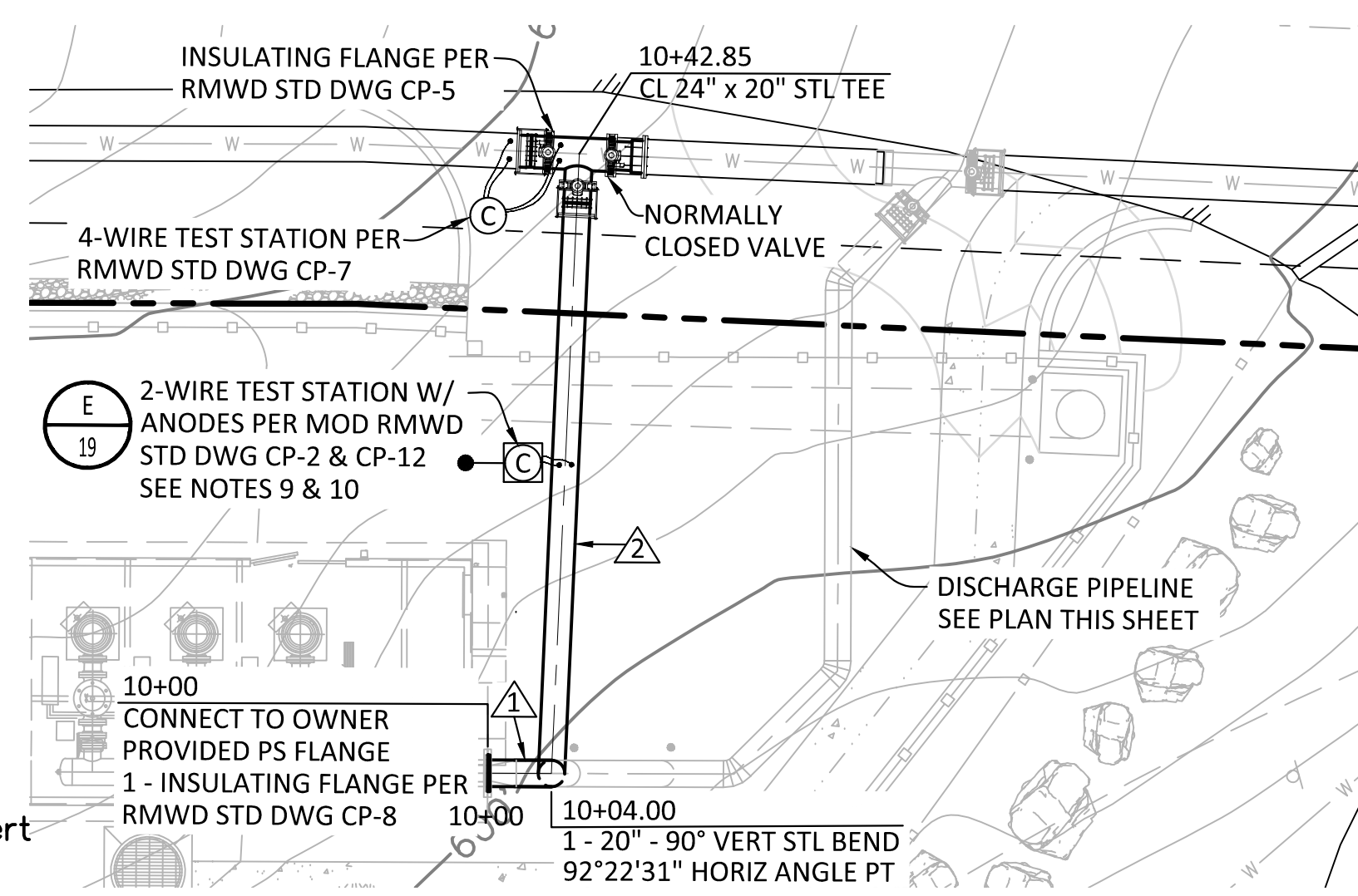


DISCHARGE PIPELINE PROFILE
 SCALE - HORIZ: 1" = 10'
 VERT: 1" = 2'

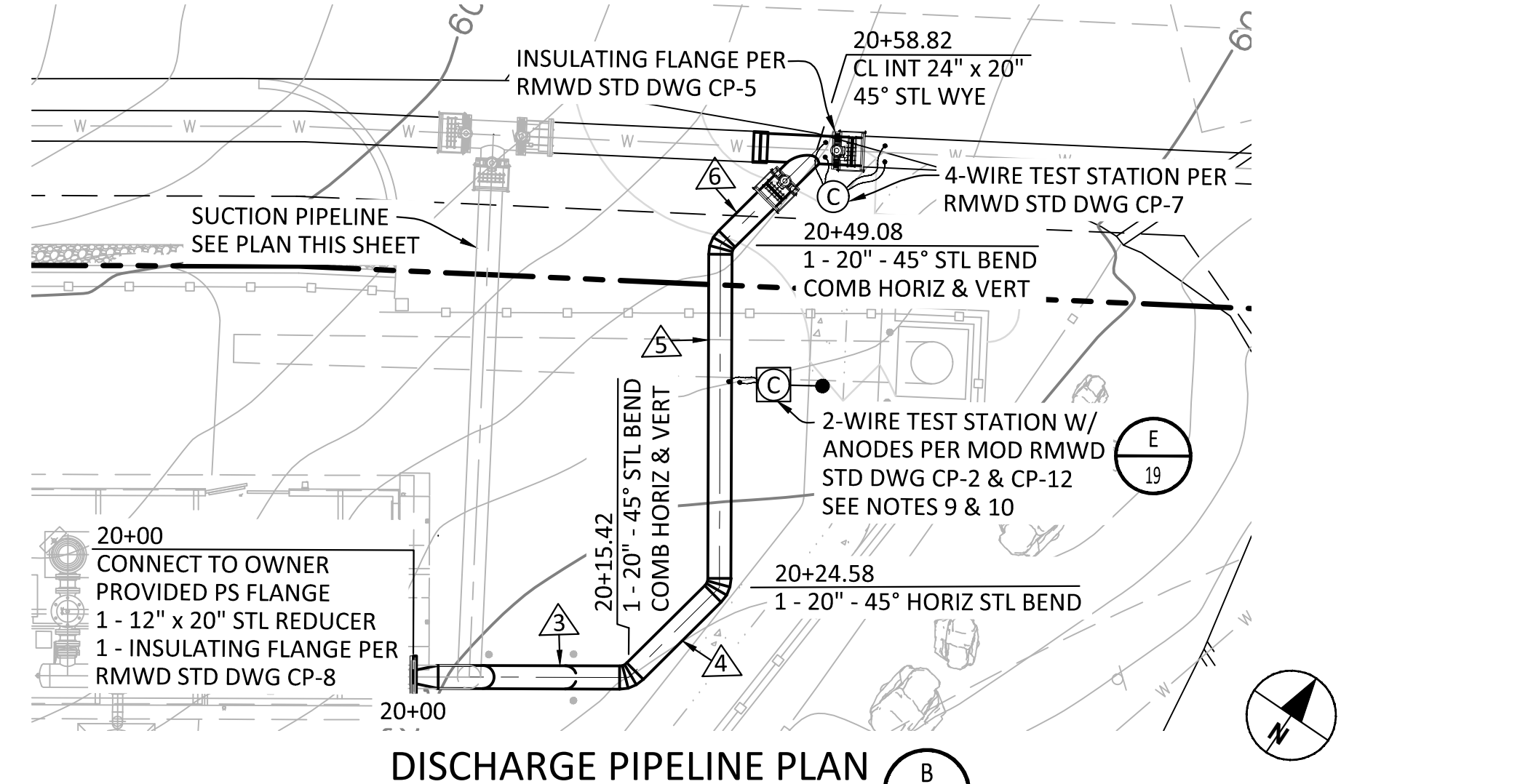
WATER PIPELINE TABLE				
NO.	BEARING/Delta	RADIUS	LENGTH*	DESCRIPTION
1	N 87°18'47" W	-	11.20'	20" CML&C - SUCTION
2	N 05°03'44" E	-	38.86'	20" CML&C - SUCTION
3	N 87°18'47" W	-	20.83'	20" CML&C - SUCTION
4	N 47°41'13" E	-	9.16'	20" CML&C - DISCHARGE
5	N 02°41'13" E	-	24.50'	20" CML&C - DISCHARGE
6	N 47°41'13" E	-	9.74'	20" CML&C - DISCHARGE

* LENGTHS INCLUDE REDUCERS & PIPELINES IN VERT AND ARE MEASURED FROM THE PUMP STATION CONNECTION FLANGE TO THE CENTERLINE OF CONNECTING TEE/WYE.

- PIPELINE & CATHODIC PROTECTION NOTES:**
- STEEL PIPING SHALL CONFORM TO AWWA STANDARD C-200.
 - STEEL PIPE SHALL BE RMWD STANDARD WEIGHT CML&C.
 - SHUTDOWN, DEENERGIZING, DRAIN, AND ENERGIZING OF EXISTING PIPELINES SHALL BE PERFORMED BY THE DISTRICT.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING.
 - SLIP ON FLANGES SHALL BE DOUBLE WELDED.
 - HOLD BACK CEMENT MORTAR COATING A MINIMUM OF 10-INCHES FOR FLEXIBLE PIPE COUPLING INSTALLATIONS. SEE CONNECTION DETAILS.
 - SEE RMWD STD DWG W-3 FOR STANDARD PIPE ZONE AND TRENCH BACKFILL.
 - ALL NON-WELDED STEEL PIPE JOINTS SHALL INCLUDE WIRE JUMPERS PER RMWD STD DWG CP-10.
 - LOCATION OF CATHODIC TEST STATIONS SHALL BE DIRECTED BY A DISTRICT REPRESENTATIVE IN THE FIELD. PLAN LOCATIONS FOR GRAPHICAL PURPOSES ONLY.
 - TEST BOXES MOUNTED IN UN-PAVED AREAS SHALL BE MOUNTED IN A REINFORCED 26-INCHES SQUARE BY 4-INCHES THICK CONCRETE PAD CONSTRUCTED OF ASTM C94 READY-MIX CONCRETE. REBAR SHALL BE NO.4. SEE RMWD STD DWG CP-6. A CONCRETE PAD IS NOT REQUIRED WHERE THE TEST BOX IS PLACED IN PAVEMENT.



SUCTION PIPELINE PLAN
 SCALE - HORIZ: 1" = 10'



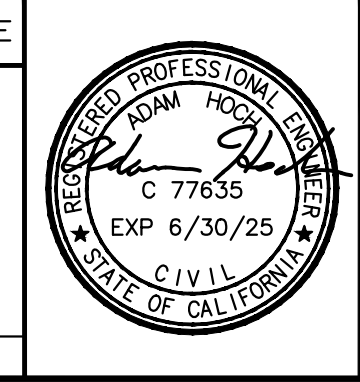
DISCHARGE PIPELINE PLAN
 SCALE - HORIZ: 1" = 10'

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 ENGINEERING & CIP MANAGER, CHAD WILLIAMS

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH



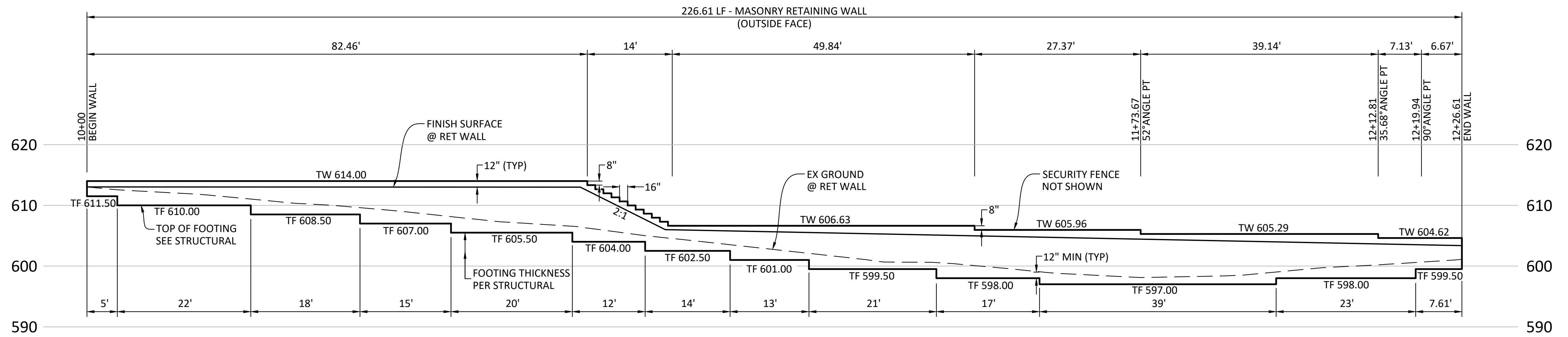
ENGINEER OF RECORD:
 ADAM HOCH
 P.E. 77655
 EXP. 6/30/25
 DATE: 9/7/2023

PLANS PREPARED BY:
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 804 PIER VIEW WAY #100
 OCEANSIDE, CA 92054
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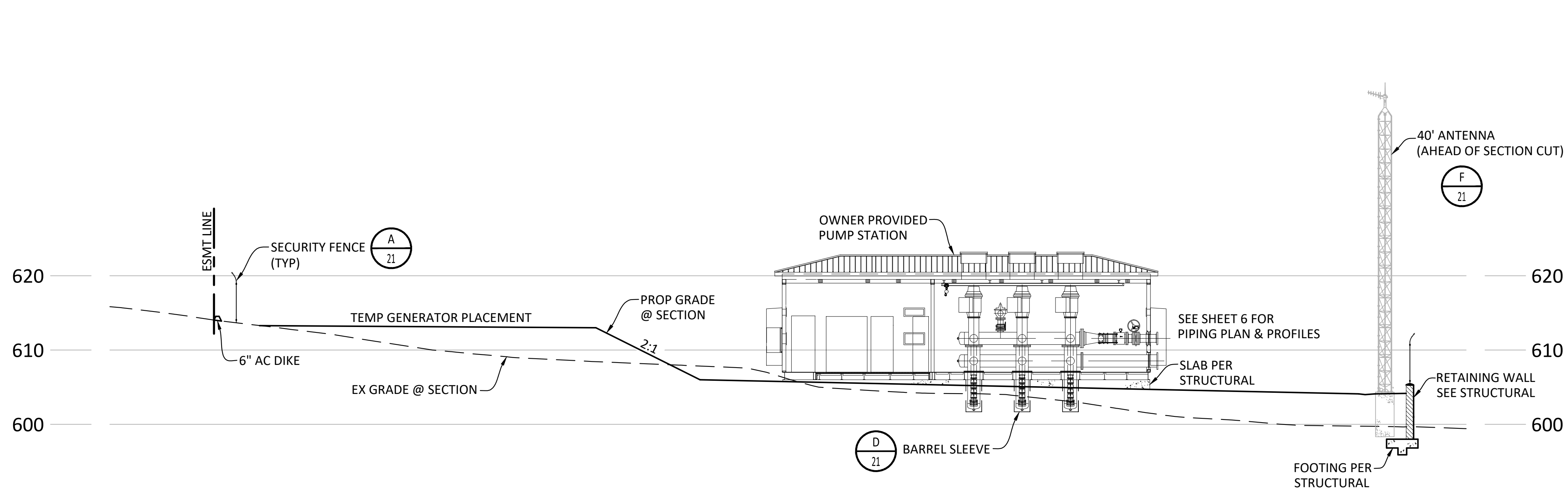
RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
WEST LILAC PUMP STATION PIPING PLAN, PROFILES & CATHODIC PROTECTION
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **6**
 OF 49 SHTS
 FILE NO.

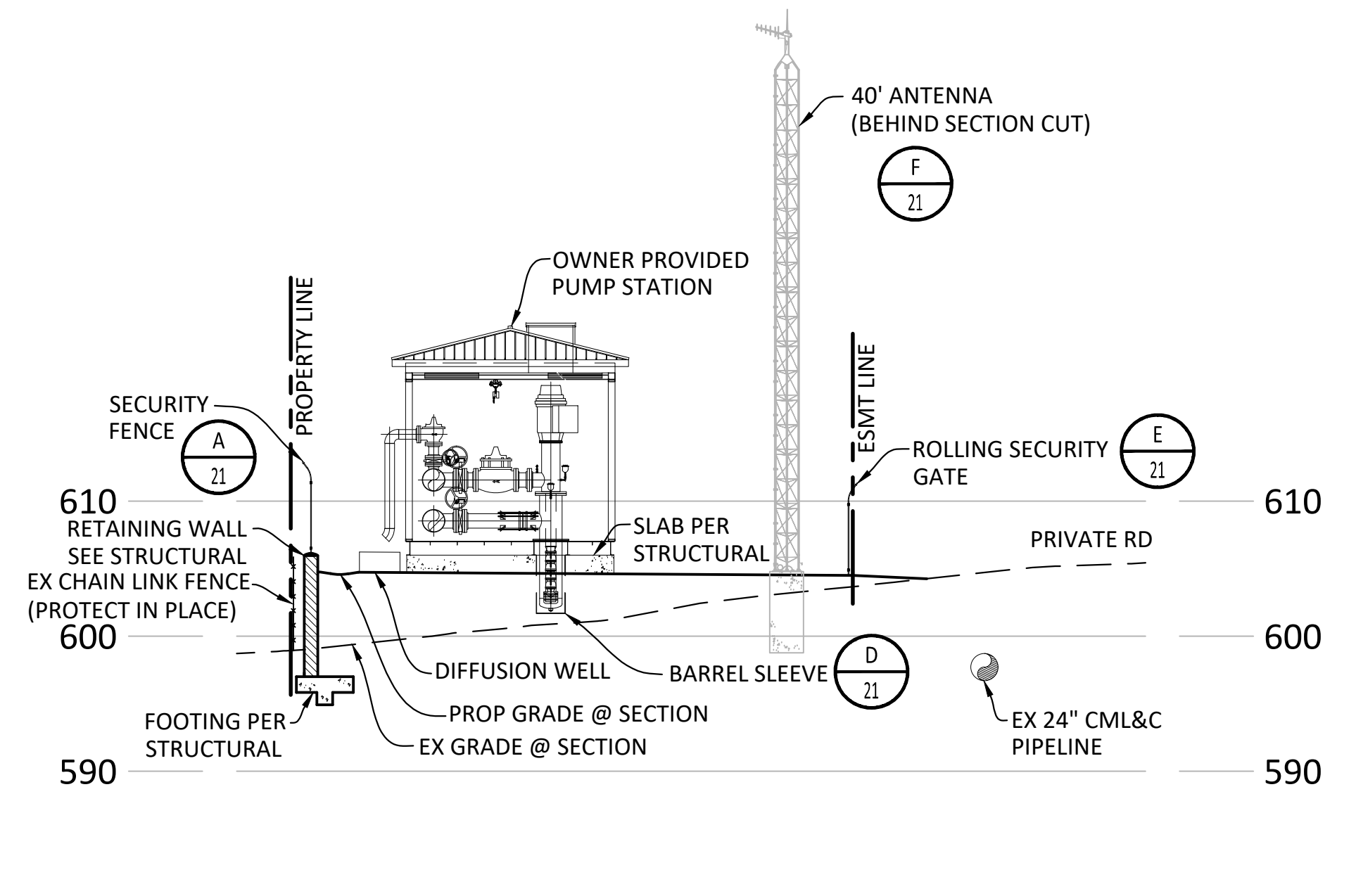
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



WEST LILAC RETAINING WALL PROFILE (A)
 SCALE - HORIZ: 1" = 10'
 VERT: 1" = 10'



WEST LILAC PUMP STATION SECTION (B)
 SCALE - HORIZ: 1" = 10'
 VERT: 1" = 10'



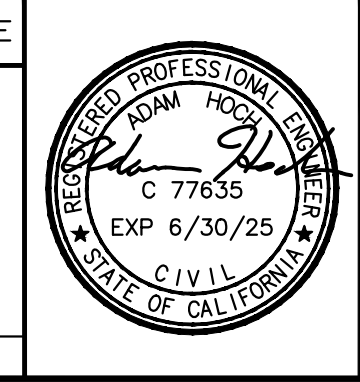
WEST LILAC PUMP STATION SECTION (C)
 SCALE - HORIZ: 1" = 10'
 VERT: 1" = 10'

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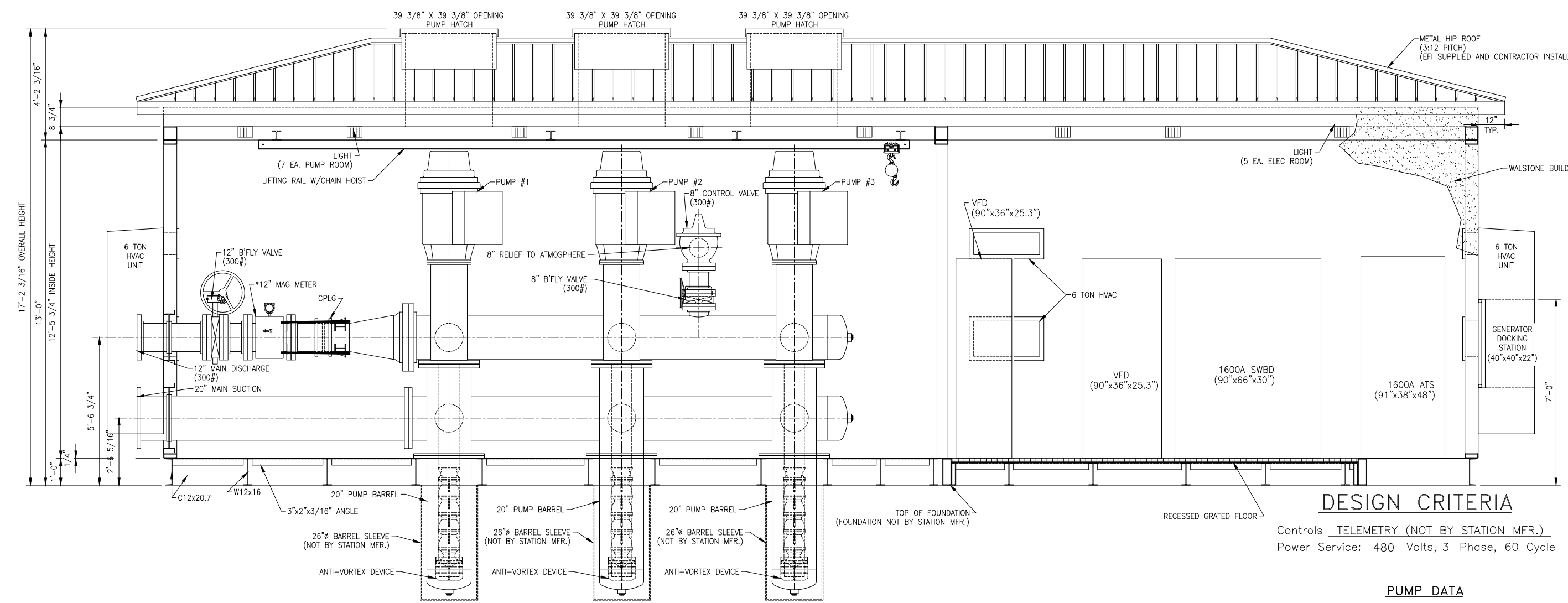
ENGINEER OF RECORD:
Adam Hoch
 ADAM HOCH P.E. 77635
 EXP. 6/30/25
 DATE: 9/7/2023

PLANS PREPARED BY:
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 OCEANSIDE, CA 92054
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RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 WEST LILAC PUMP STATION SECTIONS & RETAINING WALL PROFILE
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **7**
 OF 49 SHTS
 FILE NO.

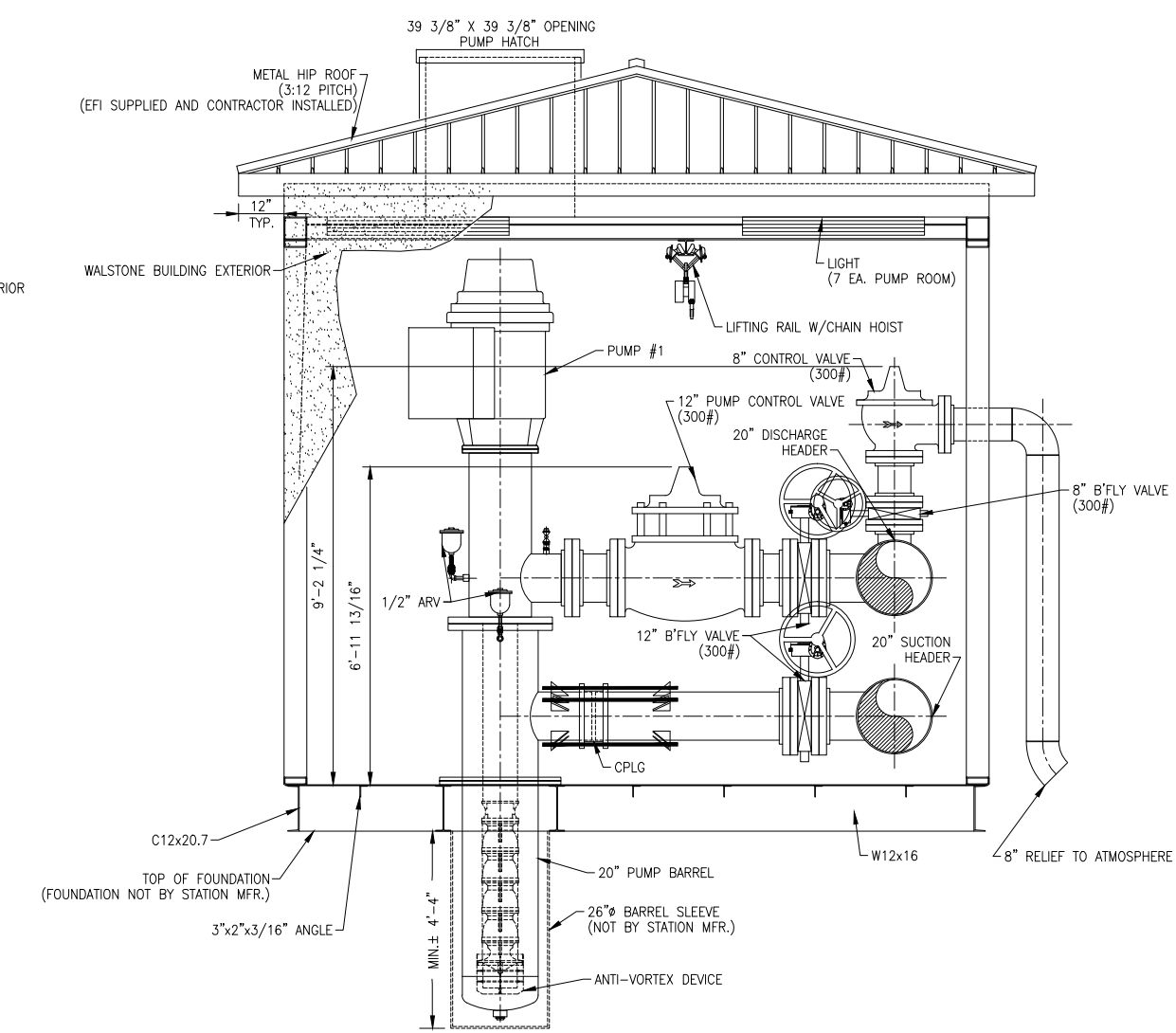
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



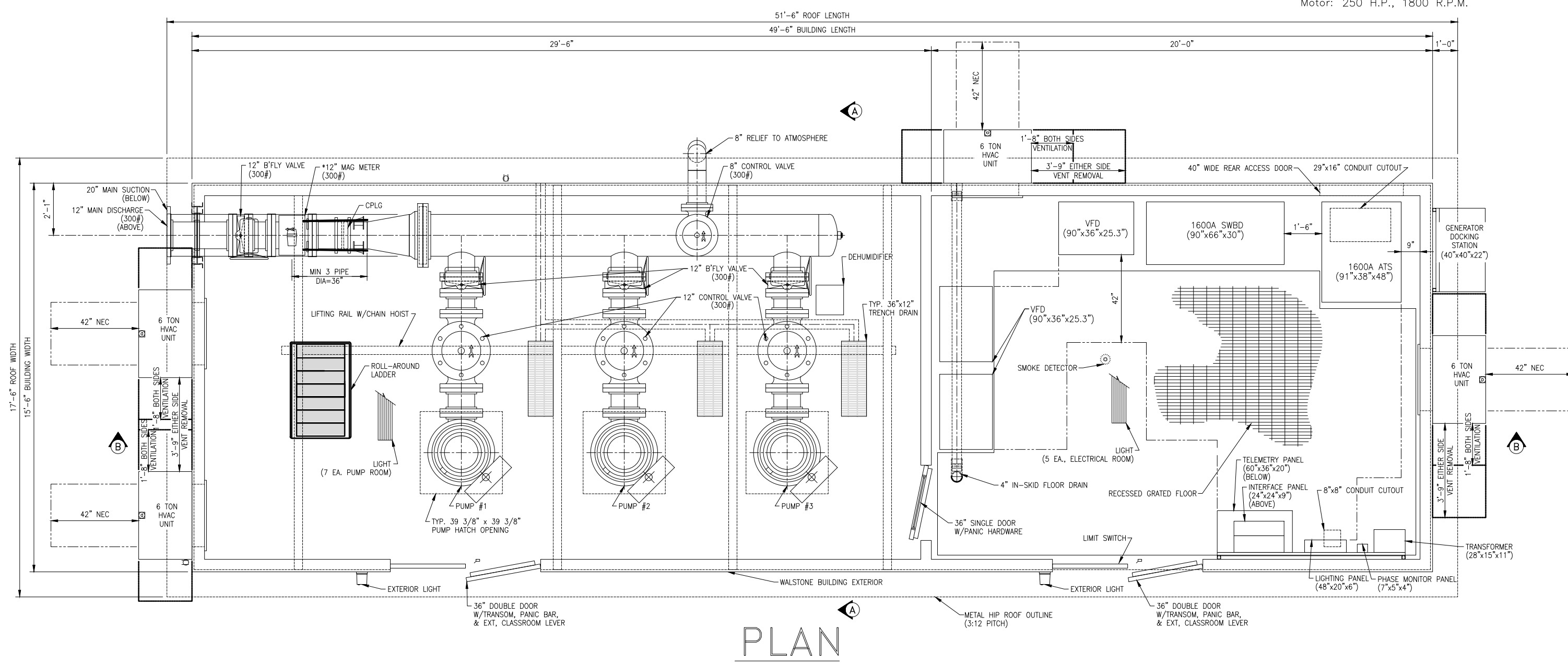
SECTION B-B

DESIGN CRITERIA
 Controls: TELEMETRY (NOT BY STATION MFR.)
 Power Service: 480 Volts, 3 Phase, 60 Cycle

PUMP DATA
 Type: VERTICAL MULTI-STAGE, TURBINE
 Pump: 1, 2, & 3
 Capacity: 1800 G.P.M. AT 400 FEET T.D.H.
 Size: 12 7/4 STAGE, 12" DISCH., 20" BARREL
 Motor: 250 H.P., 1800 R.P.M.



SECTION A-A



PLAN

GENERAL NOTES

CONTRACTOR'S NOTE:
 SCHEDULE 40 STEEL PIPE
 MAIN SUCTION: 20" ANSI STANDARD B16.5, CLASS 150 FLANGE
 MAIN DISCHARGE: 12" ANSI STANDARD B16.5, CLASS 300 FLANGE

ALL PIPING AND EQUIPMENT WILL BE ADEQUATELY SUPPORTED AND BRACED

PLATE & STRUCTURAL STEEL: ASTM A-36
 STRUCTURAL TUBING: A500, GRADE B

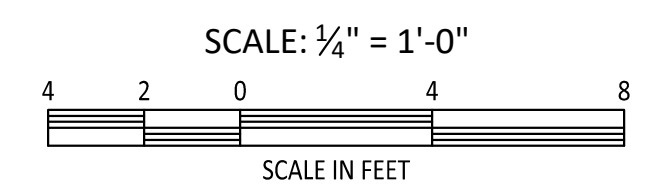
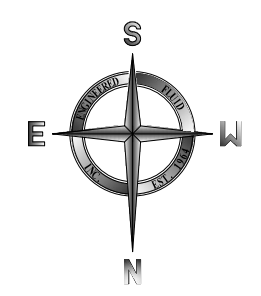
CONTRACTOR'S NOTES

DEHUMIDIFIER MUST BE POWERED UP AND TURNED ON IMMEDIATELY AFTER THIS STATION IS SET IN PLACE.

SHIMS MAY BE REQUIRED AROUND PERIMETER OF WATERSHED TO ENSURE PROPER LEVEL WITHOUT PROPER LEVEL ENGINEERED FLUID CANNOT BE RESPONSIBLE FOR PROPER DRAINAGE OPERATION.

PLEASE NOTE ORIENTATION OF THE INLET AND OUTLET PIPE AND ELECTRICAL CONDUIT LOCATIONS IN REFERENCE TO THE JOBSITE LAYOUT. EPI CANNOT BE HELD RESPONSIBLE UNLESS CONFIRMATION OF THESE ORIENTATIONS IS RECEIVED THROUGH THE APPROVED SUBMITTALS.

THIS STATION IS NOT DESIGNED TO WITHSTAND PIPELINE THRUST OR EXTERNAL PIPE RESTRAINT FORCES. THRUST BLOCKING AND PIPE RESTRAINTS EXTERNAL TO THE STATION SHALL BE DESIGNED AND INSTALLED BY OTHERS.



FOR REFERENCE ONLY

SEE APPENDIX D FOR APPROVED SHOP DRAWINGS AND FULL SUBMITTAL

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RAINBOW MUNICIPAL WATER DISTRICT
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 WWW.RAINBOWWD.COM

WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT

ENGINEERING & CIP MANAGER, CHAD WILLIAMS

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH



ENGINEER OF RECORD:
 Adam Hoch
 ADAM HOCH P.E. 77635
 EXP. 6/30/25

DATE: 9/7/2023

PLANS PREPARED BY:
 HOCH CONSULTING
 304 PIER VIEW WAY #100
 OCEANSIDE, CA 92054
 www.hochconsulting.com

RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 WEST LILAC PUMP STATION MECHANICAL PLAN & SECTIONS
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

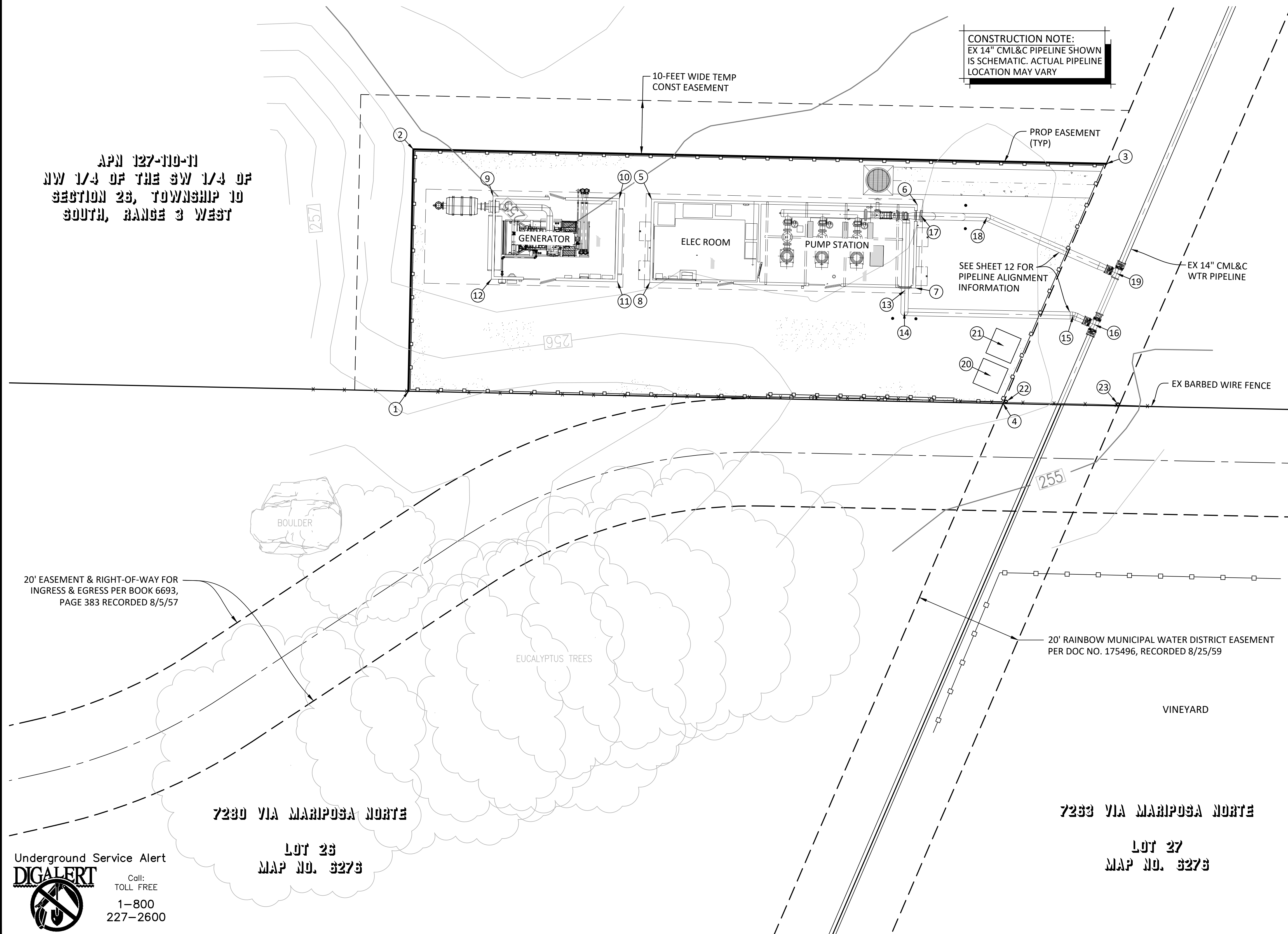
SHEET NO. 8
 OF 49 SHTS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

APN 127-110-11
 NW 1/4 OF THE SW 1/4 OF
 SECTION 26, TOWNSHIP 10
 SOUTH, RANGE 3 WEST

CONSTRUCTION NOTE:
 EX 14" CML&C PIPELINE SHOWN
 IS SCHEMATIC. ACTUAL PIPELINE
 LOCATION MAY VARY

COORDINATE TABLE			
NO.	NORTHING	EASTING	DESCRIPTION
1	2045902.04	6279123.24	ANGLE PT NEW ESMT
2	2045901.11	6279168.23	ANGLE PT NEW ESMT
3	2045772.14	6279165.55	ANGLE PT NEW ESMT
4	2045791.37	6279120.94	ANGLE PT NEW ESMT
5	2045856.79	6279158.95	NE COR PUMP STATION
6	2045807.30	6279157.91	SE COR PUMP STATION
7	2045807.63	6279142.41	SW COR PUMP STATION
8	2045857.12	6279143.45	NW COR PUMP STATION
9	2045886.29	6279159.56	NE COR GENERATOR PAD
10	2045862.80	6279159.07	SE COR GENERATOR PAD
11	2045863.12	6279143.58	SW COR GENERATOR PAD
12	2045886.61	6279144.06	NW COR GENERATOR PAD
13	2045809.64	6279141.95	CL FLG CONNECTION - SUCTION
14	2045809.72	6279137.95	CL 90° VERT BEND - SUCTION
15	2045778.28	6279137.30	CL 22° ANGLE POINT - SUCTION
16	2045774.30	6279135.58	CL TEE CONNECTION - SUCTION
17	2045806.60	6279155.81	CL FLG CONNECTION - DISCHARGE
18	2045794.35	6279155.55	CL 22° ANGLE POINT - DISCHARGE
19	2045770.17	6279145.13	CL TEE CONNECTION - DISCHARGE
20	2045793.70	6279126.07	CL TRANSFORMER PAD
21	2045791.29	6279131.67	CL MSB PAD
22	2045790.81	6279121.30	ESMT ACCESS GATE COR - NORTH
23	2045769.97	6279120.78	ESMT ACCESS GATE COR - SOUTH



20' EASEMENT & RIGHT-OF-WAY FOR
 INGRESS & EGRESS PER BOOK 6693,
 PAGE 383 RECORDED 8/5/57

7280 VIA MARIPOSA NORTE

LOT 26
 MAP NO. 3273

7263 VIA MARIPOSA NORTE

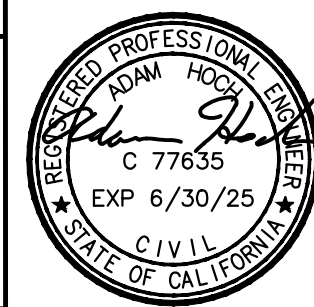
LOT 27
 MAP NO. 3273

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 (760) 728-1178
 WWW.RAINBOWMWD.COM
 WATER REVIEWED BY: RAINBOW MUNICIPAL
 WATER DISTRICT

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH



ENGINEER OF RECORD:
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 ADAM HOCH P.E. 77635
 EXP. 6/30/25
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PLANS PREPARED BY:

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 804 PIER VIEW WAY #100
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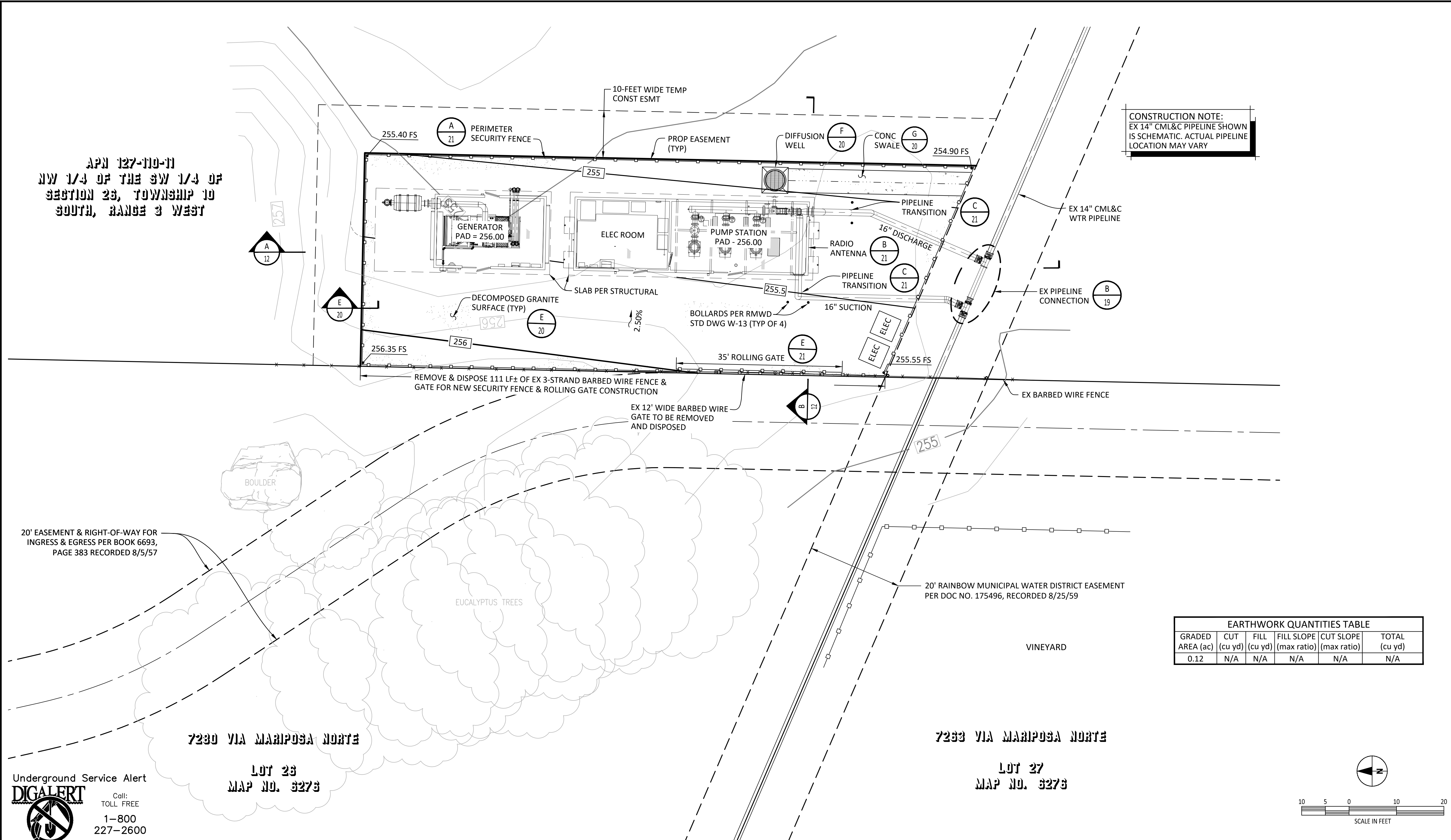
RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 RANCHO AMIGOS PUMP STATION
 HORIZONTAL CONTROL PLAN
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO.
9
 OF 49 SHEETS
 FILE NO.

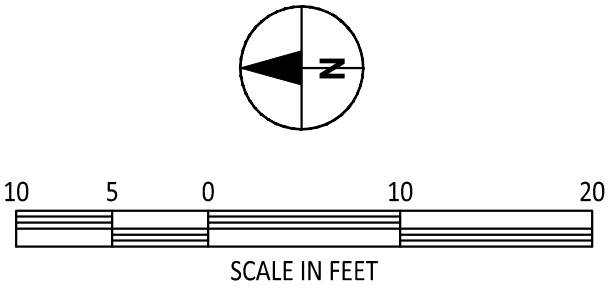
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

APN 127-110-11
NW 1/4 OF THE SW 1/4 OF
SECTION 26, TOWNSHIP 10
SOUTH, RANGE 3 WEST

CONSTRUCTION NOTE:
EX 14" CML&C PIPELINE SHOWN
IS SCHEMATIC. ACTUAL PIPELINE
LOCATION MAY VARY



EARTHWORK QUANTITIES TABLE					
GRADED AREA (ac)	CUT (cu yd)	FILL (cu yd)	FILL SLOPE (max ratio)	CUT SLOPE (max ratio)	TOTAL (cu yd)
0.12	N/A	N/A	N/A	N/A	N/A



20' EASEMENT & RIGHT-OF-WAY FOR
INGRESS & EGRESS PER BOOK 6693,
PAGE 383 RECORDED 8/5/57

7230 VIA MARIPOSA NORTE
LOT 23
MAP NO. 3273

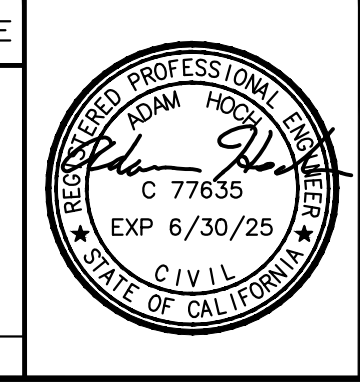
7233 VIA MARIPOSA NORTE
LOT 27
MAP NO. 3273

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WATER REVIEWED BY: RAINBOW MUNICIPAL
WATER DISTRICT
ENGINEERING & CIP MANAGER, CHAD WILLIAMS

REV	BY	DATE	REVISIONS	APPR.	DATE

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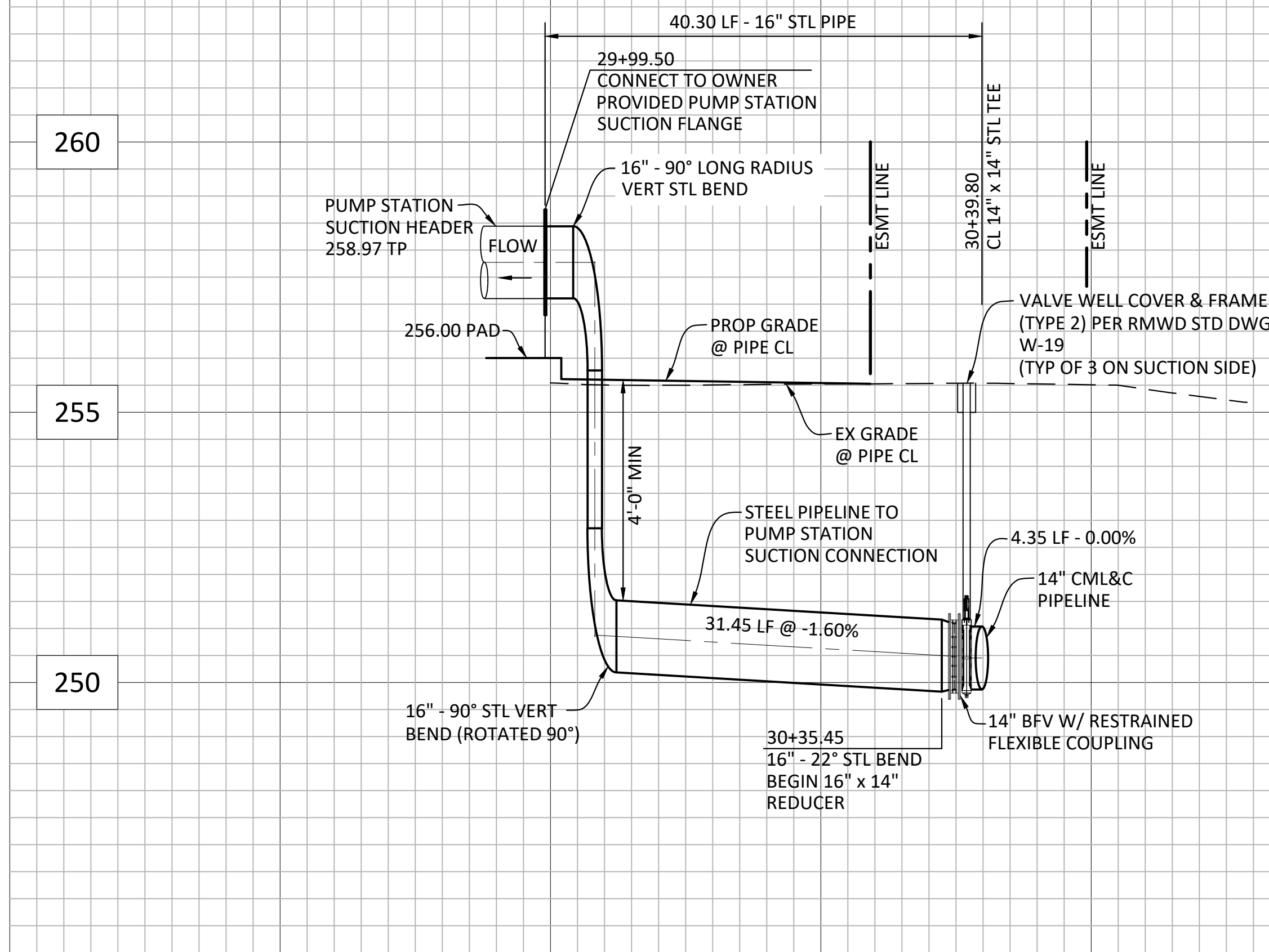
ENGINEER OF RECORD:
Adam Hoch
ADAM HOCH P.E. 77635
EXP. 6/30/25
DATE: 9/7/2023

PLANS PREPARED BY:
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3004 PIER VIEW WAY #100
OCEANSIDE, CA 92054
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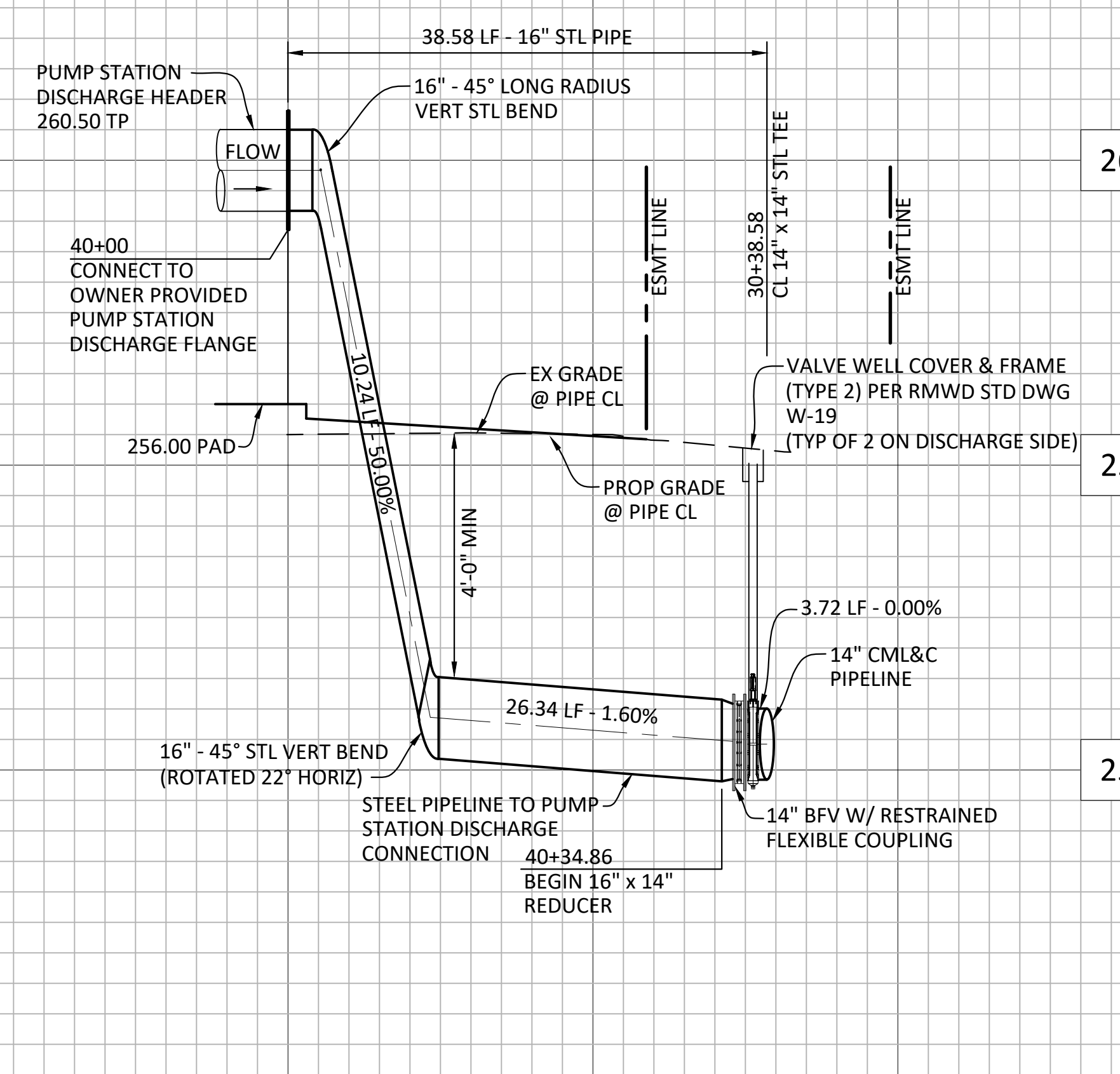
RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
**RANCHO AMIGOS PUMP STATION
DRAINAGE AND GRADING PLAN**
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO.
10
OF 49 SHEETS
FILE NO.

ENG. JOB # 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



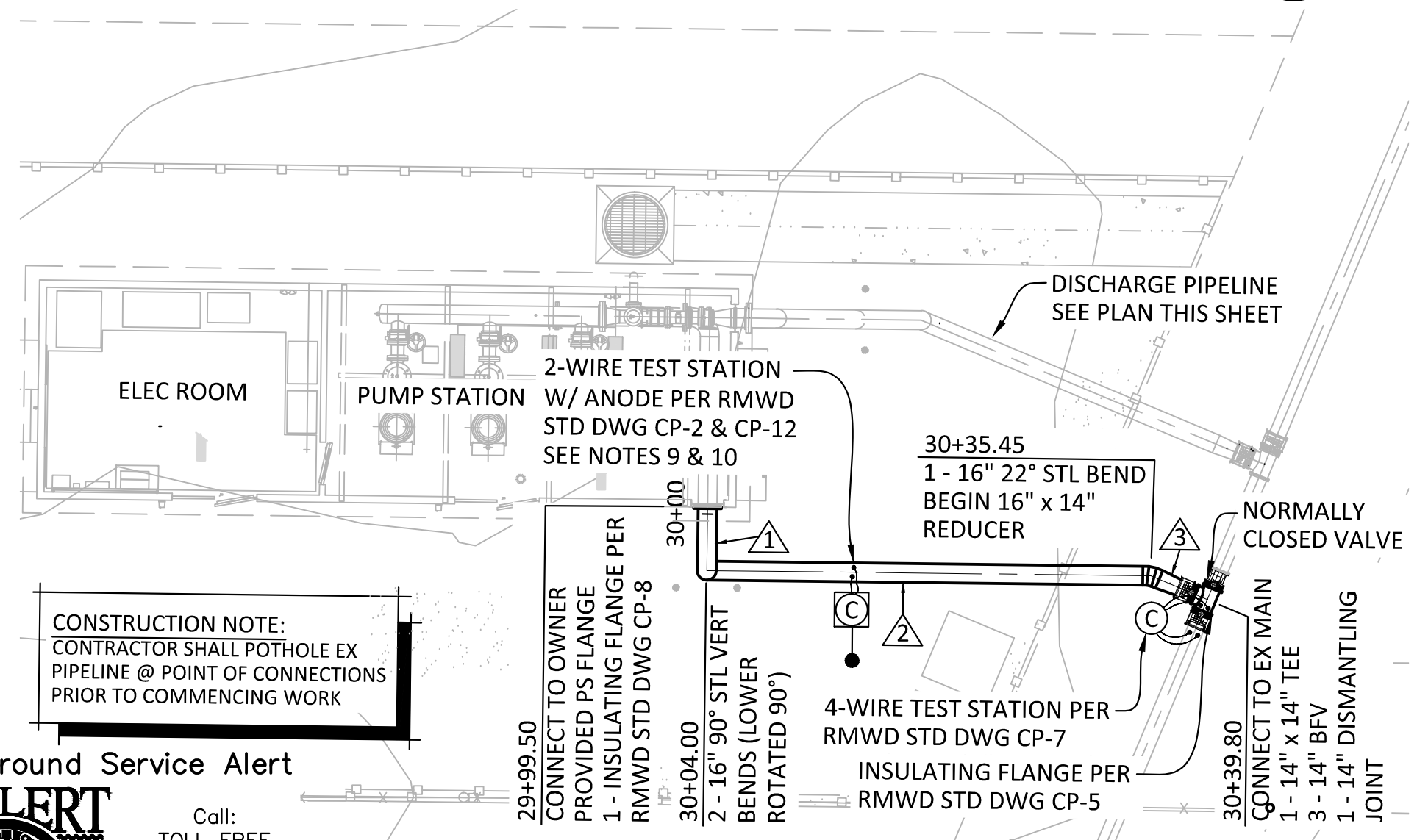
SUCTION PIPELINE PROFILE
 SCALE - HORIZ: 1" = 10'
 VERT: 1" = 2'



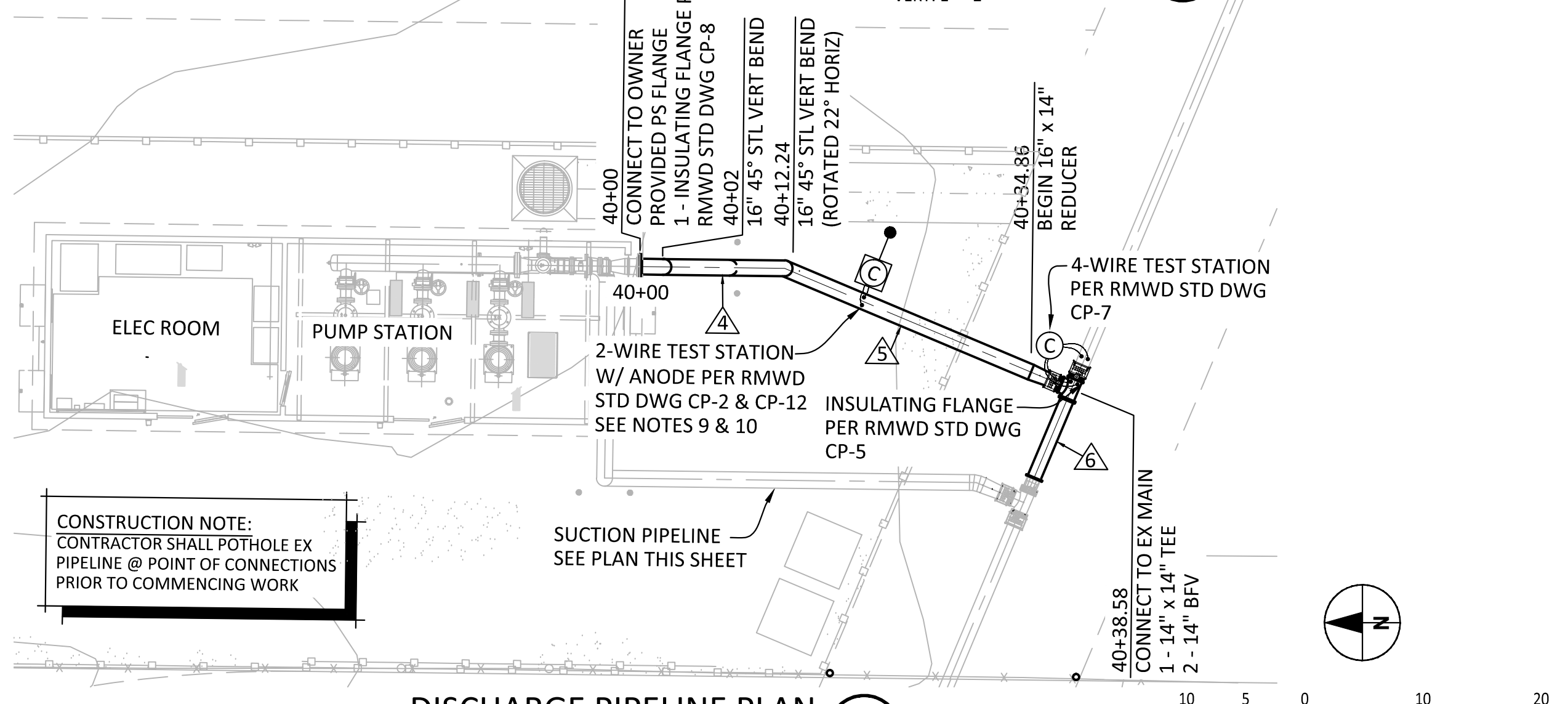
DISCHARGE PIPELINE PROFILE
 SCALE - HORIZ: 1" = 10'
 VERT: 1" = 2'

WATER PIPELINE TABLE				
NO.	BEARING/DELTA	RADIUS	LENGTH*	DESCRIPTION
1	N 88°47'32" W		11.40'	16" CML&C - SUCTION
2	N 01°11'25" E		31.45'	16" CML&C - SUCTION
3	N 23°19'15" E		4.35**	16" CML&C - SUCTION
4	N 01°11'25" E		14.24'	16" CML&C - DISCHARGE
5	N 23°19'15" E		26.34**	16" CML&C - DISCHARGE
6	N 66°40'45" W		7.25'	14" CML&C - MAIN

- * LENGTHS INCLUDE PIPELINES IN VERT & ARE MEASURED FROM THE PUMP STATION CONNECTION FLANGE TO THE CENTERLINE OF CONNECTING TEE.
- ** LENGTH TO CL OF EX 14" PIPELINE & INCLUDES REDUCER.
- PIPELINE & CATHODIC PROTECTION NOTES:**
- STEEL PIPING SHALL CONFORM TO AWWA STANDARD C-200.
 - STEEL PIPE SHALL BE RMWD STANDARD WEIGHT CML&C.
 - SHUTDOWN, DEENERGIZING, DRAIN, AND ENERGIZING OF EXISTING PIPELINES SHALL BE PERFORMED BY THE DISTRICT.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING.
 - SLIP ON FLANGES SHALL BE DOUBLE WELDED.
 - HOLD BACK CEMENT MORTAR COATING A MINIMUM OF 10-INCHES FOR FLEXIBLE PIPE COUPLING INSTALLATIONS. SEE CONNECTION DETAILS.
 - SEE RMWD STD DWG W-3 FOR STANDARD PIPE ZONE AND TRENCH BACKFILL.
 - ALL NON-WELDED STEEL PIPE JOINTS SHALL INCLUDE WIRE JUMPERS PER RMWD STD DWG CP-10.
 - LOCATION OF CATHODIC TEST STATIONS SHALL BE DIRECTED BY A DISTRICT REPRESENTATIVE IN THE FIELD. PLAN LOCATIONS FOR GRAPHICAL PURPOSES ONLY.
 - TEST BOXES MOUNTED IN UN-PAVED AREAS SHALL BE MOUNTED IN A REINFORCED 26-INCHES SQUARE BY 4-INCHES THICK CONCRETE PAD CONSTRUCTED OF ASTM C94 READY-MIX CONCRETE. REBAR SHALL BE NO.4. SEE RMWD STD DWG CP-6. A CONCRETE PAD IS NOT REQUIRED WHERE THE TEST BOX IS PLACED IN PAVEMENT.



SUCTION PIPELINE PLAN
 SCALE - HORIZ: 1" = 10'



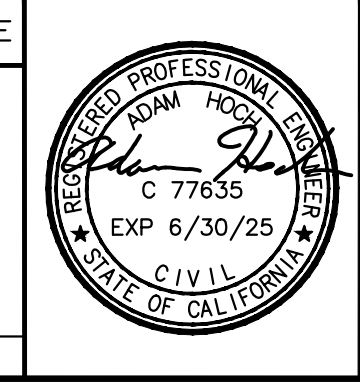
DISCHARGE PIPELINE PLAN
 SCALE - HORIZ: 1" = 10'

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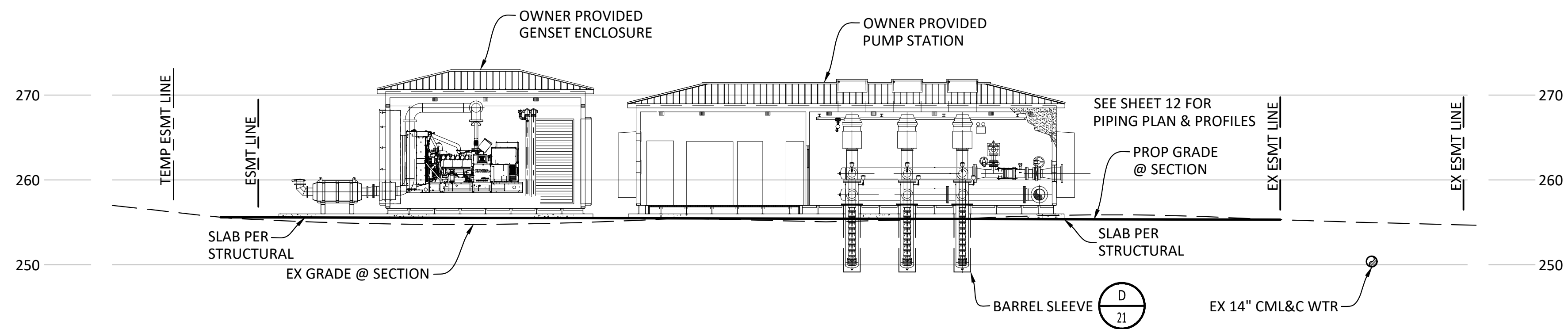
ENGINEER OF RECORD:
 ADAM HOCH
 P.E. 77635
 EXP. 6/30/25
 DATE: 9/7/2023

PLANS PREPARED BY:
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 804 PIER VIEW WAY #100
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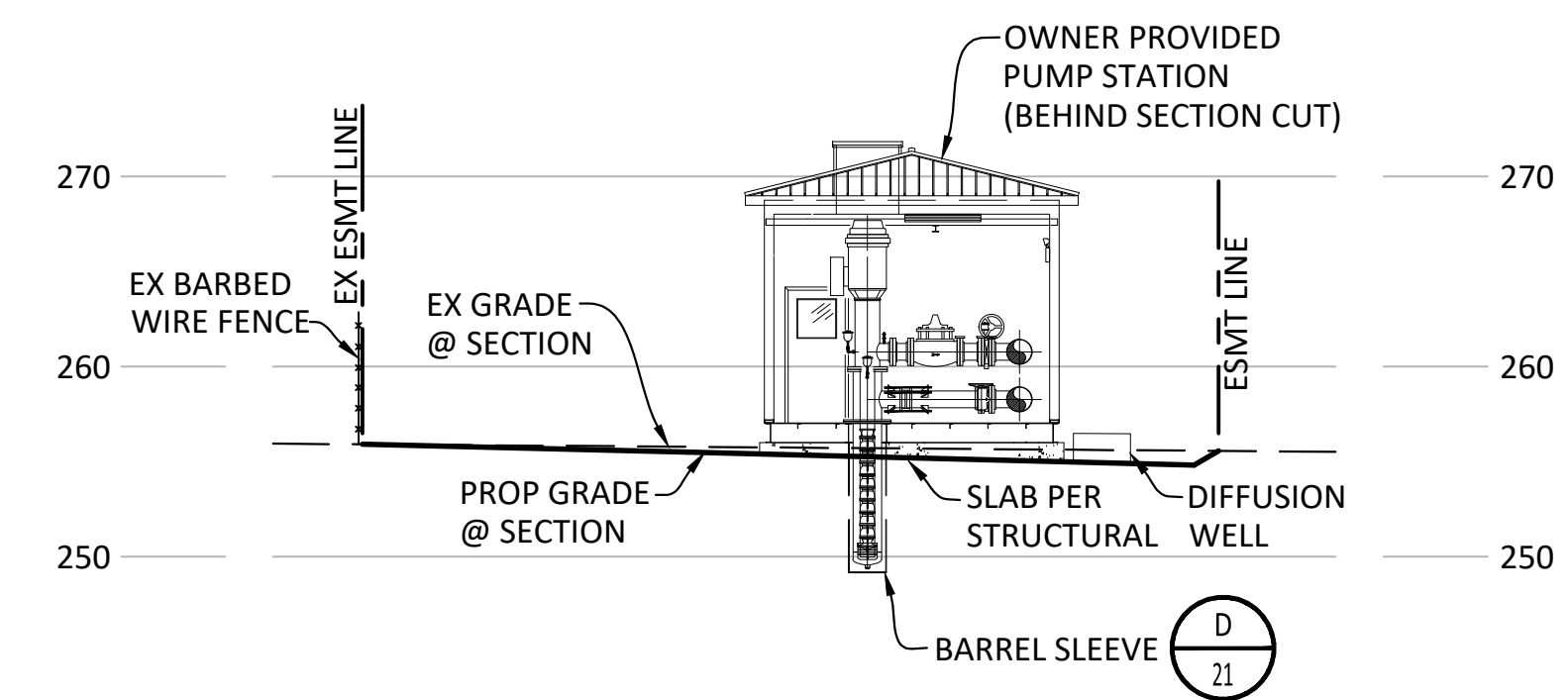
RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
RANCHO AMIGOS PUMP STATION PIPING PLAN & PROFILES
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **11**
 OF 49 SHTS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



RANCHO AMIGOS PS SITE SECTION A
 SCALE - HORIZ: 1" = 10'
 VERT: 1" = 10'



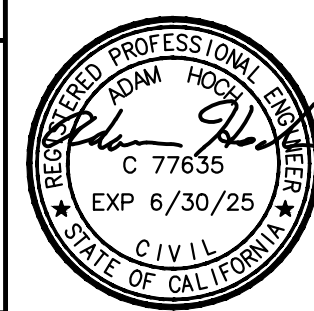
RANCHO AMIGOS PS SITE SECTION B
 SCALE - HORIZ: 1" = 10'
 VERT: 1" = 10'

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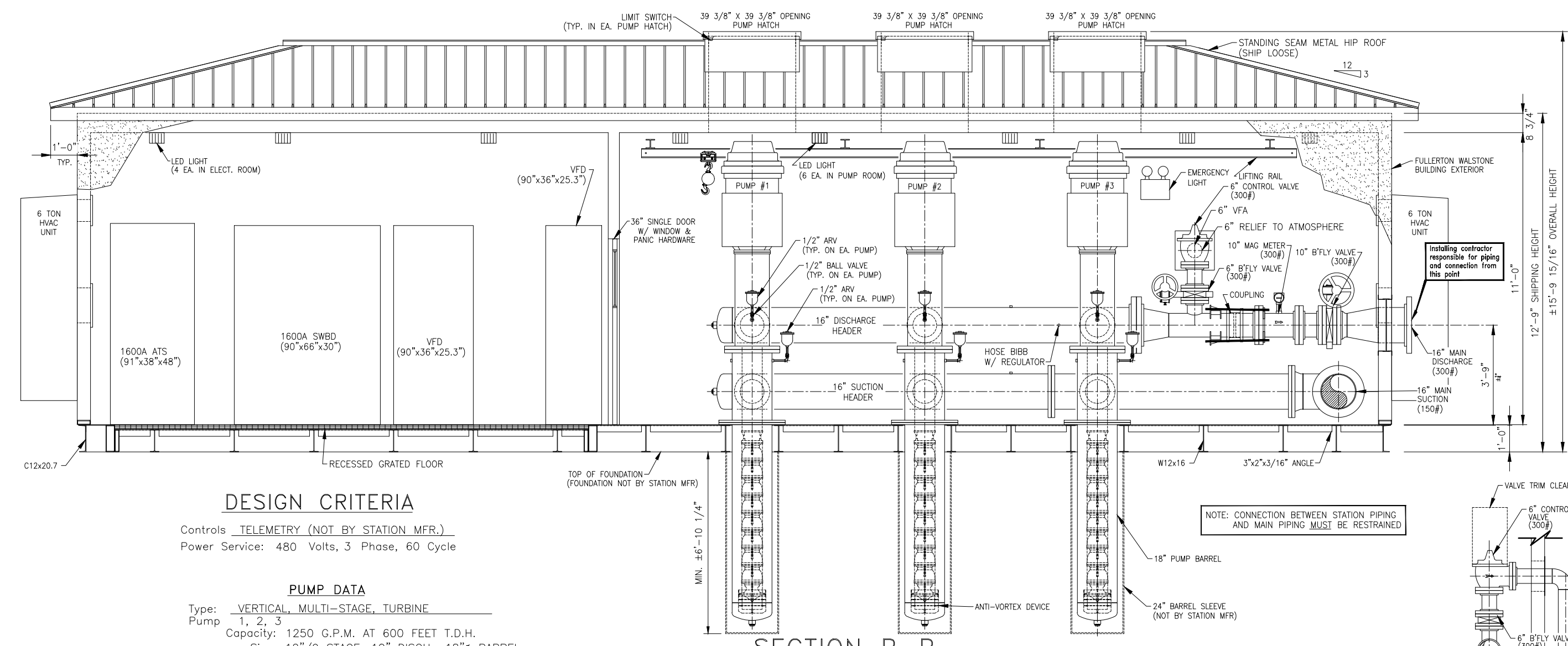
ENGINEER OF RECORD:
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RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
RANCHO AMIGOS PUMP STATION SECTIONS
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

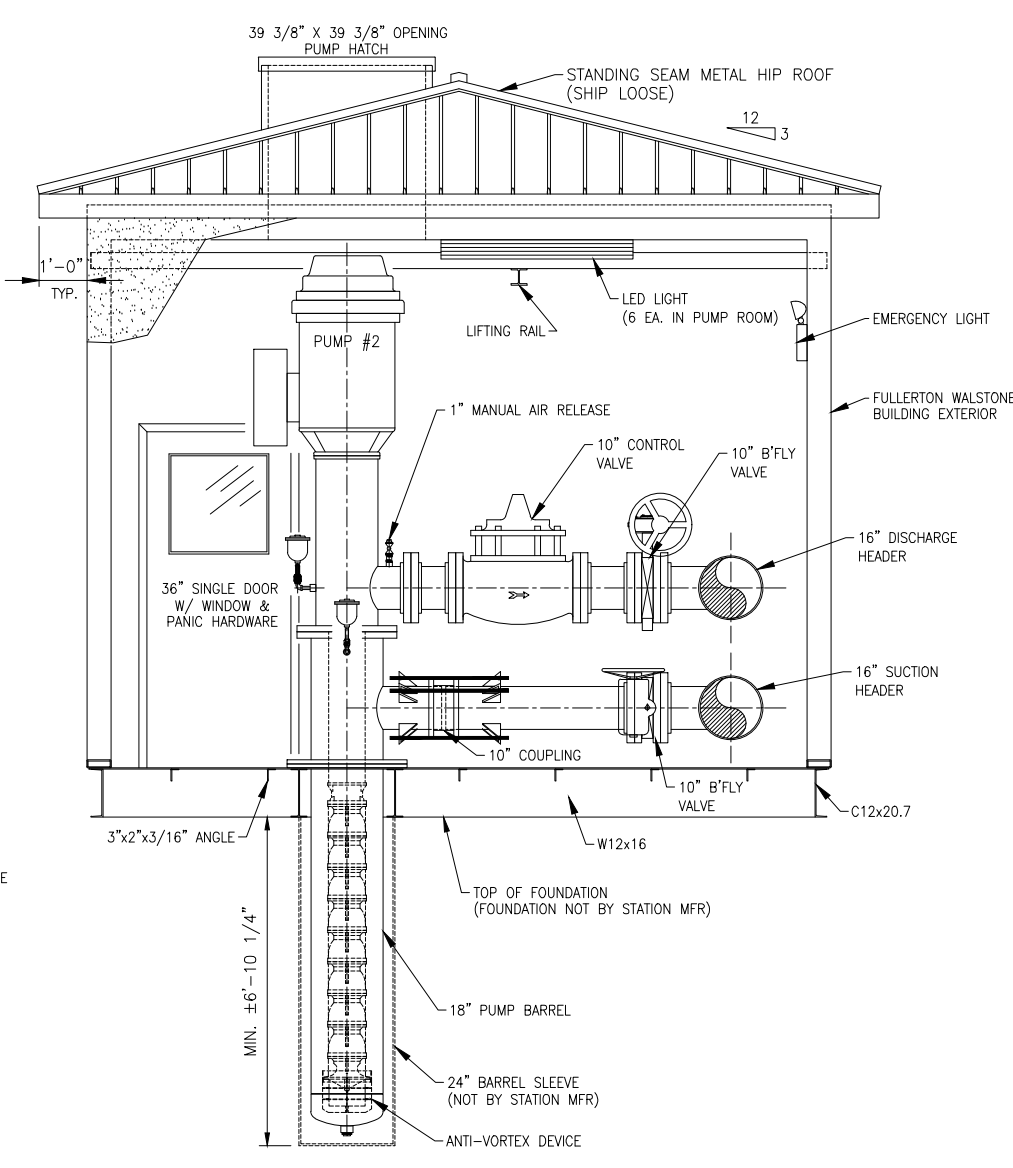
SHEET NO. **12**
 OF 49 SHTS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

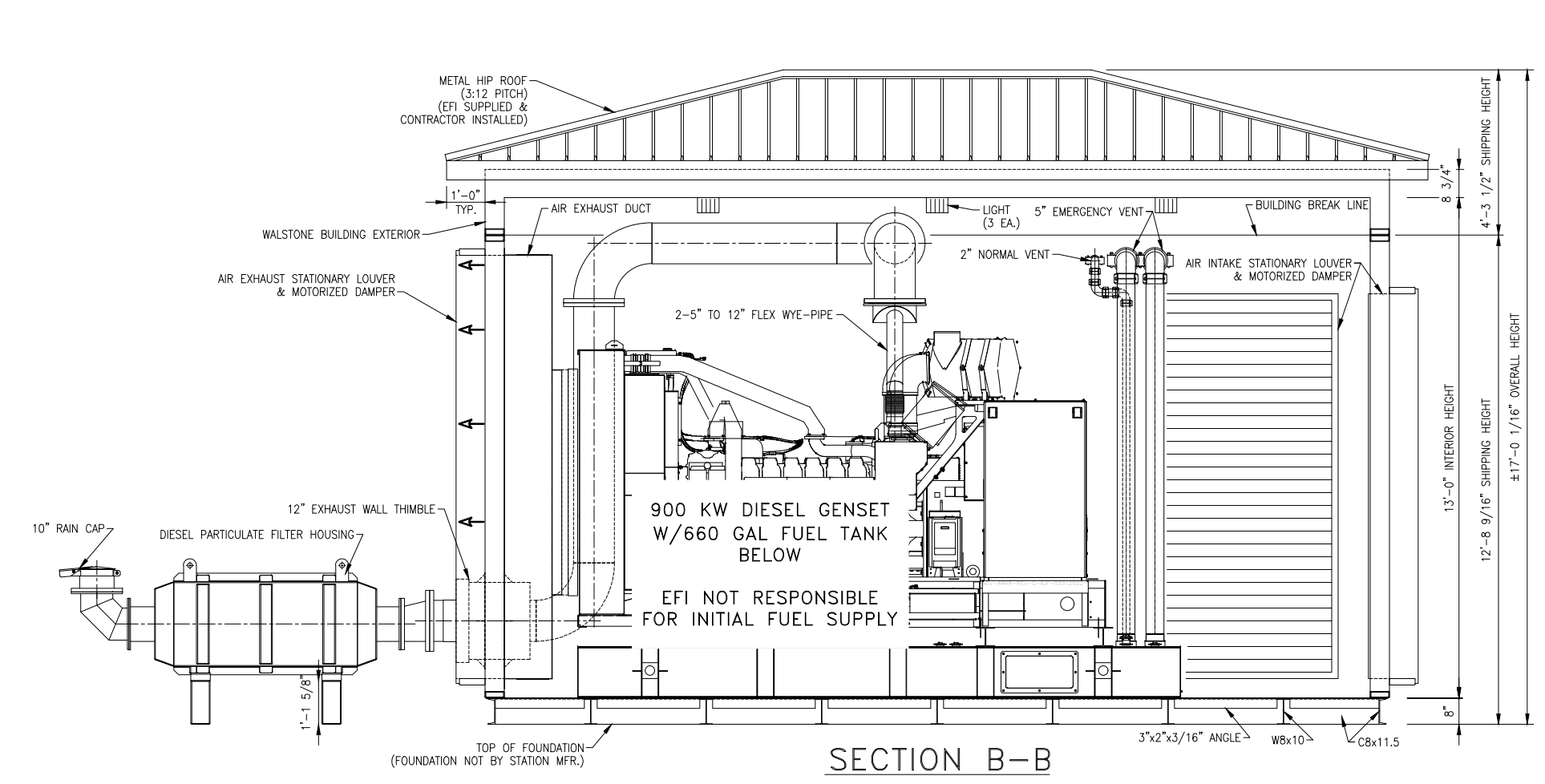


DESIGN CRITERIA
 Controls: TELEMETRY (NOT BY STATION MFR.)
 Power Service: 480 Volts, 3 Phase, 60 Cycle

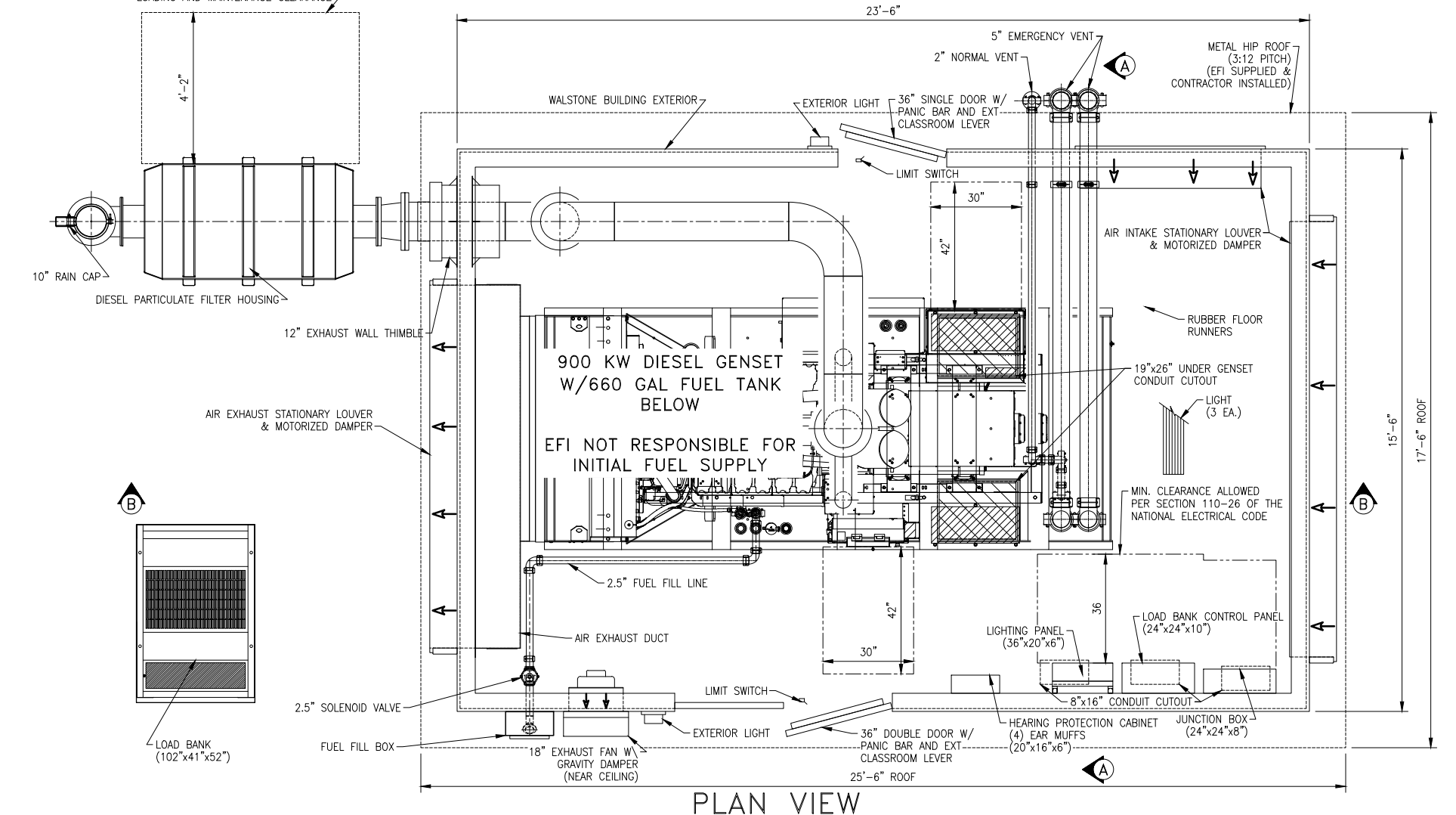
PUMP DATA
 Type: VERTICAL MULTI-STAGE TURBINE
 Pump: 1, 2, 3
 Capacity: 1250 G.P.M. AT 600 FEET T.D.H.
 Size: 12" / 9" STAGE, 10" DISCH., 18" BARREL
 Motor: 250 H.P., 1800 R.P.M.



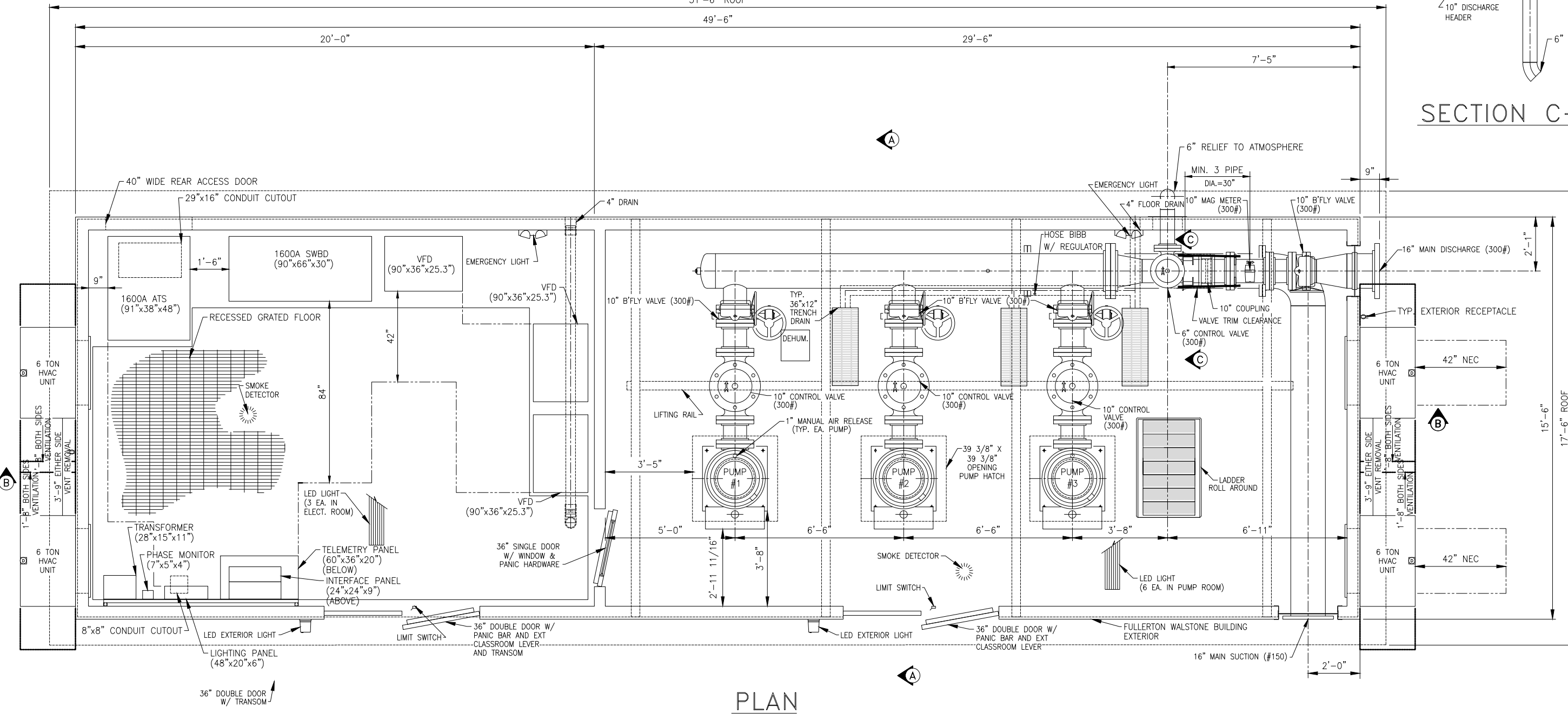
SECTION A-A



SECTION B-B



PLAN VIEW



PLAN

SECTION C-C

GENERAL NOTES

CONTRACTOR'S NOTE:
 SCHEDULE 40 STEEL PIPE
 MAIN SUCTION: 16" ANSI STANDARD B16.5, CLASS 150 FLANGE
 MAIN DISCHARGE: 16" ANSI STANDARD B16.5, CLASS 300 FLANGE

ALL PIPING AND EQUIPMENT WILL BE ADEQUATELY SUPPORTED AND BRACED

PLATE & STRUCTURAL STEEL: ASTM A-36
 STRUCTURAL TUBING: A500, GRADE B

CONTRACTOR'S NOTES
 DEHUMIDIFIER MUST BE POWERED UP AND TURNED ON IMMEDIATELY AFTER THIS STATION IS SET IN PLACE.

SHIMS MAY BE REQUIRED AROUND PERIMETER OF WATERSHED TO ENSURE PROPER LEVEL. WITHOUT PROPER LEVEL ENGINEERED FLUID CANNOT BE RESPONSIBLE FOR PROPER DOOR OPERATION.

PLEASE NOTE ORIENTATION OF THE INLET AND OUTLET PIPE AND ELECTRICAL CONDUIT LOCATIONS IN REFERENCE TO THE JOBSITE LAYOUT. EFI CANNOT BE HELD RESPONSIBLE UNLESS CONFIRMATION OF THESE ORIENTATIONS IS RECEIVED THROUGH THE APPROVED SUBMITTALS.

THIS STATION IS NOT DESIGNED TO WITHSTAND PIPELINE THRUST OR EXTERNAL PIPE RESTRAINT FORCES. THRUST BLOCKING AND PIPE RESTRAINTS EXTERNAL TO THE STATION SHALL BE DESIGNED AND INSTALLED BY OTHERS.

ESTIMATED TOTAL STATION WEIGHT: 90,000LBS

GENERAL NOTES

ALL EQUIPMENT WILL BE ADEQUATELY SUPPORTED AND BRACED

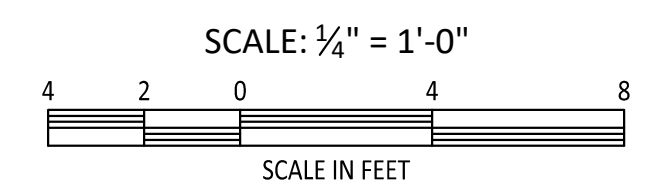
PLATE & STRUCTURAL STEEL: ASTM A-36
 STRUCTURAL TUBING: A500, GRADE B

CONTRACTOR'S NOTES

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PLEASE NOTE ORIENTATION OF THE ELECTRICAL CONDUIT LOCATIONS IN REFERENCE TO THE JOBSITE LAYOUT. EFI CANNOT BE HELD RESPONSIBLE UNLESS CONFIRMATION OF THESE ORIENTATIONS IS RECEIVED THROUGH THE APPROVED SUBMITTALS.

ESTIMATED TOTAL STATION WEIGHT: TBD



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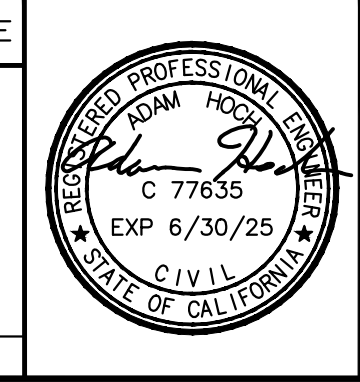
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WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT

ENGINEERING & CIP MANAGER, CHAD WILLIAMS

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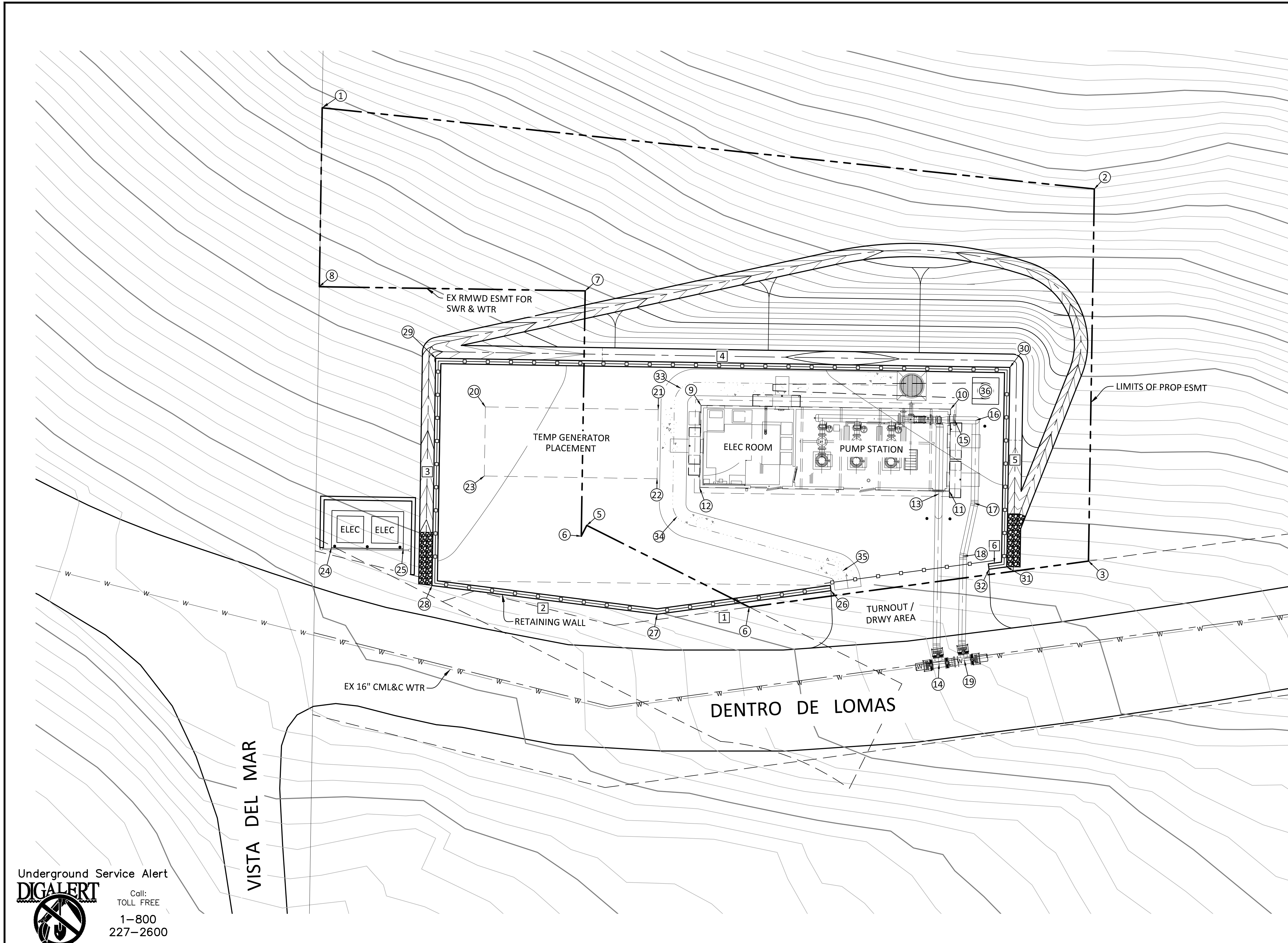
ENGINEER OF RECORD:
 ADAM HOCH
 DATE: 9/7/2023

PLANS PREPARED BY:
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RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
RANCHO AMIGOS PUMP STATION & GENERATOR
MECHANICAL PLAN

PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

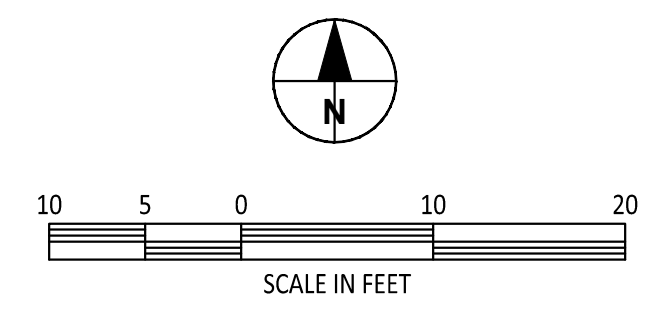
SHEET NO. **13**
 OF 49SHTS
 FILE NO.



COORDINATE TABLE			
NO.	NORTHING	EASTING	DESCRIPTION
1	2045902.04	6279123.24	ANGLE PT ESMT
2	2045901.11	6279168.23	ANGLE PT ESMT
3	2045772.14	6279165.55	ANGLE PT ESMT
4	2045791.37	6279120.94	ANGLE PT ESMT
5	2041408.65	6269872.06	ANGLE PT ESMT
6	2041406.61	6269871.04	ANGLE PT ESMT
7	2041452.77	6269871.77	ANGLE PT ESMT
8	2041453.56	6269821.78	ANGLE PT ESMT
9	2041431.26	6269893.51	NW PS COR @ OUTSIDE FACE
10	2041430.55	6269940.50	NE PS COR @ OUTSIDE FACE
11	2041415.05	6269940.27	SE PS COR @ OUTSIDE FACE
12	2041415.76	6269893.28	SW PS COR @ OUTSIDE FACE
13	2041414.58	6269938.26	CL FLG CONNECTION - SUCTION
14	2041382.58	6269938.32	CL TEE CONNECTION - SUCTION
15	2041428.46	6269941.22	CL FLG CONNECTION - DISCHARGE
16	2041428.40	6269945.22	CL 90° VERT BENDS - DISCHARGE
17	2041412.84	6269944.99	CL 11.25° ANGLE POINT - DISCHARGE
18	2041402.82	6269942.84	CL 11.25° ANGLE POINT - DISCHARGE
19	2041383.22	6269943.07	CL TEE CONNECTION - DISCHARGE
20	2041430.93	6269853.01	NW COR TEMP GEN PAD
21	2041430.42	6269885.50	NE COR TEMP GEN PAD
22	2041417.42	6269885.29	SE COR TEMP GEN PAD
23	2041417.94	6269852.80	SW COR TEMP GEN PAD
24	2041404.45	6269824.04	SW COR 13' X 7' ELEC PAD
25	2041404.24	6269837.54	SE COR 13' X 7' ELEC PAD
26	2041396.38	6269917.98	BEGIN RET WALL - OUTSIDE FACE
27	2041391.94	6269885.27	ANGLE PT RET WALL - OUTSIDE FACE
28	2041397.34	6269842.97	ANGLE PT RET WALL - OUTSIDE FACE
29	2041440.08	6269843.64	ANGLE PT RET WALL - OUTSIDE FACE
30	2041438.38	6269951.63	ANGLE PT RET WALL - OUTSIDE FACE
31	2041397.77	6269950.99	ANGLE PT RET WALL - OUTSIDE FACE
32	2041400.41	6269947.71	END RET WALL - OUTSIDE FACE
33	2041434.43	6269889.75	MID PT CURVE CONC SWALE (4' R)
34	2041410.28	6269889.01	MID PT CURVE CONC SWALE (4' R)
35	2041400.11	6269920.22	MID PT CURVE CONC SWALE (3.25' R)
36	2041433.95	6269947.06	CL 40'-0" TALL ANTENNA BASE

RETAINING WALL TABLE				
NO.	BEARING/Delta	RADIUS	LENGTH	DESCRIPTION
1	N 82°16'28" E		33.00'	OUTSIDE FACE - RET WALL
2	N 82°43'32" W		42.64'	OUTSIDE FACE - RET WALL
3	N 00°54'19" E		42.75'	OUTSIDE FACE - RET WALL
4	N 87°05'41" W		108.00'	OUTSIDE FACE - RET WALL
5	N 00°54'19" E		37.52'	OUTSIDE FACE - RET WALL
6	N 82°16'28" E		3.36'	OUTSIDE FACE - RET WALL

SEE SHEET 17 FOR RETAINING WALL PROFILE.

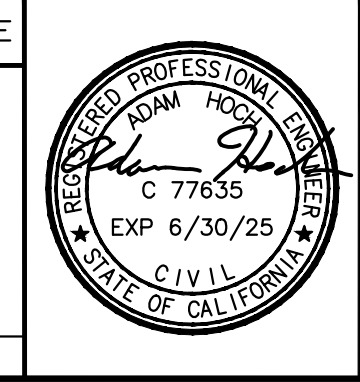


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RAINBOW MUNICIPAL WATER DISTRICT
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 WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT
 ENGINEERING & CIP MANAGER, CHAD WILLIAMS

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH



ENGINEER OF RECORD:
Adam Hoch
 ADAM HOCH P.E. 77635
 EXP. 6/30/25
 DATE: 9/7/2023

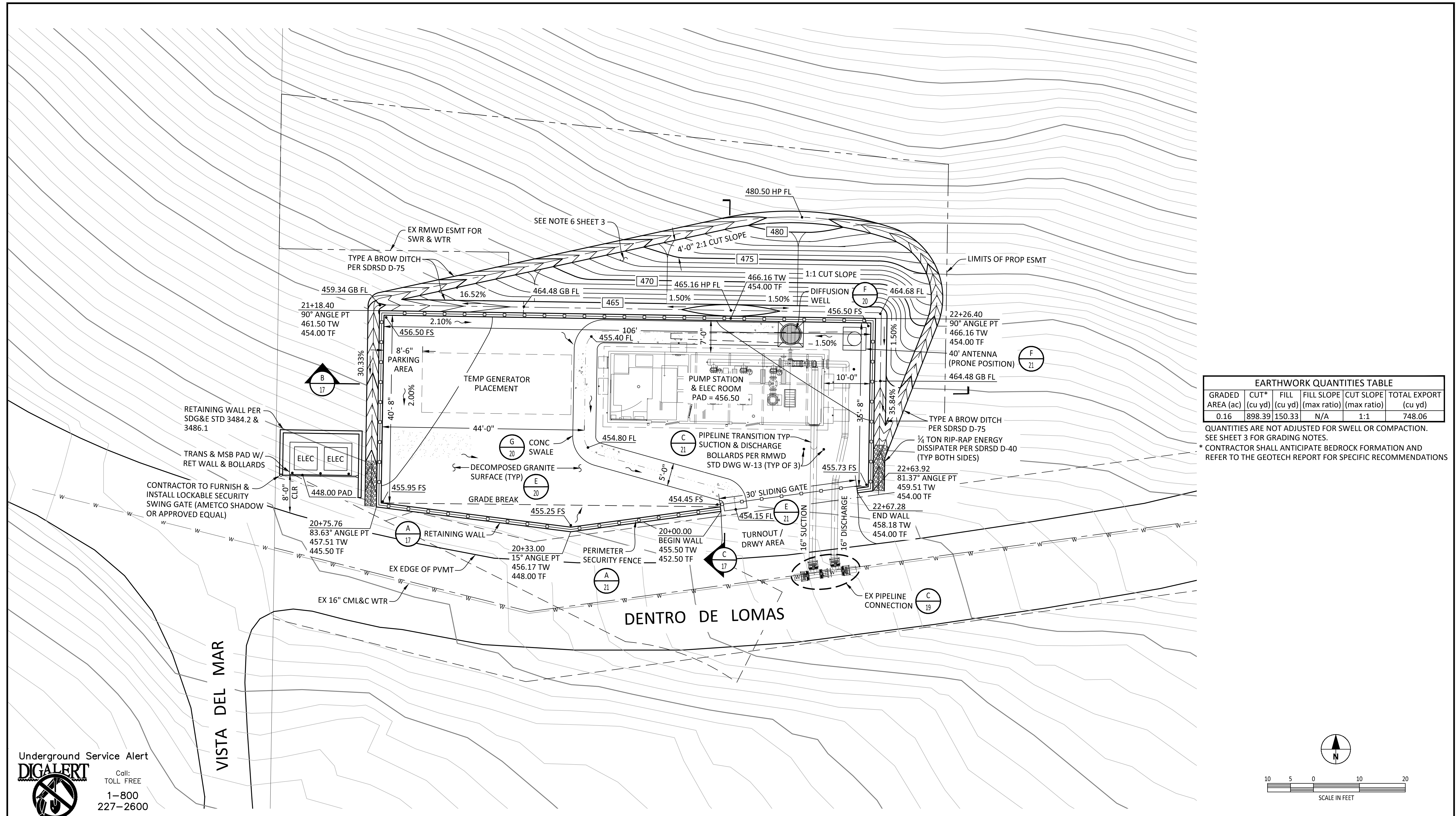
PLANS PREPARED BY:

HOCH CONSULTING
 8004 PIER VIEW WAY #100
 OCEANSIDE, CA 92054
 www.hochconsulting.com

RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
DENTRO PUMP STATION HORIZONTAL CONTROL PLAN
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

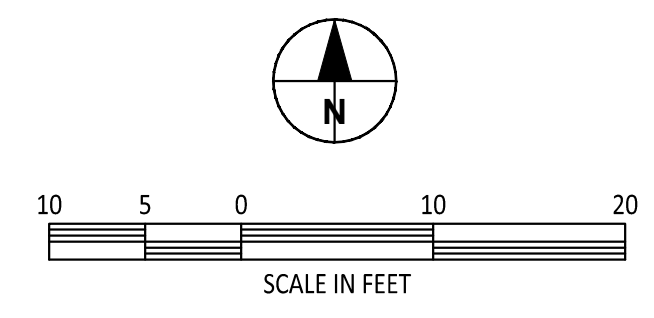
SHEET NO. **14**
 OF 49 SHTS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



EARTHWORK QUANTITIES TABLE					
GRADED AREA (ac)	CUT* (cu yd)	FILL (cu yd)	FILL SLOPE (max ratio)	CUT SLOPE (max ratio)	TOTAL EXPORT (cu yd)
0.16	898.39	150.33	N/A	1:1	748.06

QUANTITIES ARE NOT ADJUSTED FOR SWELL OR COMPACTION. SEE SHEET 3 FOR GRADING NOTES.
 * CONTRACTOR SHALL ANTICIPATE BEDROCK FORMATION AND REFER TO THE GEOTECH REPORT FOR SPECIFIC RECOMMENDATIONS



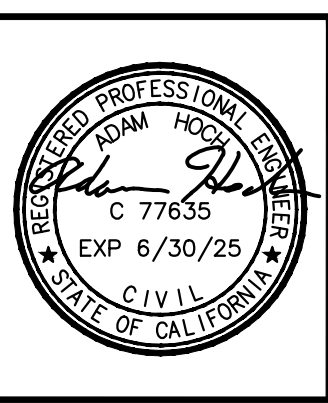
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WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT

ENGINEERING & CIP MANAGER, CHAD WILLIAMS

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH



ENGINEER OF RECORD:
Adam Hoch
 ADAM HOCH P.E. 77635
 EXP. 6/30/25

DATE: 9/7/2023

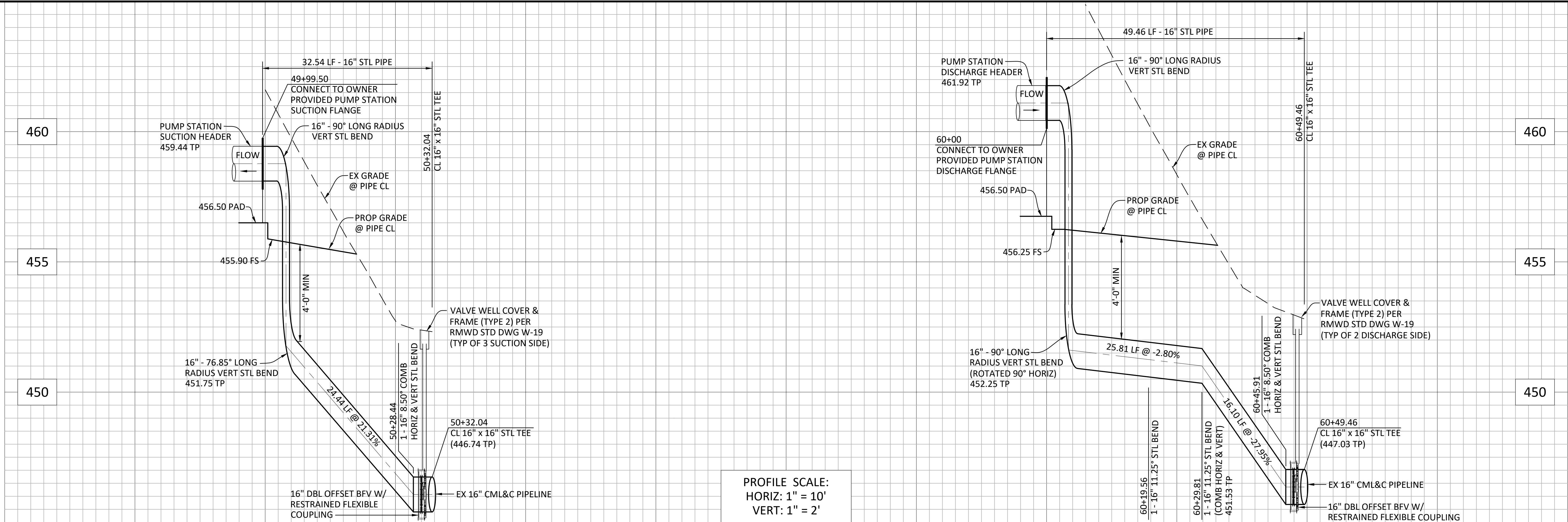
PLANS PREPARED BY:
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 www.hochconsulting.com

RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
DENTRO PUMP STATION DRAINAGE AND GRADING PLAN

PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **15**
 OF 49 SHEETS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



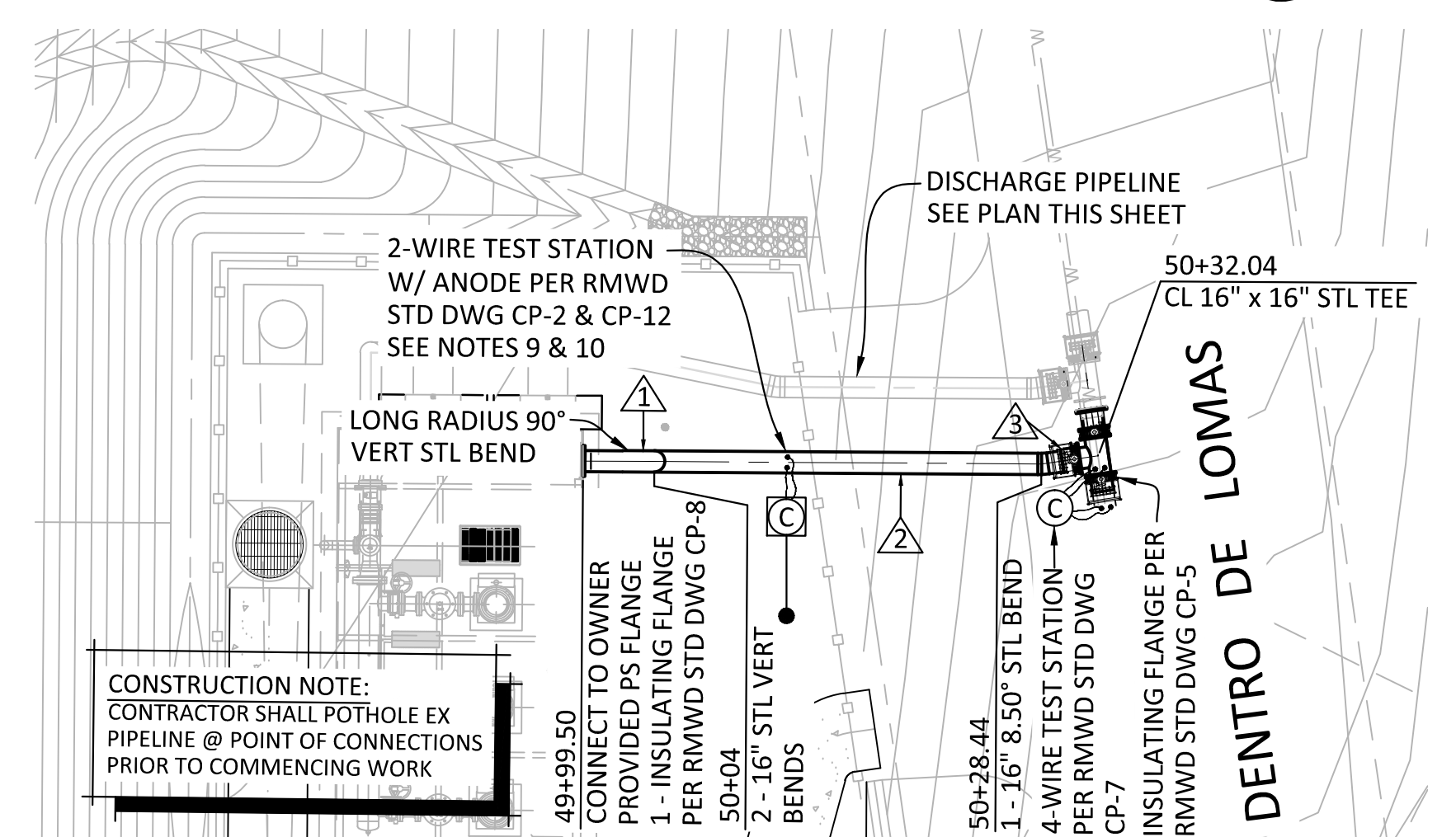
SUCTION PIPELINE PROFILE
 SCALE - HORIZ: 1" = 10'
 VERT: 1" = 2'

DISCHARGE PIPELINE PROFILE
 SCALE - HORIZ: 1" = 10'
 VERT: 1" = 2'

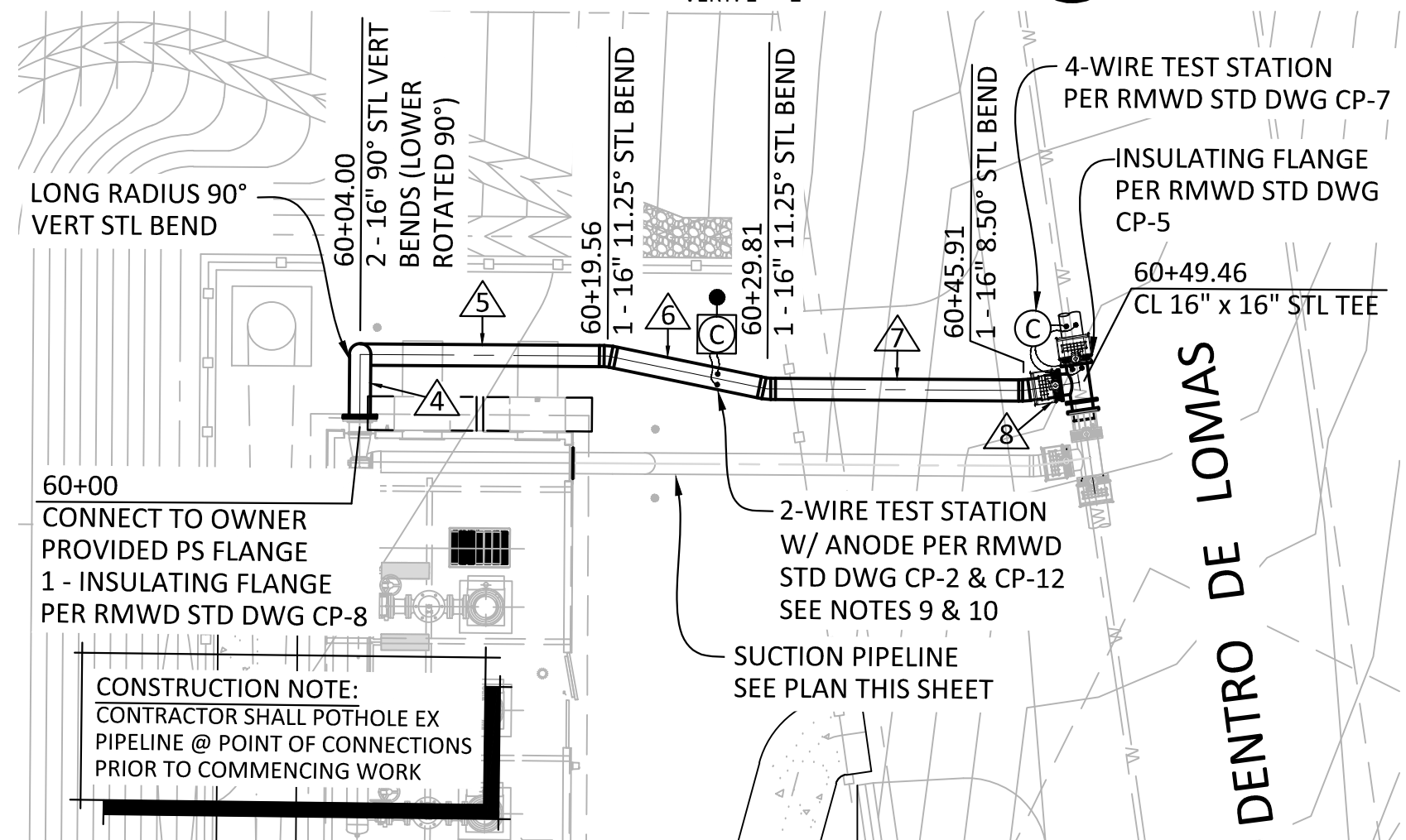
WATER PIPELINE TABLE				
NO.	BEARING/Delta	RADIUS	LENGTH*	DESCRIPTION
1	N 00°51'41" E	-	11.44'	16" CML&C - SUCTION
2	N 00°51'41" E	-	24.44'	16" CML&C - SUCTION
3	N 07°41'48" W	-	3.60'	16" CML&C - SUCTION
4	N 89°08'19" W	-	13.42'	16" CML&C - DISCHARGE
5	N 00°51'41" E	-	15.56'	16" CML&C - DISCHARGE
6	N 12°06'41" E	-	10.25'	16" CML&C - DISCHARGE
7	N 00°51'41" E	-	16.10'	16" CML&C - DISCHARGE
8	N 07°41'48" W	-	3.55'	16" CML&C - DISCHARGE

* LENGTHS INCLUDE PIPELINES IN VERT & ARE MEASURED FROM THE PUMP STATION CONNECTION FLANGE TO THE CENTERLINE OF CONNECTING TEE.

- PIPELINE & CATHODIC PROTECTION NOTES:**
- STEEL PIPING SHALL CONFORM TO AWWA STANDARD C-200.
 - STEEL PIPE SHALL BE RMWD STANDARD WEIGHT CML&C.
 - SHUTDOWN, DEENERGIZING, DRAIN, AND ENERGIZING OF EXISTING PIPELINES SHALL BE PERFORMED BY THE DISTRICT.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING.
 - SLIP ON FLANGES SHALL BE DOUBLE WELDED.
 - HOLD BACK CEMENT MORTAR COATING A MINIMUM OF 10-INCHES FOR FLEXIBLE PIPE COUPLING INSTALLATIONS. SEE CONNECTION DETAILS.
 - SEE RMWD STD DWG W-3 FOR STANDARD PIPE ZONE AND TRENCH BACKFILL.
 - ALL NON-WELDED STEEL PIPE JOINTS SHALL INCLUDE WIRE JUMPERS PER RMWD STD DWG CP-10.
 - LOCATION OF CATHODIC TEST STATIONS SHALL BE DIRECTED BY A DISTRICT REPRESENTATIVE IN THE FIELD. PLAN LOCATIONS FOR GRAPHICAL PURPOSES ONLY.
 - TEST BOXES MOUNTED IN UN-PAVED AREAS SHALL BE MOUNTED IN A REINFORCED 26-INCHES SQUARE BY 4-INCHES THICK CONCRETE PAD CONSTRUCTED OF ASTM C94 READY-MIX CONCRETE. REBAR SHALL BE NO. 4. SEE RMWD STD DWG CP-6. A CONCRETE PAD IS NOT REQUIRED WHERE THE TEST BOX IS PLACED IN PAVEMENT.



SUCTION PIPELINE PLAN
 SCALE - HORIZ: 1" = 10'



DISCHARGE PIPELINE PLAN
 SCALE - HORIZ: 1" = 10'

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REV	BY	DATE	REVISIONS	APPR.	DATE

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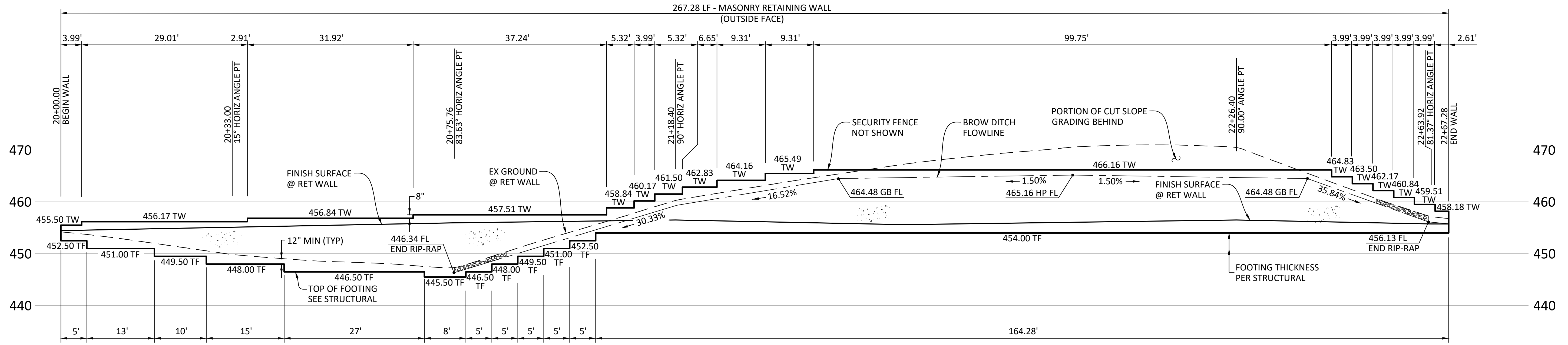
ENGINEER OF RECORD:
 ADAM HOCH
 P.E. 77635
 EXP. 6/30/25
 DATE: 9/7/2023

PLANS PREPARED BY:
HOCH CONSULTING
 804 PIER VIEW WAY #100
 OCEANSIDE, CA 92054
 www.hochconsulting.com

RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
DENTRO PUMP STATION PIPING PLAN & PROFILES
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

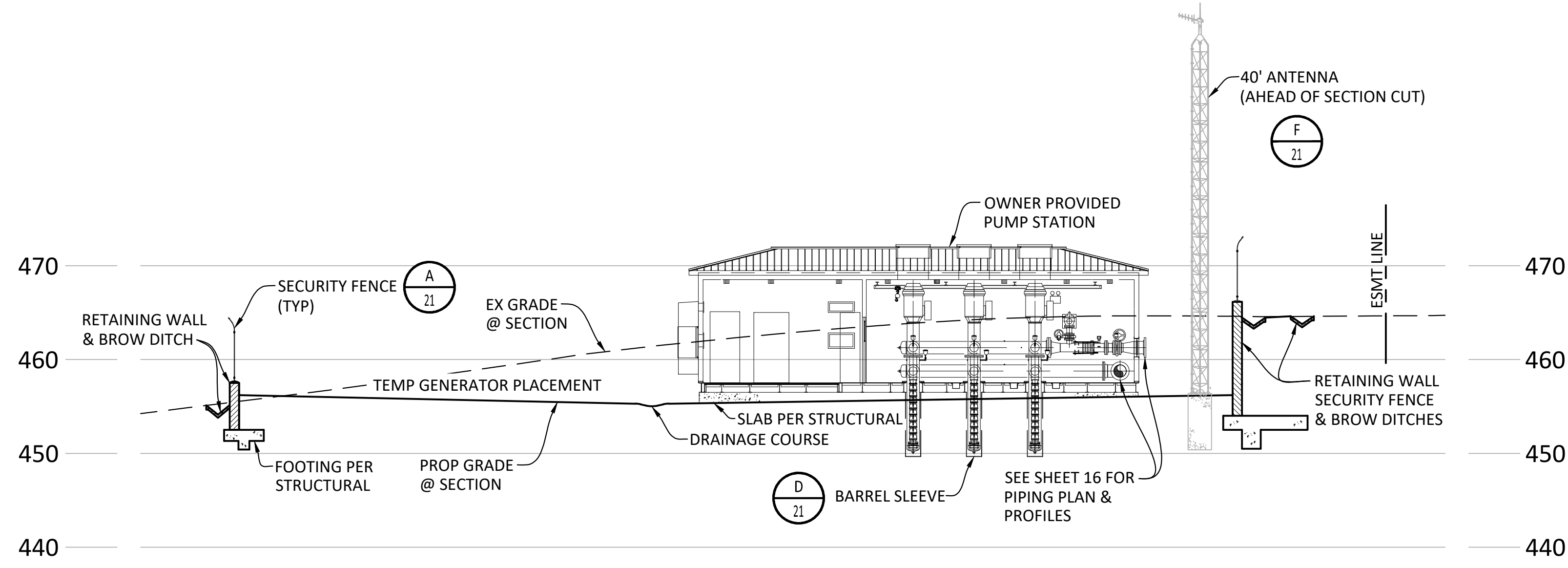
SHEET NO. **16**
 OF 49 SHTS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



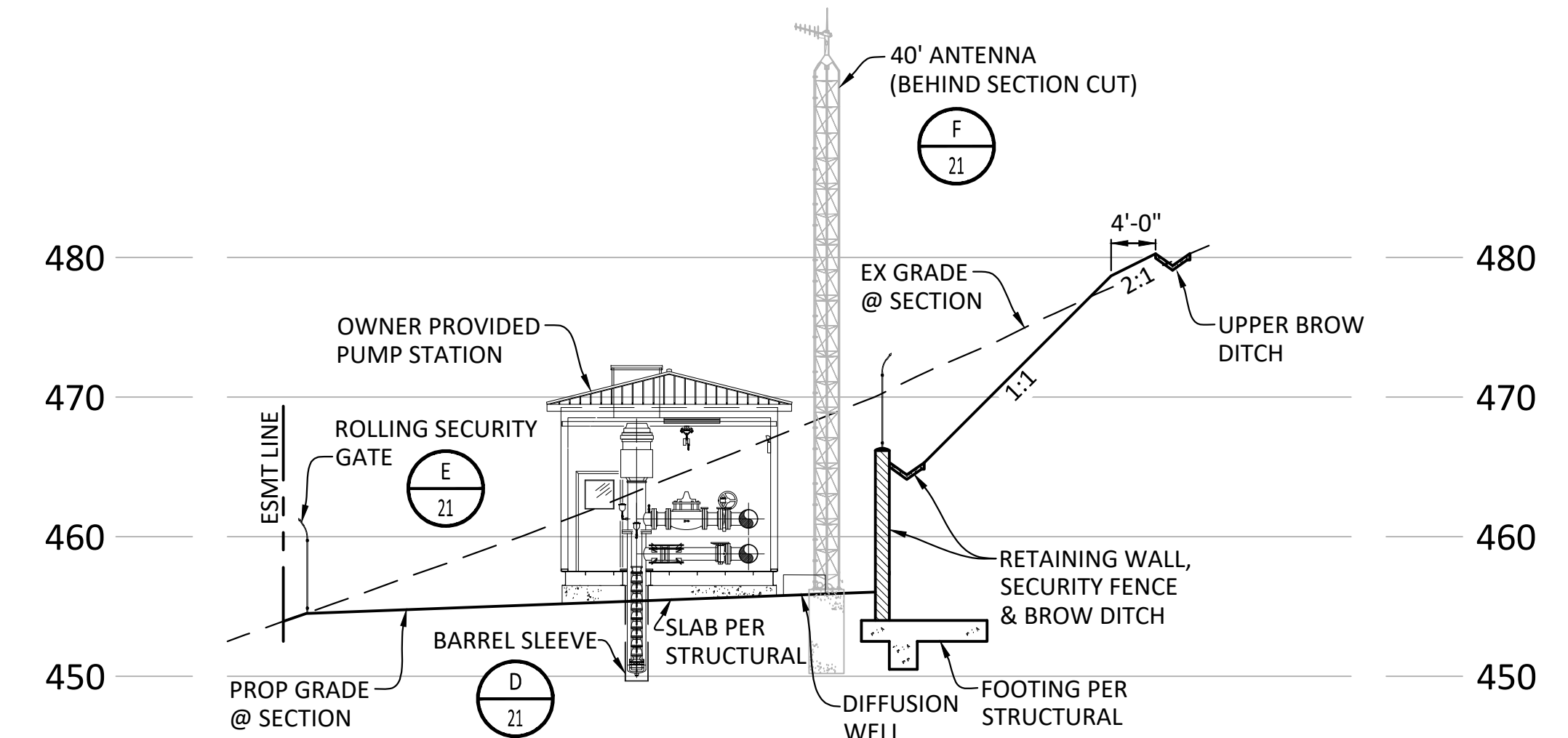
DENTRO RETAINING WALL PROFILE (A)

SCALE - HORIZ: 1" = 10'
VERT: 1" = 10'



DENTRO PUMP STATION SECTION (B)

SCALE - HORIZ: 1" = 10'
VERT: 1" = 10'



DENTRO PUMP STATION SECTION (C)

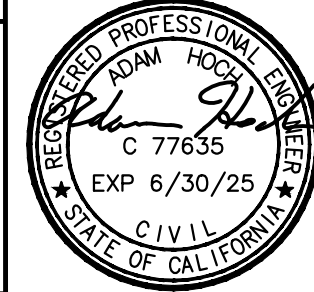
SCALE - HORIZ: 1" = 10'
VERT: 1" = 10'

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WATER DISTRICT

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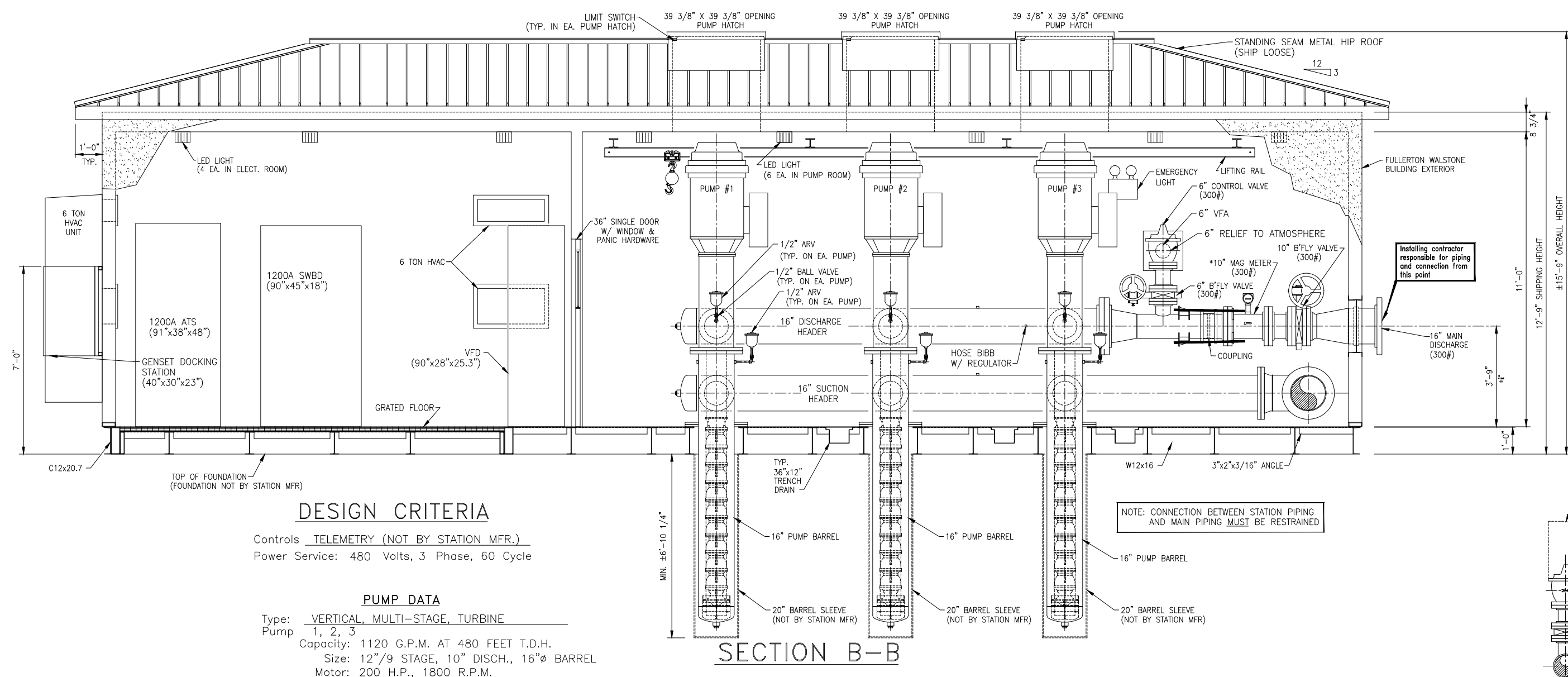
ENGINEER OF RECORD:
Adam Hoch
ADAM HOCH P.E. 77635
EXP. 6/30/25
DATE: 9/7/2023

PLANS PREPARED BY:
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804 PIER VIEW WAY #100
OCEANSIDE, CA 92054
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RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
DENTRO PUMP STATION SECTIONS AND RETAINING WALL PROFILE
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

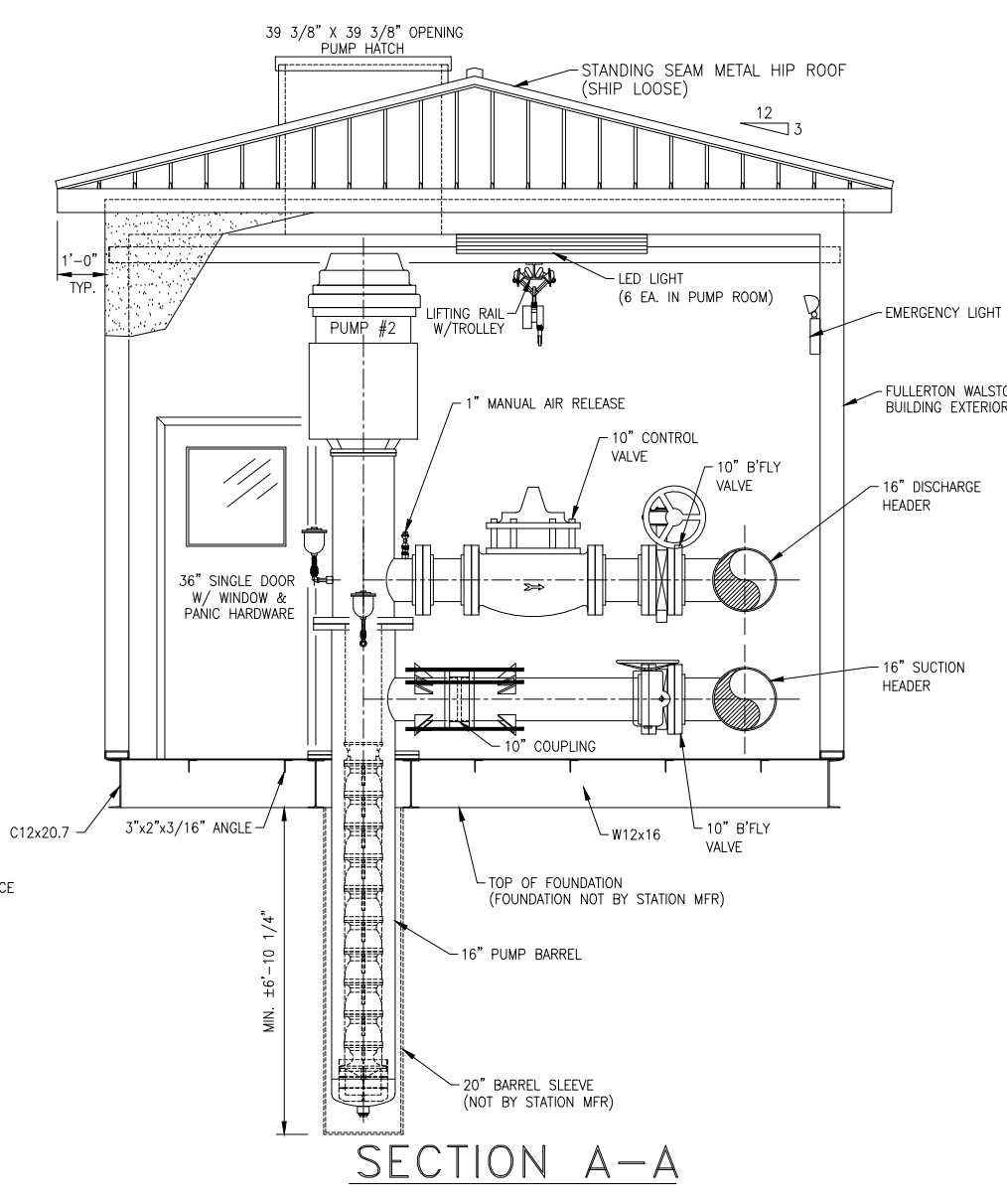
SHEET NO. 17
OF 49 SHTS
FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



DESIGN CRITERIA
 Controls TELEMETRY (NOT BY STATION MFR.)
 Power Service: 480 Volts, 3 Phase, 60 Cycle

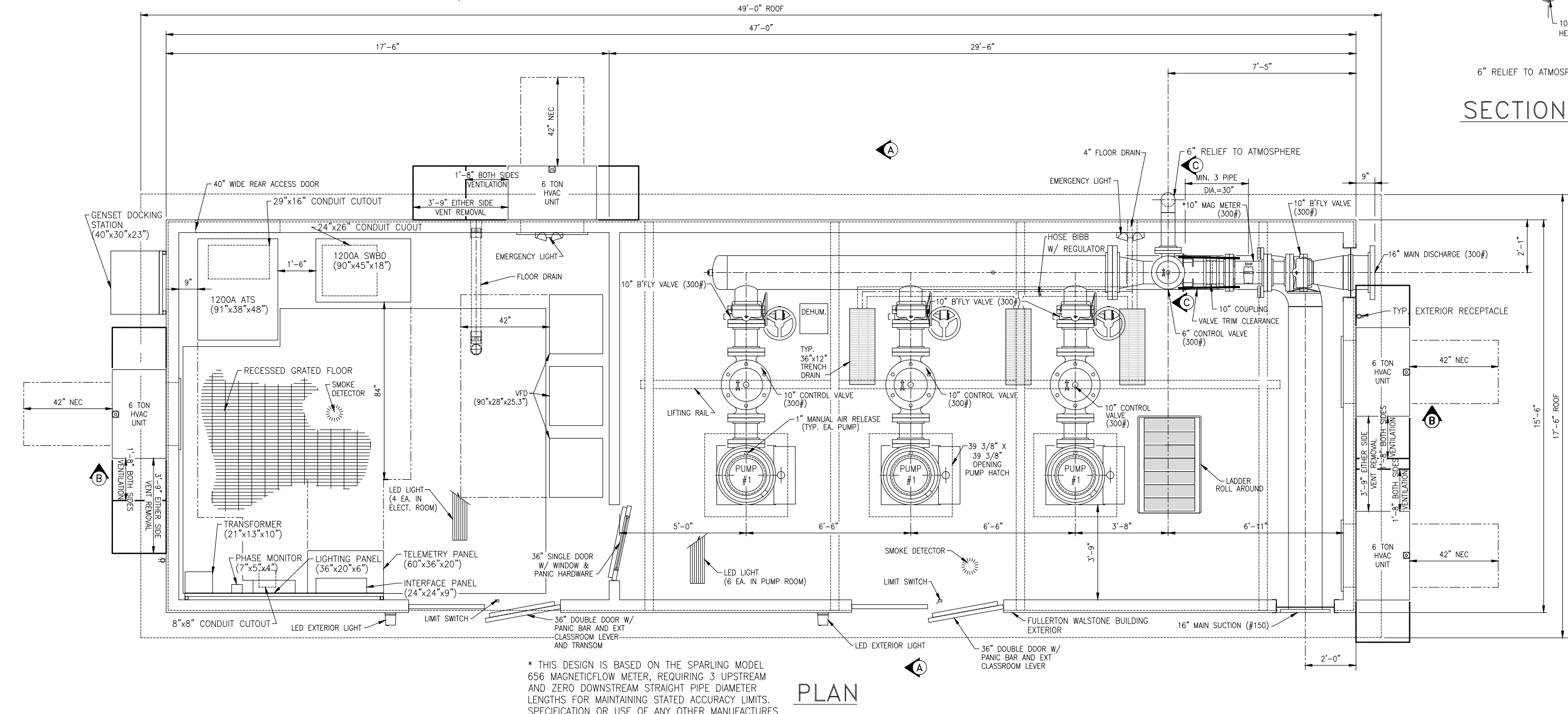
PUMP DATA
 Type: VERTICAL, MULTI-STAGE, TURBINE
 Pumps: 1, 2, 3
 Capacity: 1120 G.P.M. AT 480 FEET T.D.H.
 Size: 12\"/>



GENERAL NOTES

CONTRACTOR'S NOTE:
 SCHEDULE 40 STEEL PIPE
 MAIN SUCTION: 16\"/>

CONTRACTOR'S NOTES
 DEHUMIDIFIER MUST BE POWERED UP AND TURNED ON IMMEDIATELY AFTER THIS STATION IS SET IN PLACE.
 SHIMS MAY BE REQUIRED AROUND PERIMETER OF WATERSHED TO ENSURE PROPER LEVEL. WITHOUT PROPER LEVEL ENGINEERED FLUID CANNOT BE RESPONSIBLE FOR PROPER DOOR OPERATION.
 PLEASE NOTE ORIENTATION OF THE INLET AND OUTLET PIPE AND ELECTRICAL CONDUIT LOCATIONS IN REFERENCE TO THE JOBSITE LAYOUT. EPI CANNOT BE HELD RESPONSIBLE UNLESS CONFIRMATION OF THESE ORIENTATIONS IS RECEIVED THROUGH THE APPROVED SUBMITTALS.
 THIS STATION IS NOT DESIGNED TO WITHSTAND PIPELINE THRUST OR EXTERNAL PIPE RESTRAINT FORCES. THRUST BLOCKING AND PIPE RESTRAINTS EXTERNAL TO THE STATION SHALL BE DESIGNED AND INSTALLED BY OTHERS.
 ESTIMATED TOTAL STATION WEIGHT: 85,000LBS

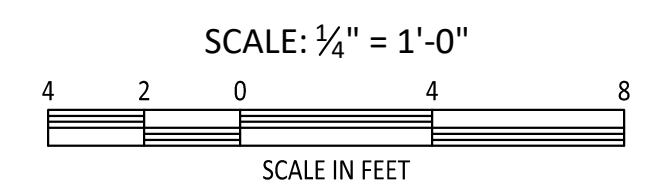


* THIS DESIGN IS BASED ON THE SPARLING MODEL 656 MAGNETIC FLOW METER, REQUIRING 3 UPSTREAM AND ZERO DOWNSTREAM STRAIGHT PIPE DIAMETER LENGTHS FOR MAINTAINING STATED ACCURACY LIMITS. SPECIFICATION OR USE OF ANY OTHER MANUFACTURER'S FLOW METER MAY NOT KEEP THIS DESIGN WITHIN THE ACCURACY LIMITS OF THAT FLOW METER.

FOR REFERENCE ONLY

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SEE APPENDIX F FOR APPROVED SHOP DRAWINGS AND FULL SUBMITTAL

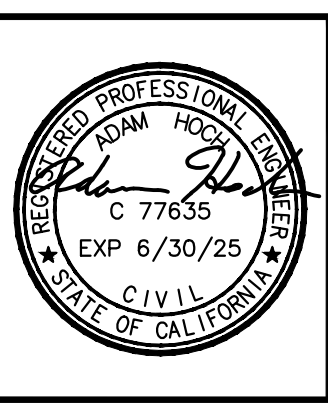


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WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH



ENGINEER OF RECORD:
Adam Hoch
 ADAM HOCH P.E. 77635
 EXP. 6/30/25

DATE: 9/7/2023

PLANS PREPARED BY:

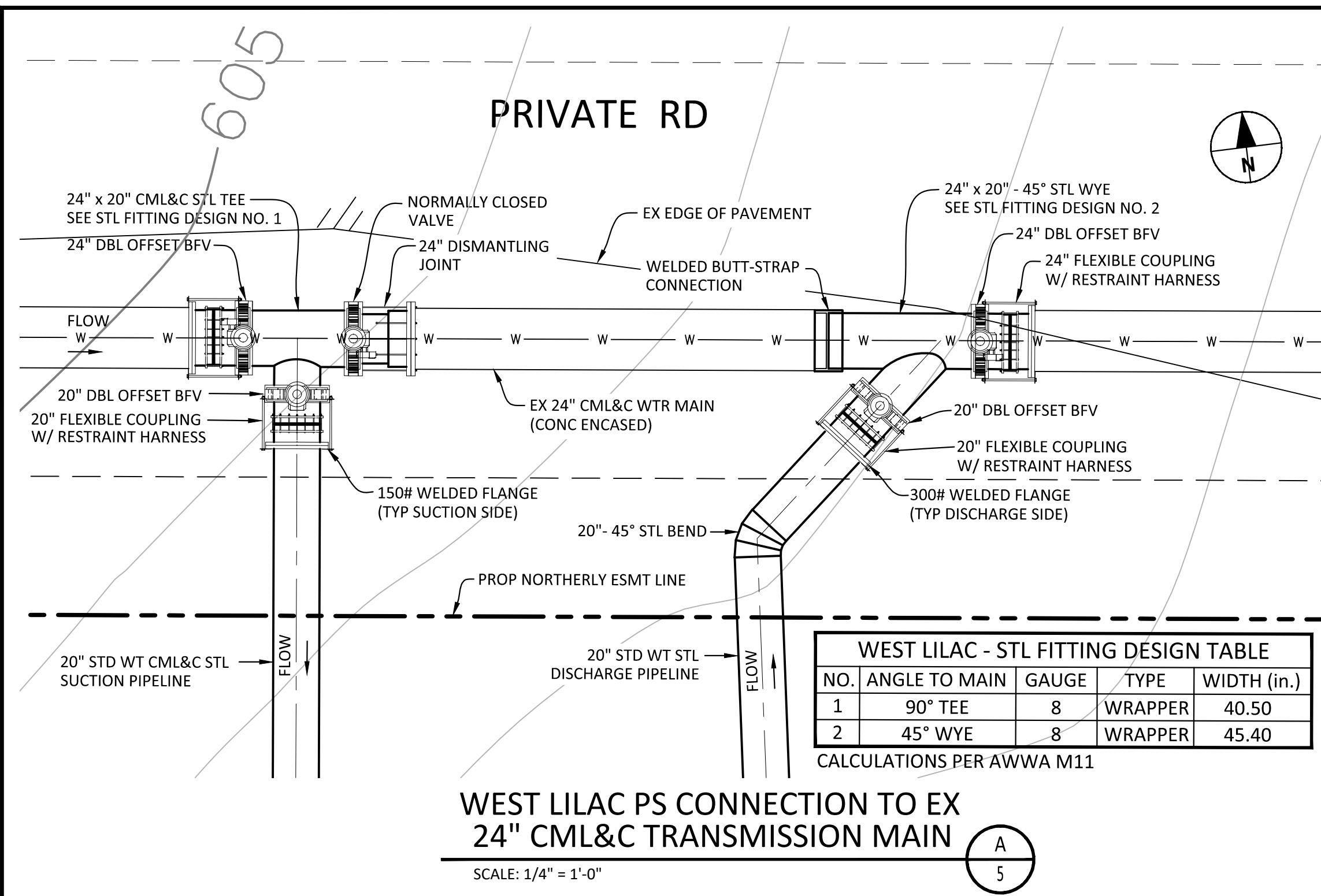
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RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 DENTRO PUMP STATION MECHANICAL PLAN

PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **18**
 OF 49 SHTS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

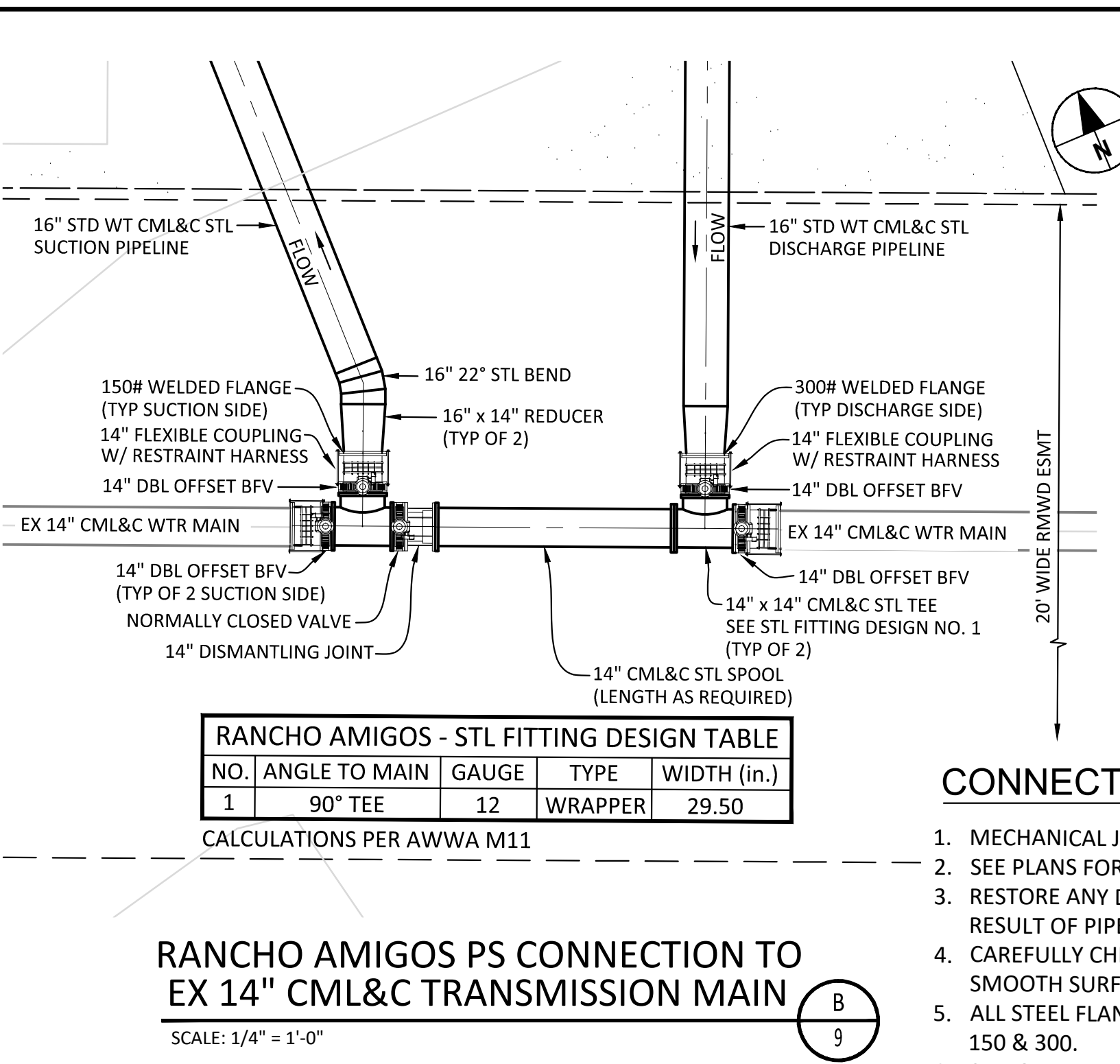


WEST LILAC - STL FITTING DESIGN TABLE

NO.	ANGLE TO MAIN	GAUGE	TYPE	WIDTH (in.)
1	90° TEE	8	WRAPPER	40.50
2	45° WYE	8	WRAPPER	45.40

CALCULATIONS PER AWWA M11

WEST LILAC PS CONNECTION TO EX 24" CML&C TRANSMISSION MAIN
SCALE: 1/4" = 1'-0"

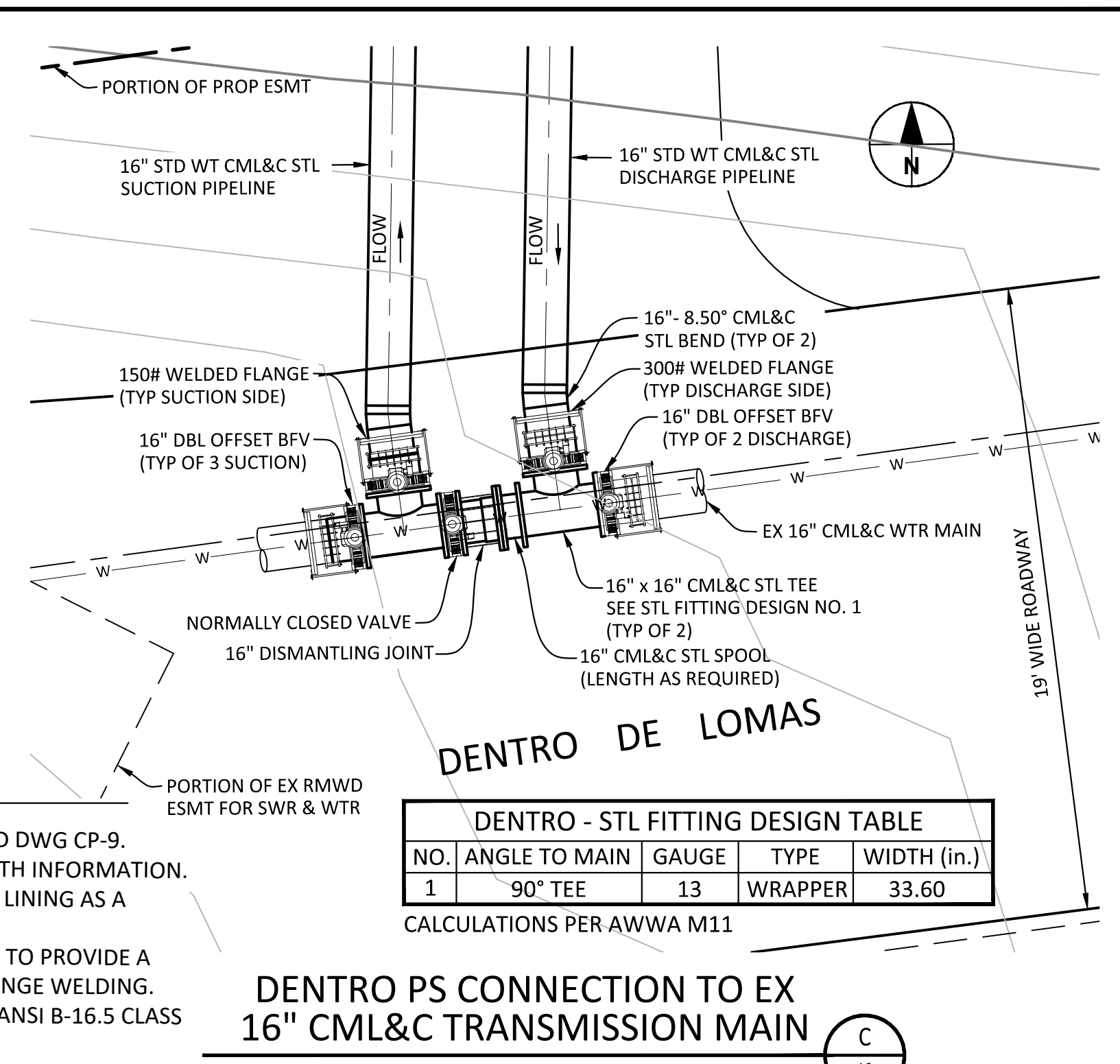


RANCHO AMIGOS - STL FITTING DESIGN TABLE

NO.	ANGLE TO MAIN	GAUGE	TYPE	WIDTH (in.)
1	90° TEE	12	WRAPPER	29.50

CALCULATIONS PER AWWA M11

RANCHO AMIGOS PS CONNECTION TO EX 14" CML&C TRANSMISSION MAIN
SCALE: 1/4" = 1'-0"



DENTRO - STL FITTING DESIGN TABLE

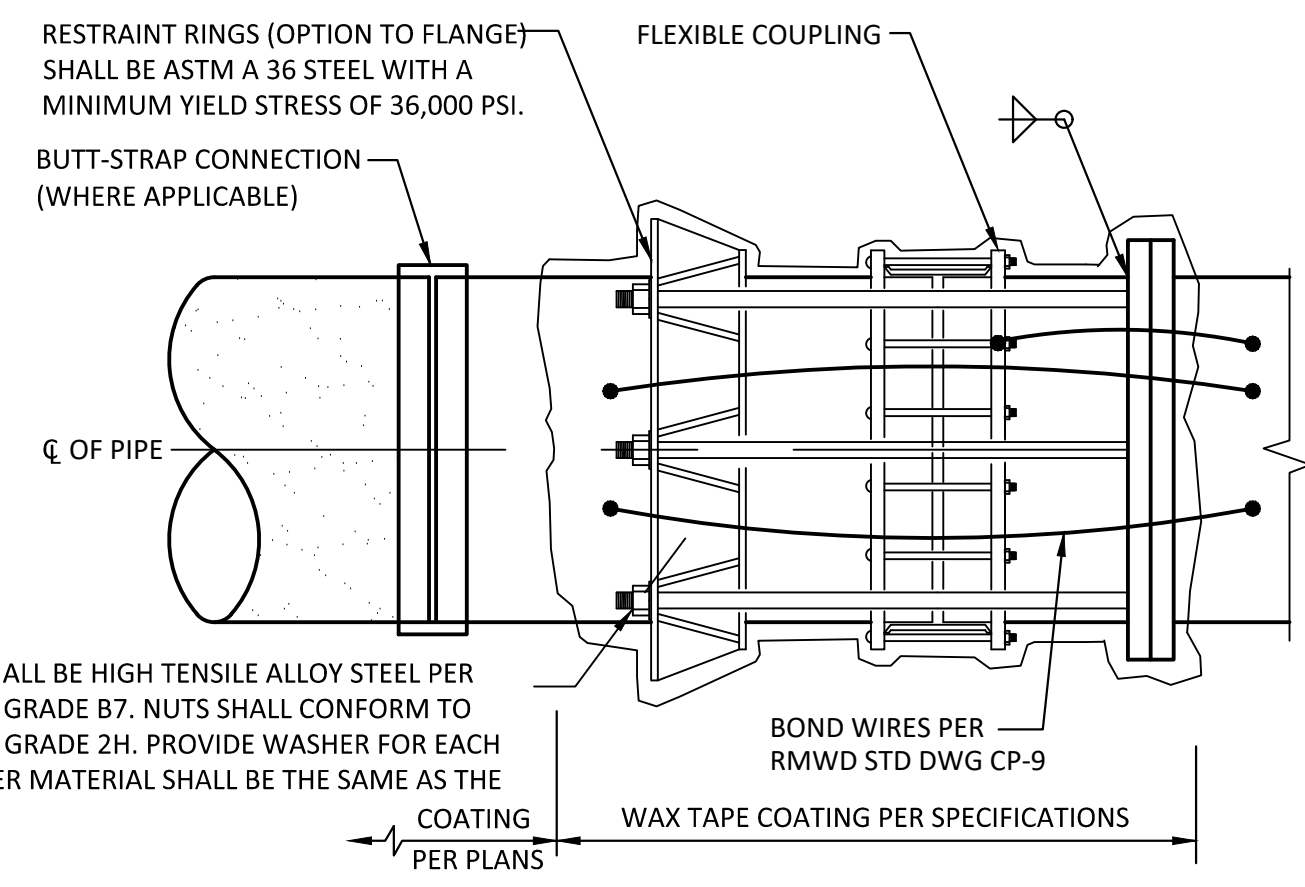
NO.	ANGLE TO MAIN	GAUGE	TYPE	WIDTH (in.)
1	90° TEE	13	WRAPPER	33.60

CALCULATIONS PER AWWA M11

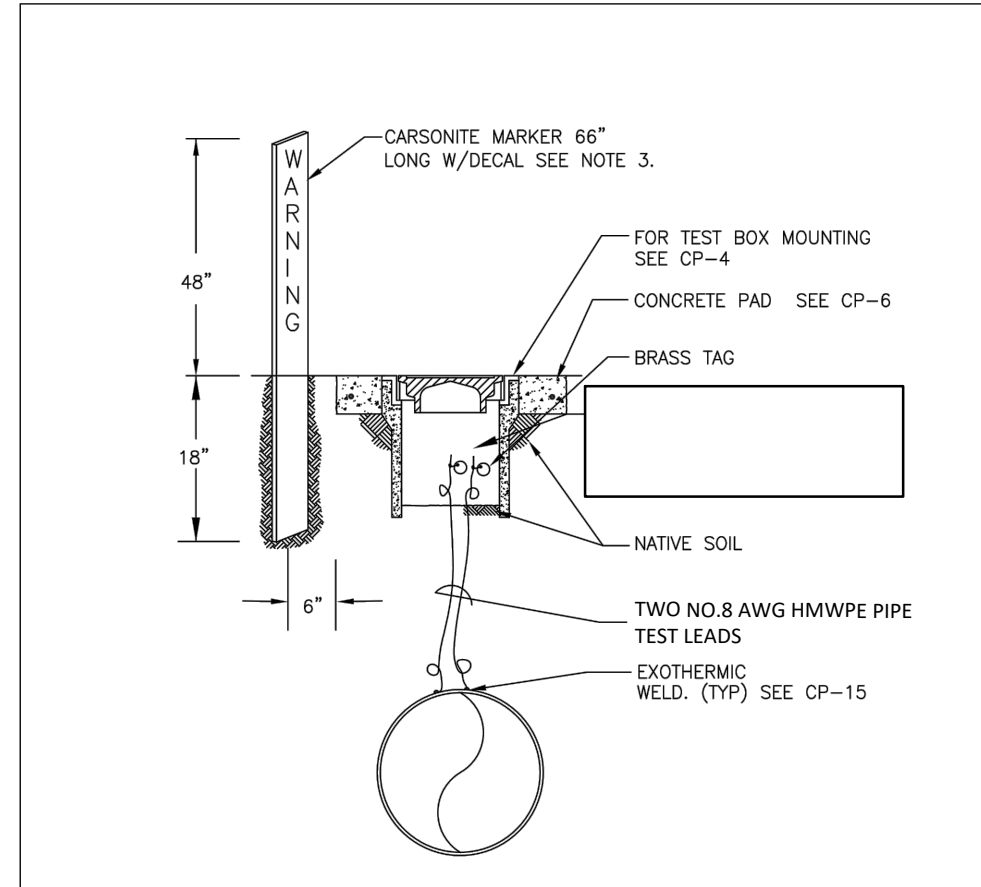
DENTRO PS CONNECTION TO EX 16" CML&C TRANSMISSION MAIN
SCALE: 1/4" = 1'-0"

CONNECTION NOTES

- MECHANICAL JOINT BONDING PER RMWD STD DWG CP-9.
- SEE PLANS FOR PIPELINE ALIGNMENT & LENGTH INFORMATION.
- RESTORE ANY DAMAGE TO CEMENT MORTAR LINING AS A RESULT OF PIPE CUTTING TO EX THICKNESS.
- CAREFULLY CHIP AWAY EX MORTAR COATING TO PROVIDE A SMOOTH SURFACE FOR PREPARATION OF FLANGE WELDING.
- ALL STEEL FLANGES SHALL BE AWWA C207 & ANSI B-16.5 CLASS 150 & 300.
- SLIP ON FLANGES SHALL BE DOUBLE WELDED.
- ALL STEEL PIPE JOINTS SHALL BE BUTT WELDED UNLESS NOTED OTHERWISE. SEE SHEET 20 FOR DETAILS.
- STEEL PIPE SHALL BE RMWD STANDARD WEIGHT CML&C.
- SHUTDOWN, DEENERGIZING, DRAIN, AND ENERGIZING OF EXISTING PIPELINES SHALL BE PERFORMED BY THE DISTRICT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING.



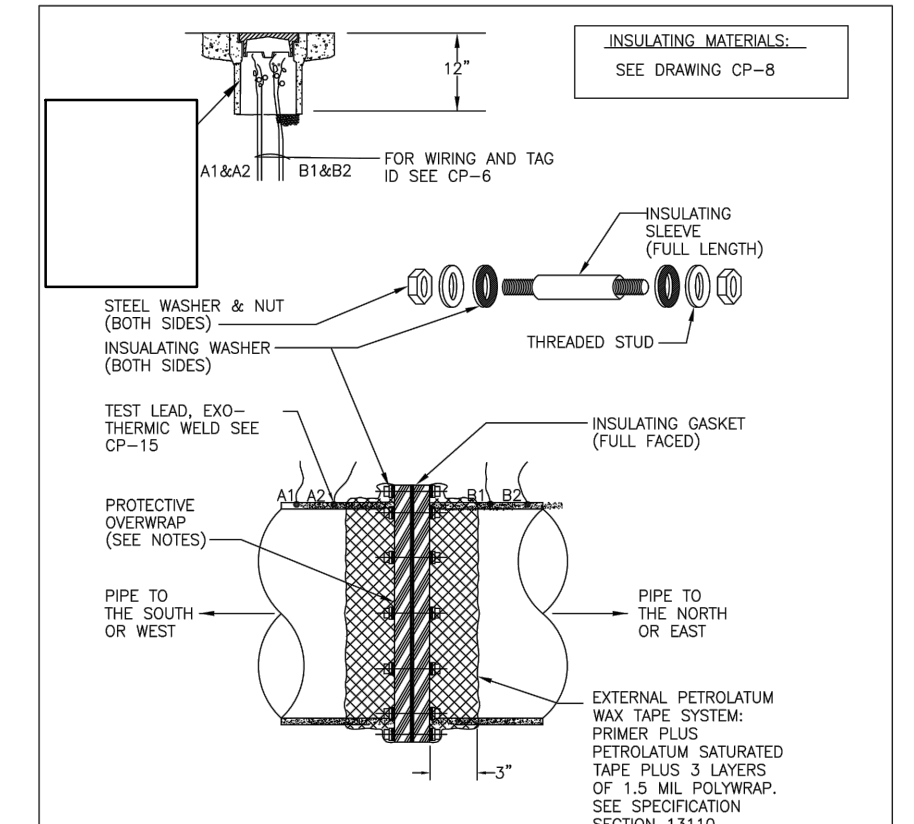
FLEXIBLE COUPLING W/ RESTRAINT HARNESS DETAIL
NO SCALE



NOTES:
1. PLACE TEST STATION DIRECTLY OVER PIPE IF POSSIBLE.
2. SEE NOTES 1 THROUGH 4 ON CP-1.
3. CARSONITE MODEL R-845, YELLOW WITH BLACK CHARACTERS WITH "RAINBOW MUNICIPAL WATER DISTRICT, UNDERGROUND CABLES, WARNING, BEFORE DIGGING CALL DIG ALERT AT 811."
4. WHERE REQUIRED ON DESIGN DWGS, INSTALL COUPON AND/OR REFERENCE ELECTRODE 18 INCHES FROM PIPE, AT OR BELOW PIPE DEPTH (SEE CP-1 FOR SCHEMATIC REPRESENTATION)

APPROVED:	AT-GRADE 2-WIRE TEST STATION (UNPAVED AREA)	STANDARD DRAWING NO. CP-2
REV # 79790 EXP 09/30/2016		
REVISION APPROVED DATE		

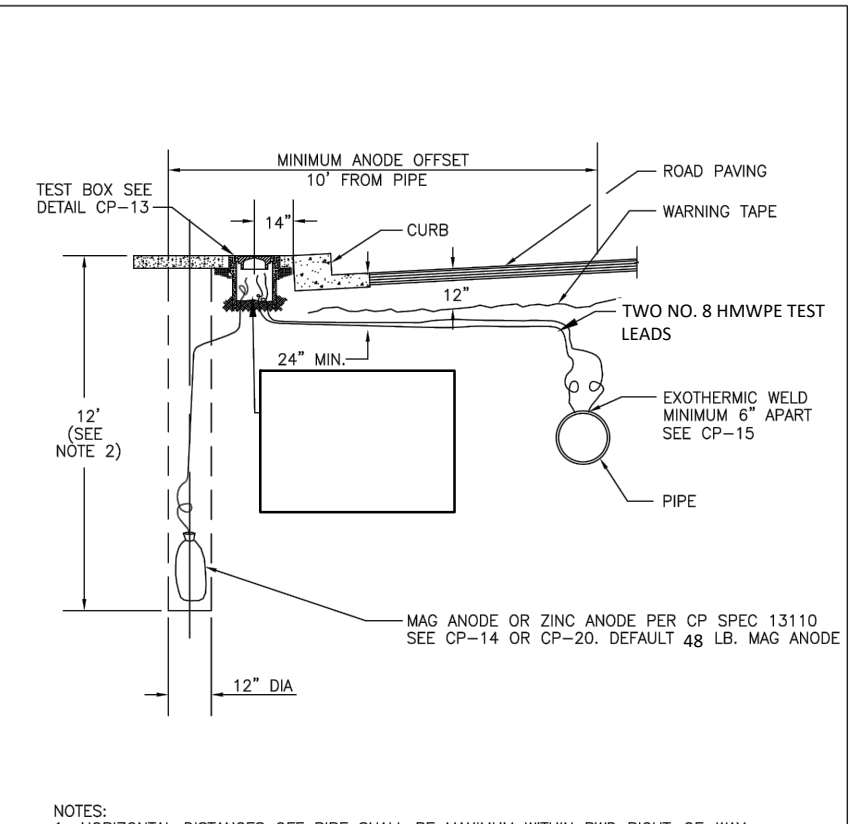
JULY 2016



NOTES:
1. CARE SHALL BE TAKEN WHEN BACKFILLING TRENCH TO PREVENT DAMAGE TO WAX TAPE SYSTEM.
2. FLANGES 18" AND LARGER SHALL BE OVERWRAPPED WITH 10 MIL PIPE TAPE (2 LAYERS 50% OVERLAP) TO PROTECT WAX TAPE DURING BACKFILLING.
3. FLANGES LESS THAN 18" REQUIRE NO PIPE TAPE PROTECTIVE OVERWRAP.
4. NO TEST LEADS OR TEST STATIONS ARE REQUIRED AT BLOW-OFF.
INSURATORS:
5. WHERE REQUIRED ON DESIGN DWGS, INSTALL COUPON AND/OR REFERENCE ELECTRODE 18 INCHES FROM PIPE, AT OR BELOW PIPE DEPTH (SEE CP-1 FOR SCHEMATIC REPRESENTATION)

APPROVED:	BURIED INSULATING FLANGE	STANDARD DRAWING NO. CP-5
REV # 79790 EXP 09/30/2016		
REVISION APPROVED DATE		

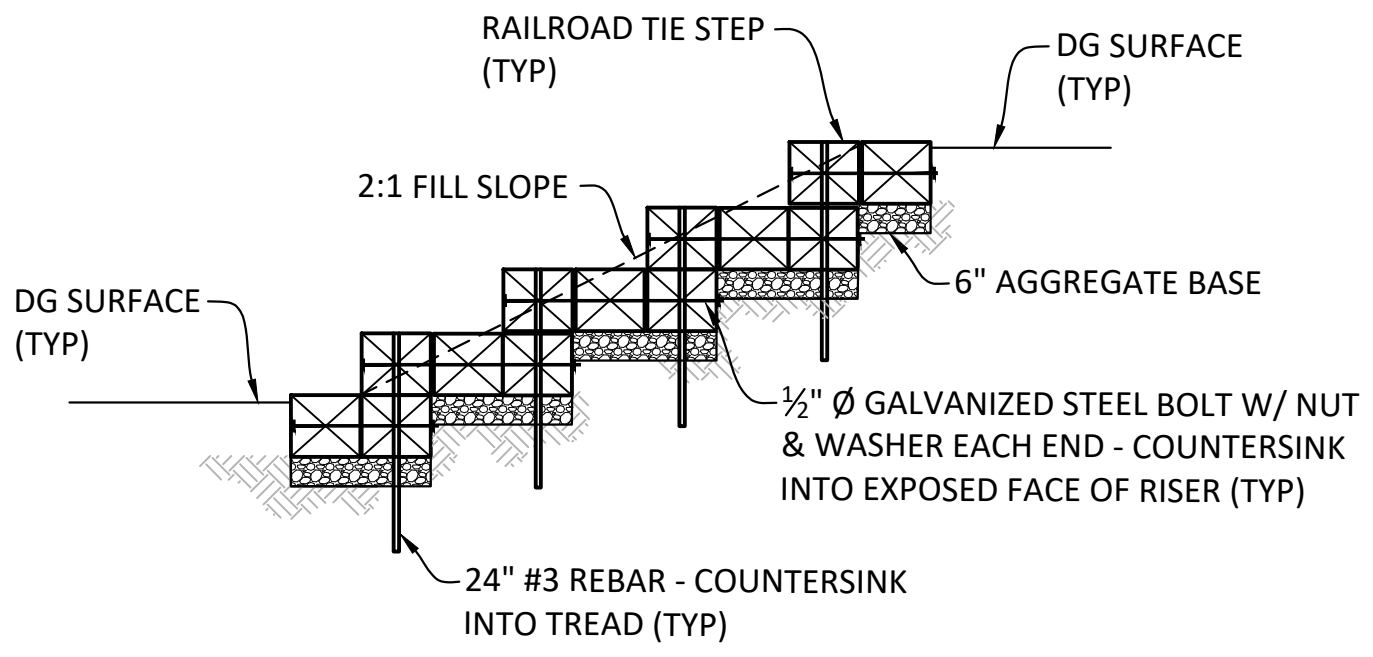
JULY 2016



NOTES:
1. HORIZONTAL DISTANCES OFF PIPE SHALL BE MAXIMUM WITHIN RWD RIGHT-OF-WAY OR AS INDICATED IN PLAN DRAWINGS. DO NOT INSTALL ANODE SUCH THAT A FOREIGN METALLIC PIPELINE EXISTS BETWEEN ANODE AND PIPE.
2. DEPTH IS 12" UNLESS OTHERWISE INDICATED.
3. RELATIVE POSITION OF ANODE, PIPE AND TEST BOX CAN VARY FROM POSITION SHOWN. SEE CP DRAWINGS OR ENGINEER FOR SPECIFIC INSTALLATION REQUIREMENTS.
4. OPTIONAL: INSTALL ALL HORIZONTALLY INSTALLED WIRES IN SCHEDULE 40 PVC TO MINIMIZE POTENTIAL DAMAGE.
5. ONE ANODE SHOWN ABOVE. FOR TEST STATIONS WITH MULTIPLE ANODE INSTALLATIONS, SEPARATE ANODES A MINIMUM OF 15 FT. ANODE DEPTH DEPTH AND OFFSET REMAIN THE SAME.
6. WHERE REQUIRED ON DESIGN DWGS, INSTALL COUPON AND/OR REFERENCE ELECTRODE 18 INCHES FROM PIPE, AT OR BELOW PIPE DEPTH (SEE CP-1 FOR SCHEMATIC REPRESENTATION)

APPROVED:	ANODE INSTALLATION	STANDARD DRAWING NO. CP-12
REV # 79790 EXP 09/30/2016		
REVISION APPROVED DATE		

JULY 2016



RAIL TIE ACCESS STAIRWAY DETAIL
NO SCALE

RMWD CATHODIC PROTECTION DETAILS
NO SCALE

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WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT
ENGINEERING & CIP MANAGER, CHAD WILLIAMS

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH

REGISTERED PROFESSIONAL ENGINEER
ADAM HOCH
C 77655
EXP 6/30/25
STATE OF CALIFORNIA

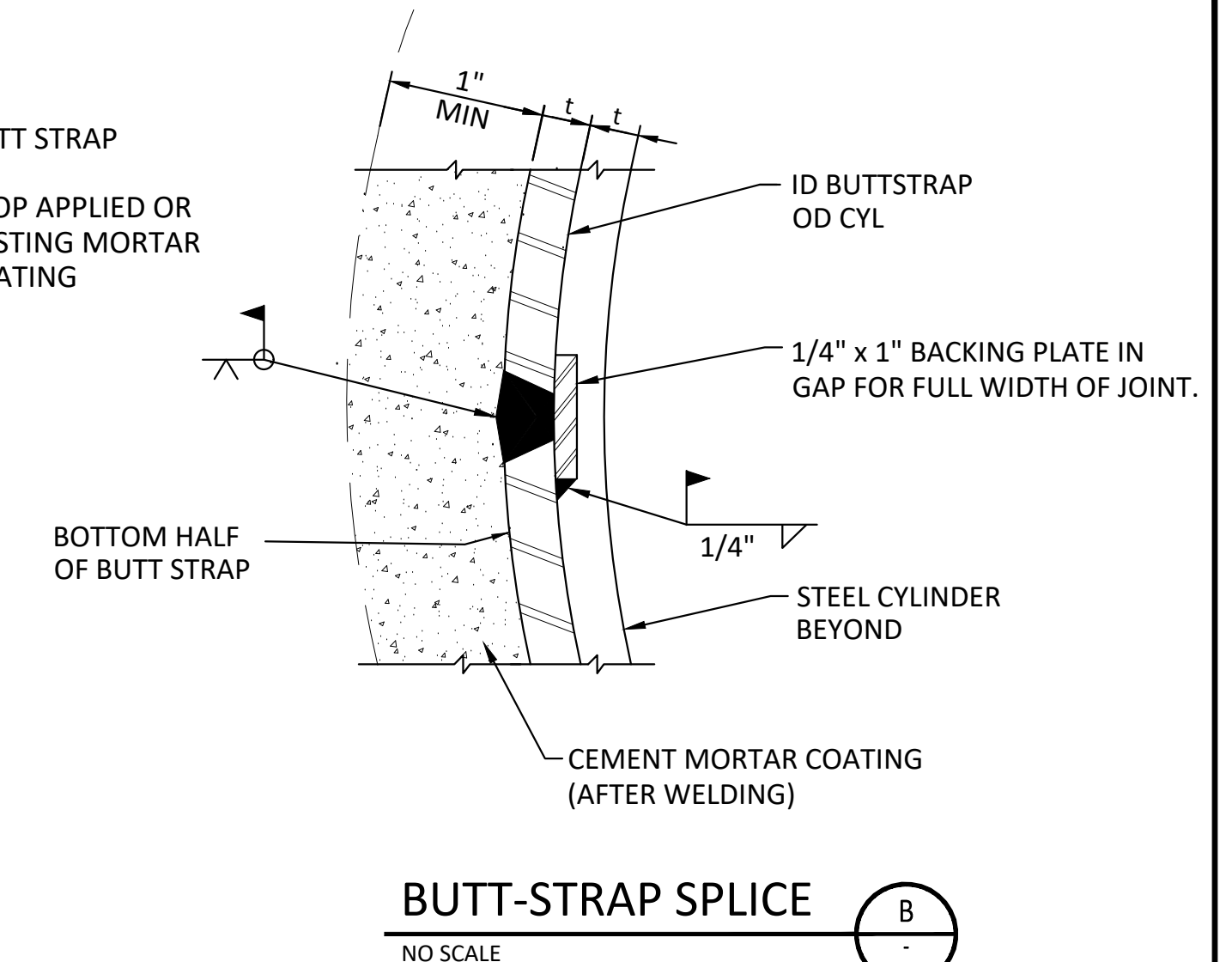
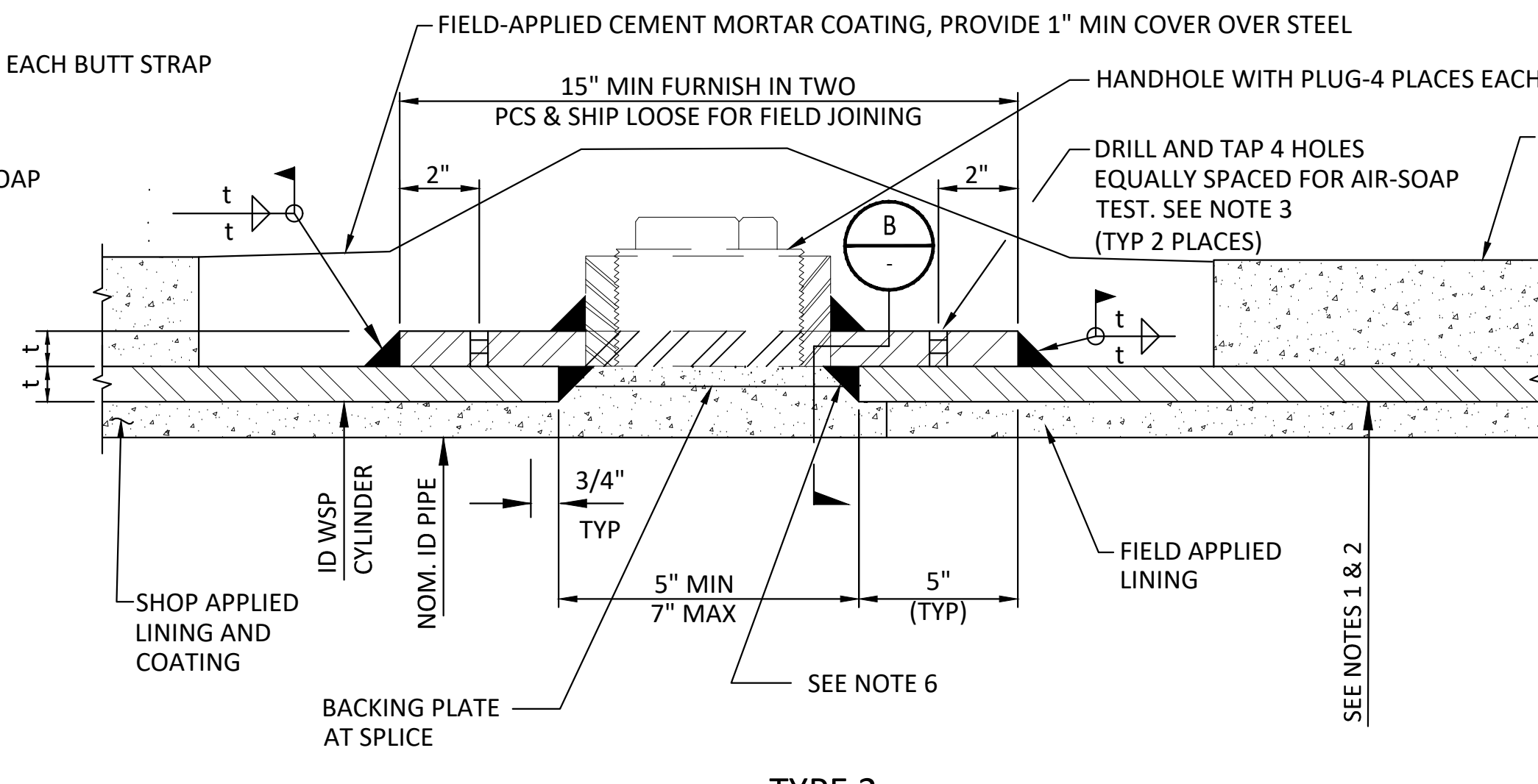
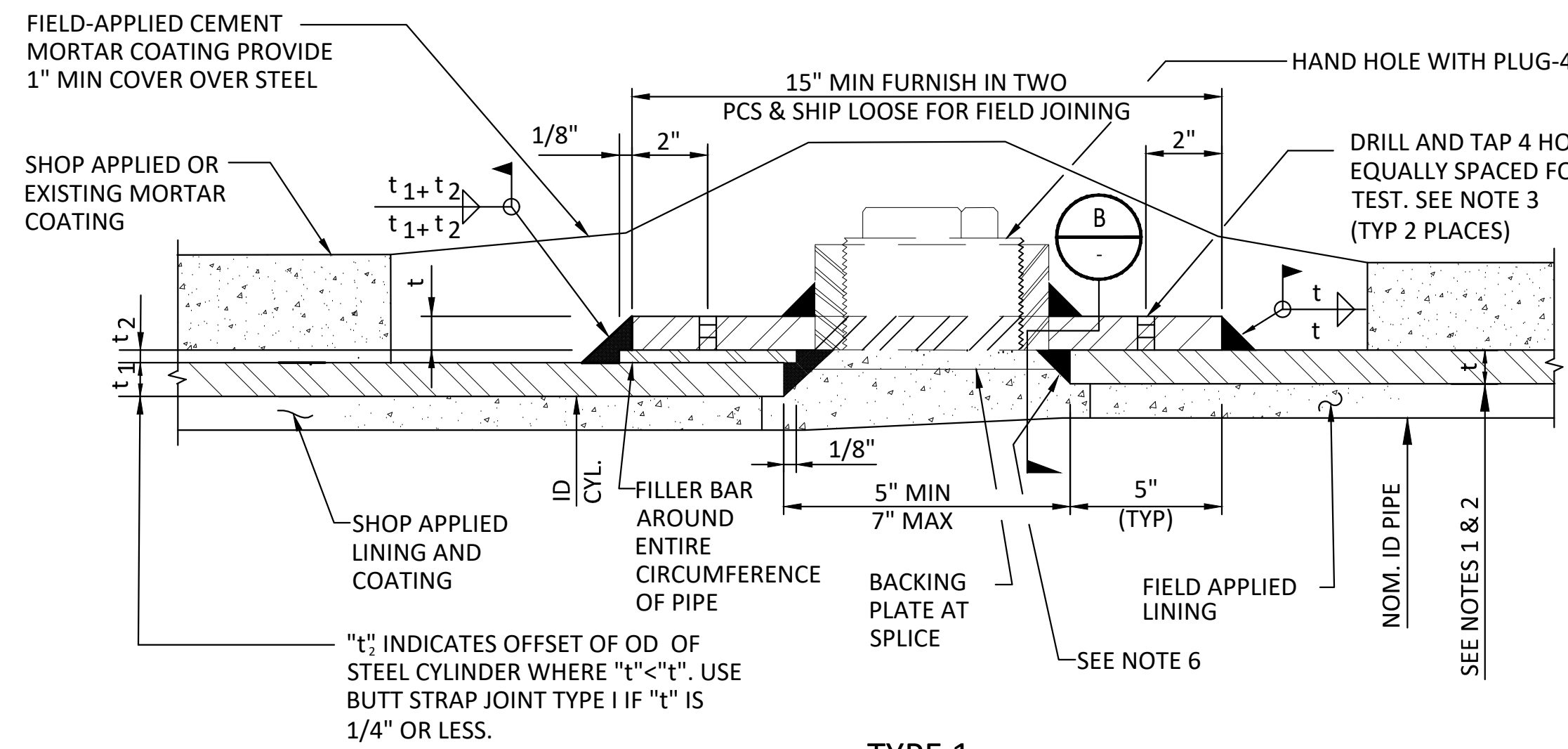
ENGINEER OF RECORD:
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RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
CIVIL & MECHANICAL DETAILS 1
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. 19
OF 49 SHTS
FILE NO.

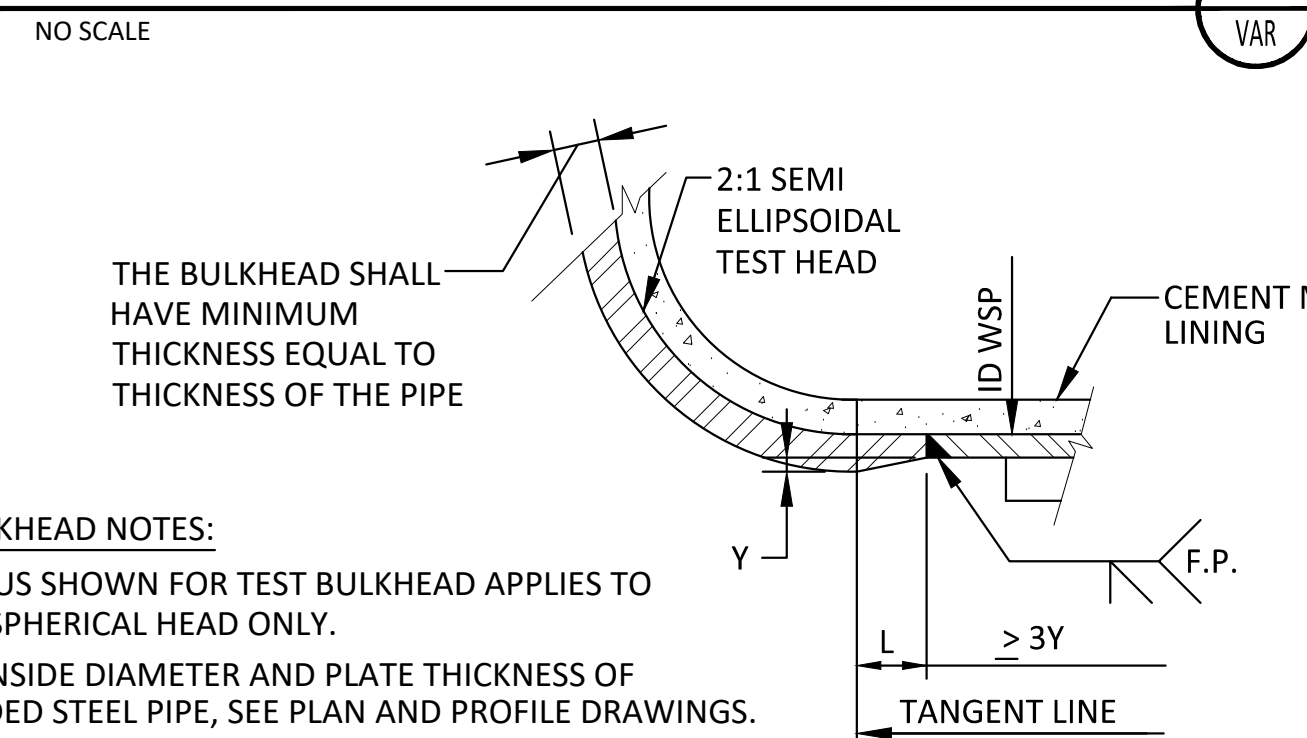
ENG. JOB # 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



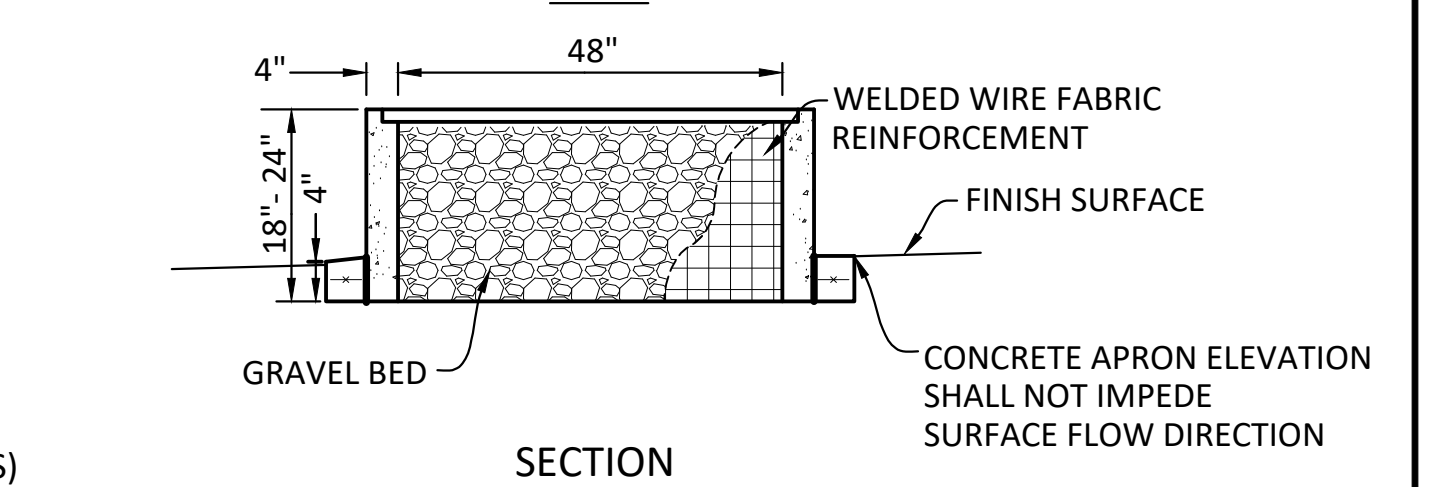
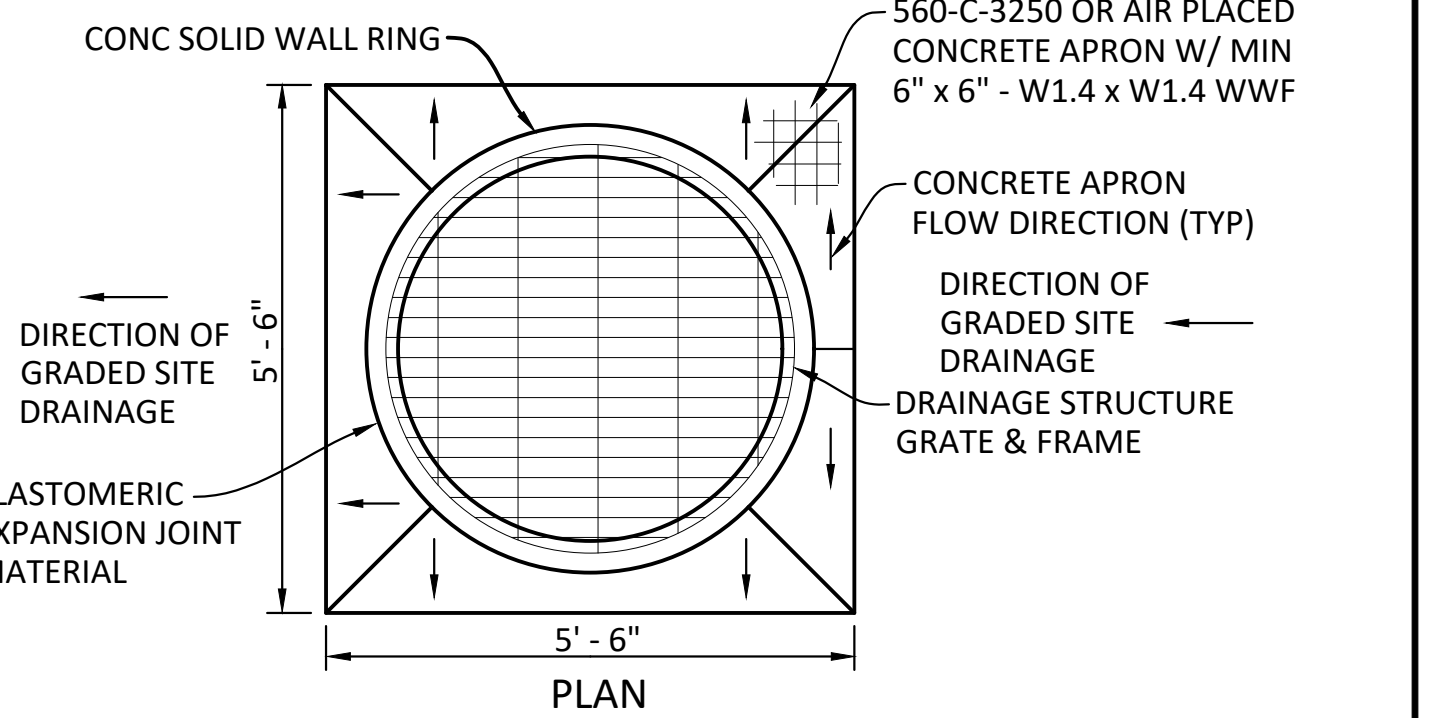
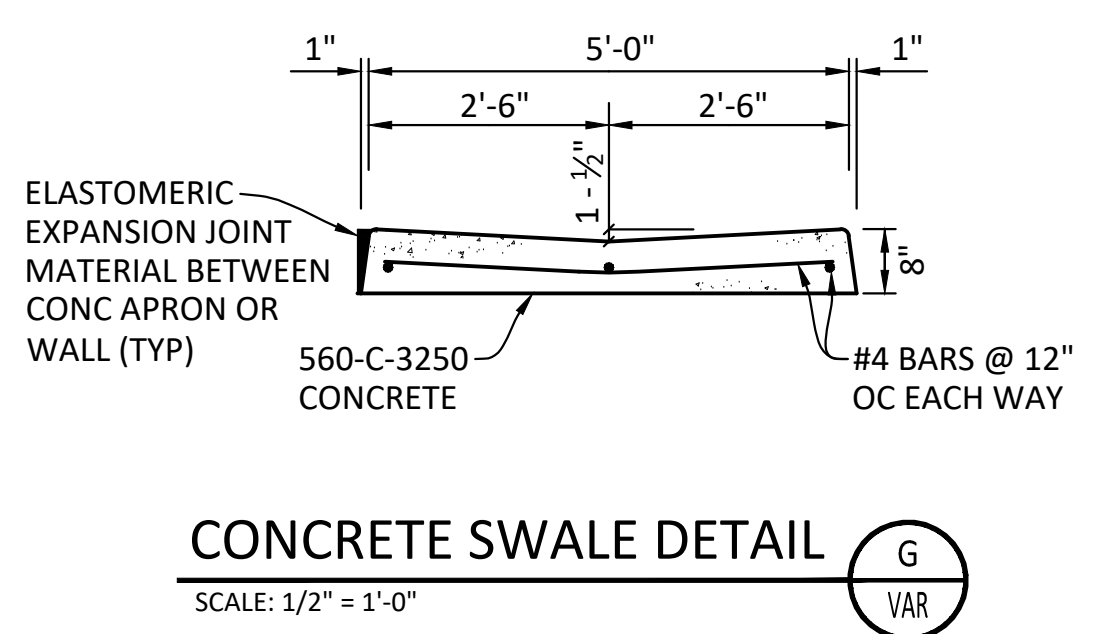
BUTT-STRAP NOTES:

- FOR INSIDE DIAMETER AND PRESSURE CLASS FOR WELDED STEEL PIPE AND LOCATION OF THRUST RESTRAINT WHICH REQUIRE DOUBLE WELDED LAP JOINTS, SEE PLAN & PROFILE DRAWINGS.
- "t" INDICATES THE THICKNESS OF THE STEEL PIPE AT THE STATION WHERE USED.
- BEFORE WELDING, DRILL AND TAP NUMBER OF HOLES AS NOTED, FOR 1/4" NPT PIPE. AIR AND SOAP TEST AFTER WELDING IS COMPLETED, PLUG WELD HOLES AFTER SUCCESSFUL COMPLETION OF JOINT TESTS.
- A TIGHT JOINT IS REQUIRED BEFORE WELDING.
- COAT BUTT-STRAP JOINT AS SHOWN FOR LAP JOINT. SEE SPECS FOR LINING BUTT-STRAP JOINTS 24" DIAMETER AND SMALLER.
- BEVEL ENDS OF BACKING PLATE AT BUTT-STRAP PRIOR TO WELDING, OR BACKGOUGE AT CONTACT WITH ADJACENT CYLINDER PRIOR TO COMPLETING INSIDE FILLET WELD.

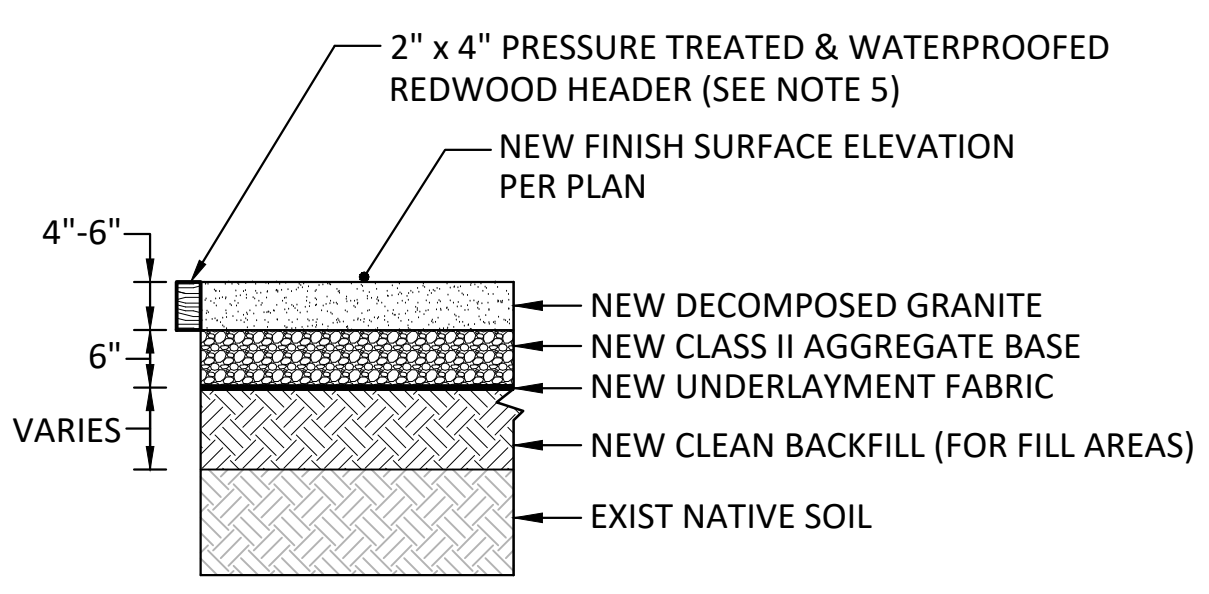
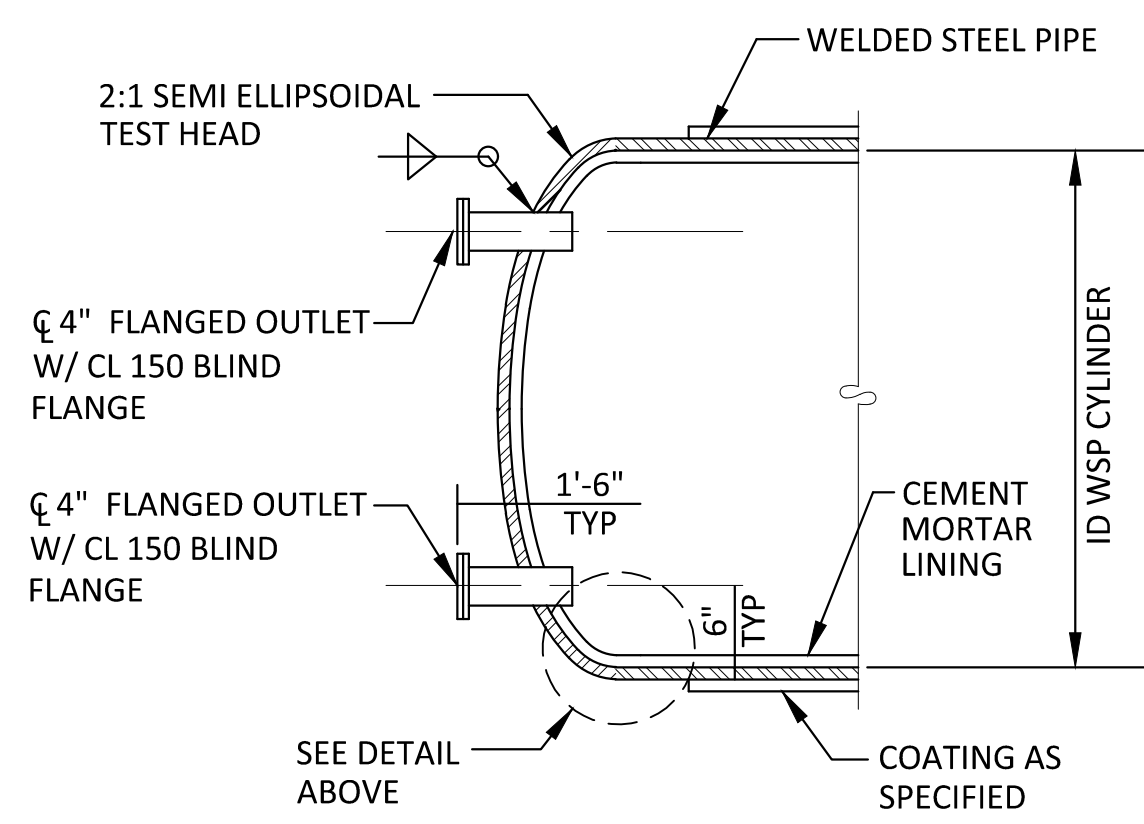
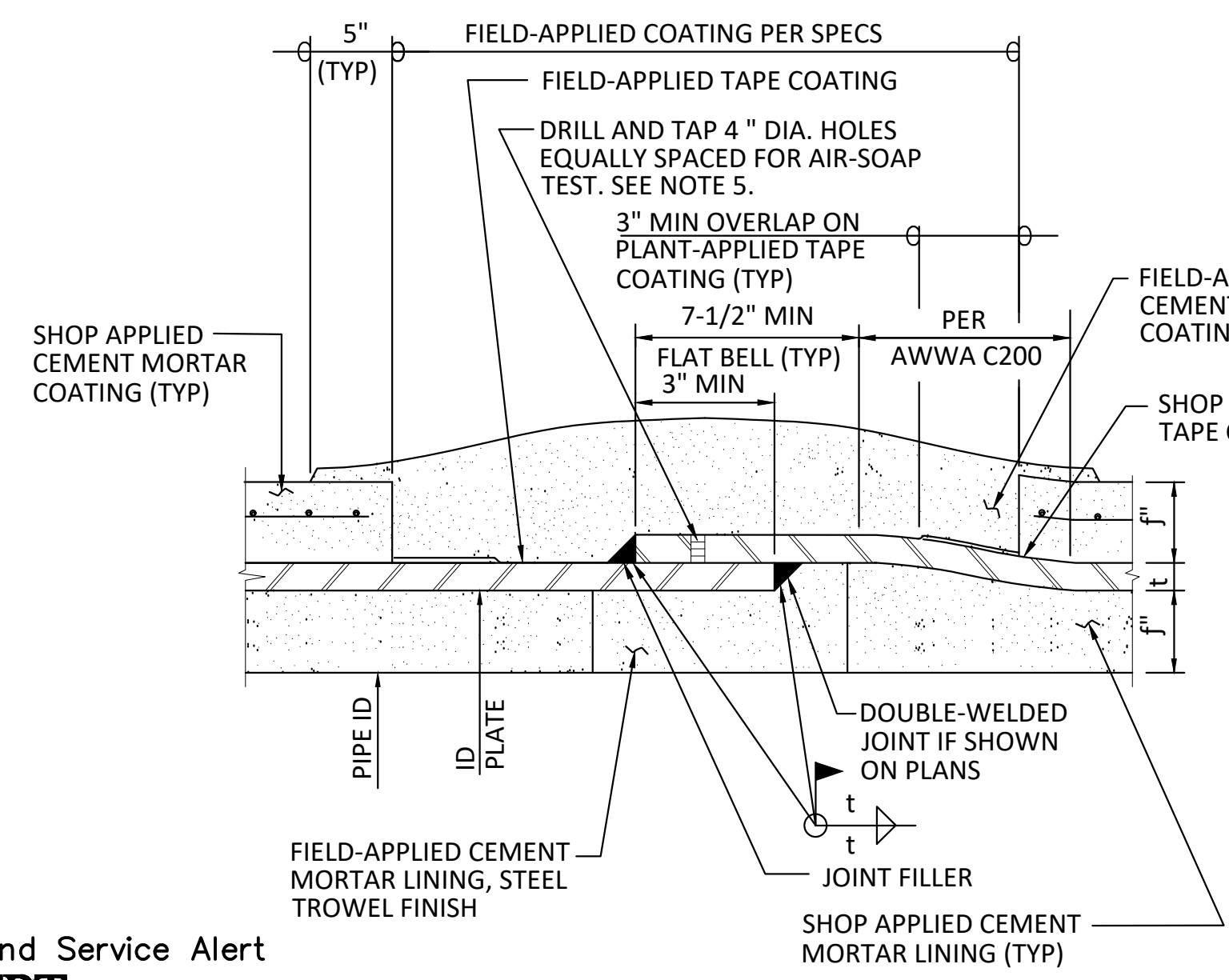
BUTT-STRAP JOINT DETAILS



- TEST BULKHEAD NOTES:**
- RADIUS SHOWN FOR TEST BULKHEAD APPLIES TO TORISPHERICAL HEAD ONLY.
 - FOR INSIDE DIAMETER AND PLATE THICKNESS OF WELDED STEEL PIPE, SEE PLAN AND PROFILE DRAWINGS.
 - "t" INDICATES THE THICKNESS OF THE STEEL PLATE AT THE STATION WHERE USED.



- NOTES:**
- PRECAST DIFFUSION WELL DETAIL PARTIALLY DERIVED FROM PELKOWSKI PRECAST CORP.
 - DRAINAGE STRUCTURE GRATE & FRAME SHALL BE HOT-DIP GALVANIZED AND ASSEMBLED WITH 316 SST FASTENERS.
 - DIFFUSION WELL SHALL BE CONSTRUCTED AFTER OWNER SUPPLIED PUMP STATION IS INSTALLED. ALIGN CL OF WELL WITH 8" RELIEF DISCHARGE PIPING.



- NOTES:**
- SEE SPECIFICATIONS FOR COMPACTION REQUIREMENTS.
 - UNDERLAYMENT FABRIC SHALL BE MIRAFI 160N NON-WOVEN GEOTEXTILE OR APPROVED EQUAL.
 - DECOMPOSED GRANITE COLOR SHALL BE "CALIFORNIA GOLD".
 - DECOMPOSED GRANITE SHALL COVER ENTIRE PUMP STATION SITE AREA WITH THE EXCEPTION OF HARDSCAPE FEATURES.
 - A REDWOOD HEADER SHALL BE PLACED AROUND THE SITE PERIMETER IN ALL AREAS NOT DIRECTLY ADJACENT TO CONCRETE OR WALLS.

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FIELD WELDED LAP JOINT

TEST BULKHEAD

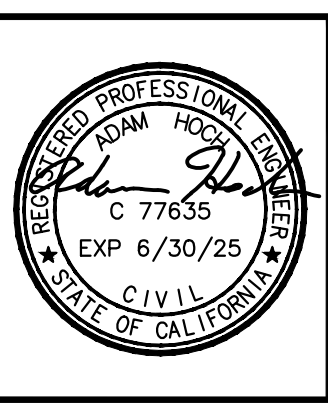
DECOMPOSED GRANITE & EARTHWORK DETAIL

DIFFUSION WELL DETAIL

RAINBOW MUNICIPAL WATER DISTRICT
 3707 OLD HWY 395
 FALLBROOK, CA 92028
 (760) 728-1178
 WWW.RAINBOWWD.COM
 WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT
 ENGINEERING & CIP MANAGER, CHAD WILLIAMS

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH



ENGINEER OF RECORD:
Adam Hoch
 ADAM HOCH P.E. 77635
 EXP. 6/30/25
 DATE: 9/7/2023

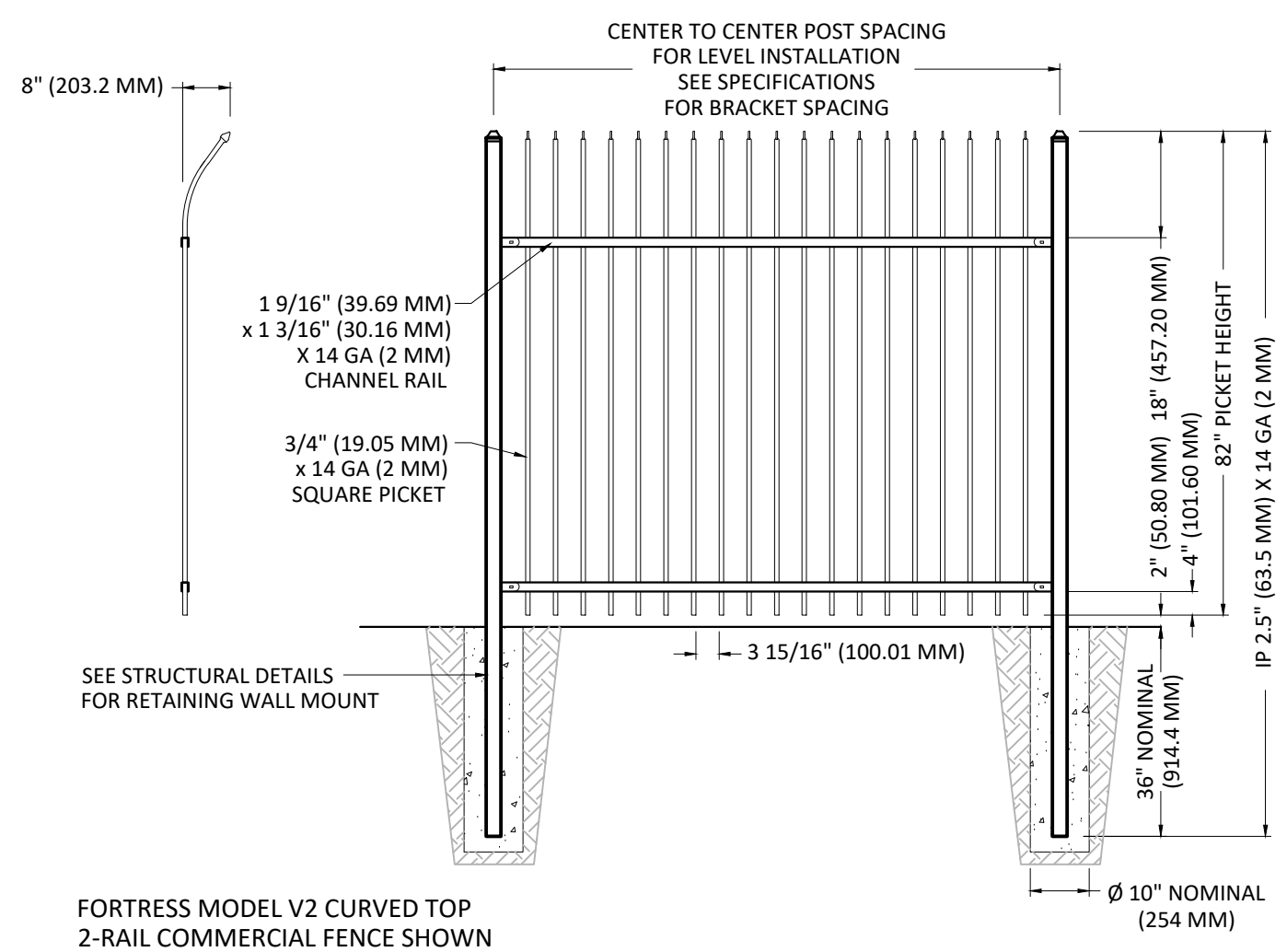
PLANS PREPARED BY:

HOCH CONSULTING
 808 PIER VIEW WAY #100
 OCEANSIDE, CA 92054
 www.hochconsulting.com

RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
CIVIL & MECHANICAL DETAILS 2
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **20**
 OF 49 SHTS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

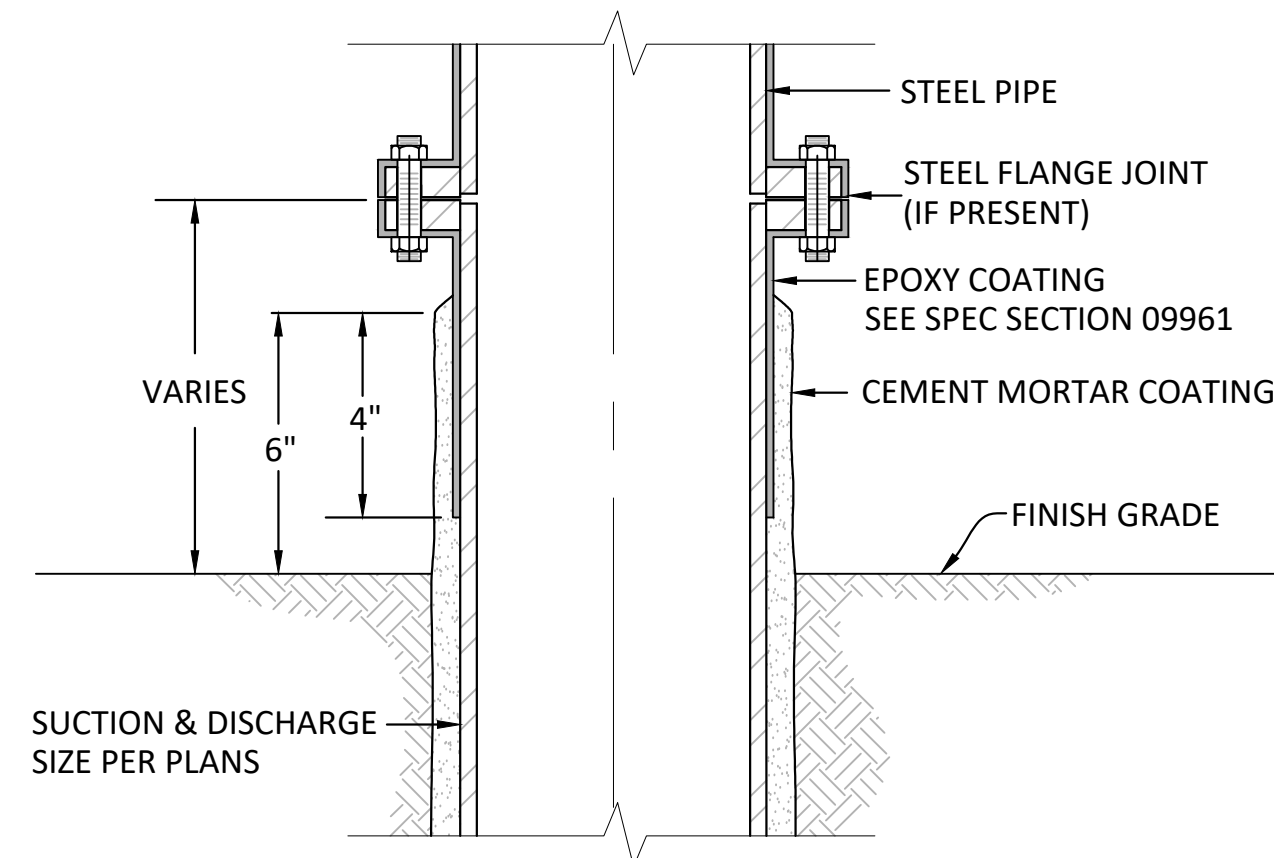


SECURITY FENCE DETAIL
 NO SCALE
 A VAR

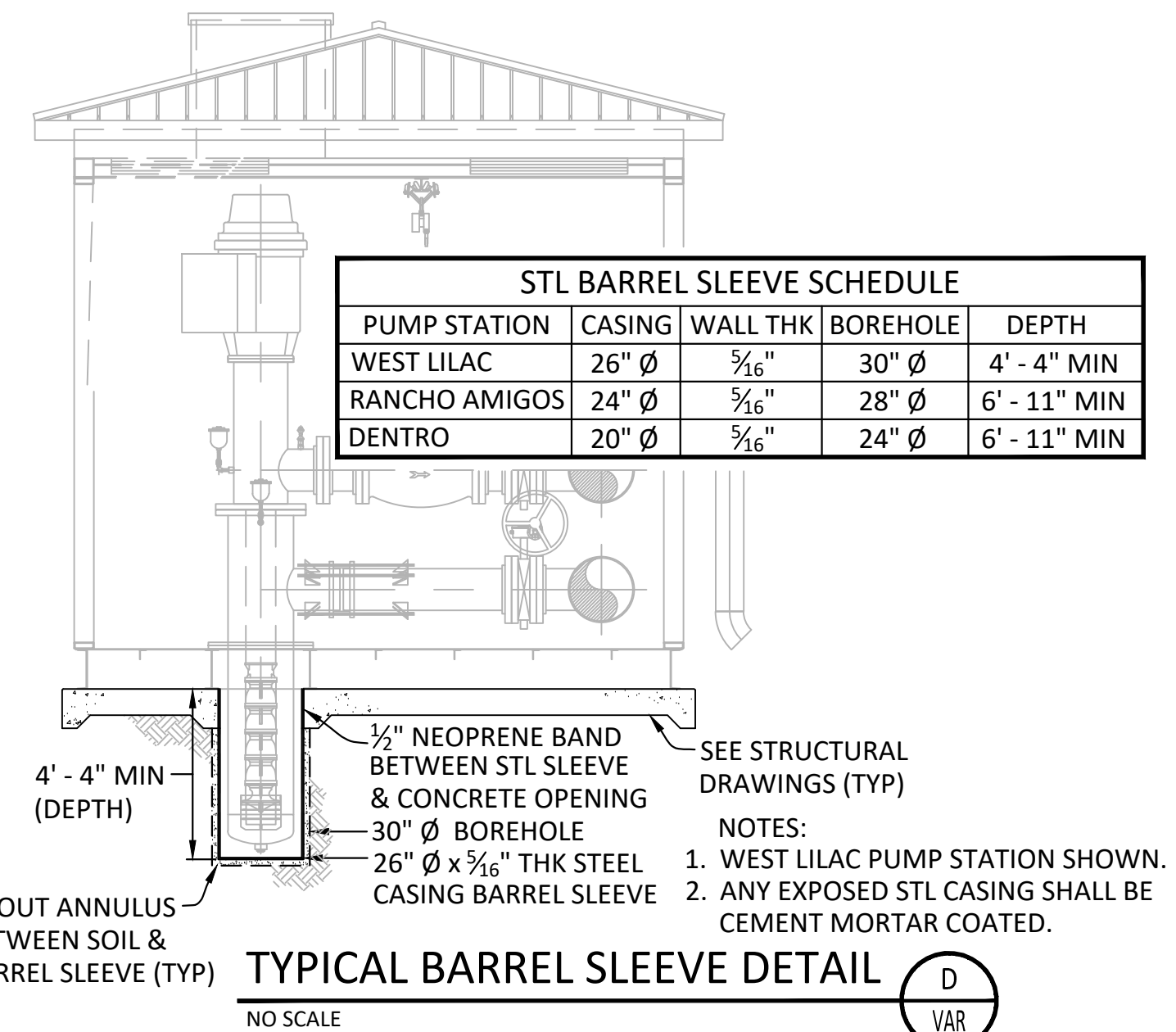


NOTE:
 ANTENNA SHALL BE PLACED ON THE SOUTH SIDE OF PUMP STATION ON THE FULLERTON WALSTONE FINISH BUILDING EXTERIOR. CONTRACTOR SHALL PROVIDE MOUNTING POLE & MOUNT EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS. SEE ELECTRICAL PLANS FOR RTU COMPONENTS SCHEDULE.

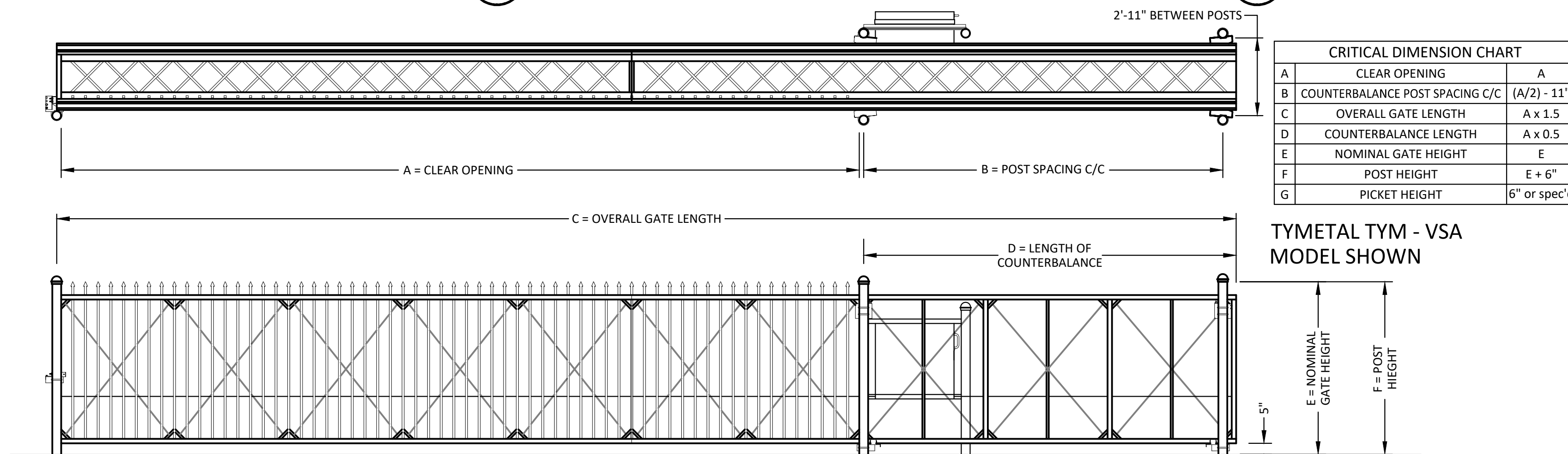
RANCHO AMIGOS PS EXTERIOR POLE MOUNT ANTENNA DETAIL
 NO SCALE
 B 10



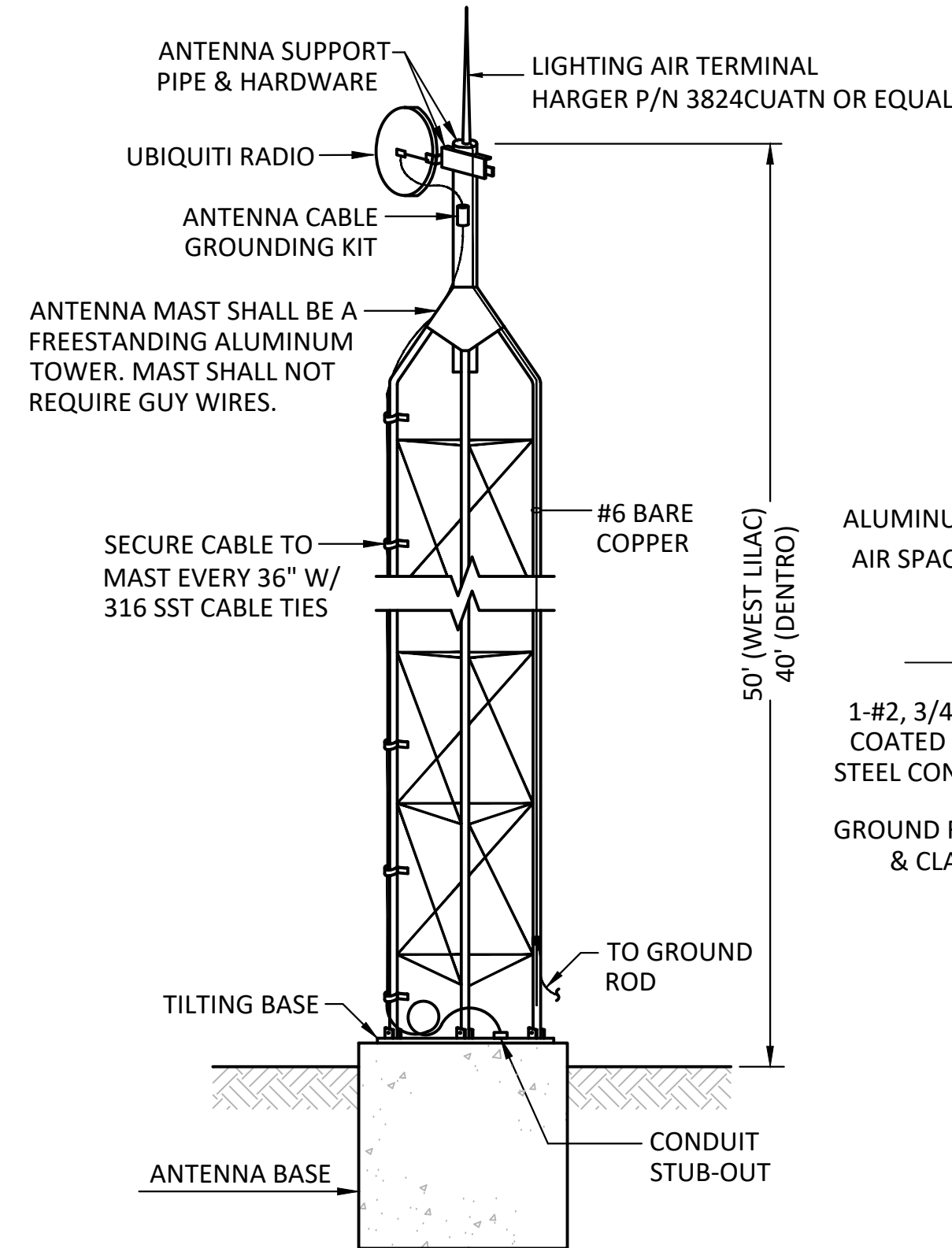
BURIED TO EXPOSED PIPE TRANSITION
 NO SCALE
 C VAR



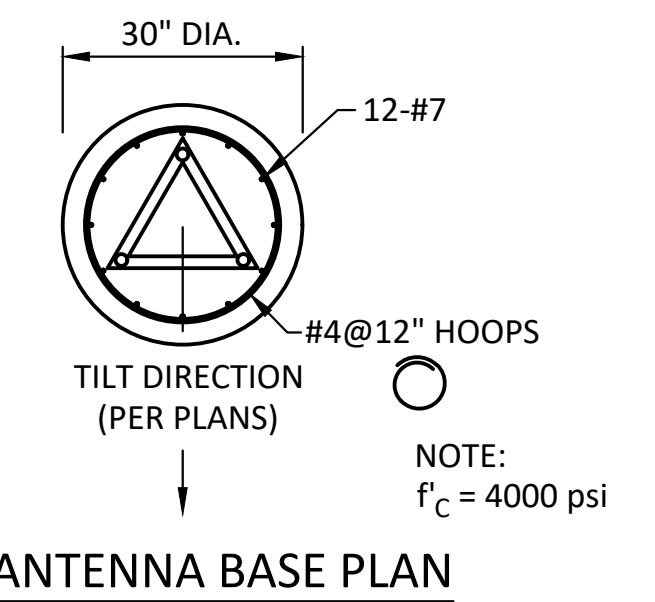
TYPICAL BARREL SLEEVE DETAIL
 NO SCALE
 D VAR



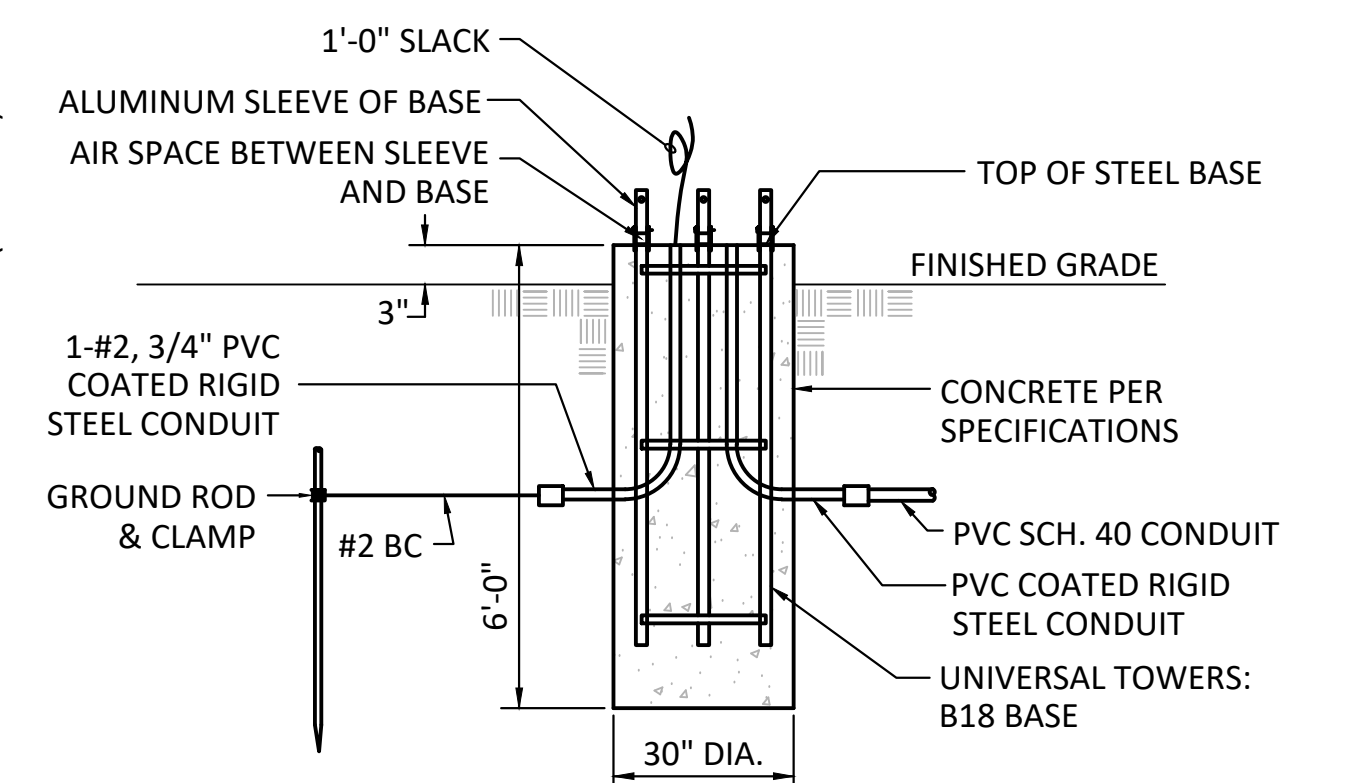
ROLLING SECURITY GATE DETAIL
 NO SCALE
 E VAR



ANTENNA MAST DETAIL
 NO SCALE
 F VAR



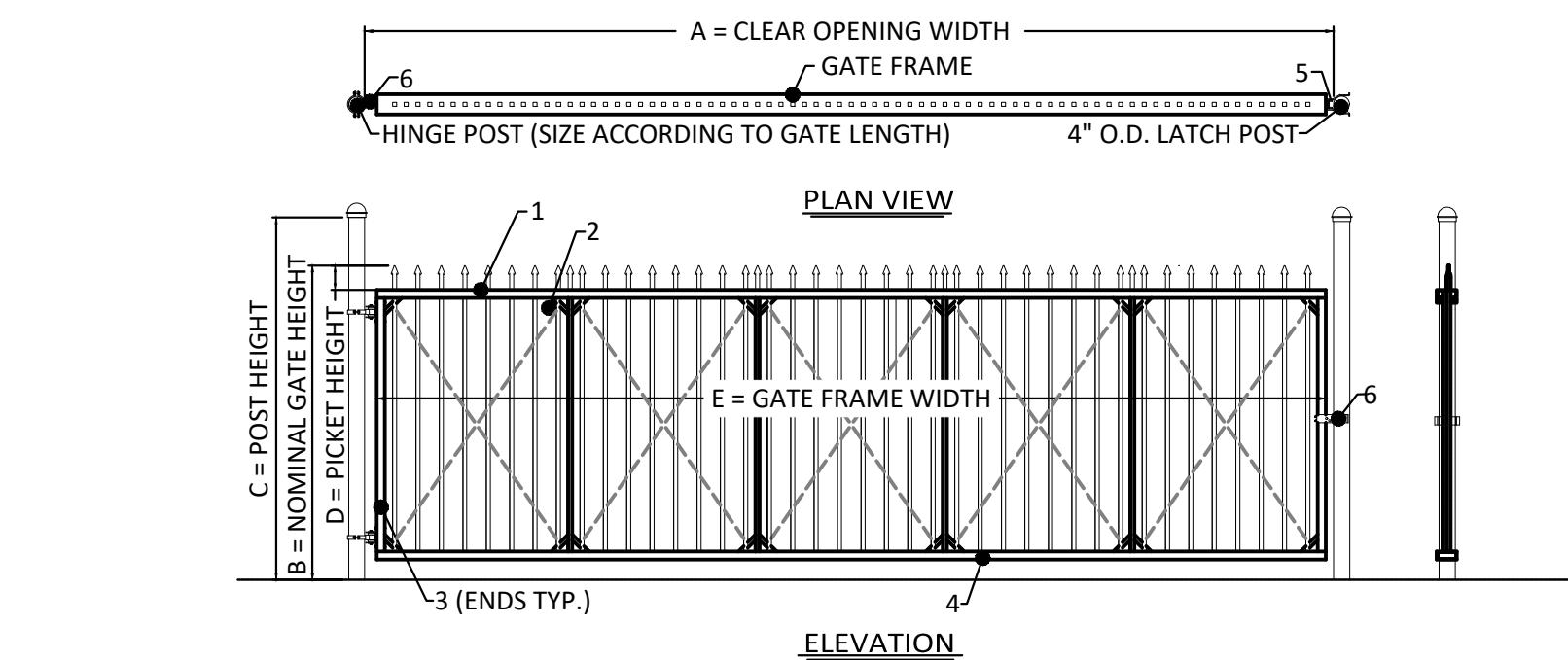
ANTENNA BASE PLAN



NOTE: CONCRETE TO BE POURED TO TOP OF TUBES ON THE BASE. (THE ONLY AIR SPACE SHOULD BE BETWEEN THE BOTTOM OF THE ALUMINUM SLEEVES OF THE BASE AND THE TOP OF THE STEEL TUBES OF THE BASE).

ANTENNA BASE SECTION

UNIVERSAL TOWERS MODELS #4-40 & #4-50 SHOWN



SWING GATE DETAIL
 NO SCALE
 EE VAR

ORNAMENTAL SWING GATE HEAVY DUTY

COMPONENT REFERENCES		
MARK	DESCRIPTION	NOTES
1	TOP PRIMARY MEMBER	CENTERED BETWEEN 2x2'S
2	1" x 2" ALUM. TUBE	TYP. AT ENDS OF GATE
3	STANDARD PRIMARY	TYP. AT ENDS OF GATE
4	2" x 5" ALUM. TUBE	TYP. AT ENDS OF GATE
5	LATCH ASSEMBLY	1 REQUIRED
6	HINGE ASSEMBLY	1 REQUIRED

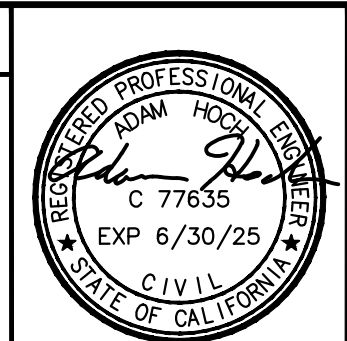
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NOTES:
 1. HANGER POST SIZE WILL VARY DEPENDING ON THE CLEAR OPENING WIDTH
 2. APPROPRIATE HARDWARE WILL BE PROVIDED AS REQUIRED.

RAINBOW MUNICIPAL WATER DISTRICT
 3707 OLD HWY 395
 FALLBROOK, CA 92028
 (760) 728-1178
 WWW.RAINBOWWD.COM
 WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: RR DRAWN BY: RR CHECKED BY: GA, AH



ENGINEER OF RECORD:
 Adam Hoch
 ADAM HOCH P.E. 77635
 EXP. 6/30/25
 DATE: 9/7/2023

PLANS PREPARED BY:
HOCH CONSULTING
 804 PIER VIEW WAY #100
 OCEANSIDE, CA 92054
 www.hochconsulting.com

RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 CIVIL & MECHANICAL DETAILS 3
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. 21
 OF 49 SHEETS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

GENERAL NOTES:

- THE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, CIVIL, ELECTRICAL, AND PLUMBING DRAWINGS. NO PORTION OF STRUCTURAL RELATED WORK, INCLUDING SHOP DRAWING DEVELOPMENT, SHALL BE PERFORMED WITHOUT CONSIDERING REQUIREMENTS OF CONTRACT DOCUMENTS IN THEIR ENTIRETY.
- DETAILS AND SCHEDULES INDICATED AS "TYPICAL" MAY NOT BE SPECIFICALLY REFERENCED ON DRAWINGS. DETERMINE WHERE EACH TYPICAL DETAIL OR SCHEDULE APPLIES BEFORE PROCEEDING WITH WORK. IF CONDITIONS ARE FOUND WHICH ARE NOT SPECIFICALLY DETAILED AND NO TYPICAL DETAIL OR SCHEDULE APPLIES PROMPTLY NOTIFY THE ARCHITECT (STRUCTURAL ENGINEER).
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK. THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES PRIOR TO PROCEEDING.
- UNLESS NOTED OR SHOWN OTHERWISE, ALL PHASES OF WORK ARE TO CONFORM TO THE MINIMUM STANDARDS OF THE CALIFORNIA BUILDING CODE (LATEST EDITION), AND ANY ASTM SPECIFICATIONS ON WHICH THESE STANDARDS ARE BASED. WHERE CONFLICT BETWEEN BUILDING CODES AND SPECIFICATIONS OCCUR, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.
- ALL ASTM DESIGNATIONS REFERRED TO ON THESE DRAWINGS SHALL BE THE LATEST ADOPTED OR REVISED SPECIFICATION, AS OF THE DATE OF THESE DRAWINGS.
- ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS. DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
- NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
- THE STRUCTURAL DRAWINGS SHOW ONLY THE BASIC STRUCTURAL REQUIREMENTS. REFER TO CIVIL, ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR NON-STRUCTURAL ITEMS, SUCH AS:
 - SIZE AND LOCATION OF ALL OPENINGS.
 - SIZE AND LOCATION OF ALL NON-BEARING WALLS.
 - SIZE AND LOCATION OF ALL CONCRETE CURBS, WALKS, ROOF AND FLOOR DRAINS, SLOPES, DEPRESSED SLAB AREAS, ETC.
 - FLOOR, ROOF AND WALL FINISHES.
 - DIMENSIONS WHICH ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
- THE STRUCTURAL CONTRACT DOCUMENTS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.
- NEITHER THE GOVERNING JURISDICTION NOR THE STRUCTURAL ENGINEER WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING AND BRACING AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS. SITE OBSERVATION VISITS BY THE STRUCTURAL ENGINEER OF RECORD SHALL NOT INCLUDE INSPECTION OF THE ABOVE SAFETY ITEMS.
- CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED DESIGN LIVE LOAD FOR EACH PARTICULAR LEVEL. WHEN WEIGHT OF MATERIALS OR EQUIPMENT MAY EXCEED DESIGN LOAD, STRUCTURAL SYSTEMS SHALL BE SHORED.
- WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK. THE DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.

SPECIAL INSPECTIONS:

- SPECIAL INSPECTIONS SHALL BE PERFORMED PER 2022 IBC CHAPTER 17.

Underground Service Alert



Call:
TOLL FREE
1-800
227-2600

TWO WORKING DAYS BEFORE YOU DIG

FOUNDATION:

- WEST LILAC STATION GEOTECHNICAL REPORT PREPARED BY: LEIGHTON CONSULTING, INC
DATED: AUGUST 10, 2022
RANCHO AMIGOS STATION GEOTECHNICAL REPORT PREPARED BY: LEIGHTON CONSULTING, INC
DATED: JUNE 24, 2021
DENTRO PUMP STATION GEOTECHNICAL REPORT PREPARED BY: LEIGHTON CONSULTING, INC
DATED: SEPTEMBER 2, 2022
- GEOTECHNICAL REPORT AND ALL SUPPLEMENTAL REPORTS OR ADDENDA HEREBY BECOME PART OF THESE CONTRACT DOCUMENTS AND SHALL BE KEPT ON THE JOB SITE AT ALL TIMES.
- ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE WALLS HAVE ATTAINED FULL DESIGN STRENGTH. CONTRACTOR SHALL BRACE OR PROTECT ALL BUILDING AND PIT WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHING FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS AND INSTALLATION OF SUCH BRACING.
- FOUNDATION DESIGN PARAMETERS:
 WEST LILAC:
 A. ALLOWABLE SOIL BEARING PRESSURES
 SLAB -ON-GRADE 2,500 PSF
 CONTINUOUS & PAD FOOTING 2,500 PSF
 ALLOWABLE SOIL BEARING PRESSURES MAY BE INCREASED BY ONE-THIRD WHEN CONSIDERING LOADS OF SHORT DURATION SUCH AS WIND OR SEISMIC FORCES.
 B. SOIL DESIGN VALUES
 ACTIVE EARTH PRESSURE 35 PCF
 AT-REST EARTH PRESSURE 55 PCF
 PASSIVE RESISTANT EARTH PRESSURE 300 PCF
 COEFFICIENT OF FRICTION 0.45
 ALL FOUNDATIONS SHALL HAVE A MINIMUM EMBEDMENT OF 2'-0" BELOW LOWEST ADJACENT GRADE.
 RANCHO AMIGOS:
 A. ALLOWABLE SOIL BEARING PRESSURES
 SLAB -ON-GRADE 2,000 PSF
 CONTINUOUS & PAD FOOTING 2,000 PSF
 ALLOWABLE SOIL BEARING PRESSURES MAY BE INCREASED BY ONE-THIRD WHEN CONSIDERING LOADS OF SHORT DURATION SUCH AS WIND OR SEISMIC FORCES.
 B. SOIL DESIGN VALUES
 ACTIVE EARTH PRESSURE 36 PCF
 AT-REST EARTH PRESSURE 55 PCF
 PASSIVE RESISTANT EARTH PRESSURE 300 PCF
 COEFFICIENT OF FRICTION 0.45
 ALL FOUNDATIONS SHALL HAVE A MINIMUM EMBEDMENT OF 2'-0" BELOW LOWEST ADJACENT GRADE.
 DENTRO:
 A. ALLOWABLE SOIL BEARING PRESSURES
 SLAB -ON-GRADE 3,000 PSF
 CONTINUOUS & PAD FOOTING 3,000 PSF
 ALLOWABLE SOIL BEARING PRESSURES MAY BE INCREASED BY ONE-THIRD WHEN CONSIDERING LOADS OF SHORT DURATION SUCH AS WIND OR SEISMIC FORCES.
 B. SOIL DESIGN VALUES
 ACTIVE EARTH PRESSURE 35 PCF
 AT-REST EARTH PRESSURE 55 PCF
 PASSIVE RESISTANT EARTH PRESSURE 300 PCF
 COEFFICIENT OF FRICTION 0.45
 ALL FOUNDATIONS SHALL HAVE A MINIMUM EMBEDMENT OF 2'-0" BELOW LOWEST ADJACENT GRADE.
- FOOTING ELEVATIONS SHALL BE LOCATED SUCH THAT THEIR BEARING IS A MINIMUM HORIZONTAL DISTANCE OF 7 FEET FROM THE DAYLIGHT OF AN ADJACENT SLOPE OR AS RECOMMENDED WITHIN THE GEOTECHNICAL REPORT.
- FOUNDATION EXCAVATIONS, FILLING, AND COMPACTION ARE TO BE OBSERVED BY AND DEEMED ACCEPTABLE TO THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE PRIOR TO PLACEMENT OF REINFORCING STEEL OR CONCRETE.

- SLAB BASE AND COMPACTION TO BE IN ACCORDANCE WITH SOILS REPORT.
- THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICE IN AREAS TO BE EXCAVATED BEFORE BEGINNING EXCAVATION. EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING. DAMAGE CAUSED AS A RESULT OF FAILING TO EXACTLY LOCATE AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE FOR DESIGN, APPROVALS, PERMITS, INSTALLATION AND MONITORING OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN TEMPORARY EXCAVATIONS.

CONCRETE:

- CONCRETE CONSTRUCTION SHALL CONFORM TO CHAPTER 19 OF THE CALIFORNIA BUILDING CODE, ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (LATEST EDITIONS), EXCEPT AS MODIFIED BY THE SUPPLEMENTAL AND ACI 350 "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES" CONTAINED HEREIN OR SHOWN ON THE DRAWINGS.
- CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH "ACI 305. 1-14 SPECIFICATION FOR HOT WEATHER CONCRETING" WHERE APPLICABLE.
- CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND APPROVED BY THE STRUCTURAL ENGINEER.
- SCHEDULE OR STRUCTURAL CONCRETE, 28 DAY STRENGTHS AND MIX DESIGN REQUIREMENTS:

CONCRETE LOCATION	STRENGTH (PSI)	TEST AGE (DAYS)	MAX AGGREGATE SIZE	MAX W/C RATIO	MAX SLUMP	CEMENT TYPE
SLAB-ON-GRADE	4,000	28	1"	0.45	4" ± 1"	II
CONT & PAD FOOTINGS	4,000	28	1"	0.45	4" ± 1"	II
OTHER	4,000	28	1"	0.45	4" ± 1"	II

- CEMENT SHALL BE PORTLAND CEMENT TYPE II AS INDICATED ABOVE, CONFORMING TO ASTM C150.
- AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33.
- READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94.
- PROVIDE 2- #4 DIAGONAL BARS AT CORNERS OF WALL, FLOOR, AND ROOF OPENINGS AND INSIDE CORNERS OF FLOORS.
- PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 304. CLEAN AND ROUGHEN TO 1/4" AMPLITUDE FOR ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED.
- ALL EXPOSED CONCRETE SHALL HAVE A SMOOTH FORM FINISH USING B-B PLYFORM, CLASS I, EXT-APA PLYWOOD.
- ALL SLABS SHALL HAVE A TROWEL FINISH EXCEPT AS NOTED ON THE DRAWINGS.
- ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
- NO PIPES OR DUCTS SHALL BE PLACED IN SLABS OR WALLS UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE ENGINEER.
- IF THE CONTRACTOR REQUESTS TO MAKE ANY CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THESE DRAWINGS, THEY SHALL SUBMIT DETAILS OF CHANGES TO THE STATE'S REPRESENTATIVE OF RECORD FOR REVIEW BEFORE STARTING WORK.
- NO BRICK OR POROUS MATERIAL SHALL BE USED TO SUPPORT FOUNDATION STEEL OFF THE GROUND.
- PROVIDE 3/4 INCH CHAMFER ON ALL EXPOSED CONCRETE CORNERS, UON.
- SLEEVE PLUMBING OPENINGS IN SLABS WITH NON-CORROSIVE SLEEVE BEFORE PLACING CONCRETE AND BEND REINFORCING AROUND SLEEVES.
- ALL REINFORCING BARS SHALL BE PROVIDED WITH THE FOLLOWING CONCRETE MINIMUM COVER:
 FOOTINGS CAST AGAINST EARTH 3"
 FORMED CONCRETE EXPOSED TO EARTH, WEATHER OR LIQUID 2"
 BEAMS AND GIRDERS 2"
 WALLS 2"
 COLUMN TIES 2"
 SLABS 2"
- CONCRETE CURING: MINIMUM OF 7 DAYS.

DESIGN BASIS:

- APPLICABLE CODES:
2022 CBC (CALIFORNIA BUILDING CODE)
ASCE 7-16, MIN DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- DEAD LOADS: AS CALCULATED
- LIVE LOADS:
ROOF 20 PSF (REDUCIBLE)
- LATERAL LOADS:
 A. EARTHQUAKE DESIGN DATA:
 SEISMIC DESIGN CATEGORY D
 SITE CLASS C
 RISK CATEGORY IV
 SEISMIC IMPORTANCE FACTOR I_e = 1.5
 SPECTRAL PARAMETER
 SEISMIC DESIGN PARAMETERS
 WEST LILAC:
 S_s = 1.02 S_{MS} = 1.22
 S₁ = 0.37 S_{M1} = 0.56
 F_a = 1.2 S₀₅ = 0.82
 F_v = 1.5 S_{D1} = 0.37
 RANCHO AMIGOS:
 S_s = 1.00 S_{MS} = 1.20
 S₁ = 0.37 S_{M1} = 0.55
 F_a = 1.2 S₀₅ = 0.80
 F_v = 1.5 S_{D1} = 0.37
 DENTRO:
 S_s = 0.96 S_{MS} = 1.15
 S₁ = 0.35 S_{M1} = 0.53
 F_a = 1.2 S₀₅ = 0.77
 F_v = 1.5 S_{D1} = 0.35
 B. WIND DESIGN DATA:
 ULTIMATE WIND SPEED: V_{ULT} = 110 MPH (LRFD)
 NOMINAL WIND SPEED: V_{ASD} = 85 MPH (ASD)
 RISK CATEGORY: IV
 EXPOSURE: C
 INTERNAL PRESSURE COEF: G_{CPI} = ± 0.18

REINFORCING STEEL:

- ALL REINFORCING STEEL SHALL BE PLACED IN CONFORMANCE WITH THE IBC, AND THE "MANUAL OF STANDARD PRACTICE" BY THE CRSI OR AS MODIFIED BY THE CONSTRUCTION DOCUMENTS.
- REINFORCING STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS:
 DEFORMED BARS ASTM A615 GR 60
 WELDED REINFORCEMENT ASTM A706
- STEEL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE SO AS TO MAINTAIN THEIR EXACT POSITION BEFORE AND DURING PLACEMENT OF THE CONCRETE. BARS IN BEAMS AND SLABS SHALL BE SUPPORTED ON WELL-CURED CONCRETE BLOCKS OR APPROVED PLASTIC TIPPED METAL CHAIRS, AS SPECIFIED BY CRSI MANUAL OF STANDARD PRACTICE, MSP-1. WIRE FABRIC IN SLABS SHALL BE SECURELY FASTENED TO SUPPORTING DEVICES TO MAINTAIN THEIR POSITION DURING CONCRETE PLACEMENT.
- DETAILS OF REINFORCEMENT SHALL COMPLY WITH ACI 318, CHAPTER 7 (LATEST EDITION).
- ALL REINFORCING BAR BENDS SHALL BE MADE COLD, UNLESS OTHERWISE PERMITTED BY THE STRUCTURAL ENGINEER OF RECORD.
- DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE LAPPED WITH THE SAME GRADE, SIZE, SPACING AND NUMBER AS THE VERTICAL REINFORCEMENT.
- REINFORCING SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS.
- MINIMUM CLEAR DISTANCES BETWEEN REINFORCING STEEL, INCLUDING SPLICED REINFORCEMENT, SHALL BE 1" OR 1 BAR DIAMETER, WHICHEVER IS GREATER. MINIMUM CLEAR DISTANCE AT COLUMNS SHALL BE 1 1/2" OR 1 1/2 BAR DIAMETERS, WHICHEVER IS GREATER.

<p>3707 OLD HWY 395 FALLBROOK, CA 92028 (760) 728-1178 WWW.RAINBOWWD.COM</p> <p>WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT</p>	REV	BY	DATE	REVISIONS	APPR.	DATE		ENGINEER OF RECORD: ADAM HOCH P.E. 77635 EXP. 6/30/23 DATE: 9/7/2023	PLANS PREPARED BY: <p>KELSEY STRUCTURAL 8064 ALLISON AVE. #1706 LA MESA, CA 91942 619.920.1262 kelsey@kelseystructural.com</p>	RAINBOW MUNICIPAL WATER DISTRICT WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS GENERAL STRUCTURAL NOTES PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT		SHEET NO. 22 OF 49 SHTS FILE NO. 600013
	DESIGNED BY: DZ	DRAWN BY: CS	CHECKED BY: GK	ENGINEERING & CIP MANAGER, CHAD WILLIAMS DATE		DESIGNER'S SIGNATURE		DATE:	FILE NO.:	SHEET NO.:		

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

EXPANSION ANCHORS:

- EXPANSION ANCHORS INSTALLED INTO CONCRETE SHALL BE AS INDICATED BELOW, UON. INSTALLATION SHALL BE IN ACCORDANCE WITH THE ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS.

<u>CONCRETE:</u>	HILTI KWIK BOLT TZ 2 SIMPSON STRONG BOLT 2 OR APPROVED EQUAL	(ICC ESR-4266) (ICC ESR-3037)
------------------	--	----------------------------------
- ANCHOR INSTALLERS SHALL BE TRAINED BY A QUALIFIED REPRESENTATIVE OF THE ANCHOR MANUFACTURER ON THE PROPER PROCEDURES AND TECHNIQUES FOR INSTALLATION.
- PROVIDE EXPANSION ANCHORS WITH THE TYPE, DIAMETER, AND MINIMUM EMBEDMENT DEPTH AS NOTED ON THE DRAWINGS. SUBSTITUTIONS ARE NOT ALLOWED WITHOUT APPROVAL FROM THE STRUCTURAL ENGINEER.
- LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH ADHESIVE ANCHORS.
- WHEN INSTALLING ANCHORS IN EXISTING REINFORCED CONCRETE OR MASONRY, AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS.
- HOLES DRILLED FOR ANCHORS THAT DO NOT SET PROPERLY OR IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT.
- THE DIAMETER AND DRILLING METHOD OF THE HOLES ARE PER THE MANUFACTURER'S RECOMMENDATIONS. PRIOR TO INSTALLING ANCHORS, BLOW OUT WITH OIL-FREE COMPRESSED AIR.
- ANCHOR BOLTS EXPOSED TO WEATHER SHALL BE ASTM 276 GR. 316 SS.


ADHESIVE ANCHORS AND DOWELS:

- ADHESIVE ANCHORS AND DOWELS INSTALLED INTO CONCRETE SHALL BE AS INDICATED BELOW, UNLESS OTHERWISE NOTED. INSTALLATION SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL CODE COUNCIL (ICC) REPORT AND MANUFACTURER'S RECOMMENDATIONS.

<u>CONCRETE:</u>	HILTI HIT HY 200 SIMPSON SET-XP OR APPROVED EQUAL	(ICC ESR-3187) (ICC ESR-2508)
------------------	---	----------------------------------
- ANCHOR ROD SHALL BE ASTM 276 GR. 316 SS, UON. NUTS AND WASHERS SHALL COMPLY WITH ASTM A563 AND F436.
- ANCHOR BOLTS EXPOSED TO WEATHER SHALL BE ASTM 276 GR. 316 SS. REINFORCING STEEL (REBAR) AND DOWELS FOR CAST-IN-PLACE CONCRETE SHALL NOT BE GALVANIZED, UON.
- DOWELS SHALL BE ASTM A615 GRADE 60 REINFORCING STEEL.
- ANCHOR INSTALLERS SHALL BE TRAINED BY A QUALIFIED REPRESENTATIVE OF THE ADHESIVE MANUFACTURER ON THE PROPER PROCEDURES AND TECHNIQUES FOR INSTALLATION.
- PROVIDE ANCHORS WITH THE TYPE, DIAMETER, AND MINIMUM EMBEDMENT DEPTH AS NOTED ON THE DRAWINGS. SUBSTITUTIONS ARE NOT ALLOWED WITHOUT APPROVAL FROM THE STRUCTURAL ENGINEER.
- THE DIAMETER AND DRILLING METHOD OF THE HOLES ARE PER THE MANUFACTURER'S RECOMMENDATIONS. PRIOR TO INSTALLING ANCHORS OR DOWELS, WIRE BRUSH HOLES TO REMOVE RESIDUE, BLOW OUT WITH OIL-FREE COMPRESSED AIR, AND ALLOW HOLE TO DRY. LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH ADHESIVE ANCHORS.
- REMOVE GREASE, OIL, RUST, AND OTHER LAITANCE FROM RODS AND DOWELS PRIOR TO INSTALLATION.
- WHEN INSTALLING ANCHORS IN EXISTING REINFORCED CONCRETE OR MASONRY, AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS.

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ENGINEERING & CIP MANAGER, CHAD WILLIAMS

DATE

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: DZ DRAWN BY: CS CHECKED BY: GK



ENGINEER OF RECORD:

 ADAM HOCH P.E. 77635 EXP. 6/30/23
 DATE: 9/7/2023

PLANS PREPARED BY:

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 #1706 LA MESA, CA
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 gkelsey@kelseystructural.com

RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
GENERAL STRUCTURAL NOTES
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **23**
 OF 49 SHTS
 FILE NO. 600013

ABBREVIATIONS:

&	AND	IBC	INTERNATIONAL BUILDING CODE
@	AT	IN	INCH
CL	CENTER LINE	INSP	INSPECTION / INSPECTOR
PL	PLATE, PROPERTY LINE	INT	INTERIOR
AB	ANCHOR BOLT	JST	JOIST
ADJ	ADJACENT	JT	JOINT
AFF	ABOVE FINISH FLOOR	KIPS	KILOPOUNDS (1,000 POUNDS)
AL/ALUM	ALUMINUM	KO	KNOCK OUT
ARCH	ARCHITECTURAL	LB	POUND
BD	BAR DIAMETER	LB	LAG BOLT
BLDG	BUILDING	LF	LINEAR FOOT
BLKG	BLOCK	LG	LONG
BLW	BLOCKING	LL	LIVE LOAD
BM	BELOW	LLH	LONG LEG HORIZONTAL
BN	BEAM	LLV	LONG LEG VERTICAL
(B)OR BOT	BOUNDARY NAIL	LS	LAG SCREW
BRG	BOTTOM	LT	LIGHT
BS	BEARING	MAS	MASONRY
BTWN	BOTH SIDES	MAT	MATERIAL
CB	BETWEEN	MAX	MAXIMUM
CBC	CARRIAGE BOLT	MB	MACHINE BOLT
CF	CALIFORNIA BUILDING CODE	MECH	MECHANICAL
CHAM	CUBIC FOOT	MEZZ	MEZZANINE
CI	CHAMFER	MIN	MINIMUM
CIP	CAST-IRON	MH	MANHOLE
CJ	CAST-IN-PLACE	MANUF	MANUFACTURER
CJP	CONSTRUCTION JOINT	MTL	METAL
CLG	COMPLETE JOINT PENETRATION	(N)	NEW
CLK	CEILING	NS	NEAR SIDE
CLKG	CAULK	NIC	NOT IN CONTRACT
CLR	CAULKING	NOM	NOMINAL
CMU	CLEAR	NTS	NOT TO SCALE
CNTR	CONCRETE MASONRY UNIT	OC	ON CENTER
COL	CENTER	OD	OUTSIDE DIAMETER
CONC	COLUMN	OH	OPPOSITE HAND
CONN	CONCRETE	OPNG	OPENING
CONT	CONNECTION	OPP	OPPOSITE
CSK	CONTINUOUS	OWJ	OPEN WEB JOIST
d	COUNTERSINK	PC	PRECAST
DBL	PENNY	PERP	PERPENDICULAR
DEP	DOUBLE	PL	PLATE
DET	DEPRESSED	PLYWD	PLYWOOD
DF	DETAIL	PNL	PANEL
DFL	DOUGLAS FIR	PREFAB	PREFABRICATED
DIA	DOUGLAS FIR/LARCH	PSF	POUNDS PER SQUARE FOOT
DIAG	DIAMETER	PSI	POUNDS PER SQUARE INCHES
DIM	DIAGONAL	PT	POINT
DL	DIMENSION	PT	PRESSURE TREATED
DN	DEAD LOAD	PVC	POLYVINYL CHLORIDE
DIV	DOWN	RAD	RADIUS
DR	DIVISION	RD	ROOF DRAIN
DWG	DOOR	REF	REFERENCE
DWL	DRAWING	REINF	REINFORCED / REINFORCING
(E)	DOWEL	REQD	REQUIRED
EA	EXISTING	REV	REVISION
EJ	EACH	RF	ROOF
EL	EACH FACE	RFTR	RAFTER
ELEV	EXPANSION JOINT	RH	ROOF HATCH
EN	ELEVATION	RM	ROOM
EQ	ELEVATOR	RO	ROUGH OPENING
EQUIP	EMBEDMENT	RS	ROUGH SAWN
ES	EDGE NAIL	SCHED	SCHEDULE
EW	EQUAL	SECT	SECTION
EXP	EQUIPMENT	SF	SQUARE FOOT
EXT	EACH SIDE	SHT	SHEET
FD	EACH WAY	SHTG	SHEATHING
FDN	EXPANSION	SIM	SIMILAR
FF	EXTERIOR	SMS	SHEET METAL SCREW
FIN	FLOOR DRAIN	SOG	SLAB ON GRADE
FLR	FOUNDATION	SPEC	SPECIFICATION
FO	FINISH FLOOR	SQ	SQUARE
FRMG	FINISH	SS	STAINLESS STEEL
FS	FLOOR	SST	STAINLESS STEEL
FT	FIELD NAIL	STGR	STAGGERED
FTG	FACE OF	STD	STANDARD
GA	FRAMING	STIFF	STIFFENER
GALV	FAR SIDE	STL	STEEL
GI	FEET / FOOT	STRUCT	STRUCTURAL
GLB	FOOTING	STS	SELF TAPPING SCREW
GRD	GAUGE	SYM	SYMMETRICAL
GYP	GALVANIZED	SYS	SYSTEM
HD	GALVANIZED IRON	T&B	TOP AND BOTTOM
HDG	GLU-LAMINATED BEAM	T&G	TONGUE AND GROOVE
HDR	GRADE	TEMP	TEMPORARY
HGR	GYPNUM	THK	THICK
HORIZ	HOLDOWN	THKND	THICKENED
HRD	HOT-DIPPED GALVANIZED	THRU	THROUGH
HSB	HEADER	TL	TOTAL LOAD
HT	HANGER	T.O.	TOP OF
HVAC	HORIZONTAL	TSG	TAPERED STEEL GIRDER
	HARD	TYP	TYPICAL
	HIGH STRENGTH BOLT	UFC	UNIFIED FACILITIES CRITERIA
	HEIGHT	UON	UNLESS OTHERWISE NOTED
	HEATING, VENTILATION, & AIRCONDITIONING	VERT OR(V)	VERTICAL
		V.I.F	VERIFY IN FIELD

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

SCHEDULE OF SPECIAL INSPECTIONS - APPLIES TO ALL TABLES:

- A. THE CONTRACTOR SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED. THE SPECIAL INSPECTOR OF RECORD (SIOR) SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE CONTRACTING OFFICER, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
- B. WHERE REQUIRED BY THE PROVISIONS OF SECTION 1704.6.1 OR 1704.6.2, THE SERVICES OF A SPECIAL INSPECTOR OF RECORD (SIOR) SHALL BE RETAINED BY THE CONTRACTOR AS A THIRD PARTY QUALITY ASSURANCE AGENT. THE SIOR SHALL BE A LICENSED PROFESSIONAL ENGINEER IN A STATE ACCEPTABLE TO THE CONTRACTING OFFICER. THE SIOR SHALL SUBMIT QUALIFICATIONS ACCEPTABLE TO THE CONTRACTING OFFICER.
- C. SITE VISITS BY THE STRUCTURAL ENGINEER DO NOT CONSTITUTE SPECIAL INSPECTIONS.
- D. MATERIAL STRENGTHS VERIFICATION, INSPECTION AND TESTING SHALL BE IN ACCORDANCE WITH CHAPTER 17 OF THE APPLICABLE CODE.
- E. ALL CODE REFERENCES & TABLES ARE FOUND IN 2022 CBC.

TABLE 1705.3 (CBC 2022)

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

	VERIFICATION AND INSPECTION	CONTINUOUS INSPECTION	PERIODIC INSPECTION
1.	REINFORCING STEEL AND PLACEMENT.	-	X
2.	REINFORCING BAR WELDING		
a.	VERIFY WELDABILITY OF BARS OTHER THAN ASTM A706	-	X
b.	SINGLE PASS FILLET WELDS, MAXIMUM 5/16 INCH	-	X
c.	OTHER WELDS	X	-
3.	CAST-IN PLACE BOLTS AND EMBEDS	-	X
4.	POST-INSTALLED ANCHORS OR DOWELS INSTALLED IN HARDENED CONCRETE MEMBERS		
a.	ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	-
b.	MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a	-	X
5.	USE OF REQUIRED DESIGN MIX.	-	X
6.	CONCRETE SAMPLING FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND TEMPERATURE OF THE CONCRETE PRIOR TO PLACEMENT.	X	-
7.	CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-
8.	CURING TEMPERATURE AND TECHNIQUES.	-	X
9.	VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X
10.	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONC. MEMBER BEING FORMED.	-	X
11.	REINFORCEMENT COMPLYING WITH ASTM A615	-	X

TABLE 1705.6 (CBC 2022)

REQUIRED VERIFICATION AND INSPECTION OF SOILS

	VERIFICATION AND INSPECTION	CONTINUOUS INSPECTION	PERIODIC INSPECTION
1.	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2.	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3.	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
4.	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5.	PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

TABLE 1.19.2 (TMS 402/ACI 530/ASCE 5 LATEST EDITION)

LEVEL C SPECIAL INSPECTION OF MASONRY

	VERIFICATION AND INSPECTION	CONTINUOUS INSPECTION	PERIODIC INSPECTION
1.	VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS	-	X
2.	VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
a.	PROPORTIONS OF SITE-MIXED MORTAR, GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	-	X
b.	GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES	-	X
c.	PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS	-	X
d.	PLACEMENT OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES	X	-
e.	GROUT SPACE PRIOR TO GROUTING	X	-
f.	PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	X	-
g.	SIZE AND LOCATION OF STRUCTURAL ELEMENTS	-	X
h.	TYPE, SIZE, AND LOCATION OF ANCHORS INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION	X	-
i.	WELDING OF REINFORCEMENT	X	-
j.	PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F (4.4°C)) OR HOT WEATHER (TEMPERATURE ABOVE 90°F (32.2°C))	-	X
k.	APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	X	-
l.	PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	X	-
m.	PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	X	-
3.	OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	X	-

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ENGINEERING & CIP MANAGER, CHAD WILLIAMS

DATE

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: DZ DRAWN BY: CS CHECKED BY: GK



ENGINEER OF RECORD:

Adam Hoch
ADAM HOCH P.E. 77635
EXP. 6/30/23

DATE: 9/7/2023

PLANS PREPARED BY:



RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
SPECIAL INSPECTIONS

PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

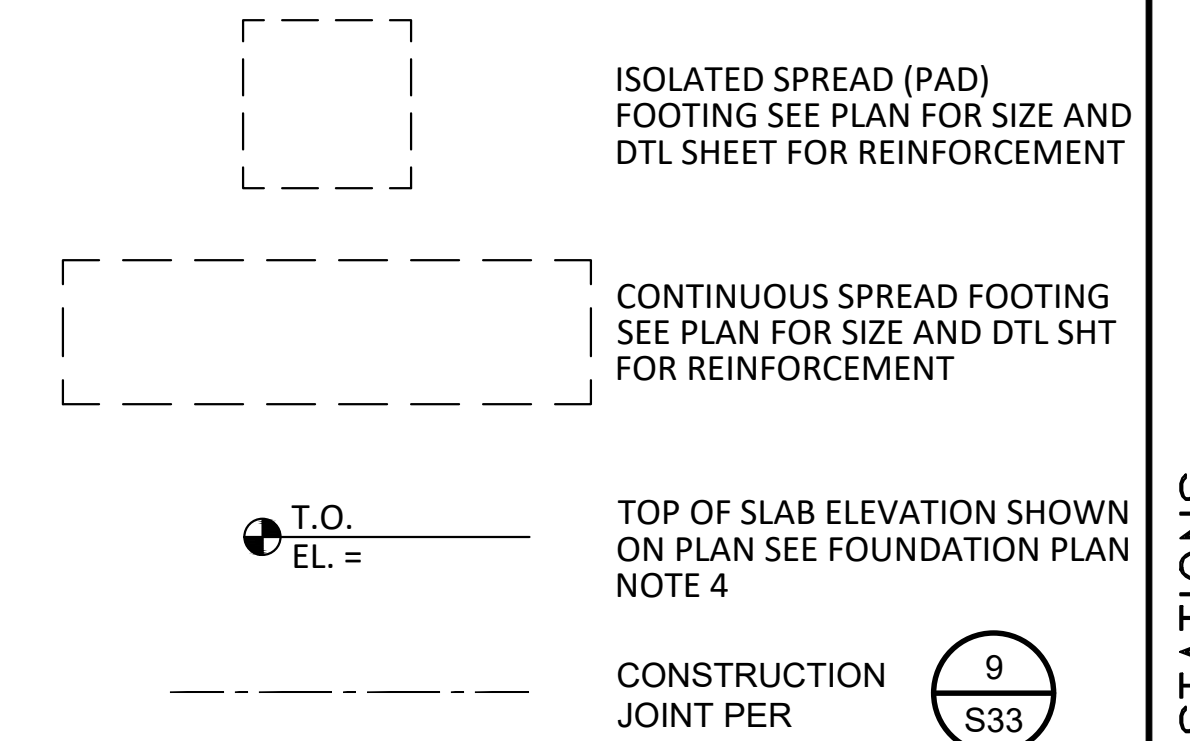
SHEET NO. **24**
OF 49 SHTS
FILE NO. 600013

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

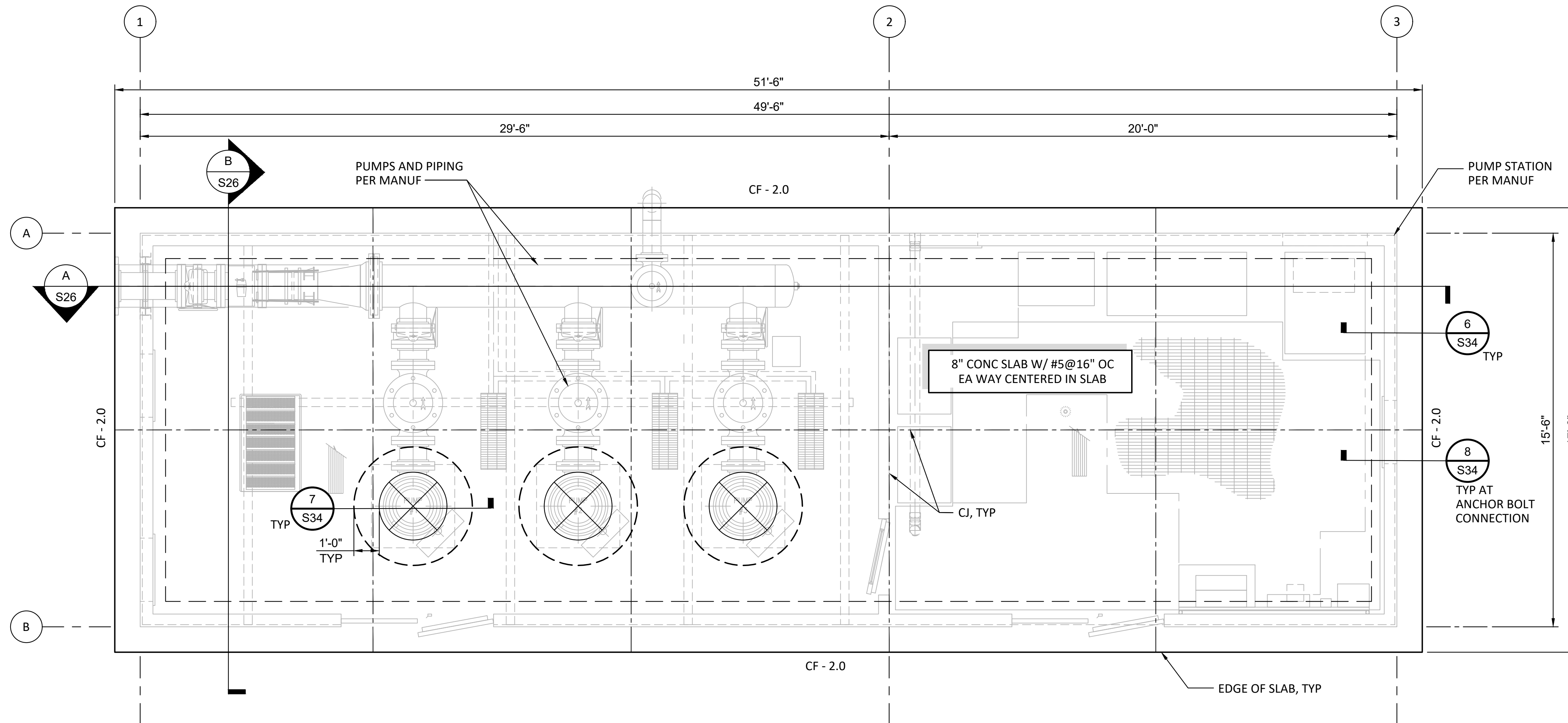
FOUNDATION PLAN NOTES:

- FOR STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, AND ABBREVIATIONS REFERENCE SHEET NO. 22, NO. 23 AND NO. 24. FOR TYPICAL STRUCTURAL DETAILS SEE SHEET NO. 33.
- VERIFY ALL DIMENSIONS AND ELEVATIONS PER THE CIVIL DRAWINGS AND PUMP STATION MANUFACTURER PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
- TOP OF SLAB (T/SLAB) ELEVATION ASSUMED 0'-0". FOR TOP OF SLAB AND FINISHED GRADE ELEVATIONS SEE CIVIL DRAWINGS.
- OVER-EXCAVATION AND SUBGRADE SEE GEOTECHNICAL REPORT.

FOUNDATION LEGEND:



FOOTING SCHEDULE			
MARK	WIDTH	DEPTH	REINF
CF - 2.0	2'-0"	1'-6"	3-#5 TOP & BOTT



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ENGINEER OF RECORD:
Adam Hoch
ADAM HOCH P.E. 77635 EXP. 6/30/23
DATE: 9/7/2023

PLANS PREPARED BY:
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RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
WEST LILAC FOUNDATION PLAN & SECTIONS

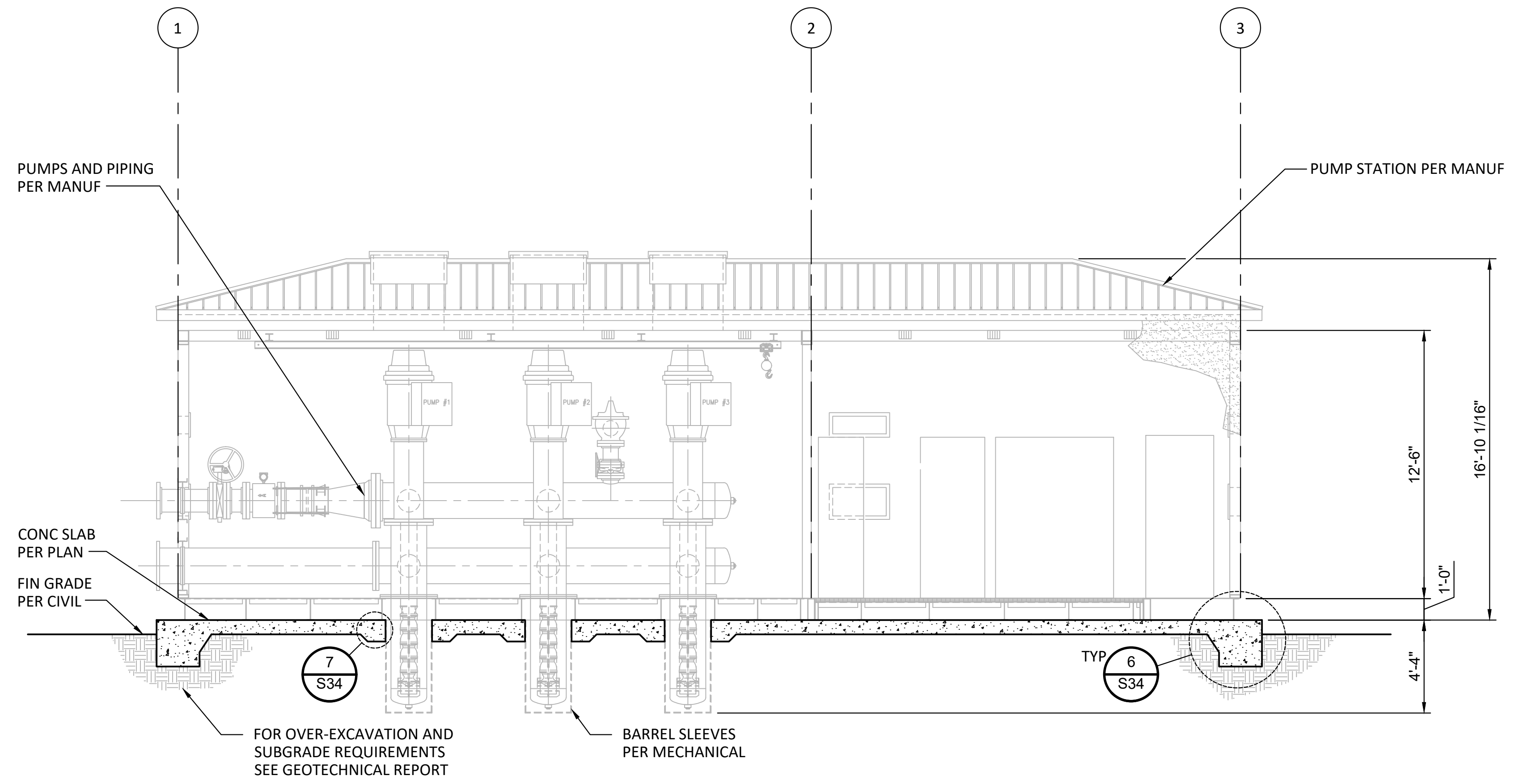
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **25**
OF 49 SHTS
FILE NO. 600013

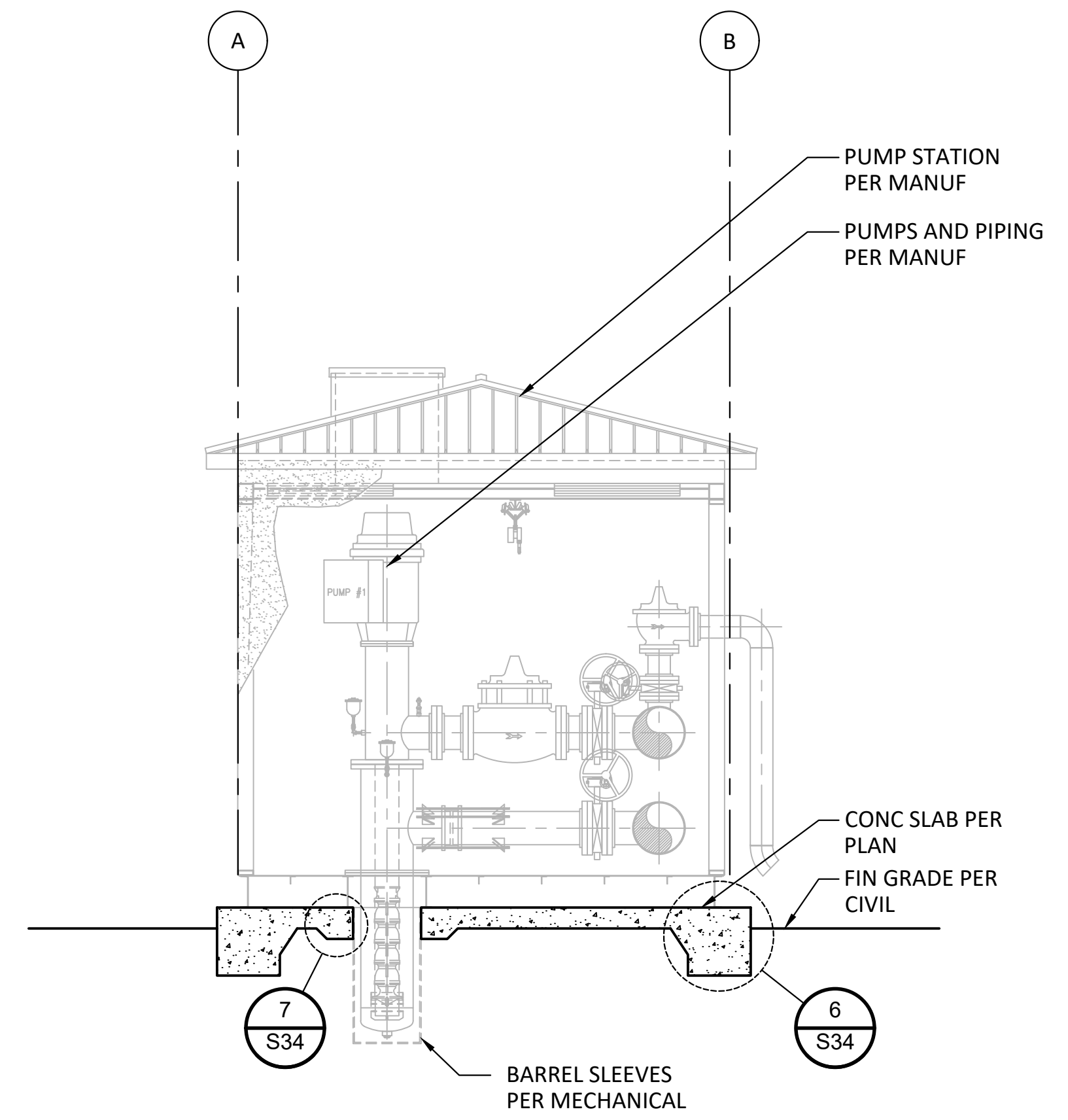
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

SECTION NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS PER THE CIVIL DRAWINGS AND PUMP STATION MANUFACTURER PRIOR TO CONSTRUCTION.
3. OVER-EXCAVATION AND SUBGRADE SEE GEOTECHNICAL REPORT.



A SECTION B-B
SCALE: 1/4"=1'-0"
0 2 4 6 8



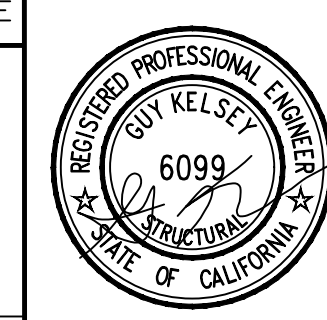
B SECTION A-A
SCALE: 1/4"=1'-0"
0 2 4 6 8

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RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
WEST LILAC FOUNDATION PLAN & SECTIONS
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

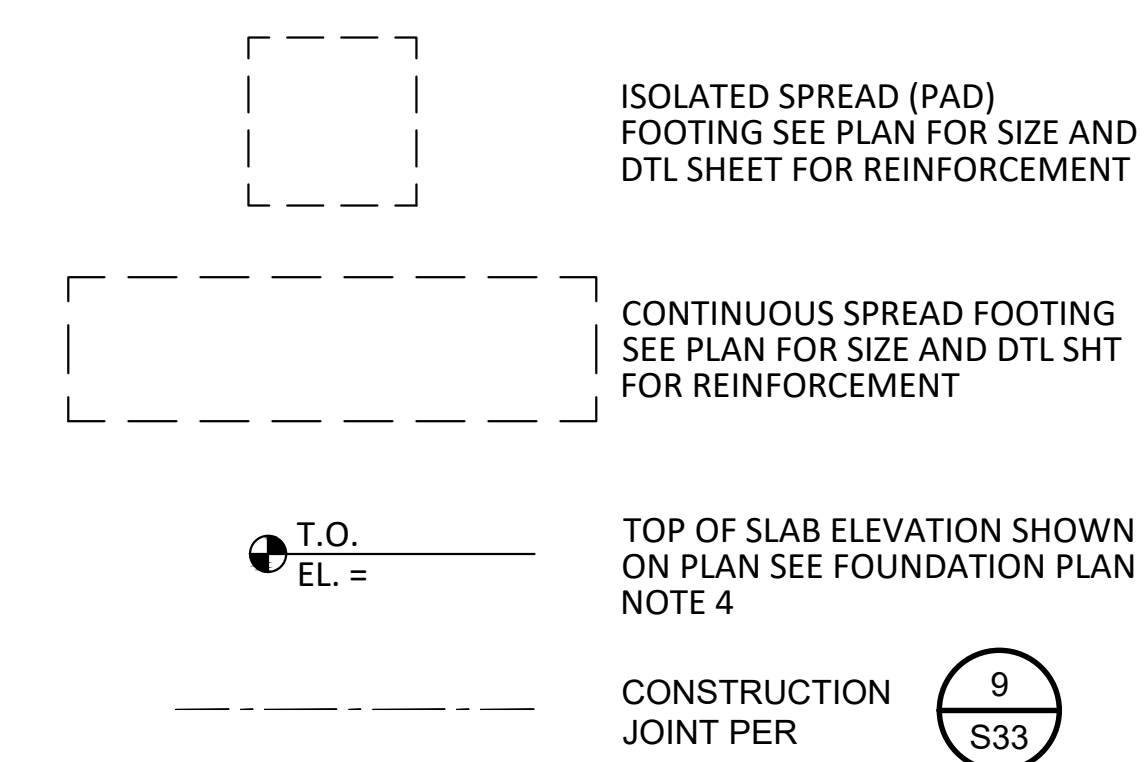
SHEET NO.
26
OF 49 SHTS
FILE NO.
600013

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

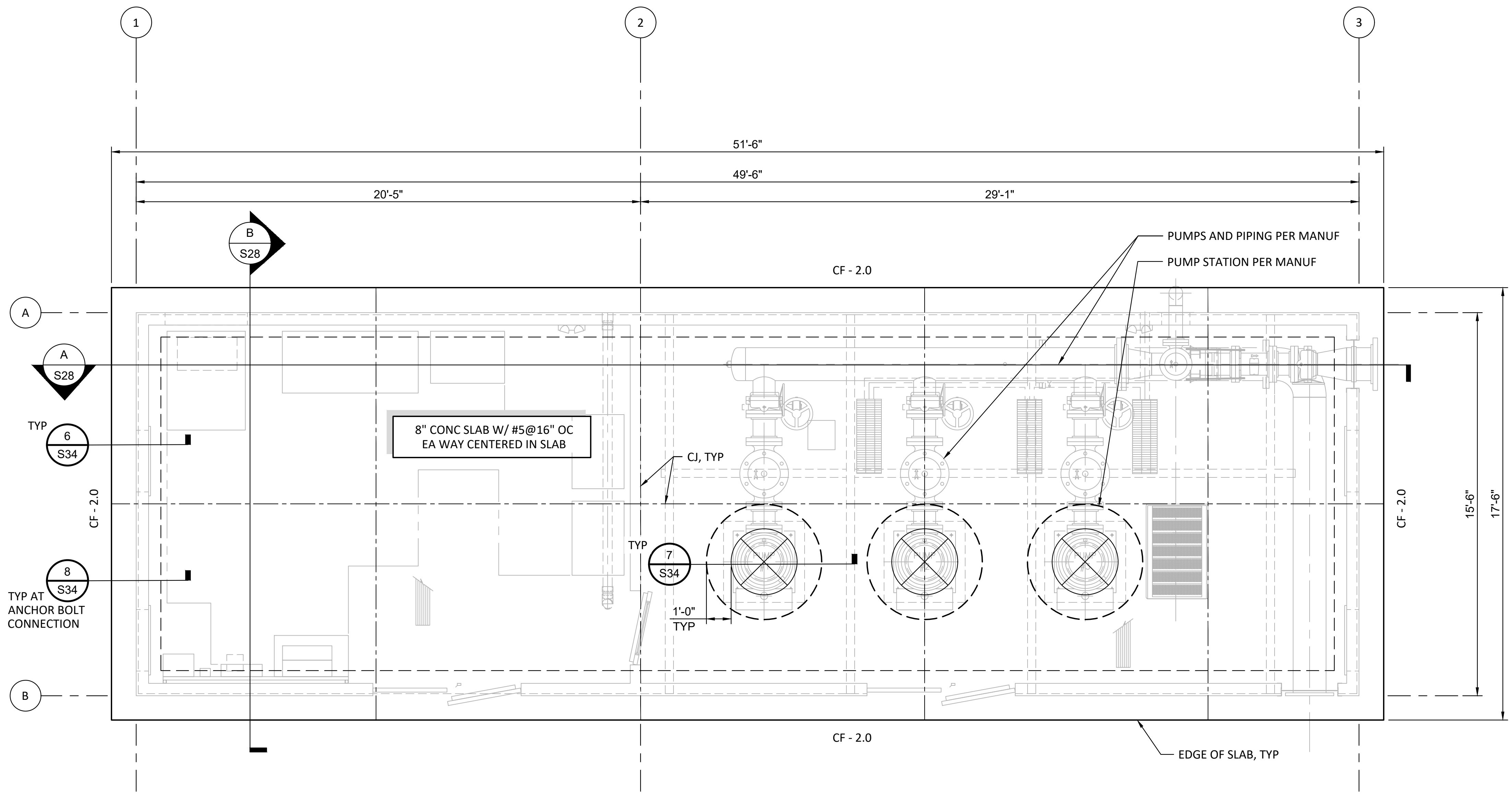
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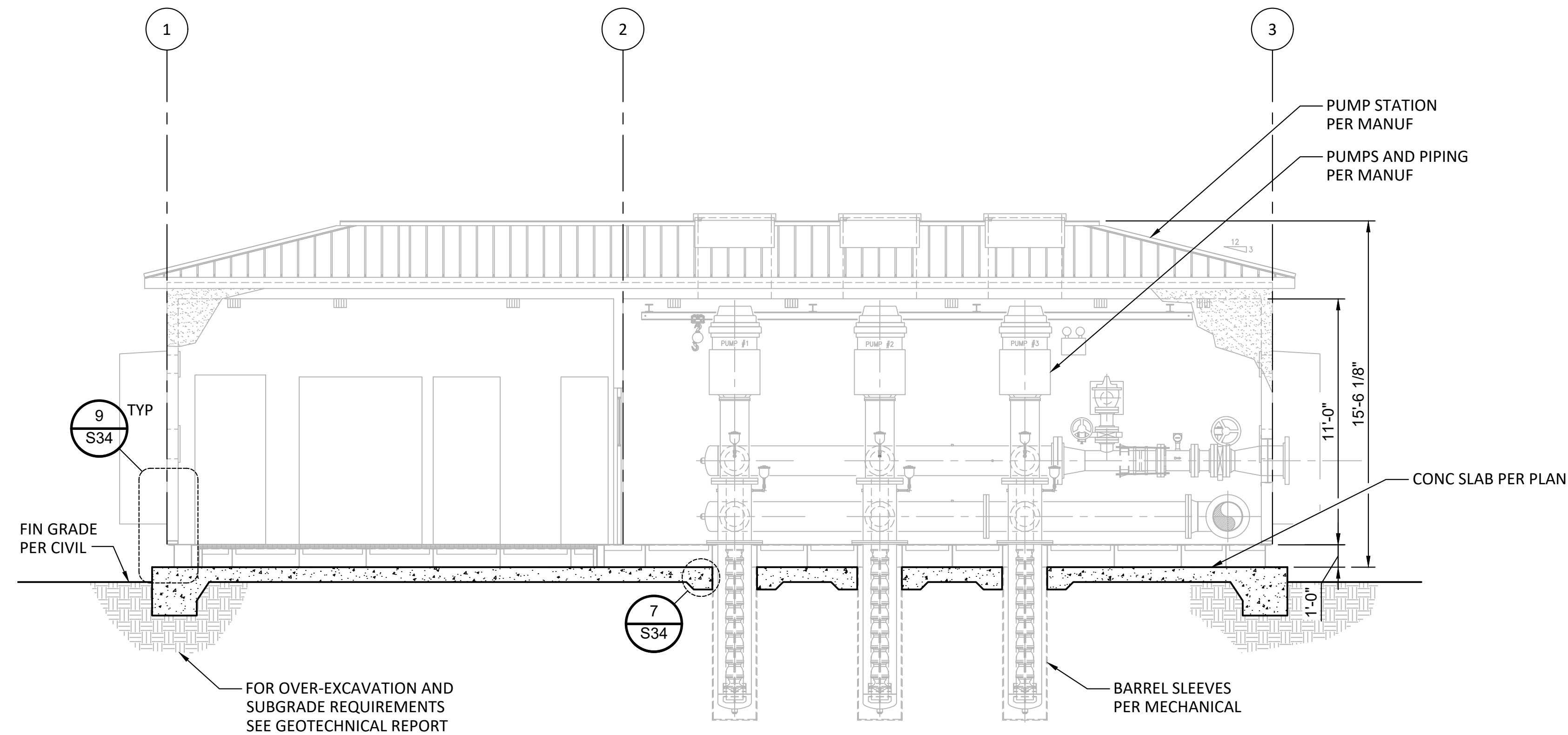
RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
RANCHO AMIGOS FOUNDATION PLAN & SECTIONS
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **27**
OF 49 SHTS
FILE NO. 600013

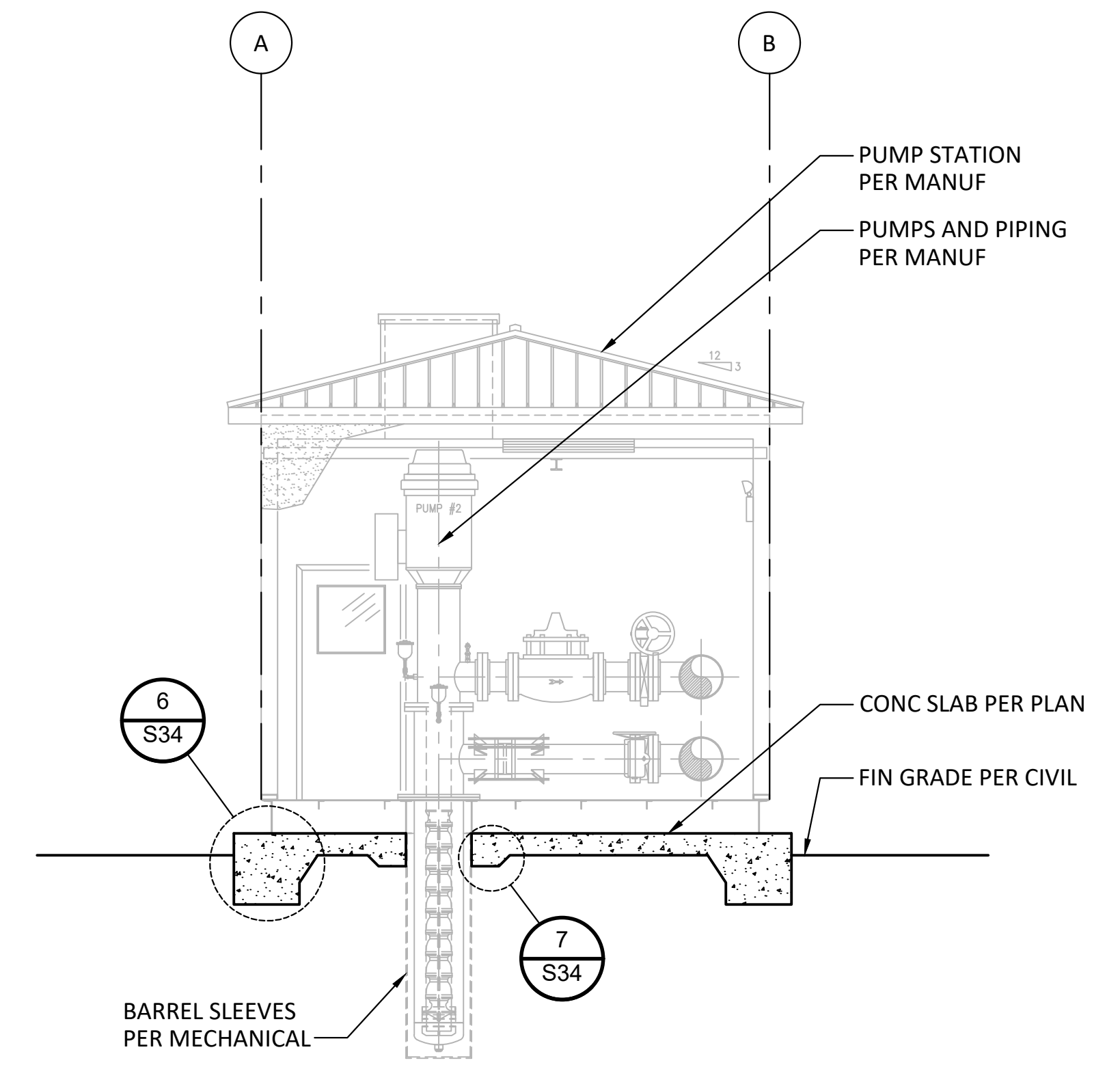
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

SECTION NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS PER THE CIVIL DRAWINGS AND PUMP STATION MANUFACTURER PRIOR TO CONSTRUCTION.
3. OVER-EXCAVATION AND SUBGRADE SEE GEOTECHNICAL REPORT.



A SECTION B-B
SCALE: 1/4"=1'-0"
0 2 4 6 8



B SECTION A-A
SCALE: 1/4"=1'-0"
0 2 4 6 8

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(760) 728-1178
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WATER DISTRICT

ENGINEERING & CIP MANAGER, CHAD WILLIAMS

DATE

REV	BY	DATE	REVISIONS	APPR.	DATE
DESIGNED BY:	DZ	DRAWN BY:	CS	CHECKED BY:	GK



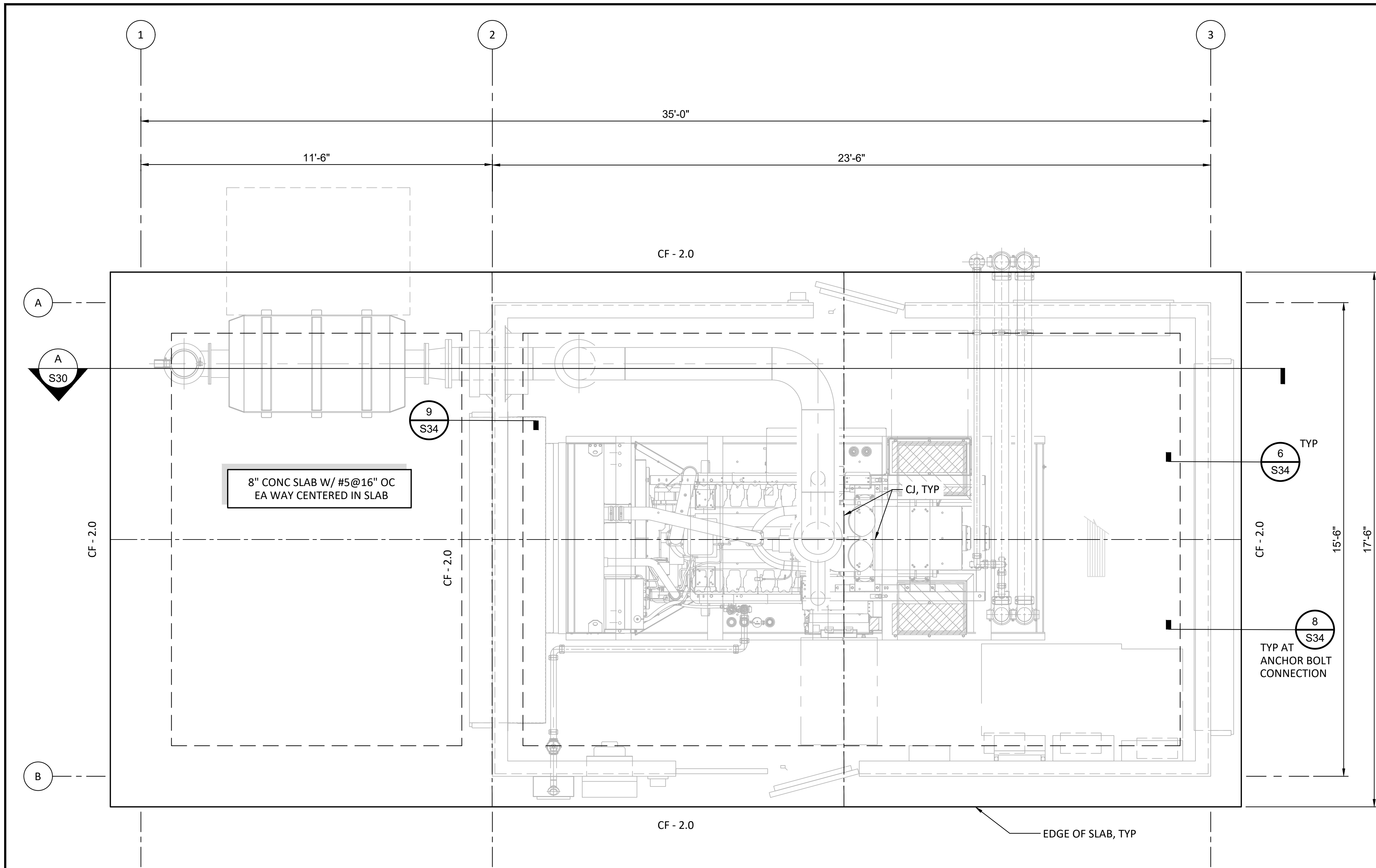
ENGINEER OF RECORD:
Adam Hoch
ADAM HOCH
P.E. 77635
EXP. 6/30/23
DATE: 9/7/2023

PLANS PREPARED BY:
KELSEY STRUCTURAL
8064 ALLISON AVE.
#1706 LA MESA, CA
91942 619.920.1262
gkelsey@kelseystructural.com

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RANCHO AMIGOS FOUNDATION PLAN & SECTIONS
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO.
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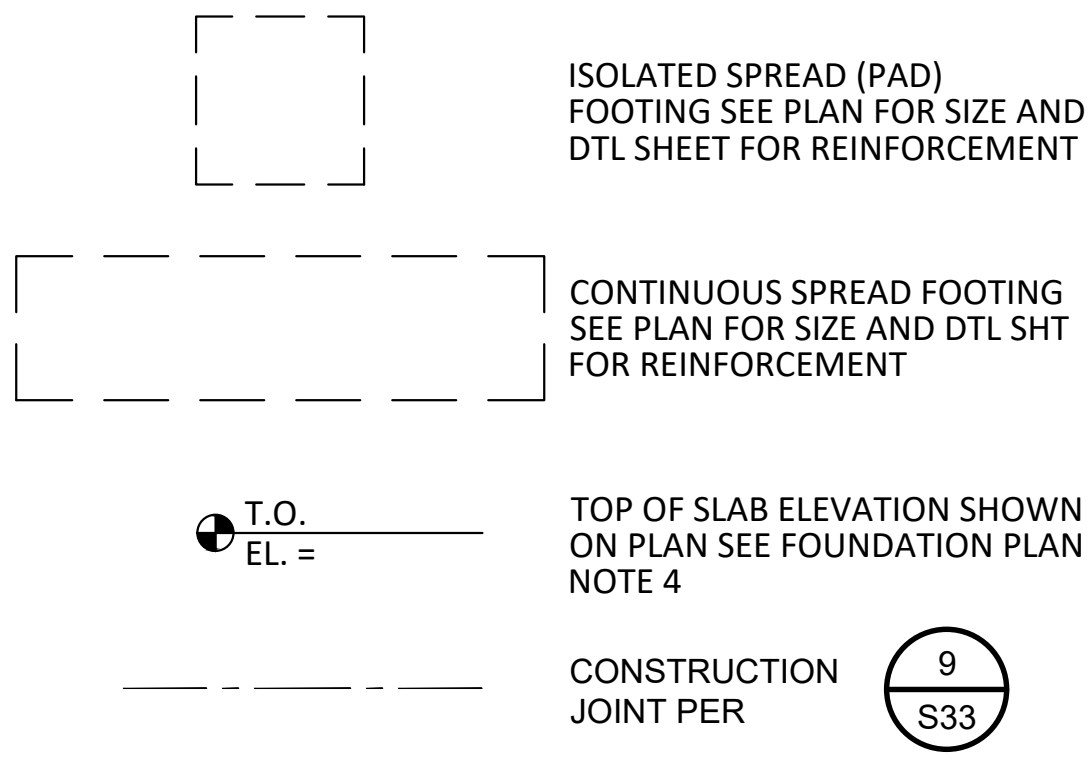
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



FOUNDATION PLAN NOTES:

- FOR STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, AND ABBREVIATIONS REFERENCE SHEET NO. 22, NO. 23 AND NO. 24. FOR TYPICAL STRUCTURAL DETAILS SEE SHEET NO. 33.
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- OVER-EXCAVATION AND SUBGRADE SEE GEOTECHNICAL REPORT.

FOUNDATION LEGEND:



FOOTING SCHEDULE

MARK	WIDTH	DEPTH	REINF
CF - 2.0	2'-0"	1'-6"	3-#5 TOP & BOTT

A GENERATOR FOUNDATION PLAN
SCALE: 1/2"=1'-0"

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DESIGNED BY: DZ DRAWN BY: CS CHECKED BY: GK



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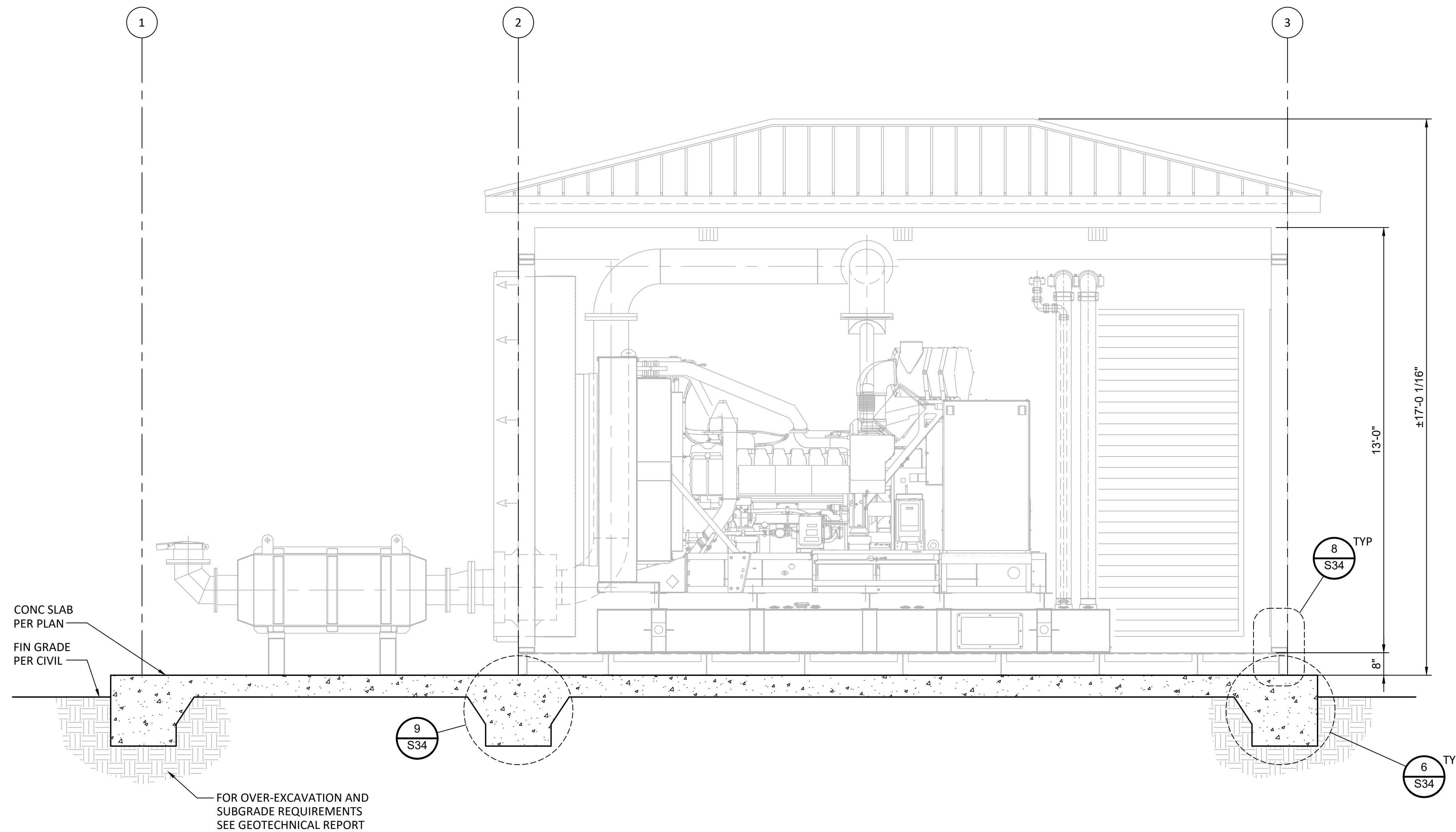
RAINBOW MUNICIPAL WATER DISTRICT
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SHEET NO. **29**
OF 49 SHTS
FILE NO. 600013

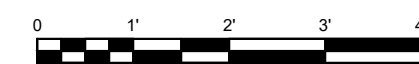
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A GENERATOR SECTION A-A
SCALE: 1/2"=1'-0"



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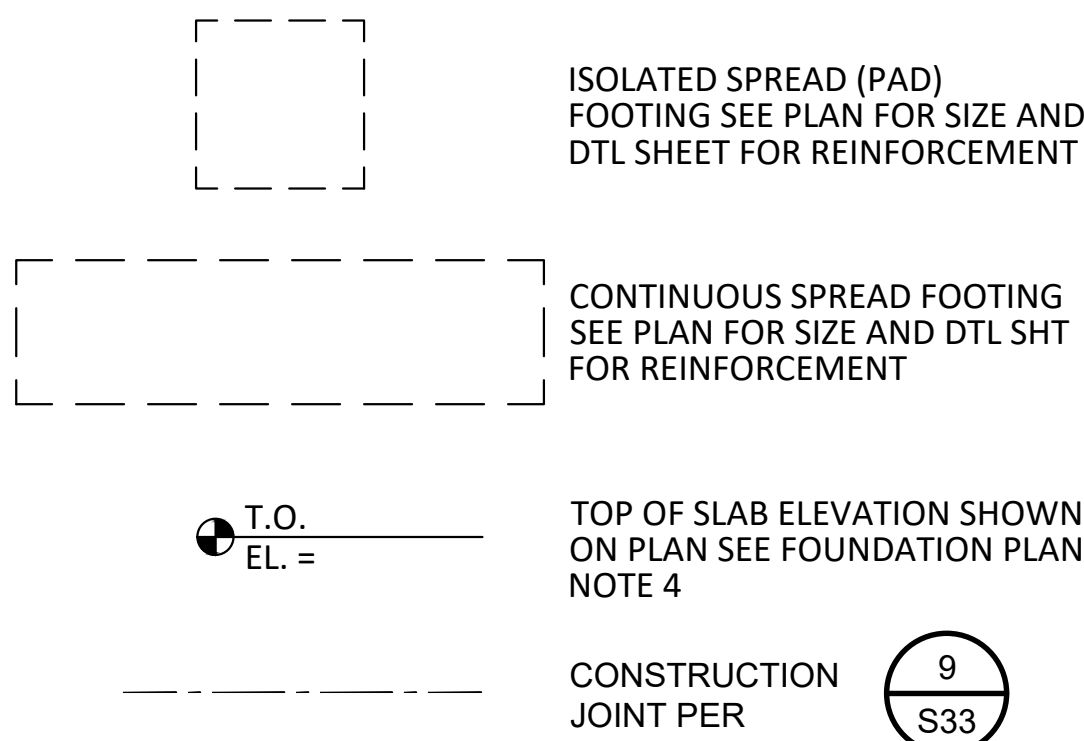
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PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO.
30
OF 49 SHTS
FILE NO.
600013

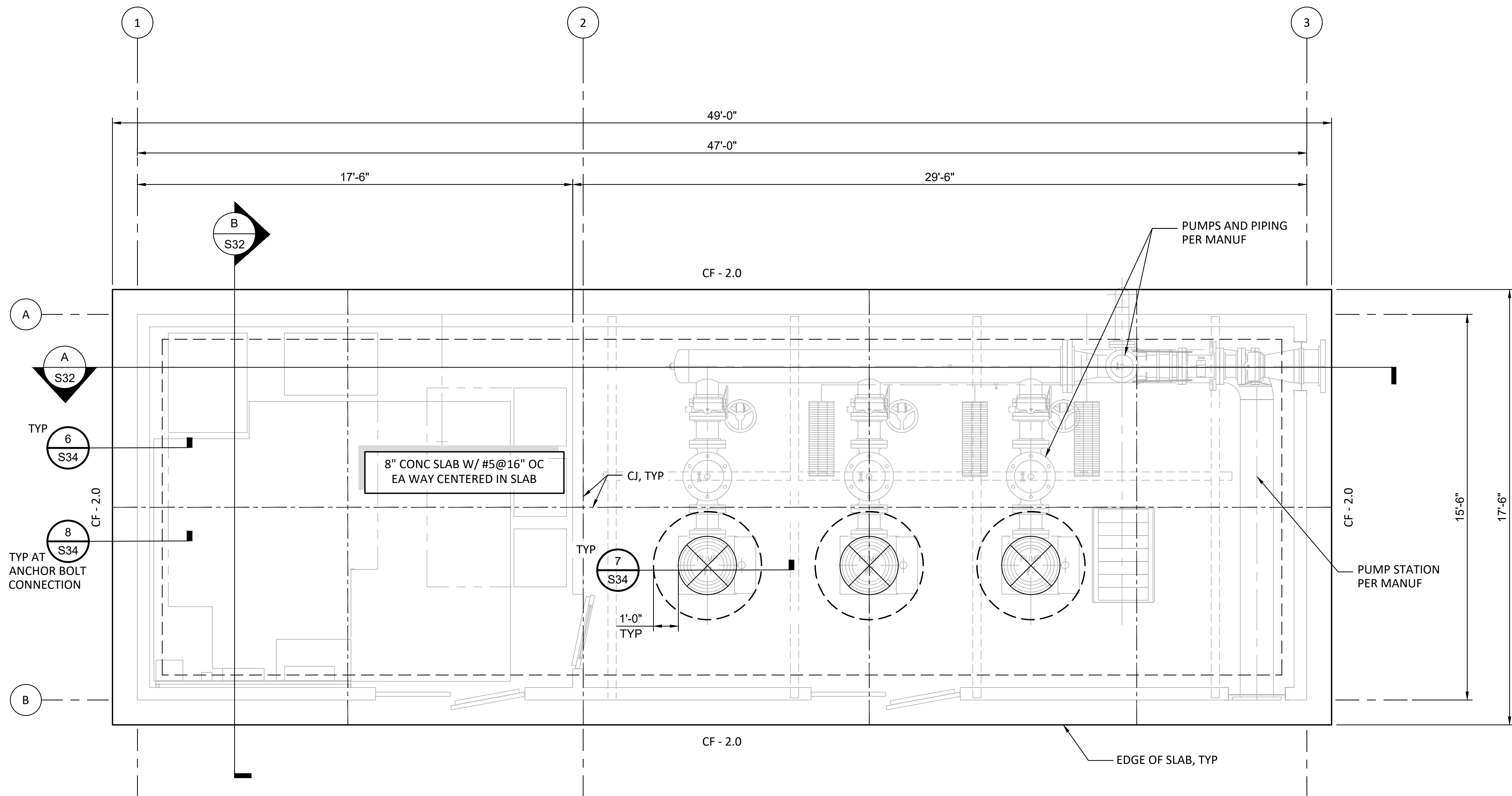
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FOUNDATION LEGEND:



FOOTING SCHEDULE			
MARK	WIDTH	DEPTH	REINF
CF - 2.0	2'-0"	1'-6"	3-#5 TOP & BOTT



A FOUNDATION PLAN
SCALE: 3/8"=1'-0"



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WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
DENTRO FOUNDATION PLAN & SECTIONS

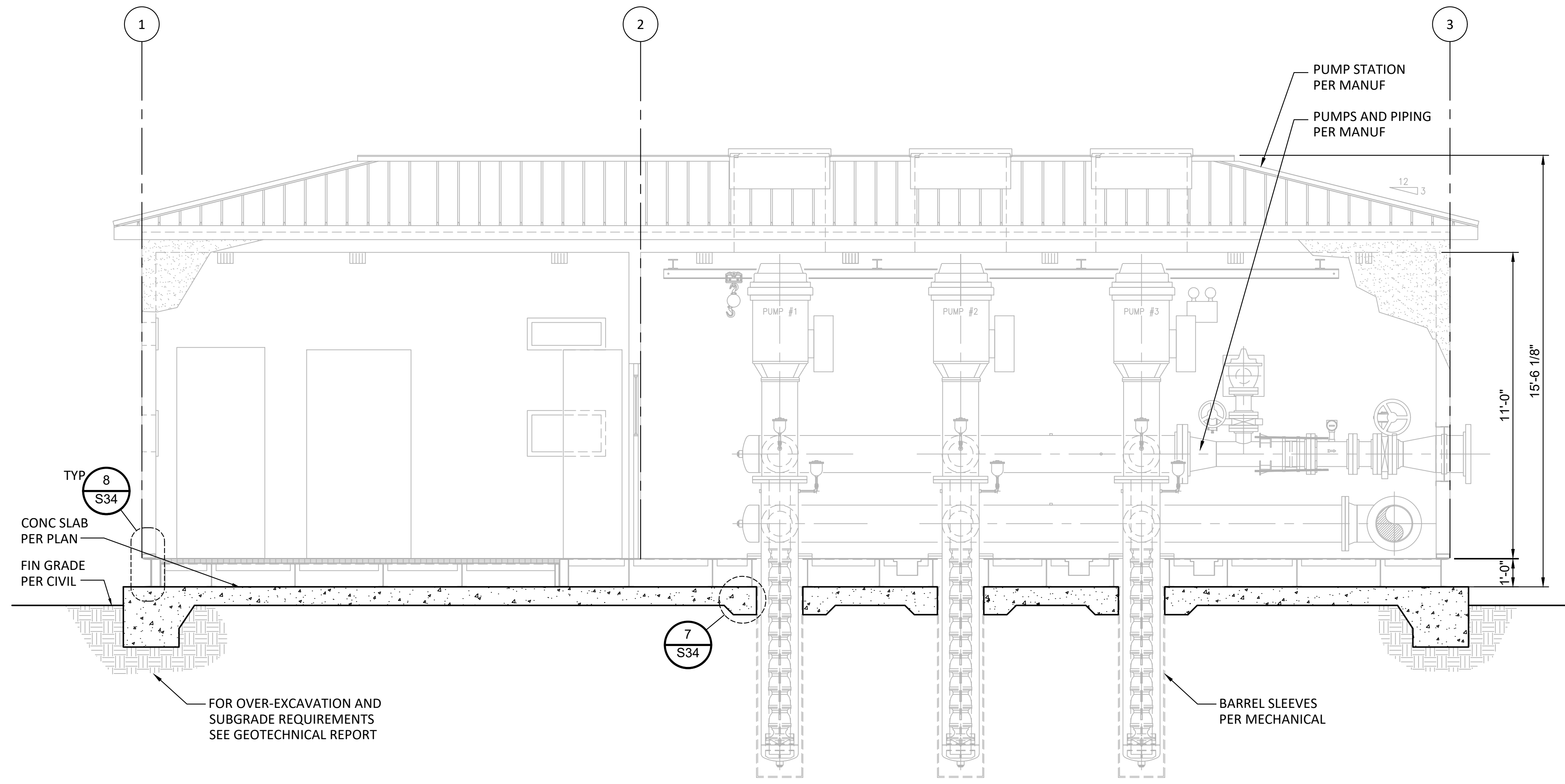
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **31**
OF 49 SHTS
FILE NO. 600013

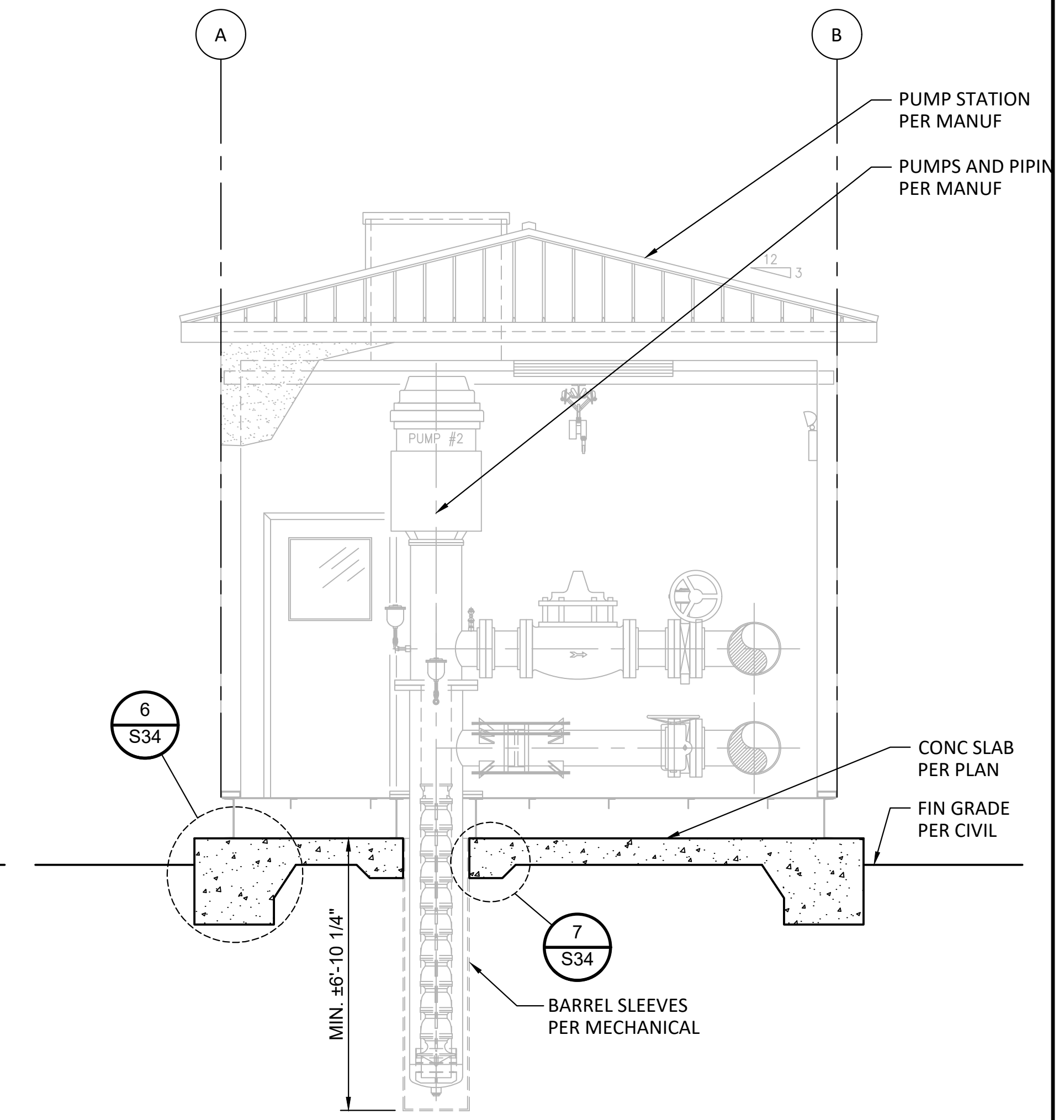
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

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A SECTION B-B
SCALE: 3/8"=1'-0"
0 2 4 6



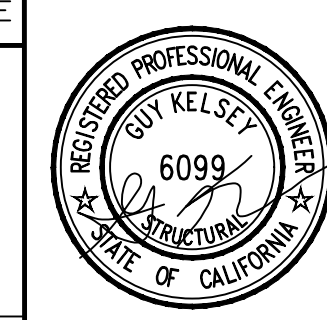
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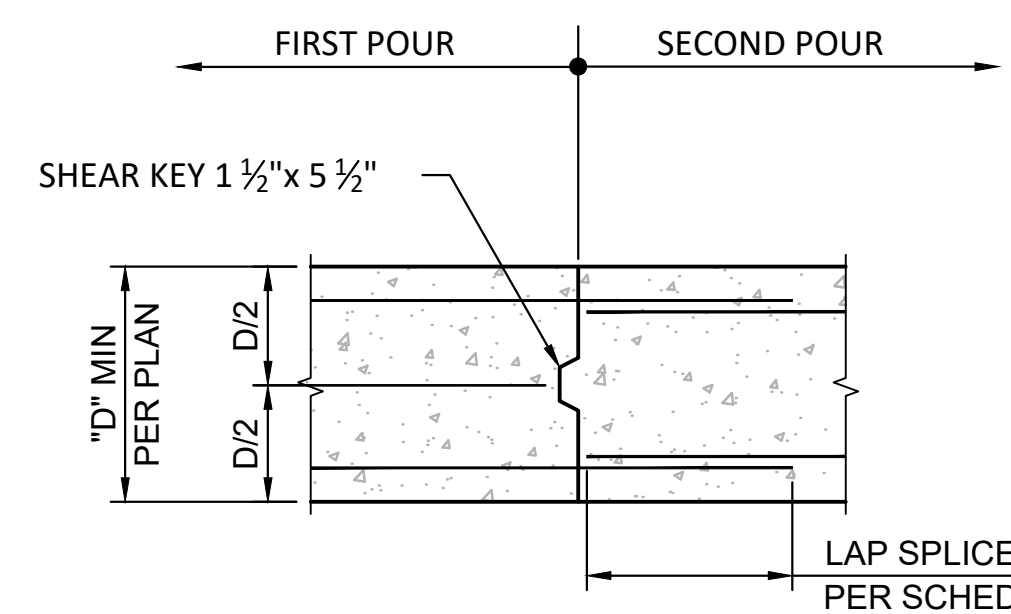
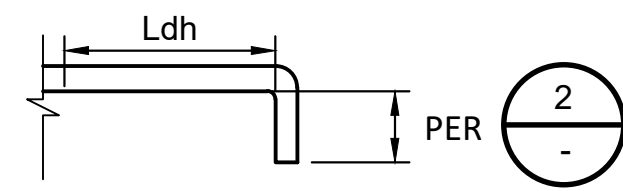
SHEET NO.
32
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FILE NO.
600013

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

TYPICAL REINFORCING LAP SPlice AND EMBEDMENT LENGTH SCHEDULE

REBAR SPLICE AND DEVELOPMENT SCHEDULES																							
SCHEDULE "A"																							
BAR#	CONC f'c = 3,000 PSI				L _{dh}	CONC f'c = 4,000 PSI				L _{dh}	CONC f'c = 5,000 PSI				L _{dh}	CONC f'c = 6,000 PSI							
	SPLICE		DEVELOPMENT			SPLICE		DEVELOPMENT			SPLICE		DEVELOPMENT			SPLICE		DEVELOPMENT					
	TOP	OTHER	TOP	OTHER		TOP	OTHER	TOP	OTHER		TOP	OTHER	TOP	OTHER		TOP	OTHER	TOP	OTHER				
#3	29	22	22	17	8	#3	25	20	20	15	7	#3	22	17	17	13	7	#3	21	16	16	12	6
#4	38	29	29	22	11	#4	33	25	25	19	10	#4	30	23	23	17	9	#4	27	21	21	16	8
#5	47	36	36	28	14	#5	40	31	31	24	12	#5	36	29	29	22	11	#5	34	26	26	20	10
#6	56	43	43	33	17	#6	48	38	38	29	15	#6	44	34	34	26	13	#6	40	31	31	24	12
#7	62	63	63	48	19	#7	70	55	55	42	17	#7	64	49	49	38	15	#7	59	45	45	34	13
#8	94	72	72	55	22	#8	81	62	62	48	19	#8	73	56	56	43	17	#8	66	51	51	39	16
#9	105	81	81	62	25	#9	91	70	70	54	22	#9	82	63	63	48	19	#9	74	57	57	44	17
#10	118	91	91	70	28	#10	103	79	79	61	24	#10	92	71	71	54	21	#10	83	65	65	50	20
#11	131	101	101	78	30	#11	113	87	87	67	29	#11	101	78	78	60	24	#11	92	72	72	55	22

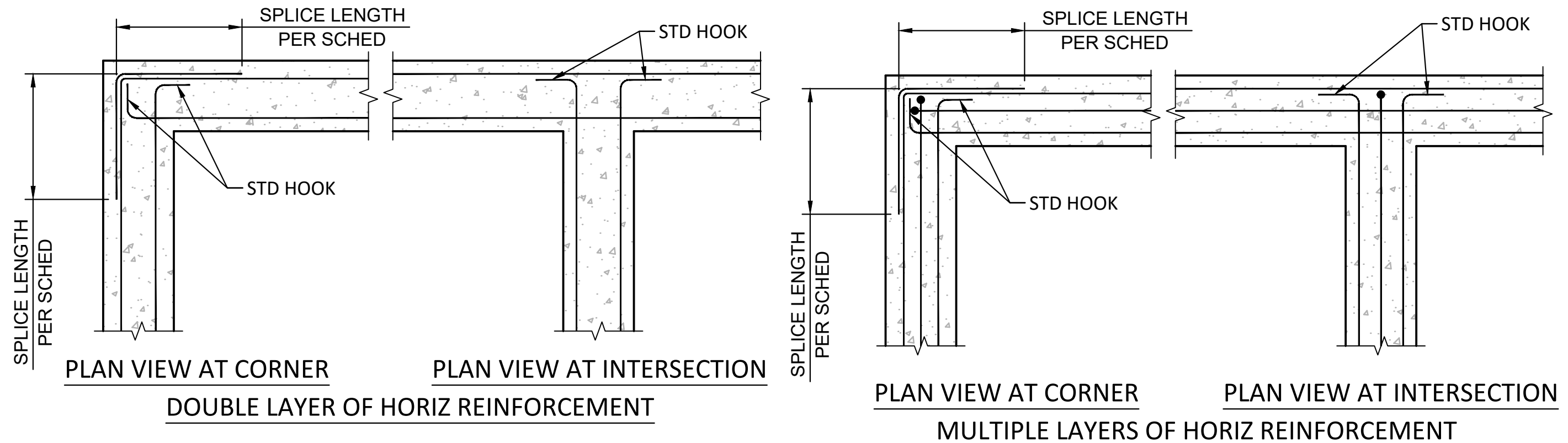
- NOTES:
- SPLICE AND EMBEDMENT LENGTHS ARE IN INCHES. SPLICE SHALL BE CLASS "B" U.O.N.
 - 0.80 SPLICE LENGTH MAY BE USED IF NOT MORE THAN 1/2" OF THE BARS ARE LAP SPICED WITHIN A REQUIRED LAP LENGTH.
 - TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" CONC. BELOW, OTHER BARS ARE BOTTOM OR VERTICAL BARS.
 - WHERE REQUIRED EMBEDMENT CANNOT BE OBTAINED WITH STRAIGHT BARS, PROVIDE 180° OR 90° HOOK EQUAL TO LENGTH BELOW.
 - SCHEDULE IS FOR GRADE 60 BARS.
 - SCHEDULE IS FOR NORMAL WEIGHT CONCRETE. INCREASE SCHEDULE VALUE BY 1.33 FOR LIGHTWEIGHT CONCRETE.
 - CLEAR SPACING BETWEEN BARS BEING DEVELOPED SHALL BE GREATER THAN 2db AND CONC COVER GREATER THAN db.
 - SPLICE LENGTH FOR BARS OF DIFFERENT SIZE SHALL BE LARGER OF DEVELOPMENT LENGTH OF LARGER BAR AND SPLICE LENGTH OF SMALLER BAR.



- NOTE:
- CONTRACTOR OPTION TO USE MECHANICAL BAR SPLICE IN LIEU OF LAP SPLICE. MECHANICAL SPLICE SHALL DEVELOP 125% OF THE SPECIFIED REBAR YIELD STRENGTH AND SHALL HAVE APPROVED ICC REPORT.

1 TYP FTG CONST JOINT

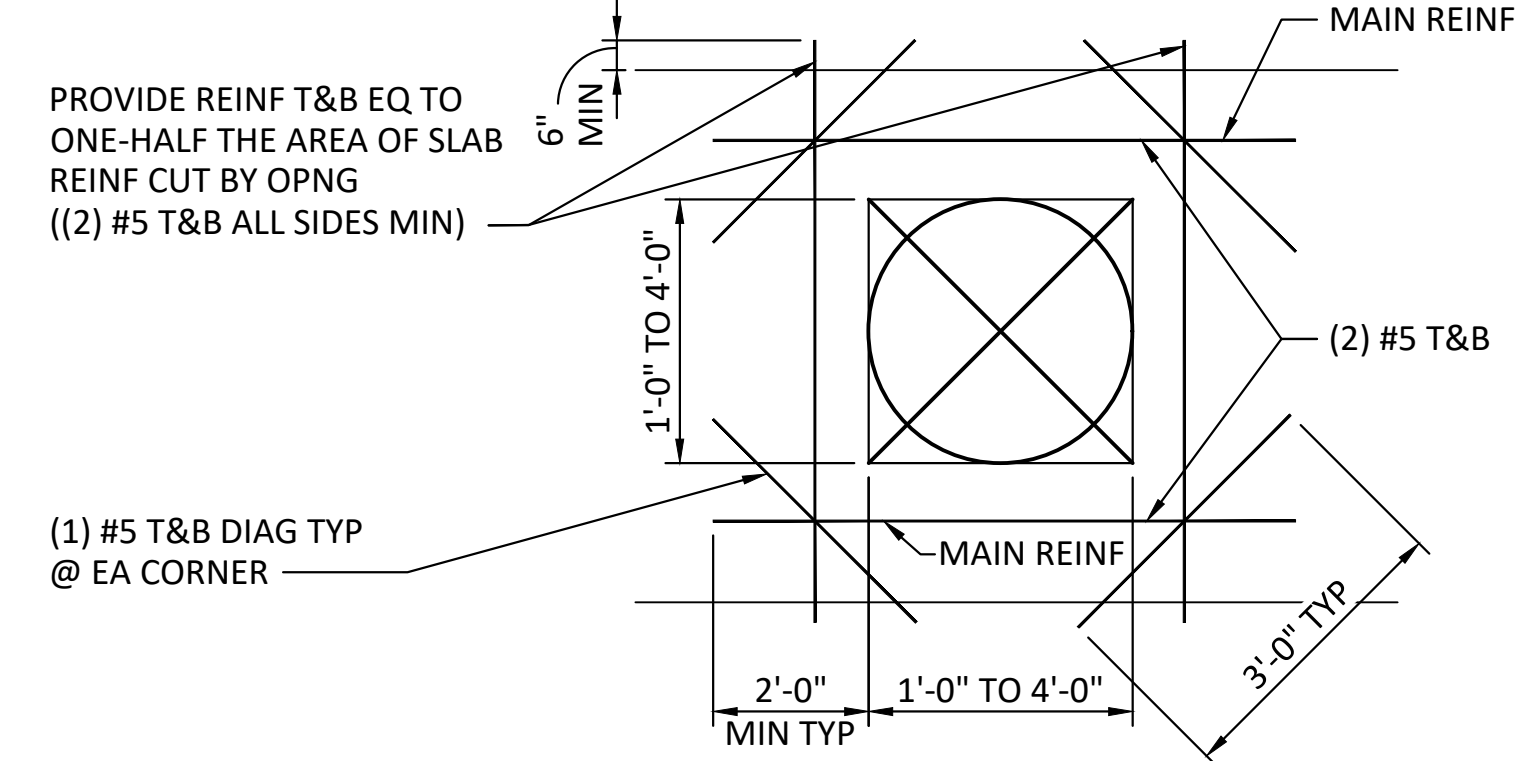
- NOTES:
- FOR FOOTINGS WITH MORE THAN TWO LAYERS OF REINFORCEMENT, EXTEND THE MIDDLE LAYER REINFORCEMENT AS FAR AS POSSIBLE AND PROVIDE A STANDARD HOOK AT THE ENDS.
 - FOR DEVELOPMENT/SPLICE LENGTHS SEE SCHEDULE.



4 TYP REINF AT FOOTING INTERSECTIONS

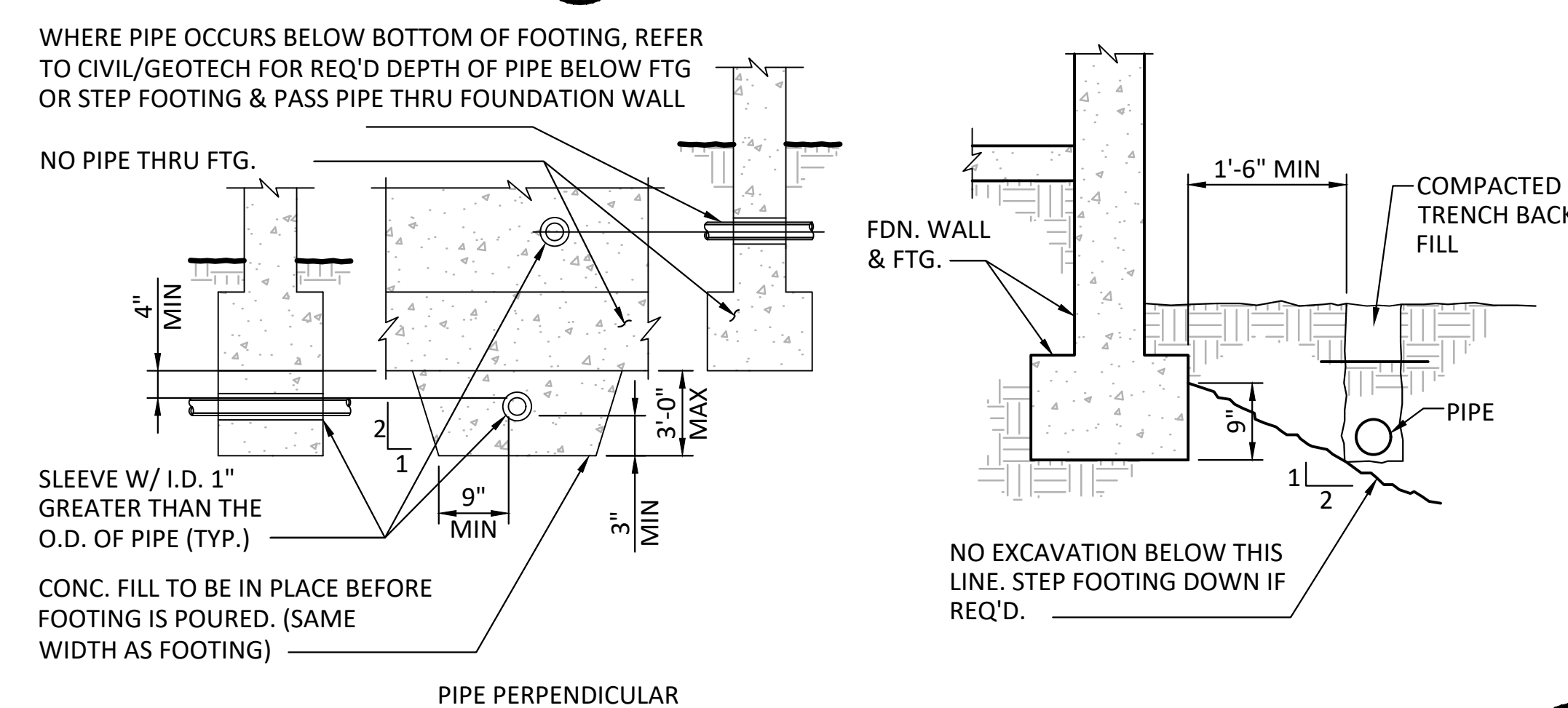
5 TYP SLAB ON GRADE (SOG)

6 TYP STEPPED GRADE BEAM

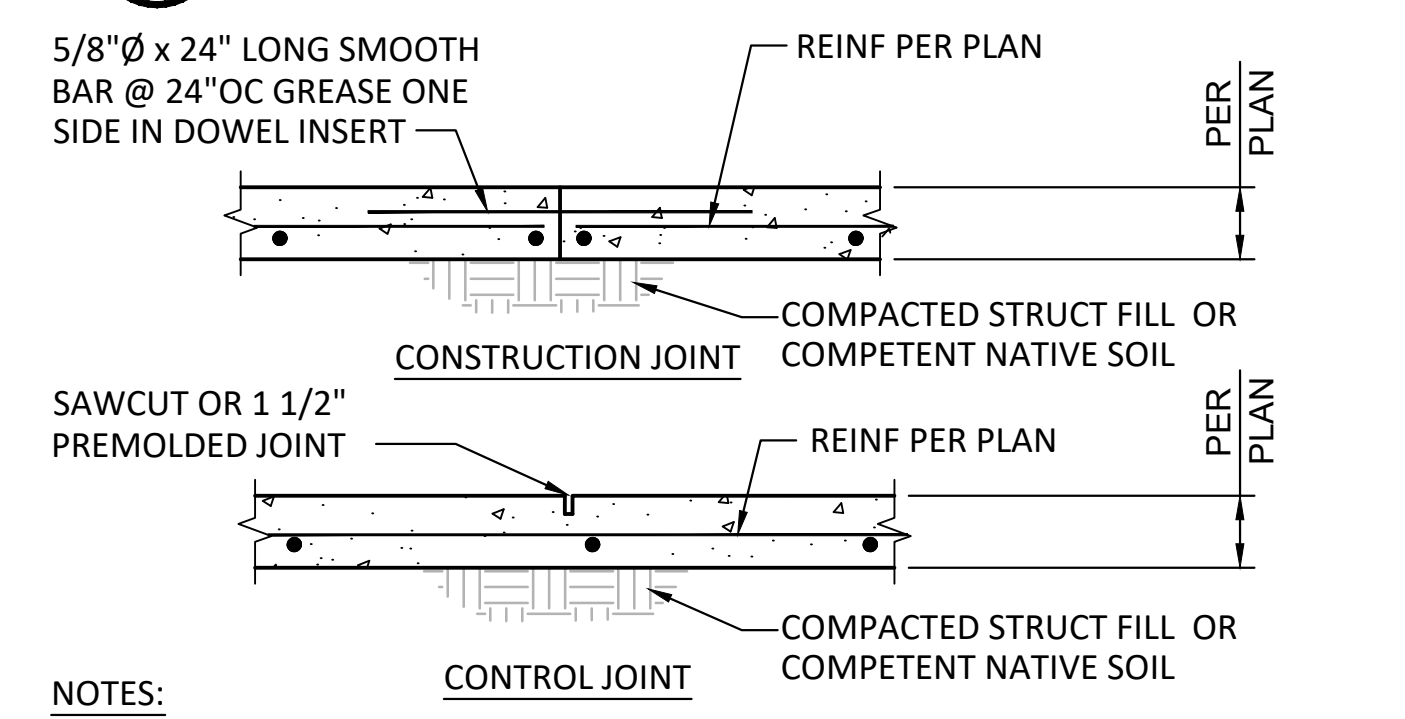


- NOTES:
- ALL OPENINGS WITH A DIMENSION OF 12" OR GREATER SHALL BE TRIMMED WITH REINFORCING.
 - THIS REINFORCING IS IN ADDITION TO ANY REINFORCING INDICATED ON PLANS.
 - WHERE AN ADJACENT OPENING IS CLOSER THAN THE SMALLER OPENING DIMENSION, EXTEND TRIM REINFORCING TO 24" MINIMUM PAST ADJACENT OPENINGS.
 - HOOK REINFORCING AT SLAB EDGE WHERE THE OPENING EDGE TO SLAB EDGE IS CLOSER THAN 24".

7 TYP SLAB OPENING REINFORCING DETAIL



8 TYP PIPE ADJACENT TO FOOTING



- NOTES:
- FOR CONSTRUCTION OR CONTROL JOINT LOCATIONS REFERENCE FDN/SLAB PLAN. USE "EARLY ENTRY DRY-CUT SAW" AS SOON AS POSSIBLE WITHOUT CAUSING RAVELING OF CONCRETE EDGES. SAWCUT ALONG SHORT DIRECTION OF POUR FIRST.
 - PROVIDE CONSTRUCTION/CONTROL JOINT TO ENCLOSE APPROXIMATE SQUARE AREAS OF 225 SF MAX, WITH A MAXIMUM PANEL ASPECT RATIO OF 1.3 TO 1.0.

9 TYP SLAB JOINT DETAIL W/ REINF

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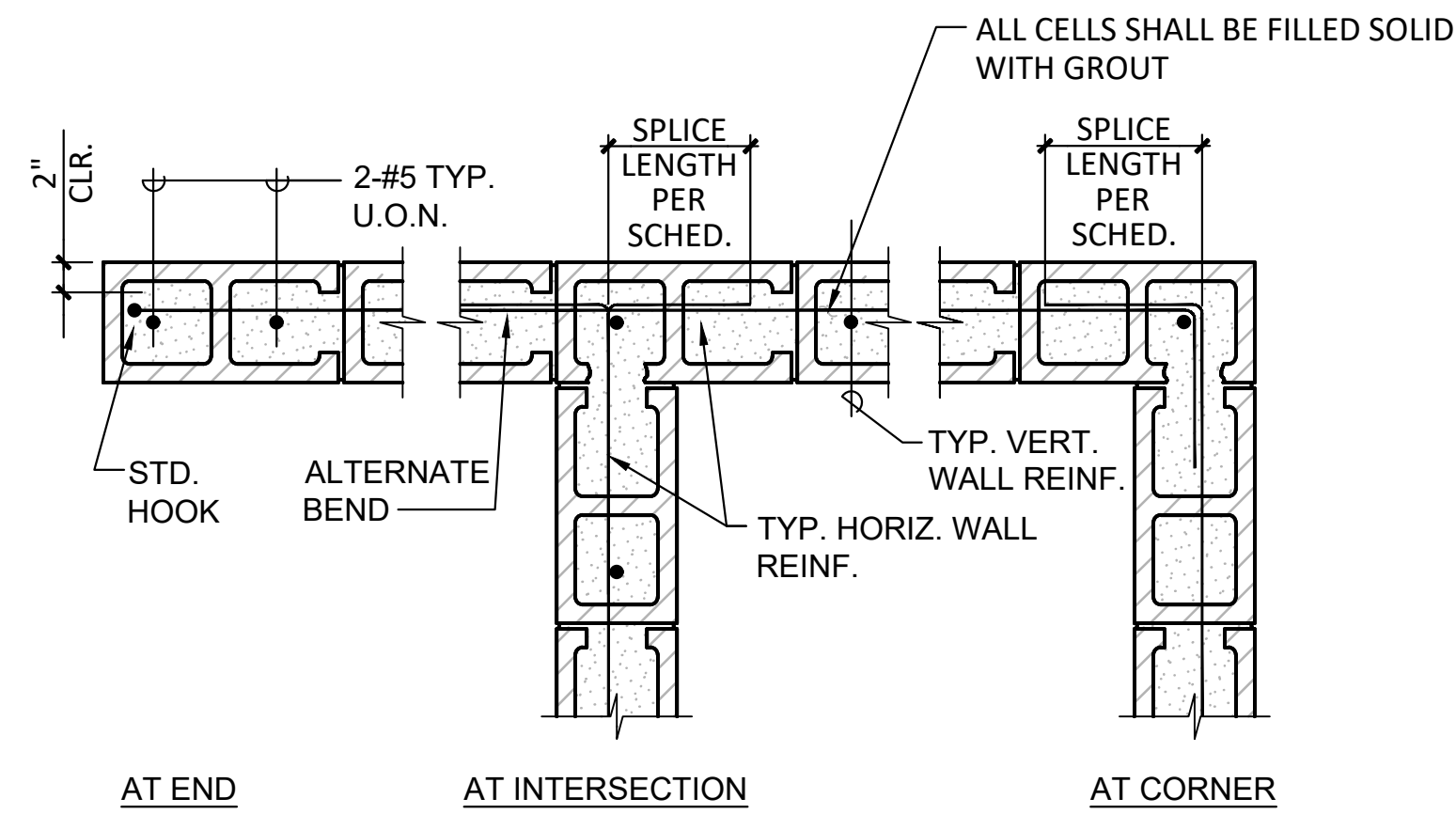


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 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 TYPICAL STRUCTURAL DETAIL
 SHEET NO. 33
 OF 49 SHTS
 FILE NO. 600013
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

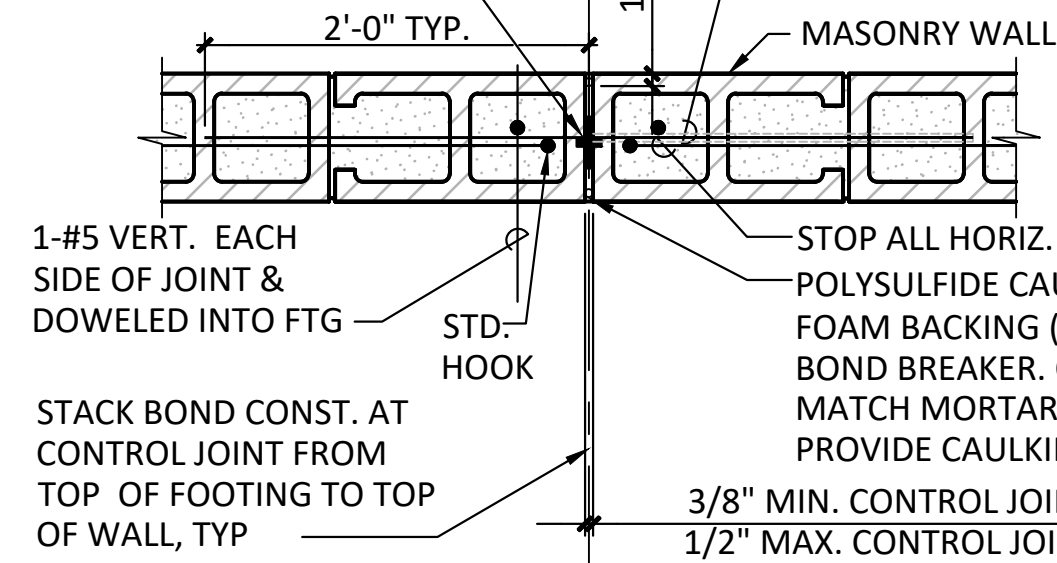
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



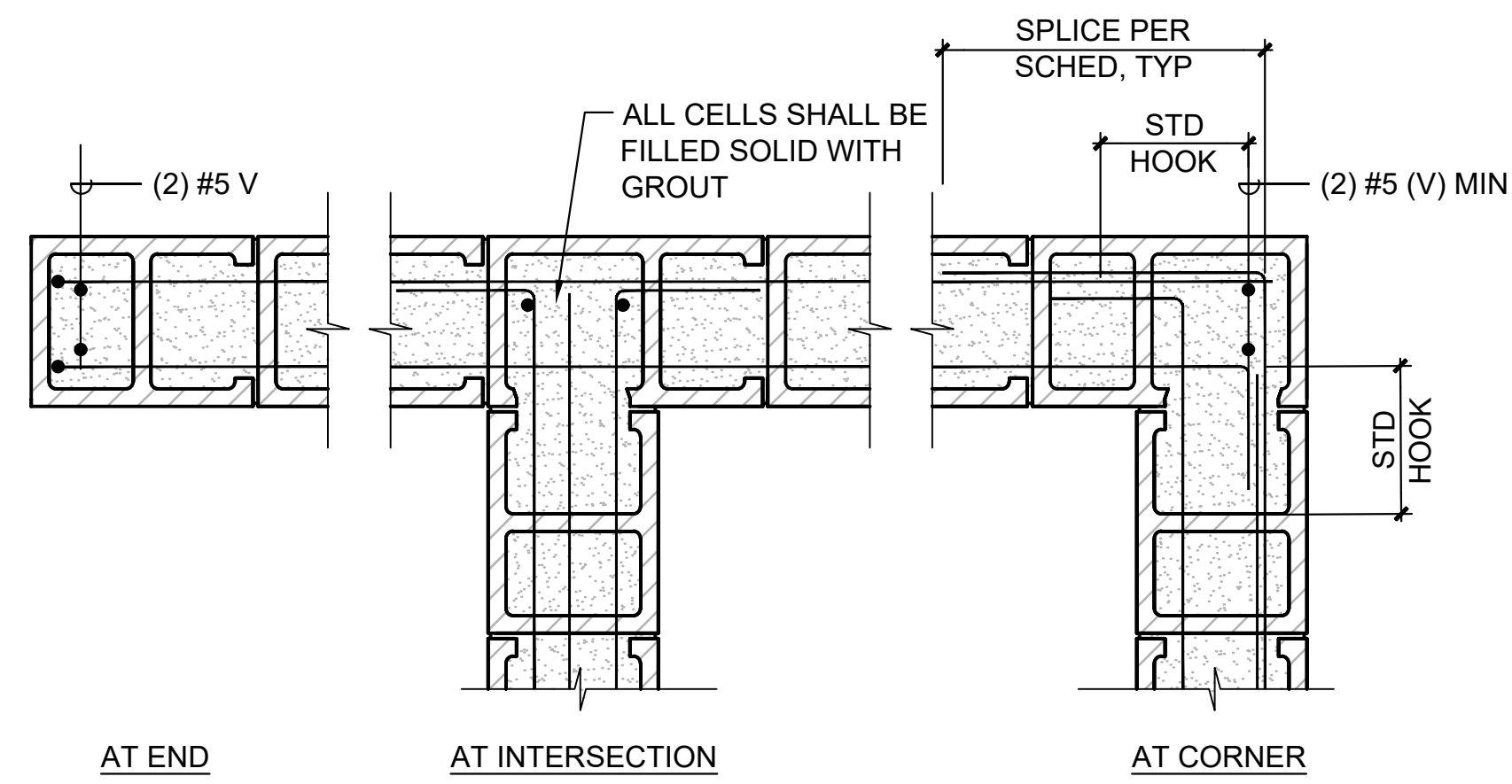
1 SINGLE CURTAIN OF HORIZ. AND VERT. REINF @ 8"-10" CMU WALL
N.T.S.

EXP. JOINTS FOR ALL WALLS PER FOUNDATION PLANS. COORDINATE WITH ARCH. DWGS.

FLANGED NEOPRENE CONTROL JOINT. CONT. VERTICALLY



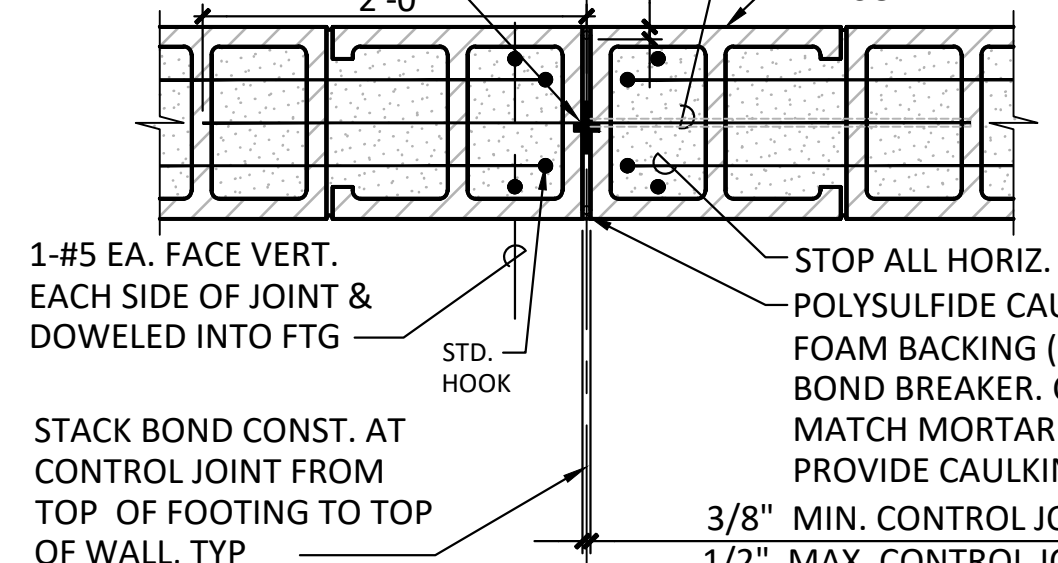
4 TYP. 8" MASONRY CONTROL JOINTS
N.T.S.



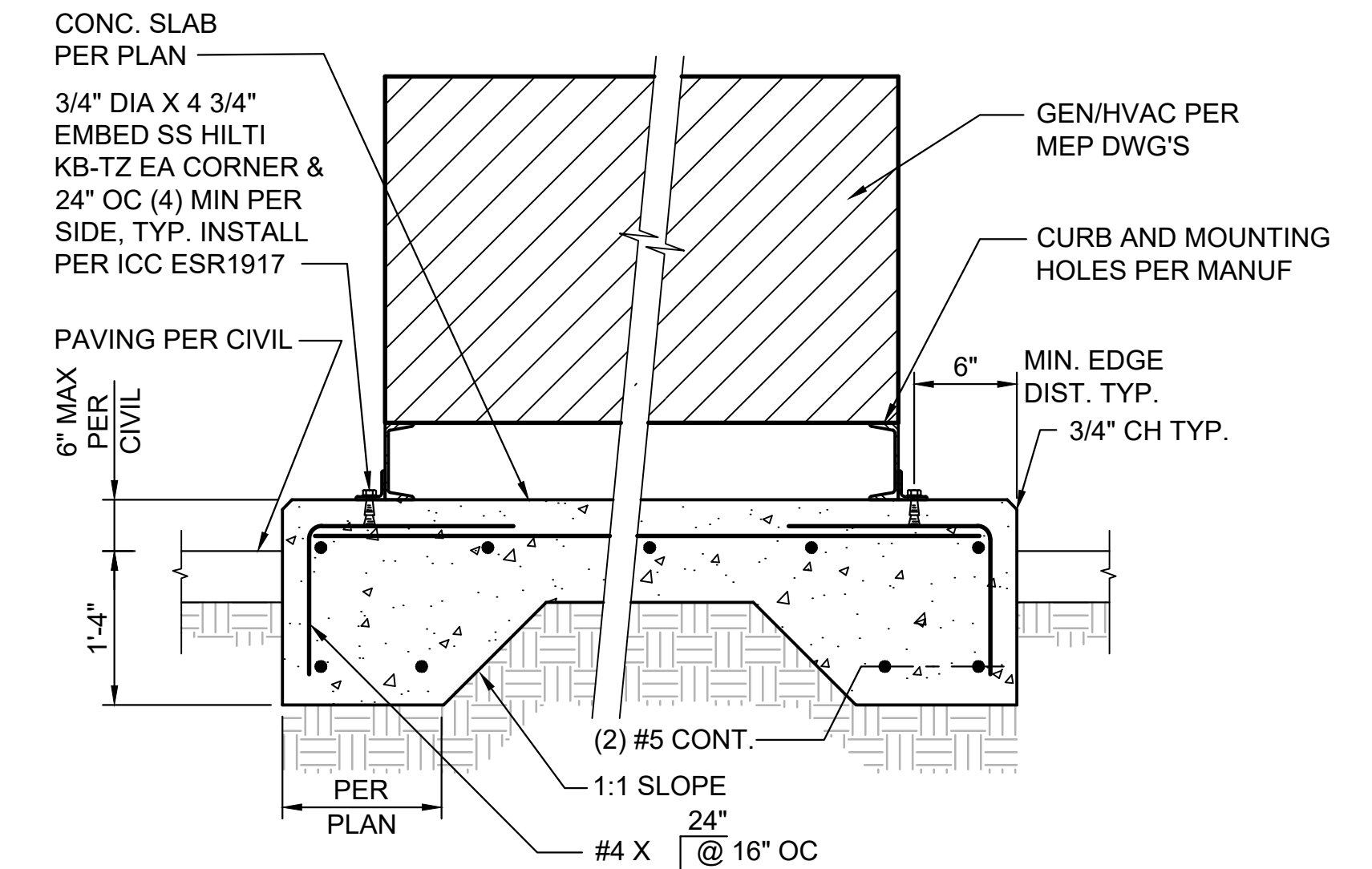
2 DOUBLE CURTAIN OF HORIZ. AND VERT. REINF @ 12"-16" CMU WALL
N.T.S.

EXP. JOINTS FOR ALL WALLS PER FOUNDATION PLANS. COORDINATE WITH ARCH. DWGS.

FLANGED NEOPRENE CONTROL JOINT. CONT. VERTICALLY



5 TYP. 12"-16" MASONRY CONTROL JOINTS
N.T.S.

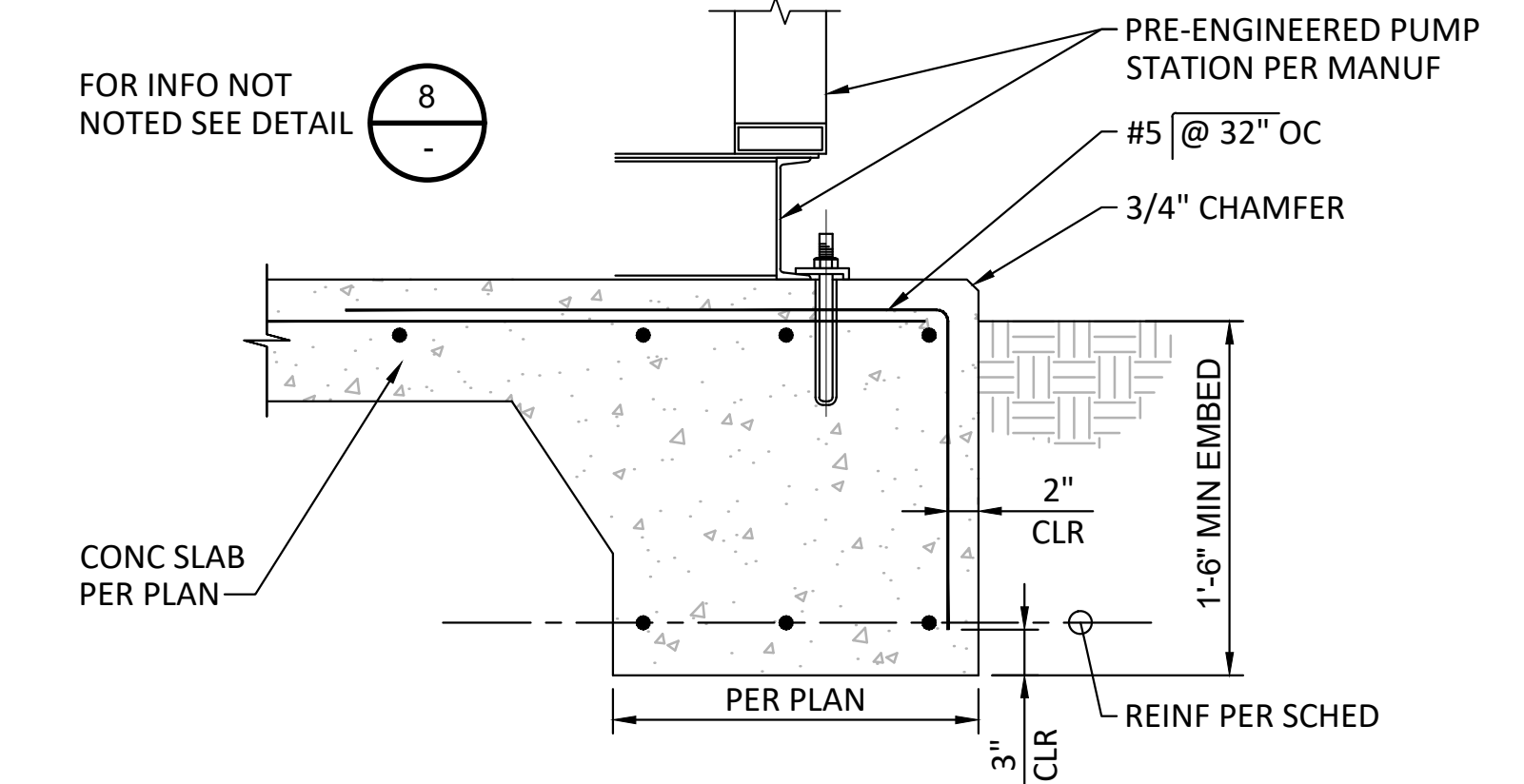


3 TYPICAL EQUIP PAD DETAIL
SCALE: 1"=1'-0"

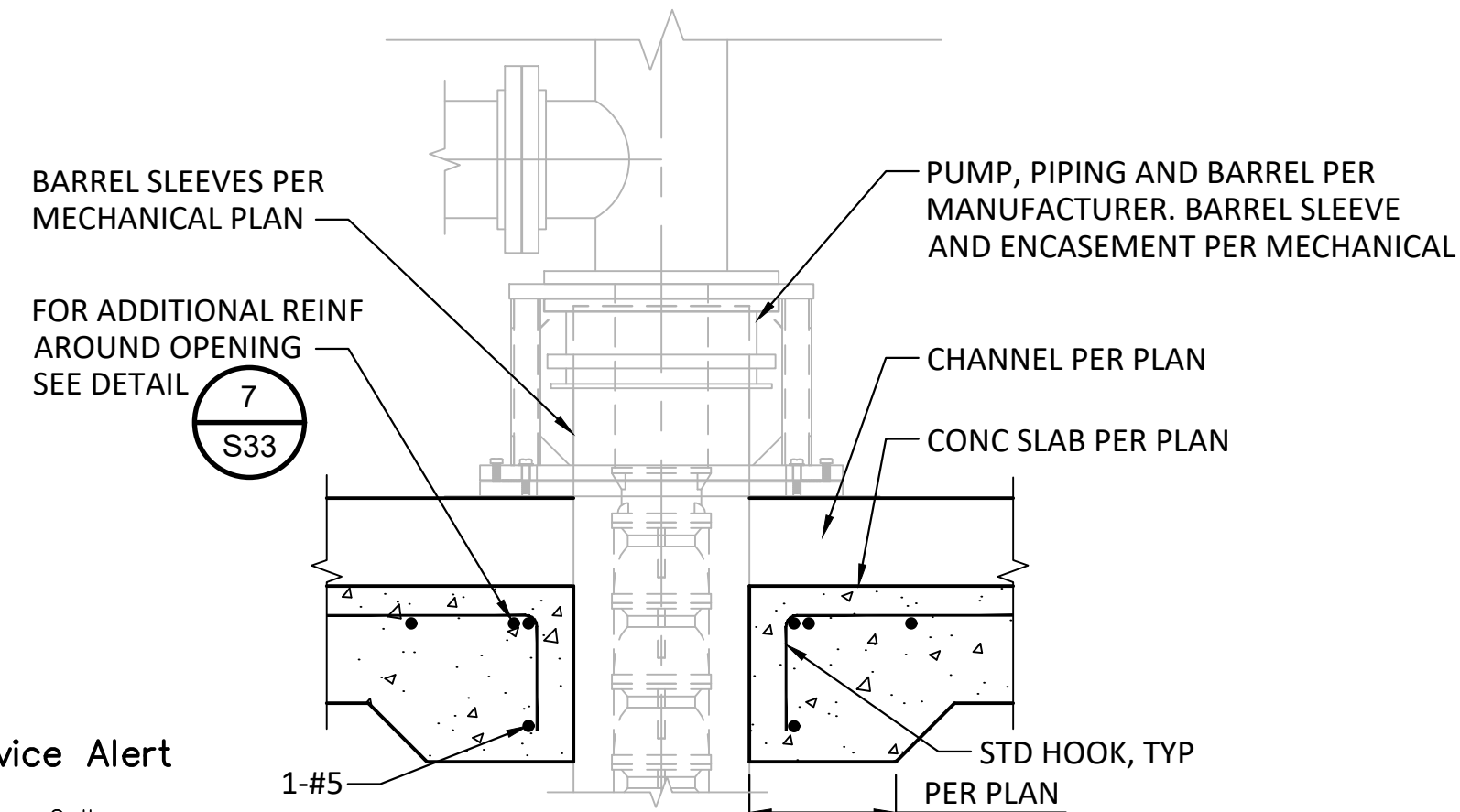
NOTES:

- FOR PAD SIZE AND LOCATION SEE MEP DWGS.
- CONFIRM ALL DIMENSIONS OF EQUIPMENT PER MANUFACTURER PRIOR TO CONCRETE POUR.

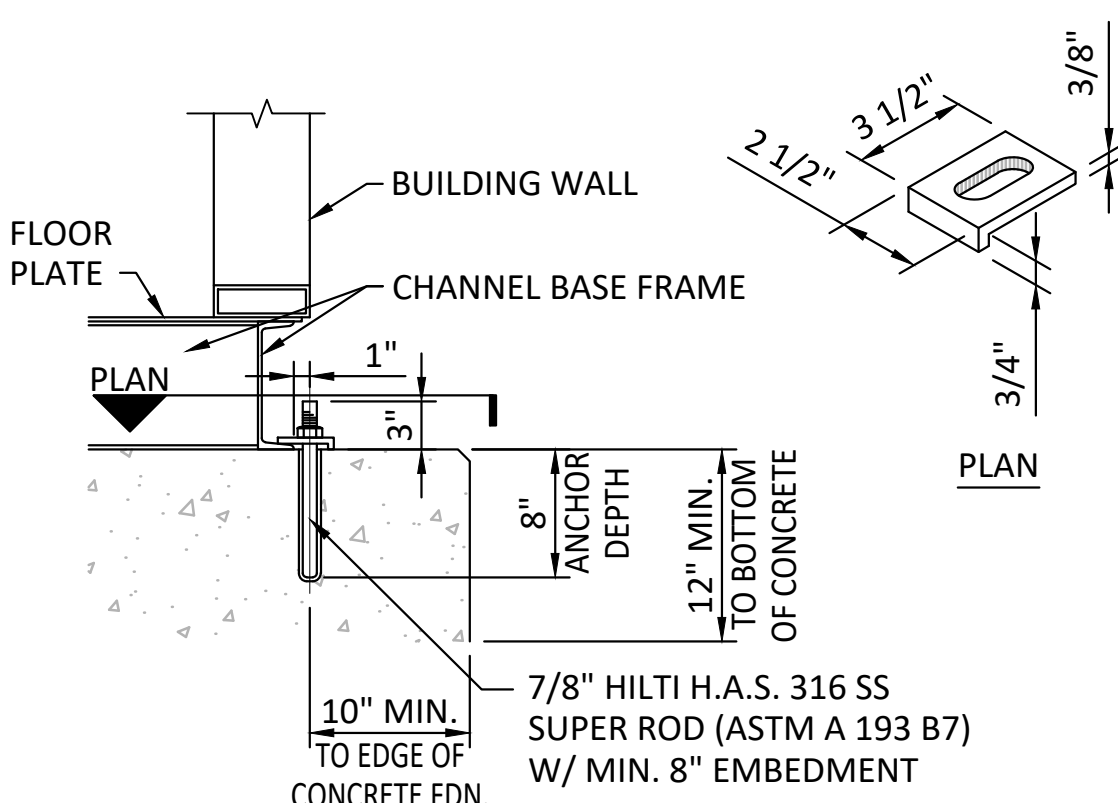
FOR INFO NOT NOTED SEE DETAIL 8



6 EXTERIOR FOOTING DETAIL
N.T.S.



7 PUMP PENETRATION DETAIL
N.T.S.

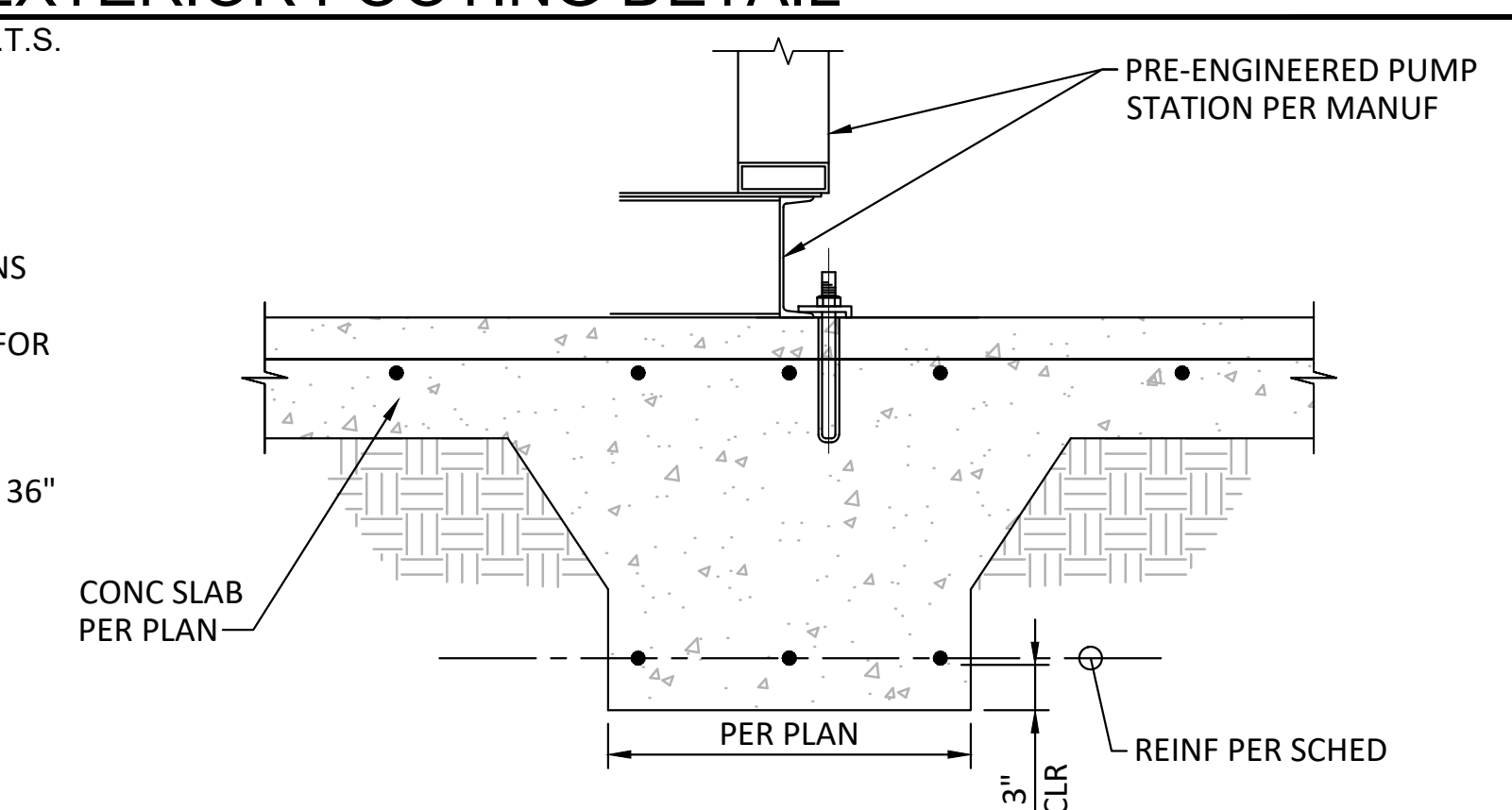


8 PRE-ENGINEERED BUILDING ANCHOR CONNECTION DETAIL
N.T.S.

BASE FRAME ANCHOR DETAIL CHANNEL FRAMING MEMBERS

NOTE:

- ANCHOR CLIPS FURNISHED BY E.F.I.
- ANCHOR BOLTS AND NUTS BY INSTALLER.
- FINAL FOUNDATION AND ANCHOR BOLT DESIGN AND DIMENSIONS AS DIRECTED BY ENGINEER (MINIMUMS ARE SHOWN).
- SHIMS MAY BE REQUIRED AROUND PERIMETER OF BASE FRAME FOR LEVELNESS AND PROPER DOOR ALIGNMENT IN FRAME.
- QUANTITY OF ANCHOR BOLTS SPECIFIED BY ENGINEER.
- ANCHOR BOLTS SHALL BE PLACED WITHIN 12" OF EACH CORNER WITH THE REMAINING ANCHORS BEING SPACED NO MORE THAN 36" APART ALONG ALL SIDES OF THE BUILDING.



9 INTERIOR FOOTING DETAIL
N.T.S.

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EXP. 6/30/23
DATE: 9/7/2023

PLANS PREPARED BY:
KELSEY STRUCTURAL
8064 ALLISON AVE.
#1706 LA MESA, CA
91942 619.920.1262
kelsey@kelseystructural.com

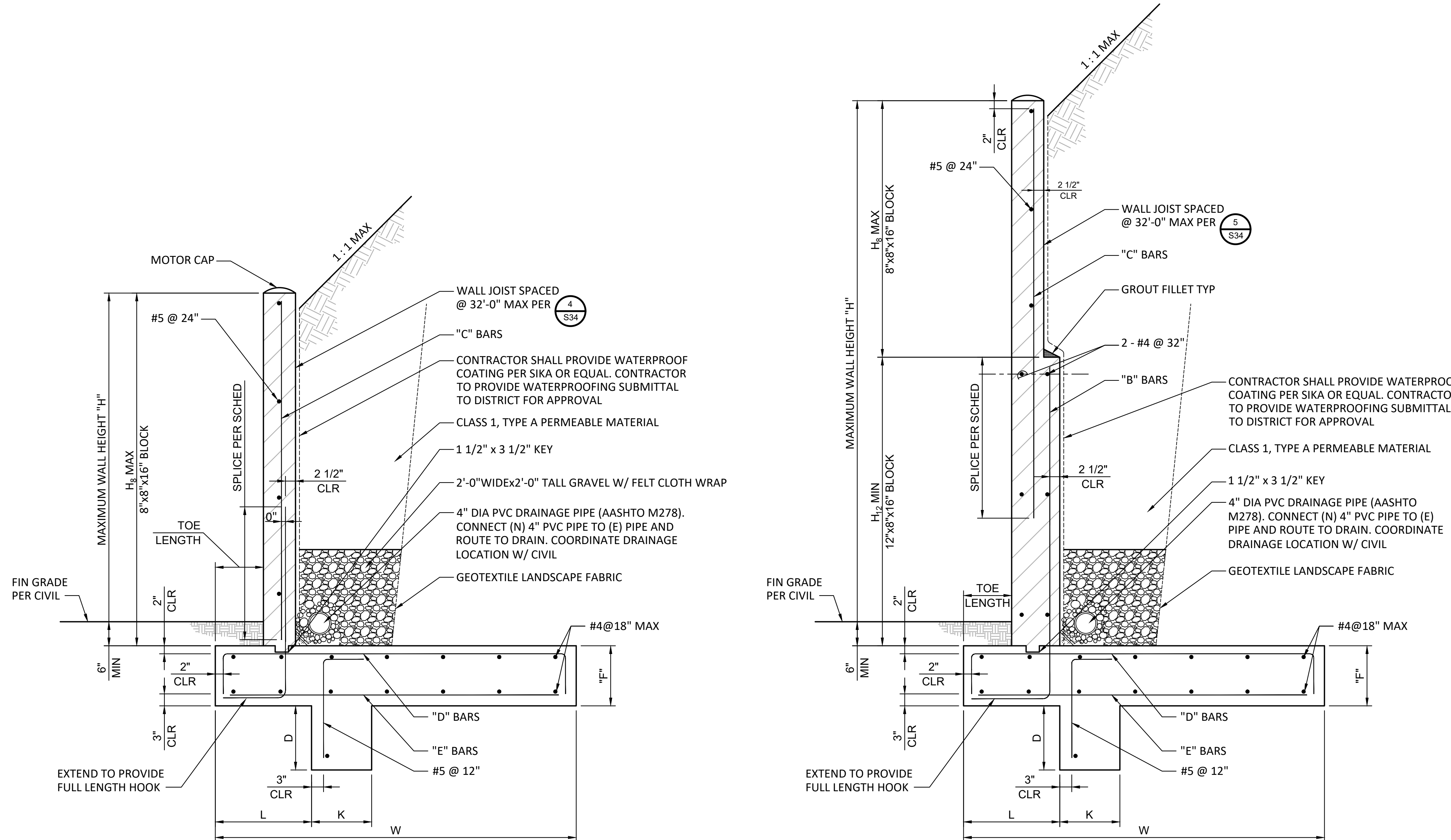
RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
TYPICAL STRUCTURAL DETAIL
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO.
34
OF 49 SHTS
FILE NO.
600013

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

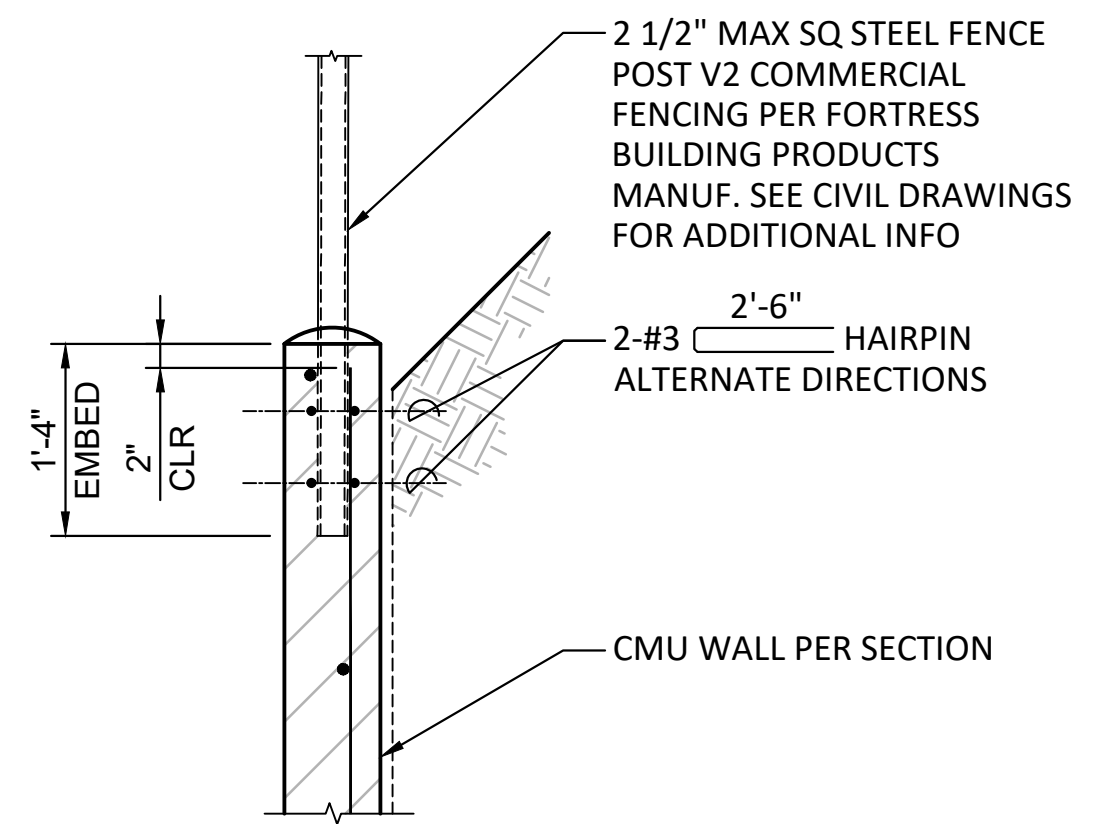
RETAINING WALL NOTES:

1. VERIFY FINISHED GRADE ELEVATIONS PER CIVIL DRAWINGS.
2. FOR OVER-EXCAVATION AND SUBGRADE REQUIREMENTS SEE GEOTECHNICAL REPORT.



"8" RETAINING WALL SECTION

"12" RETAINING WALL SECTION



1 TYPICAL FENCE POST TO CMU WALL CONNECTION DETAIL
N.T.S.

LAP SPlice AND LENGTH SCHEDULE		
REINF SIZE	GRADE 40	GRADE 60
#4	20"	36"
#5	25"	45"
#6	30"	54"
#7	35"	63"
#8	40"	72"

- NOTES:**
1. DEVELOPMENT AND LAP SPlice LENGTHS INDICATED SHALL BE USED UNLESS SPECIFICALLY NOTED ON DRAWINGS.
 2. REINFORCING MAY BE CONSIDERED TO BE SPliced WHEN PLACED IN ADJACENT GROUted CELLS AND IF THE BARS ARE SPaced NO FARTHER APART THAN 1/5 THE REQUIRED LENGTH INDICATED OR 8".
 3. WHERE TENSILE STRESSES ARE GREATER THAN 80% OF THE ALLOWABLE STRESS TABLE VALUES SHALL BE INCREASED BY 50%.
 4. WHERE EPOXY COATED BARS ARE USED, LAP LENGTH SHALL BE INCREASED BY 50%.

2 TYPICAL CMU LAP SPlice LENGTH SCHEDULE
N.T.S.

MAXIMUM WALL HEIGHT "H"	SOIL HEIGHT	FOOTING WIDTH W	FOOTING THICKNESS F	TOE LENGTH	KEY LOCATION L	KEY DEPTH D	KEY WIDTH K	16" BLOCK H ₁₆	12" BLOCK H ₁₂	8" BLOCK H ₈	"A" BARS	"B" BARS	"C" BARS	"D" BARS	"E" BARS
12'-0"	10'-6"	9'-0"	1'-6"	1'-8"	2'-0"	2'-0"	1'-3"	NONE	6'-8"	5'-4"	NONE	#7 @ 8"	#5 @ 8"	#6 @ 8"	#4 @ 16"
10'-0"	9'-4"	7'-0"	1'-2"	1'-3"	2'-0"	2'-0"	1'-3"	NONE	4'-8"	5'-4"	NONE	#6 @ 8"	#5 @ 8"	#6 @ 8"	#4 @ 16"
8'-8"	8'-0"	5'-6"	1'-2"	1'-0"	1'-6"	1'-6"	1'-0"	NONE	3'-4"	5'-4"	NONE	#5 @ 8"	#5 @ 8"	#6 @ 8"	#4 @ 16"
7'-4"	6'-10"	4'-8"	1'-2"	1'-0"	1'-3"	1'-3"	1'-0"	NONE	NONE	7'-4"	NONE	#5 @ 8"	#5 @ 8"	#5 @ 8"	#4 @ 16"
5'-4"	5'-0"	3'-0"	1'-0"	1'-0"	1'-0"	1'-3"	1'-0"	NONE	NONE	5'-4"	NONE	NONE	#5 @ 16"	#5 @ 8"	#4 @ 16"

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RAINBOW MUNICIPAL WATER DISTRICT
3707 OLD HWY 395
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(760) 728-1178
WWW.RAINBOWWD.COM
WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT
ENGINEERING & CIP MANAGER, CHAD WILLIAMS

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: DZ DRAWN BY: CS CHECKED BY: GK



ENGINEER OF RECORD:
Adam Hoch
ADAM HOCH P.E. 77635
EXP. 6/30/23
DATE: 9/7/2023

PLANS PREPARED BY:
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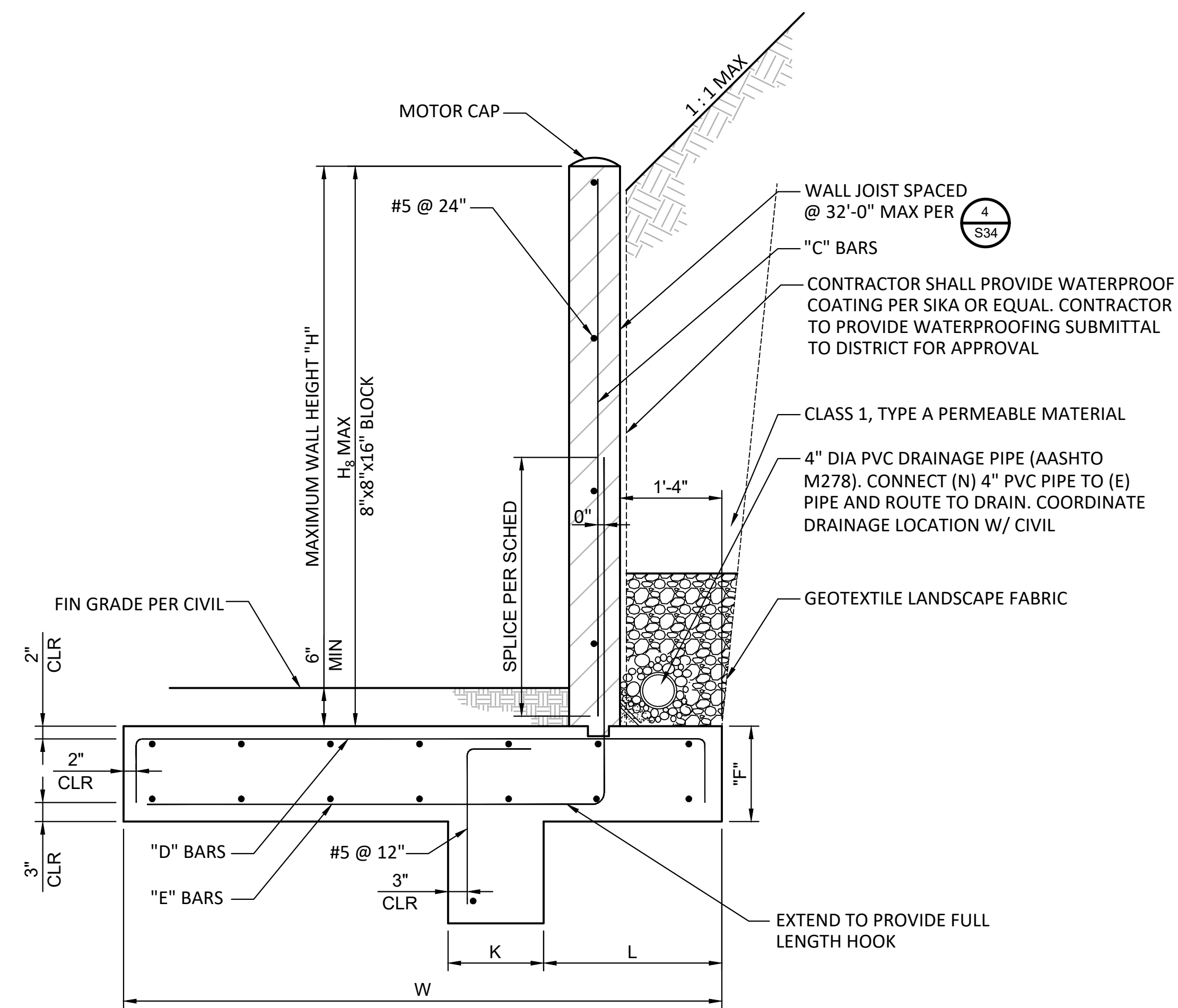
RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
TYPICAL RETAINING WALL SECTIONS
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **35**
OF 49 SHTS
FILE NO. 600013

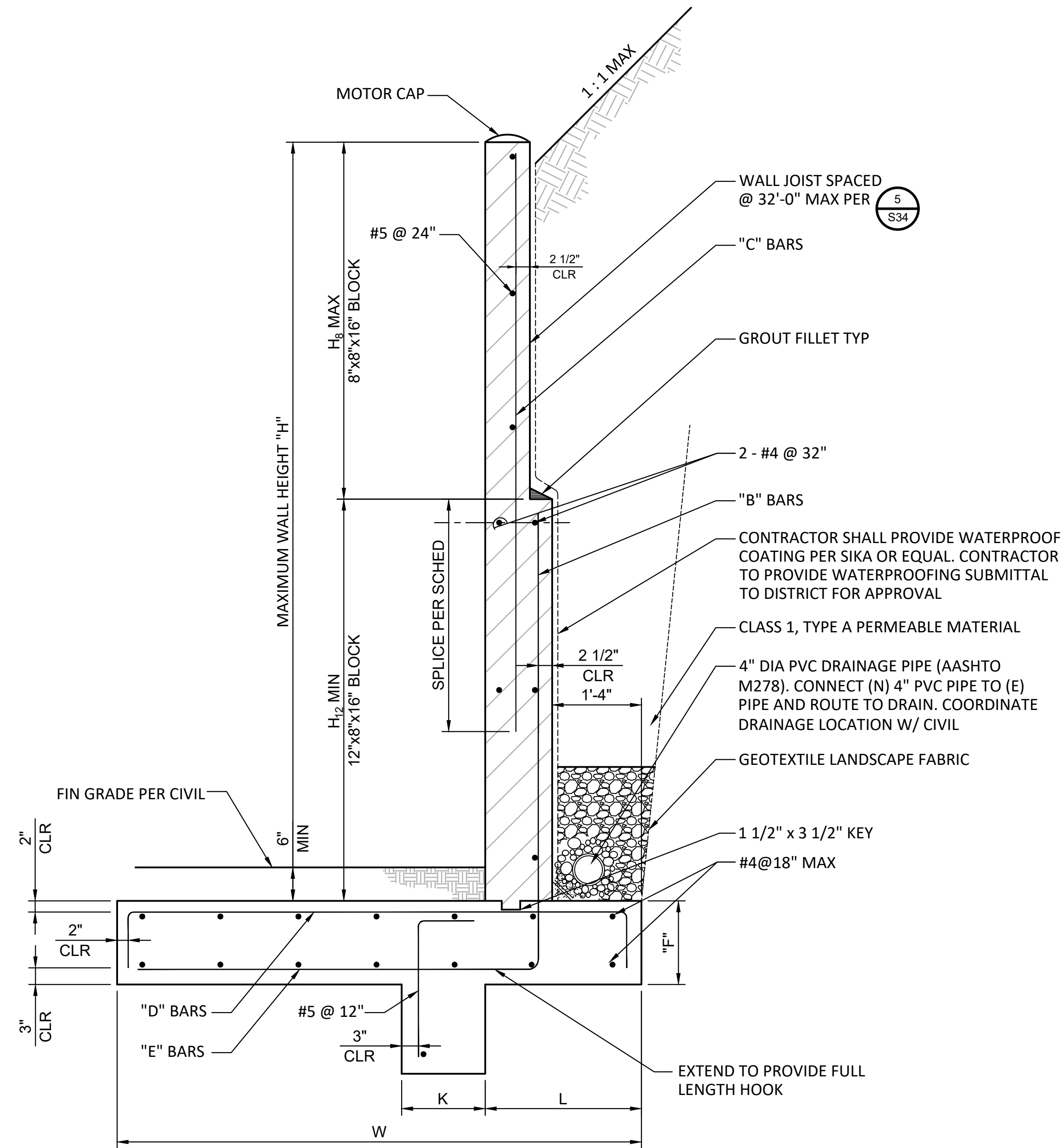
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

RETAINING WALL NOTES:

1. VERIFY FINISHED GRADE ELEVATIONS PER CIVIL DRAWINGS.
2. FOR OVER-EXCAVATION AND SUBGRADE REQUIREMENTS SEE GEOTECHNICAL REPORT.
3. FOR TYPICAL CMU LAP LENGTH SPLICE SCHEDULE SEE SHEET 35.



"8" RETAINING WALL SECTION



"12" RETAINING WALL SECTION

MAXIMUM WALL HEIGHT "H"	SOIL HEIGHT	FOOTING WIDTH W	FOOTING THICKNESS F	KEY LOCATION L	KEY DEPTH D	KEY WIDTH K	16" BLOCK H ₁₆	12" BLOCK H ₁₂	8" BLOCK H ₈	"A" BARS	"B" BARS	"C" BARS	"D" BARS	"E" BARS
12'-0"	11'-8"	7'-0"	1'-6"	1'-3"	2'-0"	1'-3"	NONE	6'-8"	5'-4"	NONE	#6 @ 8"	#5 @ 8"	#6 @ 8"	#4 @ 16"
10'-0"	9'-8"	5'-8"	1'-0"	1'-0"	2'-0"	1'-3"	NONE	4'-8"	5'-4"	NONE	#5 @ 8"	#5 @ 8"	#6 @ 8"	#4 @ 16"
8'-8"	8'-4"	4'-8"	1'-0"	1'-0"	2'-0"	1'-0"	NONE	3'-4"	5'-4"	NONE	#5 @ 16"	#5 @ 8"	#5 @ 8"	#4 @ 16"
7'-4"	7'-0"	4'-0"	1'-0"	1'-0"	2'-0"	1'-0"	NONE	NONE	7'-4"	NONE	NONE	#5 @ 16"	#5 @ 8"	#4 @ 16"
5'-4"	5'-0"	3'-6"	1'-0"	1'-0"	2'-0"	1'-0"	NONE	NONE	5'-4"	NONE	NONE	#5 @ 24"	#5 @ 8"	#4 @ 16"

NOTE: WALL, FOOTING SIZES AND REINFORCING STEEL SHOWN IN THE ABOVE TABLE PERTAIN TO ROCK SITE CONDITIONS. WHERE SOIL SITE CONDITIONS OCCUR, REFER TO RETAINING WALL DETAILING AND SCHEDULE PER TYPICAL RETAINING WALL SECTIONS SHEET 35.

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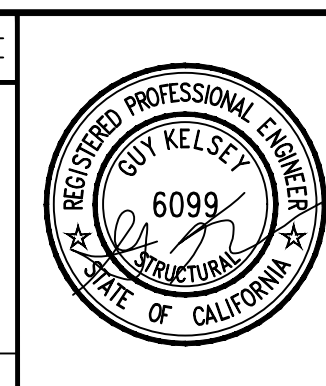
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WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT

ENGINEERING & CIP MANAGER, CHAD WILLIAMS

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: DZ DRAWN BY: CS CHECKED BY: GK



ENGINEER OF RECORD:
Adam Hoch
 ADAM HOCH P.E. 77635
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PLANS PREPARED BY:
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RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
DENTRO RETAINING WALL SECTIONS
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **36**
 OF 49 SHTS
 FILE NO. 600013

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION	CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION	CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION
			CIRCUIT BREAKER. UPPER NUMBER IS TRIP RATING. LOWER NUMBER IS NUMBER OF POLES				CONTROL TRANSFORMER. RATING AS NOTED ON DRAWINGS OR AS REQUIRED BASED ON LOAD SERVED.				HOMERUN CONDUIT WITH 3 CONDUCTORS, NEUTRAL AND GROUND, CIRCUITS 1,3,5 PANEL PB1, NO HASHMARKS INDICATE 2 CONDUCTORS AND GROUND
			THREE POSITION SWITCH. MAINTAINED CONTACT FUNCTION MAY VARY AS NOTED ON DIAGRAMS. CENTER POSITION IS OFF				KILOWATT METER				DRIVEN GROUND ROD/TEST WELL 3/4" X 10' Cu CLAD STEEL
			TWO POSITION SWITCH. MAINTAINED CONTACT FUNCTION MAY VARY AS NOTED ON DIAGRAMS		PS		PRESSURE SWITCH. CONTACT ACTION AS NOTED ON DRAWINGS				PANELBOARD OR AS NOTED ON DRAWING
			MOMENTARY CONTACT PUSHBUTTON. FUNCTION MAY VARY AS NOTED ON DIAGRAMS				POWER TRANSFORMER. RATINGS AS NOTED ON DRAWINGS				LIQUIDTIGHT FLEXIBLE CONDUIT
	LOS		MOMENTARY CONTACT PUSHBUTTON WITH PROVISION FOR LOCKOUT.				DUPLEX RECEPTACLE. 20A, SPEC GRADE GROUNDING TYPE. UNLESS OTHERWISE NOTED ON DRAWINGS.		XXX		CONDUIT NUMBER 'XXX', REFER TO CONDUIT SCHEDULE FOR DESCRIPTION
			LOCKABLE DISCONNECT SWITCH. RATING AND DETAILS AS NOTED ON DRAWINGS.				TELEPHONE OUTLET				MANUAL MOTOR STARTER
	ZS		LIMIT SWITCH. NORMALLY OPEN				JUNCTION BOX OR CONDUIT FITTING AS NOTED OR REQUIRED. (SHOWN WITH CONDUIT TURNING UP)				GROUND
	ZS		LIMIT SWITCH. NORMALLY CLOSED		LS		LEVEL SWITCH, CONTACT ACTION AS NOTED ON DRAWINGS				HEATER, RATING AS NOTED ON DRAWING
			TIME DELAY RELAY CONTACT. OFF DELAY, NORMALLY OPEN, TIME OPEN				CONTROL PANEL OR EQUIPMENT AS NOTED				HORN OR AUDIBLE SIGNAL
			TIME DELAY RELAY CONTACT. OFF DELAY, NORMALLY CLOSED, TIME CLOSED		FS		FLOW SWITCH, CONTACT ACTION AS NOTED ON DRAWINGS				PHASE
			TIME DELAY RELAY CONTACT. ON DELAY, NORMALLY OPEN, TIME CLOSED				FLUSH TOGGLE SWITCH, SINGLE POLE, SINGLE THROW				TERMINAL, INTERNAL WIRING
			TIME DELAY RELAY CONTACT. ON DELAY, NORMALLY CLOSED, TIME OPEN				FLUSH TOGGLE SWITCH, THREE WAY				TERMINAL, FIELD WIRING
	SOV		SOLENOID OPERATED VALVE				FLUORESCENT FIXTURE. SEE LIGHTING SCHEDULE.		DS		INTRUSION (DOOR) SWITCH
			MOTOR CONTROL CENTER DRAWOUT STABS				LIGHTING FIXTURE, WALL MOUNTED SEE LIGHTING SCHEDULE				CONDUIT STUB OUT
			MOTOR STARTER WITH THERMAL OVERLOADS. NUMBER INDICATES NEMA SIZE		PB		MH-MANHOLE PB-PULLBOX HH-HANDHOLE OR AS NOTED ON DRAWINGS		F		DISCONNECT SWITCH, F = FUSED NF = NON-FUSED XX = AMP RATING
			MOTOR OVERLOAD CONTACT				TELEPHONE CONDUIT. SIZE AS NOTED				POLE MOUNTED LIGHT FIXTURE. SEE LIGHTING SCHEDULE.
	2		MOTOR, NUMBER INDICATES HORSEPOWER				GROUNDING GRID OR GROUNDING CONDUCTOR SIZE AS REQUIRED OR AS NOTED ON DRAWINGS		A		LIGHT FIXTURE CALLOUT REFER TO LIGHTING FIXTURE SCHEDULE
			INDICATING LIGHT, PUSH-TO-TEST. LETTER INDICATES COLOR. R=RED B=BLUE G=GREEN A=AMBER W=WHITE				GROUND PIGTAIL. SIZE AS NOTED ON DRAWINGS		T		THERMOSTAT
			CONTACTOR OR RELAY COIL. LETTER OR NUMBER IS DESIGNATION				EXOTHERMIC GROUND CONNECTION	NOTE: ALL PUMP POWER FEEDERS TO MOTORS SHALL BE PVC/RGS.			
			NORMALLY CLOSED CONTACT. LETTER OR NUMBER IS DESIGNATION				BOLTED GROUND CONNECTION				
			NORMALLY OPEN CONTACT. LETTER OR NUMBER IS DESIGNATION				CONDUIT BENDING UP	<div style="border: 1px solid black; padding: 5px; text-align: center;"> UTILITY COMPANY SAN DIEGO GAS AND ELECTRIC PROJECT MANAGEMENT - NORTHERN REGION 571 ENTERPRISE STREET, SD 1460 ESCONDIDO, CA 92029 CONTACT: KIM DONOVAN (760)739-7427 </div>			
			RUNNING TIME METER, NON-RESETTABLE				CONDUIT BENDING DOWN				
	20A		FUSE, NUMBER INDICATES RATING				UNDERGROUND OR CONCEALED CONDUIT, 1" MINIMUM	NOTE: CONTRACTOR SHALL REFER TO SDG&E PROJECT NO. 300000-1XXXXX WHEN APPLYING FOR SDG&E SERVICE.			
			EXPOSED CONDUIT, 3/4" MINIMUM.								

STANDARD ABBREVIATIONS

A	AMPERES	MSB	MAIN SWITCHBOARD
AF	AMPERE FRAME	MTR	MOTOR
AFF	ABOVE FINISHED FLOOR	N	NEUTRAL
AFG	ABOVE FINISHED GRADE	NA	NON-AUTOMATIC
AHF	ACTIVE HARMONIC FILTER	NC	NORMALLY CLOSED
ALSIG	CIRCUIT BREAKER TRIP UNIT WITH ARC FLASH REDUCTION, LONG TIME, SHORT TIME, INSTANTANEOUS, AND GROUND FAULT	NCIO	NORMALLY CLOSED, INSTANTANEOUS OPEN
		NCTC	NORMALLY CLOSED, TIME CLOSE
		NCTO	NORMALLY CLOSE, TIME OPEN
AT	AMPERE TRIP	NEC	NATIONAL ELECTRIC CODE
ATS	AUTOMATIC TRANSFER SWITCH	NIC	NOT IN CONTRACT
AUTO	AUTOMATIC	No	NUMBER
AWG	AMERICAN WIRE GAUGE	NO	NORMALLY OPEN
BC	BARE COPPER	NOIC	NORMALLY OPEN, INSTANTANEOUS CLOSE
BKR	BREAKER	NOTC	NORMALLY OPEN, TIME CLOSE
C	CONDUIT	NOTO	NORMALLY OPEN, TIME OPEN
CB	CIRCUIT BREAKER		
CKT	CIRCUIT		
C.O.	CONDUIT ONLY		
CPB	CONTROL PULL BOX		
CPT	CONTROL POWER TRANSFORMER	NP	NAMEPLATE
CP	CONTROL PANEL	NTS	NOT TO SCALE
CT	CURRENT TRANSFORMER	OL	OVERLOAD
CU	COPPER	PB	PUSHBUTTON
CR	CONTROL RELAY	PB	PULLBOX
DC	DIRECT CURRENT	PC	PHOTOCELL
DISC	DISCONNECT	PCV	PUMP CONTROL VALVE
DISC SW	DISCONNECT SWITCH	PMR	POWER MONITOR RELAY
DPDT	DOUBLE POLE DOUBLE THROW	PNL	PANEL
DPST	DOUBLE POLE SINGLE THROW	POS	POSITION
DWG	DRAWING	PPB	POWER PULL BOX
DS	DOOR SWITCH	PR	PAIR
EL,ELEV	ELEVATION	PRI	PRIMARY
EMT	ELECTRICAL METALLIC TUBING	PS	PRESSURE SWITCH
ENPS	ETHERNET POWER SUPPLY	PVC	POLYVINYL CHLORIDE
EO	ELECTRICALLY OPERATED	PVC/RGS	PVC JACKETED RIGID GALVANIZED STEEL CONDUIT
EXIST	EXISTING	PW	PART WINDING
FBO	FURNISHED BY OWNER	RECEP	RECEPTACLE
FC	FAN COIL	RCP	REMOTE CONTROL PANEL
FLA	FULL LOAD AMPS	RGS	RIGID GALVANIZED STEEL CONDUIT
FLEX	FLEXIBLE	RTU	REMOTE TELEMETRY UNIT
FM	FLOW METER	RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
FO	FIBER OPTIC	SCE	SOUTHERN CALIFORNIA EDISON
FS	FLOW SWITCH	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
FT OR '1	FEET OR FOOT	SDGE	SAN DIEGO GAS & ELECTRIC
FT	FLOW TRANSMITTER	SD	SECONDARY
FVNR	FULL VOLTAGE NON REVERSING	SEL	SELECTOR
GD	GAS DETECTORS	SP	SPARE
GFI	GROUND FAULT INTERRUPTER	SPD	SURGE PROTECTION DEVICE
GFP	GROUND FAULT PROTECTION	SPDT	SINGLE POLE DOUBLE THROW
GND OR G	GROUND	SPST	SINGLE POLE SINGLE THROW
HH	HANDHOLE	SS	STAINLESS STEEL
HOA	HAND/OFF/AUTO	S/S	START/STOP
HTR	HEATER	SSRV	SOLID STATE REDUCED VOLTAGE STARTER
IC	INTERRUPTING CURRENT	ST	SHUNT TRIP
IJB	INSTRUMENT JUNCTION BOX	STA	STATION
IN OR "	INCHES OR INCH	STL	STEEL
INF	INFLUENT	STP	SHIELDED TWISTED PAIR
JB OR J	JUNCTION BOX, CONDUIT OR FITTING AS REQUIRED BY NEC. UNLESS OTHERWISE NOTED	STR	STARTER
		STT	SHIELDED TWISTED TRIPLET
		SV	SOLENOID VALVE
		SW	SWITCH
		SWBD	SWITCHBOARD
		TEL	TELEPHONE
		TEMP	TEMPERATURE
		TM	TELEMETRY
		TS	TEMPERATURE SWITCH
		TYP	TYPICAL
		UFER	CONCRETE ENCASED ELECTRODE UNDERGROUND
		UON	UNLESS OTHERWISE NOTED
		W	WATTS
		W/	WITH
		W/O	WITHOUT
		WP	WEATHERPROOF
		XFMR	TRANSFORMER
		XP	EXPLOSION PROOF
		ZS	POSITION SWITCH OR LIMIT SWITCH
		3W	THREE WIRE
		4W	FOUR WIRE

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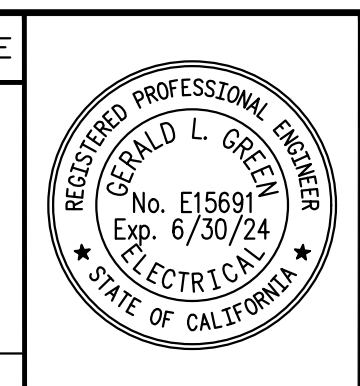
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WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT

ENGINEERING & CIP MANAGER, CHAD WILLIAMS

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DESIGNED BY: GG DRAWN BY: AH CHECKED BY: GG



ENGINEER OF RECORD:

GERRY GREEN P.E. E15691
EXP. 6/30/24
DATE: 9/06/23

PLANS PREPARED BY:
GERRY GREEN INC. Consulting Electrical Engineers
2734 Loker Ave West, Ste M, Carlsbad, CA 92013 Tel. (619) 962-2356

RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

STANDARD ELECTRICAL SYMBOLS AND ABBREVIATIONS

PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **37**
OF 49 SHEETS
FILE NO.

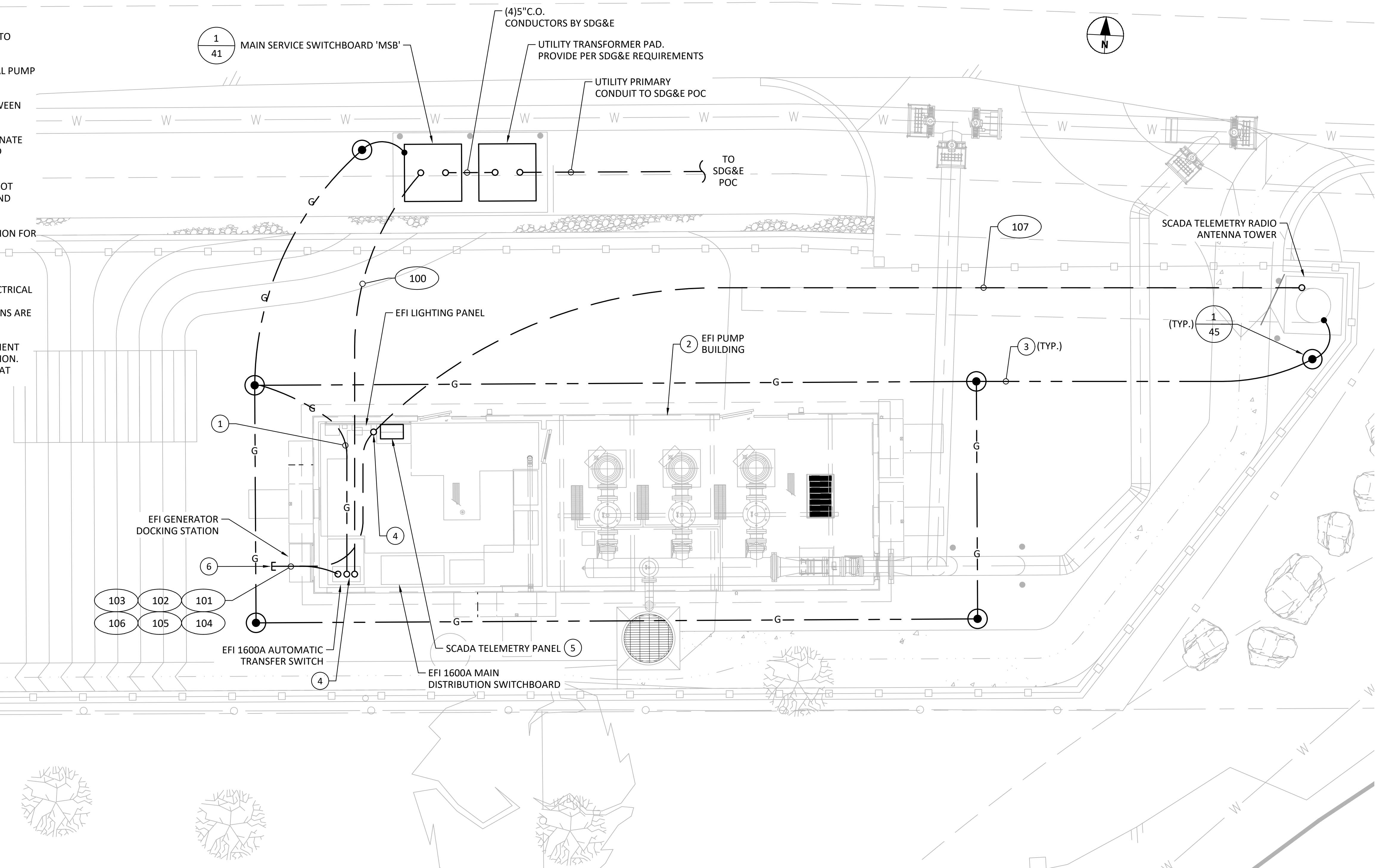
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

NOTES:

- 1 PROVIDE #350KCMIL B.C. GROUND FROM GROUND GRID TO ELECTRICAL EQUIPMENT. SEE SINGLE LINE DIAGRAM.
- 2 REFER TO EFI PUMP STATION DRAWINGS FOR ADDITIONAL PUMP BUILDING INFORMATION.
- 3 PROVIDE #350KCMIL B.C. GROUND UNDERGROUND BETWEEN GROUND RODS.
- 4 STUB UP CONDUIT IN FLOOR CUTOUT WINDOW. COORDINATE AND CONFIRM CUTOUT LOCATIONS, SIZES FOR SIZES AND QUANTITY OF CONDUITS.
- 5 SCADA TELEMETRY PANEL PROVIDED BY CONTRACTOR (NOT PROVIDED IN EFI PACKAGE). REFER TO SPECIFICATIONS AND DRAWINGS 46 THRU 49 FOR REQUIREMENTS.
- 6 STUB OUT AND CAP CONDUITS 3' (FT) BEYOND FOUNDATION FOR FUTURE PERMANENT GENERATOR.

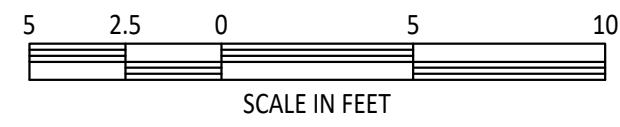
GENERAL NOTES:

1. REFER TO EFI SHOP DRAWINGS FOR LOCATIONS OF ELECTRICAL EQUIPMENT AND FLOOR CONDUIT CUTOUTS. PRIOR TO INSTALLING CONDUIT, VERIFY WHICH CUTOUT LOCATIONS ARE TO BE USED FOR EACH CONDUIT.
2. CONDUITS SHALL BE EXTENDED TO RESPECTIVE EQUIPMENT DIRECTLY ABOVE OR OFFSET FROM THE CUTOUT LOCATION. COORDINATE CONDUIT TERMINATION REQUIREMENTS AT EQUIPMENT WITH EFI.



WEST LILAC PUMP STATION ELECTRICAL PLAN

SCALE: 1" = 5'

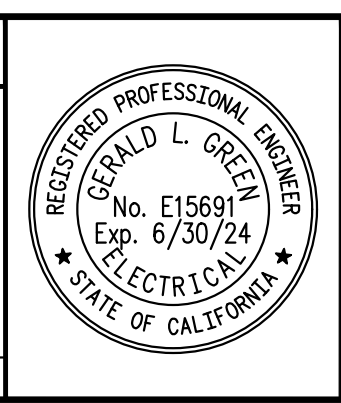


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RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 ELECTRICAL & CONTROLS SITE PLAN - WEST LILAC
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **38**
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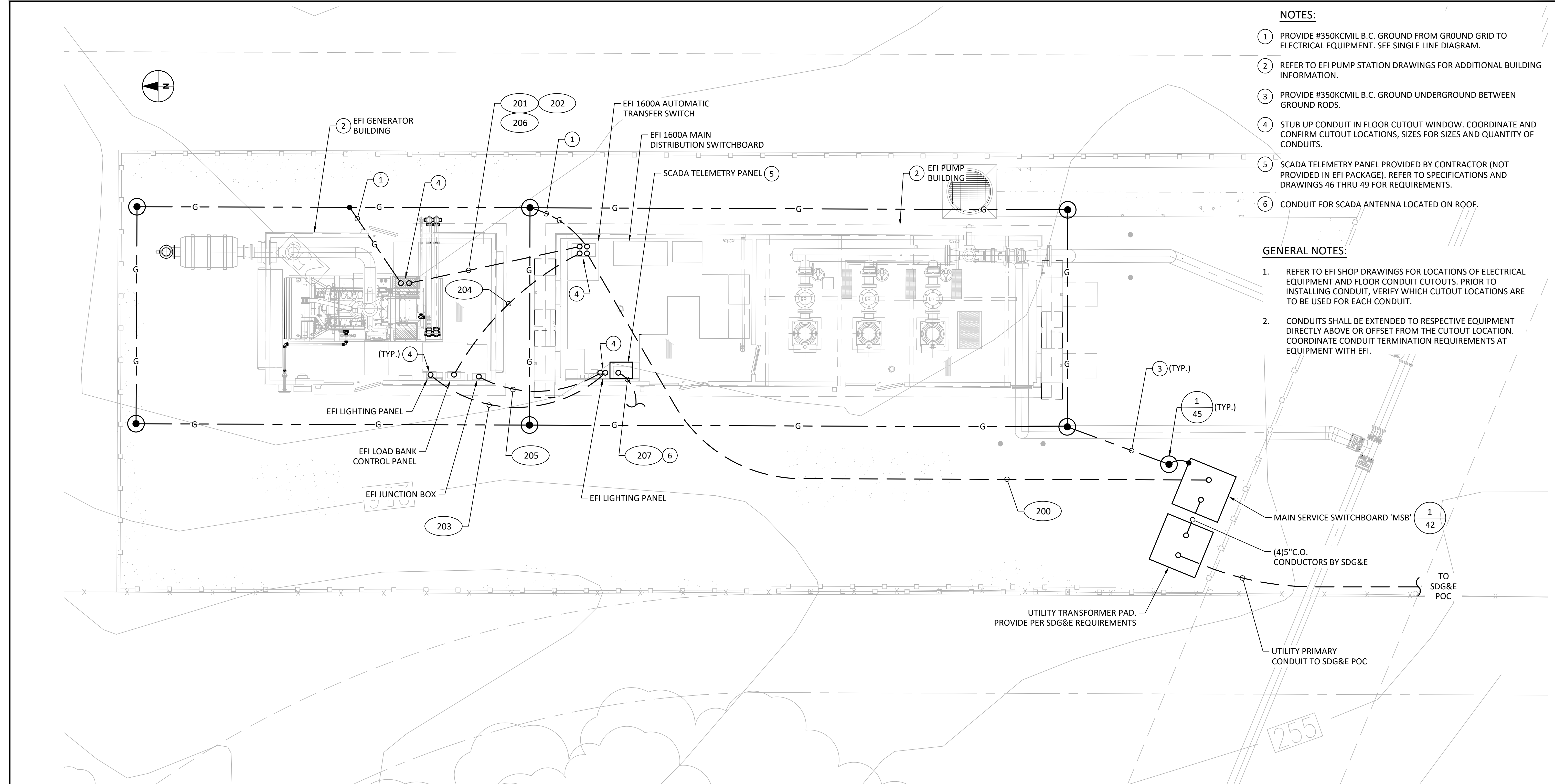
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

NOTES:

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- ② REFER TO EFI PUMP STATION DRAWINGS FOR ADDITIONAL BUILDING INFORMATION.
- ③ PROVIDE #350KCMIL B.C. GROUND UNDERGROUND BETWEEN GROUND RODS.
- ④ STUB UP CONDUIT IN FLOOR CUTOUT WINDOW. COORDINATE AND CONFIRM CUTOUT LOCATIONS, SIZES FOR SIZES AND QUANTITY OF CONDUITS.
- ⑤ SCADA TELEMETRY PANEL PROVIDED BY CONTRACTOR (NOT PROVIDED IN EFI PACKAGE). REFER TO SPECIFICATIONS AND DRAWINGS 46 THRU 49 FOR REQUIREMENTS.
- ⑥ CONDUIT FOR SCADA ANTENNA LOCATED ON ROOF.

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RANCHO AMIGOS PUMP STATION ELECTRICAL PLAN

SCALE: 1" = 5'



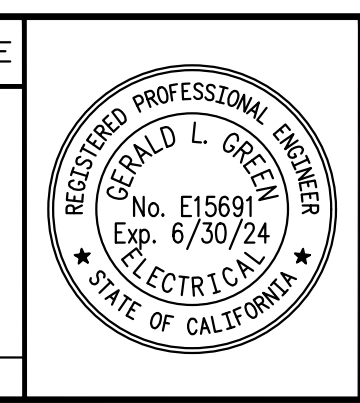
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DESIGNED BY: GG DRAWN BY: AH CHECKED BY: GG



ENGINEER OF RECORD:
 GERRY GREEN P.E. E15691
 DATE: 9/06/23 EXP. 6/30/24

PLANS PREPARED BY:
GERRY GREEN INC. Consulting Electrical Engineers
 2734 Loker Ave West, Ste M, Carlsbad, CA 92011 Tel. (619) 962-2356

RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
ELECTRICAL & CONTROLS SITE PLAN - RANCHO AMIGOS
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **39**
 OF 49 SHEETS
 FILE NO.

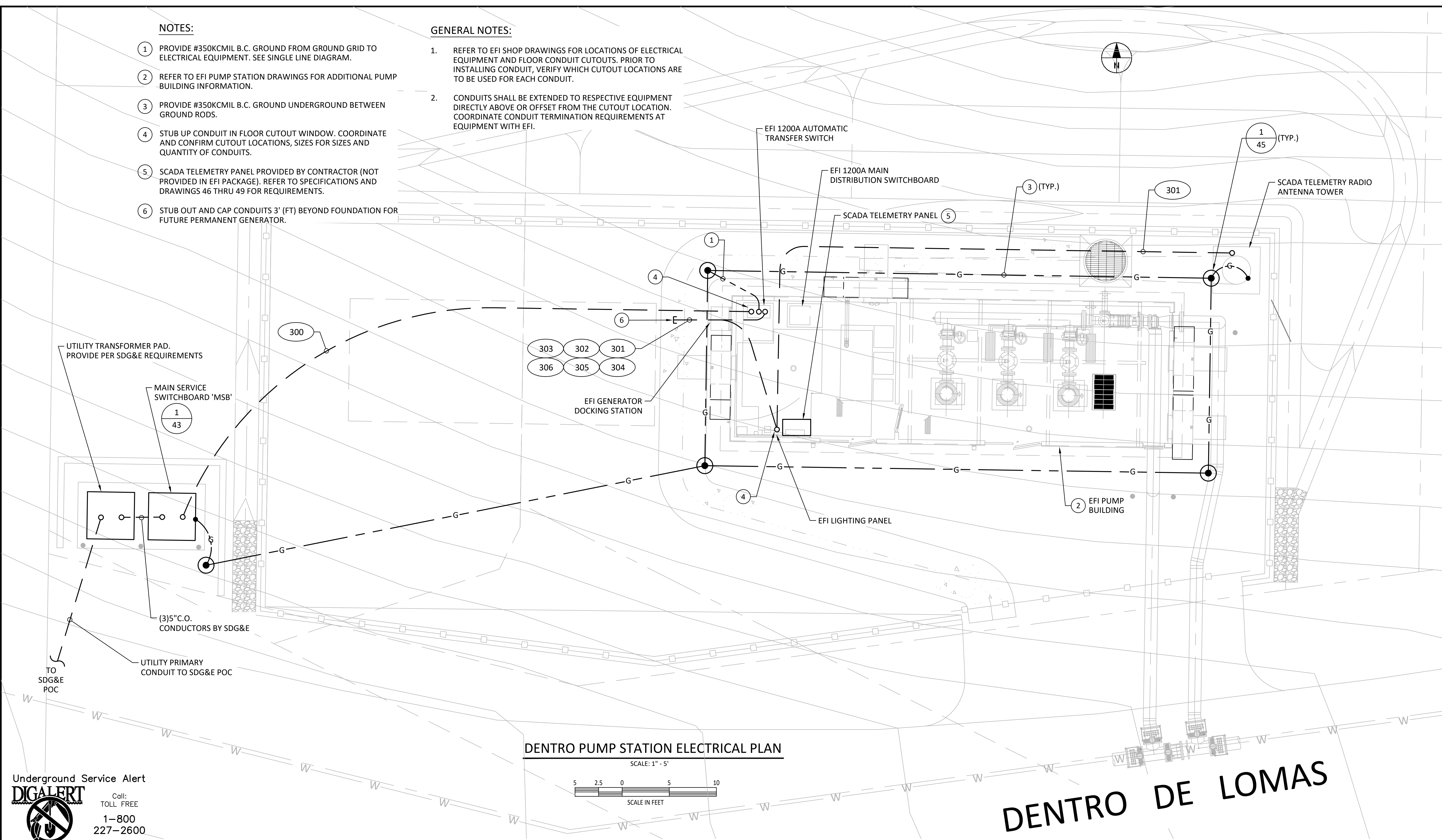
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS

NOTES:

- 1 PROVIDE #350KCMIL B.C. GROUND FROM GROUND GRID TO ELECTRICAL EQUIPMENT. SEE SINGLE LINE DIAGRAM.
- 2 REFER TO EFI PUMP STATION DRAWINGS FOR ADDITIONAL PUMP BUILDING INFORMATION.
- 3 PROVIDE #350KCMIL B.C. GROUND UNDERGROUND BETWEEN GROUND RODS.
- 4 STUB UP CONDUIT IN FLOOR CUTOUT WINDOW. COORDINATE AND CONFIRM CUTOUT LOCATIONS, SIZES FOR SIZES AND QUANTITY OF CONDUITS.
- 5 SCADA TELEMETRY PANEL PROVIDED BY CONTRACTOR (NOT PROVIDED IN EFI PACKAGE). REFER TO SPECIFICATIONS AND DRAWINGS 46 THRU 49 FOR REQUIREMENTS.
- 6 STUB OUT AND CAP CONDUITS 3' (FT) BEYOND FOUNDATION FOR FUTURE PERMANENT GENERATOR.

GENERAL NOTES:

1. REFER TO EFI SHOP DRAWINGS FOR LOCATIONS OF ELECTRICAL EQUIPMENT AND FLOOR CONDUIT CUTOUTS. PRIOR TO INSTALLING CONDUIT, VERIFY WHICH CUTOUT LOCATIONS ARE TO BE USED FOR EACH CONDUIT.
2. CONDUITS SHALL BE EXTENDED TO RESPECTIVE EQUIPMENT DIRECTLY ABOVE OR OFFSET FROM THE CUTOUT LOCATION. COORDINATE CONDUIT TERMINATION REQUIREMENTS AT EQUIPMENT WITH EFI.



DENTRO PUMP STATION ELECTRICAL PLAN

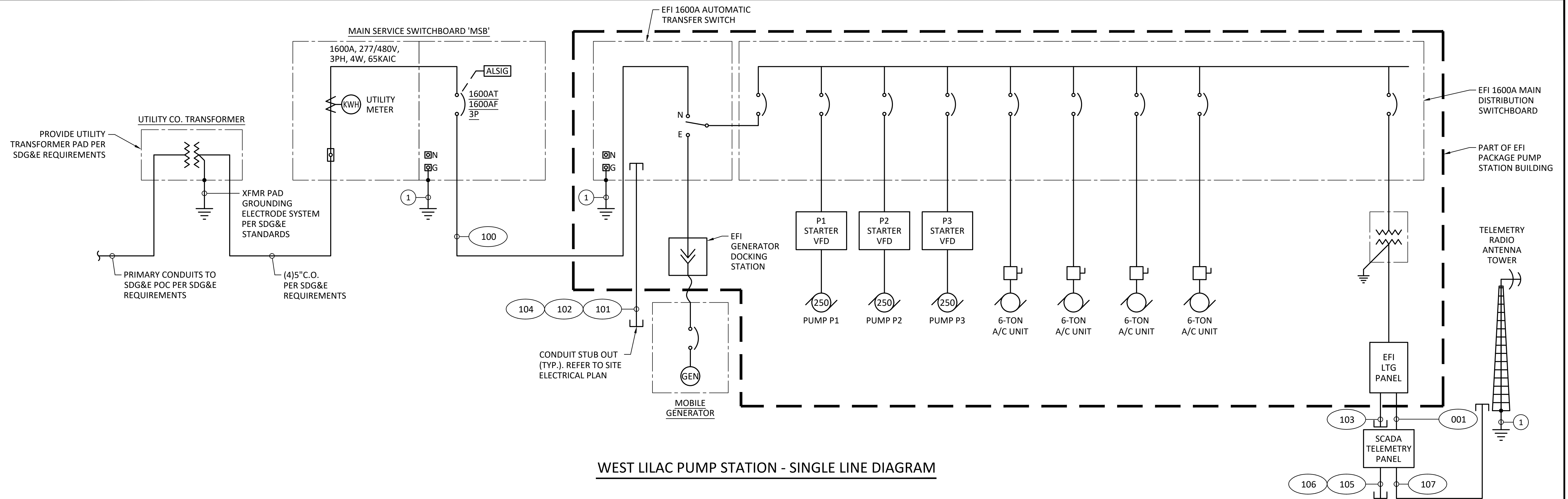
SCALE: 1" = 5'



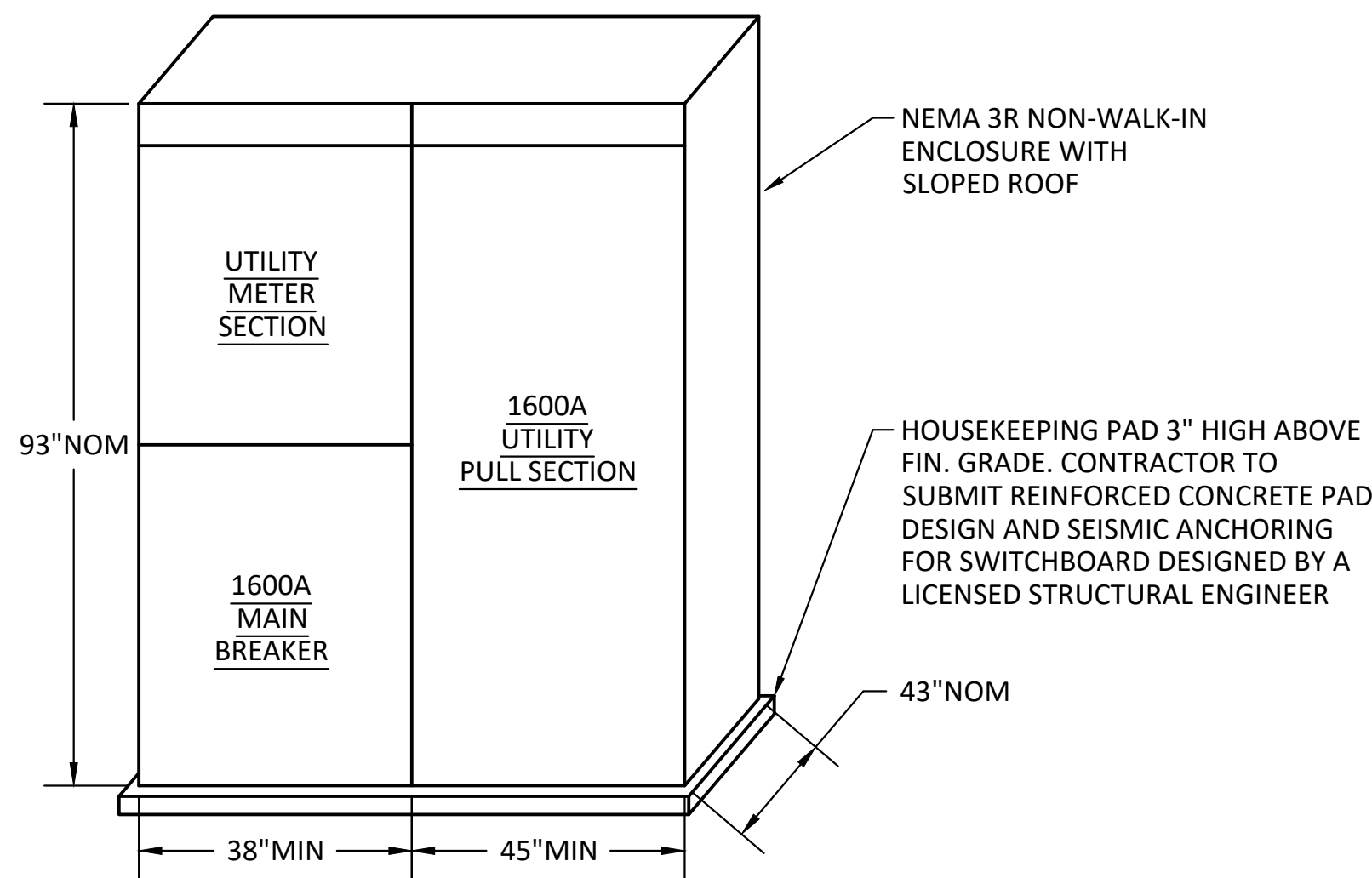
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DENTRO DE LOMAS

<p>RAINBOW MUNICIPAL WATER DISTRICT 3707 OLD HWY 395 FALLBROOK, CA 92028 (760) 728-1178 WWW.RAINBOWWD.COM</p> <p>WATER REVIEWED BY: RAINBOW MUNICIPAL WATER DISTRICT</p>	<table border="1"> <thead> <tr> <th>REV</th> <th>BY</th> <th>DATE</th> <th>REVISIONS</th> <th>APPR.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	BY	DATE	REVISIONS	APPR.	DATE								<p>ENGINEER OF RECORD: GERRY GREEN DATE: 9/06/23 P.E. E15691 EXP. 6/30/24</p>	<p>PLANS PREPARED BY: GERRY GREEN INC. Consulting Electrical Engineers 2734 Loker Ave West, Ste M, Carlsbad, CA 92013 Tel. (619) 962-2356</p>	<p>RAINBOW MUNICIPAL WATER DISTRICT WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS ELECTRICAL & CONTROLS SITE PLAN - DENTRO</p>	<p>SHEET NO. 40 OF 49 SHEETS FILE NO.</p>
	REV	BY	DATE	REVISIONS	APPR.	DATE												
<p>ENGINEERING & CIP MANAGER, CHAD WILLIAMS</p>	<p>DESIGNED BY: GG DRAWN BY: AH CHECKED BY: GG</p>	<p>DATE: 9/06/23</p>	<p>DATE: 9/06/23</p>	<p>DATE: 9/06/23</p>	<p>PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT</p>	<p>ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS</p>												



WEST LILAC PUMP STATION - SINGLE LINE DIAGRAM



1
41
MAIN SERVICE SWITCHBOARD 'MSB' ELEVATION
SCALE: NOT TO SCALE

MSB CALC	
PUMP P1 - 250HP	302A
PUMP P2 - 250HP	302A
PUMP P3 - 250HP	302A
AC UNITS 4 X 9A	36A
LIGHTING & MISC.	30A
SUBTOTAL	972A
25% LARGEST MOTOR	76A
TOTAL	1048A
1048A @ 480V, 3Ø = 871KVA	

- NOTES:
- 1 PROVIDE #350KCMIL B.C. GROUND FROM GROUND GRID TO ELECTRICAL EQUIPMENT.

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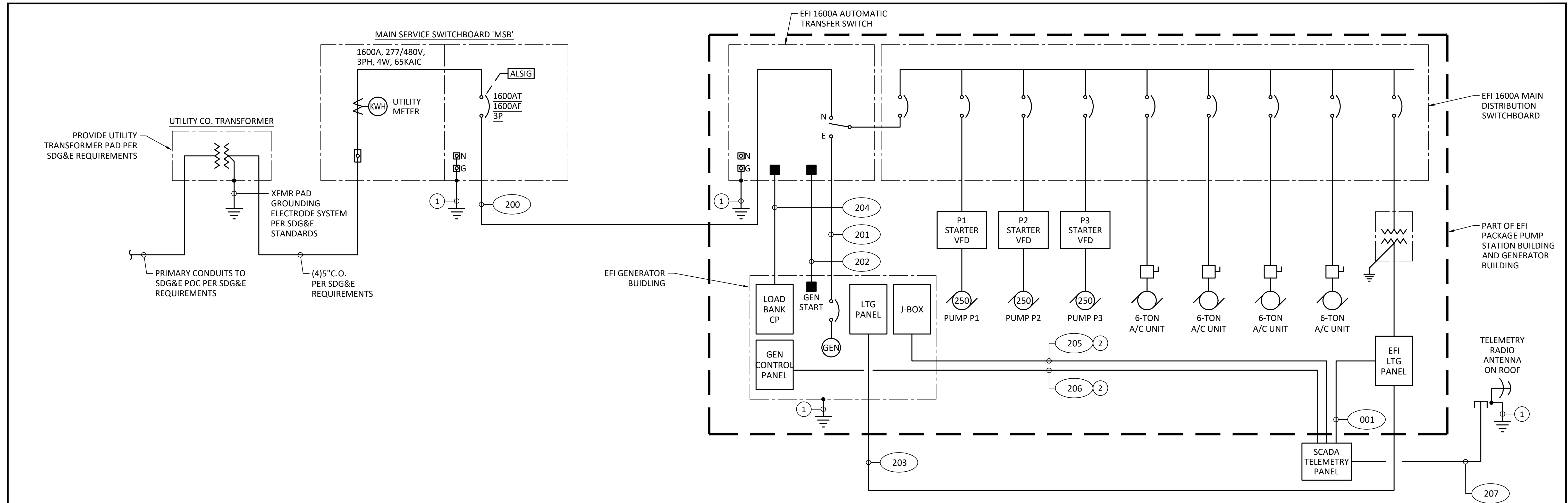
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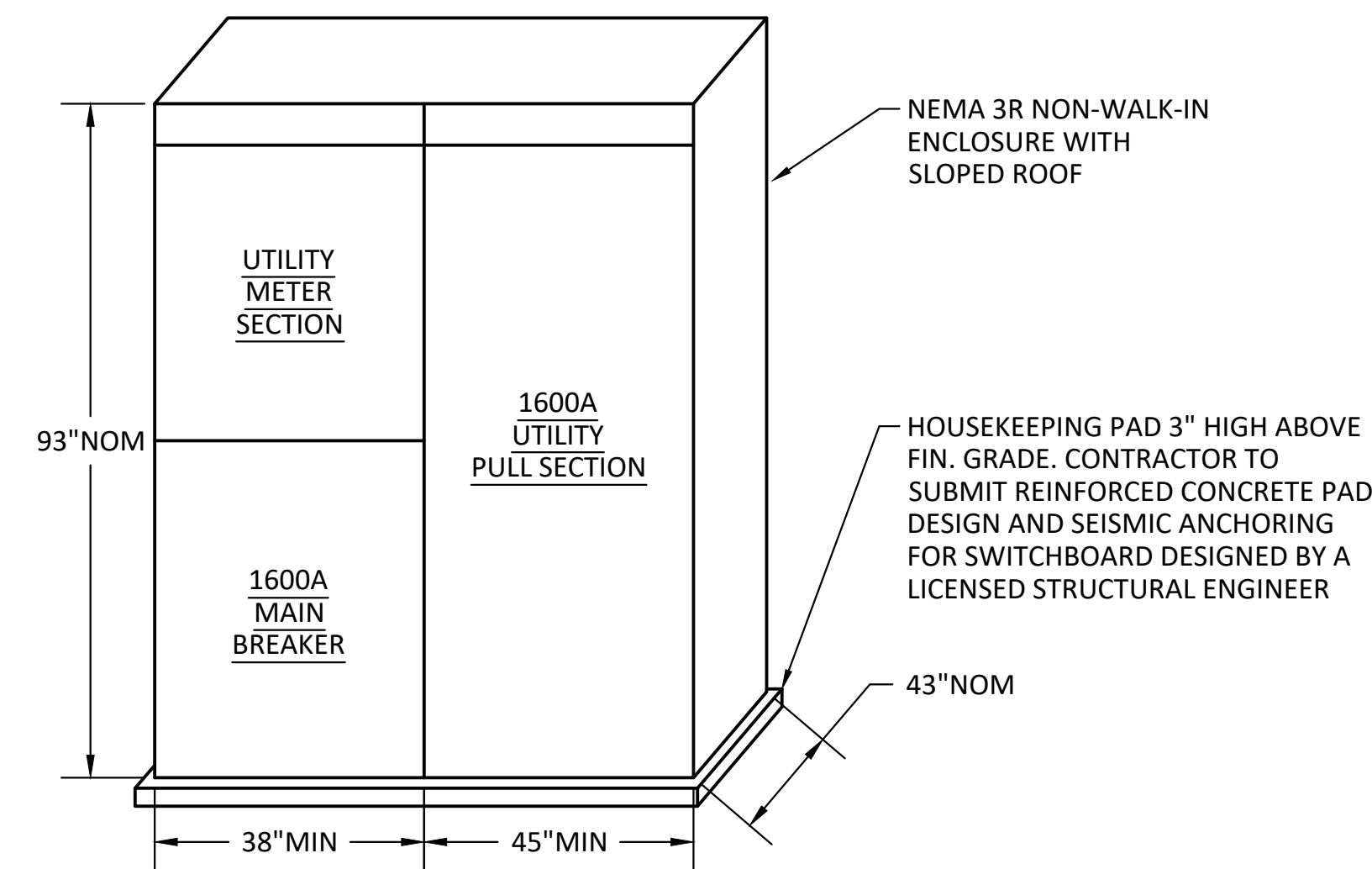
RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 ELECTRICAL SERVICE SINGLE LINE DIAGRAM &
 MAIN SWITCHBOARD ELEVATION - WEST LILAC PUMP STATION
 PRESSURE ZONE: MORRO HWL=823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **41**
 OF 49 SHEETS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



RANCHO AMIGOS PUMP STATION - SINGLE LINE DIAGRAM



1
42 MAIN SERVICE SWITCHBOARD 'MSB' ELEVATION
SCALE: NOT TO SCALE

MSB CALC	
PUMP P1 - 250HP	302A
PUMP P2 - 250HP	302A
PUMP P3 - 250HP	302A
AC UNITS 4 X 9A	36A
LIGHTING & MISC.	30A
<hr/>	
SUBTOTAL	972A
25% LARGEST MOTOR	76A
<hr/>	
TOTAL	1048A
1048A @ 480V, 3Ø = 871KVA	

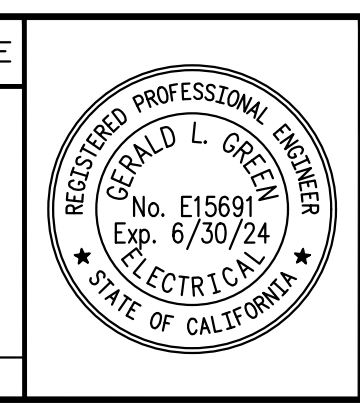
- NOTES:
- PROVIDE #350KCMIL B.C. GROUND FROM GROUND GRID TO ELECTRICAL EQUIPMENT.
 - SCADA CONDUITS FOR GENERATOR CONTROL AND MONITORING AND GENERATOR BUILDING MONITORING.

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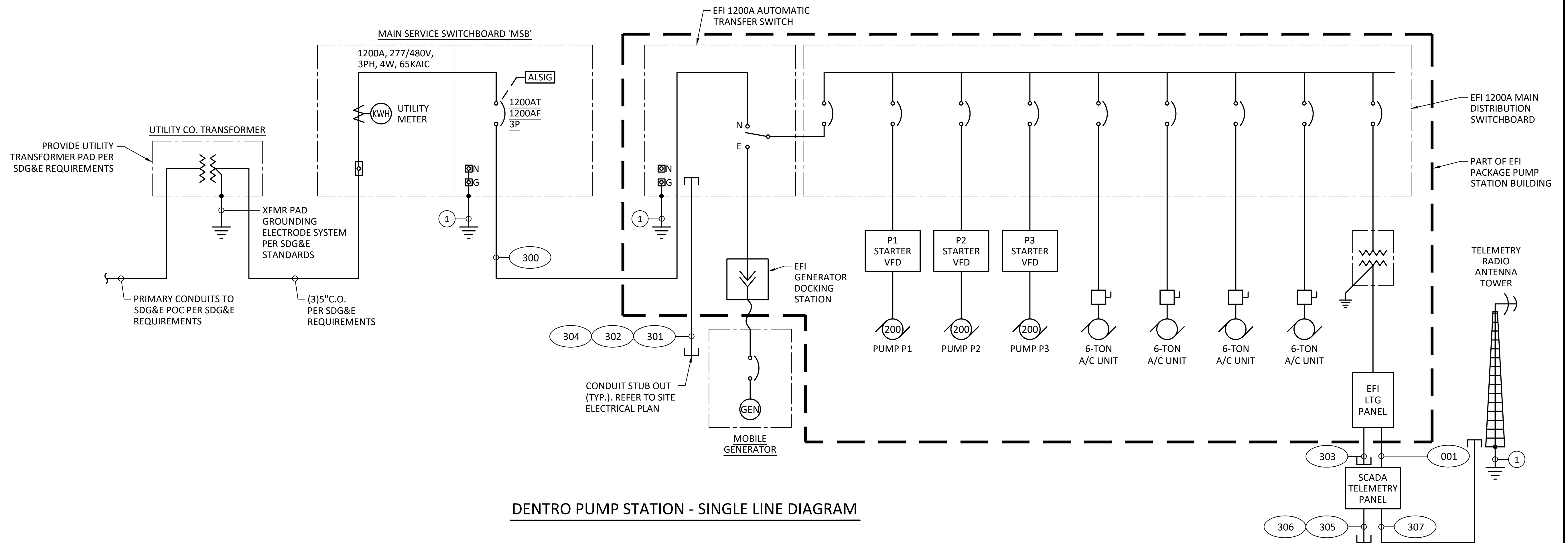
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RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 ELECTRICAL SERVICE SINGLE LINE DIAGRAM &
 MAIN SWITCHBOARD ELEVATION - RANCHO AMIGOS PUMP STATION
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **42**
 OF 49 SHEETS
 FILE NO.

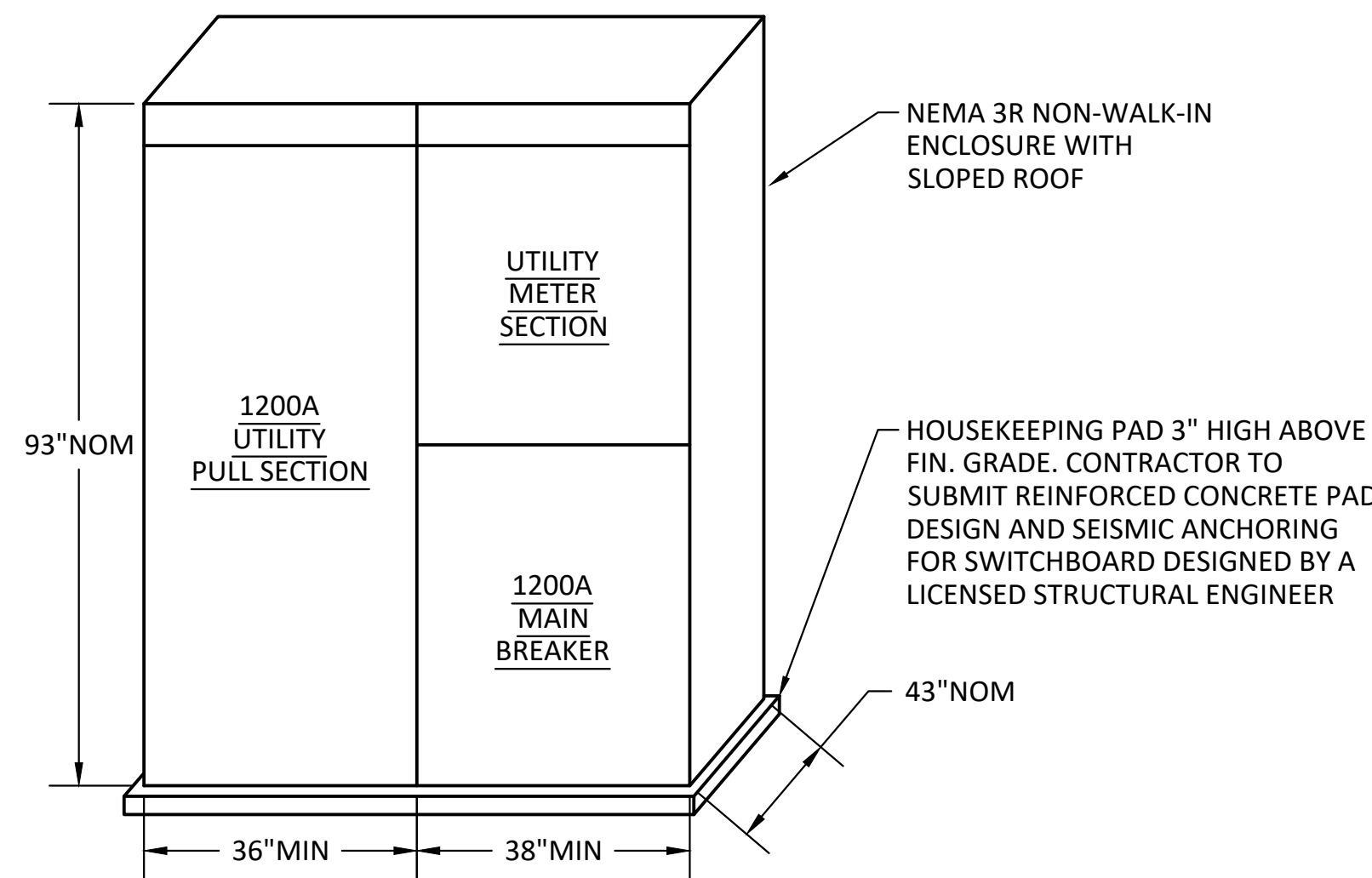
ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



DENTRO PUMP STATION - SINGLE LINE DIAGRAM

MSB CALC			
PUMP P1 - 200HP	---	---	240A
PUMP P2 - 200HP	---	---	240A
PUMP P3 - 200HP	---	---	240A
AC UNITS 4 X 9A	---	---	36A
LIGHTING & MISC.	---	---	30A
SUBTOTAL			786A
25% LARGEST MOTOR			60A
TOTAL			846A
846A @ 480V, 3Ø =			703KVA

- NOTES:
- 1 PROVIDE #250KCMIL B.C. GROUND FROM GROUND GRID TO ELECTRICAL EQUIPMENT.



1
43
MAIN SERVICE SWITCHBOARD 'MSB' ELEVATION
SCALE: NOT TO SCALE

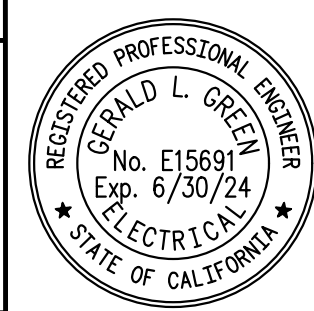


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RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
ELECTRICAL SERVICE SINGLE LINE DIAGRAM & MAIN SWITCHBOARD ELEVATION - DENTRO PUMP STATION
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. 43
OF 49 SHEETS
FILE NO.

TYPICAL PUMP STATION CONDUIT SCHEDULE (APPLIES TO ALL THREE STATIONS)									
CONDUIT NO.	CONDUIT SIZE	FROM	TO	CABLE			VOLTAGE	POWER	REMARKS
				QTY.	SIZE	GND. *			
001	3/4"	EFI LIGHTING PANEL	SCADA TELEMETRY PANEL	2	#12	#12	120	POWER	
002	1-1/2"	EFI INTERFACE PANEL	SCADA TELEMETRY PANEL	36	#14			CONTROL	SCADA DIGITAL WIRING
003	1-1/2"	EFI INTERFACE PANEL	SCADA TELEMETRY PANEL	42	#14			CONTROL	SCADA DIGITAL WIRING
004	1-1/2"	EFI INTERFACE PANEL	SCADA TELEMETRY PANEL	9	TSP			SIGNAL	SCADA ANALOG WIRING
005	1"	EFI TYPICAL VFD	SCADA TELEMETRY PANEL	1	CAT6			SIGNAL	VERTICLE #C6U-422RD
006	1"	EFI ATS	SCADA TELEMETRY PANEL	1	CAT6			SIGNAL	VERTICLE #C6U-422RD

* - ONE GROUND CONDUCTOR PER CONDUIT

RANCHO AMIGOS CONDUIT SCHEDULE									
CONDUIT NO.	CONDUIT SIZE	FROM	TO	CABLE			VOLTAGE	POWER	REMARKS
				QTY.	SIZE	GND. *			
200	(4)4"	MAIN SERVICE SWITCHBOARD	EFI 1600A ATS	(4)4	#600KCMIL	#350KCMIL	480	POWER	
201	(4)4"	EFI GENERATOR SET	EFI 1600A ATS	(4)4	#600KCMIL	#350KCMIL	480	POWER	
202	1"	EFI GENERATOR SET	EFI 1600A ATS	6	#14	#14		CONTROL	GEN START
203	1-1/4"	EFI LTG PANEL	GEN LTG PANEL	3	#2	#8	240	POWER	
204	1"	EFI LOAD BANK CONTROL PANEL	EFI 1600ATS	6	#14	#14		CONTROL	
205	1"	EFI GEN RM J-BOX	SCADA TELEMETRY PANEL	20	#14	#14		CONTROL	SCADA DIGITAL WIRING
206	1"	EFI GENERATOR SET	SCADA TELEMETRY PANEL	1	CAT6	-		SIGNAL	FROM GENERATOR CONTROL PANEL
207	(2)2"	SCADA TELEMETRY PANEL	RADIO ANTENNA	2	CAT6	-		SIGNAL	VERTICLE #069-561/CMXT

* - ONE GROUND CONDUCTOR PER CONDUIT

WEST LILAC CONDUIT SCHEDULE									
CONDUIT NO.	CONDUIT SIZE	FROM	TO	CABLE			VOLTAGE	POWER	REMARKS
				QTY.	SIZE	GND. *			
100	(4)4"	MAIN SERVICE SWITCHBOARD	EFI 1600A ATS	(4)4	#600KCMIL	#350KCMIL	480	POWER	
101	(4)4"	EFI 1600A ATS	STUB OUT	-	-	-	480	POWER	FUTURE GEN SPARE
102	1"	EFI 1600A ATS	STUB OUT	-	-	-		CONTROL	FUTURE GEN SPARE
103	1"	EFI LTG PANEL	STUB OUT	-	-	-	240	POWER	FUTURE GEN SPARE
104	1"	EFI 1600A ATS	STUB OUT	-	-	-		CONTROL	FUTURE GEN SPARE
105	1"	SCADA TELEMETRY PANEL	STUB OUT	-	-	-		CONTROL	FUTURE GEN SPARE
106	1"	SCADA TELEMETRY PANEL	STUB OUT	-	-	-		SIGNAL	FUTURE GEN SPARE
107	(2)2"	SCADA TELEMETRY PANEL	RADIO ANTENNA	2	CAT6	-		SIGNAL	VERTICLE #069-561/CMXT

* - ONE GROUND CONDUCTOR PER CONDUIT

DENTRO CONDUIT SCHEDULE									
CONDUIT NO.	CONDUIT SIZE	FROM	TO	CABLE			VOLTAGE	POWER	REMARKS
				QTY.	SIZE	GND. *			
300	(3)4"	MAIN SERVICE SWITCHBOARD	EFI 1200A ATS	(3)4	#600KCMIL	#250KCMIL	480	POWER	
301	(3)4"	EFI 1200A ATS	STUB OUT	-	-	-	480	POWER	FUTURE GEN SPARE
302	1"	EFI 1200A ATS	STUB OUT	-	-	-		CONTROL	FUTURE GEN SPARE
303	1"	EFI LTG PANEL	STUB OUT	-	-	-	240	POWER	FUTURE GEN SPARE
304	1"	EFI 1200A ATS	STUB OUT	-	-	-		CONTROL	FUTURE GEN SPARE
305	1"	SCADA TELEMETRY PANEL	STUB OUT	-	-	-		CONTROL	FUTURE GEN SPARE
306	1"	SCADA TELEMETRY PANEL	STUB OUT	-	-	-		SIGNAL	FUTURE GEN SPARE
307	(2)2"	SCADA TELEMETRY PANEL	RADIO ANTENNA	2	CAT6	-		SIGNAL	VERTICLE #069-561/CMXT

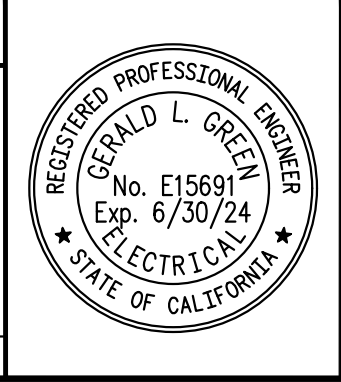
* - ONE GROUND CONDUCTOR PER CONDUIT

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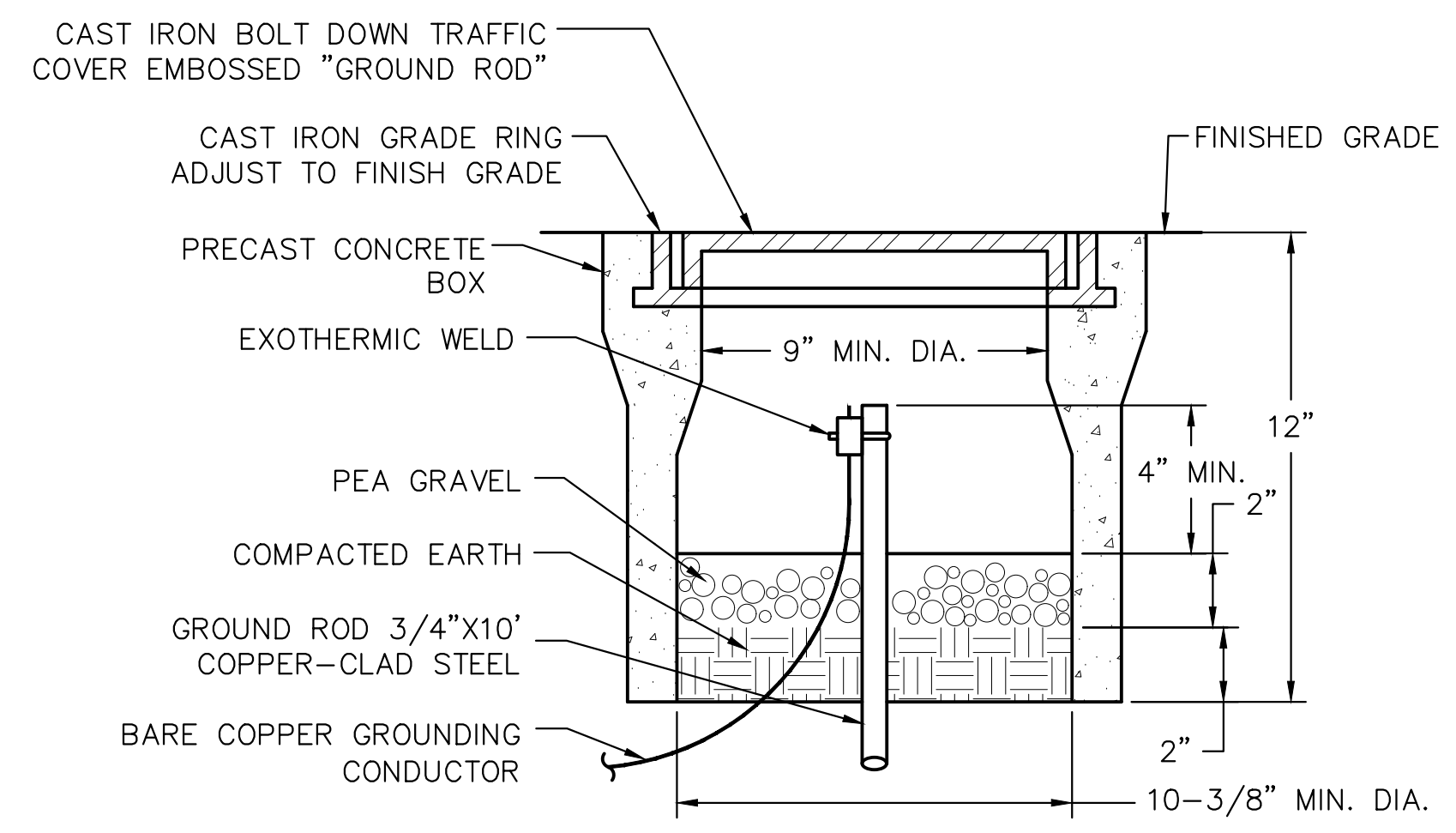
ENGINEER OF RECORD:
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RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
ELECTRICAL SCHEDULES
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **44**
 OF 49 SHEETS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



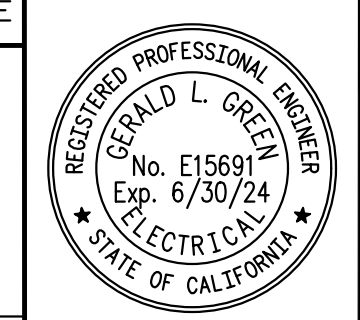
1 GROUND ROD AND BOX INSTALLATION
 45 SCALE: NOT TO SCALE

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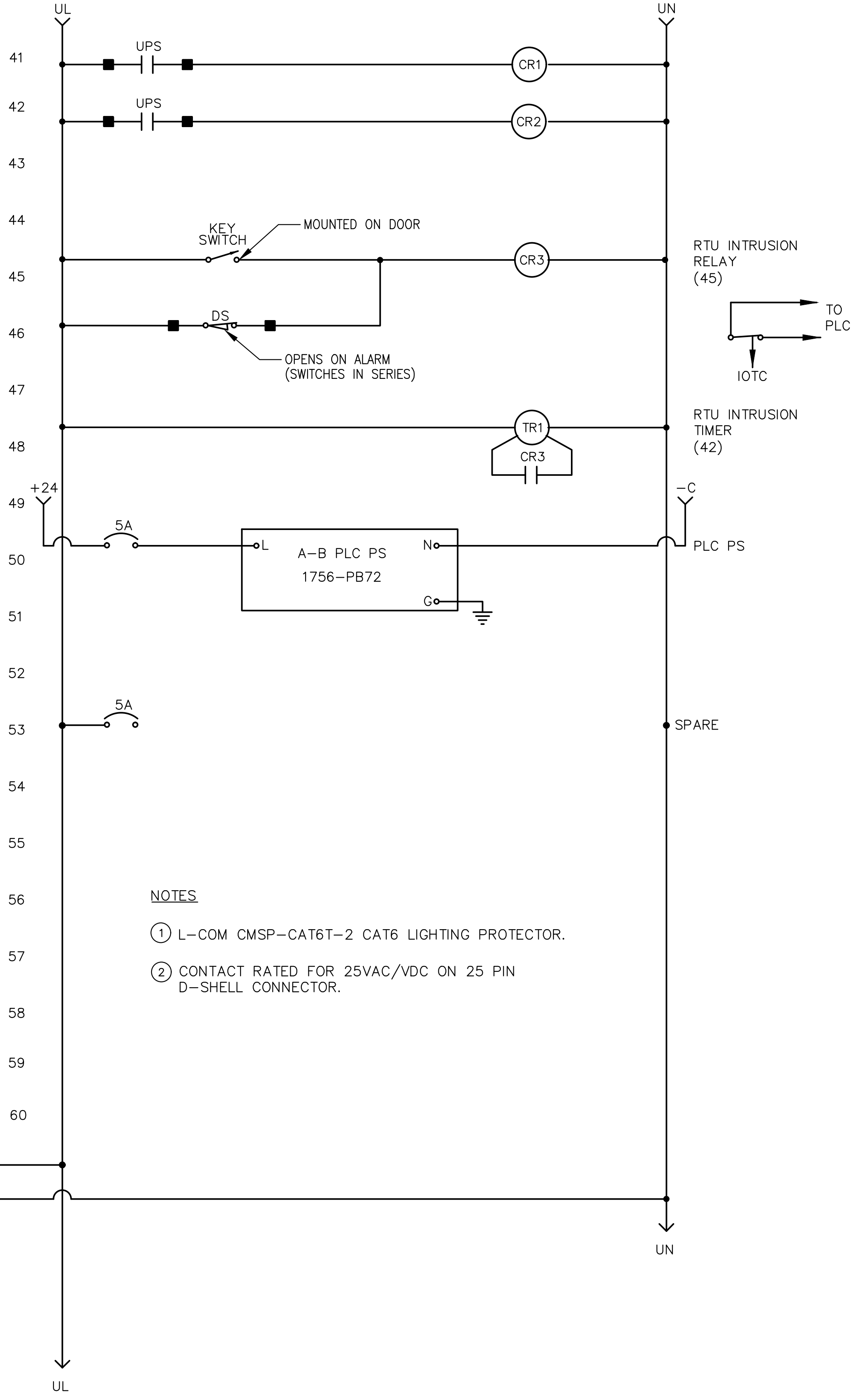
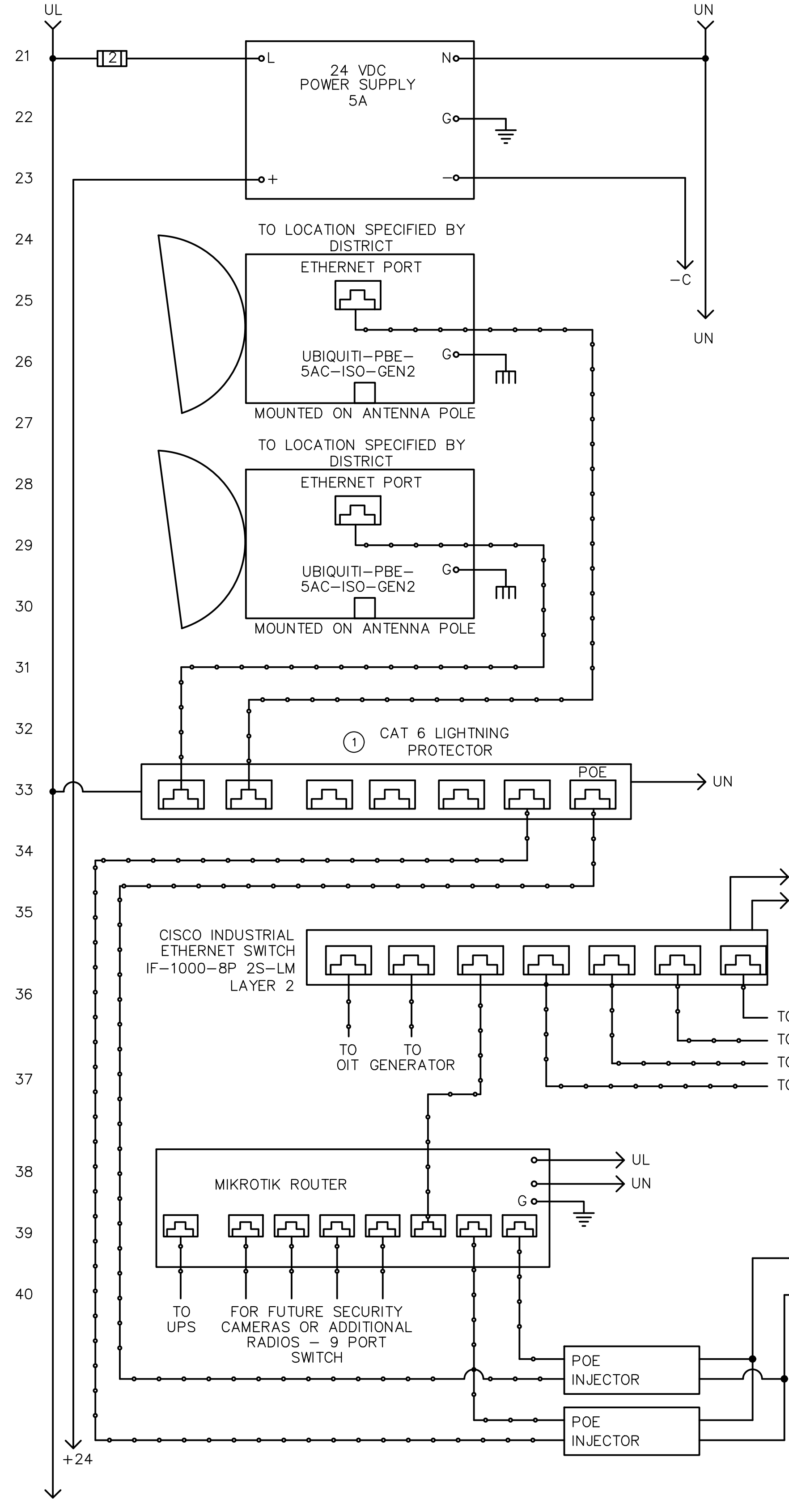
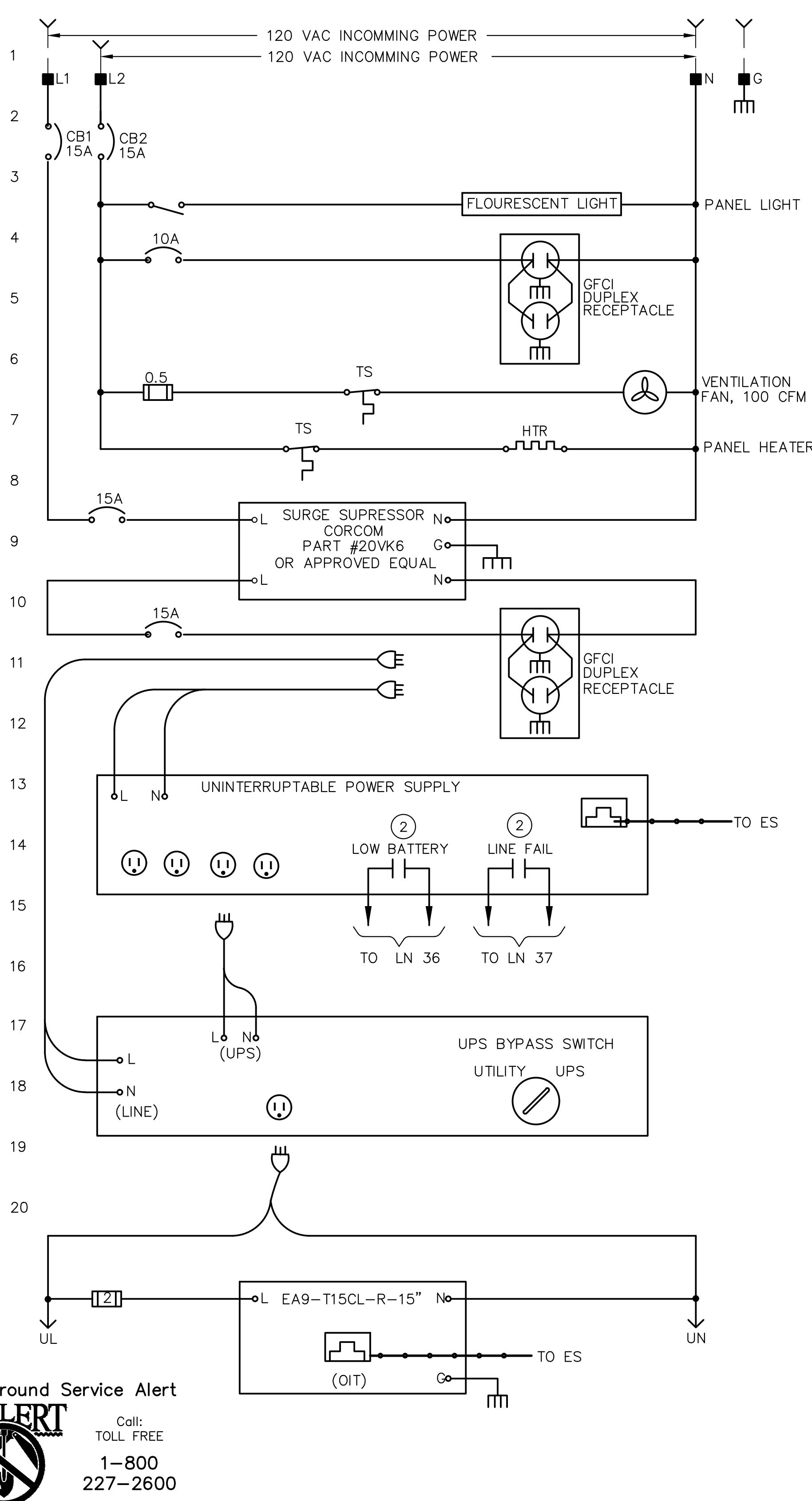
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RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 ELECTRICAL DETAILS
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **45**
 OF 49 SHEETS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



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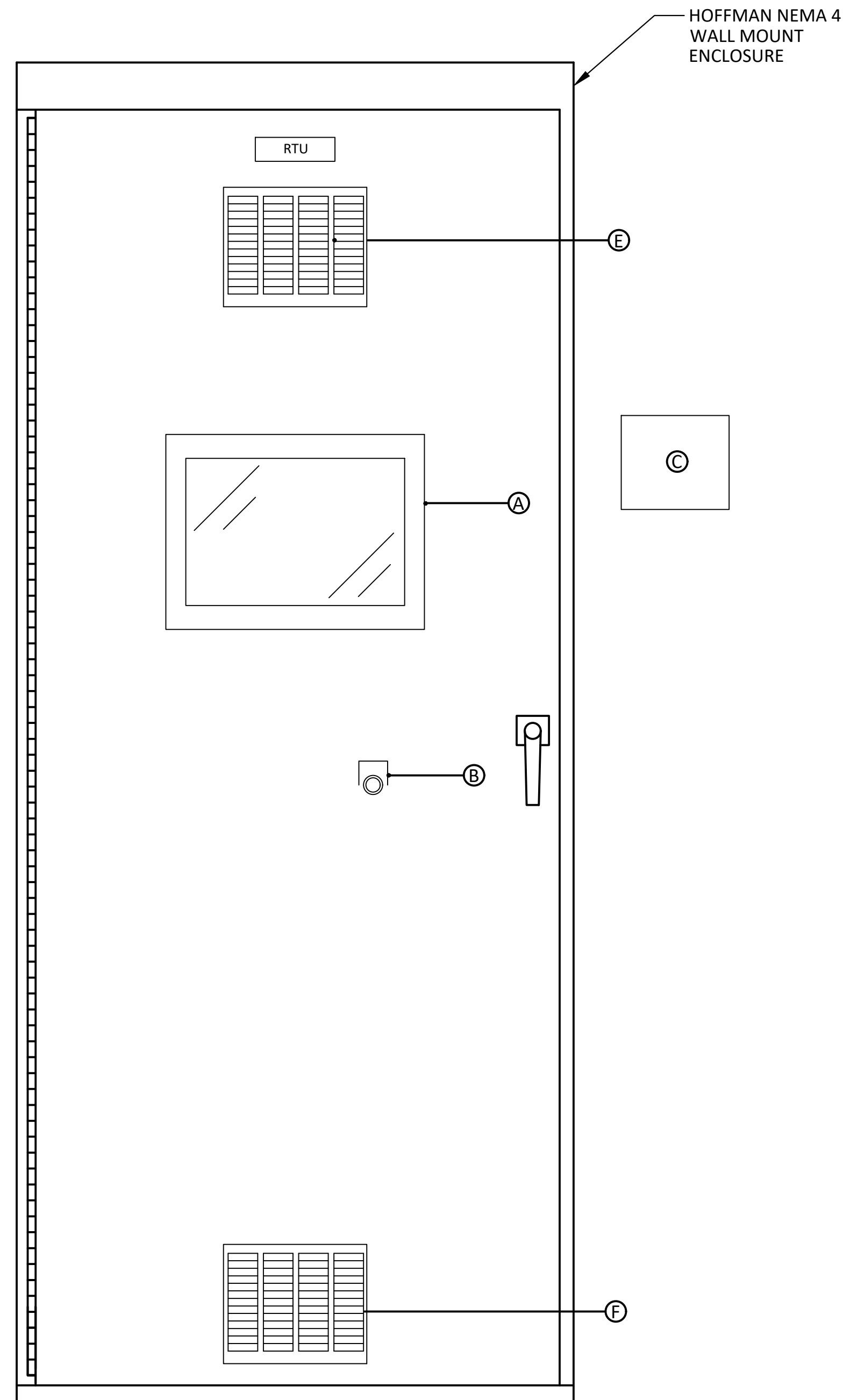
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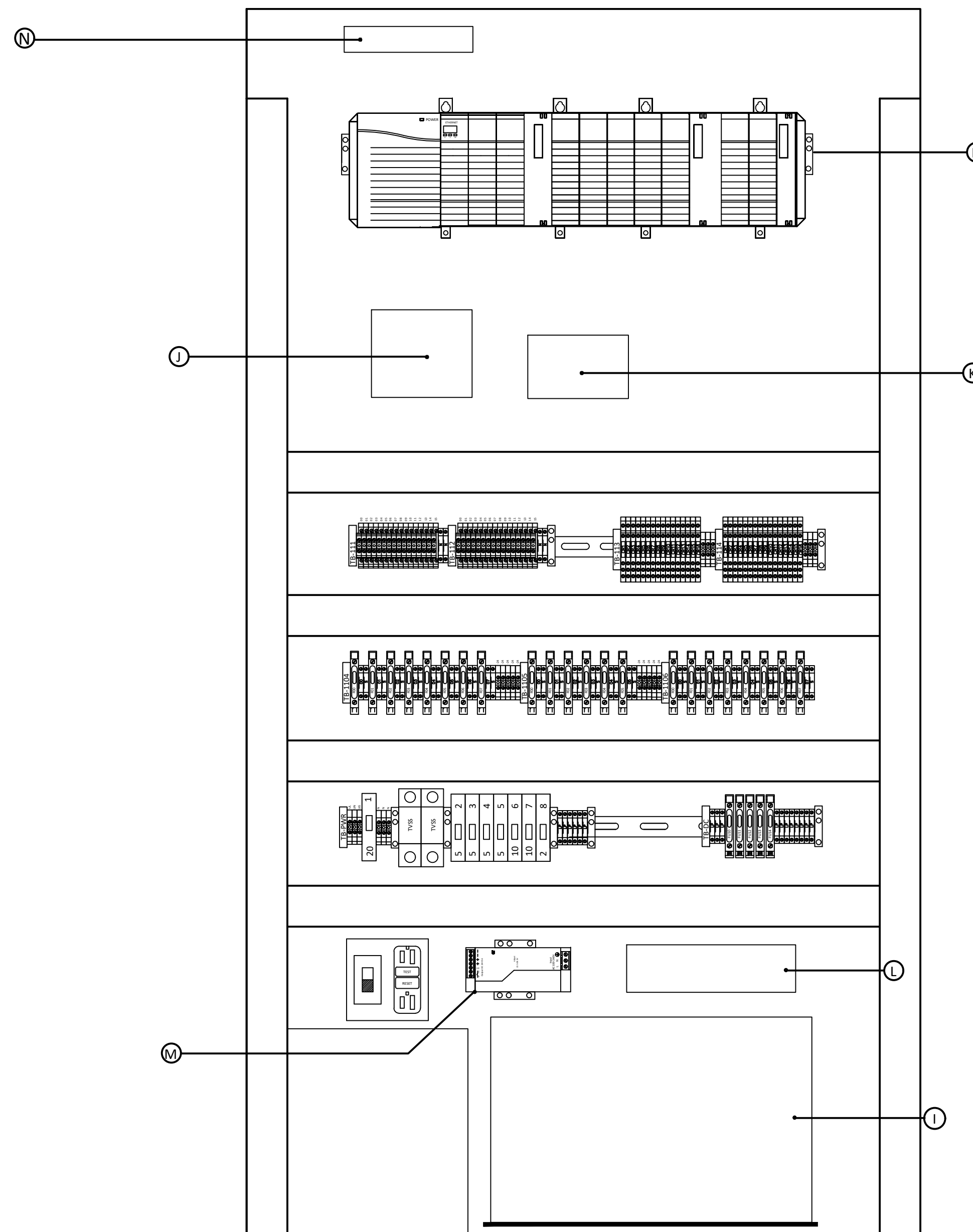
RAINBOW MUNICIPAL WATER DISTRICT
WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
SCADA TELEMETRY PANEL
TYPICAL RTU CONTROLS
PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO. **46**
OF 49 SHEETS
FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



FRONT DOOR



BACK PANEL

EQUIPMENT LIST	
ITEM	DESCRIPTION
A	AUTOMATION DIRECT - EA9-T15CL-R-15" OPERATOR INTERFACE TERMINAL
B	OVERIDE SWITCH
C	RADIO EQUIPMENT - (4) UBIQUITI PBE-5AC-ISO-GEN2-US ETHERNET RADIOS
D	NOT USED
E	FAN
F	LOUVER
G	NOT USED
H	ALLEN BRADLEY - SEE PLC EQUIPMENT BELOW
I	UPS
J	LAYER 2 ETHERNET SWITCH
K	ETHERNET SWITCH - MIKROTIK RB4011iGS+RM - LAYER iii
L	UPS BYPASS SWITCH
M	24 VDC POWER SUPPLY - AB 1769-PA2
N	CAT 6 LIGHTNING PROTECTORS - (2) L-COM CMSP-CAT6T-1 (1) L-COM CMSP-CAT6T-2

PLC EQUIPMENT	
QTY	DESCRIPTION
1	1769-L30ER - COMPACTLOGIX 5370 CONTROLLER
3	1769-IA16 - 120VAC DISCRETE INPUT MODULE
1	1769-OW16 - DISCRETE RELAY OUTPUT MODULE
1	1769-IF8 - 4-20ma ANALOG INPUT MODULE
1	1769-OF8 - 4-20mm ANALOG OUTPUT

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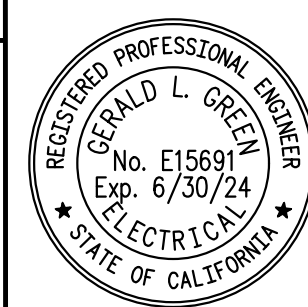
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ENGINEERING & CIP MANAGER, CHAD WILLIAMS

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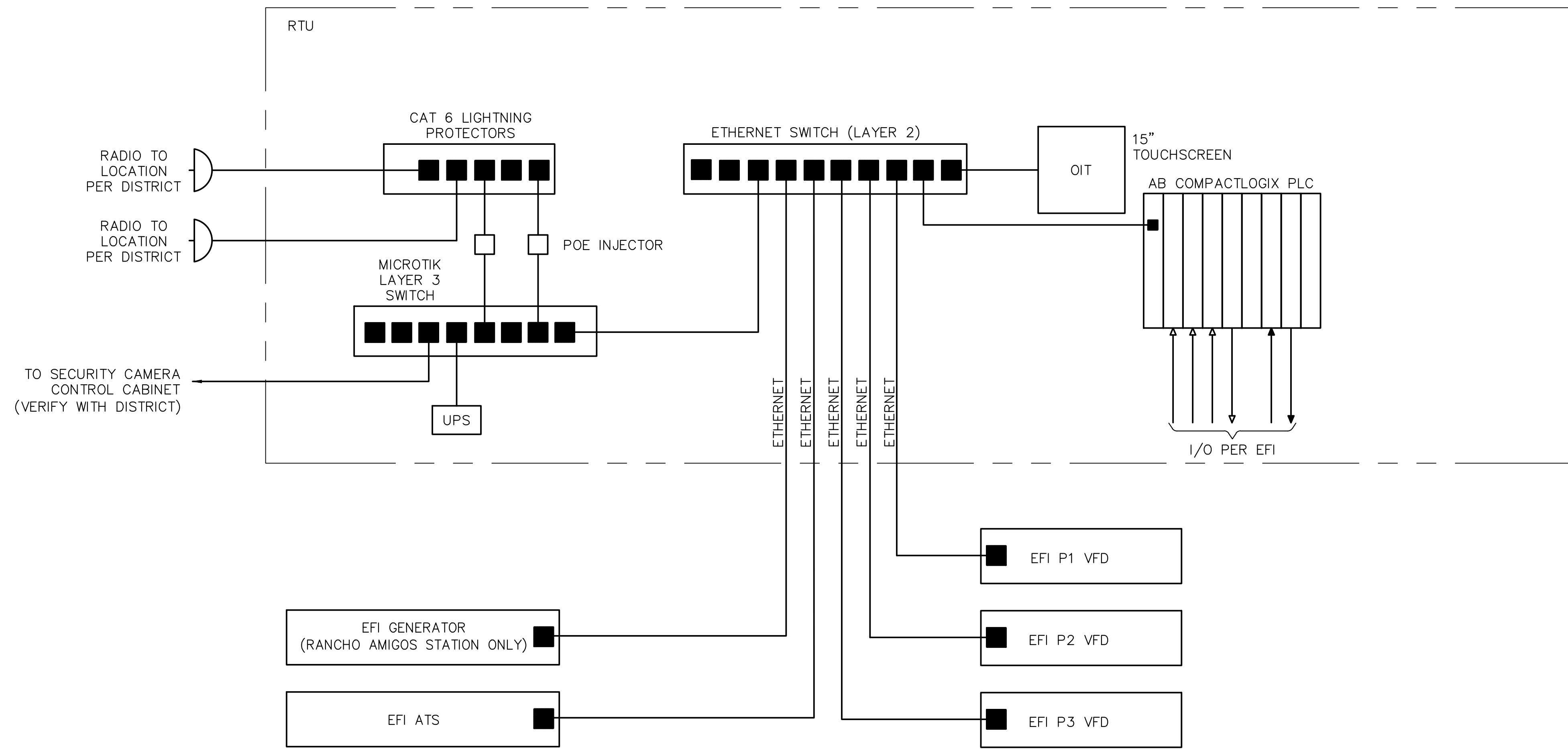
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RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 SCADA TELEMETRY PANEL
 TYPICAL RTU LAYOUT
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO.
47
 OF 49 SHEETS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS



SYSTEM ARCHITECTURE

Underground Service Alert
DIGALERT
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 TOLL FREE
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 227-2600
 TWO WORKING DAYS BEFORE YOU DIG

RAINBOW
 MUNICIPAL WATER DISTRICT
 3707 OLD HWY 395
 FALLBROOK, CA 92028
 (760) 728-1178
 WWW.RAINBOWWD.COM
 WATER REVIEWED BY: RAINBOW MUNICIPAL
 WATER DISTRICT

REV	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: GG DRAWN BY: AH CHECKED BY: GG



ENGINEER OF RECORD:
 GERRY GREEN P.E. E15691
 EXP. 6/30/24
 DATE: 9/06/23

PLANS PREPARED BY:
GERRY GREEN INC. Consulting Electrical Engineers
 2734 Loker Ave West, Ste M, Carlsbad, CA 92013 Tel. (619) 962-2356

RAINBOW MUNICIPAL WATER DISTRICT
 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS
 TYPICAL SYSTEM ARCHITECTURE
 PRESSURE ZONE: MORRO HWL= 823 FT / SOUTH ZONE HGL = 1,011 FT

SHEET NO.
48
 OF 49 SHEETS
 FILE NO.

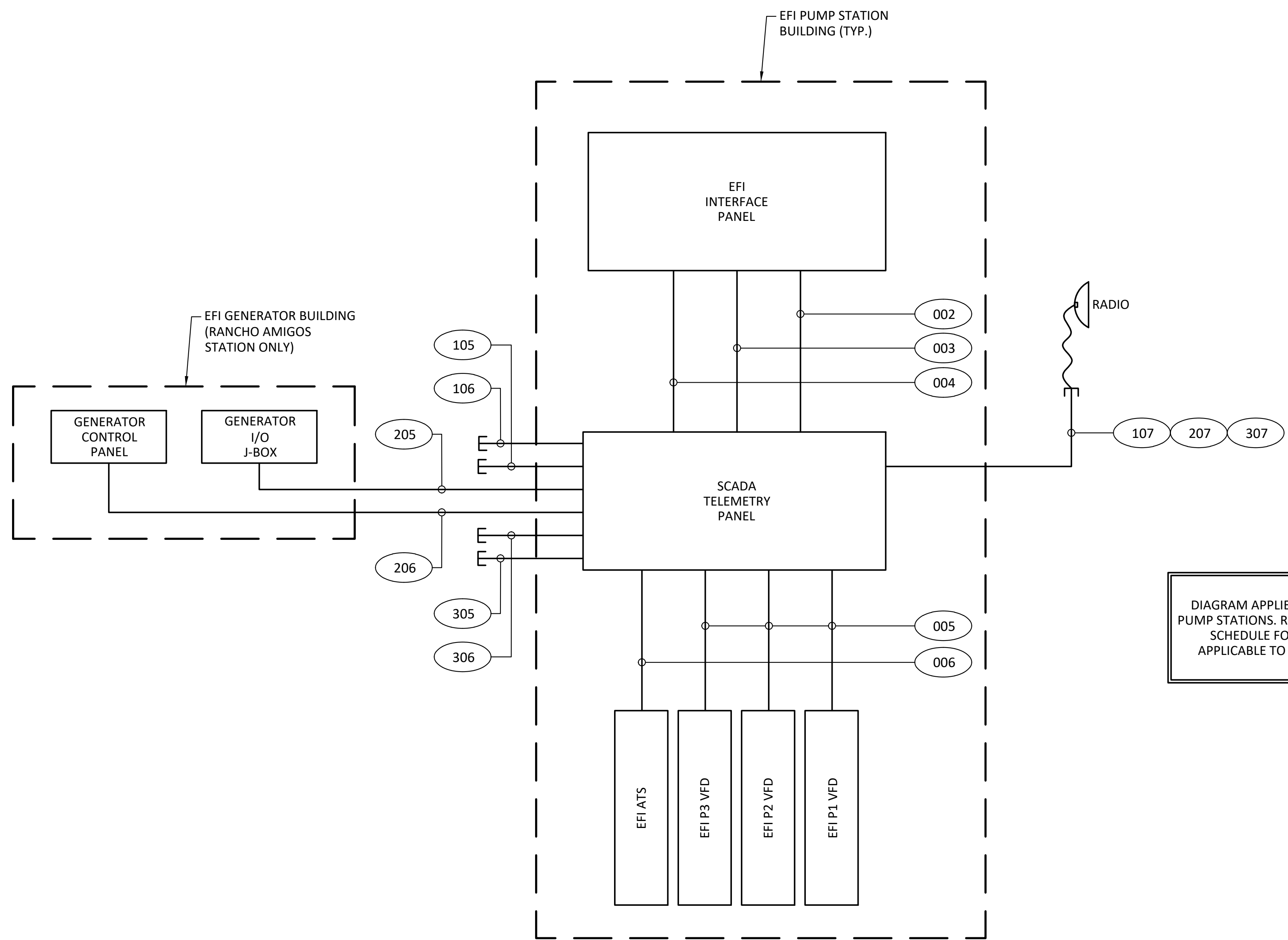


DIAGRAM APPLIES TO ALL THREE PUMP STATIONS. REFER TO CONDUIT SCHEDULE FOR CONDUITS APPLICABLE TO EACH STATION

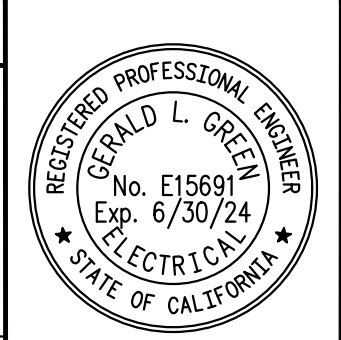
TYPICAL INTERFACE CONDUIT DIAGRAM

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SHEET NO. **49**
 OF 49 SHEETS
 FILE NO.

ENG. JOB.# 600013 WEST LILAC, RANCHO AMIGOS & DENTRO PUMP STATIONS