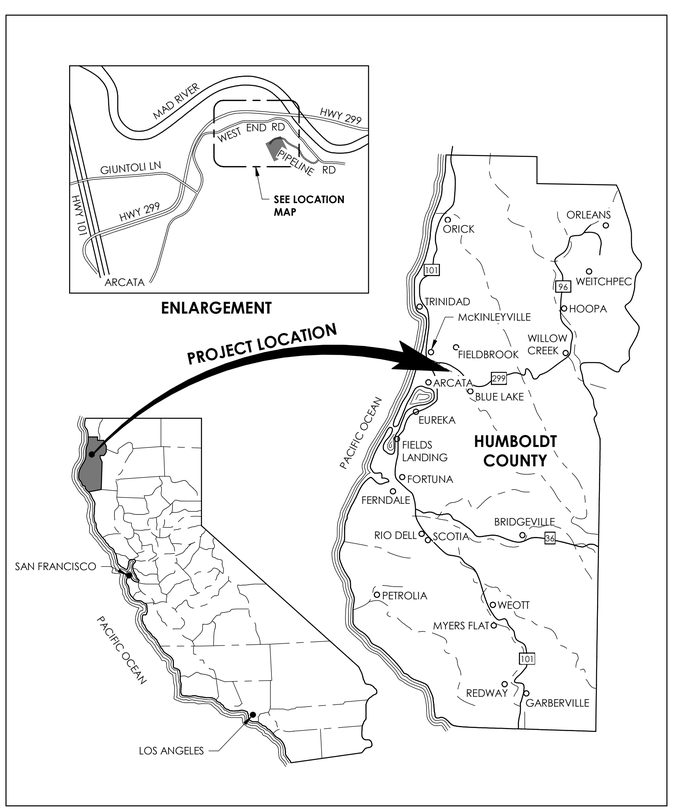
HUMBOLDT BAY MUNICIPAL WATER DISTRICT

PLANS FOR

TRF GENERATOR PROJECT

ARCATA, CA.

FEMA PROJECT DR-4558-PJ0389



AREA MAP
NTS

APPLICABLE CODES AND REGULATIONS:

CALIFORNIA ADMINISTRATION CODE
CALIFORNIA BUILDING CODE
CALIFORNIA PLUMBING CODE
CALIFORNIA MECHANICAL CODE
CALIFORNIA ELECTRICAL CODE
CALIFORNIA ENERGY CODE
CALIFORNIA FIRE CODE
NFPA 30: FLAMMABLE AND COMBUSTIBLE LIQUIDS.
NFPA 37: STATIONARY ENGINES.
NFPA 58: LIQUEFIED PETROLEUM GAS.
NFPA 110: EMERGENCY AND STANDBY POWER.
NFPA 111: STANDBY POWER SYSTEMS.

GENERAL NOTES

REFERENCES, DISCREPANCIES AND OMISSIONS: THESE NOTES SHALL APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED. FEATURES OF CONSTRUCTION INDICATED ON THESE DRAWINGS ARE TYPICAL, AND SHALL APPLY GENERALLY THROUGHOUT SIMILAR CONDITIONS. IN THE EVENT OF OMISSIONS, CONSTRUCTION SHALL BE SIMILAR TO CONSTRUCTION INDICATED IN THESE DRAWINGS, BUT MUST FIRST BE APPROVED BY THE ENGINEER IN WRITING. ALL FINISHES SHALL MATCH APPEARANCE OF ADJOINING SURFACES.

PROJECT DESCRIPTION

THE TRF GENERATOR PROJECT INCLUDES THE INSTALLATION OF A NEW 750KW GENERATOR SIZED TO FULLY SUPPORT THE FACILITY DURING AN EXTENDED UTILITY POWER OUTAGE. A NEW AUTOMATIC TRANSFER SWITCH SHALL BE INSTALLED TO CONNECT THE EXISTING BATTERY BACKUP POWER SOURCE TO THE NEW GENERATOR POWER SOURCE. AN EXISTING AUTOMATIC TRANSFER SWITCH SHALL BE REPLACED WITH A NEW CLOSED-TRANSITION SWITCH TO ALLOW SYNCHRONIZATION OF GENERATORS FOR A CLOSED-TRANSITION WHICH SHALL MINIMIZE DISRUPTION TO THE TREATMENT PROCESSES.

PACE DESIGN TEAM

TONY BOWSER	PROJECT MANAGER
BRYAN GENTLES	PROJECT ENGINEER
TROY JONES	CIVIL ENGINEER
NATHAN CHANDLER	STAFF ENGINEER
JESSE LENAKER	LAND SURVEYOR

SHEET INDEX

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S2.2	PLATFORM FRAMING PLAN & SECTIONS
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E2.2	ELECTRICAL ROOM - POWER PLAN
E2.3	ELECTRICAL ELEVATION
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BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING

DES BG	CKD TB	JOB NO.
DRN BW	DATE 1/29/25	3073.01

SIGNED 1/29/25
REGISTERED PROFESSIONAL ENGINEER BRYAN GENTLES No. E 24012 ELECTRICAL STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA.

TITLE SHEET

SHEET
G1.0
PG 1 OF 18

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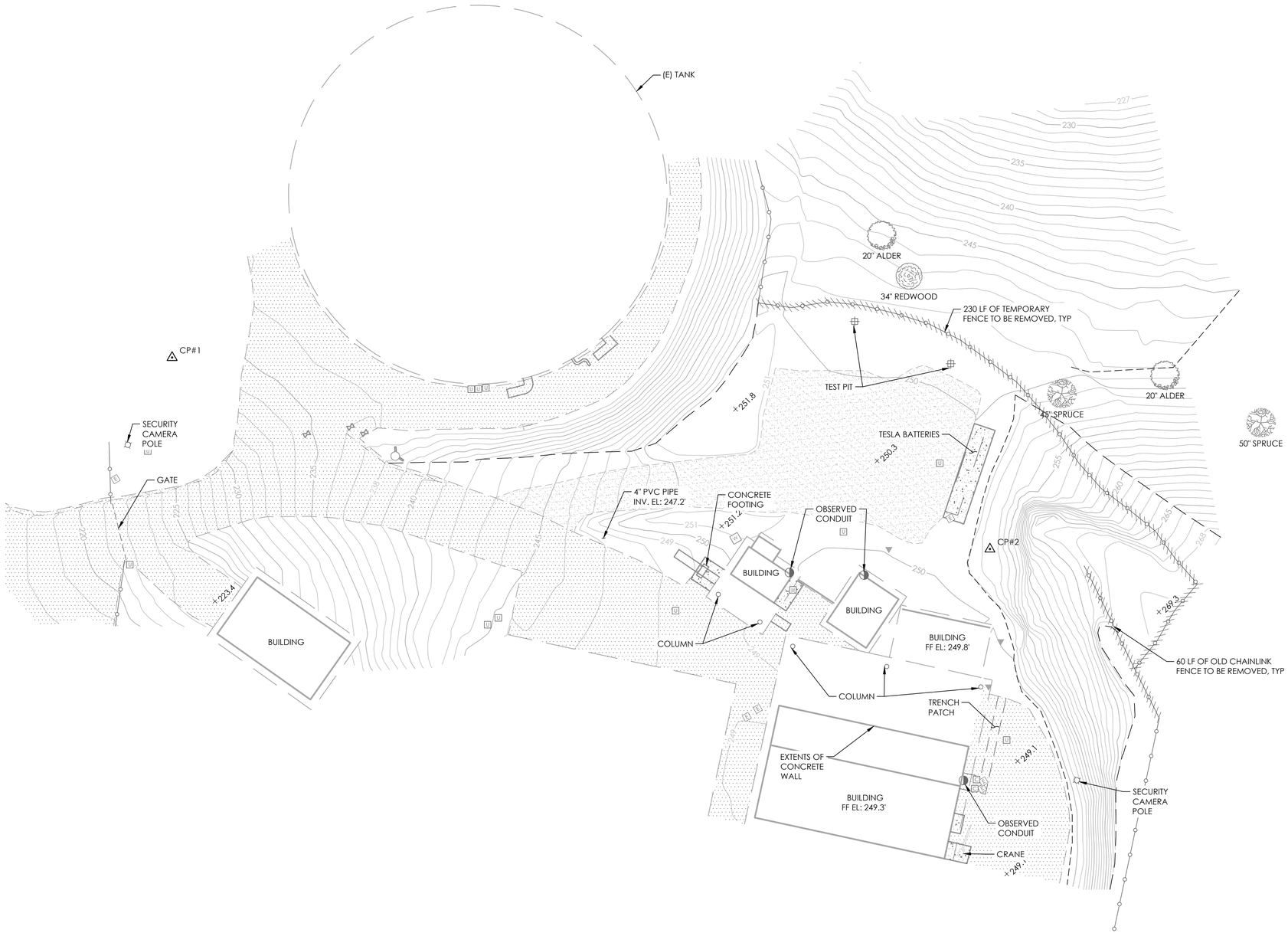
1/15/2025 7:57:15 AM



GRAPHIC SCALE

0 20 40

1 IN = 20 FT

HATCH LEGEND

- ASPHALT
- CONCRETE
- TRAVELED WAY

TREE LEGEND

- ALDER TREE
- REDWOOD TREE
- SPRUCE TREE

ABBREVIATIONS

CP	CONTROL POINT
CO	CLEANOUT
FF	FINISHED FLOOR
INV	INVERT
SS	SANITARY SEWER

SYMBOLS LEGEND

- COMMUNICATIONS BOX / VAULT / PEDESTAL
- CONTROL POINT
- ELECTRIC BOX / PANEL TRANSFORMER / METER
- FIRE HYDRANT
- MISCELLANEOUS UTILITY BOX / VAULT
- SANITARY SEWER CLEANOUT / BOX
- WATER BOX
- WATER VALVE

LINE LEGEND

- BUILDING
- BUILDING ROOF
- CONCRETE
- EDGE OF PAVEMENT
- TRAVELED WAY
- FENCE CHAINLINK
- FLOWLINE
- PIPE
- TOE OF BANK
- TOP OF BANK

GENERAL NOTES

1. THIS SURVEY WAS CONDUCTED ON 05/23/2023.
2. COORDINATE SYSTEM: CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 1, (EPOCH 2017.5).
3. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), (GEOID 18)
4. CONTOUR INTERVAL: 1 FOOT.
5. UNITS OF MEASUREMENT SHOWN HEREON ARE IN TERMS OF THE U.S. SURVEY FOOT AND DECIMALS THEREOF.
6. TREE DIMENSIONS SHOWN HEREON ARE DIAMETER AT BREAST HEIGHT. TREE CLASSIFICATION IS BASED UPON SURVEYOR'S BEST ESTIMATION; A CERTIFIED ARBORIST SHOULD BE CONSULTED TO VERIFY WHERE PERTINENT; TREES LESS THAN 6" IN DIAMETER WERE NOT SURVEYED.
7. UTILITIES/FEATURES SHOWN HEREON ARE BASED UPON ABOVE-GROUND, OBSERVED EVIDENCE ONLY.
8. THIS SURVEY WAS CONDUCTED USING A DJI PHANTOM 4 RTK UNMANNED AERIAL SYSTEM FLOWN APPROXIMATELY 220 FEET ABOVE GROUND LEVEL. SUPPLEMENTAL DATA WAS COLLECTED UTILIZING A COMBINATION OF GPS/GNSS, AND TOTAL STATION TECHNOLOGIES.

CONTROL POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	2220691.07	5991237.49	234.17	#3 REBAR & PLASTIC CAP
2	2220492.95	5991448.62	252.42	8" MAG NAIL

BAR IS ONE INCH ON ORIGINAL DRAWING

0" 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

REVISIONS

NO	DATE	DESCRIPTION

PACE® ENGINEERING

DES - CKD JL JOB NO. 3073.01

DRN JP DATE 1/29/25

SIGNED 1/29/25

REGISTERED PROFESSIONAL ENGINEER TROY M. JONES No. 59519 CIVIL STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA

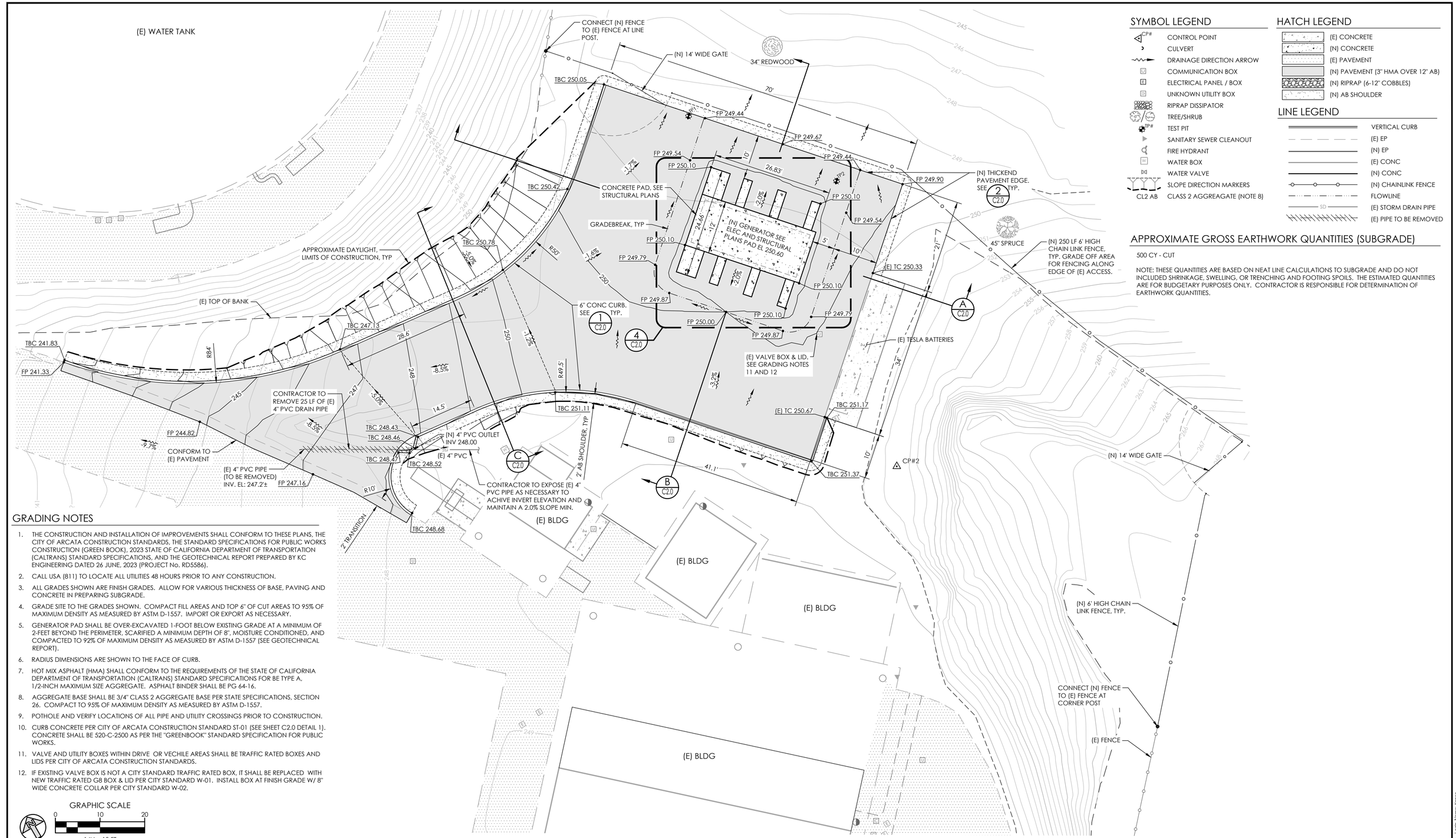
EXISTING TOPOGRAPHIC SURVEY

SHEET

C1.0

PG 2 OF 18

Plot Date: January 16, 2025 - 3:56 pm Login Name: tjones
File Name: M:\Land Projects\3073.01 Humboldt Bay MWD TRF Gen\01 CAD\06 AFC\Topographic Survey_Design.dwg Layout: TOPO



SYMBOL LEGEND

- CP# CONTROL POINT
- CULVERT
- DRAINAGE DIRECTION ARROW
- COMMUNICATION BOX
- ELECTRICAL PANEL / BOX
- UNKNOWN UTILITY BOX
- RIPRAP DISSIPATOR
- TREE/SHRUB
- TP# TEST PIT
- SANITARY SEWER CLEANOUT
- FIRE HYDRANT
- WATER BOX
- WATER VALVE
- SLOPE DIRECTION MARKERS
- CL2 AB CLASS 2 AGGREAGATE (NOTE 8)

HATCH LEGEND

- (E) CONCRETE
- (N) CONCRETE
- (E) PAVEMENT
- (N) PAVEMENT (3" HMA OVER 12" AB)
- (N) RIPRAP (6-12" COBBLES)
- (N) AB SHOULDER

LINE LEGEND

- VERTICAL CURB
- (E) EP
- (N) EP
- (E) CONC
- (N) CONC
- (N) CHAINLINK FENCE
- FLOWLINE
- SD (E) STORM DRAIN PIPE
- (E) PIPE TO BE REMOVED

APPROXIMATE GROSS EARTHWORK QUANTITIES (SUBGRADE)

500 CY - CUT

NOTE: THESE QUANTITIES ARE BASED ON NEAT LINE CALCULATIONS TO SUBGRADE AND DO NOT INCLUDED SHRINKAGE, SWELLING, OR TRENCHING AND FOOTING SPOILS. THE ESTIMATED QUANTITIES ARE FOR BUDGETARY PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR DETERMINATION OF EARTHWORK QUANTITIES.

GRADING NOTES

1. THE CONSTRUCTION AND INSTALLATION OF IMPROVEMENTS SHALL CONFORM TO THESE PLANS, THE CITY OF ARCATA CONSTRUCTION STANDARDS, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK), 2023 STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATIONS, AND THE GEOTECHNICAL REPORT PREPARED BY KC ENGINEERING DATED 26 JUNE, 2023 (PROJECT No. RD5586).
2. CALL USA (811) TO LOCATE ALL UTILITIES 48 HOURS PRIOR TO ANY CONSTRUCTION.
3. ALL GRADES SHOWN ARE FINISH GRADES. ALLOW FOR VARIOUS THICKNESS OF BASE, PAVING AND CONCRETE IN PREPARING SUBGRADE.
4. GRADE SITE TO THE GRADES SHOWN. COMPACT FILL AREAS AND TOP 6" OF CUT AREAS TO 95% OF MAXIMUM DENSITY AS MEASURED BY ASTM D-1557. IMPORT OR EXPORT AS NECESSARY.
5. GENERATOR PAD SHALL BE OVER-EXCAVATED 1-FOOT BELOW EXISTING GRADE AT A MINIMUM OF 2-FEET BEYOND THE PERIMETER, SCARIFIED A MINIMUM DEPTH OF 8", MOISTURE CONDITIONED, AND COMPACTED TO 92% OF MAXIMUM DENSITY AS MEASURED BY ASTM D-1557 (SEE GEOTECHNICAL REPORT).
6. RADIUS DIMENSIONS ARE SHOWN TO THE FACE OF CURB.
7. HOT MIX ASPHALT (HMA) SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATIONS FOR BE TYPE A, 1/2-INCH MAXIMUM SIZE AGGREGATE. ASPHALT BINDER SHALL BE PG 64-16.
8. AGGREGATE BASE SHALL BE 3/4" CLASS 2 AGGREGATE BASE PER STATE SPECIFICATIONS, SECTION 26. COMPACT TO 95% OF MAXIMUM DENSITY AS MEASURED BY ASTM D-1557.
9. POTHOLE AND VERIFY LOCATIONS OF ALL PIPE AND UTILITY CROSSINGS PRIOR TO CONSTRUCTION.
10. CURB CONCRETE PER CITY OF ARCATA CONSTRUCTION STANDARD ST-01 (SEE SHEET C2.0 DETAIL 1). CONCRETE SHALL BE 520-C-2500 AS PER THE "GREENBOOK" STANDARD SPECIFICATION FOR PUBLIC WORKS.
11. VALVE AND UTILITY BOXES WITHIN DRIVE OR VECHILE AREAS SHALL BE TRAFFIC RATED BOXES AND LIDS PER CITY OF ARCATA CONSTRUCTION STANDARDS.
12. IF EXISTING VALVE BOX IS NOT A CITY STANDARD TRAFFIC RATED BOX, IT SHALL BE REPLACED WITH NEW TRAFFIC RATED G8 BOX & LID PER CITY STANDARD W-01. INSTALL BOX AT FINISH GRADE W/ 8" WIDE CONCRETE COLLAR PER CITY STANDARD W-02.

GRAPHIC SCALE

0 10 20

1 IN = 10 FT

BAR IS ONE INCH ON ORIGINAL DRAWING

0" 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING

DES RT/TJ CKD TJ JOB NO.

DRN RT DATE 1/29/25 3073.01

SIGNED 1/29/25

REGISTERED PROFESSIONAL ENGINEER ROY W. JONES No. 59519 CIVIL STATE OF CALIFORNIA

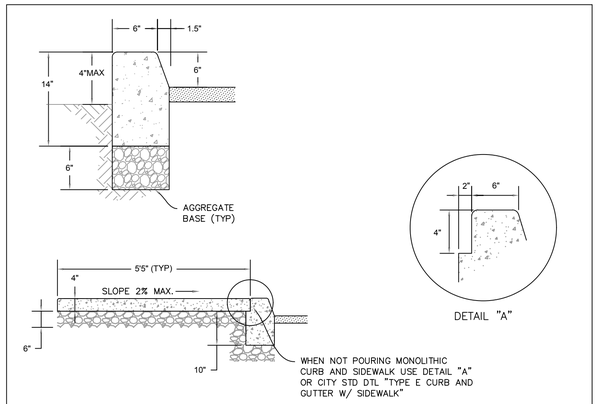
HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA

CIVIL SITE AND GRADING PLAN

SHEET C1.1

PG 3 OF 18

Plot Date: January 17, 2025 - 9:02 am Login Name: tones
File Name: M:\Land Projects\3073\01 Humboldt Bay MWD TRF Gen\01 CAD\06 AFC\Civil Improvements.dwg Layout: SITE & GRADING



NOTES:
1. SIDEWALK AND CURB RAMPS WITHIN ALL CURB RETURNS SHALL BE A MINIMUM OF 6" THICK
2. SEE CITY STD DTL "WEAKENED PLANE JOINTS" FOR LOCATION AND DESIGN REQUIREMENTS OF WEAKENED PLANES AND JOINTS.
3. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
4. ALL CONCRETE SHALL BE 520-C-2500 AS PER THE "GREENBOOK" STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
5. ALL ROUNDED CORNERS TO BE ½" RADIUS UNLESS OTHERWISE SPECIFIED.
6. AGGREGATE BASE MATERIAL SHALL BE CALTRANS CLASS 2, MAX ¾" AGGREGATE BASE, COMPACTED TO 95% RELATIVE COMPACTION.
7. WHEN NEW SIDEWALK ABUTS EXISTING SIDEWALK DOWELS SHALL BE USED TO PREVENT UNEVEN SETTLING: USE 12" LONG, #3 REBAR DOWELS AT 12" O.C.
8. BACK OF WALK TO ALIGN WITH PUBLIC RIGHT-OF-WAY LINE UNLESS OTHERWISE APPROVED BY CITY ENGINEER.
9. WIDTH OF SIDEWALK MAY VARY AND SHALL BE APPROVED BY CITY ENGINEER.
10. RETROFIT MAY ADJUST TO MATCH FIELD CONDITIONS IF APPROVED BY CITY ENGINEER.
11. INSPECTION OF FORMS AND FINISHED WORK REQUIRED. SCHEDULE INSPECTION A MINIMUM OF 48 HOURS IN ADVANCE.
12. ALL CONCRETE SHALL CONTAIN 3 LBS OF LAMP BLACK PER CUBIC YARD.

REGISTERED PROFESSIONAL ENGINEER — NEETRA KHATRI — 75428 — CIVIL — STATE OF CALIFORNIA

REVISION	BY	APPROVED	DATE
UPDATE	DR	DFC	03/2023

CITY OF ARCATA

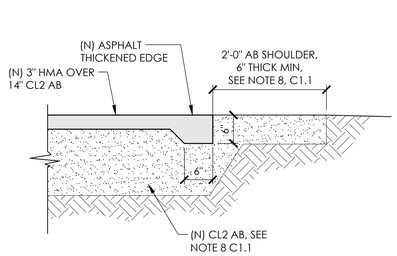
A1 CURB W/SIDEWALK

APPROVED BY:

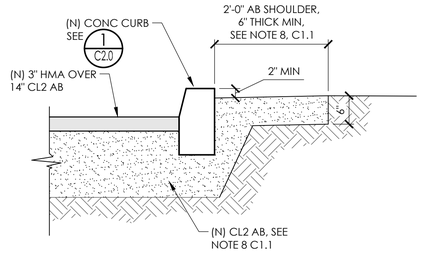
N. B. KHATRI, R.C.E. #75428

DRAWING NUMBER ST-01

CITY OF ARCATA STD DETAIL 1 / C2.0
NTS

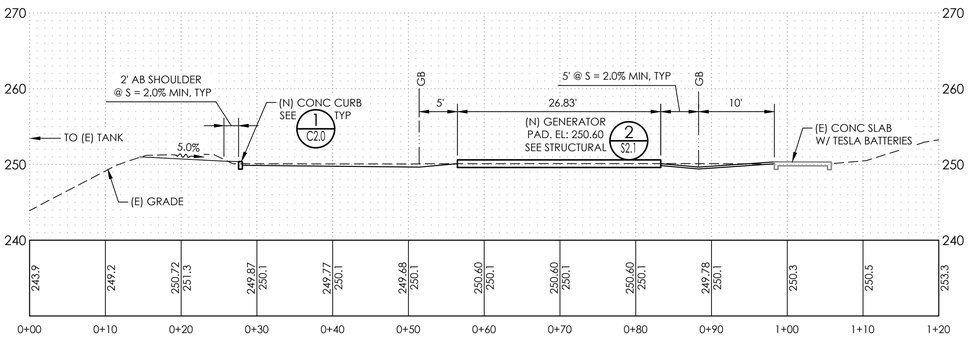


THICKEND PAVEMENT EDGE DETAIL 2 / C2.0
NTS

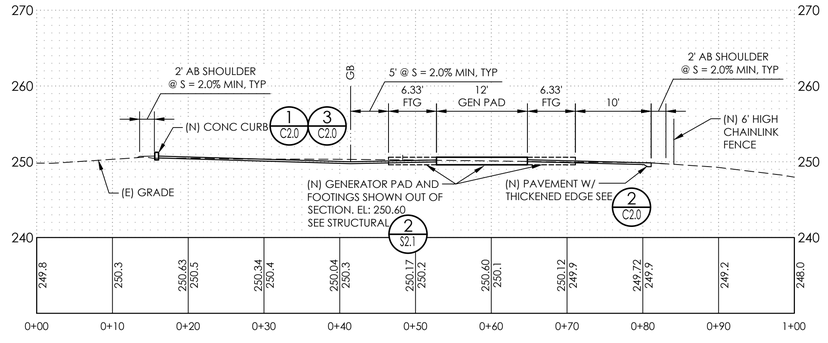


SHOULDER AT CONCRETE CURB TYPICAL 3 / C2.0
NTS

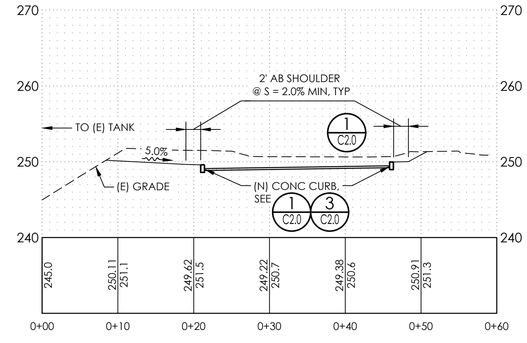
ENLARGED GRADING PLAN AT GENERATOR PAD 4 / C2.0 — C1.1
1"=5'



SECTION A / C2.0
1" = 10'



SECTION B / C2.0
1" = 10'



SECTION C / C2.0
1" = 10'

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

REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING

DES	RT/TJ	CKD	TJ	JOB NO.
DRN	RT	DATE	1/29/25	3073.01

SIGNED 1/29/25

REGISTERED PROFESSIONAL ENGINEER — TROY M. JONES — No. 59519 — CIVIL — STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA

CIVIL DETAILS AND SECTIONS

SHEET C2.0
PG 4 OF 18

Plot Date: January 17, 2025 - 8:04 am Login Name: tjones
File Name: M:\Land Projects\3073\01 Humboldt Bay MWD TRF Gen\01 CAD\06 AFC\Civil Improvements\dwg Layout: DETAILS

APPLICABLE CODES & REGULATIONS:

1. 2022 California Building Code, Volumes 1 & 2 (CBC)
2. 2022 California Electrical Code (CEC)
3. 2022 California Mechanical Code (CMC)
4. 2022 California Plumbing Code (CPC)
5. 2022 California Energy Code
6. 2022 California Fire Code
7. 2022 California Green Building Standards Code
8. 2022 California Administrative Code

STRUCTURAL DESIGN CRITERIA:

Risk category: IV

Live Load Data
Access Platform: 60 psf, minimum or 300 lbs concentrated load.
Stairs: 100 psf, minimum or 1,000 lbs concentrated load.
Handrails & Guardrails: 50 lb/ft or 200 lbs concentrated load applied in any direction.

Wind Design Data
Ultimate Design Wind Speed: V_{ULT} = 103 mph
Exposure Category: C
Topographic Factor: K_{ZT} = 1.15

Seismic Design Data
Component Importance Factor: I_p = 1.50
Seismic Coefficients: a_p = 1.00 , R_p = 2.50 , Ω_0 = 2.00
(Generator w/ Sub-base Fuel Tank)

a_p = 2.50 , R_p = 6.00 , Ω_0 = 2.00
(ATS Cabinet & Panel Boards)

R = 1.25 , Ω_0 = 2.00 , Cd = 2.50
(Access Platform & Stairs)

Acceleration Parameters: S_S = 2.613 , S_1 = 1.072
S_{DS} = 1.742 , S_{D1} = 1.822
Site Class: D
Seismic Design Category: D

Foundation Design Criteria
Allowable Bearing Pressures:
DL + LL = 1500 PSF
DL + LL + SEISMIC = 2000 PSF
DL + LL + WIND = 2000 PSF
Coefficient of Friction = 0.40

GENERAL REQUIREMENTS:

All construction shall conform with 2022 California Building Code and all other applicable codes, ordinances, laws and provisions set forth in these Construction Documents. The Construction Documents are considered to be, but are not limited to, the plans and specifications, notifications, change orders, addendums, clarifications and instructions. Any construction that does not comply with the Construction Documents shall be subject to rejection by the Engineer.

CONTRACTOR REQUIREMENTS:

Dimensions shall be checked by the Contractor prior to construction between these plans and other plans. Verify existing dimensions prior to construction. Discrepancies shall be brought to the immediate attention of the Engineer for resolution.

Temporary bracing of the building or other structures during construction is the responsibility of the contractor. Such bracing shall account for material stockpile loads, removal of existing supports and loads from equipment and methods employed during construction. The building or other structures shall also be adequately braced to withstand any wind loads, seismic and snow loads which might occur during construction until the permanent structural framing system, including but not limited to all diaphragms, shear walls, bracing, etc., is completed.

STRUCTURAL REVIEWS AND INSPECTIONS:

See SPECIAL INSPECTION & TESTING CHECKLIST this sheet.

The Contractor shall notify the Special Inspector at least 4 days in advance of any construction activity which requires inspection.

FOUNDATION NOTES:

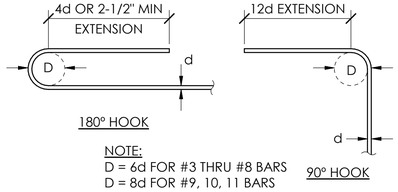
The footings shown on the plans were designed using the recommendations from the Geotechnical Report by KC Engineering Company (RD558) dated June 26, 2023. The maximum allowable bearing capacity is 1500 psf under Dead Load plus Live Load. The allowable bearing pressure is permitted a 1/3 increase for load combinations that include wind and seismic loads.

SPECIAL INSPECTION & TESTING CHECKLIST

ITEM	TESTING	INSPECTION BY	INSPECTION TYPE	NOTES ON INSPECTION AND TESTING CRITERIA AND METHODS
EXCAVATIONS AND COMPACTION Special Inspection	COMPACTION	GEOTECH	SPOT	Observe excavations and compaction for conformance with the geotechnical report.
CONCRETE Special Inspection	SLUMP AIR CONTENT COMP CYLINDERS	SPECIAL	CONT	Verify mix design. Prior to placement, measure temperature, air content and determine slump with slump cone. Make concrete cylinders (four 4x8 or three 6x12 cylinders minimum for each 150 yards or less of concrete per day). Check weigh masters certificate to confirm specified concrete mix. Prepare inspection report. Check consolidation, finishing, and curing methods. Observe reinforcement for size, grade, spacing, clearance, bar support type and spacing, secureness, lap splice locations and lengths, bend diameters. No double or reverse bending. Verify no dirt or oil on reinforcement. Observe formwork for shape, location and dimensions of the concrete member being formed. Verify formwork is sufficiently tight to prevent leakage of concrete and that it is installed in conformance with the approved shop drawings.
ADHESIVE ANCHORS Special Inspection (Per CBC Table 1705.3 Item 4)	NONE	SPECIAL	CONT	Verify hole diameter and depth, brush and air clean, adhesive type, rod diameter and length, sufficient adhesive and clean-up.
STRUCTURAL STEEL WELDING Special Inspection (Per CBC Table 1705A.2 Item 5)	NONE	SPECIAL	PERIODIC	Prior to the start of welding, the Special Inspector shall check all materials, fit-up, joint geometry, welder certifications, welding procedures and process, welding position, welding electrode type and storage, etc. As the welding work progresses, the Special Inspector shall perform periodic visual inspections to certify that the work is being performed in accordance with the Contract Documents. Upon 100% completion of the welding, the Special Inspector shall perform a final visual inspection of all welds. Continual visual inspection is not required if all of the above conditions are met. Welding inspection reports and welder certification shall be submitted to the Owner and Engineer. The Special Inspector shall be an AWS Certified Welding Inspector (CWI) Inspection task shall follow AISC 360 Table N5.4-1, N5.4-2, and N5.4-3.

SPECIAL INSPECTION AND TEST CHECKLIST NOTES:

SPECIAL	Denotes an inspector qualified to perform the inspection and/or testing for the particular item under consideration. The inspector shall not be an employee of the Construction Contractor nor shall he/she be selected by the Contractor. The Engineer shall approve the Special Inspector and testing agency prior to employment for this project.
SEOR	Denotes the Structural Engineer of Record responsible for the structural design or his representative. (PACE Engineering)
GEOTECH	Denotes Geotechnical engineer responsible for observing Geotechnical conditions. (KC Engineering)
CONT	Denotes full-time observation by the field inspector while the item is being constructed.
SPOT	Denotes observation by the field inspector after the item is constructed to verify the item is satisfactory for the next phase of construction.
PERIODIC	Denotes observation by the field inspector during the course of construction to verify conformance with the Contract Documents as the work progresses.



NOTE:
D = 6d FOR #3 THRU #8 BARS
D = 8d FOR #9, 10, 11 BARS

STANDARD REBAR HOOKS (1 / S1.0)
NTS

SPLICE LENGTH TABLE (l_s IN)
FC' = 4500 PSI CONC

SPLICE CLASS	REINF LOCATION	#3	#4	#5	#6	#7	#8	#9	#10	#11
B	TOP	23	31	38	46	67	76	86	95	104
	OTHER	18	24	30	35	51	59	66	73	80

NOTES:
1. TOP REINFORCEMENT IS HORIZONTAL REINFORCEMENT LOCATED SUCH THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE SPLICE.
2. LAP SPLICE LENGTH SPECIFIED ELSEWHERE ON THE DRAWINGS SHALL GOVERN OVER THIS TABLE

CONCRETE REINF. SPLICE TABLE (2 / S1.0)
NTS

ADHESIVE ANCHOR INSTALLATION TABLE IN CONCRETE AND CMU

ROD/REBAR Ø		HILTI HY - 200 ADH 3/8	1/2	5/8	3/4	7/8	1	SIMPSON SET-3G ADH 3/8	1/2	5/8	3/4	7/8	1
DRILL BIT Ø	ROD	7/16	9/16	3/4	7/8	1	1 1/8	1/2	5/8	3/4	7/8	1	1 1/8
	REBAR	1/2	5/8	3/4	7/8	1	1 1/8	1/2	5/8	3/4	7/8	1	1 1/8
MAXIMUM ROD INSTALLATION TORQUE (FT-LBS)		15	30	60	100	125	150	15	30	60	100	125	150

NOTES FOR INSTALLATION IN CONCRETE:
1. INSTALLATION SHALL BE IN ACCORDANCE W/ MNFRS EVALUATION REPORT (ICC ESR - 3187 FOR HILTI & ICC ESR - 4057 FOR SIMPSON) & INSTALLATION INSTRUCTIONS.
2. SPECIAL INSPECTION IS REQ'D DURING INSTALLATION.
3. MINIMUM BOLT EMBEDMENT & EDGE DISTANCE SHALL BE AS SHOWN ON THE DWGS.
4. THRD ROD SHALL BE ASTM A36, ASTM F1554 GR 36, OR HILTI HAS - V - 36 UNLESS NOTED OTHERWISE. WHERE SSTL ANCHORS ARE NOTED ON THE DRAWINGS, USE ASTM A193 GR. B8M (TYPE 316SS), OR HILTI HAS - R 316 SS.
5. EXISTING REINF STEEL SHALL BE LOCATED PRIOR TO ADH ANCHOR INSTALLATION.

ADHESIVE ANCHOR INSTALLATION TABLE (3 / S1.0)
NTS

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

REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING®

DES NC	CKD SPW	JOB NO.
DRN NC	DATE 1/29/25	3073.01

SIGNED 1/29/25
REGISTERED PROFESSIONAL ENGINEER STEVEN P. WILSON No.5993 STRUCTURAL STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA

GENERAL STRUCTURAL NOTES & TYPICAL DETAILS

SHEET S1.0
PG 5 OF 18

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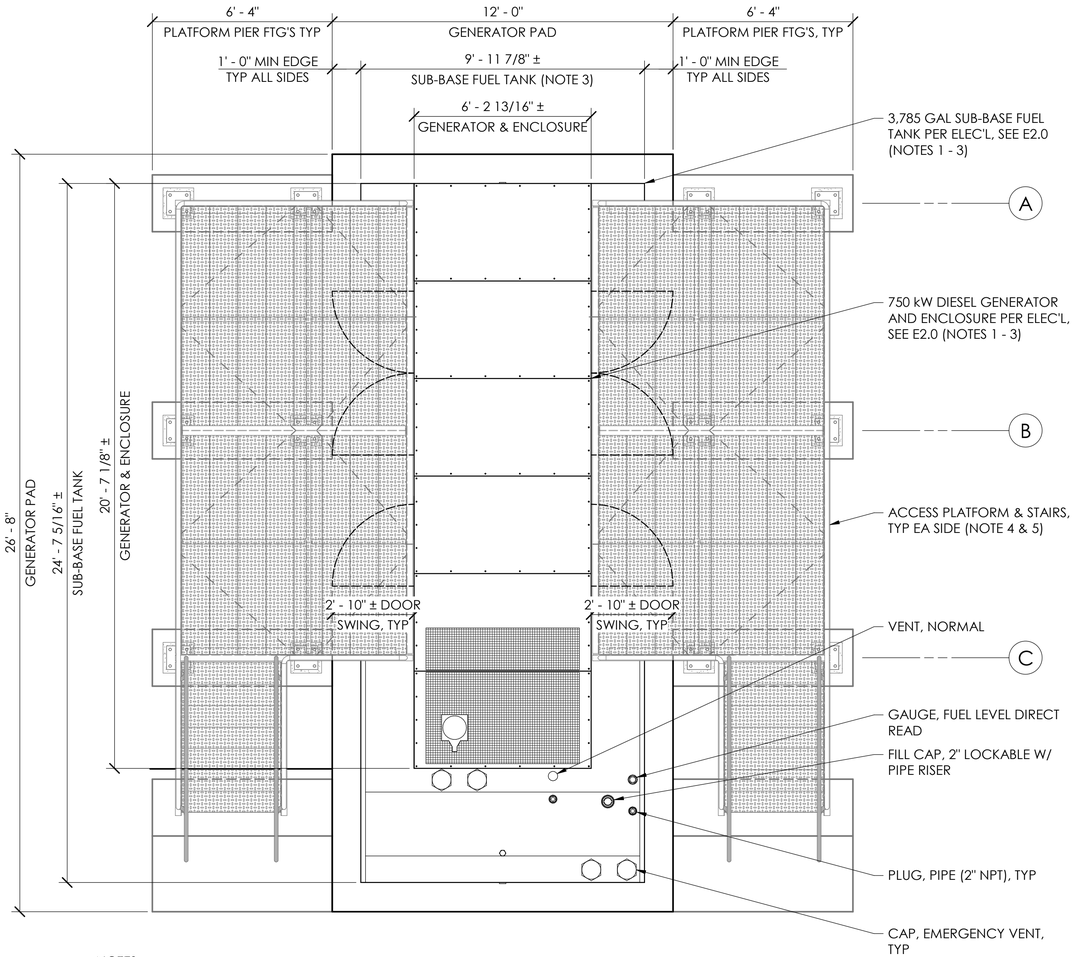
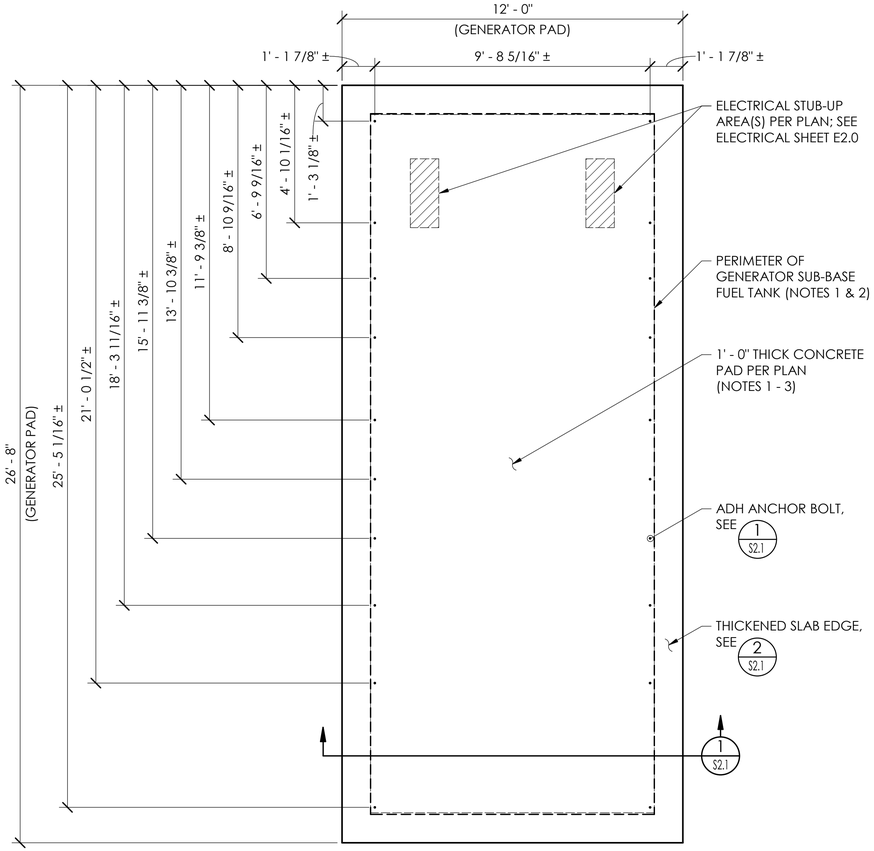


NOTES:

1. DIESEL GENERATOR & SUB-BASE FUEL TANK SHOWN IS BASED ON KOHLER KD750 WITH SL2 SOUND ENCLOSURE & 3,750 GALLON SUB-BASE FULL TANK. FINAL DESIGN AND CONSTRUCTION MAY VARY. NOTIFY ENGINEER OF ANY DISCREPANCY.
2. ESTIMATE CONCRETE PAD FOOTPRINT IS 26' - 8" ± LONG x 12' - 0" ± WIDE. CONTRACTOR SHALL VERIFY PAD DIMENSIONS WITH GENERATOR MANUFACTURER PRIOR TO CONSTRUCTION OF GENERATOR PAD. NOTIFY ENGINEER OF ANY DISCREPANCY.
3. SUB-BASE FUEL TANK TO BE CENTERED ON CONCRETE PAD. TANK FOOTPRINT IS 24' - 7" ± LONG x 10' - 0" ± WIDE.
4. FOR ACCESS PLATFORM FRAMING & FOUNDATION INFORMATION, SEE STRUCTURAL SHEET S2.2. ACCESS PLATFORM & FOUNDATION SUBJECT TO CHANGE DURING SUBMITTAL PHASE.
5. AT CONTRACTOR'S DISCRETION, PROVIDE ACCESS PLATFORM & STAIRS FROM GENERATOR SET MANUFACTURER OR APPROVED SUPPLIER. ACCESS PLATFORM & STAIRS SHALL MEET THE DESIGN REQUIREMENTS INDICATED BY THE CONSTRUCTION DRAWINGS AND TECHNICAL SPECIFICATIONS.
6. FOR ADDITIONAL INFORMATION NOT SHOWN, SEE CIVIL SHEET C1.1 & ELECTRICAL SHEET E2.0.

GENERATOR FOUNDATION PLAN — P / S2.0
1/2" = 1'-0"



NOTES:

1. CONTRACTOR SHALL VERIFY ANCHOR BOLT SIZE, QUANTITY, AND LOCATION WITH GENERATOR MANUFACTURER.
2. CONTRACTOR SHALL ADJUST TOP REINFORCEMENT LOCATION AS REQUIRED TO AVOID CONFLICT WITH ANCHOR LOCATIONS.
3. FOR ACCESS PLATFORM FOUNDATION & ANCHOR BOLTING INFORMATION, SEE STRUCTURAL SHEET S2.2 ACCESS PLATFORM FOUNDATION SUBJECT TO CHANGE DURING SUBMITTAL PHASE.
4. FOR ADDITIONAL INFORMATION NOT SHOWN, SEE CIVIL SHEET C1.1 & ELECTRICAL SHEET E2.0.

FUEL TANK ANCHORAGE PLAN — 1 / S2.0
1/2" = 1'-0"

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

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PACE ENGINEERING

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SIGNED 1/29/25
REGISTERED PROFESSIONAL ENGINEER — STEVEN P. WILSON — No.5993 — STRUCTURAL — STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA

GENERATOR FOUNDATION & ANCHORAGE PLAN

SHEET
S2.0
PG 6 OF 18

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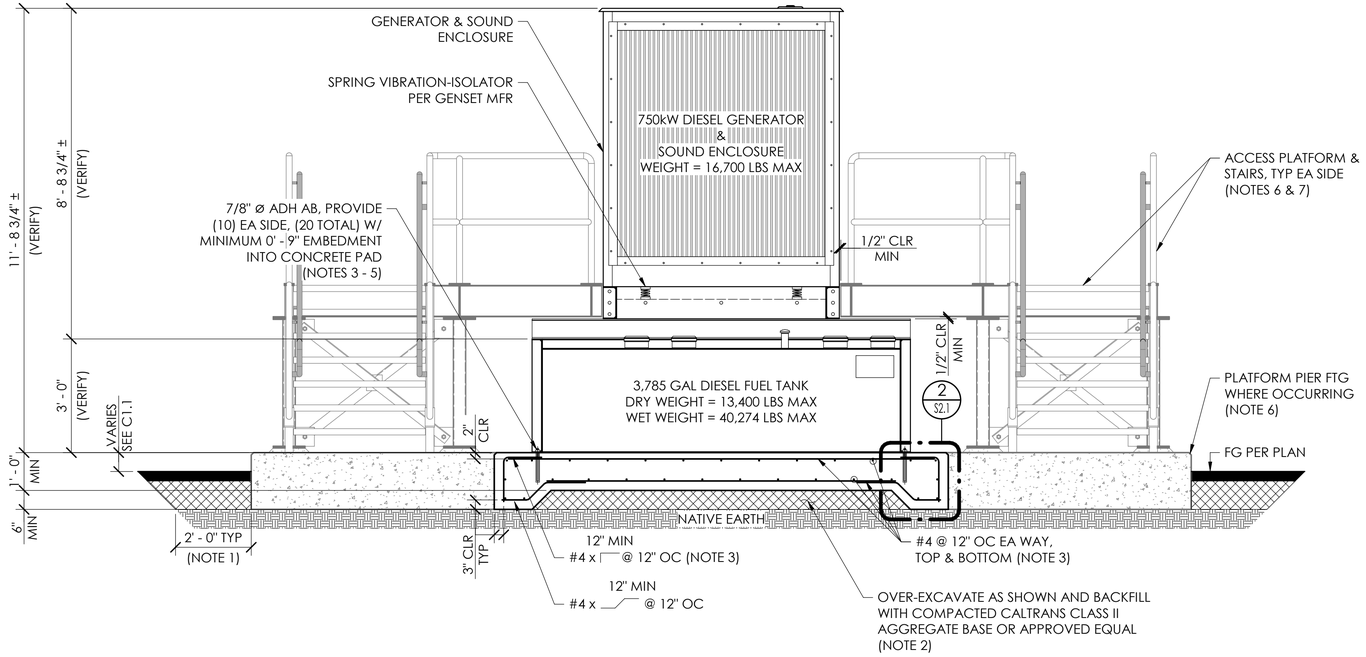
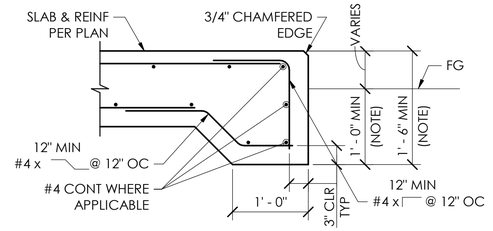


NOTES:

1. INDICATES EXTENT OF OVER-EXCAVATION. OVER-EXCAVATION LIMITS SHALL EXTEND A MINIMUM 2-FEET BEYOND CONCRETE PAD AND A MINIMUM OF 1-FOOT BELOW EXISTING GRADE, UNLESS NOTED OTHERWISE.
2. AFTER OVER-EXCAVATION, UNDERLYING NATIVE EARTH SHALL BE SCARIFIED 8-INCHES MINIMUM AND COMPACTED TO 95% RELATIVE DENSITY. COMPACTION SHALL BE MEASURED BY ASTM D-1557. AGGREGATE BASE SHALL BE CALTRANS CLASS II AGGREGATE BASE (OR APPROVED EQUAL) MEETING STANDARD SPECIFICATIONS, SECTION 26 AND COMPACTED TO 95% RELATIVE DENSITY, UNLESS NOTED OTHERWISE. FILL LIFTS SHALL NOT EXCEED 6-INCHES LOOSE THICKNESS, UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL VERIFY ANCHOR BOLT SIZE, QUANTITY, AND LOCATION WITH GENERATOR SET MANUFACTURER. NOTIFY ENGINEER OF ANY DISCREPANCY.
4. CONTRACTOR SHALL ADJUST REINFORCEMENT LOCATIONS AS REQUIRED TO AVOID CONFLICT WITH ANCHOR LOCATIONS.
5. ADHESIVE SHALL BE SIMPSON SET-3G (ICC ESR-4057), HILTI HY-200 (ICC ERS-3187), OR APPROVED EQUAL. THREADED ROD SHALL BE ASTM A193 GR. B8M CLASS 2 (TYPE 316 STAINLESS STEEL) W/ TYPE 316 STAINLESS STEEL NUTS AND WASHERS.
6. FOR ACCESS PLATFORM FRAMING & FOUNDATION INFORMATION, SEE STRUCTURAL SHEET S2.2. ACCESS PLATFORM & FOUNDATION SUBJECT TO CHANGE DURING SUBMITTAL PHASE.
7. AT CONTRACTOR'S DISCRETION, PROVIDE ACCESS PLATFORM & STAIRS FROM GENERATOR SET MANUFACTURER OR APPROVED SUPPLIER. ACCESS PLATFORM & STAIRS SHALL MEET THE DESIGN REQUIREMENTS INDICATED BY THE CONSTRUCTION DRAWING AND TECHNICAL SPECIFICATIONS.
8. FOR ADDITIONAL INFORMATION NOT SHOWN, SEE ELECTRICAL SHEET E2.0.

GENERATOR ANCHORAGE DETAIL 1 S2.1
1/2" = 1' - 0"



NOTE: WHICHEVER IS DEEPER SHALL GOVERN

SLAB EDGE DETAIL 2 S2.1
NTS

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

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SIGNED 1/29/25
REGISTERED PROFESSIONAL ENGINEER STEVEN P. WILSON No.5993 STRUCTURAL STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA

GENERATOR ANCHORAGE & PAD DETAILS

SHEET
S2.1
PG 7 OF 18

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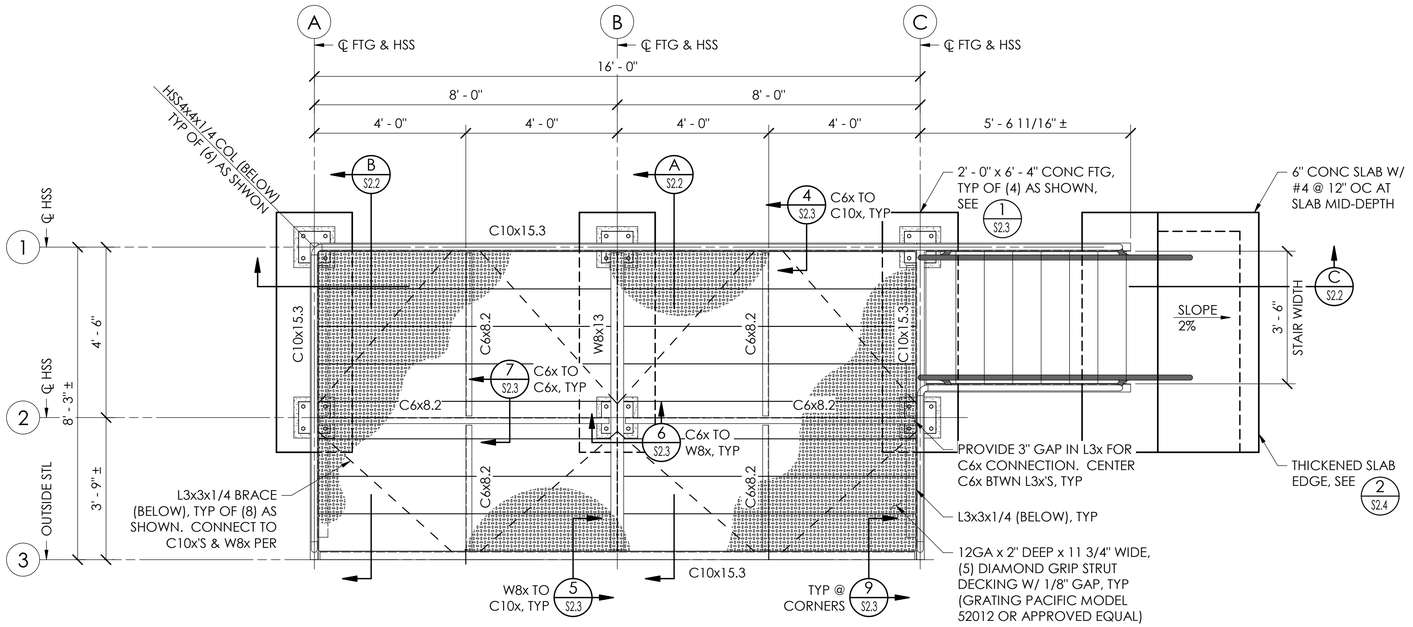
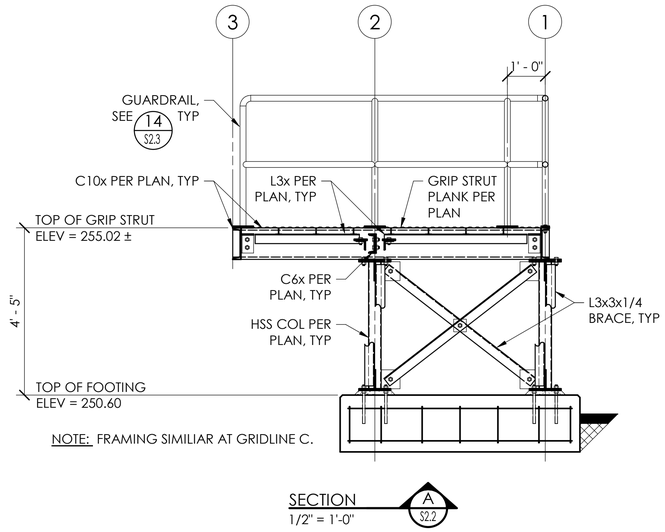
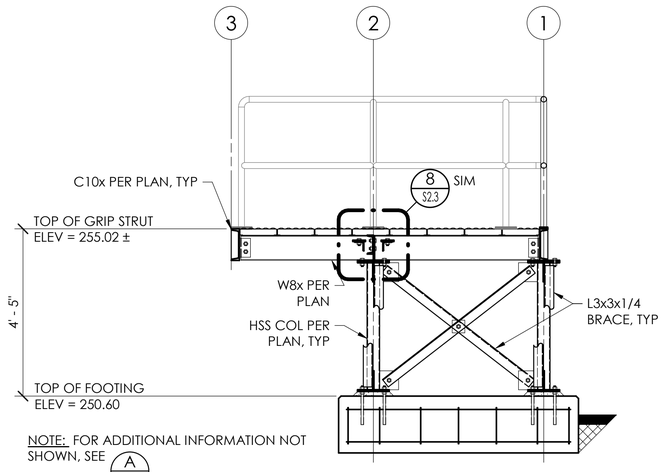




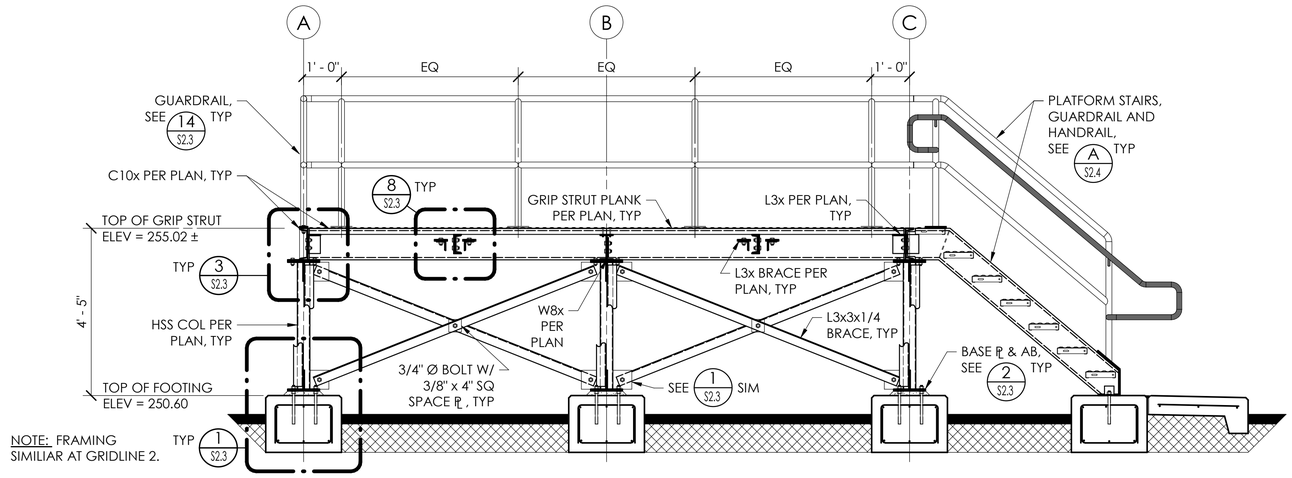
SECTION A S2.2
1/2" = 1'-0"

NOTES:
1. ALL FRAMING, GRIP STRUT DECKING, AND GRIP STRUT STAIR TREADS SHALL BE HOT DIPPED GALVANIZED, UNLESS NOTED OTHERWISE.
2. ANCHOR BOLT THREADED RODS SHALL BE ASTM A193 GR. B8M CLASS 1 (TYPE 316 STAINLESS STEEL) WITH STAINLESS STEEL NUTS AND WASHERS.
3. FRAMING HEX BOLTS SHALL BE ASTM F593F (TYPE 316 STAINLESS STEEL) WITH STAINLESS STEEL NUTS AND WASHERS.
4. PROVIDE NYLON OR NEOPRENE ISOLATION WASHERS BETWEEN DISSIMILIAR METALS.
5. SEE STRUCTURAL SHEETS S2.0 & S2.1 FOR PLATFORM ORIENTATION, LAYOUT, AND MINIMUM INSTALLATION CLEARANCES.
6. NOTIFY ENGINEER OF ANY DISCREPANCIES.

PLATFORM FRAMING & FOUNDATION PLAN 1 S2.2
1/2" = 1' - 0"



SECTION B S2.2
1/2" = 1'-0"



SECTION C S2.2
1/2" = 1'-0"

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

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REGISTERED PROFESSIONAL ENGINEER STEVEN P. WILSON No.5993 STRUCTURAL STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA

PLATFORM FRAMING PLAN & SECTIONS

SHEET
S2.2
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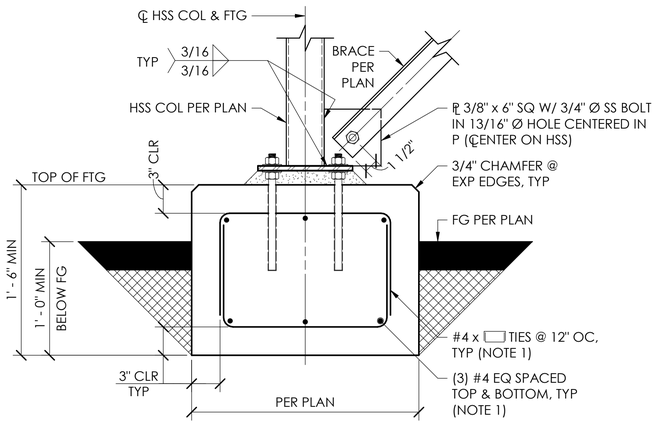
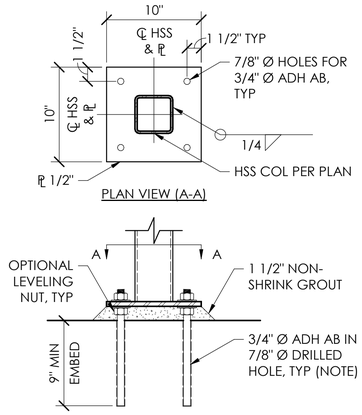


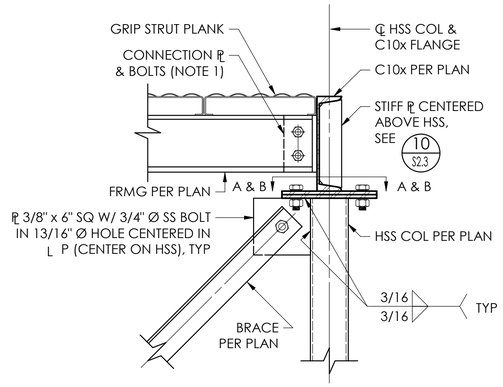
NOTES:
1. CONTRACTOR SHALL ADJUST REINFORCEMENT LOCATIONS AS REQUIRED TO AVOID CONFLICT WITH ANCHOR LOCATIONS.
2. FOR ADDITIONAL INFORMATION NOT SHOWN, SEE (2 / S2.3)

DETAIL 1 / S2.3
1 1/2" = 1'-0"



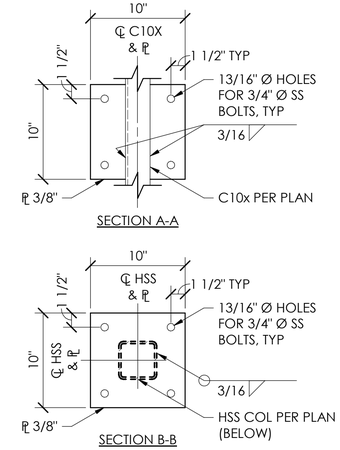
NOTE: ADHESIVE SHALL BE SIMPSON SET-3G (ICC ESR-4057), HILTI HY-200 (ICC ERS-3187), OR APPROVED EQUAL. THREADED ROD SHALL BE F1554 GR.55 HOT DIPPED GALVANIZED (HDG) WITH HDG NUTS AND WASHERS.

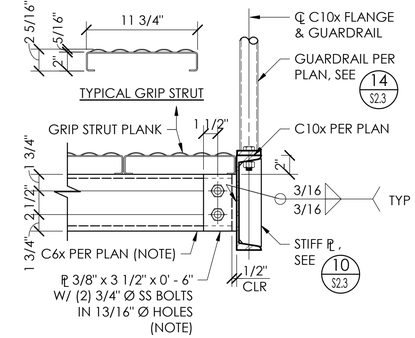
DETAIL 2 / S2.3
1 1/2" = 1'-0"



NOTES:
1. SEE (4 / S2.3) AT C6x OR (4 / S2.3) AT W8x.
2. GUARDRAIL NOT SHOWN FOR CLARITY, SEE (14 / S2.3)

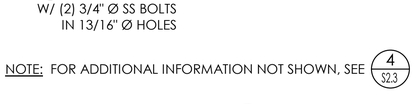
DETAIL 3 / S2.3
1 1/2" = 1'-0"





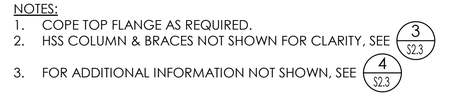
NOTE: PROVIDE 13/16" Ø x 1" SLOTTED HOLES IN CONNECTION PLATE AT ONE END OF FRAMING MEMBER. SLOTTED HOLES SHALL BE ORIENTED PARALLEL WITH FRAMING MEMBER. NOTIFY ENGINEER OF ANY DISCREPANCY.

DETAIL 4 / S2.3
1 1/2" = 1'-0"



NOTE: FOR ADDITIONAL INFORMATION NOT SHOWN, SEE (4 / S2.3)

DETAIL 5 / S2.3
1 1/2" = 1'-0"



NOTES:
1. COPE TOP FLANGE AS REQUIRED.
2. HSS COLUMN & BRACES NOT SHOWN FOR CLARITY, SEE (3 / S2.3)
3. FOR ADDITIONAL INFORMATION NOT SHOWN, SEE (4 / S2.3)

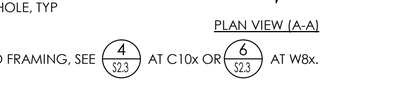
DETAIL 6 / S2.3
1 1/2" = 1'-0"

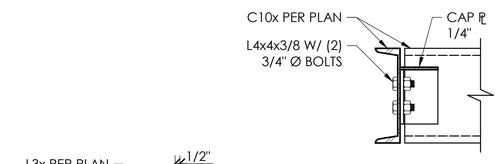
NOTES: COPE TOP & BOTTOM FLANGE AS REQUIRED. WEB TO MATCH DEPTH OF CONNECTION PLATE.

DETAIL 7 / S2.3
1 1/2" = 1'-0"

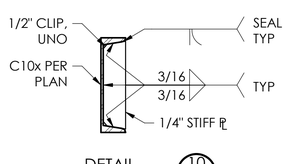
NOTES: FOR CONNECTION PLATE & BOLTS TO FRAMING, SEE (4 / S2.3) AT C10x OR (6 / S2.3) AT W8x.

DETAIL 8 / S2.3
1 1/2" = 1'-0"

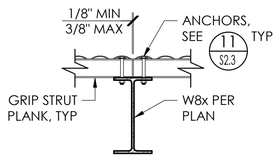




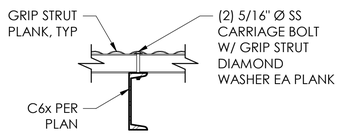
DETAIL 9 / S2.3
1 1/2" = 1'-0"



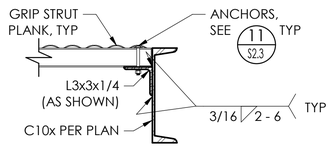
DETAIL 10 / S2.3
1 1/2" = 1'-0"



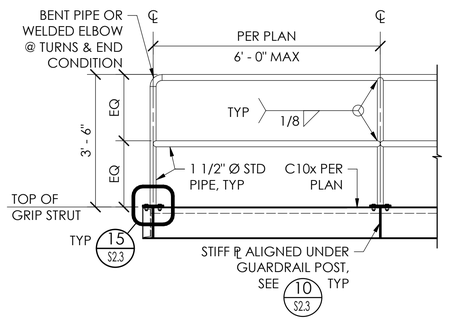
DETAIL 12 / S2.3
1 1/2" = 1'-0"



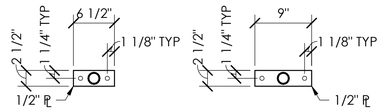
DETAIL 11 / S2.3
1 1/2" = 1'-0"

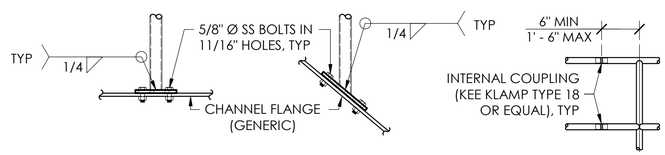


DETAIL 13 / S2.3
1 1/2" = 1'-0"



DETAIL 14 / S2.3
1/2" = 1'-0"





DETAIL 15 / S2.3
1" = 1'-0"

DETAIL 16 / S2.3
1/2" = 1'-0"

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

REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING

DES NC	CKD SPW	JOB NO.
DRN NC	DATE 1/29/25	3073.01

SIGNED 1/29/25
REGISTERED PROFESSIONAL ENGINEER STEVEN P. WILSON No.5993 STRUCTURAL STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA

PLATFORM DETAILS

SHEET
S2.3
PG 9 OF 18

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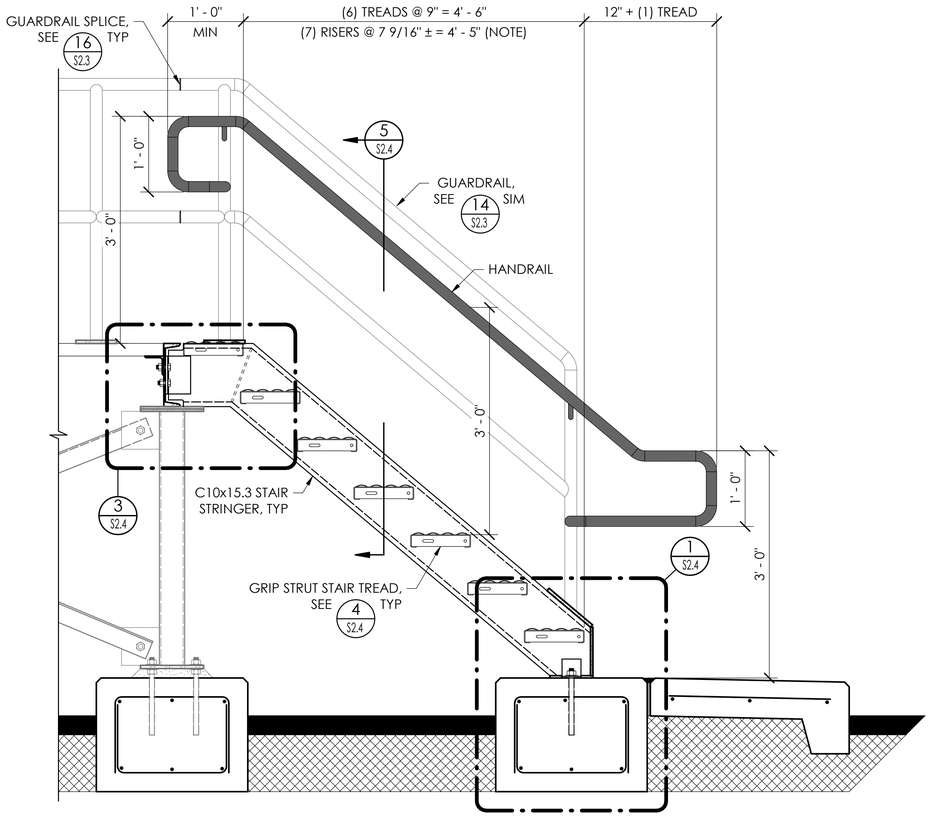
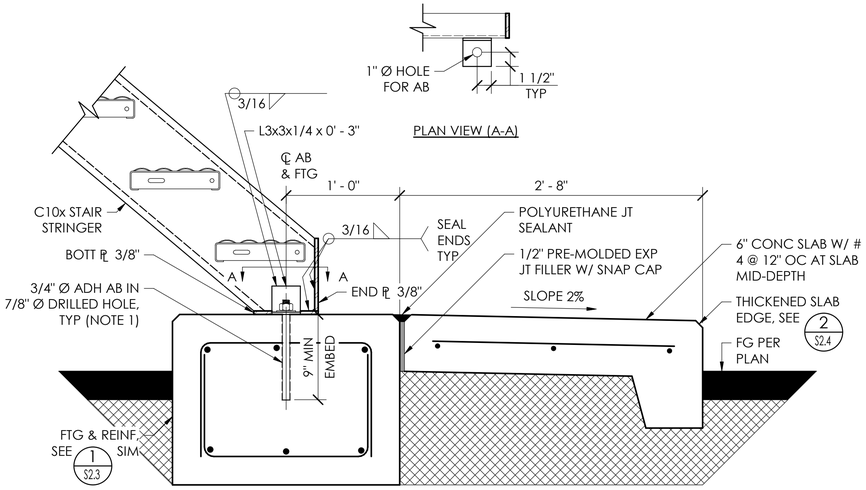


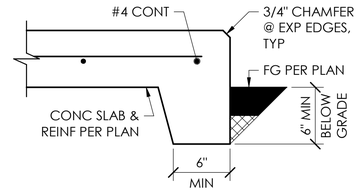
NOTE: ALL RISERS IN A FLIGHT OF STAIRS SHALL BE EQUAL. NOTIFY ENGINEER OF ANY DISCREPANCY.

SECTION A S2.4
1" = 1'-0"



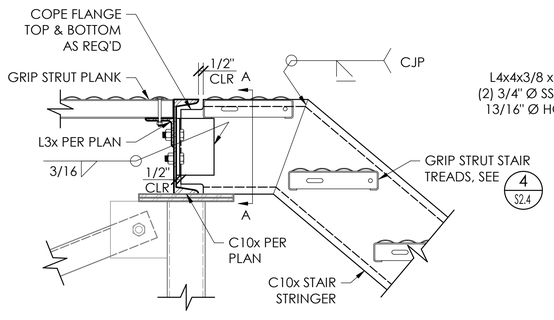
NOTES:
1. ADHESIVE SHALL BE SIMPSON SET-3G (ICC ESR-4057), HILTI HY-200 (ICC ERS-3187), OR APPROVED EQUAL. THREADED ROD SHALL BE ASTM A193 GR. B8M (TYPE 316 STAINLESS STEEL) WITH STAINLESS STEEL NUTS AND WASHERS.
2. GUARDRAIL & HANDRAIL NOT SHOWN FOR CLARITY, SEE 14 S2.3

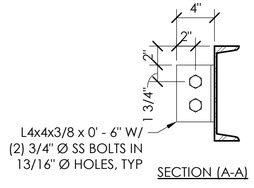
DETAIL 1 S2.4
1 1/2" = 1'-0"



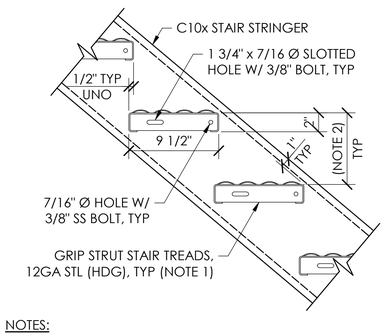
THICKENED SLAB EDGE

DETAIL 2 S2.4
1 1/2" = 1'-0"



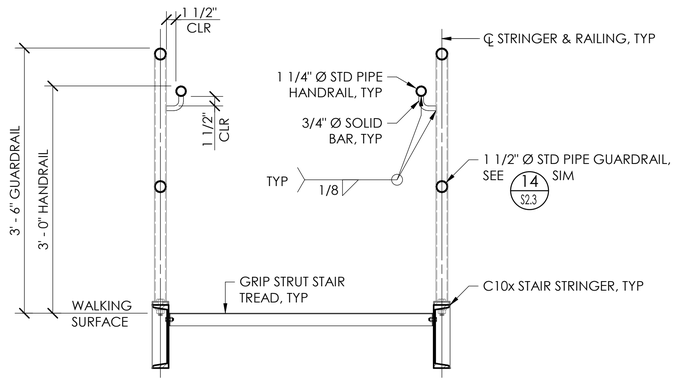


DETAIL 3 S2.4
1 1/2" = 1'-0"



NOTES:
1. GRIP STRUT STAIR TREADS SHALL BE GRATING PACIFIC MODEL T-42012 OR APPROVED EQUAL.
2. SEE STAIR SECTIONS FOR RISER HEIGHT. ALL RISERS IN A FLIGHT OF STAIRS SHALL BE EQUAL.

DETAIL 4 S2.4
1 1/2" = 1'-0"



DETAIL 5 S2.4
1" = 1'-0"

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

REVISIONS		
NO	DATE	DESCRIPTION

PACE ENGINEERING

DES NC	CKD SPW	JOB NO.
DRN NC	DATE 1/29/25	3073.01

SIGNED 1/29/25
REGISTERED PROFESSIONAL ENGINEER STEVEN P. WILSON No.5993 STRUCTURAL STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA

PLATFORM DETAILS

SHEET
S2.4
PG 10 OF 18

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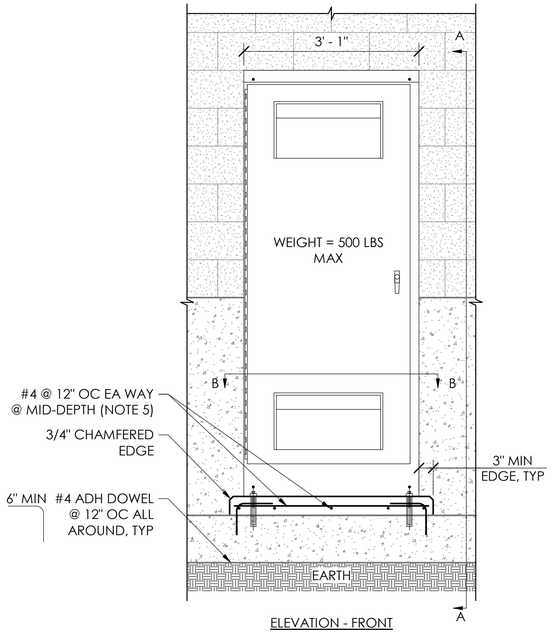
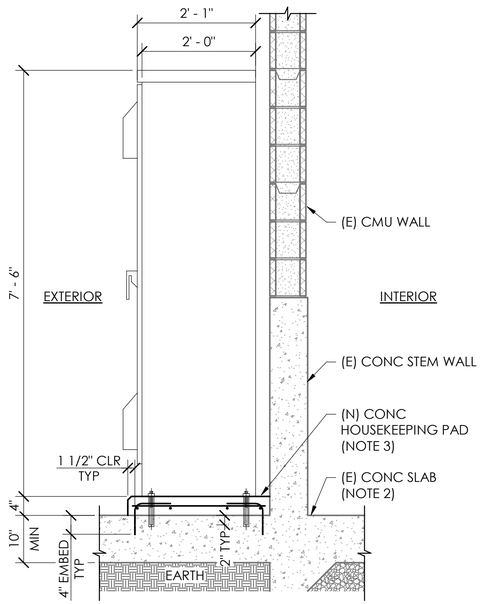
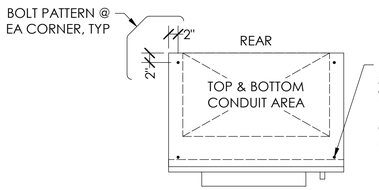


ELEVATION - FRONT



ELEVATION - SIDE (A-A)

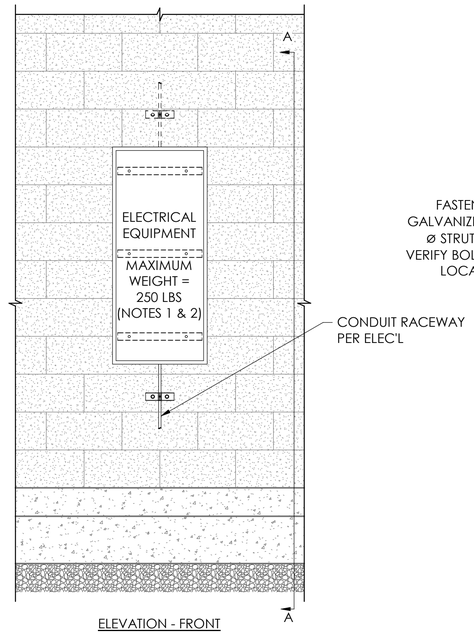


PLAN - ATS ANCHORAGE (B-B)

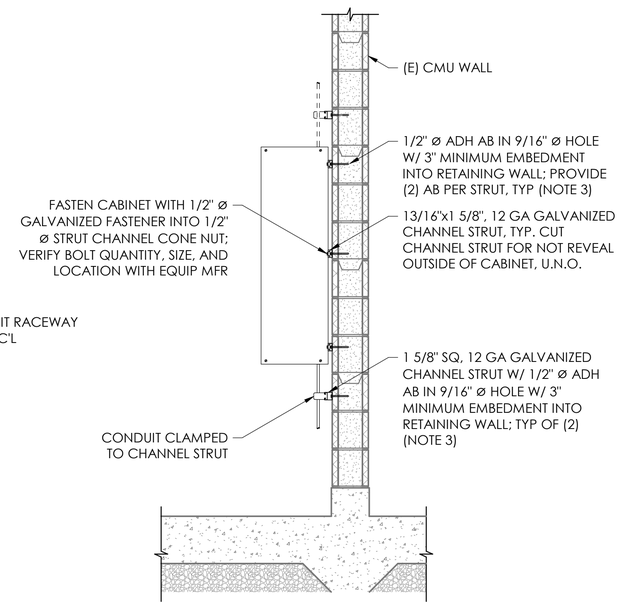
NOTES:

1. ATS CABINET DIMENSIONS MAY VARY. THIS DETAIL SHALL ACCOUNT FOR THE LARGEST EQUIPMENT AVAILABLE, BUT FASTENING AND ANCHORAGE SHALL BE USED EQUALLY FOR SMALLER CABINET CONFIGURATIONS.
2. CONTRACTOR SHALL VERIFY EXISTING CONCRETE SLAB THICKNESS ON EXTERIOR SIDE PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCY.
3. CONTRACTOR SHALL VERIFY PAD DIMENSIONS WITH EQUIPMENT MANUFACTURER PRIOR TO CONSTRUCTION OF CONCRETE PAD. MODIFICATIONS DURING THE SUBMITTAL PROCESS SHALL BE AT THE COST OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER.
4. CONTRACTOR TO VERIFY AB SIZE, QTY, AND LOCATION WITH EQUIPMENT MANUFACTURER. NOTIFY ENGINEER OF ANY DISCREPANCY.
5. CONTRACTOR SHALL ADJUST REINFORCEMENT LOCATIONS AS REQUIRED TO AVOID CONFLICT WITH ANCHOR LOCATIONS.
6. ADHESIVE SHALL BE SIMPSON SET-3G (ICC ESR-4057), HILTI HY-200 (ICC ERS-3187), OR APPROVED EQUAL. THREADED ROD SHALL BE ASTM A193 GR. B8M CLASS 1 (TYPE 316 STAINLESS STEEL) WITH STAINLESS STEEL NUTS AND WASHERS.
7. FOR ADDITIONAL INFORMATION, SEE ELECTRICAL SHEET E2.1.

ATS CABINET EQUIPMENT PAD & ANCHORAGE DETAIL — 1 / S3.0
NTS



ELEVATION - FRONT



ELEVATION - SIDE (A-A)

NOTES:

1. ELECTRICAL EQUIPMENT SHOWN IS GENERIC. TYPICAL ELECTRICAL EQUIP MAY VARY IN DIMENSIONS AND WEIGHT. THIS DETAIL SHALL ACCOUNT FOR THE LARGEST AND HEAVIEST EQUIPMENT AVAILABLE. FASTENING AND ANCHORAGE SHALL BE USED EQUALLY FOR SMALLER CABINET CONFIGURATIONS. NOTIFY ENGINEER OF ANY DISCREPANCY.
2. TOP OF ELECTRICAL EQUIPMENT SHALL NOT EXTEND BEYOND TOP OF RETAINING WALL, UNLESS NOTED OTHERWISE.
3. ADHESIVE SHALL BE SIMPSON SET-3G (ICC ESR-4057), HILTI HY-200 (ICC ERS-3187), OR APPROVED EQUAL. THREADED ROD SHALL BE ASTM A193 GR. B8M CLASS 1 (TYPE 316 STAINLESS STEEL) WITH STAINLESS STEEL NUTS AND WASHERS.
4. AFTER REMOVAL OF EXISTING ELECTRICAL EQUIPMENT, CONTRACTOR SHALL FILL OR REPAIR MOUNTING HOLES AS REQUIRED.
5. PROVIDE ADDITIONAL FASTENERS WHERE REQUIRED BY MANUFACTURER.
6. FOR ADDITIONAL INFORMATION NOT SHOWN, SEE ELECTRICAL SHEET E2.1.

ELECTRICAL EQUIPMENT - WALL MOUNT TO CMU — 2 / S3.0
NTS

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

REVISIONS

NO	DATE	DESCRIPTION

PACE® ENGINEERING

DES NC	CKD SPW	JOB NO. 3073.01
DRN NC	DATE 1/29/25	

SIGNED 1/29/25
REGISTERED PROFESSIONAL ENGINEER — STEVEN P. WILSON — No.5993 — STRUCTURAL — STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA

ATS & ELECTRICAL EQUIPMENT MOUNTING DETAILS

SHEET
S3.0
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ELECTRICAL SYMBOLS

LINE TYPES AND SYMBOLS		CONDUIT EXPOSED			
		CONDUIT CONCEALED or BURIED			
		INDICATES FIRE RATED WALL			
		CONDUIT UP			
		CONDUIT DOWN			
	LA-2	HOME RUN-DESTINATION SHOWN			
TICK MARKS		TICK MARKS WITHOUT BARS INDICATES NUMBER OF #12 CONDUCTORS WITH #12 GROUND			
DEVICES, BOXES AND TERMINATIONS		JUNCTION BOX			
		CONNECTION POINT (CONTRACTOR SHALL DETERMINE CONNECTION CONFIGURATION)			
		DUPLEX RECEPTACLE	DEVICE BOXES SHALL BE 18" COD UNLESS OTHERWISE NOTED		
		QUADRUPLEX RECEPTACLE			
		PULLBOX			
EQUIPMENT		FUSED DISCONNECT	XXA/XXF XX	60AS/20F WP	60A DISCONNECT / 20A FUSE NEMA 3R
		NON-FUSED DISCONNECT	XX XX	60AS/20F WP	60A DISCONNECT NEMA 3R
		MAJOR ELECTRICAL COMPONENT OR DEVICE NAME OR IDENTIFYING SYMBOL AS SHOWN			
		SURFACE MOUNT PANELBOARD			
		FLUSH MOUNT PANELBOARD			
		EXOTHERMIC WELD, TERMINATION OR SPLICE POINT			
		GROUND ROD			
		GROUNDING ELECTRODE			
		CIRCUIT BREAKER			
		MAGNETIC STARTER W/ NEMA SIZE INDICATED			
		CURRENT TRANSFORMER, NUMBER INDICATED			
ANNOTATION	(#)	KEYNOTE			
	(A : B)	INDICATES INTERCONNECTION OF PATHWAYS AND/OR CONDUCTORS, E.G., 4"C-4#500,1#3G (MSB : PNL A) INDICATES CONDUIT AND CONDUCTORS ROUTED FROM THE MAIN SWITCHBOARD TO PANELBOARD A.			
	26 00 00	SPECIFICATION NUMBER REFERENCE TAG. CONFORMANCE TO PROJECT SPECIFICATIONS IS REQUIRED. WHERE TAGS ARE SHOWN ON THE DRAWINGS, IT IS THE ENGINEER'S INTENT TO RAISE ADDITIONAL AWARENESS TO PRODUCTS OR EXECUTION METHODS THAT ARE CRITICAL, ATYPICAL OR NOT EXPRESSLY DETAILED ON THE DRAWINGS.			

NOTE: THIS IS A SUPPLEMENTAL STANDARD ELECTRICAL LEGEND. SOME SYMBOLS MAY APPEAR ON THIS LEGEND AND NOT ON THE PLANS. SEE LIGHTING CONTROL SHEET FOR LIGHTING LEGEND.

ELECTRICAL ABBREVIATIONS

A	- AMMETER, AMPERE
AC	- ALTERNATING CURRENT
ACH	- ABOVE COUNTER HEIGHT
AFCI	- ARC FAULT CIRCUIT INTERRUPT
AFF	- ABOVE FINISHED FLOOR OR GRADE
AIC	- AMPS INTERRUPTING CAPACITY
AL	- ALUMINUM
ATS	- AUTOMATIC TRANSFER SWITCH
BESS	- BATTERY ENERGY STORAGE SYSTEM
BGES	- BUILDING GROUND ELECTRODE SYSTEM
BRKR	- BREAKER
BOD	- BOTTOM OF DEVICE
C or COND	- CONDUIT
CEC	- CALIFORNIA ELECTRIC CODE
CKT	- CIRCUIT
COD	- CENTER OF DEVICE
CP	- CONTROL PANEL
CR	- CONTROLLED RECEPTACLE
CT	- CURRENT TRANSFORMER
CU	- COPPER
DC	- DIRECT CURRENT
DIST	- DISTRIBUTION
DP	- DISTRIBUTION PANELBOARD
(E) or EXIST	- EXISTING
EEOR	- ELECTRICAL ENGINEER OF RECORD
EGC	- EQUIPMENT GROUNDING CONDUCTOR
ENC	- ENCLOSURE
(F)	- FUTURE
G	- EQUIPMENT GROUNDING CONDUCTOR
GEC	- GROUNDING ELECTRODE CONDUCTOR
GEN	- GENERATOR
GFCI	- GROUND FAULT CIRCUIT INTERRUPT
GND	- GROUND
J	- JUNCTION BOX
LCP	- LIGHTING CONTROL PANEL
LSIG	- LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND
LTG	- LIGHTING
MBJ	- MAIN BONDING JUMPER
MCB	- MAIN CIRCUIT BREAKER
MFR	- MANUFACTURER
MLO	- MAIN LUG ONLY
MOCP	- MAXIMUM OVERCURRENT PROTECTION
MSB	- MAIN SWITCH BOARD
MTS	- MANUAL TRANSFER SWITCH
NEC	- NATIONAL ELECTRIC CODE
NEMA	- NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION
N	- NEUTRAL
(N)	- NEW
OFCI	- OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	- OWNER FURNISHED, OWNER INSTALLED
PB	- PULLBOX
PNL	- PANELBOARD
RCPT	- RECEPTACLE
RM	- ROOM
SWBD	- SWITCHBOARD
SBJ	- SYSTEM BONDING JUMPER
SSBJ	- SUPPLY SIDE BONDING JUMPER
T	- THERMOSTAT OR TELE CONDUIT
TOD	- TOP OF DEVICE
TR	- TAMPER
TYP	- TYPICAL
V	- VOLTMETER, VOLT
W	- WATT
WW	- WIREWAY
WP	- WEATHERPROOF (NEMA 3R)
XFMR	- TRANSFORMER

NOTE: THIS IS A SUPPLEMENTAL STANDARD LEGEND. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS LEGEND AND NOT ON THE PLANS

GENERAL NOTES

#	NOTE
1.	DO ALL WORK AND INSTALL PRODUCTS IN ACCORDANCE WITH APPLICABLE NECA REQUIREMENTS, APPLICABLE STATE LAWS, LOCAL LAWS, CODES, AND ORDINANCES. THE CONTRACTOR SHALL ADHERE TO THE SPECIFIC PRODUCT AND INSTALLATION REQUIREMENTS OF THE UTILITY COMPANIES AND MANUFACTURERS PROVIDING MATERIALS TO THE JOB. CONFLICTS, IF ANY, WILL BE RESOLVED AT THE DISCRETION OF THE EEOR.
2.	IT IS OF THE UTMOST IMPORTANCE THAT THE INSTALLING CONTRACTOR HAVE A MASTERY OF THE PROJECT-SPECIFIC REQUIREMENTS SHOWN IN SPECIFICATIONS AND CONSTRUCTION DRAWINGS. IT IS STRONGLY ADVISED THAT THE CONTRACTOR CONTACT THE EEOR FOR CLARIFICATION OR RFI THE EEOR IF FURTHER INFORMATION IS REQUIRED. THE EEOR SHALL REQUIRE REVISIONS TO BE MADE IN THE FIELD IF THE INSTALLATION DOES NOT FALL WITHIN THESE PROJECT-SPECIFIC GUIDELINES. NO ALLOWANCE SHALL BE MADE FOR INSTALLATIONS NOT ADHERING TO THESE REQUIREMENTS.

BAR IS ONE INCH ON ORIGINAL DRAWING

0" 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING®

DES BG	CKD TB	JOB NO. 3073.01
DRN BW	DATE 1/29/25	

SIGNED 1/29/25

REGISTERED PROFESSIONAL ENGINEER BRYAN GENTLEMEN No. E 24012 ELECTRICAL STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA.

ELECTRICAL SYMBOLS AND ABBREVIATIONS

SHEET
E1.0
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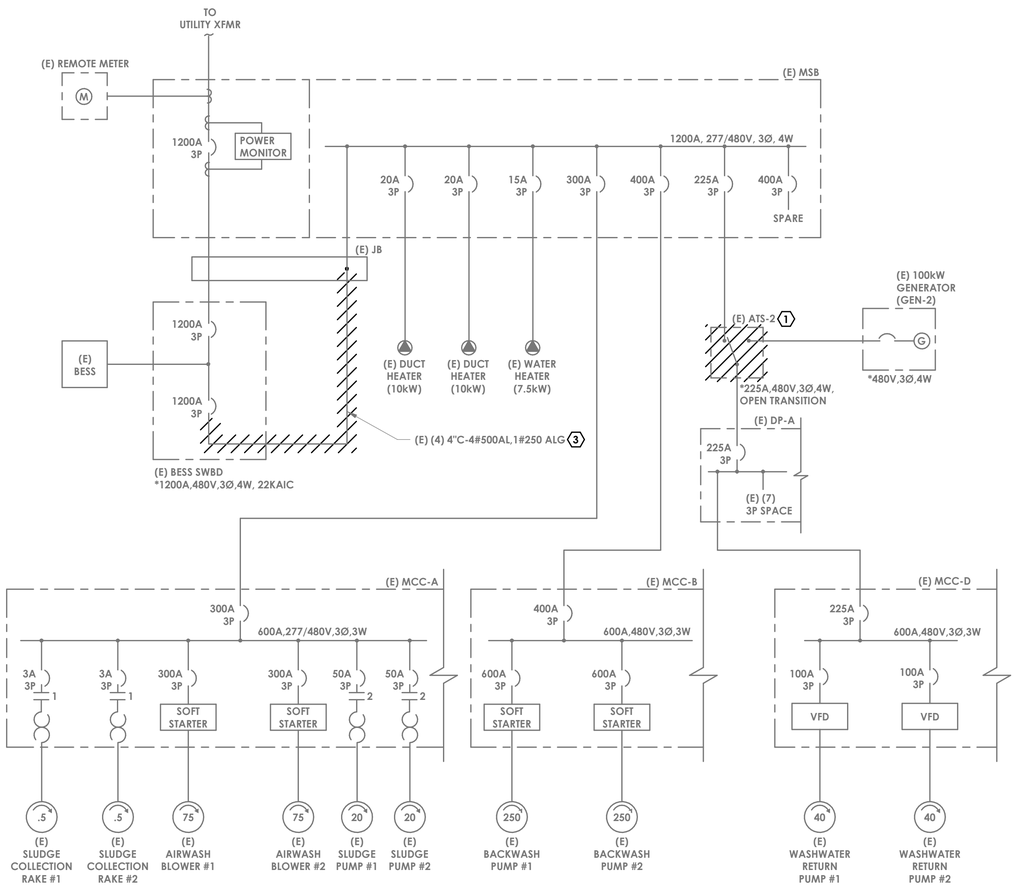
KEYNOTES

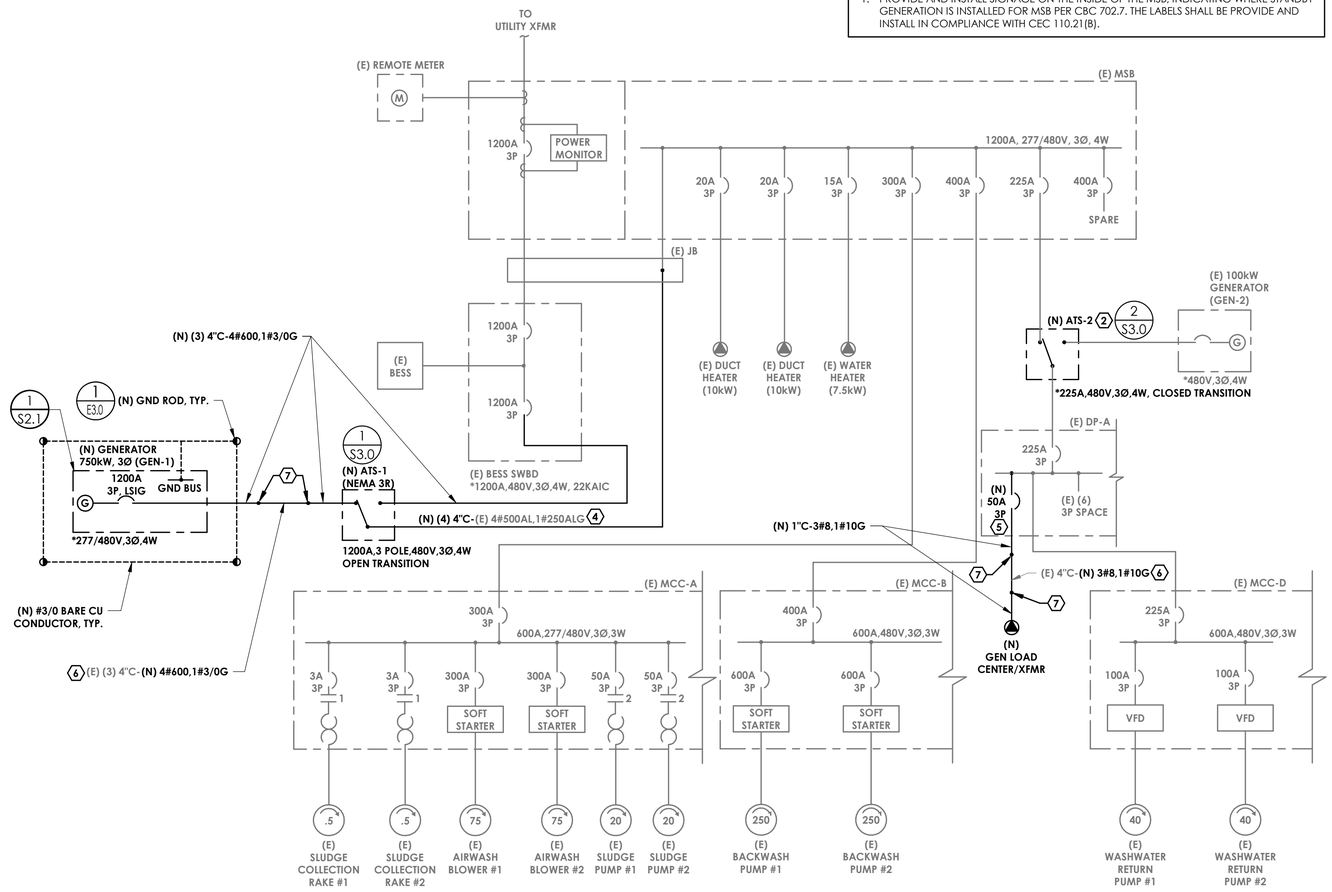
#	NOTE
1.	DISCONNECT AND REMOVE EQUIPMENT, CONDUIT/CONDUCTORS TO REMAIN.
2.	PROVIDE AND INSTALL NEW ATS IN LOCATION TO MATCH EXISTING. RECONNECT CONDUIT/CONDUCTORS, MODIFY AS NECESSARY TO ACCOMODATE INSTALLATION.
3.	DISCONNECT AND REMOVE EXISTING CONDUITS BETWEEN JUNCTION BOX AND BESS SWBD WITH CONDUCTORS TO REMAIN. SEE KEYNOTE 4 FOR CONDUCTOR DETAILS.
4.	PROVIDE AND INSTALL NEW CONDUIT BETWEEN JUNCTION BOX AND ATS AS SHOWN. ROUTE EXISTING CONDUCTORS FORMALLY CONNECTED BETWEEN THE LOAD SIDE OF BESS AND MSB IN THIS NEW CONDUIT AND CONNECT TO THE LOAD SIDE OF ATS. NOTE THAT THE EXISTING CONDUCTORS ARE ALUMINUM.
5.	PROVIDE AND INSTALL NEW CIRCUIT BREAKER IN EXISTING PANEL SPACE. NEW BREAKER SHALL BE OF THE SAME TYPE AND RATING AS THE EXISTING BREAKERS. COORDINATE WITH GENERATOR MANUFACTURER FOR FINAL BREAKER SIZE TO SUPPORT GENERATOR EQUIPMENT.
6.	PROVIDE AND INSTALL NEW CONDUCTORS IN EXISTING CONDUIT.
7.	INTERCEPT EXISTING CONDUIT WITH NEW CONDUIT SHOWN.

GENERAL NOTES

#	NOTE
1.	PROVIDE AND INSTALL SIGNAGE ON THE INSIDE OF THE MSB. INDICATING WHERE STANDBY GENERATION IS INSTALLED FOR MSB PER CBC 702.7. THE LABELS SHALL BE PROVIDE AND INSTALL IN COMPLIANCE WITH CEC 110.21(B).



PARTIAL EXISTING ONE-LINE DIAGRAM 1 / E1.1



PARTIAL NEW ONE-LINE DIAGRAM 2 / E1.1

BAR IS ONE INCH ON ORIGINAL DRAWING

0" 1"

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REVISIONS		
NO	DATE	DESCRIPTION

PACE ENGINEERING

DES	BG	CKD	TB	JOB NO.
DRN	BW	DATE	1/29/25	3073.01

SIGNED 1/29/25

REGISTERED PROFESSIONAL ENGINEER BRYAN GENTLES No. E 24012 ELECTRICAL STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA.

ONE-LINE DIAGRAMS

SHEET E1.1

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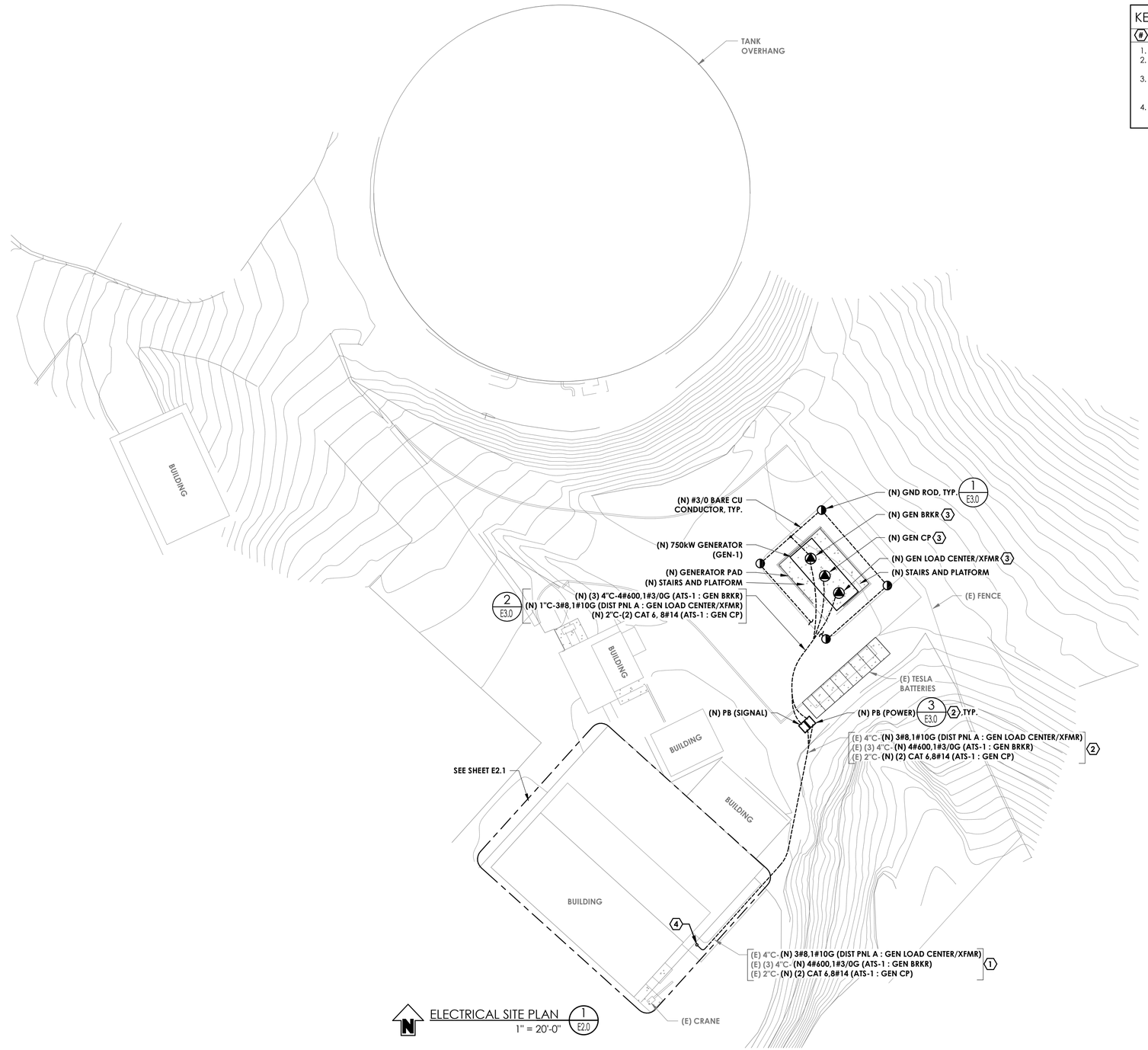
KEYNOTES

#	NOTE
1.	PROVIDE AND INSTALL NEW CONDUCTORS IN EXISTING CONDUIT.
2.	INTERCEPT EXISTING CONDUITS WITH NEW PULL BOXES. FINAL INTERCEPTION POINT TO BE FIELD LOCATED DURING CONSTRUCTION. SPLICES SHALL NOT BE ALLOWED.
3.	COORDINATE FINAL LOCATIONS OF CONNECTIONS WITH EQUIPMENT SUPPLIER PRIOR TO CONDUIT INSTALLATION. NO ALLOWANCE WILL BE MADE FOR IMPROPER COORDINATION.
4.	PROVIDE AND INSTALL CONDUIT SEALING BUSHINGS FOR ALL EXISTING CONDUIT STUB-UPS IN LOCATION SHOWN.



ELECTRICAL SITE PLAN 1 E2.0
1" = 20'-0"

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

REVISIONS

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PACE ENGINEERING®

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DRN BW	DATE 1/29/25	3073.01

SIGNED 1/29/25
REGISTERED PROFESSIONAL ENGINEER BRYAN GENTLES No. E 24012 ELECTRICAL STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA.

ELECTRICAL SITE PLAN

SHEET
E2.0
PG 14 OF 18

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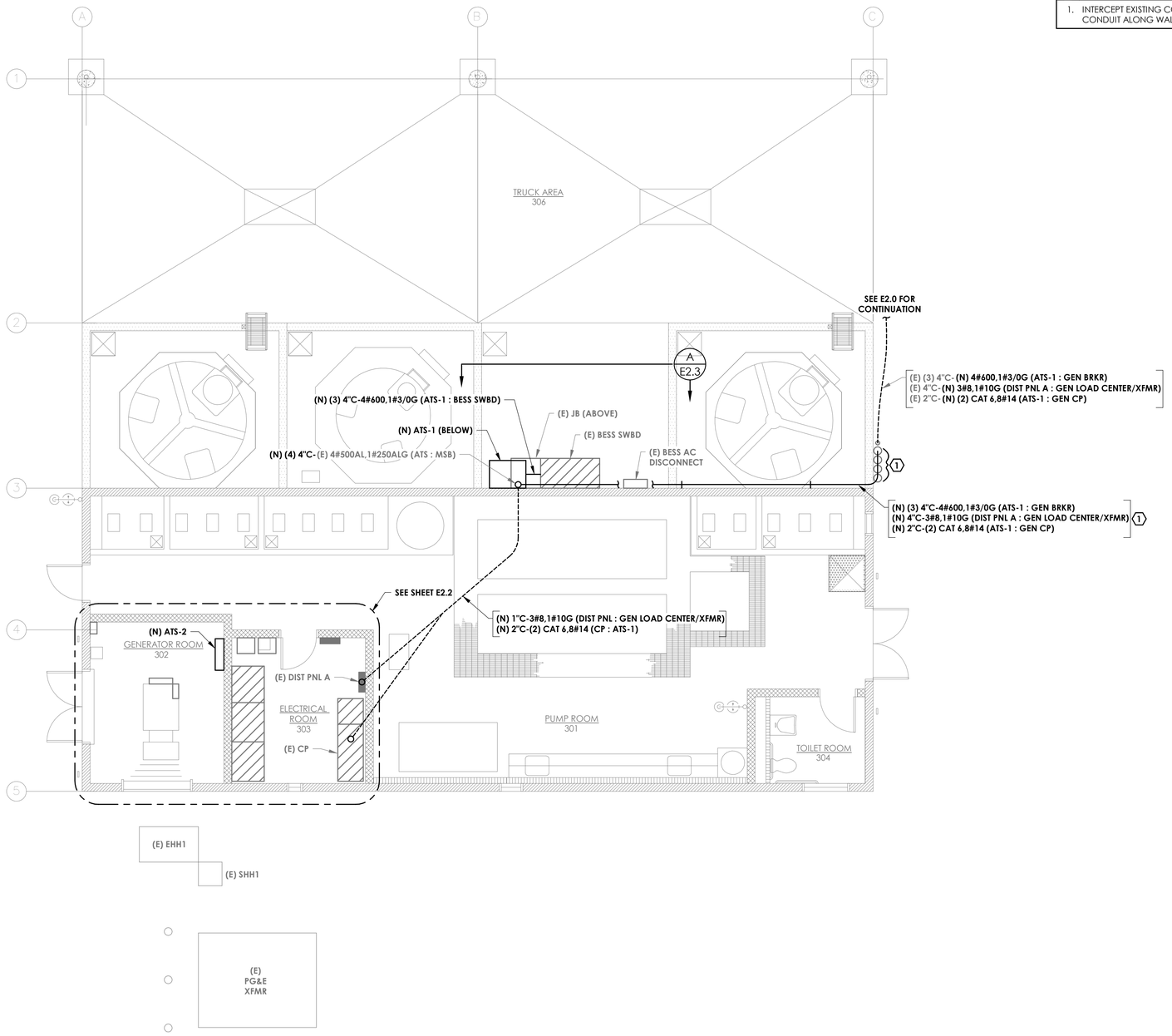
KEYNOTES

#	NOTE
1.	INTERCEPT EXISTING CONDUIT STUB-UPS WITH NEW IN LOCATION SHOWN. ROUTE NEW CONDUIT ALONG WALL SUPPORTING EVERY 10'-0" MAXIMUM.



CHEMICAL BUILDING - POWER PLAN (1 / E2.1)
3/16" = 1'-0"

BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
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HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA.

CHEMICAL BUILDING - POWER PLAN

SHEET
E2.1
PG 15 OF 18

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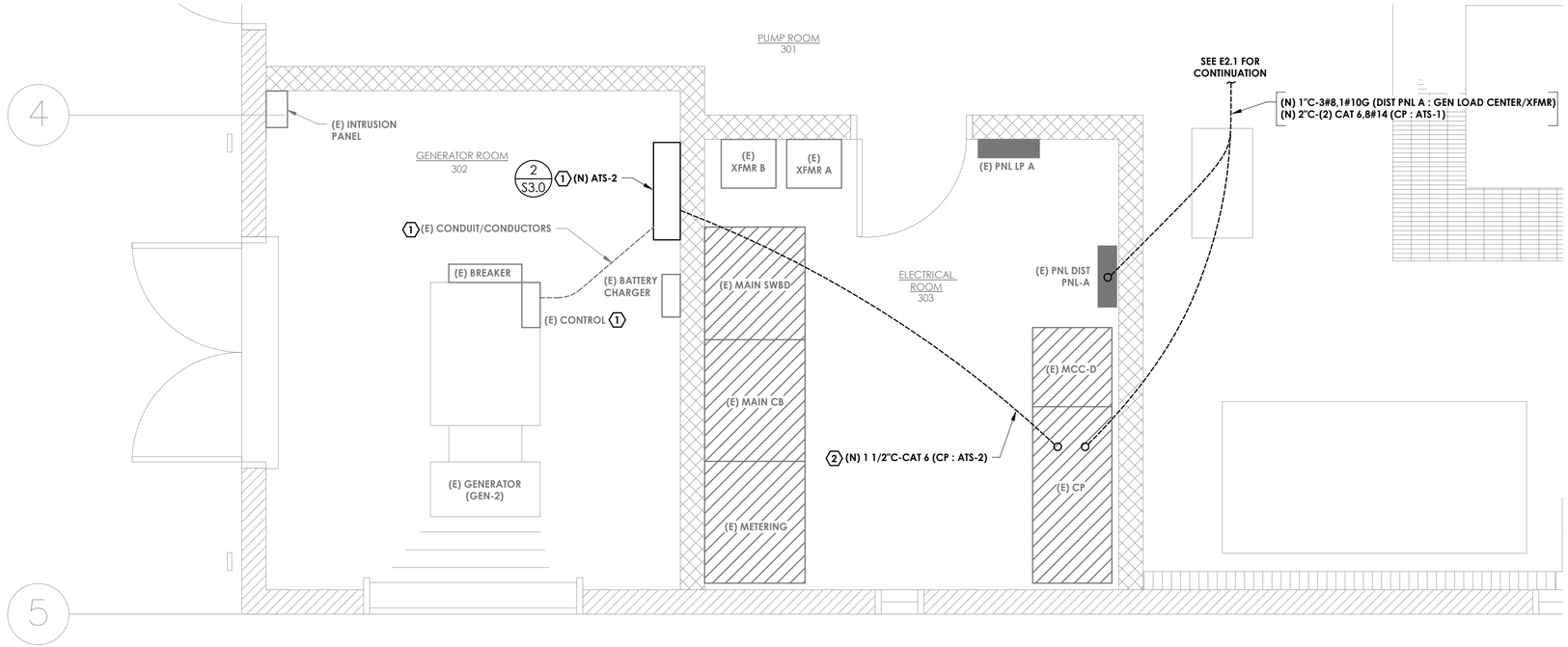
KEYNOTES

#	NOTE
1.	DISCONNECT AND REMOVE EXISTING ATS-2. CONDUIT/CONDUCTORS TO REMAIN. PROVIDE AND INSTALL NEW ATS-2 IN LOCATION TO MATCH EXISTING. RECONNECT CONDUIT/CONDUCTORS, MODIFY AS NECESSARY TO ACCOMODATE INSTALLATION, AND NEW FUNCTIONALITY AS DESCRIBED IN SPECIFICATION 259000, SUPPLEMENT NO. 2 - FUNCTIONAL DESCRIPTIONS.
2.	PROVIDE AND INSTALL NEW CONDUIT AND CONDUCTORS BETWEEN CP AND ATS-2 SHOWN. ROUTE CONDUIT CONCEALED IN CEILING.



ELECTRICAL ROOM - POWER PLAN (1 / E2.2)
1/2" = 1'-0"

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

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HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA.

ELECTRICAL ROOM - POWER PLAN

SHEET
E2.2
PG 16 OF 18

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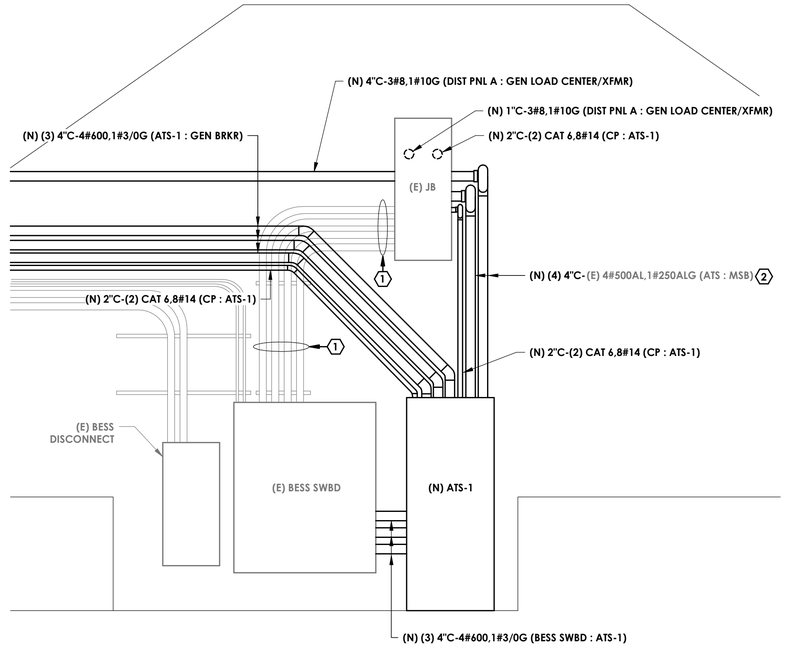
KEYNOTES

#	NOTE
1.	DISCONNECT AND REMOVE CONDUITS BETWEEN THE LOAD SIDE OF THE BESS AND MSB WITH CONDUCTORS TO REMAIN. CONDUIT/CONDUCTORS BETWEEN THE LINE SIDE OF THE BESS AND THE MSB TO REMAIN UNMODIFIED. FIELD-VERIFY CONDUITS TO REMOVE DURING CONSTRUCTION.
2.	PROVIDE AND INSTALL NEW CONDUIT BETWEEN JB AND ATS AS SHOWN. ROUTE EXISTING CONDUCTORS FORMALLY CONNECTED BETWEEN THE LOAD SIDE OF THE BESS AND MSB IN THIS NEW CONDUIT AND CONNECT EXISTING CONDUCTORS TO THE LOAD SIDE OF THE ATS. NOTE THAT THE EXISTING CONDUCTORS ARE ALUMINUM.



BESS AND ATS ELECTRICAL ELEVATION (A / E2.3)
NTS

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

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HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA.

ELECTRICAL ELEVATION

SHEET
E2.3
PG 17 OF 18

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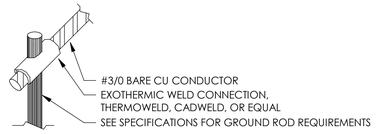
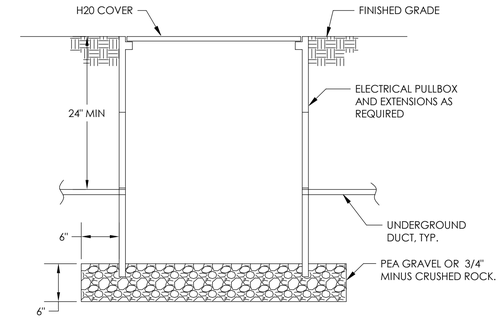
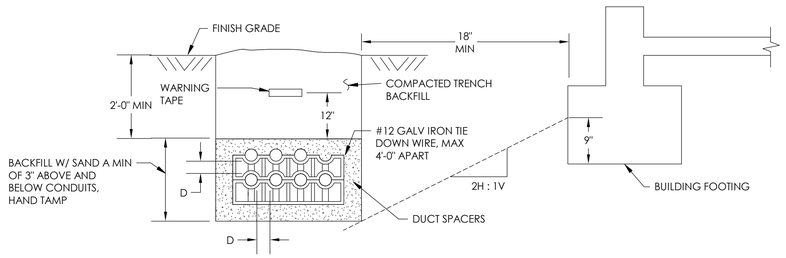


GROUNDING - CABLE TO GROUND ROD 1 E3.0
NTS



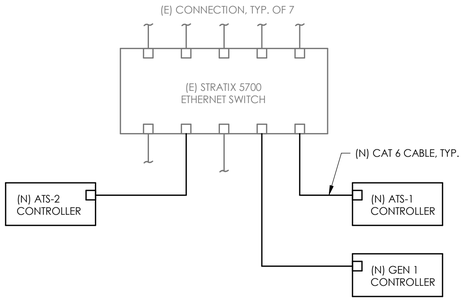
BOXES - UNDERGROUND PULL THROUGH 3 E3.0
NTS



NOTES:

1. D=3" MIN FOR 2" AND LARGER CONDUIT
2. D=2" MIN FOR 1 1/2" AND SMALLER CONDUIT
3. CONDUIT DETAIL FOR MORE THAN 4 RACEWAYS PER TRENCH
4. H=HORIZONTAL DISTANCE, V=VERTICAL DISTANCE
5. INSTALLATION SHALL BE IN COMPLIANCE WITH CBC 1809A.14.
6. DUCT SPACES SHALL BE PROVIDED AND INSTALLED IN ALL DUCT RUNS WITH 5 CONDUITS OR MORE.

RACEWAY - UNDERGROUND CONDUIT SUPPORTS 2 E3.0
NTS



PARTIAL NETWORK DIAGRAM 4 E3.0

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

REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING®

DES BG	CKD TB	JOB NO.
DRN BW	DATE 1/29/25	3073.01

SIGNED 1/29/25
REGISTERED PROFESSIONAL ENGINEER BRYAN GENTLES No. E 24012 ELECTRICAL STATE OF CALIFORNIA

HUMBOLDT BAY MWD TRF GENERATOR
440 PIPELINE RD ARCATA, CA.

ELECTRICAL DETAILS

SHEET
E3.0
PG 18 OF 18

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