CITY OF SANTA ROSA

IMPROVEMENT PLANS FOR

RECLAMATION PUMP STATION E BUILDING REPLACEMENT

CONTRACT NO. C02488

MAY 2025

Brelje & Race CONSULTING ENGINEERS
475 Aviation Blvd. • Suite 120 • Santa Rosa, CA 95403 • 707-576-1322
www.brce.com

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN L. BRELJE
No. 79218
Exp. 3-31-26
CIVIL
STATE OF CALIFORNIA

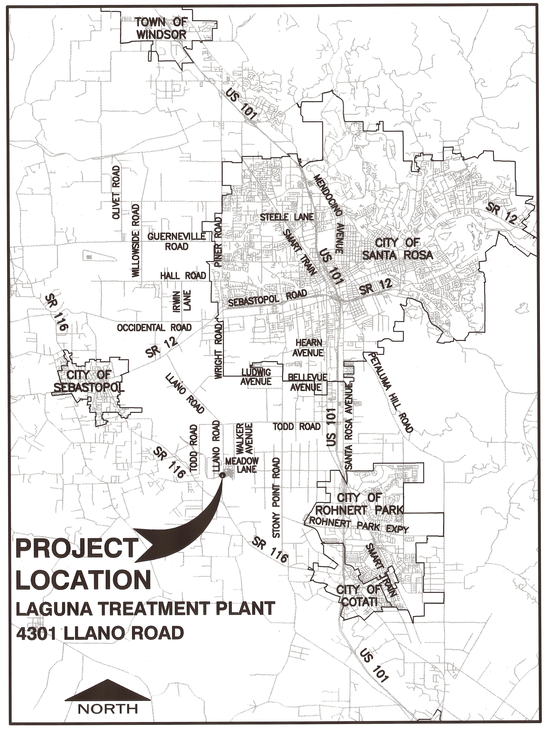
5/5/25

RECORD PLAN DATA

PROJECT START:
PROJECT END:
GEN. CONTRACTOR:
SUPERINTENDENT:
FOREMAN:
CONSTRUCTION MANAGER:
INSPECTOR:
RECORD PLANS BY:
ADDITIONAL INFO:

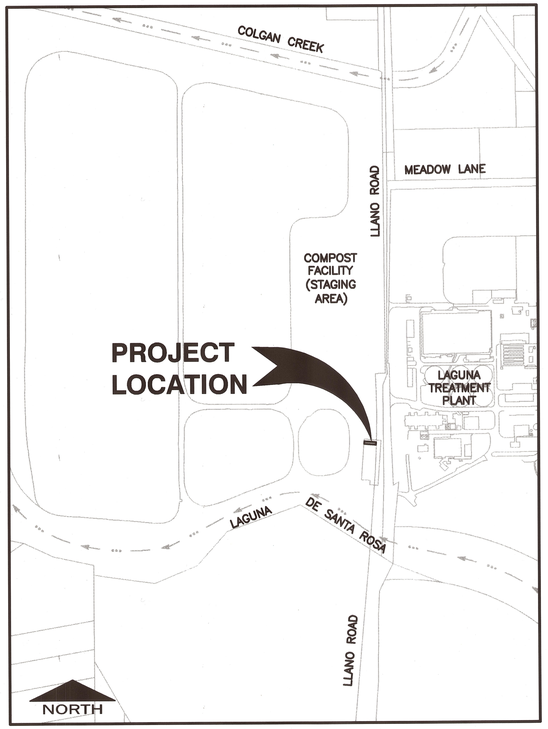
GENERAL NOTES

1. ALL WORKMANSHIP, MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE CITY OF SANTA ROSA STANDARD PLANS, THE CONSTRUCTION SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, THE SPECIAL PROVISIONS FOR THIS PROJECT AND THE STATE STANDARD SPECIFICATIONS AND STANDARD PLANS. THE CONTRACTOR IS RESPONSIBLE FOR UNDERSTANDING ALL STANDARDS PERTAINING TO THIS PROJECT.
2. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (USA) AT NORTH AT 811 NO LESS THAN 2 WORKING DAYS PRIOR TO ANY EXCAVATION FOR MARK OUTS OF EXISTING UNDERGROUND FACILITIES IN ACCORDANCE WITH SECTION 5–1.36E OF THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL ALSO CONTACT THE LAGUNA TREATMENT PLANT MECHANICAL SERVICES SUPERINTENDENT FOR MARK OUTS OF EXISTING UNDERGROUND FACILITIES A MINIMUM OF 10 WORKING DAYS PRIOR TO PLANNED EXCAVATION ON THE TREATMENT PLANT PROPERTY.
3. THE LOCATIONS OF UNDERGROUND UTILITIES AND OTHER OBSTACLES SHOWN ON THE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL POTHOLE AND DETERMINE THE EXACT LOCATION OF ALL POTENTIAL CONFLICTS IN ACCORDANCE WITH U.S.A. LAWS AND THESE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS. IF ANY UNMARKED UTILITIES ARE ENCOUNTERED, OR IF UNABLE TO LOCATE A MARKED UTILITY AFTER POT HOLING, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF THAT UTILITY AND THE CITY ENGINEER.
4. ALL ELECTRICAL DISTRIBUTION FACILITIES SEWER MANHOLES, MAINLINE CLEANOUTS AND WATER VALVES THAT ARE ON ACTIVE SYSTEMS SHALL BE ACCESSIBLE TO CITY PERSONNEL AT ALL TIMES AND SHALL BE BROUGHT TO GRADE WITHIN 48 HOURS OF PAVING.
5. THE CONTRACTOR SHALL PROTECT AND PRESERVE CITY MONUMENTS. THE CONTRACTOR SHALL COORDINATE WITH THE CITY ENGINEER 10 WORKING DAYS IN ADVANCE FOR REFERENCING OF EXISTING MONUMENTS TO BE DISTURBED. THE CONTRACTOR SHALL RECONSTRUCT DISTURBED MONUMENTS IN ACCORDANCE WITH CITY STANDARD 280.
6. OVERHEAD UTILITY SERVICE DROPS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL INVESTIGATE THE SITE AND BE AWARE OF LIMITED CLEARANCES UNDER OVERHEAD UTILITY LINES AND LOW HANGING TREE BRANCHES. THE CONTRACTOR'S TRUCKS AND EXCAVATION EQUIPMENT SHALL BE SIZED SO THAT OVERHEAD WIRES AND TREE BRANCHES ARE NOT DAMAGED.
7. ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF AS GENERATED AND AT NO TIME SHALL THE CONTRACTOR PLACE EXCAVATED MATERIAL AT THE WORK SITE.
8. THE CONTRACTOR SHALL ONLY REMOVE EXISTING TREES OR SHRUBS AS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
9. THE CONTRACTOR SHALL KEEP A SET OF PLANS ON–SITE THAT IS CONTINUALLY AND LEGIBLY UPDATED AS THE PROJECT PROGRESSES. THIS SET OR AN EXACT COPY SHALL BE GIVEN TO THE ENGINEER AT THE END OF THE WORK.



VICINITY MAP

SCALE: 1"=10000'



LOCATION MAP

SCALE: 1"=700'

BEFORE EXCAVATING
CALL U.S.A.
UNDERGROUND SERVICE ALERT
USA NORTH AT 811
TWO WORKING DAYS BEFORE ALL
PLANNED WORK OPERATIONS
AND THE LAGUNA TREATMENT PLANT
MECAHNICAL SERVICES SUPERINTENDENT
10 WORKING DAYS BEFORE ALL
PLANNED WORK OPERATIONS

INDEX OF SHEETS

No.	Date	Revision	By	Dept	Signature	Date
				Subregional Asset Mgmnt.		5/5/25

SCALE: AS SHOWN
DWN BY: SYK
DATE: MAY 2025
CHK BY: BB

APPROVED: Director – Engineering
By Dan Hennessy
Date 5/28/25

RECLAMATION PUMP STATION E BUILDING REPLACEMENT

COVER

CONTRACT NO. C02488

SHEET 1 OF 15

FILE NO. 2025–0006

02-06-25 barnard \5047\dwg\5047 00\5047.00 COVER, NOTE & CONTROL.dwg TAB: 1–COVER

ABBREVIATIONS

AB	AGGREGATE BASE	MFR	MANUFACTURE
ABAN	ABANDONED	MG	MILLION GALLONS
ABS	ACRYLONITRILE–BUTADIENE–STYRENE	MH	MANHOLE
AC	ASPHALT CONCRETE	MIN	MINIMUM
ACP	ASBESTOS CEMENT PIPE	MISC	MISCELLANEOUS
AD	ALGEBRAIC DIFFERENCE	MJ	MECHANICAL JOINT
ADA	AMERICANS WITH DISABILITIES ACT	MON	MONUMENT
ADPT	ADAPTER	MSL	MEAN SEA LEVEL
AGG	AGGREGATE	N	NORTH
ALUM	ALUMINUM	NG	NATURAL GROUND
ANG	ANGLE	NO.	NUMBER
AP	ANGLE POINT	NA	NOT APPLICABLE
APN	ASSESSORS PARCEL NUMBER	NIC	NOT IN CONTRACT
APPROX	APPROXIMATE	NPT	NATIONAL PIPE THREAD
ARV	AIR RELEASE VALVE	OC	ON CENTER
AVE	AVENUE	OD	OUTSIDE DIAMETER
AVG	AVERAGE	OH	OVERHEAD
BC	BEGIN HORIZONTAL CURVE	OZ	OUNCE
BFP	BACKFLOW PREVENTER	PA	PLANTER AREA
BLDG	BUILDING	PB	PULL BOX
BLVD	BOULEVARD	PC	POINT OF CURVATURE
BM	BENCHMARK	PCC	POINT OF COMPOUND CURVATURE
BO	BLOWOFF	PCC	PORTLAND CEMENT CONCRETE
BOC	BACK OF CURB	PD	PLANTER DRAIN
BV	BUTTERFLY VALVE	PE	PLAIN END
BVC	BEGIN VERTICAL CURVE	PEC	PHOTOELECTRIC CELL
BSW	BACK OF SIDEWALK	PED	PEDESTRIAN
BT	BOTTOM OF TAPER	PG	PAD GRADE
B&R	BRELJE & RACE	PI	POINT OF INTERSECTION
C	CONDUIT	PIV	POST INDICATOR VALVE
CAV	COMBINATION AIR AND VACUUM RELEASE VALVE	℄	PROPERTY LINE
		PN	PAVING NOTCH
CB	CATCH BASIN	POC	POINT OF CONNECTION
CBC	CALIFORNIA BUILDING CODE	POC	POINT ON CURVE
CDF	CONTROLLED DENSITY FILL	POCC	POINT OF COMPOUND CURVE
CHK	CHECK	POVC	POINT ON VERTICAL CURVE
CIP	CAST IRON PIPE	POS	PRIVATE OPEN SPACE
CIPP	CAST–IN–PLACE PIPE	POT	POINT ON TANGENT
℄	CENTERLINE	PP	POWER POLE
CL	CENTERLINE	PRC	POINT OF REVERSE CURVATURE
CL	CLASS	PRV	PRESSURE REDUCING VALVE
CLR	CLEAR	PSD	PERFORATED SUBDRAIN
CMP	CORRUGATED METAL PIPE	PSI	POUND PER SQUARE INCH
CMPA	CORRUGATED METAL PIPE ARCH	PSV	PRESSURE SUSTAINING VALVE
CMU	CONCRETE MASONRY UNIT	PT	POINT
CO	CLEANOUT	PT	POINT OF TANGENCY
COAX	COAXIAL CABLE	PUE	PUBLIC UTILITY EASEMENT
CONC	CONCRETE	PVC	POLYVINYL CHLORIDE
COND	CONDUIT	PVI	POINT OF VERTICAL INTERSECTION
CONST	CONSTRUCTION	PVMT	PAVEMENT
CONT	CONTINUOUS	PWE	PUBLIC WATER EASEMENT
COTG	CLEANOUT TO GRADE	R	RADIUS
CP	CONTROL POINT	RAW	RAW WATER
CPLG	COUPLING	RC	RELATIVE COMPACTION
CR	CURB RETURN	RCB	REINFORCED CONCRETE BOX
CSP	CORRUGATED STEEL PIPE	RCP	REINFORCED CONCRETE PIPE
CT	COURT	RD	ROAD
CTB	CEMENT TREATED BASE	RD	ROOF DRAIN
CTR	CENTER	RED	REDUCER
CY	CUBIC YARD	REF	REFERENCE
C/C	CENTER TO CENTER	ROW	RIGHT OF WAY
C&G	CURB AND GUTTER	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
DBL	DOUBLE		
DCDC	DOUBLE CHECK DETECTOR CHECK	RPM	RAISED PAVEMENT MARKER
DCV	DETECTOR CHECK VALVE	RSC	REMOTE SUPERVISORY CONTROL
DDC	DOUBLE DETECTOR CHECK	RT	RIGHT
DET	DETECTOR	RT	RING TIGHT
DH	DETECTOR HANDHOLE	RW	RECYCLED WATER
DI	DROP INLET	RWL	RAIN WATER LEADER
DIA	DIAMETER	R/W	RIGHT OF WAY
DIP	DUCTILE IRON PIPE	S	SOUTH
DLC	DETECTOR LOOP CONDUIT	S	SLOPE
DR	DRIVE	S.A.D.	SEE ARCHITECTURAL DRAWINGS
DS	DOWNSPOUT	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
DS	DOWNSTREAM		
DWG	DRAWING	SCH	SCHEDULE
DWR	DASHED WHITE PAVEMENT MARKER	SD	STORM DRAIN
DWY	DRIVEWAY	SDCB	STORM DRAIN CATCH BASIN
DY	DOUBLE YELLOW	SDCO	STORM DRAIN CLEANOUT
DYR	DASHED YELLOW RAISED PAVEMENT MARKER	SDDI	STORM DRAIN DROP INLET
		SDE	STORM DRAIN EASEMENT
E	EAST	SDMH	STORM DRAIN MANHOLE
EA	EACH	SE	SEWER EASEMENT
EC	END HORIZONTAL CURVE	S.E.D.	SEE ELECTRICAL DRAWINGS
ECC	ECCENTRIC	SF	SQUARE FEET
EFFL	EFFLUENT (SEWER)	SG	SUBGRADE
EG	EXISTING GROUND	SIG	SIGNAL
EL	ELEVATION	SL	STREET LIGHT
ELEC	ELECTRICAL	S.L.D.	SEE LANDSCAPE DRAWINGS
ELL	ELBOW	SOF	SLIP ON FLANGE
EP	EDGE OF PAVEMENT	SO	SIDE OPENING (SD)
EQ	EQUAL	S.P.D.	SEE PLUMBING DRAWINGS
ESMT	EASEMENT	SPEC	SPECIFICATION
EVC	END VERTICAL CURVE	SQ	SQUARE
EW	EACH WAY	SS	STAINLESS STEEL
EX	EXISTING	SS	SANITARY SEWER
F	FIRE	SSCO	SANITARY SEWER CLEANOUT
FA	FIRE ALARM	S.S.D.	SEE STRUCTURAL DRAWINGS
FC	FACE OF CURB	SSMH	SANITARY SEWER MANHOLE
FCA	FLANGED COUPLING ADAPTER	ST	STREET
FDC	FIRE DEPARTMENT CONNECTION	STA	STATION
FES	FLARED END SECTION	STD	STANDARD
FF	FINISHED FLOOR	STL	STEEL
FG	FINISHED GRADE	SVC	SERVICE
FH	FIRE HYDRANT	SWE	SIDEWALK EASEMENT
℄	FLOWLINE	SY	SQUARE YARDS
FL	FLOWLINE	SW	SIDEWALK
FLG	FLANGE	SWL	SOLID WHITE LINE
FLSO	FLOWLINE OF SIDE OPENING	T	TANGENT
FLEX	FLEXIBLE	TAN	TANGENT
FM	FORCE MAIN (PRESSURE)	TB	TOP OF BOX
FRP	FIBERGLASS REINFORCED PLASTIC	TBM	TEMPORARY BENCHMARK
FT	FEET	TC	TOP OF CONCRETE
FTG	FOOTING	TC	TOP OF CURB
GAL	GALLON	TCE	TEMPORARY CONSTRUCTION EASEMENT
GALV	GALVANIZED		
GB	GRADE BREAK	TD	TOP OF DIKE
GPM	GALLONS PER MINUTE	TEL	TELEPHONE
GRD	GROUND	TEMP	TEMPORARY
GSP	GALVANIZED STEEL PIPE	TF	TOP OF FOUNDATION
GV	GAS VALVE	TG	TOP OF GRATE
GV	GATE VALVE	THD	THREADED
HB	HOSE BIBB	TP	TOP OF PIPE
HB	HEADER BOARD	TS	TOP OF SLAB
HDG	HOT DIPPED GALVANIZED	TS	TRAFFIC SIGNAL
HDPE	HIGH DENSITY POLYETHYLENE	TT	TOP OF TAPER
HORIZ	HORIZONTAL	TW	TOP OF WALL
HP	HIGH POINT	TWLTL	TWO WAY LEFT TURN LANE
HPG	HIGH PRESSURE GAS	TYP	TYPICAL
HPS	HIGH PRESSURE SODIUM	UC	UTILITY CHASE
HT	HEIGHT	UFTG	UNDER FLOOR FINISHED GRADE
HWY	HIGHWAY	UG	UNDERGROUND
IC	INTERCONNECT	UNO	UNLESS NOTED OTHERWISE
ICV	IRRIGATION CONTROL VALVE	V	VOLT
ID	INSIDE DIAMETER	VC	VERTICAL CURVE
INV	INVERT	VCP	VITRIFIED CLAY PIPE
IP	IRON PIPE	VERT	VERTICAL
IPS	IRON PIPE SIZE	VG	VALLEY GUTTER
IRR	IRRIGATION	VLT	VAULT
ISA	INTERNATIONAL SYMBOL OF ACCESSIBILITY	W	WEST
		W	WATER
JB	JUNCTION BOX	WBD	WALL BACK DRAIN
JP	JOINT POLE	WM	WATER METER
JT	JOINT TRENCH	WNF	WELD NECK FLANGE
KV	KILOVOLT	WS	WATER SERVICE
L	ARC LENGTH	WSS	WATER SAMPLING STATION
L	LENGTH	WT	WEIGHT
LAT	LATERAL	WTR	WATER
LF	LINEAL FEET	WV	WATER VALVE
LG	LIP OF GARAGE	WWF	WELDED WIRE FABRIC
LG	LIP OF GUTTER	YD	YARD
LL	LANE LINE	°	DEGREES
LMA	LUMINAIRE MAST ARM	'	MINUTES
LN	LANE	"	SECONDS
LP	LOW POINT	Δ	DELTA
LT	LEFT	&	AND
LUM	LUMINAIRE	@	AT
MAX	MAXIMUM	#	NUMBER
MB	MAILBOX	#	POUNDS
MBGR	METAL BEAM GUARD RAIL	%	PERCENT

LEGEND

LINES

EXISTING BOUNDARY

EXISTING PARCEL

CENTER

EASEMENT

UTILITY & TOPOGRAPHY — EXISTING — PROPOSED

DROP INLET

DROP INLET WITH SIDE OPENINGS

STORM DRAIN, MANHOLE & CATCH BASIN — 24"SD, SDMH

SEWER MAIN, MANHOLE & CLEAN OUT — SS, SSMH, CO; STD 505, STD 500, SSMH

SEWER LATERAL & CLEANOUT — SS, CO; STD 513

IRRIGATION CONTROL VALVE BOX & SERVICE — IRR

FIRE HYDRANT & SERVICE ASSEMBLY — FH; STD 857

WATER MAIN, GATE VALVE, CROSS & ELBOW — STD 877 HGV

WATER MAIN, PERMANENT BLOWOFF, TEE, GATE VALVE, CROSS & BEND — BO; STD 861, STD 877 HGV

SINGLE WATER SERVICE (SEE PLANS FOR SIZE) — STD 863 & 889

DUAL WATER SERVICE (SEE PLANS FOR SIZE) — STD 864

TEMPORARY BLOWOFF, REDUCER & TIE–IN — 3" BO, STD 859

END CAP OR PLUG

GAS MAIN, VALVE & SERVICE — GV, G

ELECTRICAL MANHOLE — E

TELEPHONE MANHOLE — T

PACIFIC BELL TELEPHONE PULL BOX/VAULT — TEL

ELECTRICAL CONDUIT & BOX — E

STREET LIGHT CONDUIT & BOX — SL

STREET LIGHT

TRAFFIC SIGNAL

TRAFFIC SIGNAL PULL BOX — TS

JOINT POLE & GUY ANCHOR

OVERHEAD UTILITY — OH

STREET ADDRESS — 500 "STREET NAME"

STREET SIGN

FENCE — X

PARKING METER — P

SURVEY CONTROL POINT

SURVEY MONUMENT

AC DIKE

CURB & GUTTER

FIBER ROLL

ABANDON EXISTING UTILITY

TREE TO BE SAVED/PROTECTED

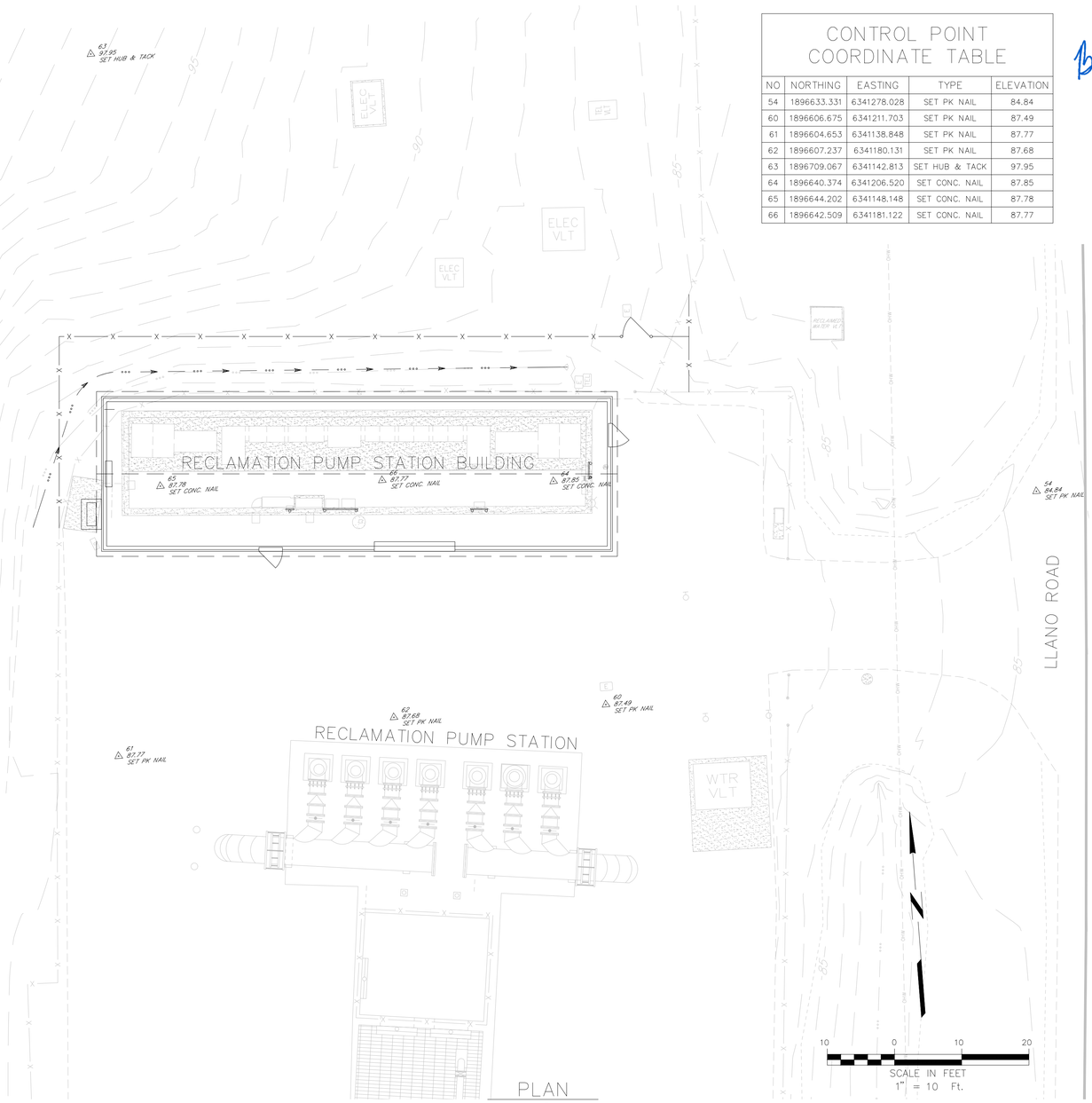
TREE TO BE REMOVED

BENCHMARK

ELEVATION BASED ON BENCHMARK "BM" ELEVATION = 93.31 FEET (NAVD 88).

BENCHMARK

CITY OF SANTA ROSA HORIZONTAL CONTROL NETWORK.
NAD83 – ZONE 2 – EPOCH 1991.35



PLAN
SCALE: 1" = 10'

CONTROL POINT COORDINATE TABLE

NO	NORTHING	EASTING	TYPE	ELEVATION
54	1896633.331	6341278.028	SET PK NAIL	84.84
60	1896606.675	6341211.703	SET PK NAIL	87.49
61	1896604.653	6341138.848	SET PK NAIL	87.77
62	1896607.237	6341180.131	SET PK NAIL	87.68
63	1896709.067	6341142.813	SET HUB & TACK	97.95
64	1896640.374	6341206.520	SET CONC. NAIL	87.85
65	1896644.202	6341148.148	SET CONC. NAIL	87.78
66	1896642.509	6341181.122	SET CONC. NAIL	87.77

TOPOGRAPHIC MAP NOTES

1. FIELD SURVEY MADE BY CITY OF SANTA ROSA ON MARCH 28, 2024.
2. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON FROM RECORD DATA AND DOES NOT CONSTITUTE A FORMAL BOUNDARY DETERMINATION AND IS APPROXIMATE IN LENGTH, LOCATION AND DIRECTION.
3. DISTANCES AND ELEVATION ARE SHOWN IN FEET AND DECIMALS THEREOF.
4. UTILITIES DEPICTED ON THESE PLANS ARE BASED ON SURFACE FEATURES AND/OR SOURCED BY OTHERS AND ARE INCLUDED FOR GENERAL REFERENCE PURPOSES ONLY. THE PRECISE LOCATION AND TYPE OF THESE UTILITIES MAY VARY FROM THE INFORMATION PROVIDED.
5. UTILITY INFORMATION SHOULD NOT BE USED AS THE SOLE REFERENCE PRIOR TO EXCAVATION OR CONSTRUCTION WORK. NO GUARANTEE IS INTENDED THAT THE EXISTING UTILITY INFORMATION SHOWN HEREON IS ACCURATE OR COMPLETE.

REGISTERED PROFESSIONAL ENGINEER — BENJAMIN L. BRELJE — No. 79218 — Exp. 3-31-26 — CIVIL — STATE OF CALIFORNIA

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DWN BY: SYK
CHK BY: BB
DATE: MAY 2025

City of Santa Rosa

RECLAMATION PUMP STATION E BUILDING REPLACEMENT

ABBREVIATIONS, LEGEND & SERVEY CONTROL DATA

CONTRACT NO. C02488

SHEET 2 OF 15

FILE NO. 2025–0006

02–07–25 kfitzpni \5047\dwg\5047 00\5047.00 NOTE.dwg TAB: 2–NOTE_SERVEY CONTROL DATA

REMOVE AND DISPOSE OF EXISTING CHAIN LINK FENCE AND GATES TO LIMITS SHOWN

PROTECT EXISTING STORM DRAIN IN PLACE DURING CONSTRUCTION

REMOVE AND DISPOSE OF EXISTING WOOD FRAMED BUILDING, FOUNDATION, LIGHTS, RECEPTACLES, BUILDING EXTERIOR SUPPORTS (TYP OF 2), AND ASSOCIATED APPURTENANCES

REMOVE AND DISPOSE OF EXISTING PORTABLE GENERATOR EXTERIOR AND INTERIOR ELECTRICAL EQUIPMENT, PULL BACK CONDUCTORS AND CONNECT TO NEW GENERATOR CONNECTION PANEL PER ELECTRICAL DRAWINGS

EXISTING PAD MOUNTED ELECTRICAL EQUIPMENT AND SLAB TO REMAIN

REMOVE AND DISPOSE OF HVAC DUCTS; EXISTING VFD ENCLOSURE, ENCLOSURE PAD, AND FILTER DUCT TO REMAIN, SUPPORT EXISTING EQUIPMENT TO REMAIN WITH STRUT

EXISTING WALL MOUNTED ELECTRICAL CABINET TO REMAIN, SUPPORT IN EXISTING LOCATION WITH STRUT, SUPPORT OVERHEAD CONDUITS SERVING EQUIPMENT FROM TRAPEZE ATTACHED TO NEW BUILDING PER TYPICAL SECTION ON SHEET 7

REMOVE AND DISPOSE OF EXISTING BOLLARD AND FOUNDATION CONCRETE

120V RECEPTACLE CABINET TO BE REMOVED AND RETURNED TO CITY, PROTECT ADJACENT FIBER CABINET IN PLACE

REMOVE AND DISPOSE OF EXISTING POLE MOUNTED LIGHT INCLUDING POLE AND CONCRETE FOUNDATION

REMOVE AND DISPOSE OF EXISTING CONCRETE SLAB

REMOVE AND DISPOSE OF EXISTING GENERATOR CONNECTION BOX

SAWCUT AT LIMITS OF PAVEMENT REMOVAL

REMOVE AND DISPOSE OF EXISTING ASPHALT PAVEMENT TO LIMITS SHOWN

1
7

PLAN

LLANO ROAD

5' 0 5' 10'
SCALE IN FEET
1" = 5' Ft.

REGISTERED PROFESSIONAL ENGINEER
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RECLAMATION PUMP STATION E BUILDING REPLACEMENT

DEMOLITION PLAN

CONTRACT NO. C02488

SHEET 3 OF 15

FILE NO. 2025-0006

02-07-25 kiflizghi \\5047\dwg\5047 00\5047.00_PLAN.dwg TAB: 3 DEMOLITION PLAN

CONTROL POINT COORDINATE TABLE

NO	NORTHING	EASTING	TYPE	ELEVATION
1410	1896639.548	6341128.806	BEGIN SWALE	87.11
1411	1896657.711	6341136.250	SWALE/BC	86.85
1412	1896661.647	6341142.589	SWALE/EC	86.75
1413	1896657.169	6341209.922	SWALE/END	85.86
1420	1896651.537	6341220.266	GB/EP	87.84
1421	1896624.952	6341218.198	GB/EP	87.84
1422	1896631.132	6341138.771	GB/EP	87.84
1423	1896638.475	6341138.924	EP	87.80
1424	1896638.891	6341133.572	EP	87.69
1425	1896625.931	6341132.564	EP/FG/CONFORM	87.37
1426	1896617.838	6341236.584	EP/FG/CONFORM	87.29
1427	1896627.031	6341237.299	EP/FG/CONFORM	87.20
1428	1896650.240	6341239.105	EP	86.36
1950	1896657.716	6341140.841	TOP FOUNDATION	88.06
1951	1896651.886	6341215.780	TOP FOUNDATION	88.06
1952	1896629.787	6341214.059	TOP FOUNDATION	88.06
1953	1896635.618	6341139.120	TOP FOUNDATION	88.06

FIBER ROLL AT NEW CUT SLOPE PER DETAIL ON SHEET 7

INSTALL CHRISTY N3Q PULL BOX OR APPROVED EQUAL AROUND EXISTING CONDUIT(S) AND BREAK INTO CONDUITS WITHOUT DAMAGING CONDUCTORS TO ALLOW CONDUITS TO DRAIN, SEE DETAIL ON SHEET 7 (TYP OF 4)

INSTALL HYDROSEED TO ALL DISTURBED SURFACES PER DETAIL ON SHEET 7

CONSTRUCT 6' CHAIN LINK FENCE PER DETAIL ON SHEET 7

INSTALL FIBER ROLLS ALONG SWALE PER DETAIL ON SHEET 7 (TYP)

RESTORE EXISTING VEGETATED DRAINAGE SWALE PER DETAIL ON SHEET 7

CONSTRUCT CHAIN LINK FENCE GATE PER DETAIL ON SHEET 7

EXISTING STORM DRAIN TO REMAIN, PROTECT IN PLACE

STEEL MOMENT FRAME COLUMN (TYP)

DAYLIGHT OF GRADING (TYP)

INSTALL INTERIOR WALL MOUNTED MINI-SPLIT FORCED AIR UNIT, PROVIDE ADDITIONAL FRAMING AS NECESSARY

INSTALL EXTERIOR COOLING UNIT ON 3'x4'x12" THICK CONCRETE SLAB ON GRADE WITH #4 REBAR AT 9" ON CENTER EACH WAY

INSTALL MANWAY DOOR PER DETAIL ON SHEET 7 (TYP)

FINISHED GRADE OF ASPHALT WITHIN 4' OF DOORWAY OPENINGS SHALL SLOPE AT NO MORE THAN 2% IN ANY DIRECTION (TYP)

ROOF RIDGE

INSULATED PREFABRICATED METAL BUILDING WALL (TYP)

BUILDING FOUNDATION (TYP)

BUILDING OVERHANG

INSTALL ROLL-UP DOOR

CONTRACTOR SHALL COORDINATE FINAL LOCATION OF PIERS ALONG THE GRADE BEAM IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS AND THE LOCATION OF EXISTING UNDERGROUND UTILITIES TO REMAIN, SEE TYPICAL SECTION ON SHEET 7 FOR POTHOLING REQUIREMENTS AT PROPOSED PIER LOCATIONS (TYP)

PAVEMENT REPLACEMENT PER DETAIL ON SHEET 7

SAWCUT AND CONFORM TO EXISTING (TYP)

CONTRACTOR SHALL POTHOLE USING HYDRO EXCAVATION OR HAND DIGGING METHODS AT ALL EXISTING ELECTRICAL UTILITIES WITHIN THE LIMITS OF THE NEW BUILDING FOUNDATION TO VERIFY CLEARANCES, DETERMINE IF DEEPENING OF THE GRADE BEAM FOUNDATION IS NECESSARY TO MEET THE REQUIREMENTS OF THE STRUCTURAL DRAWINGS, AND TO COORDINATE FINAL PIER LOCATIONS, SEE TYPICAL SECTION ON SHEET 7 FOR ADDITIONAL INFORMATION (TYP).

1/7

PLAN

LLANO ROAD

5' 0 5' 10'
SCALE IN FEET
1" = 5' Ft.

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City of Santa Rosa

RECLAMATION PUMP STATION E BUILDING REPLACEMENT

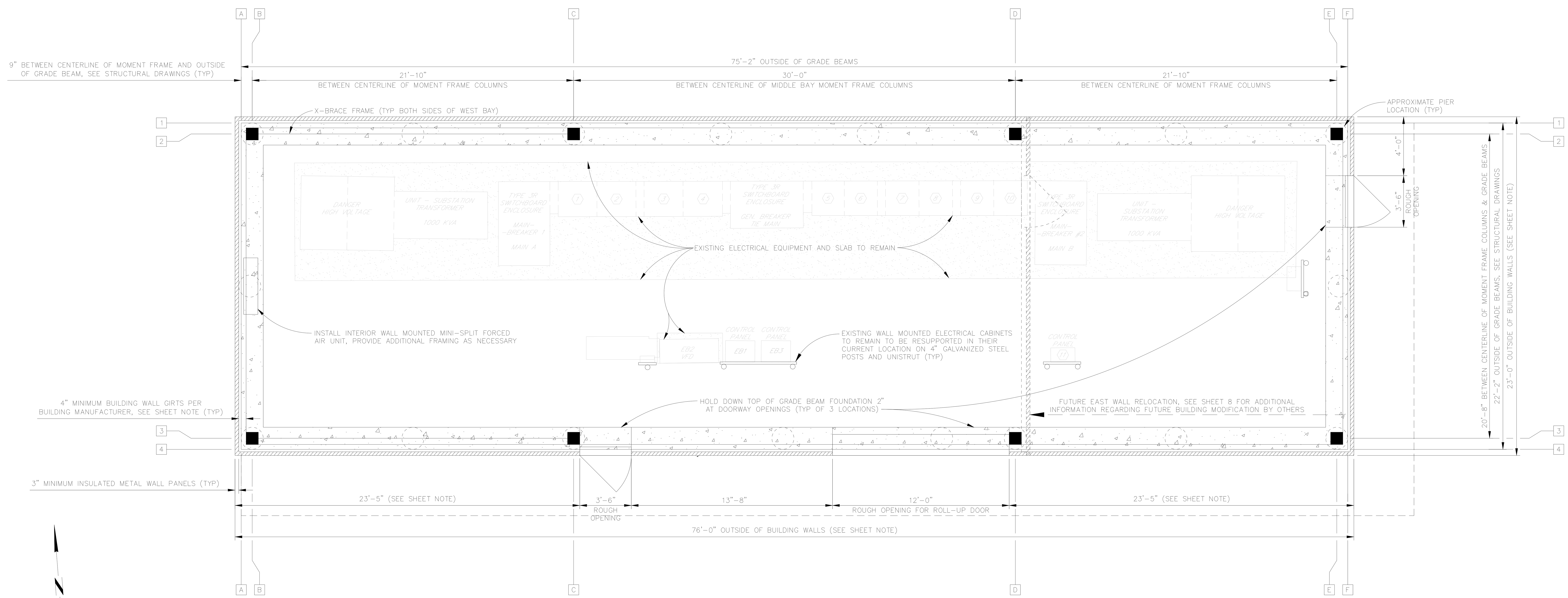
SITE PLAN

CONTRACT NO. C02488

SHEET 4 OF 15

FILE NO. 2025-0006

02-06-25 Kiflizghi \5047\dwg\5047 00\5047.00 PLAN.dwg TAB: 4 SITE PLAN



BUILDING FLOOR PLAN

1" = 4'

SCALE IN FEET 1" = 4 Ft.

SHEET NOTES

1. DIMENSION PROVIDED IS APPROXIMATE AND MAY VARY BASED ON THE PRE-ENGINEERED METAL BUILDING MANUFACTURERS STRUCTURAL DESIGN.
2. APPROXIMATE PIER LOCATIONS SHALL BE CENTERED BETWEEN MOMENT FRAME LOCATIONS IN THE EAST AND WEST BAYS, EVENLY SPACED 10 FEET APART IN THE NORTHERN PORTION OF THE CENTER BAY, AND ONE PIER CENTERED BETWEEN THE MOMENT FRAME LOCATIONS IN THE SOUTHERN PORTION OF THE CENTER BAY WITH A PIER OFFSET 10 FEET EACH SIDE. CONTRACTOR SHALL COORDINATE FINAL LOCATION OF PIERS IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS AND EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO POTHOLE PIER LOCATIONS PRIOR TO DRILLING.
3. SEE SHEET 4 FOR LAYOUT POINTS 1950–1953 TO MATCH A1, A4, F1, AND F4 FOUND ON SECTION LINES BELOW.

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No.	Date	Revision	By

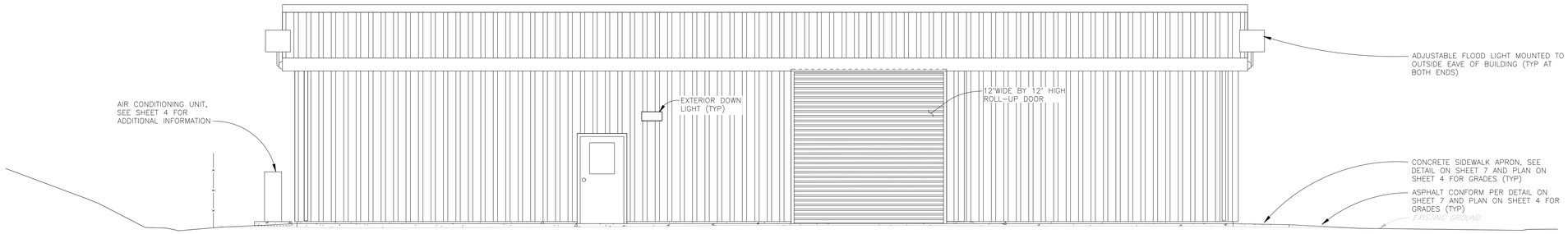
SCALE: AS SHOWN | DATE: MAY 2025
DWN BY: SYK | CHK BY: BB

City of Santa Rosa
RECLAMATION PUMP STATION E BUILDING REPLACEMENT
FLOOR PLAN

CONTRACT NO. C02488

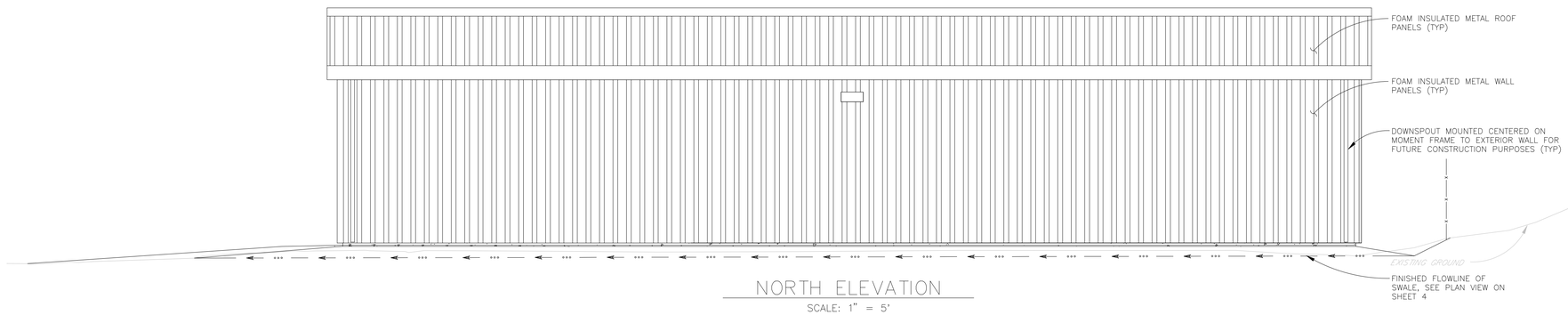
FILE NO. 2025-0006

TAB: 5 FLOOR PLAN
02-07-25 klf/zghi \5047\dwg\5047.00\5047.00 PLAN.dwg



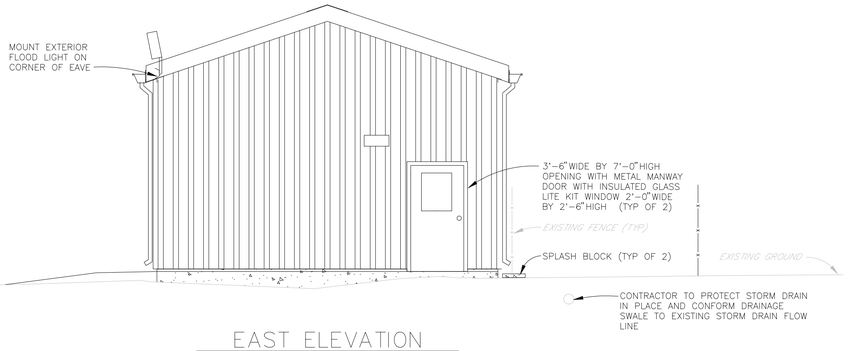
SOUTH ELEVATION

SCALE: 1" = 5'



NORTH ELEVATION

SCALE: 1" = 5'



EAST ELEVATION

SCALE: 1" = 5'

WEST ELEVATION

SCALE: 1" = 5'

BUILDING NOTES

1. PRE-MANUFACTURED METAL BUILDING SHALL COMPLY WITH 2020 EDITION OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 24 UNLESS OTHERWISE NOTED.
2. GROUP U (UTILITY AND MISCELLANEOUS) OCCUPANCY.
3. TYPE II-B CONSTRUCTION.
4. BUILDING OPENINGS SHALL COMPLY WITH CALIFORNIA BUILDING CODE OPENINGS PER CBC TABLE 705.8.
5. BUILDING COLORS SHALL BE THE FOLLOWING: WALL PANEL (ALMOND), ROOF PANEL (SLATE GRAY), ROOF TRIM (MEDIUM BRONZE), GUTTERS (MEDIUM BRONZE), DOWNSPOUTS (MEDIUM BRONZE), DOORS (GRAY), DOOR FRAMES (LIGHT GRAY).
6. EXISTING FIRE EXTINGUISHERS SHALL BE RE-INSTALLED WITH NECESSARY SIGNAGE TO MEET CURRENT BUILDING CODE REQUIREMENTS.
7. FIRE SPRINKLERS ARE NOT REQUIRED PER NFPA 13 AND THE CBC REQUIREMENTS. ELECTRICAL BUILDING SHALL NOT BE USED FOR STORAGE OF ANY MATERIALS UNTIL ALL EXISTING ELECTRICAL EQUIPMENT HAS BEEN REPLACED WITH MINIMUM FIRE-RATED EQUIPMENT.
8. BUILDING IS CLASSIFIED AS A MACHINERY SPACE AND IS EXEMPT FROM ACCESSIBILITY STANDARDS PER SECTION 203.5 OF THE ADA STANDARDS FOR ACCESSIBLE DESIGN.

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No.	Date	Revision	By

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DWN BY: SYK
DATE: MAY 2025
CHK BY: BB

City of Santa Rosa

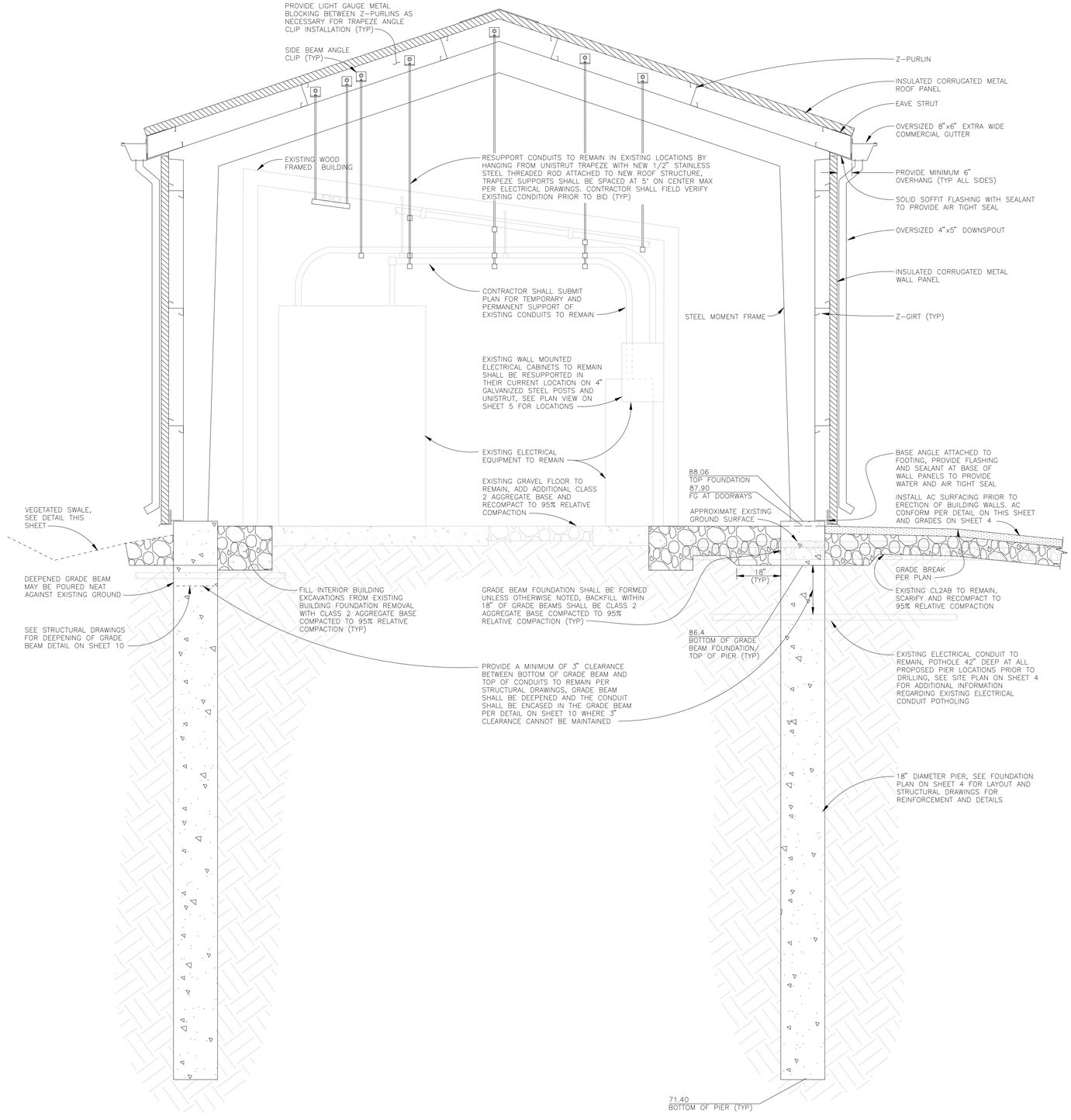
RECLAMATION PUMP STATION E BUILDING REPLACEMENT

BUILDING ELEVATIONS

CONTRACT NO. C02488

SHEET 6 OF 15

FILE NO. 2025-0006



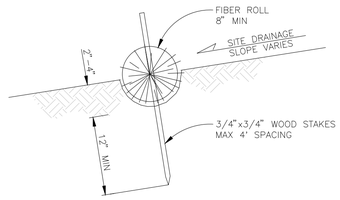
BUILDING TYPICAL CROSS SECTION

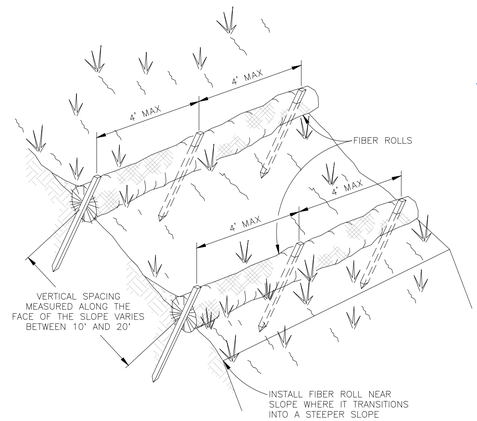
SCALE: 1" = 2'

1/4

NOTES

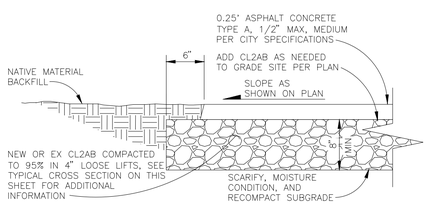
1. FIBER ROLL INSTALLATION, ALONG A LEVEL CONTOUR, REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 2"–4" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.
2. FIBER ROLLS TO BE PLACED IN A ROW WITH THE ENDS TIGHTLY ABUTTING. USE STRAW, ROCKS, OR FILTER FABRIC TO FILL GAPS BETWEEN THE ROLLS AND TAMP THE BACKFILL MATERIAL TO PREVENT EROSION OR FLOW AROUND FIBER ROLLS.





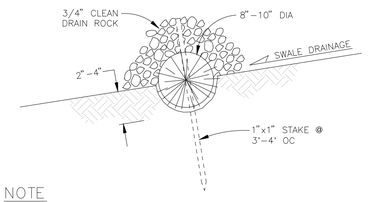
FIBER ROLLS ON SLOPE

NOT TO SCALE



TYPICAL PAVEMENT REPLACEMENT

NOT TO SCALE

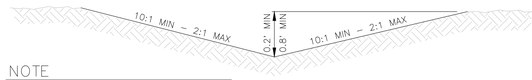


NOTE

1. FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 2"–4" DEEP, DUG ON A "V" PATTERN INTO THE SIDES AND BOTTOM OF THE SWALE. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL. COVER THE FIBER ROLL IN THE FLOWLINE OF THE SWALE WITH 3/4" CLEAN DRAIN ROCK TO PROVIDE ADDITIONAL FILTERING.

FIBER ROLL SWALE CHECK

NOT TO SCALE



NOTE

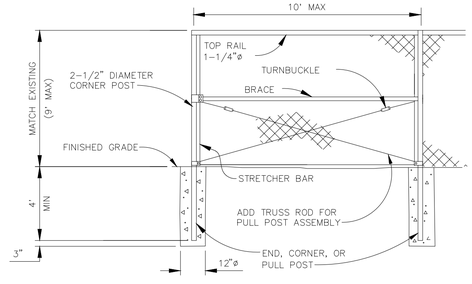
SWALE SURFACE SHALL BE HYDROSEEDED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.

VEGETATED DRAINAGE SWALE

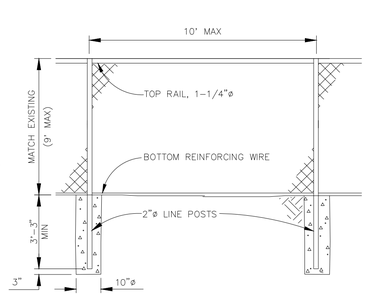
NOT TO SCALE

CHAIN LINK FENCE AND GATE NOTES

1. FENCING SHALL MATCH ADJACENT EXISTING FENCING TO REMAIN.
2. ALL POSTS, FRAMES, HARDWARE, AND FABRIC SHALL BE GALVANIZED.
3. CHAIN LINK FABRIC SHALL BE WOVEN TO EXISTING ADJACENT CHAIN LINK FABRIC TO REMAIN TO PROVIDE A SEAMLESS INSTALLATION.
4. SWING GATE FRAME SHALL MATCH EXISTING SWING GATE IN SIZE AND MATERIAL AND SHALL BE OF FULLY WELDED CONSTRUCTION.



CORNER OR END PANEL ASSEMBLY
PULL POST ASSEMBLY SIMILAR



TYPICAL LINE FENCE

TYPICAL FENCE DETAILS

NOT TO SCALE

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CHK BY: BB

City of Santa Rosa

RECLAMATION PUMP STATION E
BUILDING REPLACEMENT

BUILDING SECTIONS AND CIVIL DETAILS

2025–0006

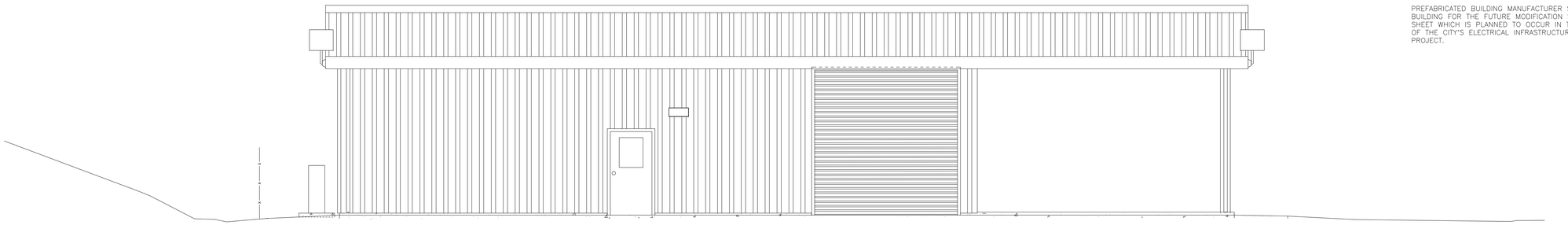
CONTRACT NO. C02488

SHEET 7 OF 15

FILE NO. 2025–0006

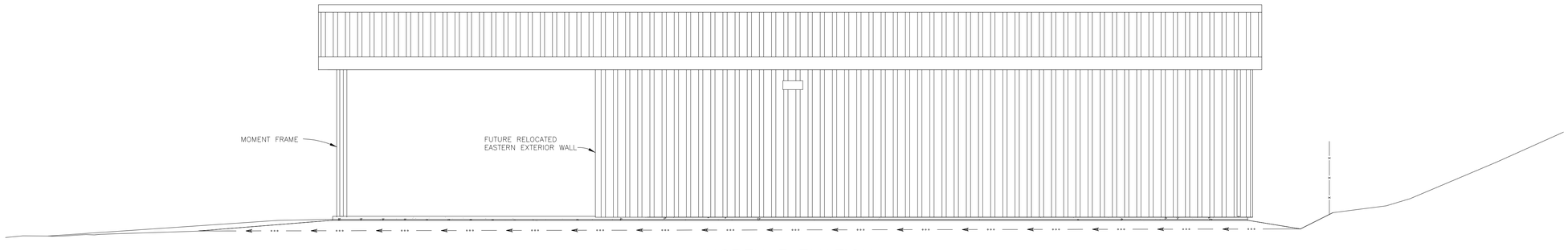
SHEET NOTE

PREFABRICATED BUILDING MANUFACTURER SHALL DESIGN THE BUILDING FOR THE FUTURE MODIFICATION SHOWN ON THIS SHEET WHICH IS PLANNED TO OCCUR IN THE FUTURE AS PART OF THE CITY'S ELECTRICAL INFRASTRUCTURE REPLACEMENT PROJECT.



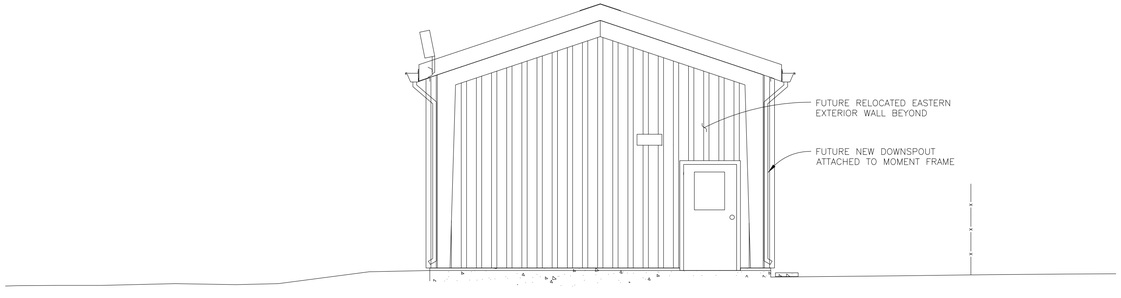
SOUTH ELEVATION

SCALE: 1" = 5'



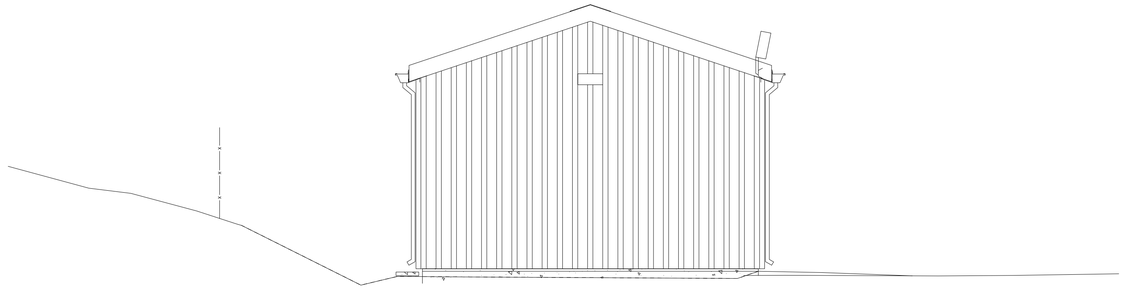
NORTH ELEVATION

SCALE: 1" = 5'



EAST ELEVATION

SCALE: 1" = 5'



WEST ELEVATION

SCALE: 1" = 5'

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SCALE: AS SHOWN
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City of Santa Rosa

RECLAMATION PUMP STATION E BUILDING REPLACEMENT

FUTURE BUILDING MODIFICATION ELEVATIONS

CONTRACT NO. C02488

SHEET 8 OF 15

FILE NO. 2025-0006

02-07-25 barnard \5047\dwg\5047 00\5047.00 DETAIL.dwg TAB: 8-FUTURE BUILDING MODIFICATION PLAN & ELEVATIONS

F DRILLED PIER NOTES AND SPECIFICATIONS

1. ORGANIZE THE WORK AND EMPLOY SHOP AND FIELD CREW(S) OF SUFFICIENT SIZE TO MINIMIZE INSPECTIONS BY THE TESTING AGENCY.
2. PROVIDE SCHEDULE AND SEQUENCE INFORMATION TO AUTHORITY HAVING JURISDICTION AND SEOR IN WRITING UPON REQUEST. UPDATE INFORMATION AS WORK PROGRESSES.
3. CONTRACTOR SHALL MAINTAIN RECORDS OF TIME, TEMPERATURE AND DATE OF CONCRETE PLACEMENT INCLUDING MIX DESIGN AND LOCATION IN THE STRUCTURE. RETAIN RECORDS UNTIL COMPLETION OF THE CONTRACT. MAKE AVAILABLE FOR REVIEW BY TESTING AGENCY AND ARCHITECT/ENGINEER.
4. VERIFY LOCATION, POSITION AND INCLUSION OF ALL DRILLED PIER LOCATIONS, AND ANY EMBEDDED OR CONCEALED ITEMS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO COMMENCING WORK.
5. REMOVE LOOSE DIRT, MUD, STANDING WATER, AND FOREIGN MATTER FROM ALL PIER EXCAVATIONS.
6. PLACEMENT, ONCE STARTED, SHALL BE CARRIED ON AS A CONTINUOUS OPERATION UNTIL SECTION OF APPROVED SIZE AND SHAPE IS COMPLETED.
7. CONCRETE DEPOSITION:
   A. DEPOSIT CONCRETE TO MAINTAIN AN APPROXIMATELY HORIZONTAL PLASTIC SURFACE UNTIL THE COMPLETION OF THE UNIT PLACEMENT.
   B. DEPOSIT AS NEATLY AS PRACTICABLE IN FINAL POSITION, MINIMIZE RE-HANDLING OR FLOW.
   C. DO NOT DROP CONCRETE FREELY WHERE REINFORCING BARS, EMBEDS, OR OBSTRUCTIONS OCCUR THAT MAY CAUSE SEGREGATION. PROVIDE SPOUTS, ELEPHANT TRUNKS, OR OTHER MEANS TO PREVENT SEGREGATION DURING PLACEMENT.
8. ALL STEEL REINFORCEMENT SHALL BE PLACED, TIED AND SECURED WITHIN THE PIER EXCAVATION BEFORE CONCRETE IS PLACED.
9. ALL PIER EXCAVATIONS SHALL BE REVIEWED BY BOTH THE GEOTECHNICAL ENGINEER OR RECORD (GEOR) AND SEOR BEFORE CONCRETE IS PLACED.
10. UPON COMPLETION OF PIER DRILLING, CONCRETE IS TO BE PLACED WITHIN A REASONABLE TIMEFRAME, DETERMINED BY THE GEOR. IF EXCAVATION IS TO BE LEFT UNFILLED FOR MORE THAN 24 HOURS, CONTRACTOR SHALL PROVIDE SHAFT CASING TO PROTECT THE INTEGRITY OF THE HOLE. SHAFT CASING SHALL BE REMOVED GRADUALLY AS CONCRETE IS POURED.
11. WHERE GROUNDWATER IS ENCOUNTERED, CONCRETE SHALL BE PLACED BY THE TREMIE METHOD AND CONCRETE COARSE AGGREGATE SIZE IS LIMITED TO ¾" MAX, PER THE RECOMMENDATION OF THE GEOTECHNICAL REPORT.
12. CONTRACTOR TO PLACE REBAR CENTRALIZERS EVERY OTHER VERTICAL BAR AROUND THE PERIMETER OF THE CAGE @ 10'-0"oc.
13. CONTRACTOR TO MAINTAIN CLEAN PIER SHAFT AND SHALL REMOVE DEBRIS BUILDUP FROM BOTTOM OF PIER SHAFT.

G STRUCTURAL SPECIFICATIONS

CONCRETE CONSTRUCTION

1. CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:

LOCATION	MIN 28-DAY STRENGTH (PSI)	AGGREGATE SIZE	MAX WATER TO CEMENTITIOUS MATERIALS RATIO	MIN SACKS CEMENTITIOUS MATERIAL PER CUBIC YARD[3]
STRUCTURAL				
FOUNDATIONS (GRADE BM)	3,000	1"x#4	0.53	5.0
DRILLED PIERS	3,000	3/4"x#4	0.53	5.0

2. CONCRETE MIX DESIGN AND TESTING SHALL MEET THE REQUIREMENTS OF CBC SECTIONS 1705 AND 1903, ACI CODE-318, ACI SPEC-301, AND THESE SPECIFICATIONS. SUBMIT MIX DESIGN AND SUPPORTING DOCUMENTATION IN ACCORDANCE WITH ACI SPEC-301 AND ACI CODE-318 FOR REVIEW PRIOR TO PLACEMENT.

CEMENT:	ASTM C150 TYPE II
AGGREGATE:	ASTM C33 RECYCLED AGGREGATE PRODUCTS NOT PERMITTED EXCEPT RECLAIMED COARSE AGGREGATE PER ASTM C33
FLY ASH:	ASTM C618 CLASS F
SLAG CEMENT:	ASTM C989 GRADE 100 OR 120
WATER:	ASTM C1602
ADMIXTURES:	ASTM C494, C260

3. FLY ASH MAY BE SUBSTITUTED UP TO 25% FOR CEMENT AT A POUND-FOR-POUND RATE, UNLESS SPECIFIED OTHERWISE. DO NOT USE FLY ASH IN HIGH EARLY STRENGTH CONCRETE. SLAG CEMENT MAY BE SUBSTITUTED UP TO 45% FOR CEMENT AT A POUND-FOR-POUND RATE, UNLESS SPECIFIED OTHERWISE. DO NOT USE SLAG CEMENT IN HIGH EARLY STRENGTH CONCRETE.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 OR A706 GRADE 60. STEEL SHALL BE KEPT CLEAN AND FREE OF RUST. SECURELY TIE REBAR IN PLACE PRIOR TO CONCRETE PLACEMENT. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION. WELDED REINFORCING STEEL SHALL BE ASTM A706 OR A615 MEETING CARBON REQUIREMENTS OF AWS D1.4.
5. CONCRETE SHALL BE KEPT CONTINUOUSLY WET FOR 48 HOURS, AFTER PLACEMENT, AND SHALL BE KEPT DAMP FOR 7 DAYS AFTER PLACEMENT. IN LIEU OF PONDING, SLABS EITHER MAY HAVE CURE/SEALER APPLIED IMMEDIATELY AFTER FINISHING (IF OTHER FINISHES ARE NOT AFFECTED) OR COVERED WITH CURING PAPER, FILM OR BURLAP. CURE SHALL BE OF A TYPE THAT WILL NOT BE DETRIMENTAL TO SEALERS TO BE APPLIED LATER.
6. LAITANCE SHALL BE REMOVED FROM ALL COLD JOINT SURFACES PRIOR TO PLACEMENT OF SUBSEQUENT CONCRETE.
7. MECHANICAL COUPLERS FOR REINFORCING STEEL TO BE "L-SERIES BAR LOCK" BY DAYTON SUPERIOR (ESR-2495) OR EQUAL COUPLER WITH ICC REPORT, UNO.

D FOUNDATION NOTES

1. ALLOWABLE (ASD) FOUNDATION DESIGN PRESSURES ARE:

   DRILLED PIERS:

   SKIN FRICTION
   DEAD + LIVE LOAD = 300 PSF AT 1-5 FT, 500 PSF AT 5-11 FT, NEGLECT SKIN FRICTION FROM 11-16 FT FOR SEISMIC CONDITIONS. INCREASE BY 1/3 FOR VERTICAL WIND AND SEISMIC FORCES. UPLIFT SKIN FRICTION VALUES ARE 200 PSF AND 350 PSF FROM 1-5 FT AND BELOW 5 FT RESPECTIVELY. NEGLECT UPLIFT SKIN FRICTION BETWEEN 11-16 FT UNDER SEIMIC CONDITIONS.

   PASSIVE PRESSURE
   250 PCF 1-5 FT, 350 PCF BELOW 5 FT ON TWO PIER DIAMETERS. PASSIVE PRESSURE SHOULD BE REDUCED TO 150 PCF FROM 11-16 FT UNDER SEISMIC CONDITIONS.

2. ALL SOILS WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE REQUIREMENTS OF THE GEOTECHNICAL REPORT NOTED BELOW, AND CHAPTER 18 OF THE CBC. ALL FOUNDATIONS SHALL BEAR ON FIRM, UNDISTURBED, NATIVE SOILS OR ENGINEERED FILL AT OR EXCEEDING DEPTHS SHOWN ON THE DRAWINGS. ENGINEERED FILL TO BE COMPACTED PER GEOTECHNICAL REPORT. INCREASE FILL AND OR FOOTING DEPTH AS REQUIRED BY GEOTECHNICAL ENGINEER. ALL FOOTING EXCAVATIONS SHALL BE AS NEAT AS PRACTICABLE. MAXIMUM OVER EXCAVATION IN WIDTH SHALL BE LESS THAN 12 INCHES OR 25% OF FOOTING WIDTH, WHICH EVER IS LESS. 6 INCHES MAXIMUM PER SIDE. LARGER OVER-EXCAVATIONS IN WIDTH SHALL BE FILLED WITH ADDITIONAL REINFORCED CONCRETE AS DIRECTED BY THE ENGINEER, OR FORMWORK SHALL BE PROVIDED. OVER-EXCAVATIONS IN DEPTH MAY BE FILLED WITH LEAN CONCRETE OR COMPACTED APPROVED BACKFILL. ALL LOOSE SOILS SHALL BE REMOVED FROM EXCAVATIONS PRIOR TO PLACEMENT OF REINFORCING OR CONCRETE.
   GEOTECHNICAL REPORT BY:

   RGH CONSULTANTS
   REPORT NO. 1148.068.PW.1
   DATED: MAY 28, 2024

3. FORMWORK STAKES ARE NOT PERMITTED WITHIN CONCRETE PLACEMENTS. IF REQUIRED, PROVIDE STEEL STAKES SLEEVED WITH PLASTIC PIPE OR SOLID PLASTIC STAKES; WOOD STAKES NOT PERMITTED. FLUSH CUT SLEEVE OR STAKE AND FILL SLEEVES IMMEDIATELY WITH GROUT. WHERE STAKES PENETRATE VAPOR RETARDER, TAPE OR SEAL PER MANUFACTURER'S RECOMMENDATIONS.
4. DRILLING FOR CAST IN PLACE CONCRETE PIERS REQUIRES OBSERVATION AND APPROVAL OF GEOTECHNICAL ENGINEER. ALL PIERS SHALL BE POURED IN ONE CONTINUOUS POUR WITH STEEL IN PLACE. ALL PIERS TO BE VIBRATED WHILE POURING CONCRETE.
5. DO NOT UNDERCUT EXISTING SLAB. NOTIFY ENGINEER FOR REVIEW AND POSSIBLE REVISIONS, IF EXISTING SLAB CONDITIONS ARE NOT AS SHOWN.

E SPECIAL INSPECTION BY OWNERS TESTING AGENCY

SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED BY AN APPROVED AGENCY IN ACCORDANCE WITH CBC CHAPTER 17 AND THE STATEMENT OF SPECIAL INSPECTIONS AS REQUIRED BY CBC SECTIONS 1704.2.3 AND 1704.3 FOR BUILDING STRUCTURAL ELEMENTS SUMMARIZED AS FOLLOWS:

1. **CONCRETE CONSTRUCTION** PER CBC SECTIONS 1705.3, AND TABLE 1705.3 INCLUDING FORMWORK, REINFORCING STEEL, CAST-IN-PLACE BOLTS, MIX DESIGNS, CONCRETE SAMPLES, AND PLACEMENT FOR ALL CONCRETE. REINFORCING DOWELS FROM FOOTINGS TO RETAINING WALLS SHALL BE INSPECTED PRIOR TO PLACEMENT OF FOOTING CONCRETE AND WALL GROUT OR CONCRETE. CONTINUOUS OR ISOLATED SPREAD FOOTINGS WITH DESIGN STRENGTH NO GREATER THAN 2500 PSI, NON-STRUCTURAL SLABS ON GRADE, AND EXTERIOR FLATWORK DO NOT REQUIRE SPECIAL INSPECTION PER CBC SECTION 1705.3.
2. **SOILS** PER CBC SECTION 1705.6, TABLE 1705.6, AND THE APPROVED SOILS REPORT INCLUDING SUBGRADE PREPARATION, FOUNDATION BEARING MATERIALS AND DEPTH OF EXCAVATIONS, AND VERIFICATION, PLACEMENT AND TESTING OF CONTROLLED FILL.
3. **DRILLED CONCRETE PIER FOUNDATIONS** PER CBC SECTION 1705.8, TABLE 1705.8 AND THE APPROVED SOILS REPORT INCLUDING DRILLING OPERATIONS, PIER SIZE AND EMBEDMENT, END BEARING STRATA CAPACITY, AND PLACEMENT OF REINFORCEMENT AND CONCRETE. ADDITIONAL INSPECTIONS FOR CONCRETE ARE REQUIRED PER CBC SECTION 1705.3, AND AS NOTED ABOVE.

B GENERAL NOTES

1. REFER TO SHEETS S1.1, AND S1.2 FOR STANDARD DETAILS OF CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS FOR MATERIALS AND METHODS.
2. BUILDING DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. SEE ARCHITECTURAL DRAWINGS (SAD) FOR ALL ACTUAL BUILDING DIMENSIONS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO COMMENCING WORK.
3. STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
4. DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS. .
5. COORDINATION OF MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY SYSTEMS WITH THE STRUCTURAL SYSTEM IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. USE DETAILS ON SHEETS S1.1 THROUGH S1.3. AT CONDITIONS WHERE THESE DETAILS DO NOT APPEAR TO APPLY, NOTIFY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. AT CONDITIONS WHERE FIELD MODIFICATIONS OF MECHANICAL, ELECTRICAL, PLUMBING, OR SITE UTILITIES AFFECT STRUCTURAL SYSTEMS, NOTIFY STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
6. SPECIAL INSPECTIONS ARE REQUIRED PER E/S0.1 AND THE TESTING AND INSPECTION FORM.
7. STRUCTURAL OBSERVATION PER CBC SECTION 1704.6 IS NOT REQUIRED. NOTIFY ZFA FOR GENERAL ON SITE REVIEW OF:
   - MINIMUM GRADE BEAM SIZE AND REINFORCING STEEL.

   NOTIFY ZFA FOR REVIEW PRIOR TO COVERING ABOVE LISTED WORK. PROVIDE 2 WORKING DAYS MINIMUM SCHEDULING NOTICE PRIOR TO REVIEW DATE.
8. SUBMIT ENGINEERING FOR DEFERRED APPROVAL ITEMS TO ARCHITECT/ENGINEER OR REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE FABRICATED OR INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL. DEFERRED APPROVAL ITEMS SHALL BE DESIGNED AND DETAILED BY MANUFACTURER TO ACCOMMODATE HORIZONTAL AND VERTICAL MOVEMENTS AS NOTED IN STRUCTURAL DRAWINGS. GENERAL CONTRACTOR SHALL REVIEW AND APPROVE DIMENSIONS AND DETAILS SHOWN ON THE SHOP DRAWINGS PRIOR TO SUBMITTAL. MANUFACTURER TO PROVIDE DRAWINGS AND CALCULATIONS DESIGNED IN ACCORDANCE WITH THE CBC AND SPECIFICATIONS, PREPARED AND SIGNED BY A CALIFORNIA LICENSED CIVIL OR STRUCTURAL ENGINEER FOR THE FOLLOWING ITEMS, UNLESS NOTED OTHERWISE:
   A. METAL BUILDING CALCULATIONS, COLUMN REACTIONS, ANCHOR BOLT PLANS AND METAL BUILDING DRAWINGS.

C EXISTING CONSTRUCTION NOTES

1. ORIGINAL CONSTRUCTION DRAWINGS WERE NOT AVAILABLE FOR REVIEW AT THE TIME THESE DOCUMENTS WERE PREPARED. EXISTING BUILDING CONDITIONS SHOWN ARE ASSUMED BASED ON INFORMATION PROVIDED BY OTHERS AND ASSUMPTIONS BASED ON PROBABLE CONSTRUCTION METHODS. ACTUAL FIELD CONDITIONS MAY VARY.
2. ALL WORK NOT INDICATED AS EXISTING (E) SHALL BE ASSUMED TO BE NEW (N).
3. ANY REMOVAL, CUTTING, DRILLING, ETC OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE. SMALL TOOLS SHALL BE USED IN ORDER NOT TO JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE STRUCTURE. IF STRUCTURAL MEMBERS OR MECHANICAL, ELECTRICAL, OR ARCHITECTURAL ELEMENTS NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE ARCHITECT/ENGINEER SHALL BE IMMEDIATELY NOTIFIED AND PRIOR APPROVAL SHALL BE OBTAINED BEFORE REMOVAL OF THE MEMBERS.
4. DO NOT OVER CUT EXISTING CONCRETE OR OTHER WORK TO REMAIN. CUTS SHALL BE MADE NEATLY TO A CORNER, THEN ALTERNATE MEANS SHALL BE USED TO REMOVE REMAINING MATERIAL. CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF OVER CUT MATERIAL AS DIRECTED BY THE ARCHITECT AND/OR ENGINEER.
5. EXISTING DAMAGED STRUCTURAL MEMBERS WHICH ARE UNCOVERED SHALL BE REPORTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND REPAIR.
6. EXISTING CONCRETE SURFACE ABUTTING NEW CONCRETE SHALL BE ROUGHENED TO ¼" AMPLITUDE AND THOROUGHLY CLEANED OF DUST, LOOSE AGGREGATE, LAITANCE, ETC.
7. EXISTING REINFORCING AND/OR STEEL EMBEDS THAT ARE EXPOSED DURING DEMOLITION SHALL BE WIRE-BRUSHED AND FOREIGN MATERIAL REMOVED PRIOR TO PLACEMENT OF NEW CONCRETE.
8. REMODELING REQUIRES ASSUMPTIONS BE MADE REGARDING EXISTING CONDITIONS WHICH MAY NOT BE VERIFIABLE WITHOUT DESTROYING OTHERWISE ADEQUATE OR SERVICEABLE PORTIONS OF THE STRUCTURE. THIS ANALYSIS DOES NOT MAKE ANY GUARANTEE TO THE ADEQUACY OF THE STRUCTURAL DESIGN OF THE EXISTING SLAB NOT SPECIFICALLY ADDRESSED IN THE STRUCTURAL CALCULATIONS. ZFA SHALL NOT BE RESPONSIBLE FOR UNSATISFACTORY PERFORMANCE OF EXISTING PORTIONS OF THE STRUCTURE NOT SPECIFICALLY ADDRESSED IN THE CONSTRUCTION DOCUMENTS.

A DESIGN CRITERIA

DESIGN CRITERIA:	2022 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CBC)
ROOF LIVE LOAD:	20 PSF (REDUCIBLE)
RISK CATEGORY:	II
WIND DATA:	ULTIMATE WIND SPEED (3 SEC GUST) IN MPH: 92 WIND EXPOSURE: C INTERNAL WIND PRESSURE COEFFICIENT (GCPI) = ±0.18 COMPONENTS AND CLADDING DESIGN PRESSURES FOR SYSTEMS DESIGNED BY OTHERS SHALL COMPLY WITH THE "ASCE 7-16" DESIGN STANDARD
EARTHQUAKE DATA:	SEISMIC IMPORTANCE FACTOR, I_E: 1.0 MAPPED SPECTRAL RESPONSE ACCELERATIONS: S_S = 1.5; S_1 = 0.6 SITE CLASS: E SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 1.02; S_{D1} = 1.54 SEISMIC DESIGN CATEGORY: D SEISMIC FORCE RESISTING SYSTEM(S): STEEL ORDINARY MOMENT FRAMES AND ORDINARY BRACED FRAME RESPONSE MODIFICATION FACTOR(S): R = 3.5 FOR MOMENT FRAME AND R = 3.25 FOR BRACED FRAME SEISMIC RESPONSE COEFFICIENT(S), C_S = 0.34 (ULTIMATE) ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE MAXIMUM ANTICIPATED STORY DRIFT = 0.02 X HEIGHT PROVIDE DEFORMATION COMPATIBILITY PER ASCE 7 SECTION 12.12.5 FOR NON-STRUCTURAL ITEMS, INCLUDING CLADDING, STAIRS, GLAZING, ETC.
SCOPE:	DESIGN OF A PRE-MANUFACTURED METAL BUILDING PIER AND GRADE BEAM FOUNDATION SYSTEM. DESIGN OF PRE-MANUFACTURED METAL BUILDING IS DEFERRED TO BE DESIGNED BY OTHERS AND REVIEWED BY SEOR. EXISTING EQUIPMENT SLABS ARE TO REMAIN AND NOT PART OF THIS SCOPE.

ABBREVIATIONS

AB	ANCHOR BOLT	FTG	FOOTING	PNL	PANEL
ABV	ABOVE	GA	GAGE or GAUGE	PSF	POUNDS PER SQUARE FOOT
AC	AIR CONDITIONING	GALV	GALVANIZED	PSI	POUNDS PER SQUARE INCH
ADJ	ADJACENT	GB	GRADE BEAM	PSL	PARALLEL STRAND LUMBER
ADDL	ADDITIONAL	GL	GIRDLINE	PTDF	PRESSURE TREATED DOUGLAS FIR
ALT	ALTERNATE	GLB	GLUE LAMINATED BEAM	PT	POINT
ALUM	ALUMINUM	GR	GRADE	R	RADIUS
ARCH	ARCHITECT	HD	HOLD DOWN	RBS	REDUCED BEAM SECTION
AYC	ALASKAN YELLOW CEDAR	HDG	HOT-DIP GALVANIZED	RFTR	RAFTER
@	AT	HDR	HEADER	REF	REFERENCE
BF	BRACED FRAME	HGR	HANGER	REINF	REINFORCING
BLDG	BUILDING	HK	HOOK	REQD	REQUIRED
BLK/BLKG	BLOCK/BLOCKING	HORIZ	HORIZONTAL	RET	RETAINING
BLW	BELOW	HSB	HIGH STRENGTH BOLT	REV	REVISION
BM	BEAM	HSG	HIGH STRENGTH GROUT	RF	ROOF
BN	BOUNDARY NAIL	HSH	HORIZONTAL SLOTTED HOLE	RWD	REDWOOD
BOT	BOTTOM	HSS	HOLLOW STRUCTURAL SECTION	S	AMERICAN STANDARD BEAM
BRG	BEARING	HT	HEIGHT	SAD	SEE ARCHITECTURAL DRAWINGS
BTWN	BETWEEN	ID	INSIDE DIAMETER	SB	SOLID BLOCK
BU	BUILT-UP	IJ	I SHAPED WOOD BUILT UP TRUSS	SC	SLIP CRITICAL
BYND	BEYOND	INT	INTERIOR	SCD	SEE CIVIL DRAWINGS
C	AMERICAN STANDARD CHANNEL	JST	JOIST	SCHED	SCHEDULE
CA	CALIFORNIA	JT	JOINT	SED	SEE ELECTRICAL DRAWINGS
CANT	CANTILEVER	KP	KING POST	SEOR	STRUCTURAL ENGINEER OF RECORD
CB	CARRIAGE BOLT	L	STEEL ANGLE	SFRS	SEISMIC FORCE RESISTING SYSTEM
CFS	COLD FORMED STEEL	Lb or #	POUND(s)	SHTG	SHEATHING
CIP	CAST IN PLACE	LGMF	LIGHT GAGE METAL FRAMING	SIM	SIMILAR
CGL	CERTIFIED GLUED LUMBER	LGMFC	LIGHT GAGE METAL FRAMING CONTRACTOR	SKYLT	SKYLIGHT
CJ	CONTROL JOINT	LL	LIVE LOAD	SLD	SEE LANDSCAPE DRAWINGS
℄	CENTERLINE	LLH	LONG LEG HORIZONTAL	SMS	SHEET METAL SCREW
CJP	COMPLETE JOINT PENETRATION	LLV	LONG LEG VERTICAL	SMD	SEE MECHANICAL DRAWINGS
CLG	CEILING	LOC	LOCATION	SOG	SLAB ON GROUND
CLR	CLEAR	LS	LAG SCREW	SPCG	SPACING
COL	COLUMN	LSL	LAMINATED STRAND LUMBER	SPD	SEE PLUMBING DRAWINGS
CONC	CONCRETE	LVL	LAMINATED VENEER LUMBER	SPEC	SPECIFICATION
CONN	CONNECTION	LWC	LIGHTWEIGHT CONCRETE	SQ	SQUARE
CONT	CONTINUOUS	MAX	MAXIMUM	SS	SELECT STRUCTURAL or STAINLESS STEEL
COORD	COORDINATE/ COORDINATION	MB	MACHINE BOLT	STGR	STAGGERED
CMU	CONCRETE MASONRY UNIT	MBM	METAL BUILDING MANUFACTURER	STD	STANDARD
CSK	COUNTERSINK	MC	MISCELLANEOUS CHANNEL	STIFF	STIFFENER
CW	CUT WASHER	MECH	MECHANICAL	STL	STEEL
DBA	DEFORMED BAR ANCHOR	MEZZ	MEZZANINE	STRUCT	STRUCTURAL
DBL	DOUBLE	MF	MOMENT FRAME	SW	SHEAR WALL
DCW	DEMAND CRITICAL WELD	MFR	MANUFACTURER	SYM	SYMMETRICAL
DF	DOUGLAS FIR	MIN	MINIMUM	T&B	TOP AND BOTTOM
DIA or ⌀	DIAMETER	MISC	MISCELLANEOUS	T&G	TONGUE AND GROOVE
DIAG	DIAGONAL	MIW	MALLEABLE IRON WASHER	THK	THICK
DIM	DIMENSION	MTL	METAL	THRD	THREADED
DIST	DISTANCE	MU	MECH UNIT	THRU	THROUGH
DJ	DOWEL JOINT	(N)	NEW	TL	TOTAL LOAD
DL	DEAD LOAD	N/A	NOT APPLICABLE	TN	TOE NAIL
DN	DOWN	NO or #	NUMBER	TOC	TOP OF CONCRETE
DO	DITTO	NS	NEAR SIDE	TOF	TOP OF FRAMING
DWG	DRAWING	NSG	NON-SHRINK GROUT	TOM	TOP OF MASONRY
DWL	DOWEL	NTS	NOT TO SCALE	TOP	TOP OF PLYWOOD
EA	EACH	NWC	NORMAL-WEIGHT CONCRETE	TOS	TOP OF STEEL
EE	EACH END	OC	ON CENTER	TOT	TOTAL
EF	EACH FACE	OD	OUTSIDE DIAMETER	TU	TILT UP
ELEC	ELECTRICAL	OH	OPPOSITE HAND	TYP	TYPICAL
ELEV	ELEVATOR/ELEVATION	OPNG	OPENING	UNO	UNLESS NOTED OTHERWISE
EMBED	EMBEDMENT	OPP	OPPOSITE	VERT	VERTICAL
EQ	EQUAL	OVS	OVERSIZED	VIF	VERIFY IN FIELD
EQUIP	EQUIPMENT	OW	OTHERWISE	VSH	VERTICAL SLOTTED HOLE
ES	EACH SIDE	OWT	OPEN WEB TRUSS	W	WIDE FLANGE STEEL BEAM
EW	EACH WAY	℗	PLATE or PROPERTY LINE	W/	WITH
(E)	EXISTING	PA	POST ABOVE	W/O	WITHOUT
EXP	EXPANSION	PAF	POWER ACTUATED FASTENERS	WD	WOOD
EXT	EXTERIOR	PEN	PANEL EDGE NAIL	WHS	WELDED HEADED STUD
FDN	FOUNDATION	PERP	PERPENDICULAR	WLD	WELDED
FIN	FINISH	PES	PANEL EDGE SCREWS	WP	WORK POINT/WATERPROOF
FG	FINISH GRADE	PJP	PARTIAL JOINT PENETRATION	WS	WOOD SCREW
FLR	FLOOR	PLF	POUNDS PER LINEAR FOOT	WT	WEIGHT
FN	FACE NAIL			WTS	WELDED THREADED STUD
FOC	FACE OF CONCRETE			WWR	WELDED WIRE REINFORCEMENT
FOM	FACE OF MASONRY				
FOS	FACE OF STUD				
FRMG	FRAMING				
FS	FAR SIDE				

SHEET INDEX

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05/09/2025

Brelje & Race CONSULTING ENGINEERS
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No.	Date	Revision	By

DATE: FEB 2025
PM: CSB
SCALE: As indicated
ENGINEER: ASW

City of Santa Rosa

RECLAMATION PUMP STATION E
BUILDING REPLACEMENT

GENERAL NOTES AND SPECIFICATIONS

CONTRACT NO. C02488

SHEET 9 OF 15

FILE NO. 2025-0006

SHEET S0.1

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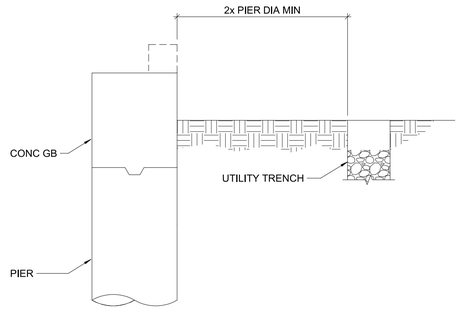


5 TRENCHING ADJACENT TO GRADE BEAM
3/4" = 1'-0"

MINIMUM BAR LAPS FOR REINFORCING STEEL CONCRETE STRENGTH: 3000 PSI OR GREATER - (STAGGER SPLICES)					
SIZE	LAP LENGTH	SIZE	LAP LENGTH	SIZE	LAP LENGTH
#3	17"	#6	34"	#9	86"
#4	24"	#7	56"	#10	105"
#5	34"⁎	#8	70"	#11	126"

(CLASS B TOP BAR)
BAR SPCG SHALL NOT BE LESS THAN 4x BAR DIA OR 4".
⁎ WHERE COVER NOT LESS THAN 1½", #5 LAP LENGTH = 28"

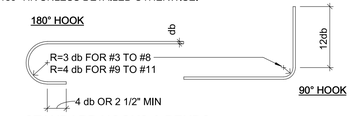
CONC COVER FOR REINF STL ..... 'CLR'

CAST AGAINST EARTH OR GR ..... 3"

EXPOSED TO EARTH (FORMED) OR WEATHER
#5 & SMALLER ..... 1½"
#6 & LARGER ..... 2"

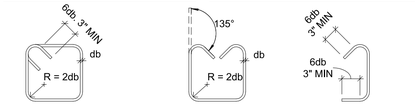
NOT EXPOSED TO EARTH OR WEATHER
#5 & SMALLER ..... 1"
#6 & LARGER, & ALL BM STIRRUPS, COL TIES & SPIRALS ..... 1½"

ALL REINF SHALL EXTEND AS FAR AS POSSIBLE. WHERE BAR SPLICES ARE REQUIRED, BARS SHALL BE LAPPED PER SCHEDULE ABOVE UNLESS DETAILED OTHERWISE. WHERE REINF TERMINATES AT END OF MEMBER, REINF SHALL END IN A STD 90° OR 180° HK UNLESS DETAILED OTHERWISE.



STANDARD HOOKS & BENDS

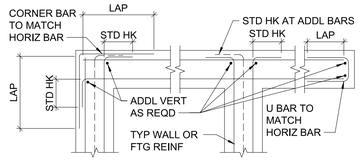
COL BAR & STRUCT OFFSET **SPLICE**



135° STIRRUP TIES #3, #4, #5 **STIRRUP #3, #4, #5** **CROSSTIE #3, #4, #5**

1 TYPICAL REINFORCING DETAIL (f'c = 3000psi MIN)
3/4" = 1'-0"

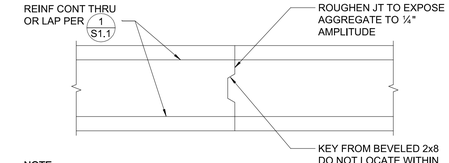
PLAN VIEW - SINGLE LAYER



PLAN VIEW - 2 OR MORE LAYERS

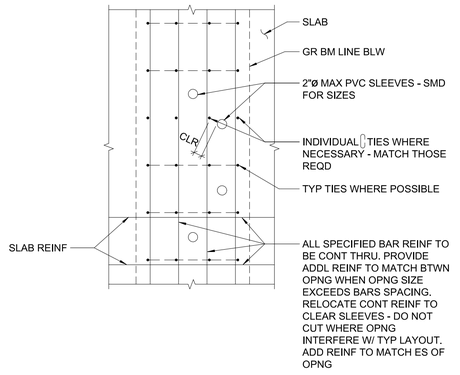
NOTE:
FOOTING REINFORCING AT CORNER AND INTERSECTION TO BE SIMILAR

2 TYPICAL CORNER, INTERSECTION AND END REINFORCING
3/4" = 1'-0"

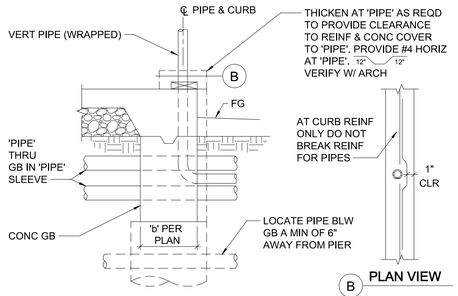


NOTE:
LOCATION OF JOINTS TO BE SUBMITTED TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO PLACEMENT OF CONCRETE

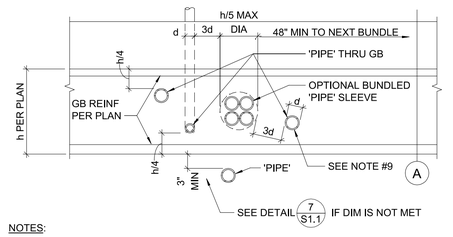
3 FOOTING CONSTRUCTION JOINT
3/4" = 1'-0"



6 PLAN VIEW OF HOLES IN GRADE BEAM
3/4" = 1'-0"

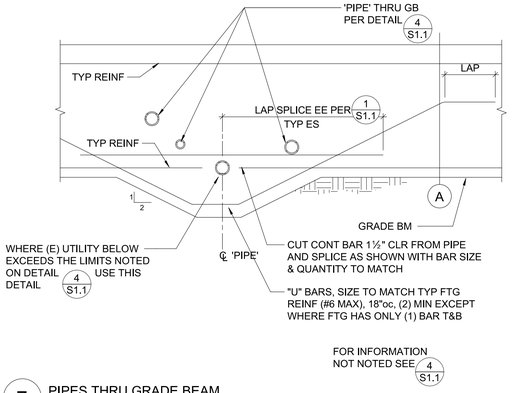


B PLAN VIEW



NOTES:
1. ALL 'PIPE' PENETRATIONS SHALL OCCUR IN THE MIDDLE ½ OF GRADE BEAM SPAN.
2. 'PIPE' = ANY PENETRATION THRU OR EMBEDDED IN FOUNDATION.
3. ALL PIPES THROUGH GRADE BEAMS TO BE WRAPPED OR SLEEVED AS FOLLOWS:
   a. SLEEVES: PROVIDE 1" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE, UNO.
   b. WRAPPED VERTICAL PIPES: PROVIDE ⅛" NOMINAL SHEET FOAM W/ (3) WRAPS MINIMUM, UNO.
   c. WRAPPED HORIZONTAL PIPES: PROVIDE ⅛" NOMINAL SHEET FOAM W/ (8) WRAPS MINIMUM, UNO.
   d. UNDERGROUND FIRE LINES 4" AND LARGER:
      a. SLEEVES: PROVIDE 2" MIN CLEAR ALL AROUND OD PIPE TO ID SLEEVE
      b. WRAPPED: PROVIDE ⅛" NOMINAL SHEET FOAM W/ (16) WRAPS MINIMUM.
4. WRAPPED AND SLEEVED PIPES SHALL HAVE 1½" MIN CLEAR TO REINF STEEL. MINIMUM CONCRETE COVER AT PIPES TO BE 3".
5. CLEARANCE BETWEEN 'PIPES' TO BE 3d MIN TYP W/ A MAXIMUM OF (8) PIPES PER 48". GROUPS OF PIPES MAY BE BUNDLED AS SHOWN.
6. NO 'PIPE' TO RUN PARALLEL IN GRADE BEAMS, STEM OR CURB.
7. PVC CONDUIT ('PIPE') EMBEDDED IN CURB/STEM MAY BE WIRE TIED TO HORIZONTAL REINF.
8. NO HORIZONTAL PIPES ALLOWED THROUGH GRADE BEAMS WITHIN 24" EACH SIDE OF HOLDOWNS OR STEEL COLUMNS. NO VERTICAL PIPES ALLOWED IN GRADE BEAMS AT BRACED FRAMES.
9. 'PIPE' EMBEDDED IN CONCRETE TO BE PROVIDED W/ FLEXIBLE COUPLINGS AT ENTRY/EXIT POINTS.

4 GRADE BEAM PENETRATIONS
3/4" = 1'-0"



7 PIPES THRU GRADE BEAM
3/4" = 1'-0"

No.	Date	Revision	By

DATE: FEB 2025
PM: CSB
SCALE: 3/4" = 1'-0"
ENGINEER: ASW

City of Santa Rosa

RECLAMATION PUMP STATION E BUILDING REPLACEMENT

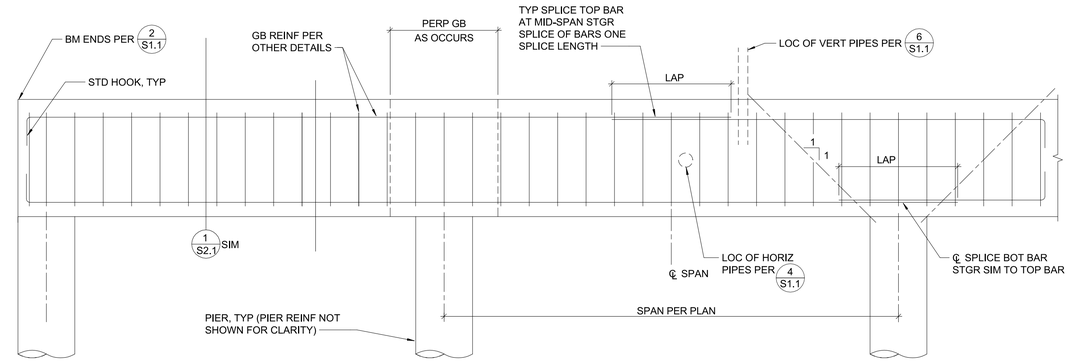
TYPICAL CONCRETE DETAILS

CONTRACT NO. C02488

SHEET 10 OF 15

FILE NO. 2025-0006

SHEET S1.1



1 GRADE BEAM - SPLICES
3/4" = 1'-0"

SHEET S1.2

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No.	Date	Revision	By

SCALE: 3/4" = 1'-0"
DATE: FEB 2025
ENGINEER: ASW
PM: CSB

City of Santa Rosa

RECLAMATION PUMP STATION E BUILDING REPLACEMENT

TYPICAL CONCRETE DETAILS

CONTRACT NO. C02488

SHEET 11 OF 15

FILE NO. 2025-0006

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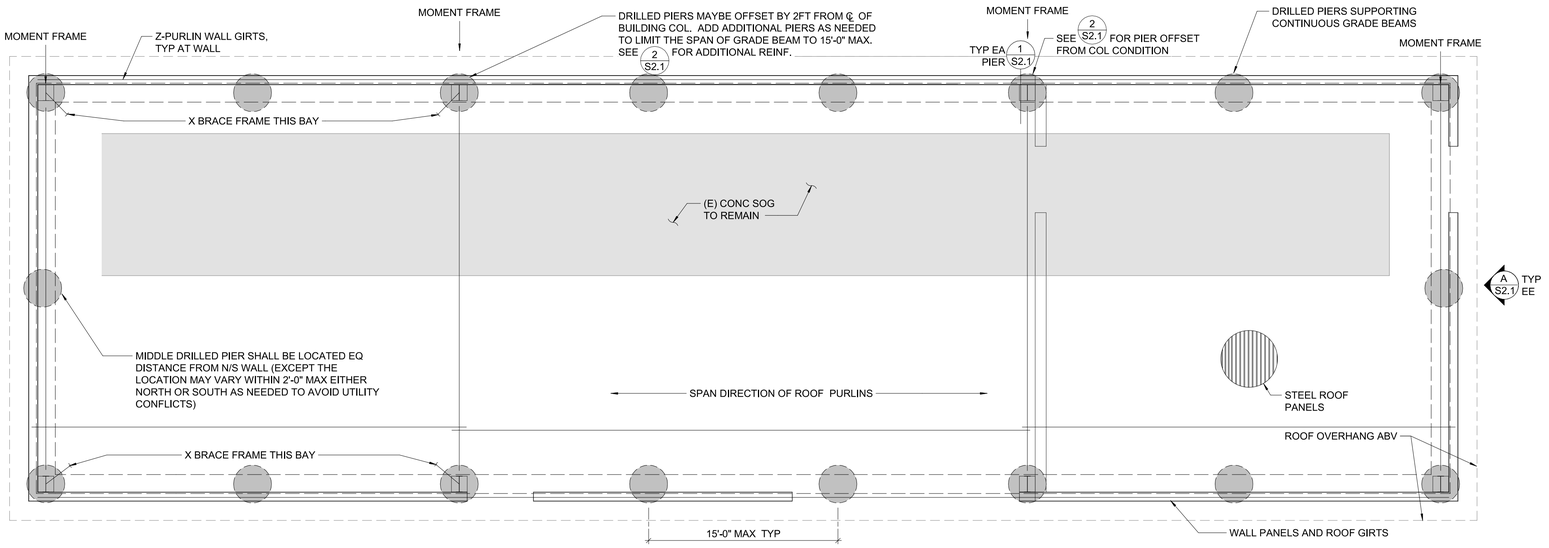


NORTH

FOUNDATION AND ROOF FRAMING PLAN

1/4" = 1'-0"

FOUNDATION PLAN NOTES:

1. REFER TO SHEETS S0.1, S1.1, AND S1.2 FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.

2. DIMENSIONS ARE TO CENTERLINE OF COLUMN UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.

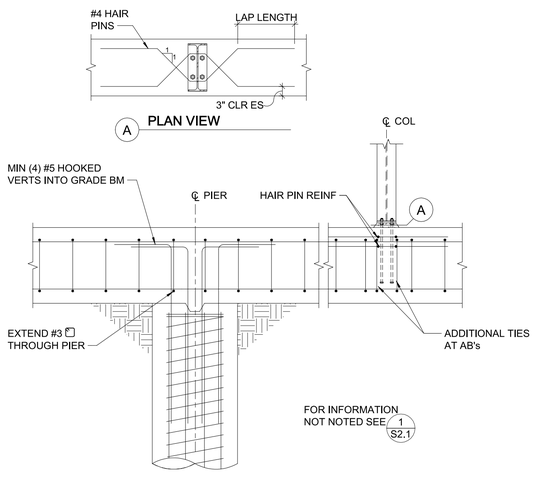
3. PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SHALL NOT BE LAID WITHIN FOUNDATIONS. NO UTILITY PIPES OR CONDUITS SHALL BE LOCATED THRU COLUMN FOOTINGS OR FRAME FOOTINGS. NO PIPES OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOLDOWN BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENINGS SHALL BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMES, STEEL COLUMNS, OR STEEL BASE PLATES. PROVIDE FURRING AND/OR THICKENED CONCRETE WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY STRUCTURAL ENGINEER/ARCHITECT PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

   PIPES THROUGH GRADE BEAMS SHALL BE PER 4/S1.1, 6/S1.1AND 7/S1.1.

   PIPES PARALLEL TO GRADE BEAM SHALL BE PER 4/S1.1.

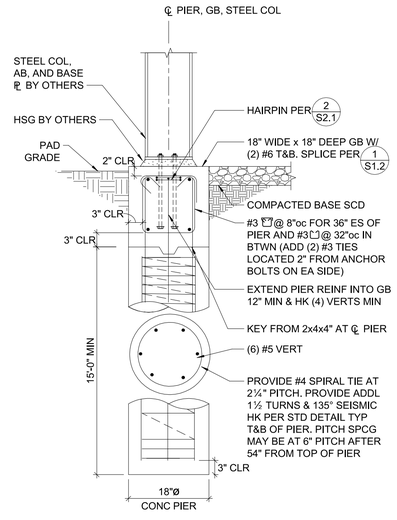
4. PIER SPACING SHALL BE AS FOLLOWS:
   A. PROVIDE PIERS AT CORNERS OF METAL BUILDING.
   B. SCD FOR LOCATION OF PIERS.
   C. PIER SPACING SHALL NOT BE LESS THAN 54" OR GREATER THAN 15'-0"oc
   D. ALL PIERS TO BE OF EQUAL DISTANCE TO EACHOTHER AS ATTAINABLE.

PLAN LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
		INDICATES METAL BUILDING WALL BY OTHERS.
		INDICATES METAL BUILDING STEEL COLUMN BY OTHERS.
		INDICATES GRADE BEAMS.
		INDICATES EXISTING SLAB.
		INDICATES PIERS.



2 COLUMN OFFSET FROM PIER CONDITION

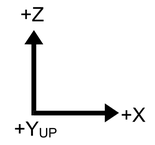
3/4" = 1'-0"



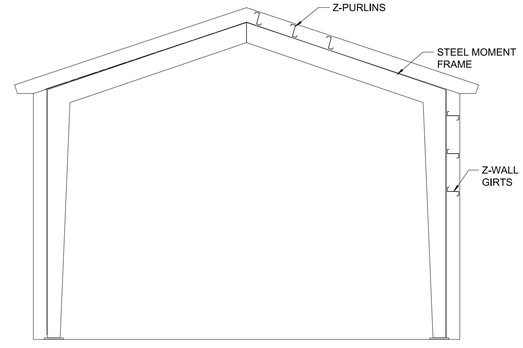
1 TYPICAL EXTERIOR PIER AND GRADE BEAM

3/4" = 1'-0"

Maximum Column Reactions for Foundation Design											
Dead Load			Roof Live Load			Wind			Seismic		
+/-X	-Y	+/-Z	+/-X	-Y	+/-Z	+/-X	-Y	+/-Z	+/-X	+/-Y	+/-Z
0	3900	580	0	3480	690	970	2820	1500	7500	6500	1560



1. VALUES ARE IN UNITS OF LBS.
2. SEISMIC LOADS ARE REVERSIBLE.
3. LOAD PER CBC 2022 / ASCE 7-16.
4. SEISMIC LOADS ARE BASED ON R = 3.5 IN 'Z' DIRECTION AND R = 3.25 IN 'X' DIRECTION
5. LOADS ARE UNFACTORED.
6. DESIGNER TO COMBINE LOADS PER APPRPRIATE BUILDING CODE.
7. POSITIVE 'Y' VALUES INDICATE UPLIFT.
8. POSTIVE 'Z' DIRECTION EQUALS NORTH DIRECTION.
9. LOADS ASSUME 10 PSF DEAD LOAD AND 7 PSF COLLATERAL WHICH INCLUDES THE CONDUIT HANGING FROM THE ROOF STRUCTURE, SCD.



A ELEVATION SCHEMATIC

1/4" = 1'-0"

SHEET S2.1

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05/09/2025

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No.	Date	Revision	By

DATE: FEB 2025
PM: CSB
SCALE: As indicated
ENGINEER: ASW

City of Santa Rosa

RECLAMATION PUMP STATION E BUILDING REPLACEMENT

FOUNDATION AND ROOF FRAMING PLAN

CONTRACT NO. C02488

SHEET 12 OF 15

FILE NO. 2025-0006

MISCELLANEOUS ELECTRICAL & INSTRUMENTATION ABBREVIATIONS

&	AND	HOR	HAND-OFF-REMOTE	PRESS	PRESSURE
@	AT	HP	HORSEPOWER	PRI	PRIMARY
A	AMBER, AMPERES	HPS	HIGH PRESSURE SODIUM	PROVIDE	FURNISH, INSTALL & CONNECT
AC	ALTERNATING CURRENT	HS	HAND SWITCH	PRR	POWER RELAY
AF	AMP FRAME	HTR	HEATER	PS	PRESSURE SWITCH, POWER SUPPLY
AFF	ABOVE FINISHED FLOOR	HZ	HERTZ (CYCLES PER SECOND)	PT	POTENTIAL TRANSFORMER
AI	ANALOG INPUT	HZD	HAZARDOUS AREA, EXPLOSION PROOF	PTT	PUSH TO TEST
AIC	AMP INTERRUPTING CAPACITY SYMMETRICAL	I	INTERLOCK	PV	PROCESS VARIABLE
AL	RIGID ALUMINUM CONDUIT	I/O	INPUT/OUTPUT	PVC	POLY VINYL CHLORIDE
ALT	ALTERNATOR	ICR	INSTRUMENTATION CONTROL RELAY	PWR	POWER
AM	AMMETER	INST	INSTANTANEOUS	R	RED
ARMS	ARC FLASH REDUCTION MAINTENANCE SYS	ISC	SHORT CKT INTERRUPTING CURRENT (SYMM)	RCT	REPEAT CYCLE TIMER
AO	ANALOG OUTPUT	ISR	INTRINSICALLY SAFE RELAY	REF	REFERENCE
AT	AMP TRIP	J	JUNCTION BOX	RIO	REMOTE I/O
ATS	AUTOMATIC TRANSFER SWITCH	K	KILO, PREFIX	RTD	RESISTANCE TEMPERATURE DETECTOR
AWG	AMERICAN WIRE GUAGE	KAIC	KILO-AMPERE INTERRUPTING CAPACITY	RTM	RUN TIME METER
B	BLUE	L	LINE	RTU	REMOTE TELEMETRY UNIT
BC	BARE COPPER	LA	LIGHTNING ARRESTOR	RVNR	REDUCED VOLTAGE NON-REVERSING
BFC	BELOW FINISHED CEILING	LC	LIGHTING CONTACTOR	(R)	REWIRE, RELOCATE, REVISE, REUSE, REPLACE
BOD	BIOCHEMICAL OXYGEN DEMAND	LCD	LIQUID CRYSTAL DISPLAY	SC	SHORTING CONTACTOR
BLK	BLANK	LED	LIGHT EMITTING DIODE	SCH	SCHEDULE
BKR	BREAKER	LEL	LOWER EXPLOSIVE LIMIT	SEC	SECONDARY
C	CONDUIT	LGT	LIGHT	SECS	SECONDS
CAP	CAPACITOR	LO	LOW	SEL	SELECTOR
CB	CIRCUIT BREAKER	LOR	LOCAL-OFF-REMOTE	SFA	SERVICE FACTOR AMPS
CBL	CABLE	LOS	LOCK-OUT STOP SWITCH	SP	SETPOINT
CH	CHANNEL	LP	LIGHTING PANELBOARD	SPD	SURGE PROTECTIVE DEVICE
CKT	CIRCUIT	LPU	LINE PROTECTION UNIT	SPEC	SPECIFICATION
COAX	COAXIAL CABLE	LS	LEVEL SWITCH	SS	STAINLESS STEEL
COMM	COMMUNICATION PORT	LSI	LONG, SHORT, INSTANTANOUS	SSS	SOLID STATE SOFT STARTER
CP	CONTROL PANEL	M	MOTOR CONTRACTOR	STT	START
CPT	CONTROL POWER TRANSFORMER	MAX	MAXIMUM	STP	STOP
CR	CONTROL RELAY	MCC	MOTOR CONTROL CENTER	SV	SOLENOID VALVE
CT	CURRENT TRANSFORMER	MCM	THOUSAND CIRCULAR MILS	SW	SWITCH
CTQ	CONSTANT TORQUE	MCP	MOTOR CIRCUIT PROTECTOR	SWBD	SWITCHBOARD
CU	COPPER, CONDENSING UNIT	MH	MANHOLE	SWGR	SWITCHGEAR
DC	DIRECT CURRENT	MHD	METAL HALIDE	SYMM	SYMMETRICAL
DET	DETAIL	MIN	MINIMUM	T	TRIP
DI	DIGITAL INPUT	MINS	MINUTES	TB	TERMINAL BLOCK
DIA	DIAGRAM	MISC	MISCELLANEOUS	TC	TIME CLOCK
DISC	DISCONNECT	MNFR	MANUFACTURER	TDOD	TIME DELAY ON DE-ENERGIZATION
DIV	DIVISION	MOV	MOTOR OPERATED VALVE	TDOE	TIME DELAY ON ENERGIZATION
DO	DIGITAL OUTPUT	MPS	MOTOR PROTECTION SYSTEM	TEL	TELEMETRY
DPDT	DOUBLE POLE DOUBLE THROW	MS	MOISTURE SENSOR/SWITCH	TELCO	TELEPHONE COMPANY
DWG	DRAWING	MTR	MOTOR	TEMP	TEMPERATURE
ELEV	ELEVATION	MTS	MANUAL TRANSFER SWITCH	TM	THERMAL MAGNETIC
EMT	ELECTRICAL METALLIC TUBING	MV	MEDIUM VOLTAGE	TOC	TOTAL ORGANIC CARBON
ETM	ELAPSED TIME METER	N	NEUTRAL	TR	TIME DELAY RELAY
(E)	EXISTING	NC	NORMALLY CLOSED	TRIAD	TWISTED & SHIELDED 3 CONDUCTOR
F	FRAME	NEC	NATIONAL ELECTRICAL CODE	TS	TEMPERATURE SWITCH
FC	FAIL CLOSED, FAN COIL	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	TSPR	TWISTED & SHIELDED PAIR
FCS	FIELD CONTROL STATION	NIC	NOT IN CONTRACT	TYP	TYPICAL
FLA	FULL LOAD AMPS	NO	NORMALLY OPEN	UG	UNDERGROUND
FO	FAIL OPEN	NP	NAMEPLATE	UL	UNDERWRITERS LABORATORIES
FLEX	FLEXIBLE, METAL LIQUID TIGHT CONDUIT	NTS	NOT TO SCALE	UON	UNLESS OTHERWISE NOTED
FROA	FORWARD-REVERSE-OFF-AUTO	(N)	NEW	UPS	UNINTERRUPTIBLE POWER SUPPLIES
FS	FLOW SWITCH OR FULL SPEED	OC	ON CENTER	V	VOLTAGE
FV, FVNR	FULL VOLTAGE NON-REVERSING	OI	OPERATOR INTERFACE	VA	VOLT AMPS
FVR	FULL VOLTAGE REVERSING	OL	OVERLOAD	VAR	VOLT AMP REACTIVE
FWD	FORWARD	ORP	OXIDATION REDUCTION POTENTIAL	VFD	VARIABLE FREQUENCY DRIVE
(F)	FUTURE	P	PHASE, POLE	VLV	VALVE
G	GREEN	PB	PULL BOX	VM	VOLTMETER
GALV	GALVANIZED	PBI	PULL BOX INSTRUMENT	VTQ	VARIABLE TORQUE
GEN	GENERATOR	PBP	PULL BOX POWER	W	WHITE, WATTS
GFI	GROUND FAULT CIRCUIT INTERRUPTER	PE	PHOTOCELL	WHM	WATT-HOUR METER
GND	GROUND	PF	POWER FAIL	WM	WATTMETER
GRS	GALVANIZED RIGID STEEL CONDUIT	PFR	POWER (PHASE) FAIL RELAY	WP	WATERPROOF, WEATHER PROOF
GRS-PVC	PVC COATED GRS CONDUIT	PH	HYDROGEN ION CONCENTRATION	WS	TORQUE SWITCH, WATER SURFACE
HC	PUSHBUTTON	PLC	PROGRAMMABLE LOGIC CONTROLLER	XFMR	TRANSFORMER
HI	HIGH	PM	POWER MONITOR	XS	MISCELLANEOUS SWITCH
HID	HIGH INTENSITY DISCHARGE	PMP	PUMP	Y	YELLOW
HMI	HUMAN MACHINE INTERFACE	PNL	PANEL	Z	IMPEDANCE
HOA	HAND-OFF-AUTO	PR	PAIR, TWISTED & SHIELDED CABLE	ZS	LIMIT SWITCH

SWITCHES – PROCESS

SYMBOL	DESCRIPTION
FS	FLOW SWITCH – CLOSES UPON INCREASING FLOW
FS	FLOW SWITCH – OPENS UPON INCREASING FLOW
LS	LEVEL SWITCH – CLOSES UPON INCREASING LEVEL
LS	LEVEL SWITCH – OPENS UPON INCREASING LEVEL
PS	PRESSURE SWITCH – CLOSES UPON INCREASING PRESSURE (INCREASING VACUUM)
PS	PRESSURE SWITCH – OPENS UPON INCREASING PRESSURE (INCREASING VACUUM)
TS	TEMPERATURE SWITCH – CLOSES UPON INCREASING TEMPERATURE
TS	TEMPERATURE SWITCH – OPENS UPON INCREASING TEMPERATURE
ZS	LIMIT SWITCH – CLOSES AT SET LIMIT
ZS	LIMIT SWITCH – OPENS AT SET LIMIT
ZS	PROXIMITY SWITCH – CLOSES UPON DECREASING DISTANCE
ZS	PROXIMITY SWITCH – OPENS UPON DECREASING DISTANCE
WS	TORQUE SWITCH – CLOSES UPON INCREASING TORQUE
WS	TORQUE SWITCH – OPENS UPON INCREASING TORQUE

SWITCHES – OPERATOR

SYMBOL	DESCRIPTION
SW	TOGGLE OR DISCONNECT SWITCH
PB	PUSHBUTTON – NORMALLY OPEN, MOMENTARY ACTION
PB	PUSHBUTTON – NORMALLY CLOSED, MOMENTARY ACTION
PB	PUSHBUTTON, MECHANICALLY INTERLOCKED, DOUBLE CIRCUIT – NORMALLY CLOSED AND NORMALLY OPEN, MAINTAINED ACTION
H O A	SELECTOR SWITCH, 3 POSITION – CONTACT STATUS SHOWN EXISTS AT POSITION OF H–HAND, O–OFF, OR A–AUTO
2–1 1–2	SELECTOR SWITCH, 2 POSITION – CONTACT STATUS SHOWN EXISTS AT POSITION AS SHOWN

DEVICES – RELAY

SYMBOL	DESCRIPTION
CR 1, 28. 111	CONTROL RELAY CR1 WITH NORMALLY OPEN CONTACT ON LINE 28 & NORMALLY CLOSED CONTACT ON LINE 111
TR 1	TIME DELAY RELAY TR2 – ADJUSTABLE TIME DELAY RANGE & SETTING AS SHOWN
TDOE TDOD	TIME DELAY ON ENERGIZATION TIME DELAY ON DE-ENERGIZATION
M1	CONTACTOR OR STARTER M1
SV	SOLENOID
CR1 (105)	NORMALLY OPEN, RELAY CONTACT – ACTUATED BY RELAY CR1 COIL LOCATED ON LINE 105
CR1	NORMALLY CLOSED, RELAY CONTACT – ACTUATED BY RELAY CR1
TR2	NORMALLY OPEN, TIME DELAY RELAY CONTACT – CONTACT CLOSES AFTER TR2 IS ENERGIZED
TR2	NORMALLY CLOSED, TIME DELAY RELAY CONTACT – CONTACT OPENS AFTER TR2 IS ENERGIZED
TR2	NORMALLY OPEN, TIME DELAY RELAY CONTACT – CONTACT OPENS AFTER TR2 IS DE–ENERGIZED
TR2	NORMALLY CLOSED, TIME DELAY RELAY CONTACT – CONTACT CLOSES AFTER TR2 IS DE–ENERGIZED
TR2	CONTACT OPENS AND CLOSES IN A TIMED REPEAT CYCLE

DEVICES – FRONT PANEL

SYMBOL	DESCRIPTION
X	INDICATING LIGHT, LETTER "X" INDICATES COLOR: R=RED G=GREEN, A=AMBER, W=WHITE Y=YELLOW, B=BLUE
PTT X	INDICATING LIGHT, PUSH TO TEST
AM	AMP METER
VM	VOLT METER
ETM	ELAPSED TIME METER
RTM	RUN TIME METER
XS	MULTI–POSITION SWITCH WHERE LETTER "X" IS FUNCTION: A=AMP, V=VOLT

COMPONENTS

SYMBOL	DESCRIPTION
RES	RESISTOR
	POTENTIOMETER
	CAPACITOR, FIXED
	CAPACITOR, ADJUSTABLE
	DIODE
	DIODE, ZENER
	VARISTOR TRANSIENT VOLTAGE SUPPRESSOR
	VOLTAGE SURGE SUPPRESSOR, AC
	RESISTANCE TEMPERATURE DETECTOR (RTD)
	THERMOCOUPLE (T/C)

DEVICES – MISCELLANEOUS

SYMBOL	DESCRIPTION
	AUDIBLE ALARM
	BATTERY
HTR	HEATER
	3 PHASE HEATER
G	GENERATOR
# HP	3 PHASE MOTOR # = MOTOR HP
# HP	SINGLE PHASE MOTOR
	TRANSFORMER
	LINE REACTOR

DEVICES – PROTECTIVE

SYMBOL	DESCRIPTION
	DISCONNECT, 3 POLE
	CIRCUIT BREAKER, 3 POLE THERMAL MAGNETIC (TM) OR MOTOR CIRCUIT PROTECT (MCP)
OL	THERMAL OVERLOAD CONTACT
	THERMAL OVERLOAD ELEMENT
	FUSE WITH BLOWN FUSE INDICATING LIGHT
	FUSE
52	MEDIUM VOLTAGE DRAWOUT CIRCUIT BREAKER
	LOW VOLTAGE DRAWOUT CIRCUIT BREAKER

WIRING – CONNECTIONS

SYMBOL	DESCRIPTION
	PANEL OR EQUIPMENT WIRING
	FIELD WIRING
	CONDUCTORS – NOT CONNECTED
	CONDUCTORS – CONNECTED
	GROUND
	CHASSIS OR FRAME GROUND
	PLUG AND RECEPTACLE
	INCOMING LINE
	TERMINAL BLOCKS
	TERMINALS
SHIELD CONDUCTOR	SHIELDED CABLE

PLAN – SYMBOLS

SYMBOL	DESCRIPTION
	CONDUIT, EXPOSED
	CONDUIT, IN SLAB OR BELOW GRADE
	CONDUIT STUBBED OUT & CAPPED
	CONDUIT BENDS TOWARD OBSERVER
	CONDUIT BENDS AWAY FROM OBSERVER
	CONDUIT ENDS
	CONDUIT CHANGE IN ELEVATION
G	BARE COPPER GROUND WIRE
	GROUND CONNECTION BOLTED TYPE
	GROUND CONNECTION EXOTHERMIC WELD TYPE
	PULL BOX
	DISCONNECT SWITCH
	FIELD CONTROL STATION WITH JUNCTION BOX
#A	FIELD CONTROL STATION WITH #AMP DISCONNECT SWITCH
	SPECIAL RECEPTACLE
J	JUNCTION BOX
T	THERMOSTAT
# A a	LIGHTING, FANS, HEATERS # – CIRCUIT BREAKER NUMBER A – FIXTURE SCHEDULE REF. a – CONTROL SWITCH REFERENCE
#	DUPLEX RECEPTACLE # – CIRCUIT BREAKER NUMBER
# $ 2 a	TOGGLE SWITCH # – CIRCUIT BREAKER NUMBER SUBSCRIPT – CIRCUIT CONTROLLED SUPERSCRIPT – BLANK = 1 WAY 2 = 2 WAY 3 = 3 WAY
#	CONDUIT #
##	EQUIPMENT NUMBER

2/3/2025

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No.	Date	Revision	By

DATE: FEBRUARY 2025 | CHK BY: SMK
SCALE: AS SHOWN | DWN BY: ZKV

City of Santa Rosa
RECLAMATION PUMP STATION E BUILDING REPLACEMENT

ELECTRICAL SYMBOLS & ABBREVIATIONS

CONTRACT NO. C02488

SHEET 13 of 15

FILE NO. 2025-0006

DWG NO. E1

FILE: 2411AE0001

LIGHTING AND FIXTURE SCHEDULE

CODE LETTER	FIXTURE TYPE	FINISH	FIXTURE LAMPS	WATTS/ FIXTURE	MANUFACTURER OR APPROVED EQUAL	MOUNTING ARRANGEMENT	NOTES
A	LED LUMINAIRE, 8 FT LED STRIPLIGHT; 6000 LUMENS SNAP ON DIFFUSER 4000K TEMP	WHITE	LED 4000 K 120 VAC 80 CRI	48	LITHONIA TZL1N - MULI VOLT	CEILING MOUNT	UL LISTED FOR DAMP LOCATIONS
B	SECURITY LIGHT, HEAVY DUTY WEATHERPROOF POWDER COAT FINISH FORWARD THROW; 3K LUMEN	DARK BRONZE	LED 4000 K MULTI-VOLT	25	LITHONIA WALL LIGHT WST - LED	WALL MOUNT ON BUILDING AT 11 FT	WITH PHOTOCELL CONTROL PE U.L. LISTED FOR WET LOCATIONS LIGHT SWITCH ENABLE/OFF
E	EMERGENCY LIGHTING IMPACT RESISTANT CONTEMPORARY HOUSING REGULATED CHARGER	WHITE	3W LED 2 EACH 120 VAC	1	LITHONIA QUANTUM LED SERIES ELM2L	WALL MOUNTED AT 9'	SEALED NICKEL CALCIUM BATTERY TEST SWITCH; AIMABLE UL LISTED FOR DAMP ENVIRONMENT
F	FLOOD LIGHT, LOW PROFILE CAST ALUMINUM, TEMPERED GLASS INTEGRAL SURGE PROTECTION POWERED COAT FINISH	BRONZE	LED 4000 K MULTI-VOLT 350mA	36	VISIONAIRE BSX-II-2-FN-32LC-3-4K-UNV	WALL MOUNT AT 15 FT ADJUSABLE	WITH BUILT-IN MOTION SENSOR; HI-LO LIGHTNIG U.L. LISTED FOR WET LOCATIONS DESIGNLIGHTS CONSORTIUM QUALIFIED (DARK SKY) ON/OFF
X	EXIT LIGHTING WITH NICAD BATTERY STEEL HOUSING, DIRECTION KNOCKOUTS SELF POWERED	WHITE	GREEN LED TYPE 120 VAC	3.8	EMERGILITE LW-SNX-14-G	UNIVERSAL	UL LISTED TEST SWITCH

DWG REF: E2 MOUNTING: FLUSH VOLTS: 120 / 240 BUS AMPS: 100A ENTRY: -
NAMEPLATE: LP-N PHASE: 1 MAIN BKR: 50A NEMA: 1
LOCATION: MCC (EXISTING) WIRE: 3 KAIC RATING: 10 SPD: NO

BKR NO.	LOAD DESCRIPTION	LOAD VA	LINE AMPS (A)	LINE AMPS (B)	BKR AMP/ POLE	BKR NO.	PHASE
1	SUMP LEVEL & M.L. PRESS - BATT BACKUP	200	2		20/1	1	A
3	MCC LEFT SPACE HEATERS MCC-N1	400		3	20/1	3	B
5	NORTH FLOWMETER 48" RW	200	2		20/1	5	A
7	WIRE VAULT SUMP PUMP	500		4	20/1	7	B
9	POLE LIGHT	500	4		20/1	9	A
11	SPARE	0		0	20/1	11	B
13	**EXTERIOR LIGHTS**	**500**	4		**20/1**	13	A
15	**EXTERIOR RECEPTACLES**	**360**		3	**20/1**	15	B
17	**HVAC**	**960**	8		**30/2 (L) (H)**	17	A
19		**960**		8		19	B
21	(DO NOT REMOVE THIS TWISTOUT)		0			21	A
23	(DO NOT REMOVE THIS TWISTOUT)			0		23	B
25	(DO NOT REMOVE THIS TWISTOUT)		0			25	A
27	MAIN			0	50/2	27	B
29			0			29	A

NEW WORK (TYP)

BKR NO.	BKR AMP/ POLE	LINE AMPS (A)	LINE AMPS (B)	LOAD VA	LOAD DESCRIPTION	BKR NO.
2	20/1	7		800	MMC CONTROL PANEL SECTION	2
4	20/1		3	400	RIGHT SPACE HEATERS MCC-N2	4
6	20/1	3		400	HIGH VOLT SPACE HEATER	6
8	20/1		3	400	HEATER GEN & HV	8
10	20/1	2		200	~~OVERHEAD LTS~~ **INDOOR LTS**	10
12	20/1		2	200	UV TRIP FOR EB1 & 2	12
14	-	0		0	(LEAVE 12 ON POWER FOR SHUT TRIP)	14
16	15/1		5	**540**	**INDOOR RECEPTACLES - NORTH**	16
18	15/1			**540**	**INDOOR RECEPTACLES- SOUTH**	18
20	?		0	0	(DON'T CLOSE)	20
22		0			(1G VALVE 1; 18 VALVE 2, 20 VLV 3 NOT USED)	22
24			0		(DO NOT REMOVE THIS TWISTOUT)	24

PHASE	A	B
LEFT SIDE AMPS	20	19
LEFT SIDE KVA	2.36	2.22
TOTAL KVA	7.52	
TOTAL AMPS @ 240V, 1P	31.3	
DIVERSITY FACTOR	0.90	
LOAD KVA	6.77	

NEUTRAL

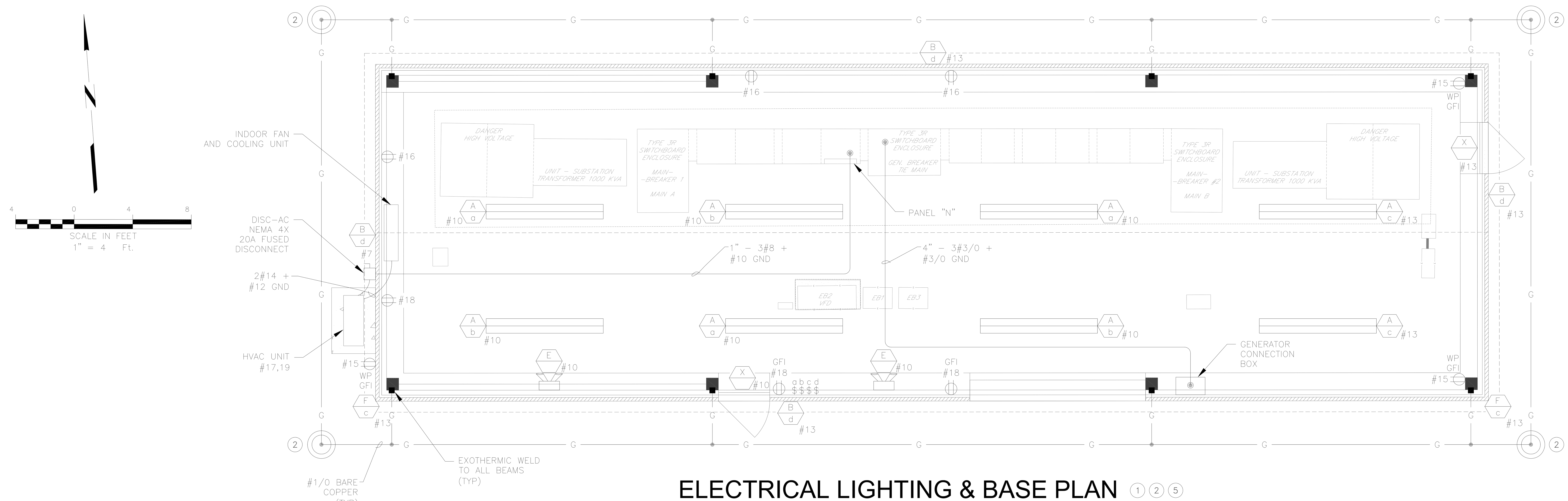
GROUND

A	B	PHASE
12	13	RIGHT SIDE AMPS
1.40	1.54	RIGHT SIDE KVA
2.36	2.22	LEFT SIDE KVA
3.76	3.76	TOTAL PHASE KVA
31	31	TOTAL PHASE AMPS
100	100	% OF AVERAGE

NOTES:
1. MEANS OF WIRE COLOR CODING SHALL BE POSTED ON PANELBOARD PER NEC 210.5
2. (G) INDICATES GFI BREAKER REQUIRED WITH 30 MA SENSITIVITY
3. (H) INDICATES HACR RATED BREAKER.
4. (L) PROVIDE PADLOCKING PROVISION IN ORDER TO LOCK BREAKER IN THE OFF POSITION.

GENERAL NOTES THAT APPLY TO LIGHTING AND RECEPTACLE PLAN

1. PROVIDE AND INSTALL NECESSARY WIRES IN CONCEALED 3/4" (MIN) GRS CONDUIT FOR LIGHTING AND RECEPTACLE ARRANGEMENT AS SHOWN. IF CONDUITS ARE ROUTED UNDERGROUND, THE UNDERGROUND SECTION AND CONCEALED RISER TO FIRST DEVICE BOX BY BE PVC-80. EXPOSED CONDUIT SHALL BE GRS.
2. DEVICE BOXES AND CONDUIT BODIES SHALL BE METALLIC. IN NEMA 4X AREAS, USE MALLEABLE METALLIC BOXES.
3. CONDUCTORS SHALL BE COPPER TYPE THHN, #12 AWG (MINIMUM).
4. MOUNT CONDUITS USING SINGLE BOLT GALVANIZED PIPE STRAPS AND CLAMP BACK SPACERS.
5. USE SS EXPANSION WEDGE ANCHORS OR EPOXY ANCHORS AS NECESSARY FOR EQUIPMENT MOUNTING.
6. PROVIDE AND INSTALL FIXTURES PER SCHEDULE THIS PAGE, QUANTITY AS SHOWN IN DRAWING.
7. PROVIDE AND INSTALL ALL DEVICE BOXES, JUNCTION BOXES, RECEPTACLES, SWITCHES, AND COVERS.
8. RECEPTACLES TO BE GROUND FAULT INTERRUPTER (GFI) TYPE AND WEATHERPROOF (WP) WHERE SHOWN.
9. SEE ELECTRICAL SYMBOLS AND ABBREVIATIONS DRAWING FOR SYMBOL DEFINITION.
10. ALL WORK SHALL CONFORM TO LOCAL CODES, LATEST CBC AND 2020 NATIONAL ELECTRICAL CODE.



ELECTRICAL LIGHTING & BASE PLAN ① ② ⑤

NOTES:
1. SEE CONDUIT & WIRE INSTALLATION REQUIREMENTS & FIXTURE SCHEDULE. CIRCUITS SHOWN ARE FEED FROM PANEL "LN" LOCATED IN MCC N-1.
2. GROUND BONDS TO CONSIST OF #1/0 BARE COPPER WITH 30" MINIMUM COVER. INSTALL GROUND ROD HANDHOLE PER DWG E3, DETAIL "C" & "D".
3. MOUNT RECEPTACLE TO BEAM SUPPORT 36" ABOVE GRADE.
4. INSTALL 30A NEMA 3R FUSED DISCONNECT SWITCH AND FUSES SIZED TO PROTECT EQUIPMENT PER DWG E3, DETAIL "E".
5. COORDINATE WITH CITY TO TIE INTO EXISTING GROUND GRID.

FILE: 2411AE0002

2/3/2025

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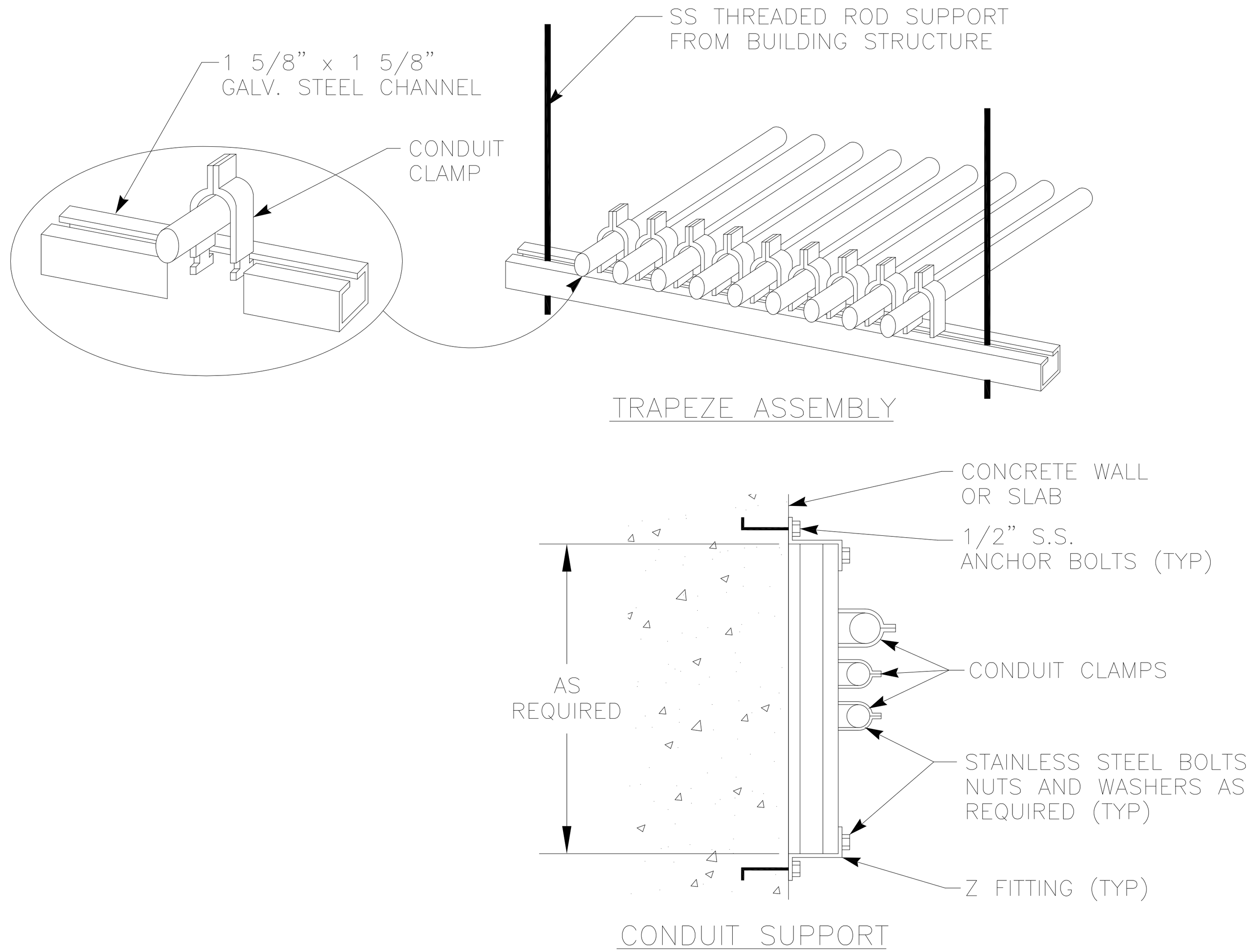
No.	Date	Revision	By

SCALE: AS SHOWN DATE: FEBRUARY 2025
DWN BY: ZKV CHK BY: SMK

City of Santa Rosa
RECLAMATION PUMP STATION E BUILDING REPLACEMENT
ELECTRICAL LIGHITNG & BASE PLAN

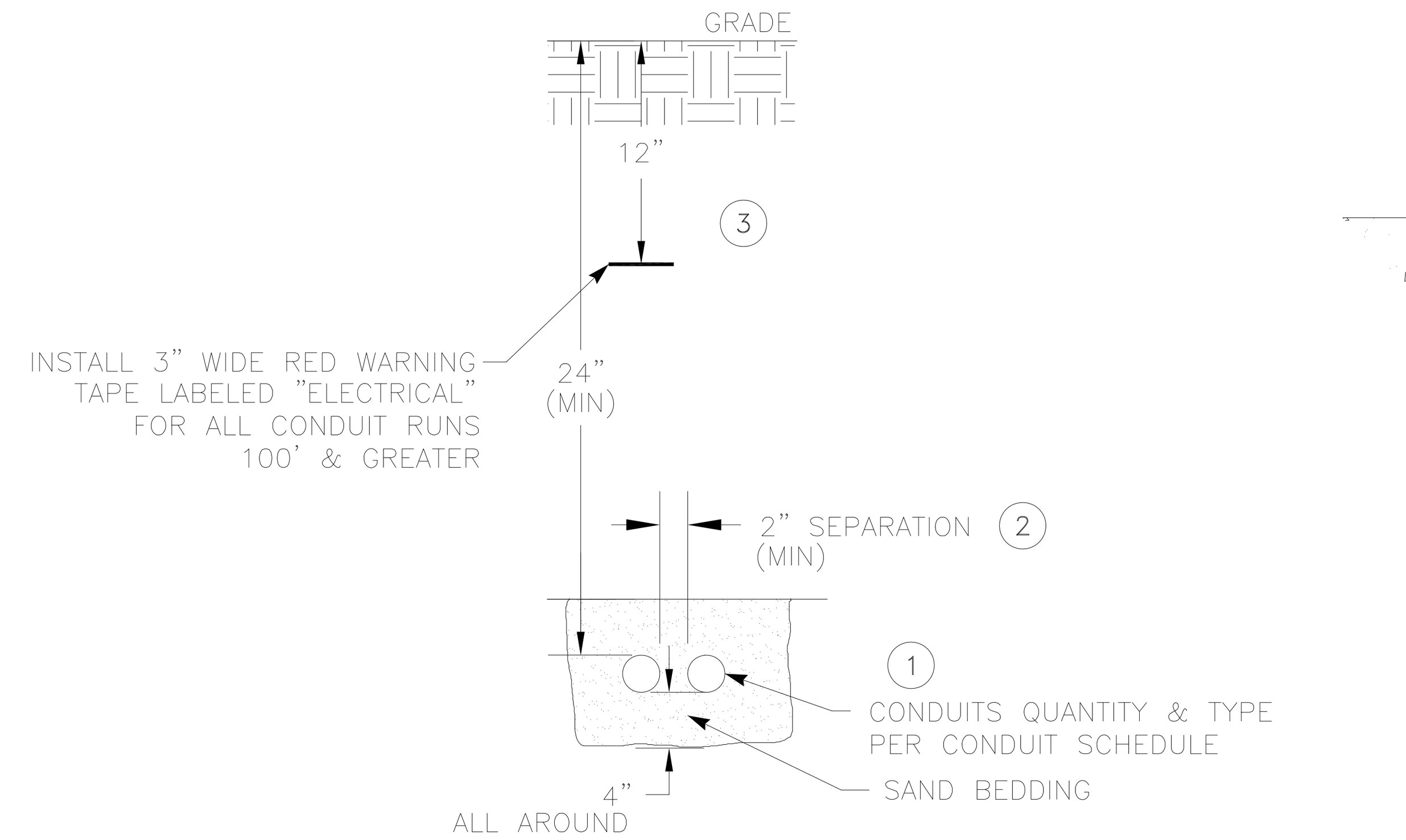
CONTRACT NO. C02488
SHEET 14 of 15
DWG NO. E2 FILE NO. 2025-0006



CONDUIT PIPE STRAP MOUNTING DETAIL (A / E3)

NOT TO SCALE

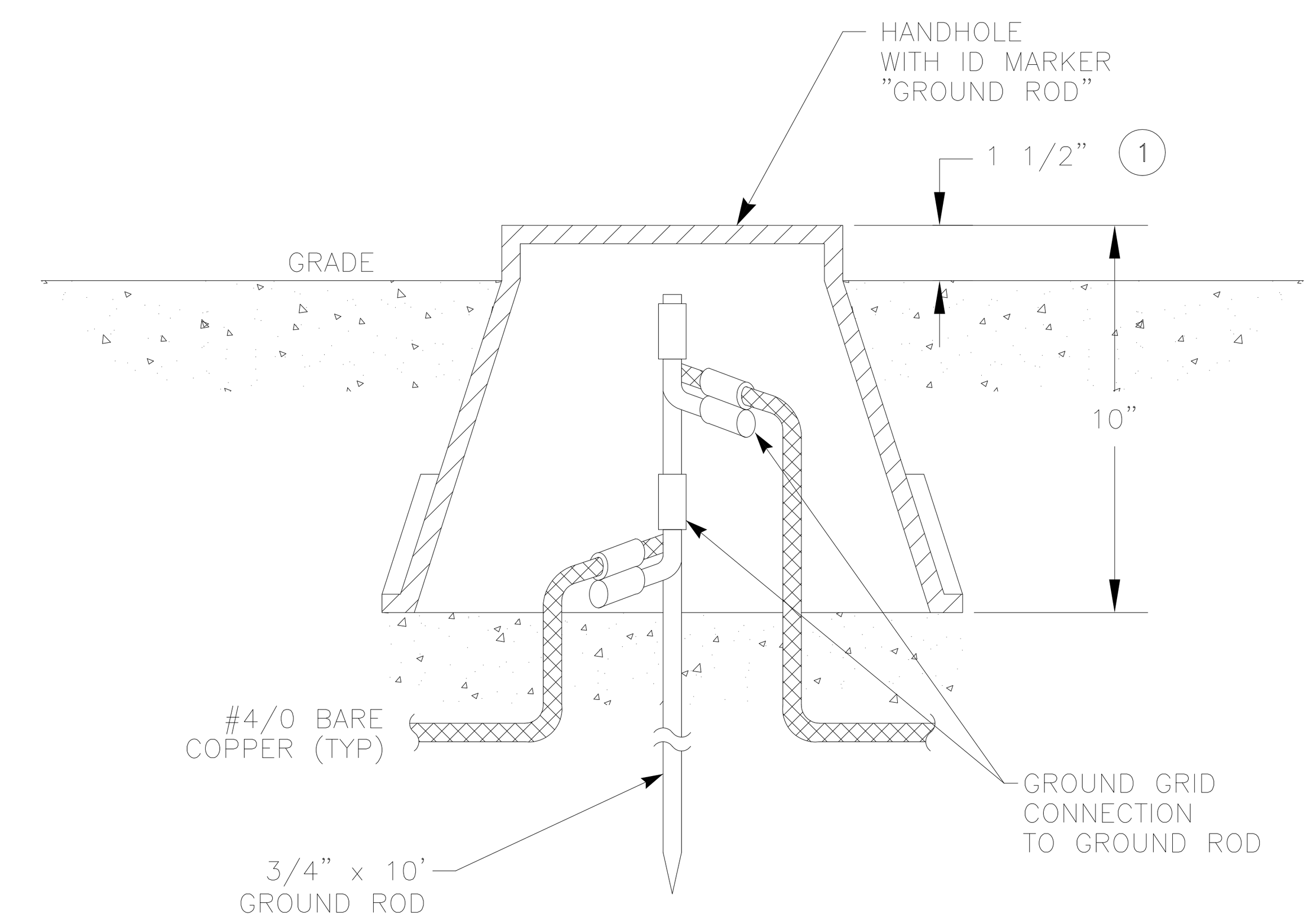
NOTES:
1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. CHANNEL AND ALL SUPPORT DEVICES TO BE NEMA RATED PER AREA CLASSIFICATION. FIELD COAT ALL CUTS, ETC. TO MATCH.
3. CHANNELS TO BE SPACED 5' MAXIMUM.



ENCASED CONDUITS DETAIL (B / E3)

NOT TO SCALE

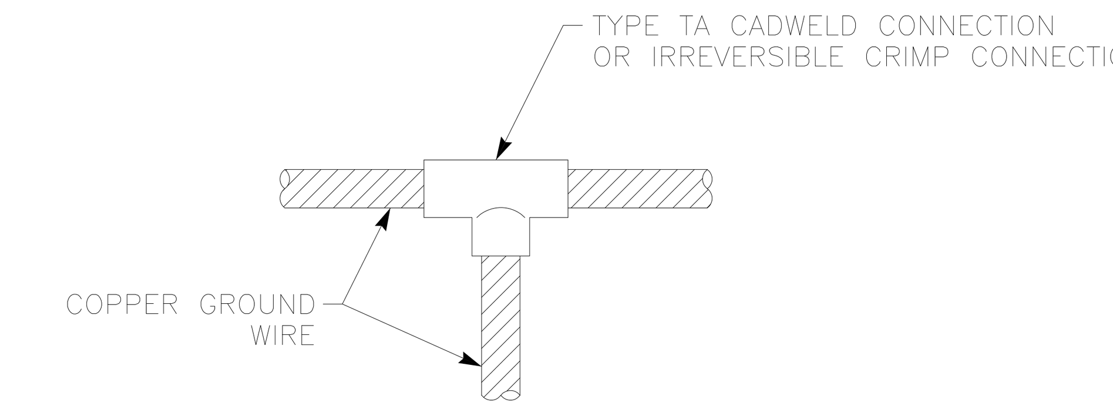
NOTES:
1. PLACE CONDUIT RUNS OF 4 CONDUITS OR GREATER IN PLASTIC SPACERS (RATED FOR DIRECT BURIAL) EVERY 5' ALONG LENGTH OF RUN.
2. PROVIDE 12" (MIN) SEPARATION BETWEEN "A, C & D" TYPE GROUP AND "L & P" TYPE GROUP CONDUITS.
3. TRENCHING & COMPACTED BACKFILL PER SPECIFICATIONS.



HANDHOLE GROUNDING DETAIL (C / E3)

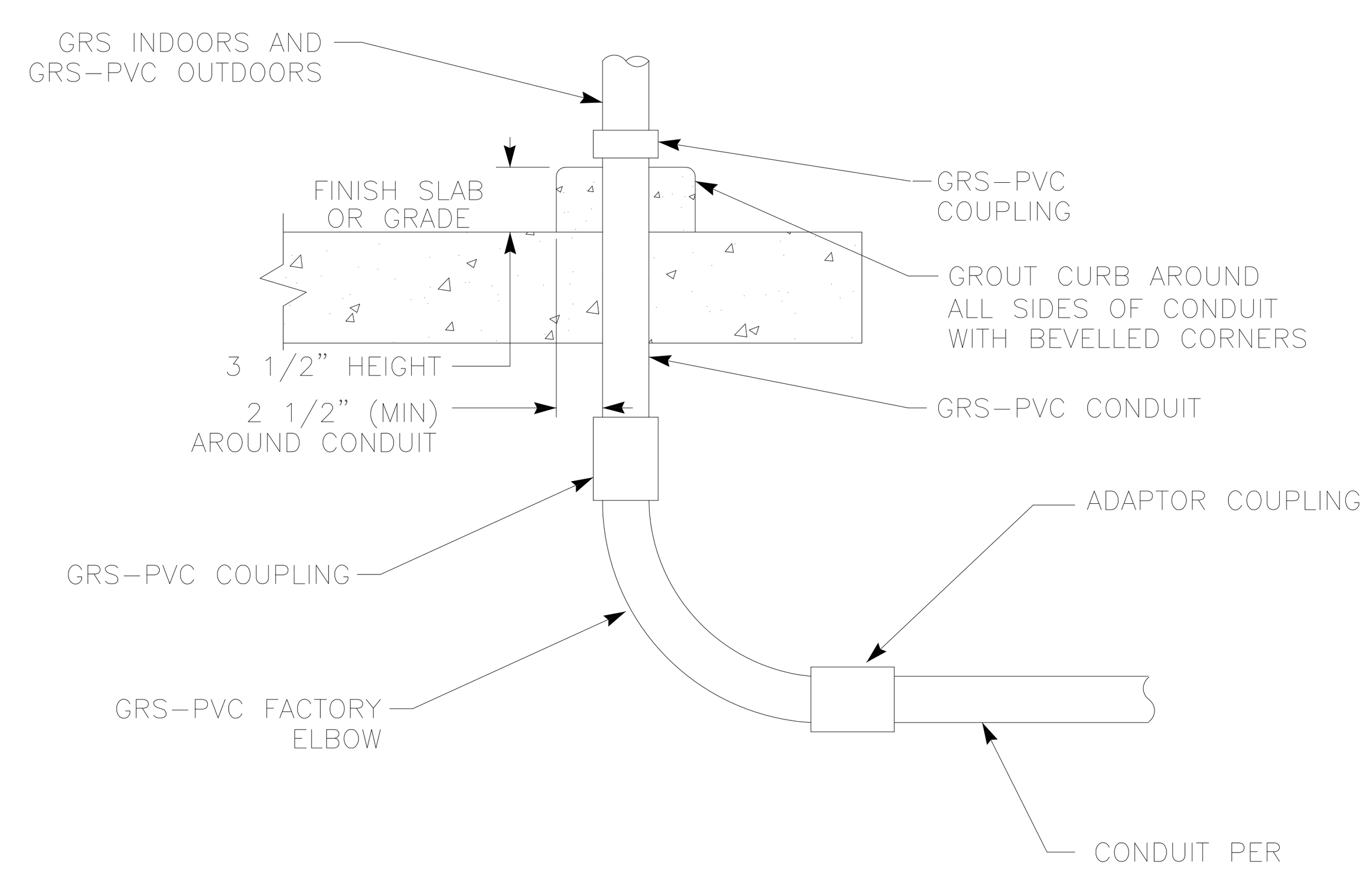
NOT TO SCALE

NOTES:
1. FLUSH IN PAVED AREAS.



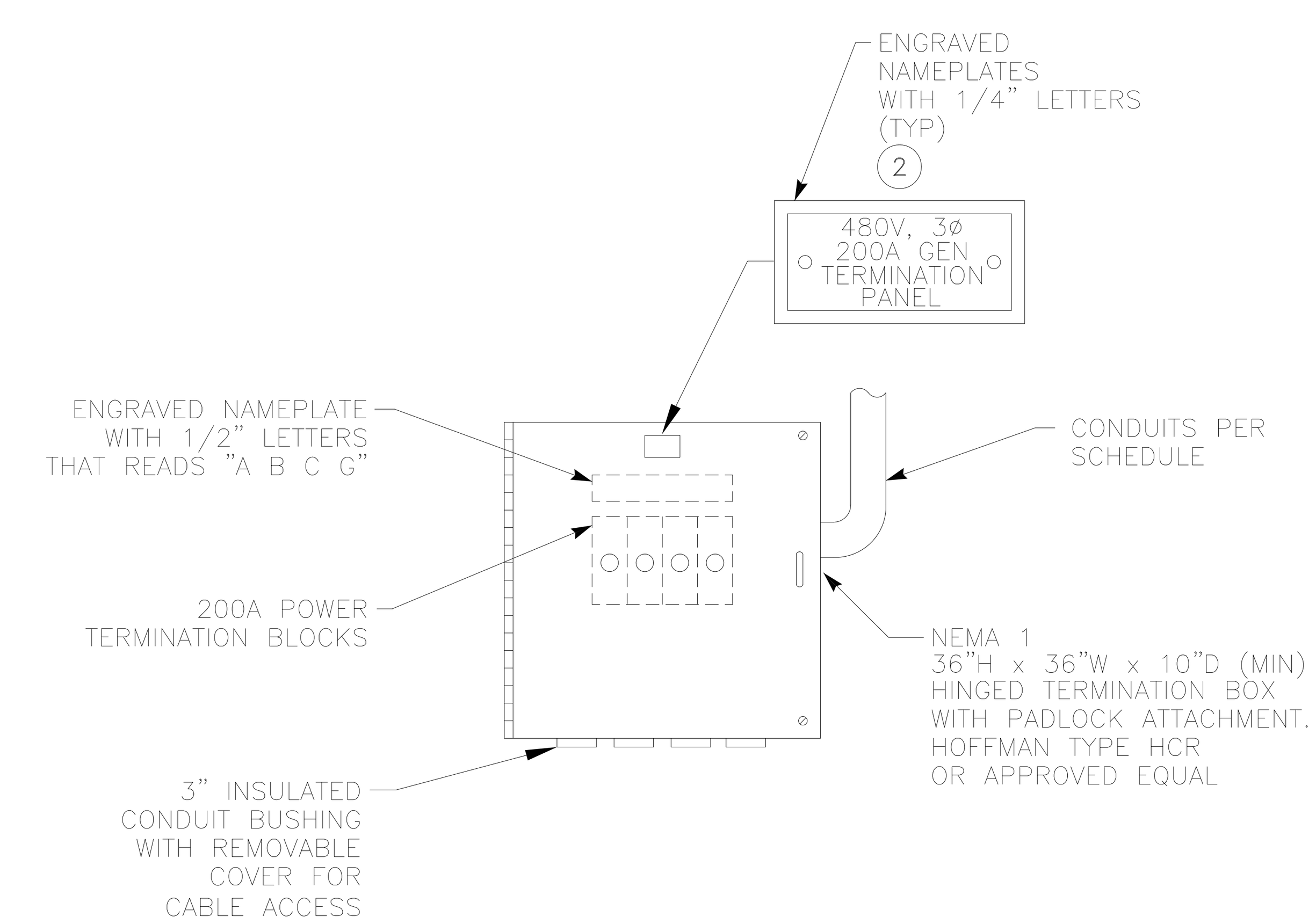
GROUND CABLE CONNECTION DETAIL (D / E3)

NOT TO SCALE



EXPOSED CONDUIT TRANSITION DETAIL (E / E3)

NOT TO SCALE



GENERATOR CONNECTION BOX DETAIL (F / E3)

NOT TO SCALE

NOTES:
1. INSTALL ON WALL WITH STAINLESS STEEL UNISTRUT, HARDWARE & ANCHORS.
2. ATTACH NAMEPLATES WITH SS SCREWS.

2/3/2025

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www.brce.com

No.	Date	Revision	By

SCALE: AS SHOWN | DATE: FEBRUARY 2025
DWN BY: ZKV | CHK BY: SMK

City of Santa Rosa
RECLAMATION PUMP STATION E BUILDING REPLACEMENT
TYPICAL ELECTRICAL DETAILS NO.1

CONTRACT NO. C02488
SHEET 15 of 15
FILE NO. 2025-0006
DWG NO. E3
FILE: 2411AE0003