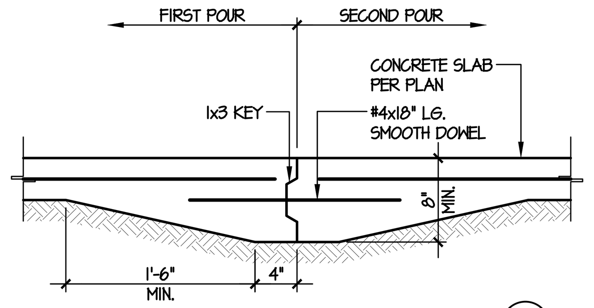
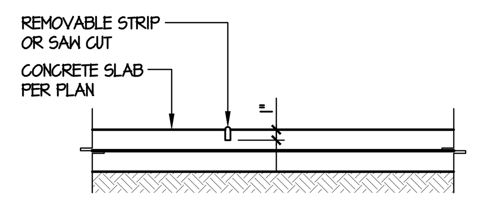


CONSTRUCTION JOINT (A)
(C.J. ON PLANS AND 30'-0" O.C. MAX.)

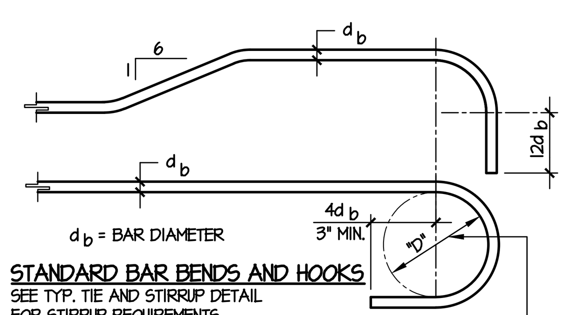


WEAKENED PLANE JOINT (B)
(W.P.J. ON PLANS AND 15'-0" O.C. MAX.)

SLAB JOINT DETAILS (4)
SCALE: NOT TO SCALE

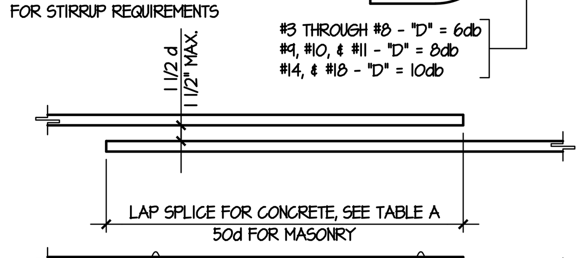
TABLE A								
	BAR LAP SPLICES IN CONCRETE (CLASS B) 3000 P.S.I.			BAR LAP SPLICES IN CONCRETE (CLASS B) 3500 P.S.I.			BAR LAP SPLICES IN CONCRETE (CLASS B) 4000 P.S.I.	
	BAR SIZE	BAR LAP		BAR SIZE	BAR LAP		BAR SIZE	BAR LAP
57 db	#4	29"	52.8 db	#4	27"	49.4 db	#4	25"
57 db	#5	36"	52.8 db	#5	33"	49.4 db	#5	31"
57 db	#6	43"	52.8 db	#6	40"	49.4 db	#6	37"
71.2 db	#7	63"	66 db	#7	58"	61.7 db	#7	54"
71.2 db	#8	72"	66 db	#8	66"	61.7 db	#8	62"
71.2 db	#9	81"	66 db	#9	75"	61.7 db	#9	70"
71.2 db	#10	89"	66 db	#10	84"	61.7 db	#10	78"

NOTE: ALL TABULATED BAR LAPS SHALL BE MULTIPLIED BY 1.3 FOR LIGHT WEIGHT CONCRETE.



STANDARD BAR BENDS AND HOOKS
SEE TYP. TIE AND STIRRUP DETAIL FOR STIRRUP REQUIREMENTS

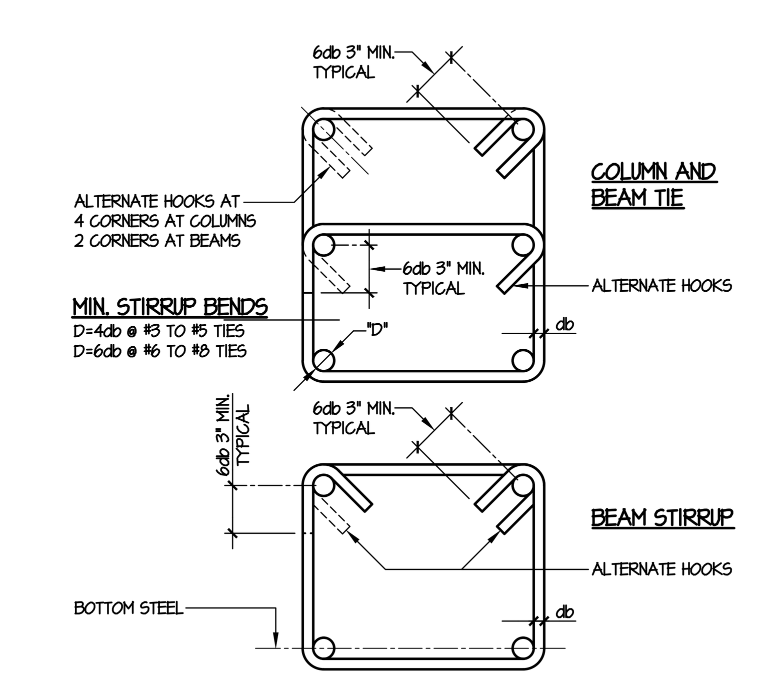
#3 THROUGH #8 - "D" = 6db
#9, #10, & #11 - "D" = 8db
#14, & #18 - "D" = 10db



SPLICES

* NOTE: PROVIDE MIN. 72 BAR DIA. LAP SPLICE FOR THE FOLLOWING MASONRY REINFG. CONDITIONS:
1. ALL JAMB REINFORCING.
2. VERTICAL REINFORCING SPLICES OCCURING AT MID 1/3 HEIGHT OF WALL.
3. ALL CHORD REINFORCING.
4. CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN db, CLEAR COVER NOT LESS THAN db, AND STIRRUPS OR TIES THROUGHOUT ld NOT LESS THAN THE MINIMUM OR CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN 2db AND CLEAR COVER NOT LESS THAN db.

LAP REINFORCING DETAIL (6)
SCALE: NOT TO SCALE

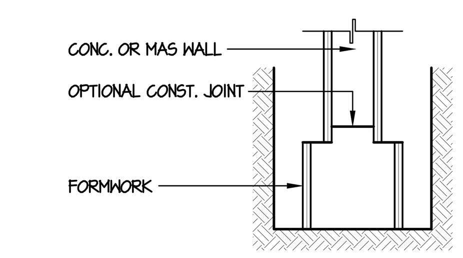


TIE AND STIRRUP REINFORCING DETAIL (7)
SCALE: NOT TO SCALE

LEGEND

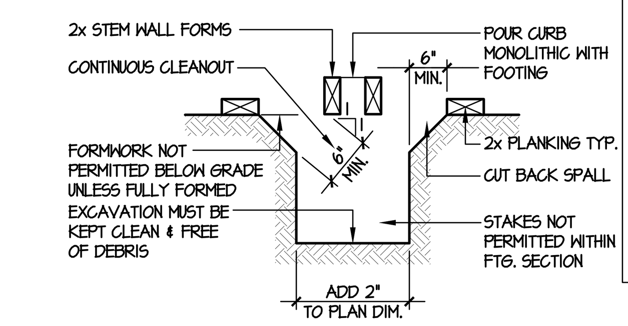
A.B.	ANCHOR BOLT	F.O.C.	FACE OF CONCRETE	SHTG.	SHEATHING
BLKG.	BLOCKING	F.O.M.	FACE OF MASONRY	S.J.	SEPARATION JOINT
BM.	BEAM	F.O.S.	FACE OF STUD	SQ.	SQUARE
B.N.	BOUNDARY NAILING	F.S.	FAR SIDE	SIM.	SIMILAR
C:	CAMBER	FRMG.	FRAMING	S.M.	SHEET METAL
C.B.	CARRIAGE BOLT	FTG.	FOOTING	S.P.	SEE PLAN
CLR.	CLEAR	GALV.	GALVANIZED	STAGG.	STAGGERED
C.J.	CONSTRUCTION JOINT	GA.	GAUGE	STD.	STANDARD
C.M.U.	CONCRETE MASONRY UNIT	G.L.B.	GLUE LAMINATED BEAM	STL.	STEEL
C.N.	CONT. NAILING	GYP. BD.	GYPSUM BOARD	STL. JST.	STEEL JOIST
COL.	COLUMN	H.A.B.	HEADED ANCHOR BOLT	T.O.C.	TOP OF CONCRETE
CONC.	CONCRETE	H.D.	HOLD DOWN	T.O.M.	TOP OF MASONRY
CONN.	CONNECTION	HORIZ.	HORIZONTAL	T.O.M.D.	TOP OF METAL DECK
CONT.	CONTINUOUS	H.S.A.	HEADED STUD ANCHOR	T.O.P.	TOP OF PLYWOOD
C.P.	COMPLETE PENETRATION	H.S.B.	HIGH STRENGTH BOLT	T.O.PAR.	TOP OF PARAPET
C.P.E.	CONT. PANEL EDGES	H.S.S.	HOLLOW STRUCTURAL SECTION	T.O.PLT.	TOP OF PLATE
D.B.A.	DEFORMED BAR ANCHOR	JST.	JOIST	T.O.S.	TOP OF STEEL
DBL.	DOUBLE	LT. WT.	LIGHT WEIGHT	T.S.	TUBE STEEL
D.B.	DRAG BAR	MAS.	MASONRY	T.S.G.	TRUSS STEEL GIRDER
DIA.	DIAMETER	M.B.	MACHINE BOLT	TYP.	TYPICAL
DO.	DITTO	(N)	NEW	U.N.O.	UNLESS NOTED OTHERWISE
DRWG.	DRAWING	N.S.	NEAR SIDE	VERT.	VERTICAL
EA.	EACH	N.T.S.	NOT TO SCALE	W.O.	WHERE OCCURS
ELEV.	ELEVATION	O.C.	ON CENTER	W.P.J.	WEAKENED PLANE JOINT
(E)	EXISTING	O.H.	OPPOSITE HAND	W.W.F.	WELDED WIRE FABRIC
E.J.	EXPANSION JOINT	OPNG.	OPENING		
E.N.	EDGE NAILING	P.J.	POUR JOINT		
E.S.	EDGE SCREW	PLT.	PLATE		
EQ.	EQUAL	PLYWD.	PLYWOOD		
EXT.	EXTERIOR	REQD.	REQUIRED		
FDN.	FOUNDATION	REM.	REMAINDER		
F.G.	FINISH GRADE	RL.	REDLAM		
F.H.W.S.	FLAT HEAD WOOD SCREWS	R.S.	ROUGH SAWN		
F.N.	FIELD NAILING				

DETAIL REFERENCE — DETAIL NUMBER; SHEET NO. WHERE DRAWN
WALL ELEVATION — WALL ELEVATION LETTER; SHEET NO. WHERE DRAWN
SHEAR WALL REFERENCE — SHEAR WALL TYPE; SHEAR WALL LENGTH
WALL SECTION — WALL SECTION LETTER; SHEET NO. WHERE DRAWN
INDICATES ROOF SLOPE
STEP FOOTING
0'-0" REF. — REFERENCE ELEVATION
-3'-0" — REFERENCE ELEVATION TO BOTTOM OF FOOTING
H# — INDICATES HOLD DOWN



FOOTING AND FOUNDATION WALL MAY BE POURED MONOLITHIC PROVIDED THE SIDES OF THE FOOTING ARE FORMED AND THE EXCAVATION IS LARGE ENOUGH TO PROPERLY CLEAN THE EXCAVATION AND TIE THE REINFORCING. A POUR JOINT IS MANDATORY IF THE SIDES OF THE FOOTING ARE NOT FORMED

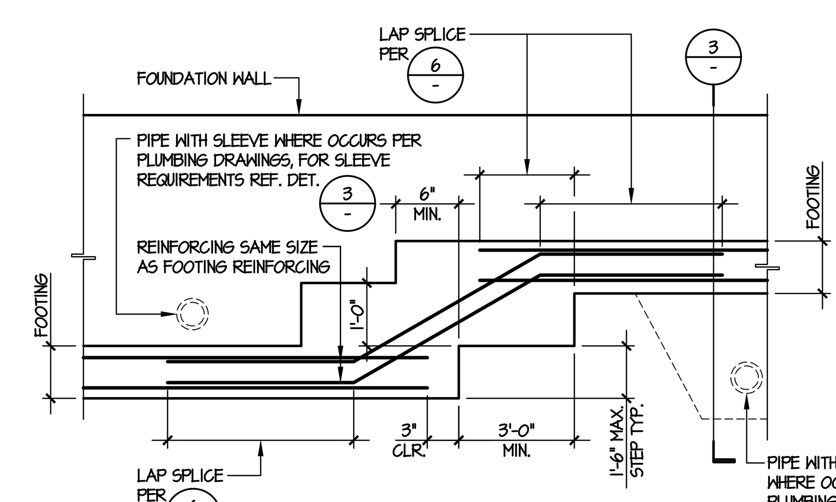
FULLY FORMED FOOTING (MONOLITHIC POUR) (A)



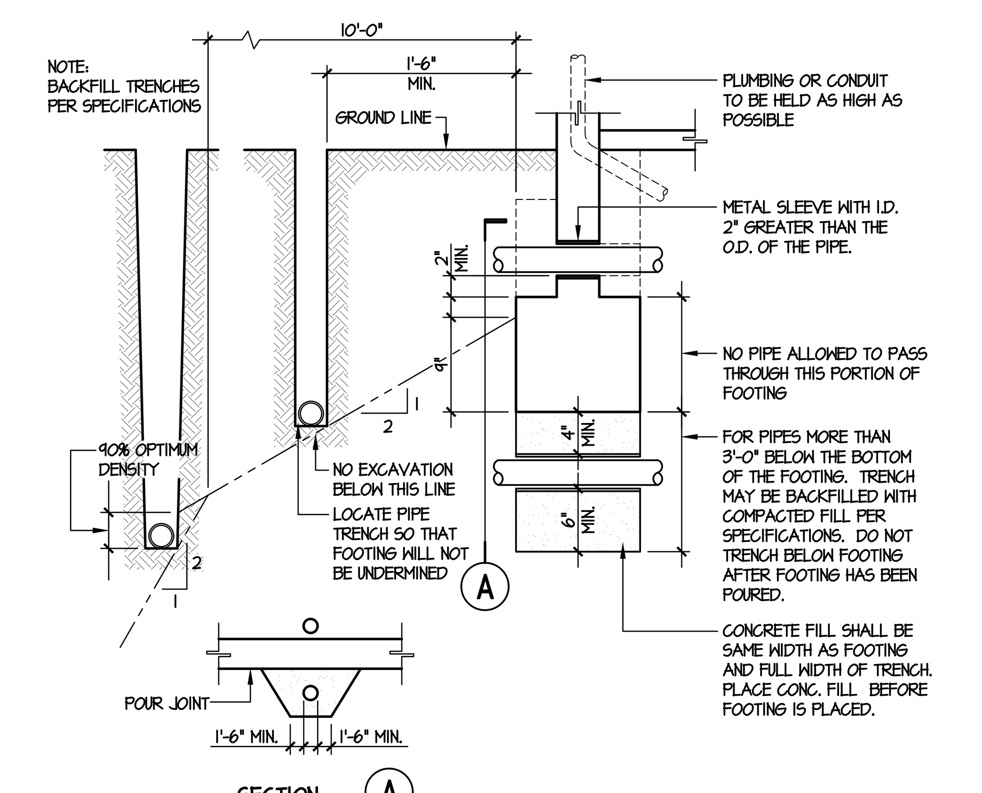
NOTES:
1. FOUNDATION CONC. MAY BE PLACED DIRECTLY INTO NEAT EXCAVATION, PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE ARCHITECT (STRUCTURAL ENGINEER), SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL. IN SUCH CASE, THE MINIMUM FORMWORK SHOWN ON THE DRAWINGS IS MANDATORY TO INSURE CLEAN EXCAVATIONS IMMEDIATELY PRIOR TO AND DURING THE PLACING OF CONCRETE.

UNIFORMED FOOTING POURED AGAINST GRADE (B)
MANDATORY MINIMUM FORMWORK UNLESS FULLY FORMED

FOUNDATION FORMING DETAILS (1)
SCALE: NOT TO SCALE



TYPICAL STEPPED FOOTING DETAIL (2)
SCALE: NOT TO SCALE



SECTION (A)

PIPE TRENCH AND FOOTING DETAIL (3)
SCALE: NOT TO SCALE

SPECIAL INSPECTIONS TABLE:

		VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REMARKS
STEEL (SECTION/TABLE 1705.2.1)		WELDING			
STEEL (SECTION/TABLE 1705.2.1)	STRUCTURAL STEEL	COMPLETE AND PARTIAL PENETRATION WELDS	YES	NO	DURING THE WELDING
STEEL (SECTION/TABLE 1705.2.1)	STRUCTURAL STEEL	FIELD WELDS	YES	NO	DURING THE WELDING
STEEL (SECTION/TABLE 1705.2.1)	STRUCTURAL STEEL	MULTIPASS FILLET WELDS	YES	NO	DURING THE WELDING
STEEL (SECTION/TABLE 1705.2.1)	REINFORCING STEEL	SHEAR REINFORCEMENT	YES	NO	DURING THE WELDING
STEEL (SECTION/TABLE 1705.2.1)	REINFORCING STEEL	OTHER REINFORCING STEEL	NO	YES	DURING THE WELDING
CONCRETE (SECTION/TABLE 1705.3)		INSPECT BOLTS TO BE INSTALLED IN CONCRETE	NO	YES	PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED
CONCRETE (SECTION/TABLE 1705.3)		INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	YES	NO	-
CONCRETE (SECTION/TABLE 1705.3)		INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	YES	NO	-
CONCRETE (SECTION/TABLE 1705.3)		VERIFYING USE OF REQUIRED DESIGN MIX	NO	YES	PRIOR TO POURING OF CONCRETE
CONCRETE (SECTION/TABLE 1705.3)		FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	YES	NO	AT THE TIME FRESH CONCRETE IS SAMPLED
CONCRETE (SECTION/TABLE 1705.3)		VERIFICATION OF IN-SITU CONCRETE STRENGTH	NO	YES	PRIOR TO STRESSING OF TENDONS IN POSTTENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS
CONCRETE (SECTION/TABLE 1705.3)		INSPECTION OF FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	NO	YES	PRIOR TO POURING OF CONCRETE
CONCRETE (SECTION/TABLE 1705.3)		NON-STRUCTURAL SLABS	NO	NO	-
CONCRETE (SECTION/TABLE 1705.3)		CONTINUOUS CONCRETE FOOTINGS (LIGHT FRAME CONSTRUCTION)	NO	NO	-
CONCRETE (SECTION/TABLE 1705.3)		POST INSTALLED ANCHORS	YES	NO	PULL TEST 20% OF ANCHORS. WHERE FAILURE OCCURS TEST ALL
SOILS (SECTION/TABLE 1705.6)		VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	NO	YES	PRIOR TO THE FORMWORK
SOILS (SECTION/TABLE 1705.6)		VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	NO	YES	PRIOR TO THE FORMWORK
SOILS (SECTION/TABLE 1705.6)		PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS	NO	YES	PRIOR TO THE FORMWORK
SOILS (SECTION/TABLE 1705.6)		VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL	YES	NO	PRIOR TO THE FORMWORK
SOILS (SECTION/TABLE 1705.6)		OBSERVE SUBGRADE AND VERIFY THAT THE SITE HAS BEEN PREPARED PROPERLY	NO	YES	PRIOR TO PLACEMENT OF CONTROLLED FILL
WOOD (SECTIONS 1705.12.2)		FIELD GLUING OPERATIONS OF ELEMENTS OF THE SEISMIC - FORCE - RESISTING SYSTEM	N/A	N/A	DURING FIELD GLUING
WOOD (SECTIONS 1705.12.2)		NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITHIN THE SEISMIC - FORCE - RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, SHEAR PANELS AND HOLD-DOWNS	NO	YES	PRIOR TO AND DURING NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS
MASONRY (SECTION/TABLE 1705.4)		PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS	NO	YES	DURING THE PLACEMENT OF MASONRY UNITS
MASONRY (SECTION/TABLE 1705.4)		GROUT SPACE	YES	NO	PRIOR TO GROUTING
MASONRY (SECTION/TABLE 1705.4)		PROPORTIONS OF SITE-PREPARED MORTAR AND GROUT	NO	YES	AT TIME OF PREPARATION
MASONRY (SECTION/TABLE 1705.4)		PLACEMENT OF REINFORCEMENT AND CONNECTORS	NO	YES	PRIOR TO GROUTING
MASONRY (SECTION/TABLE 1705.4)		PLACEMENT OF GROUT	YES	NO	DURING PLACEMENT OF GROUT
MASONRY (SECTION/TABLE 1705.4)		SIZE AND LOCATION OF STRUCTURAL ELEMENTS	NO	YES	PRIOR TO GROUTING
MASONRY (SECTION/TABLE 1705.4)		TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE TO MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	YES	NO	PRIOR TO AND DURING PLACEMENT
MASONRY (SECTION/TABLE 1705.4)		SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT	NO	YES	PRIOR TO GROUTING
MASONRY (SECTION/TABLE 1705.4)		PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED	YES	NO	AT THE TIME FRESH GROUT IS SAMPLED
MASONRY (SECTION/TABLE 1705.4)		COMPLIANCE WITH REQUIRED SPECIAL INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED	NO	YES	PRIOR TO AND DURING PLACEMENT OF UNITS, REINFORCING AND GROUTING
ARCHITECTURAL COMPONENTS (SECTION 1705.12.5)		EXTERIOR CLADDING, INTERIOR AND EXTERIOR NON-BEARING WALLS AND EXTERIOR/INTERIOR VENEER	NO	YES	DURING ERECTION AND FASTENING
MECHANICAL AND ELECTRICAL COMPONENTS (SECTION 1705.12.6)		ANCHORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY OR STANDBY POWER SYSTEMS	NO	YES	DURING INSTALLATION OF ANCHORAGE
MECHANICAL AND ELECTRICAL COMPONENTS (SECTION 1705.12.6)		ANCHORAGE OF OTHER ELECTRICAL EQUIPMENT WHEN ASSIGNED TO SEISMIC DESIGN CATEGORY E OR F SEE "DESIGN LOADS" FOR SEISMIC DESIGN CATEGORY	NO	YES	DURING INSTALLATION OF ANCHORAGE
MECHANICAL AND ELECTRICAL COMPONENTS (SECTION 1705.12.6)		PIPE SYSTEMS INTENDED TO CARRY FLAMMABLE, COMBUSTIBLE, OR HIGHLY TOXIC CONTENTS AND THEIR ASSOCIATED MECHANICAL UNITS	NO	YES	DURING INSTALLATION OF PIPE SYSTEM
MECHANICAL AND ELECTRICAL COMPONENTS (SECTION 1705.12.6)		HVAC DUCTWORK THAT WILL CONTAIN HAZARDOUS MATERIALS	NO	YES	DURING INSTALLATION OF DUCTWORK
MECHANICAL AND ELECTRICAL COMPONENTS (SECTION 1705.12.6)		VIBRATION ISOLATION SYSTEMS WHERE CONSTRUCTION DOCUMENTS REQUIRE A NOMINAL CLEARANCE OF 1/4" OR LESS BETWEEN THE EQUIPMENT SUPPORT FRAME AND RESTRAINT	NO	YES	DURING INSTALLATION OF VIBRATION ISOLATION SYSTEMS
OTHERS		PILE, PIER AND CAISSONS (SECTIONS/TABLE 1705.7 AND 1705.8)	YES	NO	DURING DRIVING AND TESTING OF PILES AND CONSTRUCTION OF CAISSONS
OTHERS		SPRAYED FIRE-RESISTANT MATERIALS (SECTION 1705.14)	YES	NO	DURING THE SPRAYING
OTHERS		SPECIAL CASES (SECTION 1704.13)	YES	NO	WORK WHICH, IN THE OPINION OF THE BUILDING OFFICIAL, INVOLVES UNUSUAL CONDITIONS OR HAZARD

LUMBER - CONTINUED:

7. PROVIDE APPROVED METAL CROSS BRIDGING AT 8'-0" ON CENTER FOR JOISTS AND RAFTERS GREATER THAN 6" IN DEPTH.
8. 2" SOLID BLOCKING SHALL BE PROVIDED BETWEEN JOISTS AND RAFTERS AT ALL BEARING SUPPORTS.
9. NOTCH, AS REQUIRED, ALL JOISTS AND RAFTERS TO PROVIDE LEVEL, FULL BEARING AT JOISTS HANGERS, PLATES AND SUPPORTS.
10. BORE HOLES FOR BOLTS 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER.
11. BORED HOLES EXCEEDING ONE THIRD OF THE WIDTH OF THE MEMBER BEING PENETRATED SHALL NOT BE PLACED IN STUDS UNLESS FULLY DETAILED ON THE APPROVED PLANS. HOLES NOT EXCEEDING ONE THIRD OF THE WIDTH SHALL BE NEATLY BORED AND SHALL BE LOCATED IN THE CENTER OF THE MEMBER BEING PENETRATED.
12. RETIGHTEN ALL BOLTS PRIOR TO COVERING, AND MAKING THE BOLTED CONNECTION INACCESSIBLE.
13. ALL NAILS ARE TO BE COMMON NAILS AND ARE TO BE GALVANIZED WHEN EXPOSED.
14. INSTALL WALL BRACING ON ALL STUD WALLS NOT COVERED WITH PLYWOOD PER C.B.C. SECTION 2308.6
15. LINTEL SCHEDULE (UNLESS NOTED OTHERWISE ON PLAN)

(OPENING WIDTH)	LINTEL SIZE AT BEARING WALL (SOLID MEMBER)	LINTEL SIZE AT NON BEARING WALL (BUILT UP MEMBER)
3'-0" or less	stud width x 4"	2-2X4
3'-0" to 6'-0"	stud width x 6"	2-2X6
6'-1" to 8'-0"	stud width x 8"	2-2X8

16. SCHEDULE OF ALLOWABLE CEILING JOIST SPANS:

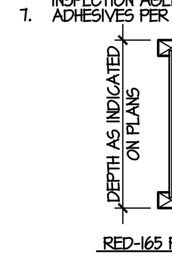
(JOIST)	MAX SPAN (GYP. BOARD FINISH)	MAX SPAN (PLASTER FINISH)
2X4 @ 16"o.c.	10'-0"	8'-0"
2x6 @ 16"o.c.	14-0"	12'-0"
2x8 @ 16"o.c.	16'-0"	14'-0"

CEILING JOIST NOTE:
CONTRACTOR SHALL COORDINATE ALL GYPBD AND PLASTER CEILINGS WITH THE ARCHITECTURAL DWGS. CONTRACTOR SHALL PROVIDE CEILING JOISTS AS INDICATED IN CEILING JOIST SCHEDULE ABOVE, AND DETAIL 13/50.3 WHERE PLASTER OR GYPBD. CEILINGS EXCEED THE SPANS OF THIS TABLE, REFER TO THE SUSPENDED CEILING SYSTEMS SHOWN IN ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL COORDINATE ALL OPENINGS IN CEILING FRAMING FOR MECHANICAL REGISTERS, AND RECESSED LIGHTING, ETC. AND FRAME OPENINGS WIDER THAN 14 1/2 INCHES PER DETAIL 12/50.1

17. ALL FASTENERS AND CONNECTOR IN CONTACT WITH PRESERVATIVE TREATED AND FIRE TREATED WOOD SHALL BE OF HOT DIPPED ZINC COATED GALVANIZED STEEL.

PREFABRICATED PLYWOOD WEB JOISTS (RED-I65):

1. CALCULATIONS AND SHOP DRAWINGS, STAMPED BY A LICENSED CALIFORNIA CIVIL OR STRUCTURAL ENGINEER, SHALL BE SUBMITTED FOR ENGINEERS APPROVAL PRIOR TO FABRICATION.
2. A PREFABRICATED PLYWOOD JOIST SHALL BE FABRICATED IN AN APPROVED FACILITY.
3. MANUFACTURER SUBSTITUTIONS PROPOSED BY THE CONTRACTOR WHICH REQUIRE ADDITIONAL TIME SPENT FOR REVIEW AND APPROVAL OR CHANGES TO THE CONTRACT DOCUMENTS ARE SUBJECT TO FEE CHARGES TO THE CONTRACTOR.
4. DESIGN LOADS: (POUNDS PER SQUARE FOOT, P.S.F.)
   ROOF DEAD LOAD: 28 P.S.F.
   ROOF LIVE LOAD: 20 P.S.F.
5. PLYWOOD WEB JOIST BLOCKING SHALL BE THE SAME MATERIAL AS THE PLYWOOD WEB JOIST.
6. PLYWOOD WEB JOISTS SHALL BE IDENTIFIED BY A STAMP INDICATING THE JOIST TYPE, ICC-ES REPORT NUMBER, MANUFACTURER'S NAME, PLANT NUMBER, PRODUCTION DATE AND THE NAME OF THE INSPECTION AGENCY.
7. ADHESIVES PER ASTM D2559



RED-I65 PROFILE

MECHANICAL UNIT FRAMING NOTES

1. THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND WEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.

MASONRY:

1. ALL MASONRY CONSTRUCTION SHALL COMPLY WITH THE 2019 C.B.C. & ACI 530-13
2. MINIMUM MASONRY COMPRESSIVE STRENGTH (f'c) SHALL BE:
   NORMAL STRENGTH BLOCK . . . . 2000 PSI
3. REINFORCING SHALL HAVE A MINIMUM ONE BAR DIAMETER GROUT COVERAGE.
4. REINFORCING SPLICES SHALL HAVE A MINIMUM 50 BAR DIA. LAP.
   PROVIDE MIN. 72 BAR DIA. LAP TYP. FOR ALL THE FOLLOWING CONDITIONS:
   A. ALL VERTICAL JAMB REINFORCING SPLICES.
   B. VERTICAL REINFORCING SPLICES OCCURRING AT MID 1/3 HEIGHT OF WALL.
   C. ALL CHORD BAR SPLICES.
5. MASONRY CONSTRUCTION SHALL BE REINFORCED AND GROUTED SOLID UNLESS NOTED OTHERWISE.
6. PIPES OR DUCTS ARE NOT PERMITTED WITHIN MASONRY CONSTRUCTION UNLESS SPECIFICALLY NOTED OR DETAILED.
7. CEMENT: PORTLAND CEMENT TYPE I OR II, LOW ALKALI, ASTM C-150
8. MORTAR SHALL CONFORM TO 2019 C.B.C. TABLE 2103.2 TYPE S- 1800 P.S.I.
9. GROUT: 1 PART CEMENT, 3 PART SAND, 2 PART GRAVEL
   NORMAL STRENGTH BLOCK . . . . 2000 PSI MIN.
   GROUT TP COMPLY WITH 2019 C.B.C. 2103.3
10. CONCRETE BLOCK SHALL CONFORM TO ASTM C90 GRADE N-1. (MEDIUM WEIGHT)
11. MASONRY SHALL BE LAID IN RUNNING BOND.
12. METAL REINFORCEMENT SHALL BE LOCATED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. REINFORCEMENT SHALL BE SECURED AGAINST DISPLACEMENT PRIOR TO GROUTING BY WIRE POSITIONERS OR OTHER SUITABLE DEVICES AT INTERVALS NOT EXCEEDING 200 BAR DIAMETERS.
13. HEIGHT OF GROUT LIFTS SHALL NOT EXCEED 4'-8". UNLESS APPROVED OTHERWISE.
14. HIGH-LIFT GROUTED CONSTRUCTION SHALL CONFORM TO ACI 530 SPECIFICATIONS SECTION 3.2.1
    CONTRACTOR SHALL SUBMIT HIGH LIFT PROCEDURE TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL, PRIOR TO MASONRY BLOCK PLACMENT. CLEANOUTS REQUIRED FOR ALL GROUT LIFTS OVER 5'-0".
15. GROUT SHALL CONTAIN AN ADDITIVE THAT PRODUCES EXPANSIVE ACTION SUCH AS SIKA GROUT AID OR EQUIVALENT.

STRUCTURAL OBSERVATION:

1. THE OWNER SHALL EMPLOY A REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS. THE STRUCTURAL OBSERVER SHALL VISUALLY OBSERVE REPRESENTATIVE LOCATIONS OF STRUCTURAL SYSTEMS, DETAILS, AND LOAD PATHS FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
2. STRUCTURAL OBSERVATION PRIOR TO COVERING SHALL BE PROVIDED AT THE FOLLOWING PHASES AS A MINIMUM:
   A. FOUNDATIONS, [AND] OTHER CONCRETE UPON COMPLETION OF REINFORCEMENT AND OTHER EMBEDDED ITEMS, PRIOR TO CONCRETE POUR.
   B. GRAVITY SYSTEM FRAMING: OBSERVE MEMBERS AND CONNECTIONS INCLUDING:
      1. STUDS/COLUMNS/WALLS
      2. JOISTS/BEAMS/SLABS
   C. VERTICAL LATERAL SYSTEM FRAMING: OBSERVE MEMBERS AND CONNECTIONS, PRIOR TO COVERING, INCLUDING (ASCE 7 TABLE 12.2-1):
      1. LIGHT FRAME [WOOD] WALLS SHEATHED WITH PLY./OSB (A.[15])
   D. HORIZONTAL LATERAL SYSTEM FRAMING: OBSERVE MEMBERS AND CONNECTIONS, PRIOR TO COVERING, INCLUDING:
      1. PLY./OSB SHEATHED DIAPHRAGMS
   E. FINAL OBSERVATION UPON COMPLETION OF ALL STRUCTURAL SYSTEMS AND CORRECTION OF ALL DEFICIENCIES.
   F. ADDITIONAL VISITATION AS DEEMED NECESSARY BY THE STRUCTURAL ENGINEER.
3. AT THE CONCLUSION OF THE PERMITTED WORK, A WRITTEN STATEMENT DOCUMENTING SITE VISITS AND IDENTIFYING ANY REPORTED DEFICIENCIES THAT HAVE NOT BEEN RESOLVED

STRUCTURAL OBSERVER(S)	LICENSE	PHONE NUMBER
- RICK BYRD	3350	(626) 664-0092
- FRANK RICE	S5377	(626) 584-5231
- TYLER BOUMA	C96000	(562) 484-4105

SPECIAL INSPECTIONS:

1. SPECIAL INSPECTIONS AND TESTS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF CBC SECTION 1704[A] AND THIS STATEMENT OF SPECIAL INSPECTIONS, THESE INSPECTIONS ARE IN ADDITION TO THE GENERAL BUILDING DEPARTMENT INSPECTIONS SPECIFIED IN CBC SECTION 110.
   A. WRITTEN DOCUMENTATION OF THE QUALIFICATIONS OF SPECIAL INSPECTORS FROM AN APPROVED AGENCY SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO CONSTRUCTION.
   B. THE APPROVED AGENCY SHALL PREPARE AND SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TESTS TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. ALL DISCREPANCIES FROM THE APPROVED PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR AND, IF NOT CORRECTED, TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
   C. WHERE FABRICATORS OF STRUCTURAL MEMBERS OR ASSEMBLIES OCCURS AT A FABRICATORS SHOP, SPECIAL INSPECTIONS SHALL OCCUR DURING FABRICATION UNLESS THE FABRICATOR OS APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTIONS.
2. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND OR SEISMIC FORCE RESISTING SYSTEM DESIGNATED IN THIS STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL PRIOR TO COMMENCING WORK (CBC 1704.4).
3. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND TESTS, AND THE CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS, SHALL BE SUBMITTED BY THE OWNER OR THE OWNER'S AUTHORIZED AGENT TO THE BUILDING OFFICIAL.
4. ADDITIONAL SUBMITTALS TO THE BUILDING OFFICIAL SHALL BE IN ACCORDANCE WITH CBC 1704.5.

GENERAL:

1. ALL CONSTRUCTION SHALL COMPLY WITH THE 2019 C.B.C. AND ALL APPLICABLE ORDINANCES.
2. FRAMING CONDITIONS NOT SPECIFICALLY SHOWN OR INDICATED SHALL BE FRAMED SIMILAR TO DETAILS SHOWN FOR THE RESPECTIVE MATERIALS OR CONDITIONS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS BEFORE STARTING WORK AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.
4. WITHOUT EXCLUSION OF ANY REFERENCE IN THE CONSTRUCTION DOCUMENTS TO ANY RULE OR REGULATION, THE STRUCTURAL ENGINEER IS NOT ASSUMING ANY PROVISIONS OF SUPERVISION OF CONSTRUCTION METHODS OR PROCESSES.

DESIGN LOADS:

1. GRAVITY LOADS (CH. 3 & 4):
   ROOF LIVE LOAD ---------------------------------- 20 psf
   ROOF DEAD LOAD (SLOPED) ---------------------------------- 25 psf
   ROOF DEAD LOAD (FLAT) ---------------------------------- 20 psf
   PV PANEL DESIGN LOAD ---------------------------------- 4 psf
2. WIND LOADS (CH. 26 - 30):
   BASIC DESIGN WIND SPEED (V) ---------------------------------- 135 psf
   RISK CATEGORY ---------------------------------- III
   WIND EXPOSURE ---------------------------------- C
3. SEISMIC LOADS (CH. 11 -15):
   RISK CATEGORY ---------------------------------- III
   SEISMIC IMPORTANCE FACTOR ---------------------------------- 1.5
   SITE CLASS ---------------------------------- D (Default)
   SPECTRAL RESPONSE ACCELERATION PARAMETERS
      a. S_S ---------------------------------- 1.952
      b. S_1 ---------------------------------- 0.699
      c. S_{DS} ---------------------------------- 1.301
      d. S_{D1} ---------------------------------- 0.653
   SEISMIC DESIGN CATEGORY ---------------------------------- D
   MAIN FORCE RESISTING SYSTEM(S) ---------------------------------- LIGHT FRAMED SHEARWALLS
   DESIGN BASE SHEAR(S) ---------------------------------- 0.00 kips
   SEISMIC RESPONSE COEFFICIENT(S) (C_S) ---------------------------------- 0.23 * W
   RESPONSE MODIFICATION COEFFICIENT(S) (R) ---------------------------------- 6.5
   EQUIVALENT LATERAL FORCE (ELF) ANALYSIS PROCEDURE
4. GEOTECHNICAL INFORMATION
   SOIL VALUES ARE ACCORDING TO:
   GEOTECHNICAL EXPLORATION PROPOSED FIRE STATION NO. 80 TRAINING CENTER BY LEIGHTON CONSULTING, INC. , PROJECT NUMBER 13491.001, DATED MAY 18, 2022
   ALLOWABLE BEARING PRESSURE (12" x 24")*~;
      CONTINUOUS FOOTING (24" x 24" MIN.) ---------------------------------- 2500 psf^*
      PAD FOOTING (24" x 24" MIN.) ---------------------------------- 2500 psf^*
      ^INCREASABLE BY 250 PSF FOR EACH ADDITIONAL FT. OF WIDTH/DEPTH
   LATERAL VALUES+
      ALLOWABLE FRICTION COEFFICIENT ---------------------------------- 0.4*
      ALLOWABLE PASSIVE PRESSURE ---------------------------------- 290 pcf*
      FACTOR OF SAFETY ---------------------------------- 1.5
      EFP - ACTIVE PRESSURE (DRAINED) ---------------------------------- 38 pcf
      EFP - AT REST PRESSURE (DRAINED) ---------------------------------- 59 pcf
      SEISMIC PRESSURE ---------------------------------- 43 pcf
      SOIL UNIT WEIGHT ---------------------------------- 120 pcf
   *1/3 INCREASE ALLOWED FOR SHORT-TERM DURATION LOADS
   ~DEPTH MEASURED BY EMBEDMENT INTO APPROVED COMPETENT SOIL

FOUNDATIONS:

1. CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT
2. ALL FILL SHALL BE COMPACTED TO A MINIMUM OF 90% IN ACCORDANCE WITH THE SPECIFICATIONS.
3. TYPE OF SOIL: SILTY SAND
4. PRIOR TO STARTING EXCAVATIONS AND/OR GRADING WORK, THE CONTRACTOR SHALL NOTIFY THE PROJECT INSPECTOR.
5. PRIOR TO FORMING AND PLACING OF THE REINFORCING, ALL EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE GEO-TECHNICAL ENGINEER.
6. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE ALL FOOTINGS AND UTILITY LINE RELATIONSHIPS SO THAT THE REQUIREMENTS OF DETAIL 3/- ARE MET. THE COST OF STEPPING THE FOOTINGS TO MEET THE REQUIREMENTS OF 2/- AND 3/- SHALL BE THE CONTRACTORS RESPONSIBILITY AND NEW UTILITY LINES SHALL BE LOCATED PRIOR TO FOUNDATION EXCAVATION.

CONCRETE:

1. THE MINIMUM STRENGTH OF CONCRETE AT END OF 28 DAYS SHALL BE:
   SLABS ON GRADE ------------------ 3000 PSI --- 150 PCF
   FOOTINGS ------------------ 3000 PSI --- 150 PCF
2. REINFORCING
   A. REINFORCING STEEL: ASTM A-615
      TYPICAL REINFORCING: GRADE 60 (#5 AND LARGER)
      GRADE 40 (#4 AND SMALLER)
   B. REINFORCING FABRIC: ASTM A-185
   C. PROVIDE MINIMUM LAP ON ALL BARS PER TABLE A ON 6/- UNLESS NOTED OTHERWISE.
   D. PROVIDE BENT BAR LAPS OF ALL HORIZONTAL REINFORCEMENT AT FOOTING CORNERS PER 5/S0.2
   E. STAGGER ALL SPLICES OF ALL HORIZONTAL REINFORCING
   F. WALL AND COLUMN DOWELS SHALL BE THE SAME SIZE AND SPACING AS WALL AND COLUMN REINFORCING, UNLESS NOTED OTHERWISE:
   G. PROVIDE MILL CERTIFICATE ON ALL REINFORCING STEEL. TESTING REQ'D ON UNIDENTIFIED REINFORCING STEEL.
   H. THE FOLLOWING MINIMUM CONCRETE COVERAGES SHALL BE MAINTAINED UNLESS NOTED OTHERWISE:
      1. SLABS ON GRADE -------------------- CENTER OF SLAB
      2. CAST AGAINST AND EXPOSED TO EARTH ----------- 3"
      3. CONCRETE EXPOSED TO EARTH OR WEATHER
         #6 AND LARGER -------- 2"
         #5 AND SMALLER -------- 1 1/2"
      4. CONCRETE NOT EXPOSED TO WEATHER OR EARTH
         SLABS, WALLS AND JOISTS:
         #14 AND LARGER -------- 1 1/2"
         #11 AND SMALLER -------- 3/4"
         BEAMS AND COLUMNS:
         PRIMARY REINF., TIES, STIRRUPS AND SPIRALS --- 1 1/2"
      5. THE MINIMUM CLEAR SPACING BETWEEN PARALLEL BARS IN A LAYER SHALL BE ONE BAR DIAMETER BUT NOT LESS THAN 1 INCH.
3. CONCRETE: READY-MIXED CONCRETE ASTM C94.
4. CEMENT: PORTLAND CEMENT TYPE V; ASTM C-150
5. NORMAL WT. CONC. - AGGREGATES: NATURAL ROCK AND SAND: ASTM C-33
   LIGHT WT. CONC. - AGGREGATES: NATURAL ROCK AND SAND: ASTM C-330
6. DOWELS, ANCHOR BOLTS, INSERTS, ETC., SHALL BE SECURELY TIED IN PLACE PRIOR TO POURING OF CONCRETE OR GROUT.
7. ANCHOR BOLTS WITH UPSET THREADS SHALL NOT BE USED.
8. NO PIPES, DUCTS, OR CONDUIT SHALL BE PLACED IN CONCRETE UNLESS SPECIFICALLY DETAILED OR NOTED.
9. CONSTRUCTION JOINTS SHALL BE CLEAN AND FREE OF LAITANCE AND SHALL BE ROUGHENED TO A FULL AMPLITUDE OF 1/4" SEE ACI 318 SECTION 26.5.6 & 22.9 FOR ADDITIONAL REQUIREMENTS
10. WELDING OF REINFORCING STEEL: AWS D1.4 LOW HYDROGEN ALL REINFORCING TO BE WELDED: ASTM A-706

STRUCTURAL STEEL:

1. STEEL SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING A.S.T.M. DESIGNATIONS.
   W SHAPES ---------------- ASTM A-992 GRADE 50
   STRUCTURAL SHAPES & PLATES ---- ASTM A-36 U.N.O.
   STEEL TUBE ---------------- ASTM A-500 GRADE B
   STEEL DECK ---------------- ASTM A-653 (SS) GRADE 33
   MACHINE BOLTS ------------- ASTM A-307 GRADE A
   HIGH STRENGTH BOLTS --------- ASTM A-325 (TYPE SC)
   ANCHOR BOLTS (IN CONCRETE) ----- ASTM F1554 GRADE 36 U.N.O.
2. NO STRUCTURAL STEEL SHALL BE FABRICATED OR ERECTED PRIOR TO REVIEW OF SHOP DRAWINGS BY THE STRUCTURAL ENGINEER.
3. ALL ERECTION AND FABRICATION SHALL COMPLY WITH THE LATEST EDITION OF THE AISC.
4. WELDING SHALL BE PERFORMED ONLY BY CERTIFIED WELDERS. ALL SHOP WELDING SHALL BE DONE IN THE SHOP OF AN APPROVED FABRICATOR.
5. NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
6. ALL EXPOSED STEEL SHALL BE GALVANIZED U.N.O.
7. ALL EXPOSED WELDS SHALL BE GROUND SMOOTH.
8. WELD FILLER=E70XX

NAILING SCHEDULE:

1. JOISTS AND RAFTERS TO BEARINGS-TOENAIL EA SIDE---------- 3-8d
2. STUDS TO SOLE PLATE OR BEARING-TOENAIL EA SIDE---------- 2-8d
3. LOWER DOUBLE TOP PLATE TO STUDS---------- 2-16d
4. UPPER DOUBLE TOP PLATE TO LOWER PLATE---------- 2-16d @ 16" o.c.
5. TOP PLATES-ENDS AND INTERSECTIONS---------- 3-16d
6. BLOCKING BETWEEN STUDS- EA END FACENAIL ---------- 2-16d
   TOENAIL---------- 2-10d
7. BLOCKING BETWEEN JOISTS OR RAFTERS EA. END FACENAIL ---------- 2-10d
   TOENAIL---------- 3-8d
8. MULTIPLE STUDS---------- 16d @12"O.C.
9. BUILT-UP BEAMS---------- 20d @ 32" O.C @ TOP & BOTT. STAGGERED 2-20d AT ENDS, AT EA. SPLICE
10. BUILT-UP CORNER STUDS---------- 16d @ 12"o.c.
11. LET IN BRACING EA END----1X6---------- 3-8d
    1X8---------- 4-8d
    AT INTERMEDIATE STUDS--- 1X6---------- 2-8d
    1X6---------- 3-8d
12. RIBBONS TO STUDS--------- 1X RIBBON---------- 2-8d
    2X RIBBON---------- 2-16d
13. ALL NAILS APPLIED TO PRESSURE TREATED LUMBER SHALL BE GALVANIZED.
14. PRE-DRILL PILOT HOLES TO ALL MEMBERS FOR NAILS 20d OR LARGER.

LUMBER:

1. ALL STRUCTURAL LUMBER SHALL BE DOUGLAS FIR-LARCH OF THE GRADES INDICATED UNLESS OTHERWISE NOTED:
   SILL PLATES: DOUGLAS FIR PRESSURE TREATED (NO. 2)
   2" & 3" T&G DECKING: SELECT DEX
   STRUCTURAL FRAMING:
      2"-4" THICK 2"-4" WIDE NO. 2
      2"-4" THICK 5" AND WIDER NO. 1
   BEAMS 5" & THICKER: SELECT STRUCT.
   POSTS AND TIMBERS:
      5" x 5" & LARGER SELECT STRUCT.
2. ALL STRUCTURAL LUMBER SHALL BE GRADED IN ACCORDANCE WITH THE STANDARDS OF THE WEST COAST LUMBER INSPECTION BUREAU.
3. ALL WOOD BEARING ON MASONRY OR CONCRETE SHALL BE PRESSURE TREATED DOUGLAS FIR AS OUTLINED IN C.B.C. SECTION 2303 AND A.W.P.A. U1 AND T1.
4. PLYWOOD ROOF AND SHEAR WALL SHEATHING SHALL BE GRADE MARKED STRUCTURAL I OR II (PER PLANS) PS 1-95, WITH EXTERIOR GLUE.
5. BOLTS SHALL BE ASTM A-307. PROVIDE STANDARD CUT WASHER BETWEEN BOLT HEADS AND NUTS AND THE WOOD. WHERE BOLTS ARE IN TENSION PROVIDE MALLEABLE IRON WASHERS.
6. STRUCTURAL LUMBER MEMBERS SHALL NOT BE CUT OR NOTCHED FOR PIPES OR CONDUITS ETC. UNLESS SPECIFICALLY DETAILED OR NOTED.

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT

6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 Ren. Date: 03/31/27 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — Rick M. Byrd No. S3350 Exp. 3/31/26 — STRUCTURAL — STATE OF CALIFORNIA

CONSULTANT
miyamoto.
1047 West Sixth Street, Suite A
Ontario, CA. 91762
MI2328021.00
T: (833) 270-8848
miyamotointernational.com

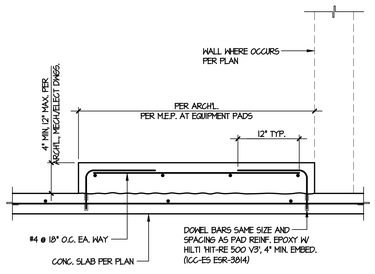
NO	DATE	BY	DESCRIPTION
#	REVISIONS		

DRAWN: JA	CHECKED: RB
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

GENERAL NOTES

DRAWING NUMBER: S0.1

BID SET



HOUSEKEEPING PAD DETAIL 17
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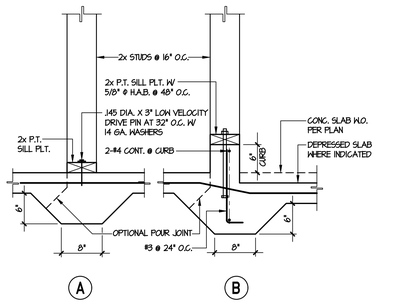

TYPICAL NON-BEARING WALL FOOTING DETAIL 13
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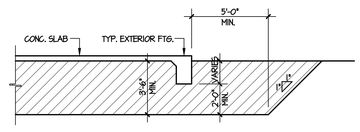

OVER EXCAVATION REQUIREMENTS 9
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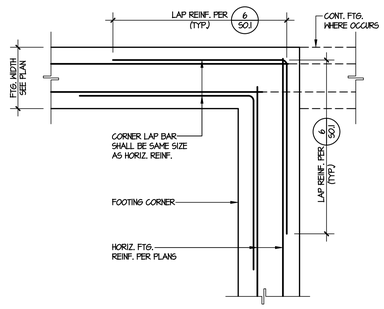

TYPICAL REINFORCING AT FOOTING CORNERS AND INTERSECTIONS 5
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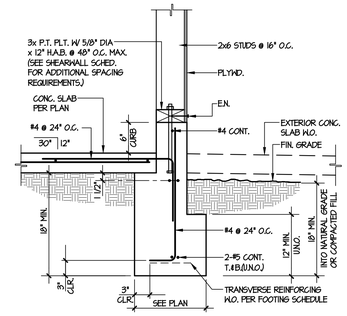
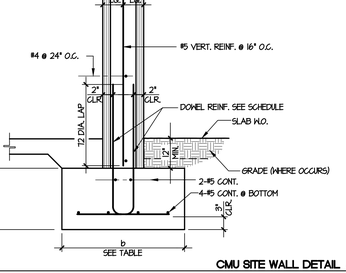


TYPICAL EXTERIOR BEARING WALL FOOTING DETAIL 1
SCALE: N.T.S.

TYPICAL STEP IN SLAB 18
SCALE: N.T.S.

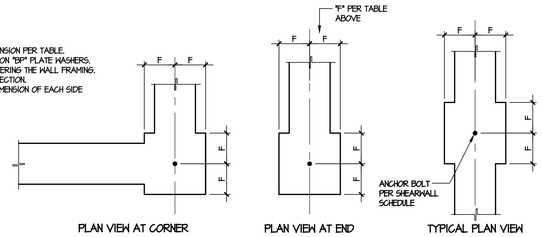


TYPICAL PLUMBING WALL TO CONCRETE CURB DETAIL 14
SCALE: N.T.S.

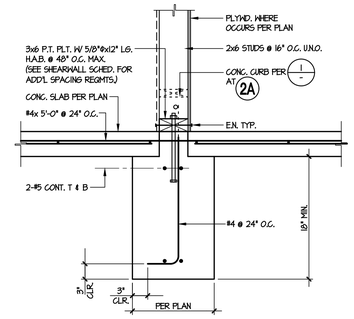
HD OR HDU HOLDOWN TABLE

MARK	SIMPSON "HD" IAPMO ER-143	SIMPSON "HDU" ICC ESR-2330	BOLTS TO POST (HD ONLY)	SO" DIM. (HD ONLY)	ANCHOR DIAM.	ANCHOR	MIN. EMBED. (de)	F	MIN. POST	LOAD (k) 100%	LOAD (k) 75 %	NUMBER OF SDS (HDU ONLY)	DETAIL
H2	-	HDU2	-	-	5/8"	PAB5	12"	10"	4x6	3.0	2.2	6	SEE DETAIL 'A' FOR SIMPSON "HD" SEE DETAIL 'B' FOR "HDU" HOLDOWN
H4	-	HDU4	-	-	5/8"	PAB5	18"	10"	4x6	4.5	3.3	10	
H5	HD5B	HDU5	2- 3/4"	2" MIN.	5/8"	PAB5	18"	10"	4x6	4.9	3.6	14	
H7	HD7B	HDU8	3- 3/4"	2" MIN.	7/8"	PAB7	18"	12"	4x6	6.5	5.1	20	
H9	HD9B	HDU11	3- 1/8"	2 3/8" MIN.	7/8" ø HD9B/1" ø HDU11	PAB7/PAB8	18"	12"	6x6	9.5	7.1	30	
H12	HD12	HDU14	4- 1"	3 5/8" MIN.	1"	PAB8	24"	15"	6x8	14.2	10.6	36	
H19	HD19	-	5- 1"	3 5/8" MIN.	1 1/4"	PAB10	24"	23"	6x8	19.0	14.2	-	

NOTES:
1. HOLDOWN SHALL BE TORQUED AS REQ'D BY MANUFACTURER.
2. PAB DENOTES SIMPSON 'PAB' ANCHOR.
3. USE SIMPSON SDS 25212 WOOD SCREWS AT ALL 'HDU' APPLICATIONS
4. HEAVY'Y HEX NUT REQUIRED FOR HDU14
5. WIDEN FOOTING AS REQUIRED FOR HOLDOWN ANCHORS PER (C) AND "F" DIMENSION PER TABLE.
6. HOLDOWN CONNECTOR BOLTS INTO WOOD FRAMING REQUIRE APPROVED SIMPSON "BP" PLATE WASHERS. HOLDOWNS SHALL BE FINGER TIGHT AND 1/2 WRENCH TURN JUST PRIOR TO COVERING THE WALL FRAMING.
7. HOLDOWN HARDWARE MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION.
8. "F" IS A MIN. DIMENSION. IF SPECIFIED FOOTING WIDTH IS GREATER THAN "F" DIMENSION OF EACH SIDE OF THE HOLDOWN, THE LARGER FOOTING WIDTH SHALL GOVERN.



FOOTING AND STEMWALL REQUIREMENTS AT HOLD DOWN ANCHORS (C)
NOTE: WIDEN FOOTING AS REQ'D TO MEET MIN. WIDTH CRITERIA BASED ON "F", AS NECESSARY



TYPICAL INTERIOR BEARING WALL FOOTING DETAIL 2
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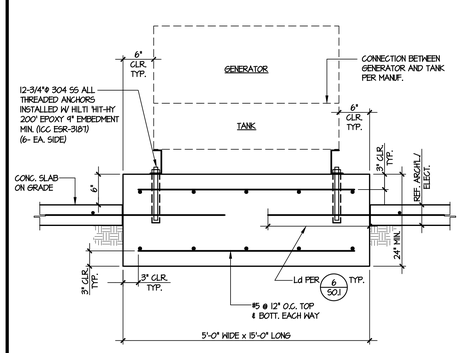
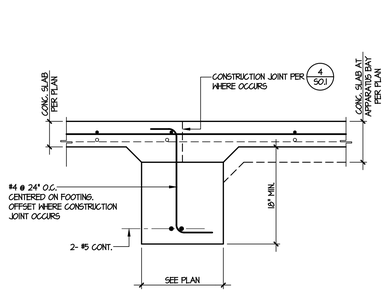


EMERGENCY ELECTRIC GERERATOR 19
SCALE: N.T.S.



TYPICAL INTERIOR FOOTING DETAIL 15
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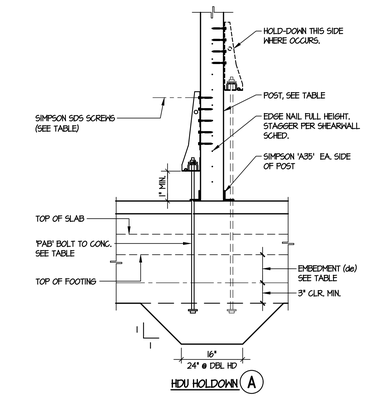

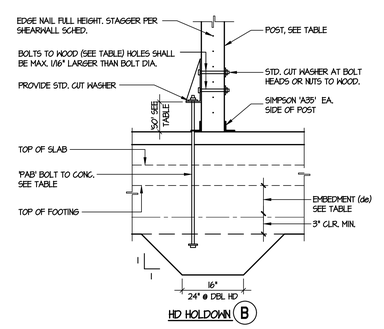

TYPICAL HOLDDOWN DETAIL 7
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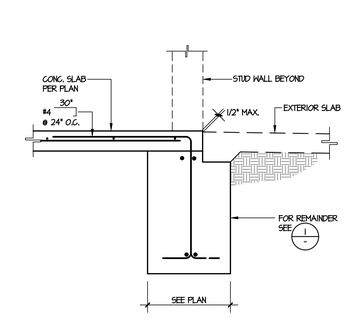
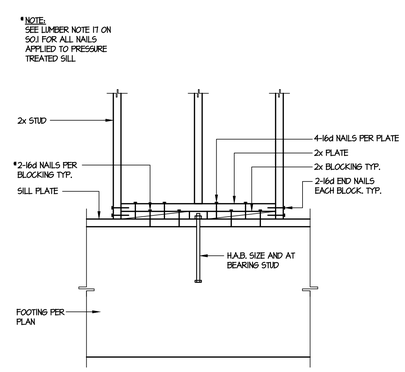


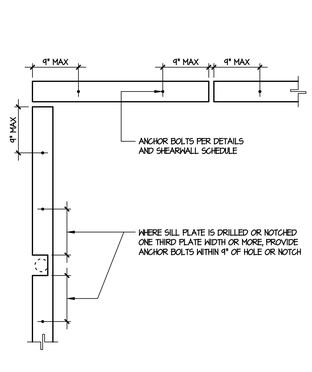
TYPICAL SLAB DETAIL AT STUD WALL OPENING 3
SCALE: N.T.S.

HEIGHT	DOWEL VERTICAL REINF.	b
6'-0"	#5 @ 16" O.C. E.F.	4'-0"
8'-0"	#5 @ 8" O.C. E.F.	5'-0"

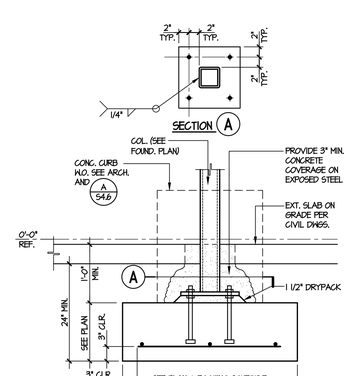
CMU SITE WALL DETAIL 16
SCALE: N.T.S.



TYPICAL AT ANCHOR BOLT BELOW STUD 12
SCALE: N.T.S.



TYPICAL ANCHOR BOLT PLACEMENT AT SILL DETAIL 8
SCALE: N.T.S.



STEEL COLUMN TO PAD FOOTING 4
SCALE: N.T.S.

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
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FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — Re-Sig 03/31/27 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — Mark Wayne Bond No. 53150 Exp. 3/31/26 — STRUCTURAL — STATE OF CALIFORNIA

CONSULTANT
miyamoto.
1047 West Sixth Street, Suite A
Ontario, CA. 91762
M03206201.00
T: (833) 270-8648
miyamotointernational.com

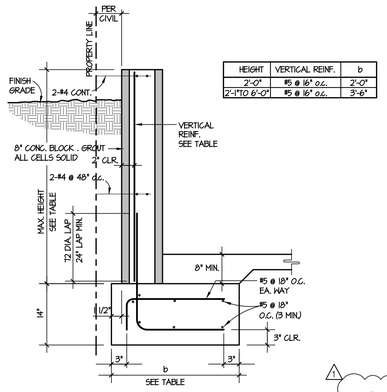
NO	DATE	BY	DESCRIPTION
#			REVISIONS

DRAWN: JA	CHECKED: RB
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

FOUNDATION DETAILS

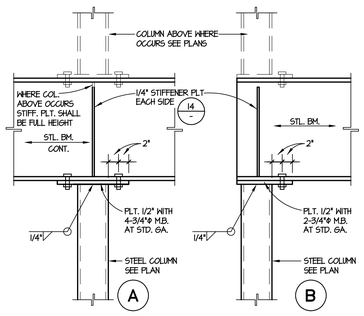
DRAWING NUMBER: S0.2

BID SET

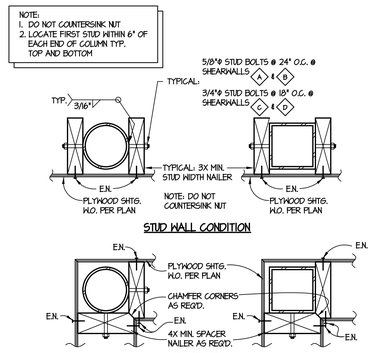


HEIGHT	VERTICAL REINF.	b
2'-0"	#5 @ 16" O.C.	2'-0"
2'-1"TO 6'-0"	#5 @ 16" O.C.	3'-6"

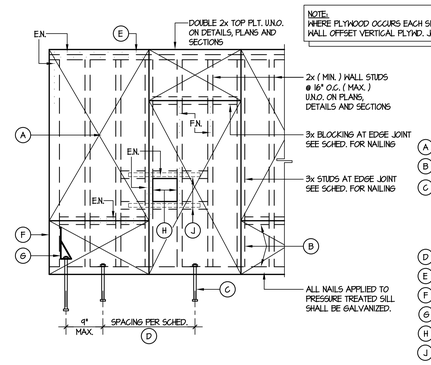
RETAINING WALL DETAIL (PROPERTY LINE CONDITION) 17
SCALE: N.T.S.



TYPICAL COLUMN TO BEAM DETAILS 13
SCALE: N.T.S.



TYPICAL WOOD NAILER TO COLUMN DETAIL 9
SCALE: N.T.S.



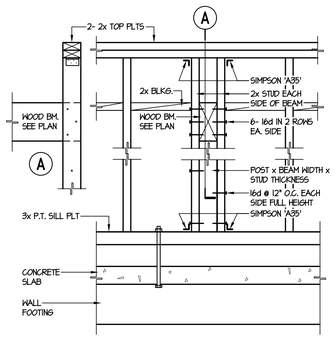
NOTE:
WHERE PLYWOOD OCCURS EACH SIDE OF WALL OFFSET VERTICAL PLYWD. JOINTS

SHEARWALL SCHEDULE
STRUCTURAL 1

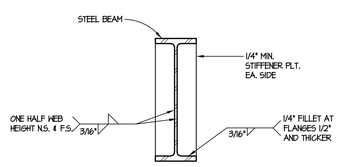
TYPE.	NAILING		A.B. SPACING	ALLOWABLE SHEAR
	EDGE	FIELD		
A	10d @ 6" O.C.	10d @ 12" O.C.	42" O.C.	340#/FT.
B	10d @ 4" O.C.	10d @ 12" O.C.	28" O.C.	510#/FT.
C	10d @ 3" O.C. STAGG.	10d @ 12" O.C.	21" O.C.	665#/FT.
D	10d @ 2" O.C. STAGG.	10d @ 12" O.C.	16" O.C.	870#/FT.

(A) ALL PLYWOOD TO BE 1/2" STRUCTURAL 1 SEE NOTES ON S0.1
(B) PROVIDE 3x (MIN.) MEMBERS AT ALL ADJOINING PANEL EDGE AND SILLS. WHERE PLYWOOD OCCURS BOTH SIDES OFFSET VERTICAL PLYWOOD JOINTS.
(C) ANCHOR BOLTS TO BE 5/8"ø W/2" MIN. SEE SHEARWALL SCHEDULE FOR SPACING. PROVIDE 2 BOLTS PER PANEL MIN. PROVIDE SIMPSON "BPS" 5/8-3 AT ALL ANCHOR BOLTS AT 4" NOMINAL WIDE SILL PLATES. PROVIDE SIMPSON "BPS" 5/8-6 AT ALL 6" NOMINAL WIDE SILL PLATES. A CUT WASHER SHALL BE UTILIZED BETWEEN THE NUT AND THE TOP OF THE SLOTTED WASHER. THE WASHER SHALL BE POSITIONED SUCH THAT THE EDGE OF THE PLATE WASHER IS WITHIN 1/2" OF THE SHEATHED EDGE OF THE SILL PLATE. WHERE PLYWOOD OCCURS EACH SIDE OF THE WALL, THE WASHER SHALL BE PLACED WITHIN 1/2" OF EACH FACE OF SILL PLATE.
(D) REDUCE SPACING BY 1/2 WHERE SHEARWALL OCCURS BOTH SIDES
(E) STAGGER NAILS FOR TYPE 'C' AND 'D' SHEARWALLS @ DOUBLE TOP PLATES
(F) 4x MIN. POST @ HOLD DOWN LOCATIONS. U.N.O. ON PLANS, DETAILS OR SECTIONS
(G) HOLD DOWN, SEE PLAN FOR TYPE AND (7 / S02) FOR INSTALLATION
(H) 14 1/2" SQUARE MAX. OPENING. (STUDS SHALL NOT BE CUT UNLESS SPECIFICALLY DETAILED)
(J) PROVIDE SIMPSON LSTA36" ABOVE AND BELOW OPENINGS AT SHEARWALL TYPES 'C' AND 'D' AND ALL DOUBLE SIDED.

TYPICAL PLYWOOD SHEARWALL DETAIL 1
SCALE: N.T.S.



WOOD BEAM TO WALL DETAIL 18
SCALE: N.T.S.



TYPICAL STIFFENER PLATE DETAIL 14
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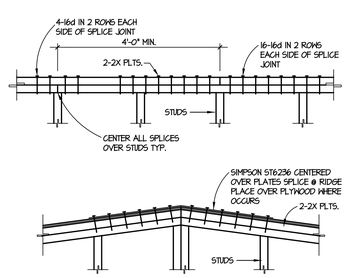

TYPICAL MINIMUM PLATE SPLICE DETAIL 6
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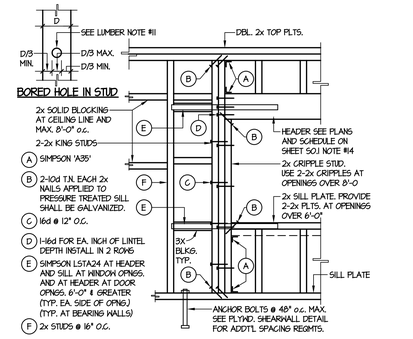

TYPICAL STUD WALL FRAMING DETAIL 2
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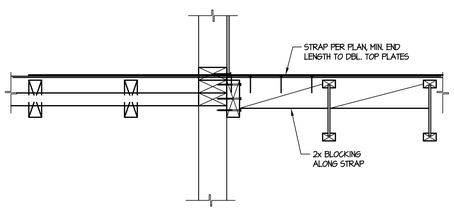

DRAG DETAIL 19
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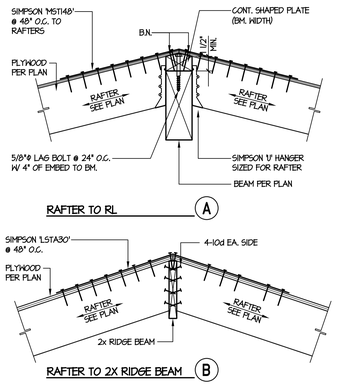
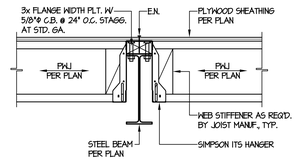


TYPICAL RIDGE BEAM AND RIDGE BOARD 15
SCALE: N.T.S.



TYPICAL RAFTER TO STEEL BEAM DETAIL 11
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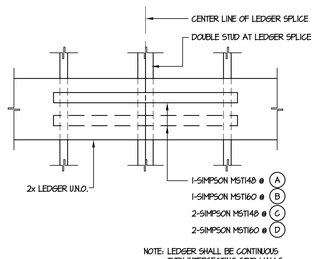
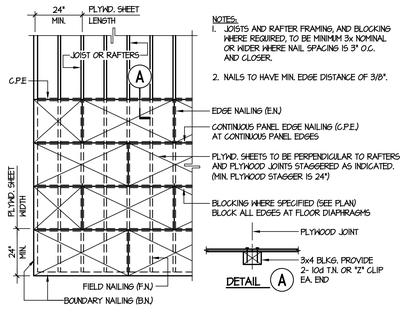
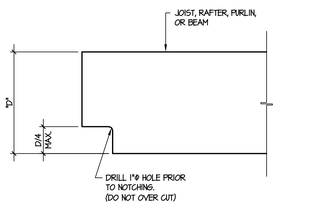


TYPICAL LEDGER SPLICE DETAIL 7
SCALE: N.T.S.



NOTES:
1. JOISTS AND RAFTER FRAMING, AND BLOCKING WHERE REQUIRED, TO BE MINIMUM 3x NOMINAL OR WIDER WHERE NAIL SPACING IS 3" O.C. AND CLOSER.
2. NAILS TO HAVE MIN. EDGE DISTANCE OF 3/8".

TYP. PLYWOOD DIAPHRAGM SHEATHING DETAIL 3
SCALE: N.T.S.



TYPICAL NOTCHING DETAIL 16
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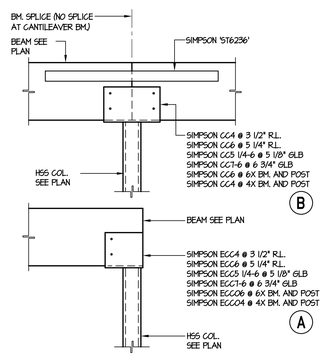

TYPICAL BEAM TO STEEL COLUMN 12
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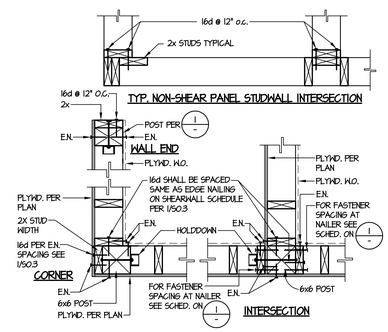

TYPICAL SHEARWALL INTERSECTIONS 4
SCALE: N.T.S.

PBK
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FONTANA FIRE STATION No. 80 & TRAINING CENTER

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Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT
KELLEY NEEDHAM
C-19064
to be 03/31/27
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
Rick W. Byrd
No. S3350
Exp. 3/31/26
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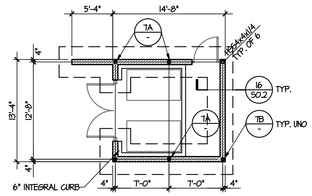
NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
2			
3			
4			
5			
6			
			REVISIONS

DRAWN:	JA	CHECKED:	RB
DATE:	05/11/2025	SCALE:	AS NOTED
PROJECT NUMBER:	W2100100AR		

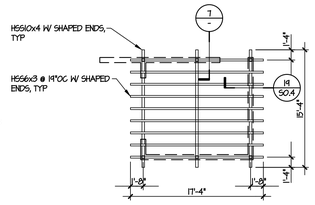
WOOD FRAMING DETAILS

DRAWING NUMBER: S0.3

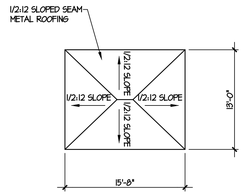
BID SET



FOUNDATION PLAN (A)

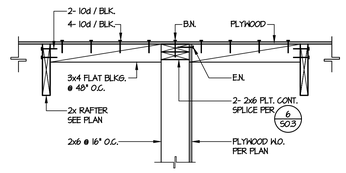


FRAMING PLAN (B)



ROOF PLAN (C)

TRASH ENCLOSURE PLANS (5)
SCALE: N.T.S.



TYPICAL RAFTER PARALLEL TO WALL (1)
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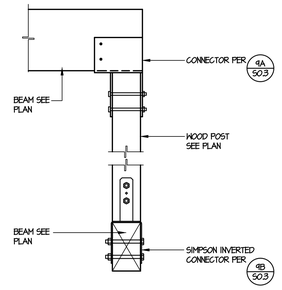

TYP. KING POST TO BEAM (6)
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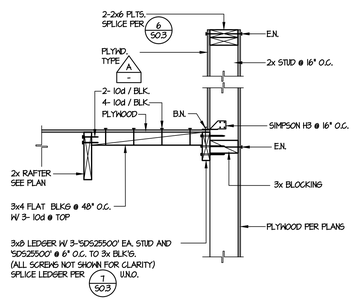

LEDGER TO STUD WALL DETAIL (2)
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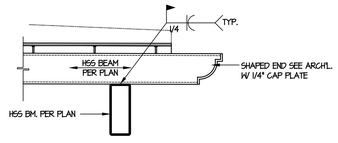

DETAIL (11)
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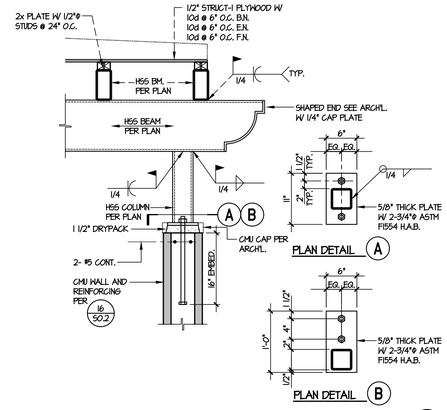

DETAIL (7)
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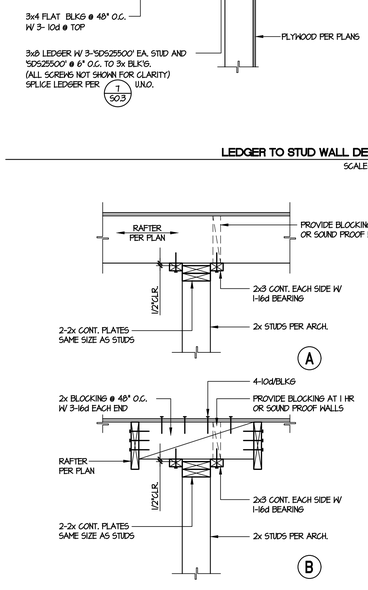

TYPICAL NON-BEARING WALL TO RAFTERS (3)
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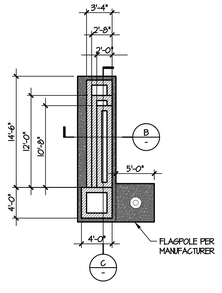
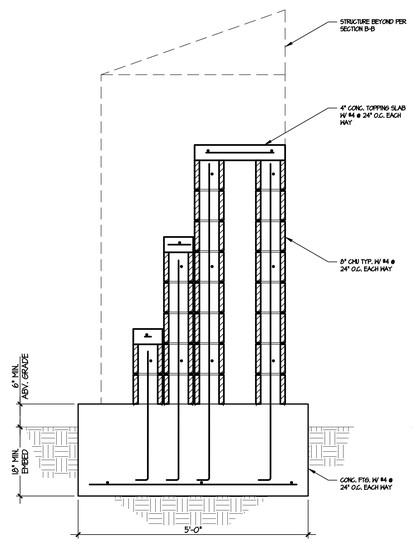
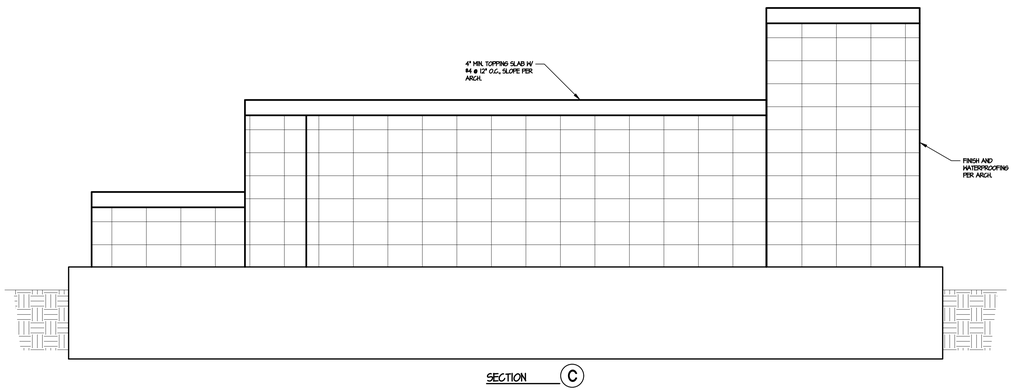


PLAN (A)



SECTION (B)



SECTION (C)

FLAGPOLE SIGN (8)
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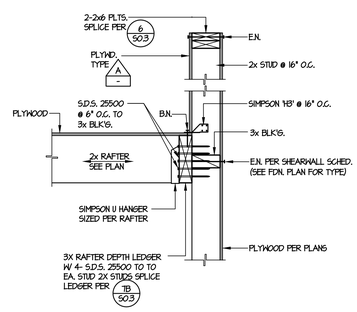

LEDGER TO STUD WALL DETAIL (4)
SCALE: N.T.S.

PBK
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LICENSED ARCHITECT
KELLEY NEEDHAM
C-19064
Te'la 03/31/27
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
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No. S3250
Exp. 3/31/26
STRUCTURAL
STATE OF CALIFORNIA

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MI0328001.00

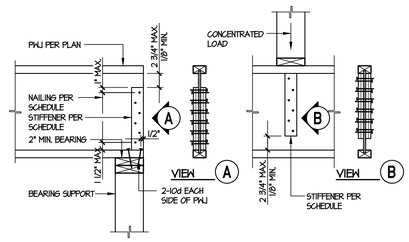
NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN: JA	CHECKED: RB
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

WOOD FRAMING DETAILS

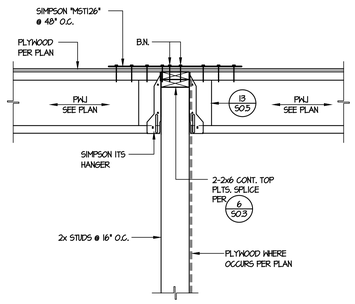
DRAWING NUMBER: S0.4

BID SET

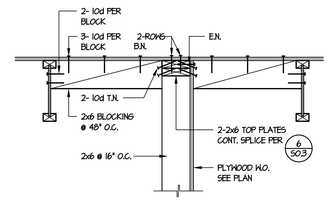


PWJ JOIST	STIFFENER MATERIAL EACH SIDE	STIFFENER NAILING
PWJ (2 1/2" FLANGE)	1"x2 5/16" CDX PLYWOOD	8d x2 1/2" @ 2" O.C. MAX.

TYPICAL PWJ WEB STIFFENER DETAIL 13
SCALE: N.T.S.



RAFTER PERPENDICULAR TO WALL 5
SCALE: N.T.S.



RAFTER PARALLEL TO WALL 1
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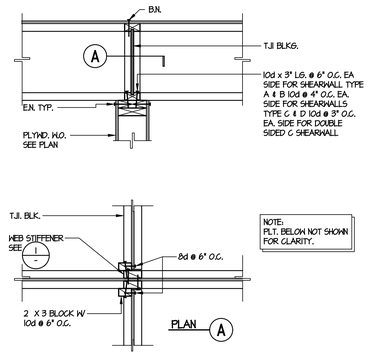

TYPICAL PWJ SHEAR BLOCKING 14
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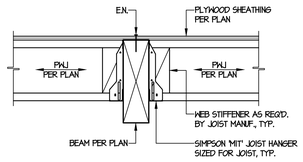

TYPICAL PWJ JOIST TO WOOD BEAM 10
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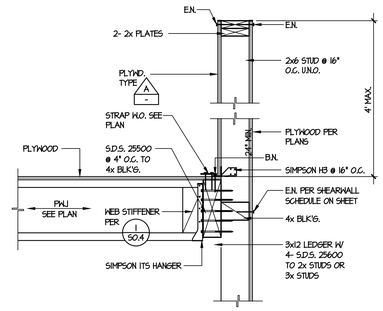
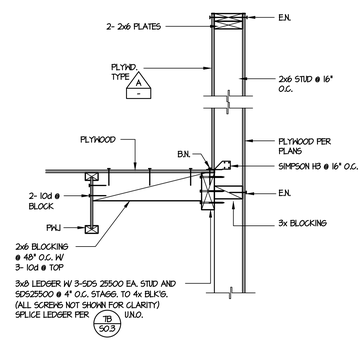
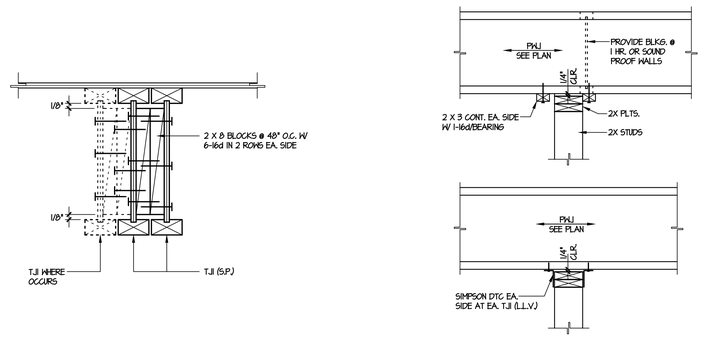


PWJ PERPENDICULAR TO LEDGER 6
SCALE: N.T.S.

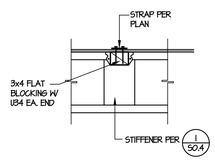


PWJ PARALLEL TO LEDGER AT WALL 2
SCALE: N.T.S.

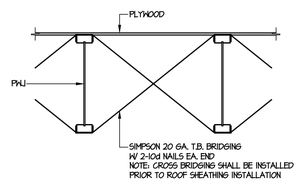


TYPICAL MULTIPLE PWJ 7
SCALE: N.T.S.

TYPICAL NON-BEARING WALL PERPENDICULAR TO JOIST 3
SCALE: N.T.S.



STRAP PERPENDICULAR TO PJW 12
SCALE: N.T.S.



NOTE:
1. ONE ROW OF BRIDGING OR BLOCKING SHALL BE INSTALLED AT THE MIDSPAN IF ANY OF THE FOLLOWING CONDITIONS EXIST:
   a.) THE SPAN OF THE JOIST EXCEEDS 16 FEET
   b.) THE PWJ DEPTH IS 16 INCHES OR GREATER.
2. ONE ROW OF BRIDGING OR BLOCKING SHALL BE INSTALLED AT THE MIDSPAN AT ALL FLOOR JOISTS.
3. BRIDGING REQUIREMENT MAY BE AS STATED ON RED-BUILT I JOIST SHOP DRAWINGS, INCLUDING REMOVAL OF JOIST BRIDGING REQUIREMENT IF JUSTIFIED BY ENGINEERED SHOP DRAWINGS.

TYPICAL PWJ CROSS BRIDGING 8
SCALE: N.T.S.

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FONTANA FIRE STATION No. 80 & TRAINING CENTER

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Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — te.be 03/31/27 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — Rob Wright — No. 53350 — Exp. 12/31/26 — STRUCTURAL — STATE OF CALIFORNIA

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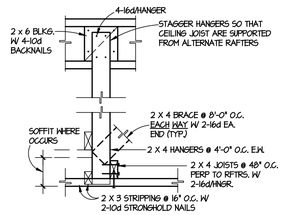
1			REVISIONS

DRAWN:	JA	CHECKED:	RB
DATE:	05/11/2025	SCALE:	AS NOTED
PROJECT NUMBER:	W2100100AR		

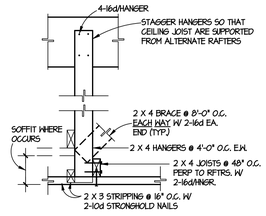
WOOD FRAMING DETAILS

DRAWING NUMBER: S0.5

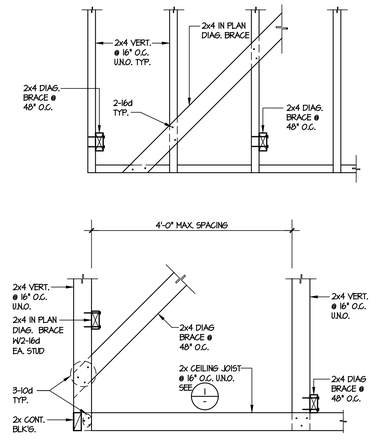
BID SET

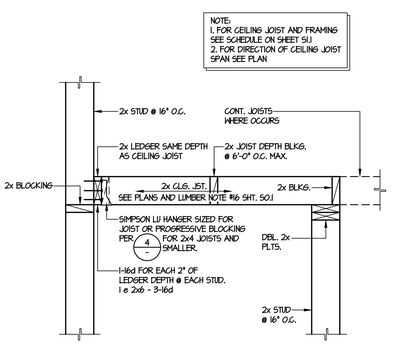


WOOD HANGER TO T.JI

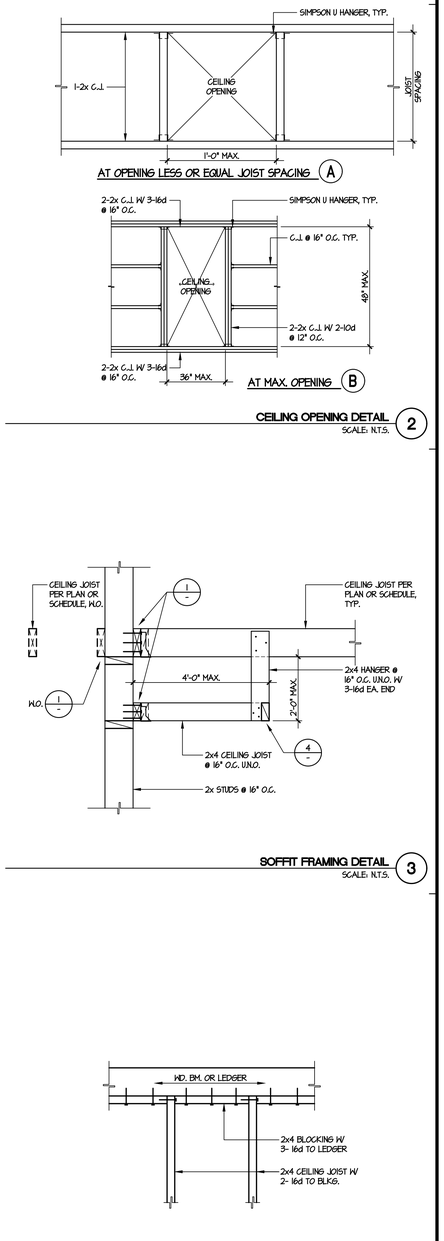


WOOD HANGER TO 2x RAFTERS



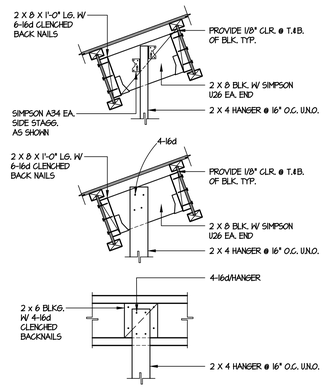


TYPICAL CEILING JOISTS FRAMING DETAIL 1
SCALE: N.T.S.

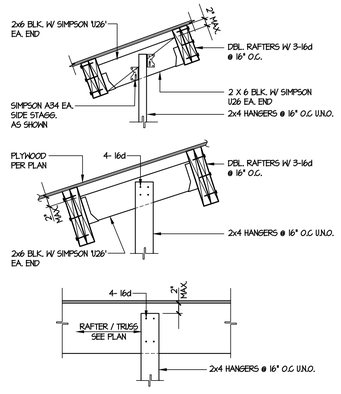


CEILING OPENING DETAIL 2
SCALE: N.T.S.

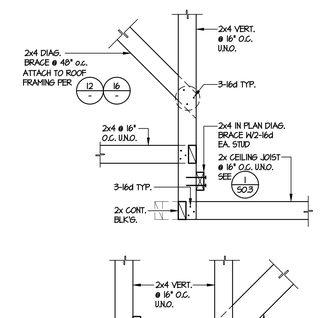
TYPICAL SUSPENDED CEILING DETAIL • PWJ FRAMING 14
SCALE: N.T.S.

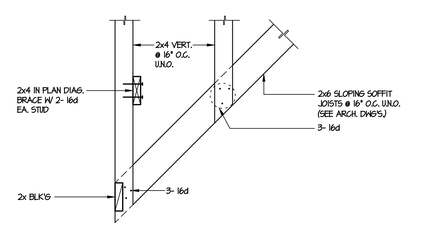


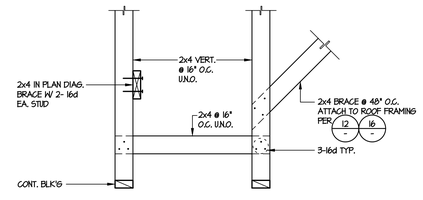
TYPICAL SUSPENDED CEILING DETAIL • 2x FRAMING 10
SCALE: N.T.S.



TYPICAL HANGER TO WOOD JOIST 11
SCALE: N.T.S.



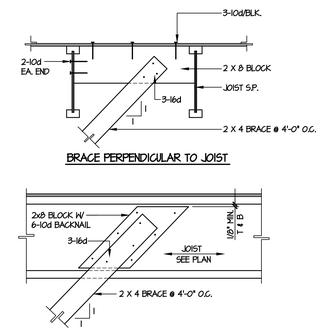




NOTE:
ALL 2x4 VERTICAL HANGERS SHALL BE ATTACHED TO ROOF ABOVE PER 3/- 11/- 12/- 15/- 16/-

TYPICAL SOFFIT FRAMING 8
SCALE: N.T.S.

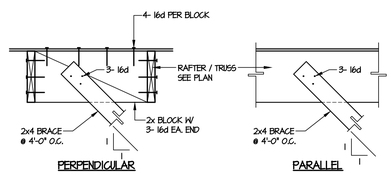
SOFFIT FRAMING DETAIL 3
SCALE: N.T.S.



BRACE PERPENDICULAR TO JOIST

BRACE PARALLEL TO JOIST

TYPICAL HANGER TO PWJ JOIST 15
SCALE: N.T.S.



PERPENDICULAR PARALLEL

TYPICAL WALL BRACE TO PWJ DETAIL 16
SCALE: N.T.S.

TYPICAL WALL BRACE TO WOOD JOIST 12
SCALE: N.T.S.

TYPICAL PROGRESSIVE BLOCKING 4
SCALE: N.T.S.

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LICENSED ARCHITECT
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Ex.Da 03/31/27
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TYPICAL CEILING FRAMING DETAILS

DRAWING NUMBER: S0.6

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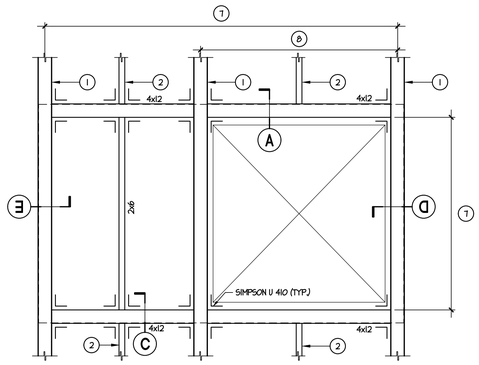
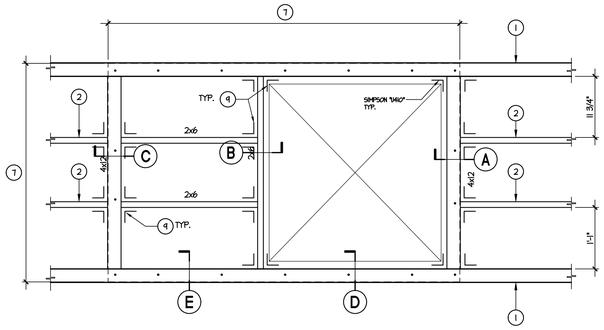


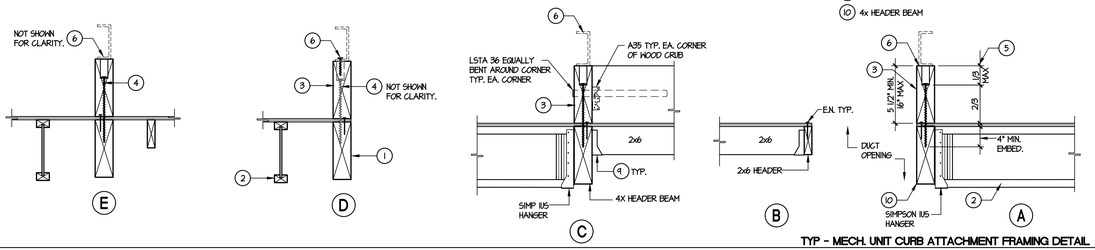
UNIT PERPENDICULAR WITH FRAMING



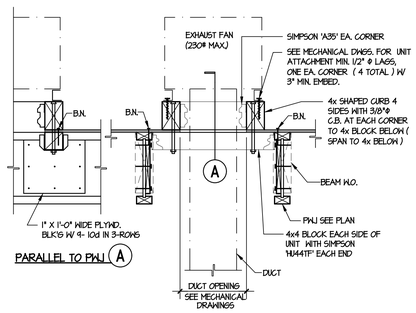
UNIT PARALLEL WITH FRAMING

MECHANICAL UNIT ATTACHED								
UNIT	WEIGHT (INCL. CURBS)	ISOLATED UNIT Y/N	APPROX. UNIT SIZE		(6) 1/2"ø LAGS MU CURB TO HOOD CURB		(4) 1/2" ø LAGS SUPD CURB TO STRUCTURE	
			LENGTH	WIDTH	LONGSIDE	SHORTSIDE	LONGSIDE	SHORTSIDE
AC1 -AC3	1060	YES	75"	47"	5 LAGS 2" EMBED	3 LAGS 2" EMBED	ONE EA CORNER	

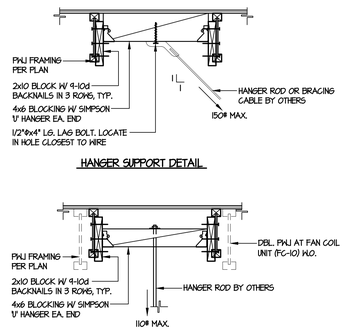
1. HOOD BEAM SEE PLAN.
2. ROOF JOIST SEE PLAN.
3. 4x CURB SHAPED TO LEVEL AS REQ'D AT SLOPING. USE 3 1/2" x REDLAM AS REQ'D AT TALLER UNIT CURBS.
4. 1/2"ø LAGS x LENGTH REQ'D. MIN EMBEDMENT 4" INTO HOOD FRAMING BELOW. DAP INTO SHAPED CURB TO FACILITATE INSTALL.
5. MAXIMUM DAP LENGTH IS 1/3 THE CURB HEIGHT.
6. UNIT CURB ATTACHED W/ 1/2"ø X4" LAGS SPACED PER TABLE.
7. CONTRACTOR SHALL COORDINATE BEAM AND HEADER LAYOUT WITH THE UNIT CURB ANCHOR LOCATIONS.
8. CONTRACTOR COORDINATE INTERIOR BEAM LOCATION WITH DUCT CLEARANCES.
9. SIMPSON HU26 HANGER
10. 4x HEADER BEAM

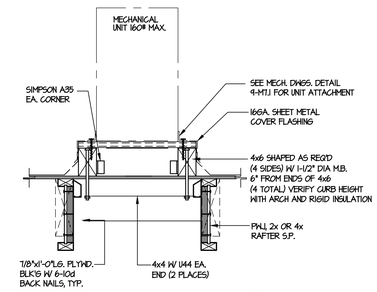


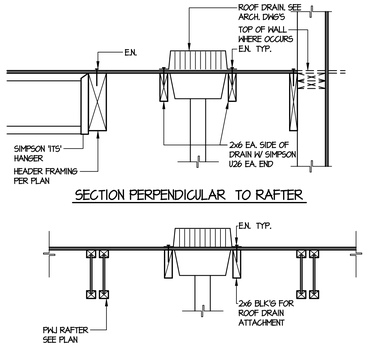
TYP - MECH. UNIT CURB ATTACHMENT FRAMING DETAIL (2)
SCALE: N.T.S.



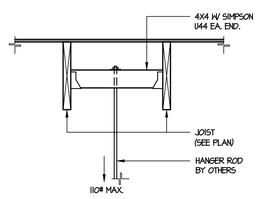
EXHAUST FAN FRAMING AT WOOD ROOF CONSTRUCTION (11)
SCALE: N.T.S.



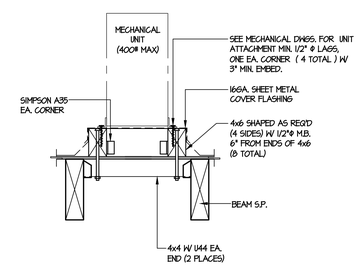




TYPICAL ROOF DRAIN FRAMING (12)
SCALE: N.T.S.



MECHANICAL UNIT HANGER SUPPORT DETAILS (8)
SCALE: N.T.S.



TYPICAL CONDENSING UNIT PLATFORM (4)
SCALE: N.T.S.

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FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
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Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — re-lic 03/31/27 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — Kelley Ka'ai Needham — No. S3350 — Exp. 3/31/26 — STRUCTURAL — STATE OF CALIFORNIA

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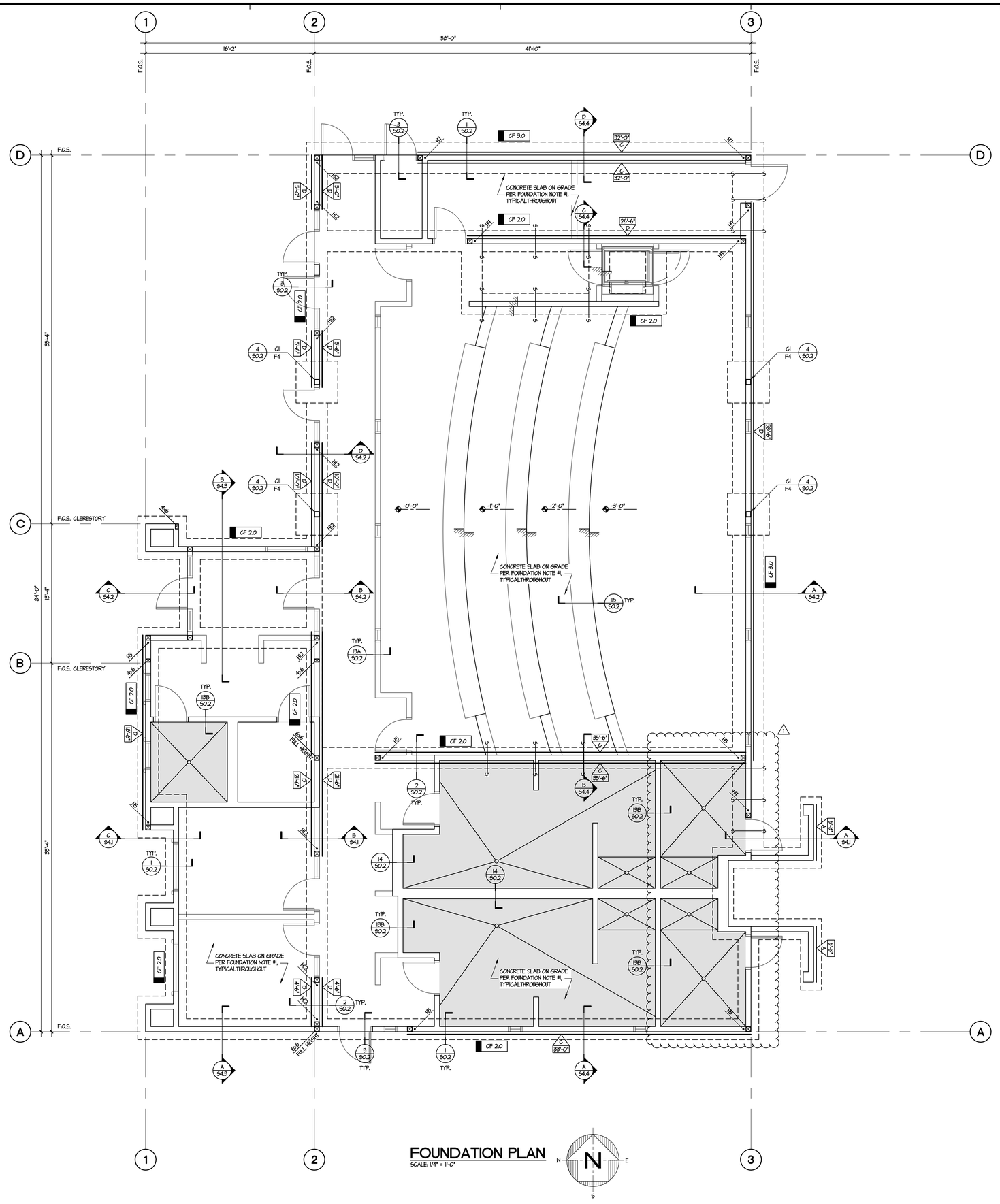
DATE:	05/11/2025	SCALE:	AS NOTED
PROJECT NUMBER:	W2100100AR		

MECHANICAL / PLUMBING FRAMING DETAILS

DRAWING NUMBER: S0.7

BID SET



FOUNDATION PLAN

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

FOUNDATION PLAN NOTES

1. 5" THK. CONC. SLAB W/ #4 @ 18" O.C. E.W. @ MID. SLAB OVER 15 MIL. VAPOR BARRIER OVER 2" CLEAN SAND OVER 4" AGGREGATE BASE PER SPECIFICATIONS AND DETAILS.
2. ALL EXTERIOR WALLS AND PARAPETS WHICH ARE NOT ALREADY INDICATED AS SHEAR WALLS SHALL RECEIVE PLYWOOD AND NAILING PER SHEAR WALL TYPE 'A'
   - DENOTES SHEARWALL TYPE SEE (1/S03)
   - DENOTES MIN. SHEARWALL LENGTH.

   (NOTE: PLYWD. SHALL EXTEND FULL LENGTH OF WALL AT INTERIOR SHEAR WALLS AS REQ'D FOR FLUSH FINISH)
3. SEE ARCH. DWG'S FOR ALL DIMENSIONS NOT SHOWN AND VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS
4. TYPICAL FOUNDATION FORMING DETAILS PER (1/S01)
5. STEP FOOTINGS PER TYPICAL STEP FOOTING DETAIL (2/S01)
6. FRAMING AT OPENINGS PER TYP. STUD WALL FRAMING DETAIL (2/S03)
7. H(9) DENOTES HOLD DOWN AND HOLD DOWN SIZE. FOR TYPICAL HOLD DOWN DETAIL SEE (7/S02) WIDEN FOOTING AS REQD. BY (7/S02) IN THE VICINITY OF H.D. BOLTS
8. STEP FOOTINGS AT PLUMBING LINES PER (3/S01)
9. ALL DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE
10. PRIOR TO REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE SOIL ENGINEER SHALL INSPECT AND APPROVE THE FOUNDATION EXCAVATIONS.
11. HOLD DOWN HARDWARE MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION.
12. VERIFY ALL CURB HEIGHTS WITH ARCHITECTURAL DRAWINGS.
13. SHADED AREA INDICATES EXTENTS OF SLAB DEPRESSION PER PLAN, VERIFY WITH ARCHIT. DRAWINGS.
14. 4" HIGH CONC. HOUSE KEEPING PAD, SEE (11/S02)

CONTINUOUS FOOTING SCHEDULE

MARK	WIDTH	THICK	REINFORCEMENT
CF2.0	2'-0"	2'-0"	2- #5 TOP & BOTTOM
CF3.0	3'-0"	2'-0"	2- #5 TOP & 4- #5 BOTT. W/ #4 TRANSVERSE @ 24" O.C. BOTT.

PAD FOOTING SCHEDULE

MARK	SIZE	REINFORCEMENT
F4	4'-0" x 4'-0" x 1'-6"	4- #5 EACH WAY

COLUMN SCHEDULE

MARK	COLUMN SIZE	BASE PLT.	WELD SIZE	SIZE & NO. OF A.B. U.N.O.
C1	HSS 4x4x1/4	3/4" THICK	3/16"	4- 3/4" x 12" LONG

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LICENSED ARCHITECT — KELLEY NEEDHAM, C-19064, Sc.Ia: 03/31/27, STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — RCE, RE, Rev. No.: 53150, Exp.: 3/31/26, STRUCTURAL, STATE OF CALIFORNIA

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REVISIONS

DRAWN: JA	CHECKED: RB
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

FOUNDATION PLAN

DRAWING NUMBER: S1.1

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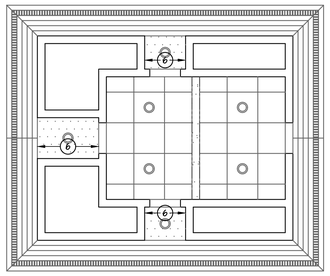
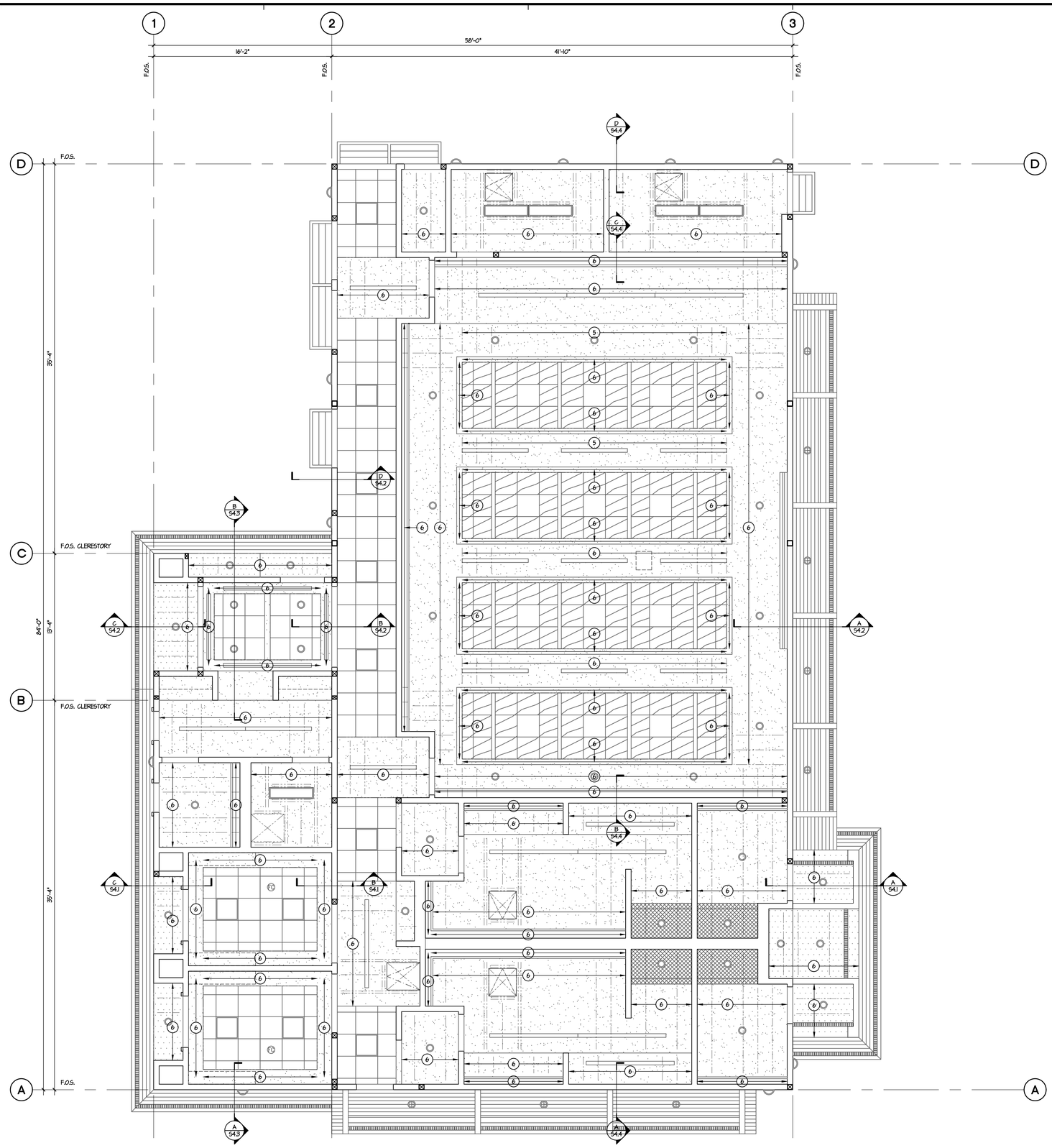


CLERESTORY CEILING PLAN
SCALE: 1/4" = 1'-0"



FIRST FLOOR CEILING PLAN
SCALE: 1/4" = 1'-0"

CEILING FRAMING PLAN NOTES

1. SEE 3/S0.6 AND 8/S0.6 FOR TYPICAL SOFFIT FRAMING.
2. SEE 1/S0.6 FOR TYPICAL CEILING JOIST FRAMING DETAIL.
3. SEE 2/S0.6 FOR TYPICAL CEILING OPENING DETAIL.
4. SEE 10/S0.6 AND 14/S0.6 FOR TYPICAL SUSPENDED CEILING DETAIL.
5. SEE ARCH. DWGS. FOR ADDITIONAL INFO.
6. 2x4 @ 16" O.C.
7. 2x6 @ 16" O.C.
8. 2x8 @ 16" O.C.

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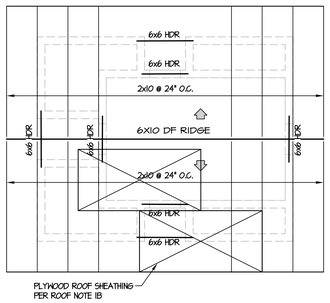
FIRST FLOOR CEILING PLAN

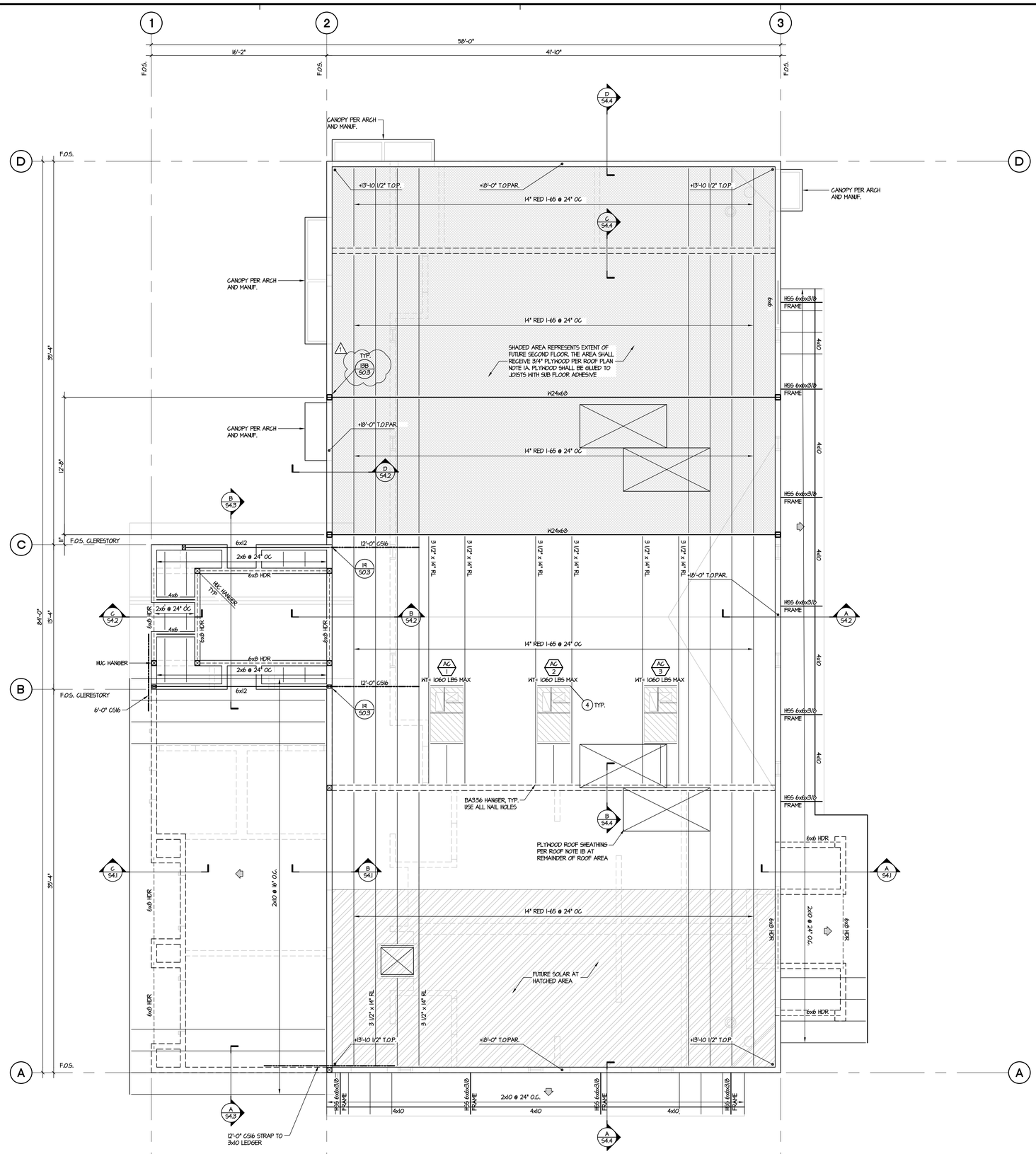
DRAWING NUMBER: S2.1

BID SET



CLERESTORY ROOF PLAN

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



ROOF FRAMING PLAN

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

ROOF FRAMING PLAN NOTES

1A. 3/4" STRUCT. I-PLYWOOD W/
10d @ 4" O.C. B.N.
10d @ 6" O.C. E.N.
10d @ 12" O.C. F.N.
BLOCK ALL EDGES TYP. SEE 3/503

1B. 5/8" STRUCT. I-PLYWOOD W/
10d @ 4" O.C. B.N.
10d @ 6" O.C. E.N.
10d @ 12" O.C. F.N.
BLOCK ALL EDGES TYP. SEE 3/503

2. ALL RAFTERS AND BEAMS DESIGNATED AS (STRUT) SHALL RECEIVE 2 ROWS (E.N.) EDGE NAILING AT TOP STAGGERED.
3. ALL (T.O.P.) TOP OF PLYWOOD HEIGHTS AND (T.O.PAR.) TOP OF PARAPET HEIGHTS ARE FROM (REF. 0'-0").
4. FOR MECHANICAL UNIT FRAMING AND DETAILS, REFER TO THE FOLLOWING DETAILS, CONDENSING UNIT 4/501 EXHAUST FAN II/501 MECH. UNIT 2/501

THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.

5. FOR ALL HEADER SIZES NOT IDENTIFIED SEE LUMBER NOTE 15 ON SHEET S0.1
6. ALL LEDGERS SHALL BE SPLICED PER 7A/503 U.N.O.
7. SHADED PORTIONS INDICATE CALIFORNIA FRAMING
8. ALL EXTERIOR WALLS AND PARAPETS WHICH ARE NOT ALREADY INDICATED AS SHEAR WALLS SHALL RECEIVE PLYWOOD AND NAILING PER SHEAR WALL TYPE 'A' 1/503
9. NO CUTTING OR NOTCHING OF PWJ FLANGES IS PERMITTED.
10. RED-I PREFABRICATED WOOD I-JOIST ARE IDENTIFIED BY A STAMP THAT INCLUDES THE PRODUCT DESIGNATION, EVALUATION REPORT NUMBER (ICC-ES ESR-2994), MANUFACTURER'S NAME (REDBUILT) OR LOGO, PLANT NUMBER, PRODUCTION DATE, AND THE NAME OR LOGO OF THE INSPECTION AGENCY (PFS CORPORATION). CALCULATIONS AND SHOP DRAWINGS, STAMPED BY A LICENSED CALIFORNIA CIVIL OR STRUCTURAL ENGINEER SHALL BE SUBMITTED FOR REVIEW AND APPROVAL TO THE ENGINEER OF RECORD PRIOR TO SUBMITTAL TO THE BUILDING DEPARTMENT FOR REVIEW AND APPROVAL.
11. SEE ARCH'L. DWGS FOR ALL DIMENSIONS NOT SHOWN AND VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS
12. FRAMING AT OPENINGS PER TYP. STUD WALL FRAMING DETAIL 2/503

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LICENSED ARCHITECT
KELLEY NEEDHAM
C-19064
Ex.Dat: 03/31/27
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
Rick W. Byrd
No. S3350
Exp. 3/31/26
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NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
			REVISIONS

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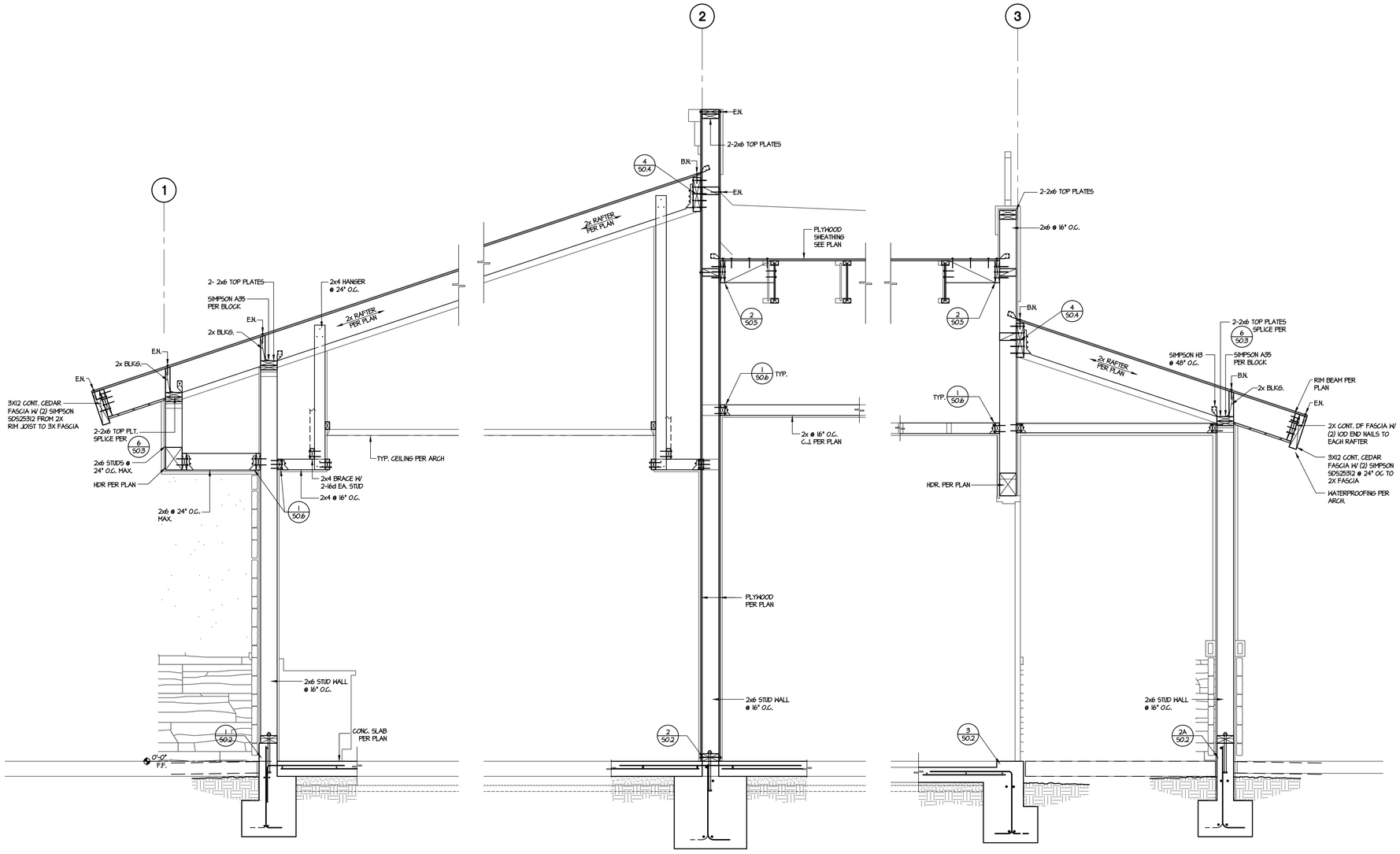
DATE:	05/11/2025	SCALE:	AS NOTED
PROJECT NUMBER:	W2100100AR		

ROOF FRAMING PLAN

DRAWING NUMBER: S3.1

BID SET



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

SECTION B
SCALE: 3/4"=1'-0"

SECTION A
SCALE: 3/4"=1'-0"

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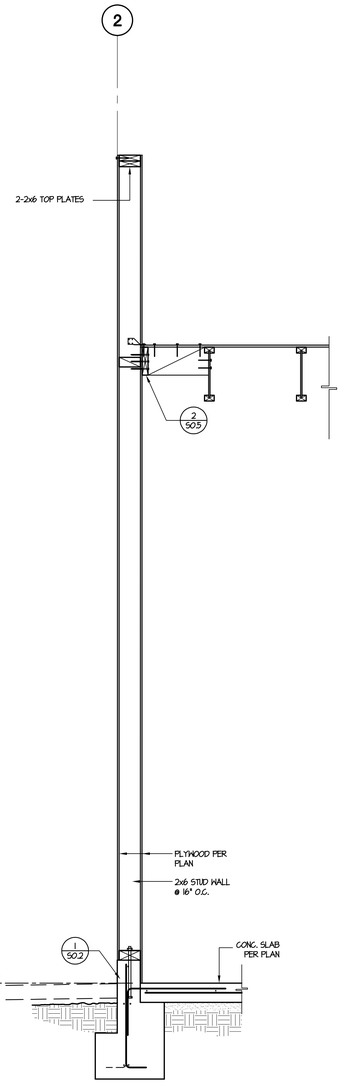
PROJECT NUMBER:	W2100100AR		

WALL SECTIONS

DRAWING NUMBER: S4.1

BID SET



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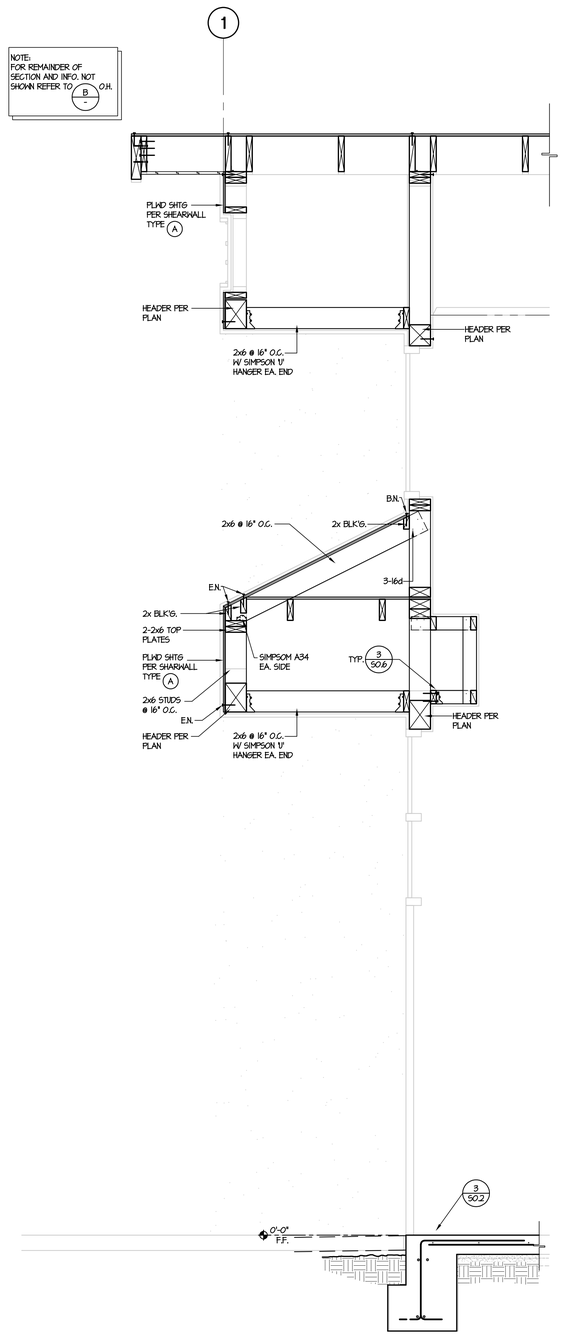

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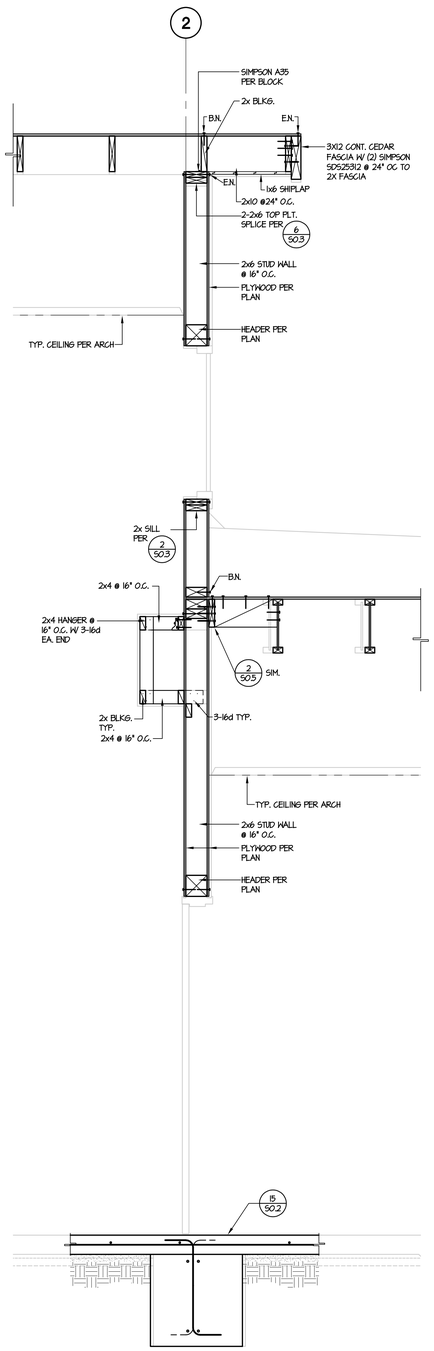

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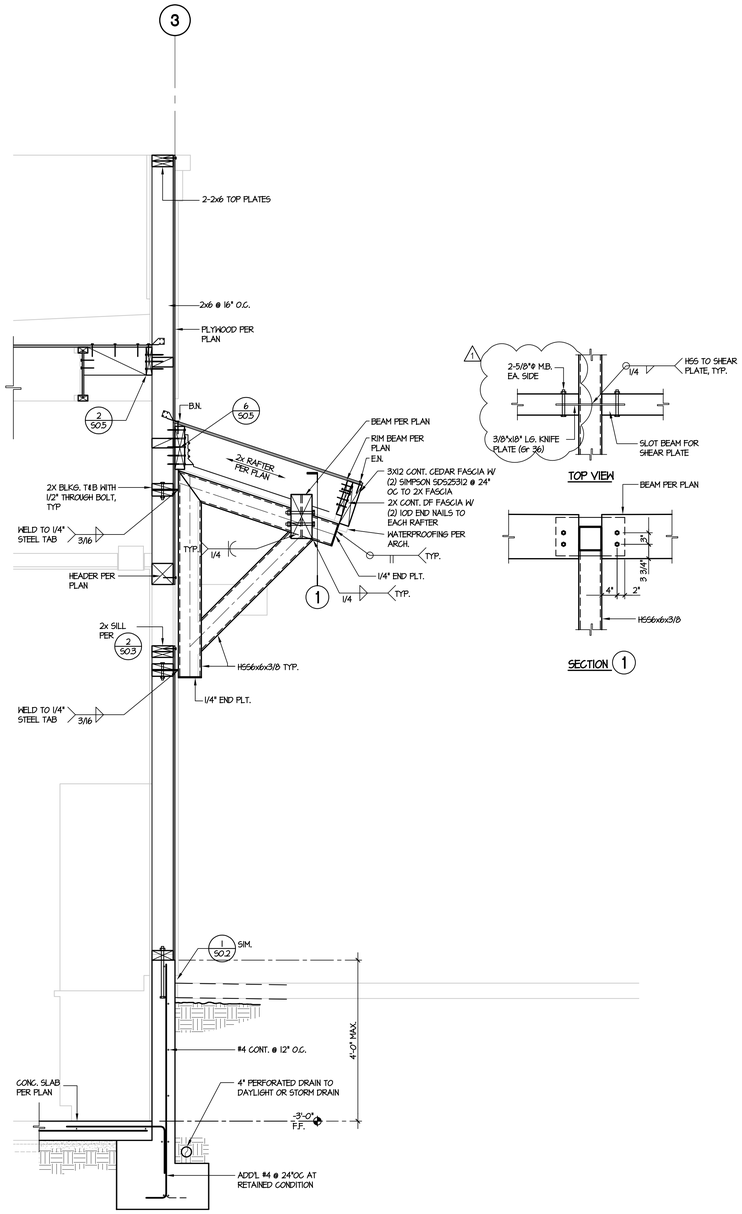

SECTION A
SCALE: 3/4"=1'-0"

SECTION 1

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REGISTERED PROFESSIONAL ENGINEER — Rick M. Byrd — No. S3350 — Exp. 3/31/26 — STRUCTURAL — STATE OF CALIFORNIA

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#			REVISIONS

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WALL SECTIONS

DRAWING NUMBER: S4.2

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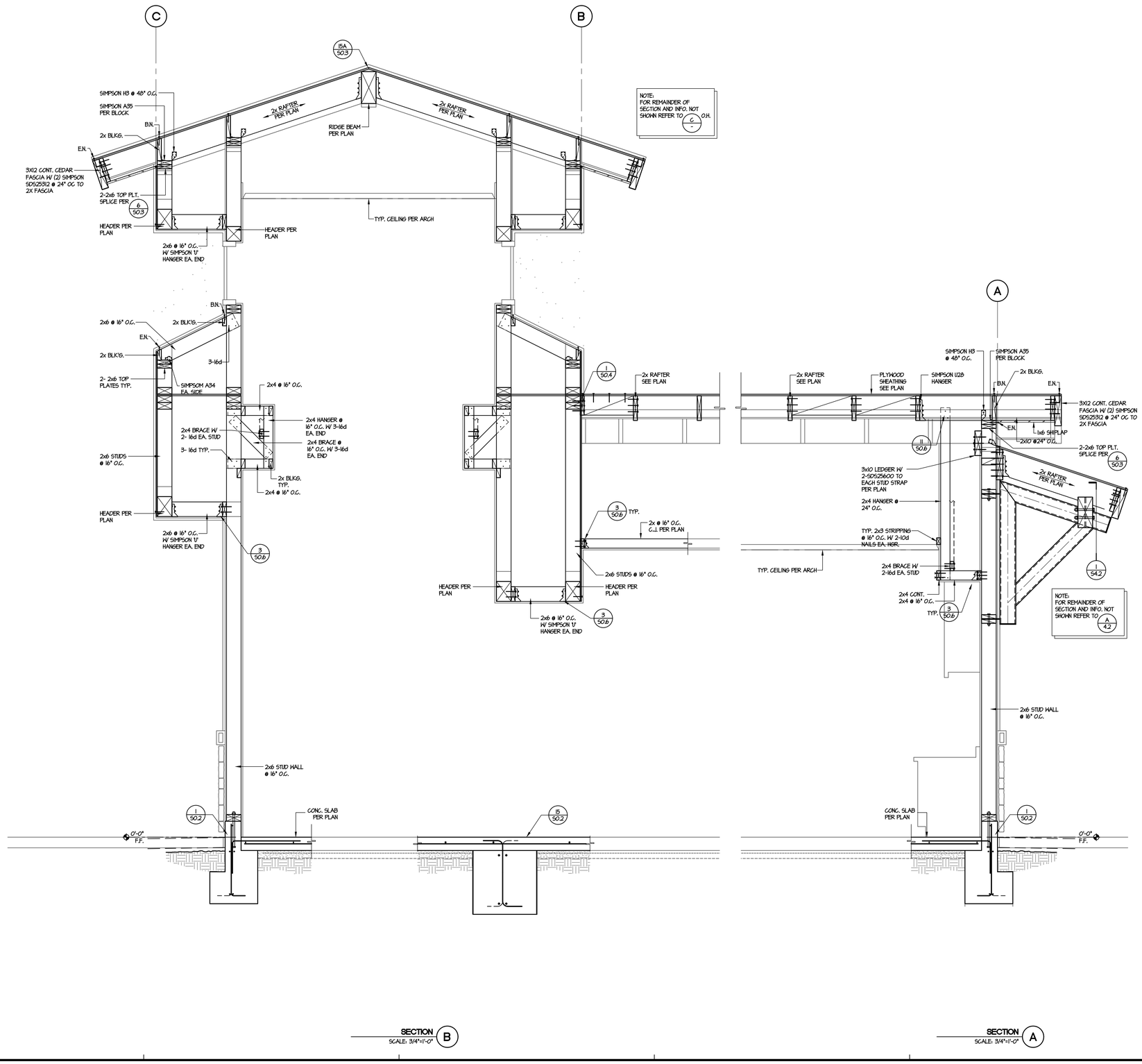

SECTION B
SCALE: 3/4"=1'-0"

SECTION A
SCALE: 3/4"=1'-0"

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WALL SECTIONS

DRAWING NUMBER: S4.3

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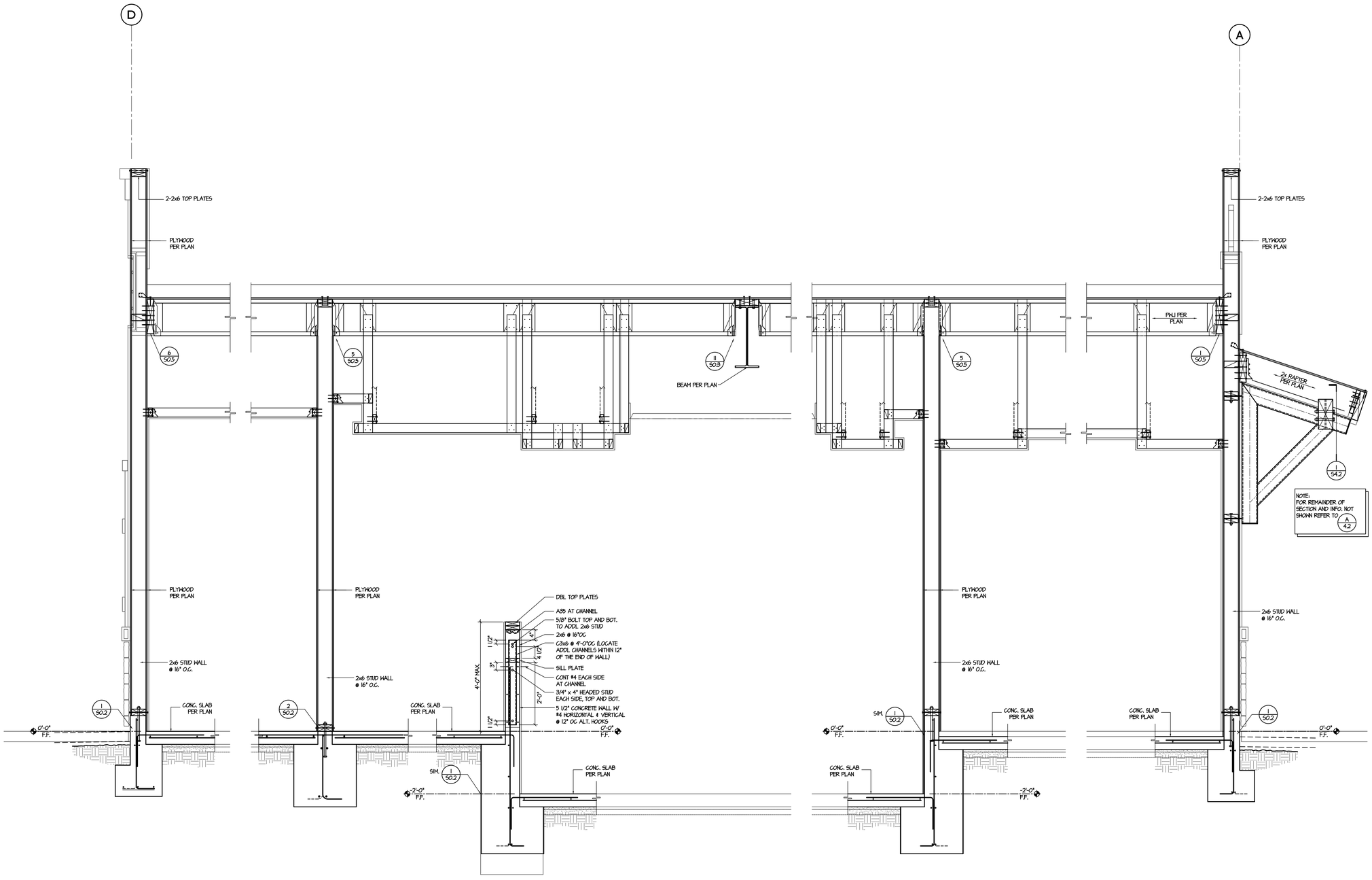

SECTION D
SCALE: 3/4"=1'-0"

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

SECTION B
SCALE: 3/4"=1'-0"

SECTION A
SCALE: 3/4"=1'-0"

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WALL SECTIONS

DRAWING NUMBER: S4.4

PC2- SUBMITTAL SET

CALIFORNIA GREEN BUILDING STANDARDS NOTES

ENTIRE INSTALLATION SHALL COMPLY WITH THE 2022 CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE INCLUDING THE FOLLOWING APPLICABLE MANDATORY MEASURES:

1. 5.504.1.3 – PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION THE BUILDING WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, CONTRACTOR SHALL USE MERV 8 MINIMUM RETURN AIR FILTERS. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY.
2. 5.504.3 – CONTRACTOR SHALL COVER ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY DURING STORAGE AND CONSTRUCTION AND UNTIL FINAL STARTUP.
3. 5.504.5.3 – MERV 13 FILTERS ARE REQUIRED FOR HVAC SYSTEMS SERVING REGULARLY OCCUPIED AREAS AND AS INDICATED IN THESE PLANS.
4. 5.504.7 – OUTDOOR SMOKING AREAS SHALL BE MINIMUM 25'–0" FROM ALL BUILDING ENTRIES, OUTDOOR AIR INTAKES, AND OPERABLE WINDOWS.
5. 5.505.1 – INSTALLATION SHALL COMPLY WITH CBC SECTION 1203 AND CHAPTER 14 FOR INDOOR MOISTURE CONTROL.
6. 5.506.2 – DEMAND CONTROL VENTILATION REQUIRED FOR ALL DENSELY OCCUPIED SPACES PER 2022 CALIFORNIA ENERGY CODE REQUIREMENTS.
7. 5.508.1 – HVAC, REFRIGERATION, AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN CFCS OR HALONS.

LEGEND

SYMBOL	ABBR.	DESCRIPTION
	–	SUPPLY AIR RISER
	–	RETURN AIR RISER
	–	EXHAUST AIR RISER
	SAG	SUPPLY AIR GRILLE
	RAG	RETURN AIR GRILLE
	EAG	EXHAUST AIR GRILLE
	SWR	SIDEWALL REGISTER
	(L)	LINED DUCTWORK
	–	FLEXIBLE CONNECTION
	FC	FLEXIBLE CONNECTION
	–	DEMO DUCT (SEE PLAN)
	MVD	MANUAL VOLUME DAMPER
	BDD	BACKDRAFT DAMPER
SFD	SFD	SMOKE / FIRE DAMPER
F	FD	FIRE DAMPER
	DL	DOOR LOUVER
U.C.	UC	UNDERCUT DOOR 3/4"
RS	RS	REFRIGERANT SUCTION LINE
RL	RL	REFRIGERANT LIQUID LINE
CD	CD	CONDENSATE DRAIN
	S.D.	SMOKE DETECTOR
	P.O.C.	POINT OF CONNECTION
T	T–STAT	THERMOSTAT
H	H	HUMIDISTAT
TS	TS	TEMPERATURE SENSOR
OS	OS	OVERRIDE SWITCH
PD	PD	PRESSURE DIFFERENTIAL SWITCH
S	S	SWITCH
	O.C.	ON CENTER
	I.D.	INSIDE DIAMETER
	O.D.	OUTSIDE DIAMETER
	W/	WITH
	S/M	SHEET METAL
	S/S	STAINLESS STEEL
	G.C.	GENERAL CONTRACTOR
	VTR	VENT THRU ROOF
	OBD	OPPOSED BLADE DAMPER
	FSC	FAN SPEED CONTROL
E	E	ITEMS FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR AS SPECIFIED ON THE ELECTRICAL CONTRACT DOCUMENTS
M	M	ITEMS FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR AS SPECIFIED ON THE MECHANICAL CONTRACT DOCUMENTS
EM	EM	ITEMS FURNISHED BY ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR.
ME	ME	ITEMS FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
	CBD	COUNTER–BALANCE DAMPER
	D.S.	FAN SPEED CONTROL
DS	FSC	DOOR SWITCH

GENERAL NOTES

1. ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2022 CALIFORNIA MECHANICAL CODE, 2022 CALIFORNIA BUILDING CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS, INCLUDING 2022 CALIFORNIA ENERGY CONSERVATION STANDARDS DIVISION T-24.
2. COORDINATE ENTIRE INSTALLATION OF THE HVAC SYSTEM WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS, AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBILE TO COORDINATE ITEMS TO BE PROVIDED BY OTHER TRADES WHERE MENTIONED IN THE CONTRACT DOCUMENTS PRIOR TO BID - NO EXCEPTIONS.
3. COORDINATE THE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES WITH THE ARCHITECTURAL REFLECTIVE CEILING PLAN, ELECTRICAL LIGHTING LAYOUT AND ARCHITECTURAL ROOM ELEVATIONS. THE ARCHITECT AND ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY CONFLICTS PRIOR TO FABRICATION AND INSTALLATION.
4. ALL EQUIPMENT, DUCTS, PIPING, AND OTHER DEVICES AND MATERIALS INSTALLED OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHER-PROOFED AND PAINTED TO MATCH, COORDINATE WITH ARCHITECT PRIOR TO PAINTING.
5. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH AND BE CONSIDERED TO BE PART OF A SEPARATE AND COMPLETE MECHANICAL SPECIFICATION.
6. ALL DIMENSIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND MUST BE CONFIRMED ON SITE.
7. PRIOR TO OCCUPANCY, THE ENTIRE H.V.A.C. SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH (AABC) ASSOCIATED AIR BALANCE COUNCIL STANDARDS BY AN INDEPENDANT AIR BALANCE CONTRACTOR. CERTIFICATION SHALL BE PROVIDED BY THE CONTRACTOR FOR AIR AND HYDRONIC AS APPLICABLE. SYSTEMS SHALL BE BALANCED AS INDICATED ON PLANS INCLUDING FRESH AIR VENTILATION. WHERE THERE IS A CONFLICT WITH THE MECHANICAL PLANS, THE AIR BALANCE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO BALANCING OF SYSTEM. IF NOT THE AIR BALANCE CONTRACTOR SHALL BEAR ALL COSTS INCURRED FOR WORK THAT MUST BE RE-BALANCED DUE TO CONFLICTS ON CONTRACT DOCUMENTS. CONTRACTOR SHALL PROVIDE THREE COPIES OF THE AIR BALANCE REPORT TO THE ENGINEER FOR APPROVAL.
8. FOR INACCESSIBLE AREAS THE CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL DAMPERS, EQUIPMENT, SMOKE DETECTORS, AND CONTROL DEVICES. THESE PANELS SHALL MATCH THE RATING OF THE WALL AND/OR CEILING THAT THEY ARE LOCATED IN. MINIMUM ACCESS PANEL SIZES SHALL BE AS FOLLOWS:

   1) HAND ACCESS: 12"x12"

   2) BODY ACCESS: 30"x30" MIN. WHERE A LARGER ACCESS SIZE IS REQUIRED DUE TO INSTALLATION CONSTRAINTS, THE CONTRACTOR SHALL DO SO AT NO ADDITIONAL COST AND SHALL NOTIFY THE ARCHITECT AND ENGINEER OF DEVIATIONS PRIOR TO INSTALLATION.
9. COORDINATE THE LOCATION OF ALL ROOF OPENINGS AND THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT WITH THE STRUCTURAL AND ARCHITECTURAL PLANS PRIOR TO ANY INSTALLATION.
10. PLATFORMS, CURBS, AND FLASHINGS FOR MECHANICAL EQUIPMENT SHALL BE AS INDICATED ON THE STRUCTURAL AND ARCHITECTURAL PLANS. UNLESS NOTED OTHERWISE WHERE THERE IS A CONFLICT WITH THE MECHANICAL PLANS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER PRIOR TO FABRICATION AND INSTALLTION.
11. ALL EQUIPMENT, ACCESSORIES, AND RELATED PIPING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
12. MAINTENANCE LABEL SHALL BE AFFIXED TO ALL MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNER'S USE.
13. PROVIDE MERV 13 FILTERS FOR ALL AIR CONDITIONING UNITS. SEE EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR TYPE. SIZES SHALL BE AS RECOMMENDED BY THE MANUFACTURER, UNLESS OTHERWISE SPECIFIED.
14. AIR FILTERS SHALL BE STATE FIRE MARSHALL APPROVED AND LISTED. PREFORMED FILTERS HAVING COMBUSTIBLE FRAMING SHALL BE TESTED AS A COMPLETE ASSEMBLY. AIR FILTERS SHALL BE ACCESSIBLE FOR CLEANING OR REPLACEMENT.
15. ALL EQUIPMENT WITH MOVING PARTS SHALL BE PROVIDED WITH FLEXIBLE DUCT AND PIPE CONNECTIONS.
16. ALL EQUIPMENT SHALL BE LABELED AS TO THE SPACE IT SERVES. SEE PLANS AND SPECIFICATIONS FOR IDENTIFICATION STANDARDS.
17. ALL HVAC EQUIPMENT SHALL BE CERTIFIED BY THE CALIFORNIA ENERGY COMMISSION TO COMPLY WITH LATEST EFFICIENCY STANDARDS.
18. AC UNITS PROVIDED WITH ECONOMY CYCLE DAMPERS SHALL HAVE DAMPERS SET UP TO CLOSE AUTOMATICALLY ON FAN SHUTDOWN.
19. PROVIDE MANUAL VOLUME DAMPERS AND BACKDRAFT DAMPERS FOR FRESH AIR INTAKES ON ALL AIR HANDLING EQUIPMENT AND EXHAUST FANS SERVING CONDITIONED SPACES. EXCEPTION: EQUIPMENT WITH FACTORY ECONOMIZERS.
20. ALL FRESH AIR INTAKES SHALL MEET CODE REQUIRED CLEARANCES FROM EXHAUST, FLUE, FUEL BURNING APPLIANCE AND PLUMBING VENT OUTLETS. FOR GAS/ELECTRIC AIR CONDITIONING UNITS WHERE THE CODE REQUIRED CLEARANCES ARE NOT MET, A FACTORY FLUE GAS DEFLECTOR AND EXTENSION SHALL BE USED TO MINIMIZE THESE CLEARANCES. CONTRACTOR SHALL DETERMINE LOCATIONS WHERE REQUIRED PRIOR TO BID. THIS SHALL BE PROVIDED AT NO ADDITIONAL COST.
21. ALL AIR HANDLING EQUIPMENT SERVING CONDITIONED SPACES SHALL PROVIDE CONTINUOUS FRESH AIR TO SPACES IN OCCUPIED MODE.
22. CONTRACTOR SHALL VERIFY ALL CLEARANCES AND AVAILIABLE SPACE FOR DUCTWORK PRIOR TO ORDERING AND/OR FABRICATING MATERIAL.
23. CONTRACTOR TO SUBMIT ALL EQUIPMENT, DUCTWORK, AIR DISTRIBUTION DEVICES, AND OTHER ACCESSORIES TO THE ENGINEER FOR APPROVAL PRIOR TO ANY ORDERING OF SUCH ITEMS.
24. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS WITHIN 45 DAYS OF AWARD OF CONTRACT. SEE 230000 SPECIFICATIONS FOR REQUIREMENTS. ALL CONFLICTS BETWEEN VARIOUS TRADE SHOP DRAWINGS SHALL BE REPORTED TO THE CITY, ARCHITECT, AND ENGINEER OF RECORD. FAILURE TO REPORT CONFLICTS SHALL RESULT IN REJECTION OF RELATED CLAIMS FOR REWORK, EXTRA WORK, AND TIME FOR EXTENSIONS.
25. CONTRACTOR SHALL BE RESPONSIBLE FOR COMMISSIONING OF EQUIPMENT AS STIPULATED ON MECH-1-C FORM ON PLANS UNLESS NOTED OTHERWISE.
26. CONTROL SCHEMATICS ARE FOR SEQUENCE ONLY. REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ALL ELECTRICAL DEVICES REQUIRED.
27. ALL LINE VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT. ALL LINE VOLTAGE CONDUIT AND WIRING, INCLUDING FINAL CONNECTIONS, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THE ELECTRICAL DRAWINGS OR SPECIFIED IN THE ELECTRICAL SECTION OF THE SPECIFICATIONS. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS OF ALL GOVERNING BODIES HAVING JURISDICTION THEREOF.
28. ALL LOW VOLTAGE CONDUIT AND WIRING AS APPLICABLE, INCLUDING FINAL CONNECTIONS, SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR AS INDICATED ON THE MECHANICAL DRAWINGS OR SPECIFIED IN THE MECHANICAL SECTION OF THE SPECIFICATIONS.

   A) ALL LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT.

   B) WHERE THE CONTROLS CONTRACTOR IS RETAINED BY THE OWNER, THEY SHALL BE RESPONSIBLE FOR THE FOLLOWING:

   1) FURNISH AND INSTALL ALL DEVICES, WIRING, AND TERMINATIONS REQUIRED FOR A COMPLETE AND FUNCTIONAL INSTALLATION.

   2) COORDINATE ALL WORK AND REQUIREMENTS WITH OTHER TRADES INCLUDING GENERAL, MECHANICAL, AND ELECTRICAL CONTRACTORS PRIOR TO BID.

   3) CONTRACTOR SHALL FOLLOW ALL SUBMITTAL REQUIREMENTS PER DRAWINGS AND SPECIFICATIONS.
29. CONTRACTOR SHALL BE RESPONSIBLE FOR ORDERING AIR CONDITIONING EQUIPMENT WITH THRU-THE-BASE POWER, CONTROL, AND GAS CONNECTIONS. VERIFY ALL CONNECTION LOCATIONS WITH UNIT MANUFACTURER AND COORDINATE WITH OTHER TRADES AS NECESSARY.
30. ELECTRICAL CONTRACTOR SHALL PROVIDE REQUIRED RELAY ACCESSORIES FOR CONNECTION OF 120 VOLT 1 PHASE VENTILATION EQUIPMENT TO 277 VOLT 1 PHASE LIGHTING AS APPLICABLE. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SUCH COORDINATION PRIOR TO BID.
31. WHERE HVAC CONTROL WIRING IS REQUIRED BETWEEN BUILDINGS, PROVIDE UNDERGROUND CONDUIT WITH PULL STRING(S) FURNISHED AND INSTALLED BY ELECTRICAL FOR THE ENERGY MANAGEMENT SYSTEM WIRING TERMINATIONS ONLY. CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND WIRING TERMINATIONS FOR BETWEEN BUILDINGS.
32. ALL THERMOSTATS SHALL HAVE LOCKABLE COVERS (WHERE INDICATED ON PLANS) AND SHALL BE OF THE ELECTRONIC, PROGRAMMABLE, AUTOMATIC CHANGEOVER TYPE TO SEQUENCE HEATING OR COOLING. SET POINT RANGE SHALL BE 10 DEGREES F. BETWEEN FULL HEATING AND COOLING. THEY SHALL HAVE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE NO MORE THAN 70 DEGREES F., AND COOLING AT A TEMPERATURE NOT LESS THAN 78 DEGREES F. ADJUSTABLE TEMPERATURE DIFFERENTIAL SHALL BE 1- 1/2 DEGREES F. CONTROL LIMITS SHALL BE FROM 55 DEGREES F. TO 85 DEGREES F. MOUNT AT 48 INCHES ABOVE FLOOR OR AS REQUIRED BY LOCAL AUTHORITIES OR ACCESSIBILITY CODES.

   NOTES:
   1) THERMOSTATS THAT ARE PART OF AN ENERGY MANAGEMENT SYSTEM SHALL FOLLOW CONTROL SPECIFICATIONS AND DRAWING REQUIREMENTS.

   2) SHOULD THE LOCATION OF THE THERMOSTAT NOT MEET THE ADA HEIGHT REQUIREMENTS DUE TO OBSTRUCTIONS, THEN AN ALTERNATE LOCATION SHALL BE PROPOSED OR REQUESTED BY THE CONTRACTOR THAT SHALL BE APPROVED BY THE ENGINEER AND ARCHITECT.
33. LINE VOLTAGE THERMOSTATS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
34. CONTROLS CONTRACTOR AND AIR BALANCE CONTRACTOR SHALL COORDINATE WORK AND PERFORM NECESSARY TASKS AS REQUIRED TO OBTAIN AIR AND WATER FLOW QUANTITIES FOR SYSTEMS SHOWN HEREIN.
35. CONTROLS SHALL BE PROVIDED TO PROVIDE THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY THE STATE ENERGY REGULATIONS.
36. ALL DUCTWORK SHALL BE SHEET METAL CONSTRUCTED OR SPIRAL, ERECTED, AND TESTED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF LOCAL REGULATIONS, PROCEDURES DETAILED IN THE ASHRAE HANDBOOK OF FUNDAMENTALS, CHAPTER 6 OF THE MECHANICAL CODE, OR THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION.
37. ALL FLEXIBLE DUCTWORK SHALL BE MAX FIVE FEET AND MIN 3 FEET IN LENGTH TO RESPECTIVE DIFFUSERS, GRILLES, AND REGISTERS, OR OTHER AIR DEVICES.
38. PROVIDE SEISMIC RESTRAINTS TO ALL DUCTWORK, PIPE, AND EQUIPMENT SUPPORTS IN ACCORDANCE WITH THE LATEST SMACNA GUIDELINES FOR SEISMIC RESTRAINT OF MECHANICAL SYSTEMS. SUSPENDED EQUIPMENT SHALL BE PROVIDED WITH SEISMIC ANCHORAGE AND ISOLATION SUPPORTS. SEE SEISMIC NOTES ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
39. ALL RECTANGULAR DUCT TURNS IN SUPPLY, RETURN, AND EXHAUST DUCTS SHALL HAVE TURNING VANES UNLESS OTHERWISE NOTED.
40. DUCTWORK HANDLING CONDITIONED AIR SHALL BE INSULATED OR LINED AS INDICATED ON DRAWINGS. SUPPLY AND RETURN DUCT INSULATION SHALL BE MIN. 1.5" THICK, 3/4 LB./CUBIC FT. DENSITY AND HAVE A MIN. VALUE OF R-8 WHERE LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES:

   A) OUTDOORS, OR

   B) IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING, OR

   C) IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES, OR

   D) IN AN UNCONDITIONED CRAWLSPACE; OR

   E) IN OTHER UNCONDITIONED SPACES

   PER 2022 CEC, OTHERWISE PROVIDE R-4.2 WHEN LOCATED IN CONDITIONED ATTIC SPACES ABOVE CEILINGS. ALL DUCTWORK EXPOSED ON ROOF SHALL BE INTERNALLY LINED WITH 1.5" THICK, 1.5LB./CUBIC FT. DENSITY DUCT LINER UNLESS OTHERWISE INDICATED OR SPECIFIED. ALL DUCT SIZES ARE SHEET METAL SIZES. ALL DUCT JOINTS SHALL BE SEALED PER CHAPTER 6 MECHANICAL CODE REQUIREMENTS. PROVIDE PIPING AND DUCT INSULATION IN ACCORDANCE WITH THE LATEST STANDARDS OF THE CALIFORNIA ENERGY COMMISSION.

   ALL INSULATION SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE DENSITY NOT EXCEEDING 50.

   MANUAL VOLUME DAMPERS SHALL BE PROVIDED IN ALL DUCT BRANCHES TO INDIVIDUAL DIFFUSERS, GRILLES, AND REGISTERS, AS WELL AS FRESH AIR INTAKE DUCTS. DAMPERS SHALL BE LOCATED AT THE BRANCH DUCT LOCATIONS. THE MECHANICAL CONTRACTOR SHALL COORDINATE LOCATIONS OF DAMPERS WITH THE AIR BALANCE CONTRACTOR PRIOR TO BID, SO THEY ARE ACCESSIBLE PRIOR TO INSTALLATION. IN LOCATIONS WHERE THESE DAMPERS ARE INACCESSIBLE, CABLE OPERATED ADJUSTMENT CONTROLS SHALL BE PROVIDED AT NO ADDITIONAL COST. SEE DETAIL 1/M5.1. OPPOSED BLADE DAMPERS SHALL NOT BE PERMITTED UNLESS NOTED OTHERWISE.
43. ALL VOLUME DAMPERS SHALL BE INSTALLED MIN THREE DUCT DIAMETERS UPSTREAM OF REGISTERS.

   AUTOMATIC FIRE DAMPER REQUIREMENTS ARE AS FOLLOWS:

   A) PROVIDE AUTOMATIC FIRE DAMPERS AT ALL PENETRATIONS OF FIRE-RATED CEILINGS AND WALLS THROUGHOUT. CONTRACTOR SHALL COORDINATE FIRE-RATED AREAS WITH THE ARCHITECTURAL DRAWINGS AND OTHER TRADES PRIOR TO INSTALL AND SHALL NOTIFY PERTINENT PARTIES PRIOR TO ANY WORK PERFORMED IN THESE AREAS. IN ADDITION, CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE PROPER ACCESS FOR DAMPERS INSTALLED. THE DAMPER FIRE RATING SHALL BE COMPATIBLE WITH THE CEILING/WALL RATING.

   B) LOCATION OF FIRE-RATED CEILINGS AND WALLS ARE AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

   C) FIRE AND/OR SMOKE DAMPER(S) SHALL BE PROVIDED AS REQUIRED BY 2022 CBC AND CFC.

   D) CONTRACTOR SHALL FURNISH FLUSH MOUNTED FIRE AND/OR SMOKE DAMPERS, SO THAT DAMPER DO NOT EXTEND PASS WALLS, FOR AREAS WITHOUT CEILINGS FOR QUALITY WORKMENSHIP.
44. ALL DUCTWORK PASSING THROUGH FIRE RATED CORRIDORS AND LOBBIES SHALL BE MIN. 26 GAGE SHEET METAL CONSTRUCTION. FLEXIBLE DUCTWORK SHALL NOT BE ALLOWED.
45. ALL DUCTWORK, PIPING, CONDUIT, & ETC. PENETRATING FIRE RATED CONSTRUCTION SHALL HAVE APPROVED FIRE STOPPING. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.
46. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER OPERATION OF ALL MECHANICAL EQUIPMENT INCLUDING NECESSARY DEVICES FOR INTERLOCKING OF SUCH EQUIPMENT.
47. CONTRACTOR SHALL REFER TO MECHANICAL AND ARCHITECTURAL PLANS FOR REGISTER, DIFFUSER, AND GRILLE LOCATIONS PRIOR TO INSTALLATION.
48. CONTACT THE ENGINEER IMMEDIATELY IF THERE ARE CONFLICTS PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ALL LOCATIONS OF DUCT PENETRATIONS THROUGH SHEAR WALLS. NO DUCT PENETRATE SHEAR WALLS UNLESS SPECIFICALLY SHOWN ON STRUCTURAL PLANS.
49. CONTRACTOR SHALL REFER TO STRUCTURAL, MECHANICAL, AND ARCHITECTURAL PLANS FOR EXTERIOR LOUVER LOCATIONS PRIOR TO FABRICATION AND INSTALLATION. CONTACT THE ENGINEER IMMEDIATELY IF THERE ARE CONFLICTS. REFER TO ARCHITECTURAL EXTERIOR ELEVATION PLANS FOR MOUNTING HEIGHTS. IF MOUNTING HEIGHTS ARE NOT IDENTIFIED ON THE ARCHITECTURAL PLANS. THEN THE CONTRACTOR SHALL RECEIVE FINAL APPROVAL FROM THE ARCHITECT PRIOR TO FABRICATION AND INSTALLATION.
50. CONTRACTOR SHALL COORDINATE ALL DOOR UNDERCUT QUANTITIES AND LOCATIONS WITH THE APPROPRIATE TRADES PRIOR TO FINAL BID. CONTACT THE ARCHITECT IMMEDIATELY IF THERE ARE CONFLICTS.
51. ALL DOOR UNDERCUTS INDICATED ON FLOOR PLAN(S) SHALL BE 3/4" MIN. ABOVE THRESHOLD.
52. CONTRACTOR SHALL IDENTIFY ALL CEILING ACCESS DOORS FOR MANUAL AND REMOTE CONTROLLED (CABLE OPERATED) DAMPERS, CEILING CUP LOCATIONS FOR INACCESSIBLE AREAS FOR THE ARCHITECT'S REVIEW AND APPROVAL PRIOR TO FABRICATION AND INSTALLATION OF DUCTWORK, EQUIPMENT, ETC.
53. CONTRACTOR SHALL CONFIRM FINAL REFRIGERANT PIPE SIZING UPON DETERMINATION OF ACTUAL DEVELOPED LENGTH. ALL PIPE MATERIALS SHALL BE PER MANUFACTURER'S GUIDELINES.
54. FOR INACCESSIBLE AREAS THE CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL DAMPERS, EQUIPMENT, SMOKE DETECTORS, AND CONTROL DEVICES. THESE PANELS SHALL MATCH THE RATING OF THE WALL AND/OR CEILING WHERE THEY ARE LOCATED IN. MINIMUM ACCESS PANEL SIZES SHALL BE AS FOLLOWS:

   1) HAND ACCESS: 12"x12" MIN.
   2) BODY ACCESS: 30"x30" MIN.
   3) MANUAL REMOTE CONTROL (CABLE OPERATED) DAMPERS IN LIEU OF VOLUME DAMPERS. SEE DETAIL...
55. WHERE A LARGER ACCESS SIZE IS REQUIRED DUE TO INSTALLATION CONSTRAINTS, THE CONTRACTOR SHALL DO SO AT NO ADDITIONAL COST AND SHALL NOTIFY THE ARCHITECT AND ENGINEER OF DEVIATIONS PRIOR TO INSTALLATION.
56. CONTRACTOR SHALL COORDINATE ALL MOUNTING HEIGHTS ABOVE FINISHED FLOOR WITH OTHER TRADES AND RECEIVE FINAL APPROVAL FROM THE ARCHITECT PRIOR TO FABRICATING AND INSTALLING EXPOSED DUCTWORK, EQUIPMENT, REGISTERS, ETC.
57. CONTRACTOR SHALL REFER TO MECHANICAL AND ARCHITECTURAL PLANS FOR ALL SIDE-WALL GRILLE LOCATIONS PRIOR TO FABRICATION AND INSTALLATION. CONTACT THE ENGINEER IMMEDIATELY IF THERE ARE CONFLICTS. REFER TO ARCHITECTURAL INTERIOR ELEVATION PLANS FOR MOUNTING HEIGHTS. IF MOUNTING HEIGHTS ARE NOT IDENTIFIED ON THE ARCHITECTURAL PLANS. THEN THE CONTRACTOR SHALL RECEIVE FINAL APPROVAL FROM THE ARCHITECT PRIOR TO FABRICATION AND INSTALLATION.
58. CONTRACTOR SHALL INSULATE ALL REFRIGERANT PIPING SUCTION AND VAPOR LINES.
59. CONTRACTOR SHALL PAINT ALL EXPOSED DUCTWORK, REGISTERS, ETC. COORDINATE PAINT FINISHES WITH THE ARCHITECT PRIOR TO INSTALLATION.

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FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT

Southeast of Cherry Avenue and South Highland Avenue
FONTANA, CA 92335

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — 9/30 (03/13) — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — ANDREW R. GOODMAN — No. M30870 Exp. 12/31/24 — MECHANICAL — STATE OF CALIFORNIA

CONSULTANT

PDS
PocockDesignSolutions Inc.

NO	DATE	BY	DESCRIPTION
4			REVISIONS

DRAWN:	**CHECKED:**
DATE: 08/21/2022	**SCALE:** AS NOTED
PROJECT NUMBER: W2100100AR	

MECHANICAL GEN. NOTES AND LEGEND

DRAWING NUMBER: M0.1

BID SET

PACKAGED GAS/ELECTRIC A/C UNIT SCHEDULE

SYM	MFR & MODEL #	AREA SERVICED	NOMINAL TONS	COOLING CAPACITY		SEER/ EER	HEATING CAPACITY	HSPF	CFM	MIN. OA CFM	DCV CFM	ESP	FAN PWR (BHP)	FAN MOTOR TYPE	A/C ELECTRICAL				PE/ECON ELECTRICAL				WEIGHTS				REMARKS	WIRING DETAIL	ANCHORAGE DETAIL
				TOTAL	SENSIBLE										V	PH	MCA	MOCP	V	PH	MCA	MOCP	UNIT	CURB	P.E./ECON	TOTAL			
AC 1	CARRIER 50GEQM06	AUXILLARY	5	62,530	49,010	17.0 11.8	54,500	7.2	2000	140	300	0.75	0.90	ECM	230	3	30	45	230	3	8.0	14.4	630	365	200	1195	1, 3, 4, 5, 6, 8	11 M3.1	1,2,3,4 M3.2
AC 2	CARRIER 50GEQM06	TRAINING ROOM	5	62,530	49,010	17.0 11.8	54,500	7.2	2000	400	300	0.75	0.90	ECM	230	3	30	45	230	3	8.0	14.4	630	365	200	1195	1, 3, 4, 5, 6, 7, 8	11 M3.1	1,2,3,4 M3.2
AC 3	CARRIER 50GEQM06	TRAINING ROOM	5	62,530	49,010	17.0 11.8	54,500	7.2	2000	400	300	0.75	0.90	ECM	230	3	30	45	230	3	8.0	14.4	630	365	200	1195	1, 3, 4, 5, 6, 7, 8	11 M3.1	1,2,3,4 M3.2

1. SEPARATE POWER CONNECTION FOR AC UNIT AND POWER EXHAUST.
2. NOT USED
3. 100% DRY BULB ECONOMIZER W/JADE CONTROLLER AND CO2 ROOM SENSOR FOR DCV OPERATION.
4. MICROMETL MODULATING CENTRIFUGAL POWER EXHAUST.
5. 1" DEFLECTION ISO-CURB.
6. AUTOMATIC SHUTDOWN TO BE PROVIDED PER CMC 608.1
7. CO2 SENSOR AND DCV CONTROLS.
8. 2" MERV 13 FILTERS.

NOTES:
A. SPACE PRESSURE TUBING (SPT) FURNISHED AND INSTALLED BY CONTRACTOR CONTRACTOR SHALL ROUTE SPT INSIDE SPACE AWAY FROM DOORS, OPERABLE WINDOWS, AND MINIMUM 3 FT. AWAY FROM SUPPLY AND RETURN AIR GRILLES. CONNECT SPT TO KELE RPS-W ROOM STATIC PRESSURE SENSOR AND LOCATE IN CEILING. PAINT SENSOR PLATE TO PATCH CEILING COLOR.

EXHAUST FAN SCHEDULE

SYM	MFR & MODEL #	SERVICE	FAN TYPE	CFM	ESP (IN. WG)	FAN RPM	BHP	HP	MOTOR RPM	MOTOR TYPE	ELECTRICAL		WEIGHT (LBS)	REMARKS	WIRING DETAIL	ANCHORAGE DETAIL
											V	PH				
EF 1	GREENHECK G-120-VG	RESTROOMS & JANITOR	CENTRIFUGAL	1450	0.5	1,426	0.27	1/2	1725	DIRECT	115	60	70	1, 2, 3	12 M3.1	10 M3.1
EF 2	GREENHECK SQ-95-VG	ELEC 116	INLINE	250	0.3	1117	0.04	1/6	1725	DIRECT	115	60	60	2, 4, 5	13 M3.1	9 M3.1

NOTES:
1. ROOF CAP
2. BACKDRAFT DAMPER.
3. CONTROLLED BY EMS.
4. INLET GUARD
5. CONTROLLED BY LIVE VOLTAGE THERMOSTAT

FAN COIL SCHEDULE

SYM	MFR & MODEL #	AREA SERVICED	CFM	OSA CFM	ESP	FAN HP	ELECTRICAL			WT	REMARKS	CONTROL DETAIL	ANCHORAGE DETAIL
							V	PH	MCA				
FC 1	CARRIER 45MBCAQ18	TRAINING OFFICE 1	390	30	N/A	N/A	POWERED FROM OUTDOOR UNIT			40	1	14 M3.1	8 M3.1
FC 2	CARRIER 45MBCAQ18	TRAINING OFFICE 2	390	30	N/A	N/A	POWERED FROM OUTDOOR UNIT			40	1	14 M3.1	8 M3.1

1. INTEGRAL CONDENSATE PUMP

SPLIT SYSTEM HEAT PUMP SCHEDULE

SYM	MFR & MODEL #	AREA SERVICED	COOLING CAPACITY		HEATING CAPACITY	HSPF	SEER/ EER	ELECTRICAL				WT	REMARKS	CONTROL DETAIL	ANCHORAGE DETAIL
			TOTAL	SENSIBLE				V	PH	MCA	MOPA				
CU 1	CARRIER 37MARAQ18	TRAINING OFFICE 1	16,000	N/A	18,000	10.3	20.0/ 12.5	208	1	18	20	150	1, 2	14 M3.1	7 M3.1
CU 1	CARRIER 37MARAQ18	TRAINING OFFICE 2	16,000	N/A	18,000	10.3	20.0/ 12.5	208	1	18	20	150	1, 2	14 M3.1	7 M3.1

1. ISOLATION PADS
2. ROOF PAD

AIR DISTRIBUTION SCHEDULE

SYM.	MANUF & MODEL	NECK SIZE	FACE SIZE	CFM RANGE	MAX. NECK VELOCITY	MAX. N.C.	T. P. DROP	TYPE	DAMPER	REMARKS
– / SD–1	PRICE ASPD	6"Ø 8"Ø 10"Ø 12"Ø 14"Ø 16"Ø 18"Ø	24"x24"	0 - 80 85 - 175 180 - 275 280 - 390 395 - 480 485 - 600 605 - 780	500	25	0.075	PLAQUE	MVD	FRAME TYPE FOR TEGULAR CONFIRM WITH ARCH FOR WOOD GRAIN COLOR
– / RG–1	PRICE ASPD	6"Ø 8"Ø 10"Ø 12"Ø 14"Ø 16"Ø 18"Ø	24"x24"	0 - 80 85 - 175 180 - 275 280 - 390 395 - 480 485 - 600 605 - 780	500	25	0.016	PLAQUE	MVD	FRAME TYPE FOR TEGULAR CONFIRM WITH ARCH FOR WOOD GRAIN COLOR
– / SD–2	PRICE SMCD	6"x6" 8"x8" 10"x10" 12"x12" 14"x14" 16"x16" 18"x18" 20"x20"	12"x12" 14"x14" 16"x16" 18"x18" 20"x20" 22"x22" 24"x24" 26"x26"	0 - 125 130 - 220 225 - 350 355 - 500 505 - 680 685 - 880 885 - 1125 1130 - 1400	500	25	.057	MODULAR CORE	MVD	BORDER TYPE 1 FOR GYP. BOARD CEILING PROVIDE SQUARE TO ROUND ADAPTER FOR ALL
– / RG–2	PRICE 530L	6"x6" 8"x8" 10"x10" 12"x12" 14"x14" 16"x16" 18"x18" 20"x20" 22"x20"	8"x8" 10"x10" 12"x12" 14"x14" 16"x16" 18"x18" 20"x20" 24"x22"	0 - 90 95 - 195 200 - 300 305 - 450 455 - 590 595 - 800 805 - 1040 1045 - 1400	500	25	.067	LOUVERED ADJUSTABLE	MVD	BORDER TYPE N FOR GYP. BOARD CEILING
– / EG–1	PRICE 530L	6"x6" 8"x8" 10"x10" 12"x12" 14"x14" 16"x16" 18"x18" 22"x20"	8"x8" 10"x10" 12"x12" 14"x14" 16"x16" 18"x18" 20"x20" 24"x22"	0 - 90 95 - 195 200 - 300 305 - 450 455 - 590 595 - 800 805 - 1040 1045 - 1400	500	25	.067	LOUVERED	MVD	BORDER TYPE N FOR SURFACE MOUNT

LEGEND

– / – CFM / AIR DISTRIBUTION DEVICE

SD	SUPPLY DIFFUSER
SR	SUPPLY REGISTER
RG	RETURN GRILLE
EG	EXHAUST GRILLE
TG	TRANSFER GRILLE

NOTES:
1. NOT ALL DIFFUSER/GRILLE TYPES OR SIZES MAY BE USED ON THIS PROJECT.

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FONTANA FIRE STATION No. 80 & TRAINING CENTER
SAN BERNARDINO COUNTY FIRE DEPARTMENT
Southeast of Cherry Avenue and South Highland Avenue
FONTANA, CA 92335

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — Sc3e 03/31/23 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — ANDREW E. DOSSMANN — No. M35670 Exp. 3/31/24 — MECHANICAL — STATE OF CALIFORNIA

CONSULTANT
PDS
PocockDesignSolutions Inc.

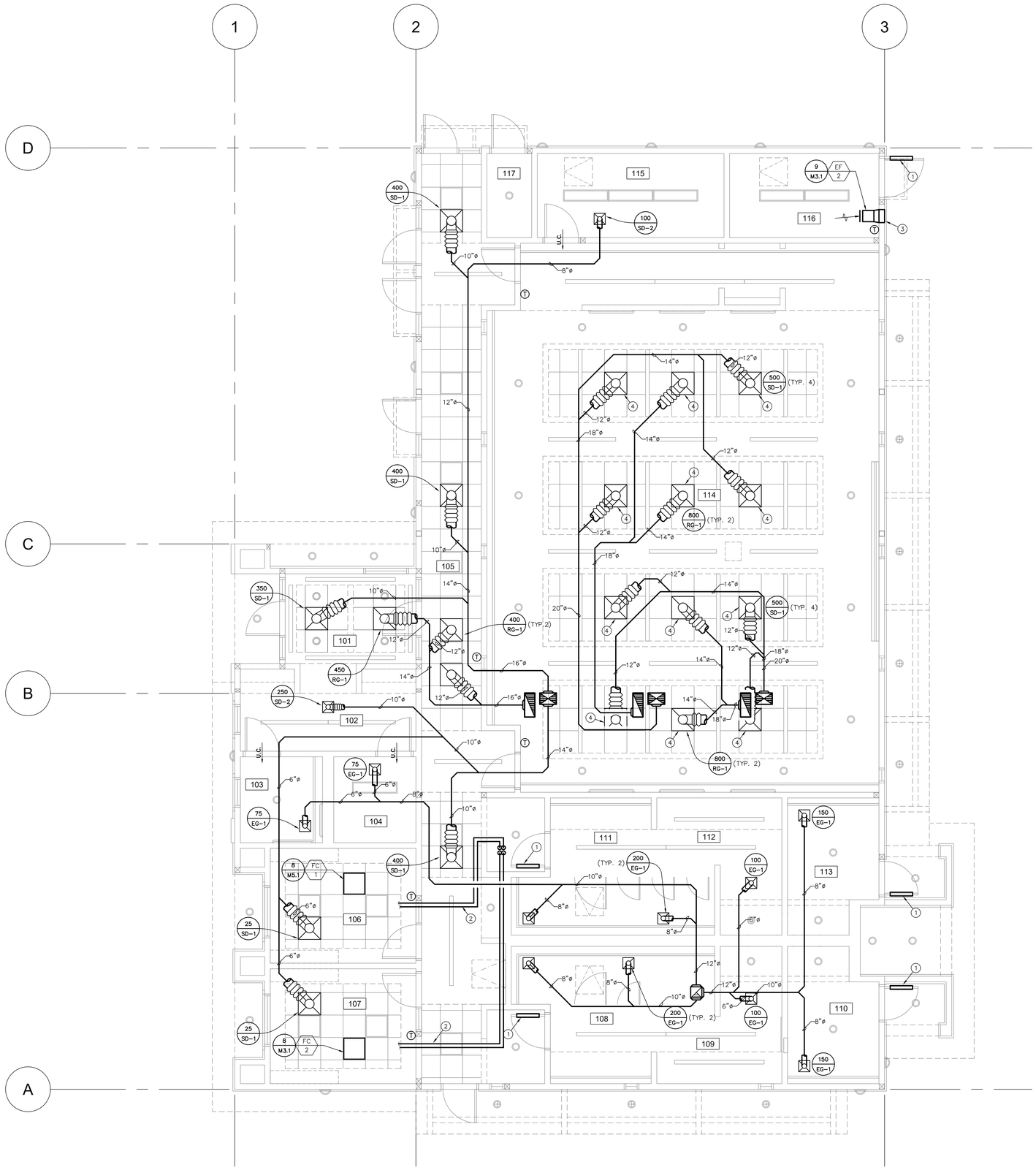
NO	DATE	BY	DESCRIPTION
			REVISIONS

DRAWN:	CHECKED:
DATE: 08/21/2022	SCALE: NONE
PROJECT NUMBER: W2100100AR	

MECHANICAL SCHEDULES

DRAWING NUMBER: M0.2

BID SET



ROOM #	ROOM NAME	
101	LOBBY	
102	VESTIBULE	
103	ACCESSIBLE RESTROOM	
104	CUSTODIAL/ STORAGE	
105	HALLWAY	
106	TRAINING OFFICE 1	
107	TRAINING OFFICE 2	
108	MEN RESTROOM	
109	MEN LOCKERS/ SHOWER	
110	UNISEX BATHROOM	
111	WOMEN RESTROOM	
112	WOMEN LOCKERS/ SHOWER	
113	UNISEX BATHROOM	
114	TRAINING ROOM	
115	TRAINING STORAGE	
116	ELECTRICAL ROOM	
117	FIRE RISER ROOM	

CONSTRUCTION NOTES:

1. MANUAL VOLUME DAMPERS SHALL BE PROVIDED IN ALL DUCT BRANCHES TO INDIVIDUAL DIFFUSERS. DAMPERS SHALL BE LOCATED AS CLOSE TO THE MAIN DUCT AS POSSIBLE.
2. PROVIDE MAXIMUM 5'-0" OF ACOUSTICAL FLEX DUCT TO EACH DIFFUSER LOCATED IN T-BAR CEILINGS. ALL DIFFUSERS LOCATED IN HARD-LID CEILINGS SHALL HAVE RIGID CONNECTIONS.
3. PROVIDE REMOTE CABLE OPERATED CONTROLS FOR ALL VOLUME DAMPERS LOCATED ABOVE HARD-LID CEILINGS.
4. COORDINATE ENTIRE INSTALLATION OF THE HVAC SYSTEM WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS, AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
5. COORDINATE THE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS AND GRILLES WITH THE ARCHITECTURAL REFLECTIVE CEILING PLAN, ELECTRICAL LIGHTING LAYOUT AND ARCHITECTURAL ROOM ELEVATIONS. COORDINATE AND PAINT ALL DIFFUSERS PER ARCHITECTURAL REQUIREMENTS.
6. AT THE TIME OF ROUGH INSTALLATION, OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL, OR OTHER ACCEPTABLE METHODS TO REDUCE THE AMOUNT OF DUCT, WATER, AND DEBRIS WHICH MAY ENTER THE SYSTEM.
7. MECHANICAL CONTRACTOR SHALL COORDINATE ALL DOOR LOUVER AND UNDERCUT LOCATIONS WITH THE APPROPRIATE TRADES PRIOR TO BID.

CONSTRUCTION NOTES:

1. DOOR LOUVER WITH MIN. 1 SQ FT OF FREE AREA.
2. REFRIGERANT PIPING FROM FAN COIL UP THRU ROOF. CONTRACTOR TO VERIFY ROUTING AND PIPE SIZE PRIOR TO ORDERING.
3. EXTERIOR WALL LOUVER WITH MIN. 1 SQ FT OF FREE AREA.
4. AIR DISTRIBUTION DEVICE TO BE PAINTED. COORDINATE WITH ARCHITECT.

NORTH

MECHANICAL FLOOR PLAN

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

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SAN BERNARDINO COUNTY FIRE DEPARTMENT
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LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — 03/31/23 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — ANDREW R. GOSSMAN — No. M39639 Exp. 3/31/24 — MECHANICAL — STATE OF CALIFORNIA

CONSULTANT
PDS PocockDesignSolutions Inc.

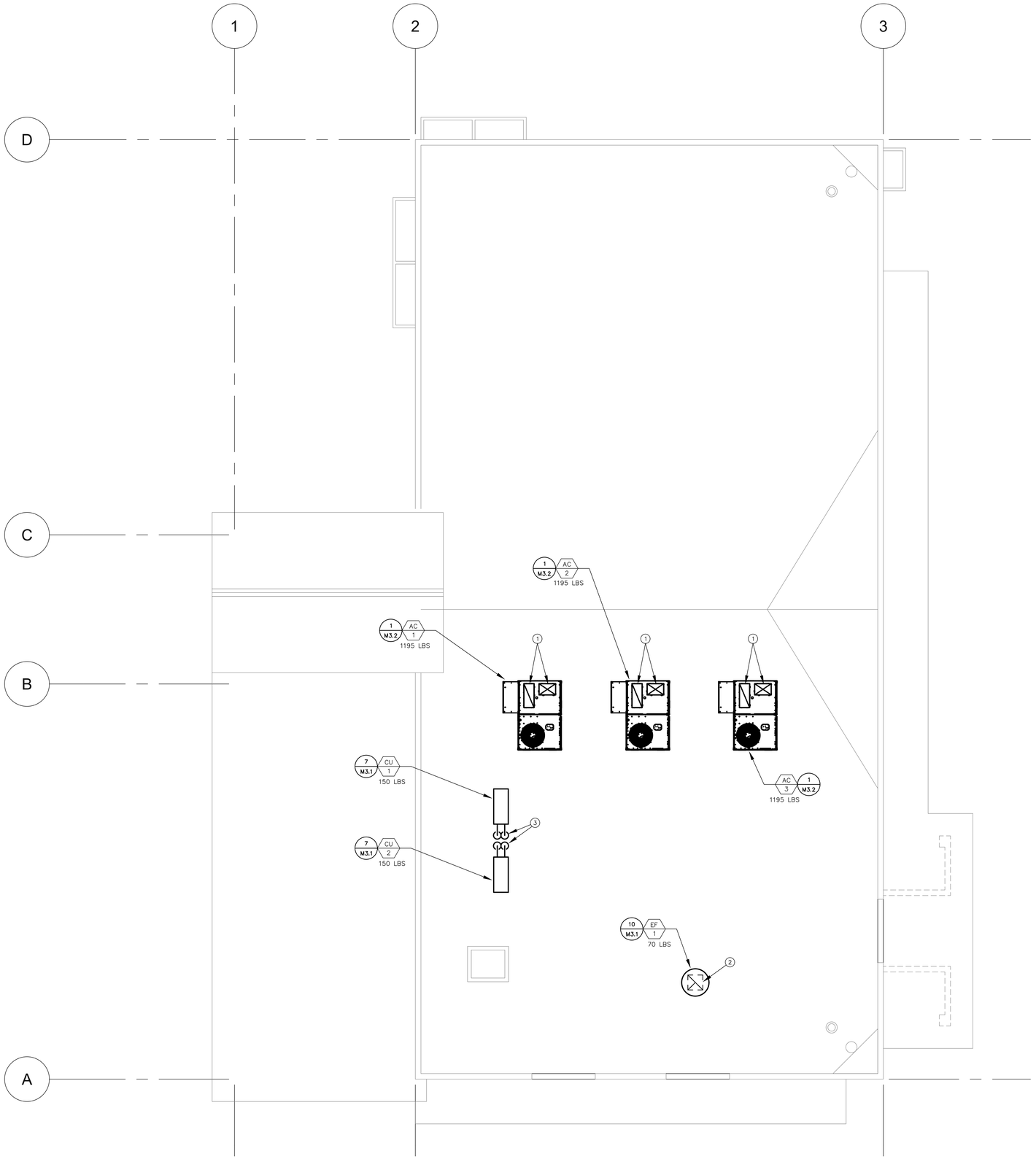
NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN: | CHECKED:
DATE: 08/21/2022 | SCALE: AS NOTED
PROJECT NUMBER: W2100100AR

MECHANICAL FLOOR PLAN

DRAWING NUMBER: M2.1

BID SET



CONSTRUCTION NOTES:

1. FRESH AIR INTAKES SHALL BE 10'–0" MIN. AWAY FROM ALL EXHAUST OUTLETS, PLUMBING VENTS, AND FLUES.
2. ALL REFRIGERANT PIPING SHALL BE TYPE 'L' COPPER.
3. CONTRACTOR SHALL COORDINATE EXACT EQUIPMENT PAD SIZES AND LOCATIONS WITH OTHER TRADES PRIOR TO INSTALLATION.
4. MAINTAIN MANUFACTURER MIN. CLEARANCES ON ALL ROOF–TOP MECHANICAL EQUIPMENT.
5. CONTRACTOR SHALL CONFIRM FINAL REFRIGERANT PIPE SIZING UPON DETERMINATION OF ACTUAL DEVELOPED LENGTH. ALL PIPE MATERIALS SHALL BE PER MFRG. GUIDELINES.
6. CONTRACTOR SHALL INSULATE ALL REFRIGERANT PIPING LINES, AND PROVIDE WEATHER JACKETING FOR ALL REFRIGERANT PIPING.

CONSTRUCTION NOTES:

(1) 18"X12" S.A.D. AND 12"X26" R.A.D. DOWN THRU ROOF.

(2) 16"X16" E.A.D. DOWN THRU ROOF.

(3) REFRIGERANT PIPING FROM CONDENSING UNIT DOWN THRU ROOF. CONTRACTOR TO VERIFY ROUTING AND PIPE SIZE PRIOR TO ORDERING.

NORTH

MECHANICAL ROOF PLAN

SCALE 1/4"=1'–0"

1

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LICENSED ARCHITECT
KELLEY NEEDHAM
C-19064
Exp. 03/31/23
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
ANDREW R. GUSMANO
No. M29870
Exp. 3/31/24
MECHANICAL
STATE OF CALIFORNIA

CONSULTANT

PDS
PocockDesignSolutions Inc.

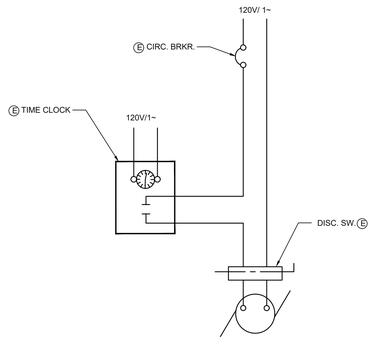
NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN:	CHECKED:
DATE: 08/21/2022	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

MECHANICAL ROOF PLAN

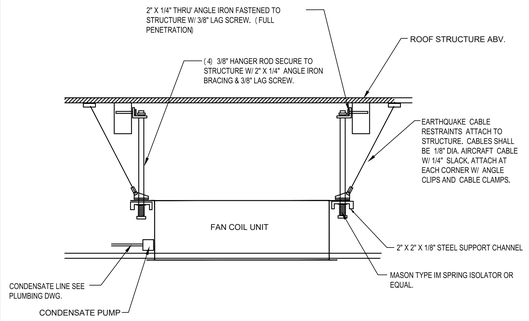
DRAWING NUMBER: M2.2

BID SET

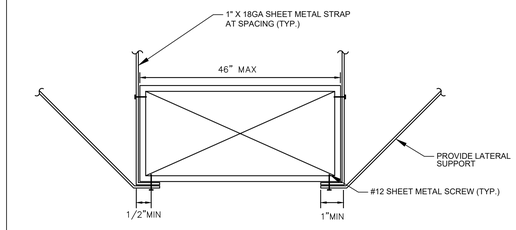


LEGEND:
(E) PROVIDED BY ELEC.
(M) PROVIDED BY MECH.

EXHAUST FAN WIRING DIAGRAM — SCALE: NONE — 12

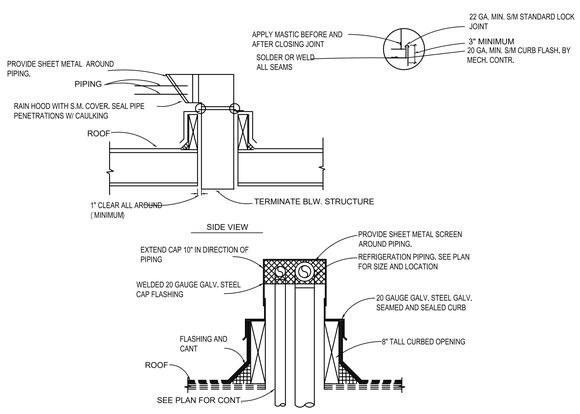


TYP. CASSETTE FAN COIL ANCHORAGE DETAIL — SCALE: NONE — 8

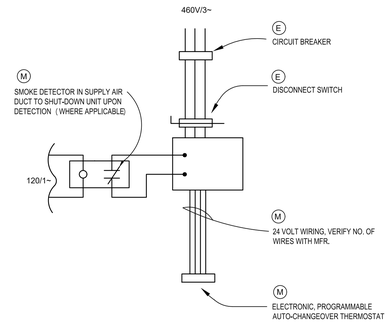


NOTE: INSTALLATION SHALL COMPLY W/ LATEST SMACNA STANDARDS.

TYPICAL RECT. DUCT ANCHORAGE DETAIL — SCALE: NONE — 4

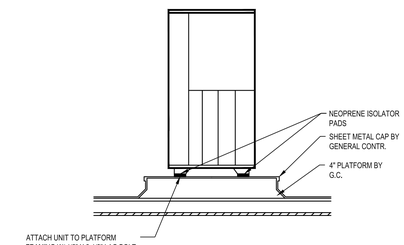


REFRIGERANT PIPING THRU ROOF — SCALE: NONE — 15



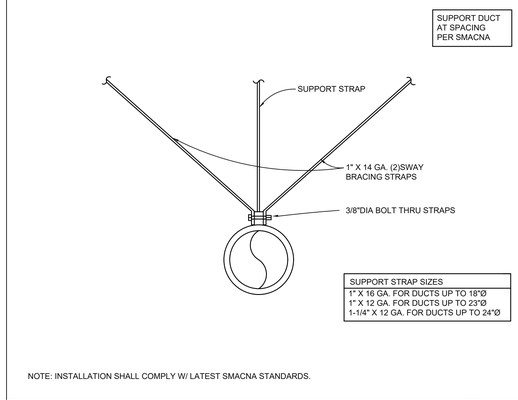
LEGEND:
(E) PROVIDED BY ELEC.
(M) PROVIDED BY MECH.

ROOFTOP PACKAGED AC UNIT WIRING DIAGRAM — SCALE: NONE — 11



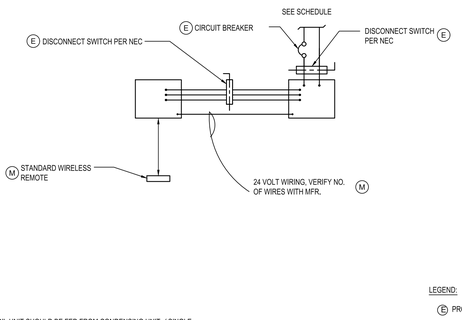
CU 1 CU 2
MAX WEIGHT: 150 LBS.

TYPICAL HEAT PUMP UNIT ANCHORAGE DETAIL — SCALE: NONE — 7



NOTE: INSTALLATION SHALL COMPLY W/ LATEST SMACNA STANDARDS.

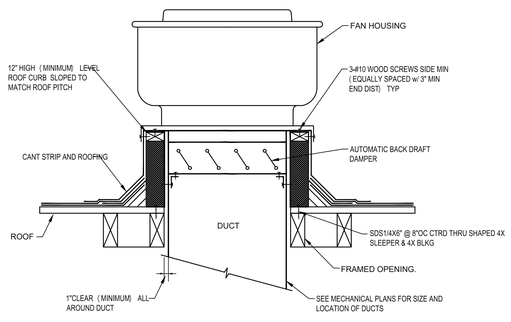
TYPICAL ROUND DUCT ANCHORAGE DETAIL — SCALE: NONE — 3



NOTE:
POWER FOR FAN COIL UNIT SHOULD BE FED FROM CONDENSING UNIT (SINGLE SOURCE) .

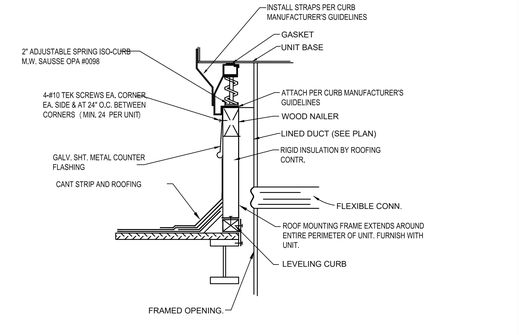
LEGEND:
(E) PROVIDED BY ELEC.
(M) PROVIDED BY MECH.

SPLIT SYSTEM HEAT PUMP WIRING DIAGRAM — SCALE: NONE — 14



EF
MAX WEIGHT: 60 LBS.

TYPICAL CURB EXHAUST FAN ANCHORAGE DETAIL — SCALE: NONE — 10

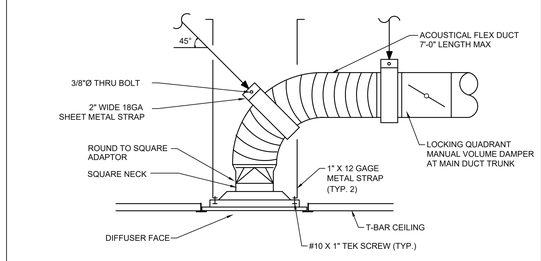


NOTES:
1. SLOPED ROOF CURBS TO MATCH ROOF PITCH.
2. TOP OF CURB SHALL BE MINIMUM 8" ABOVE FINISHED ROOF.

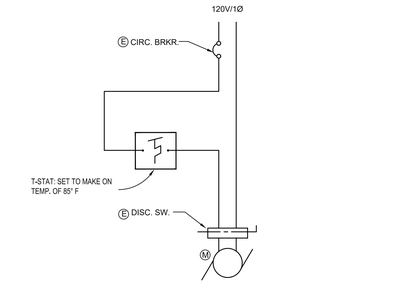
AC 1 AC 2 AC 3

TYP. AC UNIT ANCHORAGE DETAIL — SCALE: NONE — 6

NOTE:
1. FLEX DUCT SHALL HAVE MINIMUM 1 DUCT DIAMETER BEND RADIUS.
2. ALL DUCTWORK EXTENDING THROUGH RATED PARTITIONS AND/OR FULL HEIGHT WALLS WALLS SHALL BE CONSTRUCTED FROM SHEET METAL.

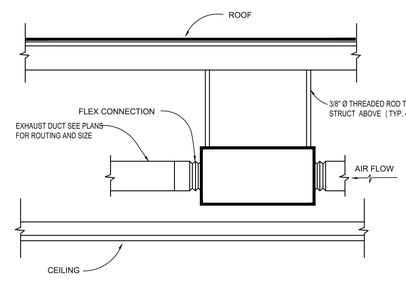


TYPICAL CEILING DIFFUSER INSTALLATION DETAIL — SCALE: NONE — 2



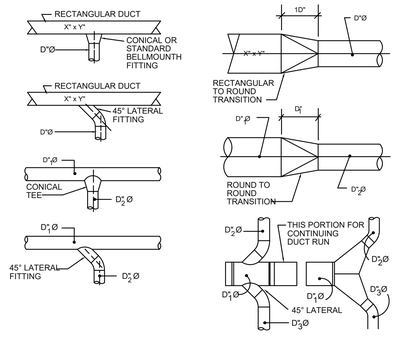
LEGEND:
(E) PROVIDED BY ELEC.
(M) PROVIDED BY MECH.

EXHAUST FAN WIRING DIAGRAM — SCALE: NONE — 13

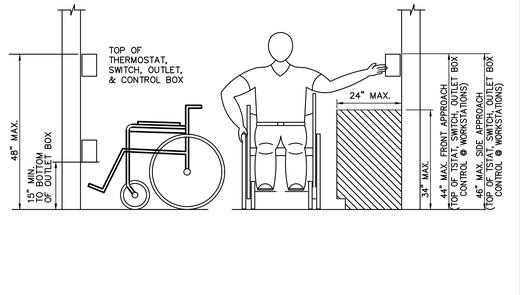


EF
MAX WEIGHT: - LBS.

TYPICAL IN-LINE EXHAUST FAN ANCHORAGE DETAIL — SCALE: NONE — 9



DUCT TRANSITION REQUIREMENTS — SCALE: NONE — 5



TYPICAL CONTROL DEVICE MOUNTING DETAIL — SCALE: NONE — 1

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
Southeast of Cherry Avenue and South Highland Avenue
FONTANA, CA 92335

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — Exp. 03/31/23 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — ANDREW R. GOSSMAN — No. M29639 Exp. 3/31/25 — MECHANICAL — STATE OF CALIFORNIA

CONSULTANT
PDS — PocockDesignSolutions Inc.

NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN: | CHECKED:
DATE: 08/21/2022 | SCALE: AS NOTED
PROJECT NUMBER: W2100100AR

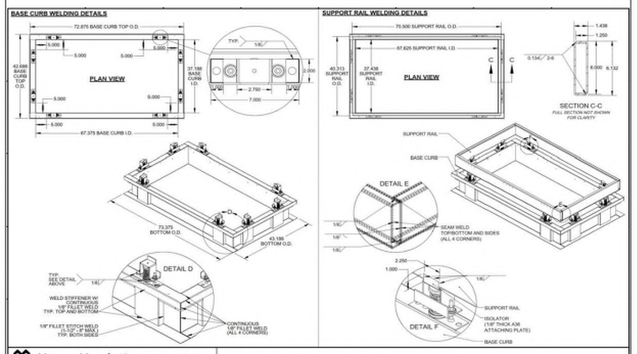
MECHANICAL DETAILS

DRAWING NUMBER: M3.1

BID SET

MicroMetl | Date: | Weight: 365lbs (US) 165.56k(Metric) | Part Number: CRBV-SRT12HA-1412-P30
RTU:
Submitted to: | Approved by: | Notes:

Vibration Isolation - Structurally Calculated Curb 24 Inches Tall / 14 Inch Curb Base, Full Perimeter, Non Insulated, With Power Exhaust Option . The Adjustable Deflection Spring Housing Meets California CBC, Seismic Requirements



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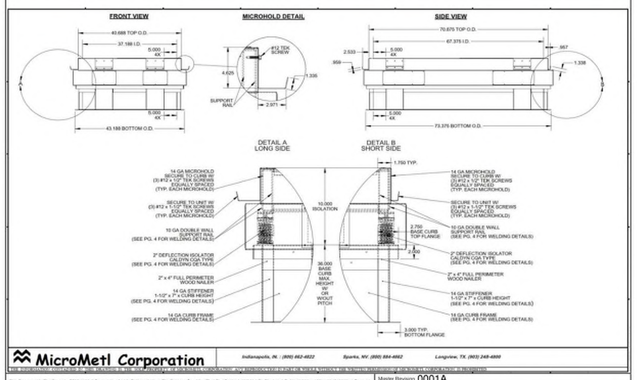
ROOFTOP UNIT CURB DETAIL — SCALE NONE — 4

MicroMetl | Date: | Weight: 365lbs (US) 165.56k(Metric) | Part Number: CRBV-SRT12HA-1412-P30
RTU:
Submitted to: | Approved by: | Notes:

Vibration Isolation - Structurally Calculated Curb 24 Inches Tall / 14 Inch Curb Base, Full Perimeter, Non Insulated, With Power Exhaust Option . The Adjustable Deflection Spring Housing Meets California CBC, Seismic Requirements



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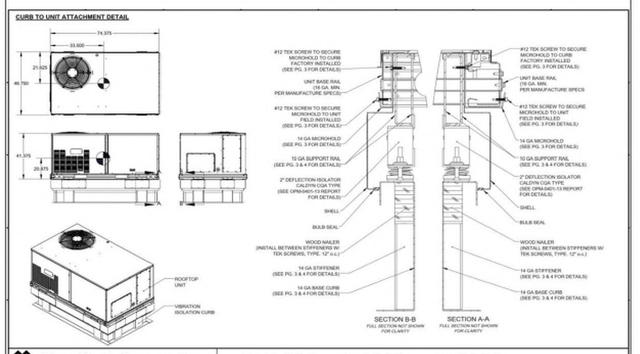
ROOFTOP UNIT CURB DETAIL — SCALE NONE — 3

MicroMetl | Date: | Weight: 365lbs (US) 165.56k(Metric) | Part Number: CRBV-SRT12HA-1412-P30
RTU:
Submitted to: | Approved by: | Notes:

Vibration Isolation - Structurally Calculated Curb 24 Inches Tall / 14 Inch Curb Base, Full Perimeter, Non Insulated, With Power Exhaust Option . The Adjustable Deflection Spring Housing Meets California CBC, Seismic Requirements



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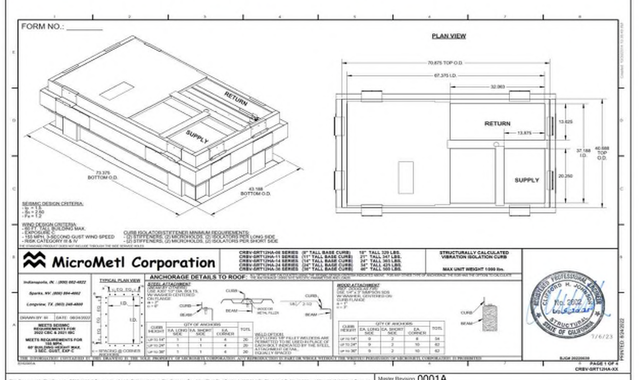
ROOFTOP UNIT CURB DETAIL — SCALE NONE — 2

MicroMetl | Date: | Weight: 365lbs (US) 165.56k(Metric) | Part Number: CRBV-SRT12HA-1412-P30
RTU:
Submitted to: | Approved by: | Notes:

Vibration Isolation - Structurally Calculated Curb 24 Inches Tall / 14 Inch Curb Base, Full Perimeter, Non Insulated, With Power Exhaust Option . The Adjustable Deflection Spring Housing Meets California CBC, Seismic Requirements



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ROOFTOP UNIT CURB ANCHORAGE DETAIL — SCALE NONE — 1

PBK
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8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
Southeast of Cherry Avenue and South Highland Avenue
FONTANA, CA 92335

LICENSED ARCHITECT
KELLEY NEEDHAM
C-19064
9/30 03/31/23
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
ANDREW K. OSSMANN
No. M29670
Ex. 3/31/24
MECHANICAL
STATE OF CALIFORNIA

CONSULTANT
PDS
PocockDesignSolutions Inc.

NO	DATE	BY	DESCRIPTION
4			REVISIONS

DRAWN: | CHECKED:
DATE: 08/21/2022 | SCALE: AS NOTED
PROJECT NUMBER: W2100100AR

MECHANICAL DETAILS

DRAWING NUMBER: M3.2

BID SET

GAS WATER HEATER SCHEDULE

ITEM	MANUFACTURER	MODEL NO.	SERVICE	LOCATION	STORAGE	INPUT BTU/HR	RECOVERY CAPACITY @ 60°F	INLET TEMP °F	OUTLET TEMPER °F	OPER. WT. LBS.	REMARKS
WH 1	A.O. SMITH	BTH-120	DOMESTIC HOT WATER	SEE PLANS	60 GALLONS	120,000	230 GPH	60	120	991 LBS.	MUST HAVE ASHRAE STICKER OR OTHERWISE COMPLY WITH TITLE 24 REQUIREMENT FOR SERVICE WATER HEATERS.

PUMP SCHEDULE

ITEM	MANUFACTURER	MODEL NO.	SERVICE	LOCATION	STORAGE	CAPACITY		MOTOR					REMARKS
						GPM	HEAD	HORSE POWER	VOLT	PHASE	CYCLE	R.P.M.	
CP 1	GRUNDFOS	"UP" SERIES	HOT WATER RETURN	SEE PLANS	CENTRIFUGAL	2	8	1/25	115	1	60	1750	PROVIDED WITH BUILT-IN OVERLOAD.

FIRE WATER BOOSTER PUMP SCHEDULE

ITEM	MANUFACTURER	MODEL NO.	SERVICE	LOCATION	TYPE	CAPACITY		MOTOR					OPER. WT. LBS.	REMARKS
						GPM	HEAD	HORSE POWER	VOLT	PHASE	CYCLE	R.P.M.		
FP 1	WEIL AQUATRONICS /SYNCROFLO BOOSTER PUMP SYTEM	EWS-D2400VTP80 -S6SSTP26-1C-460-PL	FIRE WATER	GROUND LEVEL	VERTICAL TURBINE	1200 65	215' 60'	(2)75EA. 1.5	460 460	3 3	60 60	1800 3450	7,000 LBS.	FIRE WATER BOOSTER PUMP FACTORY-ASSEMBLED PACKAGE SYSTEM WITH ENVIRONMENTAL ENCLOSURE AND WATER PROTECTION SYSTEM BOOSTER PUMP DISCHARGE PRESSURE: 80-PSIG, MOTORS: TWO (2) 75-HP EA, ONE CIRCULATING PUMP CAPACITY/HEAD: 65-GPM / 60' TDH MOTORS: 1.5-HP WITH CONTROL PANEL, VFD LEVEL MONITORING AND ALARMS, 185-GAL, 200 PSIG ASME HYDROPNEUMATIC TANK, TANK FILL VALVE SHIPPED SEPARATELY (SEE SPEC) WITH BMS SYSTEM FOR BACNET INTERFACE. CONTACT INFORMATION: WEIL AQUATRONICS 800-747-8677.

GENERAL NOTES

1. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
2. ALL ACCESSIBLE WATER CLOSETS SHALL HAVE FLUSH VALVE WITH HANDLE ON OPEN SIDE.
3. ALL VALVES, UNIONS, ETC. TO BE SAME SIZE AS PIPE UNLESS OTHERWISE INDICATED ON DRAWINGS.
4. ALL PLUMBING FIXTURE VENTS TO TERMINATE A MINIMUM OF 12 INCHES FROM ANY VERTICAL SURFACE AND 10 FEET FROM ANY OUTSIDE AIR INTAKES.
5. EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS.
6. ALL EXTERIOR GAS COCKS, WATER SHUT OFF VALVES AND/OR SEWER CLEANOUTS BELOW GROUND SHALL BE INSTALLED IN YARD BOXES WITH THE COVERS CONSPICUOUSLY MARKED "GAS", "WATER", AND "SEWER" RESPECTIVELY.
7. CONNECTION BETWEEN INCOMPATIBLE MATERIALS ABOVE GRADE AND INSIDE BUILDING SHALL BE MADE WITH TWO (2) DIELECTRIC UNIONS SEPARATED BY A TWELVE INCH (12") SECTION OF RED BRASS PIPE.
8. ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. ALL URNINALS SHALL HAVE CLEANOUTS ABOVE FIXTURE, CPC 707.4. THE CONTRACTOR SHALL COORDINATE ALL CLEANOUT LOCATIONS WITH EQUIPMENT, CABINETS, ETC., AND THE ARCHITECT PRIOR TO ANY INSTALLATION.
9. ALL URINALS SHALL HAVE CLEANOUTS ABOVE FIXTURE, PER CPC 707.4. THE CONTRACTOR SHALL COORDINATE ALL CLEANOUT LOCATIONS WITH THE ARCHITECT PRIOR TO ANY INSTALLATION.
10. SEE ARCHITECTURAL DRAWINGS FOR ACCESSIBLE FIXTURE LOCATIONS AND MOUNTING HEIGHTS. INSULATE ALL EXPOSED HOT WATER AND DRAIN PIPING BELOW ACCESSIBLE LAVATORIES AND SINKS.
11. ALL PLUMBING WORK SHALL BE INSTALLED SO AS TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING.
12. ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH CALIFORNIA PLUMBING CODE 2022.
13. THESE DRAWINGS INDICATE THE SEWER, WATER, AND STORM DRAIN SYSTEMS TO POINT OF CONNECTION 5'-0" OUTSIDE OF THE BUILDING. CONTINUATION OF THESE SYSTEMS IS SHOWN ON THE CIVIL DRAWINGS AND IS SPECIFIED UNDER ANOTHER SECTION OF THE SPECIFICATIONS. THE PIPING SHALL BE INSTALLED TO MEET THE INVERT ELEVATIONS SHOWN ON THE CIVIL DRAWINGS.
14. INSULATION (SEE SPECIFICATION FOR TYPE REQUIRED) AND COVERING ON PIPE AND TUBING SHALL HAVE A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DENSITY NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH 2022 C.B.C. SECTION 720.3.
15. MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS SHALL HAVE A FLAME-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHERE TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723. CMC 2022, CHAPTERS 7, 9 ,& 11.
16. THE BUILDING SHALL BE PROVIDED WITH AN AUTOMATIC SPRINKLER SYSTEM PER C.B.C. CHAPTER 9 SECTION 903 & NFPA 13, ALL LOCAL CODES, AND INSURANCE UNDERWRITERS REQUIREMENTS. THE FIRE SPRINKLER CONTRACTOR SHALL SUBMIT AN APPROVED AND STAMPED SET OF DRAWINGS SHOWING ALL SIZES AND LOCATIONS OF FIRE SPRINKLER RISER, PIPING, DETECTOR CHECK VALVE AND ANY OTHER EQUIPMENT REQUIRED. IN ADDITION, SUBMITTAL SHALL BE MADE FOR ALL MATERIAL AND EQUIPMENT.

LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	S OR W	SOIL OR WASTE ABOVE FLOOR
	S OR W	SOIL OR WASTE BELOW FLOOR OR GRADE
SD	SD	STORM DRAIN ABOVE FLOOR
SD	SD	STORM DRAIN BELOW FLOOR OR GRADE
OD	OD	OVERFLOW DRAIN ABOVE FLOOR
	V	SANITARY VENT
CW	CW	COLD WATER
HW	HW	HOT WATER
CD	CD	CONDENSATE DRAIN
TP	TP	TRAP PRIMER
G	G	GAS LINE
PG	PG	PROPANE GAS LINE
F	F	FIRE LINE
AS	AS	AUTOMATIC SPRINKLER LINE
		DIRECTION OF FLOW
	SOV	SHUT-OFF VALVE
	GC	GAS COCK
	FCO	FLOOR CLEANOUT
	WCO	WALL CLEANOUT
		RISER UP
		RISER DOWN
	ABV	ABOVE
	AP	ACCESS PANEL
	BEL	BELOW
	CLG	CEILING
	CONT	CONTINUATION
	COTG	CLEANOUT TO GRADE
	DN	DOWN
	FLR	FLOOR
	FFE	FINISH FLOOR ELEVATION
	I.E.	INVERT ELEVATION
	POC	POINT OF CONNECTION
	PLCS	PLACES
	SLVE	SLEEVE
	VTR	VENT THRU ROOF

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SAN BERNARDINO COUNTY FIRE DEPARTMENT
Southeast of Cherry Avenue and South Highland Avenue
FONTANA, CA 92335

LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — Ex.Dat: 03/31/27 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — ANDREW R. GUSSMAN — No. M35639 — Exp. 3/31/26 — MECHANICAL — STATE OF CALIFORNIA

CONSULTANT
PDS
PocockDesignSolutions Inc.

NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN:	CHECKED:
DATE: 08/21/2022	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

PLUMBING LEGEND, SCHED. GEN. NOTES

DRAWING NUMBER: P0.1

BID SET

FIXTURE SCHEDULE

ITEM	FIXTURE	ROUGH-IN CONNECTIONS: TRAP	WASTE	VENT	HOT WATER	COLD WATER	GAS	DESCRIPTION
WC 1	WATER CLOSET (BATTERY I/R SENSOR)	INT	4"	2"	--	1"	--	AMERICAN STANDARD (A/S) NO. 3451.001 "MADERA FLOWISE 15" HEIGHT ELONGATED FLUSHOMETER TOILET", SIPHON JET, FLOOR MOUNTED, ELONGATED BOWL, 15" HIGH. COMPLETE WITH SLOAN ECOS NO. 8111-1.28 GPF BATTERY POWERED SENSOR OPERATED FLUSH VALVE, OLSONITE NO. 95SSCT SEAT AND A/S BOLT CAPS.
WC 2	WATER CLOSET (ACCESSIBLE, BAT. I/R SENSOR)	INT	4"	2"	--	1"	--	AMERICAN STANDARD (A/S) NO. 3461.160 "MADERA FLOWISE 16-1/2" HEIGHT ELONGATED FLUSHOMETER TOILET", SIPHON JET, FLOOR MOUNTED, ELONGATED BOWL, 16-1/2" HIGH. COMPLETE WITH SLOAN ECOS NO. 8111-1.28 GPF BATTERY POWERED SENSOR OPERATED FLUSH VALVE, OLSONITE NO. 95SSCT SEAT AND A/S BOLT CAPS.
UR 1	URINAL (BAT. I/R SENSOR)	INT	2"	1-1/2"	--	3/4"	--	AMERICAN STANDARD (A/S) NO. 6002.001 "PINTBROOK URINAL", WALL HUNG, SIPHON JET. COMPLETE WITH SLOAN ECOS NO. 8186-0.125 GPF BATTERY POWERED FLUSH VALVE, AND ZURN NO. Z-1222 WALL HANGER.
UR 2	URINAL (ACCESSIBLE, BAT. I/R SENSOR)	INT	2"	1-1/2"	--	3/4"	--	AMERICAN STANDARD (A/S) NO. 6002.001 "PINTBROOK URINAL", WALL HUNG, SIPHON JET. COMPLETE WITH SLOAN ECOS NO. 8186-0.125 GPF BATTERY POWERED FLUSH VALVE AND ZURN NO. Z-1222 WALL HANGER, MOUNT AT ADA ACCESSIBLE HEIGHT.
L 1	LAVATORY (ACCESSIBLE, BAT. I/R SENSOR)	1-1/4"	2"	1-1/2"	1/2" TW	--	--	AMERICAN STANDARD (A/S) NO. 0355.012 "LUCERNE WALL HUNG LAVATORY", 20" X 18", WALL HUNG. COMPLETE WITH CHICAGO NO. 116.201.AB.1 BATTERY POWERED ELECTRONIC FAUCET WITH E2805-5AB 0.5 GPM NON-AERATING SPRAY, 240.627.21.1 COVER PLATE, McGUIRE NO. 155A 1-1/4" OUTLET "OPEN GRID P.O. PLUG", McGUIRE NO. PW8090NC0 1-1/4" L.A. PATTERN P-TRAP WITH TRAP AND SUPPLY COVERS, GALVANIZED NIPPLE AND CHROMIUM PLATED BRASS CASING, CHICAGO NO. 1017-ABCP LOOSE KEY STOPS WITH RIGID SUPPLIES, AND ZURN NO. Z-1231 ADJUSTABLE CONCEALED ARM CARRIER W/ SLEEVE FOR WASTE. MOUNT IN ACCORDANCE WITH ADA REQUIREMENTS.
L 2	LAVATORY (ACCESSIBLE, UNDER COUNTER, BAT. I/R SENSOR)	1-1/4"	2"	1-1/2"	1/2" TW	--	--	AMERICAN STANDARD (A/S) NO. 0496.221 "OVALYN II UNDERCOUNTER LAVATORY", 20" X 17", UNDERCOUNTER MOUNTED, VITREOUS CHINA. COMPETE WITH CHICAGO NO. 116.201.AB.1 BATTERY POWERED ELECTRONIC FAUCET WITH E2805-5AB 0.5 GPM NON-AERATING SPRAY, McGUIRE NO. 155A 1-1/4" OUTLET "OPEN GRID P.O. PLUG", McGUIRE NO. PW8090NC0 1-1/4" L.A. PATTERN P-TRAP WITH TRAP AND SUPPLY COVERS, GALVANIZED NIPPLE AND CHROMIUM PLATED BRASS CASING, AND CHICAGO NO. 1017-ABCP LOOSE KEY STOPS WITH RIGID SUPPLIES. MOUNT IN ACCORDANCE WITH ADA REQUIREMENTS.
SS 1	SERVICE SINK	3"	3"	2"	3/4"	3/4"	--	CECO NO. 871 "CORNER SERVICE SINK", ENAMELED CAST IRON, CORNER FLOOR MOUNTED, COMPLETE WITH CHICAGO NO. 445-PVB-CP FAUCET, CECO NO. 871-3" 3" DIAMETER DRAIN WITH FLAT CHROME STRAINER, CECO NO. B-872 COATED WIRE RIM GUARD AND HOSE.
TP 1	TRAP PRIMER (SINGLE DRAIN)	--	--	--	--	1/2"	--	MIFAB NO. MR-500 TRAP PRIMER VALVE, BRASS BODY, ADJUSTABLE, COMPLETE WITH 1/2" COPPER TYPE "L" PIPE TO RECEPTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, COMPLETE BEHIND ACCESS PANEL WITH SHUT-OFF VALVE.
TP 2	TRAP PRIMER (MULTIPLE DRAIN)	--	--	--	--	1/2"	--	MIFAB NO. MR-500 TRAP PRIMER VALVE, BRASS BODY, ADJUSTABLE, COMPLETE WITH MI-DU DISTRIBUTION UNIT, 1/2" COPPER TYPE "L" PIPE TO EACH RECEPTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, COMPLETE BEHIND ACCESS PANEL WITH SHUT-OFF VALVE.
TP 3	TRAP PRIMER (ELECTRONIC)	--	--	--	--	1/2"	--	PPP NO. MP-500-115V MINI-PRIME ELECTRONIC TRAP SEAL PRIMER SYSTEM WITH BALL VALVE, VACUUM BREAKER AND SOLENOID VALVE (120 VOLT, 1 PHASE). COMPLETE WITH SHUT-OFF VALVE AND 1/2" COPPER TYPE "L" PIPE TO RECEPTOR.
WHA 1	WATER HAMMER ARRESTOR	--	--	--	--	--	--	ZURN NO. Z-1700 SERIES "SHOKTROL" WATER HAMMER ARRESTOR COMPLETE BEHIND ACCESS PANEL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
FD 1	FLOOR DRAIN	2"	2"	1-1/2"	--	--	--	ZURN NO. ZN-415-BZ1-P, CAST IRON BODY, COMPLETE WITH ROUND NICKEL-BRONZE TOP, CLAMPING COLLAR, 1/2" TRAP PRIMER CONNECTION AND P-TRAP.
FD 2	FLOOR DRAIN (SHOWER)	2"	2"	1-1/2"	--	--	--	ZURN NO. ZN-415-BZ1-113, CAST IRON BODY, COMPLETE WITH ROUND NICKEL-BRONZE TOP, CLAMPING COLLAR, AND P-TRAP.

ITEM	FIXTURE	ROUGH-IN CONNECTIONS: TRAP	WASTE	VENT	HOT WATER	COLD WATER	GAS	DESCRIPTION
RD 1	ROOF DRAIN	SEE PLAN FOR SIZES						ZURN NO. ZC100-DP-84, 15" CAST IRON BODY, COMPLETE WITH ADJUSTABLE EXTENSION SLEEVE, FLASHING COLLAR, STAINLESS STEEL GRAVEL STOP, CAST IRON DOME STRAINER, SUMP RECEIVER, AND UNDERDECK CLAMP.
OD 1	OVERFLOW DRAIN	SEE PLAN FOR SIZES						ZURN NO. ZC100-DP-84-89, 15" CAST IRON BODY, COMPLETE WITH CAST IRON DOME STRAINER, UNDERDECK CLAMP, AND 2" HIGH WATER DAM.
DN 1	DOWNSPOUT NOZZLE	SEE PLAN FOR SIZES						ZURN NO. Z199-DC, STAINLESS STEEL FRAME WITH FABRICATED SECURED PERFORATED STAINLESS STEEL HINGED STRAINER, THREADED INLET AND DECORATIVE FACE OF WALL FLANGE AND OUTLET NOZZLE.
SH 1	SHOWER (ACCESSIBLE)	--	--	--	3/4"	3/4"	--	SYMMONS NO. 261XBODY WITH 3500-CYL-B-TRM WITH 35EX UNIT, 432SH-1.5, ADACHS-1.5. COMPLETE WITH PRESSURE BALANCING MIXING VALVE WITH LEVER HANDLE, INTEGRAL SERVICE STOPS, 1.5 GPM HAND-HELD SHOWER, 60" HOSE, AND INLINE VACUUM BREAKER.
EWC 1	ELECTRIC WATER COOLER W/BOTTLE FILLER (ACCESSIBLE)	1-1/2"	2"	1-1/2"	--	3/4"	--	ELKAY NO. LVRCTLBWSK WITH BOTTLE FILLER, DUAL HEIGHT, WALL MOUNTED, STAINLESS STEEL, BARRIER FREE, 8 GPH OF 50° F. WATER WITH 80° F. INLET WATER AT 90° F. AMBIENT, 115 VOLT, 1 PHASE. COMPLETE WITH MOUNTING PLATE, AND CHICAGO NO. 45LKABCP ANGLE STOP WITH 1/2" FEMALE INLET & OUTLET. MOUNT AT ADA ACCESSIBLE HEIGHT.
FS 1	FLOOR SINK	2"	2"	1-1/2"	--	--	--	ZURN NO. ZN1901-KC-P-2, 12" X 12" X 8" DEEP, CAST IRON BODY, ACID-RESISTING ENAMELED INTERIOR. COMPLETE WITH DOME STRAINER, NICKEL-BRONZE HALF GRATE, SEEPAGE FLANGE, TRAP PRIMER CONNECTION AND P-TRAP.
ET 1	EXPANSION TANK	--	--	--	--	--	--	WILKINS NO. WXT-18, 4 GALLON, DIAPHRAGM TYPE, PRE-PRESSURIZED WITH WELDED EXTERIOR, BUTYL DIAPHRAGM AND EPOXY COATED EXTERIOR W/ MAPA MXC-11 EXPANSION TANK CAGE.
HB 1	HOSE BIBB (WALL)	--	--	--	--	3/4"	--	ACORN NO. 8121-CP "BENT NOSE WITH FLANGE" HOSE BIBB, WALL MOUNTED, CHROME-PLATED POLISHED, WITH INTEGRAL VACUUM BREAKER, LOOSE KEY OPERATION.
HB 2	HOSE BIBB (FREE STANDING, ROOF)	--	--	--	--	3/4"	--	ACORN NO. 8126-CR "BENT NOSE" HOSE BIBB, FREE STANDING, CHROME-PLATED ROUGH, WITH INTEGRAL VACUUM BREAKER, LOOSE KEY OPERATION. SUPPLY PIPING SHALL BE SECURELY FASTENED TO ROOF DECKING WITH 3/4" NIBCO NO. 724-5-A "HY-SET HANGER COUPLING".
RHB 1	RECESSED HOSE BIBB	--	--	--	--	3/4"	--	ACORN NO. 8104, RECESSED WALL MOUNTED, STAINLESS STEEL BOX, WITH INTEGRAL VACUUM BREAKER AND LOCKING DOOR.
MV 1	MIXING VALVE	--	--	--	1/2"	1/2"	--	BRADLEY NO. S59-4100A, WATER TEMPERATURE LIMITING VALVE. COMPLETE WITH INTEGRAL CHECKS AND DUAL STANLESS STEEL STRAINERS, STAINLESS STEEL RECESSED WALL CABINET, AND SEPARATE CHECK STOPS.
SGV 1	SEISMIC GAS VALVE	ITEM SHALL BE SIZED TO MATCH FULL LINE SIZE OF PIPING SERVED. SEE PLAN FOR SIZES.						KOSO/CALIFORNIA EARTHQUAKE SENSITIVE SHUT-OFF VALVE, 60 PSI WORKING PRESSURE, U.L. LISTED, THREADED CONNECTIONS FOR SIZES 2" AND LESS, FLANGED CONNECTIONS FOR SIZES GREATER THAN 2". PRESSURE DROP SHALL NOT EXCEED 13' EQUIVALENT PIPING LENGTH.
PGPR 1	PROPANE GAS PRESSURE REGULATOR	--	--	--	--	--	--	FISHER NO. 630-104/78, 2" SIZE CONNECTION, 1/2" ORIFICE, SPRING RANGE 5-20 PSIG., OUTLET PRESSURE SET @ 15 PSI AND A FLOW UP TO 14,000 CFH. CAST IRON CONSTRUCTION.
PGPR 2	PROPANE GAS PRESSURE REGULATOR	--	--	--	--	--	--	FISHER NO. 627-7710, 1" SIZE CONNECTION, 1/2" ORIFICE, SPRING RANGE 35-80 PSIG., OUTLET PRESSURE SET @ 50 PSI AND A FLOW UP TO 10,700 CFH. CAST IRON CONSTRUCTION.

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SAN BERNARDINO COUNTY FIRE DEPARTMENT
Southeast of Cherry Avenue and South Highland Avenue
FONTANA, CA 92335

LICENSED ARCHITECT
KELLEY NEEDHAM
C-19064
Ex.Date 03/31/27
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
ANDREW R. GISSMAN
No. M33639
Exp. 3/31/26
MECHANICAL
STATE OF CALIFORNIA

CONSULTANT
PDS
PocockDesignSolutions Inc.

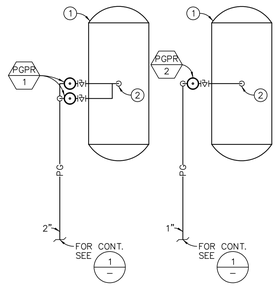
NO	DATE	BY	DESCRIPTION
#\	REVISIONS		

DRAWN:	CHECKED:
DATE: 08/21/2022	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

PLUMBING FIXTURE SCHEDULE

DRAWING NUMBER: P0.2

BID SET

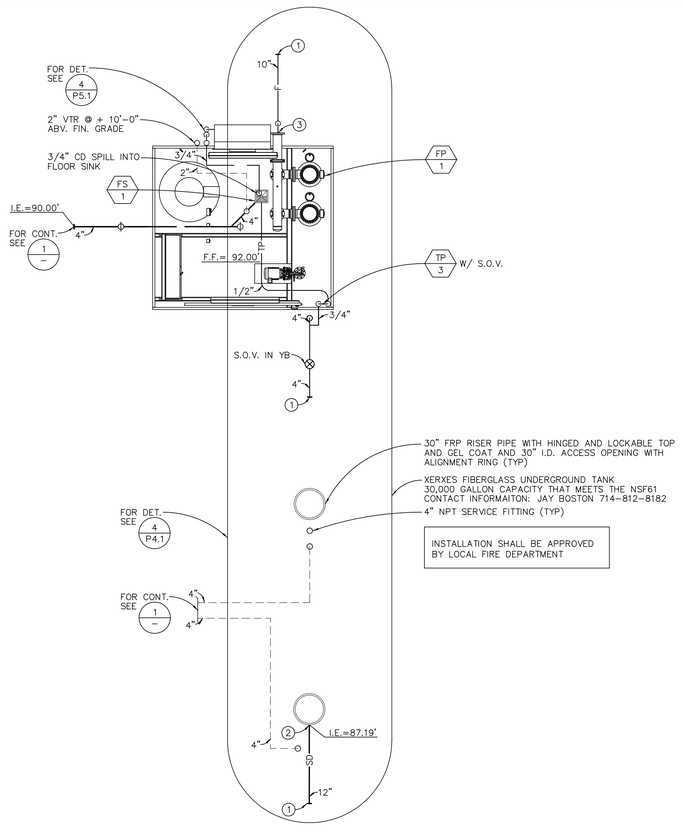


CONSTRUCTION KEY NOTES:

1. QUALITY STEEL CORPORATION, 500 GAL. PROPANE TANK. ABOVE TANK SHALL COMPLY WITH NFPA 58. 250 PSI WORKING PRESSURE. LEGS SHALL HAVE (2) 3/4" HOLES, 16" ON CENTER. (4) 3/4" DIA. HILTI 'KB-TZE' STAINLESS STEEL TYPE 304, WITH 4-3/4" EMBEDMENT (ICC ESR-4266). SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. P.O.C. PG TO VAPOR OUTLET WITH FISHER SOV, FISHER HYDOSTATIC VALVE, AND RANSOM FLEX CONNECTOR.

PARTIAL PLUMBING SITE PLAN

SCALE 1/4"=1'-0" | 3



CONSTRUCTION KEY NOTES:

1. FOR CONTINUATION OF ALL UTILITIES SEE CIVIL ENGINEERING DRAWINGS.
2. P.O.C. NEW 12" STORM DRAIN LINE TO 30" FRP RISER PIPE BELOW GRADE. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING.
3. P.O.C. NEW 10" FIRE LINE TO ABOVE GRADE FIRE PUMP CONNECTION. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING.

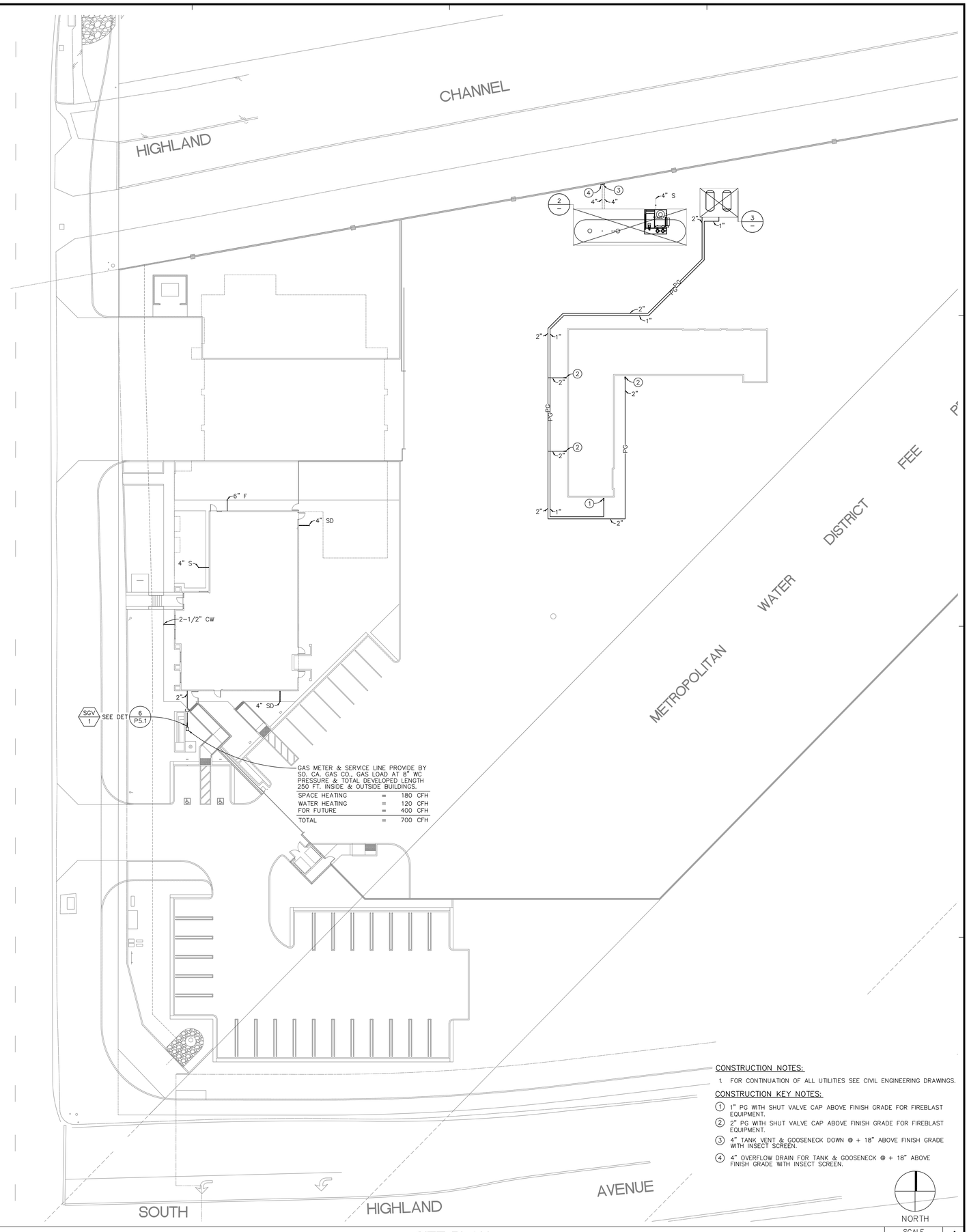
CONSTRUCTION NOTES:

1. TANK INSTALLATION SHALL COMPLY WITH NFPA 30, 70 & 329 AND ALL APPLICABLE CODES, STANDARD PRACTICES OF THE TRADE AND AUTHORITES HAVING JURISDICATION AND TANK MFG. INSTRUCTIONS.
2. CONTRACTOR SHALL OBTAIN ENVIRONMENT HEALTH SERVICES APPROVAL OF UNDERGROUND FUEL TANK, BEFORE INSTALLATION.
3. ANCHORING TANK AND DEADMAN SHALL BE INSTALL PER TANK MANUFACTURER RECOMMENDATIONS.

NORTH

PARTIAL PLUMBING SITE PLAN

SCALE 1/4"=1'-0" | 2



CONSTRUCTION NOTES:

1. FOR CONTINUATION OF ALL UTILITIES SEE CIVIL ENGINEERING DRAWINGS.

CONSTRUCTION KEY NOTES:

1. 1" PG WITH SHUT VALVE CAP ABOVE FINISH GRADE FOR FIREBLAST EQUIPMENT.
2. 2" PG WITH SHUT VALVE CAP ABOVE FINISH GRADE FOR FIREBLAST EQUIPMENT.
3. 4" TANK VENT & GOOSENECK DOWN @ + 18" ABOVE FINISH GRADE WITH INSECT SCREEN.
4. 4" OVERFLOW DRAIN FOR TANK & GOOSENECK @ + 18" ABOVE FINISH GRADE WITH INSECT SCREEN.

NORTH

SITE PLAN

SCALE 1"=20'-0" | 1

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FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT

Southeast of Cherry Avenue and South Highland Avenue
FONTANA, CA 92335

LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — re:3x 03/31/27 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — ANDREW R. GOSSMAN — No. M35630 — Exp. 3/31/26 — MECHANICAL — STATE OF CALIFORNIA

CONSULTANT

PDS
PocockDesignSolutions Inc.

NO	DATE	BY	DESCRIPTION
1			REVISIONS

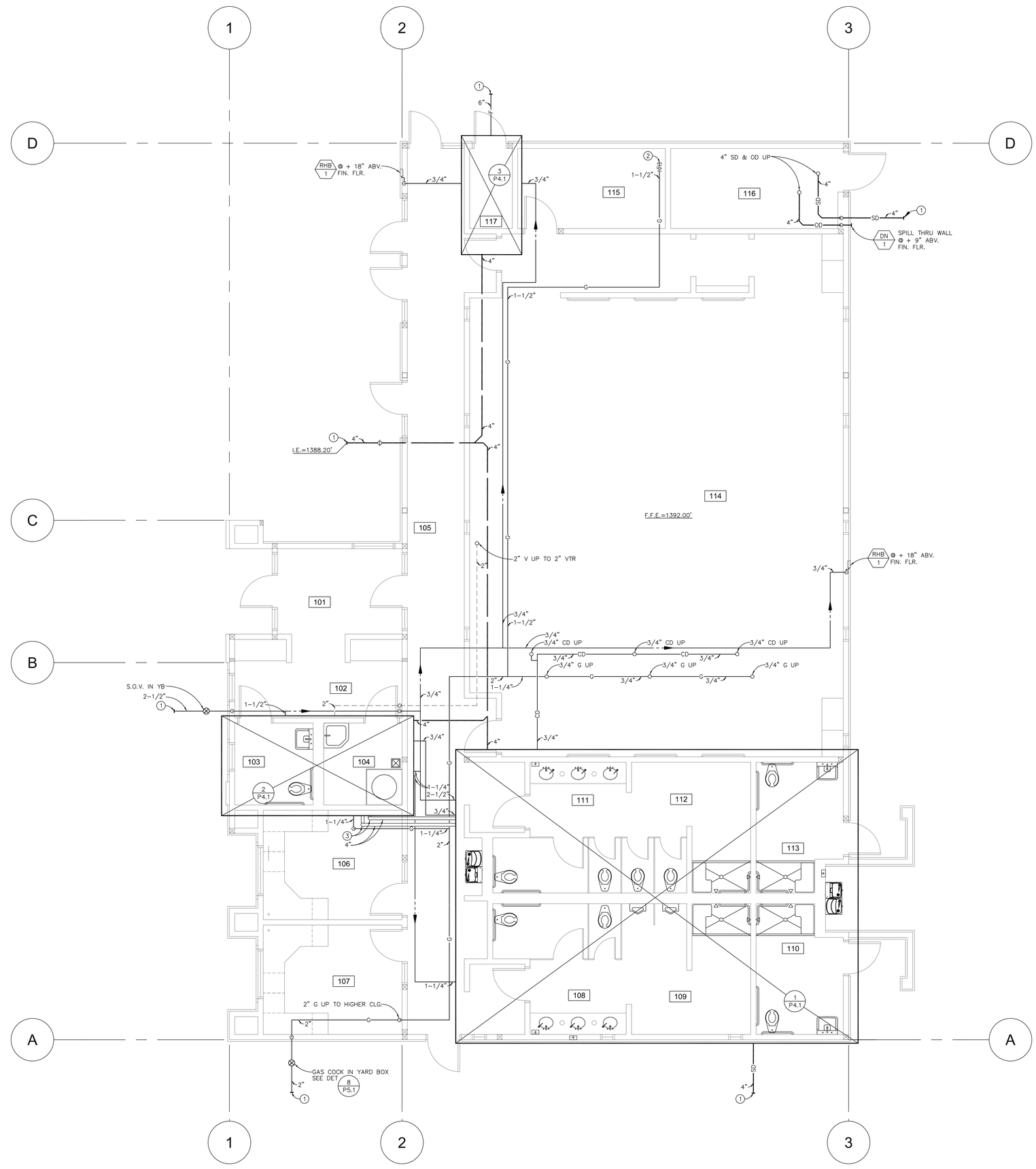
DRAWN: JM	CHECKED: KN
DATE: 08/21/2022	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

PLUMBING SITE PLAN

DRAWING NUMBER: P1.1

BID SET

ROOM #	ROOM NAME	
101	LOBBY	
102	VESTIBULE	
103	ACCESSIBLE RESTROOM	
104	CUSTODIAL/ STORAGE	
105	HALLWAY	
106	TRAINING OFFICE 1	
107	TRAINING OFFICE 2	
108	MEN RESTROOM	
109	MEN LOCKERS/ SHOWER	
110	UNISEX BATHROOM	
111	WOMEN RESTROOM	
112	WOMEN LOCKERS/ SHOWER	
113	UNISEX BATHROOM	
114	TRAINING ROOM	
115	TRAINING STORAGE	
116	ELECTRICAL ROOM	
117	FIRE RISER ROOM	



CONSTRUCTION NOTES:

1. ALL HORIZONTAL STORM DRAIN PIPING ABOVE CEILING SHALL SLOPE AT 1% UNLESS OTHERWISE NOTED.
2. ALL CONDENSATE DRAIN PIPING ABOVE CEILING SHALL SLOPE AT 1% UNLESS OTHERWISE NOTED.
3. ALL GAS PIPING SIZES INSIDE THE BUILDING ARE BASED ON CALIFORNIA PLUMBING CODE 2022 TABLE 1215.2(1) (LOW PRESSURE) AT TOTAL DEVELOPED LENGTH 250 FEET & 700 CFH.
4. ALL SLEEVES THRU FOOTINGS SHALL BE MINIMUM TWO PIPE SIZES LARGER THAN THE PIPE GOING THRU IT, PROVIDE ALL SLEEVES.
5. ALL STORM DRAIN LINES, WASTE LINES & COLD WATER LINES INTO FOOTINGS SHALL BE DOUBLE HALF LAP WRAPPED WITH 1/8" THICK "ARMOFLEX" INSULATION. ALSO, THE CONTRACTOR SHALL PROVIDE BLOCKED OUT AREAS IN THE FOOTING FOR STORM DRAIN LINES, WASTE LINES & COLD WATER LINES. ALL PIPING SHALL AVOID THE LOWER 9" OF THE FOOTING.

CONSTRUCTION KEY NOTES:

(1) FOR CONTINUATION OF ALL UTILITIES SEE SHEET P1.1.
(2) CAP 1-1/2" GAS LINE W/ S.O.V. FOR FUTURE USE.(400 CFH @ 250'-0" TDL)
(3) WATER HEATER VENT UP TO HIGHER CLG.

NORTH

PLUMBING FLOOR PLAN

SCALE 1/4"=1'-0"

1

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REGISTERED PROFESSIONAL ENGINEER — ANDREW R. GOSSMAN — No. M25639 — Exp. 3/31/26 — MECHANICAL — STATE OF CALIFORNIA

CONSULTANT
PDS
PocockDesignSolutions Inc.

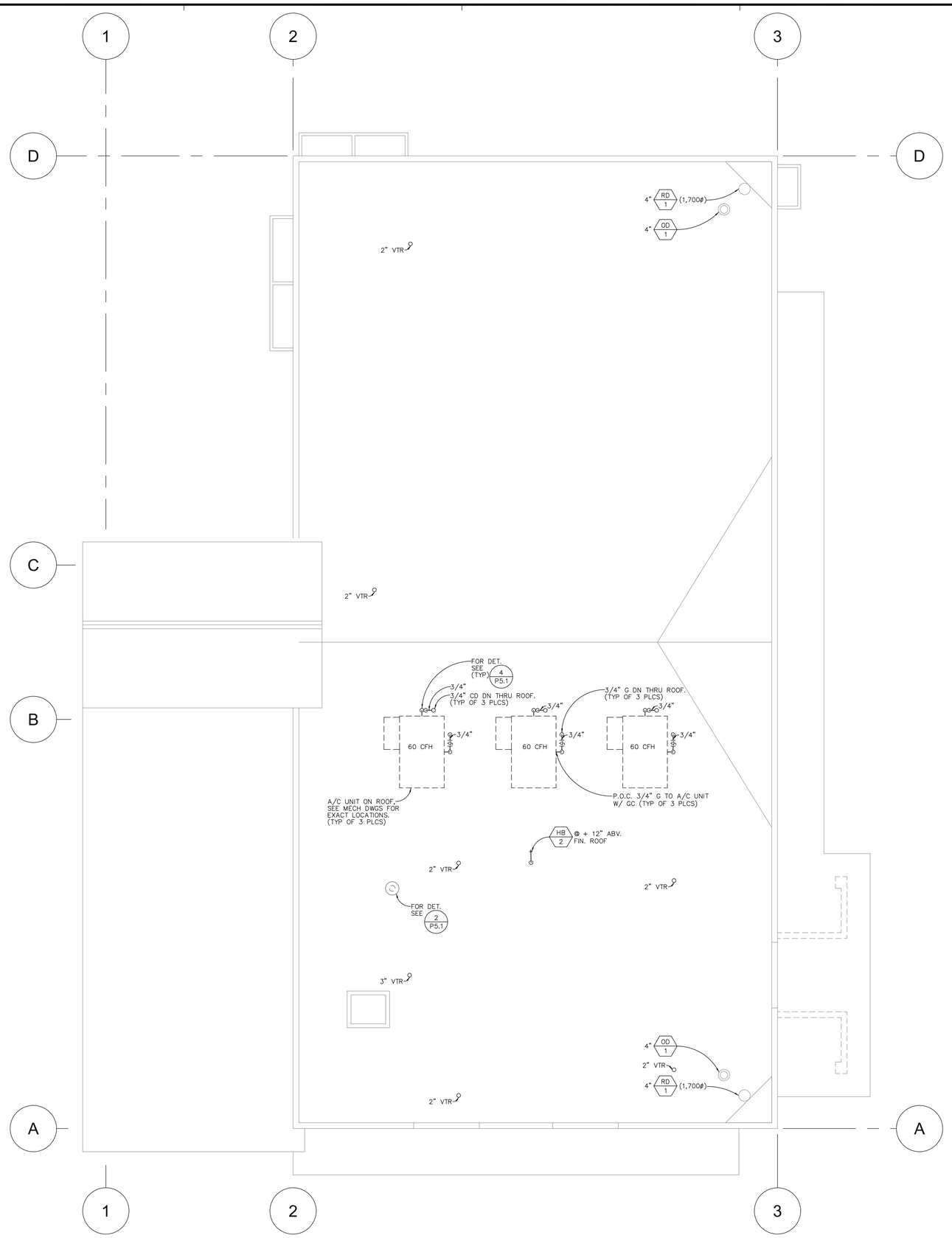
NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN:
CHECKED:
DATE: 08/21/2022
SCALE: AS NOTED
PROJECT NUMBER: W2100100AR

PLUMBING FLOOR PLAN

DRAWING NUMBER: P2.1

BID SET



CONSTRUCTION NOTES:

1. ALL STORM DRAIN PIPE SIZES ARE BASED ON CALIFORNIA PLUMBING CODE 2022 TABLE 1103.1 & 1103.2 AT 2" RAINFALL PER HOUR.

NORTH

PLUMBING ROOF PLAN

SCALE 1/4"=1'-0"

1

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CONSULTANT

PDS
PocockDesignSolutions Inc.

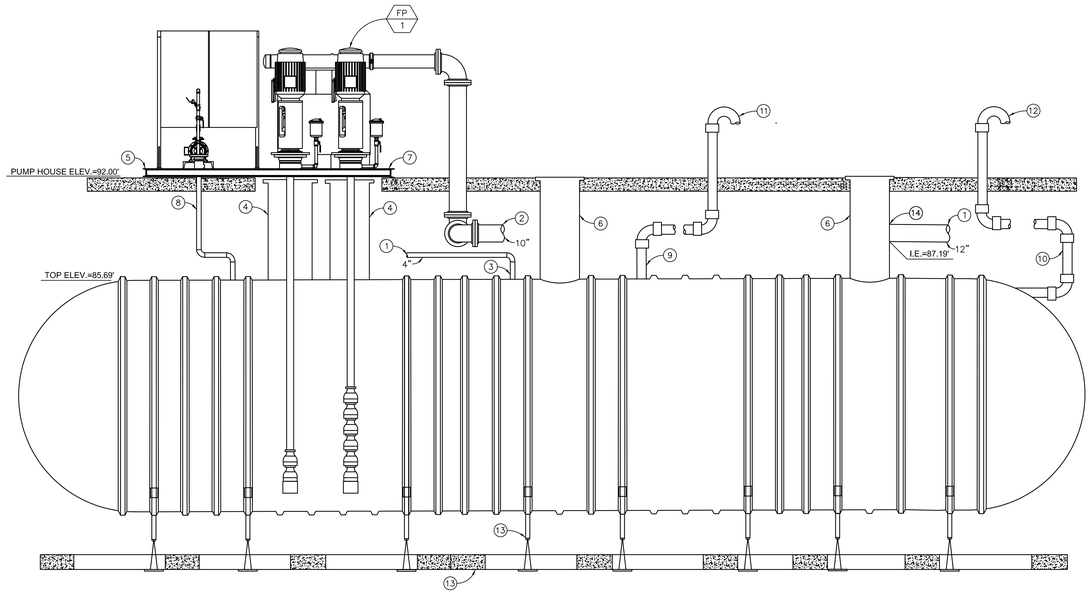
NO	DATE	BY	DESCRIPTION
#			REVISIONS

DRAWN: JM	**CHECKED:** KN
DATE: 08/21/2022	**SCALE:** AS NOTED
PROJECT NUMBER: W2100100AR	

PLUMBING ROOF PLAN

DRAWING NUMBER: P3.1

BID SET

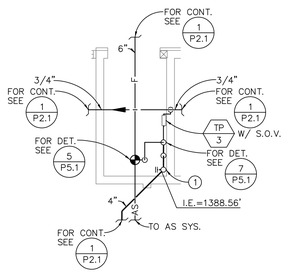


CONSTRUCTION KEY NOTES:

1. FOR CONTINUATION OF ALL UTILITIES SEE CIVIL ENGINEERING DRAWINGS.
2. FOR CONTINUATION OF ALL UTILITIES SEE SHEET P1.1. AND DETAIL NO. 2.
3. 4" MAKE-UP WATER WITH SELF-CONTAINTED SOLENOID CONTROL VALVE INCLUDE A METER BOX OR VAULT FOR ACCESSIBILITY
4. XERXES CORPORATION MODEL ACR, 24" X 48" FIBERGLASS MANWAY RISER. WITH 32" DIA ACCESS OPENING WITH LID AND NSF-APPROVED FRP LADDER.
5. FIRE WATER BOOSTER PUMP SKID.
6. 30" FRP RISER PIPE WITH HINGED AND LOCKABLE TOP AND GEL COAT AND 30" I.D. ACCESS OPENING WITH ALIGNMENT RING.
7. ANCHOR POINTS: PROVIDE W/ 1/2" DIA. HILTI KB-TZ, 4" EMBED. ICC ESR-1917 (TYP).
8. 2" RE-CIRCULATING WATER, TYPE 'K' COPPER TUBING WITH WROUGHT COPPER SWEAT FITTINGS, WITH RECIRC INJECTION MANIFOLD SyncroFlo. INSIDE TANK.
9. 4" TANK VENT, PVC DWV SCHEDULE 40 PIPE, ASTM D 1784 WITH SOLVENT CEMENT FITTINGS. SEE SHEET P1.1 & DETAIL NO. 2.
10. 4" OVERFLOW DRAIN FOR TANK, PVC DWV SCHEDULE 40 PIPE, ASTM D 1784 WITH SOLVENT CEMENT FITTINGS. SEE SHEET P1.1 & DETAIL NO. 2.
11. 4" TANK VENT & GOOSENECK DOWN @ + 18" ABOVE FINISH GRADE WITH INSECT SCREEN.
12. 4" OVERFLOW DRAIN FOR TANK & GOOSENECK DOWN @ + 18" ABOVE FINISH GRADE WITH INSECT SCREEN.
13. XERXES PRECAST DEADMAN SYSTEM WITH HOLD DOWN STRAP AND TURNBUCKLE ASSEMBLY (TYP).
14. 12" PVC SDR 35 DRAINAGE PIPE AND SHEET C6 FOR CIVIL DRAWINGS FOR CONTINUATION.

FIRE WATER BOOSTER PUMP AND STORAGE TANK DETAIL

SCALE: NONE | 4

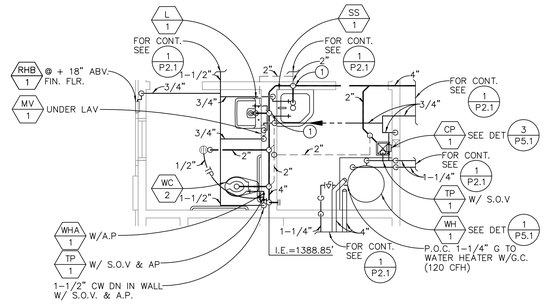


CONSTRUCTION KEY NOTES:

1. 2" V UP TO 2" VTR

PLUMBING ENLARGED FLOOR PLAN

SCALE: 1/4"=1'-0" | 3

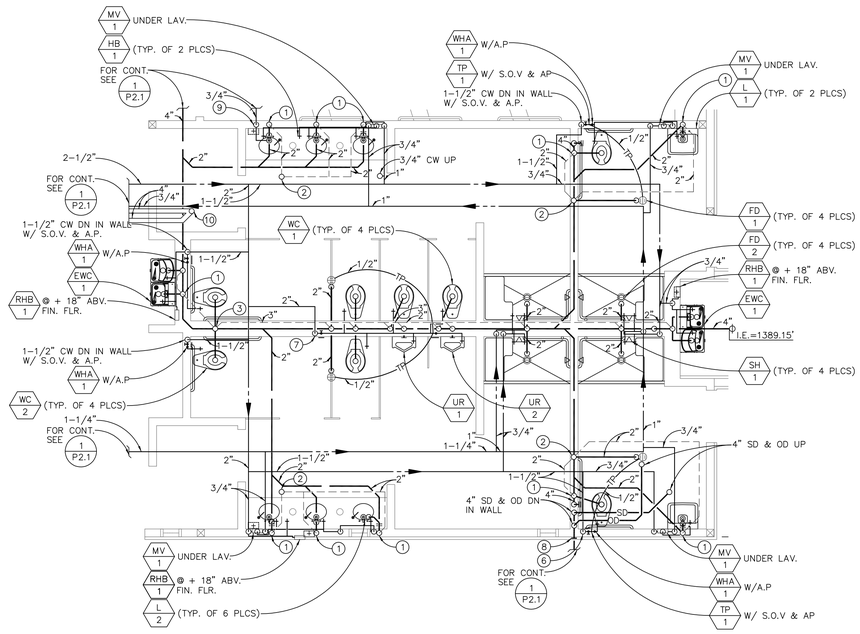


CONSTRUCTION KEY NOTES:

1. 2" V UP TO ABV. CLG.

PLUMBING ENLARGED RESTROOM PLAN

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



CONSTRUCTION KEY NOTES:

1. 2" V UP TO ABV. CLG.
2. 2" V UP TO 2" VTR.
3. 3" V UP TO 3" VTR.
4. TP-2 W/S.O.V. & A.P.
5. WHA-1 W/A.P.
6. 1-1/2" CW DN IN WALL W/ S.O.V. & A.P.
7. 2" CW DN IN WALL W/ S.O.V. & A.P.
8. 4" OD SPILL THRU WALL @ + 9" ABV FIN FLR.
9. 3/4" CD DN IN WALL, CONNECT TO LAV TAILPIECE.
10. 5" CONCENTRIC VENT UP.

PLUMBING ENLARGED RESTROOM PLAN

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

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RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
Southeast of Cherry Avenue and South Highland Avenue
FONTANA, CA 92335

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — exp. 03/31/27 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — ANDREW R. GOSSMAN No. M35830 Exp. 3/31/26 — MECHANICAL — STATE OF CALIFORNIA

CONSULTANT

PDS PocockDesignSolutions Inc.

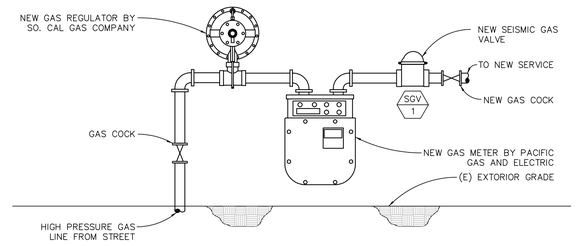
NO	DATE	BY	DESCRIPTION
			REVISIONS

DRAWN: JM	CHECKED: KN
DATE: 08/21/2022	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

PLUMBING ENLARGED PLANS

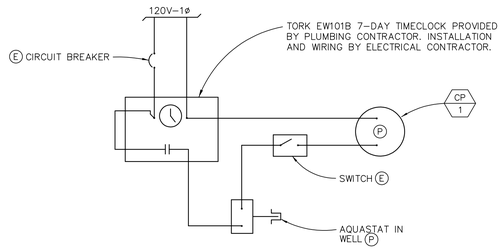
DRAWING NUMBER: P4.1

BID SET



SEISMIC GAS VALVE DETAIL

SCALE: NONE | 6



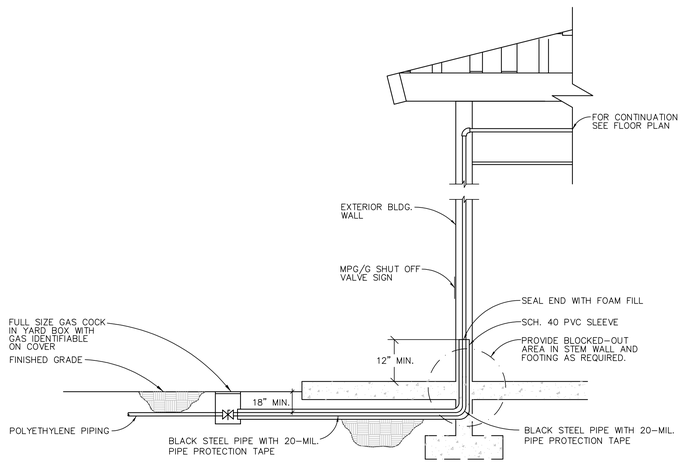
NOTE: ALL CONDUIT AND WIRING SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

(E) ITEM INDICATED ON THE ELECTRICAL DRAWING AND SPECIFIED IN THE ELECTRICAL SECTIONS OF THE SPECIFICATION.

(P) ITEM INDICATED ON THE PLUMBING DRAWING AND SPECIFIED IN THE WATER HEATER DETAILS.

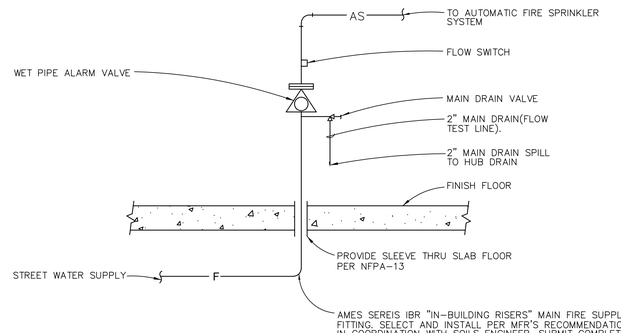
CIRC. PUMP WIRING DIAGRAM

SCALE: NONE | 3



BUILDING GAS SUPPLY DETAIL

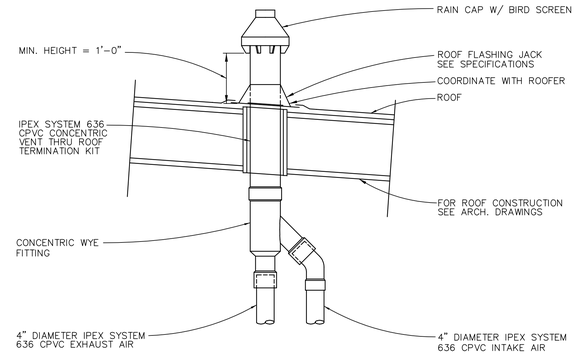
SCALE: NONE | 8



FIRE SPRINKLER RISER DETAIL

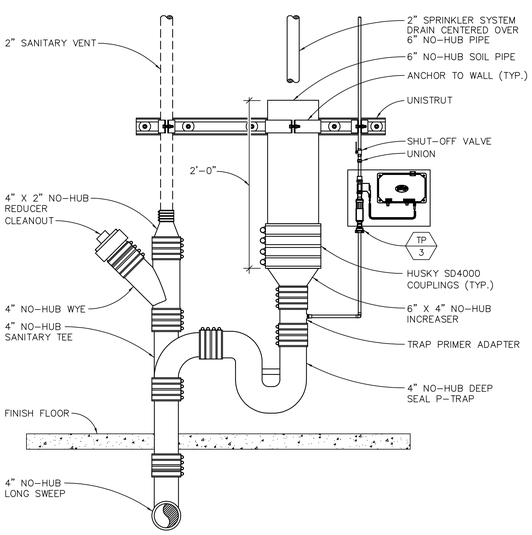
SCALE: NONE | 5

NOTE:
TERMINATIONS SHALL BE IN ACCORDANCE WITH CURRENT NFPA 54. GAS VENTS THAT ARE 12" OR LESS IN SIZE AND LOCATED NOT LESS THAN 8' FROM A VERTICAL WALL OR SIMILAR OBSTRUCTION SHALL TERMINATE ABOVE THE ROOF IN ACCORDANCE WITH FIGURE 509.6.2. CPC 509.6.2.



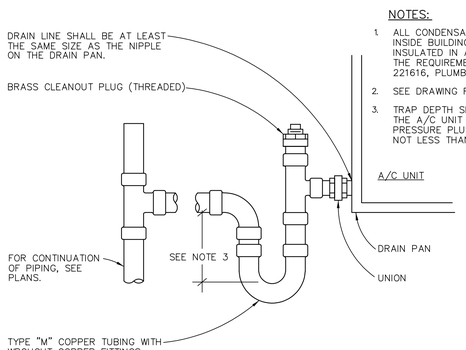
CONCENTRIC VENT THRU ROOF DETAIL

SCALE: NONE | 2



HUB DRAIN DETAIL

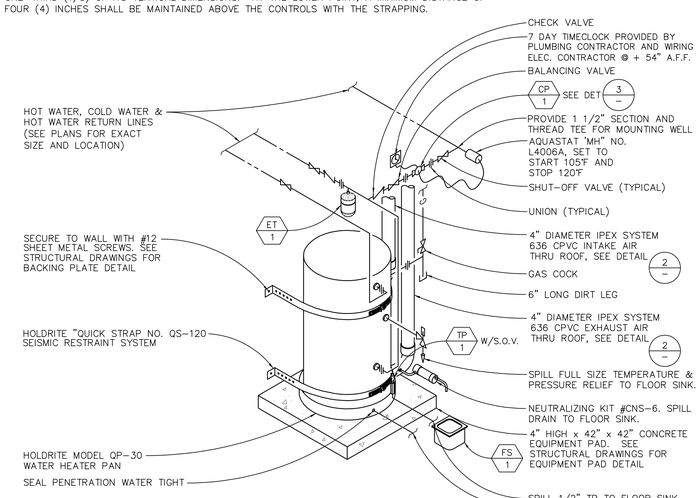
SCALE: NONE | 7



CONDENSATE TRAP DETAIL

SCALE: NONE | 4

NOTE:
WATER HEATER STRAPPING SHALL BE AT POINTS WITHIN THE UPPER ONE–THIRD (1/3) AND LOWER ONE–THIRD (1/3) OF ITS VERTICAL DIMENSIONS. AT THE LOWER POINT, A MINIMUM DISTANCE OF FOUR (4) INCHES SHALL BE MAINTAINED ABOVE THE CONTROLS WITH THE STRAPPING.



CONCENTRIC VENT WATER HEATER W/CIRC. PUMPDETAIL

SCALE: NONE | 1

PBK
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NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN: | CHECKED:
DATE: 08/21/2022 | SCALE: AS NOTED
PROJECT NUMBER: W2100100AR

PLUMBING DETAILS

DRAWING NUMBER: P5.1

BID SET

GENERAL NOTES

1. THE CONTRACTOR SHALL SECURE AND PAY FOR PERMITS AND FEES NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING ALL CHARGES BY THE LOCAL GOVERNMENT AGENCIES.
2. ALL OUTLET LOCATIONS SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS PRIOR TO INSTALLATION.
3. THIS CONTRACTOR SHALL SUPPLY POWER TO AND MAKE CONNECTION TO ALL MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AS SHOWN ON THE MECHANICAL AND PLUMBING DRAWINGS, INCLUDING ALL FRACTIONAL HORSEPOWER MOTORS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE MECHANICAL AND PLUMBING DRAWINGS FOR DUCTS, LINES AND EQUIPMENT.
4. SEE SINGLE LINE DIAGRAM FOR CONDUIT AND CONDUCTOR SIZES, PANELS, MECHANICAL EQUIPMENT, ETC. HOMERUNS TO PANELS MAY NOT BE SHOWN ON PLANS BUT ARE A PART OF THIS CONTRACT.
5. EXACT LOCATION OF ALL CEILING MOUNTED DEVICES SHALL BE AS INDICATED ON THE ARCHITECTURAL REFLECTED CEILING PLANS.
6. UNLESS OTHERWISE NOTED, OR REQUIRED BY ADA MOUNTING HEIGHTS INDICATED ON ELECTRICAL OUTLETS ARE FROM FINISHED FLOOR TO CENTER OF OUTLETS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUT-OUTS IN TILE OR COUNTER SPLASHES WHERE RECEPTACLES, OUTLETS, ETC., OCCUR.
8. ALL RECESSED DEVICES, ETC., MOUNTED IN FIRE RATED CEILING SHALL BE ENCLOSED WITH AN APPROVED ENCLOSURE CARRYING THE SAME FIRE RATING AS THE CEILING. THE CEILING.
9. ALL SURFACE MOUNTED LIGHTING FIXTURES SHALL BE APPROVED FOR DIRECT MOUNTING ON LOW DENSITY COMBUSTIBLE CEILINGS.
10. THE NUMERAL(S) SHOWN AT TOP LIGHT FIXTURE IDENTIFICATION SYMBOL WHICH INDICATES NUMBER OF LIGHT FIXTURES REQUIRED SHALL NOT BE USED BY THE CONTRACTOR FOR HIS QUANTITY TAKE-OFF AT BIDDING OR FOR DETERMINATION OF HOW MANY FIXTURES WILL BE INSTALLED. THE CONTRACTOR SHALL INSTALL A LIGHT FIXTURE WHEREVER A FIXTURE OUTLET IS SHOWN ON DRAWINGS.
11. NO CONDUIT SHALL BE RUN HORIZONTALLY IN CONCRETE FLOOR SLABS.
12. ALL WIRING AND ELECTRICAL EQUIPMENT INSTALLED FOR MECHANICAL AND PLUMBING EQUIPMENT SHALL BE IN ACCORDANCE WITH THESE DRAWINGS AND THE WIRING DIAGRAMS OF THE MECHANICAL AND PLUMBING DRAWINGS.
13. ALL FINAL CONNECTIONS TO OWNER-FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTORS.
14. EQUIPMENT ANCHORAGE

    THE SEISMIC ANCHORAGE OF ELECTRICAL EQUIPMENT SHALL CONFORM TO C.C.R. TITLE 24, 2019 CBC.
15. THE CONTRACTOR SHALL VISIT THE SITE INCLUDING SPECIFICALLY ALL AREAS INDICATED ON THE DRAWINGS. HE SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THESE EXISTING CONDITIONS AND BY SUBMITTING A BID ACCEPTS CONDITIONS UNDER WHICH HE WILL BE REQUIRED TO PERFORM HIS WORK.
16. IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO DO ALL CORING, CUTTING, PATCHING AND REFINISHING OF WALLS AND SURFACES WHEREVER IT IS NECESSARY FOR HIM TO PENETRATE FOR HIS WORK. ALL OPENINGS MADE SHALL BE SEALED TO MEET THE RATED INTEGRITY OF THE PARTICULAR WALL, FLOOR OR CEILING.
17. ATTENTION IS CALLED TO THE FACT THAT THE CEILING SYSTEMS FOR THE MOST PART ARE CONSIDERED TO BE INACCESSIBLE, THE CONTRACTOR SHALL STRATEGICALLY LOCATE BOXES, ETC., IN AN ACCESSIBLE CEILING SPACE.
18. WHERE EXPOSED CONDUIT IS PERMITTED BY THE ARCHITECT, SUCH CONDUIT SHALL BE PAINTED TO MATCH FINISH OF SURFACE TO WHICH IT IS ATTACHED/SUPPORTED TO.
19. INSTALL RACEWAY SYSTEMS AS FOLLOWS:
    A. RIGID GALVANIZED STEEL IN ALL OUTDOOR LOCATIONS AND IN INDOOR LOCATIONS WHERE SUBJECT TO PHYSICAL DAMAGE.
    B. I.M.C. OR E.M.T. IN ALL INDOOR AREAS.
    C. FLEXIBLE METAL CONDUIT TO LIGHT FIXTURES, MOTORS AND VIBRATING ELECTRICAL EQUIPMENT IN A WHIP 6' OR LESS APPLICATION ONLY. NO RUNS ANYWHERE INCLUDING WOOD FRAMING. ANY WEARYING FRONT THAT SHOULD REQUIRE AN APPROVAL FROM BUILDINGS.
    D. PVC CONDUIT FOR UNDERGROUND RUNS. USE 20 MIL PVC TAPED RIGID STEEL RISER ELBOWS AND RISERS FOR CONDUIT STUB-UPS.
    E. USE COMPRESSION TYPE FITTINGS FOR ALL METALLIC CONDUIT.
    F. 1" CONDUIT MINIMUM FOR UNDERGROUND INSTALLATIONS. 3/4" MIN. ABOVE GROUND.
    G. NO MC CABLE ALLOWED.
20. CONDUIT ROUTING INDICATED ON THESE PLANS IS DIAGRAMMATIC. ACTUAL ROUTING OF CONDUITS SHALL BE COORDINATED IN THE FIELD TO AVOID INTERFERENCE WITH OTHER UTILITIES AND TRADES. THE CONTRACTOR SHALL INSTALL ALL CONDUIT, JUNCTION/PULL BOXES, ETC., AS REQUIRED FOR A COMPLETE SYSTEM IN FULL COMPLIANCE WITH ALL APPLICABLE CODES.
21. ALL EXTERIOR MOUNTED EQUIPMENT SHALL BE WEATHERPROOF OR PROVIDED IN A WEATHERPROOF ENCLOSURE.
22. ALL POWER AND LIGHTING BRANCH CIRCUITS SHALL BE INSTALLED WITH A #12 GREEN GROUND WIRE U.O.N. THE COMPLETE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE CALIFORNIA ELECTRICAL CODE (CEC).
23. IDENTIFICATION NAME PLATES FOR BRANCH CIRCUIT PANELS SHALL MATCH THE NOMENCLATURE PROVIDED BY THE OWNER AT THE END OF THE CONTRACT.
24. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED, NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER.
25. ALL ELECTRICAL EQUIPMENT SHALL BE LISTED AND LABELED FOR THEIR USE.
26. WHERE MORE THAN ONE NOMINAL VOLTAGE SYSTEM EXISTS IN A BUILDING, EACH UNDERGROUND SYSTEM CONDUCTOR SHALL BE IDENTIFIED BY PHASE AND SYSTEM. THE MEANS OF IDENTIFICATION SHALL BE PERMANENTLY POSTED AT EACH BRANCH CIRCUIT PANELBOARD. THE PHASE COLOR CODING OF THE INSULATION OF CONDUCTORS SHALL BE: A) BROWN-ORANGE-YELLOW FOR 480/277-VOLTS, B) BLACK-RED-BLUE FOR 208/120-VOLTS.
27. PROVIDE THE SHORT CIRCUIT CURRENT RATING OF THE ELECTRICAL SERVICE IN A LETTER FROM SCE. THE PANELBOARD(S) AND/OR CIRCUIT BREAKERS SHALL MEET OR EXCEED THE S.C.C RATING. A POINT-TO-POINT GROUND-FAULT AND SHORT-CIRCUIT CALCULATIONS MAY BE REQUIRED TO SUBSTANTIATE THE RATINGS OF THE ELECTRICAL EQUIPMENT.
28. ALL CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING AND VENTILATING EQUIPMENT, SHALL LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE JUNCTION OR DEVICE BOX NOR LESS THAN 15 INCHES MEASURED TO THE BOTTOM OF THE JUNCTION OR DEVICE BOX ABOVE THE FINISHED FLOOR.
29. ALL RECEPTACLES OUTLETS ON BRANCH CIRCUITS OF 30-AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15 INCHES MEASURED TO THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING ABOVE THE FINISHED FLOOR.
30. LIGHTING FIXTURES INSTALLED IN A SUSPENDED CEILING SHALL BE FASTENED TO THE CEILING FRAMING MEMBER AT ALL FOUR CORNERS WITH SCREWS AND ATTACHED #12 CEILING WIRES TO THE LIGHT FIXTURE AT DIAGONALLY OPPOSITE CORNERS AND TO THE STRUCTURAL CEILING.
31. ALL CONDUCTOR TO BE COPPER, TYPE THHN/THWN OR XHHW (75/90 DEGREES C).
32. ALL EQUIPMENT TO BE U.L. LISTED OR EQUIVALENT.
33. PROVIDE ACCESS PANELS.
34. EMERGENCY LIGHTING FACILITIES SHALL BE ARRANGED TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FOOTCANDLE (11 LUX) AND A MINIMUM AT ANY POINT OF .01 FOOT CANDLE (1 LUX) MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ILLUMINATION LEVELS SHALL BE PERMITTED TO DECLINE TO .06 FOOT CANDLE (.6 LUX) AVERAGE AND A MINIMUM AT ANY POINT OF .006 FOOT CANDLE (.06 LUX) AT THE END OF THE EMERGENCY LIGHTING TIME DURATION. A MAXIMUM-TO-MINIMUM ILLUMINATION UNIFORMITY RATIO OF 40 TO 1 SHALL NOT BE EXCEEDED. SECTION 1006.3.1 CFC
35. THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 1 FOOT-CANDLE (11 LUX) AT THE WALKING SURFACE LEVEL. IN THE EVENT OF POWER SUPPLY FAILURE, AN EMERGENCY ELECTRICAL SYSTEM SHALL AUTOMATICALLY ILLUMINATE THE FOLLOWING AREAS:
    A. AISLES AND UNENCLOSED EGRESS STAIRWAYS IN ROOMS AND SPACES THAT REQUIRE TWO OR MORE MEAN OF EGRESS.
    B. CORRIDORS, EXIT ENCLOSURES AND EXIT PASSAGEWAYS IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
    C. EXTERIOR EGRESS COMPONENTS AT OTHER THAN THE LEVEL OF EXIT DISCHARGE UNTIL EXIT DISCHARGE IS ACCOMPLISHED FOR BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
    D. INTERIOR EXIT DISCHARGE ELEMENTS, AS PERMITTED IN SECTION 1024.1, IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
    E. EXTERIOR LANDINGS, AS REQUIRED BY SECTION 1008.1.5, FOR EXIT DISCHARGE DOORWAYS IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
    F. THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR DURATION OF NOT LESS THAN 90 MINUTES AND SHALL CONSIST OF STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR. THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE IN ACCORDANCE WITH SECTION 2702.
36. LIGHTING AT EXTERIOR DOORWAYS SHALL BE MAINTAINED AT A MINIMUM OF 1 FOOT CANDLE AT GROUND WITH VANDAL PROOF LENSES.
37. ELECTRIC CIRCUITS SERVING CONTROLLED RECEPTACLES SHALL BE EQUIPPED WITH AUTOMATIC SHUT-OFF CONTROLS FOLLOWING THE REQUIREMENTS PRESCRIBED IN SECTION 130.(c)(1) THROUGH 5), AND AT LEAST ONE CONTROLLED RECEPTACLE TO BE INSTALLED WITHIN 6 FEET FROM EACH UNCONTROLLED RECEPTACLE OR A SPLIT WIRED DUPLEX RECEPTACLE WITH ONE CONTROLLED AND ONE UNCONTROLLED RECEPTACLE SHALL BE INSTALLED, AND CONTROLLED RECEPTACLES SHALL HAVE A PERMANENT MARKING TO DIFFERENTIATE THEM FROM UNCONTROLLED RECEPTACLES, AND FOR OPEN OFFICE AREAS, CONTROLLED CIRCUITS SHALL BE PROVIDED AND MARKED TO SUPPORT INSTALLATION AND CONFIGURATION OF OFFICE FURNITURE WITH RECEPTACLES THAT COMPLY WITH SECTION 130.5(d)1, 2, AND 3.
38. CONTRACTOR TO PROVIDE ENGRAVED LABELING AT EACH RECEPTACLE, DATA OUTLET, JUNCTION BOX, DISCONNECT SWITCH, ECT. DISPLAYING THE IDF OR PANEL (WITH CIRCUIT) FEEDING THE DATA OUTLET, RECEPTACLE, JUNCTION BOX, DISCONNECT SWITCH, ECT.

REFERENCES & ABBREVIATIONS

(1)	DETAIL REFERENCE	MCB	MAIN CIRCUIT BREAKER
1	KEYNOTE REFERENCE	FLA	FULL LOAD AMPS
A.F.F.	ABOVE FINISH FLOOR	C.	CONDUIT
U.O.N.	UNLESS OTHERWISE NOTED	V.	VOLTS
C.O.	CONDUIT ONLY W/PULL ROPE	A	AMPS
WP	WEATHER PROOF	GFI	GROUND FAULT INTERRUPTER
CU.	COPPER	GND	GROUND
M.L.O.	MAIN LUGS ONLY	V.L.	VERIFY LOCATION
E or (E)	EXISTING TO REMAIN	A.C.	ABOVE COUNTER
		N.L.	NIGHT LIGHT
		EM.	EMERGENCY

APPLICABLE CODES

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS, AND THE REQUIREMENTS OF THE CALIFORNIA CODE OF REGULATIONS (C.C.R.), TITLE 24, INCLUSIVE OF:

2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR

2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR

2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR

2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR

2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR

2022 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 CCR

2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR

2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR

2022 CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN), PART 11, TITLE 24 CCR

2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12 TITLE 24 CCR

TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

APPLICABLE STANDARDS

FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80.

FIRE ALARM DEFERRED APPROVAL NOTE

THE FIRE ALARM SYSTEM IS A DEFERRED APPROVAL ITEM AND THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT PLANS, EQUIPMENT DATA SHEETS/LISTINGS, WIRING DIAGRAMS AND CALCULATIONS TO THE CITY OF ORANGE FIRE DEPARTMENT FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE CITY OF ORANGE FIRE DEPARTMENT PRIOR TO INSTALLING THE FIRE ALARM SYSTEM COMPONENTS.

FIRE ALARM SYSTEM DEVICES AND COMPONENTS INDICATED ON THE DRAWINGS ARE THE MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE QUANTITY AND TYPE OF DEVICES REQUIRED BY THE CITY OF ORANGE FIRE DEPARTMENT AT NO ADDITIONAL COST TO THE CONTRACT.

THE FIRE ALARM SYSTEM DRAWINGS SHALL BEAR THE STAMP AND SIGNATURE OF A STATE OF CALIFORNIA PROFESSIONAL ELECTRICAL ENGINEER.

SYMBOL LIST

- CONDUIT RUN, CONCEALED IN CEILING, WALLS OR UNDER FLOOR 3/4" MIN.
- CONDUIT RUN, UNDERGROUND.
- CONDUIT STUBBED OUT AND CAPPED. PULL LINE IN PLACE.
- FLEXIBLE CONDUIT. SEALTITE WHERE EXPOSED TO WEATHER. REFER TO SPECIFICATIONS FOR USE.
- CONDUIT TURNED DOWN.
- CONDUIT TURNED UP.
- #10 — CROSS LINES ON CONDUIT RUNS INDICATE NUMBER OF #12 WIRES CONTAINED THEREIN. TWO #12 ARE TO BE PROVIDED WHEN CROSS LINES ARE NOT SHOWN. NUMERALS ADJACENT TO CROSS LINES ON CONDUIT RUNS INDICATE SIZE OF CONDUCTORS IN LIEU OF #12. PROVIDE CONDUIT SIZE AS REQUIRED TO ACCOMMODATE THE WIRE SIZE TO BE CONTAINED THEREIN.
- B-1,3 — CONDUIT HOME RUN TO PANELBOARD. LETTER AND NUMERALS INDICATES ELECTRICAL PANEL AND CIRCUIT NUMBER.
- CAT 5 CABLE IN DEDICATED CONDUIT.
- DW — 3/4"C. WITH 2/C#8 CLASS 2 DATA WIRE PER SWITCH LEG (DIMMING CONTROLS). QUANTITY OF CROSS TICKS REPRESENT QUANTITY OF SWITCH LEGS WITHIN CONDUIT.
- RECESSED MOUNTED BRANCH CIRCUIT PANEL. OUTDOOR TO BE NEMA 3R.
- SURFACE MOUNTED BRANCH CIRCUIT PANEL. OUTDOOR TO BE NEMA 3R.
- MOLDED CASE CIRCUIT BREAKER (SINGLE LINE DIAGRAM).
- AT — CIRCUIT BREAKER AMPERE TRIP RATING (SINGLE LINE DIAGRAM).
- GROUND.
- (M) — UTILITY METER AND SOCKET (SINGLE LINE DIAGRAM).
- E — EXISTING CONDUIT AND CONDUCTORS TO REMAIN.
- EX — EXISTING CONDUIT TO BE RE-USED. CONDUCTORS TO BE DISCONNECTED AND REMOVED.
- EA — EXISTING CONDUIT TO BE ABANDONED IN PLACE. CONDUCTORS TO BE DISCONNECTED AND REMOVED.
- ER — EXISTING CONDUIT AND CONDUCTORS TO BE DISCONNECTED AND REMOVED.
- (E) — EXISTING EQUIPMENT TO REMAIN IN OPERATION.
- (R) — EXISTING EQUIPMENT TO DISCONNECTED AND REMOVED.
- WP — WEATHERPROOF.
- F — DUPLEX GROUNDING RECEPTACLE FLUSH IN FLOOR. PROVIDE COMPLETE WITH FULLY ADJUSTABLE 1-GANG FLOOR BOX, COLLAR ASSEMBLY, CARPET FLANGE AND BRASS COVERS. WIREMOLD OMNIBOX 880 SERIES OR APPROVED EQUAL.
- X — NEMA 4X DUPLEX RECEPTACLE, SURFACE MOUNTED. PROVIDE ONE (1) 15A, NEMA 4X, DUPLEX RECEPTACLE LEVITON #8300-47-D, AND ONE (1) 20A, NEMA 4X, SINGLE RECEPTACLE LEVITON #5825-S, IN A TWO GANG FD BOX LEVITON #FDBXG-Y. PROVIDE WITH TWO (2) LEVITON #14747 15A PLUGS AND ONE (1) LEVITON #14733 20A PLUG.
- H-O-A — COMBINATION FUSED DISCONNECT SWITCH AND MAGNETIC MOTOR STARTER. ROMAN NUMERAL INDICATES THE STARTER SIZE. H-O-A INDICATES DOOR MOUNTED HAND-OFF-AUTO SELECTOR SWITCH. FUSES AND OVERLOADS SHALL BE SIZED PER THE EQUIPMENT NAME PLATE.
- AS/ P — DISCONNECT SWITCH, HEAVY DUTY TYPE WITH REQUIRED. AS=SWITCH AMPERE RATING. P=NUMBER OF POLES.
- 2/Ø — DATA OUTLET WITH OPEN-BACKED 4" SQUARE BACKBOX AND (1) 3/4"C. STUB-UP INTO THE ACCESSIBLE CEILING. MOUNTED AT +18" A.F.F.-U.O.N. W+48" AFF. FIRST NUMERAL INDICATES QUANTITY OF "CAT 6" DATA CABLE DROPS TO BE PROVIDED AND TERMINATED, SECOND NUMERAL INDICATES QUANTITY OF "CAT 6" VOICE CABLE DROPS TO BE PROVIDED AND TERMINATED, THIRD NUMERAL INDICATES QUANTITY OF BLANK POSITIONS TO BE PROVIDED ON THE WALL PLATE. QUANTITY OF "RJ45" CONNECTORS TO BE PROVIDED SHALL MATCH THE QUANTITY OF CABLE DROPS.
- CLOSED CIRCUIT TV SYSTEM CAMERA.
- T — THERMOSTAT. MOUNTED AT +48" A.F.F. TO TOP OF BOX. SEE MECHANICAL.
- SURFACE OR PENDANT MOUNTED STRIP FLUOORESCENT LIGHT FIXTURES. SHADING INDICATES FIXTURE WITH EMERGENCY BATTERY PACK.
- POLE MOUNTED AREA LIGHTING FIXTURE
- LED LIGHT FIXTURE. SHADING INDICATES FIXTURE TO BE PROVIDED WITH EMERGENCY BATTERY PACK.
- 2X2 LED LIGHT FIXTURE. SHADING INDICATES FIXTURE TO BE PROVIDED WITH 90 MINUTE EMERGENCY BATTERY PACK.
- WALL MOUNTED LINEAR STRIP FIXTURE.
- SLOT RECESSED LED FIXTURE
- BOLLARD LED FIXTURE
- EC — LED LIGHT FIXTURE. EC AND SHADING INDICATES FIXTURE TO BE CONNECTED TO THE ALERTING SYSTEM.
- TELEPHONE OUTLET COMPLETE WITH 4" SQUARE BACKBOX AND 3/4"C. STUB-UP INTRO CEILING SPACE. MOUNTED AT +18" A.F.F. U.O.N. W+48" A.F.F.
- W — TELEPHONE OUTLET. 4" SQ. BOX WITH 1 GANG FRAME AND 1"C. STUB UP INTO ACCESSIBLE CEILING. MOUNT AT +18" A.F.F. W = WALL MOUNTED AT +48" A.F.F.
- COMBINATION TELEPHONE / DATA OUTLET COMPLETE WITH 4" SQUARE BACKBOX AND 1"C. STUB-UP INTRO CEILING SPACE. MOUNTED AT +18" A.F.F. U.O.N. W+48" A.F.F.
- K — SECURITY KEY PAD IDENTIFICATION SYMBOL.
- CR — DOOR ACCESS PROXIMITY CARD READER. SEMI-FLUSH IN WALL WITH 4" SQUARE BACK-BOX, 1-GANG PLASTER RING AND 3/4" CONDUIT STUB-UP INTO ACCESSIBLE CEILING SPACE. WALL PLATE AND DEVICE TO BE PROVIDED AND INSTALLED BY OTHERS. MOUNTED AT +48". PROVIDED AND INSTALLED BY OTHERS, MOUNTED AT +48".
- SECURITY DOOR CONTACT IDENTIFICATION SYMBOL.
- CLOCK IDENTIFICATION SYMBOL.
- AC 1 — HVAC EQUIPMENT DESIGNATION. SEE MECHANICAL PLANS.
- JUNCTION BOX.
- DUPLEX RECEPTACLE, FLUSH IN WALL, GROUNDING TYPE (20 AMP, 120V., WALL PLATE TO MATCH DEVICE) MTD. AT +18".
- DOUBLE DUPLEX RECEPTACLE, FLUSH IN WALL (20 AMP, 120 V., WALL PLATE TO MATCH DEVICE) MTD. AT +18".
- GFI — DUPLEX RECEPTACLE, WITH GROUND FAULT INTERRUPTER (20 AMP, 120V., 3W, WALL PLATE TO MATCH DEVICE) MTD. AT +18".
- SPECIALTY RECEPTACLE/OUTLET. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT VENDOR/SUPPLIER. WHERE A RECEPTACLE IS REQUIRED PROVIDE COMPLETE WITH STAINLESS STEEL WALL PLATE AND VOLTAGE, AMPERE RATING AND CONFIGURATION TO MATCH VENDOR SUPPLIED PLUG. WHERE HARD WIRED CONNECTION IS REQUIRED PROVIDE STAINLESS STEEL WALL PLATE WITH GROMMETT AND SEAL-TITE FLEXIBLE CONDUIT AND CONDUCTORS FOR FINAL CONNECTION TO THE VENDOR SUPPLIED EQUIPMENT. MTD. AT +18".
- EXIT SIGN.
- REX — REQUEST TO EXIT MOTION SENSOR. REFER TO VOLTAGE SPECIALIST ACCESS CONTROL PLANS FOR REQUIREMENTS.
- TV — TV SYSTEM WALL-TAP WITH 4" SQUARE BACKBOX AND 3/4" CONDUIT STUB-UP INTO CEILING SPACE.
- HALF SWITCHED DUPLEX RECEPTACLE, FLUSH IN WALL, GROUNDING TYPE (20 AMP, 120V., WALL PLATE TO MATCH DEVICE) MTD. AT +18".
- FLUSH FLOOR MOUNTED DOUBLE DUPLEX RECEPTACLE.
- WAP — WIRELESS ACCESS POINT. TWO (2) CAT6 TO IDF.
- USB — COMBINATION USB AND DUPLEX RECEPTACLE, FLUSH IN WALL, GROUNDING TYPE (20 AMP, 120V., WALL PLATE TO MATCH DEVICE) MTD. AT +18". F= FLUSH FLOOR MOUNTED IN FLOOR BOX.
- A — AQUA STAT
- TC — TIME CLOCK
- AV — AUDIO VISUAL OUTPUT FOR GEST ELECTRONIC DEVICES.
- S_m — MANUAL MOTOR STARTER WITH THERMAL OVERLOAD, RATING AND NUMBER OF POLES PER THE EQUIPMENT NAMEPLATE DATA.
- WALL MOUNTED LIGHT FIXTURE. SHADING INDICATES FIXTURE WITH EMERGENCY BATTERY PACK.
- CEILING OR PENDANT MOUNTED LIGHT FIXTURE. SHADING INDICATES LIGHT FIXTURE WITH EMERGENCY BATTERY PACK.
- A 3 +20'-0" — LIGHTING FIXTURE IDENTIFICATION SYMBOL. LETTER INDICATES TYPE OF FIXTURE. NUMERAL AT TOP OF HEXAGON INDICATES NUMBER OF FIXTURES REQUIRED. NUMBER AT BOTTOM OF HEXAGON INDICATES MOUNTING HEIGHT FROM FLOOR TO BOTTOM OF FIXTURE. OMISSION OF MOUNTING HEIGHT INDICATES CEILING MOUNTING.
- S_a^3 — SINGLE POLE SWITCH, LETTER AT BOTTOM INDICATES OUTLETS CONTROLLED. MOUNTED AT +48" TO TOP OF THE BOX. STAINLESS STEEL WALL PLATE. SUPERSCRIPT DENOTES:
  2 - DOUBLE POLE — P - PILOT LIGHT
  3 - THREE WAY — K - KEY OPERATED
  4 - FOUR WAY — T - TIMER
- 1 — ELECTRICAL NOTE CALLOUT.
- X E4.X — ELECTRICAL DETAIL CALLOUT.
- LV-* — BUILDING LIGHTING SHUT-OFF CONTROL SYSTEM LOW VOLTAGE BY-PASS SWITCH. NUMERAL INDICATES THE ZONE CONTROLLED.
- CEILING / WALL-SWITCH — DUAL TECHNOLOGY OCCUPANT SENSOR WITH 2,000 SQUARE FOOT COVERAGE. COORDINATE EXACT LOCATION IN THE FIELD WITH THE SENSOR MANUFACTURER TO ENSURE OPTIMUM SENSOR OPERATION. COVERAGE TO BE DETERMINED BY THE SENSOR APPLICATION INDICATED ON PLAN. PROVIDE SLAVE-PACK WHERE TWO CIRCUITS ARE TO BE CONTROLLED. PROVIDE TWO-CIRCUIT (up) TYPE WALL-SWITCH TYPE SENSOR WHERE INDICATED ON PLAN. WALL SWITCH SENSOR SHALL BE WATT-STOPPER #WSU-200 COLOR AS SELECTED BY THE ARCHITECT. CEILING SENSOR SHALL BE WATT-STOPPER #DT-355.
- FAN CONTROLLER
- FIV — POST INDICATING VALVE.
- LED SPOT / FLOOD LIGHT FIXTURE.
- LED WALL MOUNTED LIGHT FIXTURE.
- LED WALL MOUNTED LIGHT FIXTURE. SHADING INDICATES FIXTURE TO BE PROVIDED WITH 90 MINUTE EMERGENCY BATTERY PACK.
- LED WALL MOUNTED LIGHT FIXTURE. SHADING INDICATES FIXTURE TO BE PROVIDED WITH 90 MINUTE EMERGENCY BATTERY PACK.

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER
SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — 9/30 03/2027 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — RICARDO E. SOTELO — No. E17229 — 6/30/26 — STATE OF CALIFORNIA

CONSULTANT
A&F ENGINEERING GROUP, INC.
9320 BASELINE RD., SUITE C, RANCHO CUCAMONGA, CA 91701
TEL: (909) 941-3008 FAX: (909) 941-3011

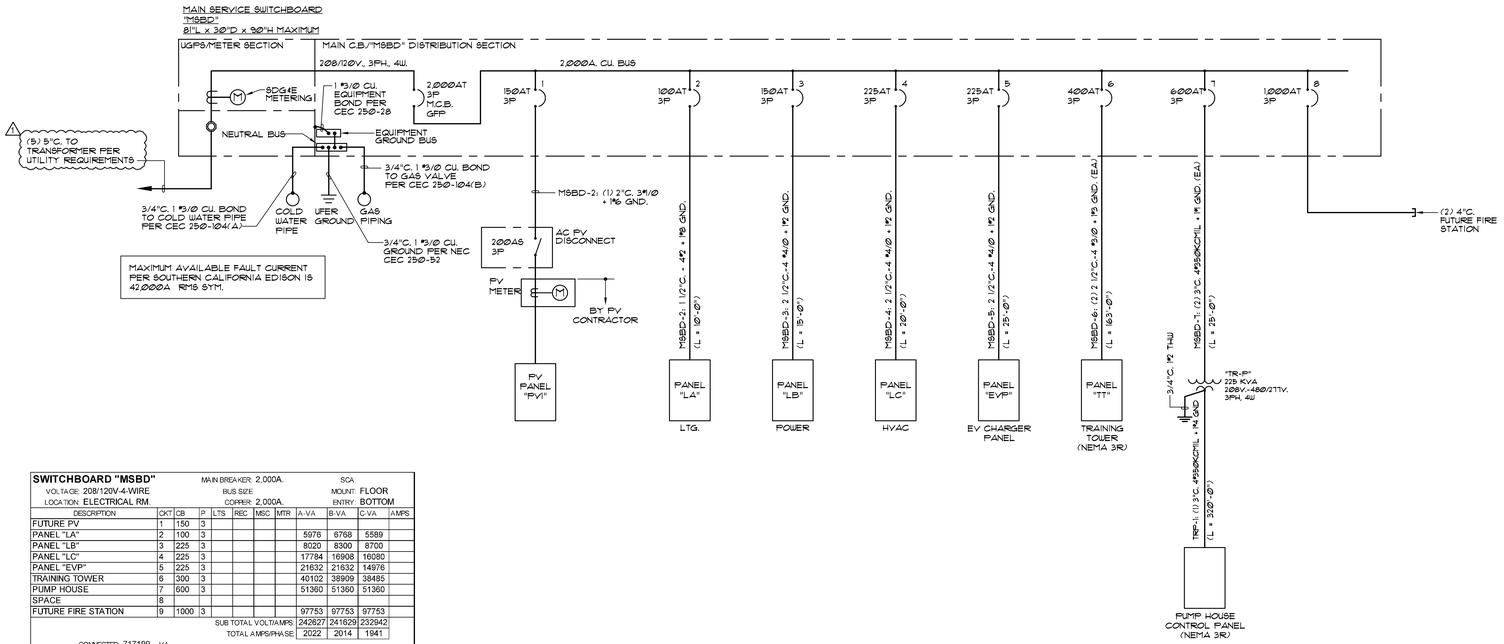
NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
#	REVISIONS		

DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

GENERAL NOTES AND SYMBOL LIST

DRAWING NUMBER: E0.1

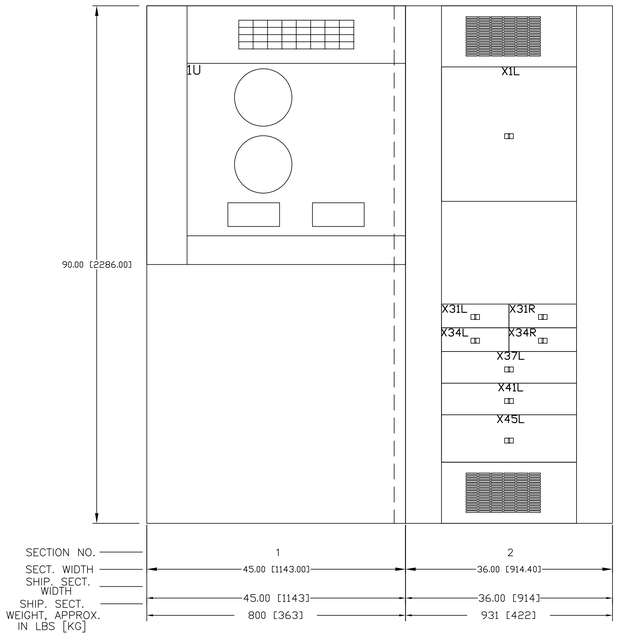
BID SET



SWITCHBOARD "MSBD"											
VOLTAGE: 208/120V-4-WIRE				MAIN BREAKER: 2,000A.					SCA:		
LOCATION: ELECTRICAL RM.				BUS SIZE:					MOUNT: FLOOR		
				CU/AMP: 2,000A.					ENTRY: BOTTOM		
DESCRIPTION	OKT	CB	P	LTS	REC	MSC	MTR	A-VA	B-VA	C-VA	AMPS
FUTURE PV	1	150	3								
PANEL "LA"	2	100	3					5976	6768	5589	
PANEL "LB"	3	225	3					8020	8300	8700	
PANEL "LC"	4	225	3					17784	16908	16080	
PANEL "EVP"	5	225	3					21632	21632	14976	
TRAINING TOWER	6	300	3					40102	38909	38485	
PUMP HOUSE	7	600	3					51360	51360	51360	
SPACE	8										
FUTURE FIRE STATION	9	1000	3					97753	97753	97753	
								SUB TOTAL VOLTAMPS:	242627	241629	232942
								TOTAL AMPS/PHASE:	2022	2014	1941

CONNECTED: 717199 VA
25% OF MTR: 0 VA
25% OF LCL: 0 VA
CALCULATED: 717199 VA = 1990.74 AVERAGE AMPS

FEEDER/CIRCUIT IDENTIFICATION	LOAD	WIRE SIZE	WIRE PER PHASE	CONDUIT TYPE PVC/STL	OHMS TO NEUTRAL RESISTANCE PER 1000FT.	FEEDER LENGTH	CIRCUIT AMPS	AMPS PER CONDUCTOR	LINE TO NEUTRAL VOLTAGE DROP	LINE TO LINE VOLTAGE DROP	LINE TO LINE VOLTAGE	PHASE	% VOLTAGE DROP
MSBD-2	PANEL LA	2	1	S	0.2	10	56	56	0.11	0.19	208	3	0.0933
MSBD-3	PANEL LB	4/0	1	S	0.08	15	73	73	0.09	0.15	208	3	0.0729
MSBD-4	PANEL LC	4/0	1	S	0.08	20	148	148	0.24	0.41	208	3	0.1972
MSBD-5	PANEL EVP	4/0	1	S	0.08	25	180	180	0.36	0.62	208	3	0.2998
MSBD-6	PANEL TT	3/0	2	P	0.088	163	334	167	2.40	4.15	208	3	1.9947
MSBD-7	XMFR. TR-P	350	2	P	0.053	25	428	214	0.28	0.49	208	3	0.2361
TRP-1	PUMP HOUSE	350	1	P	0.053	320	214	214	3.63	6.29	480	3	1.3096



SWITCHBOARD "MSBD" ELEVATION

(30" DEEP)

SINGLE LINE DIAGRAM NOTES

1. THE MAIN CIRCUIT BREAKER SHALL BE PERMANENTLY MARKED TO IDENTIFY IT AS THE SERVICE DISCONNECT PER N.E.C. 230.70(B).
2. PER SECTION 250.52(A)(1) METAL UNDERGROUND WATER PIPE - CONNECTION TO THE INTERIOR METAL WATER PIPING SHALL BE MADE WITHIN 5 FEET FROM POINT OF ENTRANCE.
3. PROVIDE AND INSTALL SIGNAGE FOR AVAILABLE FAULT CURRENT PER CEC 110.24. PROVIDE SELF-ADHESIVE VINYL LABEL TO AFFIX TO ELECTRICAL EQUIPMENT TO WARN OF ARC FLASH HAZARDS. THE THE LABEL SHALL BE LOCATED ON THE EQUIPMENT TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT. CONTRACTOR TO PLACE COMPANY NAME AND CONTACT PHONE NUMBER ON SIGN. THIS DETAIL IS FOR REFERENCE ONLY.
4. CONTRACTOR TO ENSURE THAT THE UTILITY (S.C.E.) SERVICE REPORT SHALL BE AVAILABLE ON SITE AT ALL TIMES FOR BUILDING INSPECTION TO VERIFY.

CONSTRUCTION NOTES

1. ALL EQUIPMENT SHALL BE LISTED BY U.L. OR A COUNTY APPROVED THIRD PARTY TESTING FACILITY.
2. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS. PROVIDE ADDITIONAL GROUND RODS, SPACED 6'-0" APART, TO MEET THIS REQUIREMENT. REFER TO SHEET E3.2, DETAIL #4 AND #5 FOR COMPLETE REQUIREMENTS.
3. GROUND FAULT PROTECTION OF EQUIPMENT SHALL BE PROVIDED FOR SOLIDLY GROUNDED WYE ELECTRIC SERVICES OF MORE THAN 150 VOLTS TO GROUND BUT NOT EXCEEDING 1000 VOLTS PHASE-TO-PHASE FOR EACH SERVICE DISCONNECT RATED 1000 AMPERES OR MORE. GFPD IS REQUIRED TO HAVE PERFORMANCE TESTING AS DESCRIBED IN 230.95(C), 2019 CEC.

3

WARNING

MAXIMUM AVAILABLE FAULT CURRENT:
42,000 SYMMETRICAL RMS AMPERES
DATE: MM/DD/YYYY

XYZ ELECTRIC 1-800-123-4567

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
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FONTANA FIRE STATION No. 80 & TRAINING CENTER

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9320 BASELINE RD. SUITE C, RANCHO CUCAMONGA, CA 91701
TEL (909) 941-3005 FAX (909) 941-3011

NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
#	REVISIONS		

DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

SINGLE LINE DIAGRAM

DRAWING NUMBER: E0.2

BID SET

PANEL "LA" — MAIN BREAKER: 100A. — SCA: MOUNT: SURFACE
VOLTAGE: 208/120V-4-WIRE — BUS SIZE — ENTRY: BOTTOM
LOCATION: ELECTRICAL RM. 116 — COPPER: 100A.

DESCRIPTION	CKT	BKR	P	LTS	REC	MSC	MTR	A-VA	B-VA	C-VA	AMPS
RMS. 105,115-117 LTG.	1	20	1	17				467			
RM. 114 LIGHTING	3	20	1	44					1596		
RMS. 101-104, 106-113 LTG.	5	20	1	53						1483	
EXTERIOR BLDG. LTS.	7	20	1	29				634			
SITE / VIS. PRKG. LTS.-WEST	9	20	2	9					313		
W/CKT. 9	11	----	---							313	
STAFF PARKING LTS.	13	20	2	5				455			
W/CKT. 13	15	----	---						455		
SITE NORTH-EAST LTS.	17	20	2	11						825	
W/CKT. 17	19	----	---					825			
TRAINING TOWER LTS.	21	20	2	5					650		
W/CKT. 21	23	----	---							650	
FIRE STATION SIGN	25	20	1			1		1200			
FIRE STATION ADDRESS SIGN	27	20	1			1			1200		
MONUMENT SIGN	29	20	1			1				1200	
MONUMENT SIGN	31	20	1			1		1200			
MONUMENT SIGN	33	20	1			1			1200		
SPACE	35	----	---								
SPACE	37	----	---								
SPACE	39	----	---								
SPACE	41	----	---								
SUB TOTAL VOLT/AMPS:								4781	5414	4471	
SPARE	2	20	1								
SPARE	4	20	1								
SPARE	6	20	1								
SPARE	8	20	1								
SPARE	10	20	1								
SPARE	12	20	1								
SPARE	14	20	1								
SPARE	16	20	1								
SPARE	18	20	1								
SPARE	20	20	1								
SPARE	22	20	1								
SPARE	24	20	1								
SPARE	26	20	1								
SPARE	28	20	1								
SPARE	30	20	1								
SPACE	32	----	---								
SPACE	34	----	---								
SPACE	36	----	---								
SPACE	38	----	---								
SPACE	40	----	---								
SPACE	42	----	---								
SUB TOTAL VOLT/AMPS:								0	0	0	
PANEL SUB TOTAL VOLT/AMPS:								4781	5414	4471	
TOTAL LCL/PHASE:								1195	1354	1118	
CONNECTED: 14666 VA — TOTAL VOLT/AMPS:								5976	6768	5589	
25% OF MTR: VA — TOTAL AMPS/PHASE:								50	56	47	
25% OF LCL: 2166.5 VA											
CALCULATED: 16833 VA = 46.72 AVERAGE AMPS											

PANEL "LB" — MAIN BREAKER: 150A. — SCA: MOUNT: SURFACE
VOLTAGE: 208/120V-4-WIRE — BUS SIZE — ENTRY: BOTTOM
LOCATION: ELECTRICAL RM. 116 — COPPER: 225A.

DESCRIPTION	CKT	BKR	P	LTS	REC	MSC	MTR	A-VA	B-VA	C-VA	AMPS
MEN'S / WOMEN'S R.R. REC.	3	20	1		3			540			
MEN'S / WOMEN'S R.R. REC.	5	20	1		3				540		
EXTERIOR DRINK FOUNTAIN	5	20	1		1					360	
OFFICE RECEPTACLES	7	20	1		6			1080			
OFFICE RECEPTACLES	9	20	1		6				1080		
OFFICE CONTROL RECEPS.	11	20	1		6					1080	
LOBBY/VESTIBULE REC.	13	20	1		5			900			
LOBBY CNTROL RECEPS.	15	20	1		2				360		
LOBBY/VESTIBULE REC.	17	20	1		4					720	
TRAINING STOR. RECEPT.	19	20	1		4			720			
DOOR CONTROL PANEL	21	20	---		---				500		
SECURITY CONTROL PANEL	23	20	1			1				500	
FIRE ALARM CONTROL PANEL	25	20	1			1		500			
NLIGHT NECY	27	20	1			1			500		
NLIGHT ARP	29	20	1			1				500	
PROJECTOR	31	20	1			1		500			
PROJECT MOTOR	33	20	1			1			660		
RACK RECEPTACLE	35	20	2		1					500	
W/CKT. 35	37	----	---					500			
RACK RECEPTACLE	39	20	2		1				500		
W/CKT. 39	41	----	---							500	
CHAIR LIFT	43	20	3			1		500			
W/CKT. 43	45	----	---						500		
W/CKT. 43	47	----	---							500	
SPARE	49	20	1								
GATE OPERATOR	51	20	1			1			500		
ROOF RECEPTACLE	53	20	1		1					180	
SUB TOTAL VOLT/AMPS:								5240	4080	4280	
TRAINING RM. DESK RECEPS.	2	20	1		6				1080		
TRAINING RM. DESK RECEPS.	4	20	1		4				720		
TRAINING RM. DESK RECEPS.	6	20	1		4					720	
TRAINING RM. DESK RECEPS.	8	20	1		4			720			
TRAINING RM. DESK RECEPS.	10	20	1		6				1080		
TRAINING RM. DESK RECEPS.	12	20	1		4					720	
TRAINING RM. DESK RECEPS.	14	20	1		4			720			
TRAINING RM. DESK RECEPS.	16	20	1		4				720		
TRAINING RM. DESK RECEPS.	18	20	1		6					1080	
TRAINING RM. DESK RECEPS.	20	20	1		4			720			
TRAINING RM. DESK RECEPS.	22	20	1		4				720		
TRAINING RM. DESK RECEPS.	24	20	1		1					360	
SPARE	26	20	1								
TRAINING RM. RECEPTACLES	28	20	---		---				540		
TRAINING RM. RECEPTACLES	30	20	1		3					540	
TRAINING RM. RECEPTACLES	32	20	1		3			540			
TRAINING STORAGE RECEPS	34	20	1		3				540		
HALLWAY RECEPTACLES	36	20	1		4					720	
ELEC. RM. TEL. BACKBOARD	38	20	1		1			360			
ELEC. RM. TEL. BACKBOARD	40	20	1		1				360		
HALLWAY DRINK FOUNTAIN	42	20	1		1					360	
TP-3 (FIRE PUMP)	44	20	1			1		360			
SPARE	46	20	1								
SPARE	48	20	1								
SPARE	50	20	1								
SPARE	52	20	1								
SPARE	54	20	1								
SUB TOTAL VOLT/AMPS:								4500	4680	4500	
PANEL SUB TOTAL VOLT/AMPS:								9740	9660	9340	
TOTAL LCL/PHASE:								0	0	0	
CONNECTED: 28740 VA — TOTAL VOLT/AMPS:								9740	9660	9340	
25% OF MTR: VA — TOTAL AMPS/PHASE:								81	81	78	
25% OF LCL: 0 VA											
CALCULATED: 28740 VA = 79.77 AVERAGE AMPS											

PANEL "LC" — MAIN BREAKER: 225A. — SCA: MOUNT: SURFACE
VOLTAGE: 208/120V-4-WIRE — BUS SIZE — ENTRY: BOTTOM
LOCATION: ELECTRICAL RM. 116 — COPPER: 225A.

DESCRIPTION	CKT	BKR	P	LTS	REC	MSC	MTR	A-VA	B-VA	C-VA	AMPS
AC-1	1	45	3			1		3600			
W/CKT. 1	3	----	---						3600		
W/CKT. 1	5	----	---							3600	
AC-1 PWR. EXHAUST	7	15	3			1		960			
W/CKT. 7	9	----	---						960		
W/CKT. 7	11	----	---							960	
AC-2	13	45	3			1		3600			
W/CKT. 13	15	----	---						3600		
W/CKT. 13	17	----	---							3600	
AC-2 PWR. EXHAUST	19	15	3			1		960			
W/CKT. 19	21	----	---						960		
W/CKT. 19	23	----	---							960	
SPARE	25	20	1								
SPARE	27	20	1								
SPARE	29	20	1								
SPARE	31	20	1								
SPARE	33	20	1								
SPARE	35	20	1								
SPARE	37	20	1								
SPARE	39	20	1								
SPARE	41	20	1								
SUB TOTAL VOLT/AMPS:								9120	9120	9120	
AC-3	2	45	3			1		3600			
W/CKT. 2	4	----	---						3600		
W/CKT. 2	6	----	---							3600	
AC-3 PWR. EXHAUST	8	15	3			1		960			
W/CKT. 8	10	----	---						960		
W/CKT. 8	12	----	---							960	
CU-1 / FC-1	14	20	2			2		1872			
W/CKT. 14	16	----	---						1872		
CU-2 / FC-2	18	20	2			2				1872	
W/CKT. 18	20	----	---					1872			
EF-1 (ROOF)	22	20	1			1			1176		
EF-2 (RM. 116)	24	15	1			1				528	
CP-1 / AQUA-STAT	26	20	1			2		360			
TP-3 - ROOM 117	28	20	1			1			180		
WH-1 IGNITION	30	20	1		1					180	
SPARE	32	20	1								
SPARE	34	20	1								
SPARE	36	20	1								
SPARE	38	20	1								
SPARE	40	20	1								
SPARE	42	20	1								
SUB TOTAL VOLT/AMPS:								8664	7788	7140	
PANEL SUB TOTAL VOLT/AMPS:								17784	16908	16260	
TOTAL LCL/PHASE:								0	0	0	
CONNECTED: 50952 VA — TOTAL VOLT/AMPS:								17784	16908	16260	
25% OF MTR: VA — TOTAL AMPS/PHASE:								148	141	136	
25% OF LCL: 0 VA											
CALCULATED: 50952 VA = 141.43 AVERAGE AMPS											

PANEL "EVP" — MAIN BREAKER: 225A. — SCA: MOUNT: SURFACE
VOLTAGE: 208/120V-4-WIRE — BUS SIZE — ENTRY: BOTTOM
LOCATION: ELEC. ROOM 116 — COPPER: 225A.

DESCRIPTION	CKT	BKR	P	LTS	REC	MSC	MTR	A-VA	B-VA	C-VA	AMPS
EV CHARGER #1	1	40	2					3328			
W/CKT. 1	3	----	---						3328		
EV CHARGER #2	5	40	2							3328	
W/CKT. 5	7	----	---					3328			
EV CAPABLE	9	40	2						3328		
W/CKT. 9	11	----	---							3328	
EV CAPABLE	13	40	2					3328			
W/CKT. 13	15	----	---						3328		
SPACE	17										
SPACE	19										
SPACE	21										
SPACE	23										
SPACE	25										
SPACE	27										
SPACE	29										
SUB TOTAL VOLT/AMPS:								9984	9984	6656	
EV CAPABLE	2	40	2					3328			
W/CKT. 2	4	----	---						3328		
EV CAPABLE	6	40	2							3328	
W/CKT. 6	8	----	---					3328			
EV CAPABLE	10	40	2						3328		
W/CKT. 8	12	----	---							3328	
EV CAPABLE	14	40	2					3328			
W/CKT. 14	16	----	---						3328		
SPACE	18										
SPACE	20										
SPACE	22										
SPACE	24										
SPACE	26										
SPACE	28										
SPACE	30										
SUB TOTAL VOLT/AMPS:								9984	9984	6656	
PANEL SUB TOTAL VOLT/AMPS:								19968	19968	13312	
TOTAL LCL/PHASE:								1664	1664	1664	
CONNECTED: 53248 VA — TOTAL VOLT/AMPS:								21632	21632	14976	
25% OF MTR: VA — TOTAL AMPS/PHASE:								180	180	125	
25% OF LCL: 0 VA											
CALCULATED: 53248 VA = 147.80 AVERAGE AMPS											

PANEL "TT" — MAIN BREAKER: 400A. — SCA: MOUNT: SURFACE
VOLTAGE: 208/120V-4-WIRE — BUS SIZE — ENTRY: BOTTOM
LOCATION: TRAIN. TOWER EXT. — COPPER: 400A.

DESCRIPTION	CKT	BKR	P	LTS	REC	MSC	MTR	A-VA	B-VA	C-VA	AMPS
1ST FLOOR LIGHTING	1	20	1	36				576			
STAIR TOWER LIGHTING	3	20	1	24					414		
HALLWAY STAIR LTG.	5	20	1	2						30	
2ND FLOOR LIGHTING	7	20	1	24				432			
3RD, 4TH & 5TH FLR. LTG.	9	20	1	17					339		
EXTERIOR BLDG. LTS.	11	20	1	13						508	
BASEMENT LTG.	13	20	1	5				75			
EXTERIOR ROOF LTS.	15	20	1	2					86		
SPARE	17	20	1								
SPARE	19	20	1								
SPARE	21	20	1								
EXTERIOR BLDG. RECEPT.	23	20	1		2					360	
EXTERIOR BLDG. RECEPT.	25	20	1		3			540			
EXTERIOR BLDG. RECEPT.	27	20	1		3				540		
EXTERIOR BLDG. RECEPT.	29	20	1		2					360	
1ST FLR. CNTRL. RM. REC.	31	20	1		3			540			
1ST FLR. CNTRL. RM. REC.	33	20	1		3				540		
2ND FLR. CNTRL. RM. REC.	35	20	1		3					540	
2ND FLR. CNTRL. RM. REC.	37	20	1		3			540			
4TH FLR. CNTRL. RM. REC.	39	20	1		3				540		
FALCON PORT. CONTROLLER	41	20	1			1				360	
4TH FLR. CONTROL ROOM	43	50	3			1		6000			
W/CKT. 43	45	----	---						6000		
W/CKT. 43	47	----	---							6000	
4TH FLR. CON. RM. AIR COMP.	49	15	2			1		1248			
W/CKT. 49	51	----	---						1248		
4TH FLR. CON. RM. AIR DRY.	53	15	1			1				1200	
SUB TOTAL VOLT/AMPS:								9951	9707	9358	
1ST FLR. CONTROL ROOM	2	50	3			1		6000			
W/CKT. 2	4	----	---						6000		
W/CKT. 2	6	----	---							6000	
1ST FLR. CONTROL ROOM	8	50	3			1		6000			
W/CKT. 8	10	----	---						6000		
W/CKT. 8	12	----	---							6000	
STAIR TOWER RECEPTACLES	14	20	1		6			1080			
1ST FLR. CON. RM. AIR COMP.	16	15	2			1			1248		
W/CKT. 16	18	----	---							1248	
1ST FLR. CON. RM. AIR DRY.	20	15	1			1		1200			
1ST FLR. CON. RM. AIR COMP.	22	15	2			1			1248		
W/CKT. 22	24	----	---							1248	
1ST FLR. CON. RM. AIR DRY.	26	15	1			1		1200			
2ND FLR. CONTROL ROOM	28	50	3			1			6000		
W/CKT. 28	30	----	---							6000	
W/CKT. 28	32	----	---						6000		
2ND FLR. CON. RM. AIR COMP.	34	15	2			1			1248		
W/CKT. 34	36	----	---							1248	
2ND FLR. CON. RM. AIR DRY.	38	15	1			1		1200			
2ND FLR. CONTROL ROOM	40	50	3			1			6000		
W/CKT. 40	42	----	---							6000	
W/CKT. 40	44	----	---						6000		
2ND FLR. CON. RM. AIR COMP.	46	15	2			1		1248			
W/CKT. 46	48	----	---							1248	
2ND FLR. CON. RM. AIR DRY.	50	15	1			1			1200		
SPARE	52	20	1								
SPARE	54	20	1								
SUB TOTAL VOLT/AMPS:								29880	28992	28992	
PANEL SUB TOTAL VOLT/AMPS:								39831	38699	38350	
TOTAL LCL/PHASE:								271	210	135	
CONNECTED: 116880 VA — TOTAL VOLT/AMPS:								40102	38909	38485	
25% OF MTR: VA — TOTAL AMPS/PHASE:								334	324	321	
25% OF LCL: 615 VA											
CALCULATED: 117495 VA = 326.13 AVERAGE AMPS											

PANEL SCHEDULE NOTES

1. ALL ELECTRICAL EQUIPMENT SHALL BE LISTED BY UL OR A COUNTY APPROVED THIRD PARTY TESTING FACILITY PER SECTION 110.3(b).
2. REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
3. CONTRACTOR TO PROVIDE BRANCH CIRCUIT PANELS WITH DEDICATED SPACE FOR INSTALLATION OF FUTURE CTS FOR MONITORING OF INDIVIDUAL BRANCH CIRCUITS.
4. CONTRACTOR TO PROVIDE ENGRAVED NAME PLATES FOR MAIN SWITCHBOARD, SWITCHBOARD METERS, AND PANELS.
5. CONTRACTOR TO PROVIDE HANDLE TIE.

PBK
RANCHO CUCAMONGA
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FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — Exp. 03/31/27 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — RICHARD E. SUTTER — No. E17229 — 6/30/26 — STATE OF CALIFORNIA

CONSULTANT
A&F ENGINEERING GROUP, INC.
9320 BASELINE RD., SUITE C, RANCHO CUCAMONGA, CA 91701
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NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
#	REVISIONS		

DRAWN: LS — CHECKED: RES
DATE: 05/11/2025 — SCALE: AS NOTED
PROJECT NUMBER: W2100100AR

PANEL SCHEDULES

DRAWING NUMBER: E0.3

BID SET

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER CATALOG#	LAMP QTY. & TYPE	FIXTURE WATTAGE	VOLTS	REMARKS
A	FOCAL POINT *RSM6L-FL-375LF-40K-IC-UNV-TF-LW4-4' OR APPROVED EQUAL	1737 LUMEN 98 LM/W 4000K	18	UNV	4' LONG BY 6" WIDE RECESSED SLOT LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH 375 LUMENS PER FOOT, 4000K COLOR TEMPERATURE, FLUSH LENS, AND Ø-10V, LED DIMMING DRIVER. PROVIDE ALL REQUIRED MOUNTING HARDWARE FOR TYPE OF CEILING LIGHT FIXTURE IS TO BE INSTALLED IN.
AE	FOCAL POINT *RSM6L-FL-375LF-40K-IC-UNV-TF-LW4-4'-EM OR APPROVED EQUAL	1737 LUMEN 98 LM/W 4000K	18	UNV	4' LONG BY 6" WIDE RECESSED SLOT LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH 375 LUMENS PER FOOT, 4000K COLOR TEMPERATURE, FLUSH LENS, AND Ø-10V, LED DIMMING DRIVER. PROVIDE ALL REQUIRED MOUNTING HARDWARE FOR TYPE OF CEILING LIGHT FIXTURE IS TO BE INSTALLED IN. WHERE SHADING INDICATES ON PLAN PROVIDE INTEGRAL 90 MINUTE EMERGENCY BATTERY PACK.
B	FOCAL POINT *RSM6L-FL-375LF-40K-IC-UNV-TF-LW4-8' OR APPROVED EQUAL	3474 LUMEN 98 LM/W 4000K	36	UNV	8' LONG BY 6" WIDE RECESSED SLOT LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH 375 LUMENS PER FOOT, 4000K COLOR TEMPERATURE, FLUSH LENS, AND Ø-10V, LED DIMMING DRIVER. PROVIDE ALL REQUIRED MOUNTING HARDWARE FOR TYPE OF CEILING LIGHT FIXTURE IS TO BE INSTALLED IN.
C	GOTHAM *EVO6-40/10-AR-L86-MD-120-GZ10-NLT OR APPROVED EQUAL	984 LUMEN 100 LM/W 4000K	10	120	6" LED DOUNLIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH INTEGRAL Ø-10V, LED DIMMING DRIVER, NLIGHT POWER PACK, AND 4000K COLOR TEMPERATURE. PROVIDE ALL REQUIRED MOUNTING HARDWARE FOR TYPE OF CEILING LIGHT FIXTURE IS TO INSTALLED IN.
CE	GOTHAM *EVO6-40/10-AR-L86-MD-120-GZ10-NLT-E10WLCP OR APPROVED EQUAL	984 LUMEN 100 LM/W 4000K	10	120	6" LED DOUNLIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH Ø-10V, LED DIMMING DRIVER, NLIGHT POWER PACK, AND 4000K COLOR TEMPERATURE. WHERE SHADING INDICATES ON PLAN PROVIDE INTEGRAL 90 MINUTE EMERGENCY BATTERY PACK. PROVIDE ALL REQUIRED MOUNTING HARDWARE FOR TYPE OF CEILING LIGHT IS TO BE INSTALLED IN.
D	GOTHAM LIGHTING *EVO6SH-40/15-DFR-SMO-MVOLT-EZ10 OR APPROVED EQUAL	1500 LUMEN LED 89 LM/W 4000K	15	120	6" LED SHOWER DOUNLIGHT. FIXTURE SHALL BE PROVIDED WITH INTEGRAL Ø-10V, LED DIMMING DRIVER & IP65 RATED SUITABLE FOR STEAM ROOM APPLICATION.
E	LITHONIA LIGHTING *2BLT2-20L8E-ADP-EZI-LP840-N100 OR APPROVED EQUAL	2,092 LUMEN 125 LM/W 4000K	16	120	2'X2' RECESSED LED LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 2,092 LUMEN OUTPUT, ACRYLIC LINEAR PRISMATIC DIFFUSER, INTEGRAL Ø-10V LED DIMMING DRIVER, 4000K COLOR TEMPERATURE AND INTEGRAL N-LIGHT CONTROLS.
EE	LITHONIA LIGHTING *2BLT2-20L8E-ADP-EZI-LP840-N100-E10WLCP OR APPROVED EQUAL	2,092 LUMEN 125 LM/W 4000K	16	120	2'X2' RECESSED LED LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 2,092 LUMEN OUTPUT, ACRYLIC LINEAR PRISMATIC DIFFUSER, INTEGRAL Ø-10V LED DIMMING DRIVER, 4000K COLOR TEMPERATURE AND INTEGRAL N-LIGHT CONTROLS. WHERE SHADING INDICATES ON PLANE PROVIDE 90 MINUTE 1,400 LUMEN EMERGENCY BATTERY BACK-UP.
F	LITHONIA LIGHTING *2GTL-F-4-20L-EZI-LP840-N100 *DGA14 (DRYWALL KIT) OR APPROVED EQUAL	2,426 LUMEN 131 LM/W 4000K	19	120	1'X4' RECESSED LED LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 2,2000 LUMENS, INTEGRAL Ø-10V, LED DIMMING DRIVER, 4000K COLOR TEMPERATURE AND INTEGRAL N-LIGHT CONTROLS. PROVIDE ALL REQUIRED MOUNTING HARDWARE FOR TYPE OF CEILING LIGHT FIXTURE IS TO BE INSTALLED IN.
FE	LITHONIA LIGHTING *2GTL-F-4-20L-EZI-LP840-N100-E10WLCP *DGA14 (DRYWALL KIT) OR APPROVED EQUAL	2,426 LUMEN 131 LM/W 4000K	19	120	1'X4' RECESSED LED LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 2,2000 LUMENS, INTEGRAL Ø-10V, LED DIMMING DRIVER, 4000K COLOR TEMPERATURE AND INTEGRAL N-LIGHT CONTROLS. WHERE SHADING INDICATES ON PLAN PROVIDE INTEGRAL 90 MINUTE EMERGENCY BATTERY PACK. PROVIDE ALL REQUIRED MOUNTING HARDWARE FOR TYPE OF CEILING LIGHT FIXTURE IS TO BE INSTALLED IN.
G	ALUZ LIGHTING *AI-ZARU-STN-SF-30D-#-40K-3U-Ø-10V-EF-DRY-UNV-8'-Ø" OR APPROVED EQUAL	360 LUMENS/FT. 4000K	24	UNV	8'-Ø" LED COVE LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 360 LUMENS PER FOOT, Ø-10V, LED DIMMING DRIVER, 4000K KELVIN COLOR TEMPERATURE AND SEMI FROSTED LENS. # = FINISH AS SELECTED BY ARCHITECT.
H	ALUZ LIGHTING *AI-ZARU-STN-SF-30D-#-40K-3U-Ø-10V-EF-DRY-UNV-32'-Ø" OR APPROVED EQUAL	360 LUMENS/FT. 4000K	96	UNV	32'-Ø" LED COVE LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 360 LUMENS PER FOOT, Ø-10V, LED DIMMING DRIVER, 4000K KELVIN COLOR TEMPERATURE AND SEMI FROSTED LENS. # = FINISH AS SELECTED BY ARCHITECT.
I	ALUZ LIGHTING *AI-ZARU-STN-SF-30D-#-40K-3U-Ø-10V-EF-DRY-UNV-7'-Ø" OR APPROVED EQUAL	360 LUMENS/FT. 4000K	21	UNV	7'-Ø" LED COVE LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 360 LUMENS PER FOOT, Ø-10V, LED DIMMING DRIVER, 4000K KELVIN COLOR TEMPERATURE AND SEMI FROSTED LENS. # = FINISH AS SELECTED BY ARCHITECT.
J	ALUZ LIGHTING *AI-ZARU-STN-SF-30D-#-40K-3U-Ø-10V-EF-DRY-UNV-22'-Ø" OR APPROVED EQUAL	360 LUMENS/FT. 4000K	66	UNV	22'-Ø" LED COVE LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 360 LUMENS PER FOOT, Ø-10V, LED DIMMING DRIVER, 4000K KELVIN COLOR TEMPERATURE AND SEMI FROSTED LENS. PROVIDE ALL JUMPERS FOR A COMPLETE AND OPERABLE INSTALLATION. # = FINISH AS SELECTED BY ARCHITECT.
K	DUAL-LITE *LE-#-##-R-###-N-E-I OR APPROVED EQUAL	LED	3	120	ARCHITECTURAL LED EDGE-LIT EXIT SIGN WITH RED LETTER, SATIN ALUMINUM FINISH, INTEGRAL 90 MINUTE BATTERY BACK-UP. # = MOUNTING PER PLAN. ## = FACES PER PLAN. ### = DIRECTIONAL ARROWS PER PLAN.
L	GOTHAM *EVO6SH-40/10-DFF-SMO-MVOLT-EZI-NLT-E10WLCP6 OR APPROVED EQUAL	996 LUMEN 100 LM/W 4000K	10	MVOLT	6" LED LENSED DOUNLIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH INTEGRAL Ø-10V, LED DIMMING DRIVER, NLIGHT POWER PACK, AND 4000K COLOR TEMPERATURE. PROVIDE ALL REQUIRED MOUNTING HARDWARE FOR TYPE OF CEILING LIGHT FIXTURE IS TO INSTALLED IN.
M	CURRENT LIGHTING *TRP2-36L-25-4KB-4-UNV-#-E OR APPROVED EQUAL	4241 LUMEN 132 LM/W 4000K	32	120	SURFACE MOUNTED EXTERIOR LED LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH TYPE IV DISTRIBUTION, AND 4000K COLOR TEMPERATURE WHERE SHADING INDICATES ON PLAN PROVIDE INTEGRAL 90 MINUTE INTEGRAL BATTERY PACK. PROVIDE ALL REQUIRED MOUNTING HARDWARE FOR LIGHT FIXTURE TO BE INSTALLED IN. # = FINISH AS SELECTED BY ARCHITECT.
N	FOCAL POINT *RSM6L-FL-375LF-40K-IC-UNV-TF-LW4-6' OR APPROVED EQUAL	2,606 LUMEN 98 LM/W 4000K	28	UNV	6' LONG BY 6" WIDE RECESSED SLOT LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH 375 LUMENS PER FOOT, 4000K COLOR TEMPERATURE FLUSH LENS, AND Ø-10V, LED DIMMING DRIVER. PROVIDE ALL REQUIRED MOUNTING HARDWARE FOR TYPE OF CEILING LIGHT FIXTURE IS TO BE INSTALLED IN.
O	COOPER LIGHTING SOLUTIONS *4UII-48"-D9-40K-# OR APPROVED EQUAL	1540 LUMEN 74 LM/W 4000K	21	UNV	4' UNDERCABINET LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH 4000K COLOR TEMPERATURE, INTEGRAL Ø-10V, LED DIMMING, AND 90 COLOR RENDERING INDEX. # = FINISH AS SELECTED BY ARCHITECT.
P	COOPER LIGHTING SOLUTIONS *4UII-24"-D9-40K-# OR APPROVED EQUAL	785 LUMEN 72 LM/W 4000K	11	UNV	2' UNDERCABINET LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH 4000K COLOR TEMPERATURE, INTEGRAL Ø-10V, LED DIMMING, AND 90 COLOR RENDERING INDEX. # = FINISH AS SELECTED BY ARCHITECT.
Q	GOTHAM *EVO6PC-40/15-AR-L86-MD-120-EZI-JBX-PCAN-52-NLT-WL-# OR APPROVED EQUAL	2,006 LUMEN 100 LM/W 4000K	20	120	6" LED ROUND PENDENT FIXTURE. FIXTURE SHALL BE PROVIDED WITH INTEGRAL Ø-10V, LED DIMMING DRIVER, NLIGHT POWER PACK, 4000K COLOR TEMPERATURE AND UET LISTING. PROVIDE ALL REQUIRED MOUNTING HARDWARE FOR TYPE OF CEILING LIGHT FIXTURE IS TO INSTALLED IN. # = FINISH AS SELECTED BY ARCHITECT.
R	RAB LIGHTING *XGLEDI3N *GL100 (GLOBE) OR APPROVED EQUAL	595 LUMEN 33 LM/W 3000K	13	120	SURFACE MOUNTED LED VAPOR PROOF BEACON LIGHT FIXTURE WITH RED GLOBE.
S	LITHONIA LIGHTING *CBVT-L48-3000LM-MVOLT-40K-80CRI OR APPROVED EQUAL	3,106 LUMENS 128 LM/W 4000K	24	UNV	SURFACE MOUNTED WET LISTED VAPOR PROOF LED LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 3,000 LUMEN PACKAGE, Ø-10V, LED DIMMING DRIVER, AND 4000K KELVIN COLOR TEMPERATURE.
T	VISIONAIRE LIGHTING *FLB-2-T3-24LC-3-4K-UNV-WM-#-PC120 OR APPROVED EQUAL 1	2,219 LUMEN 85 LM/W 4000K	26	UNV	WALL MOUNTED LED WALL PACK LED LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 2219 LUMEN PACKAGE, TYPE 3 DISTRIBUTION, 350mA DRIVE CURRENT, ELECTRONIC DRIVER AND INTEGRAL PHOTO-CELL. # = FINISH AS SELECTED BY ARCHITECT.
U	HYDREL LIGHTING *A451-B-LED-UNT4K-MVOLT-# OR APPROVED EQUAL	380 LUMEN 26 LM/W 4100K	15	UNV	LED STEP-LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 380 LUMEN PACKAGE, 4100K COLOR TEMPERATURE, AND CAST BRASS ENCLOSURE. # = FINISH AS SELECTED BY ARCHITECT.

SITE LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER CATALOG#	LAMP QTY. & TYPE	FIXTURE WATTAGE	VOLTS	B.U.G. RATING	REMARKS
SA	U.S. ARCHITECTURE *TSNIB-PLED-III-W-40LED-350MA-40K-208-I-#-HS-PLED-MS-F3II OR APPROVED EQUAL	4,730 LUMEN 111 LM/W 4000K	43	208	B+1 U+Ø G+2	AREA LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH TYPE III-WIDE DISTRIBUTION, 40 LED BOARD, 350 MA DRIVE CURRENT, 4000K COLOR TEMPERATURE, 208 VOLTAGE, HOUSE SIDE SHIELD, AND HIGH LOU FOR EXTERNAL CONTROLS. PROVIDE WITH, AT MINIMUM, ONE REMOTE MOTION SENSOR CONFIGURATOR. # = FINISH AS SELECTED BY ARCHITECT.
SB	U.S. ARCHITECTURE *TSNIB-PLED-III-W-40LED-525MA-40K-208-I-#-HS-PLED-MS-F3II OR APPROVED EQUAL	6,911 LUMEN 106 LM/W 4000K	65	208	B+2 U+Ø G+3	AREA LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH TYPE III-WIDE DISTRIBUTION, 40 LED BOARD, 525 MA DRIVE CURRENT, 4000K COLOR TEMPERATURE, 208 VOLTAGE, HOUSE SIDE SHIELD, AND HIGH LOU FOR EXTERNAL CONTROLS. # = FINISH AS SELECTED BY ARCHITECT.
SC	U.S. ARCHITECTURE *TSNIB-PLED-IV-FT-40LED-525MA-40K-208-I-#-FLED-MS-F3II OR APPROVED EQUAL	8,777 LUMEN 131 LM/W 4000K	65	208	B+2 U+Ø G+3	AREA LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH TYPE IV FORWARD THROW DISTRIBUTION, 40 LED BOARD, 525 MA DRIVE CURRENT, 4000K COLOR TEMPERATURE, 208 VOLTAGE, HOUSE SIDE SHIELD, AND HIGH LOU FOR EXTERNAL CONTROLS. # = FINISH AS SELECTED BY ARCHITECT.
SD	U.S. ARCHITECTURE *TSNIB-PLED-IV-FT-40LED-350MA-40K-208-I-#-HS-PLED-MS-F3II OR APPROVED EQUAL	4,736 LUMEN 111 LM/W 4000K	43	208	B+1 U+Ø G+2	AREA LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH TYPE IV FORWARD THROW DISTRIBUTION, 40 LED BOARD, 350 MA DRIVE CURRENT, 4000K COLOR TEMPERATURE, 208 VOLTAGE, HOUSE SIDE SHIELD, AND HIGH LOU FOR EXTERNAL CONTROLS. # = FINISH AS SELECTED BY ARCHITECT.
SE	U.S. ARCHITECTURE *TSNIB-PLED-IV-FT-40LED-525MA-40K-208-I-90-#-HS-F3II OR APPROVED EQUAL	17,554 LUMEN 135 LM/W 4000K	130	208	B+2 U+Ø G+3	DUAL AREA LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH TYPE IV FORWARD THROW DISTRIBUTION, 40 LED BOARD, 525 MA DRIVE CURRENT, 4000K COLOR TEMPERATURE, 208 VOLTAGE, AND HIGH LOU FOR EXTERNAL CONTROLS. # = FINISH AS SELECTED BY ARCHITECT.
SF	U.S. ARCHITECTURE *TSNIB-PLED-IV-FT-40LED-700MA-40K-208-I-#-HS-F3II OR APPROVED EQUAL	8,758 LUMEN LED 101 LM/W 4000K	87	208	B+2 U+Ø G+3	AREA LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH TYPE IV FORWARD THROW DISTRIBUTION, 40 LED BOARD, 700 MA DRIVE CURRENT, 4000K COLOR TEMPERATURE, 208 VOLTAGE, AND HIGH LOU FOR EXTERNAL CONTROLS. # = FINISH AS SELECTED BY ARCHITECT.
SG	U.S. ARCHITECTURE *TSNIB-PLED-IV-FT-40LED-525MA-40K-208-I-90-#-HS-F3II OR APPROVED EQUAL	17,554 LUMEN LED 135 LM/W 4000K	130	208	B+2 U+Ø G+3	DUAL AREA LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH TYPE IV FORWARD THROW DISTRIBUTION, 40 LED BOARD, 525 MA DRIVE CURRENT, 4000K COLOR TEMPERATURE, 208 VOLTAGE, AND HIGH LOU FOR EXTERNAL CONTROLS. # = FINISH AS SELECTED BY ARCHITECT.
SH	LITHONIA LIGHTING *RNA-LED-A5Y-24LED-NW-120-#-DM1 OR APPROVED EQUAL	595 LUMEN LED 38 LM/W 4000K	13	MVOLT		ARCHITECTURAL LED BOLLARD. FORWARD THROW DISTRIBUTION, 40 LED BOARD, 525 MA DRIVE CURRENT, 4000K COLOR TEMPERATURE, 208 VOLTAGE, AND HIGH LOU FOR EXTERNAL CONTROLS. # = FINISH AS SELECTED BY ARCHITECT.
SI	HYDREL LIGHTING *BAF-LED-P1-80CRI-40K-MVOLT-40DEG-CUL-#2T-CSM12-ZT-C3-# OR APPROVED EQUAL	4715LUMEN LED 78 LM/W 4000K	6	MVOLT		LED SPOT LIGHT FIXTURE. FIXTURE SHALL BE PROVIDED WITH 40° DISTRIBUTION, STANCHION AND KNUCKLE MOUNT, Ø-10V, LED DIMMING DRIVER, AND 4000K COLOR TEMPERATURE. # = FINISH AS SELECTED BY ARCHITECT.
SJ	THE FLAG POLE COMPANY INTERNAL HAYLARD FLAG POLE BEACON *ORN-1500T OR APPROVED EQUAL	(2) 3W LED 3000K	6	120		FLAG POLE BEACON POLE TOP MOUNTED, COORDINATE MOUNTING WITH POLE SUPPLIER PRIOR TO ROUGH-IN. PROVIDE WITH REQUIRED MOUNTING HARDWARE.
SK	U.S. ARCHITECTURE *TSNIB-PLED-IV-FT-40LED-350MA-40K-208-UPT-#-HS-F3II OR APPROVED EQUAL	4,736 LUMEN 111 LM/W 4000K	43	208		WALL MOUNTED LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH TYPE IV FORWARD THROW DISTRIBUTION, 40 LED BOARD, 350 MA DRIVE CURRENT, 4000K COLOR TEMPERATURE, 208 VOLTAGE, AND COMBINATION PHOTO / MOTION SENSOR. # = FINISH AS SELECTED BY ARCHITECT.
SL	LUMINAIRE LED *AEF4-4FT-MINI0-25W-40K-MVOLT-OP-# OR APPROVED EQUAL	2,775 LUMEN 103 LM/W 4000K	27	MVOLT		4'-0" VANDAL RESISTANT SURFACE MOUNTED LED FIXTURE. FIXTURE SHALL BE PROVIDED WITH 2,775 LUMENS, OPAL LENS, Ø-10V, LED DIMMING DRIVER, AND 4000K COLOR TEMPERATURE. # = FINISH AS SELECTED BY ARCHITECT.

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT

6585 Cherry Avenue, Fontana, CA 92336

Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — Exp. 03/31/27 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — BRANDO E. SOTELO — No. E17229 — 6/30/26 — STATE OF CALIFORNIA

CONSULTANT

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NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
1	REVISIONS		

DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

LIGHT FIXTURE SCHEDULES

DRAWING NUMBER: E0.4

BID SET

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.			
Project Name:	Fire Station #80 & Training Center	**Report Page:**	**(Page 1 of 9)**
Project Address:	Southeast of Cherry Avenue and South Highland Avenue	**Date Prepared:**	5/9/2025

A. GENERAL INFORMATION

01	Project Location (city)	Fontana	04	Total Conditioned Floor Area (ft²)	4,402
02	Climate Zone	10	05	Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

● Classroom ● Office ● Support Areas ● All Other Occupancies

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Area Category Method	4402	Area Category Method	0
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	4402		0	

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Fire Station #80 & Training Center	**Report Page:**	**(Page 2 of 9)**
		Date Prepared:	5/9/2025

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Allowed Lighting Power per 140.6(b) / 170.2(e) (Watts)						Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)				Compliance Results
	01	02	03	04		05	06	07 Adjustments		08	09
	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 / 170.2(e)4B (+)	=	**Total Allowed** (Watts)	≥ Total Designed (Watts)	PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-)	=	**Total Adjusted** (Watts) *Includes Adjustments	**05 must be >= 08 140.6 / 170.2(e)**
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned		2,468.5	0		=	2,468	≥ 2,432	0	=	2432	COMPLIES
Unconditioned					=		≥		=		
Controls Compliance (See Table H for Details)											COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)											

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5868-0525-1134 Report Generated: 2025-05-09 11:24:36

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Fire Station #80 & Training Center	**Report Page:**	**(Page 3 of 9)**
		Date Prepared:	5/9/2025

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01 Name or Item Tag	02 Complete Luminaire Description	03 Modular (Track) Fixture	04 Small Aperture & Color Change[1]	05 Watts per luminaire[2]	06 How is Wattage determined	07 Total Number of Luminaires	08 Excluded per 140.6(a)3 / 170.2(e)2C	09 Design Watts	10 Field Inspector Pass	10 Field Inspector Fail
A	18w LED	No	NA	18	Mfr. Spec	24	No	432	☐	☐
B	36w LED	No	NA	36	Mfr. Spec	12	No	432	☐	☐
C	10w LED	No	NA	10	Mfr. Spec	31	No	310	☐	☐
D	15w LED	No	NA	15	Mfr. Spec	6	No	90	☐	☐
E	16w LED	No	NA	16	Mfr. Spec	11	No	176	☐	☐
F	19w LED	No	NA	19	Mfr. Spec	6	No	114	☐	☐
G	(1) 24w LED	No	NA	24	Mfr. Spec	4	No	96	☐	☐
H	96w LED	No	NA	96	Mfr. Spec	3	No	288	☐	☐
I	21w LED	No	NA	21	Mfr. Spec	1	No	21	☐	☐
J	66w LED	No	NA	66	Mfr. Spec	2	No	132	☐	☐
N	19w LED	No	NA	19	Mfr. Spec	9	No	171	☐	☐
O	21w LED	No	NA	21	Mfr. Spec	6	No	126	☐	☐
P	11w LED	No	NA	11	Mfr. Spec	4	No	44	☐	☐
					Total Designed Watts: CONDITIONED SPACES			2,432		

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.*

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5868-0525-1134 Report Generated: 2025-05-09 11:24:36

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Fire Station #80 & Training Center	**Report Page:**	**(Page 4 of 9)**
		Date Prepared:	5/9/2025

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03 Field Inspector Pass	03 Field Inspector Fail
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C		
Required >= 4,000W subject to multilevel	Whole Building Auto Time Switch	☐	☐

Area Level Controls

04 Area Description	05 Complete Building or Area Category Primary Function Area	06 Manual Area Controls 130.1(a) / 160.5(b)4A	07 Multi-Level Controls 130.1(b) / 160.5(b)4B	08 Shut-Off Controls 130.1(c) // 160.5(b)4C	09 Primary/Skylit Daylighting 130.1(d) / 160.5(b)4D	10 Secondary Daylighting 130.1(d) / 160.5(b)4D	11 Interlocked Systems 140.6(a)1/ 170.2(e)2A	12 Field Inspector Pass	12 Field Inspector Fail
Lobby - 101	Main Entry Lobby	Readily Accessible	Dimmer	See Building Level	NA: Overhang	NA: Overhang	No	☐	☐
Celestory - 101	Main Entry Lobby	Readily Accessible	Dimmer	See Building Level	NA: Overhang	NA: Overhang	No	☐	☐
Vestibule - 102	Corridor	Readily Accessible	Dimmer	See Building Level	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
Hallway - 105	Corridor	Readily Accessible	Dimmer	See Building Level	NA: Overhang	NA: Overhang	No	☐	☐
Accessible Restroom - 103	Restroom	Readily Accessible	NA: Restrooms	See Building Level	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
Mens Restroom - 108	Restroom	Readily Accessible	NA: Restrooms	See Building Level	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐

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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Fire Station #80 & Training Center	**Report Page:**	**(Page 5 of 9)**
		Date Prepared:	5/9/2025

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Women's Restroom - 111	Restroom	Readily Accessible	NA: Restrooms	See Building Level	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
Unisex Bathroom - 110	Restroom	Readily Accessible	NA: Restrooms	See Building Level	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
Unisex Bathroom - 113	Restroom	Readily Accessible	NA: Restrooms	See Building Level	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
Custodial / Storage - 104	All Other Space Types	Readily Accessible	Dimmer	See Building Level	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
Trainings Storage - 115	All Other Space Types	Readily Accessible	Dimmer	See Building Level	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
Training Office 1 - 106	Office (<=250 square feet)	Readily Accessible	Dimmer	See Building Level	NA: Overhang	NA: Overhang	No	☐	☐
Training Office 2 - 107	Office (<=250 square feet)	Readily Accessible	Dimmer	See Building Level	NA: Overhang	NA: Overhang	No	☐	☐
Mens Lockers / Shower - 109	Locker/Dressing Room	Readily Accessible	Dimmer	See Building Level	Included	Included	No	☐	☐
Womens Lockers / Shower - 112	Locker/Dressing Room	Readily Accessible	Dimmer	See Building Level	Included	Included	No	☐	☐
Training Room - 114	Electrical Mechanical Telephone Room	Readily Accessible	Dimmer	See Building Level	Included	Included	No	☐	☐
Electric Room - 116	Electrical Mechanical Telephone Room	Readily Accessible	Dimmer	See Building Level	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
Fire Riser Room - 117	Electrical Mechanical Telephone Room	Readily Accessible	Dimmer	See Building Level	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
							13		
							Plan Sheet Showing Daylit Zones:		

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5868-0525-1134 Report Generated: 2025-05-09 11:24:36

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Fire Station #80 & Training Center	**Report Page:**	**(Page 6 of 9)**
		Date Prepared:	5/9/2025

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a) are being used .

Conditioned Spaces

01 Area Description	02 Complete Building or Area Category Primary Function Area	03 Allowed Density (W/ft²)	04 Area (ft²)	05 Allowed Wattage (Watts)	06 Additional Allowance / Adjustment Area Category	06 Additional Allowance / Adjustment PAF
Lobby, Main Entry	Main Entry Lobby	0.7	214	149.8	No	No
Corridor Area	Corridor	0.4	744	297.6	No	No
Restrooms	Restroom	0.65	862	560.3	No	No
Support Rooms	All Other Space Types	0.4	199	79.6	No	No
Office Area < 250sqft	Office (<=250 square feet)	0.65	292	189.8	No	No
Locker Rooms	Locker/Dressing Room	0.45	220	99	No	No
Classroom, Lecture, Training, Vocational Area	Classroom, Lecture, or Training Vocational	0.6	1,720	1,032	No	No
Electrical / Mechanical Room	Electrical Mechancial Telephone Room	0.4	151	60.4	No	No
		TOTALS:	4,402	2,468.5	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5868-0525-1134 Report Generated: 2025-05-09 11:24:36

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Fire Station #80 & Training Center	**Report Page:**	**(Page 7 of 9)**
		Date Prepared:	5/9/2025

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5868-0525-1134 Report Generated: 2025-05-09 11:24:36

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Fire Station #80 & Training Center	**Report Page:**	**(Page 8 of 9)**
		Date Prepared:	5/9/2025

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Whole Building Time Switch;
NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	Mens Lockers / Shower - 109; Womens Lockers / Shower - 112; Training Room - 114;
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	Whole Building Demand Response;

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5868-0525-1134 Report Generated: 2025-05-09 11:24:36

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Fire Station #80 & Training Center	**Report Page:**	**(Page 9 of 9)**
Project Address:	Southeast of Cherry Avenue and South Highland Avenue	**Date Prepared:**	5/9/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Luis E. Flores	Documentation Author Signature:
Company: A&F Engineering Group, Inc.	Signature Date: 2025-05-09
Address: 9320 Baseline Rd., Suite C	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Rancho Cucamonga, CA 91701	Phone: (909) 941-3008

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Rolando E. Sotelo	Responsible Designer Signature:
Company: A & F Engineering Group, Inc.	Date Signed: 2025-05-09
Address: 9320 Baseline Rd. Suite C	License: E17229
City/State/Zip: Rancho Cucamonga CA 91701	Phone: (909)941-3008

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5868-0525-1134 Report Generated: 2025-05-09 11:24:36

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT

6585 Cherry Avenue, Fontana, CA 92336

Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — re:3d 03/31/27 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — RICARDO E. SOTELO — No. E17229 — 6/30/26 — STATE OF CALIFORNIA

CONSULTANT

A&F ENGINEERING GROUP, INC.
9320 BASELINE RD., SUITE C, RANCHO CUCAMONGA, CA 91701
TEL: (909) 941-3008 FAX: (909) 941-8211

NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN: LS	**CHECKED:** RES
DATE: 05/11/2025	**SCALE:** AS NOTED
PROJECT NUMBER: W2100100AR	

TITLE 24 COMPLIANCE FORM

DRAWING NUMBER: E0.5

BID SET

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2L for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(a) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.		
Project Name: Fire Station #80 & Training Center		**Report Page:** (Page 1 of 12)
Project Address: Southeast of Cherry Avenue and South Highland Avenue		**Date Prepared:** 5/9/2025

A. GENERAL INFORMATION

01	Project Location (city)	Fontana	04	Total Illuminated Hardscape Area (ft²)	164475
02	Climate Zone	10			
03	Outdoor Lighting Zone per Title 24 Part 1	10.114 or as designated by Authority Having Jurisdiction (AHJ):			
☐	LZ-0: Very Low - Undeveloped Parkland	☒ LZ-2: Moderate - Urban Clusters	☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval		
☐	LZ-1: Low - Rural Areas	☐ LZ-3: Moderately High - Urban Areas			
05	Occupancy Types within Project				
● Classroom ● Office ● Support Areas ● All Other Occupancies					

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.

My Project Consists of:

01	02	
☒ New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6	
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)?	○ Yes ○ No
03	04	05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%		

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Fire Station #80 & Training Center		**Report Page:** (Page 2 of 12)
		Date Prepared: 5/9/2025

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through N. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv											Compliance Results			
01		02		03		04		05		06		07	08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)	OR	Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
3,975	+	---	+	---	+	---	+	---	OR	---	=	3,975	≥	2,724	COMPLIES
Shielding Compliance (See Table G for Details)															COMPLIES
Controls Compliance (See Table H for Details)															COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
		Report Page: (Page 3 of 12)
		Date Prepared: 5/9/2025

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c1)[4]	Field Inspector Pass	Field Inspector Fail
L	10w LED	☐ Linear	10	Mfr. Spec	9	New	☐	90	NA: < 6200 lumens	☐	☐
M	19w LED	☐ Linear	19	Mfr. Spec	12	New	☐	228	NA: < 6200 lumens	☐	☐
Q	(1) 20w LED	☐ Linear	20	Mfr. Spec	8	New	☐	160	NA: < 6200 lumens	☐	☐
SA	43w LED	☐ Linear	43	Mfr. Spec	3	New	☐	129	Provided	☐	☐
SB	65w LED	☐ Linear	65	Mfr. Spec	5	New	☐	325	Provided	☐	☐
SC	87w LED	☐ Linear	87	Mfr. Spec	2	New	☐	174	Provided	☐	☐
SD	43w LED	☐ Linear	43	Mfr. Spec	3	New	☐	129	Provided	☐	☐
SE	(1) 130w LED	☐ Linear	130	Mfr. Spec	2	New	☐	260	Provided	☐	☐
SF	87w LED	☐ Linear	87	Mfr. Spec	6	New	☐	522	Provided	☐	☐
SG	130w LED	☐ Linear	130	Mfr. Spec	1	New	☐	130	Provided	☐	☐
SH	19w LED	☐ Linear	19	Mfr. Spec	2	New	☐	38	NA: < 6200 lumens	☐	☐
SI	6w LED	☐ Linear	6	Mfr. Spec	2	New	☐	12	NA: < 6200 lumens	☐	☐

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Fire Station #80 & Training Center		**Report Page:** (Page 4 of 12)
		Date Prepared: 5/9/2025

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
SK	(1) 43w LED	☐ Linear	43	Mfr. Spec	11	New	☐	473	NA: < 6200 lumens	☐	☐
SL	(1) 27w LED	☐ Linear	27	Mfr. Spec	2	New	☐	54	NA: < 6200 lumens	☐	☐
								Total Design Watts:	2724		

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to 130.2(b)

[1] FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)
[2] For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.
[3] Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.
[4] Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Fire Station #80 & Training Center		**Report Page:** (Page 5 of 12)
		Date Prepared: 5/9/2025

G. SHIELDING REQUIREMENTS (BUG)

This table includes fixtures of >=6,200 initial lumens indicated on Table F as needing to comply with Shielding Requirements. Maximum lumens can be found in Title 24, Part 11, Section 5.106.8.

01	02	03	04	05	06	07	08	09	10	11	12
Name or Item Tag	Complete Luminaire Description	Backlight Rating[2]			Uplight Rating[2]			Glare Rating (Lumens)[2]			Field Inspector
		Mounting Height[1]	Max Allowable Backlight Rating[3]	Backlight Rating Per Design	Lighting type	Max Allowable Uplight Rating[3]	Uplight Rating Per Design	Mounting Height[1]	Max Allowable Glare Rating[3]	Glare Rating Per Design	Pass / Fail
SA	43w LED	2 MH from property line	No Limit	B1	All other outdoor lighting, including decorative	U2	U0	> 2 MH from property line	G2	G2	☐ ☐

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Fire Station #80 & Training Center		**Report Page:** (Page 6 of 12)
		Date Prepared: 5/9/2025

G. SHIELDING REQUIREMENTS (BUG)

This table includes fixtures of >=6,200 initial lumens indicated on Table F as needing to comply with Shielding Requirements. Maximum lumens can be found in Title 24, Part 11, Section 5.106.8.

01	02	03	04	05	06	07	08	09	10	11	12
Name or Item Tag	Complete Luminaire Description	Backlight Rating[2]			Uplight Rating[2]			Glare Rating (Lumens)[2]			Field Inspector
		Mounting Height[1]	Max Allowable Backlight Rating[3]	Backlight Rating Per Design	Lighting type	Max Allowable Uplight Rating[3]	Uplight Rating Per Design	Mounting Height[1]	Max Allowable Glare Rating[3]	Glare Rating Per Design	Pass / Fail
SB	65w LED	2 MH from property line	No Limit	B2	All other outdoor lighting, including decorative	U2	U0	Front hemisphere is 1 - 2 MH from prop line	G1	G3	☐ ☐

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Fire Station #80 & Training Center		**Report Page:** (Page 7 of 12)
		Date Prepared: 5/9/2025

G. SHIELDING REQUIREMENTS (BUG)

This table includes fixtures of >=6,200 initial lumens indicated on Table F as needing to comply with Shielding Requirements. Maximum lumens can be found in Title 24, Part 11, Section 5.106.8.

01	02	03	04	05	06	07	08	09	10	11	12
Name or Item Tag	Complete Luminaire Description	Backlight Rating[2]			Uplight Rating[2]			Glare Rating (Lumens)[2]			Field Inspector
		Mounting Height[1]	Max Allowable Backlight Rating[3]	Backlight Rating Per Design	Lighting type	Max Allowable Uplight Rating[3]	Uplight Rating Per Design	Mounting Height[1]	Max Allowable Glare Rating[3]	Glare Rating Per Design	Pass / Fail
SC	87w LED	2 MH from property line	No Limit	B2	All other outdoor lighting, including decorative	U2	U0	> 2 MH from property line	G2	G3	☐ ☐

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Fire Station #80 & Training Center		**Report Page:** (Page 8 of 12)
		Date Prepared: 5/9/2025

G. SHIELDING REQUIREMENTS (BUG)

This table includes fixtures of >=6,200 initial lumens indicated on Table F as needing to comply with Shielding Requirements. Maximum lumens can be found in Title 24, Part 11, Section 5.106.8.

01	02	03	04	05	06	07	08	09	10	11	12
Name or Item Tag	Complete Luminaire Description	Backlight Rating[2]			Uplight Rating[2]			Glare Rating (Lumens)[2]			Field Inspector
		Mounting Height[1]	Max Allowable Backlight Rating[3]	Backlight Rating Per Design	Lighting type	Max Allowable Uplight Rating[3]	Uplight Rating Per Design	Mounting Height[1]	Max Allowable Glare Rating[3]	Glare Rating Per Design	Pass / Fail
SF	87w LED	2 MH from property line	No Limit	B2	All other outdoor lighting, including decorative	U2	U0	> 2 MH from property line	G2	G3	☐ ☐
SE	(1) 130w LED	2 MH from property line	No Limit	B2	All other outdoor lighting, including decorative	U2	U0	> 2 MH from property line	G2	G3	☐ ☐
SA	43w LED	2 MH from property line	No Limit	B1	All other outdoor lighting, including decorative	U2	U0	> 2 MH from property line	G2	G2	☐ ☐
SB	65w LED	2 MH from property line	No Limit	B2	All other outdoor lighting, including decorative	U2	U0	Front hemisphere is 1 - 2 MH from prop line	G1	G3	☐ ☐
SD	43w LED	2 MH from property line	No Limit	B1	All other outdoor lighting, including decorative	U2	U0	> 2 MH from property line	G2	G2	☐ ☐
SG	130w LED	2 MH from property line	No Limit	B2	All other outdoor lighting, including decorative	U2	U0	> 2 MH from property line	G2	G3	☐ ☐
SD	43w LED	2 MH from property line	No Limit	B1	All other outdoor lighting, including decorative	U2	U0	> 2 MH from property line	G2	G2	☐ ☐

[1] FOOTNOTES: Mounting Height is labeled MH in this table.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Fire Station #80 & Training Center		**Report Page:** (Page 9 of 12)
		Date Prepared: 5/9/2025

G. SHIELDING REQUIREMENTS (BUG)

This table includes fixtures of >=6,200 initial lumens indicated on Table F as needing to comply with Shielding Requirements. Maximum lumens can be found in Title 24, Part 11, Section 5.106.8.

01	02	03	04	05	06	07	08	09	10	11	12
Name or Item Tag	Complete Luminaire Description	Backlight Rating[2]			Uplight Rating[2]			Glare Rating (Lumens)[2]			Field Inspector
		Mounting Height[1]	Max Allowable Backlight Rating[3]	Backlight Rating Per Design	Lighting type	Max Allowable Uplight Rating[3]	Uplight Rating Per Design	Mounting Height[1]	Max Allowable Glare Rating[3]	Glare Rating Per Design	Pass / Fail

[1] Authority Having Jurisdiction may ask for Luminaire cut sheets or other documentation to confirm luminaire type, uplight ratings and glare ratings used for compliance per 130.2(b)/ 160.5(c)
[2] BUG ratings with a lower number than the 'Max Allowable' are compliant. Ex. If Max Allowable is Bug Rating B4, then B0, B1, B2 and B3 are all compliant.

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c1) / 160.5(c)	Auto-Schedule 130.2(c2) / 160.5(c)	Motion Sensor 130.2(c3) / 160.5(c)	Field Inspector Pass	Field Inspector Fail
Pole Mounted Fixture	Photocontrol	Provided	Provided	☐	☐
Wall Mounted Fixture	Photocontrol	Provided	NA: Each Luminaire <= 40 Watts	☐	☐
Bollard Fixture	Photocontrol	Provided	NA: Each Luminaire <= 40 Watts	☐	☐
Flood Lights	Photocontrol	Provided	NA: Each Luminaire <= 40 Watts	☐	☐

[1] FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.
[2] Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.
[3] Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.

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FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — re-ne 03/31/27 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — RICHARD E. ESTELLER — No. E17229 — 6/30/26 — STATE OF CALIFORNIA

CONSULTANT
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9320 BASELINE RD., SUITE C, RANCHO CUCAMONGA, CA 91701
TEL: (909) 941-3008 FAX (909) 941-8211

NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

TITLE 24 COMPLIANCE FORM

DRAWING NUMBER: E0.6

BID SET

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Fire Station #80 & Training Center	**Report Page:**	**(Page 10 of 12)**
	Date Prepared:	5/9/2025

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-R while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance. Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

	01				
	"Use it or lose it" Allowance (select all that apply) (select all that apply)				
	☒ General Hardscape Allowance Table I (below)	☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft^2)	Allowed Density (W/ft^2)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
Training Pedestrian Hardscape	15423	0.019	293	499	0.2	74.8	368
Rear Pedestrian Hardscape	117581	0.019	2234	1727	0.2	259	2493
Visitor Parking	12520	0.019	237.9	692	0.2	103.8	342
North Driveway	7005	0.019	133.1	398	0.2	59.7	193
Pedestrian Hardscape	11946	0.019	227	1020	0.2	153	380
					Initial Wattage Allowance for Entire Site (Watts):		200
					Instances of Initial Wattage Allowance (LZ 0 only)[1]:		
					Total General Hardscape Allowance (Watts):		3975

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Fire Station #80 & Training Center	**Report Page:**	**(Page 11 of 12)**
	Date Prepared:	5/9/2025

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	Pole Mounted Fixture; Wall Mounted Fixture; Bollard Fixture; Flood Lights;

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Generated Date/Time: Report Version: 2022.0.000 Schema Version: rev 20220101
Documentation Software: EnergyPro Compliance ID: EnergyPro-5868-0525-1134 Report Generated: 2025-05-09 11:24:35

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Fire Station #80 & Training Center	**Report Page:**	**(Page 12 of 12)**
Project Address: Southeast of Cherry Avenue and South Highland Avenue	**Date Prepared:**	5/9/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Luis E. Flores	Documentation Author Signature:
Company: A&F Engineering Group, Inc.	Signature Date: 2025-05-09
Address: 9320 Baseline Rd., Suite C	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Rancho Cucamonga, CA 91701	Phone: (909) 941-3008

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Rolando E. Sotelo	Responsible Designer Signature:
Company: A & F Engineering Group, Inc.	Date Signed: 2025-05-09
Address: 9320 Baseline Rd. Suite C	License: E17229
City/State/Zip: Rancho Cucamonga CA 91701	Phone: (909)941-3008

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Generated Date/Time: Report Version: 2022.0.000 Schema Version: rev 20220101
Documentation Software: EnergyPro Compliance ID: EnergyPro-5868-0525-1134 Report Generated: 2025-05-09 11:24:35

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FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

KELLEY NEEDHAM
C-19064
lic.ite 03/31/27
LICENSED ARCHITECT
STATE OF CALIFORNIA

ROLANDO E. SOTELO
No. E17229
6/30/26
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
ELECTRICAL

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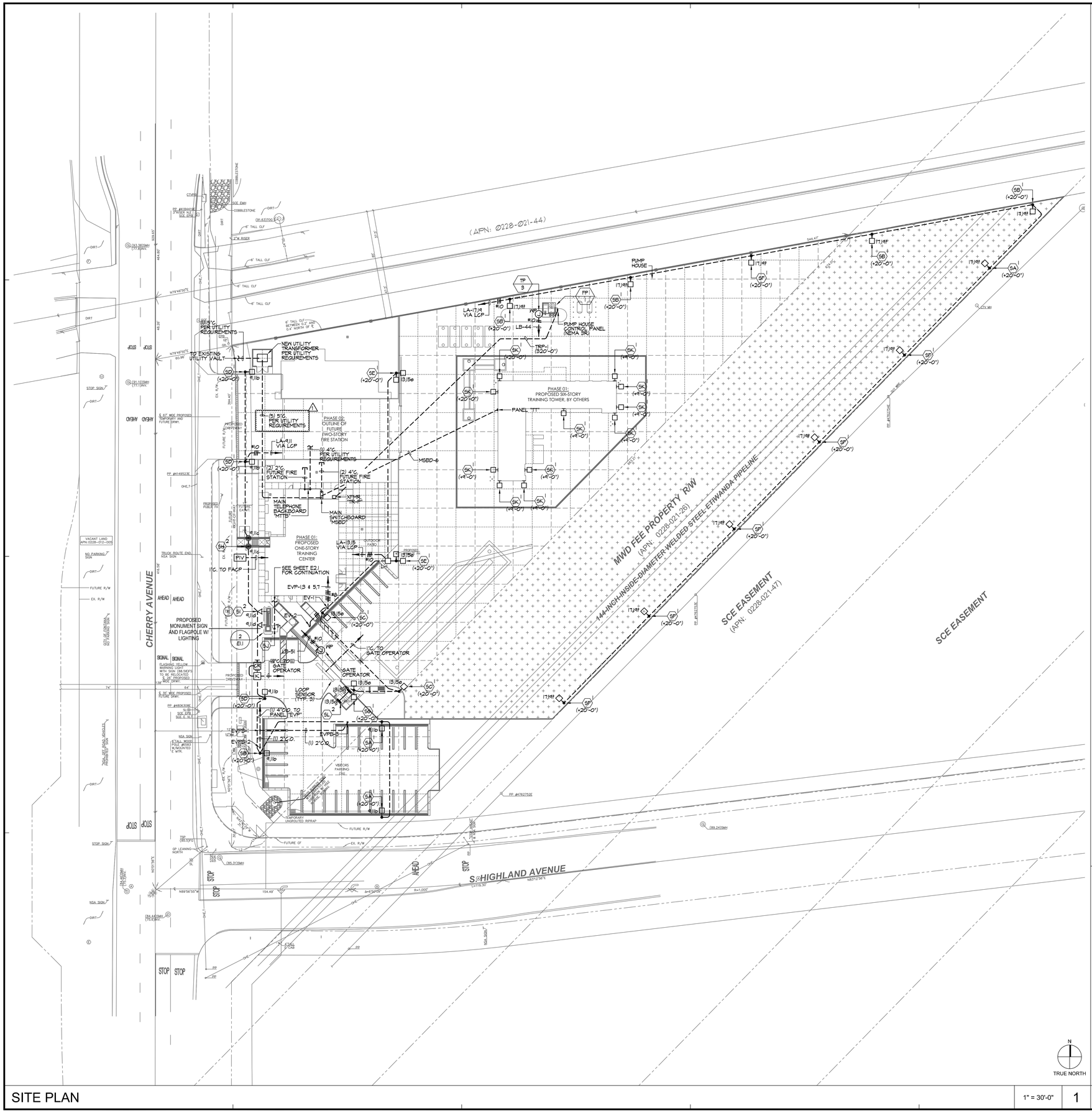
NO	DATE	BY	DESCRIPTION
			REVISIONS

DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

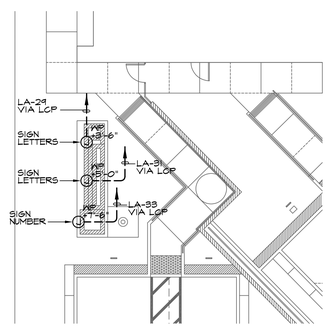
TITLE 24 COMPLIANCE FORM

DRAWING NUMBER: E0.7

BID SET



SITE PLAN | 1" = 30'-0" | 1



ENLARGED MONUMENT SIGN | 1" = 30'-0" | 2

PLAN NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ELECTRIC SERVICE PLANNER UPON AWARD OF CONTRACT AND OBTAIN A COPY OF THE ENGINEERING DRAWINGS PRIOR TO INSTALLING THE SERVICE CONDUIT, DUCTS, PAD MOUNT, RISERS, PULL BOXES, PROTECTIVE COVERING, ETC. INDICATED ON THIS PLAN. ALL WORK INDICATED ON THE UTILITY COMPANY ENGINEERING DRAWINGS, WHETHER SHOWN ON THIS PLAN OR NOT, SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL INSTALL THE SERVICE IN COMPLIANCE WITH THE SERVING UTILITY COMPANY REQUIREMENTS AND ALL UTILITY COMPANY WORK SHALL BE INSPECTED AND APPROVED BY THE SERVING UTILITY.

   UTILITY COMPANY ENGINEERING AND PERMIT FEES ASSOCIATED WITH THE WORK SHOWN AND INDICATED ON THE UTILITY COMPANY ENGINEERING DRAWINGS SHALL BE PAID BY THE CONTRACTOR AND REIMBURSED BY THE OWNER. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/OWNER OF ANY DISCREPANCIES BETWEEN THE UTILITY COMPANY ENGINEERING DRAWINGS AND THIS PLAN PRIOR TO PROCEEDING WITH THE WORK.

2. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE TELEPHONE ENGINEER PRIOR TO BID AND RECEIVE COMPLETE INFORMATION OF THEIR REQUIREMENTS AND INCLUDE ALL SERVICE COSTS ASSOCIATED WITH THE WORK SHOWN AND INDICATED ON THESE PLANS AND SPECIFICATION IN HIS BID. THE ACT OF SUBMITTING THE BID SHALL CONSTITUTE THE FULL RESPONSIBILITY OF THIS CONTRACTOR TO INSTALL SERVICE IN COMPLIANCE WITH THE SERVING UTILITY AND TO PAY ALL CHARGES LEVIED BY THE SERVING UTILITY.

   ALL TELEPHONE WORK SHALL BE IN COMPLIANCE WITH THESE DRAWINGS AND REQUIREMENTS OF THE TELEPHONE COMPANY. ALL ITEMS SHOWN ON THESE DRAWINGS AND THE DRAWINGS OF THE SERVING UTILITY SHALL BE PROVIDED AND/OR INSTALLED BY THIS CONTRACTOR AND SHALL BE VERIFIED WITH THE SERVING UTILITY COMPANY.

3. CATV SERVICE:
   THE ELECTRICAL CONTRACTOR SHALL CONTACT THE SPECTRUM CATV SERVICE PLANNER UPON AWARD OF CONTRACT AND OBTAIN A COPY OF THE SPECTRUM ENGINEERING DRAWINGS PRIOR TO INSTALLING THE SERVICE CONDUIT, DUCTS, RISERS FULL BOXES, PROTECTIVE COVERING, ETC. INDICATED ON THIS PLAN. ALL WORK INDICATED ON THE UTILITY COMPANY ENGINEERING DRAWINGS, WHETHER SHOWN ON THIS PLAN OR NOT, SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL INSTALL THE SERVICE IN COMPLIANCE WITH THE SERVING UTILITY COMPANY REQUIREMENTS AND ALL UTILITY COMPANY WORK SHALL BE INSPECTED AND APPROVED BY THE SERVING UTILITY

   UTILITY COMPANY ENGINEERING AND PERMIT FEES ASSOCIATED WITH THE WORK SHOWN AND INDICATED ON THE UTILITY COMPANY ENGINEERING DRAWINGS SHALL BE PAID BY THE CONTRACTOR AND REIMBURSED BY THE OWNER. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/OWNER OF ANY DISCREPANCIES BETWEEN THE UTILITY COMPANY ENGINEERING DRAWINGS AND THIS PLAN PRIOR TO PROCEEDING WITH THE WORK.

4. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE CITY FIBER SERVICE PLANNER UPON AWARD OF CONTRACT AND OBTAIN A COPY OF THE FIBER DRAWINGS PRIOR TO INSTALLING THE SERVICE CONDUIT, DUCTS, RISERS, PULL BOXES, PROTECTIVE COVERING, ETC. INDICATED ON THIS PLAN. ALL WORK INDICATED ON THE CITY FIBER ENGINEERING DRAWINGS, WHETHER SHOWN ON THIS PLAN OR NOT, SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL INSTALL THE SERVICE IN COMPLIANCE WITH THE CITY FIBER COMPANY REQUIREMENTS AND ALL CITY FIBER WORK SHALL BE INSPECTED AND APPROVED BY THE CITY.

   ENGINEERING AND PERMIT FEES ASSOCIATED WITH THE WORK SHOWN AND INDICATED ON THE CITY FIBER ENGINEERING DRAWINGS SHALL BE PAID BY THE CONTRACTOR AND REIMBURSED BY THE OWNER. CONTRACTOR SHALL NOTIFY THE ARCHITECT/OWNER OF ANY DISCREPANCIES BETWEEN THE UTILITY COMPANY ENGINEERING DRAWINGS AND THIS PLAN PRIOR TO PROCEEDING WITH THE WORK.

5. REFER TO DRAWING E0.2, SINGLE LINE DIAGRAM, FOR POWER CONDUIT SIZE AND WIRE QUANTITIES.

6. CONDUIT AND WIRE INDICATED ON THE SINGLE LINE DIAGRAM, WHETHER SHOWN ON THIS DRAWING OR NOT, SHALL BE A PART OF THIS CONTRACT AND THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE REQUIRED ROUTING TO MEET THE INTENT OF THESE PLANS AND SPECIFICATIONS.

7. CONDUIT ROUTING INDICATED ON THESE PLANS IS DIAGRAMMATIC. ACTUAL ROUTING OF UNDERGROUND CONDUITS SHALL BE COORDINATED IN THE FIELD TO AVOID INTERFERENCE WITH OTHER UTILITIES AND TRADES.

8. IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO MAINTAIN REQUIRED CLEARANCES BETWEEN UNDERGROUND ELECTRICAL CONDUITS AND FOOTINGS. CONDUIT STUB-UPS SHALL NOT BE INSTALLED IN FOOTINGS. EXACT METHOD FOR STUBBING-UP CONDUITS AT FOOTING LOCATIONS SHALL BE COORDINATED IN THE FIELD WITH THE GENERAL CONTRACTOR AND THE ARCHITECT.

9. REFER TO DRAWING E0.1, GENERAL NOTES, FOR ADDITIONAL

10. CONTRACTOR TO ROUTE DEDICATED CONDUITS FOR LINE AND LOW VOLTAGE.

11. CONTRACTOR TO AIM LIGHT FIXTURES AT FIRE STATION LOGO AND CITY OF FONTANA LOGO.

UNDERGROUND PULLBOX SCHEDULE

I.D.	SIZE	TYPE	COVER	COVER I.D.
LI	11" X 17"	CONCRETE	STEEL TRAFFIC COVER	LIGHTING
EVPB-1 THRU EVPB-3	11" X 17"	CONCRETE	STEEL TRAFFIC COVER	VEHICLE CHARGER

SCHEDULE NOTES:

1. 11"x 17" UNDERGROUND PULLBOXES SHALL BE BROOKS # 36PB SERIES, OR APPROVED EQUAL. PROVIDE WITH BOLT-DOWN TRAFFIC COVERS.

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FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
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LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — 9/30 03/31/27 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — RICHARD E. SOTELO — No. E17229 — 6/30/26 — ELECTRICAL — STATE OF CALIFORNIA

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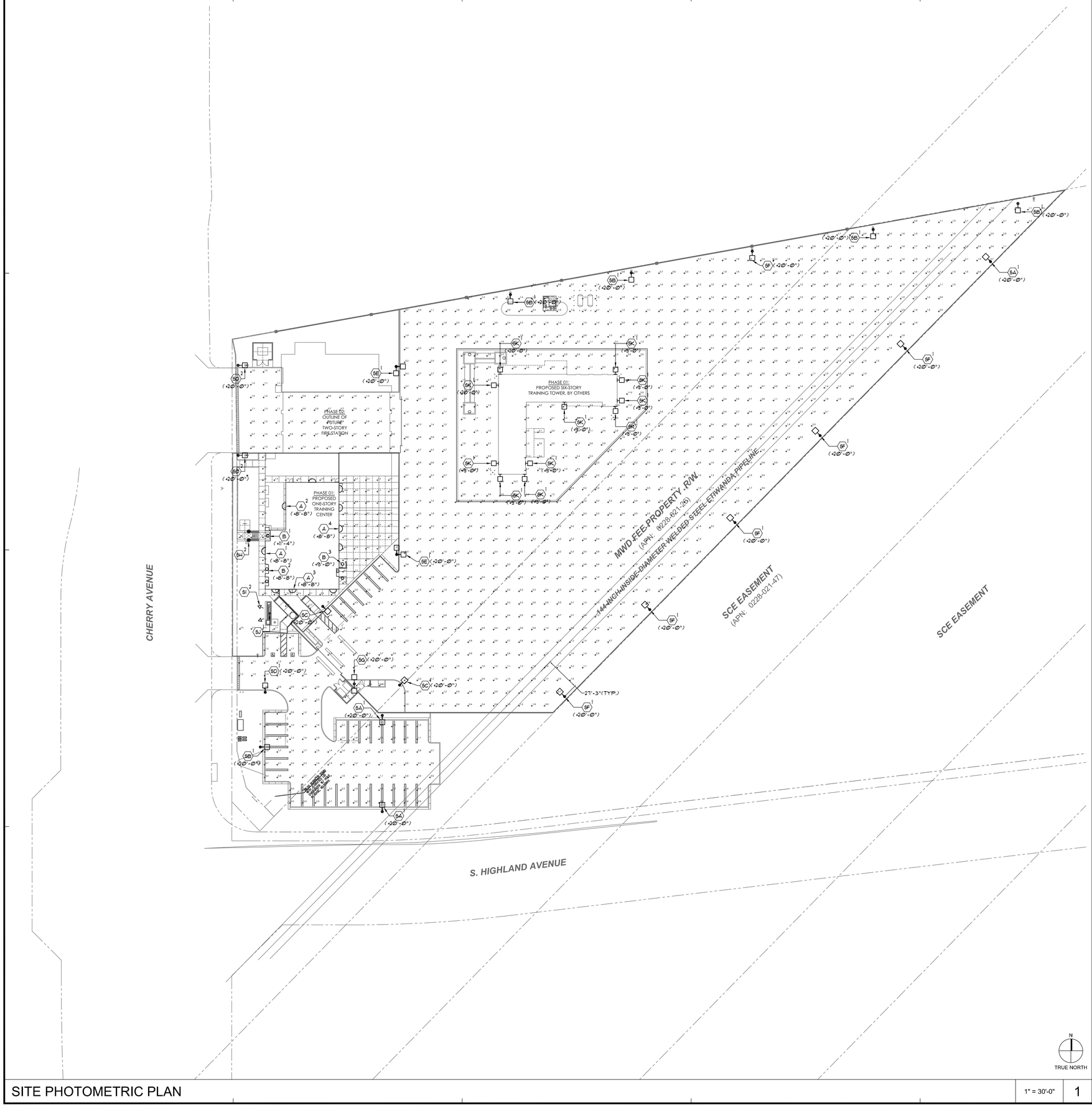
NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
#			REVISIONS

DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

SITE PLAN

DRAWING NUMBER: E1.1

BID SET

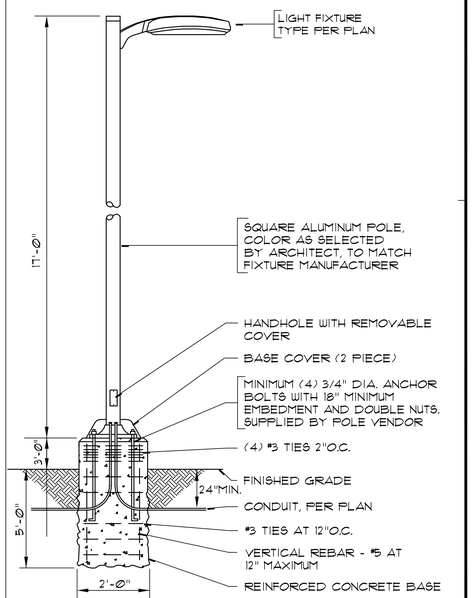


PLAN NOTES:

① THIS LIGHTING PATTERN REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS UTILIZING CURRENT INDUSTRY STANDARD LAMP RATINGS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINARIE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS AND OTHER VARIABLE FIELD CONDITIONS.

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
North Driveway	+	0.9 fc	1.7 fc	0.6 fc	2.8:1	1.5:1
Pedestrian Walkway	+	4.9 fc	13.3 fc	0.6 fc	22.2:1	8.2:1
Training Tower Area	+	3.1 fc	14.9 fc	0.3 fc	49.7:1	10.3:1
Trash Enclosure	+	4.7 fc	5.6 fc	4.0 fc	1.4:1	1.2:1
Visitor Parking	+	1.5 fc	4.3 fc	0.3 fc	14.3:1	5.0:1
Back Lot	+	1.2 fc	6.0 fc	0.2 fc	30.0:1	6.0:1



N
TRUE NORTH

SITE PHOTOMETRIC PLAN | 1" = 30'-0" | 1

POLE FIXTURE DETAIL | SCALE: NONE | 2

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FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
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LICENSED ARCHITECT
KELLEY NEEDHAM
C-19064
RENEWAL 03/31/27
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
RONDO L. SOTELO
No. E17329
RENEWAL 06/30/26
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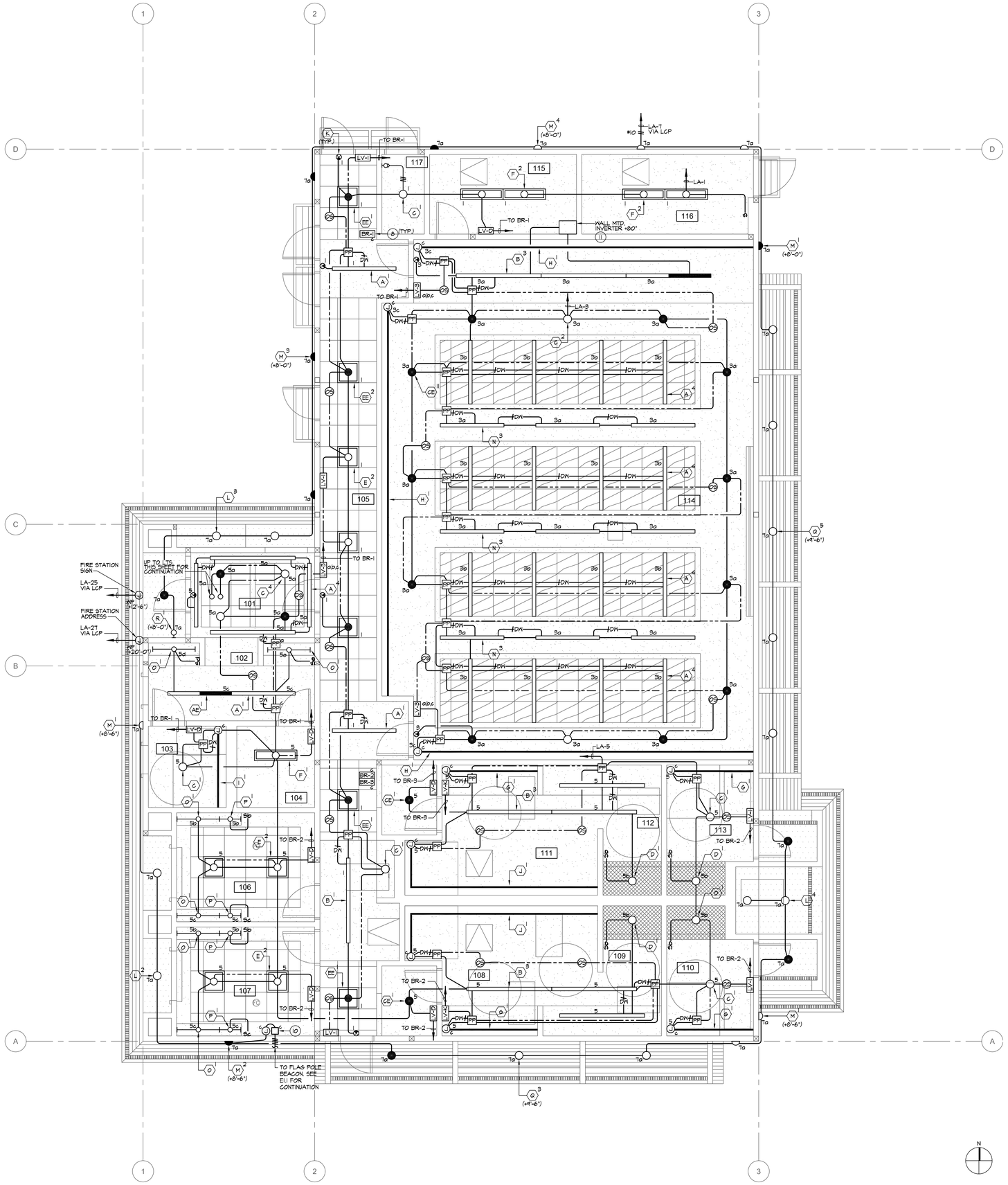
NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN: LS | CHECKED: RES
DATE: 05/11/2025 | SCALE: AS NOTED
PROJECT NUMBER: W2100100AR

SITE PHOTOMETRIC PLAN

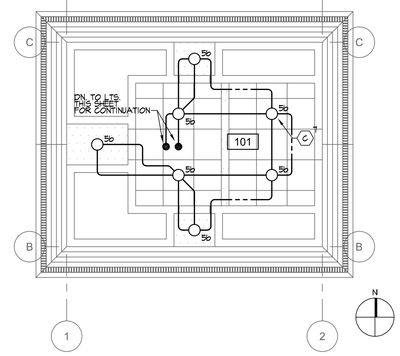
DRAWING NUMBER: E1.1P

BID SET



LIGHTING PLAN

1/4" = 1'-0" | 1



CLERESTORY RCP

1/4" = 1'-0" | 2

ROOM LEGEND

3

ROOM #	ROOM NAME
101	LOBBY
102	VESTIBULE
103	ACCESSIBLE RESTROOM
104	CUSTODIAL/ STORAGE
105	HALLWAY
106	TRAINING OFFICE 1
107	TRAINING OFFICE 2
108	MEN RESTROOM
109	MEN LOCKERS/ SHOWER
110	UNISEX BATHROOM
111	WOMEN RESTROOM
112	WOMEN LOCKERS/ SHOWER
113	UNISEX BATHROOM
114	TRAINING ROOM
115	TRAINING STORAGE
116	ELECTRICAL ROOM
117	FIRE RISER ROOM

PLAN NOTES:

1. REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
2. REFER TO LIGHTING FIXTURE SCHEDULE, DRAWING E0.4, FOR TYPE OF FIXTURE TO BE PROVIDED AND INSTALLED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CEILING MOUNTED FIXTURES AND DEVICES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN.
4. OCCUPANT SENSOR LOCATIONS INDICATED ON PLAN SHALL BE ADJUSTED / MOVED AS REQUIRED TO PROVIDE FULL COVERAGE OF THE AREA INDICATED ON PLAN. PLACEMENT OF SENSORS SHALL CONFORM WITH THE SENSOR MANUFACTURER'S RECOMMENDATION.
5. NO EXPOSED CONDUIT WILL BE ALLOWED.
6. THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 1 FOOT-CANDLE (11 LUX) AT THE WALKING SURFACE LEVEL. IN THE EVENT OF POWER SUPPLY FAILURE, AN EMERGENCY ELECTRICAL SYSTEM SHALL AUTOMATICALLY ILLUMINATE THE FOLLOWING AREAS:
   1. AISLES AND UNENCLOSED EGRESS STAIRWAYS IN ROOMS AND SPACES THAT REQUIRE TWO OR MORE MEANS OF EGRESS.
   2. CORRIDORS, EXIT ENCLOSURES AND EXIT PASSAGEWAYS IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
   3. EXTERIOR EGRESS COMPONENTS AT OTHER THAN THE LEVEL OF EXIT DISCHARGE UNTIL EXIT DISCHARGE IS ACCOMPLISHED FOR BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
   4. INTERIOR EXIT DISCHARGE ELEMENTS, AS PERMITTED IN SECTION 1024.1, IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
   5. EXTERIOR LANDINGS, AS REQUIRED BY SECTION 1008.1.5, FOR EXIT DISCHARGE DOORWAYS IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
   6. THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR DURATION OF NOT LESS THAN 90 MINUTES AND SHALL CONSIST OF STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR. THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE IN ACCORDANCE WITH SECTION 2702.
7. CONTRACTOR TO PROVIDE ENGRAVED LABELING AT EACH RECEPTACLE, DATA OUTLET, JUNCTION BOX, DISCONNECT SWITCH, ECT. DISPLAYING THE IDF OR PANEL (WITH CIRCUIT) FEEDING THE DATA OUTLET, RECEPTACLE, JUNCTION BOX, DISCONNECT SWITCH, ECT.
8. REFER TO WIRING CONTROL DIAGRAM ON SHEET E3.3 FOR WIRING REQUIREMENTS.
9. ALL SENSORS IN HALLWAYS/CORRIDORS SHALL BE PROGRAMMED TO REDUCE BY 50% WHEN NO MOVEMENT IS DETECTED.
10. FLAG POLE BEACON TRANSFORMER IN ACCESSIBLE CEILING SPACE.
11. PROVIDE MINI INVERTER BEGHELLI MODEL "VST-116W/125VA/24VDC-UNV-AT TO PROVIDE 4-HOURS OF EMERGENCY ILLUMINATION AT THE LIFT LANDING. CONNECT LAST 4'-0" SECTION OF FIXTURE TYPE "B" TO THIS MINI INVERTER FOR A COMPLETE AND OPERABLE SYSTEM.
12. ALL CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING AND VENTILATING EQUIPMENT, SHALL LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE JUNCTION OR DEVICE BOX NOR LESS THAN 15 INCHES MEASURED TO THE BOTTOM OF THE JUNCTION OR DEVICE BOX ABOVE THE FINISHED FLOOR.
13. CONTRACTOR TO MEET AND COORDINATE WITH THE TITLE 24 ACCEPTANCE TESTER PRIOR TO THE BEGINNING OF THE PROJECT TO VERIFY ALL TITLE 24 ACCEPTANCE TEST REQUIREMENTS AND DOCUMENTS TO BE COMPLETED. CONTRACTOR SHALL PROVIDE, COMPLETE AND SUBMIT ALL REQUIRED TITLE 24 ACCEPTANCE TEST DOCUMENTS AS REQUIRED BY THE T24 ACCEPTANCE TESTER.
14. CONTRACTOR SHALL PROVIDE 12" X 12" ACCESS PANEL FOR MAINTENANCE OF LIGHTING CONTROL BRIDGES IF NOT ACCESSIBLE.

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LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — RENEWAL 03/31/27 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — ARNOLD E. SOTELO — No. E17229 — 6/30/26 — STATE OF CALIFORNIA

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NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN: LS | CHECKED: RES
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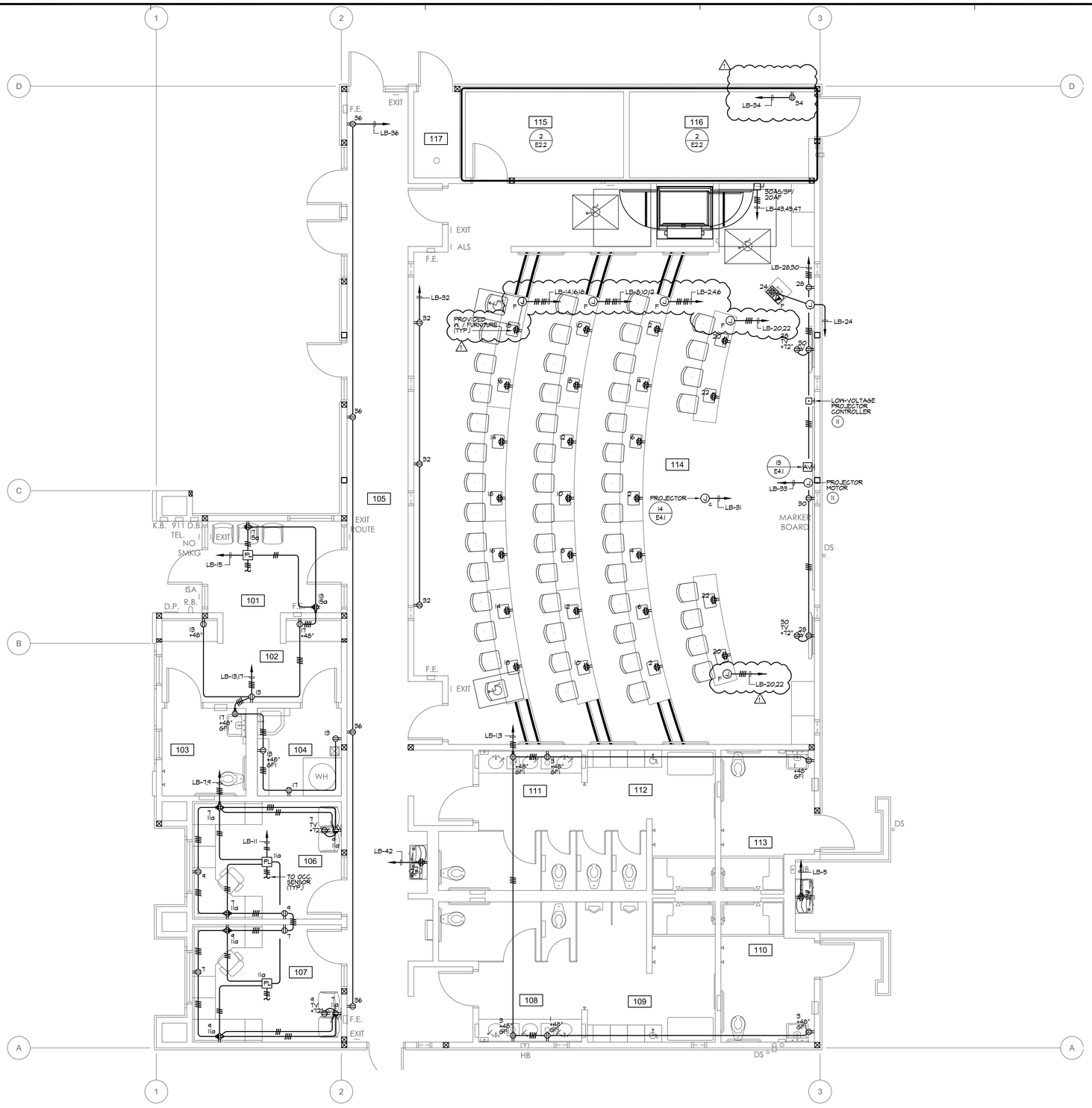
PROJECT NUMBER: W2100100AR

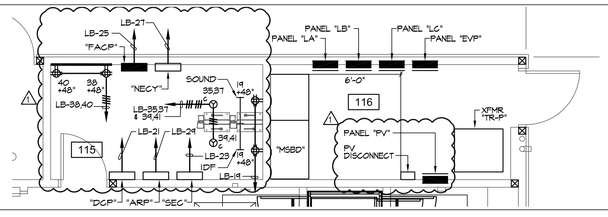
LIGHTING PLAN

DRAWING NUMBER: E2.1

BID SET



POWER PLAN | 1/4" = 1'-0" | 1



ELECTRICAL / STORAGE POWER PLAN | 1/4" = 1'-0" | 2

PLAN NOTES:

1. REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
2. SEE SINGLE LINE DIAGRAM, DRAWING E0.2 FOR CONDUIT SIZE AND WIRE SIZE AND QUANTITIES REQUIRED FOR ALL ELECTRICAL EQUIPMENT.
3. CONDUIT AND WIRE INDICATED ON THE SINGLE LINE DIAGRAM, WHETHER SHOWN ON THIS DRAWING OR NOT, SHALL BE A PART OF THIS CONTRACT AND THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE REQUIRED ROUTING TO MEET THE INTENT OF THESE PLANS AND SPECIFICATIONS.
4. EXACT LOCATION OF OUTLETS SHOWN ON THESE DRAWINGS SHALL BE COORDINATED WITH THE ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN AND SHALL BE LOCATED IN SUCH A MANNER TO AVOID INTERFERENCES WITH OTHER OUTLETS AND CASEWORK.
5. EXTERIOR MOUNTED DEVICES / RECEPTACLES SHALL BE PROVIDED COMPLETE WITH LOCKING TYPE WEATHERPROOF COVERS AND BE U.L. LISTED FOR WET LOCATIONS WHEN IN USE. COVERS SHALL BE AS MANUFACTURED BY RACO OR APPROVED EQUAL. PLASTIC COVERS NOT ALLOWED.
6. NO OUTLET TO BE INSTALLED BEHIND PERMANENTLY INSTALLED CASEWORK. WHERE OUTLETS ARE SPECIFICALLY NOTED TO BE INSTALLED IN CABINETS, THE OUTLETS SHALL BE FLUSH WITH THE INSTALLED SURFACE OF THE CABINET.
7. NO EXPOSED CONDUIT WILL BE ALLOWED.
8. REFER TO ELECTRICAL SPECIFICATIONS FOR EQUIPMENT AND WIRING REQUIREMENTS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CEILING MOUNTED DEVICE LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN.
10. CONTRACTOR TO PROVIDE ENGRAVED LABELING AT EACH RECEPTACLE, DATA OUTLET, JUNCTION BOX, DISCONNECT SWITCH, ECT. DISPLAYING THE IDF OR PANEL (WITH CIRCUIT) FEEDING THE DATA OUTLET, RECEPTACLE, JUNCTION BOX, DISCONNECT SWITCH, ECT.
11. CONTRACTOR SHALL COORDINATE EXACT MOUNTING HEIGHTS WITH THE ARCHITECT PRIOR TO ROUGH-IN AND INSTALLATION. CONTRACTOR TO PROVIDE ALL REQUIRED INSTALLATION WIRES, CABLES, CONNECTORS, ECT. REQUIRED BY THE MANUFACTURER FOR A COMPLETE AND OPERABLE SYSTEM.

ROOM #	ROOM NAME	
101	LOBBY	
102	VESTIBULE	
103	ACCESSIBLE RESTROOM	
104	CUSTODIAL/ STORAGE	
105	HALLWAY	
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107	TRAINING OFFICE 2	
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109	MEN LOCKERS/ SHOWER	
110	UNISEX BATHROOM	
111	WOMEN RESTROOM	
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ROOM LEGEND | 3

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LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — RENEWAL 03/31/27 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — REINHOLD E. SIEBERT — No. E17229 — 6/30/26 — STATE OF CALIFORNIA

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TEL (909) 941-3005 FAX (909) 941-3011

NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1

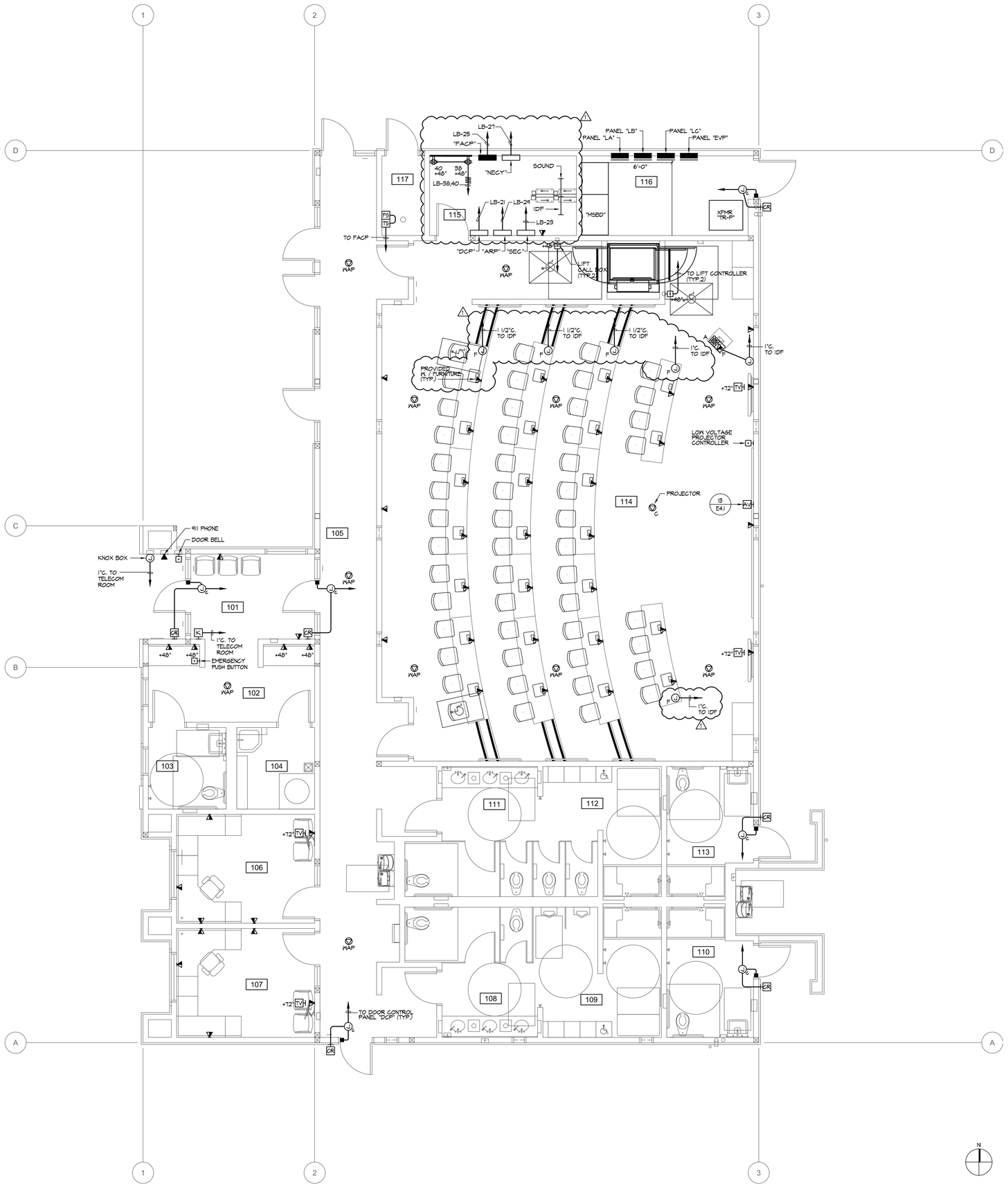
REVISIONS

DRAWN: LS | CHECKED: RES
DATE: 05/11/2025 | SCALE: AS NOTED
PROJECT NUMBER: W2100100AR

POWER PLAN

DRAWING NUMBER: E2.2

BID SET



PLAN NOTES:

1. REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
2. EXACT LOCATION OF OUTLETS SHOWN ON THESE DRAWINGS SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS PRIOR TO PULLING OF CABLES / CONDUCTORS.
3. EXTERIOR MOUNTED DEVICES SHALL BE PROVIDED COMPLETE WITH WEATHERPROOF BACKBOXES AND/OR COVERS. COVERS SHALL BE AS RECOMMENDED BY THE SYSTEM'S MANUFACTURER.
4. KNOX BOX. CONNECT TO FIRE ALARM CONTROL PANEL. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION.
5. WHERE LOW VOLTAGE WIRING IS REQUIRED IN INACCESSIBLE CEILING SPACES, THE CONTRACTOR SHALL PROVIDE A COMPLETE CONDUIT SYSTEM FOR ROUTING OF THE SUBJECT WIRE/CABLE.
6. FIRE ALARM DEVICES SHOWN ON PLAN ARE FOR REFERENCE ONLY. CONTRACTOR TO PROVIDE PATHWAYS FOR FIRE ALARM DEVICES SHOWN ON PLAN. FIRE ALARM SYSTEM IS A DEFERRED APPROVAL A COMPLETE FIRE ALARM SYSTEM DESIGN SHALL BE SUBMITTED AND REVIEWED BY THE LIFE SAFETY SERVICES, FIRE PREVENTION DEPARTMENT.
7. NO OUTLET TO BE INSTALLED BEHIND PERMANENTLY INSTALLED CASEWORK. WHERE OUTLETS ARE SPECIFICALLY NOTED TO BE INSTALLED IN CABINETS, THE OUTLETS SHALL BE FLUSH WITH THE INSTALLED SURFACE OF THE CABINET.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CEILING MOUNTED DEVICE LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN.
9. ALL LOW VOLTAGE WIRING/CABLING TO ALL DEVICES SHALL BE INSTALLED AT TIME OF CONSTRUCTION.
10. NO EXPOSED CONDUIT WILL BE ALLOWED.
11. CONTRACTOR TO PROVIDE ENGRAVED LABELING AT EACH RECEPTACLE, DATA OUTLET, JUNCTION BOX, DISCONNECT SWITCH, ECT. DISPLAYING THE IDF OR PANEL (WITH CIRCUIT) FEEDING THE DATA OUTLET, RECEPTACLE, JUNCTION BOX, DISCONNECT SWITCH, ECT.

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SIGNAL PLAN | 1/4" = 1'-0" | 1

ROOM LEGEND | 3

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REGISTERED PROFESSIONAL ENGINEER
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1	12/4/2025		DELTA 1
#	REVISIONS		

DRAWN: LS | CHECKED: RES
DATE: 05/11/2025 | SCALE: AS NOTED
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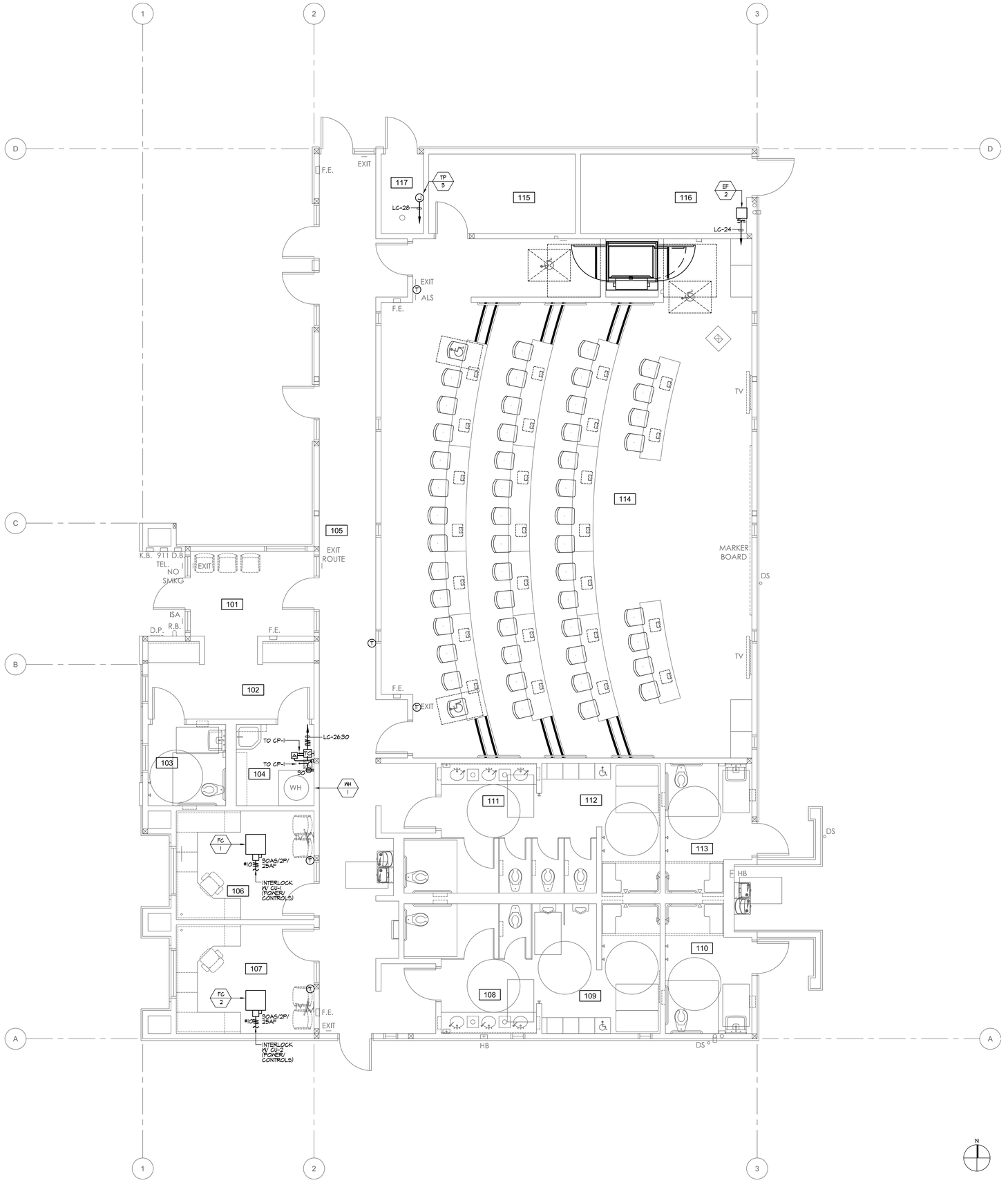
SIGNAL PLAN

DRAWING NUMBER: E2.3

BID SET



PLAN NOTES:

1. REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
2. SEE SINGLE LINE DIAGRAM, DRAWING E0.2 FOR CONDUIT SIZE AND WIRE SIZE AND QUANTITIES REQUIRED FOR ALL ELECTRICAL EQUIPMENT.
3. CONDUIT AND WIRE INDICATED ON THE SINGLE LINE DIAGRAM, WHETHER SHOWN ON THIS DRAWING OR NOT, SHALL BE A PART OF THIS CONTRACT AND THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE REQUIRED ROUTING TO MEET THE INTENT OF THESE PLANS AND SPECIFICATIONS.
4. THE CONTRACTOR SHALL REFER TO THE MECHANICAL AND PLUMBING DRAWINGS FOR EXACT EQUIPMENT LOCATIONS AND ELECTRICAL CONNECTIONS REQUIREMENTS. CONTRACTOR SHALL PROVIDE ALL POWER AND CONTROL CONNECTIONS AS INDICATED ON THE MECHANICAL AND PLUMBING DRAWINGS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CEILING MOUNTED DEVICE LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN.
6. NO EXPOSED CONDUIT WILL BE ALLOWED.
7. REFER TO ELECTRICAL SPECIFICATIONS FOR EQUIPMENT AND WIRING REQUIREMENTS.
8. EXTERIOR MOUNTED DEVICES SHALL BE PROVIDED COMPLETE WITH WEATHERPROOF COVERS UL LISTED FOR WET LOCATIONS WHEN IN USE. PLASTIC COVERS NOT ALLOWED.
9. CONTRACTOR TO PROVIDE ENGRAVED LABELING AT EACH RECEPTACLE, DATA OUTLET, JUNCTION BOX, DISCONNECT SWITCH, ECT, DISPLAYING THE IDF OR PANEL (WITH CIRCUIT) FEEDING THE DATA OUTLET, RECEPTACLE, JUNCTION BOX, DISCONNECT SWITCH, ECT.
10. WHERE LOW VOLTAGE WIRING IS REQUIRED IN INACCESSIBLE CEILING SPACES, THE CONTRACTOR SHALL PROVIDE A COMPLETE CONDUIT SYSTEM FOR ROUTING OF THE SUBJECT WIRE / CABLE.

ROOM #	ROOM NAME
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NO	DATE	BY	DESCRIPTION
1			REVISIONS

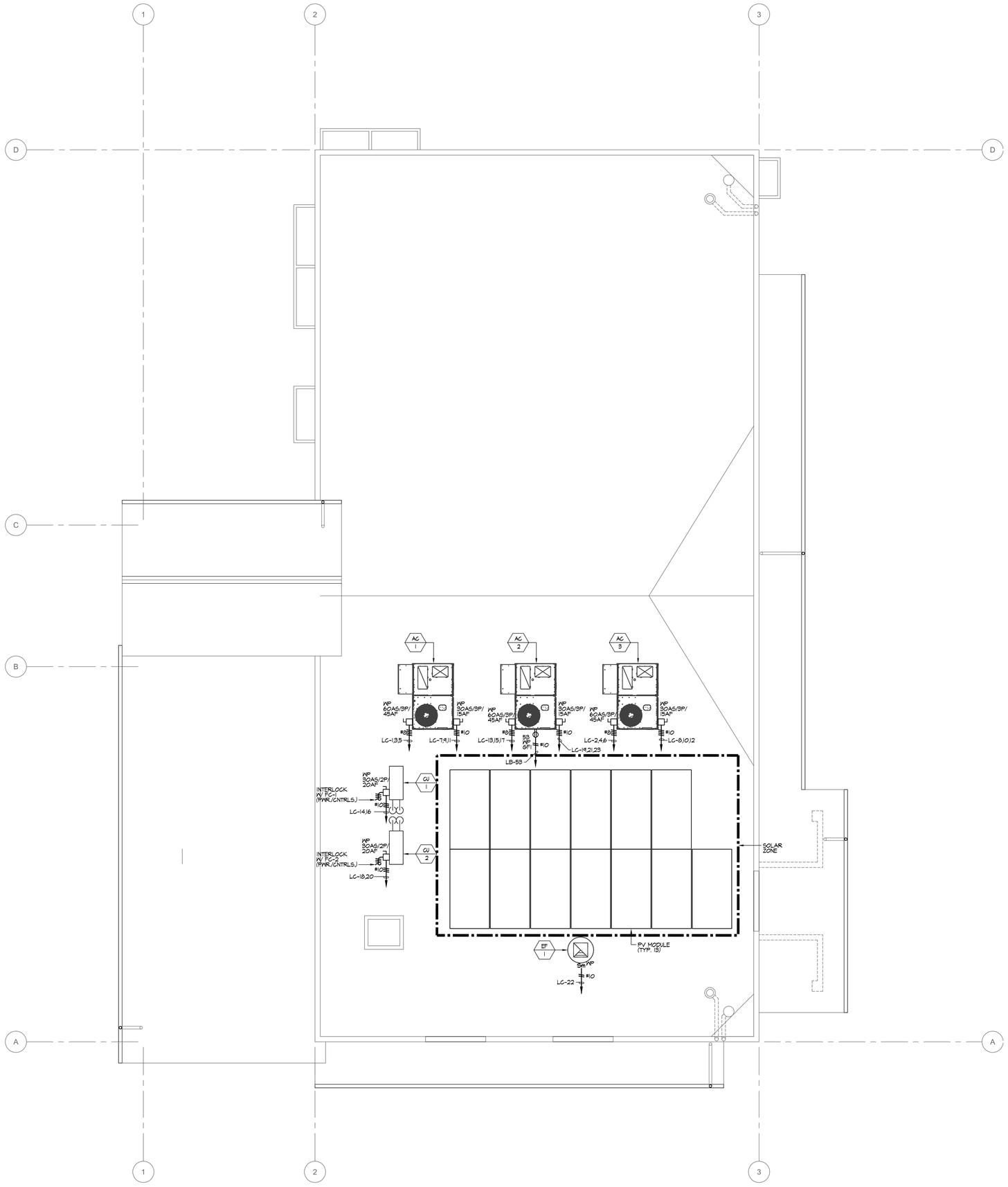
DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

MECHANICAL POWER PLAN

DRAWING NUMBER: E2.4

BID SET

MECHANICAL POWER PLAN | 1/4" = 1'-0" | 1 | ROOM LEGEND | 3



PLAN NOTES:

1. REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
2. SEE SINGLE LINE DIAGRAM, DRAWING E0.2 FOR CONDUIT SIZE AND WIRE SIZE AND QUANTITIES REQUIRED FOR ALL ELECTRICAL EQUIPMENT.
3. CONDUIT AND WIRE INDICATED ON THE SINGLE LINE DIAGRAM, WHETHER SHOWN ON THIS DRAWING OR NOT, SHALL BE A PART OF THIS CONTRACT AND THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE REQUIRED ROUTING TO MEET THE INTENT OF THESE PLANS AND SPECIFICATIONS.
4. EXTERIOR MOUNTED DEVICES / RECEPTACLES SHALL BE PROVIDED COMPLETE WITH LOCKING TYPE WEATHERPROOF COVERS AND BE U.L. LISTED FOR WET LOCATIONS WHEN IN USE. COVERS SHALL BE AS MANUFACTURED BY RACO OR APPROVED EQUAL. PLASTIC COVERS NOT ALLOWED.
5. REFER TO ELECTRICAL SPECIFICATIONS FOR EQUIPMENT AND WIRING REQUIREMENTS.
6. REFER TO THE MECHANICAL AND PLUMBING DRAWINGS FOR EXACT EQUIPMENT LOCATIONS AND ELECTRICAL CONNECTION REQUIREMENTS.

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

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REGISTERED PROFESSIONAL ENGINEER — RICARDO E. SOTELO No. E17229 6/30/26 — ELECTRICAL — STATE OF CALIFORNIA

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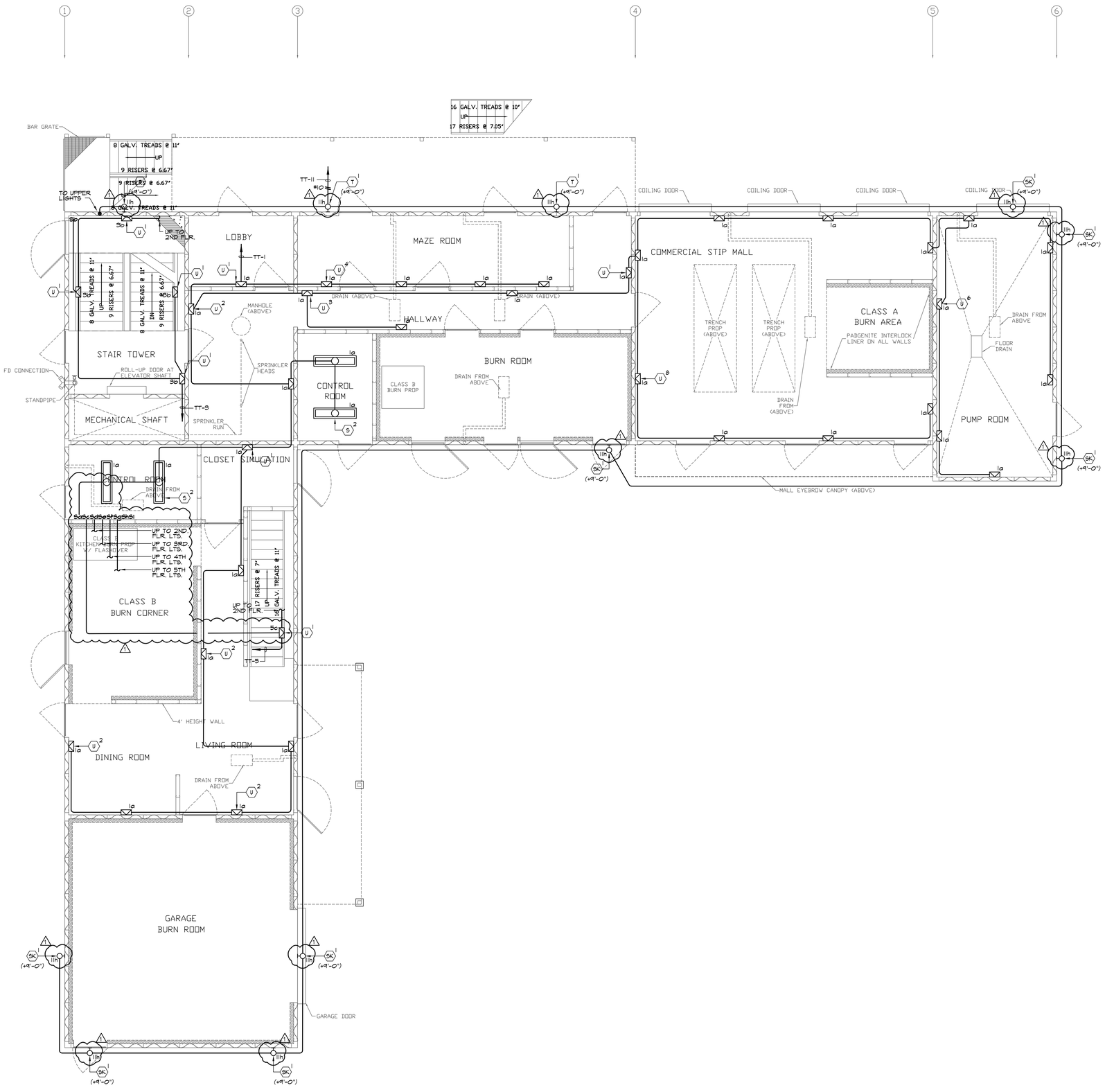
ROOF PLAN

DRAWING NUMBER: E2.5

BID SET



PLAN NOTES:

1. REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
2. USE PVC SCHEDULE 40 OR 80 CONDUIT AND NON-METALLIC FITTINGS, AND BOXES FOR ALL RACEWAYS INSTALLED IN THIS BUILDING. USE STAINLESS STEEL HARDWARE (SCREWS, BRACKETS, ETC.) FOR MOUNTING OF EQUIPMENT/FIXTURES.
3. REFER TO LIGHTING FIXTURE SCHEDULE, DRAWING E0.3, FOR TYPE OF FIXTURE TO BE PROVIDED AND INSTALLED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CEILING MOUNTED FIXTURES AND DEVICES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN.

NO EXPOSED CONDUIT WILL BE ALLOWED.

FIRST FLOOR TOWER LIGHTING PLAN | 1/4" = 1'-0" | 1

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — re-3d: 03/31/27 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — RICARDO E. SOTELO — No. E17329 — 6/30/26 — STATE OF CALIFORNIA

CONSULTANT
A&F ENGINEERING GROUP, INC.
9320 BASELINE RD., SUITE C, RANCHO CUCAMONGA, CA 91701
TEL: (909) 941-3008 FAX: (909) 941-8211

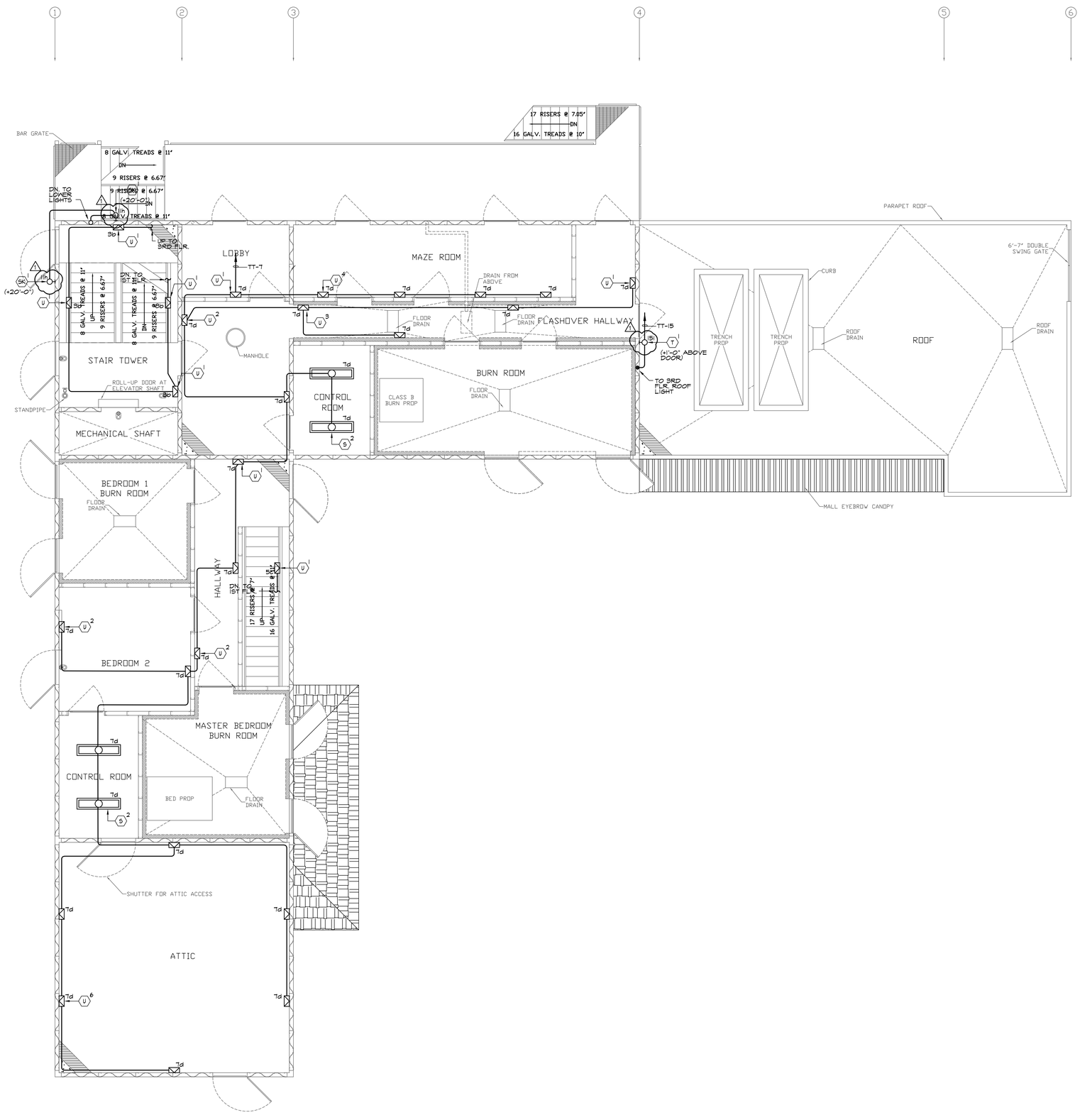
NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
P.F.	REVISIONS		

DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

TRAINING TOWER LIGHTING PLANS

DRAWING NUMBER: E3.1

BID SET



SECOND FLOOR TOWER LIGHTING PLAN | 1/4" = 1'-0" | 1

PLAN NOTES:

1. REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
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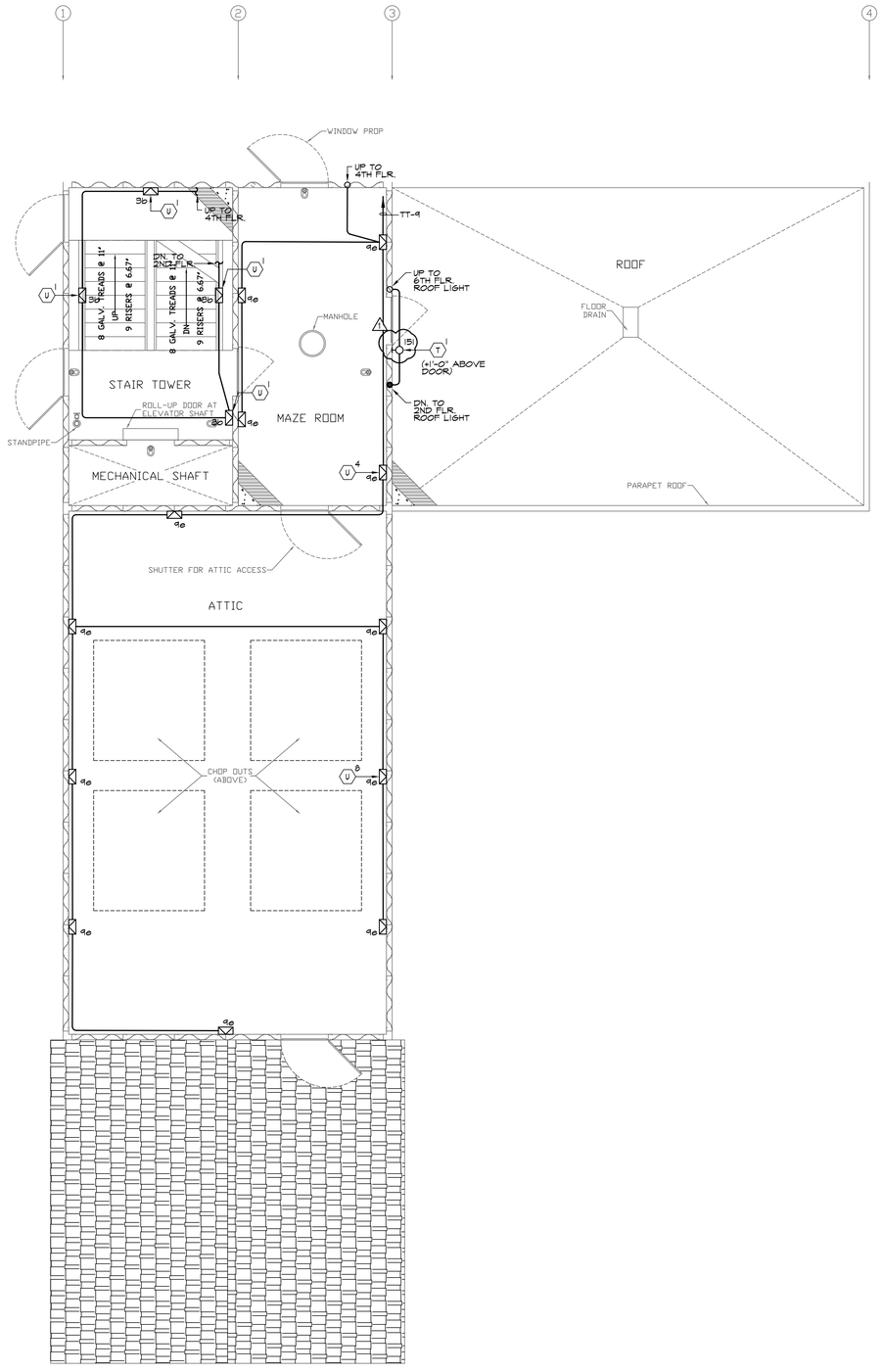
1	12/4/2025		DELTA 1
P1			REVISIONS

DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

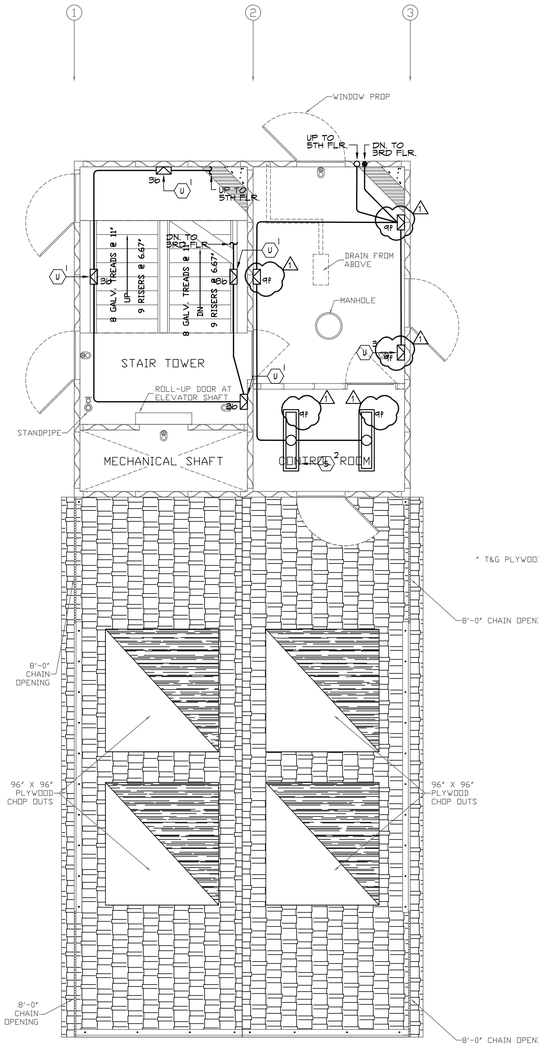
TRAINING TOWER LIGHTING PLAN

DRAWING NUMBER: E3.2

BID SET



THIRD FLOOR TOWER LIGHTING PLAN | 1/4" = 1'-0" | 1



FOURTH FLOOR TOWER LIGHTING PLAN | 1/4" = 1'-0" | 2

PLAN NOTES:

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NO EXPOSED CONDUIT WILL BE ALLOWED.

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No. E17229
6/30/26
ELECTRICAL
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NO	DATE	BY	DESCRIPTION
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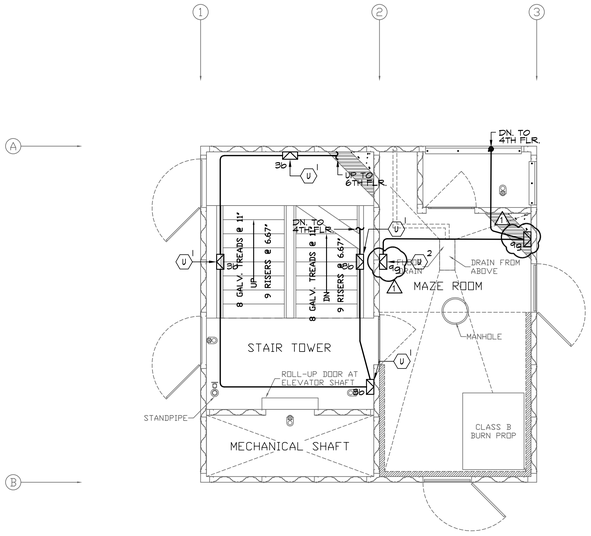
#	REVISIONS		

DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

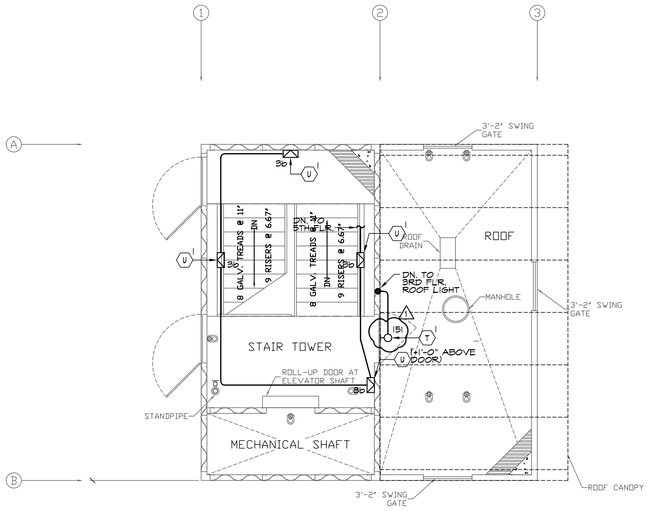
TRAINING TOWER LIGHTING PLANS

DRAWING NUMBER: E3.3

BID SET



FIFTH FLOOR TOWER LIGHTING PLAN | 1/4" = 1'-0" | 1



SIXTH FLOOR TOWER LIGHTING PLAN | 1/4" = 1'-0" | 2

PLAN NOTES:

1. REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
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3. REFER TO LIGHTING FIXTURE SCHEDULE, DRAWING E0.3, FOR TYPE OF FIXTURE TO BE PROVIDED AND INSTALLED.
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LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — Exp. 03/31/27 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — BRANDO E. SOTELO — No. E17229 — 6/30/26 — STATE OF CALIFORNIA

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TEL. (909) 941-3008 FAX (909) 941-8211

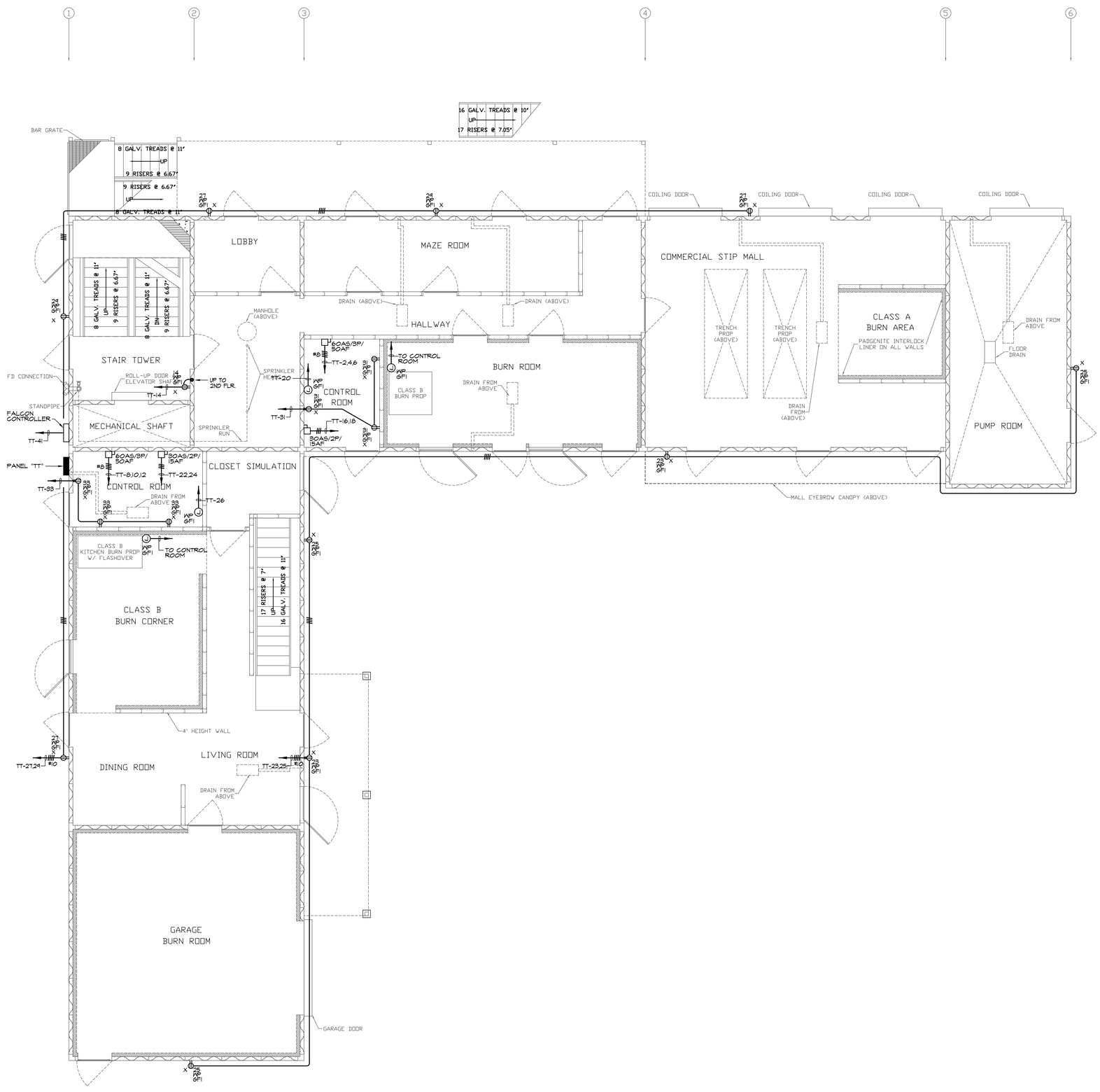
NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
	REVISIONS		

DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

TRAINING TOWER LIGHTING PLANS

DRAWING NUMBER: E3.4

BID SET



FIRST FLOOR TOWER POWER PLAN

1/4" = 1'-0"

1

PLAN NOTES:

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2. USE PVC SCHEDULE 40 OR 80 CONDUIT AND NON-METALLIC FITTINGS, AND BOXES FOR ALL RACEWAYS INSTALLED IN THIS BUILDING. USE STAINLESS STEEL HARDWARE (SCREWS, BRACKETS, ETC.) FOR MOUNTING OF EQUIPMENT/FIXTURES.
3. EXACT LOCATION OF OUTLETS SHOWN ON THESE DRAWINGS SHALL BE COORDINATED WITH THE ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN AND SHALL BE LOCATED IN SUCH A MANNER TO AVOID INTERFERENCES WITH OTHER OUTLETS AND CASEWORK.
4. SEE SINGLE LINE DIAGRAM, DRAWING E0.2 FOR CONDUIT SIZE AND WIRE SIZE AND QUANTITIES REQUIRED FOR ALL ELECTRICAL EQUIPMENT.
5. CONDUIT AND WIRE INDICATED ON THE SINGLE LINE DIAGRAM, WHETHER SHOWN ON THIS DRAWING OR NOT, SHALL BE A PART OF THIS CONTRACT AND THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE REQUIRED ROUTING TO MEET THE INTENT OF THESE PLANS AND SPECIFICATIONS.
6. EXTERIOR MOUNTED RECEPTACLES SHALL BE PROVIDED COMPLETE WITH LOCKING TYPE WEATHERPROOF COVERS. COVERS SHALL BE AS MANUFACTURED BY RACO OR APPROVED EQUAL.

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STATE OF CALIFORNIA

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BRANDO E. SOTELO
No. E17229
6/30/26
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9320 BASELINE RD., SUITE C, RANCHO CUCAMONGA, CA 91701
TEL: (909) 941-3008 FAX: (909) 941-8211

NO	DATE	BY	DESCRIPTION
1			REVISIONS

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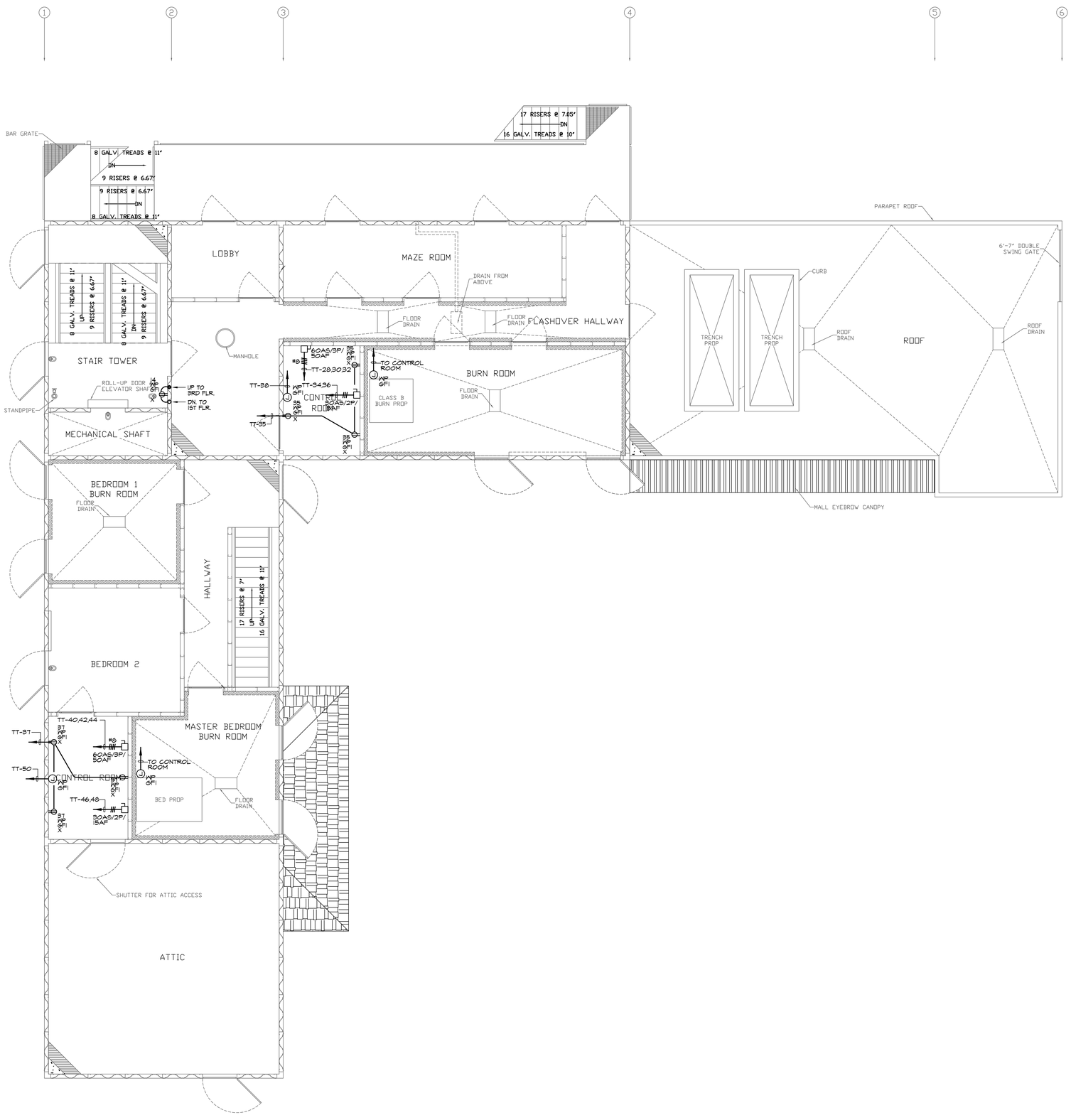
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

TRAINING TOWER POWER PLAN

DRAWING NUMBER: E3.5

BID SET



PLAN NOTES:

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SECOND FLOOR TOWER POWER PLAN | 1/4" = 1'-0" | 1

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LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — re-lic 03/31/27 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — RICARDO E. SOTELO — No. E17329 — 6/30/26 — STATE OF CALIFORNIA

CONSULTANT
A&F ENGINEERING GROUP, INC.
9320 BASELINE RD., SUITE C, RANCHO CUCAMONGA, CA 91701
TEL: (909) 941-3006 FAX: (909) 941-8211

NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN: LS	CHECKED: RES
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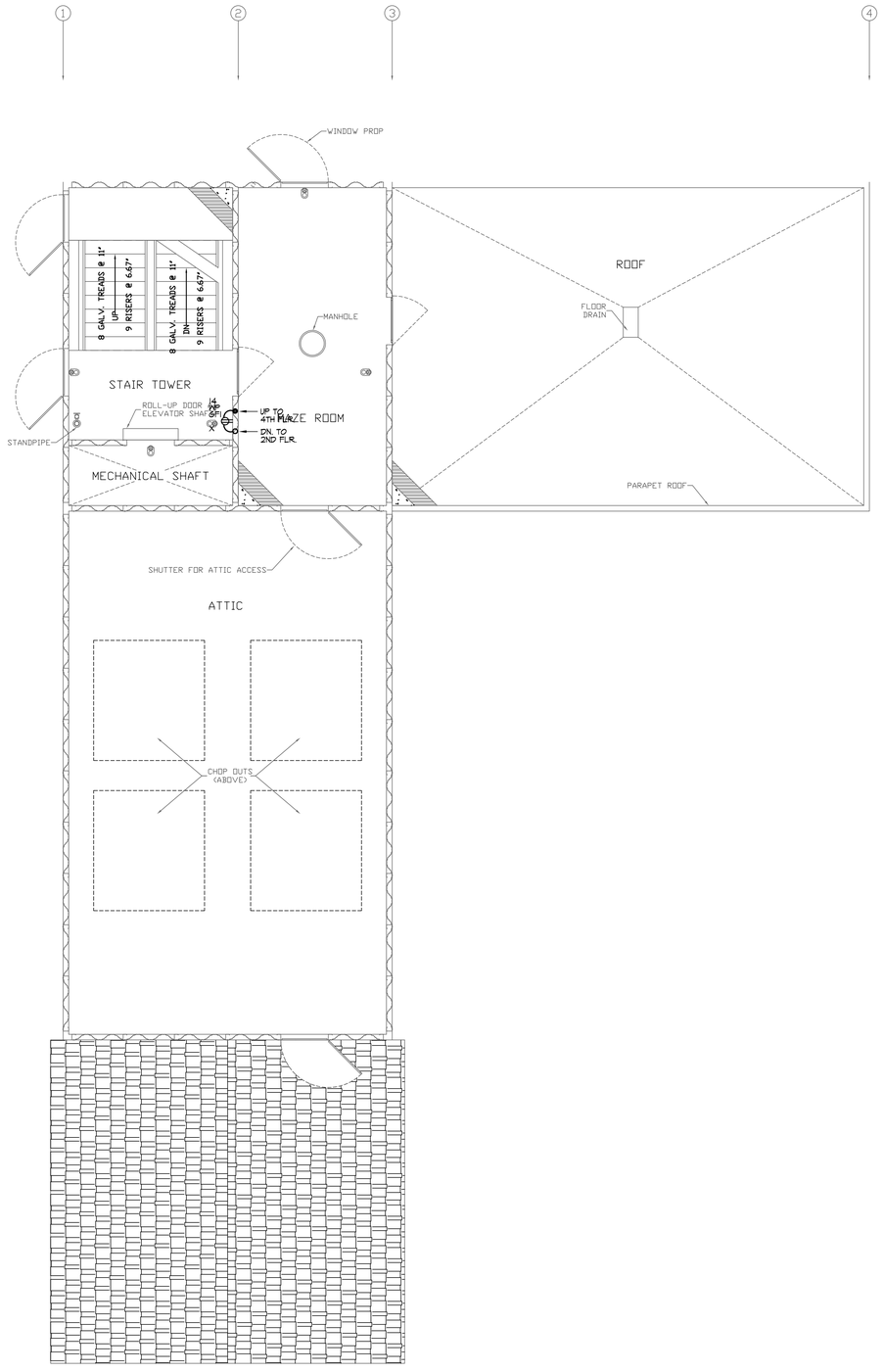
PROJECT NUMBER: W2100100AR	

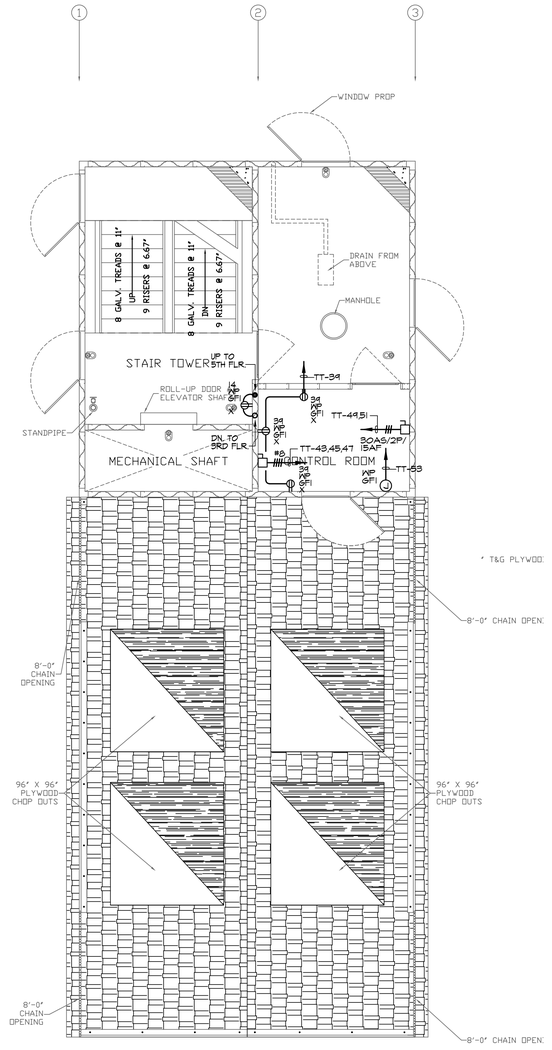
TRAINING TOWER POWER PLAN

DRAWING NUMBER: E3.6

BID SET



THIRD FLOOR TOWER POWER PLAN | 1/4" = 1'-0" | 1



FOURTH FLOOR TOWER POWER PLAN | 1/4" = 1'-0" | 2

PLAN NOTES:

1. REFER TO GENERAL NOTES, DRAWING E01, FOR ADDITIONAL REQUIREMENTS.
2. USE PVC SCHEDULE 40 OR 80 CONDUIT AND NON-METALLIC FITTINGS, AND BOXES FOR ALL RACEWAYS INSTALLED IN THIS BUILDING. USE STAINLESS STEEL HARDWARE (SCREWS, BRACKETS, ETC.) FOR MOUNTING OF EQUIPMENT/FIXTURES.
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4. SEE SINGLE LINE DIAGRAM, DRAWING E02 FOR CONDUIT SIZE AND WIRE SIZE AND QUANTITIES REQUIRED FOR ALL ELECTRICAL EQUIPMENT.
5. CONDUIT AND WIRE INDICATED ON THE SINGLE LINE DIAGRAM, WHETHER SHOWN ON THIS DRAWING OR NOT, SHALL BE A PART OF THIS CONTRACT AND THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE REQUIRED ROUTING TO MEET THE INTENT OF THESE PLANS AND SPECIFICATIONS.
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NO	DATE	BY	DESCRIPTION
4			REVISIONS

DRAWN: LS	CHECKED: RES
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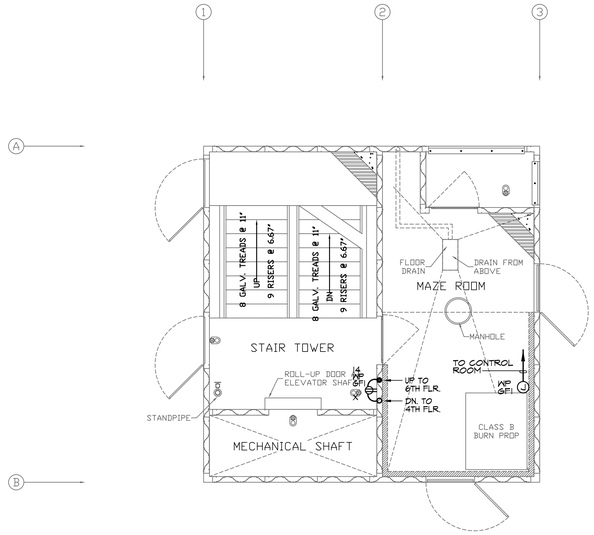
PROJECT NUMBER: W2100100AR	

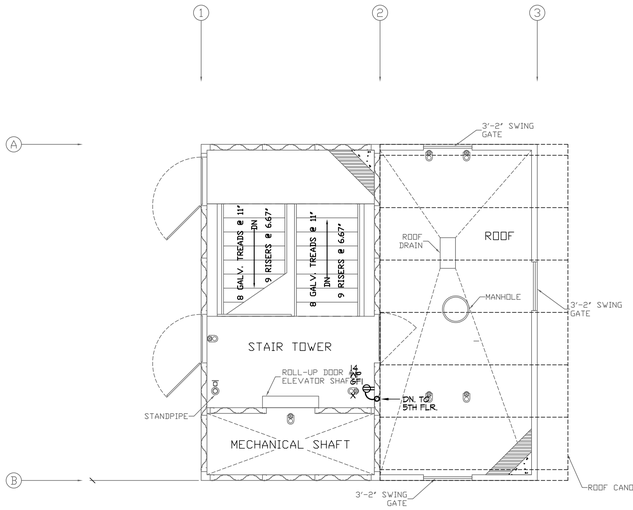
TRAINING TOWER POWER PLANS

DRAWING NUMBER: E3.7

BID SET



FIFTH FLOOR TOWER POWER PLAN | 1/4" = 1'-0" | 1



SIXTH FLOOR TOWER POWER PLAN | 1/4" = 1'-0" | 2

PLAN NOTES:

1. REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
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1			REVISIONS

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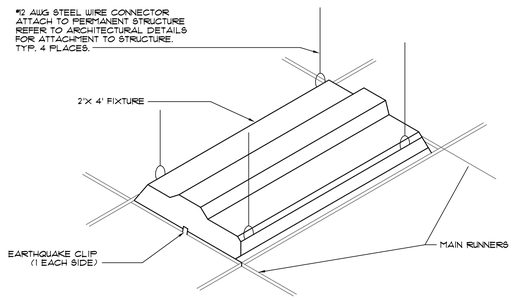
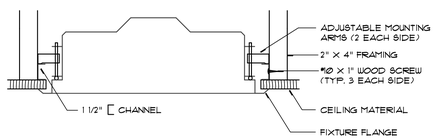
TRAINING TOWER POWER PLANS

DRAWING NUMBER: E3.8

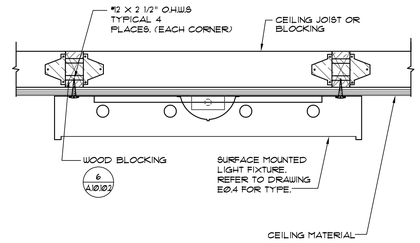
BID SET



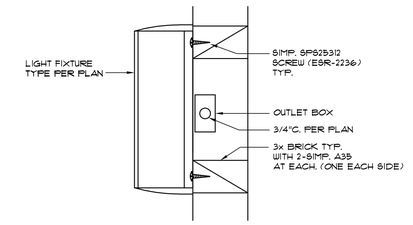
LIGHT FIXTURE - T-BAR MOUNTED | SCALE: NONE | 1



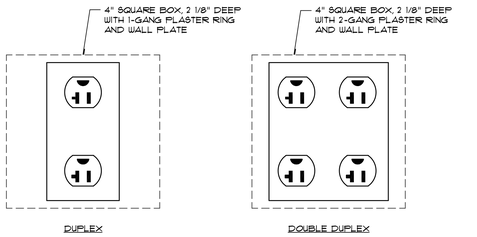
LIGHT FIXTURE - GYP BOARD CEILING | SCALE: NONE | 2



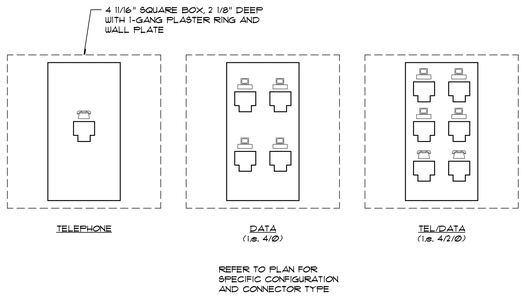
SURFACE MOUNTED FIXTURE | SCALE: NONE | 3



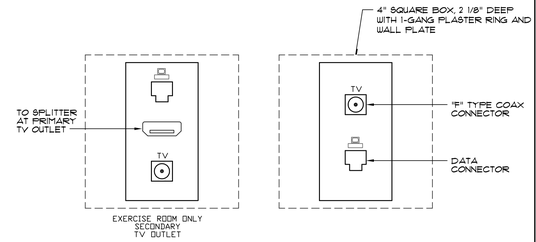
EXTERIOR FIXTURE - WALL MOUNTED | SCALE: NONE | 4



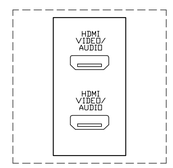
RECEPTACLE - FLUSH MOUNTED | SCALE: NONE | 5



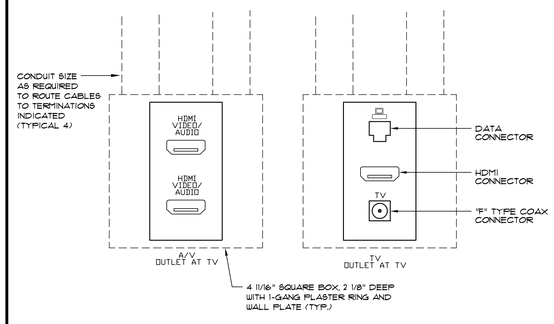
TEL./DATA OUTLET - FLUSH MOUNTED | SCALE: NONE | 6



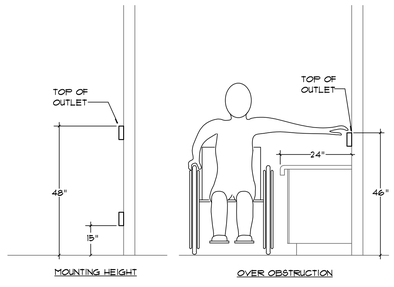
TV OUTLET - FLUSH MOUNTED | SCALE: NONE | 7



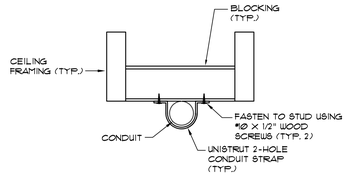
AUDIO-VIDEO (A/V) OUTLET | SCALE: NONE | 8



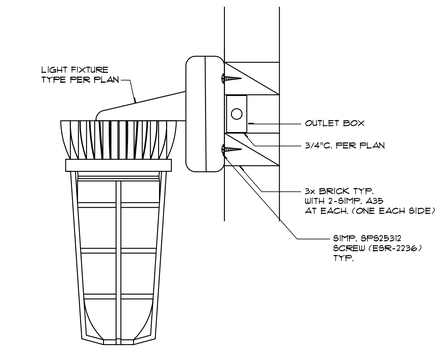
TRAINING A/V - TV OUTLET | SCALE: NONE | 9



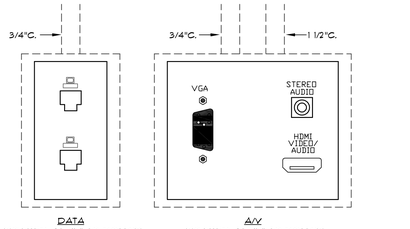
DEVICE MOUNTING HEIGHTS | SCALE: NONE | 10



CONDUIT SUPPORT DETAIL | SCALE: NONE | 11

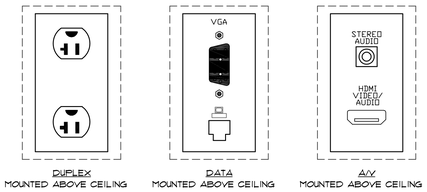


RED GLOBE FIXTURE MOUNTING | SCALE: NONE | 12



NOTES:
1. PROVIDE AND TERMINATE HDMI AND AUDIO CABLES AT AUDIO-VISUAL STATION AND CEILING PROJECTOR.

TRAINING ROOM A/V OUTLET - FLUSH | SCALE: NONE | 13



NOTES:
1. PROVIDE AND TERMINATE HDMI AND AUDIO CABLES AT AUDIO-VISUAL STATION AND CEILING PROJECTOR.

PROJECTOR - CEILING | SCALE: NONE | 14

NOT USED | SCALE: NONE | 15

NOT USED | SCALE: NONE | 16

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FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT
KELLEY NEEDHAM
C-19064
Exp. 03/31/27
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
RICHARD E. SUTTER
No. E17229
6/30/26
STATE OF CALIFORNIA

CONSULTANT
A&F ENGINEERING GROUP, INC.
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TEL (909) 941-3008 FAX (909) 941-3011

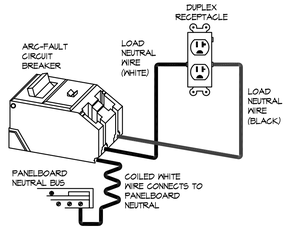
NO	DATE	BY	DESCRIPTION
1			REVISIONS

DRAWN: LS | CHECKED: RES
DATE: 05/11/2025 | SCALE: AS NOTED
PROJECT NUMBER: W2100100AR

ELECTRICAL DETAILS

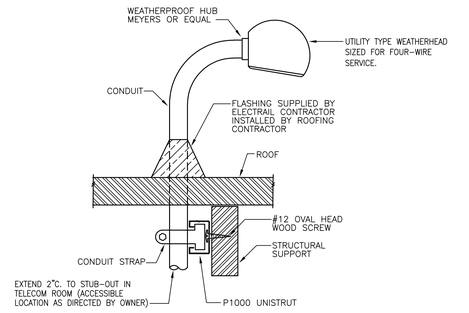
DRAWING NUMBER: E4.1

60 SET

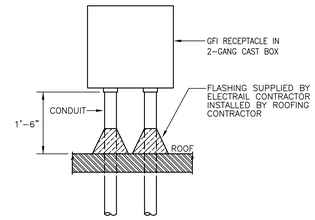


NOTE: ALL RECEPTACLES AND LIGHT FIXTURES INSTALLED IN RESIDENTIAL OCCUPANCY ROOMS SHALL BE PROTECTED BY AN AFCI CIRCUIT BREAKER. REFER TO SHEET A0.4, CODE ANLYSIS, FOR RESIDENTIAL OCCUPANCY BOUNDARY.

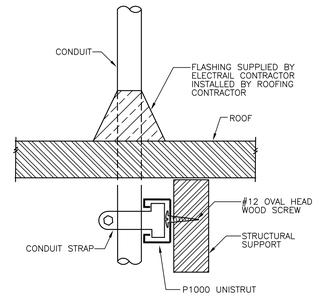
ARC-FAULT CIRCUIT BREAKER WIRING | SCALE: NONE | 1



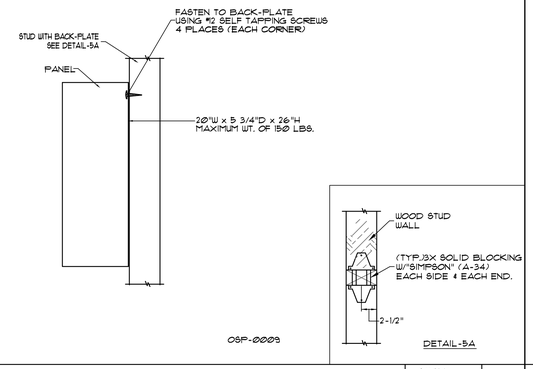
ANTENNA PROVISIONS | SCALE: NONE | 2



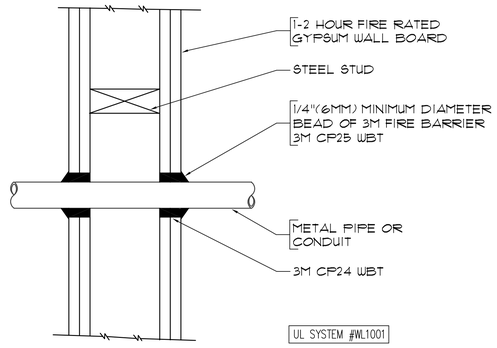
ROOF MOUNTED RECEPTACLE | SCALE: NONE | 3



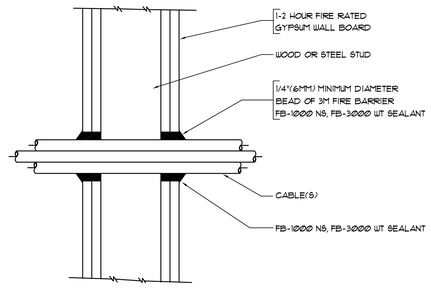
CONDUIT ROOF PENETRATION | SCALE: NONE | 4



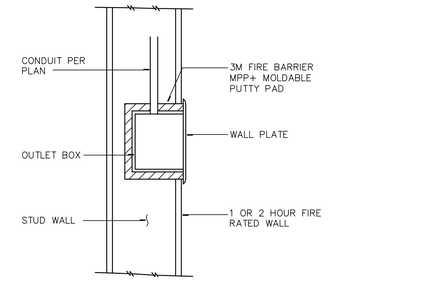
PANEL/CABINET - WALL MOUNTED | SCALE: NONE | 5



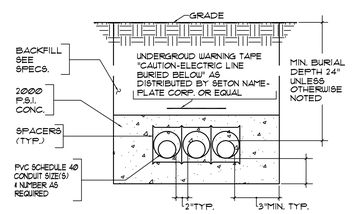
CONDUIT WALL PENETRATION | SCALE: NONE | 6



CABLE - WALL PENETRATION | SCALE: NONE | 7

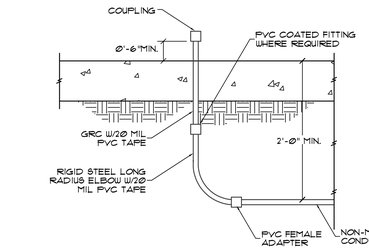


OUTLET IN RATED WALL | SCALE: NONE | 8

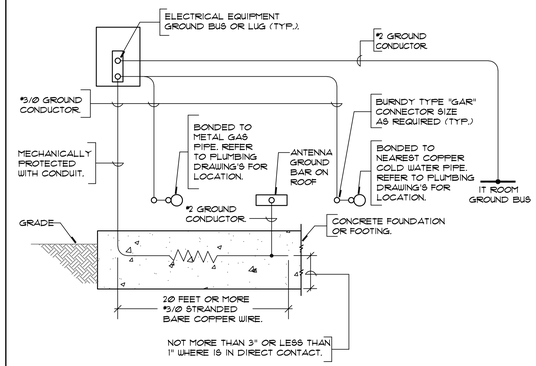


NOTES:
1. SLOPE RUNS A MIN. OF 4" IN 100 FT. BETWEEN MANHOLES OR MANHOLE AND VAULT OR CABLE RISERS.
2. RUN SHALL BE STRAIGHT WITHOUT ANY HIGH OR LOW POINTS BETWEEN ENDS. THE HIGHER END SHALL BE AT A VENTILATED MANHOLE,VAULT, OR CABLE RISER.

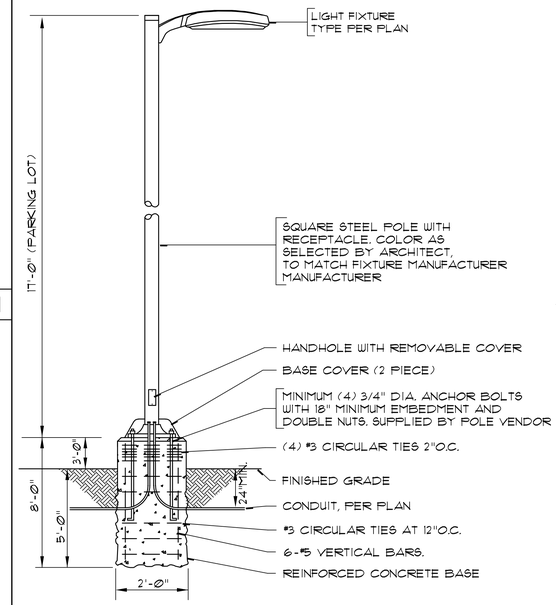
UNDERGROUND DUCT-BANK | SCALE: NONE | 9



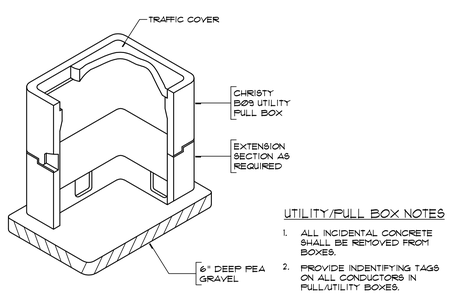
CONDUIT STUB-UP DETAIL | SCALE: NONE | 10



SYSTEM GROUNDING | SCALE: NONE | 11

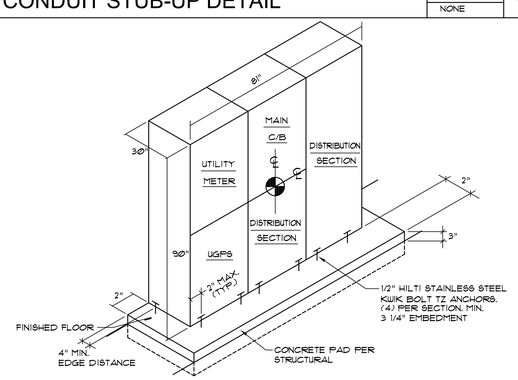


PARKING LOT FIXTURE DETAIL | SCALE: NONE | 15



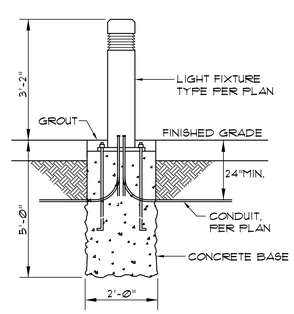
UTILITY/PULL BOX NOTES
1. ALL INCIDENTAL CONCRETE SHALL BE REMOVED FROM BOXES.
2. PROVIDE INDENTIFYING TAGS ON ALL CONDUCTORS IN PULL/UTILITY BOXES.

UNDERGROUND PULL BOX | SCALE: NONE | 12



SWITCHBOARD TOTAL WEIGHT = 2,700 LBS.

SERVICE SWBD - FLOOR MOUNTED | SCALE: NONE | 13



BOLLARD LIGHT FIXTURE | SCALE: NONE | 14

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FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — 03/31/27 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — BRADD E. STOTES — No. E17229 — 6/30/26 — STATE OF CALIFORNIA

CONSULTANT
A&F ENGINEERING GROUP, INC.
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TEL: (909) 941-3008 FAX: (909) 941-8211

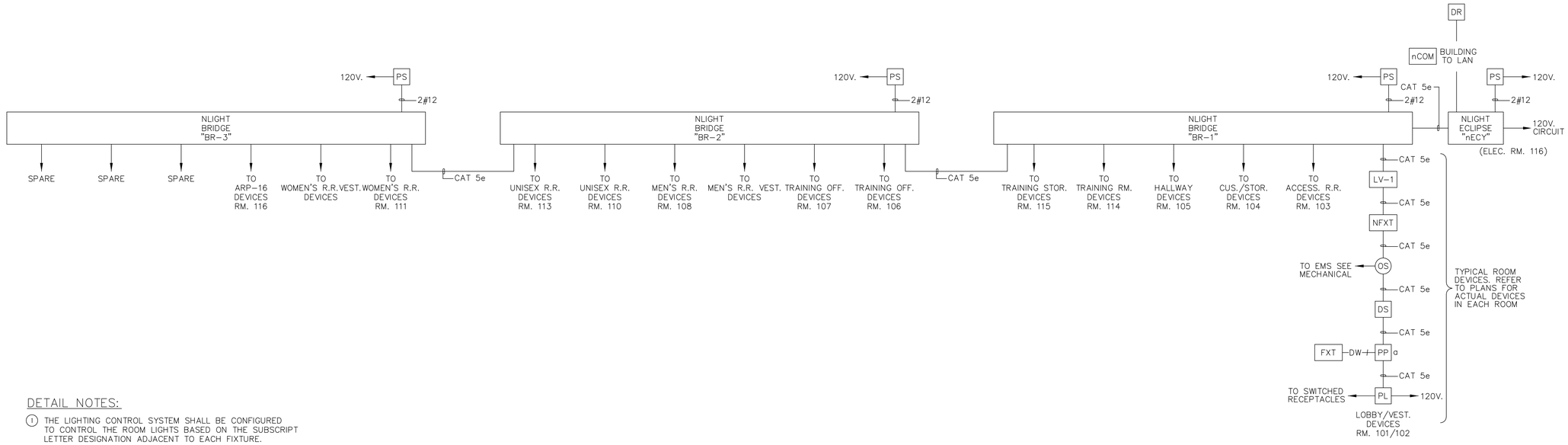
NO	DATE	BY	DESCRIPTION
			REVISIONS

DRAWN: LS	CHECKED: RES
DATE: 05/11/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

ELECTRICAL DETAILS

DRAWING NUMBER: E4.2

BID SET



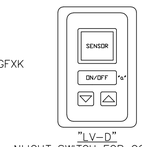
DETAIL NOTES:

1. THE LIGHTING CONTROL SYSTEM SHALL BE CONFIGURED TO CONTROL THE ROOM LIGHTS BASED ON THE SUBSCRIPT LETTER DESIGNATION ADJACENT TO EACH FIXTURE.
2. THE LIGHTING CONTROL SYSTEM SHALL BE AS MANUFACTURED ACUITY CONTROLS "nLIGHT", OR APPROVED EQUAL, AND SHALL BE PROGRAMMED AND COMMISSIONED BY THE SYSTEM MANUFACTURER.
3. THE LIGHTING CONTROL SYSTEM (INTERIOR AND EXTERIOR) SHALL BE PROGRAMMED PER THE OWNER'S REQUIREMENTS.
4. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH (8) HOURS OF TRAINING FOR THE LIGHTING CONTROL SYSTEM. TRAINING SHALL BE PROVIDED FOR FOUR (4) CLIENT CHOSEN EMPLOYEES. CONTRACTOR TO COORDINATE WITH THE ARCHITECT FOR SCHEDULING OF TRAINING.
5. PLUG LOAD (PL) POWER PACKS FOR CONTROL OF RECEPTACLES. CONNECT LOW VOLTAGE SIDE OF "PL" TO THE LIGHTING CONTROL SYSTEM.

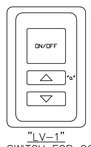
SYMBOL LIST

ACCUITY CONTROLS nLIGHT PRODUCT NUMBERS

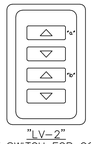
- OS — OCCUPANCY SENSOR #nCM PDT10 RJB AR
- DS — DAYLIGHT SENSOR. #nCM PC DZ RJB AR
- PL — PLUG LOAD POWER PACK #nPP20 PL BP
- PS — POWER SUPPLY PROVIDED WITH GATEWAY OR BRIDGE
- LV-D — nLIGHT WALLSTATION DIMMER/OCCUPANT SENSOR #nWSX PDT LV DX WH
- LV-* — nLIGHT WALLSTATION DIMMER/SWITCH #nPODM DX WH * = DEPENDING ON NUBMER
- DR — DEMAND RESPONSE #nADR-L400
- nECY — ECLYPSE "nECY" #nECY MVOLT ADR ENC GFXK
- BR- — 8 PORT BRIDGE #nBRG8 KIT
- NFXT — nLIGHT ENABLED LIGHT FIXTURE
- FXT — 0-10V. DIMMING LIGHT FIXTURE
- PP — nLIGHT RELAY/POWER PACK #NPP16-D
- NPNL — nLIGHT RELAY PANEL / CABINET #ARP-8 / ARP-16
- NCOM — nLIGHT PROGRAMMING TOOL USED TO PROGRAM STANDALONE #NCOMKIT
- nIOS — LOW VOTLAGE INTERFACE #nIO 1S



"LV-D"
NLIGHT SWITCH FOR CONTROL OF LIGHT FIXTURES (NPODM DX)



"LV-1"
NLIGHT SWITCH FOR CONTROL OF LIGHT FIXTURES (NPODM DX)



"LV-2"
NLIGHT SWITCH FOR CONTROL OF LIGHT FIXTURES (NPODM 2P DX)

"LV-3"
NLIGHT SWITCH FOR CONTROL OF LIGHT FIXTURES (NPODM 4P DX)

RELAY CABINET "ARP-16"

DESCRIPTION	Circuit Number	Control Letter	Control		LV Switch	Relay Number	Control Zone
EXTERIOR BUILDING LIGHTS	LA-7	a	T/C			1	1
SITE / VISITOR PARKING LIGHTS - WEST	LA-9,11	b	T/C			2	2
STAFF PARKING LIGHTS	LA-13,15	e	T/C			3	3
SITE / NORTH-EAST LIGHTS	LA-17,19	f	T/C			4	4
FIRE STATION SIGN	LA-25	–	T/C			5	5
FIRE STATION ADDRESS SIGN	LA-27	–	T/C			6	6
SITE / VISITOR PARKING LIGHTS - WEST	LA-9,11	b	T/C			7	2
SITE / VISITOR PARKING LIGHTS - WEST	LA-9,11	c	T/C			8	2
SPARE (TYP. 8)	----	–	--			9	7

ELECTRICAL ROOM 116

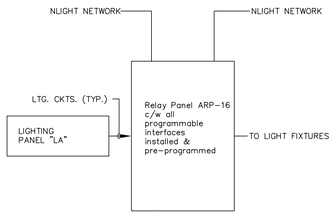
RELAY CABINET - ARP

MANUFACTURER: ACUITY

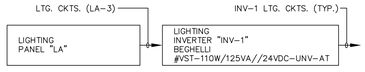
1 - ARP-INTENC16-NLT-16SPR-MVOLT-SC-FM

CONTROL LEGEND

T/C = TIME CLOCK



RELAY CABINET "ARP-16"



LIGHTING CONTROL DIAGRAM

SCALE: NONE

1

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RANCHO CUCAMONGA, CA 91730
909-987-0909 P

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Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM — C-19064 — 06.30.03/27 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — RICHARD E. SOTELO — No. E17229 — 6/30/26 — ELECTRICAL — STATE OF CALIFORNIA

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9320 BASELINE RD. SUITE C, RANCHO CUCAMONGA, CA 91701
TEL (909) 941-3005 FAX (909) 941-8211

NO	DATE	BY	DESCRIPTION
#1			REVISIONS

DRAWN: LS | CHECKED: RES
DATE: 05/11/2025 | SCALE: AS NOTED
PROJECT NUMBER: W2100100AR

ELECTRICAL DETAILS

DRAWING NUMBER: E4.3

BID SET

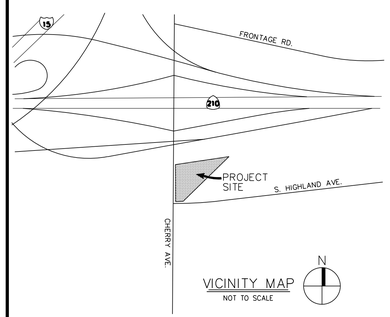
FONTANA FIRE STATION No. 80 & TRAINING CENTER

San Bernardino County Fire Department

6585 Cherry Avenue, Fontana, CA 92336

Northeast of Cherry Avenue and South Highland Avenue

APN: 0228-021-46



VICINITY MAP
NOT TO SCALE

VICINITY MAP

- ☐ I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE STATE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AND HAVE SUBMITTED A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE.
- ☐ I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND GRADING DESIGN PLANS.
- ☐ A MINIMUM 3-INCH LAYER OF MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT TURF AREAS, CREEPING OR ROOTING GROUNDCOVERS, OR DIRECT SEEDING APPLICATIONS WHERE MULCH IS CONTRAINDICATED.
- ☐ FOR SOILS LESS THAN SIX-PERCENT (6%) ORGANIC MATTER IN THE TOP SIX (6) INCHES OF SOIL, COMPOST AT A RATE OF A MINIMUM OF FOUR (4) CUBIC YARDS PER ONE-THOUSAND (1000) SQUARE FEET OF PERMEABLE AREA SHALL BE INCORPORATED TO A DEPTH OF SIX (6) INCHES INTO THE SOIL.
- ☐ AT THE TIME OF FINAL INSPECTION, THE PERMIT APPLICANT MUST PROVIDE THE OWNER OF THE PROPERTY WITH A CERTIFICATE OF COMPLETION, CERTIFICATE OF INSTALLATION, AND AN IRRIGATION SCHEDULE OF LANDSCAPE AND MAINTENANCE.
- ☐ RECIRCULATING WATER SYSTEMS SHALL BE USED FOR WATER FEATURES.
- ☐ PRESSURE REGULATING DEVICES ARE REQUIRED IF WATER PRESSURE IS BELOW OR EXCEEDS THE RECOMMENDED PRESSURE OF THE SPECIFIED IRRIGATION DEVICES.
- ☐ CHECK VALVES OR ANTI-DRAIN VALVES ARE REQUIRED ON ALL SPRINKLER HEADS WHERE LOW POINT DRAINAGE COULD OCCUR.
- ☐ A DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES SHALL BE KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES.
- ☐ A CERTIFICATE OF COMPLETION SHALL BE FILLED OUT AND CERTIFIED BY EITHER THE DESIGNER OF THE LANDSCAPE PLANS, IRRIGATION PLANS, OR THE LICENSED LANDSCAPE CONTRACTOR FOR THE PROJECT.
- ☐ NO CERTIFICATE OF OCCUPANCY SHALL BE ISSUED UNTIL A CITY LANDSCAPE INSPECTOR HAS VERIFIED THAT ALL IRRIGATION, GRADING, AND PLANTING HAVE BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS OF FCC SECTION 28-117 AT TIME OF FINAL INSPECTION.
- ☐ AN IRRIGATION AUDIT REPORT SHALL BE COMPLETED PER FCC SECTION 28-106 AT TIME OF FINAL INSPECTION.
- ☐ WITH REGARD TO LANDSCAPE MAINTENANCE DISTRICTS OR PUBLIC LANDSCAPE, IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO COMPLY WITH FCC SECTION 28-118, SPECIAL LANDSCAPE DISTRICT REQUIREMENTS.

1. UNLESS CONTRADICTED BY A SOILS TEST, COMPOST AT A RATE OF A MINIMUM OF FOUR CUBIC YARDS PER ONE-THOUSAND (1,000) SQUARE FEET OF PERMEABLE AREA SHALL BE INCORPORATED TO A DEPTH OF SIX INCHES INTO THE SOIL.

NAME

SIGNATURE DATE

GENERAL NOTES

	LANDSCAPING
L0.1	LANDSCAPE TITLE SHEET
L1.1	IRRIGATION PLAN
L1.2	IRRIGATION DETAILS
L1.3	IRRIGATION DETAILS
L1.4	IRRIGATION DETAILS
L2.1	LANDSCAPE PLAN
L2.2	LANDSCAPE DETAILS

DRAWING INDEX

OWNER
CITY OF FONTANA
8353 SIERRA AVENUE
FONTANA, CA 92335
(909) 350-7600

FIRE DEPARTMENT
SAN BERNARDINO COUNTY FIRE DEPARTMENT
VALLEY DIVISION
15380 SAN BERNARDINO AVE.
FONTANA, CA 92335
(909) 829-4441 FAX (909) 357-1551

OWNER AND FIRE DEPARTMENT

ARCHITECT
PBK ARCHITECTS
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
(909) 987-0909 FAX (909) 980-9980

ELECTRICAL ENGINEER
A & F ENGINEERING GROUP, INC.
9320 BASELINE ROAD, SUITE C
RANCHO CUCAMONGA, CA 91701
(909) 941-3008 FAX (909) 941-8211

CIVIL ENGINEER
MSL ENGINEERING, INC.
301 NORTH SAN DIMAS AVENUE
SAN DIMAS, CA 91773
(909) 305-2395 FAX (909) 305-2397

LANDSCAPE ARCHITECT
CORNERSTONE STUDIOS, INC.
951 E. SANTA ANA BOULEVARD
SANTA ANA, CA 92701
(714) 973-2200 FAX (714) 973-0203

STRUCTURAL ENGINEER
R.M. BYRD | MIYAMOTO
1047 W. SIXTH STREET, SUITE A
ONTARIO, CA 91762-1209
(909) 983-5599 FAX (909) 983-4456

GEOTECHNICAL ENGINEER
LEIGHTON CONSULTING, INC.
10532 ACACIA STREET, SUITE B-6
RANCHO CUCAMONGA, CA 91730
(909) 484-2205 FAX (909) 484-2170

MECHANICAL/ PLUMBING ENGINEER
POCOCK DESIGN SOLUTIONS
14451 CHAMBERS ROAD, SUITE 210
TUSTIN, CA 92780
(949) 417-3903 FAX (949) 419-1393

PROJECT TEAM

PROJECT SCOPE

PHASE 01:

1. NEW 4,193 S.F. SINGLE-STORY TRAINING CENTER WITH PUBLIC LOBBY/RESTROOMS, OFFICES, MALE/FEMALE RESTROOM, LOCKERS AND SHOWERS, TRAINING ROOM, STORAGE ROOMS AND SUPPORT SPACES.
2. NEW 7,000 S.F. SIX-STORY TRAINING TOWER, BY OTHERS.
3. NEW SITE IMPROVEMENTS CONSISTING OF 6' TALL SITE PERIMETER CMU WALLS, 6' TALL SITE PERIMETER TUBE STEEL FENCING, SLIDING SECURITY GATE, VISITORS/CREW PARKING AREA, LANDSCAPING, PRIVATE FIRE HYDRANTS, ELECTRICAL TRANSFORMER, LIGHT STANDARDS, FLAG POLE, MONUMENT SIGN AND COVERED TRASH ENCLOSURE.

PHASE 02:

4. NEW 14,663 S.F. TWO-STORY FIRE STATION WITH 9 CREW DORMITORIES, 5 CREW BATHROOMS, DAY ROOM, DINING ROOM, KITCHEN, EXERCISE ROOM, CREW OFFICE AREAS, VARIOUS APPARATUS SUPPORT SPACES, 3-BAY SINGLE-DEEP APPARATUS ROOM AND ATTACHED 1-BAY SINGLE-DEEP BC APPARATUS ROOM.
5. NEW SITE IMPROVEMENTS CONSISTING OF LANDSCAPING, EMERGENCY GENERATOR, RESPONSE/RETURN DRIVEWAYS, AND OFF-SITE STREET IMPROVEMENTS.

THE FOLLOWING WORK AND/OR ANCILLARY STRUCTURES ARE INCLUDED WITH SCOPE OF WORK, MAY REQUIRE ADDITIONAL PERMITS, VERIFY WITH CITY:
- ELECTRICAL WORK
- MECHANICAL WORK
- PLUMBING WORK
- RETAINING WALLS/GRADING
- LIGHT STANDARDS
- TRASH, GENERATOR, AND ELECTRICAL TRANSFORMER ENCLOSURES
- CMU PERIMETER WALLS
- FLAG POLE
- BUILDING SIGN(S)
- MONUMENT SIGN

PROJECT SCOPE

PLAN CHECK NUMBER: LSPC24-00023

CITY OF FONTANA, CALIFORNIA		
LANDSCAPE TITLE SHEET		
DRAWN BY: JL	FONTANA FIRE STATION NO. 80 6585 CHERRY AVENUE, FONTANA, CA 92336	SCALE: NO SCALE
DESIGNED BY: JL	LANDSCAPE TITLE SHEET	DATE: 06/05/2025
CHECKED BY: JK	APPROVED BY: GIA LAM KIM / CITY ENGINEER DATE: CITY ENGINEER R.C.E.62296	DRAWING NO.

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER
SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — 8/31/27 — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — JUNG SU GOO — No. 6066 — Signature — Date — STATE OF CALIFORNIA

CONSULTANT
CORNERSTONE STUDIOS, INC.
951 E Santa Ana Blvd, Santa Ana, CA 92701
714. 973. 2200 Voice
714. 973. 0203 Fax
LANDSCAPE ARCHITECTURE • URBAN DESIGN • PLANNING • RESOURCE ANALYSIS

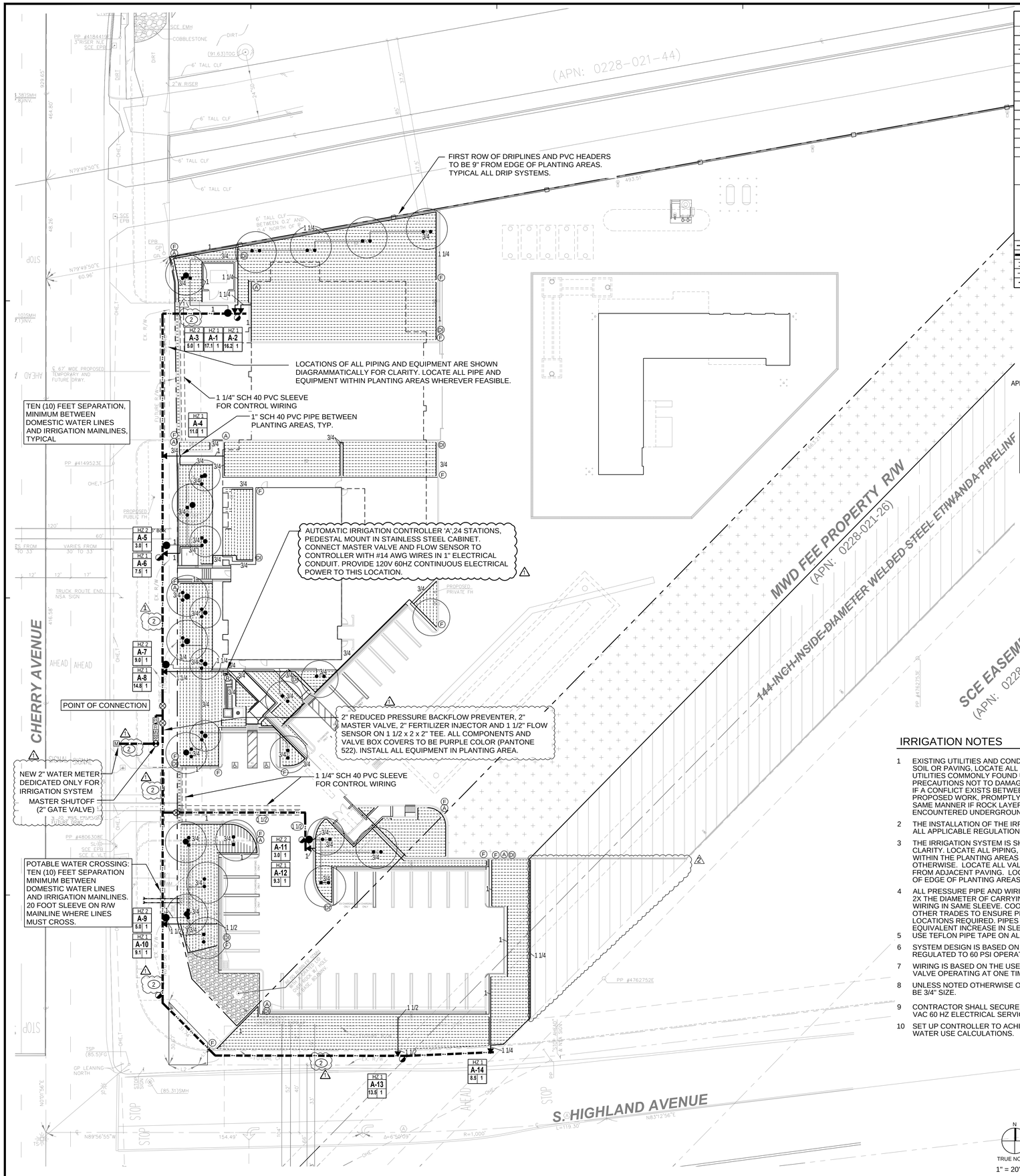
NO	DATE	BY	DESCRIPTION
			REVISIONS

DRAWN: JL	CHECKED: JK
DATE: 08/12/2025	SCALE: NONE
PROJECT NUMBER: W2100100AR	

LANDSCAPE TITLE SHEET

DRAWING NUMBER: L0.1
SHEET 1 OF 7

BID SET



IRRIGATION LEGEND

SYMBOL	DESCRIPTION	PSI	GPM	RAD	MFGR/MODEL
●	ROOT WATERING SYSTEM, TWO PER TREE	25	0.50	--	RAIN BIRD RWS-M-B-1402 W/ PURPLE GRATE
----------	SUB SURFACE DRIPLINE, 18" SPACING, 18" O.C.	25	0.015	18"	RAIN BIRD XFSP-09-18
Ⓐ	DRIP IRRIGATION AIR/VACUUM RELIEF VALVE				RAIN BIRD ARV-050
Ⓕ	DRIP IRRIGATION FLUSH VALVE				RAIN BIRD FLUSH CAP, ECP-15 OR APPROVED EQUAL
Ⓓ	DRIP IRRIGATION INDICATOR, 1/2" SIZE ON PVC LATERAL				HUNTER ECO-ID
⊗	SHUT-OFF VALVE, LINE SIZE, W/ BRONZE CROSS HANDLE (PURPLE)				NIBCO T-113-LF-K ⚠1
◪	QUICK COUPLER VALVE				~~RAIN BIRD 44NP ACME~~
M	WATER METER				NEW, PER CITY STANDARDS
MV	MASTER VALVE				RAIN BIRD 200-PESBR
▼	REMOTE CONTROL VALVE FOR DRIP SYSTEMS				RAIN BIRD XCZ-100 PRBR & 150-LCDR
●	REMOTE CONTROL VALVE FOR BUBBLER SYSTEMS (PURPLE HANDLE COVER)				RAIN BIRD EFB-CP-PRS
FI	FERTILIZER INJECTOR				EZO 10-HC
FS	FLOW SENSOR				~~FLOMEC~~
RP	REDUCED PRESSURE BACKFLOW PREVENTER W/ STRAINER & REGULATOR, LEAD FREE (SET REGULATOR TO 50 PSI). PAINT ALL EXPOSED SURFACES W/ PURPLE (PANTONE 522) EPOXY PAINT. ⚠1				WILKINS 375XL LEAD FREE W/ 500XL STRAINER/REGULATOR IN STAINLESS STEEL STRONGBOX SBBC-45SS ENCLOSURE
☐ R	AUTOMATIC IRRIGATION CONTROLLER, 24 STATIONS, PEDESTAL MOUNT IN APPROVED STAINLESS STEEL EDISON ENCLOSURE. INSTALL RAIN SENSOR ON CABINET. ⚠1				TORO ISA5-TO1-18/DXI-GPRS/RMRX/ RMRX/RMPM/DXI-TRAN/DXI-OPB WITH HUNTER MINI-CLIK RAIN SENSOR IN APPROVED STAINLESS STEEL EDISON METER BOX ENCLOSURE. CONTACT IMPERIAL SPRINKLER SUPPLY 714-696-7535 FOR THE CITY OF FONTANA METER/CONTROLLER.
———	LATERAL (NON-PRESSURE) PIPING, SIZE AS SHOWN				SCH 40 PVC PURPLE
———	MAIN LINE (PRESSURE) PIPING, SIZE AS SHOWN				SCH 40 PVC PURPLE
———	SLEEVE, PER PLAN, 2x DIAM OF CARRYING PIPE, MIN.				SCH 40 PVC PURPLE
———	SENSOR WIRING BETWEEN POC SENSORS AND CONTROLLER				MIN 14 GAUGE WIRES IN 1" ELEC CONDUIT
———	POTABLE WATER LINE				SEE CIVIL DRAWINGS

ALL EQUIPMENT AND COMPONENTS ARE TO BE RECYCLED WATER READY, WITH MANUFACTURER'S OPTIONS, AND PAINTED PANTONE 522 PURPLE WITH EPOXY BASED PAINT WHERE PURPLE PARTS ARE NOT AVAILABLE.

	HZ1	HYDROZONE
CONTROLLER	A-1	SEQUENCE NUMBER
APPROXIMATE GPM	12 | 1	VALVE SIZE, INCHES

HYDROZONES	
1	SHRUB/GC MIXED - DRIP
2	TREES - BUBBLERS
3	SHADED MIX - DRIP

I HAVE COMPLIED WITH THE CRITERIA OF THE MWELO ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLAN.

WOO JUNG KIM — 5/29/2025
APPLICANT

PRESSURE INFORMATION	
STATIC PRESSURE	98.0 PSI
FROM FIRE HYDRANT #4424F MARCH 8, 2023	
SAN GABRIEL VALLEY WATER COMPANY	

ALL IRRIGATION ON SITE WILL BE FROM RECYCLED WATER IN THE FUTURE AND THE ETAF IS LESS THAN 1.0

IRRIGATION PRESSURE CALCULATIONS VALVE NO. A-14 1 1/2" SIZE 20.5 GPM	
METER 2"	0.40 PSI
SERVICE LINE, 2'	0.40 PSI
1 1/2" RP BACKFLOW PREVENTER	11.00 PSI
FLOW SENSOR	0.50 PSI
MASTER VALVE, 2"	3.00 PSI
MAINLINE 2", 400ft	1.34 PSI
MAINLINE FITTINGS (10%)	0.13 PSI
GATE VALVES	1.00 PSI
REMOTE CONTROL VALVE	2.30 PSI
LATERALS	1.50 PSI
FITTINGS (5%)	0.15 PSI
TOTAL LOSSES	21.72 PSI
DRIP LINE OPERATING PRESSURE	25.00 PSI
ELEVATION	--
PRESSURE REQUIRED	46.72 PSI
STATIC PRESSURE - REGULATED	60.00 PSI
RESIDUAL PRESSURE	13.28 PSI

IRRIGATION NOTES

1. EXISTING UTILITIES AND CONDITIONS: PRIOR TO CUTTING INTO THE SOIL OR PAVING, LOCATE ALL CABLES, CONDUITS, AND OTHER UTILITIES COMMONLY FOUND UNDERGROUND, AND TAKE PROPER PRECAUTIONS NOT TO DAMAGE OR DISTURB SUCH IMPROVEMENTS. IF A CONFLICT EXISTS BETWEEN SUCH OBSTACLES AND THE PROPOSED WORK, PROMPTLY NOTIFY THE OWNER. PROCEED IN THE SAME MANNER IF ROCK LAYERS OR ANY OTHER CONDITIONS ENCOUNTERED UNDERGROUND MAKE CHANGES ADVISABLE.
2. THE INSTALLATION OF THE IRRIGATION SYSTEM SHALL CONFORM TO ALL APPLICABLE REGULATIONS AND CODES.
3. THE IRRIGATION SYSTEM IS SHOWN DIAGRAMMATICALLY FOR CLARITY. LOCATE ALL PIPING, EQUIPMENT AND APPURTENANCES WITHIN THE PLANTING AREAS SHOWN UNLESS NOTED OR DIRECTED OTHERWISE. LOCATE ALL VALVES AND VALVE BOXES 6" MIN., 12" MAX FROM ADJACENT PAVING. LOCATE PRESSURE MAIN LINES WITHIN 18" OF EDGE OF PLANTING AREAS.
4. ALL PRESSURE PIPE AND WIRING UNDER PAVING SHALL BE SLEEVED, 2X THE DIAMETER OF CARRYING PIPE. ADD TO SIZE IF CARRYING WIRING IN SAME SLEEVE. COORDINATE SLEEVE INSTALLATION WITH OTHER TRADES TO ENSURE PROPER AND TIMELY INSTALLATION IN LOCATIONS REQUIRED. PIPES MAY BE SLEEVED TOGETHER IF AN EQUIVALENT INCREASE IN SLEEVE SIZE IS MADE.
5. USE TEFLON PIPE TAPE ON ALL THREADED CONNECTIONS.
6. SYSTEM DESIGN IS BASED ON STATIC PRESSURE OF 70 PSI, REGULATED TO 60 PSI OPERATING PRESSURE.
7. WIRING IS BASED ON THE USE OF ONE 24 VOLT DC REMOTE CONTROL VALVE OPERATING AT ONE TIME.
8. UNLESS NOTED OTHERWISE ON PLANS, LATERAL END RUNS ARE TO BE 3/4" SIZE.
9. CONTRACTOR SHALL SECURE & COORDINATE CONNECTIONS FOR 120 VAC 60 HZ ELECTRICAL SERVICE TO CONTROLLER LOCATION.
10. SET UP CONTROLLER TO ACHIEVE OPTIMUM WATERING BASED ON WATER USE CALCULATIONS.
11. ALL CONTROL WIRING TO BE 14 GAUGE MINIMUM. PROVIDE FOUR (4) SPARE WIRES, SOLID RED COLOR, ONE (1) COMMON WIRE, WHITE WITH RED STRIPE. SPARE WIRES MUST BE ACCESSIBLE AT ALL VALVES AND MUST HAVE 24" OF LOOP WIRE. SPARE WIRES MUST BE INSTALLED IN A 10" ROUND VALVE BOX AT THE ENDS OF EACH BRANCH OF THE MAINLINE. IDENTIFY WIRES AS EXTRA WITH TAGS AT THE CONTROLLER AND AT VALVES.
12. END RUNS OF ALL DRIP LINES ARE TO INCLUDE A FLUSH VALVE ASSEMBLY.
13. PRESSURE REGULATING DEVICES ARE REQUIRED IF WATER PRESSURE IS BELOW OR EXCEEDS THE RECOMMENDED PRESSURE OF THE SPECIFIED IRRIGATION DEVICES.
14. A DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES SHALL BE KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES.
15. A CERTIFICATE OF COMPLETION SHALL BE FILLED OUT AND CERTIFIED BY EITHER THE DESIGNER OF THE LANDSCAPE PLANS, OR THE LICENSED LANDSCAPE CONTRACTOR FOR THE PROJECT.
16. NO CERTIFICATE OF OCCUPANCY SHALL BE ISSUED UNTIL THE CITY LANDSCAPE INSPECTOR HAS VERIFIED THAT ALL IRRIGATION, GRADING, AND PLANTING HAVE BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS OF FCC SECTION 28-117 AT TIME OF FINAL INSPECTION.
17. AN IRRIGATION AUDIT REPORT SHALL BE COMPLETED PER FCC SECTION 28-106 AT TIME OF FINAL INSPECTION.
18. WATER SUPPLY FOR IRRIGATION ON THIS PROJECT IS POTABLE WATER, ABLE TO USE RECLAIMED WATER WHEN AVAILABLE.

N
TRUE NORTH
1" = 20'-0"

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

PLAN CHECK NUMBER: LSPC24-00023

CITY OF FONTANA, CALIFORNIA		
IRRIGATION PLAN		
DRAWN BY: RB	FONTANA FIRE STATION NO. 80 6585 CHERRY AVENUE, FONTANA, CA 92336	SCALE: 1" = 20'-0"
DESIGNED BY: RB	IRRIGATION PLAN	DATE: 06/05/2025
CHECKED BY: JK	APPROVED BY: GIA LAM KIM / CITY ENGINEER CITY ENGINEER R.C.E.62296	DATE: DRAWING NO:

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

KELLEY NEEDHAM C-19064 license 03/31/27 — LICENSED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA
JOO JUNG KIM 6063 — LICENSED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA

CONSULTANT
CORNERSTONE STUDIOS, INC.
951 E Santa Ana Blvd, Santa Ana, CA 92701
714. 973. 2200 Voice
714. 973. 0203 Fax
LANDSCAPE ARCHITECTURE • URBAN DESIGN • PLANNING • RESOURCE ANALYSIS

NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
2	2/11/2026		DELTA 2
			REVISIONS

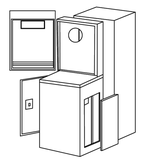
DRAWN: RB | CHECKED: JK
DATE: 1/26/2026 | SCALE: AS NOTED
PROJECT NUMBER: W2100100AR

IRRIGATION PLAN

DRAWING NUMBER: L1.1
SHEET 2 OF 7

80 SET

Revised 3-30-2022 KBS



EXACT LOCATION OF CONTROLLER SHALL BE AGREED UPON BY EDISON, CITY LANDSCAPE INSPECTOR AND CONTRACTOR PRIOR TO ANY TRENCHING OR WIRE PLACEMENT

GENERAL NOTES:

PROVIDE 100A METER AND 50A/2P MAIN C/B WHERE INDICATED ON DRAWINGS

PROVIDE PANELBOARD WHERE INDICATED ON DRAWINGS.

PROVIDE IRRIGATION CONTROLLER CABINET WHERE INDICATED ON DRAWINGS.

TERMINATE AT EXISTION HANDHOLE. PER S.C.E. COMPANY REQ. VERIFY EXACT LOCATION AND TERMINATION REQ. WITH S.C.E. CO. PRIOR TO TRENCHING

CONDUIT AND CONDUCTOR SIZES ARE BASED ON NONMETALLIC CONDUIT AND COPPER CONDUCTORS WITH TYPE "THHN/THWN" INSULATION.

ASSEMBLY MODEL # ISA5-TO1-XX/DXI-GPRS/RMRX/RMPM/DXI-TRAN/DXI-OPB

NOTE: "XX" IS FOR STATION COUNT IN INCREMENTS OF 8
(08, 16, 24,32, 40, 48,.....96)

LOCATION AND POSITIONING OF CABINETS NEED TO VERIFIED AND APPROVED BY THE ENGINEERING PUBLIC WORKS INSPECTOR PRIOR TO ANY INSTALLATIONS

REGISTERED PROFESSIONAL ENGINEER RICARDO SANDOVAL No. 51152 CIVIL STATE OF CALIFORNIA

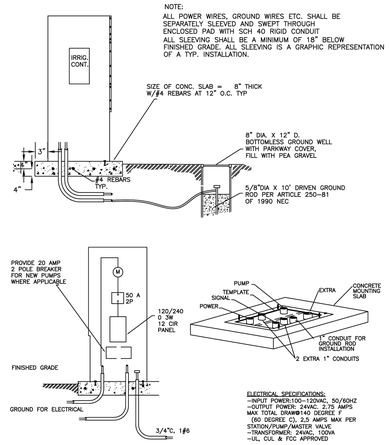
APPROVED BY: 3-15-22
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: KS
DATE OF LAST REVISION: 02-07-22

CITY OF FONTANA

IRRIGATION CONTROLLER

STD. PLAN NO. 5005 | SHT 1 OF 3

Revised 3-30-2022 KBS



REGISTERED PROFESSIONAL ENGINEER RICARDO SANDOVAL No. 51152 CIVIL STATE OF CALIFORNIA

APPROVED BY: 3-15-22
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: KS
DATE OF LAST REVISION: 02-07-22

CITY OF FONTANA

IRRIGATION CONTROLLER

STD. PLAN NO. 5005 | SHT 2 OF 3

Revised 3-30-2022 KBS

City of Fontana
Irrigation Controller Standard
For Communities Facilities Districts

(CFD)

Toro DXi for Sentinel WMS controller installed in an approved stainless steel Edison meter box enclosure.

Contact Imperial Technical Services with the following numbers for the City of Fontana meter/controller. Phone: (714) 696-7535

Fontana Assembly Model # for controller:
ISA5-TO1-XX/DXI-GPRS/RMRX/RMRX/RMPM/DXI-TRAN/DXI-OPB
Note: "XX" is for station count in increments of 8 (08, 16, 24,32, 40, 48,.....96)

Required items to be included with each controller installed:

1. DXi-OPB08 Toro 8 station output board.
2. PROMAX: Rain Master Maintenance Remote Kit, coded "123" for City of Fontana
3. DXI-TRAN-120-60-50-50VA 24VAC Transformer
4. After controller installation contact Imperial Technical Services to schedule inspection for certification which is required prior starting 90 day maintenance

   (Note: Items 1.,2., & 3.: No need to order these extra items-They are included in the Assembly Model #)

Contact:

Imperial Technical Services
Phone: (714) 696-7535

REGISTERED PROFESSIONAL ENGINEER RICARDO SANDOVAL No. 51152 CIVIL STATE OF CALIFORNIA

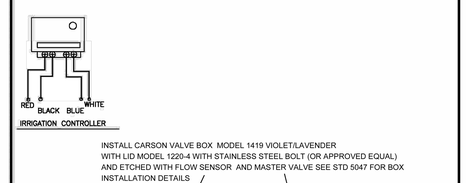
APPROVED BY: 3-15-22
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: KS
DATE OF LAST REVISION: 02-07-22

CITY OF FONTANA

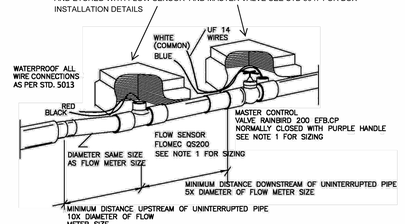
IRRIGATION CONTROLLER

STD. PLAN NO. 5005 | SHT 3 OF 3

Revised 3-30-2022 KBS



INSTALL CARSON VALVE BOX MODEL 1419 VIOLET/LAVENDER WITH LID MODEL 1220-4 WITH STAINLESS STEEL BOLT (OR APPROVED EQUAL) AND ETCHED WITH FLOW SENSOR AND MASTER VALVE SEE STD 5047 FOR BOX INSTALLATION DETAILS



NOTES:
1. MASTER VALVE AND FLOW SENSOR TO MATCH MAINLINE SIZE
2. MAXIMIZE THE DISTANCE BETWEEN THE MASTER VALVE AND THE FLOW SENSOR

ALL EQUIPMENT TO INCLUDE PURPLE COLORED (PANTONE 522) COMPONENTS AND A RECYCLED WATER ID TAG

REGISTERED PROFESSIONAL ENGINEER RICARDO SANDOVAL No. 51152 CIVIL STATE OF CALIFORNIA

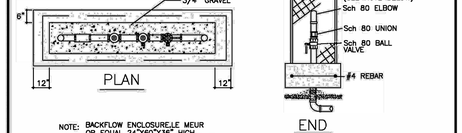
APPROVED BY: 3/15/22
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: KS

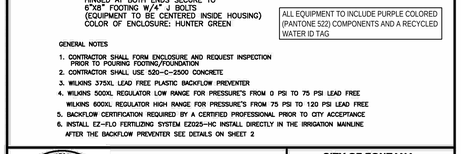
CITY OF FONTANA

FLOW METER/ MASTER VALVE

STD. PLAN NO. 5010 | SHT 1 OF 1

Revised 3-30-2022 KBS





NOTE: BACKFLOW ENCLOSURE,LE MEUR OR EQUAL 24"X60"X36" HIGH HINGED AT BOTH ENDS SECURE TO 6"X8" FOOTING W/4" J BOLTS (EQUIPMENT TO BE CENTERED INSIDE HOUSING) COLOR OF ENCLOSURE: HUNTER GREEN

ALL EQUIPMENT TO INCLUDE PURPLE COLORED (PANTONE 522) COMPONENTS AND A RECYCLED WATER ID TAG

GENERAL NOTES

1. CONTRACTOR SHALL FORM ENCLOSURE AND REQUEST INSPECTION PRIOR TO POURING FOOTING/FOUNDATION
2. CONTRACTOR SHALL USE 520-C-2500 CONCRETE
3. WILKINS 375XL LEAD FREE PLASTIC BACKFLOW PREVENTER
4. WILKINS 500XL REGULATOR LOW RANGE FOR PRESSURE'S FROM 0 PSI TO 75 PSI LEAD FREE
   WILKINS 600XL REGULATOR HIGH RANGE FOR PRESSURE'S FROM 75 PSI TO 120 PSI LEAD FREE
5. BACKFLOW CERTIFICATION REQUIRED BY A CERTIFIED PROFESSIONAL PRIOR TO CITY ACCEPTANCE
6. INSTALL EZ-FLO FERTILIZING SYSTEM EZ025-HC INSTALL DIRECTLY IN THE IRRIGATION MAINLINE AFTER THE BACKFLOW PREVENTER SEE DETAILS ON SHEET 2

REGISTERED PROFESSIONAL ENGINEER RICARDO SANDOVAL No. 51152 CIVIL STATE OF CALIFORNIA

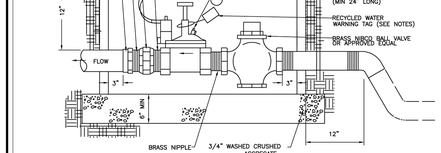
APPROVED BY: 12-2-19
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: KS
DATE OF LAST REVISION: 12-2-19

CITY OF FONTANA

TYP. BACKFLOW

STD. PLAN NO. 5007 | SHT 1 OF 2

Revised 3-30-2022 KBS



NOTES:

1. INSTALL CONTROL VALVES A MINIMUM OF 12" FROM ANY STRUCTURES OR HARDSCAPING WHENEVER POSSIBLE.
2. INSTALL VALVES IN PLANT BEDS WHEREVER POSSIBLE NEXT TO SIDEWALKS.
3. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPING.
4. PLACE AGGREGATE PRIOR TO INSTALLATION OF VALVE BOX.
5. ATTACH PLASTIC IDENTIFICATION TAG WITH APPROPRIATE CONTROLLER AND VALVE NUMBER TO WIRE INSIDE VALVE BOX.
6. ALL VALVES MUST HAVE RECYCLED WATER VALVE TAGS (CHRISTY'S PURPLE MODEL NO. ID-MAX-P2-RC009) ATTACHED TO VALVES. ONLY WHEN RECYCLED WATER IS AVAILABLE AND CONNECTED.

ALL EQUIPMENT TO INCLUDE PURPLE COLORED (PANTONE 522) COMPONENTS AND A RECYCLED WATER ID TAG

REGISTERED PROFESSIONAL ENGINEER RICARDO SANDOVAL No. 51152 CIVIL STATE OF CALIFORNIA

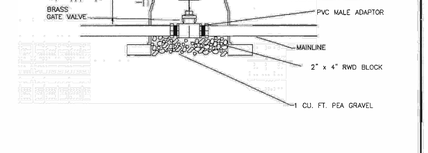
APPROVED BY: 3-15-22
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: KS
DATE OF LAST REVISION: 2-8-22

CITY OF FONTANA

TYP. BRASS REMOTE CONTROL VALVE DETAIL

STD. PLAN NO. 5011 | SHT 1 OF 1

Revised 3-30-2022 KBS



ALL EQUIPMENT TO INCLUDE PURPLE COLORED (PANTONE 522) COMPONENTS AND A RECYCLED WATER ID TAG

REGISTERED PROFESSIONAL ENGINEER RICARDO SANDOVAL No. 51152 EXP. 6/30/05 CIVIL STATE OF CALIFORNIA

APPROVED BY: 3-15-2022
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: KS

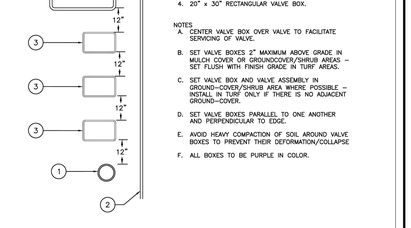
CITY OF FONTANA

GATE VALVE

STD. PLAN NO. 5019 | SHT 1 OF 1

Revised 3-30-2022 KBS

VALVE BOX LABELING NOTE:
HEAT BRAND ALL VALVE BOX COVERS IN 2" HIGH LETTER PER EQUIPMENT LOCATED WITHIN VALVE BOXES.
LABEL "GV" FOR ALL GATE VALVES
LABEL "QCV" FOR ALL QUICK COUPLING VALVES
LABEL "MV" FOR ALL MASTER VALVES
LABEL "VALVE STATION" FOR ALL CONTROL VALVES
LABEL "FM" FOR ALL FLOW MASTER VALVES
LABEL "FV" FOR ALL FLUSH VALVES
LABEL "AR" FOR ALL AIR RELIEF VALVES



LEGEND – USE CARSON VALVE BOXES.
1. 10" DIAMETER CIRCULAR VALVE BOX.
2. EDGE OF LAWN, WALK, FENCE, CURB, ETC
3. 14" x 19" RECTANGULAR VALVE BOX.
4. 20" x 30" RECTANGULAR VALVE BOX.

NOTES
A. CENTER VALVE BOX OVER VALVE TO FACILITATE SERVICING OF VALVE.
B. SET VALVE BOXES 2" MAXIMUM ABOVE GRADE IN MULCH COVER OR GROUNDCOVER/SHRUB AREAS – SET FLUSH WITH FINISH GRADE IN TURF AREAS.
C. SET VALVE BOX AND VALVE ASSEMBLY IN GROUND-COVER/SHRUB AREA WHERE POSSIBLE – INSTALL IN TURF ONLY IF THERE IS NO ADJACENT GROUND-COVER.
D. SET VALVE BOXES PARALLEL TO ONE ANOTHER AND PERPENDICULAR TO EDGE.
E. AVOID HEAVY COMPACTION OF SOIL AROUND VALVE BOXES TO PREVENT THEIR DEFORMATION/COLLAPSE
F. ALL BOXES TO BE PURPLE IN COLOR.

PLAN VIEW

NOTE: CONTRACTOR TO USE PURPLE LIDS WHEN NON-POTABLE WATER SOURCE IS USED (SEE PLAN)

REGISTERED PROFESSIONAL ENGINEER RICARDO SANDOVAL No. 51152 CIVIL STATE OF CALIFORNIA

APPROVED BY: 3-15-22
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: KS
DATE OF LAST REVISION: 2-10-22

CITY OF FONTANA

VALVE BOX INSTALLATION

STD. PLAN NO. 5047 | SHT 1 OF 1

PLAN CHECK NUMBER: LSPC24-00023

CITY OF FONTANA, CALIFORNIA		
IRRIGATION DETAILS		
DRAWN BY: RB	FONTANA FIRE STATION NO. 80 6585 CHERRY AVENUE, FONTANA, CA 92336	SCALE: NTS
DESIGNED BY: RB	IRRIGATION DETAILS	DATE: 06/05/2025
CHECKED BY: JK	APPROVED BY: GIA LAM KIM / CITY ENGINEER DATE: CITY ENGINEER R.C.E. 62296	DRAWING NO:

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT
KELLEY NEEDHAM
C-19064
Ins Int: 03/31/27
STATE OF CALIFORNIA

REGISTERED LANDSCAPE ARCHITECT
KELLEY JUNE NEEDHAM
Signature
30 April 2026
Renewal Date
STATE OF CALIFORNIA

CONSULTANT

CORNERSTONE STUDIOS, INC.
951 E Santa Ana Blvd.
Santa Ana, CA 92701
714. 973.2200 Voice
714. 973.0203 Fax
LANDSCAPE ARCHITECTURE ★ URBAN DESIGN ★ PLANNING ★ RESOURCE ANALYSIS

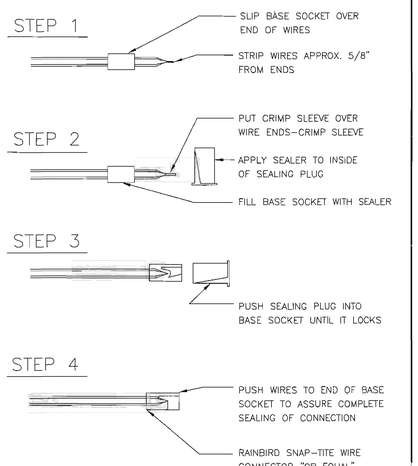
NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
#	REVISIONS		

DRAWN: RB	CHECKED: JK
DATE: 08/12/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

IRRIGATION DETAILS

DRAWING NUMBER: L1.2
SHEET 3 OF 7

BID SET

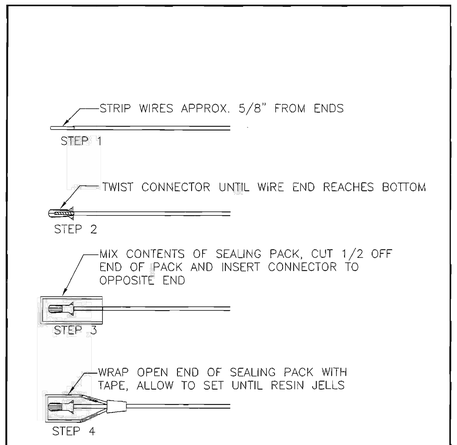


APPROVED BY: 10-18-06
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: Timothy Rastedt
DATE OF LAST REVISION: 1-28-00

CITY OF FONTANA

WIRE CONNECTOR

STD. PLAN NO. 5013 | SHT 1 OF 1



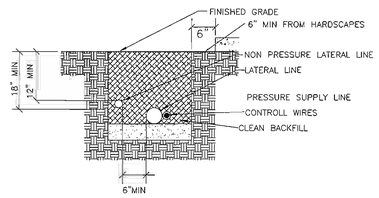
"SCOTCH" SEALING PACK

APPROVED BY: 10-18-06
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: Timothy Rastedt
DATE OF LAST REVISION: 1-28-00

CITY OF FONTANA

WIRE CONNECTOR

STD. PLAN NO. 5014 | SHT 1 OF 1



FINE GRANULAR MATERIAL WILL BE PLACED ON ALL LINES, NO LARGER THAN 1/2" INCH IN SIZE. THIS WILL BE PERMITTED IN THE INITIAL BACKFILL MEASURED 6" FROM THE TOP OF PIPE. THE REMAINDER OF TRENCH CAN BE FILL WITH ROCK SCREENED 2" MINUS.

ALL BACK FILL IS TO BE SATURATED AND COMPACTED TO 90%

INSTALL ALL PVC PIPE WITH LABEL UP.

SNAKE ALL PIPE IN TRENCH.

BUNDLE AND TAPE ALL CONTROL WIRES AT 10' O.C. TO PRESSURE SUPPLY LINE AND PROVIDE A SERVICE LOOP AT ALL 90 DEGREE CHANGES IN DIRECTION.

PRESSURE MAIN 2" AND LARGER SHALL BE P.V.C. CLASS 315 SMALLER THAN 2" SHALL BE P.V.C. SCHEDULE 40.

CONTRACTOR SHALL PROVIDE SLEEVES OR CONDUIT LINES WHEN MAINLINE INSTALLATION IS UNDER ASPHALT OR CONCRETE.

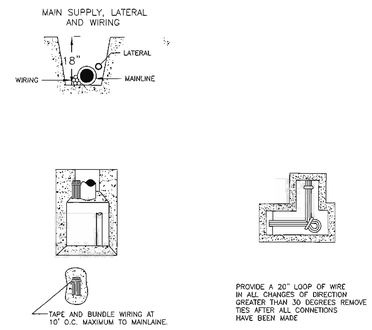
CONTRACTOR SHALL PROVIDE 24" INCHES OF COVER OVER PIPE SERVING A DRINKING FOUNTAIN OR PRESSURE MAINLINE. 3" AND LARGER.

APPROVED BY: 10-18-06
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: Timothy Rastedt
DATE OF LAST REVISION: 1-28-00

CITY OF FONTANA

TRENCHING DETAIL

STD. PLAN NO. 5015 | SHT 1 OF 1



PLAN VIEW

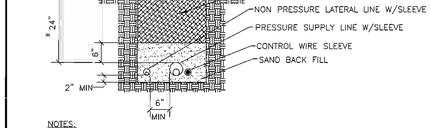
NOTE:
DO NOT INSTALL 120 VOLTAGE OR HIGHER WIRE IN THE SAME TRENCH AS THE IRRIGATION CONTROL WIRING

APPROVED BY: 10-18-06
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: Timothy Rastedt
DATE OF LAST REVISION: 1-28-00

CITY OF FONTANA

PIPING AND WIRING

STD. PLAN NO. 5016 | SHT 1 OF 1



NOTES:

INSTALL CONTROL WIRE SLEEVE ADJACENT TO THE PRESSURE SUPPLY LINE, SIZE PER SPEC.

ALL SLEEVES TO BE SCH. 40 PVC AND TO BE 2X THE DIAMETER OF THE LINE TO BE SLEEVED.

* INCREASE THIS DISTANCE TO 36" WHEN SLEEVING UNDER ROADWAYS AND COMMERCIAL TRAFFIC WAYS WHEN INSTRUCTED BY INSPECTOR.

SLEEVES SHALL BE EXTENDED BEYOND HARDSCAPE TO POINTS AS REQUESTED BY INSPECTOR

IF SLEEVES ARE TO BE USED AT A LATER DATE, CONTRACTOR SHALL TAPE ENDS AND PROVIDE A VERTICAL MARK AT ENDS OF SLEEVING VISIBLE AT GROUND LEVEL.

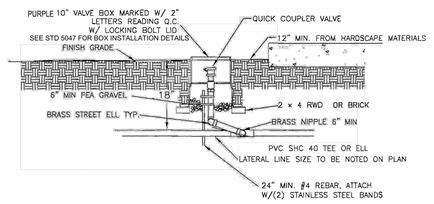
APPROVED BY: 10-18-06
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: Timothy Rastedt
DATE OF LAST REVISION: 1-28-00

CITY OF FONTANA

SLEEVING DETAIL

STD. PLAN NO. 5018 | SHT 1 OF 1

Revised 3-30-2022 KBS



NOTE:
USE TEFLON TAPE ON ALL THREADED FITTINGS

ALL EQUIPMENT TO INCLUDE PURPLE COLORED (PANTONE 522) COMPONENTS AND A RECYCLED WATER ID TAG

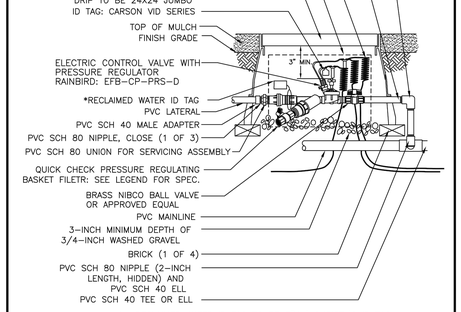
APPROVED BY: 3-15-2022
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: KS

CITY OF FONTANA

QUICK COUPLER

STD. PLAN NO. 5021 | SHT 1 OF 1

Revised 3-30-2022 KBS



* RECLAIMED WATER ID TAG TO BE 3"X4" CHRISTY'S ID TAG (PURPLE) ATTACHED W/ NYLON TIE. LABEL TO READ "RECLAIMED WATER – DO NOT DRINK" IN ENGLISH & SPANISH.

NOTE: INSTALL CONTROL VALVES MINIMUM OF 3 FT. APART IN SHRUB AREAS UNLESS OTHERWISE NOTED.

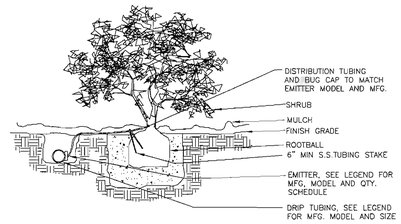
APPROVED BY: 3-15-22
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: KS
DATE OF LAST REVISION: 2-8-22

CITY OF FONTANA

AUTOMATIC DRIP VALVE

STD. PLAN NO. 5038 | SHT 1 OF 1

ALL EQUIPMENT TO INCLUDE PURPLE COLORED (PANTONE 522) COMPONENTS AND A RECYCLED WATER ID TAG



APPROVED BY: 10-18-06
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: Timothy Rastedt
DATE OF LAST REVISION: 1-28-00

CITY OF FONTANA

DRIP EMITTER

STD. PLAN NO. 5042 | SHT 1 OF 1

PLAN CHECK NUMBER: LSPC24-00023

CITY OF FONTANA, CALIFORNIA		
IRRIGATION DETAILS		
DRAWN BY: RB	FONTANA FIRE STATION NO. 80 6585 CHERRY AVENUE, FONTANA, CA 92336	SCALE: NTS
DESIGNED BY: RB	IRRIGATION DETAILS	DATE: 06/05/2025
CHECKED BY: JK	APPROVED BY: GIA LAM KIM / CITY ENGINEER DATE: CITY ENGINEER R.C.E.62296	DRAWING NO:

PBK

RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED LANDSCAPE ARCHITECT
KELLEY NEEDHAM
C-19064
Ex.Da 03/31/27
STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT
KOO JUNG KIM
No. 6066
Registration
30 April 2026
RENEWAL DATE
STATE OF CALIFORNIA

CONSULTANT

CORNERSTONE STUDIOS, INC.
951 E Santa Ana Blvd. Santa Ana, CA 92701
714. 973. 2200 Voice
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LANDSCAPE ARCHITECTURE • URBAN DESIGN • PLANNING • RESOURCE ANALYSIS

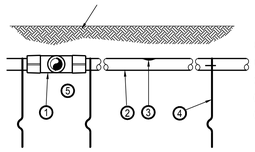
NO	DATE	BY	DESCRIPTION
			REVISIONS

DRAWN: RB	CHECKED: JK
DATE: 08/12/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

IRRIGATION DETAILS

DRAWING NUMBER: L1.3
SHEET 4 OF 7

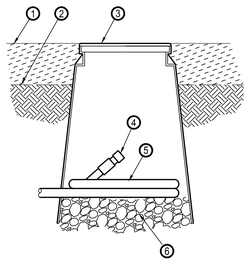
BID SET



1. COMPRESSION TEE
2. SUBSURFACE DRIP LINE (PURPLE)
3. IN-LINE EMITTER
4. TIEDOWN STAKE / LANDSCAPE PIN
5. FINISH GRADE

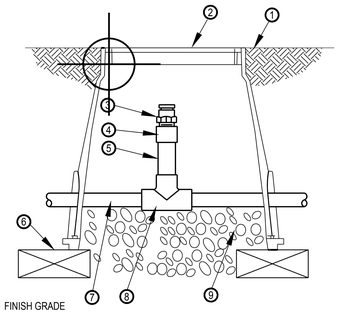
NOTES:
1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, F0UR FEET IN LOAM, AND FIVE FEET IN CLAY.
2. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.
3. INSERTION PLOW AND TRENCHED INSTALLATIONS DO NOT REQUIRE TIE DOWN STAKES.

A SUBSURFACE DRIP LINE
NTS



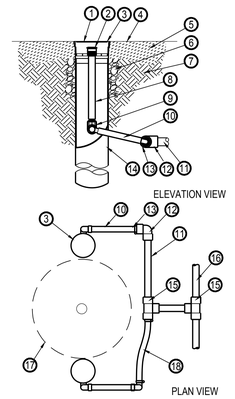
1. TOP OF MULCH LAYER
2. FINISH GRADE
3. EMITTER BOX W/ PURPLE COVER
4. COMPRESSION FITTING AND FLUSH CAP
5. 12" LENGTH OF SOLID DRIP HOSE
6. 3-INCH MIN. DEPTH OF 3/4" WASHED GRAVEL

B FLUSH VALVE
NTS



1. FINISH GRADE
2. EMITTER BOX W/ PURPLE COVER
3. 1/2" AIR RELIEF VALVE: INSTALL AT HIGH POINT IN EACH DRIP VALVE ZONE
4. PVC SCH 40 FEMALE ADAPTER
5. PVC SCH 80 RISER
6. BRICK (2)
7. PVC HEADER PIPE
8. PVC SCH 40 TEE
9. 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL

C AIR RELIEF VALVE
NTS

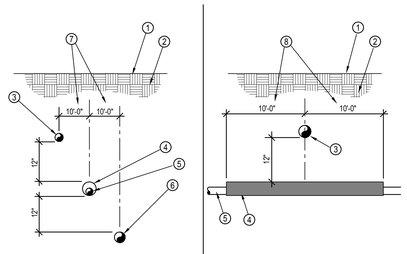


ELEVATION VIEW

PLAN VIEW

1. 4 INCH GRATE (PURPLE COLOR)
2. BUBBLER HEAD
3. RAIN BIRD RWS-M-B-G ROOT WATER SYSTEM
4. FINISH GRADE
5. DECOMPOSED GRANITE MULCH
6. 6" PEA GRAVEL FILL
7. UNDISTURBED SOIL
8. 1/2-INCH PVC SCH 80 NIPPLE
9. 1/2-INCH 90-DEGREE ELBOW
10. 12-INCH SWING ASSEMBLY
11. 1/2-INCH SCH 40 PVC PIPE
12. 1/2-INCH PVC SCH 40 ELL
13. 1/2-INCH MALE BARB x NPT FITTING W/ HOSE SCREW CLAMP
14. 4-INCH BASKET WEAVE CANISTER
15. 1/2-INCH SCH 40 PVC TEE
16. PVC LATERAL TO/FROM OTHER TREE LOCATIONS. SEE PLANS FOR SIZE
17. TREE ROOT BALL
18. ALTERNATE CONNECTION - USE RAIN BIRD SPX FLEX PIPE AND BARBED FITTINGS W/ ADAPTERS AND HOSE SCREW CLAMPS

D ROOT WATERING SYSTEM
NTS



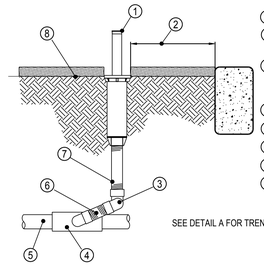
SECTION VIEW

CROSSING VIEW

CONTRACTOR TO COORDINATE CROSSING OF ALL POTABLE AND RECYCLED WATER PRESSURE MAINLINES WITH WATER DISTRICT'S FIELD INSPECTOR PRIOR TO TRENCHING

1. FINISH GRADE
2. SUBGRADE
3. POTABLE WATER LINE - CONTRACTOR TO VERIFY LOCATION
4. PURPLE RECYCLED WATER IRRIGATION PRESSURE MAINLINE SLEEVE - AS NECESSARY AT CROSSINGS
5. RECYCLED WATER IRRIGATION PRESSURE MAINLINE
6. POTABLE WATER LINE - CONTRACTOR TO LOCATE POSITION
7. MAINTAIN 10' HORIZONTAL SEPARATION
8. IRRIGATION PRESSURE MAINLINE TO BE SLEEVED 10' FROM POTABLE CROSSING - EACH DIRECTION

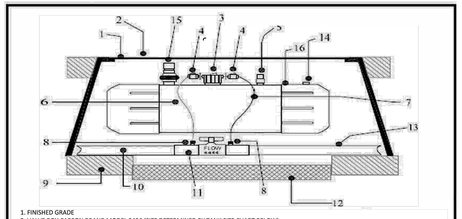
E RECYCLED & POTABLE WATER LINE CROSSING
NTS



1. POP-UP OPERATION INDICATOR
2. 6" MIN. 8" MAX. FROM FACE OF FIXED IMPROVEMENTS
3. PVC ELL & 2 POLYETHYLENE STREET ELLS. INSTALL SO THEY TIGHTEN WITH DOWNWARD THRUST OF RISER
4. TEE OR ELL
5. LATERAL PIPING
6. 4" SCH 80 PVC NIPPLE
7. SCH 80 PVC RISER
8. FINISH GRADE

SEE DETAIL A FOR TRENCH & PIPE DEPTHS

F DRIP OPERATION INDICATOR
NTS



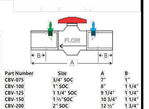
1. FINISHED GRADE
2. VALVE BOX CARSON BRAND MODEL 2436 (SIZE DETERMINED BY TANK SIZE CHART BELOW)
3. PROPORTIONING CAP WITH FEED ADJUSTMENT KNOB
4. EZ-FLO SHUT OFF VALVES
5. AIR VENT VALVE
6. FERTILIZER OUT - CONNECT CLEAR TUBE TO GREEN CONNECTIONS ON PROPORTIONING CAP AND COUPLING
7.WATER IN- CONNECT BLACK TUBE TO BLUE CONNECTIONS ON PROPORTIONING CAP AND COUPLING
8. TUBING CLAMP - BOTH THE GREEN AND BLUE COUPLING TUBING CONNECTIONS
9. APPROVED BACKFILL
10. PVC MAINLINE TO VALVE MANIFOLD
11. EZ-BALL VALVE COUPLING CONNECTOR INSTALL ACCORDING TO WORKFLOW DIRECTION ARROW AND PER THE SIZE OF THE MAINLINE
12. PEA GRAVEL (3 CU FT)
13. PVC MAINLINE FROM BACKFLOW PREVENTER
14. PRESSURE RELIEF VALVE
15. FILL VALVE (DRAIN VALVE INCLUDED BUT NOT SHOWN)
16. EZ-FLO MODEL (SIZING BASED ON ATTACHED CHART)
17. FERTILIZER TO BE INSTALLED AFTER MASTER VALVE AND FLOW SENSOR

NOTES:
ITEMS 3,4,5,6,7 & 8 ARE INCLUDED WITH THE EZ-FLO SYSTEM. ITEM 11 IS PURCHASED SEPARATELY (BASED ON THE ATTACHED BALL VALVE SIZE CHART)

Sizing the Tank
In the table below refer to the 4-6 week coverage columns to determine the tank size required for the irrigated area

Model	Capacity Gallons	Capacity Pounds	Coverage 4-6 Weeks Zones	Coverage 4-6 Weeks Square Feet	Unit Size L X W X H	Valve Box Size L X W X H
EZ01-CX	1.5	10	5 / 8	10,000	13" X 8" X 11"	15" X 10" X 12"
EZ03-CX	2.5	15	8 / 14	15,000	21" X 8" X 11"	20" X 10" X 12"
EZ05-FX	5.0	30		30,000	28" X 19" X 13"	30" X 18" X 17"
EZ10-FX	9.4	50		50,000	27" X 12" X 14"	30" X 18" X 17"
EZ10-HC	10.0	75		75,000	32" X 12" X 18"	36" X 24" X 24"
EZ017-HC	17.5	150		150,000	36" X 15" X 20"	36" X 24" X 24"
EZ025-HC	25.0	225		225,000	36" X 19" X 23"	36" X 24" X 24"

Tank sizing is based on 1 lb of product capacity required to service 1000 sqft of landscape for a 4 to 6 week period. This method is intended to simplify the sizing process and allow for a broad range of products to be used with the system while maintaining adequate capacity.



Part Number	Size	A	B
CBV-075	3/4" SOC	7"	1"
CBV-100	1" SOC	8"	1 1/4"
CBV-125	1 1/4" SOC	9 1/4"	1 1/4"
CBV-150	1 1/2" SOC	10 3/4"	1 1/4"
CBV-200	2" SOC	12 ½"	1 3/4"
CBV-250	2 ½" SOC	15"	1 3/4"
CBV-300	3" SOC	16 ½"	1 3/4"
CBV-400	4" SOC	18 ½"	2"
CBVT-075	3/4" THD	7"	1"
CBVT-100	1" THD	8"	1 1/4"
CBVT-125	1 1/4" THD	9 ½"	1 1/4"

REGISTERED PROFESSIONAL ENGINEER RICARDO MANIPAL No. 51152 CIVIL STATE OF CALIFORNIA

APPROVED BY: 12-2-19
CITY ENGINEER DATE
RICARDO SANDOVAL
REVIEWED BY: KS
DATE OF LAST REVISION: 12-2-19

CITY OF FONTANA

TYP. BACKFLOW FERTILIZATION SYSTEM

STD. PLAN NO. 5007 SHT 2 OF 2

G FERTILIZER INJECTOR
NTS

CITY OF FONTANA
Department of Engineering

WATER EFFICIENT LANDSCAPE WORKSHEET
This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

Reference Evapotranspiration (ETo) 55.6 (San Bernardino)

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)[d]
Regular Landscape Areas							
Mixed	.3	drip	.81	.370	249190	92292.6	2843904
Tree Deep Wate	.1	bubbler	.75	.133	270	32.1	1109
				Totals	249190	92324.7	
Special Landscape Areas							
RECYCLED	[redacted]			1	249190	249190	8590078
				1			
				1			
				Totals	(C)	(D)	
						ETWU Total	2845013
						Maximum Allowed Water Allowance (MAWA)[e]	8590078

[a]*Hydrozone #/Planting Description*
E.g.
1.) front lawn
2.) low water use plantings
3.) medium water use planting

[b]*Irrigation Method*
overhead spray or drip

[c]*Irrigation Efficiency*
0.75 for spray head
0.81 for drip

[d]*ETWU (Annual Gallons Required) =*
Eto x 0.62 x ETAF x Area
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

[e]*MAWA (Annual Gallons Allowed) = (Eto) (0.62) ((ETAF x LA) + ((1-ETAF) x SLA))*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area (B)	92292.6
Total Area (A)	249190
Average ETAF B ÷ A	0.370

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area (B+D)	92292.6
Total Area (A+C)	249190
Sitewide ETAF (B+D) ÷ (A+C)	0.370

Signed: _____ Date: 04/04/2024

PLAN CHECK NUMBER: LSPC24-00023

CITY OF FONTANA, CALIFORNIA		
IRRIGATION DETAILS		
DRAWN BY: RB	FONTANA FIRE STATION NO. 80 6585 CHERRY AVENUE, FONTANA, CA 92336	SCALE: NTS
DESIGNED BY: RB	IRRIGATION DETAILS	DATE: 06/05/2025
CHECKED BY: JK	APPROVED BY: GIA LAM KIM / CITY ENGINEER CITY ENGINEER R.C.E.82296	DATE: DRAWING NO:

PBK

RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT KELLEY NEEDHAM C-19064 STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT JUNG 6004 30 April 2026 Renewal Date STATE OF CALIFORNIA

CONSULTANT

CORNERSTONE STUDIOS, INC.
951 E Santa Ana Blvd, Santa Ana, CA 92701
714. 973. 2200 Voice
714. 973. 0203 Fax
LANDSCAPE ARCHITECTURE ◆ URBAN DESIGN ◆ PLANNING ◆ RESOURCE ANALYSIS

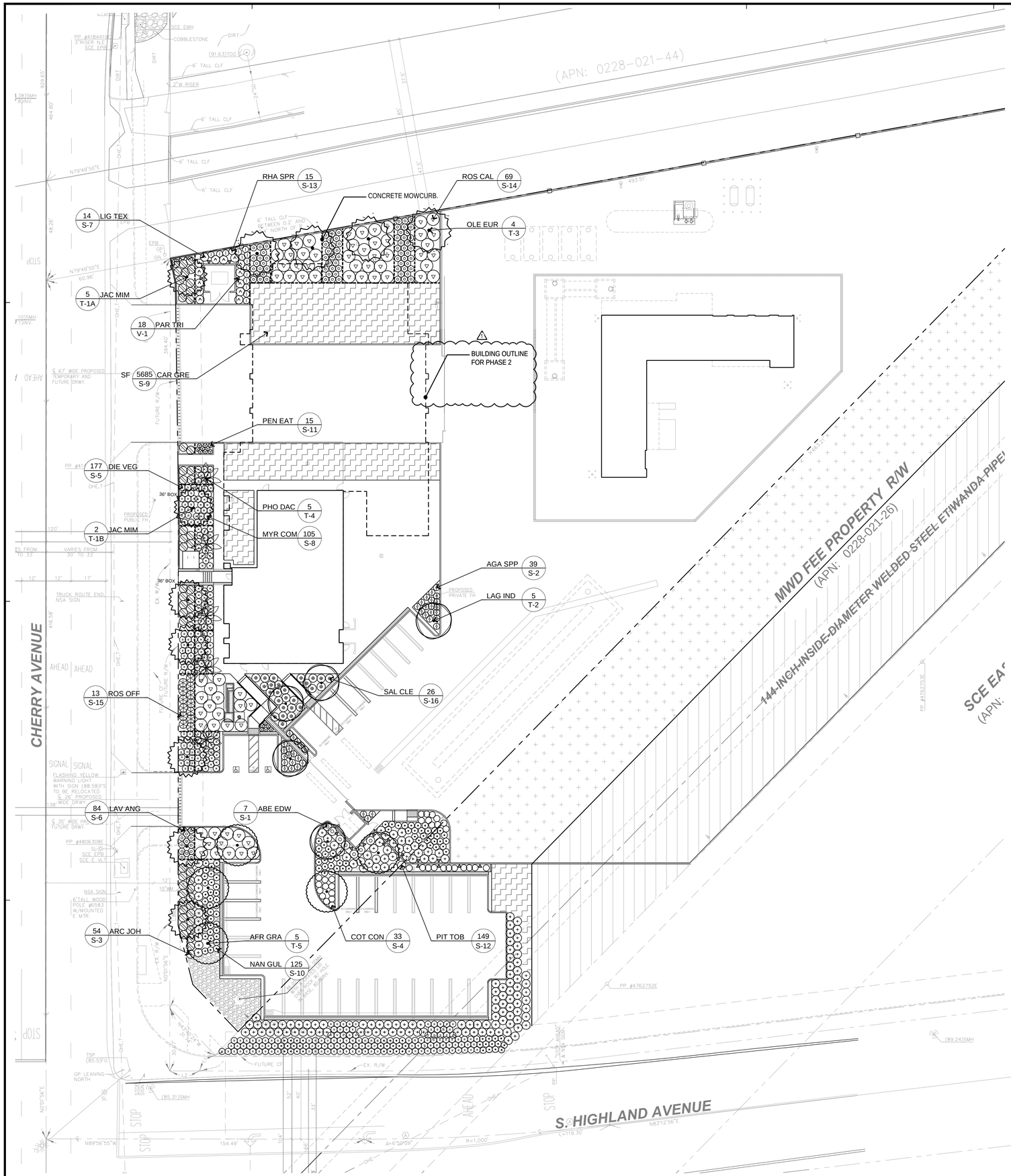
NO	DATE	BY	DESCRIPTION
2			REVISIONS

DRAWN: RB	CHECKED: JK
DATE: 08/12/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

IRRIGATION DETAILS

DRAWING NUMBER: L1.4
SHEET 5 OF 7

80 SET



PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	WUCOLS	DETAIL REF.
TREES						
T-1A (36" BOX)	JACARANDA MIMOSIFOLIA	JACARANDA	SINGLE TRUNK, MIN. 1.5", 24" BOX	5	M	DETAIL A, E/ SHEET L-2.2
T-1B	JACARANDA MIMOSIFOLIA	JACARANDA	SINGLE TRUNK, MIN. 2.5", 36" BOX	2	M	DETAIL A, E/ SHEET L-2.2
T-2	LAGERSTROEMIA INDICA X FAURIEI 'NATCHEZ'	NATCHEZ CRAPE MYRTLE	SINGLE TRUNK, MIN. 1.5", 24" BOX	5	M	DETAIL A, E/ SHEET L-2.2
T-3	OLEA EUROPAEA 'SWAN HILL'	SWAN HILL OLIVE	SINGLE TRUNK, MIN. 1.5", 24" BOX	4	L	DETAIL A, E/ SHEET L-2.2
T-4	PHOENIX DACTYLIFERA	DATE PALM	25 FEET BROWN TRUNK HEIGHT	5	L	DETAIL F/ SHEET L-2.2
T-5	AFROCARPUS GRACILIOR	FERN PINE	SINGLE TRUNK, MIN. 1.5", 24" BOX	5	M	DETAIL A, E/ SHEET L-2.2
SHRUBS / GROUNDCOVER						
S-1	ABELIA X 'EDWARD GOUCHER'	EDWARD GOUCHER ABELIA	5 GAL. @ 4' O.C.	7	M	DETAIL B, F/ SHEET L-2.2
S-2	AGAPANTHUS SPP	LILY OF THE NILE	5 GAL. @ 3' O.C.	39	M	DETAIL B, F/ SHEET L-2.2
S-3	ARCTOSTAPHYLOS 'JOHN DOURLEY'	JOHN DOURLEY MANZANITA	5 GAL. @ 4' O.C.	54	L	DETAIL B, F/ SHEET L-2.2
S-4	COTONEASTER CONGESTUS 'LIKIANG'	PYRENEES COTONEASTER LIKIANG	5 GAL. @ 3' O.C.	33	M	DETAIL B, F/ SHEET L-2.2
S-5	DIETES VEGETA	FORTNIGHT LILY	5 GAL. @ 3' O.C.	177	M	DETAIL B, F/ SHEET L-2.2
S-6	LAVANDULA ANGUSTIFOLIA	ENGLISH LAVENDER	5 GAL. @ 3' O.C.	84	L	DETAIL B, F/ SHEET L-2.2
S-7	LIGUSTRUM 'TEXANUM'	TEXAS PRIVET	5 GAL. @ 4' O.C.	14	M	DETAIL B, F/ SHEET L-2.2
S-8	MYRTUS COMMUNIS 'COMPACTA'	DWARF MYRTLE	5 GAL. @ 3' O.C.	105	M	DETAIL B, F/ SHEET L-2.2
S-9	CARISSA 'GREEN CARPET'	GREEN CARPET NATAL PLUM	5 GAL. @ 5' O.C.	5,685 SF (285)	L	DETAIL B, F/ SHEET L-2.2
S-10	NANDINA 'GULF STREAM'	HEAVENLY BAMBOO	5 GAL. @ 3' O.C.	125	M	DETAIL B, F/ SHEET L-2.2
S-11	PENNISETUM 'EATON CANYON'	EATON CANYON FOUNTAIN GRASS	5 GAL. @ 2' O.C.	15	L	DETAIL B, F/ SHEET L-2.2
S-12	PITTOSPORUM TOBIRA	DWARF MOCK ORANGE	5 GAL. @ 4' O.C.	149	M	DETAIL B, F/ SHEET L-2.2
S-13	RHAPHIOLEPIS 'SPRINGTIME'	PINK INDIA HAWTHORN	5 GAL. @ 3' O.C.	15	M	DETAIL B, F/ SHEET L-2.2
S-14	ROSA CALIFORNICA	CALIFORNIA WILDROSE	5 GAL. @ 6' O.C.	69	L	DETAIL B, F/ SHEET L-2.2
S-15	ROSMARINUS OFFICINALIS	ROSEMARY	5 GAL. @ 4' O.C.	13	L	DETAIL B, F/ SHEET L-2.2
S-16	SALVIA CLEVELANDII	CLEVELAND BLUE SAGE	5 GAL. @ 4' O.C.	26	L	DETAIL B, F/ SHEET L-2.2
VINES						
V-1	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	5 GAL. @ 10' O.C.	18	M	DETAIL C/ SHEET L-2.2

LANDSCAPE CONCRETE MOWCURB

LANDSCAPE COVERAGE CALCULATION:

SITE	98,855 S.F.
SITE LANDSCAPE	16,977 S.F.
SITE LANDSCAPED AREA PERCENTAGE	17%
MWD SITE	69,504 S.F.
MWD SITE LANDSCAPE	7,061 S.F.
MWD LANDSCAPED AREA PERCENTAGE	10%
TOTAL (SITE + MWD SITE)	168,359 S.F.
TOTAL LANDSCAPED AREA (SITE + MWD SITE)	24,038 S.F.
TOTAL LANDSCAPED AREA PERCENTAGE	14%

BOTANICAL NAME (ABBREVIATED) / PLANT COUNT / PLANT REF. — SF 200 SPE GEN A-1 — SPE GEN 100 SF A-1

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

PLAN CHECK NUMBER: LSPC24-00023

TRUE NORTH
1" = 20'-0"

CITY OF FONTANA, CALIFORNIA		
LANDSCAPE PLAN		
DRAWN BY: JL	FONTANA FIRE STATION NO. 80 6585 CHERRY AVENUE, FONTANA, CA 92336	SCALE: 1" = 20'-0"
DESIGNED BY: JK	LANDSCAPE PLAN	DATE: 06/05/2025
CHECKED BY: JK	APPROVED BY: GIA LAM KIM / CITY ENGINEER CITY ENGINEER R.C.E.62296	DATE: DRAWING NO.

PBK

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SAN BERNARDINO COUNTY FIRE DEPARTMENT
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Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — Ex.Date 03/31/27 — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — JUNG JOO KIM 6062 — Signature — 30 April 2026 — Renewal Date — STATE OF CALIFORNIA

CONSULTANT
CORNERSTONE STUDIOS, INC.
951 E Santa Ana Blvd, Santa Ana, CA 92701
714. 973. 2200 Voice
714. 973. 0203 Fax
LANDSCAPE ARCHITECTURE • URBAN DESIGN • PLANNING • RESOURCE ANALYSIS

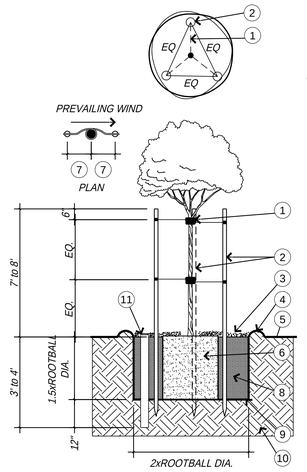
NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
2	2/11/2026		DELTA 2
#	REVISIONS		

DRAWN: JL **CHECKED:** JK
DATE: 1/26/2026 **SCALE:** AS NOTED
PROJECT NUMBER: W2100100AR

LANDSCAPE PLAN

DRAWING NUMBER: L2.1
SHEET 6 OF 7

80 SET



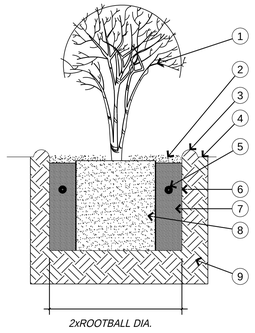
Detail Legend

1. TREE SUPPORT, BLACK CORDED RUBBER HOSE, SECURE TO THE POLE WITH GALV. NAIL AND CONNECTED WITH 12" GAUGE GALV. WIRE TO POST.
2. (3) PLUMB LODGEPOLE TREE STAKE, 2"x10'-0". STAKE SHALL NOT PIERCE ROOTBALL AND SHALL EXTEND INTO UNDISTURBED SOIL.
3. KEEP 3" THICK LAYER OF ORGANIC MULCH 6" CLEAR OF TREE TRUNK AND 8' DIAMETER MULCH FOR NEW TREES.
4. FLOOD 3" DEEP WATER BASIN TO PLUMB TREE TRUNK & SET GRADE OF ROOTBALL
5. FINISH GRADE
6. ROOTBALL, INSTALL 2" ABOVE GRADE.
7. 12" FOR MDL TB24 FOR 15 GAL TREE OR 18" FOR MDL TB36 FOR 24" TO 36" BOX
8. SEE SPECS FOR AMMENDED BACKFILL MIX.
9. SCARIFY PLANTING PIT EDGE
10. SITE SOIL, UNDISTURBED
11. FILL 3" PERF. PIPE W/ 3/4" CRUSHED ROCK CAP w/ ATRIUM GRATE. FOR 24" BOX & LARGER, UNLESS INDICATED OTHERWISE BY OWNER'S (OR CITY'S) REPRESENTATIVE

NOTE: MIN. (4) FLEXIBLE TIES [TOP & BOTTOM] REQUIRED. HOLD TREE IN UPRIGHT POSITION. TREE TIES TO BE HIGH IN THE CANOPY FOR WIND PROTECTION.

A TREE PLANTING (TRIPLE STAKE)

N.T.S.

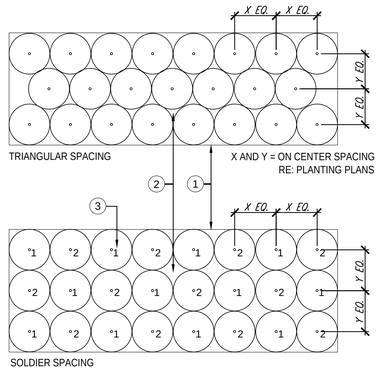


Detail Legend

1. SHRUB, 1 OR 5 GAL
2. KEEP 2" LAYER OF ORGANIC MULCH 6" CLEAR FROM PLANT CROWN.
3. FLOOD & SETTLE 3" DEEP WATER BASIN TO PLUMB PLANT STEM (TO GRADE) AND SET GRADE OF ROOTBALL
4. FINISH GRADE
5. FERTILIZER TABLET, SEE SPECS.
6. SCARIFY ALL SIDES OF PLANTING PIT
7. SEE PLANTING SPEC. FOR AMMENDED BACKFILL MIX
8. PLANT ROOTBALL 1/2" ABOVE FINISH GRADE & LOOSEN ROOTS IF NECESSARY.
9. SITE SOIL, UNDISTURBED

B SHRUB PLANTING

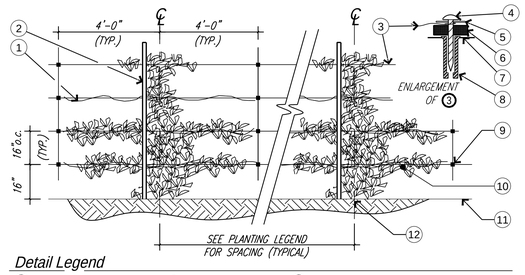
N.T.S.



1. EDGE OF PLANTING BED OR ADJACENT HARDSCAPE. GROUND COVER AND SHRUB SPACING MUST SHOW AN 18" - 24" MINIMUM SETBACK, OR AS NEEDED FROM PAVING (DEPENDING UPON SPECIES USED)
2. PLANT SPACING AS PER PLANS
3. ALTERNATION SEQUENCE WHEN TWO PLANT SPECIES OCCUR IN THE SAME PLANTING AREA

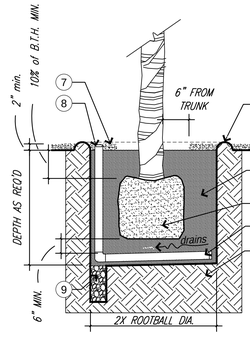
C VINE PLANTING

N.T.S.



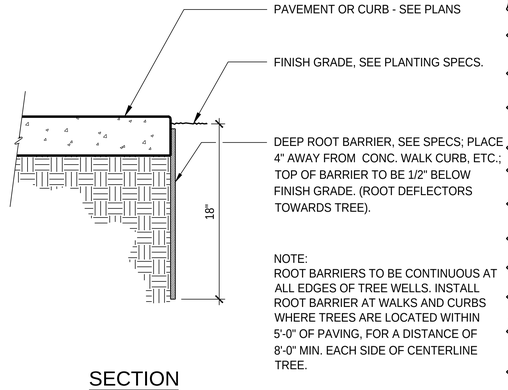
Detail Legend

1. ATTACH VINE TO WIRE USING 1" WIDE GREEN PLASTIC NURSERY TAPE @ 18" o.c.
2. REMOVE TEMPORARY NURSERY STAKE
3. 12 GA. GALVANIZED WIRE TWISTED AROUND LAG SCREW CONT. ALONG LENGTH OF WALL TO BE PLANTED
4. 1-1/2" X 1/4" DIA LAG SCREW
5. 1" GALVANIZED WASHER
6. PLASTIC SPACER
7. CMU BLOCK WALL
8. LEAD EXPANSION SHIELD
9. 1-1/2" EXPANSION SHIELD W/ 1/4" DIA. LAG SCREW SECURED TO CONC. BLOCK WALL
10. PLANT VINE PER SHRUB DETAIL
11. FINISH GRADE
12. 12" TRIANGLE BENDA BOARD VINE POCKET IN GRAVEL LOCATIONS. SEE SHEET L-2.1.



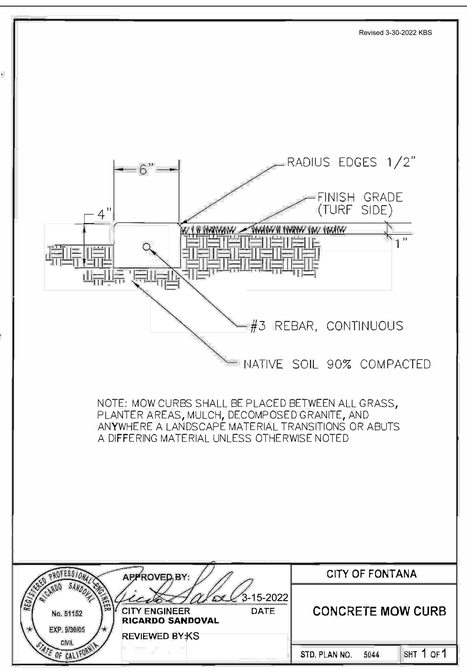
Detail Legend

1. WATERING BASIN (TO BE REMOVED WHEN GROUNDCOVER IS PLANTED)
2. FINISH GRADE
3. 100% COARSE SAND BACKFILL, (MECHANICALLY COMPACT AND JET W/ WATER)
4. ROOTBALL
5. 4" DIA. PERF. DRAIN LINE (2000# CRUSH POLYSTYRENE) WRAP W/ FILTER FABRIC SOCK-CENTER UNDER ROOTBALL PROVIDE END CAP & ELL AS INDICATED.
6. UNDISTURBED SITE SOIL
7. INERT MULCH, SEE SPECS
8. 4" DIA. REMOVABLE BLACK RUBBER PLUG DAYLIGHT @ FG.
9. 12" DIA. x 7' DEEP GRAVEL FILLED SUMP SLOPE PIT TO SUMP



NOTE:
ROOT BARRIERS TO BE CONTINUOUS AT ALL EDGES OF TREE WELLS. INSTALL ROOT BARRIER AT WALKS AND CURBS WHERE TREES ARE LOCATED WITHIN 5'-0" OF PAVING, FOR A DISTANCE OF 8'-0" MIN. EACH SIDE OF CENTERLINE TREE.

SECTION



D CONCRETE MOW CURB

N.T.S.

E GROUND COVER SHRUB SPACING

N.T.S.

F PALM PLANTING

N.T.S.

G ROOT BARRIER

N.T.S.

PLANTING NOTES

1. WORK SHALL MEET THE REQUIREMENTS OF ALL LOCAL, STATE, AND FEDERAL GOVERNING CODES, ORDINANCES, LAWS, REGULATIONS, SAFETY ORDERS AND DIRECTIVES.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF/HERSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES.
3. CONTRACTOR MUST CHECK ALL SITE CONDITIONS PRIOR TO COMMENCING WORK. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
4. ALL PLANT QUANTITIES ARE IDENTIFIED BY TYPICAL SYMBOLS. REFER TO PLANT LEGEND FOR QUANTITIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM ALL PLANT QUANTITIES PRIOR TO AWARDING. IN THE EVENT OF DISCREPANCIES IN PLANT COUNT, QUANTITIES INDICATED BY PLANT SYMBOLS SHALL PREVAIL.
5. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF, PRIOR TO AWARDING, ANY SPECIFIED PLANT MATERIAL IS FOUND TO BE UNAVAILABLE.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FURNISH PLANT MATERIAL FREE OF PESTS OR DISEASE.
7. ALL PLANT MATERIAL DELIVERED TO THE SITE SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
8. ALL AREAS LESS THAN 4:1 SLOPE SHALL BE COVERED WITH 3" ORGANIC MULCH. SUBMIT 1 CU. FT. SAMPLE PRIOR TO APPLICATION.
9. MINIMUM 2 SOIL SAMPLES SHALL BE TAKEN BY CONTRACTOR AFTER GRADING OPERATIONS ARE COMPLETED FOR SOIL FERTILITY AND AGRICULTURAL SUITABILITY TESTING AND RECOMMENDATIONS BY AN APPROVED LABORATORY. SEE SPECIFICATIONS FOR SOIL AMENDMENTS SPECIFIED FOR BIDDING PURPOSES ONLY. SUBMIT SOIL REPORT TO LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE AS PER RECOMMENDATIONS IN SOILS REPORT.
10. CONTRACTOR SHALL NOTIFY THE OWNER 48 HOURS PRIOR TO COMMENCEMENT OF WORK TO COORDINATE OPERATIONS.
11. THE OWNER SHALL BE THE SOLE JUDGE AS TO WHEN THE MAINTENANCE PERIOD BEGINS.
12. ALL TREES, STUMPS, ROCKS AND ASSOCIATED VEGETATION AND SOILS RESULTING PRIMARILY FROM LAND CLEARING SHALL BE REUSED OR RECYCLED AS REQUIRED BY CALGREEN 5.73.8.3 EXCEPTION: REUSE EITHER ON- OR OFF-SITE, OF VEGETATION OR SOIL CONTAMINATED BY DISEASE OR PEST INFESTATION. ROCKS GREATER THAN 3" IN DIAMETER SHALL BE REMOVED.
13. CONTRACTOR TO PROVIDE WARRANTY OF MIN. ONE YEAR FOR ALL TREES. ANY DEAD TREES SHALL BE REPLACED WITHIN THE WARRANTY PERIOD.

PLAN CHECK NUMBER: LSPC24-00023

CITY OF FONTANA, CALIFORNIA		
LANDSCAPE DETAILS		
DRAWN BY: JL	FONTANA FIRE STATION NO. 80 6585 CHERRY AVENUE, FONTANA, CA 92336	SCALE: NTS
DESIGNED BY: JK	LANDSCAPE DETAILS	DATE: 06/05/2025
CHECKED BY: JK	APPROVED BY: GIA LAM KIM / CITY ENGINEER DATE: CITY ENGINEER R.C.E.62296	DRAWING NO:

PBK
RANCHO CUCAMONGA
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CA 91730
909-987-0909 P

FONTANA FIRE STATION No. 80 & TRAINING CENTER

SAN BERNARDINO COUNTY FIRE DEPARTMENT
6585 Cherry Avenue, Fontana, CA 92336
Northeast of Cherry Avenue and South Highland Avenue

LICENSED ARCHITECT — KELLEY NEEDHAM C-19064 — Ve lar 03/31/27 — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — JUNG JOO SEOK — No. 6065 — Signature — 30 April 2026 — Renewal Date — Date — STATE OF CALIFORNIA

CONSULTANT
CORNERSTONE STUDIOS, INC.
951 E Santa Ana Blvd, Santa Ana, CA 92701
714. 973. 2200 Voice
714. 973. 0203 Fax
LANDSCAPE ARCHITECTURE • URBAN DESIGN • PLANNING • RESOURCE ANALYSIS

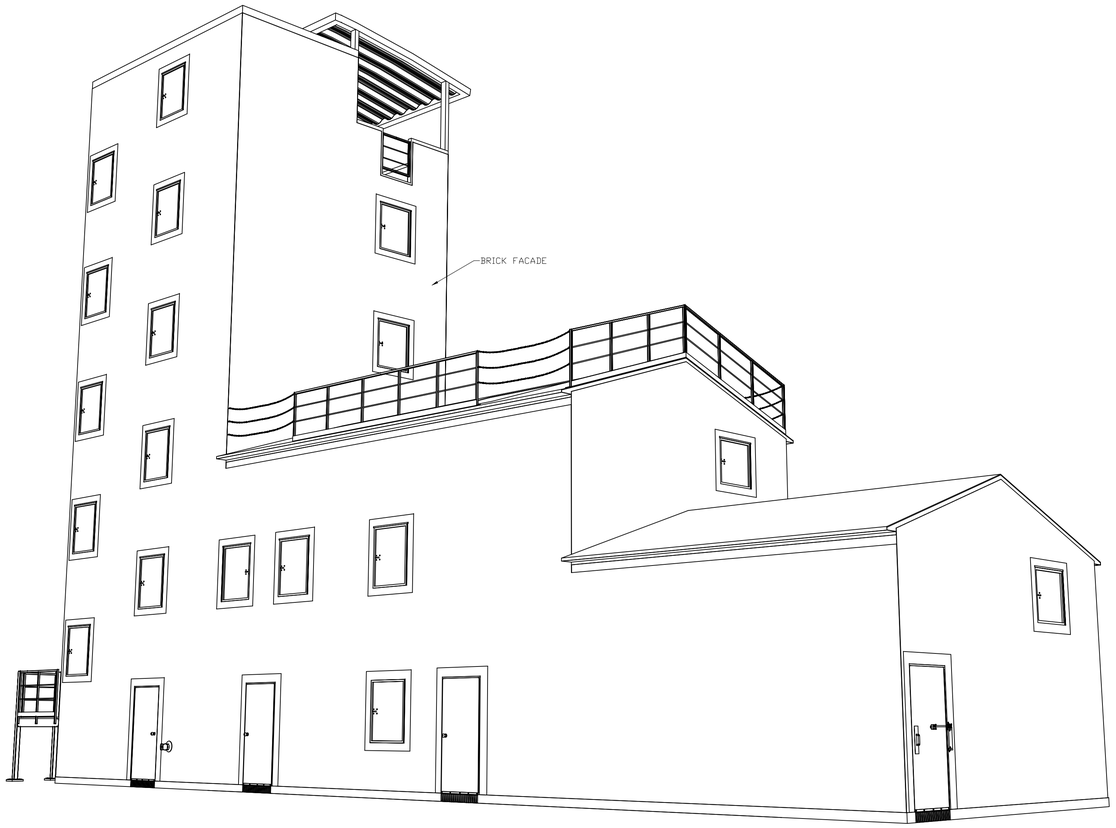
NO	DATE	BY	DESCRIPTION
1	12/4/2025		DELTA 1
	REVISIONS		

DRAWN: JL	CHECKED: JK
DATE: 08/12/2025	SCALE: AS NOTED
PROJECT NUMBER: W2100100AR	

LANDSCAPE DETAILS

DRAWING NUMBER: L2.2
SHEET 7 OF 7

80.SET



CUSTOM HIGH RISE - SIX STORY
FONTANA FIRE PROTECTION DISTRICT

GENERAL NOTES

1) THIS INFORMATION CONFORMS TO ALL APPLICABLE STANDARDS FOR FIRE TRAINING SIMULATORS AT THE TIME OF PREPARATION.

2) THE ERECTION CONTRACTOR ASSUMES RESPONSIBILITY FOR ALL MATERIALS, AT THE TIME OF DELIVERY. THIS CONTRACTOR IS ALSO RESPONSIBLE TO ACCOUNT FOR ALL MATERIAL, AT TIME OF DELIVERY. IF THERE IS A DISCREPANCY IN THE MATERIAL DELIVERED, CONTACT WHP TRAININGTOWERS IMMEDIATELY IN ORDER TO MAKE PROPER ARRANGEMENTS TO PROVIDE THE NECESSARY MATERIAL.

3) THIS SET OF DRAWINGS IS INTENDED AS A CONCEPTUAL SET, PROVIDED FOR SECONDARY REFERENCE ONLY. REFER TO BEHLEN INDUSTRIES CONSTRUCTION DRAWINGS AND THE MISCELLANEOUS METALS DRAWINGS AS PRIMARY REFERENCE FOR EXACT MATERIAL DIMENSIONS, ERECTION, AND PROCEDURES.

4) THESE DRAWINGS, SPECIFICATIONS, IDEAS, DESIGNS, AND ARRANGEMENTS ARE AND SHALL REMAIN THE PROPERTY OF WHP TRAININGTOWERS AND NO PART THERE OF SHALL BE COPIED, REPRODUCED, OR USED IN CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THEY HAVE BEEN PREPARED WITHOUT WRITTEN CONSENT FROM WHP TRAININGTOWERS.

5) WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. INSTALLING CONTRACTORS OR OWNERS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND WHP TRAININGTOWERS SHALL BE NOTIFIED IMMEDIATELY OF ANY VARIATIONS OR DISCREPANCIES FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. ANY FIELD CHANGES OR MODIFICATIONS TO EITHER THE STRUCTURE OR ADDITIVE COMPONENTS MUST BE REPORTED AND APPROVED BY WHP TRAININGTOWERS PRIOR TO PERFORMING ANY WORK.

6) MISCELLANEOUS FIELD CUTTING AND FITTING OF BOTH STRUCTURAL AS WELL AS LIGHT GAUGE FRAMING COMPONENTS WILL BE NECESSARY TO BE ABLE TO PERFORM THE INSTALLATION PROCEDURES REQUIRED AND WILL BE CONSIDERED AS A STANDARD CONDITION AND REQUIREMENT FOR ERECTION OF THIS LIVE FIRE TRAINING SIMULATOR AND ITS COMPONENTS.

7) DOORS SHALL BE PAINTED 11 GA STEEL REINFORCED WITH STEEL CHANNEL. EACH EXTERIOR NON-BURN ROOM DOOR SHALL BE PROVIDED WITH (1) HEAVY-DUTY STAINLESS STEEL CONTINUOUS HINGE AND (1) COMMERCIAL GRADE KEYED LOCKSET. EACH INTERIOR NON-BURN ROOM DOOR SHALL BE PROVIDED WITH (1) HEAVY-DUTY STAINLESS STEEL CONTINUOUS HINGE AND (1) COMMERCIAL GRADE PASSAGE SET. EACH BURN ROOM DOOR SHALL BE PROVIDED WITH (1) HEAVY-DUTY STAINLESS STEEL CONTINUOUS HINGE, (1) SPRING-TYPE CLOSING DEVICE, (1) DOOR PULL, (1) ROLLER CATCH, AND (1) HASP FOR USE IN SECURING THE BUILDING WHEN NOT IN USE. ANY DOUBLE DOORS SHALL BE PROVIDED WITH (1) METAL ASTRIGAL, (1) INACTIVE LEAF, AND (1) CANE BOLT. DOOR HINGES SHALL BE MOUNTED TO STUDS A MINIMUM OF 4"X 12 GA. ALL FRAMED DOOR OPENINGS THAT DO NOT SIT ON THE CONCRETE STEM WALL SHALL EXTEND 6" FROM THE BOTTOM OF DOOR SLAB TO PROVIDE A 6"OPENING UNDER THE DOOR. ALL DOORS SHALL HAVE (1) HIGH-TEMP DOOR SWEEP INSTALLED ON THE OUTSWING SIDE OF THE DOOR TO COVER THE 6"OPENING. THE DOOR SWEEP SHALL DRAG AGAINST THE FINISHED FLOOR LEVEL.

8) WINDOW CLOSURES SHALL BE PAINTED 12 GA HOT-DIPPED GALVANIZED SINGLE LEAVES WITH A 1" DEEP PAN FRAME DESIGN. EACH NON-BURN ROOM CLOSURE ACCESSIBLE FROM THE GROUND SHALL BE PROVIDED WITH (1) STAINLESS STEEL CONTINUOS HINGE, (1) SLAM LATCH, (1) KEYED LEVER ON THE EXTERIOR SIDE OF THE CLOSURE, (1) PASSAGE LEVER ON THE INTERIOR SIDE OF THE CLOSURE, AND (1) HOLD-OPEN DEVICE. EACH NON-BURN ROOM CLOSURE NOT ACCESSIBLE FROM THE GROUND SHALL BE PROVIDED WITH (1) STAINLESS STEEL CONTINUOS HINGE, (1) SLAM LATCH, (1) PASSAGE LEVER ON THE EXTERIOR SIDE OF THE CLOSURE, (1) PASSAGE LEVER ON THE INTERIOR SIDE OF THE CLOSURE, AND (1) HOLD-OPEN DEVICE. EACH BURN ROOM CLOSURE SHALL BE PROVIDED WITH ONE OF THE ABOVE HARDWARE SETS AND SHALL INCLUDE (3) "PADGENITE" MOUNTING CHANNELS WELDED ON THE INTERIOR SIDE OF THE CLOSURE. ALL CLOSURES SHALL BE INSTALLED WITH EQUAL SPACING BETWEEN THE FRAMED OPENING AND THE CLOSURE PAN. ALL SILL ELEVATIONS SHALL BE 42" ABOVE FINISHED FLOOR ELEVATION.

9) FLOOR DECKS ABOVE GRADE SHALL BE CONCRETE OVER GALVANIZED 1.5" "C" DECK FASTENED DIRECTLY TO LEVEL FLOOR JOISTS PER THE BEHLEN INDUSTRIES CONSTRUCTION DRAWINGS. ALL FLOOR DECKS SHALL REQUIRE FIELD CUTTING AND FITTING AS REQUIRED TO ACCOMMODATE THE BUILDING CONFIGURATION. CONCRETE FILL SHALL BE PROVIDED OVER THE "C"DECK WITH MINIMUM 4" DEPTH AT THE EXTERIOR WALLS. CONCRETE SHALL BE A SMALL AGGREGATE CONCRETE WITH FIBER MESH REINFORCING. CONCRETE SHALL BE PITCHED TO EXTERIOR WALLS AND/OR DRAINS. FINISH SHALL BE A SLIP RESISTANT FINISH. (CONCRETE FILL BY OTHERS)

10) ALL CORRUGATED WALL PANELS ARE TO BE PREFINISHED IN ONE OF 9 STANDARD COLORS. COMPOUND CORRUGATED WALL PANELS ARE 3'-5" WIDE AND 4¾" DEEP. COMPOUND CORRUGATED ROOF PANELS ARE TO BE GALVANIZED 3'-5" WIDE AND 7⅛" DEEP. ALL WALL AND ROOF PANELS ARE TO BE BOLTED AT 6" O.C. INCREMENTS UTILIZING 3/8" DIAMETER BOLT FASTENERS PROVIDED IN A COLOR TO MATCH THE WALL OR ROOF PANEL COLOR.

11) ALL INTERIOR WALL PARTITIONS SHALL BE CONSTRUCTED OF 4" X 18 GA GALVANIZED METAL STUDS AT 24" O.C. AND 4-1/8" X 18 GA GALVANIZED METAL TRACK. STUDS AT DOOR JAMB HINGES SHALL BE 4"X 12 GA. ALL SIDES OF INTERIOR PARTITIONS NOT RECEIVING BURN ROOM PANELS SHALL RECEIVE 18 GA GALVANIZED SHEETING FASTENED WITH #8 X 5/8" LOW PROFILE TEK SCREWS AT 12" O.C.

DESIGN LOADS

ROOF LOAD	--	100 PSF
FLOOR LOAD	--	100 PSF
ATTIC LOAD	--	100 PSF
WIND LOAD	--	-- MPH
WIND EXPOSURE	--	--

WINDOW SHUTTER HARDWARE PACKAGES

MARK #	DESCRIPTION	ROUGH OPENING	SHUTTER LEAF	LOCKING HANDLE KIT	NON-LOCKING HANDLE KIT	HOLD OPEN	THERMAL LINING CHANNELS
W1	LOCKING WINDOW SHUTTER	38"x49"	1	1		1	
W2	LOCKING BURN ROOM SHUTTER	38"x49"	1	1		1	1
W3	LOCKING ATTIC SHUTTER	38"x37"	1	1		1	
W4	NON-LOCKING WINDOW SHUTTER	38"x49"	1		1	1	
W5	NON-LOCKING BURN ROOM SHUTTER	38"x49"	1		1	1	1
W6	NON-LOCKING ATTIC SHUTTER	38"x37"	1		1	1	

DOOR HARDWARE PACKAGES

MARK #	DESCRIPTION	ROUGH OPENING	DOOR LEAF	INACTIVE LEAF	DOOR SWEEP	DOOR KNOB PLATE	LOCKING KNOB SET	PASSING KNOB SET	BURN DOOR KIT	SLIDE LATCH	BARREL BOLT	CANE BOLT
D1	EXTERIOR SINGLE PLATE DOOR	38"x91"	1		1	1	1					
D2	EXTERIOR SINGLE BURN ROOM DOOR	38"x91"	1		1				1	1		
D3	EXTERIOR DOUBLE PLATE DOOR	79"x91"	1	1	2	1	1			1	1	1
D4	EXTERIOR DOUBLE BURN ROOM DOOR	79"x91"	1	1	2				1	1	1	1
D5	INTERIOR SINGLE PLATE DOOR	38"x91"	1		1	1		1				
D6	INTERIOR SINGLE BURN ROOM DOOR	38"x91"	1		1				1	1		
D7	INTERIOR DOUBLE PLATE DOOR	79"x91"	1	1	2	1		1			1	
D8	INTERIOR DOUBLE BURN ROOM DOOR	79"x91"	1	1	2				1	1	1	

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CUSTOM HIGH RISE - SIX STORY
FIRE TRAINING SIMULATOR

FONTANA FIRE PROTECTION DISTRICT TRAINING SIMULATOR

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REVIEWED BY:	JPK	3			
PRINT DATE:	05-12-25	4			

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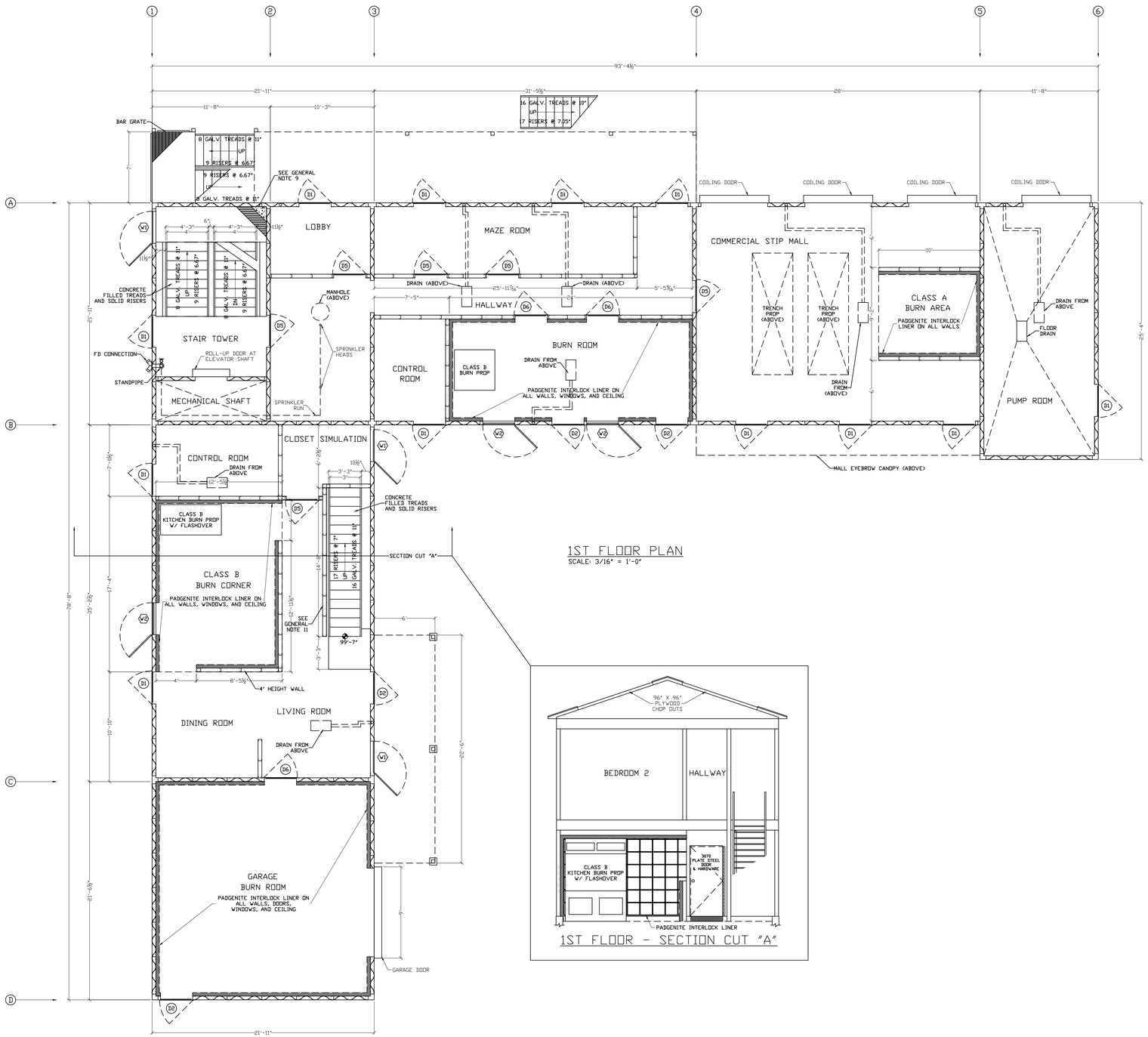

1ST FLOOR PLAN
SCALE: 3/16" = 1'-0"

1ST FLOOR - SECTION CUT "A"

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FIRST FLOOR PLAN AND SECTION

1

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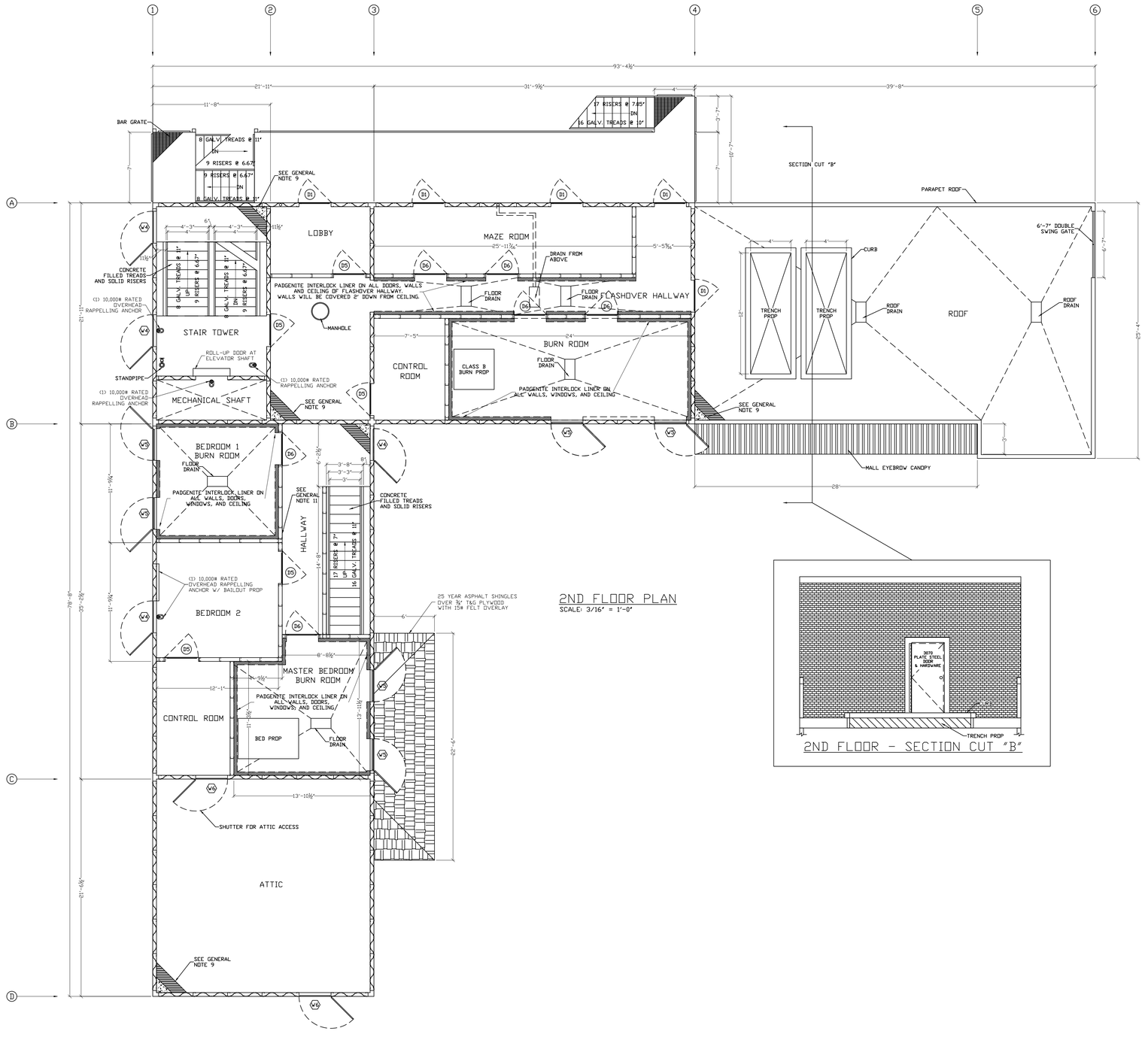

2ND FLOOR PLAN
SCALE: 3/16" = 1'-0"

2ND FLOOR - SECTION CUT "B"

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SECOND FLOOR PLANS

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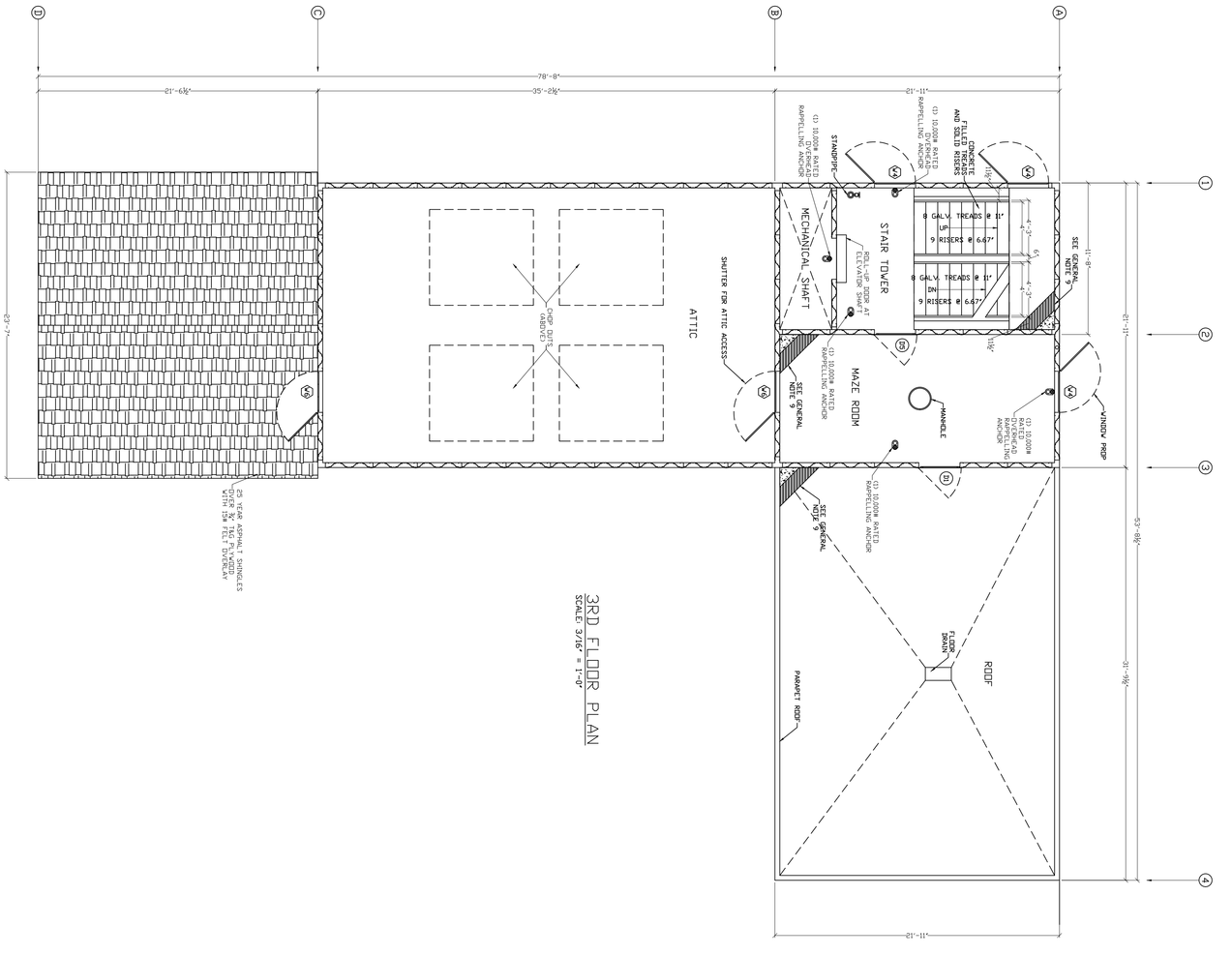

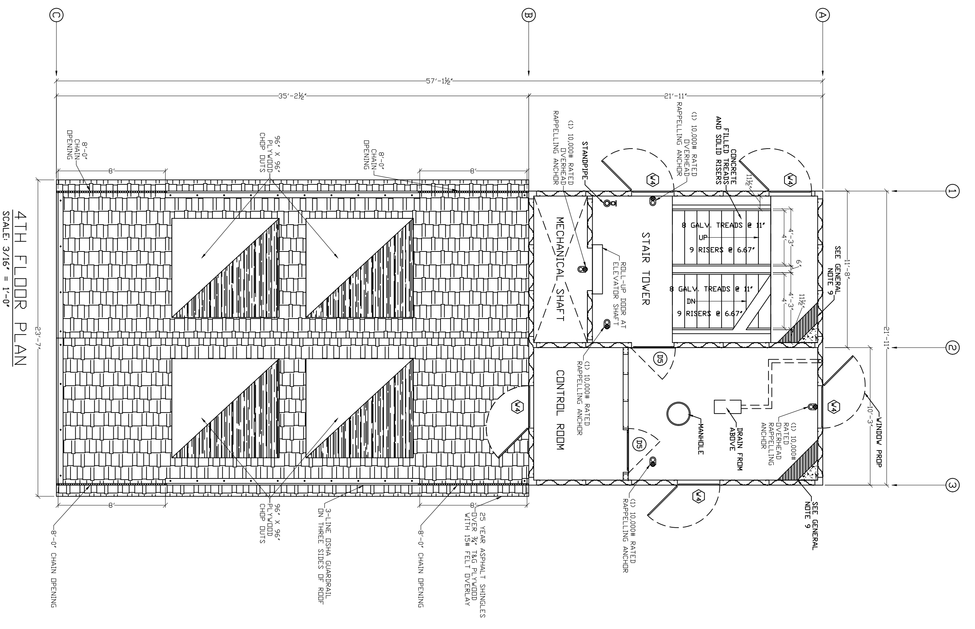

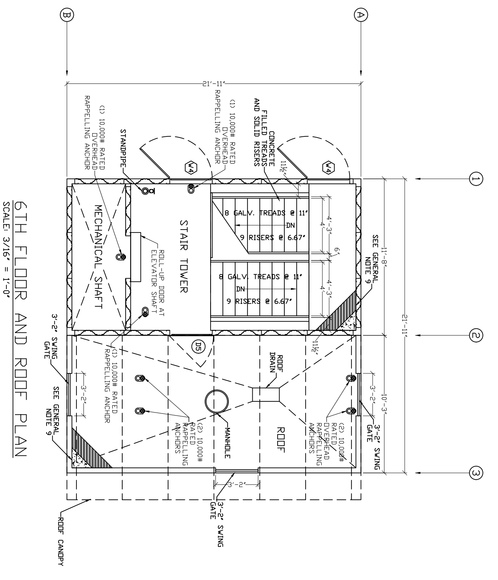

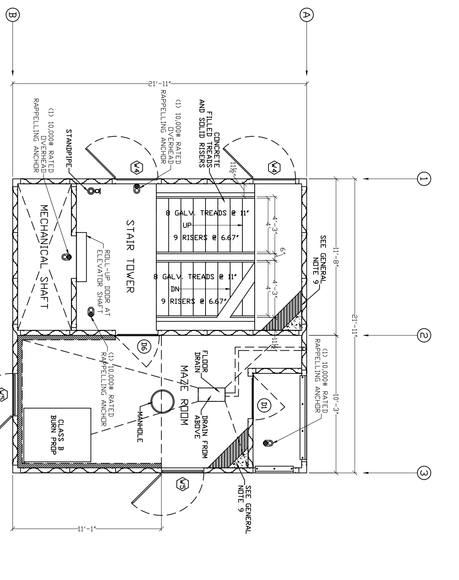

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THIRD, FOURTH, FIFTH AND SIXTH FLOOR PLANS

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CUSTOM HIGH RISE - SIX STORY FIRE TRAINING SIMULATOR

FONTANA FIRE PROTECTION DISTRICT TRAINING SIMULATOR

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FRONT SIDE ELEVATION

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PROJECT NUMBER:	00-W-000
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FRONT SIDE ELEVATIONS

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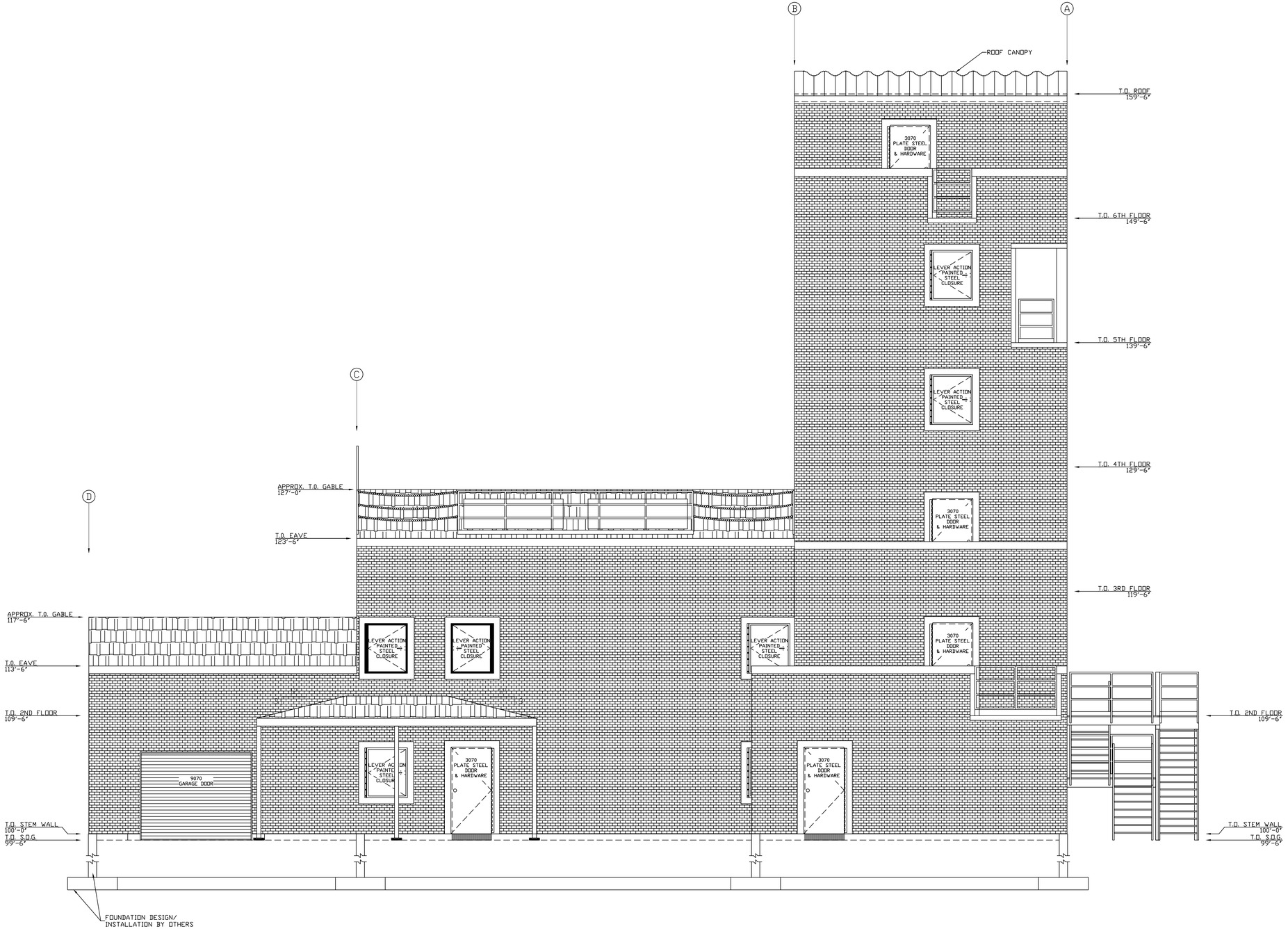

RIGHT SIDE ELEVATION

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

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RIGHT SIDE ELEVATIONS

5

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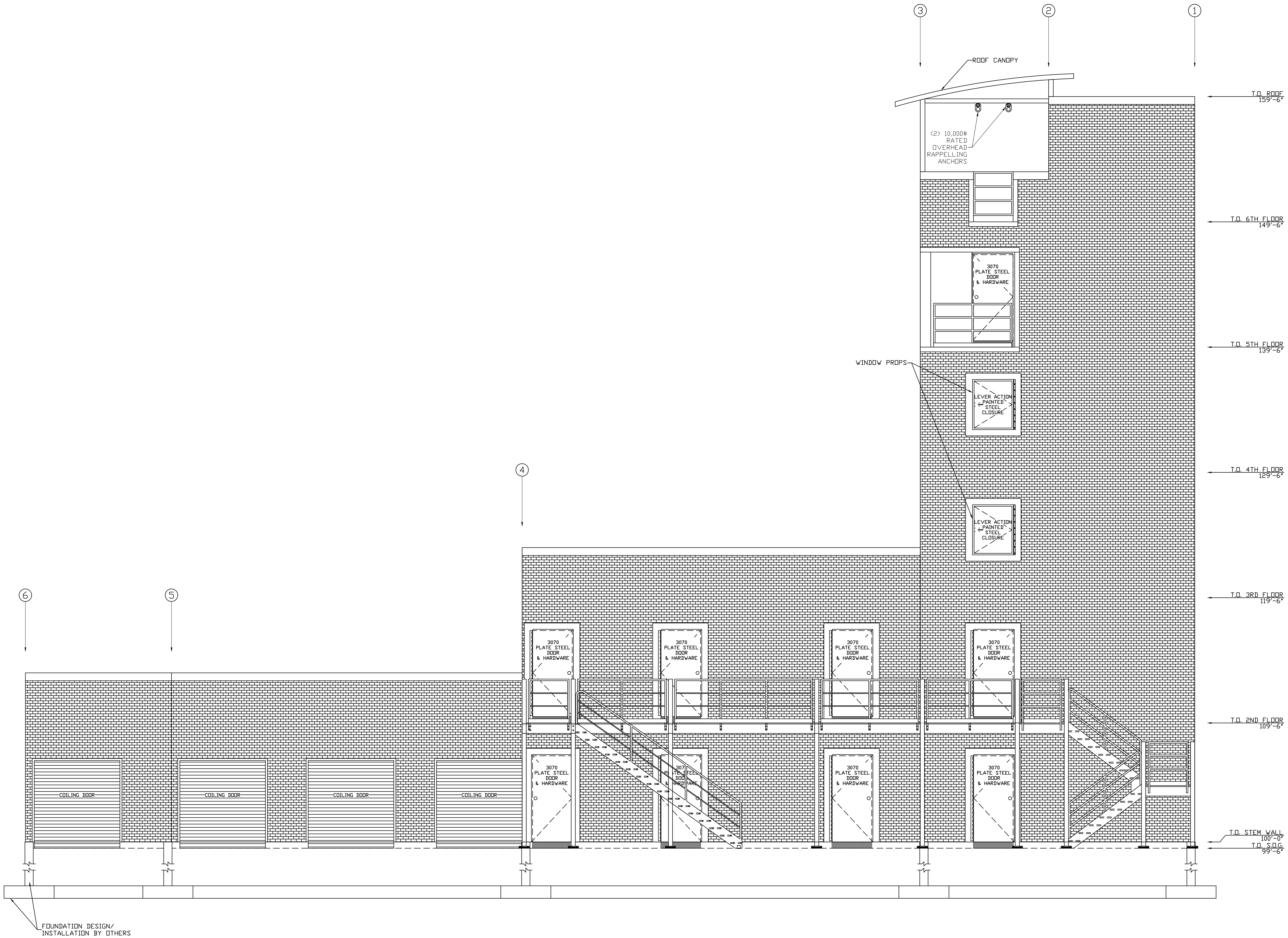

REAR SIDE ELEVATION

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

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REAR SIDE ELEVATIONS

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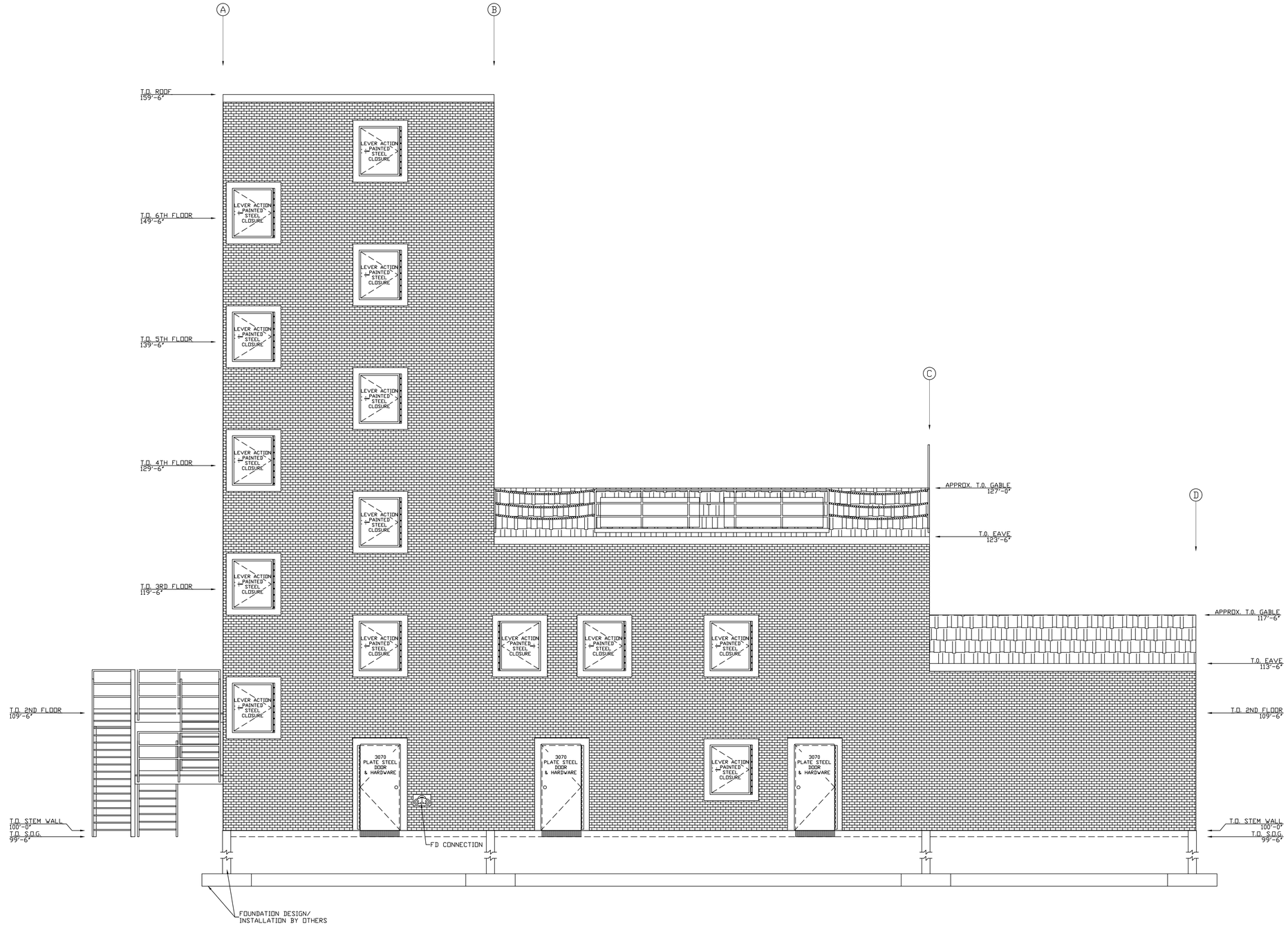

LEFT SIDE ELEVATION
SCALE: 1/4" = 1'-0"

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FONTANA FIRE PROTECTION DISTRICT TRAINING SIMULATOR

THIS INFORMATION CONFORMS TO ALL APPLICABLE STANDARDS FOR FIRE TRAINING SIMULATORS AT THE TIME OF PREPARATION.

THE ERECTION CONTRACTOR ASSUMES RESPONSIBILITY FOR ALL MATERIALS AT THE TIME OF DELIVERY. THIS CONTRACTOR IS ALSO RESPONSIBLE TO ACCOUNT FOR ALL MATERIAL AT TIME OF DELIVERY. IF THERE IS ANY DISCREPANCY IN THE MATERIAL DELIVERED, CONTACT WHP TRAININGTOWERS IMMEDIATELY IN ORDER TO MAKE PROPER ARRANGEMENTS TO PROVIDE THE NECESSARY MATERIAL.

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REVISION DATES	
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2	
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PROJECT NUMBER: 00-W-000
PROJECT ERECTOR:
DRAWN BY: JCW
REVIEWED BY: JPK
PRINT DATE: 05-12-25

LEFT SIDE ELEVATIONS

7

BID SET

(REFERENCE ONLY)