

VICINITY MAP

# FRESNO COUNTY ENVIRONMENTAL COMPLIANCE CENTER PHASE 2 - OFFICE / STORAGE BUILDING

310 S. West Avenue  
Fresno CA, 93706

**PROJECT DATA:**

PROJECT NAME:  
FRESNO COUNTY ENVIRONMENTAL COMPLIANCE CENTER OFFICE STORAGE BUILDING

ADDRESS:  
310 S. WEST AVENUE, FRESNO, CA. 93706

APN: 458-060-72

SITE AREA: 2.68 ACRE  
(SITE WORK IS SUBMITTED UNDER SEPARATE PERMIT)

OFFICE/ STORAGE BUILDING AREA: 612 S.F.  
OFFICE/ STORAGE BUILDING OVERHANG AREA: 620 S.F.

TOTAL BUILDING AREA: 1232 S.F.

TYPE OF CONSTRUCTION: V-B (SPRINKLERED)

OCCUPANCY GROUP: BUSINESS (B) / STORAGE (S1)

ZONING: M-1 LIGHT MANUFACTURING DISTRICT

**SCOPE OF WORK:**

THE WORK CONSISTS OF CONSTRUCTION OF A NEW 612 SQUARE FEET OFFICE/ STORAGE BUILDING, SITE WORK AND OTHER BUILDINGS ON THE SITE ARE SUBMITTED UNDER SEPARATE PERMIT.

**STRUCTURES UNDER SEPARATE PERMIT:**

THE FOLLOWING STRUCTURES ARE SUBMITTED TO COUNTY OF FRESNO FOR APPROVAL AND ISSUANCE OF SEPARATE PERMITS:

1. PHASE 1; SITE AND SHADE STRUCTURE
2. PHASE 3; WAREHOUSE

**DEFERRED APPROVAL:**

1. FIRE SPRINKLERS: CONTRACTOR TO SUBMIT PLANS TO AND OBTAIN PERMIT FROM FRESNO COUNTY PRIOR TO INSTALLATION OF THE FIRE SPRINKLERS. LAYOUT AND DETAIL OF THE FIRE SPRINKLER SHALL BE REVIEWED AND APPROVED BY THE ARCHITECT AND FRESNO FIRE DEPARTMENT (FFD) PRIOR TO SUBMITTING THE PLANS TO FRESNO COUNTY. THE FIRE SPRINKLER SYSTEM SHALL BE INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR AND SHALL BE INSPECTED AND APPROVED BY THE APPROPRIATE FIRE MARSHAL PRIOR TO APPROVAL OF OCCUPANCY OF THE BUILDING. SEE SPECIFICATIONS.
2. FIRE ALARMS: CONTRACTOR SHALL SUBMIT PLANS TO AND OBTAIN PERMIT FROM FRESNO COUNTY AND FRESNO FIRE DEPARTMENT FOR THE INSTALLATION OF FIRE ALARM SYSTEM. SEE SPECIFICATIONS. GENERAL CONTRACTOR SHALL COORDINATE FIRE ALARM SYSTEM INTERFACES BETWEEN FIRE ALARM CONTRACTOR, SPRINKLER CONTRACTOR, MECHANICAL CONTRACTOR AND ANY OTHER PERTINENT TRADES (FIRE ALARM, SPRINKLER SYSTEM, HOOD AND VENT EXTINGUISHING SYSTEM, HVAC, FIRE SMOKE DAMPERS, ETC.) ALL WORK MUST REMAIN VISIBLE AND MAY NOT BE COVERED UNTIL REQUIRED FIRE INSPECTIONS HAVE BEEN COMPLETED BY THE FIRE DEPARTMENT.

**GENERAL NOTES:**

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO STRICTLY COMPLY WITH DIMENSIONS ON THE DRAWINGS RELATING TO ACCESSIBILITY ELEMENTS, DIMENSIONS THAT DO NOT SPECIFY "MINIMUM" (MIN) OR "MAXIMUM" (MAX) TOLERANCES SHALL BE CONSIDERED AS "ABSOLUTE". MINIMUM AND MAXIMUM DIMENSIONS SHALL BE CONSIDERED THE ABSOLUTE TOLERANCE LIMITS. ACCESSIBILITY ELEMENTS INSTALLED THAT DO NOT COMPLY WITH DIMENSIONAL CONSTRAINTS SHALL BE REMOVED AND REINSTALLED WITH NO ADDITIONAL COST TO THE COUNTY OF FRESNO.
2. CHANGES FROM THE APPROVED PLANS DURING THE COURSE OF CONSTRUCTION SHALL CAUSE CONSTRUCTION SPECIFIC TO THE AREA OF CHANGE TO BE SUSPENDED UNTIL SUCH TIME AS THE PLANS CAN BE AMENDED BY THE ARCHITECT AND SUBMITTED TO THE COUNTY FOR REVIEW AND APPROVAL [CBC 107].
3. THE CONTRACTOR SHALL PROVIDE (1) ONE NFPA CLASS 2A-10BC FIRE EXTINGUISHER AT THE JOB SITE DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WORK SITE IN A SECURED CONDITION.
5. CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION AND CBC CHAPTER 33, SAFEGUARDS DURING CONSTRUCTION SHALL BE STRICTLY FOLLOWED.
6. THE APPROVAL OF THESE PLANS AND SPECIFICATIONS DOES NOT PERMIT THE VIOLATION OF ANY SECTION OF THE BUILDING CODE, MUNICIPAL ORDINANCES, OR STATE LAWS.
7. THESE APPROVED PLANS AND RELATED DOCUMENTS MUST BE AVAILABLE AT THE JOB SITE DURING ANY INSPECTION ACTIVITY.
8. SOILS AND SPECIAL CONCRETE TESTING SHALL BE CONDUCTED BY THE FRESNO COUNTY MATERIALS AND TESTING LABORATORY.
9. STEEL FABRICATION SPECIAL INSPECTION SHALL BE CONDUCTED BY KRAZAM AND ASSOCIATES, 215 WEST DAKOTA AVENUE CLOVIS, CA 93612 (559-348 2200)
10. CONTRACTOR SHALL PROVIDE A CHEMICAL TOILET ON SITE DURING CONSTRUCTION.
11. CONSTRUCTION WASTE MANAGEMENT PLAN MUST BE FINALIZED PRIOR TO OCCUPANCY.

**FRESNO FIRE DEPARTMENT NOTES:**

1. SUBMIT PLANS TO AND OBTAIN PERMIT FROM THE FIRE PREVENTION DIVISION FOR THE INSTALLATION OR MODIFICATION OF FIRE SPRINKLER SYSTEM. INSTALLATIONS MUST ALSO COMPLY WITH FFD POLICY SECTION 403. FFD POLICIES CAN BE FOUND ON THE FIRE DEPARTMENT WEBSITE UNDER FIRE PREVENTION & INVESTIGATION, FIRE DEPARTMENT POLICIES.
2. SUBMIT PLANS TO AND OBTAIN PERMIT FROM THE FIRE PREVENTION DIVISION FOR THE INSTALLATION OR MODIFICATION OF FIRE ALARM SYSTEM. SEE FFD POLICY 401.012.
3. THE GENERAL CONTRACTOR SHALL COORDINATE THE FIRE ALARM SYSTEM INTERFACES BETWEEN THE FIRE ALARM CONTRACTOR, SPRINKLER CONTRACTOR, MECHANICAL CONTRACTOR AND ANY OTHER PERTINENT TRADES (FIRE ALARM, SPRINKLER SYSTEM, HOOD AND VENT EXTINGUISHING SYSTEM, HVAC, FIRE SMOKE DAMPERS, ETC.). ALL WORK MUST REMAIN VISIBLE AND MAY NOT BE COVERED UNTIL THE REQUIRED FIRE INSPECTIONS HAVE BEEN COMPLETED BY THE FIRE DEPARTMENT.
4. EMERGENCY ALARM SYSTEM INTERCONNECTION REQUIREMENTS: WHERE AN EMERGENCY ALARM SYSTEM IS REQUIRED BY THIS SECTION AND A BUILDING FIRE ALARM IS INSTALLED, THE EMERGENCY ALARM SYSTEM SHALL BE INTERCONNECTED WITH AND SUPERVISED BY THE BUILDING FIRE ALARM SYSTEM. FMC 10-50402.4 AND NFPA SECTIONS 10.1 AND 10.10, IF APPLICABLE.
5. ALL WEATHER ACCESS ROADS SHALL BE INSTALLED AND MAINTAINED IN A SERVICEABLE CONDITION PRIOR TO AND DURING CONSTRUCTION. (FFD DEVELOPMENT POLICY 403.002)
6. ADDRESS IDENTIFICATION. FOR NEW AND EXISTING BUILDINGS, THE FIRE CODE OFFICIAL IS AUTHORIZED TO REQUIRE APPROVED ADDRESS OR BUILDING IDENTIFICATION SIGNAGE AS NEEDED TO READILY DETERMINE THE BUILDING OR AREA OF A BUILDING PROTECTED BY FIRE DEPARTMENT CONNECTIONS. FMC SECTION 10-50412.2.3.

**CODE CITATIONS:**

THE LATEST ADOPTED ADDITIONS OF THE CODES, STANDARDS AND REGULATIONS REQUIRED BY THE LOCAL JURISDICTION SHALL GOVERN ALL WORK IN THESE CONSTRUCTION DOCUMENTS INDICATED BY THE FOLLOWING.

**APPLICABLE STATE CODES:**

- TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
- TITLE 24 CCR, PART 1 - 2019 BUILDING STANDARDS ADMINISTRATIVE CODE
- TITLE 24 CCR, PART 2 - 2019 CALIFORNIA BUILDING CODE (CBC)
- TITLE 24 CCR, PART 3 - 2019 CALIFORNIA ELECTRICAL CODE (CEC)
- TITLE 24 CCR, PART 4 - 2019 CALIFORNIA MECHANICAL CODE (CMC)
- TITLE 24 CCR, PART 5 - 2019 CALIFORNIA PLUMBING CODE (CPC)
- TITLE 24 CCR, PART 6 - 2019 CALIFORNIA ENERGY CODE
- TITLE 24 CCR, PART 9 - 2019 CALIFORNIA FIRE CODE (CFC)
- TITLE 24 CCR, PART 11 - 2019 CALIFORNIA GREEN BUILDING STANDARDS
- TITLE 24 CCR, PART 12- 2019 CALIFORNIA REFERENCED STANDARDS

**APPLICABLE CODE OF ORDINANCE:**

COUNTY OF FRESNO ORDINANCE TITLE 15

**APPLICABLE REFERENCE STANDARDS:**

- 2019 NFPA 13, AUTOMATIC SPRINKLER SYSTEMS (GA AMENDED)
- 2019 NFPA 12, NATIONAL FIRE ALARM CODE (GA AMENDED); SEE UL STD. 1911 FOR "VISUAL DEVICES"

**SHEET INDEX:**

60.0 COVER

**ARCHITECTURAL SHEETS 13 SHEETS**

- A1.1 REFERENCE OVERALL SITE PLAN (SUBMITTED AS PHASE 1)
- A1.2 REFERENCE ENLARGED SITE PLAN (SUBMITTED AS PHASE 1)
- A2.1 FLOOR PLANS & ELEVATIONS
- A2.2 REFLECTED CEILING PLAN & ROOF PLAN
- A3.1 INTERIOR ELEVATIONS & FINISH SCHEDULE
- A3.2 DOOR SCHEDULE & WINDOW ELEVATION
- A3.3 TYPICAL DETAILS
- A4.1 BUILDING SECTIONS & WALL SECTIONS
- A4.2 WALL SECTIONS
- A4.3 CANOPY DETAILS
- A5.1 CALGREEN COMPLIANCE SHEET 1
- A5.2 CALGREEN COMPLIANCE SHEET 2
- A5.3 CALGREEN COMPLIANCE SHEET 3

**STRUCTURAL SHEETS 3 SHEETS**

- S2.1 FOUNDATION PLAN & DETAILS
- S2.2 ROOF FRAMING PLAN, CEILING FRAMING PLAN & DETAILS
- S2.3 CANOPY DETAILS

**PLUMBING SHEETS 3 SHEETS**

- P1.2 OFFICE/ STORAGE BUILDING PLUMBING PLAN
- P2.0 OFFICE/ STORAGE BUILDING PLUMBING SCHEDULES AND DETAILS
- P2.1 OFFICE/ STORAGE BUILDING RISER DETAILS

**MECHANICAL SHEETS 5 SHEETS**

- M1.0 OFFICE/ STORAGE/ TOILET ROOM BUILDING MECHANICAL PLAN
- M2.0 OFFICE BUILDING MECHANICAL SCHEDULES AND DETAILS
- M2.1 MECHANICAL SCHEDULES AND DETAILS
- M2.2 MECHANICAL TITLE 24
- M2.3 MECHANICAL TITLE 24

**ELECTRICAL SHEETS 6 SHEETS**

- E1.1 OFFICE/ STORAGE BUILDING ELECTRICAL NOTES AND SYMBOLS
- E1.2 LIGHTING SCHEDULES AND DETAILS
- E1.3 POWER DETAILS AND SCHEDULES
- E1.4 TITLE 24 COMPLIANCE DOCUMENTS
- E1.5 TITLE 24 COMPLIANCE DOCUMENTS
- E2.1 OFFICE/ STORAGE BUILDING ELECTRICAL PLANS

TOTAL: 31 SHEETS

**CONTRACT DOCUMENTS:**

**ARCHITECT OF RECORD:**

TIANA L. PEREZ, ARCHITECT

CALIFORNIA LICENSED ARCHITECT NO. C-38000  
REN. 01-31-23  
FRESNO COUNTY DEPARTMENT OF PUBLIC WORKS & PLANNING DEVELOPMENT SERVICES AND CAPITAL PROJECTS DIVISION  
2220 TULARE STREET, EIGHTH FLOOR  
FRESNO, CALIFORNIA 93721  
OFFICE: (559) 600-4536  
E-MAIL: TPerez@fresnocounty.gov

**CONSULTANTS:**

CIVIL / LANDSCAPE ENGINEER OF RECORD:

LARS ANDERSEN & ASSOCIATES, INC.  
DANIEL ZOLDAK  
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4694 W. JAGGIELYN AVE.  
FRESNO CA, 93722  
OFFICE: 559-216-2190  
E-MAIL: LAINFO@LARSANDERSEN.COM

MECHANICAL / PLUMBING ENGINEER OF RECORD:

LAWRENCE ENGINEERING GROUP  
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7084 NORTH MAPLE AVENUE, SUITE 101  
FRESNO CA, 93720  
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ELECTRICAL ENGINEER OF RECORD:

HARDIN DAVIDSON ENGINEERING  
SCOTT DAVIDSON  
LIC.# EI1850  
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CLOVIS CA, 93612  
OFFICE: 559-323-4495  
E-MAIL: SD@HARDIN-DAVIDSON.COM

ARCHITECTURAL CONSULTANT:

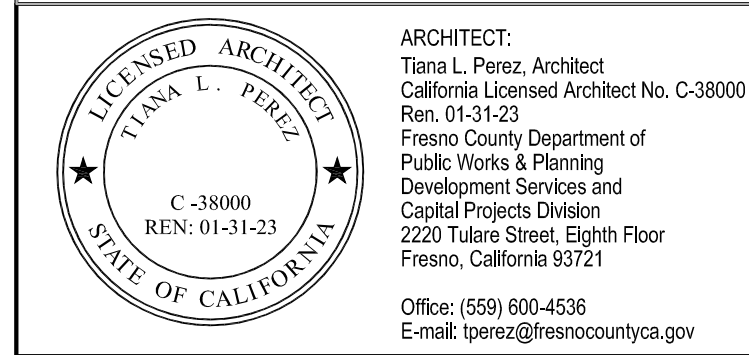
DYSON & JANZEN ARCHITECTS  
1245 N. WISHON AVE. SUITE 101  
FRESNO CA, 93728  
OFFICE: 559-447-6370  
E-MAIL: ADYSON@DYSONJANZEN.COM

The Information on this Drawing is acceptable and shall define the Scope of Work to develop this Project. Any significant changes to the Scope of Work shall be approved by the Client Department.

Submitted by: \_\_\_\_\_  
Title: \_\_\_\_\_

Date: \_\_\_\_\_

Accepted by: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_



**Project:**  
Fresno County Environmental Compliance Center Phase 2: Office / Storage Building

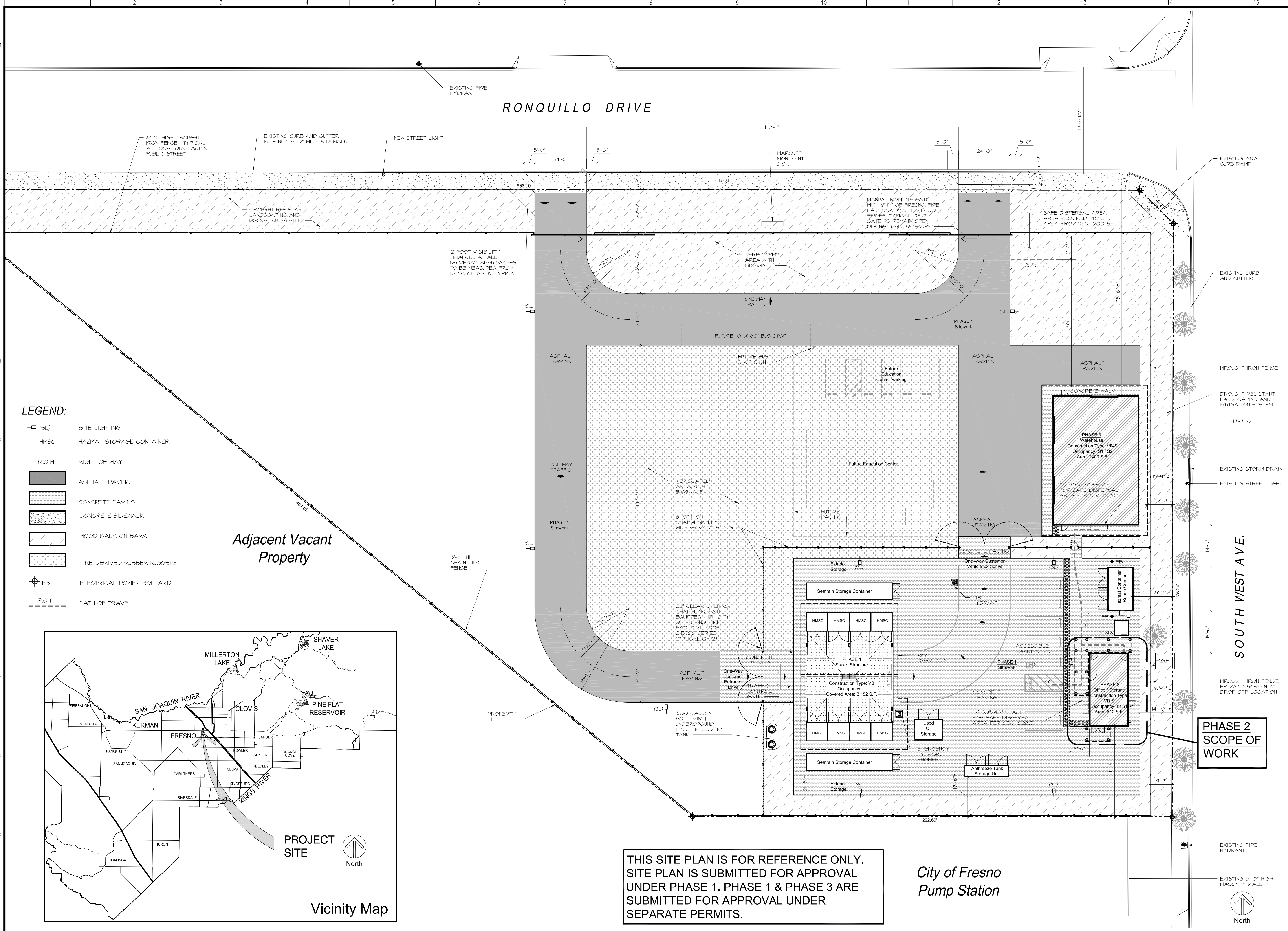
Project Address: 310 S. West Avenue, Fresno CA 93706  
APN: 458-060-72

Issue Date:  
Project No. T90203  
File Path: G:\Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00 2018 ECC

**Sheet Content:**  
Cover Sheet

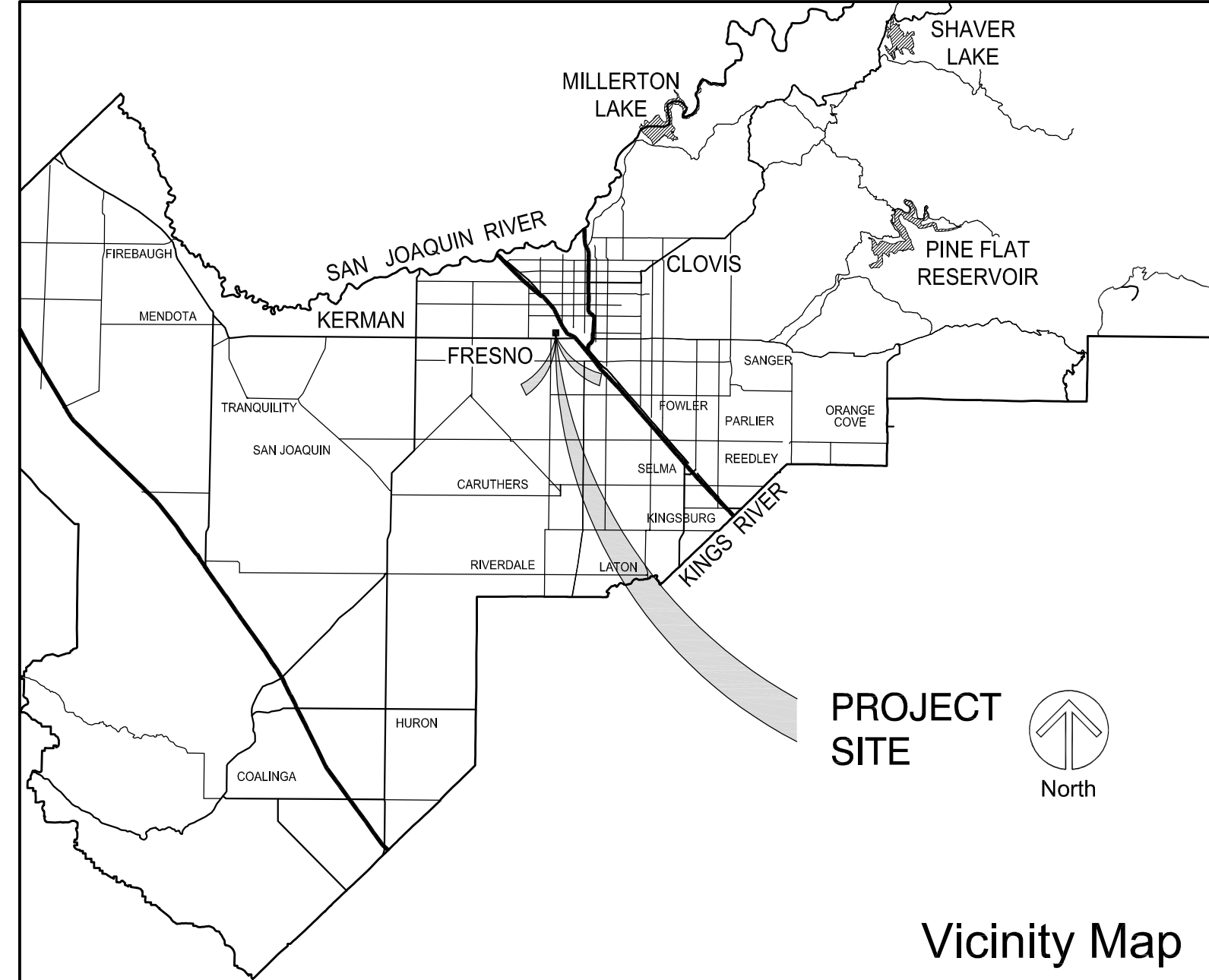


Sheet No.  
**G0.0**



**LEGEND:**

- (SL) SITE LIGHTING
- HMSC HAZMAT STORAGE CONTAINER
- R.O.W. RIGHT-OF-WAY
- ASPHALT PAVING
- CONCRETE PAVING
- CONCRETE SIDEWALK
- WOOD WALK ON BARK
- TIRE DERIVED RUBBER NUGGETS
- EB ELECTRICAL POWER BOLLARD
- P.O.T. PATH OF TRAVEL



**THIS SITE PLAN IS FOR REFERENCE ONLY. SITE PLAN IS SUBMITTED FOR APPROVAL UNDER PHASE 1. PHASE 1 & PHASE 3 ARE SUBMITTED FOR APPROVAL UNDER SEPARATE PERMITS.**

*City of Fresno  
Pump Station*

**FRESNO FIRE NOTES:**

- TURNS IN PRIVATE DRIVES FOR FIRE APPARATUS ACCESS SHALL HAVE MINIMUM 44'-0" CENTERLINE TURN RADIUS.
- EMERGENCY VEHICLES ACCESS SHALL BE DESIGNATED BY PAINTING THE CURB RED (TOP AND SIDE) AND STENCILING FIRE LANE NO PARKING IN 3 INCHES WHITE LETTERS ON THE MOST VERTICAL CURB, AT LEAST EVERY 50 FEET. IF NO CURB IS PRESENT, A MINIMUM 6 INCHES WIDE RED STRIPE SHALL BE PAINTED ALONG THE EDGE OF THE ROADWAY WITH "FIRE LANE" IN 3 INCHES WHITE LETTERS AT LEAST EVERY 50 FEET. (FFD DEVELOPMENT POLICY 403.005)
- PROVIDE APPROVED POLICE/FIRE BY PASS ("BEST") PADLOCK MODEL 2B100 SERIES OR ELECTRIC CYLINDER SWITCH MODEL INTB2) ON DRIVE ACCESS GATES. ALL ELECTRIFIED SHALL BE EQUIPPED WITH BEST ELECTRIC CYLINDER LOCK INTB2. A KNOX PADLOCK MAY NOT BE USED IN PLACE OF THE BEST PADLOCK MODEL 2B100. THESE LOCKS CAN BE PURCHASED ONLY THROUGH SIERRA LOCK AND GLASS, 1560 N. PALM AVENUE, FRESNO CA 93728.
- PROVIDE SIGNS 17"X22" MINIMUM AT ALL PUBLIC ENTRANCE DRIVES TO THE PROPERTY WHICH STATE "WARNING - VEHICLES STOPPED, PARKED OR LEFT STANDING IN FIRE LANES WILL BE IMMEDIATELY REMOVED AT OWNER'S EXPENSE - 22656(A) CALIFORNIA VEHICLE CODE - FRESNO POLICE DEPARTMENT 621-2300".
- FIRE HYDRANTS AND ACCESS ROADS SHALL BE INSTALLED, TESTED AND APPROVED AND SHALL BE MOUNTED SERVICEABLE PRIOR TO AND DURING ALL PHASES OF DEVELOPMENT THE 4 1/2 INCH OUTLET SHALL FACE THE ACCESS LANE.
- THE PROPOSED ON SITE HYDRANTS SHALL BE EQUIPPED WITH AN 8 INCH MAIN AND A FIRE FLOW OF 1500 GPM.

**LICENSED ARCHITECT**  
  
 ARCHITECT:  
 Tiana L. Perez, Architect  
 California Licensed Architect No. C-38000  
 Ren. 01-31-23  
 Fresno County Department of  
 Public Works & Planning  
 Development Services and  
 Capital Projects Division  
 2220 Tulare Street, Eighth Floor  
 Fresno, California 93721  
 Office: (559) 600-4536  
 E-mail: tperez@fresnocountyca.gov

**Project:**  
 Fresno County  
 Environmental Compliance Center  
 Phase 2: Office / Storage Building

**Project Address:** 310 S. West Avenue, Fresno CA 93706  
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**Sheet Content:**  
 Reference Overall Site plan

Fresno County Department of  
 Public Works and Planning  
 Capital Projects

2220 Tulare Street, 8th Floor  
 Fresno, California 93721

**Sheet No.**  
**A1.1**

THIS SITE PLAN IS FOR REFERENCE ONLY. SITE PLAN IS SUBMITTED FOR APPROVAL UNDER PHASE 1. PHASE 1 & PHASE 3 ARE SUBMITTED FOR APPROVAL UNDER SEPARATE PERMITS.

- GENERAL NOTES:**
1. SWING GATES AT BOTH ENTRY AND EXIT GATE LOCATIONS SHALL BE EQUIPPED WITH A CITY OF FRESNO FIRE DEPARTMENT LOCK.
  2. THERE SHALL BE NO VERTICAL OFFSET GREATER THAN 1/2" ALONG THE ENTIRE PATH OF TRAVEL FROM THE PUBLIC WAY/ACCESSIBLE PARKING STALL INTO THE OFFICE BUILDING OR TOILET BUILDING.
  3. ENTIRE SURFACE BETWEEN CONCRETE SLAB AND FENCE SHALL BE 2" MINIMUM GRAVEL (CLASS II AGGREGATE) OVER 10 MIL. BLACK VISQUEEN. VISQUEEN SHALL BE LAPPED A MINIMUM OF 36" INCHES AT SEAMS. VISQUEEN SHALL BE LAID OVER MACHINE COMPACTED SOIL FOLLOWING GRADES SHOWN ON CIVIL DRAWINGS. VISQUEEN SHALL NOT BE VISIBLE ONCE GRAVEL HAS BEEN PLACED. COMPACTION TESTING WILL NOT BE REQUIRED.
  4. NO HAZARDOUS MATERIALS TO BE STORED OR USED IN THE BUILDING.
  5. THIS PERMIT DOES NOT INCLUDE ANY HIGH-PILE STORAGE (PER CFC) OR RACK STORAGE OVER 8 FEET IN HEIGHT. ANY SUCH PROPOSED STORAGE WILL REQUIRE SUBMITTAL OF PLANS AND APPLICATION FOR PERMIT(S). 2019 CFC, CHAPTER 32.

- LEGEND:**
- (SL) SITE LIGHTING
  - HMSC HAZMAT STORAGE CONTAINER
  - R.O.W. RIGHT-OF-WAY
  - ASPHALT PAVING
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**LICENSED ARCHITECT**  
**TIANA L. PEREZ**  
 ARCHITECT  
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 California Licensed Architect No. C-38000  
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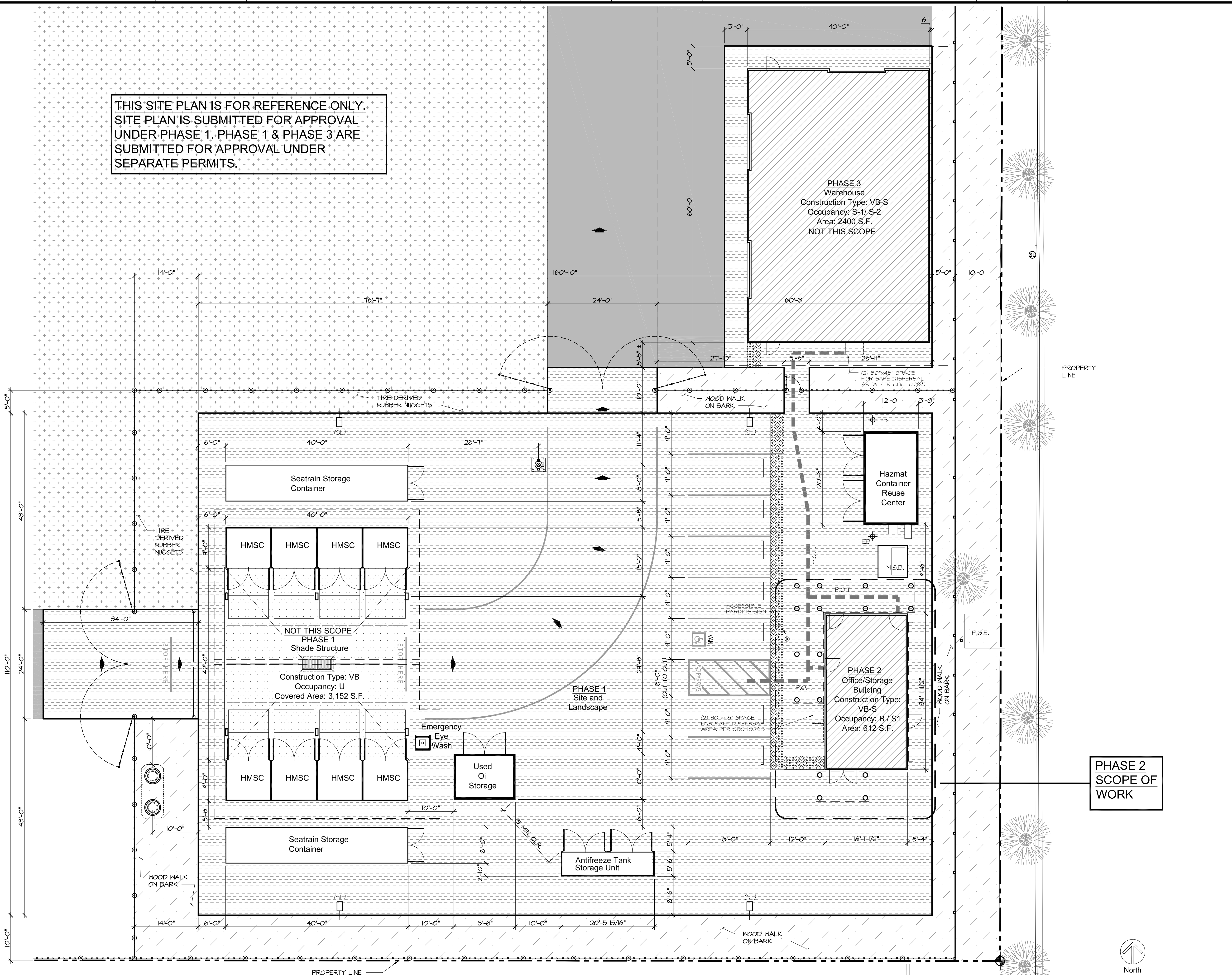
**Sheet Content:**  
 Reference Enlarged Site plan

Fresno County Department of  
 Public Works and Planning  
 Capital Projects

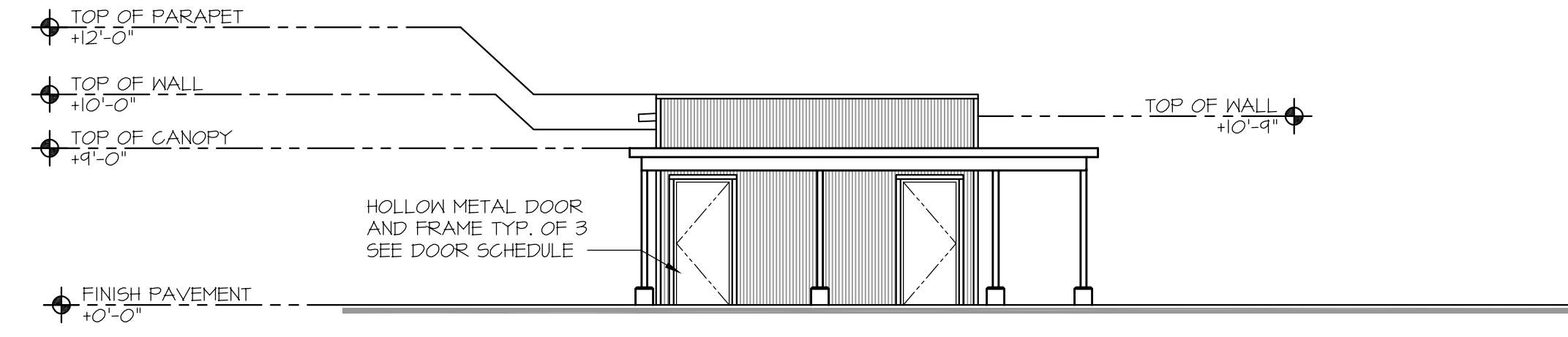
2220 Tulare Street, 8th Floor  
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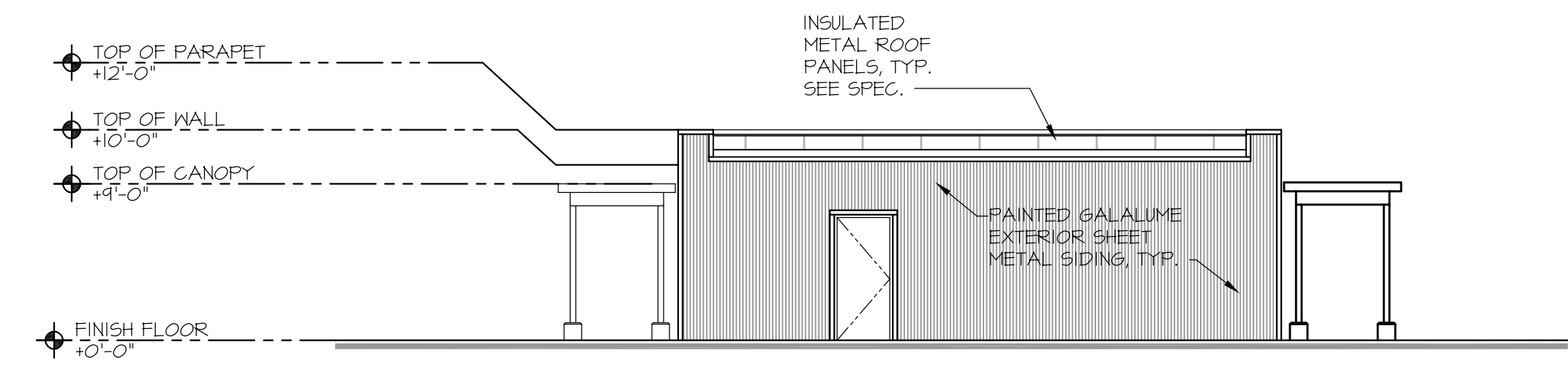
Sheet No.  
**A1.2**



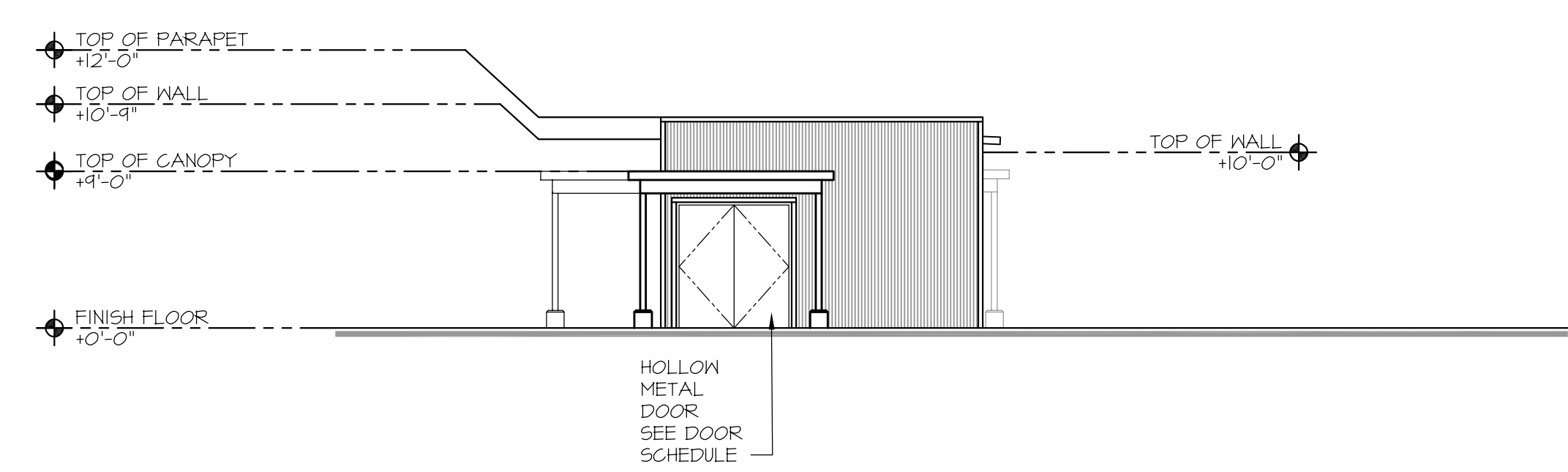
**A1 Enlarged Site Plan**  
 Scale: 1"=10'-0"



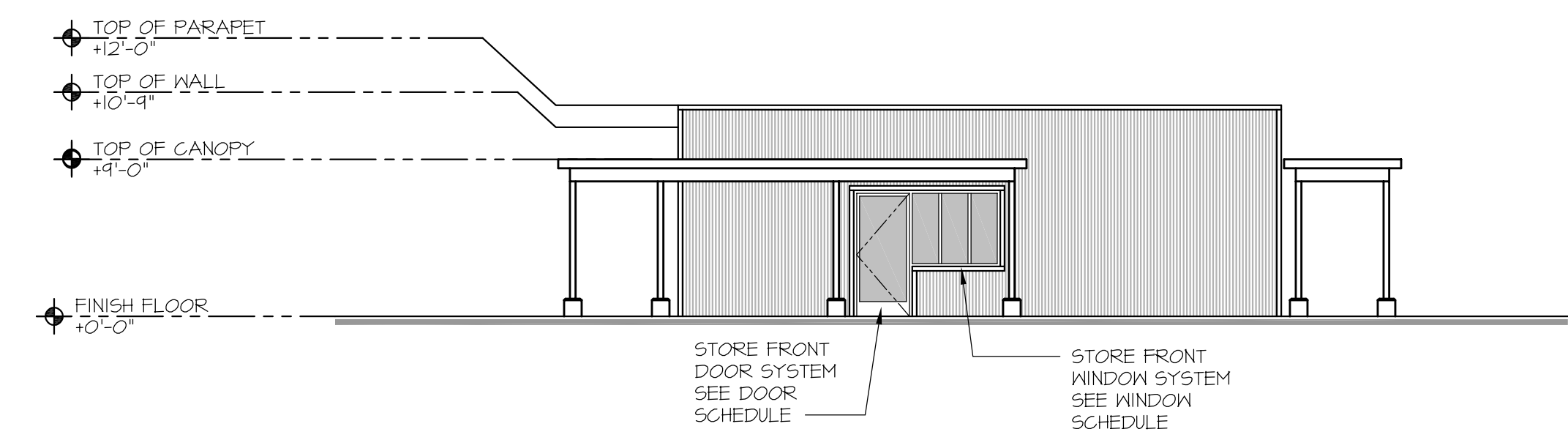
**J1 North Elevation**  
Scale: 1/8" = 1'-0"



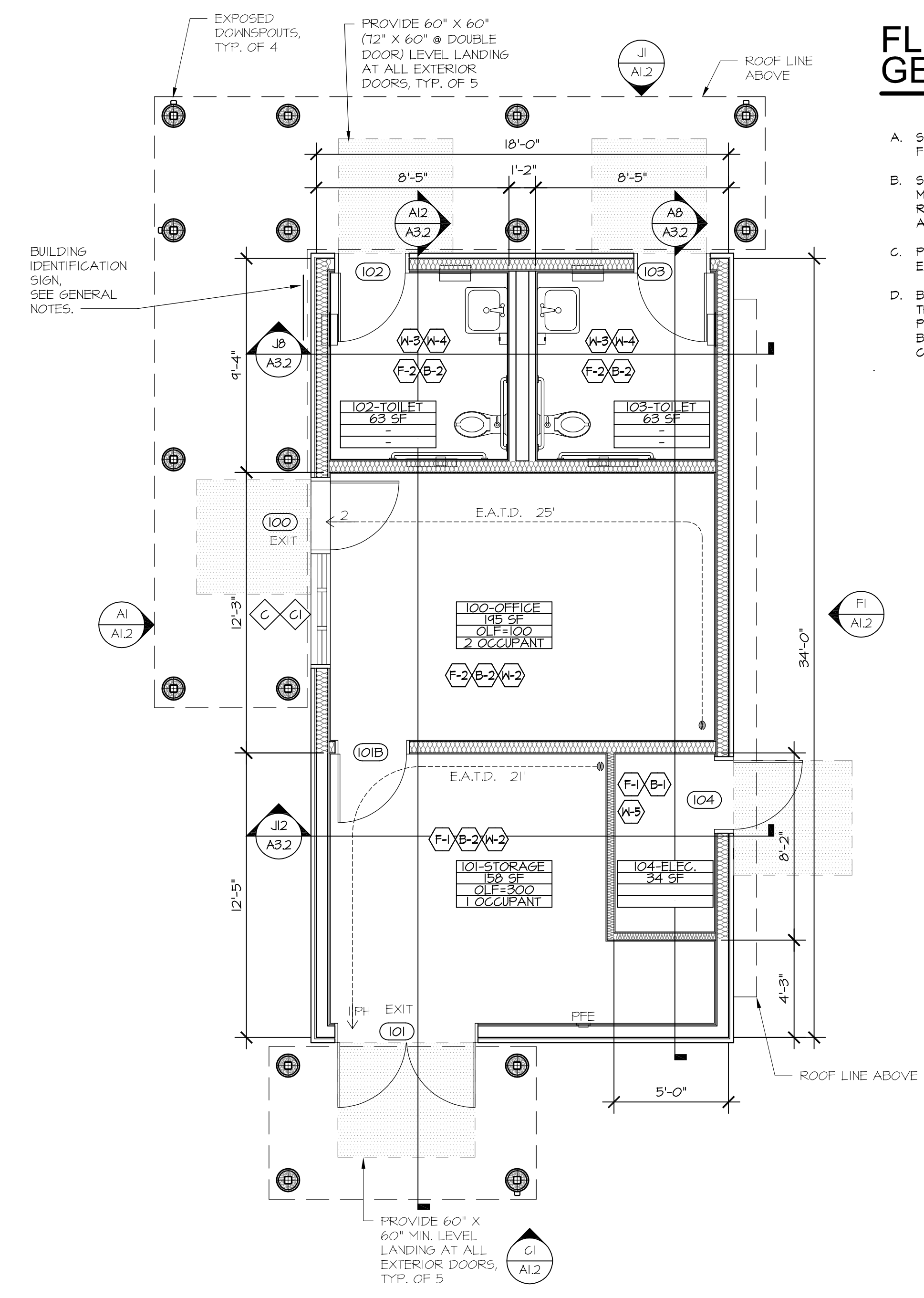
**F1 East Elevation**  
Scale: 1/8" = 1'-0"



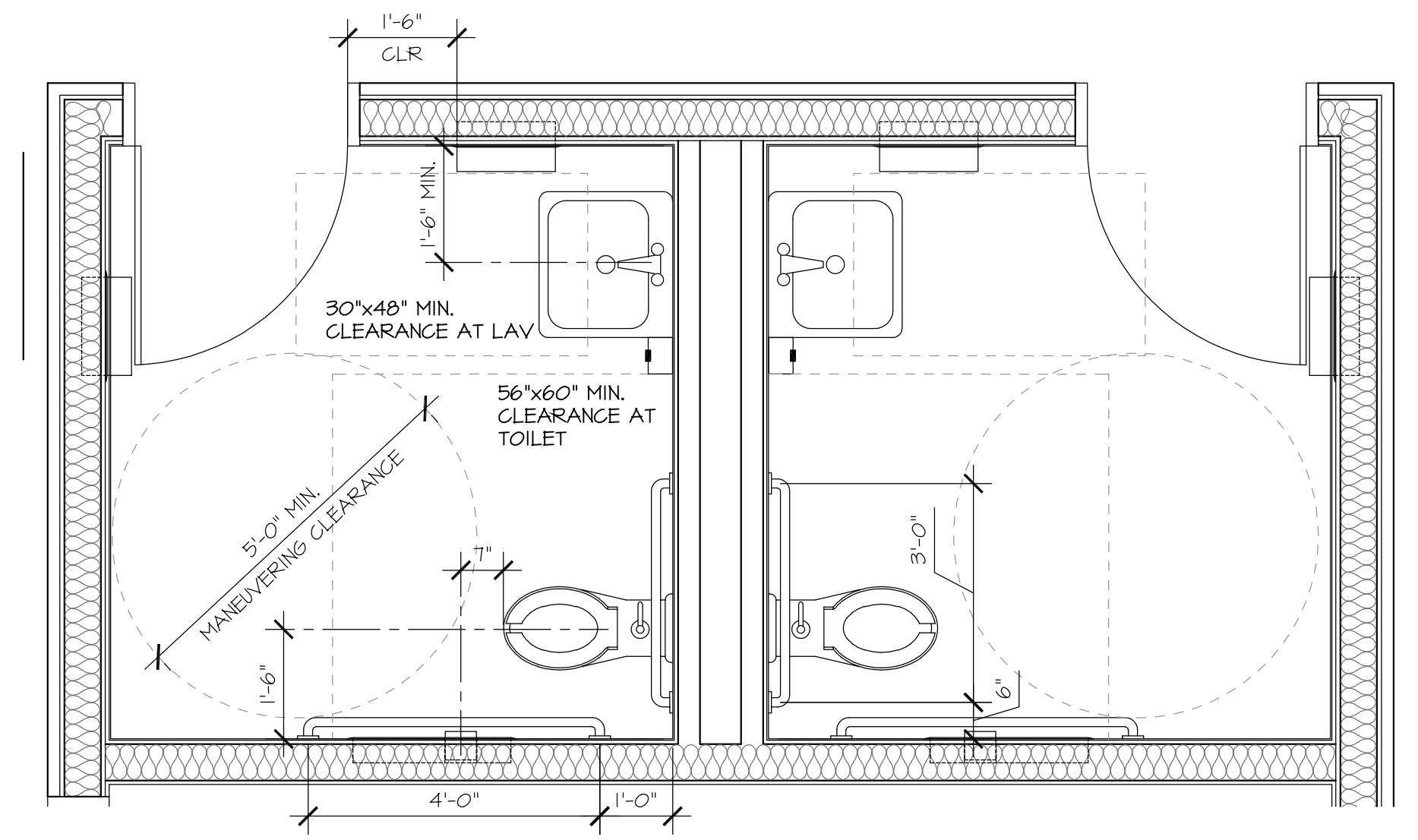
**C1 South Elevation**  
Scale: 1/8" = 1'-0"



**A1 West Elevation**  
Scale: 1/8" = 1'-0"



**D8 Office/Storage Building - Floor Plan**  
Scale: 1/4" = 1'-0"



**A8 Typical Floor Plan of All Gender Toilet Room**  
Scale: 1/2" = 1'-0"

### FLOOR PLAN GENERAL NOTES

- SEE FINISH SCHEDULE FOR FINISHES INDICATED BY FINISH SYMBOL (X-X) ON SHEET A3.1.
- SEE DETAIL D4 ON SHEET A3.3 FOR ACCESSIBLE MOUNTING HEIGHT REQUIREMENTS FOR ALL TOILET ROOM FIXTURES & ACCESSORIES. MOUNT ALL ACCESSORIES PER ACCESSIBLE REQUIREMENTS.
- PROVIDE MINIMUM 2A IOB, C PORTABLE FIRE EXTINGUISHER WHERE NOTED.
- BUILDING IDENTIFICATION SIGN TO BE 18"x24" 2MM THICK ALUMINUM WITH MOUNTING SCREWS FACTORY PAINTED FOR EXTERIOR USE. OWNER TO PROVIDE BUILDING IDENTIFICATION INFO PRIOR TO CONSTRUCTION.

**EGRESS CALCULATIONS**

GROSS FLOOR AREA: 630 S.F.

OCCUPANCY GROUP: (B) BUSINESS  
(S) STORAGE

TYPE V-B CONSTRUCTION / NON-SPRINKLERED

**OCCUPANCY**

FLOOR AREA (ENCLOSED)	612 S.F.
ROOF OVERHANG (UNOCCUPIED)	617 S.F.
<b>BUILDING TOTALS</b>	<b>1,229 S.F.</b>
OCCUPANCY	(B) AND (S)
BUILDING PERIMETER	104'
ACTUAL # OF STORIES (HEIGHT)	1 (1B')
AUTOMATIC FIRE SPRINKLER	YES
ALLOWABLE TOTAL BUILDING AREA	36,000 S.F.

**AREA AND OCCUPANT LOAD TABLE**

PRIMARY USE	SQ. FOOTAGE	FACTOR	OCC. LOAD
OFFICE	204 S.F.	100 (N)	2
STORAGE	208 S.F.	300 (N)	1
<b>TOTAL OCC. LOAD</b>			<b>3</b>

**EGRESS DOOR CALC'S**

EXIT 1	REQUIRED OPENING	1 X 0.2 = 0.2'
	PROVIDED OPENING	36"
EXIT 2	REQUIRED OPENING	2 X 0.2 = 2'
	PROVIDED OPENING	36"

- EGRESS LEGEND**
- ← ## DENOTES OCCUPANT LOAD THROUGH DOOR/ EXIT OR CUMULATIVE OCCUPANT LOAD ALONG COMMON PATH OF TRAVEL. PANIC HARDWARE (PH) WHERE INDICATED
  - IES DENOTES ILLUMINATED EXIT SIGN, (WITH DIRECTIONAL SIGN WHERE APPLICABLE)
  - QFFE DENOTES PORTABLE FIRE EXTINGUISHER AT 48" MAX. A.F.F. TO TOP OF EXTINGUISHER (4" MAX. PROJECTION) WITH A 75 - FOOT MAX. TRAVEL DISTANCE
  - FA FIRE ALARM
  - MOST REMOTE LOCATION AND PATH OF EGRESS TRAVEL
  - C.P.E.T. COMMON PATH OF EGRESS TRAVEL
  - E.A.T.D. EXIT ACCESS TRAVEL DISTANCE



**Project:**  
Fresno County  
Environmental Compliance Center  
Phase 2: Office / Storage Building

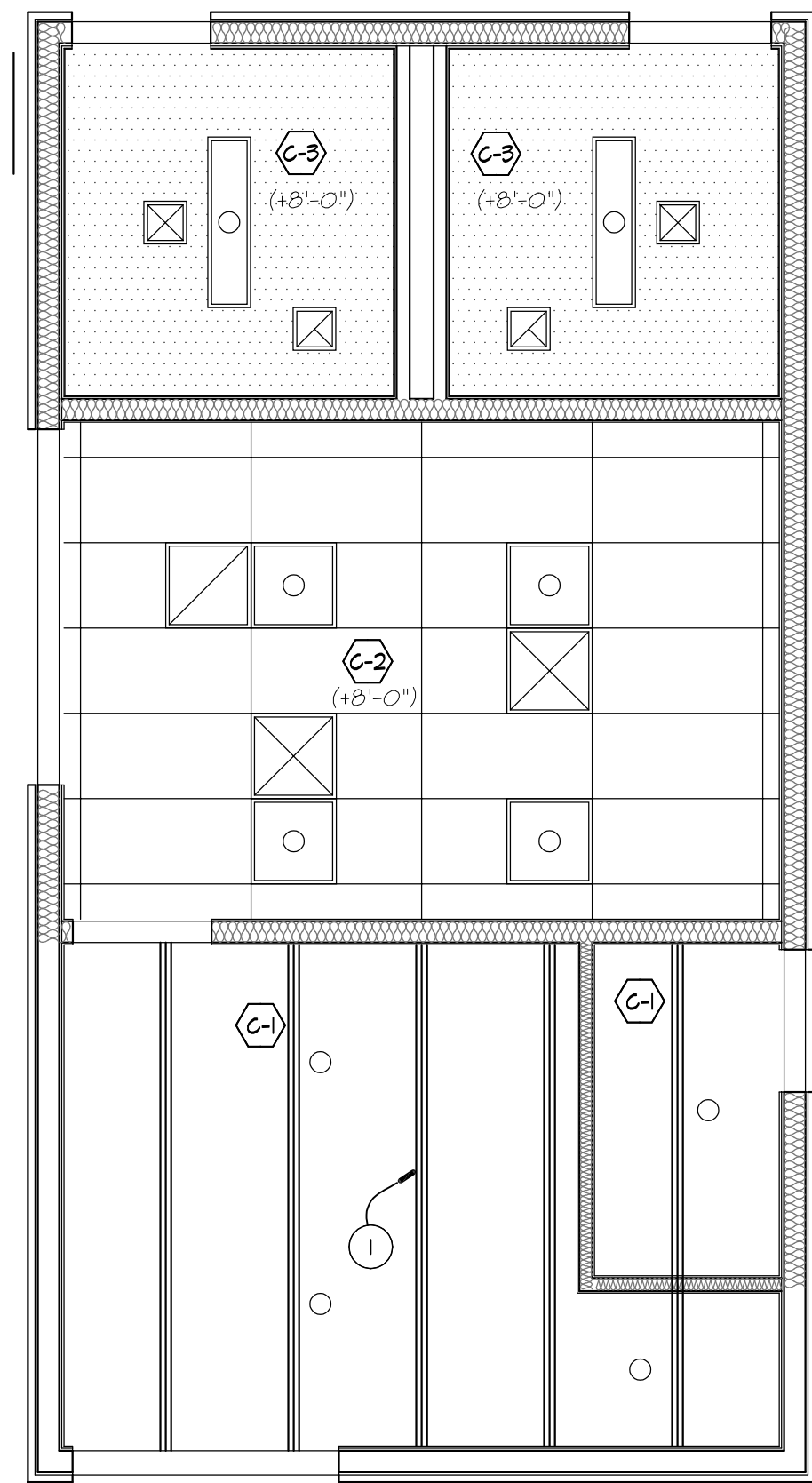
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**Sheet Content:**  
Floor Plans and Elevations

Fresno County Department of  
Public Works and Planning  
Capital Projects

2220 Tulare Street, 8th Floor  
Fresno, California 93721

Sheet No.  
**A2.1**




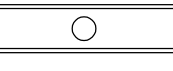


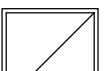

### REFLECTED CEILING PLAN KEYNOTES (X)

1. ROOF FRAMING MEMBERS.

### REFLECTED CEILING PLAN GENERAL NOTES

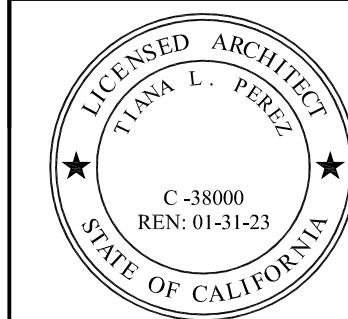
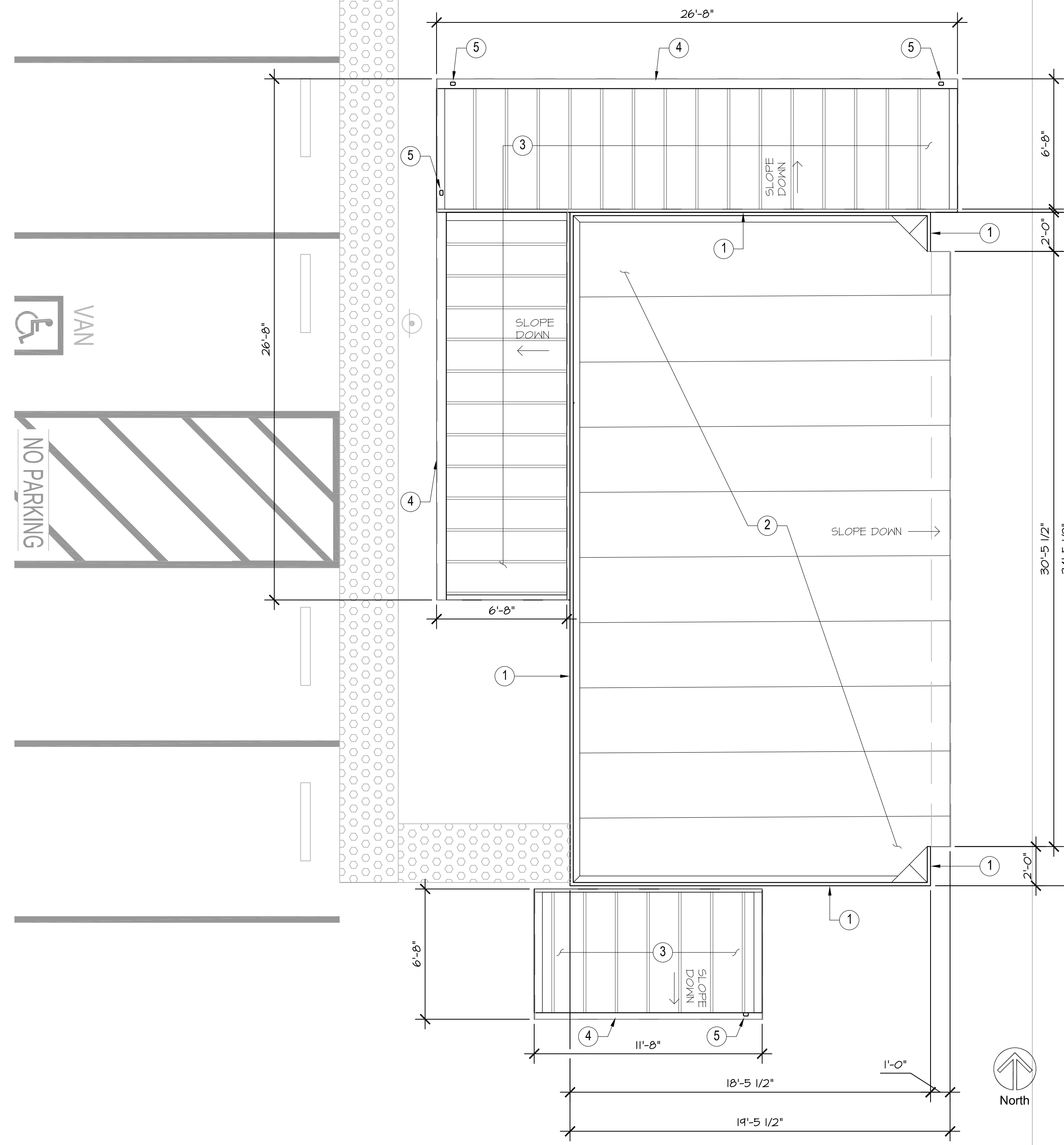
A. SEE FINISH SCHEDULE FOR FINISHES INDICATED BY FINISH SYMBOL (X-X) ON SHEET A3.1.

#### REFLECTED CEILING PLAN LEGEND:

-  Recessed light fixture
-  Surface mounted light fixture
-  Chain mounted light fixture
-  HVAC supply grille
-  HVAC exhaust grille
-  Exhaust fan

### ROOF PLAN KEYNOTES (X)

- 1. PARAPET.
- 2. INSULATED METAL PANELS.
- 3. METAL STANDING SEAM PANELS.
- 4. METAL GUTTER.
- 5. G.I. DOWNSPOUT (MIN. 22GA.), PAINT.



ARCHITECT:  
Tiana L. Perez, Architect  
California Licensed Architect No. C-38000  
REN: 01-31-23  
Fresno County Department of  
Public Works & Planning  
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Project:  
Fresno County  
Environmental Compliance Center  
Phase 2: Office / Storage Building

Project Address: 310 S. West Avenue, Fresno CA 93706  
APN: 458-060-72  
Issue Date:  
Project No. T90203  
File Path: G:\Capital \ Projects \ Building Numbers \ American  
Ave Landfill \ T90203 Environmental Compliance Center\ 00  
2018 ECC

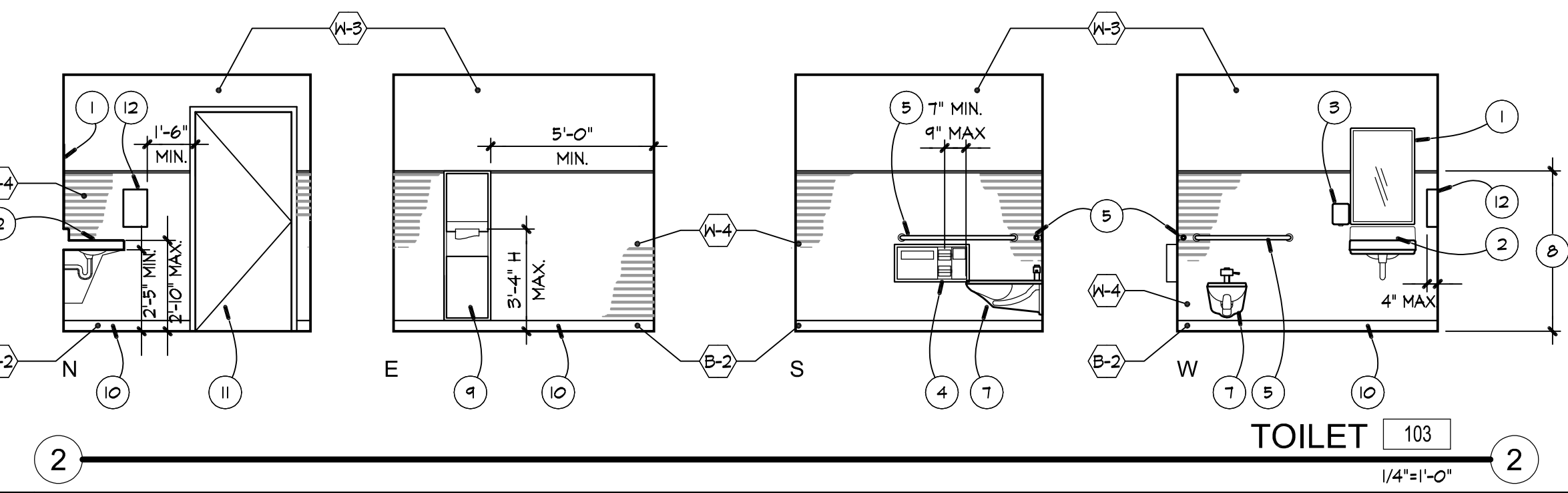
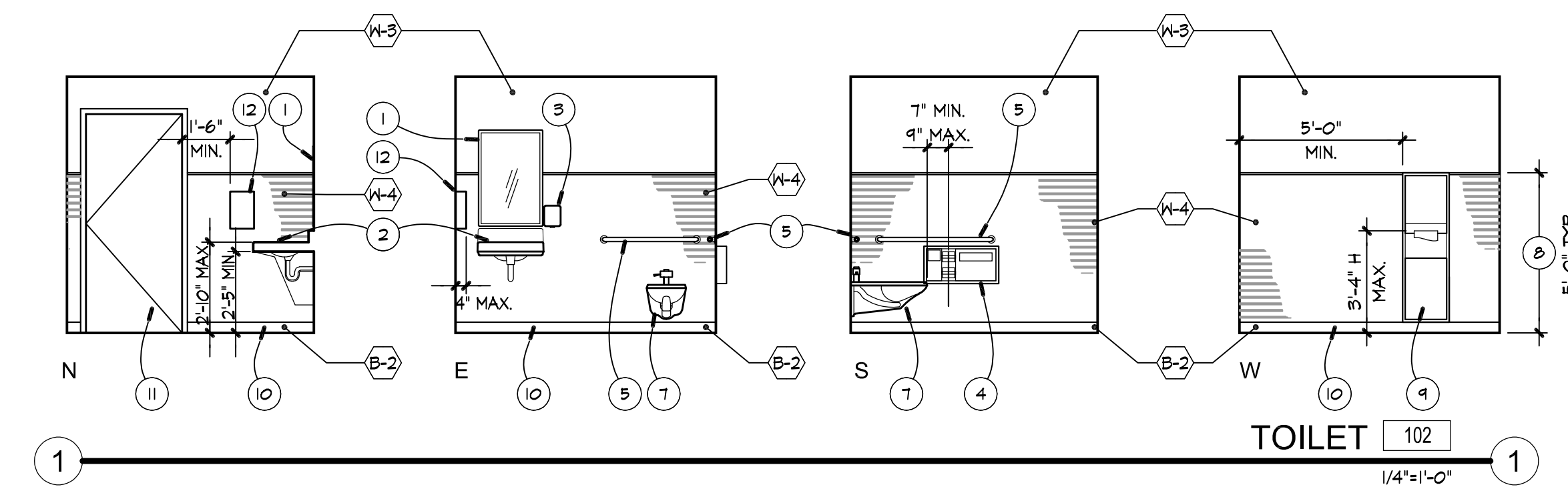
Sheet Content:  
Reflective Ceiling Plan & Roof Plan

Fresno County Department of  
Public Works and Planning  
Capital Projects



2220 Tulare Street, 8th Floor  
Fresno, California 93721

Sheet No.  
**A2.2**



### INTERIOR ELEVATION KEY NOTES

1. WALL-HUNG MIRROR. SEE GENERAL NOTE B.
2. WALL MOUNTED ACC. LAVATORY w/ AUTOMATIC SENSOR FAUCETS. SEE GENERAL NOTE B & PLUMBING DRAWINGS.
3. SOAP DISPENSER, FURNISHED AND INSTALLED BY OWNER, N.I.C. SEE GENERAL NOTE B.
4. RECESSED TOILET SEAT DISPENSER, TOILET PAPER DISPENSER, DISPOSAL COMBO. SEE GENERAL NOTE B.
5. GRAB BARS. SEE GENERAL NOTE B.
6. NOT USED.
7. ACCESSIBLE WALL HUNG TOILET w/ AUTOMATIC FLUSH VALVE. SEE GENERAL NOTE B & PLUMBING DRAWINGS.
8. DECORATIVE PROTECTION PANEL WAINSCOT.
9. SEMI-RECESSED DUAL PAPER TOWEL DISPENSER/ TRASH RECEPTACLE. SEE GENERAL NOTE B.
10. RUBBER BASE. SEE FINISH SCHEDULE.
11. DOOR. SEE DOOR SCHEDULE.
12. ELECTRIC HAND DRYER. SEE GENERAL NOTE B & ELECTRICAL DWGS.

### INTERIOR ELEVATION GENERAL NOTES

- A. SEE FINISH SCHEDULE FOR FINISHES INDICATED BY FINISH SYMBOL SHEET A3.1.
- B. SEE DETAIL D4 ON SHEET A3.3 FOR ACCESSIBLE MOUNTING HEIGHT REQUIREMENTS FOR ALL TOILET ROOM FIXTURES & ACCESSORIES. MOUNT ALL ACCESSORIES PER ACCESSIBLE REQUIREMENTS.

ITEM	CODE	DESCRIPTION	REMARKS
FLOOR	F-1	EXPOSED CONCRETE WITH CLEAR SATIN CONCRETE SEALER	-
	F-2	LENOLUEM MODULAR FLOORING	FORBO, MARMOLEUM STRIATO TEXTURA, THICKNESS 2.5MM, SIZE T4'W X105'L, OR APPROVED EQUAL.
BASE	B-1	NO BASE	-
	B-2	4" RUBBER RESILIENT BASE	JOHNSONITE RESILIENT BASE, TYPE "MILLWORK", PROFILE "SILHOUETTE" OR APPROVED EQUAL.
WALLS	W-1	NOT USED	-
	W-2	LATEX PAINT	o/ GYPSUM BOARD (LEVEL 5 FINISH TYP. U.N.O.)
	W-3	ENAMEL SEMI-GLOSS PAINT	o/ GYPSUM BOARD (LEVEL 5 FINISH TYP. U.N.O.)
	W-4	DECORATIVE PROTECTION PANEL WAINSCOT	FORMICA HARDSTOP BUTT JOINT SEAMS WITH WATER PROOF CAULK, OR APPROVED EQUAL. TRIM AT TOP BOTTOM AND CORNERS.
	W-5	3/4" A-C PLYWOOD	HEIGHT 8'-0"
CEILING	C-1	NO INTERIOR FINISH, EXPOSED ROOF FRAMING	-
	C-2	SQUARE EDGE LAY-IN SUSPENDED ACOUSTICAL TILE CEILING SYSTEM	IN T-BAR GRID (2x2 or 2x4)
	C-3	PAINT W-3 o/ 5/8" F.R. GYP. BD. CEILING o/ METAL FRAMING.	LEVEL FINISH TYP. U.N.O.
	C-4	36" WIDE EXTERIOR LINEAR FORMED RIBBED 26 GA. METAL PANEL SOFFIT	-
MISC	M-1	ENAMEL (ACRYLIC) PAINTED H.M. DOOR/FRAMES	PAINT H.M. DOORS AND FRAMES

H1 TOILET ROOM INTERIOR ELEVATIONS

H10 ROOM FINISH SCHEDULE See (XX) symbol on Floor Plan, Reflected Ceiling Plan and Interior Elevations

1. ALL STAIN PAINT, SEALER AND ACCENT COLORS SHALL BE AS SELECTED BY ARCHITECT.
2. ALL INTERIOR FINISHES SHALL BE AS SELECTED BY ARCHITECT/OWNER FROM ACTUAL PRODUCT SAMPLE SUBMITTALS PROVIDED BY CONTRACTOR. ALL PAINT MATERIAL SHALL BE EPA APPROVED AND AS RECOMMENDED BY THE MANUFACTURER TO PROVIDE A SUITABLE AND DURABLE FINISH FOR ITS INTENDED APPLICATION.
3. CONTRACTOR(S) SHALL SUPPLY 5 COPIES MINIMUM OF FULL COLORS/ TEXTURES/ SAMPLE RANGES FOR ARCHITECT'S SELECTION. ALL SAMPLES SHALL BE ACTUAL MATERIALS/ COLORS AND NOT PHOTO REPRODUCTIONS.
4. ALL GYPSUM BOARD UNLESS OTHERWISE SPECIFICALLY NOTED ON THIS SCHEDULE OR IN DRAWINGS SHALL BE 5/8" TYPE "X" FIRE RATED. INSTALL WATER RESISTANT GYPSUM BOARD (ON BOTH SIDES WHERE GYPSUM BOARD IS CALLED OUT) THROUGHOUT TOILET WALLS, AND PLUMBING WALLS.
5. ALL EXPOSED METAL SHALL BE PRIMED AND PAINTED. COLORS AS SELECTED BY ARCHITECT/OWNER.
6. PREPARE ALL FLOORS PRIOR TO COVERING, CLEAN AND FILL, LEVEL UNEVENNESS w/ FLOOR COVERING MANUFACTURER RECOMMENDED, APPROVED MATERIALS. SEAL FLOORS w/ MFR APPROVED VAPOR EMISSIONS TREATMENT WHERE MOISTURE OR PH TESTS ARE OUTSIDE OF ACCEPTABLE RANGE.
7. MINIMUM PAINT/STAIN COAT FINISHES ARE INDICATED IN SPEC'S. CONTRACTOR(S) SHALL APPLY ADDITIONAL COATS AS REQUIRED TO ENSURE/ MAINTAIN / PROVIDE EVENNESS OF COLOR /FINISH ETC. TO THE ACCEPTANCE OF THE OWNER AND ARCHITECT.
8. GYPSUM BOARD FINISHES: SAMPLES (3 EACH) SHALL BE PREPARED FOR REVIEW AND CHOICE BY OWNER AND ARCHITECT, BUT GENERALLY SHALL BE:
  - A. STANDARD PAINTED WALLS AND CEILINGS ----- MEDIUM ORANGE PEEL TEXTURE.
  - B. TOILET ROOMS AND ENAMELED WALLS ----- SMOOTH SAND, LIGHT ORANGE PEEL TEXTURE.
  - C. UNDER OTHER WALL COVERINGS ----- TAPED, SANDED SMOOTH AND SIZED OR SEALED FOR FINISH.
10. FLAME SPREAD & SMOKE DEVELOPED CLASSIFICATION: ALL FINISHES SHALL HAVE A CLASS 'C' FLAME SPREAD & SMOKE DEVELOPED CLASSIFICATION OF 450 OR BETTER TO MEET CBC SECTION 808 REQUIREMENTS. ALL DECORATIVE MATERIAL MUST BE FLAME RETARDANT TREATED.
11. PROVIDE RUBBER REDUCERS AT CHANGES IN FLOOR MATERIALS FOR CLEAN, SMOOTH TRANSITION EXCEPT WHERE OTHER TRANSITION ARE SPECIFICALLY INDICATED.

D10 FINISH SCHEDULES NOTES



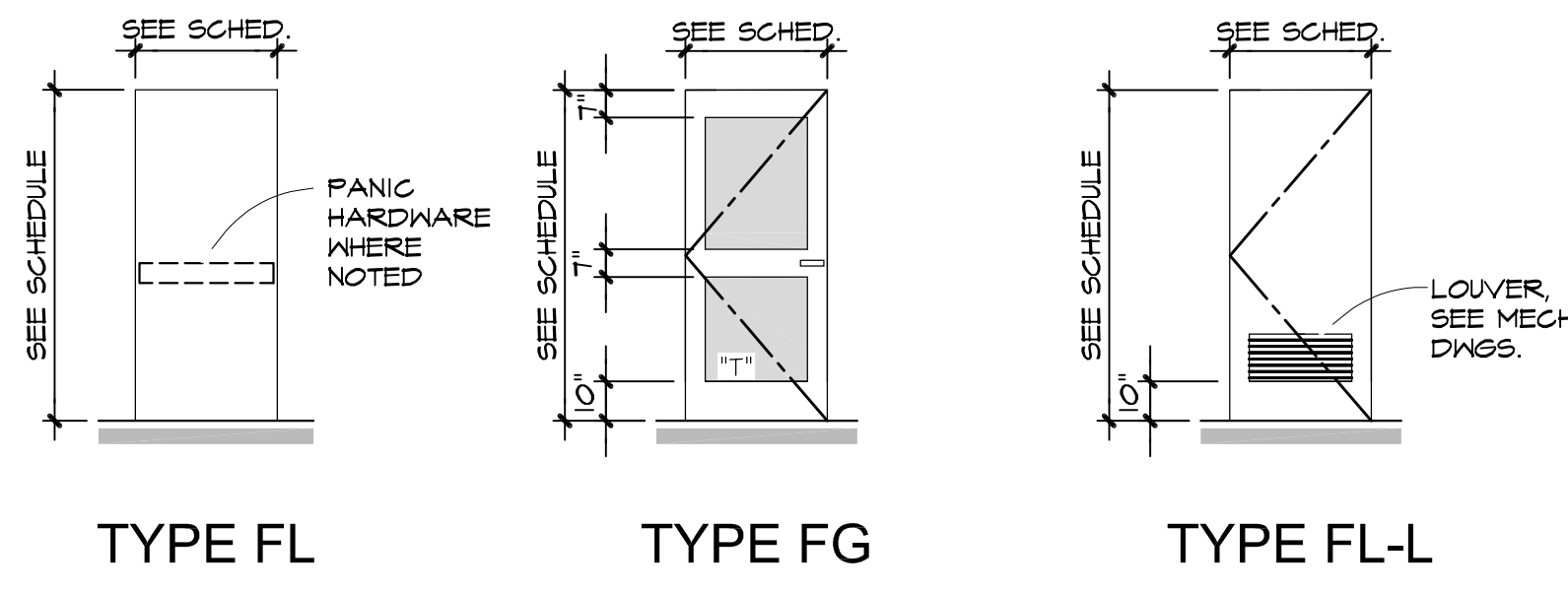
Project:  
Fresno County  
Environmental Compliance Center  
Phase 2: Office / Storage Building

Project Address: 310 S. West Avenue, Fresno CA 93706  
APN: 458-060-72  
Issue Date:  
Project No. T90203  
File Path: G:\Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center \ 00 2018 ECC

Sheet Content:  
Interior Elevations  
& Finish Schedule



Sheet No.  
**A3.1**

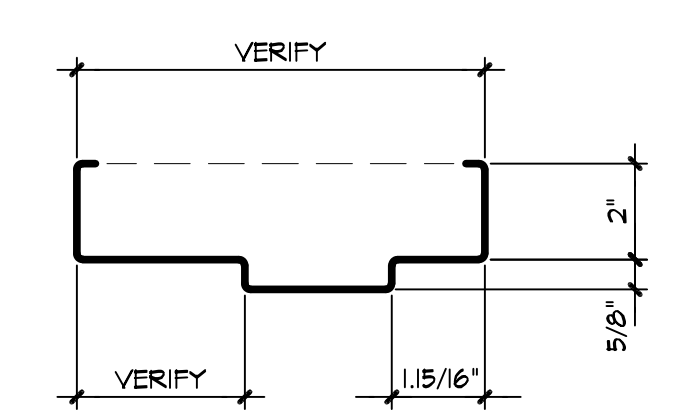


TYPE	NO.	QTY.	SIZE	DOOR TYPE	DOOR MATERIAL	FRAME		RATED ASSEMBLY	DETAILS		THRSHLD	SIGNAGE TYPE	HARDWARE GROUP	REMARKS
						MAT'L.	ELEV.		HEAD	JAMB				
EXT.	100	1	3'-0" x 7'-0" x 3/4"	FG	AL	AL	2	-	K12/A3.3	F9/A3.3	A4/A3.3	S4, S6	1.0	LEVER HARDWARE, CLOSURE
	101	1-PR	3'-0" x 7'-0" x 3/4"	FL-L	HM	HM	3	-	A12/A3.3	A9/A3.3	A4/A3.3	S4, S6	2.0	PANIC HARDWARE, CLOSURE, COORDINATOR
	102	1	3'-0" x 7'-0" x 3/4"	FL	HM	HM	1	-	A12/A3.3	A9/A3.3	A4/A3.3	S1, S2 & S3	4.0	PRIVACY LOCK
	103	1	3'-0" x 7'-0" x 3/4"	FL	HM	HM	1	-	A12/A3.3	A9/A3.3	A4/A3.3	S1, S2 & S3	4.0	PRIVACY LOCK
INT.	104	1	3'-0" x 7'-0" x 3/4"	FL	HM	HM	1	-	A12/A3.3	A9/A3.3	A4/A3.3	S4, S6	3.0	ELECTRIFIED LEVER HARDWARE HIRSCH CARD READER TO BE INSTALLED BY OWNER
	101B	1	3'-0" x 7'-0" x 3/4"	FL	HM	HM	1	-	A7/A3.3	A7/A3.3	-	S4, S6	5.0	LEVER HARDWARE

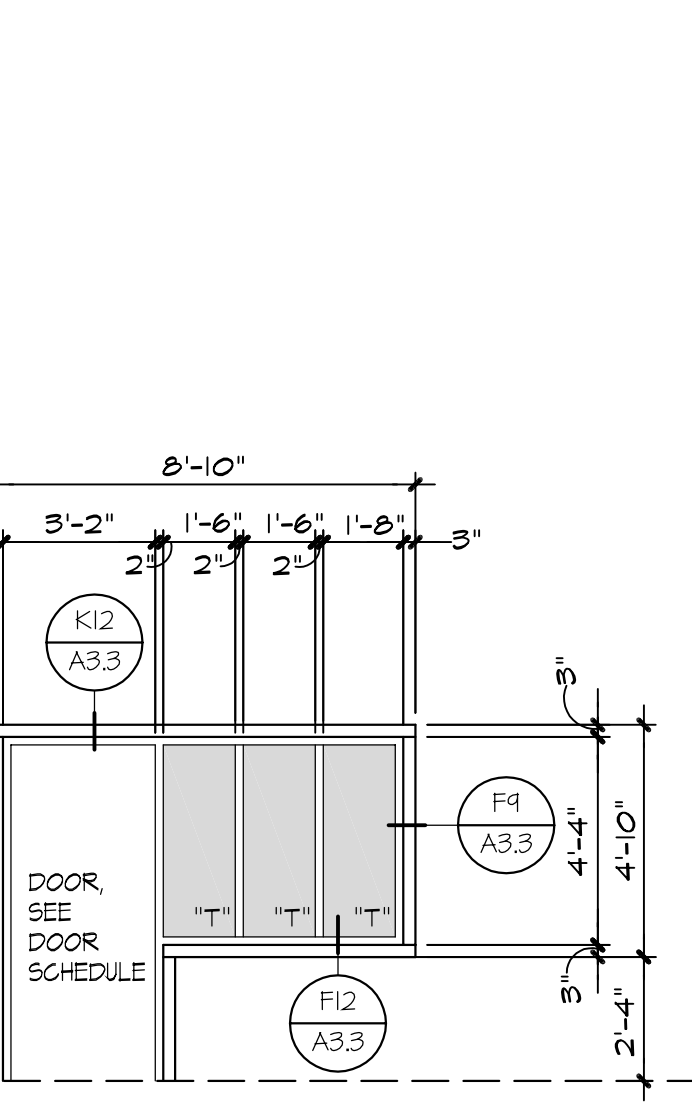
**K1 DOOR TYPE**  
Scale: 1/4"=1'-0"



**G1 FRAME ELEVATIONS**  
Scale: 1/4"=1'-0"



**E1 FRAME TYPE**  
Scale: NTS



**WINDOW ELEVATION GENERAL NOTES**

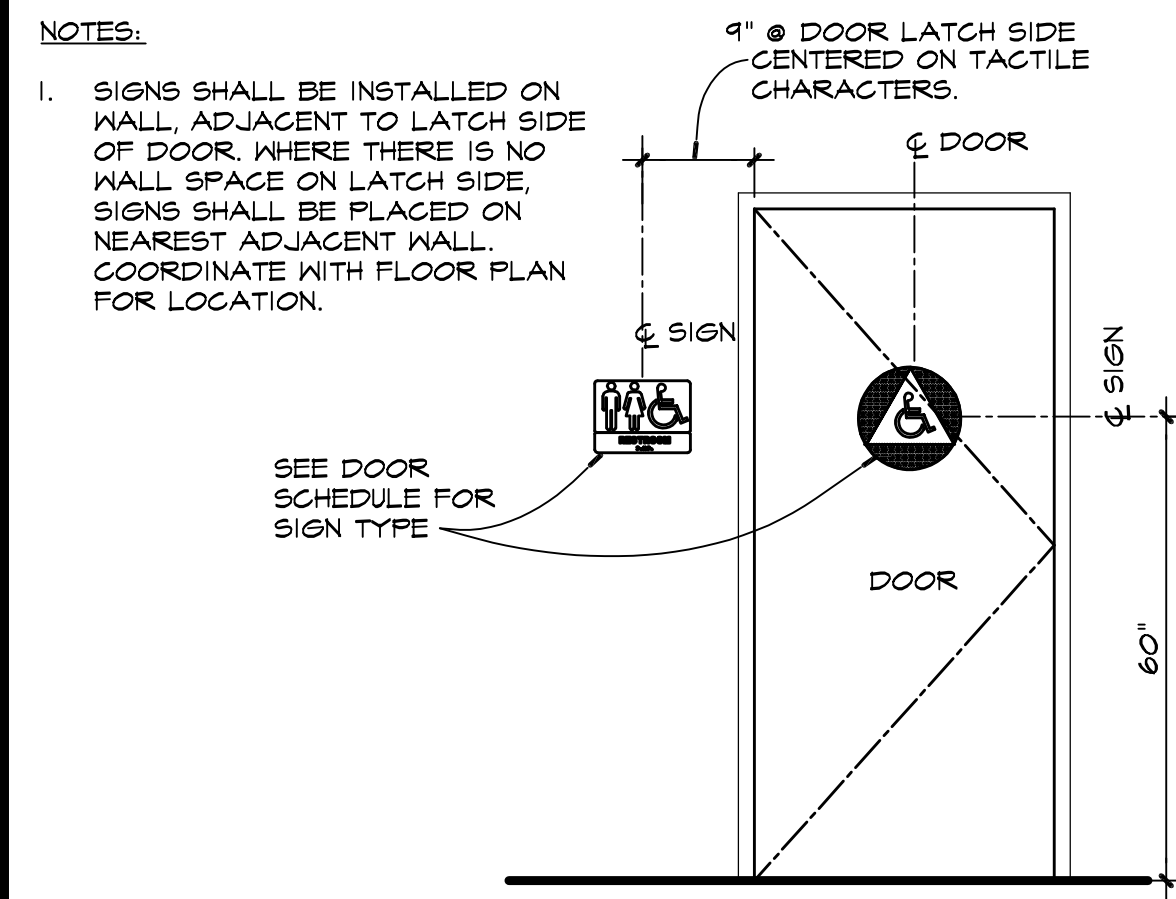
- ALL ROUGH OPENINGS SHALL BE FIELD VERIFIED BEFORE ORDERING MATERIALS.
- REFER TO SPECIFICATIONS FOR COMPLETE STOREFRONT SYSTEM DESCRIPTIONS.
- EXTERIOR WINDOW ELEVATIONS ARE VIEWED FROM THE EXTERIOR OF THE BUILDING, WITH GLAZING SHOWN HATCHED.
- WINDOW DIMENSIONS SHOW APPROX. NOMINAL SIZES (U.N.O.). CONTRACTOR SHALL VERIFY ALL ACTUAL, ROUGH OPENING DIMENSIONS & ADJUST SIZES AS REQUIRED FOR SHIM SPACE & ADJACENT FINISHES PER SECTIONS, DETAILS, SPECIFICATIONS & MANUFACTURER'S RECOMMENDATIONS, TAKING CARE TO MAINTAIN INDICATED ALIGNMENT TO TOP & BOTTOM OF FRAMES.
- UNLESS NOTED OTHERWISE, ALUMINUM FRAME WINDOWS TO HAVE CLEAR ANODIZED FINISH.
- PROVIDE JUSTIFICATION FROM THE WINDOW MANUFACTURER FOR THE U-FACTOR AND SOLAR HEAT GAIN COEFFICIENT (SHGC) FACTORS SPECIFIED.
- EXCEPT AS INDICATED OTHERWISE, ALL EXTERIOR WINDOWS SHALL HAVE 1" CLEAR DUAL GLAZED UNITS. ALL UNITS SHALL HAVE A U FACTOR VALUE OF NOT MORE THAN 0.36, SHGC VALUE NOT MORE THAN 0.25 & MIN. VT VALUE OF 0.42. (CEC 140.3(a) 5 & TABLE 140.3-B) PROVIDE TEMPERED WHERE INDICATED WITH A "T" OR WHERE REQUIRED BY CODE & GLAZING REGULATIONS.
- ALL STOREFRONT WINDOW ASSEMBLIES SHALL HAVE A MINIMUM OF 2 FASTENERS EACH SIDE w/ MAX. SPACING @ 24" o.c. SEE DETAILS FOR ANCHORAGE AT FLOOR SLAB.
- PROVIDE CLEAR SILICONE SEALANT, PER MANUFACTURER'S RECOMMENDATIONS.

**A1 WINDOW ELEVATION**  
Scale: NTS

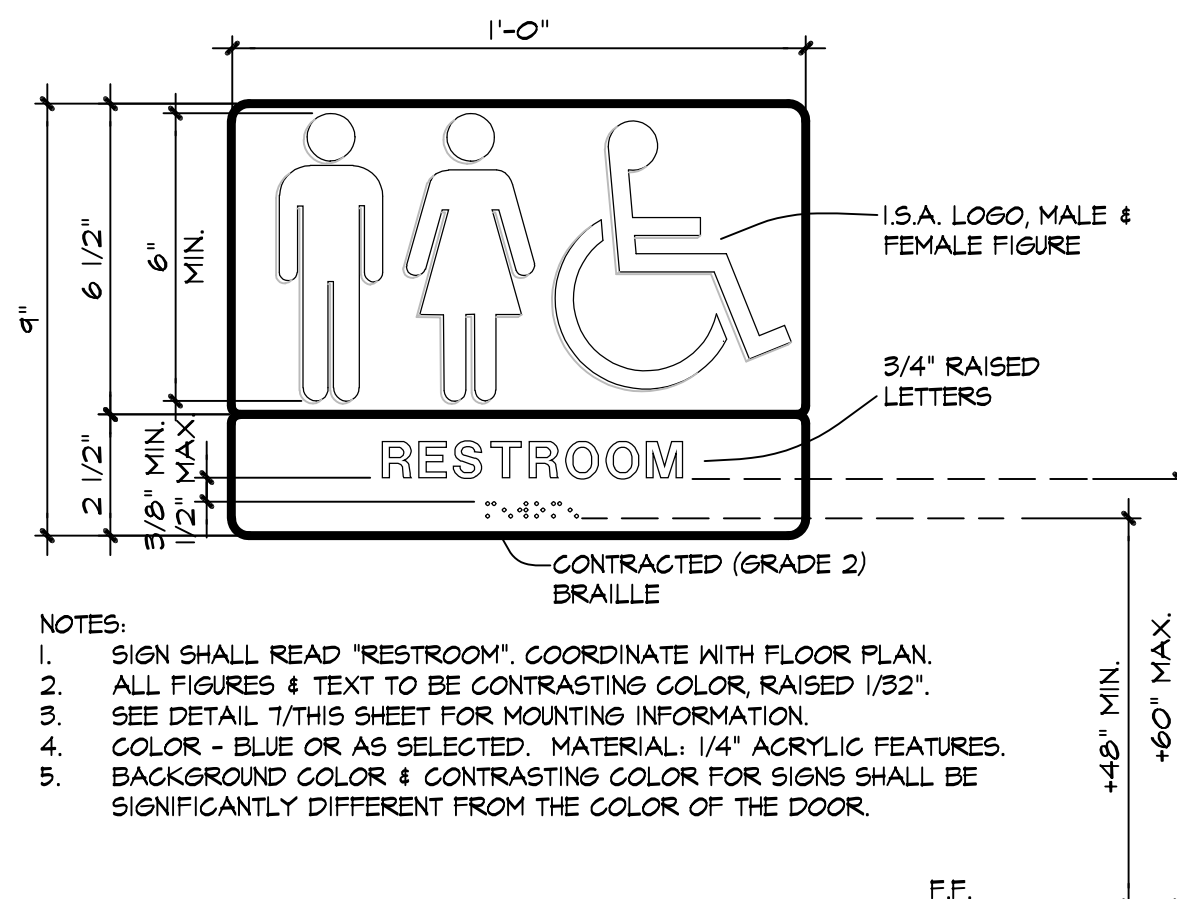
**L6 DOOR SCHEDULE** SEE (XX) SYMBOL ON FLOOR PLANS

- VERIFY EXACT SIZES IN FIELD PRIOR TO ORDERING FOR ALL DOORS / FRAMES. MAINTAIN CBC MIN. REQUIREMENTS.
- EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
- ALL HOLLOW METAL (HM) DOORS AND FRAMES SHALL BE 16 GAGE MINIMUM. COLORS AS SELECTED BY ARCHITECT. (SEE FINISH SCHEDULE).
- CONTRACTOR SHALL BE RESPONSIBLE TO COUNT AND VERIFY NUMBER AND QUANTITIES OF DOORS.
- PAINT HOLLOW METAL DOORS.
- "T" AT GLAZING PANELS DENOTES THE PANEL TO BE TEMPERED, OR LAMINATED SAFETY GLAZING PER SPECIFICATIONS.
- EXTERIOR DOOR LIGHTS TO HAVE U FACTOR VALUE OF NOT MORE THAN 0.55 AND SHGC OF NOT MORE THAN 0.67.
- SEE THIS SHEET FOR SIGNAGE DETAIL, SIGNAGE TYPE DESIGNATION AND INSTALLATION CRITERIA.
- REFER TO FLOOR PLAN FOR SIGNAGE LOCATION.
- REFER TO SPECIFICATION SECTION 08 11 00 PART 3.B FOR COMPLETE HARDWARE GROUP DESCRIPTIONS.
- DOOR AND FRAME MATERIALS TO READ AS FOLLOWS:  
AL --- ALUMINUM  
HM --- HOLLOW METAL
- CARD READER FURNISHED BY OWNER, INSTALLED BY CONTRACTOR.

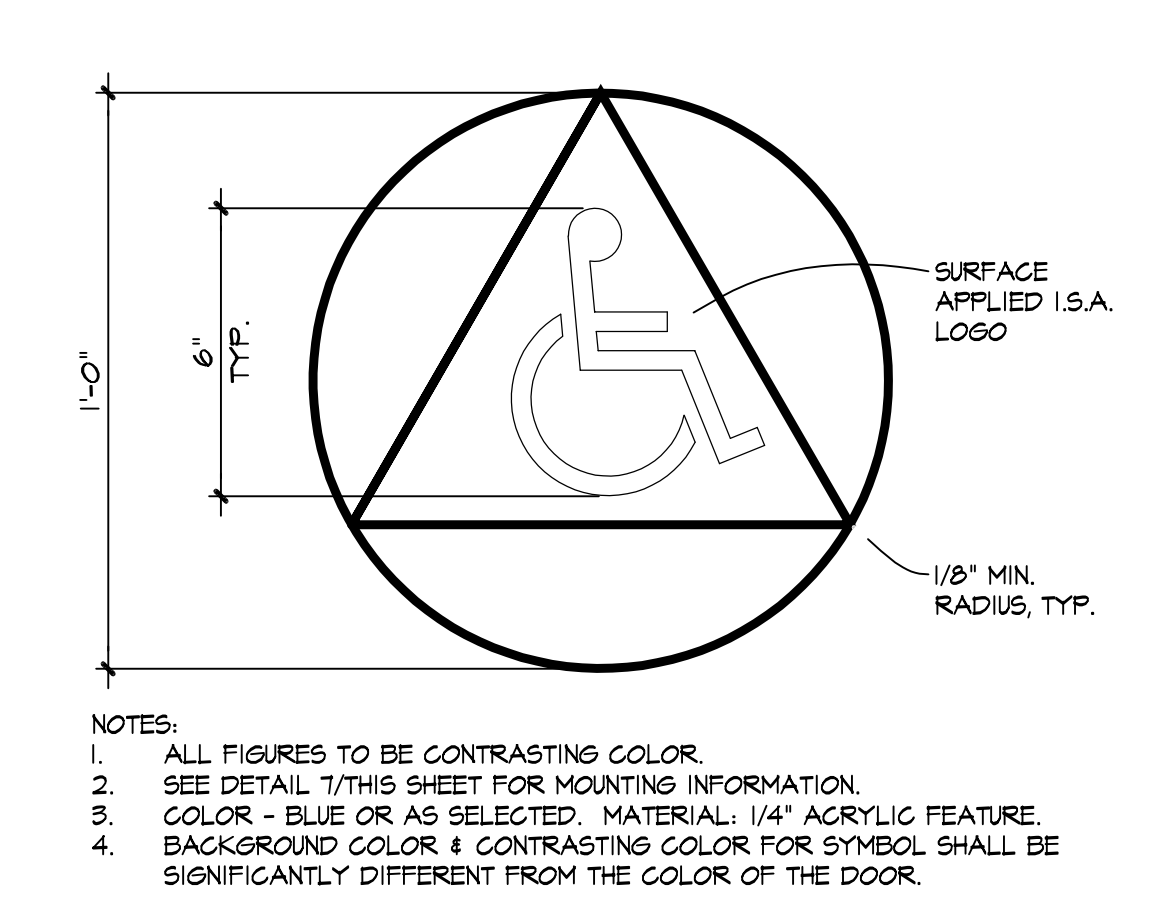
**H6 DOOR SCHEDULE NOTES**



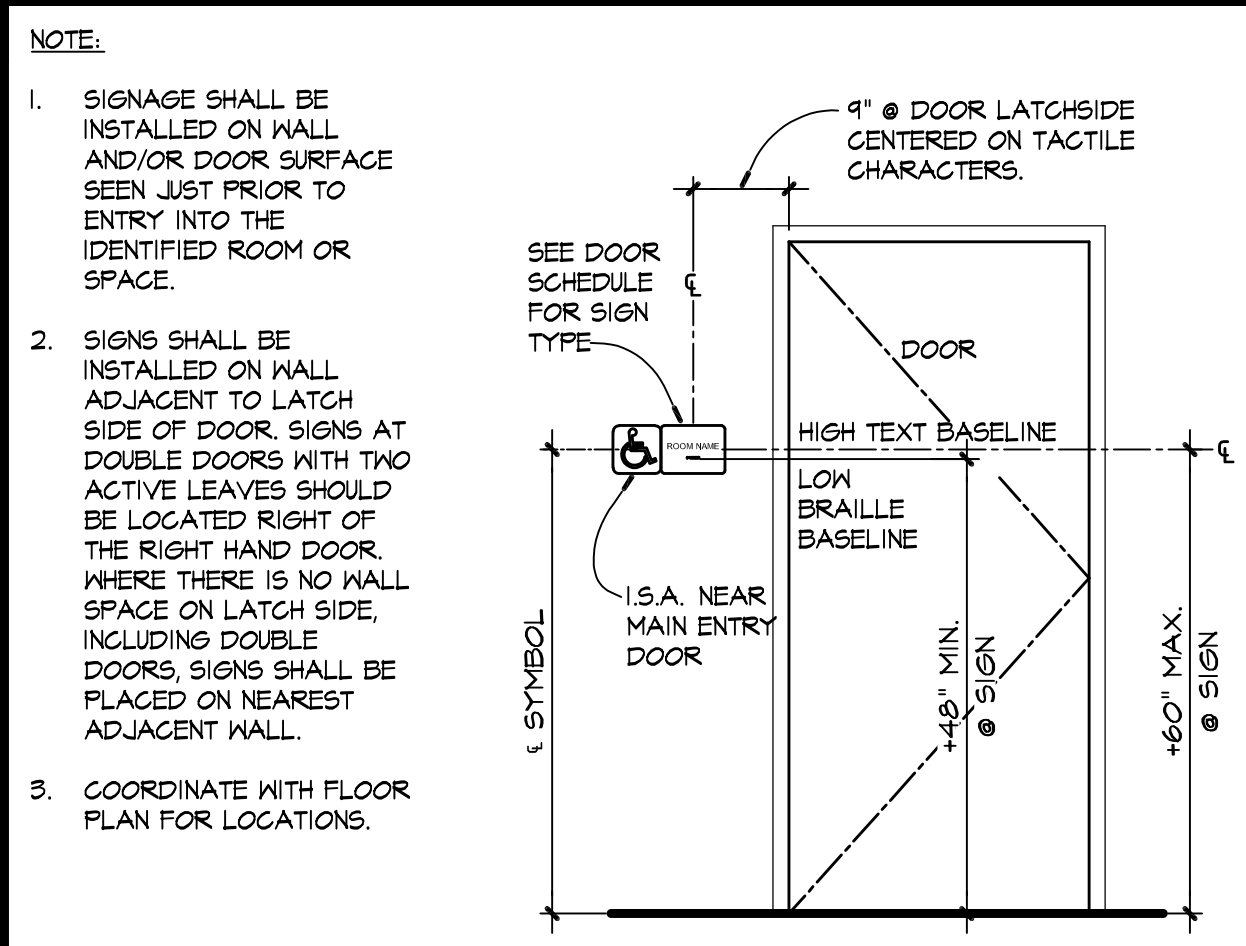
**S1 RESTROOM SIGN PLACEMENT**  
1/2" = 1'-0"



**S2 ALL GENDER RESTROOM SIGN**  
3" = 1'-0"

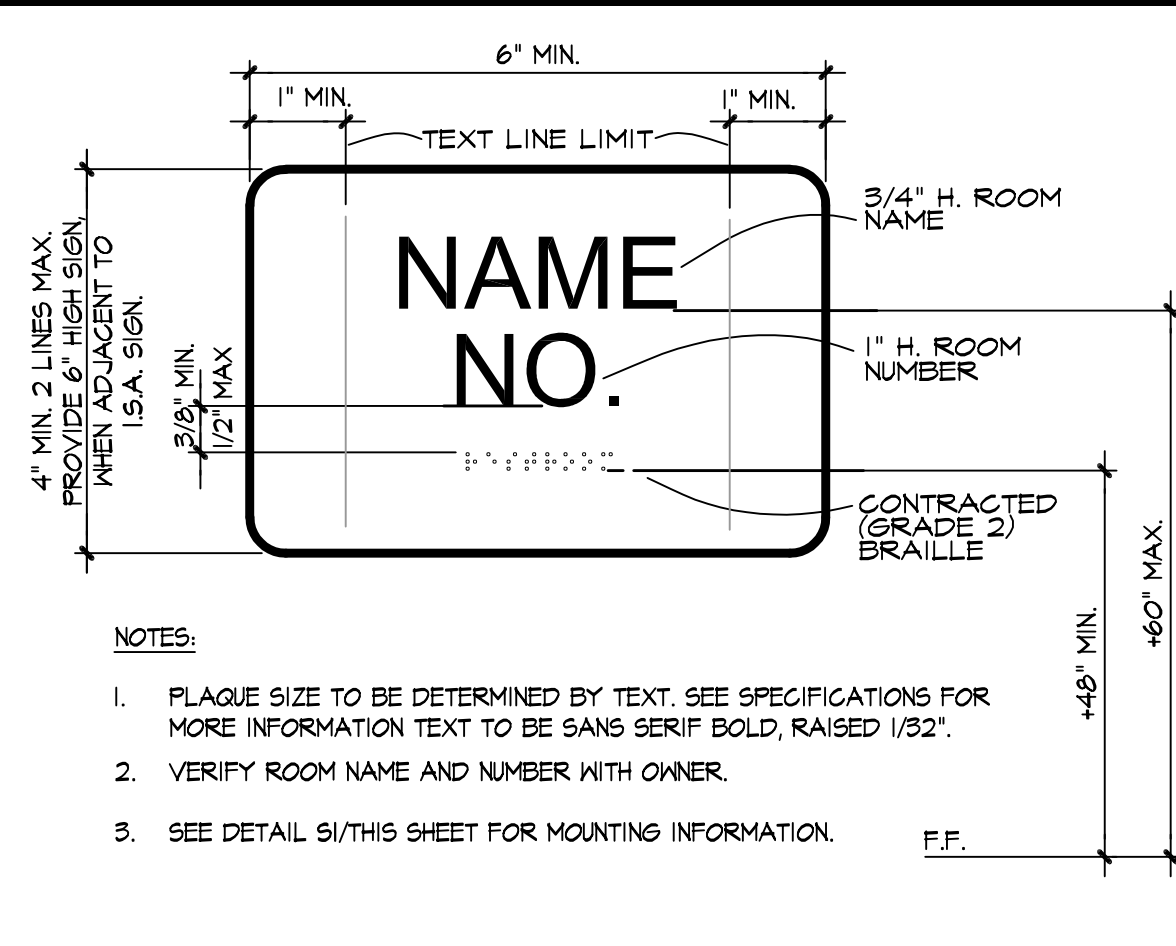


**S3 ALL GENDER GEO. DOOR SYM.**  
1/2" = 1'-0"



**S4 TYPICAL SIGN PLACEMENT**  
1/2" = 1'-0"

**S5 NOT USED**



**S6 TYPICAL ROOM SIGNAGE**  
6" = 1'-0"

**B6 SIGNAGE DETAILS**



Project:  
Fresno County  
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File Path: G:\Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center \ 00 2018 ECC

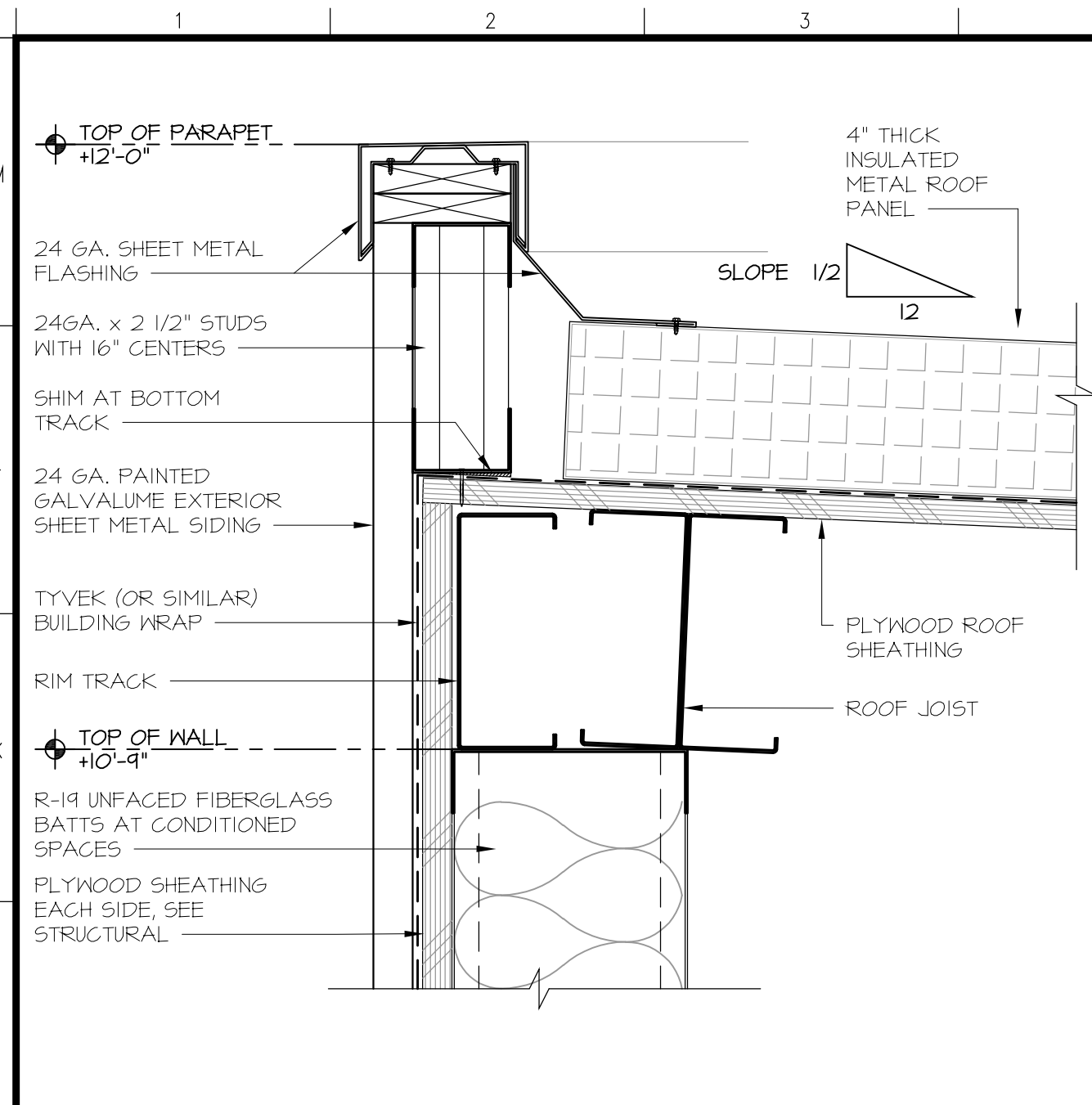
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Door Schedule & Window Elevation



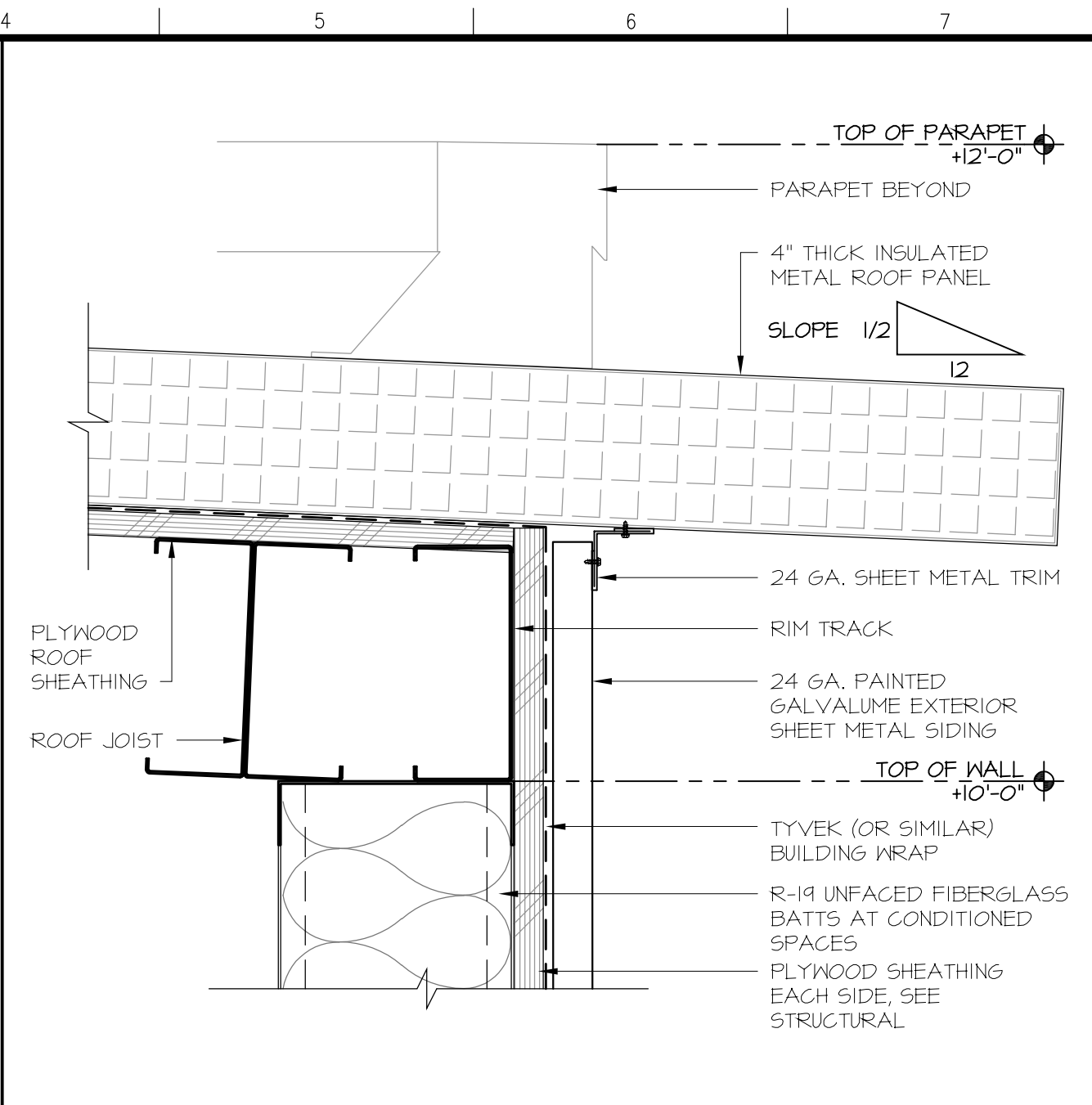
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**A3.2**



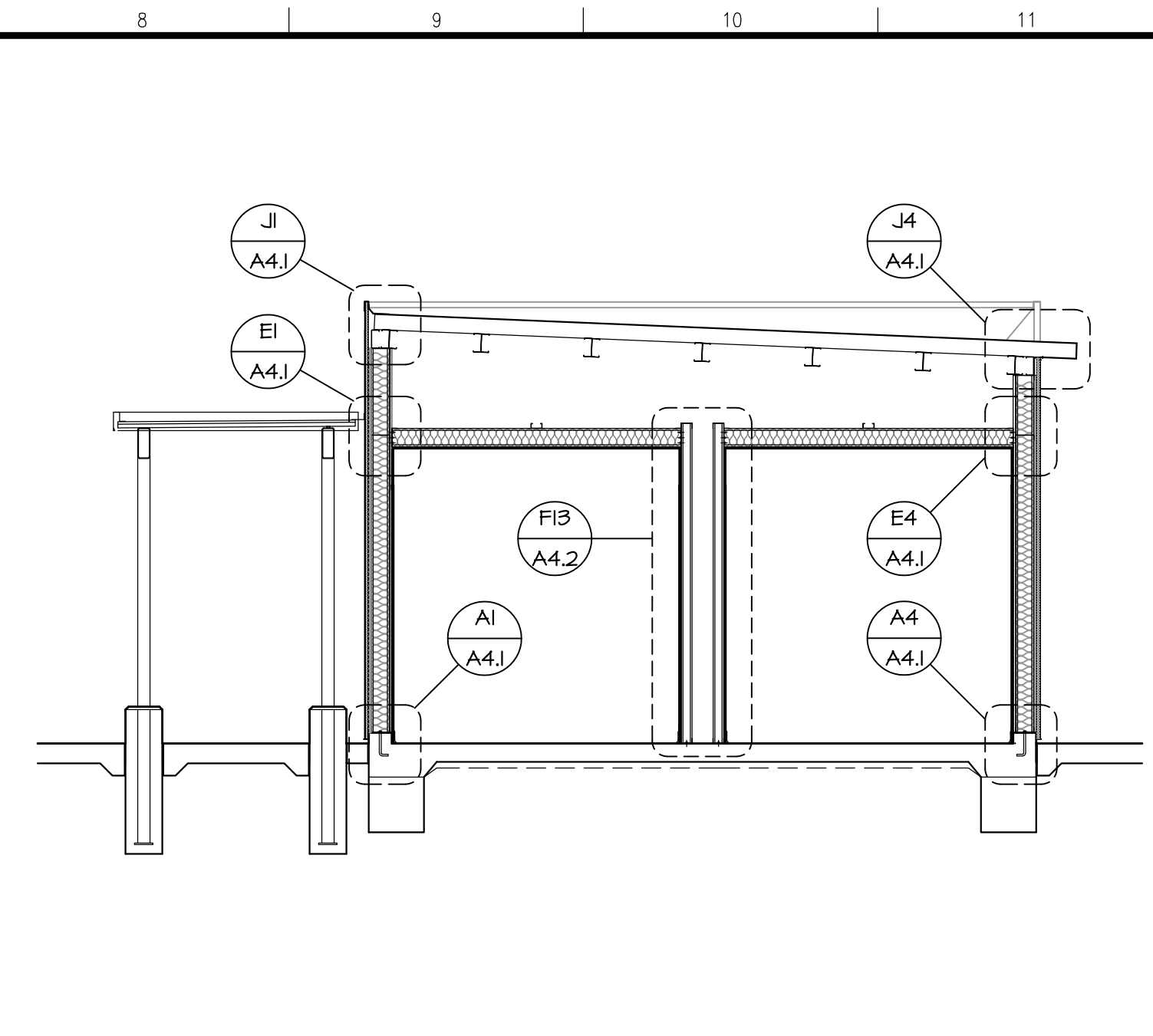




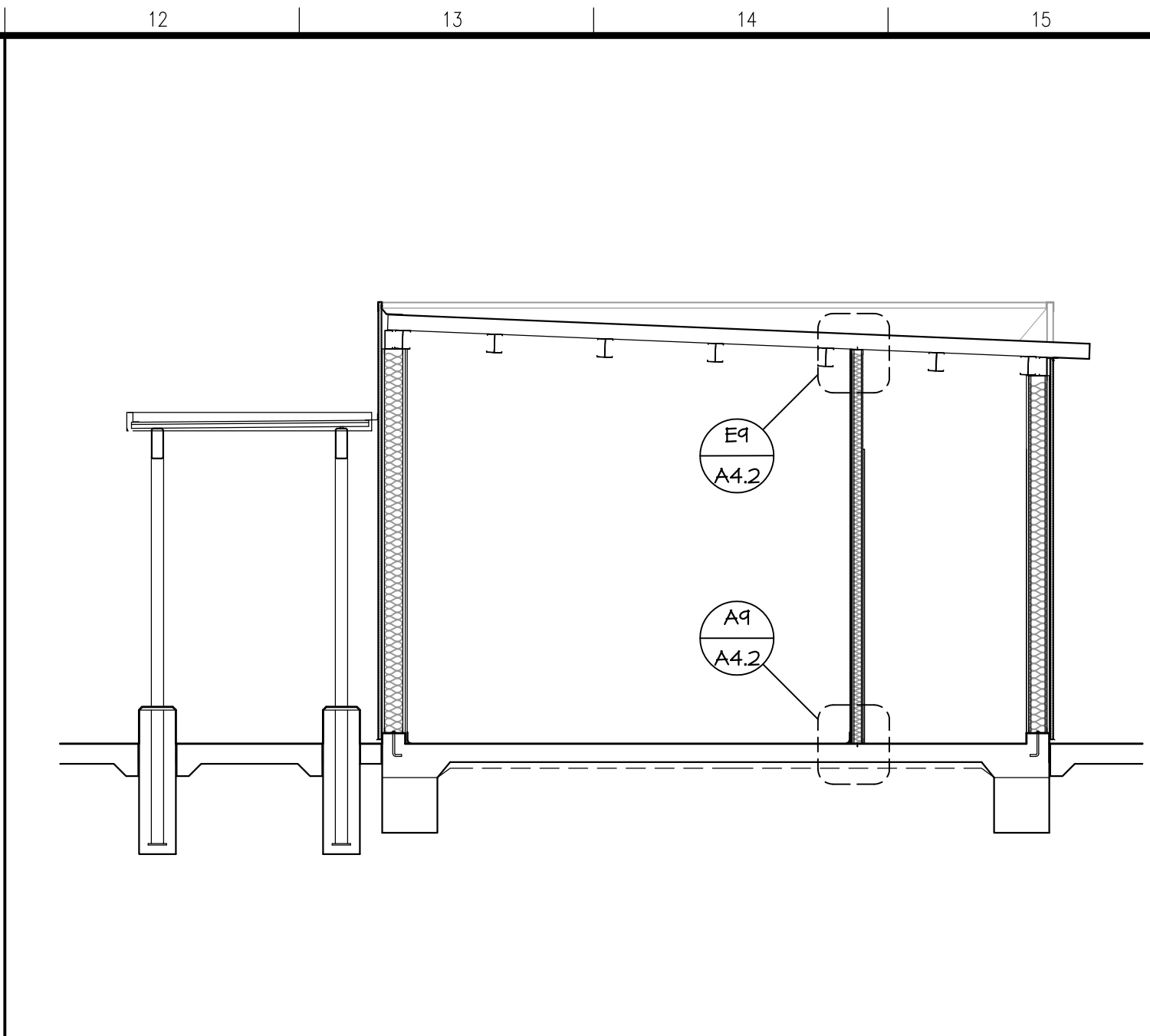
**J1 Exterior Wall Section at Roof - High End**  
Scale: 3" = 1'-0"



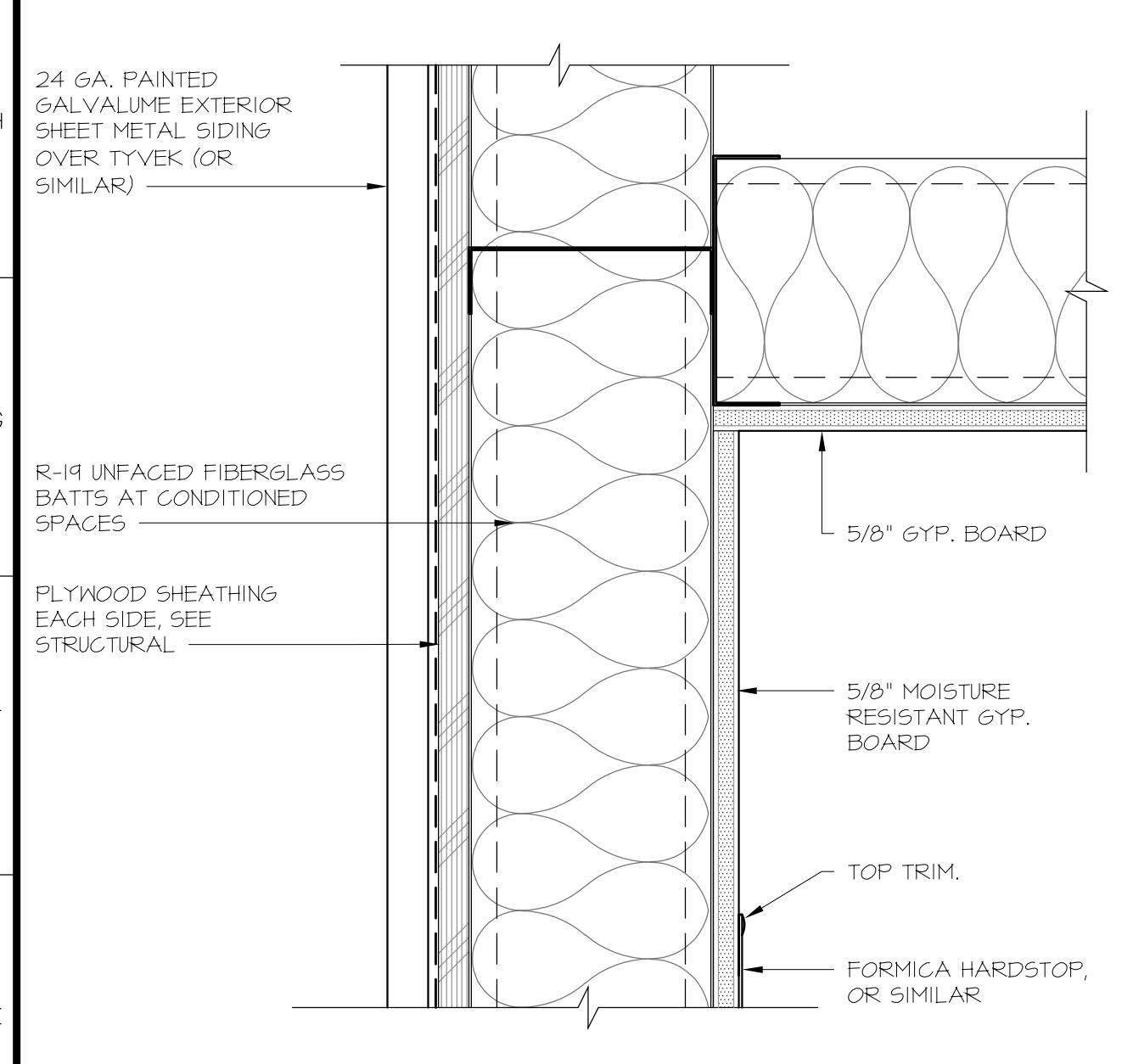
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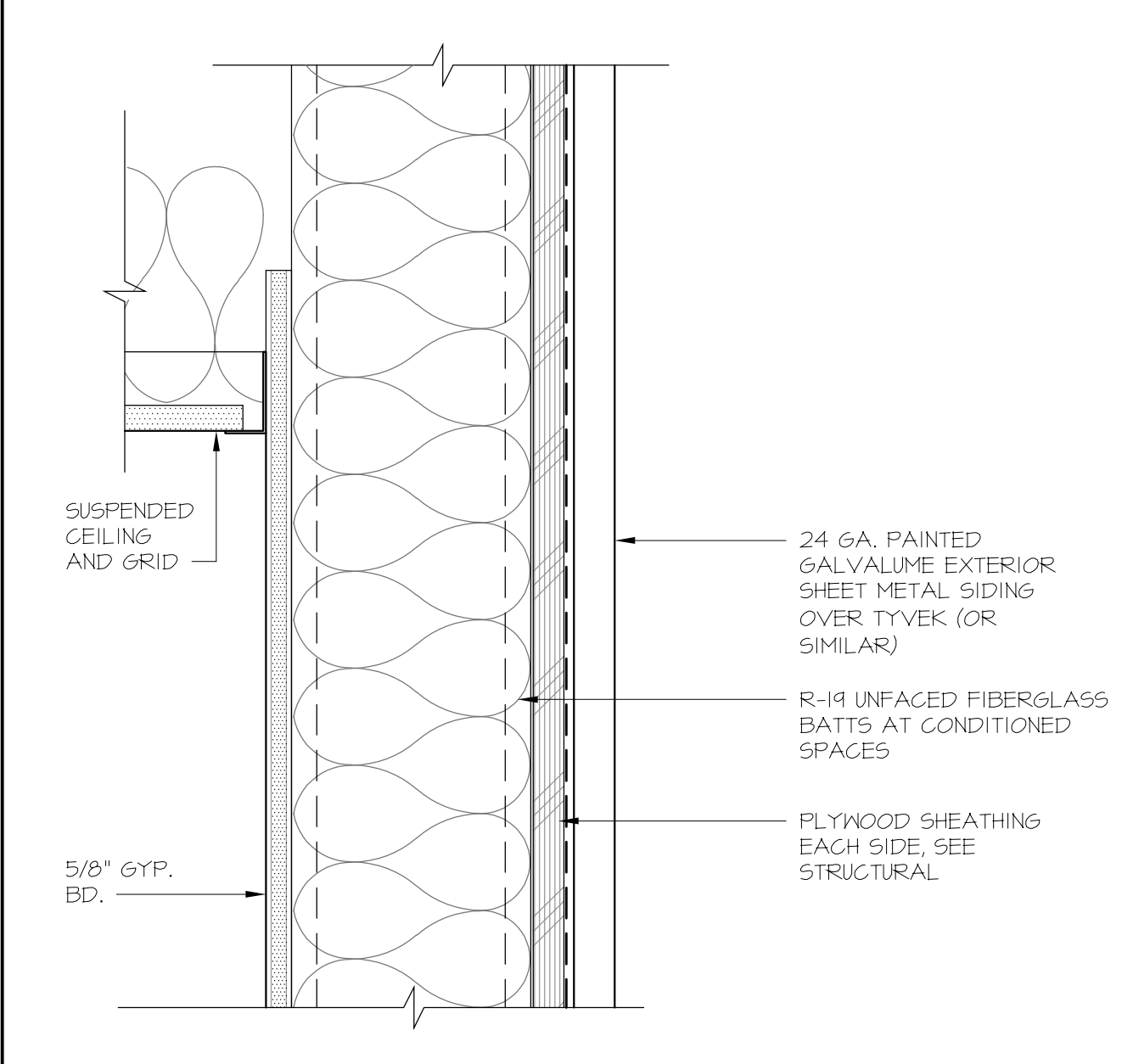
**J8 Building Section**  
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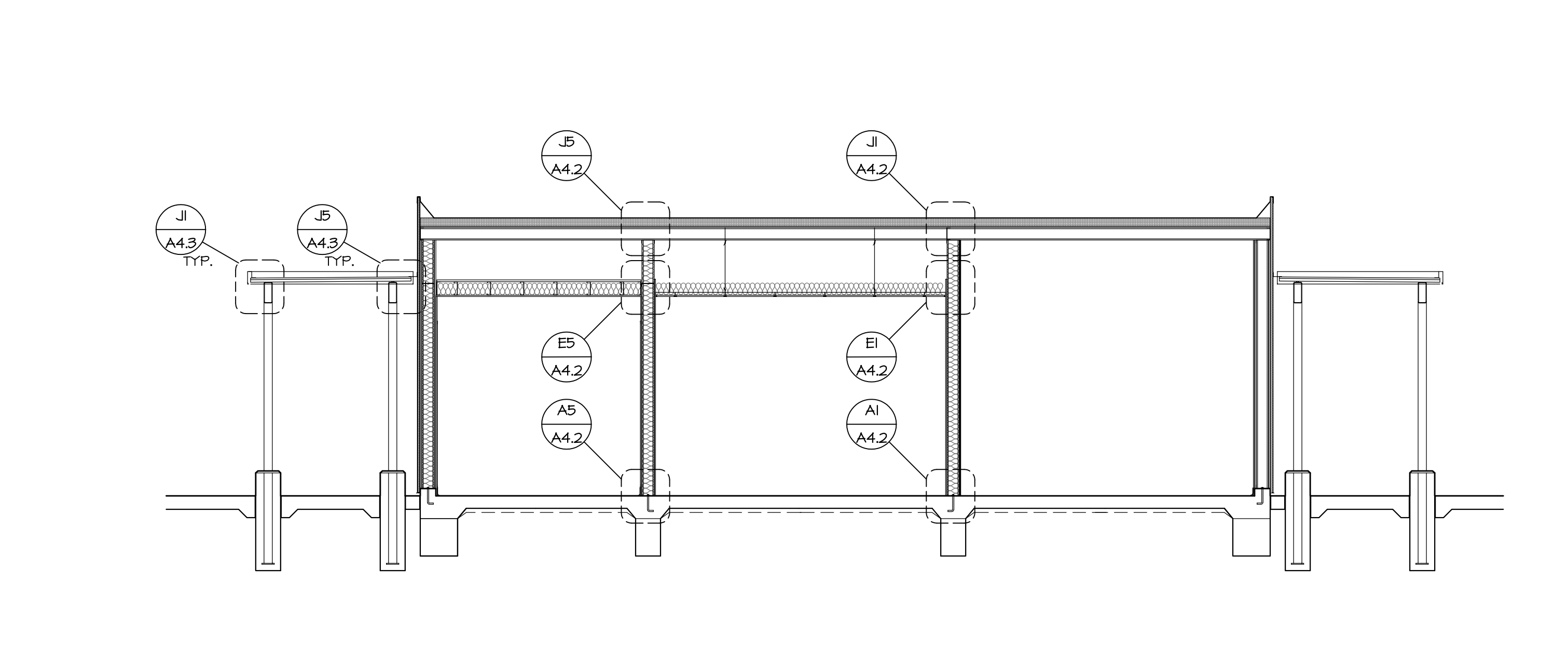
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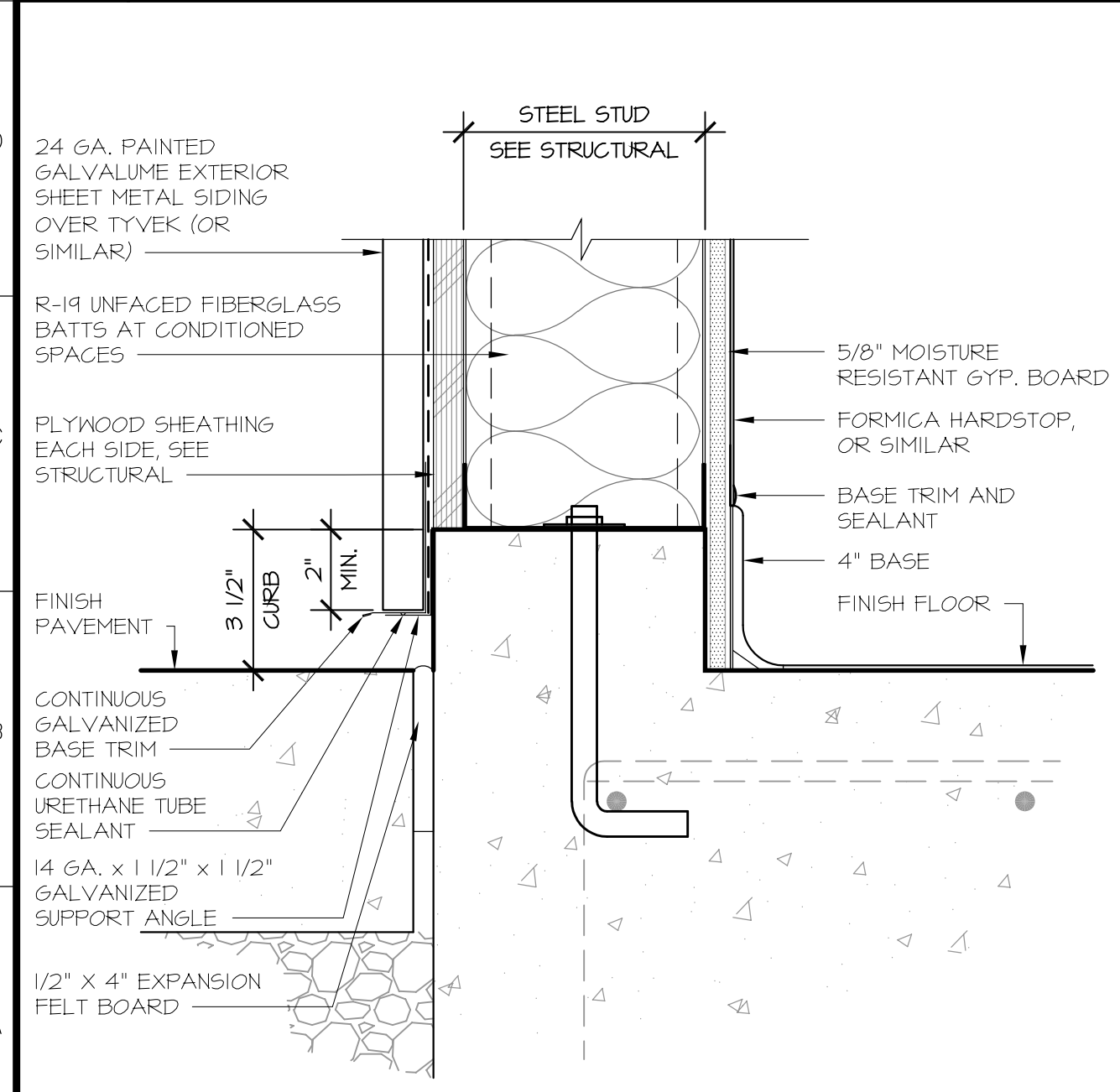
**E1 Exterior Wall Section at Gyp. Ceiling**  
Scale: 3" = 1'-0"



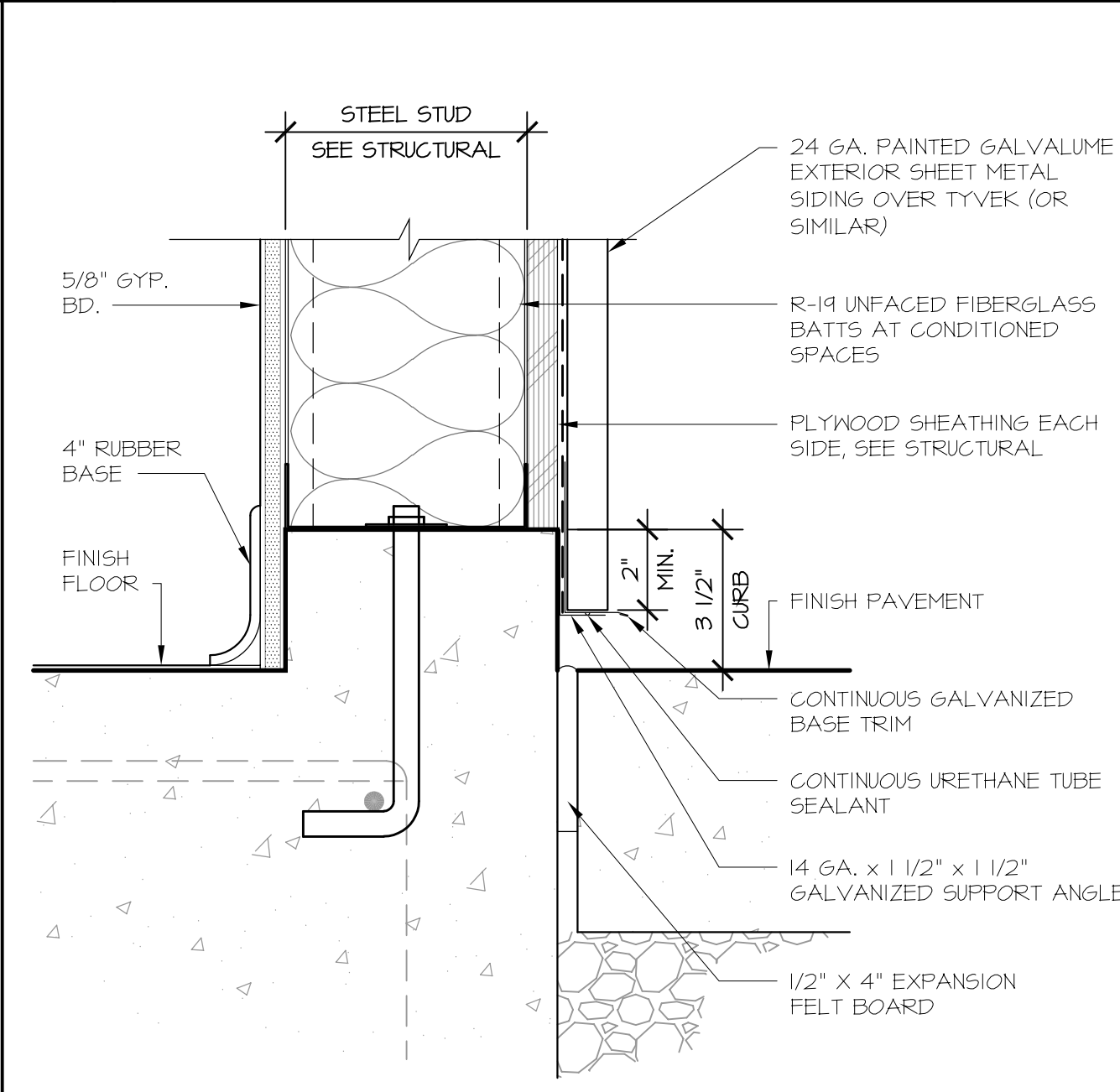
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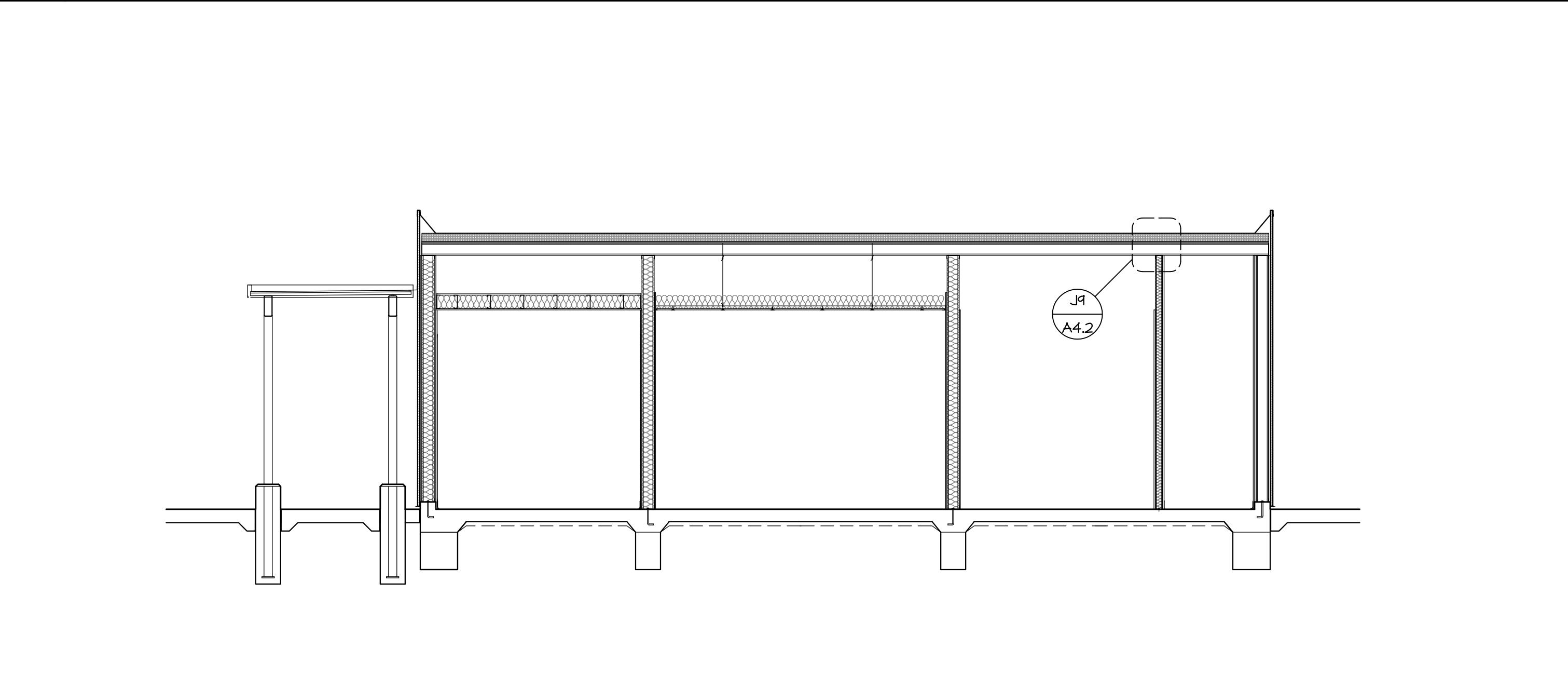
**E8 Building Section**  
Scale: 1/4" = 1'-0"



**A1 Exterior Wall Section at Base**  
Scale: 3" = 1'-0"



**A4 Detail**  
Scale: 3" = 1'-0"



**A8 Building Section**  
Scale: 1/4" = 1'-0"



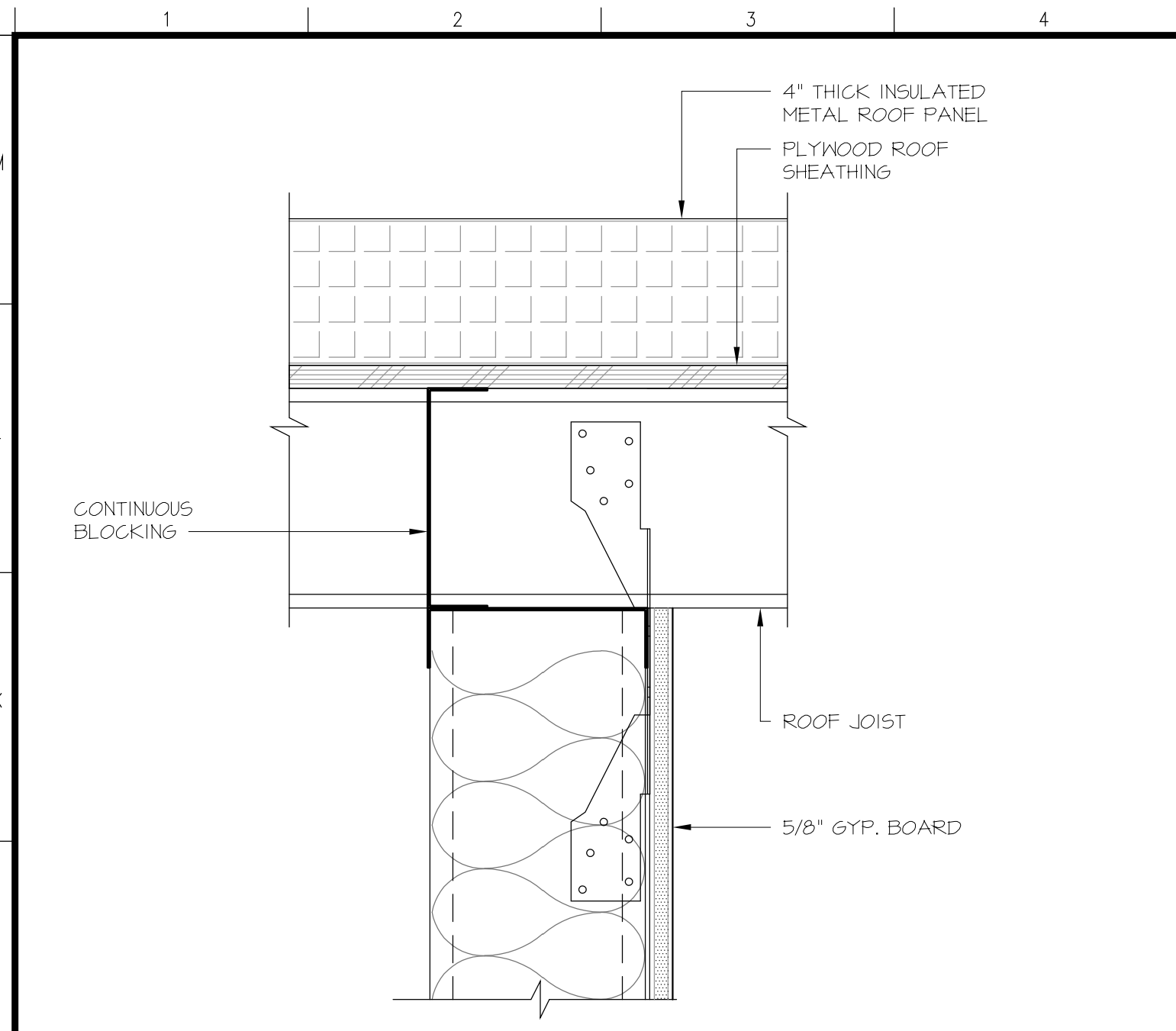
Project:  
Fresno County  
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Project Address: 310 S. West Avenue, Fresno CA 93706  
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File Path: G:\Capital \ Projects \ Building Numbers \ American  
Ave Landfill \ T90203 Environmental Compliance Center \ 00  
2018 ECC

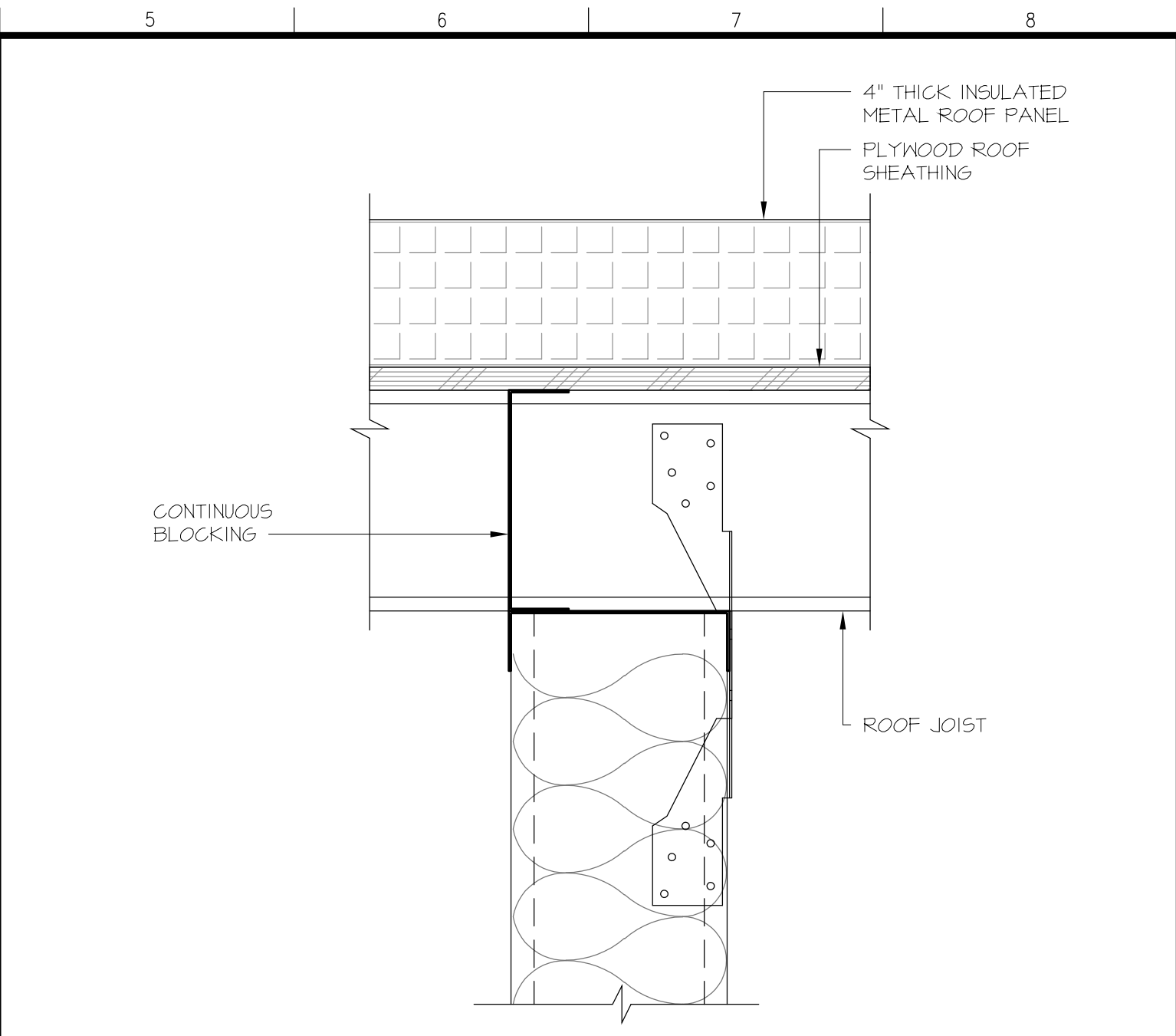
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Building Sections & Wall Sections



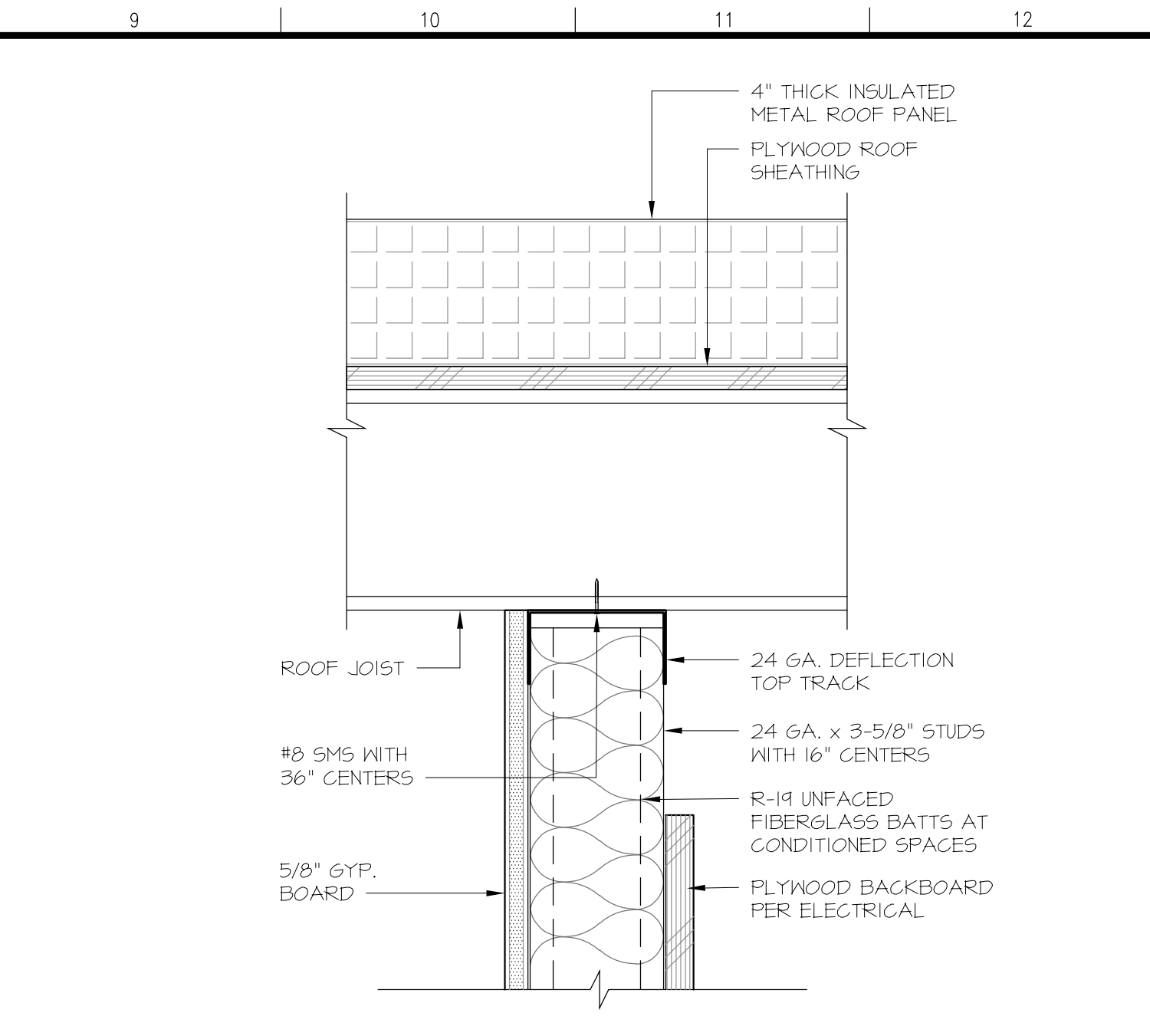
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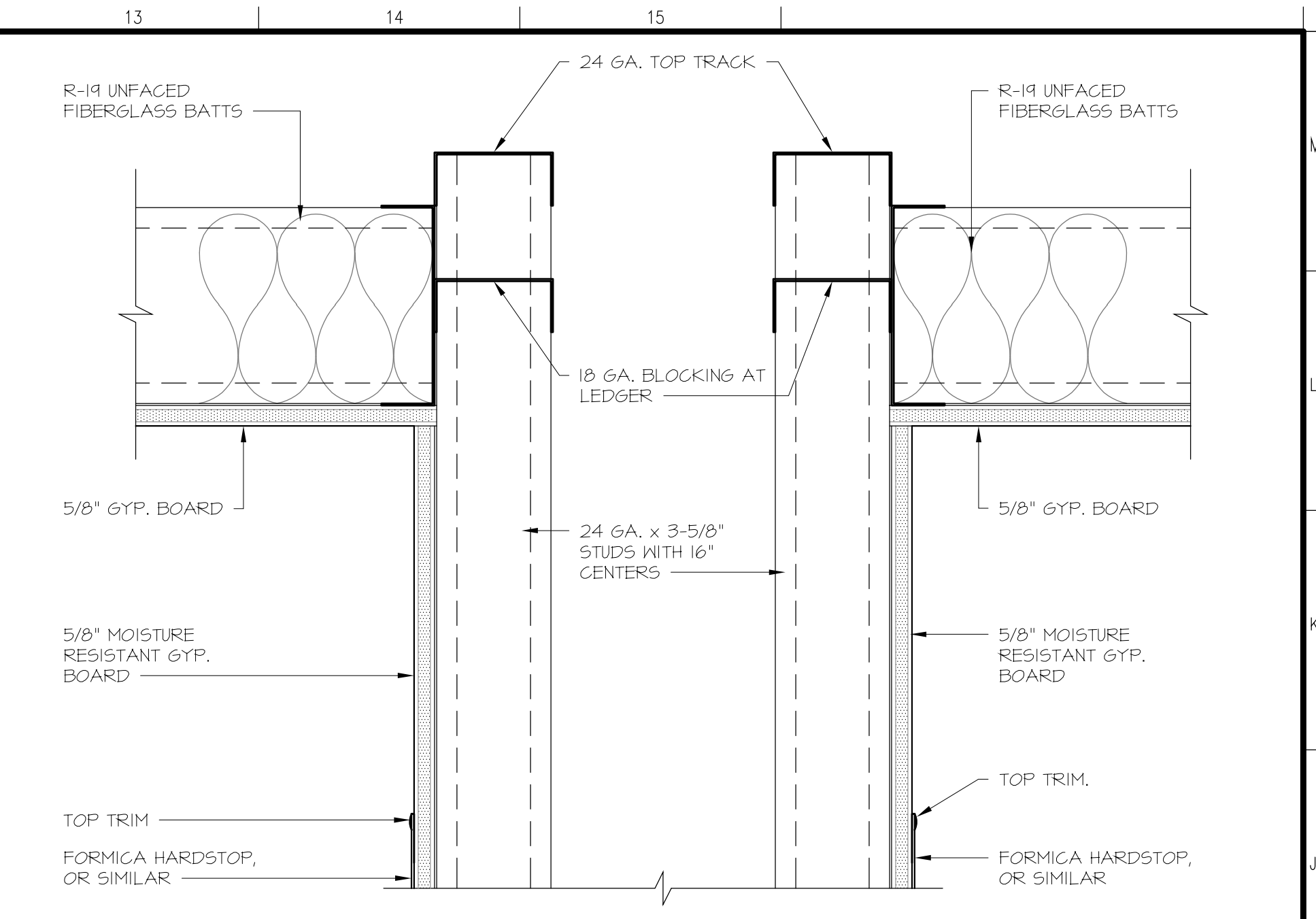
**J1 Wall Section at Roof**  
Scale: 3"=1'-0"



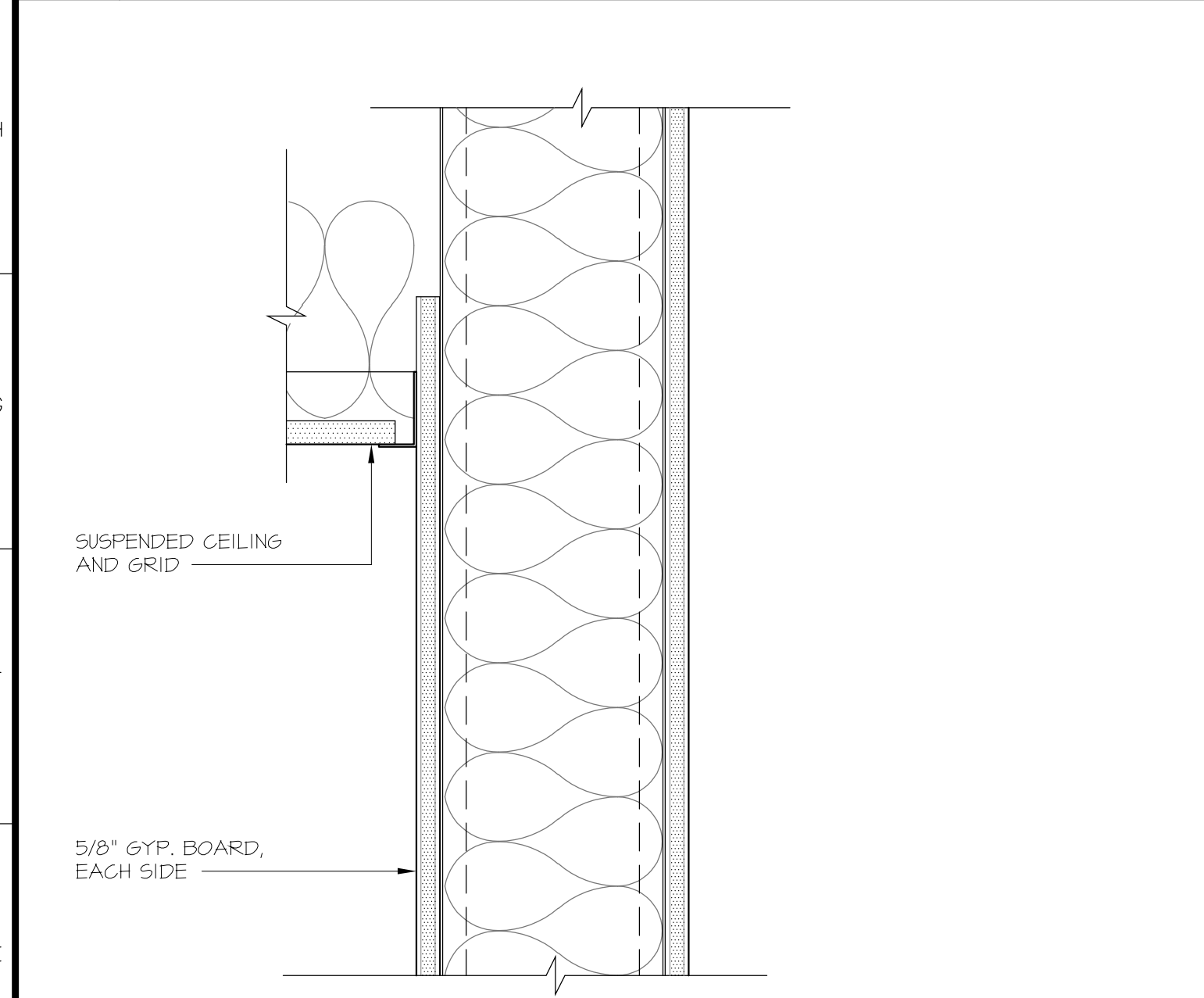
**J5 Wall Section at Roof**  
Scale: 3"=1'-0"



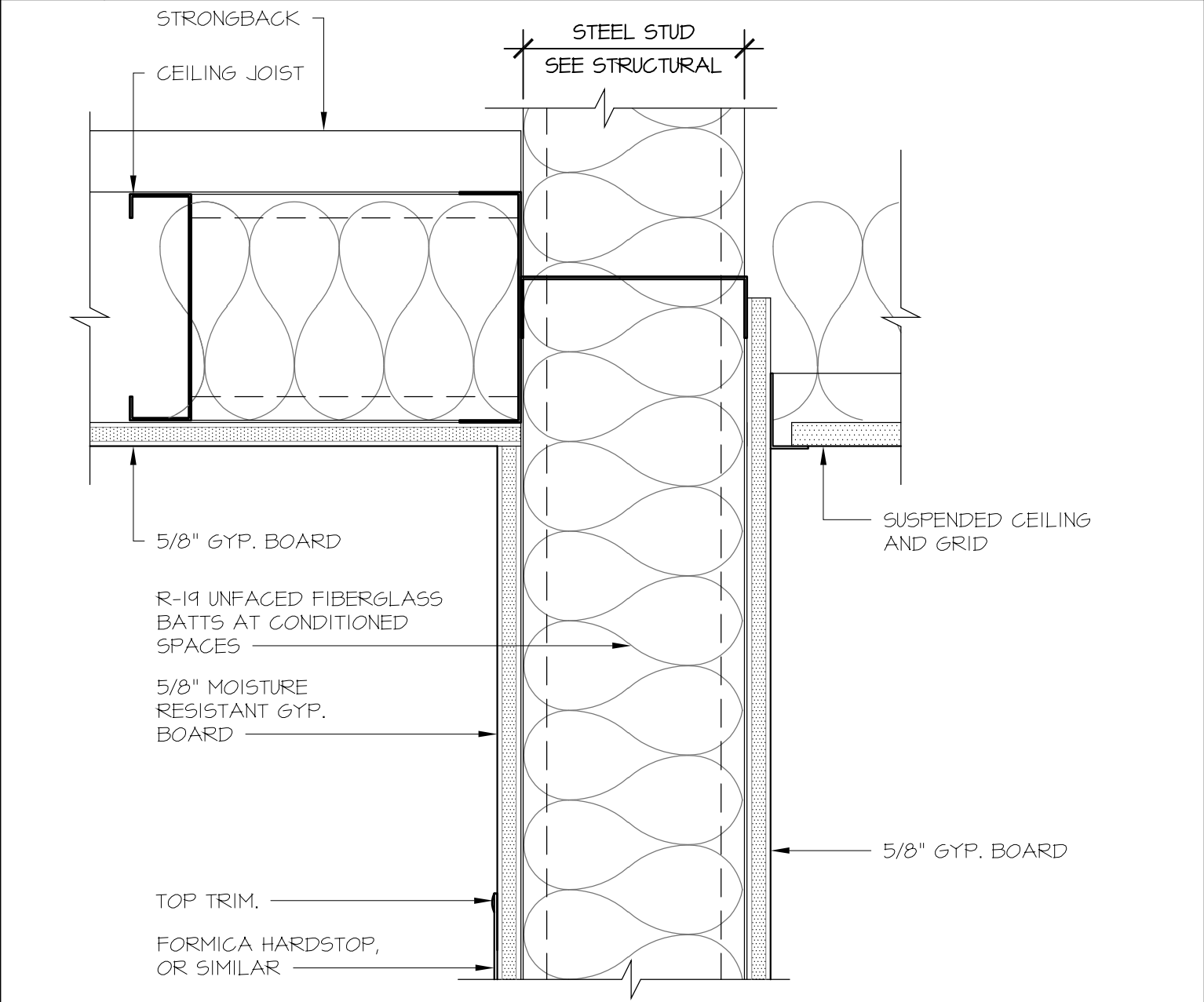
**J9 Wall Section at Roof**  
Scale: 3"=1'-0"



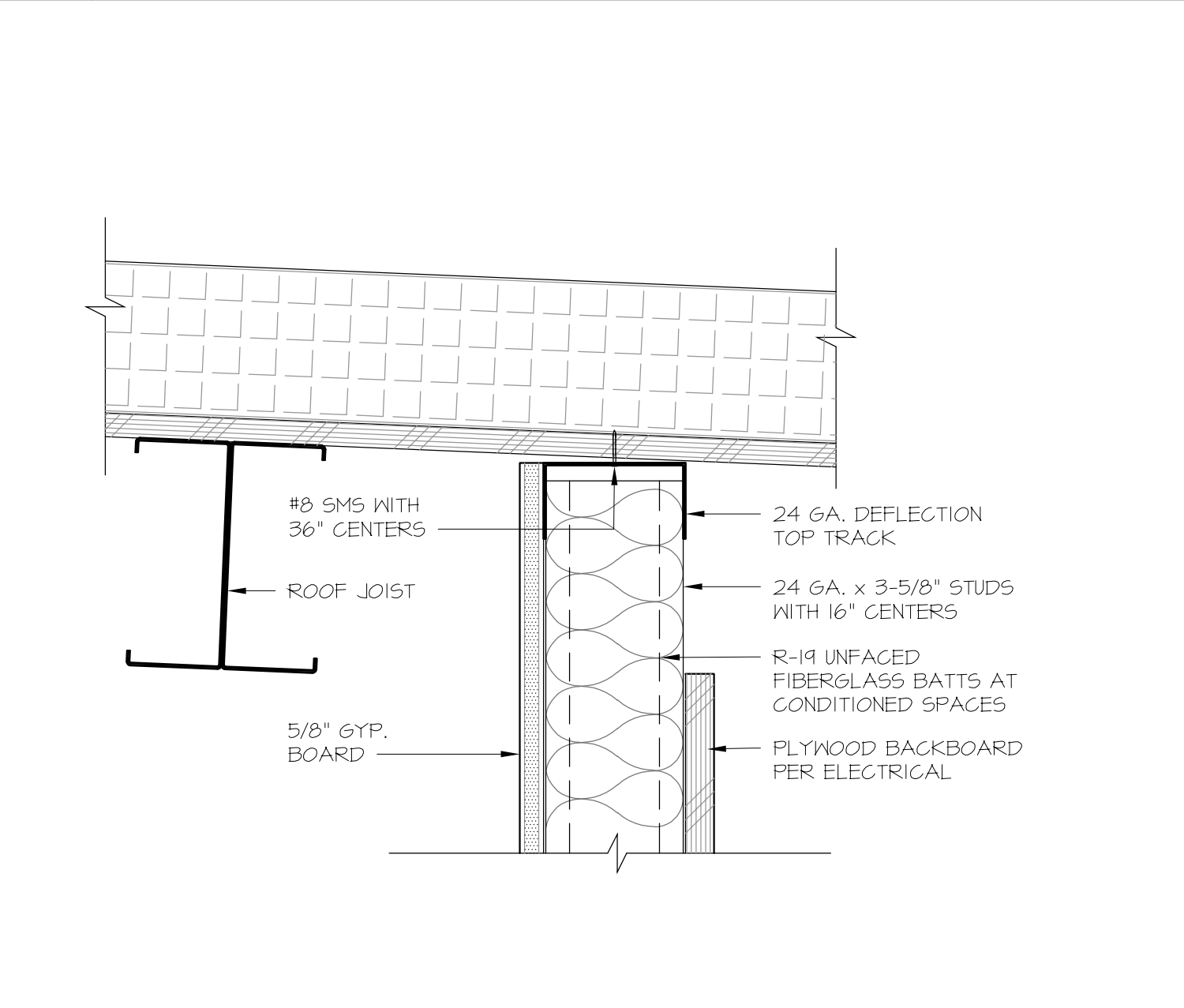
**F13 Wall Section at Toilet Rooms**  
Scale: 3"=1'-0"



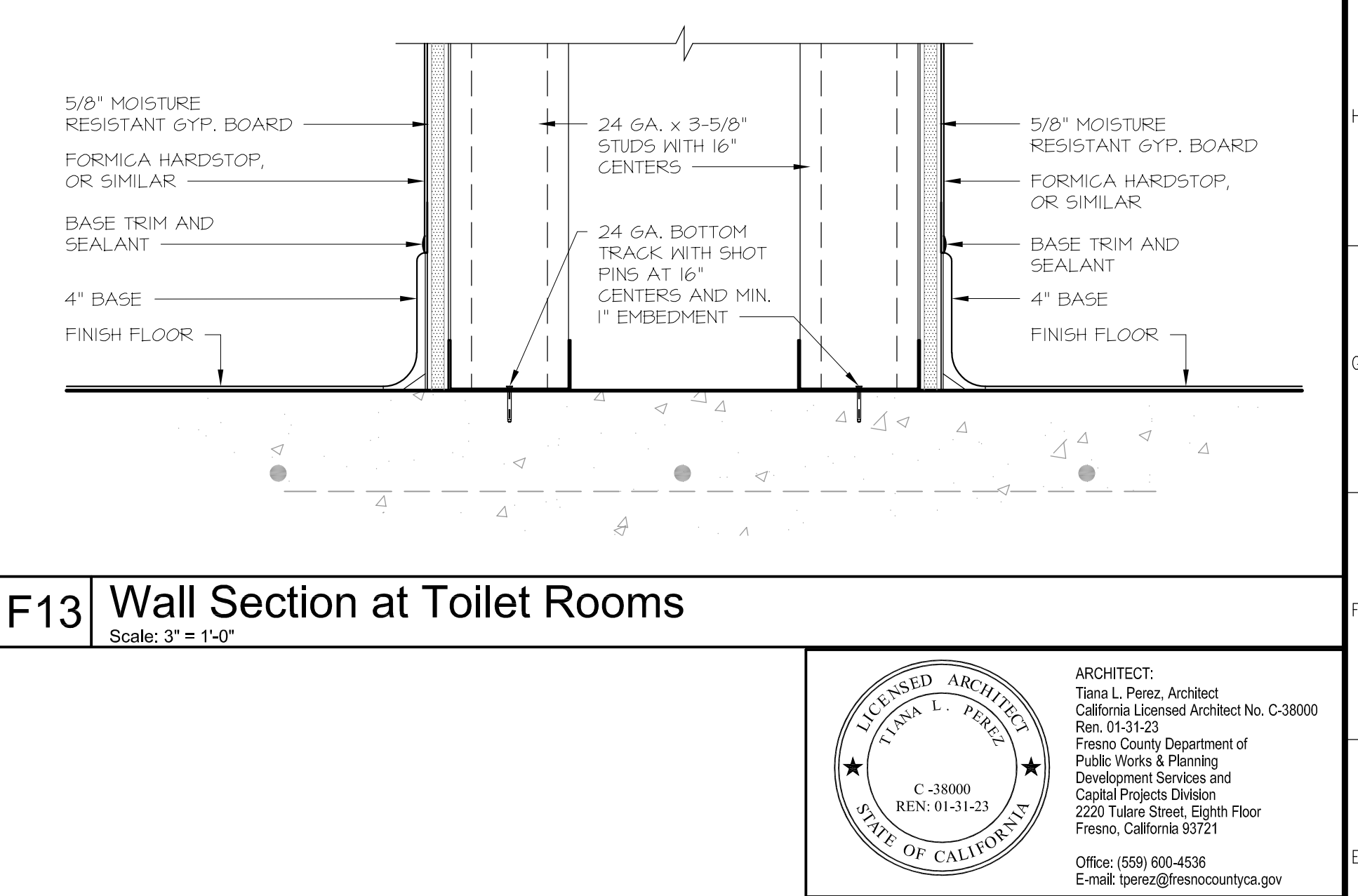
**E1 Wall Section at Ceiling**  
Scale: 3"=1'-0"



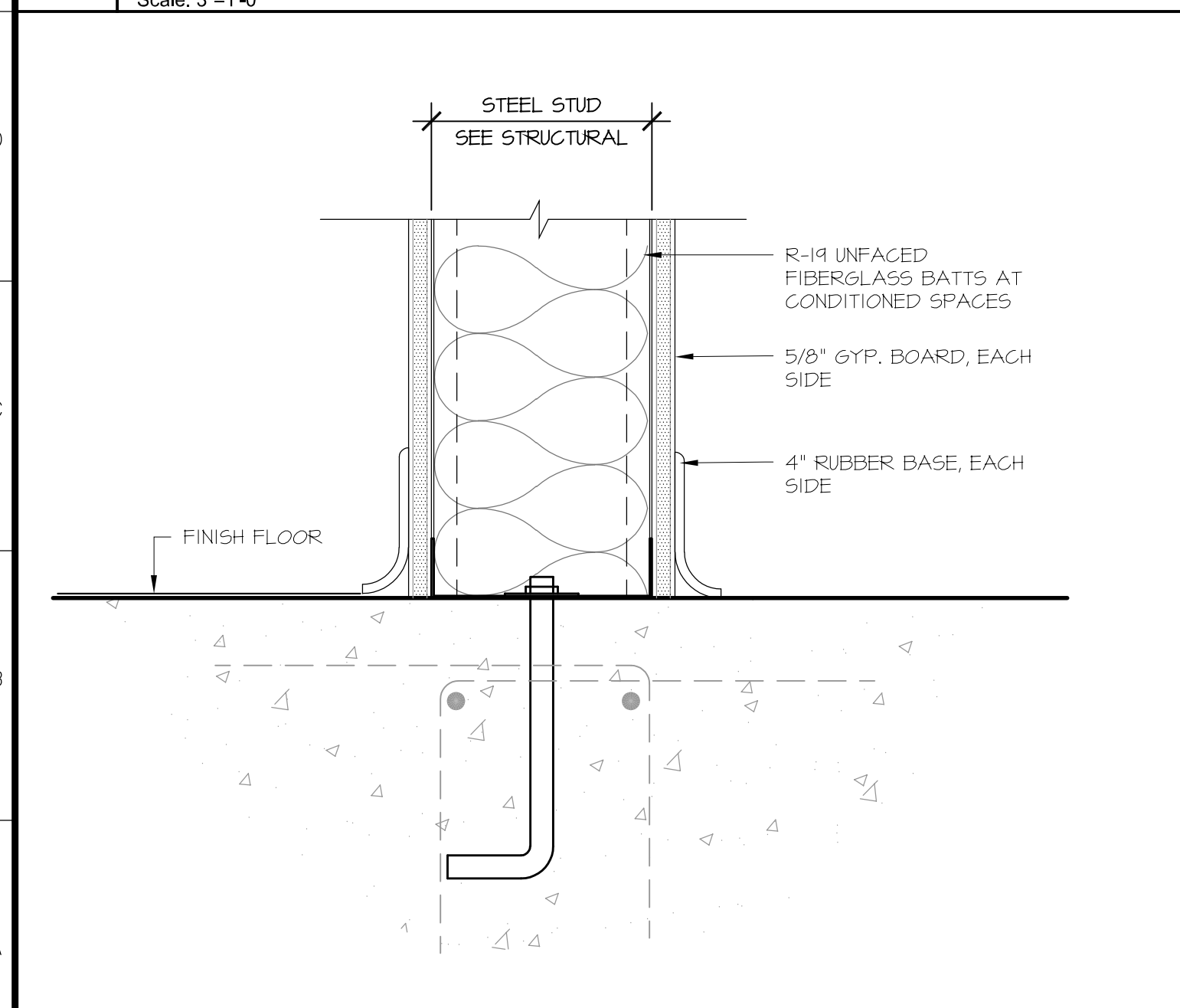
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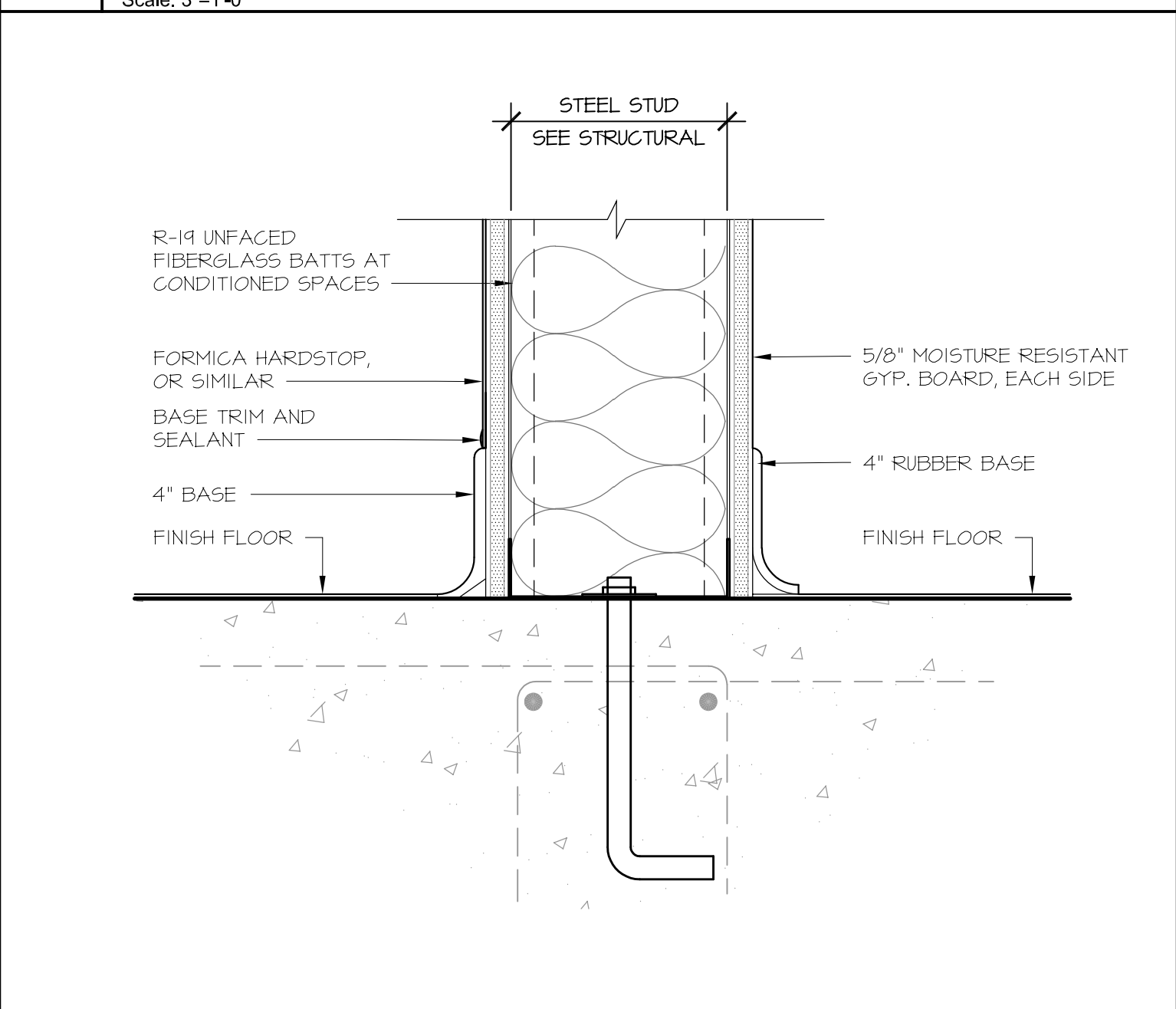
**E9 Wall Section at Roof**  
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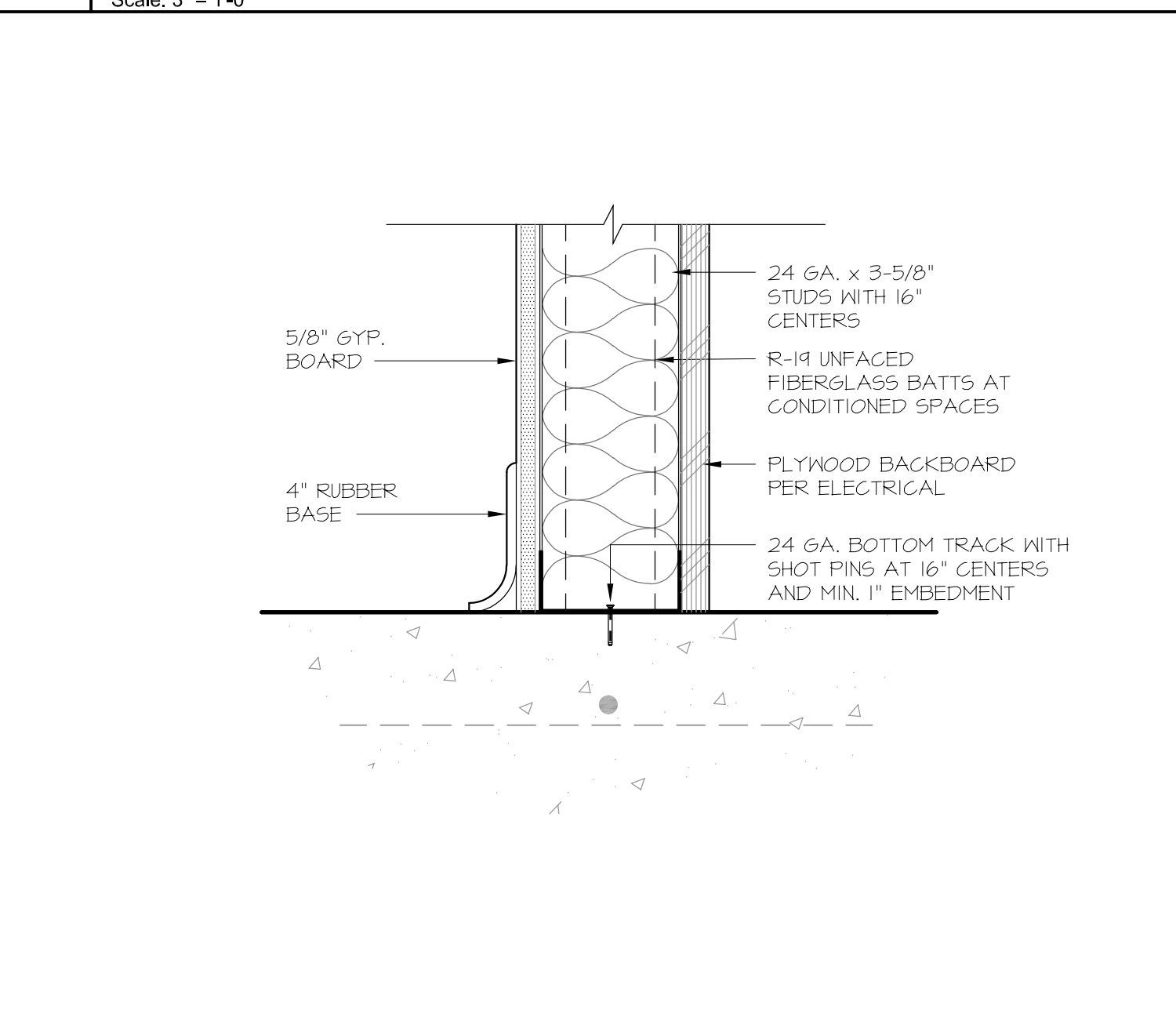
**F13 Wall Section at Toilet Rooms**  
Scale: 3"=1'-0"



**A1 Wall Section at Base**  
Scale: 3"=1'-0"



**A5 Wall Section at Base**  
Scale: 3"=1'-0"



**A9 Wall Section at Base**  
Scale: 3"=1'-0"



**Project:**  
Fresno County  
Environmental Compliance Center  
Phase 2: Office / Storage Building

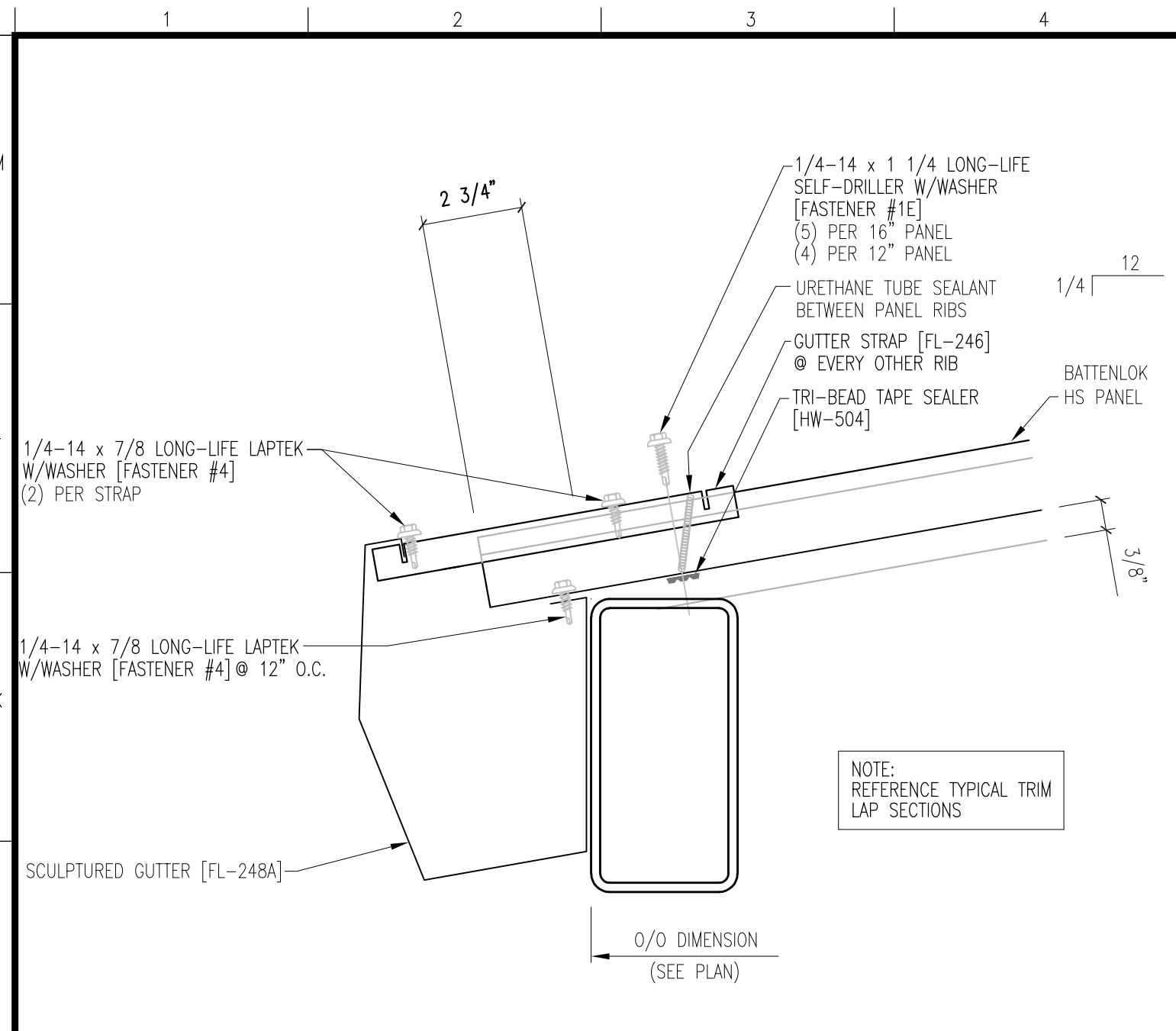
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**Sheet Content:**  
Wall Sections

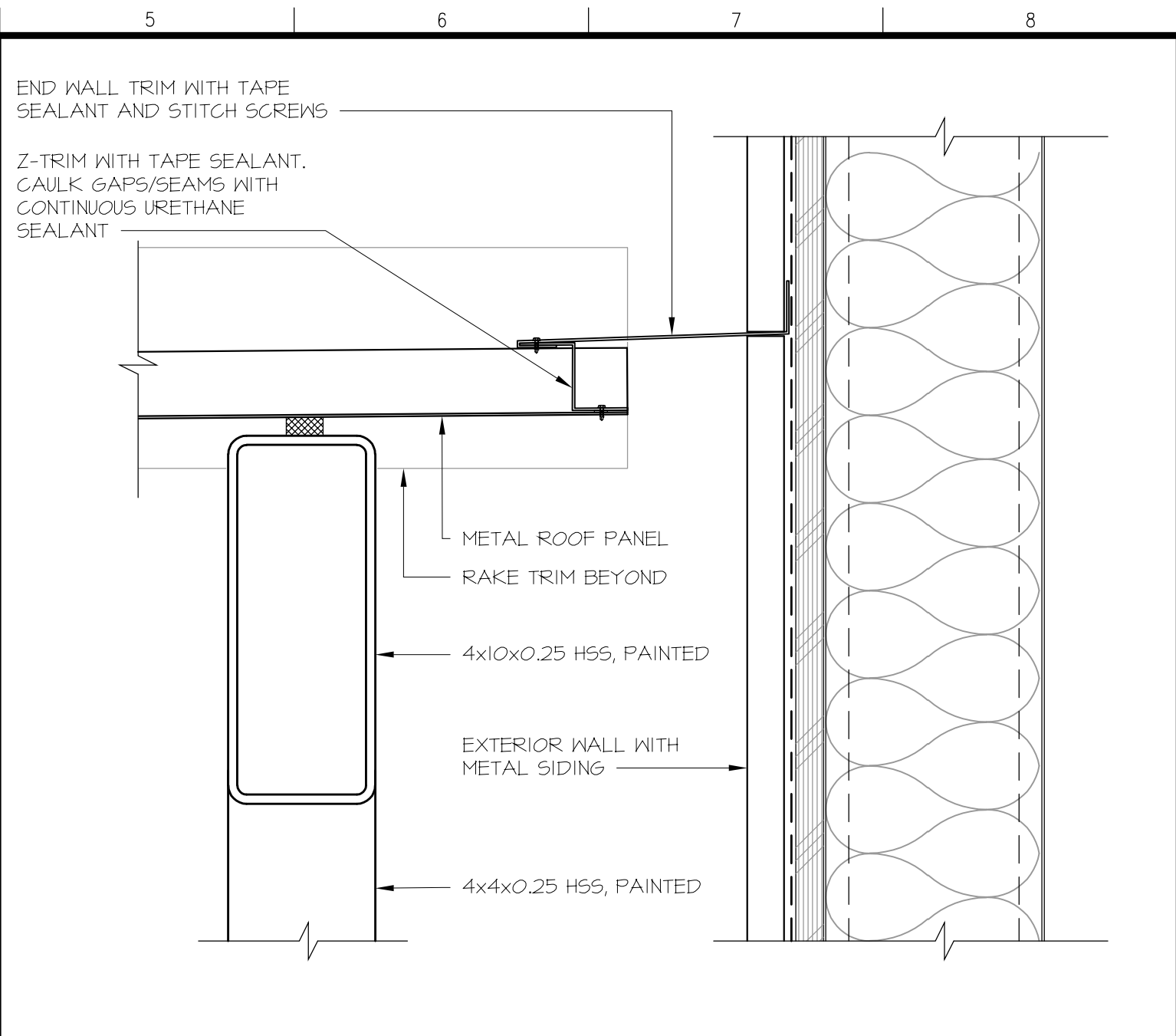
Fresno County Department of  
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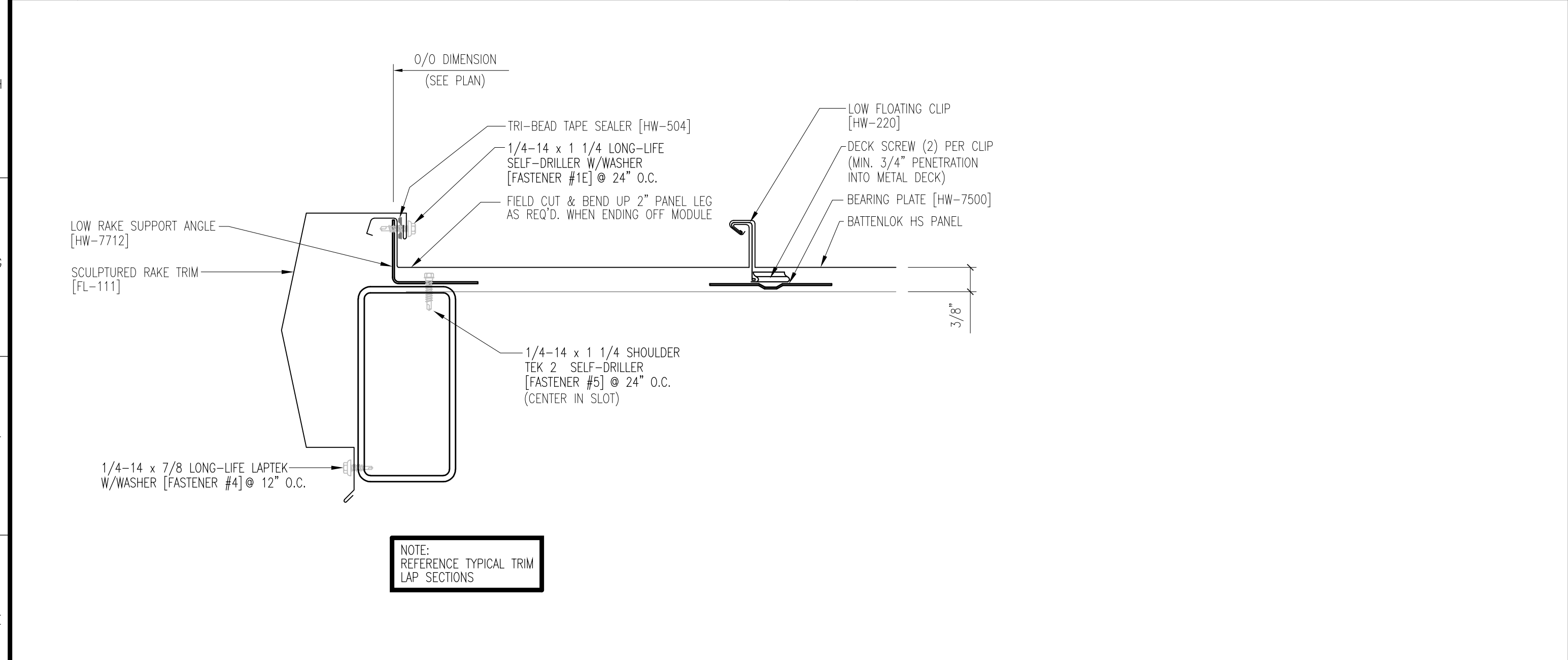
**Sheet No.**  
**A4.2**



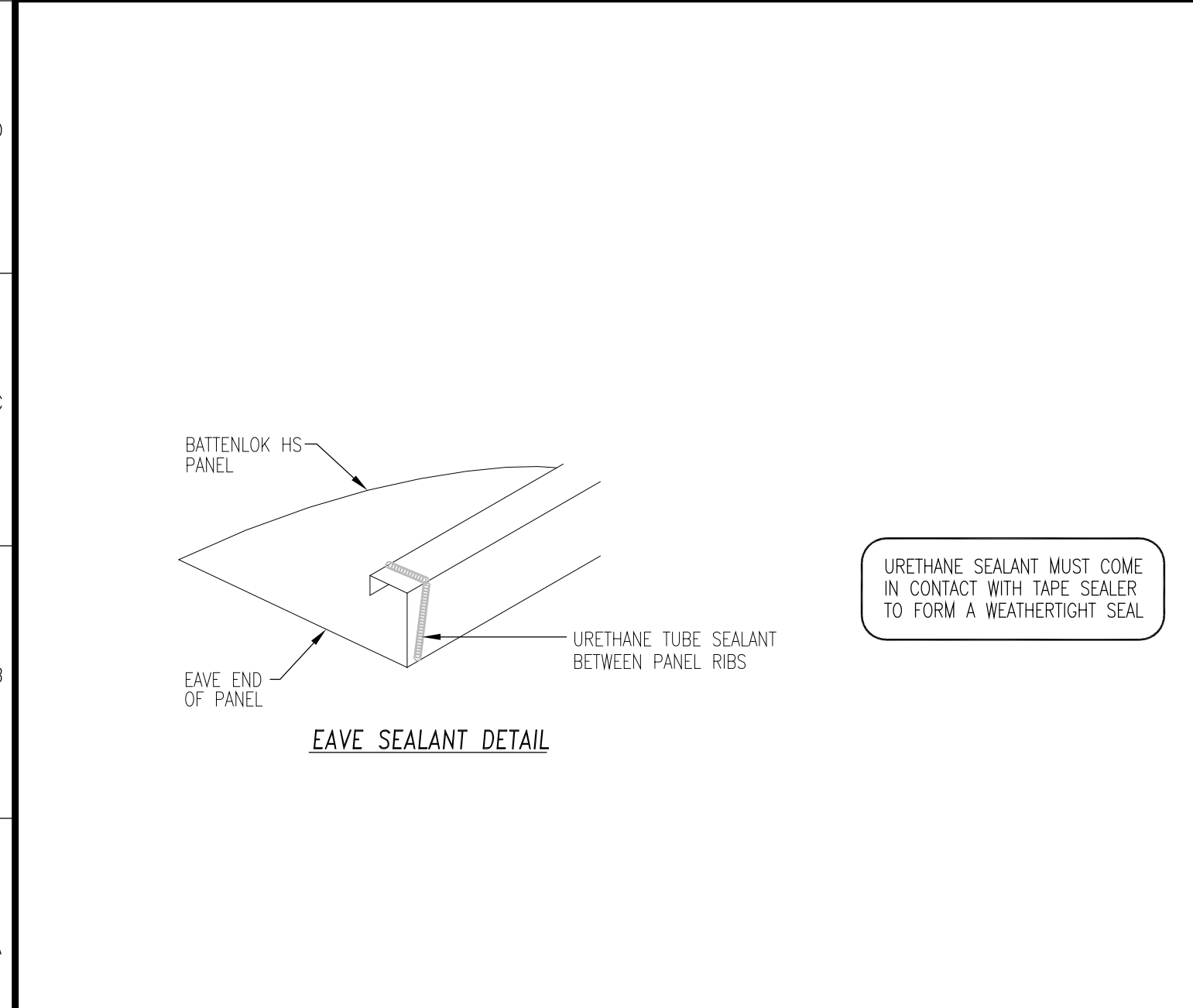
**J1 Low Eave at Canopy**  
Scale: 3"=1'-0"



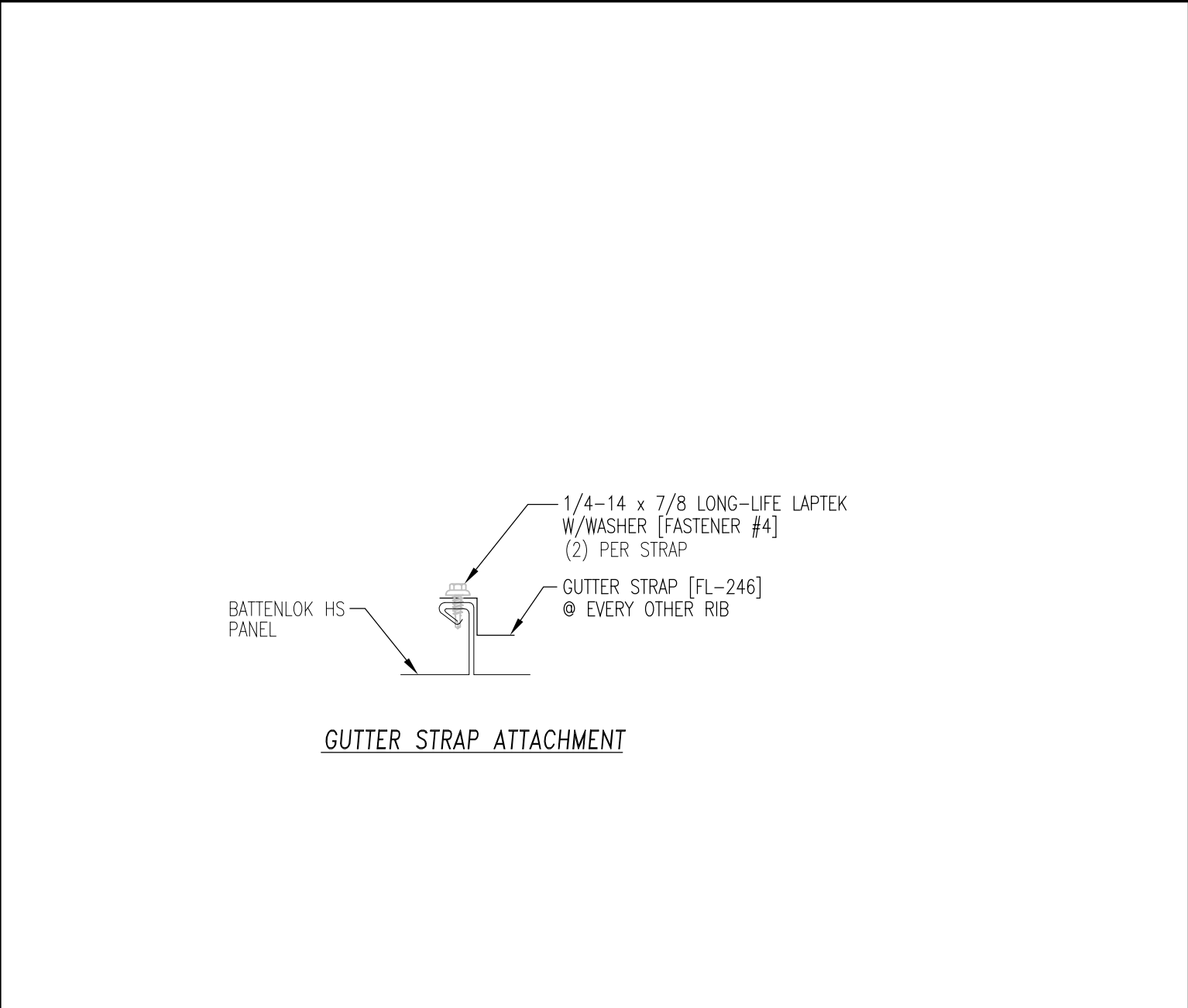
**J5 High Eave at Canopy**  
Scale: 3"=1'-0"



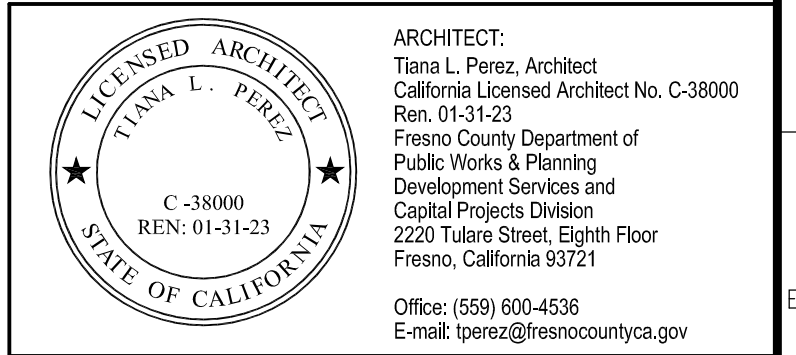
**E1 Rake at Canopy**  
Scale: 3"=1'-0"



**A1 Eave Sealant Detail**  
Scale: 3"=1'-0"



**A5 Gutter Strap Attachment**  
Scale: 3"=1'-0"



ARCHITECT:  
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**Project:**  
Fresno County  
Environmental Compliance Center  
Phase 2: Office / Storage Building

**Project Address:** 310 S. West Avenue, Fresno CA 93706  
**APN:** 458-060-72  
**Issue Date:**  
Project No. T90203  
File Path: G:Capital \ Projects \ Building Numbers \ American  
Ave Landfill \ T90203 Environmental Compliance Center \ 00  
2018 ECC

**Sheet Content:**  
Canopy Details

Fresno County Department of  
Public Works and Planning  
Capital Projects

2220 Tulare Street, 8th Floor  
Fresno, California 93721

**Sheet No.**  
**A4.3**



# 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

## NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

Y = YES  
N/A = NOT APPLICABLE  
RESP. PARTY = RESPONSIBLE PARTY  
A = ARCHITECT  
E = ENGINEER  
O = OWNER  
C = CONTRACTOR  
I = INSPECTOR

### CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL

**301.1 SCOPE.** Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

**301.3 NONRESIDENTIAL ADDITIONS AND ALTERATIONS. [BSC-CG]** The provisions of individual sections of Chapter 3 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of \$200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings [N] or to additions and/or alterations [A]. When the code section applies to both, no banner will be used.

**301.3.1 Nonresidential additions and alterations that cause updates to plumbing fixtures only:**  
**Note:** On and after January 1, 2014, certain commercial real property, as defined in Civil Code Section 1101.3, shall have its noncompliant plumbing fixtures replaced with appropriate water-conserving plumbing fixtures under specific circumstances. See Civil Code Section 1101.1 et seq. for definitions, types of commercial real property affected, effective dates, circumstances necessitating replacement of noncompliant plumbing fixtures, and duties and responsibilities for ensuring compliance.

**301.3.2 Waste Diversion.** The requirements of Section 5.408 shall be required for additions and alterations whenever a permit is required for work.

301.4 PUBLIC SCHOOLS AND COMMUNITY COLLEGES. (see GBSG)  
301.5 HEALTH FACILITIES. (see GBSG)

### SECTION 302 MIXED OCCUPANCY BUILDINGS 302.1 MIXED OCCUPANCY BUILDINGS.

In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

### SECTION 303 PHASED PROJECTS 303.1 PHASED PROJECTS.

For shell buildings and others constructed for future tenant improvements, only those code measures relevant to the building components and systems considered to be new construction (or newly constructed) shall apply.

**303.1.1 Initial Tenant Improvements.** The provisions of this code shall apply only to the initial tenant improvements to a project. Subsequent tenant improvements shall comply with the scoping provisions in Section 301.3 non-residential additions and alterations.

**ABBREVIATION DEFINITIONS:**  
HCD Department of Housing and Community Development  
BSC California Building Standards Commission  
DSA-SS Division of the State Architect, Structural Safety  
OSHPD Office of Statewide Health Planning and Development  
LR Low Rise  
HR High Rise  
AA Additions and Alterations  
N New

### CHAPTER 5 NONRESIDENTIAL MANDATORY MEASURES

#### DIVISION 5.1 PLANNING AND DESIGN SECTION 5.101 GENERAL

**5.101.1 SCOPE.** The provisions of this chapter outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties.

#### SECTION 5.102 DEFINITIONS 5.102.1 DEFINITIONS

The following terms are defined in Chapter 2 (and are included here for reference)

**CUTOFF LUMINAIRES.** Luminaires whose light distribution is such that the candela per 1000 lamp lumens does not numerically exceed 25 (2.5 percent) at an angle of 90 degrees above nadir, and 100 (10 percent) at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.

**LOW-EMITTING AND FUEL EFFICIENT VEHICLES.** Eligible vehicles are limited to the following:  
1. Zero emission vehicle (ZEV), including neighborhood electric vehicles (NEV), partial zero emission vehicle (PZEV), advanced technology PZEV (AT ZEV) or CNG fueled (original equipment manufacturer only) regulated under Health and Safety Code section 43800 and CCR, Title 13, Sections 1961 and 1962.  
2. High-efficiency vehicles, regulated by U.S. EPA, bearing High-Occupancy Vehicle (HOV) car pool lane stickers issued by the Department of Motor Vehicles.

**NEIGHBORHOOD ELECTRIC VEHICLE (NEV).** A motor vehicle that meets the definition of "low-speed vehicle" either in Section 385.5 of the Vehicle Code or in 49CFR571.500 (as it existed on July 1, 2000), and is certified to zero-emission vehicle standards.

**TENANT-OCCUPANTS.** Building occupants who inhabit a building during its normal hours of operation as permanent occupants, such as employees, as distinguished from customers and other transient visitors.

**VANPOOL VEHICLE.** Eligible vehicles are limited to any motor vehicle, other than a motorcoach or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the non-profit work-related transportation of adults for the purpose of ridesharing.

**Note:** Source: Vehicle Code, Division 1, Section 668  
ZEV. Any vehicle certified to zero-emission standards.

#### SECTION 5.106 SITE DEVELOPMENT 5.106.1 STORM WATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN ONE ACRE OF LAND.

Newly constructed projects and additions which disturb less than one acre of land, and are not part of a larger common plan of development or sale, shall prevent the pollution of storm water runoff from the construction activities through one or more of the following measures:

- 5.106.1.1 Local ordinance.** Comply with a lawfully enacted storm water management and/or erosion control ordinance.
- 5.106.1.2 Best Management Practices (BMPs).** Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMPs.
- Soil loss BMPs that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
    - Scheduling construction activity during dry weather, when possible.
    - Preservation of natural features, vegetation, soil, and buffers around surface waters.
    - Drainage swales or lined ditches to control stormwater flow.
    - Mulching or hydroseeding to stabilize disturbed soils.
    - Erosion control to protect slopes.
    - Protection of storm drain inlets (gravel bags or catch basin inserts).
    - Perimeter sediment control (perimeter silt fence, fiber rolls).
    - Sediment trap or sediment basin to retain sediment on site.
    - Stabilized construction exits.
    - Wind erosion control.
    - Other soil loss BMPs acceptable to the enforcing agency.
  - Good housekeeping BMPs to manage construction equipment, materials, non-stormwater discharges and wastes that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
    - Dewatering activities.
    - Material handling and waste management.
    - Building materials stockpile management.
    - Management of washout areas (concrete, paints, stucco, etc.).
    - Control of vehicle/equipment fueling to contractor's staging area.
    - Vehicle and equipment cleaning performed off site.
    - Spill prevention and control.
    - Other housekeeping BMPs acceptable to the enforcing agency.

#### 5.106.2 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB ONE OR MORE ACRES OF LAND.

Projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan of development or sale must comply with the post-construction requirements detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board or the Lahontan Regional Water Quality Control Board (for projects in the Lake Tahoe Hydrologic Unit).

The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff (pre-project hydrology) with the installation of postconstruction stormwater management measures. The NPDES permits emphasize runoff reduction through on-site stormwater use, interception, evapotranspiration, and infiltration through nonstructural controls, such as Low Impact Development (LID) practices, and conversation design measures. Stormwater volume that cannot be addressed using nonstructural practices is required to be captured in structural practices and be approved by the enforcing agency.

Refer to the current applicable permits on the State Water Resources Control Board website at: www.waterboards.ca.gov/constructionstormwater. Consideration to the stormwater runoff management measures should be given during the initial design process for appropriate integration into site development.

#### 5.106.4 BICYCLE PARKING.

For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State Architect pursuant to Section 105, comply with Section 5.106.4.2.

**5.106.4.1 Bicycle parking. [BSC-CG]** Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the applicable local ordinance, whichever is stricter.

**5.106.4.1.1 Short-term bicycle parking.** If the new project or an addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.  
**Exception:** Additions or alterations which add nine or less visitor vehicular parking spaces.

**5.106.4.1.2 Long-term bicycle parking.** For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

**5.106.4.1.3** For additions or alterations that add 10 or more tenant-occupant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant-occupant parking spaces being added, with a minimum of one bicycle parking facility.

**5.106.4.1.4** For new shell buildings in phased projects provide secure bicycle parking for 5 percent of the anticipated tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

**5.106.4.1.5** Acceptable bicycle parking facility for Sections 5.106.4.1.2, 5.106.4.1.3, and 5.106.4.1.4 shall be convenient from the street and shall meet one of the following:

- Covered, lockable enclosures with permanently anchored racks for bicycles;
  - Lockable bicycle rooms with permanently anchored racks; or
  - Lockable, permanently anchored bicycle lockers.
- Note:** Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates.

#### 5.106.4.2 Bicycle parking. [DSA-SS]

For public schools and community colleges, comply with Sections 5.106.4.2.1 and 5.106.4.2.2.

**5.106.4.2.1 Student bicycle parking.** Provide permanently anchored bicycle racks conveniently accessed with a minimum of four two-bike capacity racks per new building.

**5.106.4.2.2 Staff bicycle parking.** Provide permanent, secure bicycle parking conveniently accessed with a minimum of two staff bicycle parking spaces per new building. Acceptable bicycle parking facilities shall be convenient from the street or staff parking area and shall meet one of the following:

- Covered, lockable enclosures with permanently anchored racks for bicycles;
- Lockable bicycle rooms with permanently anchored racks; or
- Lockable, permanently anchored bicycle lockers.

**5.106.5.2 DESIGNATED PARKING FOR CLEAN AIR VEHICLES.** In new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as follows:

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	1
26-50	3
51-75	6
76-100	8
101-150	11
151-200	16
201 AND OVER	AT LEAST 8% OF TOTAL

**5.106.5.2.1 - Parking stall marking.** Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle: CLEAN AIR / VAN POOL / EV

**Note:** Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces.

#### 5.106.5.3 Electric vehicle (EV) charging. [N]

Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). When EVSE(s) is/are installed, it shall be in accordance with the California Building Code, the California Electrical Code and as follows:

**5.106.5.3.1 Single charging space requirements. [N]** When only a single charging space is required per Table 5.106.5.3.3, a raceway is required to be installed at the time of construction and shall be installed in accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following:

- The type and location of the EVSE.
  - A listed raceway capable of accommodating a 200/240-volt dedicated branch circuit.
  - The raceway shall not be less than trade size 1".
  - The raceway shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and listed suitable cabinet, box, enclosure or equivalent.
  - The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.
- 5.106.5.3.2 Multiple charging space requirements. [N]** When multiple charging spaces are required per Table 5.106.5.3.3 (raceway(s) is/are required) to be installed at the time of construction and shall be installed in accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following:

- The type and location of the EVSE.
  - The raceway(s) shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into listed suitable cabinet(s), box(es), enclosure(s) or equivalent.
  - Plan design shall be based upon 40-ampere minimum branch circuits.
  - Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-site distribution transformers and have sufficient capacity to simultaneously charge all required EVs at its full rated amperage.
  - The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.
- 5.106.5.3.3 EV charging space calculations. [N]** Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.
- Exceptions:** On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions:

- Where there is insufficient electrical supply.
- Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	1
26-50	2
51-75	4
76-100	5
101-150	7
151-200	10
201 AND OVER	6% of total <sup>1</sup>

1. Calculation for spaces shall be rounded up to the nearest whole number.

**5.106.5.3.4 [N] Identification.** The service panel or subpanel(s) circuit directory shall identify the reserved overcurrent protective device space(s) for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

**5.106.5.3.5 [N] Future charging spaces** qualify as designated parking as described in Section 5.106.5.2 Designated parking for clean air vehicles.

#### 5.106.8 LIGHT POLLUTION REDUCTION. [N]

Outdoor lighting systems shall be designed and installed to comply with the following:

- The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 10-114 of the California Administrative Code; and
- Backlight (B) ratings as defined in IES TM-15-11 (shown in Table A-1 in Chapter 8);
- Uplight and Glare ratings as defined in California Energy Code (shown in Tables 130.2-A and 130.2-B in Chapter 8) and
- Allowable BUG ratings not exceeding those shown in Table 5.106.8. [N] or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

**Exceptions: [N]**

- Luminaires that qualify as exceptions in Section 140.7 of the California Energy Code.
- Emergency lighting.
- Building facade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6.
- Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction.

**Note: [N]**  
1. See also California Building Code, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.  
2. Refer to Chapter 8 (Compliance Forms, Worksheets and Reference Material) for IES TM-15-11 Table A-1, California Energy Code Tables 130.2-A and 130.2-B.  
3. Refer to the California Building Code for requirements for additions and alterations.

#### TABLE 5.106.8 [N] MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS

ALLOWABLE RATING	LIGHTING ZONE LZ0	LIGHTING ZONE LZ1	LIGHTING ZONE LZ2	LIGHTING ZONE LZ3	LIGHTING ZONE LZ4
<b>MAXIMUM ALLOWABLE BACKLIGHT RATING -</b> Luminaire greater than 2 mounting heights (MH) from property line Luminaire back hemisphere is 1-2 MH from property line Luminaire back hemisphere is 0.5-1 MH from property line Luminaire back hemisphere is less than 0.5 MH from property line <b>MAXIMUM ALLOWABLE UPLIGHT RATING (U)</b> For area lighting - For all other outdoor lighting including decorative luminaires <b>MAXIMUM ALLOWABLE GLARE RATING (G)</b> Luminaire greater than 2 MH from property line Luminaire front hemisphere is 1-2 MH from property line Luminaire front hemisphere is 0.5-1 MH from property line Luminaire back hemisphere is less than 0.5 MH from property line	N/A	No Limit	No Limit	No Limit	No Limit
	N/A	B2	B3	B4	B4
	N/A	B1	B2	B3	B3
	N/A	B0	B0	B1	B2
	N/A	U0	U0	U0	U0
	N/A	U1	U2	U3	UR
	N/A	G1	G2	G3	G4
	N/A	G0	G1	G1	G2
	N/A	G0	G0	G1	G1
	N/A	G0	G0	G0	G1

- IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the California Energy Code and Chapter 10 of the California Administrative Code.
- For property lines that about public walkways, bikeways, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that about public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.
- If the nearest property line is less than or equal to two mounting heights from the back hemisphere of the luminaire distribution, the applicable reduced Backlight rating shall be met.
- General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaires located in these areas shall meet U-value limits for "all other outdoor lighting".
- If the nearest property line is less than or equal to two mounting heights from the front hemisphere of the luminaire distribution, the applicable reduced Glare rating shall be met.

#### 5.106.10 GRADING AND PAVING.

Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

- Swales.
  - Water collection and disposal systems.
  - French drains.
  - Water retention gardens.
  - Other water measures which keep surface water away from buildings and aid in groundwater recharge.
- Exception:** Additions and alterations not altering the drainage path.

#### 5.106.12 SHADE TREES [DSA-SS].

Shade Trees shall be planted to comply with Sections 5.106.12.1, 5.106.12.2, and 5.106.12.3. Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation necessary to establish and maintain tree health shall comply with Section 5.304.6.

**5.106.12.1 Surface parking areas.** Shade tree plantings, minimum #10 container size or equal, shall be installed to provide shade over 50 percent of the parking area within 15 years.

**Exceptions:** The surface parking area covered by solar photovoltaic shade structures, or shade structures, with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5, are not included in the total area calculations.

**5.106.12.2 Landscape areas.** Shade tree plantings, minimum #10 container size or equal shall be installed to provide shade of 20% of the landscape area within 15 years.

**Exceptions:** Playfields for organized sport activity are not included in the total area calculation.

**5.106.12.3 Hardscape areas.** Shade tree plantings, minimum #10 container size or equal shall be installed to provide shade over 20 percent of the hardscape area within 15 years.

**Exceptions:** Walks, hardscape areas covered by solar photovoltaic shade structures, and hardscape areas covered by shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5, are not included in the total area calculation.

### DIVISION 5.2 ENERGY EFFICIENCY SECTION 5.201 GENERAL

**5.201.1 Scope [BSC-CG].** California Energy Code (DSA-SS). For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

### DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION SECTION 5.301 GENERAL

**5.301.1 Scope.** The provisions of this chapter shall establish the means of conserving water use indoors, outdoors and in wastewater conveyance.

#### SECTION 5.302 DEFINITIONS 5.302.1 Definitions.

The following terms are defined in Chapter 2 (and are included here for reference)

**EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF) [DSA-SS].** An adjustment factor when applied to reference evapotranspiration that adjusts for plant factors and irrigation efficiency, which are two major influences on the amount of water that needs to be applied to the landscape.

**FOOTPRINT AREA [DSA-SS].** The total area of the furthest exterior wall of the structure projected to natural grade, not including exterior areas such as stairs, covered walkways, patios and decks.

**METERING FAUCET.** A self-closing faucet that dispenses a specific volume of water for each actuation cycle. The volume or cycle duration can be fixed or adjustable.

**GRAYWATER.** Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines and laundry tubs, but does not include waste water from kitchen sinks or dishwashers.

**MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO).** The California ordinance regulating landscape design, installation and maintenance practices that will ensure commercial, multifamily and other developer installed landscapes greater than 2500 square feet meet an irrigation water budget developed based on landscaped area and climatological parameters.

**MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO) [HCD]** The California model ordinance (California Code of Regulations, Title 23, Division 2, Chapter 2.7), regulating landscape design, installation and maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least as effective as the MWELO.

**POTABLE WATER.** Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the California Plumbing Code, Part 5.

**POTABLE WATER [HCD]** Water that is satisfactory for drinking, culinary, and domestic purposes, and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority Having Jurisdiction.

**RECYCLED WATER.** Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur [Water Code Section 13050 (n)]. Simply put, recycled water is treated to remove waste matter attaining a quality that is suitable to use the water again.

**SUBMETER.** A meter installed subordinate to a site meter. Usually used to measure water intended for one purpose, such as landscape irrigation. For the purposes of CALGreen, a dedicated meter may be considered a submeter.

**WATER BUDGET.** Is the estimated total landscape irrigation water use which shall not exceed the maximum applied water allowance calculated in accordance with the Department of Water Resources Model Efficient Landscape Ordinance (MWELO).

#### SECTION 5.303 INDOOR WATER USE 5.303.1 METERS.

Separate submeters or metering devices shall be installed for the uses described in Sections 503.1.1 and 503.1.2.

**5.303.1.1 Buildings in excess of 50,000 square feet.** Separate submeters shall be installed as follows:

- For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day (380 L/day), including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.
- Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:
  - Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s).
  - Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).
  - Steam and hot water boilers with energy input more than 500,000 Btu/h (147 kW).

**5.303.1.2 Excess consumption.** A separate submeter or metering device shall be provided for any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/day.

#### 5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS.

Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

**5.303.3.1 Water Closets.** The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets.

**5.303.3.2 Urinals.**  
**5.303.3.2.1 Wall-mounted Urinals.** The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush.  
**5.303.3.2.2 Floor-mounted Urinals.** The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush.

**5.303.3.3 Showerheads. [BSC-CG]**  
**5.303.3.3.1 Single showerhead.** Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

**5.303.3.3.2 Multiple showerheads serving one shower.** When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.  
**Note:** A hand-held shower shall be considered a showerhead.



**Project:**  
Fresno County  
Environmental Compliance Center  
Phase 2: Office / Storage Building

**Project Address:** 310 S. West Avenue, Fresno CA 93706  
**APN:** 458-060-72  
**Issue Date:**  
Project No. T90203  
File Path: G:\Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center \ 00 2018 ECC

### Sheet Content: CAL GREEN COMPLIANCE SHEET 1

Fresno County Department of  
Public Works and Planning  
Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

Sheet No.  
**A5.1**

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
NONRESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2020, Includes August 2019 Supplement)

Table with 2 columns: Symbol (Y, NA, RESPON PARTY) and Description (YES APPLICABLE RESPONSIBLE PARTY, NOT APPLICABLE, ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR)

5.303.3.4 Faucets and fountains.
5.303.3.4.1 Nonresidential Lavatory faucets. Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi.
5.303.3.4.2 Kitchen faucets. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi.
5.303.3.4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [rim space (inches) at 60 psi].
5.303.3.4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle.
5.303.3.4.5 Metering faucets for wash fountains. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per minute/20 [rim space (inches) at 60 psi].
Note: Where compelling faucets are unavailable, aerators or other means may be used to achieve reduction.
5.303.4 COMMERCIAL KITCHEN EQUIPMENT.
5.303.4.1 Food Waste Disposers. Disposers shall either modulate the use of water to no more than 1 gpm when the disposer is not in use (not actively grinding food waste/no-load) or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water.
Note: This code section does not affect local jurisdiction authority to prohibit or require disposer installation.
5.303.5 AREAS OF ADDITION OR ALTERATION. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alteration to the building.
5.303.6 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 of the California Plumbing Code and in Chapter 6 of this code.
SECTION 5.304 OUTDOOR WATER USE
5.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.
Notes:
1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code of Regulations, Title 23, Chapter 2.7, Division 2.
2. MWELO and supporting documents, including a water budget calculator, are available at: https://www.water.ca.gov/.
5.304.6 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. For public schools and community colleges, landscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, California Code of Regulations, except that the evapotranspiration adjustment factor (ETAF) shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35.
Exception: Any project with an aggregate landscape area of 2,500 square feet or less may comply with the prescriptive measures contained in Appendix D of the MWELO.
5.304.6.1 Newly constructed landscapes. New construction projects with an aggregate landscape area equal to or greater than 500 square feet.
5.304.6.2 Rehabilitated landscapes. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,200 square feet.

DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

SECTION 5.401 GENERAL
5.401.1 SCOPE. The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, and building commissioning or testing and adjusting.
SECTION 5.402 DEFINITIONS. The following terms are defined in Chapter 2 (and are included here for reference)
ADJUST. To regulate fluid flow rate and air patterns at the terminal equipment, such as to reduce fan speed or adjust a damper.
BALANCE. To proportion flows within the distribution system, including sub-mains, branches and terminals, according to design quantities.
BUILDING COMMISSIONING. A systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed, tested, operated and maintained to meet the owner's project requirements.
ORGANIC WASTE. Food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food soiled paper waste that is mixed in with food waste.
TEST. A procedure to determine quantitative performance of a system or equipment

SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS
5.410.1 RECYCLING BY OCCUPANTS. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive.
Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code 42649.82 (a)(2)(A) et seq. shall also be exempt from the organic waste portion of this section.
5.410.1.1 Additions. All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30% or more in floor area, shall provide recycling areas on site.
Exception: Additions within a tenant space resulting in less than a 30% increase in the tenant space floor area.
5.410.1.2 Sample ordinance. Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the Public Resources Code. Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act).
Note: A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle's web site.

SECTION 5.407 WATER RESISTANCE AND MOISTURE MANAGEMENT
5.407.1 WEATHER PROTECTION. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1402.2 (Weather Protection), manufacturer's installation instructions or local ordinance, whichever is more stringent.
5.407.2 MOISTURE CONTROL. Employ moisture control measures by the following methods.
5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent spray on structures.
5.407.2.2 Entries and openings. Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings as follows:
5.407.2.2.1 Exterior door protection. Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:
1. An installed awning at least 4 feet in depth.
2. The door is protected by a roof overhang at least 4 feet in depth.
3. The door is recessed at least 4 feet.
4. Other methods which provide equivalent protection.
5.407.2.2.2 Flashing. Install flashings integrated with a drainage plane.
SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING
5.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65% of the non-hazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.
5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan that:
1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.
2. Determines if construction and demolition waste materials will be sorted on-site (collected-separated) or bulk mixed (single stream).
3. Identifies diversion facilities where construction and demolition waste material (source) will be taken.
4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.
5.408.1.2 Waste Management Company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section.
Note: The owner or contractor shall make the determination if the construction and demolition waste material will be diverted by a waste management company.
Exceptions to Sections 5.408.1.1 and 5.408.1.2:
1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.
3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets.
5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65% minimum requirement as approved by the enforcing agency.
5.408.1.4 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Sections 5.408.1.1, through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.
Notes:
1. Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" located at www.bs.ca.gov/Home/CALGreen.aspx may be used to assist in documenting compliance with the waste management plan.
2. Mixed construction and demolition debris processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).
5.408.2 UNIVERSAL WASTE. [A] Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited Universal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste materials shall be included in the construction documents.
Note: Refer to the Universal Waste Rule link at: http://www.dtsc.ca.gov/LawsRegsPolicies/Regs/upload/OEAR-A\_REGGS\_UWR\_FinalText.pdf
5.408.3 EXCAVATED SOIL AND LAND CLEARING DEBRIS. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.
Exception: Reuse, either on or off-site, of vegetation or soil contaminated by disease or pest infestation.
Notes:
1. If contamination by disease or pest infestation is suspected, contact the County Agricultural Commissioner and follow its direction for recycling or disposal of the material.
2. For a map of know pest and/or disease quarantine zones, consult with the California Department of Food and Agriculture. (www.cdffa.ca.gov)

SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS
5.410.2 TESTING AND ADJUSTING. New buildings less than 10,000 square feet. Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.
5.410.4.2 (Reserved)
Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting system and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements and Sections 120.5, 120.6, 130.4, and 140.9(b)3 for additional testing requirements of specific systems.
5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include at a minimum, as applicable to the project:
1. Renewable energy systems.
2. Landscape irrigation systems.
3. Water reuse systems.
5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable standards on each system.
5.410.4.3.1 HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; Associated Air Balance Council National Standards or as approved by the enforcing agency.

5.410.2 COMMISSIONING. [N] New buildings 10,000 square feet and over. For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. For occupancies that are not regulated by OSHPD or for occupancies and L-occupancies that are not regulated by the California Energy Code Section 100.0 Scope, all requirements in Sections 5.410.2 through 5.410.2.6 shall apply.
Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting systems and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements.
Commissioning requirements shall include:
1. Owner's or Owner representative's project requirements.
2. Basis of design.
3. Commissioning measures shown in the construction documents.
4. Commissioning plan.
5. Functional performance testing.
6. Documentation and training.
7. Commissioning report.
Exceptions:
1. Unconditioned warehouses of any size.
2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within unconditioned warehouses.
3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1.
4. Open parking garages of any size, or open parking garage areas, of any size, within a structure.
Note: For the purposes of this section, unconditioned shall mean a building, area, or room which does not provide heating and/or air conditioning.
Informational Notes:
1. IAS AC 476 is an accreditation criteria for organizations providing training and/or certification of commissioning personnel. AC 476 is available to the Authority Having Jurisdiction as a reference for qualifications of commissioning personnel. AC 476 does not certify individuals to conduct functional performance tests or to adjust and balance systems.
2. Functional performance testing for heating, ventilation, air conditioning systems and lighting controls must be performed in compliance with the California Energy Code.
5.410.2.1 Owner's or Owner Representative's Project Requirements (OPR). [N] The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. This documentation shall include the following:
1. Environmental and sustainability goals.
2. Building sustainable goals.
3. Indoor environmental quality requirements.
4. Project program, including facility functions and hours of operation, and need for after hours operation.
5. Equipment and systems expectations.
6. Building occupant and operation and maintenance (O&M) personnel expectations.
5.410.2.2 Basis of Design (BOD). [N] A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project. The Basis of Design document shall cover the following systems:
1. Renewable energy systems.
2. Landscape irrigation systems.
3. Water reuse system.
5.410.2.3 Commissioning plan. [N] Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned. The commissioning plan shall include the following:
1. General project information.
2. Commissioning goals.
3. Systems to be commissioned. Plans to test systems and components shall include:
a. An explanation of the original design intent.
b. Equipment and systems to be tested, including the extent of tests.
c. Functions to be tested.
d. Conditions under which the test shall be performed.
e. Measurable criteria for acceptable performance.
4. Commissioning team information.
5. Commissioning process activities, schedules and responsibilities. Plans for the completion of commissioning shall be included.
5.410.2.4 Functional performance testing. [N] Functional performance tests shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.
5.410.2.5 Documentation and training. [N] A Systems Manual and Systems Operations Training are required, including Occupational Safety and Health Act (OSHA) requirements in California Code of Regulations (CCR), Title 8, Section 5142, and other related regulations.
5.410.2.5.1 Systems manual. [N] Documentation of the operational aspects of the building shall be completed within the systems manual and delivered to the building owner or representative. The systems manual shall include the following:
1. Site information, including facility description, history and current requirements.
2. Site contact information.
3. Basic operations and maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log.
4. Major systems.
5. Site equipment inventory and maintenance notes.
6. A copy of verifications required by the enforcing agency or this code.
7. Other resources and documentation, if applicable.
5.410.2.5.2 Systems operations training. [N] A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and documented in the commissioning report and shall include the following:
1. System/equipment overview (what it is, what it does and with what other systems and/or equipment it interfaces).
2. Review and demonstration of servicing/preventive maintenance.
3. Review of the information in the Systems Manual.
4. Review of the record drawings on the system/equipment.
5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.

5.410.4 TESTING AND ADJUSTING. New buildings less than 10,000 square feet. Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.
5.410.4.2 (Reserved)
Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting system and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements and Sections 120.5, 120.6, 130.4, and 140.9(b)3 for additional testing requirements of specific systems.
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1. Renewable energy systems.
2. Landscape irrigation systems.
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5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable standards on each system.
5.410.4.3.1 HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; Associated Air Balance Council National Standards or as approved by the enforcing agency.

5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.
5.410.4.5 Operation and maintenance (O & M) manual. Provide the building owner or representative with detailed operating and maintenance instructions and copies of warranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.
5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.
DIVISION 5.5 ENVIRONMENTAL QUALITY
SECTION 5.501 GENERAL
5.501.1 SCOPE. The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating, and/or harmful to the comfort and well-being of a building's installers, occupants and neighbors.
SECTION 5.502 DEFINITIONS
5.502.1 DEFINITIONS. The following terms are defined in Chapter 2 (and are included here for reference)
ARTERIAL HIGHWAY. A general term denoting a highway primarily for through traffic usually on a continuous route.
A-WEIGHTED SOUND LEVEL (dBA). The sound pressure level in decibels as measured on a sound level meter using the internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting adjustments have been made.
1 BTU/ HOUR. British thermal units per hour, also referred to as Btu. The amount of heat required to raise one pound of water one degree Fahrenheit per hour, a common measure of heat transfer rate. A ton of refrigeration is 12,000 Btu, the amount of heat required to melt a ton (2,000 pounds) of ice at 32° Fahrenheit.
COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). A metric similar to the day-night average sound level (Ldn), except that a 5 decibel adjustment is added to the equivalent continuous sound exposure level for evening hours (7pm to 10pm) in addition to the 10 dB nighttime adjustment used in the Ldn.
COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, timber, prefabricated wood joists or finger-jointed lumber, all as specified in California Code of Regulations (CCR), Title 17, Section 93120.1(a).
Note: See CCR, Title 17, Section 93120.1.
DAY-NIGHT AVERAGE SOUND LEVEL (Ldn). The A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to sound levels occurring during nighttime hours (10p.m. to 7 a.m.).
DECIBEL (db). A measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.
ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the California Electrical Code, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.
ELECTRIC VEHICLE CHARGING STATION(S) (EVCS). One or more spaces intended for charging electric vehicles.
ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.
ENERGY EQUIVALENT (NOISE) LEVEL (Leq). The level of a steady noise which would have the same energy as the fluctuating noise level integrated over the time of period of interest.
EXPRESSWAY. An arterial highway for through traffic which may have partial control of access, but which may or may not be divided or have grade separations at intersections.
FREEWAY. A divided arterial highway with full control of access and with grade separations at intersections.
GLOBAL WARMING POTENTIAL (GWP). The radiative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent unit of carbon dioxide over a given period of time. Carbon dioxide is the reference compound with a GWP of one.
GLOBAL WARMING POTENTIAL VALUE (GWP VALUE). A 100-year GWP value published by the Intergovernmental Panel on Climate Change (IPCC) in either its Second Assessment Report (SAR) (IPCC, 1995); or its Fourth Assessment A-3 Report (AR4) (IPCC, 2007). The SAR GWP values are found in column "SAR (100-yr)" of Table 2.14; the AR4 GWP values are found in column "100 yr" of Table 2.14.
HIGH-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that is: (a) a chlorofluorocarbon, a hydrochlorofluorocarbon, a hydrofluorocarbon, a perfluorocarbon, or any compound or blend of compounds, with a GWP value equal to or greater than 150, or (b) any ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).
LONG RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.5 times the pipe diameter.
LOW-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that: (A) has a GWP value less than 150, and (B) is not an ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).
MERV. Filter minimum efficiency reporting value, based on ASHRAE 52.2-1999.
MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O3/g ROG).
PRODUCT-WEIGHTED MIR (PW-MIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PW-MIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).
PSIG. Pounds per square inch, gauge.
REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.
SCHRADER ACCESS VALVES. Access fittings with a valve core installed.
SHORT RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.0 times the pipe diameter.
SUPERMARKET. For the purposes of Section 5.508.2, a supermarket is any retail food facility with 8,000 square feet or more conditioned area, and that utilizes either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units.
VOC. A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a)
Note: Where specific regulations are cited from different agencies such as SCAQMD, ARB, etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.
SECTION 5.503 FIREPLACES
5.503.1 FIREPLACES. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.
5.503.1.1 Woodstoves. Woodstoves and pellet stoves shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits.
SECTION 5.504 POLLUTANT CONTROL
5.504.1 TEMPORARY VENTILATION. The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 6, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction.
5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site until final startup of the heating, cooling and ventilation equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.

5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.
5.410.4.5 Operation and maintenance (O & M) manual. Provide the building owner or representative with detailed operating and maintenance instructions and copies of warranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.
5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.
DIVISION 5.5 ENVIRONMENTAL QUALITY
SECTION 5.501 GENERAL
5.501.1 SCOPE. The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating, and/or harmful to the comfort and well-being of a building's installers, occupants and neighbors.
SECTION 5.502 DEFINITIONS
5.502.1 DEFINITIONS. The following terms are defined in Chapter 2 (and are included here for reference)
ARTERIAL HIGHWAY. A general term denoting a highway primarily for through traffic usually on a continuous route.
A-WEIGHTED SOUND LEVEL (dBA). The sound pressure level in decibels as measured on a sound level meter using the internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting adjustments have been made.
1 BTU/ HOUR. British thermal units per hour, also referred to as Btu. The amount of heat required to raise one pound of water one degree Fahrenheit per hour, a common measure of heat transfer rate. A ton of refrigeration is 12,000 Btu, the amount of heat required to melt a ton (2,000 pounds) of ice at 32° Fahrenheit.
COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). A metric similar to the day-night average sound level (Ldn), except that a 5 decibel adjustment is added to the equivalent continuous sound exposure level for evening hours (7pm to 10pm) in addition to the 10 dB nighttime adjustment used in the Ldn.
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Note: See CCR, Title 17, Section 93120.1.
DAY-NIGHT AVERAGE SOUND LEVEL (Ldn). The A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to sound levels occurring during nighttime hours (10p.m. to 7 a.m.).
DECIBEL (db). A measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.
ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the California Electrical Code, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.
ELECTRIC VEHICLE CHARGING STATION(S) (EVCS). One or more spaces intended for charging electric vehicles.
ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.
ENERGY EQUIVALENT (NOISE) LEVEL (Leq). The level of a steady noise which would have the same energy as the fluctuating noise level integrated over the time of period of interest.
EXPRESSWAY. An arterial highway for through traffic which may have partial control of access, but which may or may not be divided or have grade separations at intersections.
FREEWAY. A divided arterial highway with full control of access and with grade separations at intersections.
GLOBAL WARMING POTENTIAL (GWP). The radiative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent unit of carbon dioxide over a given period of time. Carbon dioxide is the reference compound with a GWP of one.
GLOBAL WARMING POTENTIAL VALUE (GWP VALUE). A 100-year GWP value published by the Intergovernmental Panel on Climate Change (IPCC) in either its Second Assessment Report (SAR) (IPCC, 1995); or its Fourth Assessment A-3 Report (AR4) (IPCC, 2007). The SAR GWP values are found in column "SAR (100-yr)" of Table 2.14; the AR4 GWP values are found in column "100 yr" of Table 2.14.
HIGH-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that is: (a) a chlorofluorocarbon, a hydrochlorofluorocarbon, a hydrofluorocarbon, a perfluorocarbon, or any compound or blend of compounds, with a GWP value equal to or greater than 150, or (b) any ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).
LONG RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.5 times the pipe diameter.
LOW-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that: (A) has a GWP value less than 150, and (B) is not an ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).
MERV. Filter minimum efficiency reporting value, based on ASHRAE 52.2-1999.
MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O3/g ROG).
PRODUCT-WEIGHTED MIR (PW-MIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PW-MIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).
PSIG. Pounds per square inch, gauge.
REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.
SCHRADER ACCESS VALVES. Access fittings with a valve core installed.
SHORT RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.0 times the pipe diameter.
SUPERMARKET. For the purposes of Section 5.508.2, a supermarket is any retail food facility with 8,000 square feet or more conditioned area, and that utilizes either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units.
VOC. A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a)
Note: Where specific regulations are cited from different agencies such as SCAQMD, ARB, etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.
SECTION 5.503 FIREPLACES
5.503.1 FIREPLACES. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.
5.503.1.1 Woodstoves. Woodstoves and pellet stoves shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits.
SECTION 5.504 POLLUTANT CONTROL
5.504.1 TEMPORARY VENTILATION. The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 6, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction.
5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site until final startup of the heating, cooling and ventilation equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.

5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.
5.410.4.5 Operation and maintenance (O & M) manual. Provide the building owner or representative with detailed operating and maintenance instructions and copies of warranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.
5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.
DIVISION 5.5 ENVIRONMENTAL QUALITY
SECTION 5.501 GENERAL
5.501.1 SCOPE. The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating, and/or harmful to the comfort and well-being of a building's installers, occupants and neighbors.
SECTION 5.502 DEFINITIONS
5.502.1 DEFINITIONS. The following terms are defined in Chapter 2 (and are included here for reference)
ARTERIAL HIGHWAY. A general term denoting a highway primarily for through traffic usually on a continuous route.
A-WEIGHTED SOUND LEVEL (dBA). The sound pressure level in decibels as measured on a sound level meter using the internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting adjustments have been made.
1 BTU/ HOUR. British thermal units per hour, also referred to as Btu. The amount of heat required to raise one pound of water one degree Fahrenheit per hour, a common measure of heat transfer rate. A ton of refrigeration is 12,000 Btu, the amount of heat required to melt a ton (2,000 pounds) of ice at 32° Fahrenheit.
COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). A metric similar to the day-night average sound level (Ldn), except that a 5 decibel adjustment is added to the equivalent continuous sound exposure level for evening hours (7pm to 10pm) in addition to the 10 dB nighttime adjustment used in the Ldn.
COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, timber, prefabricated wood joists or finger-jointed lumber, all as specified in California Code of Regulations (CCR), Title 17, Section 93120.1(a).
Note: See CCR, Title 17, Section 93120.1.
DAY-NIGHT AVERAGE SOUND LEVEL (Ldn). The A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to sound levels occurring during nighttime hours (10p.m. to 7 a.m.).
DECIBEL (db). A measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.
ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the California Electrical Code, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.
ELECTRIC VEHICLE CHARGING STATION(S) (EVCS). One or more spaces intended for charging electric vehicles.
ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.
ENERGY EQUIVALENT (NOISE) LEVEL (Leq). The level of a steady noise which would have the same energy as the fluctuating noise level integrated over the time of period of interest.
EXPRESSWAY. An arterial highway for through traffic which may have partial control of access, but which may or may not be divided or have grade separations at intersections.
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MERV. Filter minimum efficiency reporting value, based on ASHRAE 52.2-1999.
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PSIG. Pounds per square inch, gauge.
REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.
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5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site until final startup of the heating, cooling and ventilation equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.

5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.
5.410.4.5 Operation and maintenance (O & M) manual. Provide the building owner or representative with detailed operating and maintenance instructions and copies

# 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

## NONRESIDENTIAL MANDATORY MEASURES, SHEET 3 (January 2020, Includes August 2019 Supplement)

Y = YES  
N/A = NOT APPLICABLE  
RESP. PARTY = RESPONSIBLE PARTY  
A = ARCHITECT  
E = ENGINEER  
O = OWNER  
C = CONTRACTOR  
I = INSPECTOR

**5.504.4 FINISH MATERIAL POLLUTANT CONTROL.** Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.6.

**5.504.4.1 Adhesives, sealants and caulks.** Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:

- Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below.
- Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with Section 94507.

Less Water and Less Exempt Compounds in Grams per Liter	
ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVES	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT SPECIFICALLY LISTED	50
<b>SPECIALTY APPLICATIONS</b>	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
<b>SUBSTRATE SPECIFIC APPLICATIONS</b>	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168, [www.arb.ca.gov/DRDB/SC/CURHTMLR1168.PDF](http://www.arb.ca.gov/DRDB/SC/CURHTMLR1168.PDF)

Less Water and Less Exempt Compounds in Grams per Liter	
SEALANTS	CURRENT VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
<b>SEALANT PRIMERS</b>	
ARCHITECTURAL	
NONPOROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

NOTE: FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THESE TABLES, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

**5.504.4.3 Paints and coatings.** Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.2.1, 4.36 and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

**5.504.4.3.1 Aerosol Paints and coatings.** Aerosol paints and coatings shall meet the PWMIR Limits for VOC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(a)(2) and (d)(2) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 9 Rule 43.

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS	
COATING CATEGORY	CURRENT VOC LIMIT
FLAT COATINGS	50
NONFLAT COATINGS	100
NONFLAT HIGH GLOSS COATINGS	150
<b>SPECIALTY COATINGS</b>	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH-TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS <sup>1</sup>	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
<b>SHELLACS:</b>	
CLEAR	730
OPAQUE	550
<b>SPECIALTY PRIMERS, SEALERS &amp; UNDERCOATERS</b>	
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

**5.504.4.3.2 Verification.** Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

- Manufacturer's product specification
- Field verification of on-site product containers

**5.504.4.4 Carpet Systems.** All carpet installed in the building interior shall meet at least one of the testing and product requirements:

- Carpet and Rug Institute's Green Label Plus Program.
- Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as CDPH Standard Method V1.1 or Specification 01350).
- NSF/ANSI 140 at the Gold level or higher.
- Scientific Certifications Systems Sustainable Choice; or
- Compliant with the Collaborative for High Performance Schools California (2014 CA-CHPS) Criteria listed in the CHPS High Performance Product Database.

**5.504.4.4.1 Carpet cushion.** All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.

**5.504.4.4.2 Carpet adhesive.** All carpet adhesive shall meet the requirements of Table 5.504.4.1.

**5.504.4.5 Composite wood products.** Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.). These materials not exempted under the ATCM must meet the specified emission limits, as shown in Table 5.504.4.5.

**5.504.4.5.3 Documentation.** Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

- Product certifications and specifications.
- Chain of custody certifications.
- Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
- Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 SS standards.
- Other methods acceptable to the enforcing agency.

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION	
PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD <sup>2</sup>	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIFORNIA CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.15.

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16 INCHES (8 MM).

**5.504.4.6 Resilient flooring systems.** For 80 percent of floor area receiving resilient flooring, installed resilient flooring shall meet at least one of the following:

- Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program;
- Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1, February 2010;
- Compliant with the Collaborative for High Performance Schools California (2014 CA-CHPS) Criteria and listed in the CHPS High Performance Product Database; or
- Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).

**5.504.4.6.1 Verification of compliance.** Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.

**5.504.5.3 Filters.** In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of 13. MERV 13 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

**Exceptions:** Existing mechanical equipment.

**5.504.5.3.1 Labeling.** Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.

**5.504.7 ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL.** Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions.

**SECTION 5.505 INDOOR MOISTURE CONTROL**

**5.505.1 INDOOR MOISTURE CONTROL.** Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1202 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures, see Section 5.407.2 of this code.

**SECTION 5.506 INDOOR AIR QUALITY**

**5.506.1 OUTSIDE AIR DELIVERY.** For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 1201, (Requirements For Ventilation) of the *California Energy Code*, or the applicable local code, whichever is more stringent, and Division 4 of CCR, Title 8.

**5.506.2 CARBON DIOXIDE (CO<sub>2</sub>) MONITORING.** For buildings or additions equipped with demand control ventilation, CO<sub>2</sub> sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 1201(c)(4).

**SECTION 5.507 ENVIRONMENTAL COMFORT**

**5.507.4 ACUSTICAL CONTROL.** Employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E 90 and ASTM E 413, or Outdoor-Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E 1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2.

**Exception:** Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.

**Exception: [DSA-SS]** For public schools and community colleges, the requirements of this section and all subsections apply only to new construction.

**5.507.4.1 Exterior noise transmission, prescriptive method.** Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

- Within the 65 CNEL noise contour of an airport.
 

**Exceptions:**

  - L<sub>eq</sub> or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICLUZ) plan.
  - L<sub>eq</sub> or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.
- Within the 65 CNEL or L<sub>eq</sub> noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan.

**5.507.4.1.1 Noise exposure where noise contours are not readily available.** Buildings exposed to a noise level of 65 dB L<sub>eq</sub> 1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

**5.507.4.2 Performance Method.** For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1hr) of 50 dBA in occupied areas during any hour of operation.

**5.507.4.2.1 Site Features.** Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior.

**5.507.4.2.2 Documentation of Compliance.** An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.

**5.507.4.3 Interior sound transmission.** Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

**Note:** Examples of assemblies and their various STC ratings may be found at the California Office of Noise Control: [www.toobase.org/PDF/CaseStudies/stc\\_ratings.pdf](http://www.toobase.org/PDF/CaseStudies/stc_ratings.pdf).

**SECTION 5.508 OUTDOOR AIR QUALITY**

**5.508.1 Ozone depletion and greenhouse gas reductions.** Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

**5.508.1.1 Chlorofluorocarbons (CFCs).** Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.

**5.508.1.2 Halons.** Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.

**5.508.2 Supermarket refrigerant leak reduction.** New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.

**Exception:** Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO<sub>2</sub>), and potentially other refrigerants.

**5.508.2.1 Refrigerant piping.** Piping compliant with the California Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than 1/4 inch, flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below.

**5.508.2.1.1 Threaded pipe.** Threaded connections are permitted at the compressor rack.

**5.508.2.1.2 Copper pipe.** Copper tubing with an OD less than 1/4 inch may be used in systems with a refrigerant charge of 5 pounds or less.

**5.508.2.1.2.1 Anchorage.** One-fourth-inch OD tubing shall be securely clamped to a rigid base to keep vibration levels below 8 mils.

**5.508.2.1.3 Flared tubing connections.** Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil.

**Exception:** Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's recommendations.

**5.508.2.1.4 Elbows.** Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.

**5.508.2.2 Valves.** Valves and fittings shall comply with the *California Mechanical Code* and as follows.

**5.508.2.2.1 Pressure relief valves.** For vessels containing high-GWP refrigerant, a rupture disc shall be installed between the outlet of the vessel and the inlet of the pressure relief valve.

**5.508.2.2.1.1 Pressure detection.** A pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.

**5.508.2.2.2 Access valves.** Only Schrader access valves with a brass or steel body are permitted for use.

**5.508.2.2.2.1 Valve caps.** For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic.

**5.508.2.2.2.2 Seal caps.** If designed for it, the cap shall have a neoprene O-ring in place.

**5.508.2.2.2.2.1 Chain ladders.** Chain ladders to fit over the stem are required for valves designed to have seal caps.

**Exception:** Valves with seal caps that are not removed from the valve during stem operation.

**5.508.2.3 Refrigerated service cases.** Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-resistant material, such as stainless steel; or be coated to prevent corrosion from these substances.

**5.508.2.3.1 Coil coating.** Consideration shall be given to the heat transfer efficiency of coil coating to maximize energy efficiency.

**5.508.2.4 Refrigerant receivers.** Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device that indicates the level of refrigerant in the receiver.

**5.508.2.5 Pressure testing.** The system shall be pressure tested during installation prior to evacuation and charging.

**5.508.2.5.1 Minimum pressure.** The system shall be charged with regulated dry nitrogen and appropriate tracer gas to bring system pressure up to 300 psig minimum.

**5.508.2.5.2 Leaks.** Check the system for leaks, repair any leaks, and retest for pressure using the same gauge.

**5.508.2.5.3 Allowable pressure change.** The system shall stand, unaltered, for 24 hours with no more than a +/- one pound pressure change from 300 psig, measured with the same gauge.

**5.508.2.6 Evacuation.** The system shall be evacuated after pressure testing and prior to charging.

**5.508.2.6.1 First vacuum.** Pull a system vacuum down to at least 1000 microns (+/- 500 microns), and hold for 30 minutes.

**5.508.2.6.2 Second vacuum.** Pull a second system vacuum to a minimum of 500 microns and hold for 30 minutes.

**5.508.2.6.3 Third vacuum.** Pull a third vacuum down to a minimum of 300 microns, and hold for 24 hours with a maximum drift of 100 microns over a 24-hour period.

### CHAPTER 7 INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

**702 QUALIFICATIONS**

**702.1 INSTALLER TRAINING.** HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

- State certified apprenticeship programs.
- Public utility training programs.
- Training programs sponsored by trade, labor or statewide industry consulting or verification organizations.
- Programs sponsored by manufacturing organizations.
- Other programs acceptable to the enforcing agency.

**702.2 SPECIAL INSPECTION [HCD].** When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

- Certification by a national or regional green building program or standard publisher.
- Certification by a statewide industry consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
- Successful completion of a third party apprentice training program in the appropriate trade.
- Other programs acceptable to the enforcing agency.

**Notes:**

- Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
- HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

**[BSC-CC]** When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

**Note:** Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

**703 VERIFICATIONS**

**703.1 DOCUMENTATION.** Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

ARCHITECT:  
Tiana L. Perez, Architect  
California Licensed Architect No. C-38000  
Ren. 01-31-23  
Fresno County Department of  
Public Works & Planning  
Development Services and  
Capital Projects Division  
2220 Tulare Street, Eighth Floor  
Fresno, California 93721  
Office: (559) 600-4536  
E-mail: tperez@fresnocountyca.gov

Project:  
Fresno County  
Environmental Compliance Center  
Phase 2: Office / Storage Building

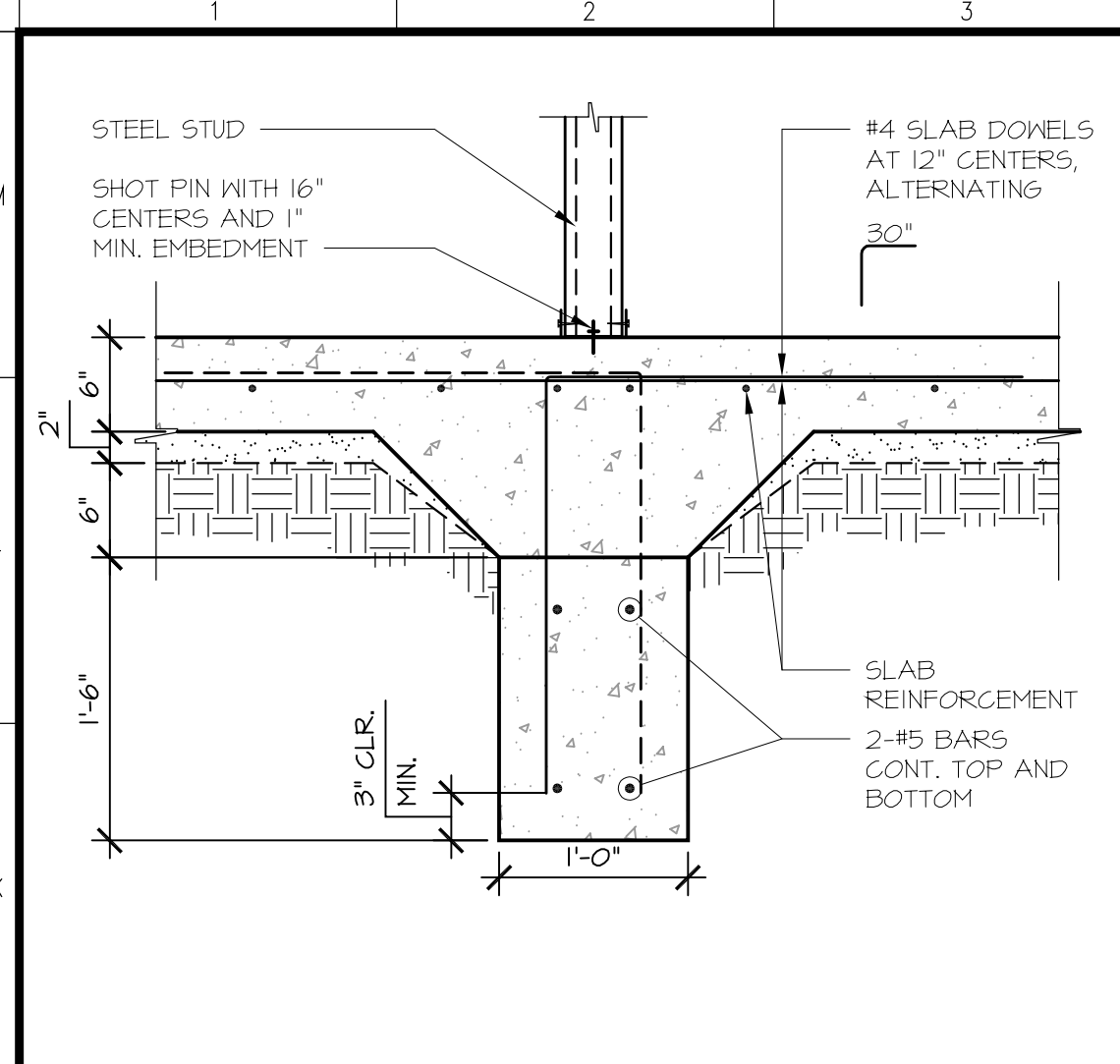
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APN: 458-060-72  
Issue Date:  
Project No. T90203  
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Sheet Content:  
CAL GREEN COMPLIANCE SHEET 3

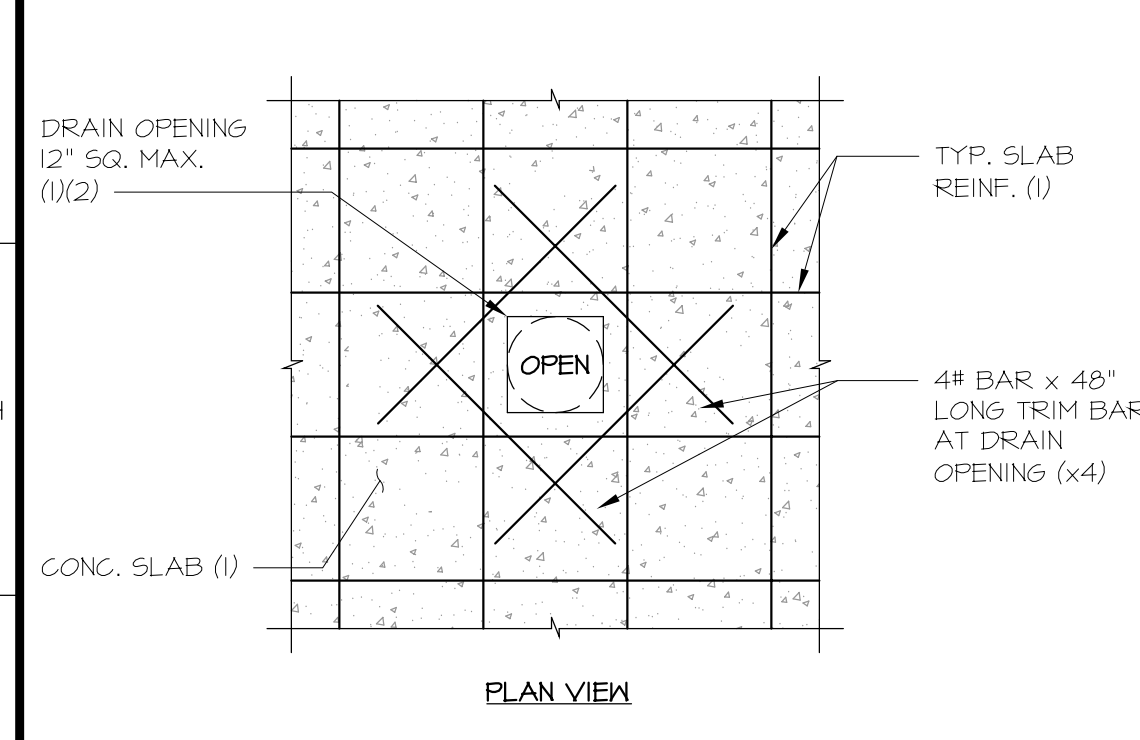
Fresno County Department of  
Public Works and Planning  
Capital Projects

2220 Tulare Street, 8th Floor  
Fresno, California 93721

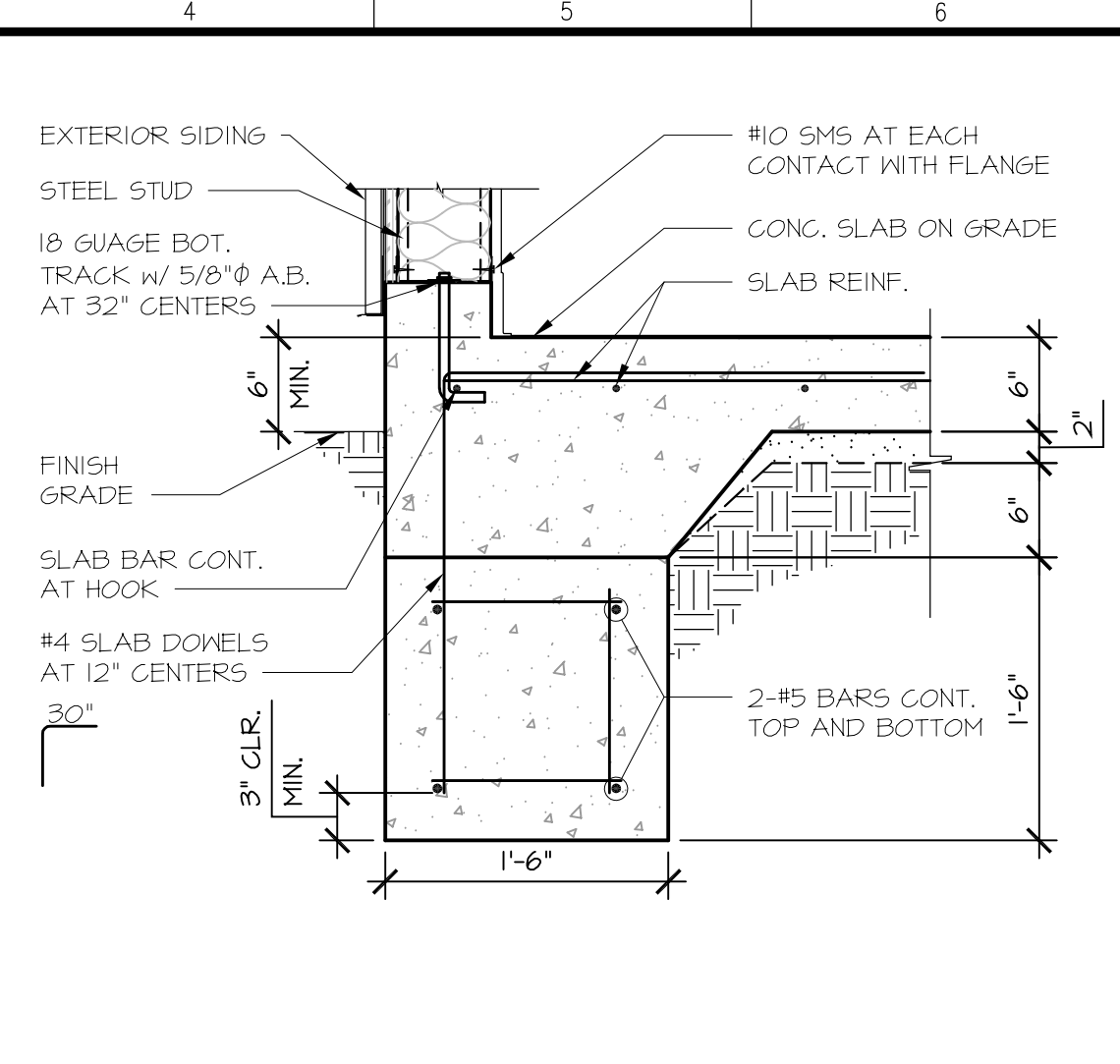
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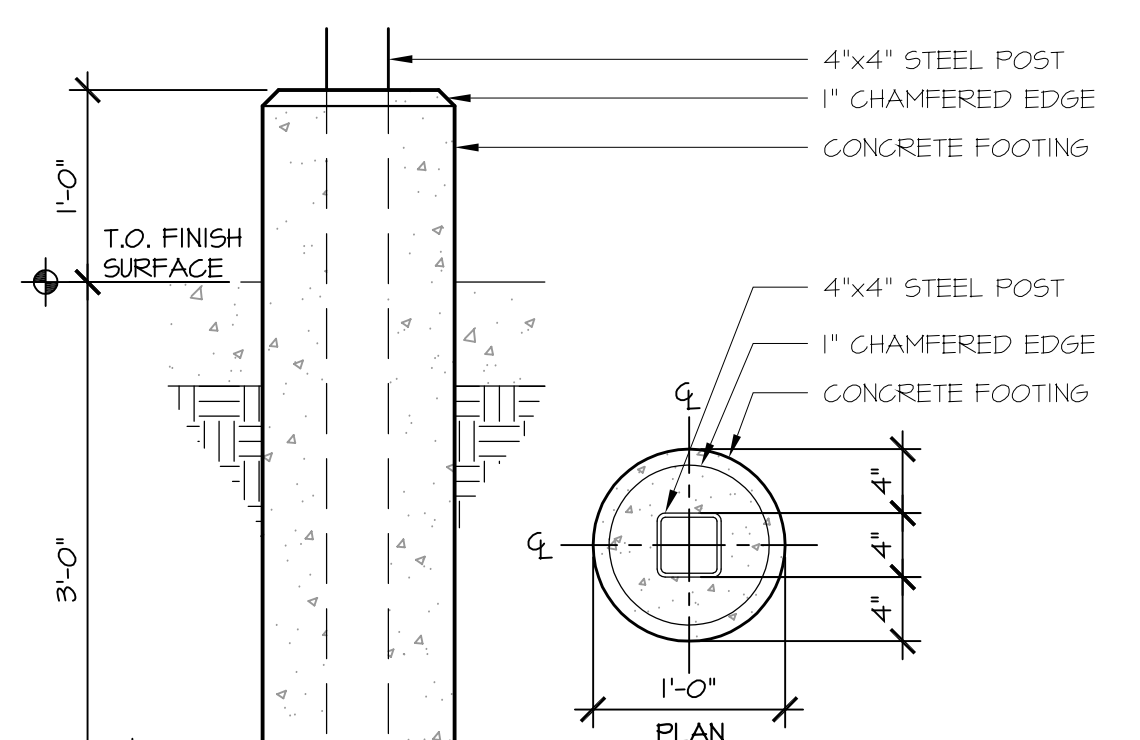
**J1 Wall Anchorage**  
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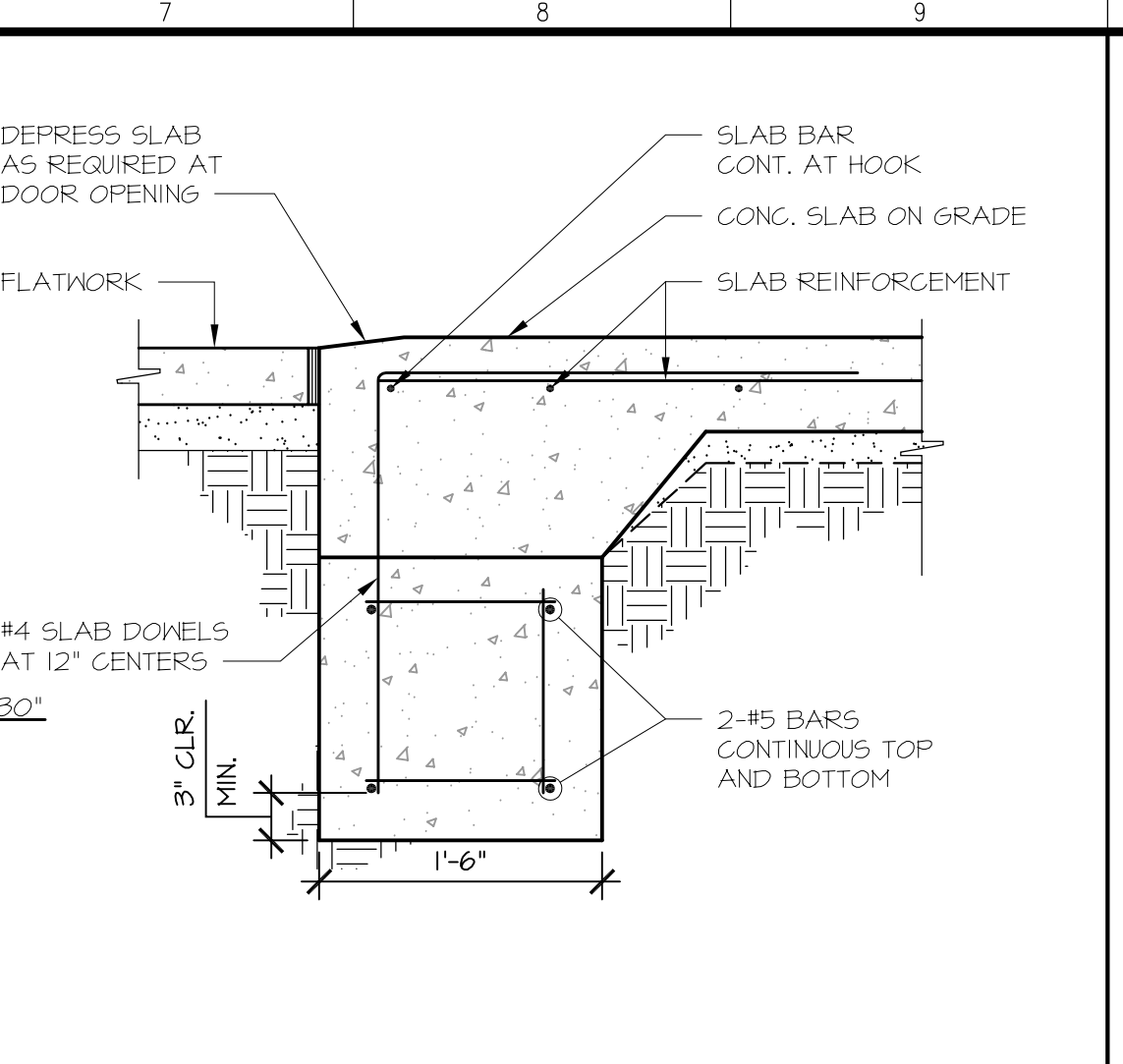
NOTES: (#)  
1. SEE FOUNDATION PLAN AND NOTES  
2. SEE ARCHITECTURAL PLAN



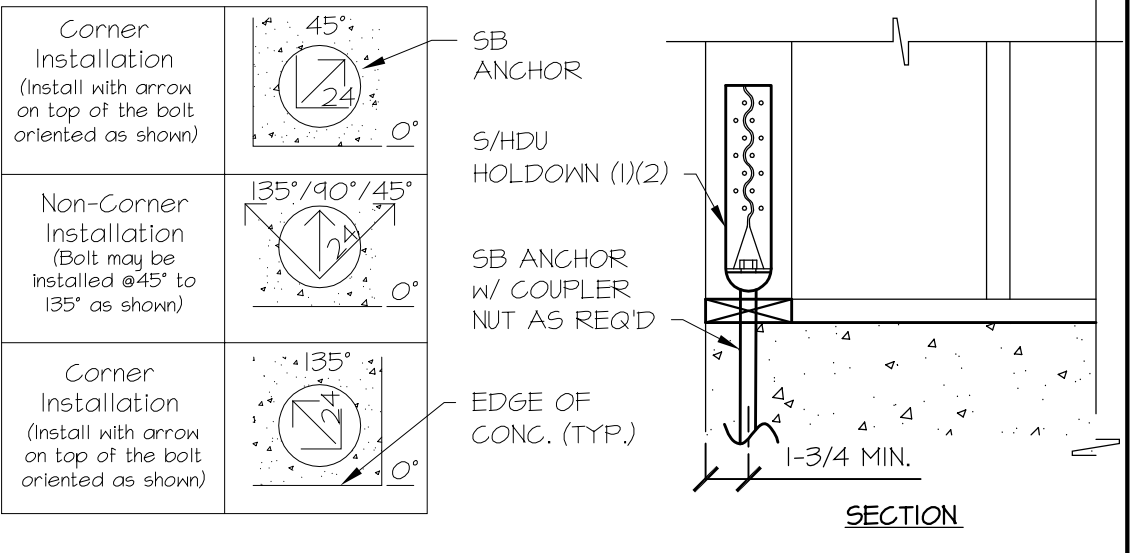
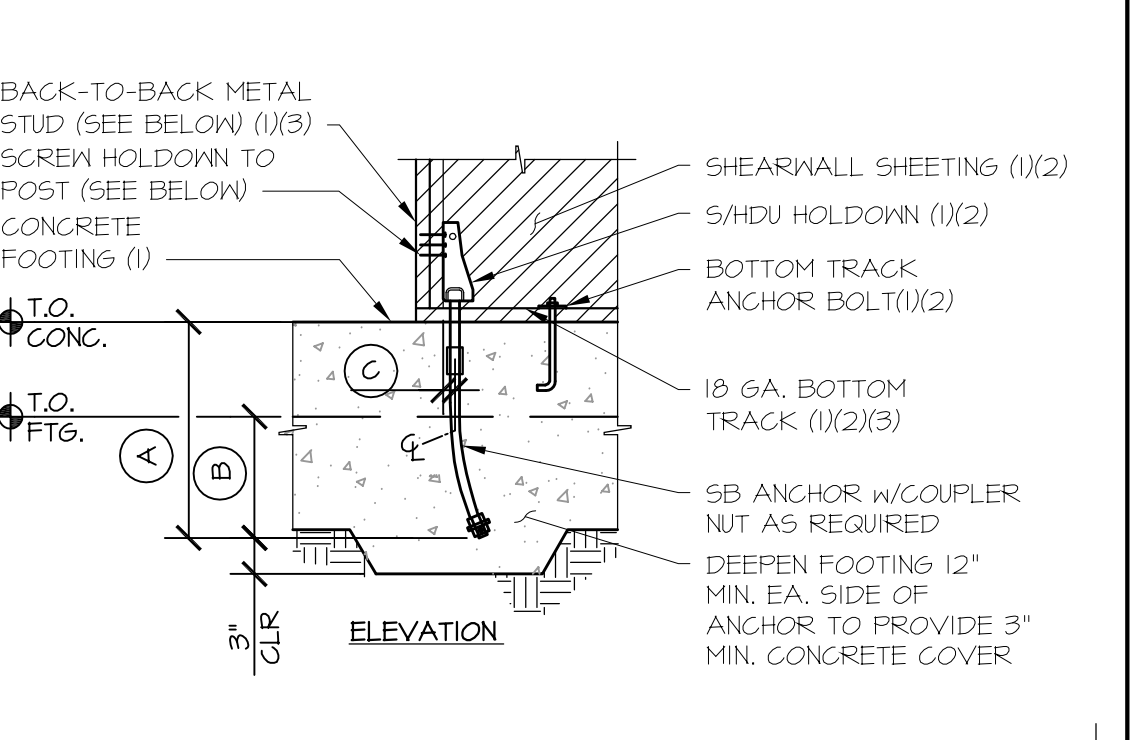
**J4 Continuous Exterior Footing**  
Scale: 1" = 1'-0"



NOTES: (#)  
1. SEE TYPICAL SLAB SECTION FOR SLAB CONSTRUCTION AND REINFORCEMENT  
2. PROVIDE JOINTS AT 10' CENTERS (MAX) UNLESS OTHERWISE NOTED ON PLANS  
3. CONTRACTOR OPTION: A PLASTIC 'ZIP STRIP' OR 'QUICK-JOINT' MAY BE USED IN LIEU OF SAWCUT

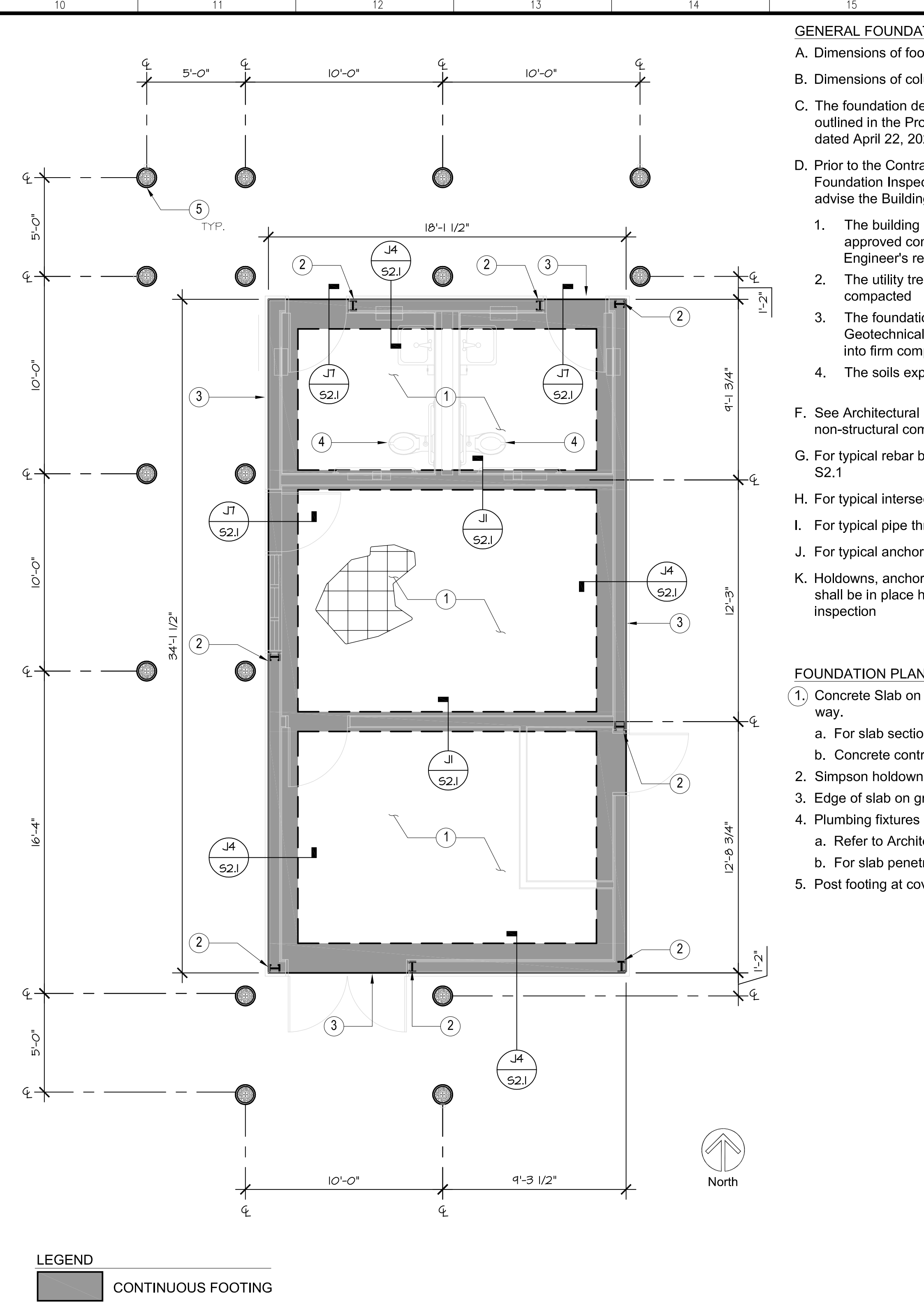


**J7 Footing at Opening**  
Scale: 1" = 1'-0"

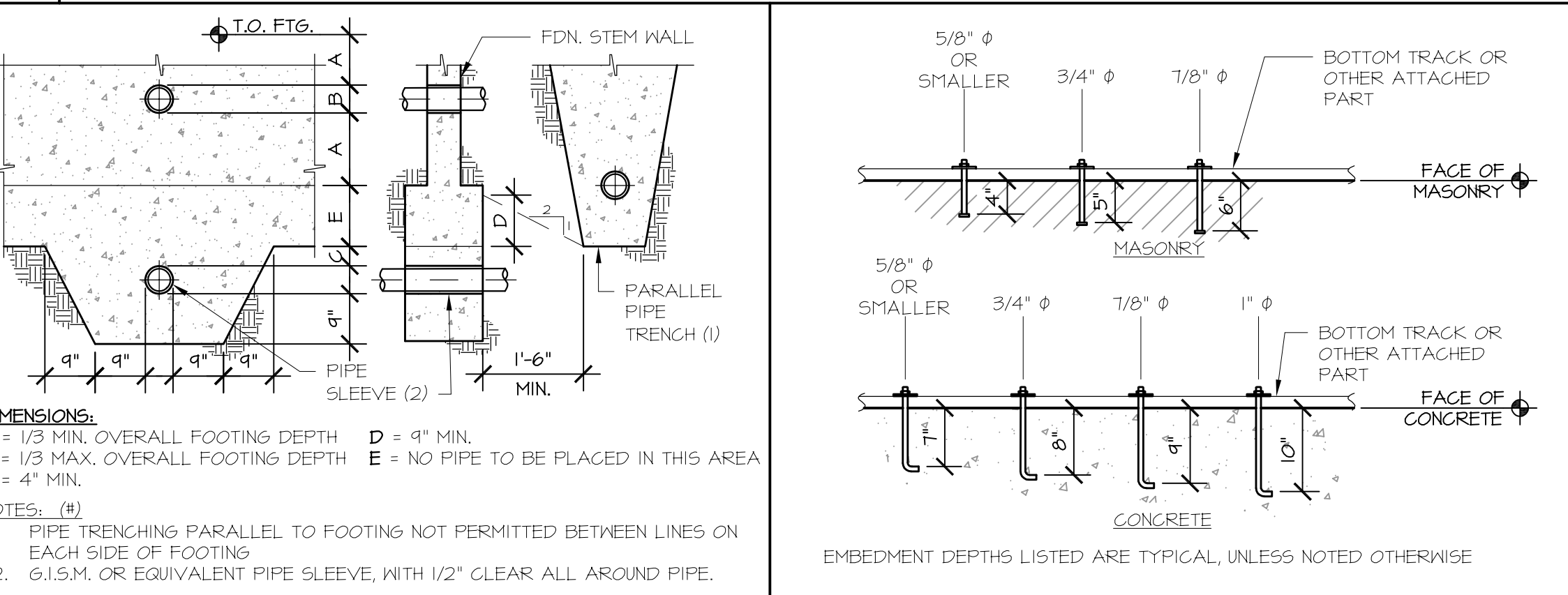


Holddown (4)	Post Screws (6)	Min. Post (5)	Anchor (4)			C	
			Diameter	A (Min)	B (Min)		Min. Model No.
5/HDU4	6-#14	2-18 GA.	5/8"φ	18"	6 3/4"	SB 5/8x24	1 3/8"

NOTES: (#)  
1. SEE FOUNDATION PLAN AND NOTES  
2. SEE SHEARWALL SCHEDULE AND NOTES  
3. MEMBER TO RECEIVE SHEARWALL EDGE SCREWING, FULL LENGTH  
4. SEE CURRENT EDITION OF THE SIMPSON 'STRONG-TIE' CATALOG  
5. MINIMUM POST SIZE, UNLESS NOTED OTHERWISE ON THE FOUNDATION/FRAMING PLAN, OR SHEARWALL SCHEDULE  
6. USE #14 SHEET METAL SCREWS



**C10 Foundation Plan**  
Scale: 1/4" = 1'-0"

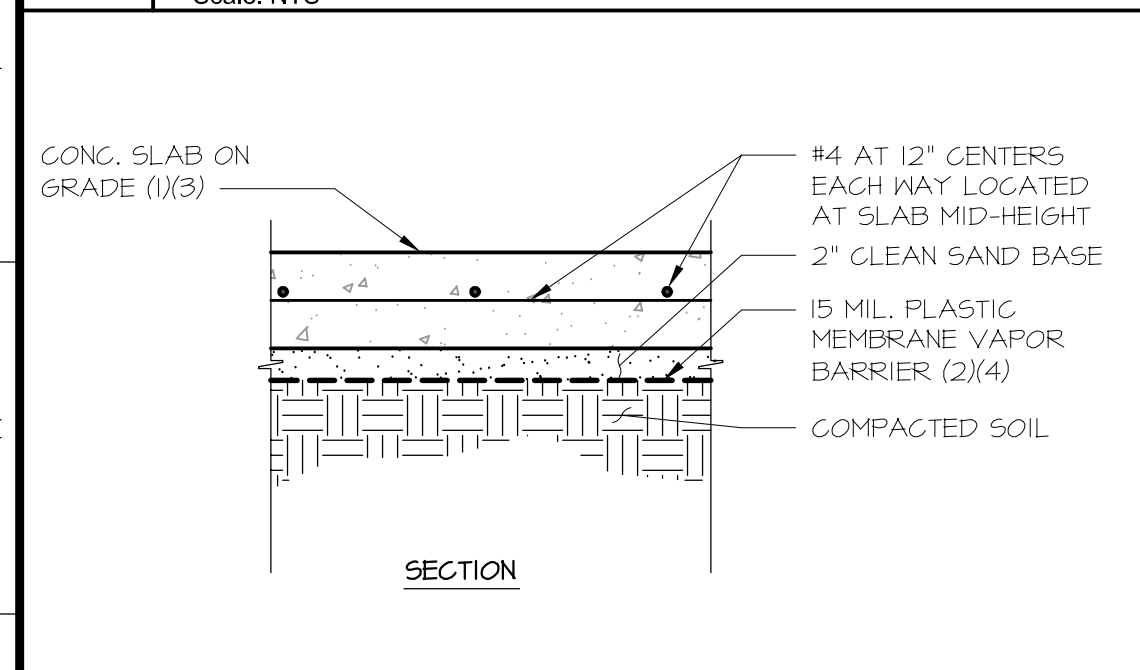


DIMENSIONS:  
A = 1/3 MIN. OVERALL FOOTING DEPTH D = 9" MIN.  
B = 1/3 MAX. OVERALL FOOTING DEPTH E = NO PIPE TO BE PLACED IN THIS AREA  
C = 4" MIN.  
NOTES: (#)  
1. PIPE TRENCHING PARALLEL TO FOOTING NOT PERMITTED BETWEEN LINES ON EACH SIDE OF FOOTING  
2. 61.5M OR EQUIVALENT PIPE SLEEVE, WITH 1/2" CLEAR ALL AROUND PIPE.

**GENERAL FOUNDATION NOTES:**  
A. Dimensions of footings are to face of concrete, U.N.O.  
B. Dimensions of column footings are to centerline of column, U.N.O.  
C. The foundation design is based on the minimum requirements outlined in the Project Geotechnical Report by County of Fresno, dated April 22, 2020 (Report No. T90203)  
D. Prior to the Contractor requesting a Building Department Foundation Inspection, the project Geotechnical Engineer shall advise the Building Official in writing that:  
1. The building pad was prepared in accordance with the approved construction documents and project Geotechnical Engineer's recommendations  
2. The utility trenches have been properly backfilled and compacted  
3. The foundation excavations comply with the project Geotechnical Engineer's recommendations and are founded into firm competent material  
4. The soils expansion index is verified  
F. See Architectural Drawings for all embedded items and non-structural components associated with concrete work  
G. For typical rebar bends and laps, see details A1 and A4 on Sheet S2.1  
H. For typical intersecting footing configurations, see details A7/S2.1  
I. For typical pipe through footing, see detail A10/S2.1  
J. For typical anchor bolt embedment, see detail A13/S2.1  
K. Holdowns, anchor bolts, tiedown anchors, foundation straps, etc. shall be in place held by templates or wire ties, prior to concrete inspection

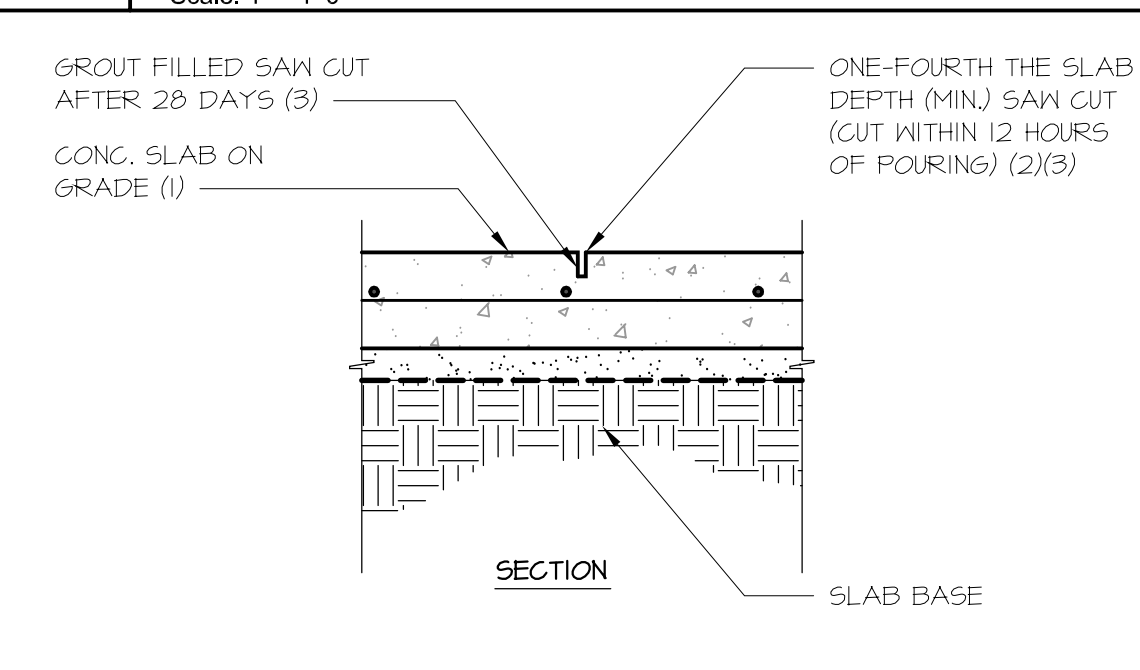
**FOUNDATION PLAN KEYNOTES: (#)**  
1. Concrete Slab on Grade: 6" slab with #4 bars at 12" centers each way.  
a. For slab section and underlayment, see detail C1/S2.1.  
b. Concrete control joints. See detail C4/S2.1.  
2. Simpson holddown anchor to back to back stud per detail C7/S2.1.  
3. Edge of slab on grade  
4. Plumbing fixtures  
a. Refer to Architectural drawings  
b. For slab penetration, refer to detail F1/S2.1  
5. Post footing at covered walk. See detail F4/S2.1.

**F1 Opening in Slab on Grade**  
Scale: NTS



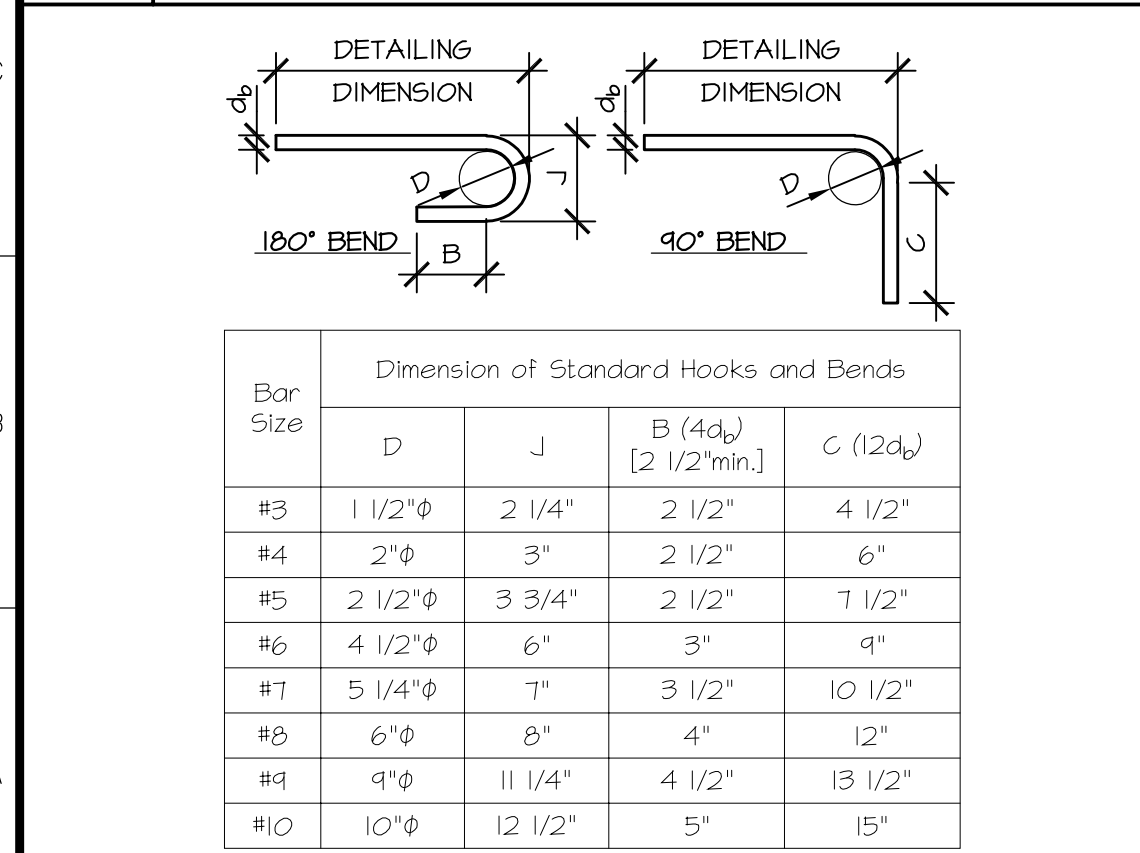
NOTES: (#)  
1. SEE FOUNDATION PLAN AND NOTES  
2. SEE PROJECT SOILS REPORT  
3. SEE DETAIL C4/S2.1 FOR SLAB CONTROL JOINT  
4. CARE SHALL BE TAKEN TO PROPERLY SEAL AND LAP THE VAPOR BARRIER, AND TO AVOID PUNCTURING

**F4 Post Footings at Covered Walk**  
Scale: 1" = 1'-0"

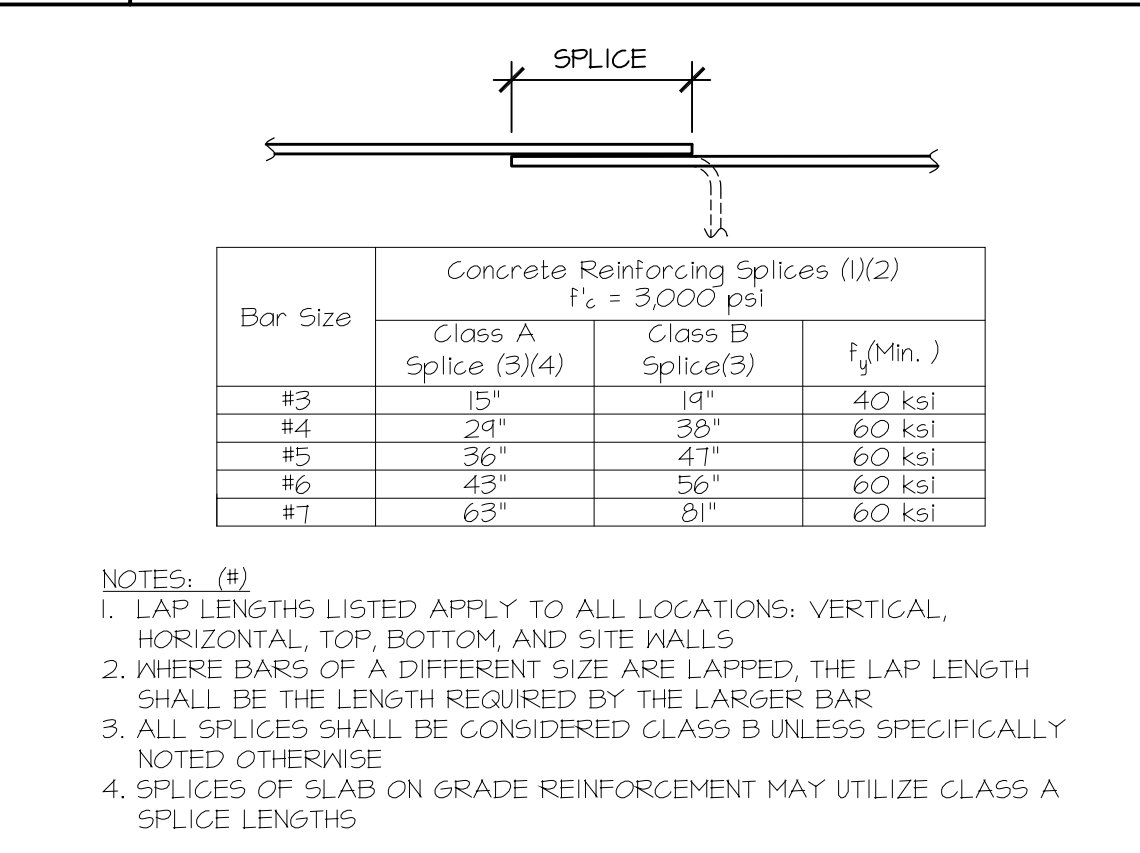


NOTES: (#)  
1. SEE TYPICAL SLAB SECTION FOR SLAB CONSTRUCTION AND REINFORCEMENT  
2. PROVIDE JOINTS AT 10' CENTERS (MAX) UNLESS OTHERWISE NOTED ON PLANS  
3. CONTRACTOR OPTION: A PLASTIC 'ZIP STRIP' OR 'QUICK-JOINT' MAY BE USED IN LIEU OF SAWCUT

**C1 Slab on Grade**  
Scale: 1" = 1'-0"

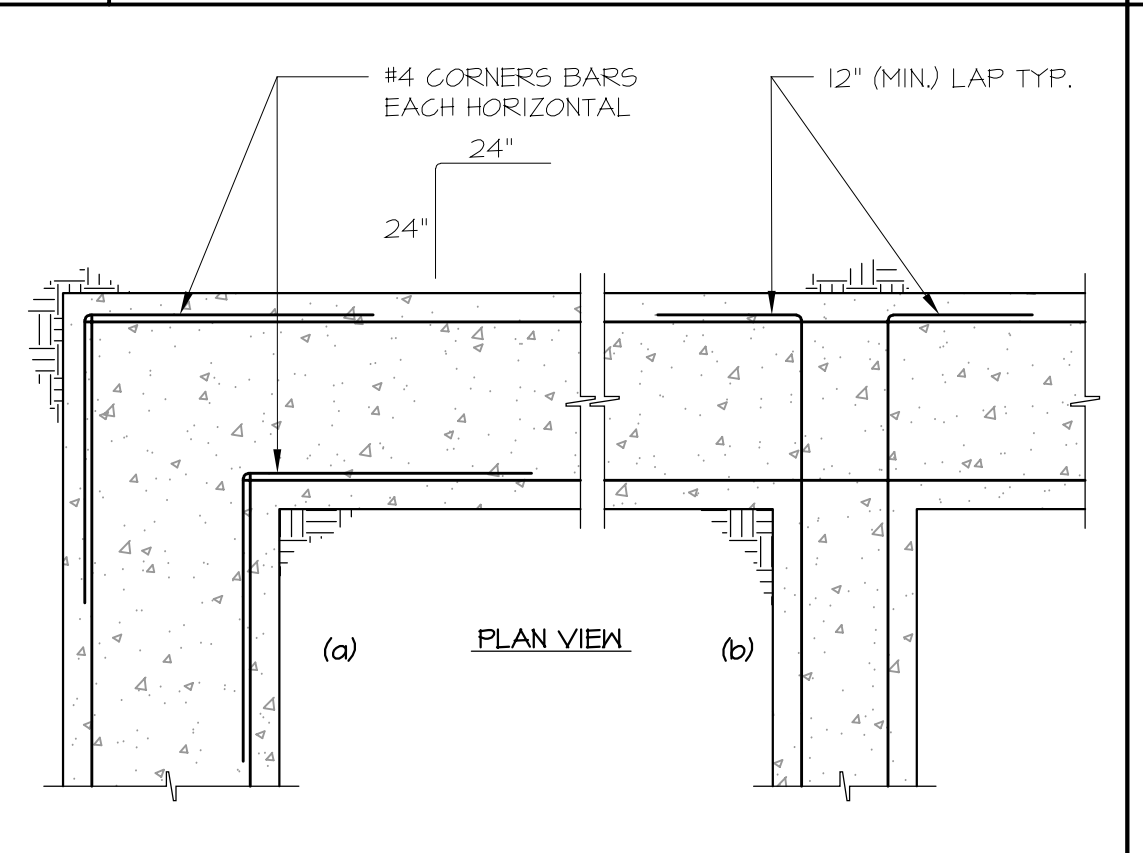


**C4 Slab Control Joint**  
Scale: 1" = 1'-0"



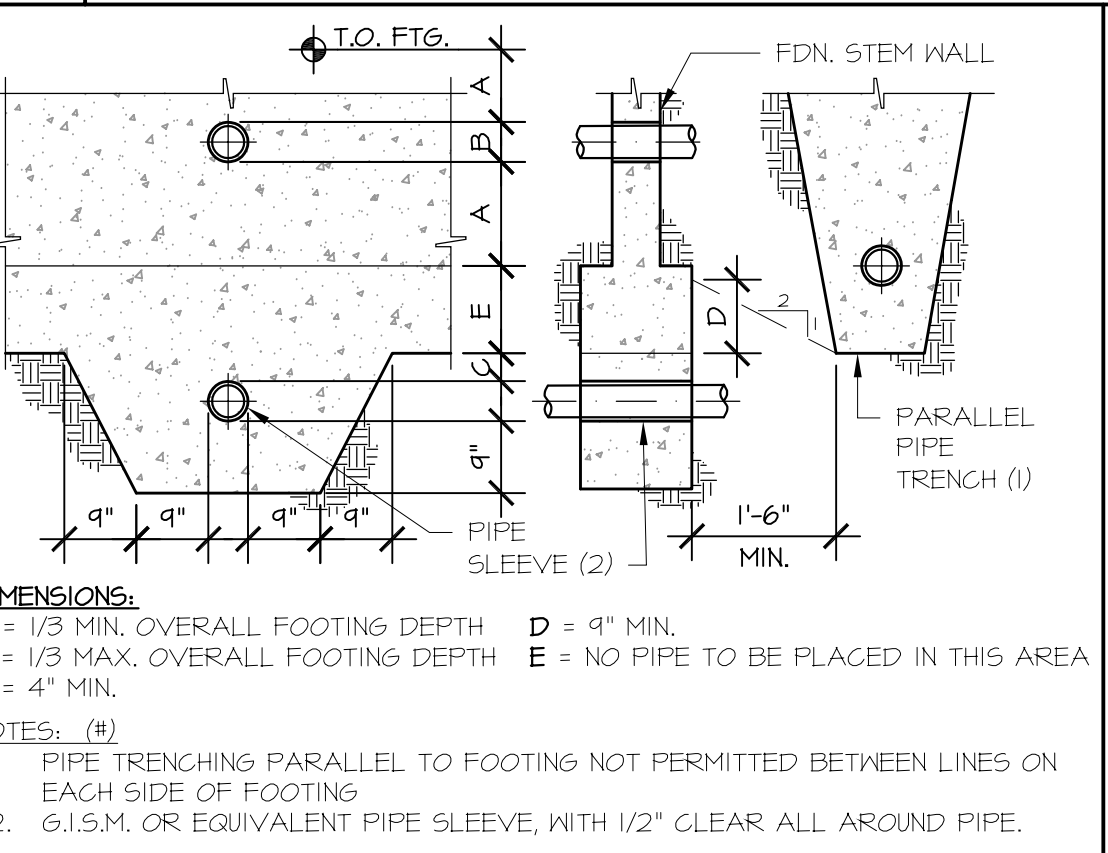
NOTES: (#)  
1. LAP LENGTHS LISTED APPLY TO ALL LOCATIONS: VERTICAL, HORIZONTAL, TOP, BOTTOM, AND SITE WALLS  
2. WHERE BARS OF A DIFFERENT SIZE ARE LAPPED, THE LAP LENGTH SHALL BE THE LENGTH REQUIRED BY THE LARGER BAR  
3. ALL SPLICES SHALL BE CONSIDERED CLASS B UNLESS SPECIFICALLY NOTED OTHERWISE  
4. SPLICES OF SLAB ON GRADE REINFORCEMENT MAY UTILIZE CLASS A SPLICE LENGTHS

**C7 Holddown at Footing - SB**  
Scale: NTS

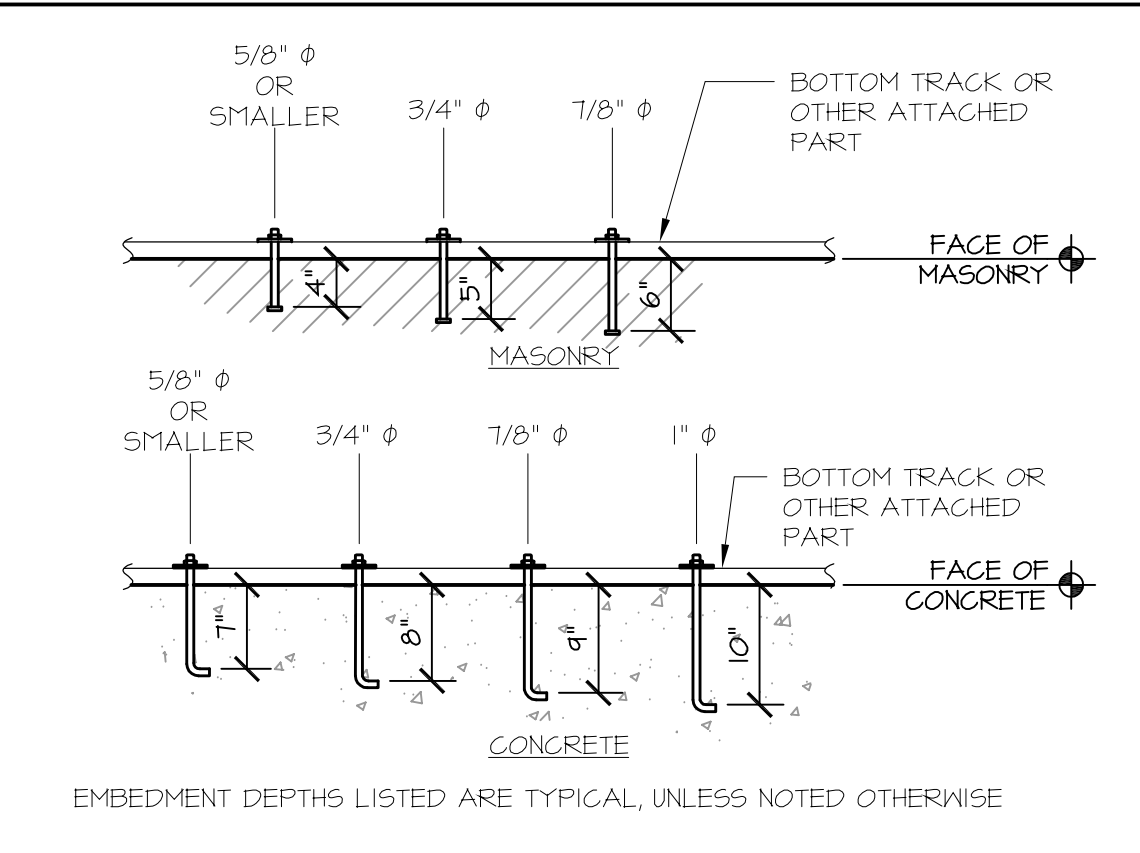


**A7 Typical Footing Corner**  
Scale: NTS

**A10 Pipe Through Footing**  
Scale: NTS



**A13 Typical Anchor Bolt Embedment**  
Scale: NTS



**A1 Rebar Hooks & Bends**  
Scale: NTS

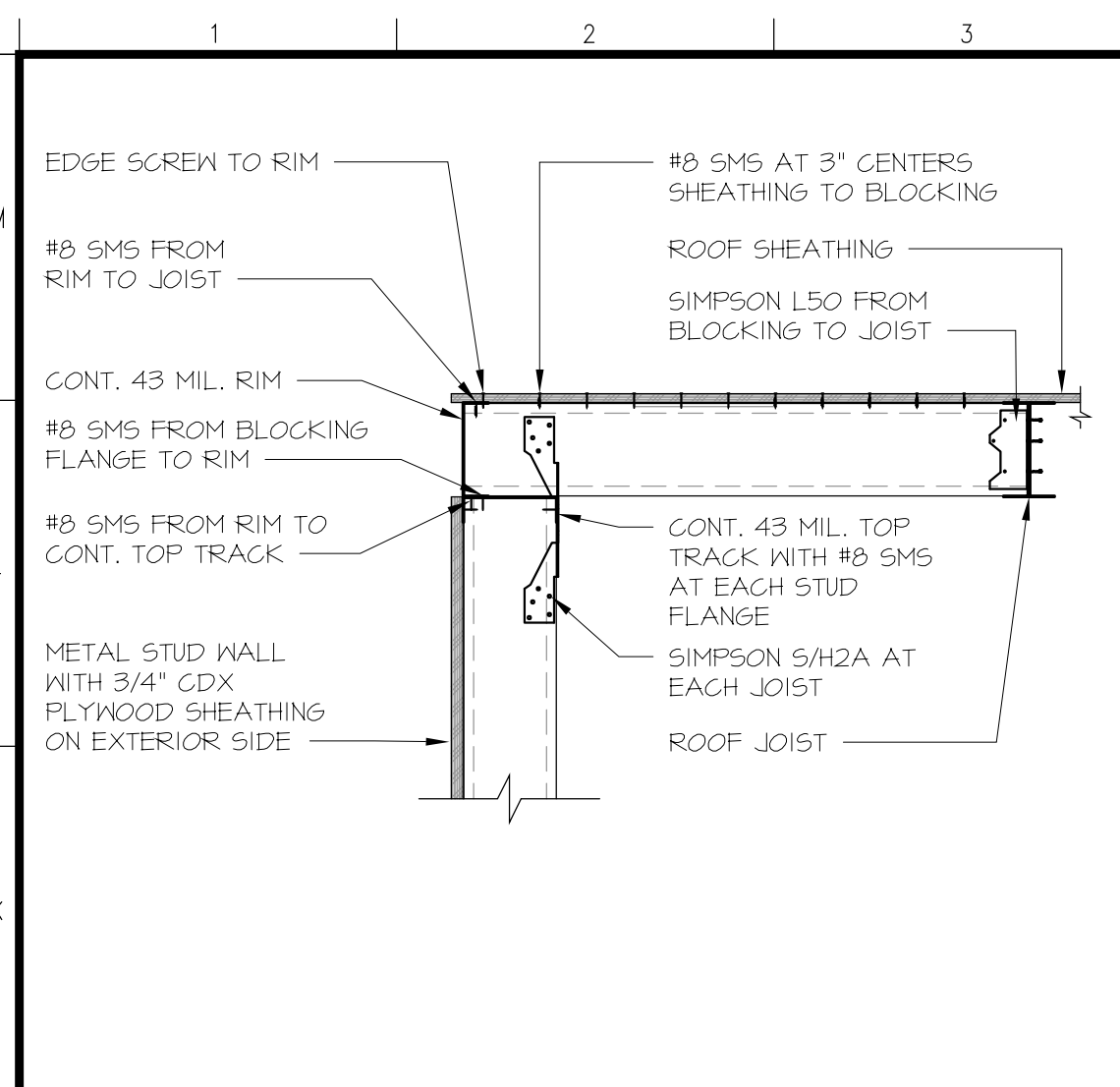
**A4 Typical Lap Splices**  
Scale: NTS



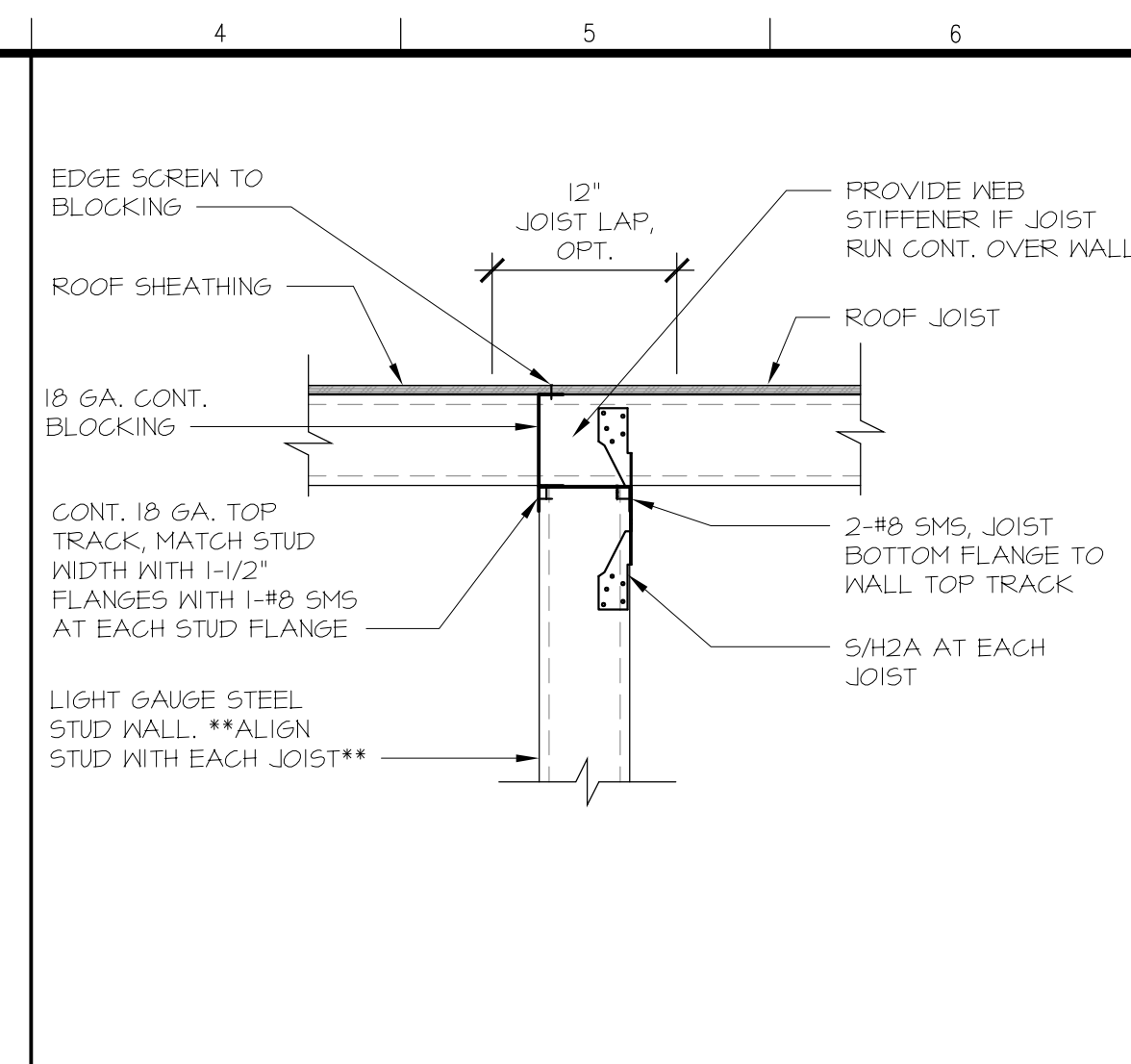
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Fresno County Environmental Compliance Center Phase 2: Office / Storage Building  
  
Project Address: 310 S. West Avenue, Fresno CA 93706  
APN: 458-060-72  
Issue Date:  
Project No. T90203  
File Path: G:\Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center \ 00 2018 ECC

**Sheet Content:**  
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Fresno County Department of Public Works and Planning Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

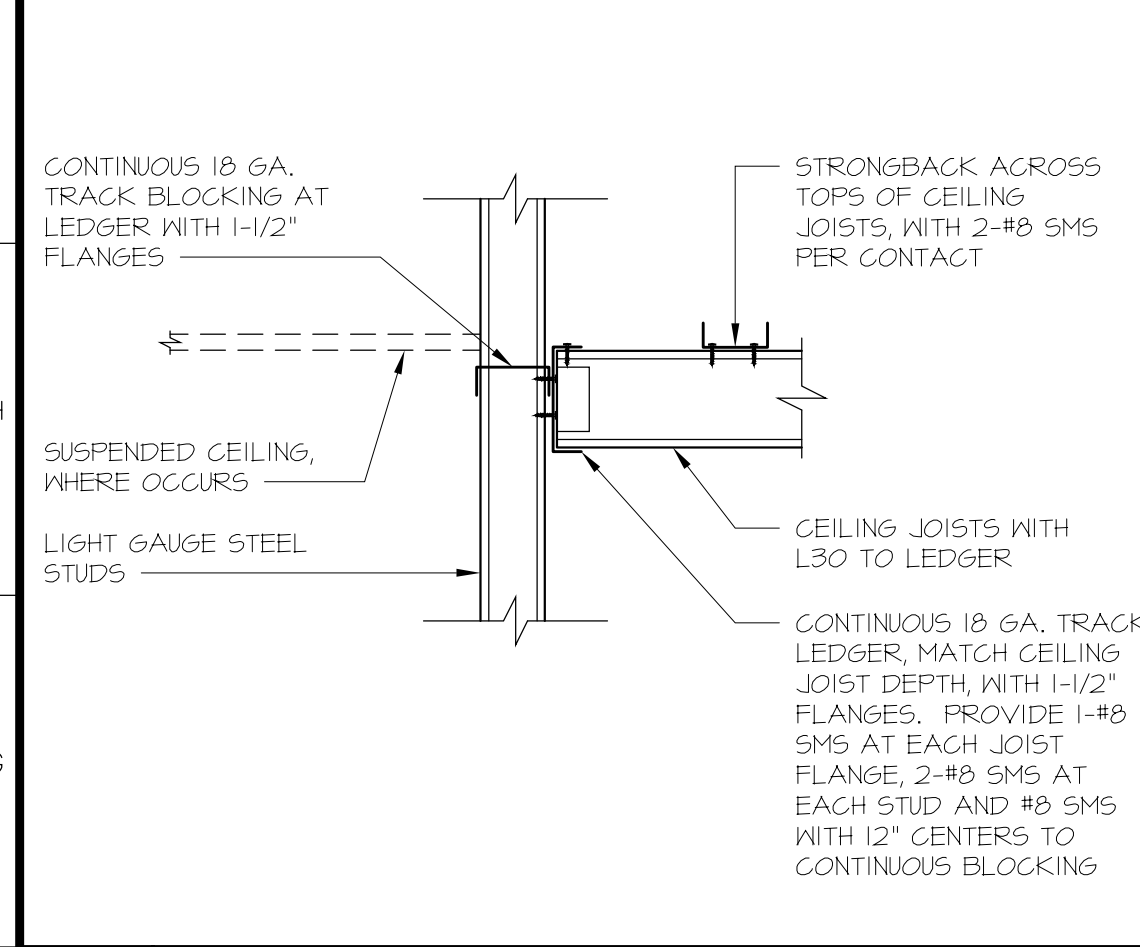
**Sheet No.**  
**S2.1**



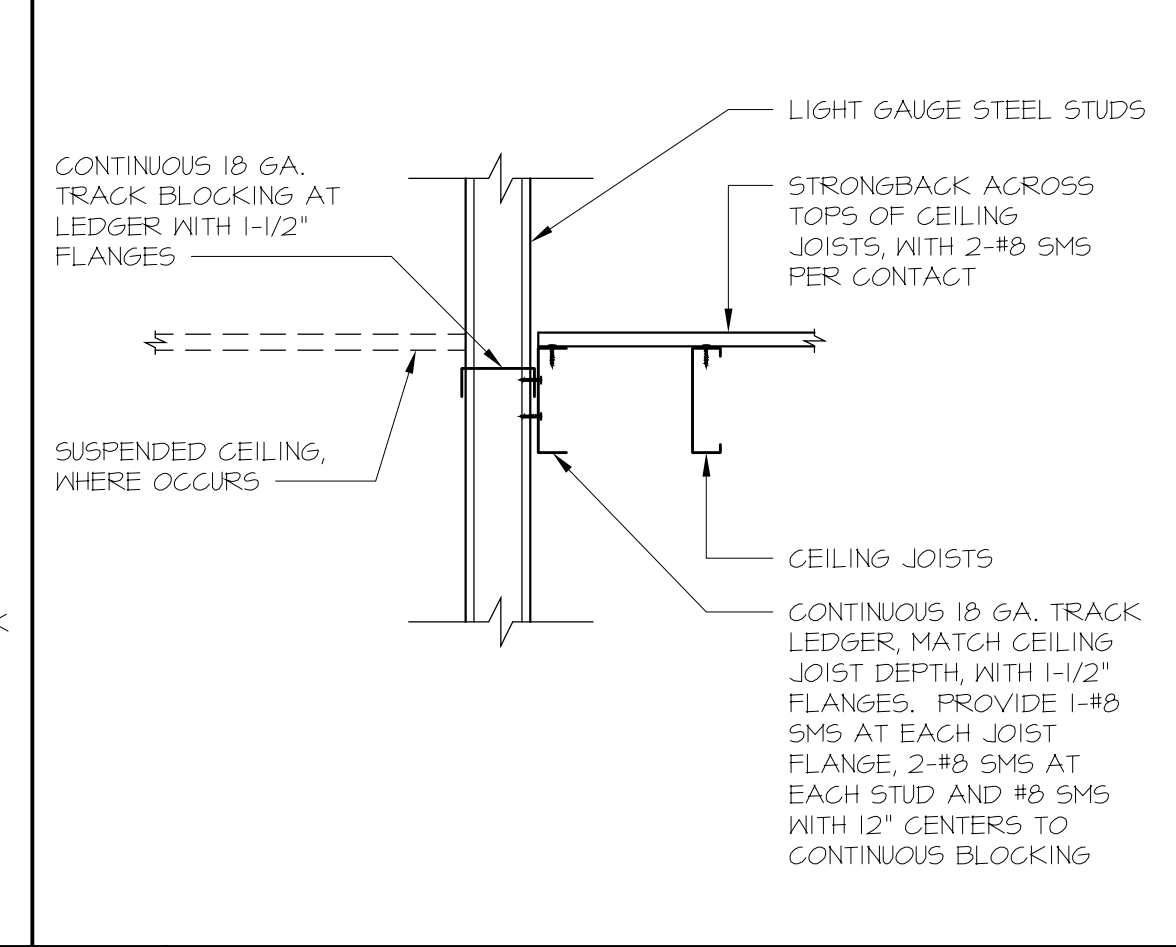
**J1 Joist to Wall**  
Scale: 1" = 1'-0"



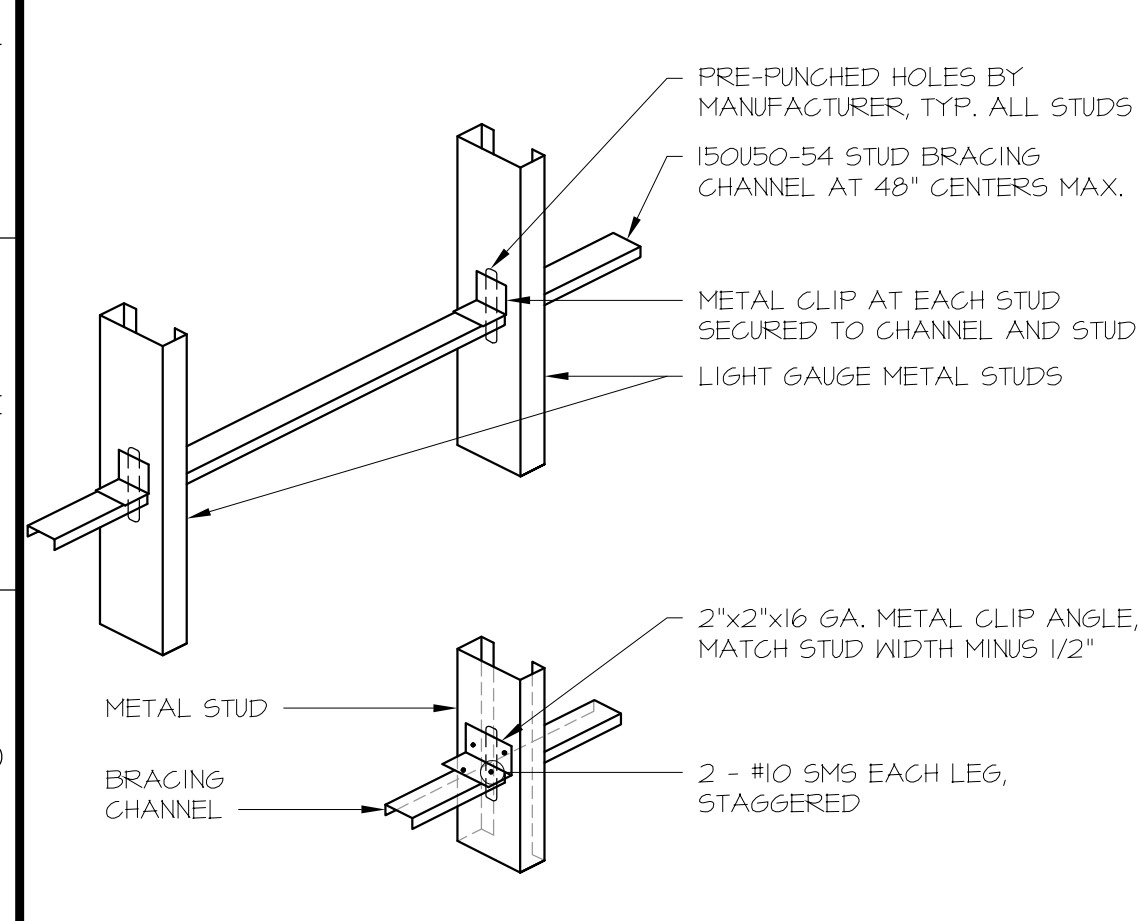
**J4 Joist at Stud Wall**  
Scale: 1" = 1'-0"



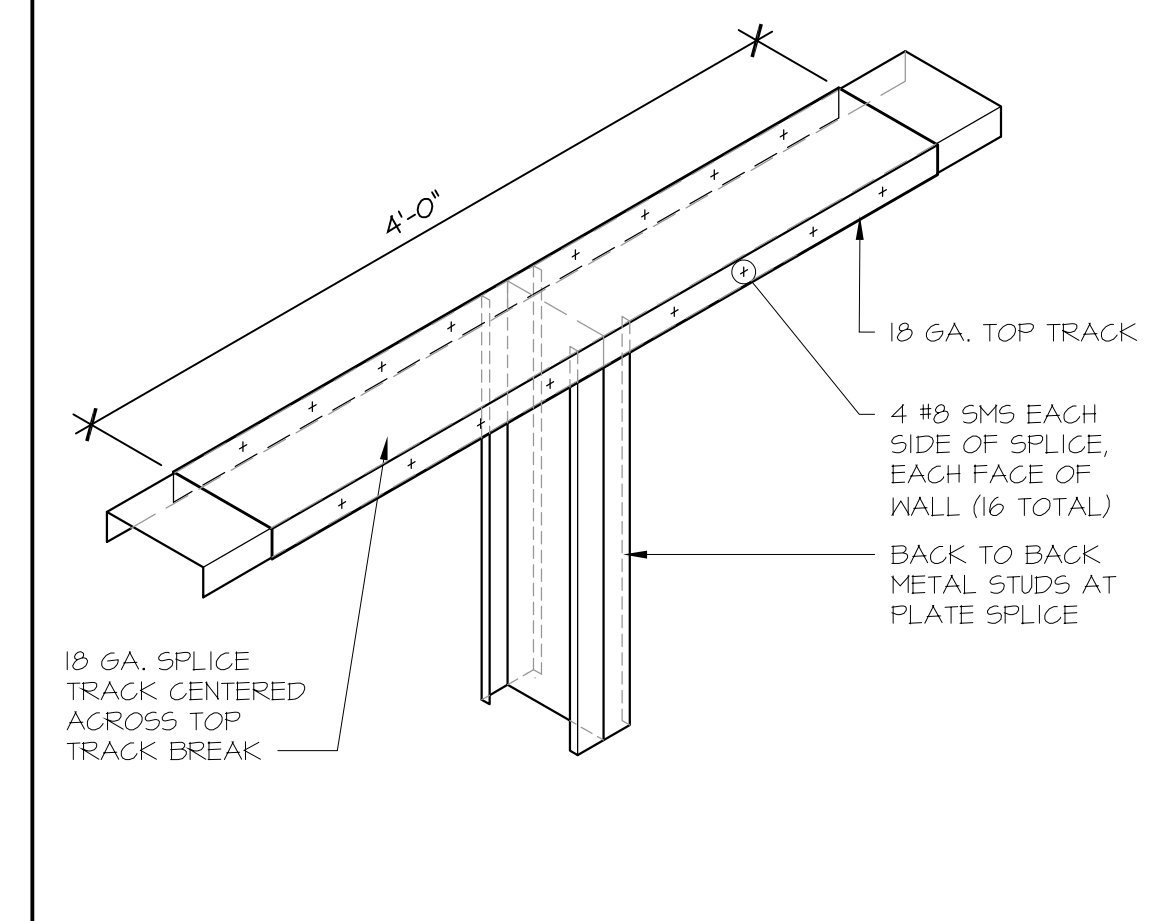
**F1 Ceiling Joist at Stud Wall**  
Scale: 1" = 1'-0"



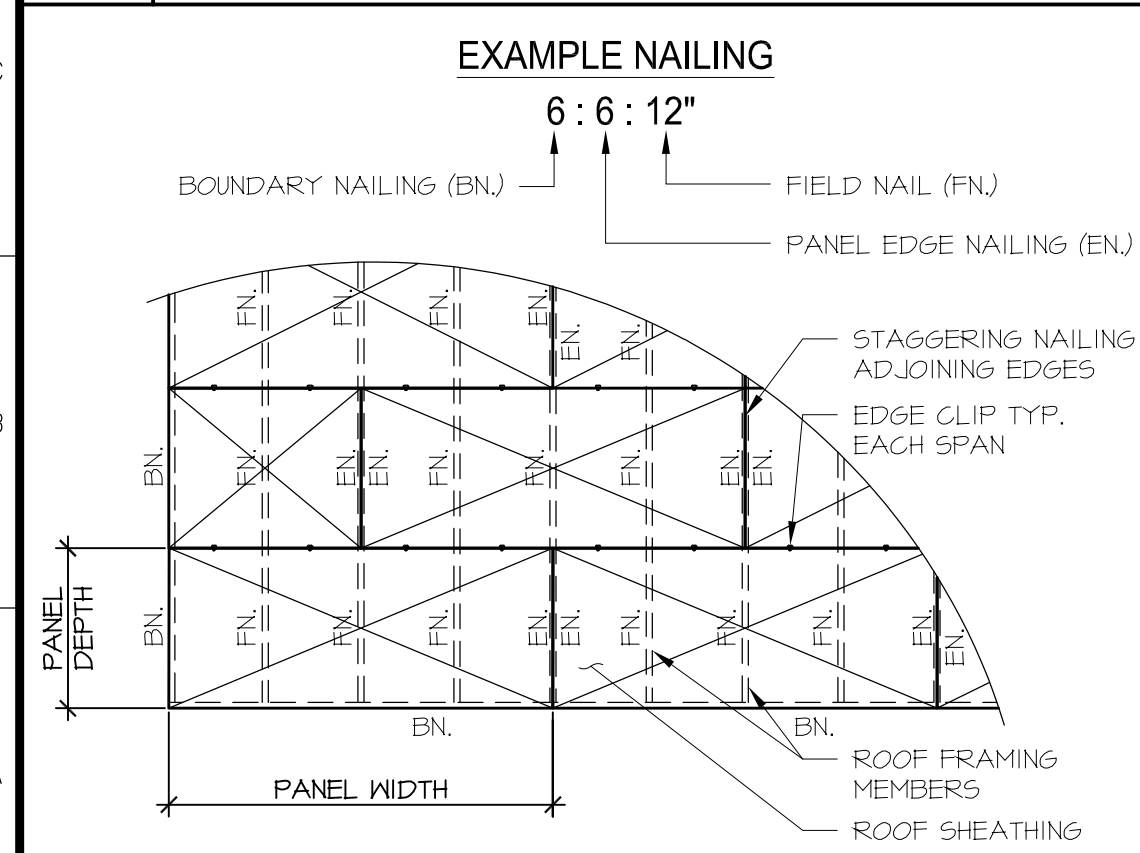
**F4 Ceiling Joist at Stud Wall**  
Scale: 1" = 1'-0"



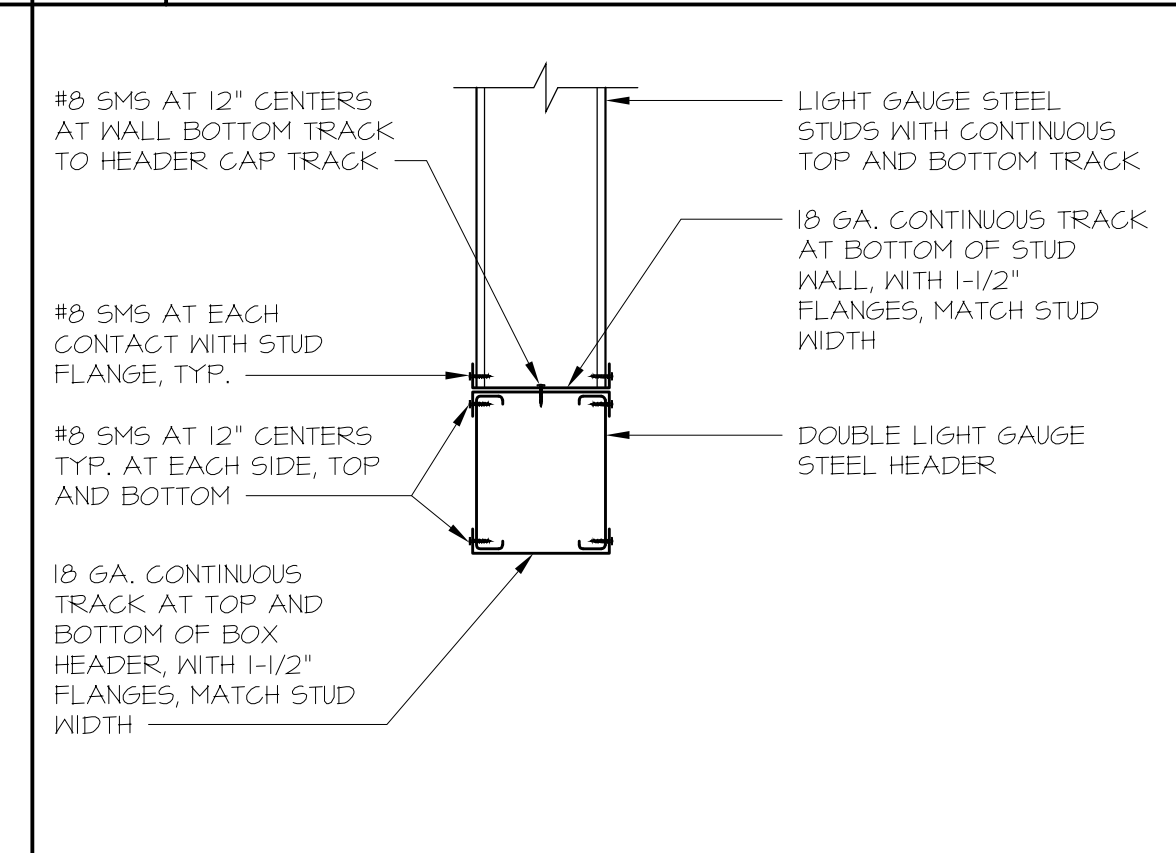
**C1 Metal Stud Wall Bracing**  
Scale: NTS



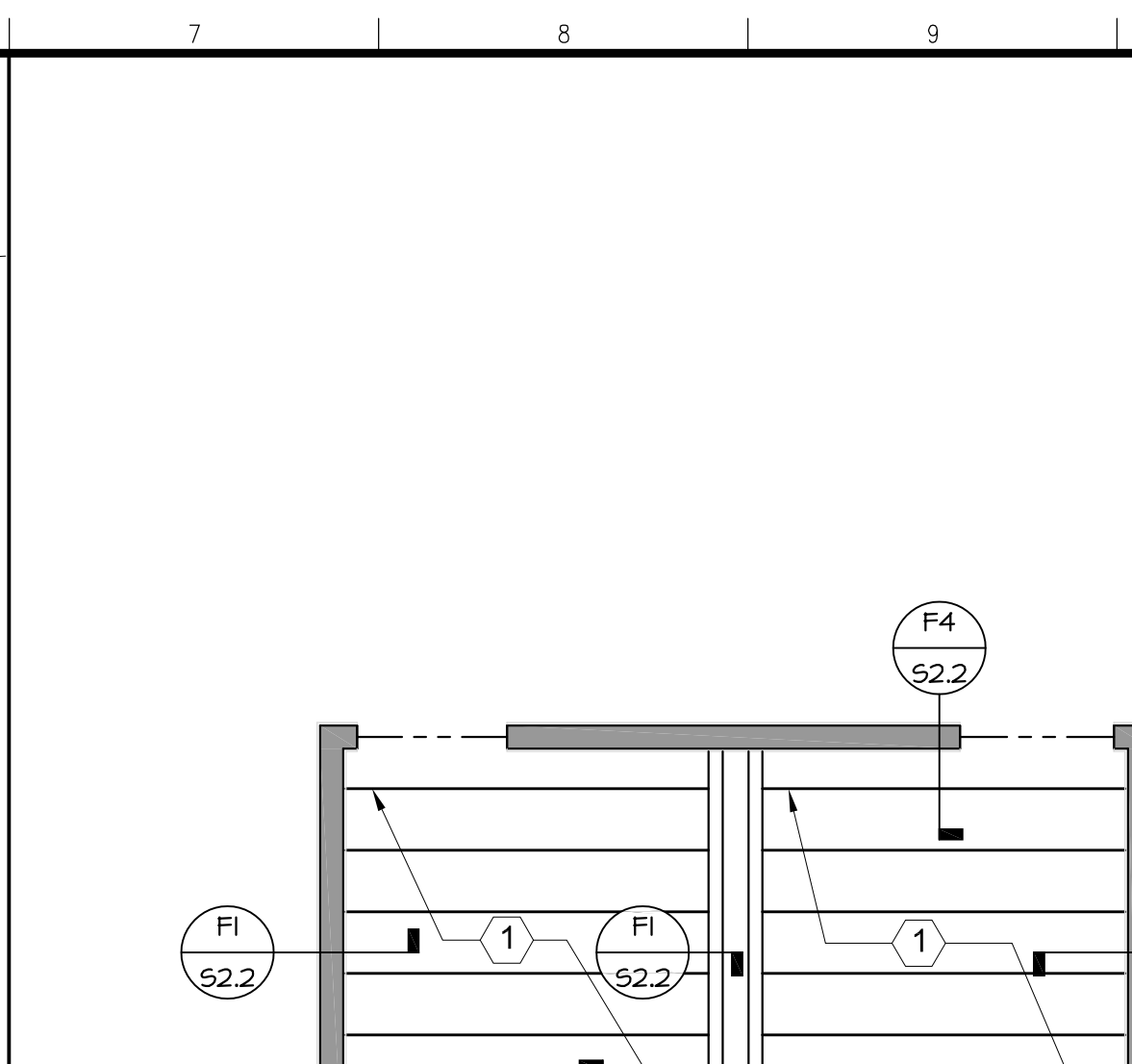
**C4 Typical Top Track Splice**  
Scale: NTS



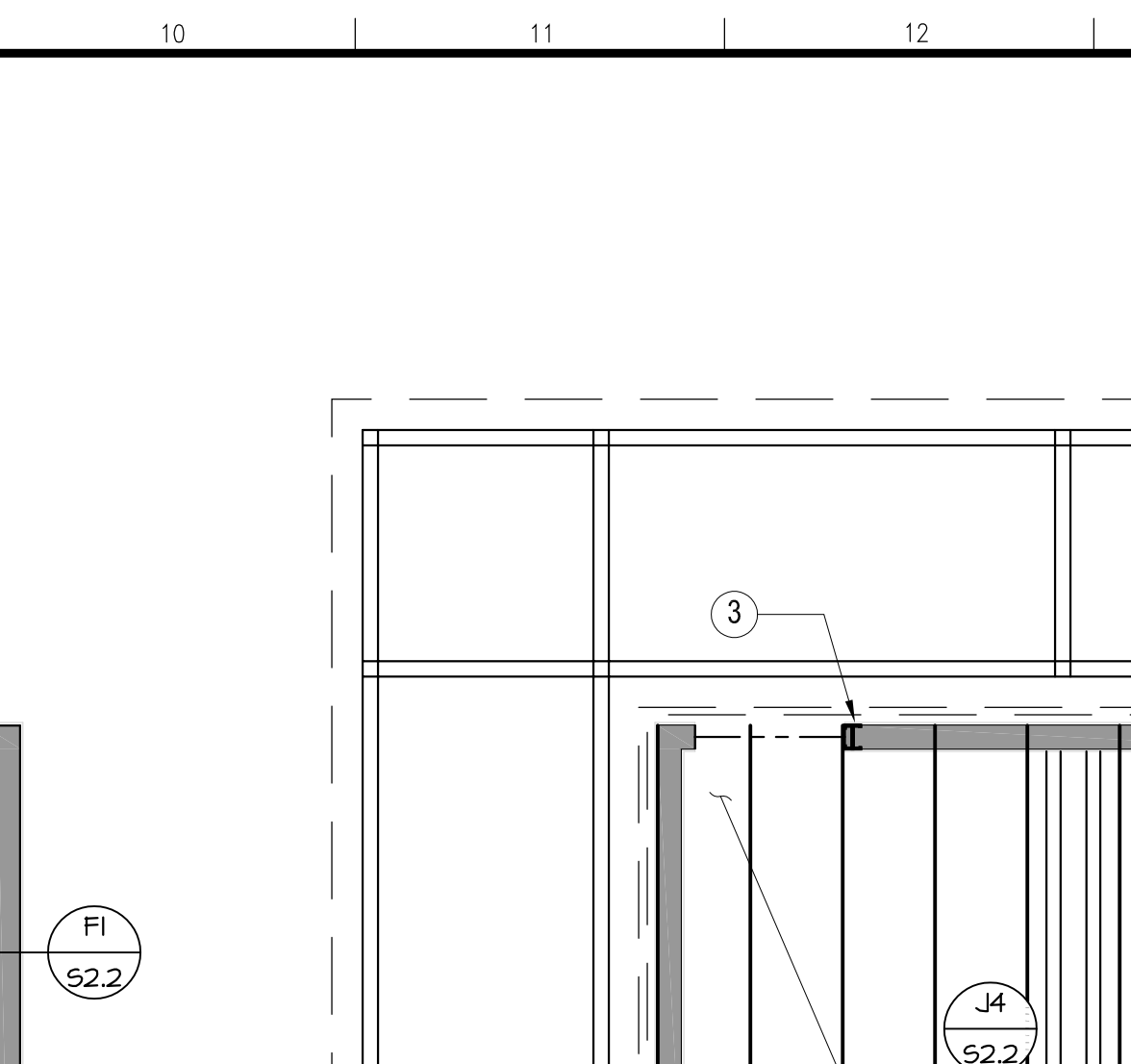
**A1 Roof Diaphragm**  
Scale: NTS



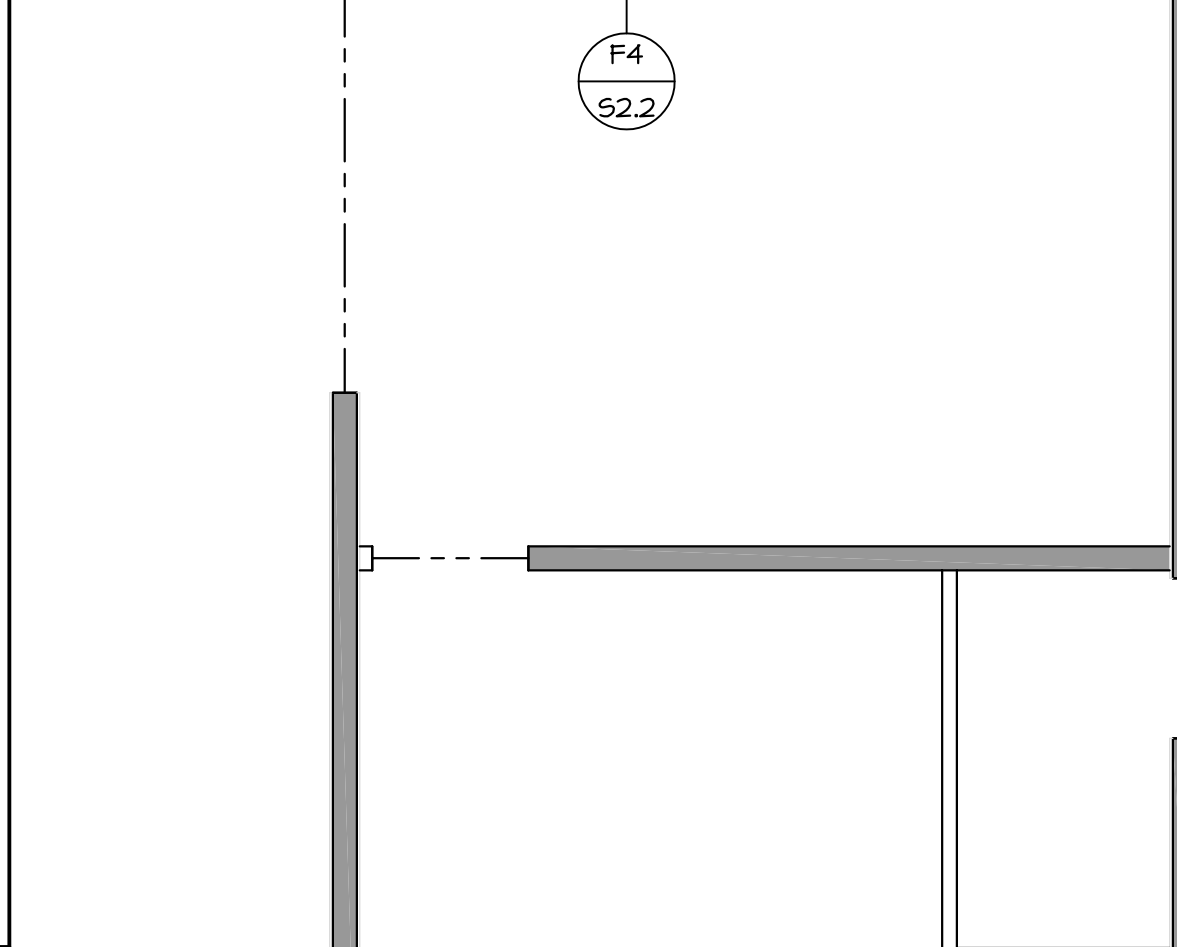
**A4 Typical Steel Box Header**  
Scale: NTS



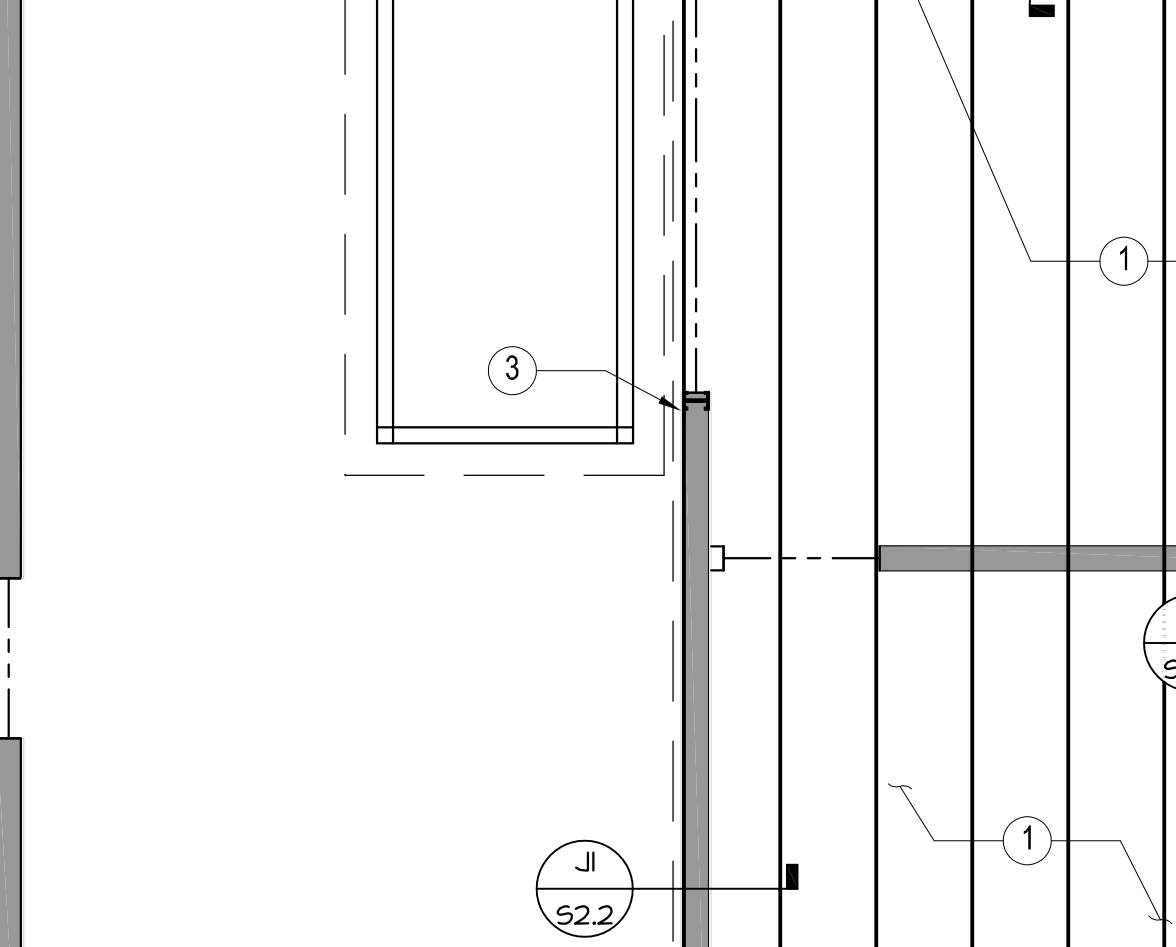
**C7 Framing Plans**  
Scale: 1/4" = 1'-0"



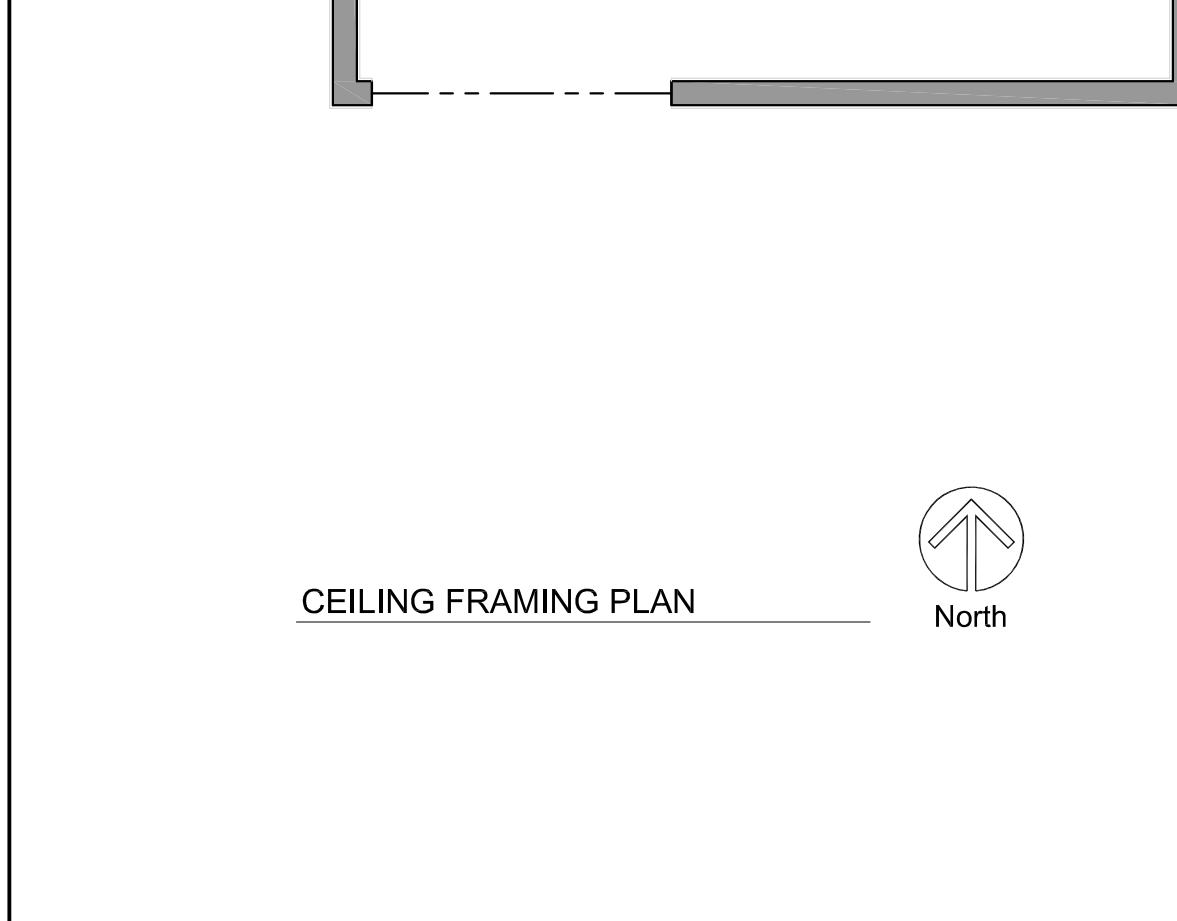
**C7 Framing Plans**  
Scale: 1/4" = 1'-0"



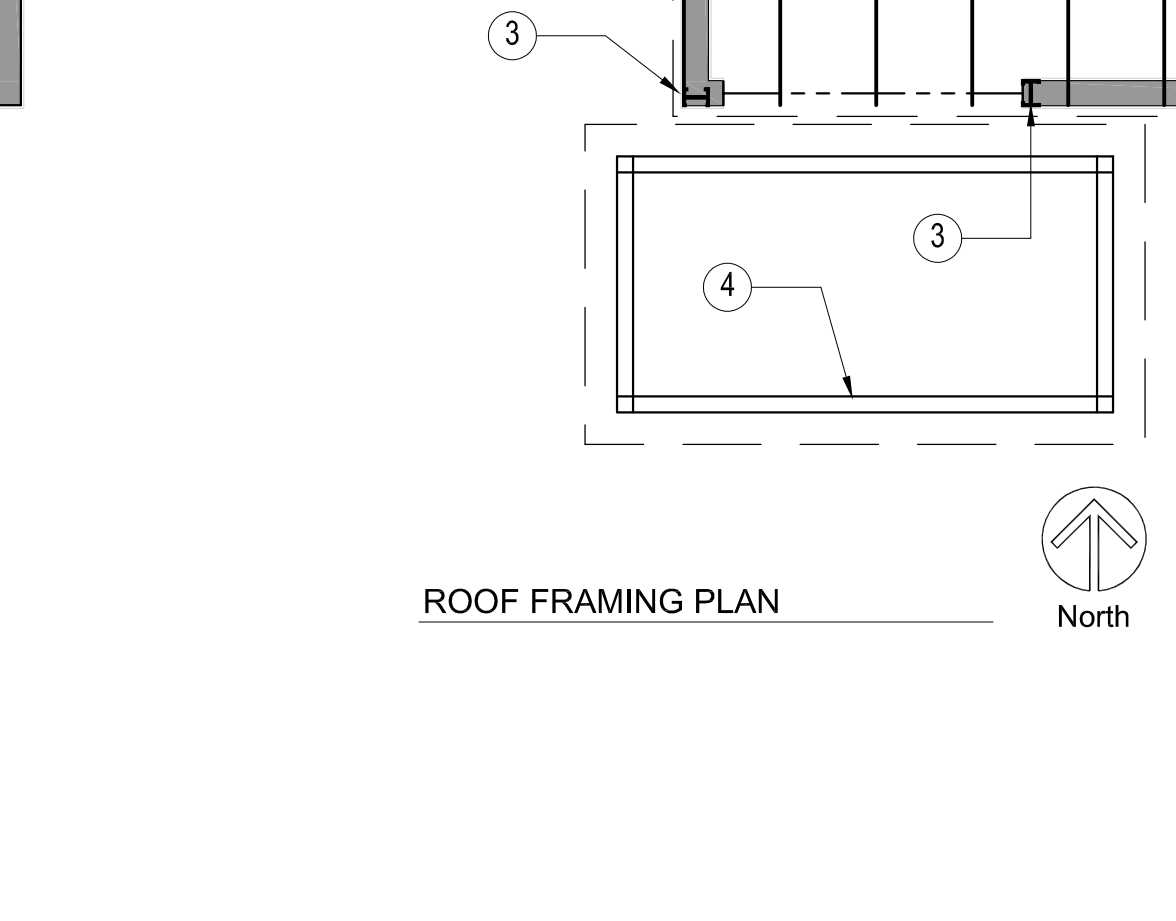
**C7 Framing Plans**  
Scale: 1/4" = 1'-0"



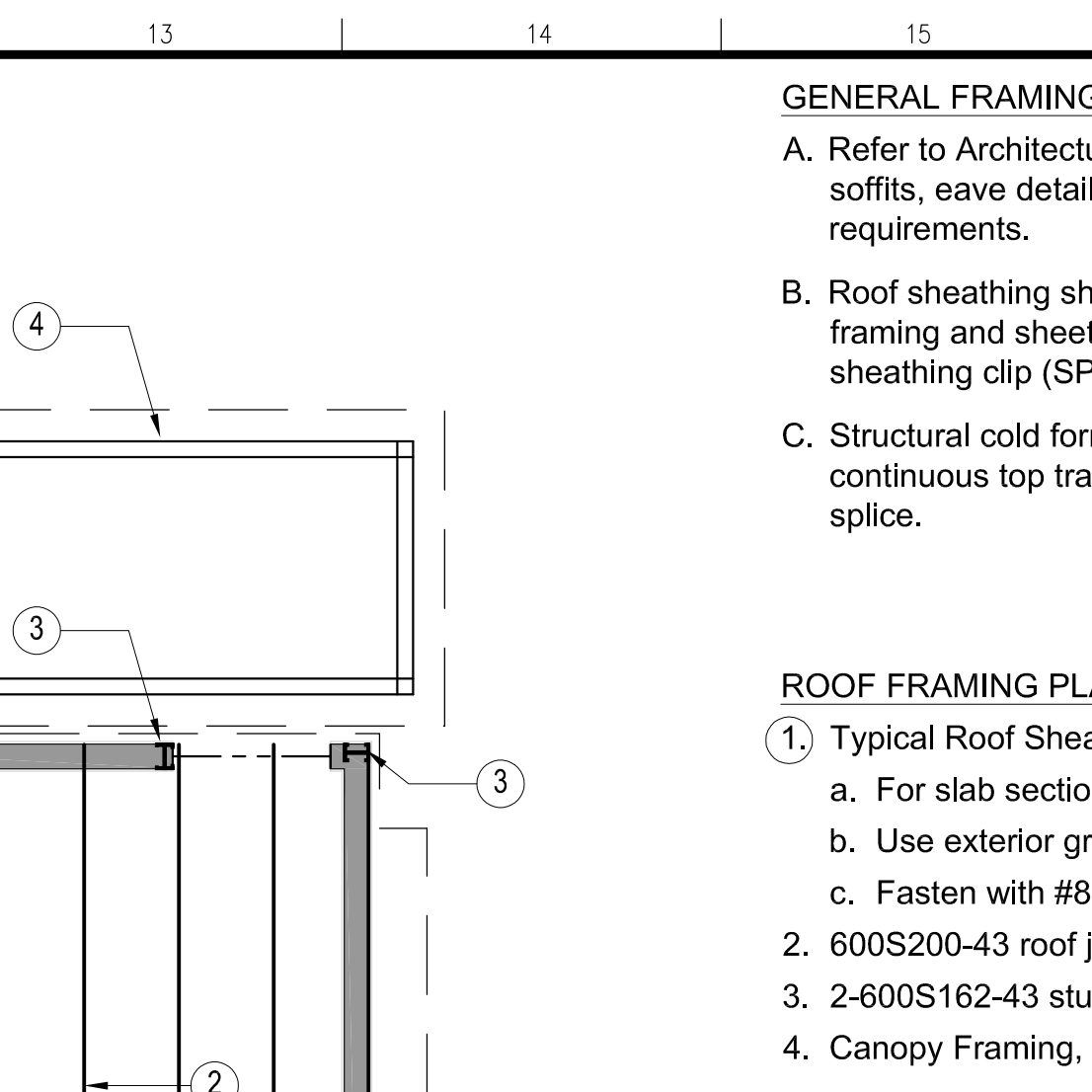
**C7 Framing Plans**  
Scale: 1/4" = 1'-0"



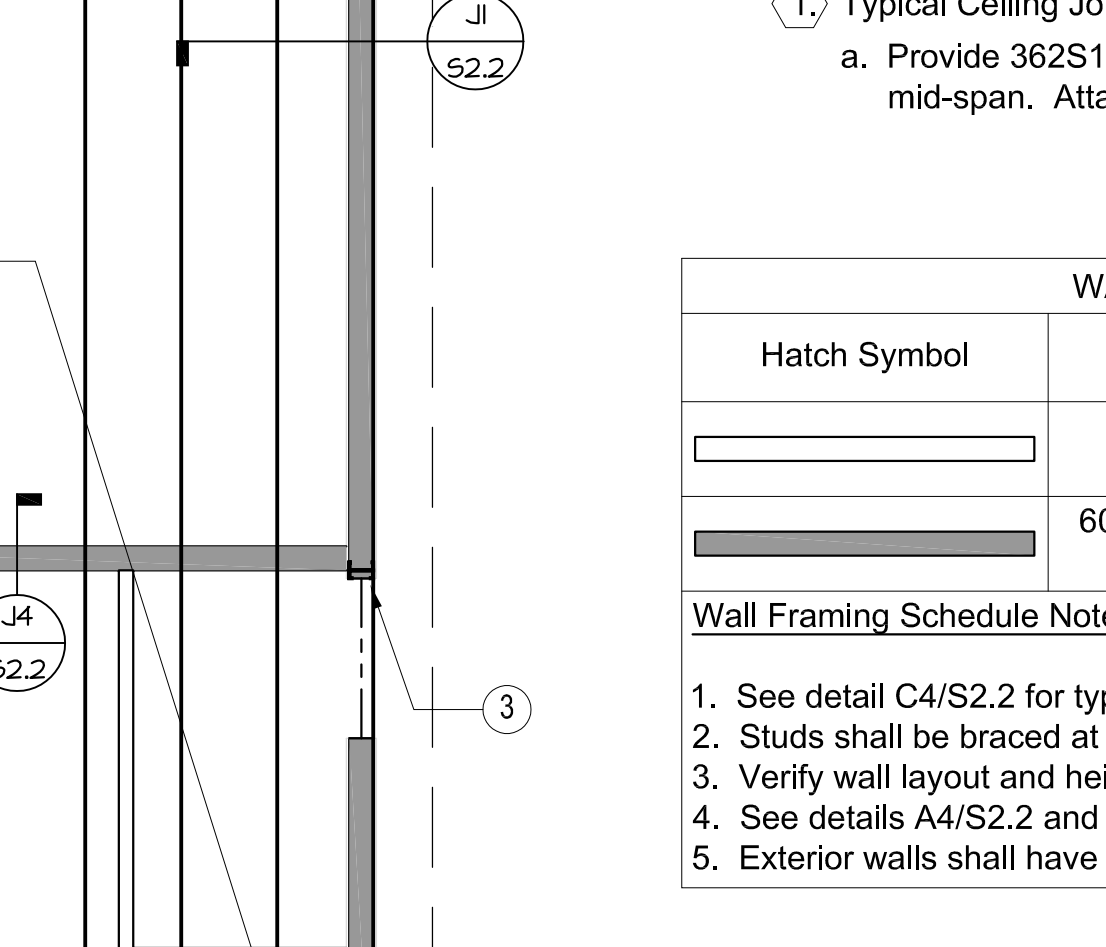
**A7 Typical Header Connection**  
Scale: NTS



**A7 Typical Header Connection**  
Scale: NTS



**C7 Framing Plans**  
Scale: 1/4" = 1'-0"



**C7 Framing Plans**  
Scale: 1/4" = 1'-0"

**GENERAL FRAMING NOTES:**

- Refer to Architectural Floor Plans for interior non-bearing walls, soffits, eave details, and miscellaneous non-structural details and requirements.
- Roof sheathing shall be laid with face grain perpendicular to framing and sheets staggered per detail A1/S2.2. Provide panel sheathing clip (SPCL) each unbraced edge span.
- Structural cold formed steel stud walls shall be framed with continuous top track (typical, U.N.O.). See detail C4/S2.2 for splice.

**ROOF FRAMING PLAN KEYNOTES: (#)**

- Typical Roof Sheathing: 5/8" Structural I Sheathing.
  - For slab section and underlayment, see detail C1/S2.1.
  - Use exterior grade where sheathing is exposed to weather.
  - Fasten with #8 SMS at 6:6:12" centers.
- 600S200-43 roof joists at 24" centers.
- 2-600S162-43 studs, back to back, at end of braced wall.
- Canopy Framing, refer to detail K1/ S2.3.

**CEILING FRAMING PLAN KEYNOTES: (#)**

- Typical Ceiling Joist: 600S162-43 at 16" centers.
  - Provide 362S162-33 flat strong-back across tops of joists at mid-span. Attach with 2 #8 SMS per joist flange.

WALL FRAMING LEGEND		
Hatch Symbol	Wall Type	Header (4), U.N.O
	Non Structural Wall. See Architectural Drawings	N/A
	600S162-33 Metal Studs with 16" centers (1)(2)(3)(5)	600S162-43 Box Beam

**Wall Framing Schedule Notes: (#)**

- See detail C4/S2.2 for typical double top plate splice
- Studs shall be braced at 48" on center maximum. Refer to detail C1/S2.2
- Verify wall layout and height with Architectural Drawings
- See details A4/S2.2 and A7/S2.2 for typical box header construction
- Exterior walls shall have 7/16" CDX plywood sheathing.



**Project:**  
Fresno County Environmental Compliance Center Phase 2: Office / Storage Building

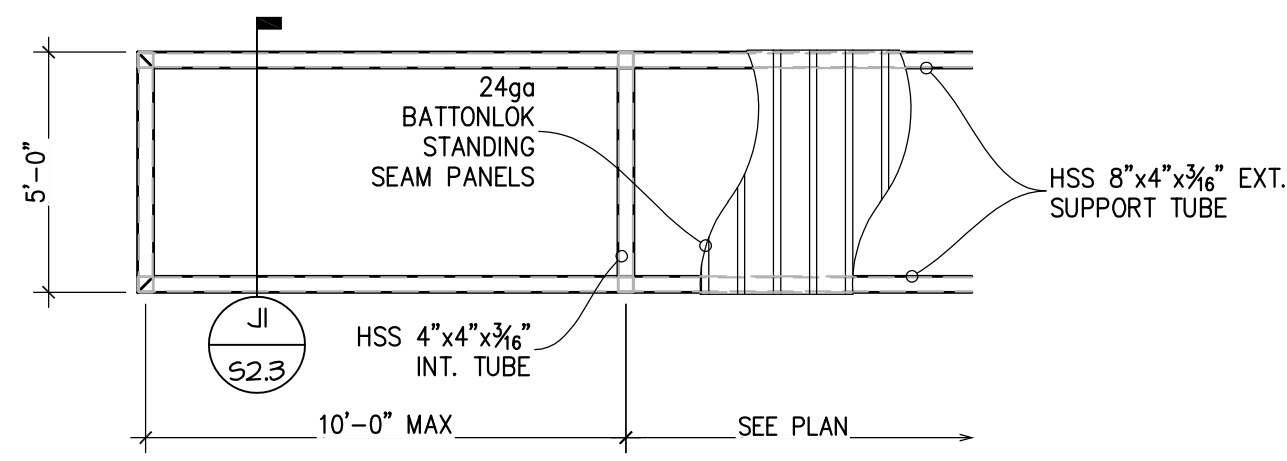
**Project Address:** 310 S. West Avenue, Fresno CA 93706  
**APN:** 458-060-72  
**Issue Date:**  
**Project No.:** T90203  
**File Path:** G:\Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00 2018 ECC

**Sheet Content:**  
Roof Framing Plan, Ceiling Framing Plan & Details

Fresno County Department of Public Works and Planning Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

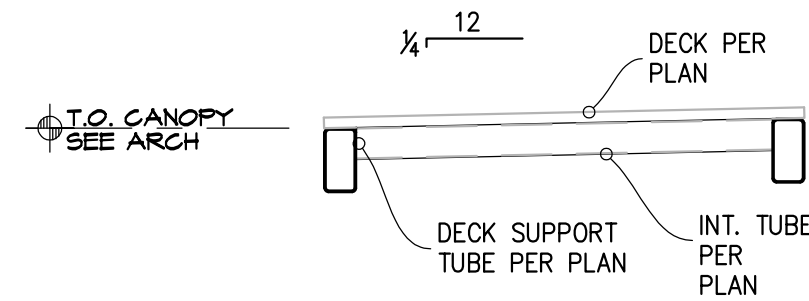
**Sheet No.**  
**S2.2**





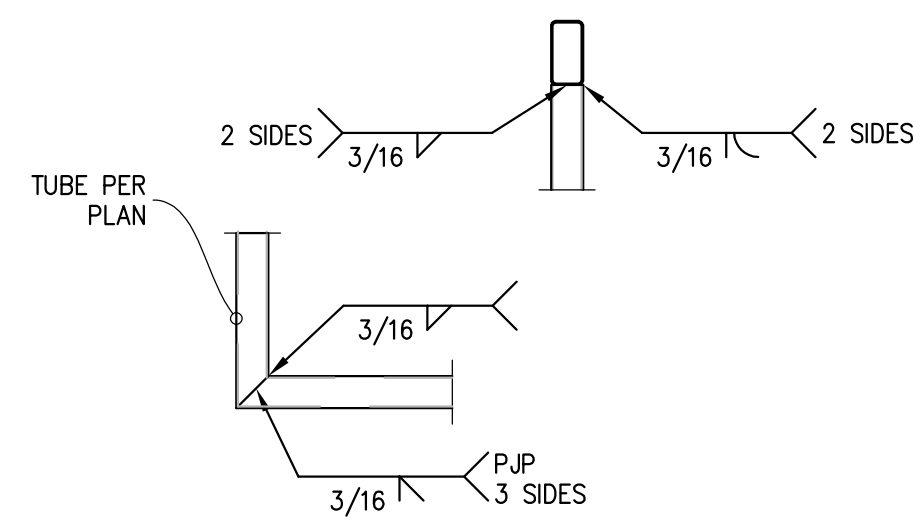
**K1 Canopy Framing**

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



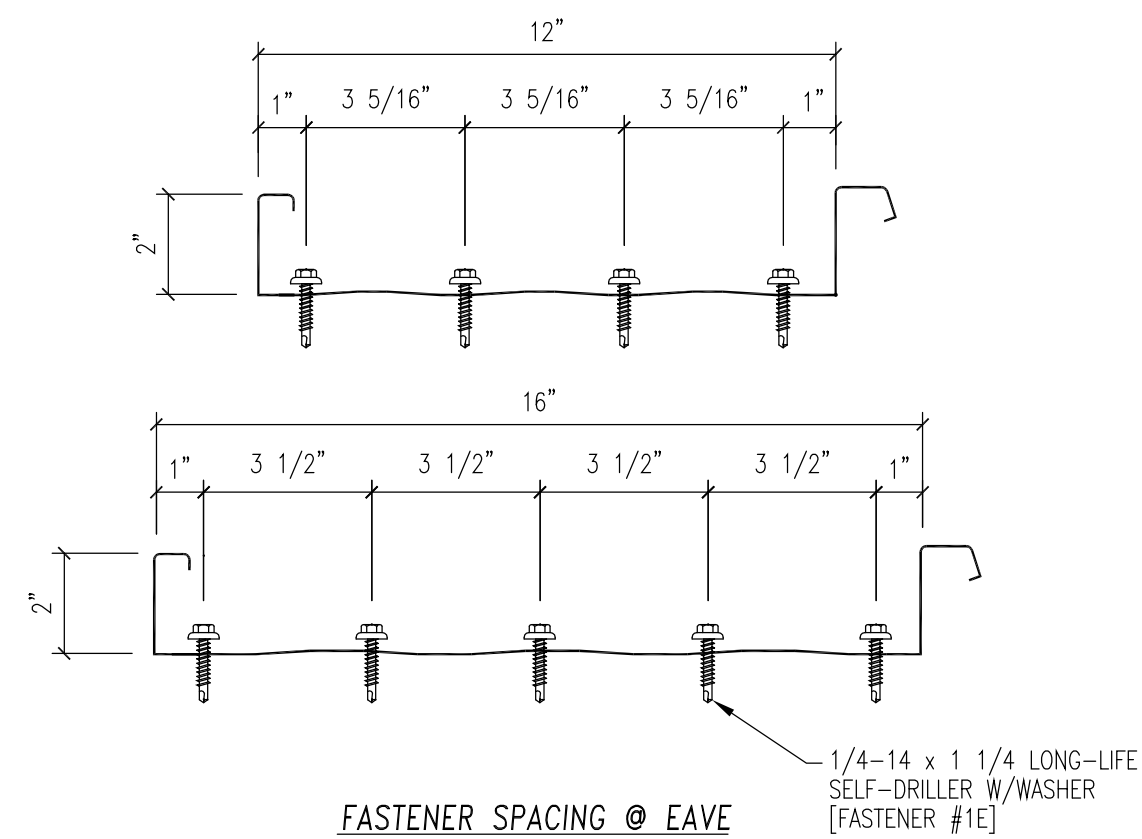
**J1 Canopy Section**

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



**G1 Canopy Frame Connection Detail**

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



**D1 Roof Panel Attachment Detail**

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



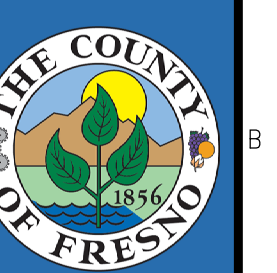
ARCHITECT:  
Tiana L. Perez, Architect  
California Licensed Architect No. C-38000  
Ren. 01-31-23  
Fresno County Department of  
Public Works & Planning  
Development Services and  
Capital Projects Division  
2220 Tulare Street, Eighth Floor  
Fresno, California 93721  
Office: (559) 600-4536  
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**Project:**  
Fresno County  
Environmental Compliance Center  
Phase 2: Office / Storage Building

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2018 ECC

**Sheet Content:**  
Canopy Details

Fresno County Department of  
Public Works and Planning  
Capital Projects

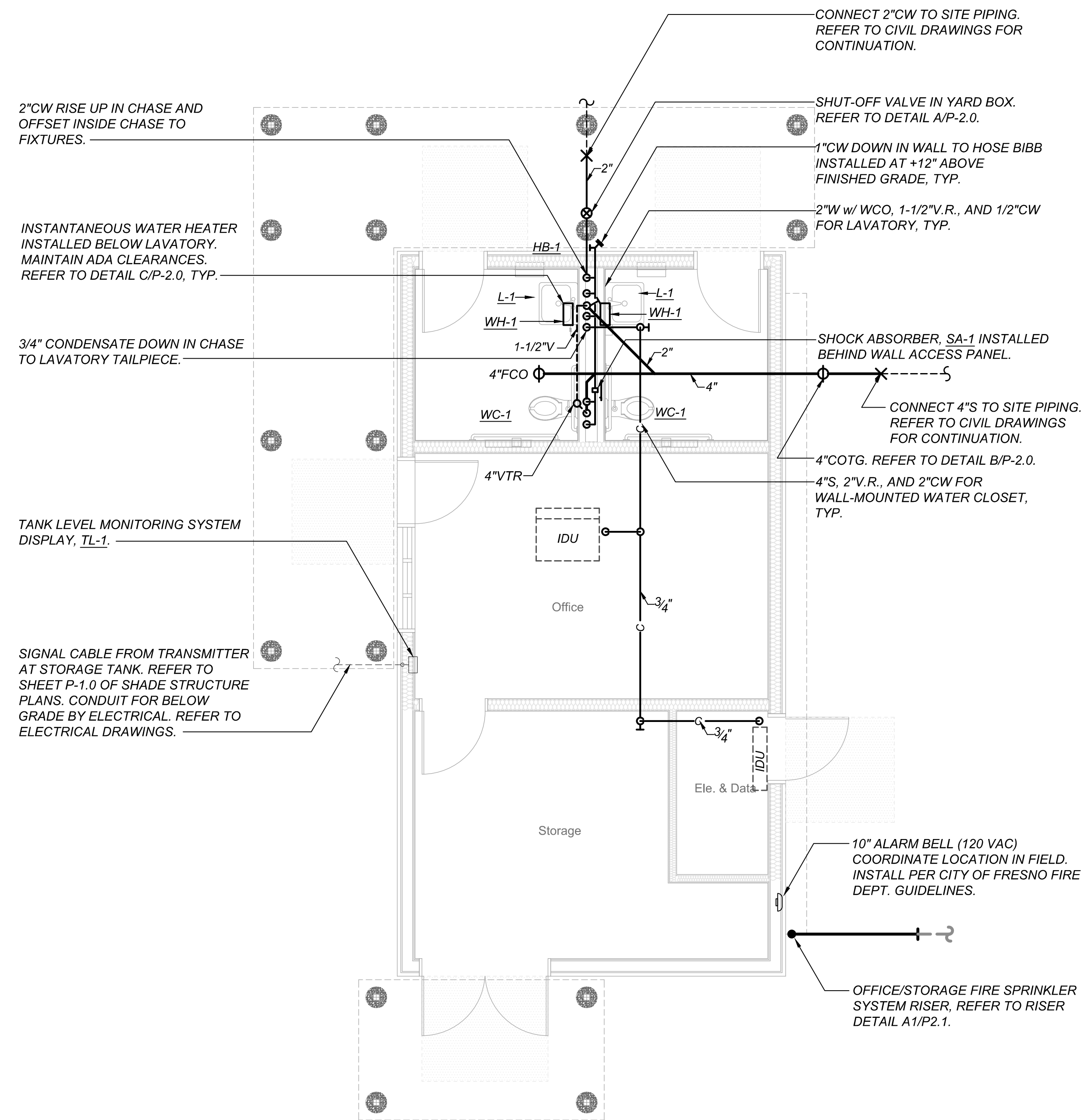


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Fresno, California 93721

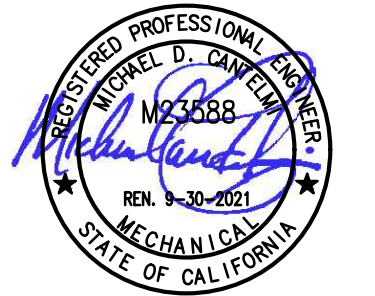
Sheet No.  
**S2.3**

**GENERAL PLUMBING NOTES:**

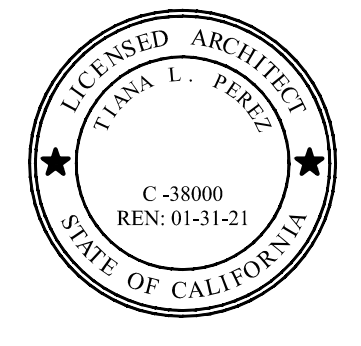
- THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO CONSTRUCT THE BUILDING IN ACCORDANCE WITH THE 2019 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WOULD NOT COMPLY WITH SAID TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUESTED WORK SHALL BE SUBMITTED TO AND APPROVED BY ARCHITECT BEFORE PROCEEDING WITH THE WORK.
- THE APPLICABLE CODES AND REGULATIONS FOR THIS PROJECT INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:  
 CALIFORNIA CODE OF REGULATIONS  
 TITLE 8, INDUSTRIAL RELATIONS  
 TITLE 19, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS  
 TITLE 24, PART 1, ADMINISTRATIVE REGULATIONS  
 2019 CALIFORNIA BUILDING CODE, PART 2, TITLE 24 CCR  
 2019 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24 CCR  
 2019 CALIFORNIA MECHANICAL CODE, PART 4, TITLE 24 CCR  
 2019 CALIFORNIA PLUMBING CODE, PART 5, TITLE 24 CCR  
 2019 CALIFORNIA FIRE CODE, PART 9, TITLE 24 CCR  
 NFPA 101 2016 EDITION  
 OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT
- LAYOUT OF MATERIALS, EQUIPMENT AND SYSTEMS IS GENERALLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. SOME WORK MAY BE SHOWN OFFSET FOR CLARITY. THE PLUMBING BUILDING PLANS HAVE BEEN PREPARED TO MATCH THE ARCHITECTURAL PLANS. IF DIFFERENCES OCCUR, THE ARCHITECTURAL PLANS ARE TO TAKE PRECEDENCE. THE ACTUAL LOCATIONS OF ALL MATERIALS, PIPING, DUCTWORK, FIXTURES, EQUIPMENT, SUPPORTS, ETC. SHALL BE CAREFULLY PLANNED, PRIOR TO INSTALLATION OF ANY WORK, TO AVOID ALL INTERFERENCE WITH EACH OTHER, OR WITH STRUCTURAL, ELECTRICAL, ARCHITECTURAL, OR OTHER ELEMENTS. ALL PIPE OFFSET ELBOWS FOR COORDINATION BETWEEN TRADES ARE NOT SHOWN. CONTRACTOR SHALL INCLUDE SUFFICIENT FUNDS FOR THE COORDINATION OFFSETS IN THE BID. VERIFY THE PROPER VOLTAGE AND PHASE OF ALL EQUIPMENT WITH THE ELECTRICAL PLANS. ALL CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND THE ENGINEER PRIOR TO INSTALLATION OF ANY WORK OR THE ORDERING OF ANY EQUIPMENT.
- PENETRATIONS OF PIPES, CONDUITS, ETC. IN WALLS OR FLOORS REQUIRING PROTECTED OPENINGS SHALL BE FIRE-STOPPED INCLUDING EXISTING PIPE AND CONDUIT THROUGH NEW WALLS AND FLOORS. SEE SPECS. FIRE STOP MATERIAL SHALL BE A TESTED ASSEMBLY. PENETRATIONS THROUGH FIRE-RATED FLOORS AND WALLS SHALL BE PROTECTED IN ACCORDANCE WITH CBC SECTION 714 AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE PROVIDED FOR REVIEW BY INSPECTION AUTHORITIES. SUBSTITUTIONS OF OR REVISIONS OR ADDITIONS TO APPROVED SYSTEMS SHALL BE SUBMITTED TO THE INSPECTOR OF RECORD AND THE OSHPD FIRE MARSHAL FOR FIELD REVIEW AND APPROVAL.
- ALL PIPING AND CONDUIT SHALL BE SUPPORTED PER MASON WEST, INC. "SEISMIC RESTRAINT COMPONENTS FOR SUSPENDED DISTRIBUTION SYSTEMS" 1ST EDITION, 2019. OSHPD PRE-APPROVED ANCHORAGE OPM-0043-13, OR OTHER OSHPD PRE-APPROVED SYSTEM.
- WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWDER-DRIVEN PINS IN EXISTING NON-PRESTRESSED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING THEM INTO EXISTING PRE-STRESSED CONCRETE (PRE- OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.
- FIELD VERIFY THE EXACT LOCATION, DEPTH AND SIZE OF ALL NEW POINTS OF CONNECTION TO EXISTING UTILITIES PRIOR TO COMMENCING NEW UTILITY WORK.
- INSTALLATION OF NEW UTILITIES FROM EXISTING MAINS IN THE STREET SHALL BE DONE IN STRICT ACCORDANCE WITH GOVERNING AUTHORITY REQUIREMENTS.
- INSTALLATION, TYPE AND MANUFACTURER MODELS OF DOMESTIC WATER METERS, BACKFLOW PREVENTERS, FIRE HYDRANTS, DETECTOR CHECK VALVES, MANHOLES, DRAIN INLETS/OUTLETS AND OTHER APPURTENANCE OF SITE UTILITY SYSTEMS SHALL BE DONE IN STRICT ACCORDANCE WITH GOVERNING AUTHORITY REQUIREMENTS.
- BACKFLOW PREVENTER SHALL BE INSTALLED AT THE MINIMUM HEIGHT ABOVE FINISH GRADE AS ALLOWED BY GOVERNING AUTHORITY.
- CONTRACTOR SHALL EXCAVATE AND BACKFILL THE GAS SERVICE TRENCH FOR THE LOCAL GAS UTILITY. THE LOCAL GAS UTILITY SHALL INSTALL THEIR GAS SERVICE LINE TO THE GAS METER. TRENCHING SHALL BE IN ACCORDANCE WITH UTILITY STANDARDS. ALL CHARGES AND FEES INCURRED BY THE UTILITY FOR NEW GAS SERVICE SHALL BE PAID BY THE CONTRACTOR.
- ALL DOMESTIC WATER PIPING SHALL BE A MINIMUM OF 1/2" SIZE UNLESS NOTED OTHERWISE. USE A REDUCING DROP ELL AT FIXTURE CONNECTION WHEN APPLICABLE.



PLUMBING LEGEND		
SYMBOL	ITEM	ABBR.
---	SOIL or WASTE	S or W
---	VENT	V
---	VENT RISER	VR
---	VENT THRU ROOF	VTR
---	DOMESTIC COLD WATER	CW
---	DOMESTIC HOT WATER	HW
---	DOMESTIC HOT WATER RETURN	HWR
G	LOW PRESSURE NATURAL GAS	G
CD	CONDENSATE DRAIN	CD
---	EXISTING PIPING	
⊕	FLOOR CLEANOUT	FCO
⊕	CLEANOUT TO GRADE	COTG
H	WALL CLEANOUT	WCO
○	PIPING TURN UP	
○	PIPING TURN DOWN	
X	POINT OF CONNECTION	POC
(N)	NEW	
(E)	EXISTING	
	ABOVE CEILING	ABV CLG
	BELOW FLOOR	BEL FLR
	BELOW GRADE	BEL GR
	TYPICAL	TYP
	CONTINUATION	CONT
⊗	SHUT-OFF VALVE IN BOX	SOV
⊗	SHUT-OFF VALVE	SOV
⊗	CHECK VALVE	
⊗	PLUG VALVE	
F	FIRE PROTECTION LINE	
RWL	RAIN WATER LEADER	RWL
OD	OVERFLOW DRAIN	OD
SD	STORM DRAIN	SD
TW	TEPID WATER	TW
////	DEMOLITION	DEMO



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 7084 N. Maple Ave., Suite 101 Fresno, CA 93720  
 (559) 431-0101 19400 FAX (559) 431-1342



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 Tanya L. Perez, Architect  
 California Licensed Architect No. C-38000  
 Ren. 01-31-21  
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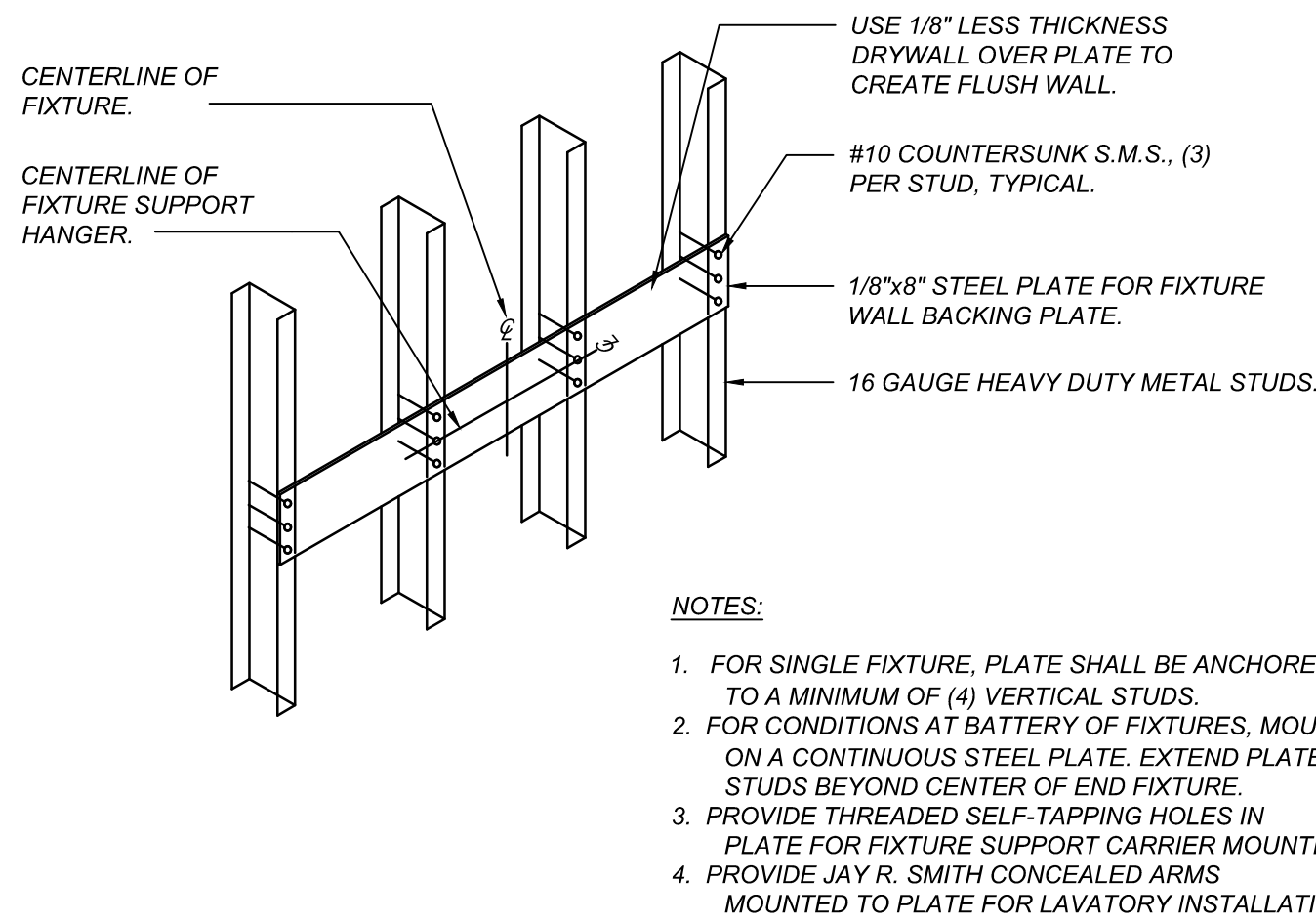
**Sheet Content:**  
 OFFICE / STORAGE BUILDING  
 PLUMBING PLAN

Fresno County Department of  
 Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No.  
**P1.2**



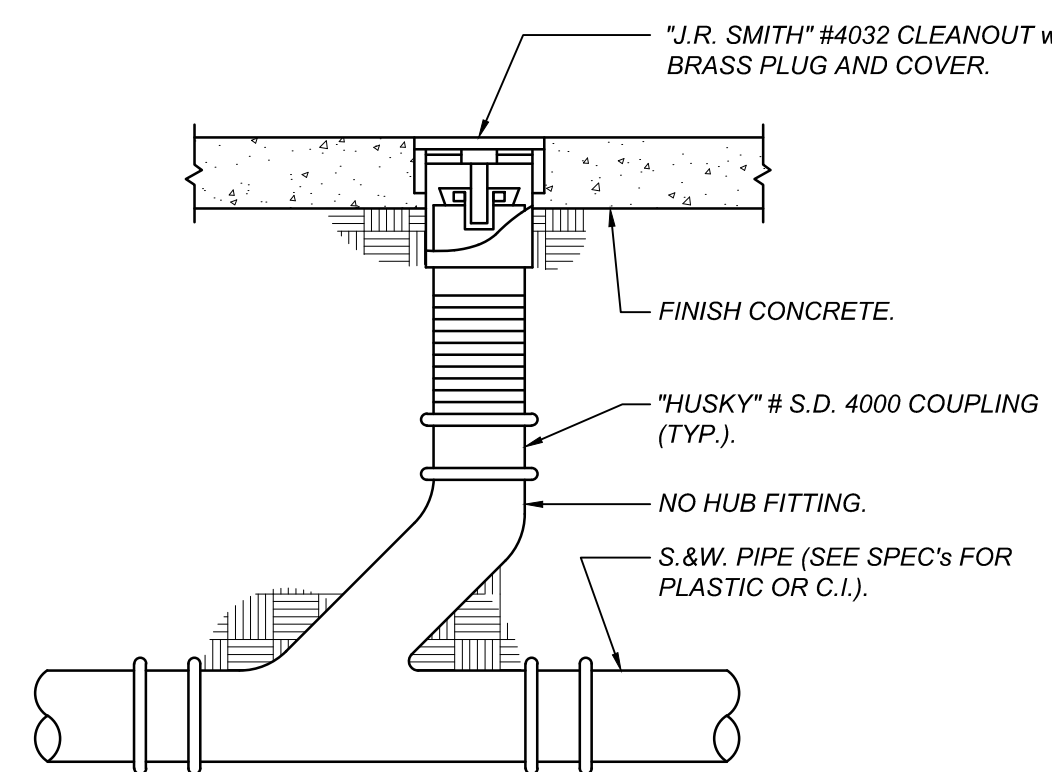
PLUMBING FIXTURE AND EQUIPMENT SCHEDULE						
MARK	FIXTURE	CONNECTION SIZES				DESCRIPTION
		S or W	V	CW	HW	
WC-1	WATER CLOSET	4"	2"	1"	-	KOHLER ELONGATED WALL HUNG "KINGSTON" #K-4325, (OR AMERICAN STANDARD OR ZURN EQUAL) 1.28 GPF, ZURN "AQUASENSE" #ZEMS6000AV-HET-IS SENSOR OPERATED, HARDWIRED 120V/1Ø ELECTRIC POWERED FLUSH VALVE WITH #P6000-HW6 HARD-WIRE POWER CONVERTER (UP TO 8 VALVES) & CONNECTING WIRE AS REQUIRED, OLSONITE #95CC/SS EXTRA HEAVY DUTY OPEN-FRONT SEAT AND JAY R. SMITH #410 SUPPORT CARRIER.
L-1	LAVATORY	2"	1-1/2"	1/2"	1/2"	KOHLER WALL-HUNG "KINGSTON" #K-2007, (OR AMERICAN STANDARD OR ZURN EQUAL) CBC ACCESS COMPLIANT, 21-1/4"x18", VIT. CHINA WITH ONE FAUCET HOLE AT CENTER, MCGUIRE #155A GRID DRAIN, CHICAGO "HYTRONIC" "ECAST" #116.121.AB.1 WITH 0.5 GPM NON-AERATING LAMINAR SPRAY OUTLET (OR T&S BRASS OR ZURN EQUAL) SENSOR OPERATED, 120V/1Ø ELECTRIC POWERED FAUCET WITH EXTERNAL TEMP. MIXER LEVER AND 12 VOLT A.C. TRANSFORMER, JAY R. SMITH #723 CONCEALED ARMS, AND A STEEL SUPPORT PLATE FOR MOUNTING FIXTURE PER DETAIL D/P-3. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT. INSTALL AN ASSE 1070 COMPLIANT THERMOSTATIC MIXING VALVE BELOW LAVATORY, LEONARD #170-LF-CP-BP-BRKT (OR EQUAL), SET OUTLET TEMPERATURE TO 110°F.
WH-1	INSTANTANEOUS WATER HEATER	-	-	1/4"	1/4"	CHRONOMITE #M-30L-120 WALL MOUNTED INSTANTANEOUS TYPE WITH MICRO-PROCESSOR SET FOR 110° F. FIXED OUTLET TEMPERATURE & 1/2 GPM FLOW RATE. ELECTRICAL REQUIRED: 3,600 WATTS, 120V/1Ø.
SA-1	SHOCK ABSORBER	-	-	1"	-	JAY R. SMITH #5010, (OR ZURN EQUAL) STAINLESS STEEL CONSTRUCTION, P.D.I. SYMBOL "B" FOR UP TO 32 FIXTURE UNITS. INSTALL IN UPWARD POSITION.
HB-1	HOSE BIBB	-	-	3/4"	-	WOODFORD #B75 (OR MIFAB EQUAL) RECESSED WALL HOSE BOX WITH LOCKING DOOR, VACUUM BREAKER, LOOSE TEE KEY HANDLE, SCREWDRIVER STOP, SELF DRAINING CAST STAINLESS STEEL FOR NON-FREEZE AREAS.
TL-1	TANK LEVEL MONITORING SYSTEM	-	-	-	-	OMEGA #LVU503 ULTRASONIC LEVEL TRANSMITTER, 9.8" MEASUREMENT RANGE, 2" NPT SENSOR MOUNTING THREADS, SUPPLY VOLTAGE 14-28 VDC.  OMEGA #DP25B-S-R DIGITAL PROGRAMMABLE PROCESS METER WITH LED DISPLAY, SUPPLY VOLTAGE 115V. PROVIDE PANEL AS REQUIRED.



**FIXTURE SUPPORT BACKING PLATE**

SCALE: N.T.S.

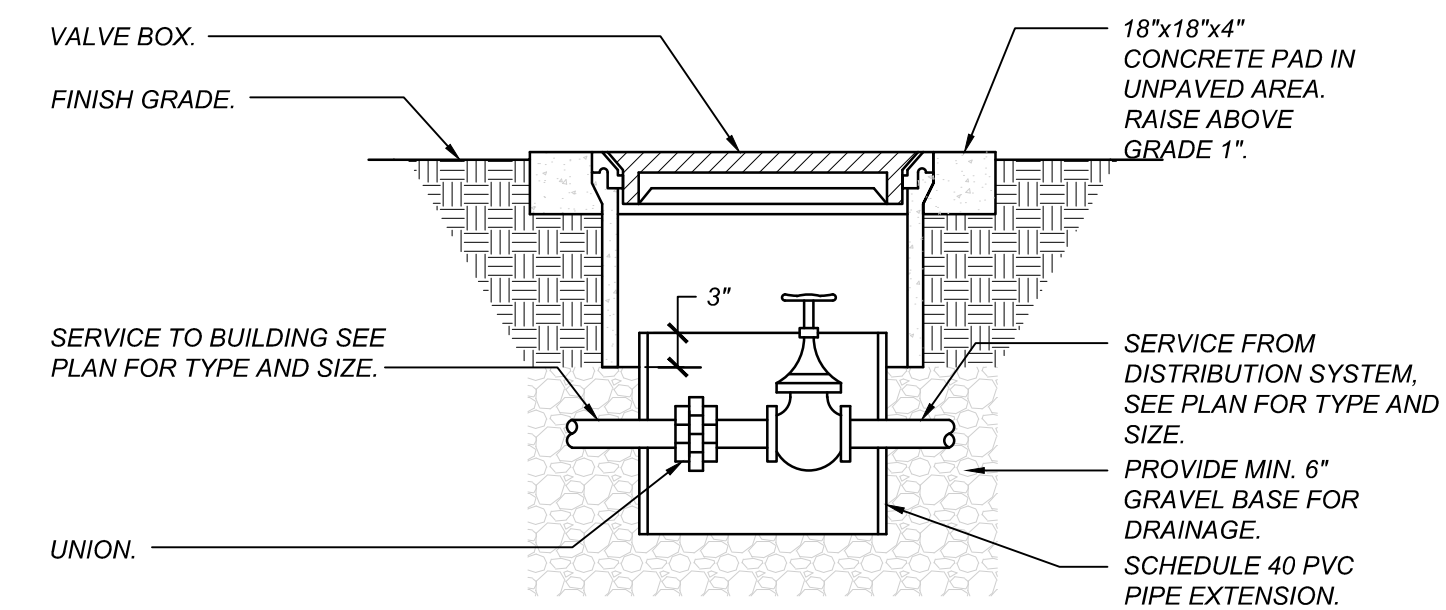
D  
P2.0



**FLOOR CLEANOUT**

SCALE: N.T.S.

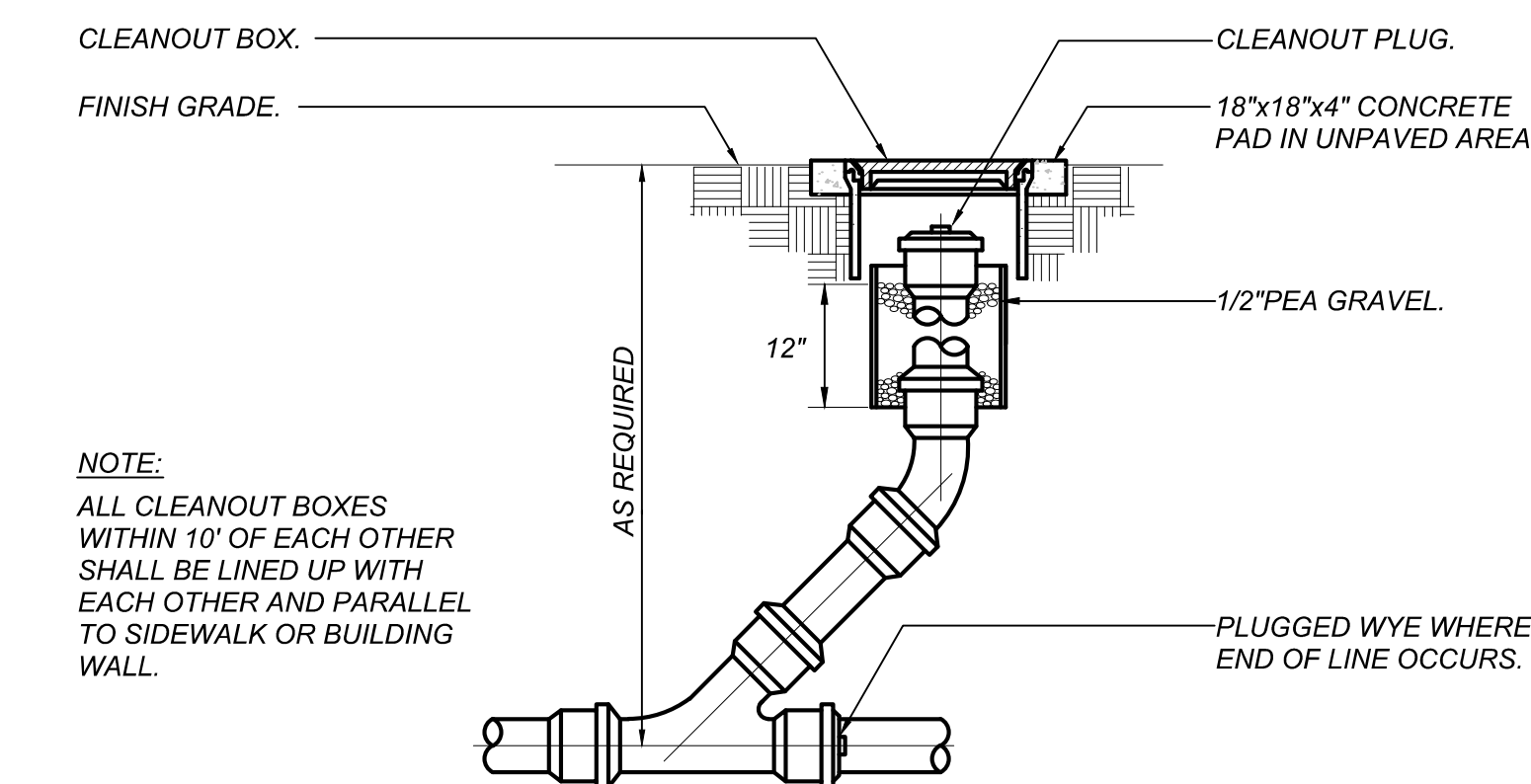
E  
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**SHUT-OFF VALVE IN YARD BOX**

SCALE: DIAGRAMATIC

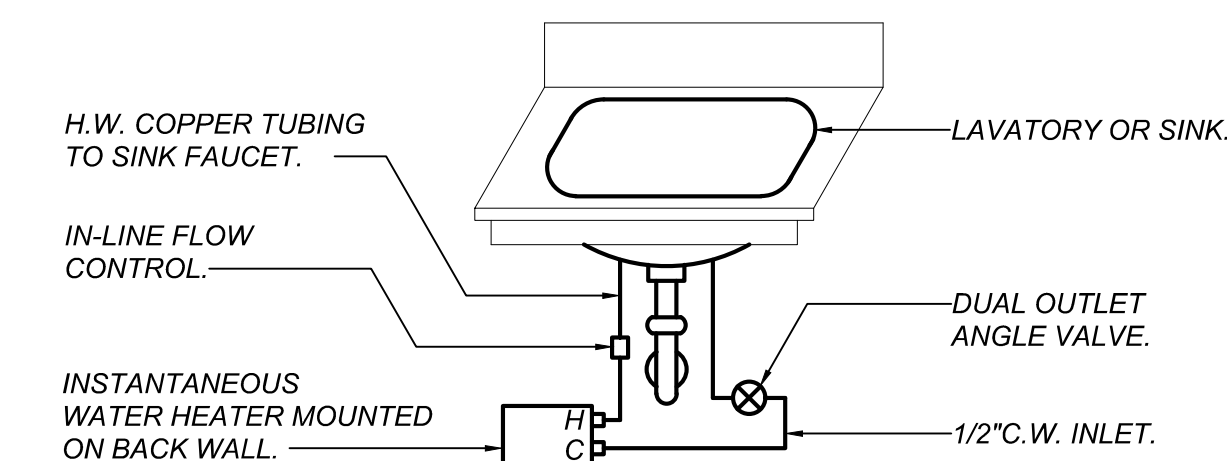
A  
P2.0



**CLEANOUT TO GRADE DETAIL**

SCALE: NONE

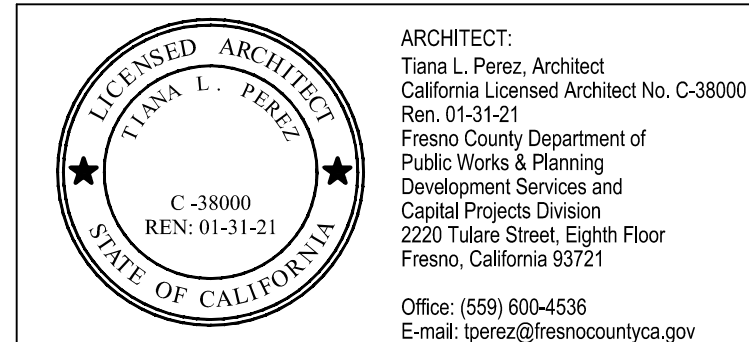
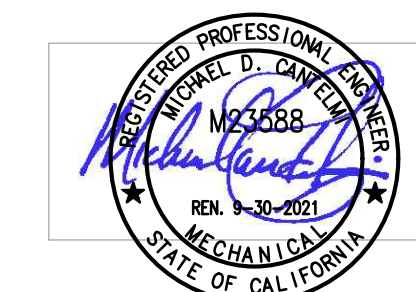
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P2.0



**INSTANTANEOUS WATER HEATER**

SCALE: NONE

C  
P2.0

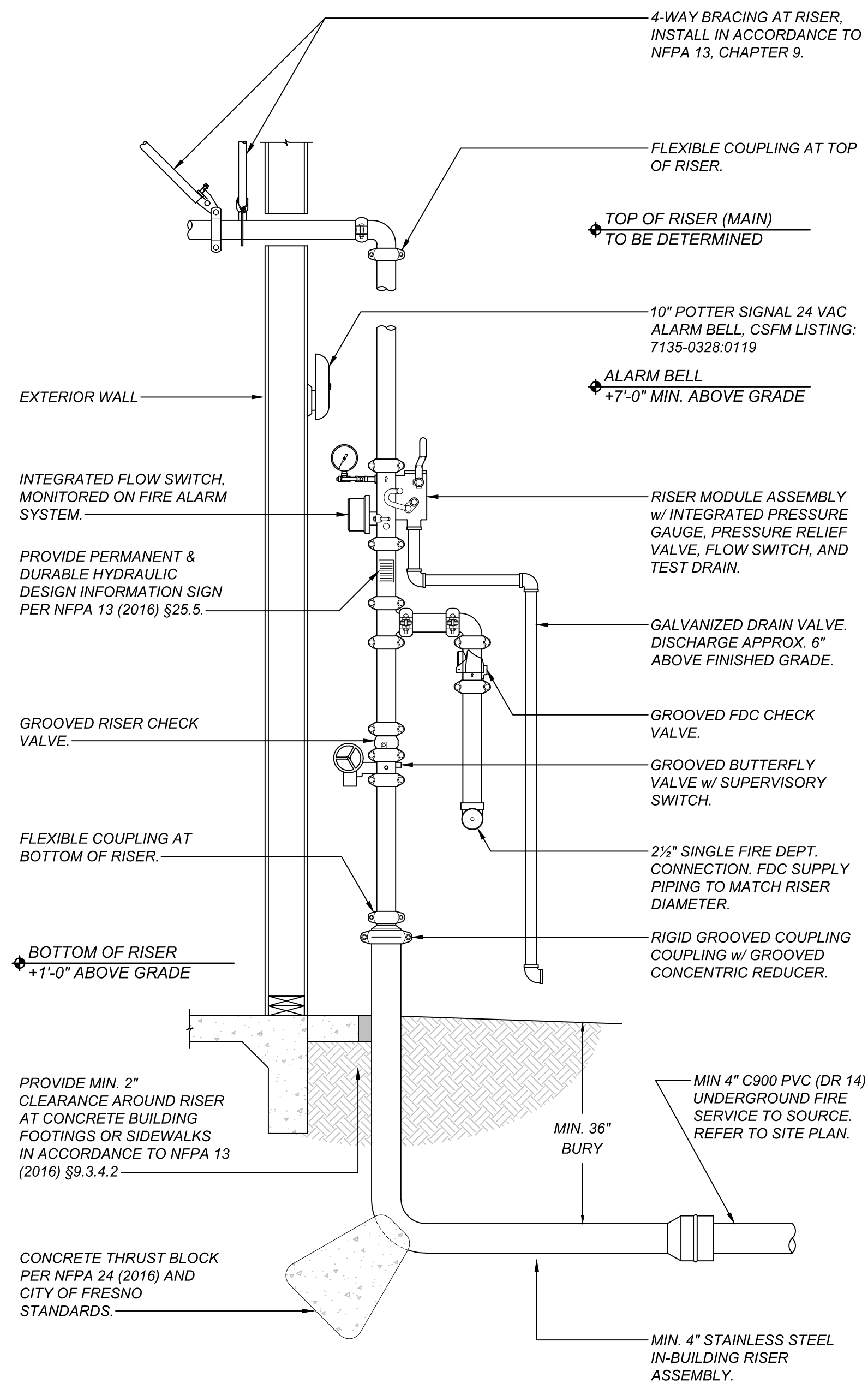


**Project:**  
Fresno County Environmental Compliance Center Phase 2 - Office/Storage Building  
Project Address: 310 S. West Avenue, Fresno CA 93706  
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**Sheet Content:**  
OFFICE / STORAGE BUILDING PLUMBING SCHEDULES AND DETAILS

Fresno County Department of Public Works and Planning  
Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

Sheet No.  
**P2.0**



NO.	REVISION	DATE	BY	CHKD
1	ISSUED FOR CONSTRUCTION	08/14/2023	JL	ML

TITLE 19 ARTICLE 906 (A), A LABEL OF THE SELF-ADHESIVE TYPE SHALL BE PLACED ON THE FIRE DEPARTMENT CONNECTION OR ON THE RISER FOR FIRE SPRINKLER SYSTEM WITH THE DATE OF SERVICE AND/OR DATE INSTALLATION WAS PERFORMED AND LICENSE NUMBER OF PERSON PERFORMING SERVICE WORK.

- RISER NOTES:**
- EACH RISER DETAIL IS A SCHEMATIC REPRESENTATION OF THE RISER(S). ORIENTATION OF FITTINGS, VALVES, GAUGES, AND OTHER DEVICES HAVE BEEN MODIFIED FOR ILLUSTRATION PURPOSES AND MAY VARY IN ACTUAL INSTALLATION.
  - PER NFPA 13 (2016) §9.3.2.3.1 - A FLEXIBLE COUPLING SHALL BE INSTALLED WITHIN 24" OF THE TOP AND BOTTOM OF ALL RISERS. RISERS LESS THAN 3 FT IN LENGTH MAY OMIT FLEX COUPLINGS. ONE FLEX COUPLING IS ADEQUATE FOR RISERS 3' TO 7' IN LENGTH.
  - PER NFPA 13 (2016) §9.3.5.8.3 - WHEN A FOUR-WAY BRACE AT THE TOP OF A RISER IS ATTACHED ON THE HORIZONTAL PIPING, IT SHALL BE WITHIN 24" OF THE CENTERLINE OF THE RISER AND THE LOADS FOR THAT BRACE SHALL INCLUDE BOTH THE VERTICAL AND HORIZONTAL PIPE.
  - PER NFPA 13 (2016) §25.5 - THE INSTALLING CONTRACTOR SHALL IDENTIFY A HYDRAULICALLY DESIGNED SPRINKLER SYSTEM WITH A PERMANENTLY MARKED WEATHERPROOF METAL OR RIGID PLASTIC SIGN SECURED WITH CORROSION RESISTANT WIRE, CHAIN, OR OTHER APPROVED MEANS.
  - PER NFPA 13 (2016) §25.6.1 - THE INSTALLING CONTRACTOR SHALL PROVIDE A GENERAL INFORMATION SIGN USED TO DETERMINE SYSTEM DESIGN BASIS AND INFORMATION RELEVANT TO THE INSPECTION, TESTING, AND MAINTENANCE REQUIREMENTS REQUIRED BY NFPA 25.
  - LOCATION OF 1/2" SYSTEM DRAIN TO BE COORDINATED WITH GENERAL CONTRACTOR. DRAIN PIPE AND FITTINGS SHALL BE GALV.
  - FIRE RISER ROOM SHALL COMPLY WITH CBC (2016) 901.3 PER CFC (2016) SECTION 509.1 FIRE EQUIPMENT ROOMS SHALL BE IDENTIFIED IN AN APPROVED MANNER. APPROVED SIGNS SHALL BE DURABLE, PERMANENT, AND VISIBLE.



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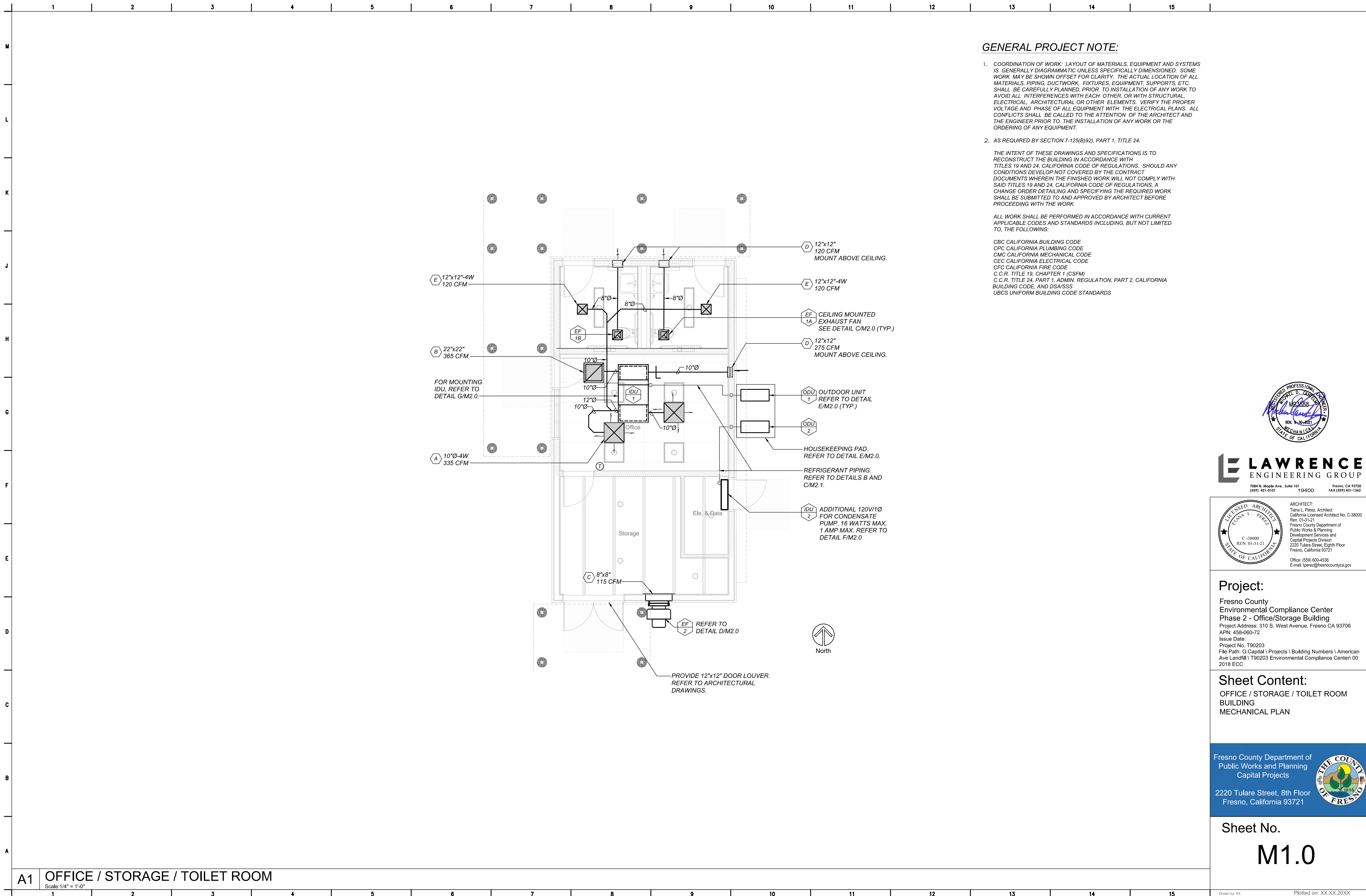
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**Sheet Content:**  
 OFFICE / STORAGE BUILDING  
 RISER DETAIL  
 FOR REFERENCE ONLY

Fresno County Department of  
 Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No.  
**P2.1**



**GENERAL PROJECT NOTE:**

1. COORDINATION OF WORK, LAYOUT OF MATERIALS, EQUIPMENT AND SYSTEMS IS GENERALLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. SOME WORK MAY BE SHOWN OFFSET FOR CLARITY. THE ACTUAL LOCATION OF ALL MATERIALS, PIPING, DUCTWORK, FIXTURES, EQUIPMENT, SUPPORTS, ETC. SHALL BE CAREFULLY PLANNED, PRIOR TO INSTALLATION OF ANY WORK TO AVOID ALL INTERFERENCES WITH EACH OTHER, OR WITH STRUCTURAL, ELECTRICAL, ARCHITECTURAL OR OTHER ELEMENTS. VERIFY THE PROPER VOLTAGE AND PHASE OF ALL EQUIPMENT WITH THE ELECTRICAL PLANS. ALL CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND THE ENGINEER PRIOR TO THE INSTALLATION OF ANY WORK OR THE ORDERING OF ANY EQUIPMENT.

2. AS REQUIRED BY SECTION 7-125(B)92), PART 1, TITLE 24.

THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS TO RECONSTRUCT THE BUILDING IN ACCORDANCE WITH TITLES 19 AND 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLES 19 AND 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY ARCHITECT BEFORE PROCEEDING WITH THE WORK.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT APPLICABLE CODES AND STANDARDS INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

- CBC CALIFORNIA BUILDING CODE
- CPC CALIFORNIA PLUMBING CODE
- CMC CALIFORNIA MECHANICAL CODE
- CEC CALIFORNIA ELECTRICAL CODE
- CFC CALIFORNIA FIRE CODE
- C.C.R. TITLE 19, CHAPTER 1 (CSFM)
- C.C.R. TITLE 24, PART 1, ADMIN. REGULATION, PART 2, CALIFORNIA BUILDING CODE, AND DSA/SSS
- UBCS UNIFORM BUILDING CODE STANDARDS

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**Sheet Content:**  
 OFFICE / STORAGE / TOILET ROOM  
 BUILDING  
 MECHANICAL PLAN

Fresno County Department of  
 Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No.  
**M1.0**

AIR CONDITIONING LEGEND		
SYMBOL	ITEM	ABBR
	ROUND DUCT	Ø
	FLAT OVAL DUCT	—
	SHEET METAL DUCT	—
	ACOUSTIC LINING FOR DUCT OR GRILLES	(L)
	DUCT W/EXT INSULATION & GALV. SM SUNSHIELD	—
	SUPPLY AIR DUCT DROP	—
	RETURN AIR DUCT DROP	—
	EXHAUST DUCT AIR DROP	—
	SUPPLY AIR DUCT RISE	—
	RETURN AIR DUCT RISE	—
	EXHAUST AIR DUCT RISE	—
	TURNING VANES	TV
	EXTRACTOR	—
	VOLUME CONTROL DAMPER W/LOCKING QUADRANT	VCD
	OPPOSED BLADE DAMPER	OBD
	BACKDRAFT DAMPER	BDD
	VOLUME CONTROL DAMPER W/REMOTE REGULATOR	VCR
	FIRE/SMOKE DAMPER WITH ACCESS PANEL	FSD
	FIRE DAMPER WITH ACCESS PANEL	FD
	SMOKE DAMPER WITH ACCESS PANEL	SD
	CUBIC FEET OF AIR PER MINUTE	CFM
	EMS MOTORIZED DUCT DAMPER/PIPE VALVE ACTUATOR	—
	THERMOSTAT @ +4'-0" TOP OF BOX	T'STAT
	HUMIDISTAT @ +4'-0" TOP OF BOX	H'STAT
	CO2 SENSOR @ +4'-0" TOP OF BOX	CO2
	EMS TEMPERATURE SENSOR @ +4'-0" TOP OF BOX	—
	EMS HUMIDITY SENSOR @ +4'-0" TOP OF BOX	—
	EMS CO2 SENSOR @ +4'-0" TOP OF BOX	CO2
	EMS STATIC PRESSURE SENSOR	SP
	EMS DIFFERENTIAL PRESSURE SENSOR	DP
	EMS CURRENT SENSOR	CS
	DIRECTION OF FLOW	—
	SUPPLY AIR	SA
	RETURN AIR	RA
	EXHAUST AIR	EA
	OUTSIDE AIR	OSA
	PIPE/DUCT TURN DOWN	—
	PIPE/DUCT TURN UP	—
	POINT OF CONNECTION	POC
	EXISTING (DESIGNATED)	(E)
	NEW (DESIGNATED)	(N)
	DUCT SMOKE DETECTOR	SD
	AUDIBLE/VISUAL ALARM	A/VA
	BYPASS TIMER	BPT

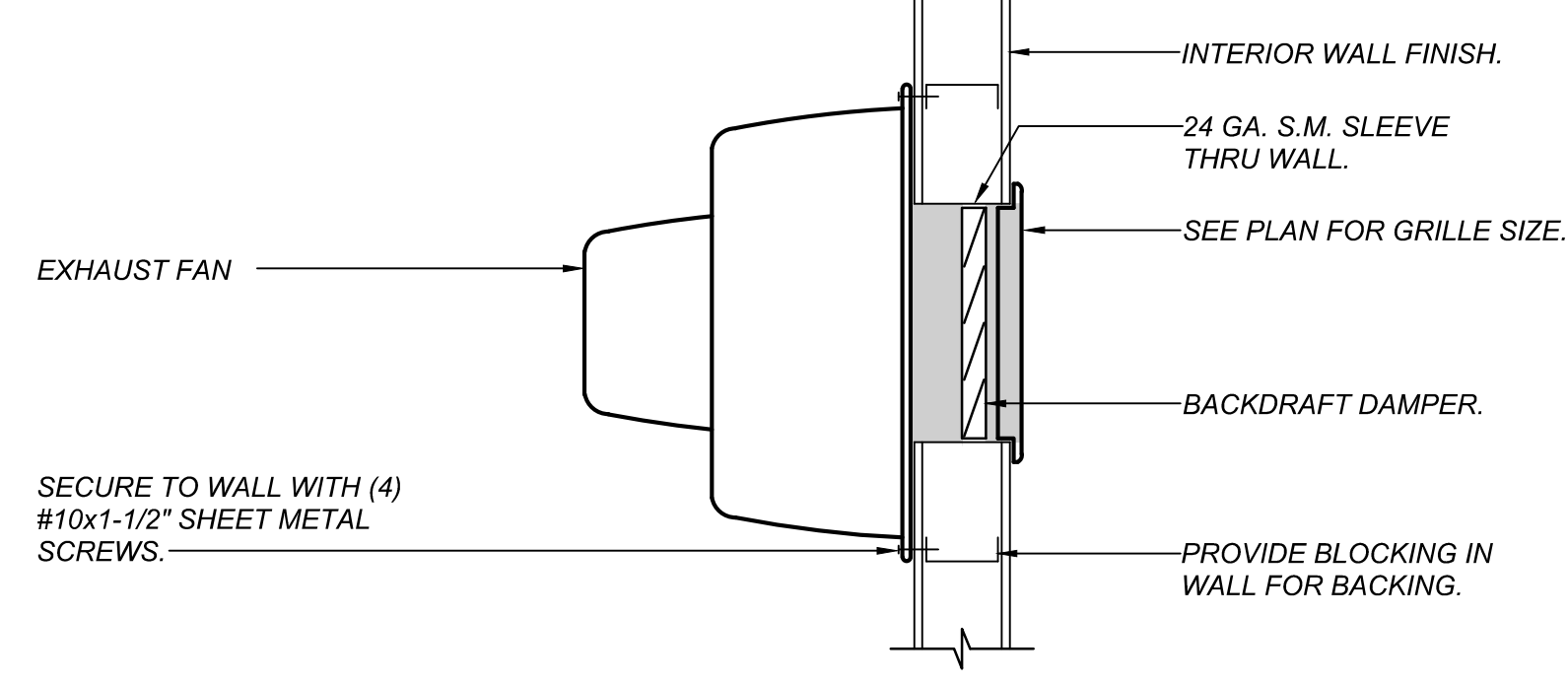
EXHAUST FAN SCHEDULE			
DESIGNATION	EF 1A	EF 1B	EF 2
CFM	120		115
ESP (IN WC)	0.5		0.5
HP/WATTS	-39		1/15 / -
VOLTS/PHASE	115/1		115/1
RPM	842		1711
TIP SPEED/SONES	-3.0		3.639 / 5.1
DRIVE	DIRECT		DIRECT
MOUNTING	CEILING		WALL
MANUFACTURER	GREENHECK		GREENHECK
TYPE	CEILING		CENTRIFUGAL
MODEL NUMBER	SP-80-VG		CUE-070-VG
CONTROL	①		
SERVICE	SEE PLANS		SEE PLANS
OPER. WT. (LBS)	30		90
ACCESSORIES	①		②

- ① INTERLOCK WITH IDU-1, PROVIDE AN ADJUSTABLE TIME-DELAY RELAY, SET AT 15 MINS.
- ② WALL BRACKET, ELECTRICAL DISCONNECT, BACKDRAFT DAMPER, BIRD SCREEN

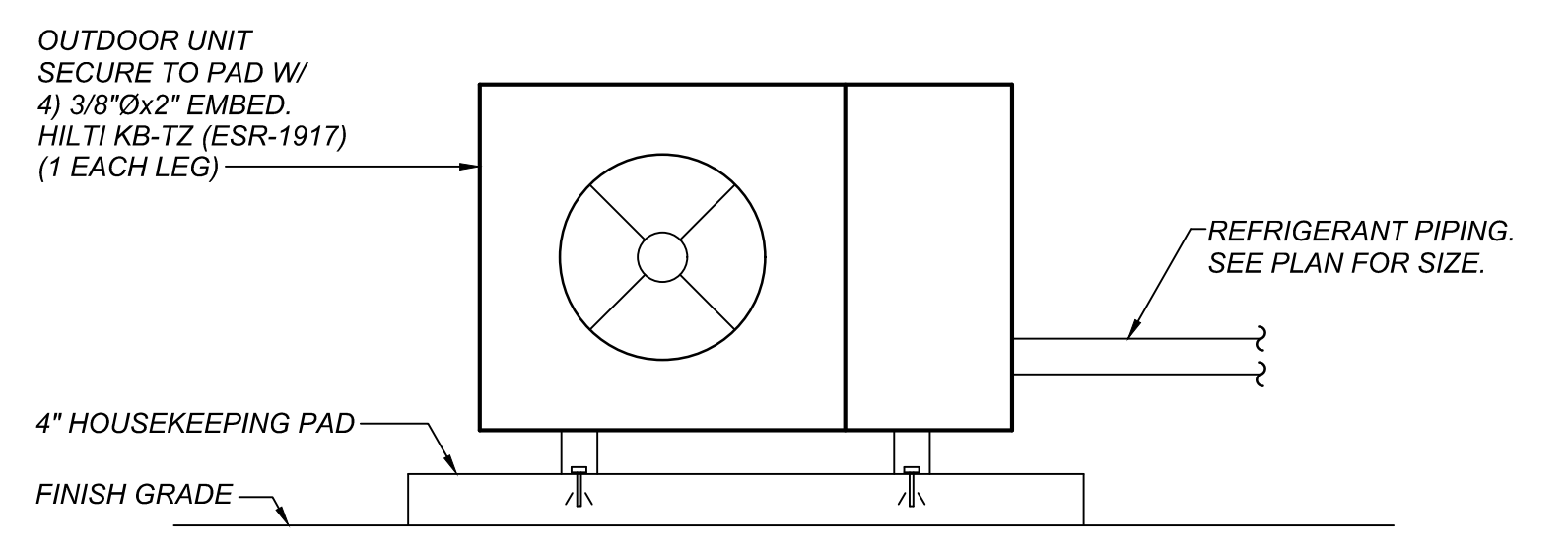
INDOOR UNIT SCHEDULE			
DESIGNATION	IDU 1	IDU 2	
CFM	910	380	
ESP (IN WC)	0.64	-	
MIN OSA	275	-	
HP/MCA	①	①/1.2	
VOLTS/PHASE	① 208/230 / 1	① 208/230 / 1	
DRIVE	DIRECT	DIRECT	
SENSIBLE (MBH)	21.89	9.77	
TOTAL (MBH)	26.19	11.49	
EADB/EAWB (FP)	80 / 67	-	
REFRIGERANT	R410A	R410A	
CAPACITY (MBH)	37.15	13.86	
QUANTITY/SIZE	1 / 12"x24"x4"	-	
TYPE	MERV 13	WASHABLE	
PD (IN WC)	0.15	-	
MANUFACTURER	CARRIER	CARRIER	
TYPE	CONCEALED	HIGH WALL	
MODEL NUMBER	40MBDQ36	40MAQB12B	
SERVICE	OFFICE	DATA	
OPER WT (LBS)	140	-	
ACCESSORIES	③ ④	③ ②	

- ① UNIT POWERED BY OUTDOOR UNIT
- ② GOBI # 4678538 CONDENSATE PUMP, 115V/1PH/16W MAX
- ③ INTEGRAL OVERFLOW CUT-OFF SWITCH
- ④ MERV 13 FILTER BOX, FIELD TRANSITION FROM BOX TO UNIT.

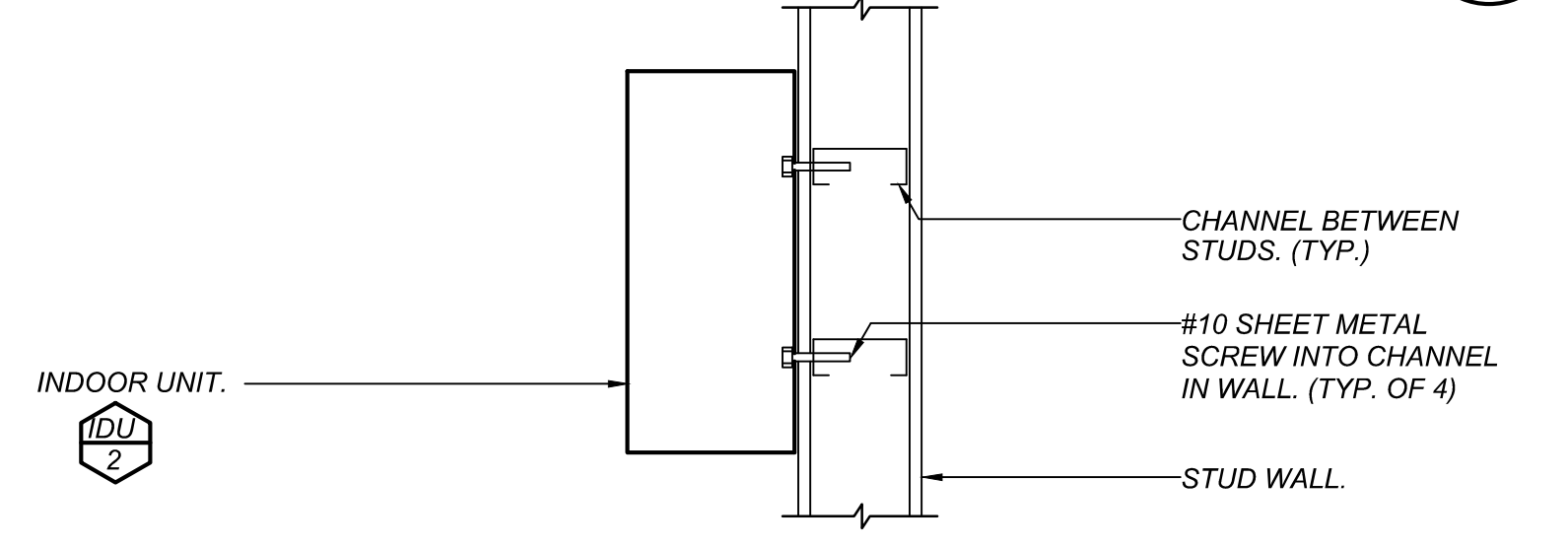
OUTDOOR UNIT SCHEDULE			
DESIGNATION	ODU 1	ODU 2	
MCA/MOCP	30 / 50	9 / 15	
VOLTS/PHASE	208/230 / 1	208/230 / 1	
SEER/COP AT ARI	16.5 / 11.5	22.5 / 12	
COOLING CAP (MBH)	26.19	11.49	
HEATING CAP (MBH)	37.15	13.86	
AMBIENT (°F)	105	105	
REFRIGERANT	R410A	R410A	
MANUFACTURER	CARRIER	CARRIER	
TYPE	HEAT PUMP	HEAT PUMP	
MODEL NUMBER	38MBRQ36A	38MAQB12R-3	
SERVICE	OFFICE	OFFICE	
OPER WT (LBS)	140	140	
ACCESSORIES	-	-	



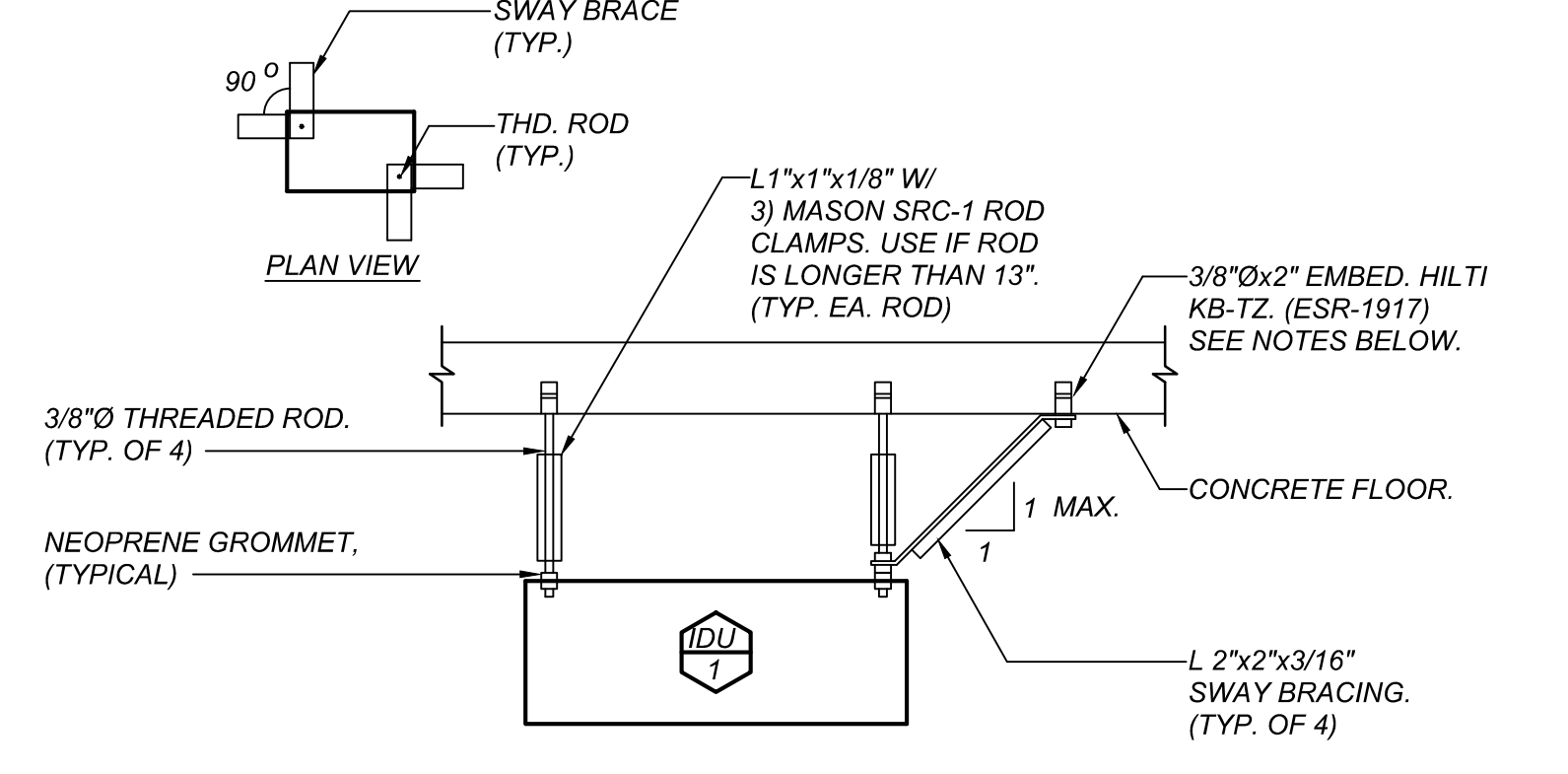
**WALL EXHAUST FAN MOUNTING DETAIL**  
SCALE: NONE



**OUTDOOR UNIT MOUNTING DETAIL**  
SCALE: NONE

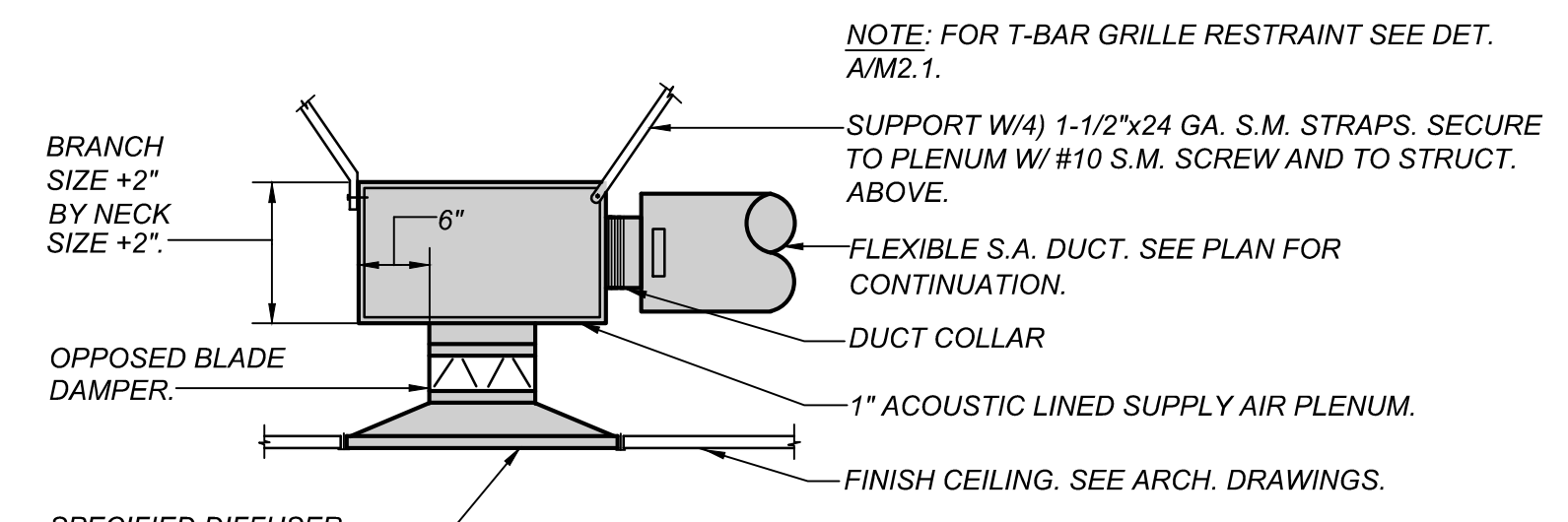


**INDOOR UNIT MOUNTING DETAIL**  
SCALE: NONE

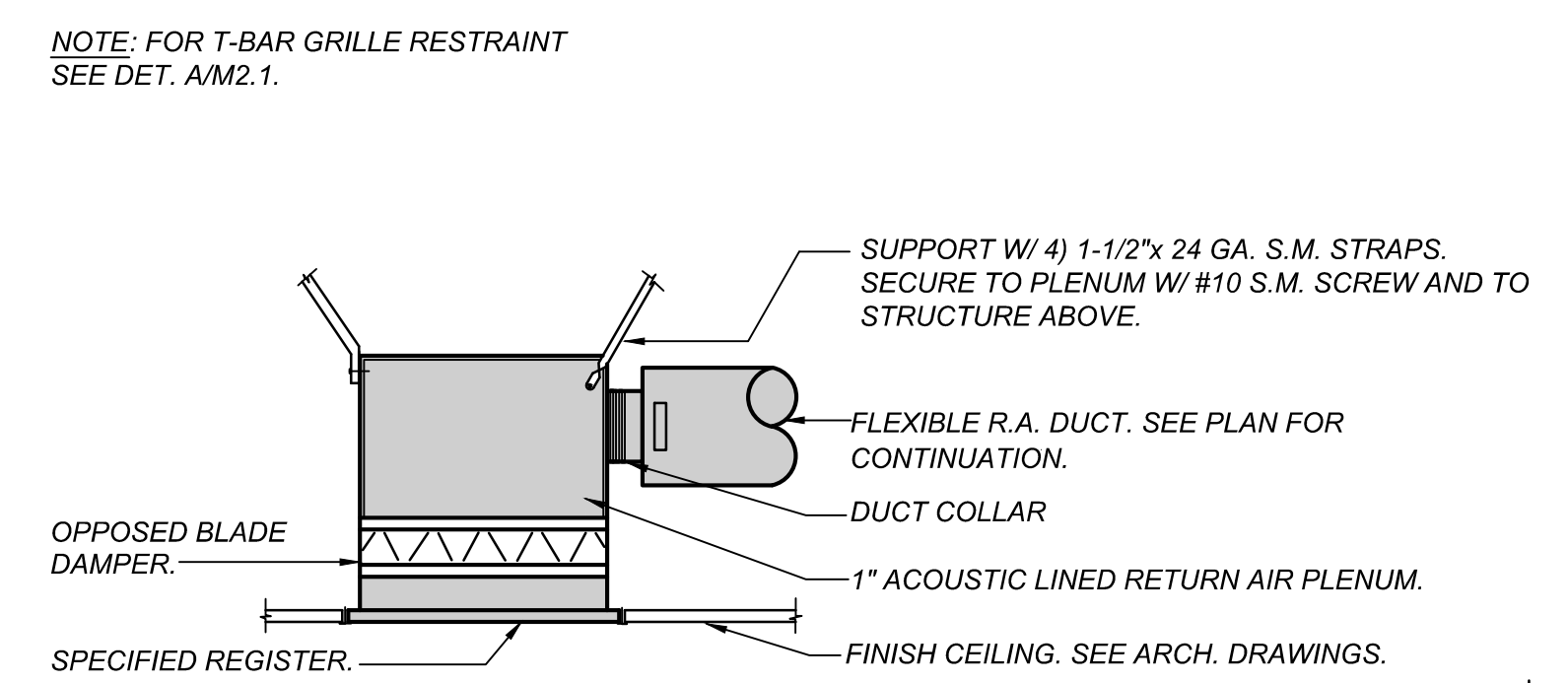


- NOTES:
1. INSTALL EXPANSION ANCHOR IN ACCORD W/REQUIREMENTS GIVEN IN ICC ES RECOMMENDATIONS.
  2. LOAD TEST 50% OF THE ANCHORS TO 250# TENSION. IF ANY FAIL, THEN TEST ALL ANCHORS. PERFORM TESTS IN PRESENCE OF PROJECT INSPECTOR.
  3. LOAD MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY MEASURE TENSION IN THE ANCHOR.
  4. SEE GENERAL NOTE 4 ON SHEET M1.1.

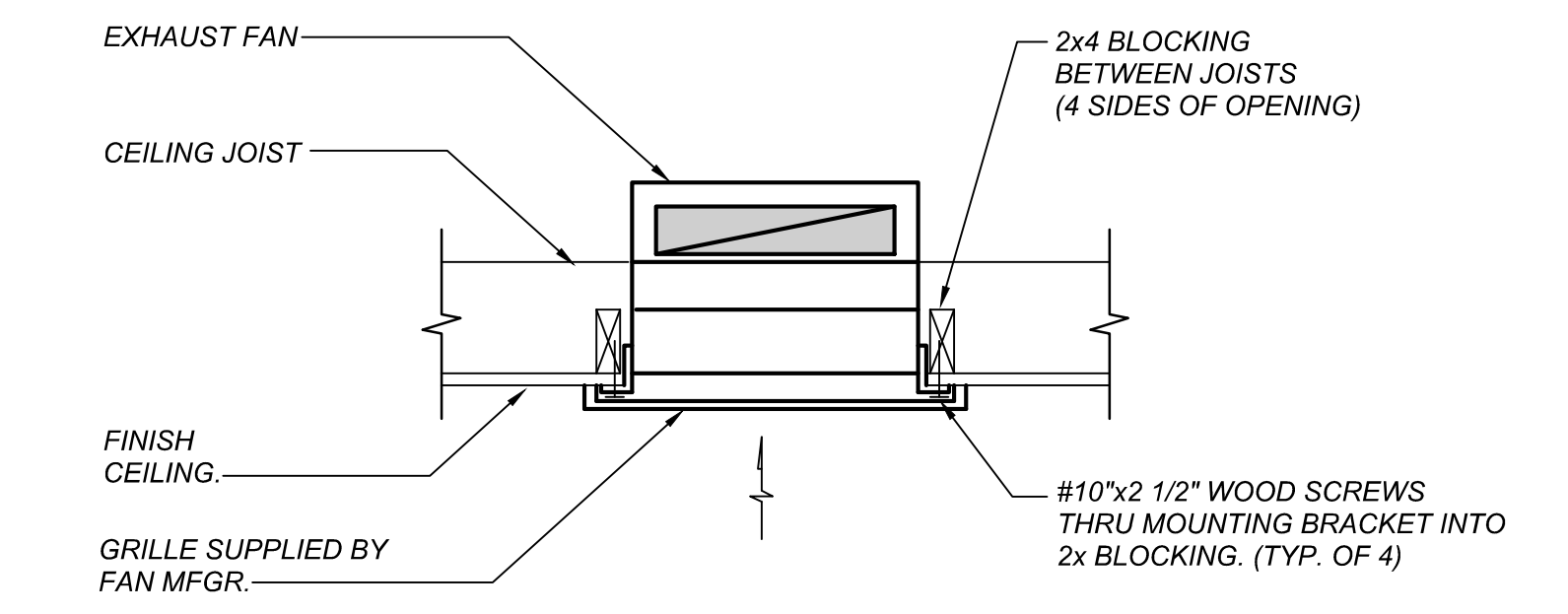
**INDOOR UNIT MOUNTING DETAIL**  
SCALE: NONE



**TYPICAL S.A. DEVICE-BRANCH DUCT DETAIL**  
SCALE: NONE



**TYPICAL R.A. DEVICE-BRANCH DUCT DETAIL**  
SCALE: NONE



**CEILING EXHAUST FAN MOUNTING DETAIL**  
SCALE: NONE

**LAWRENCE ENGINEERING GROUP**  
7084 N. Maple Ave., Suite 101  
(559) 431-0101 19400 Fresno, CA 93720  
FAX (559) 431-1342

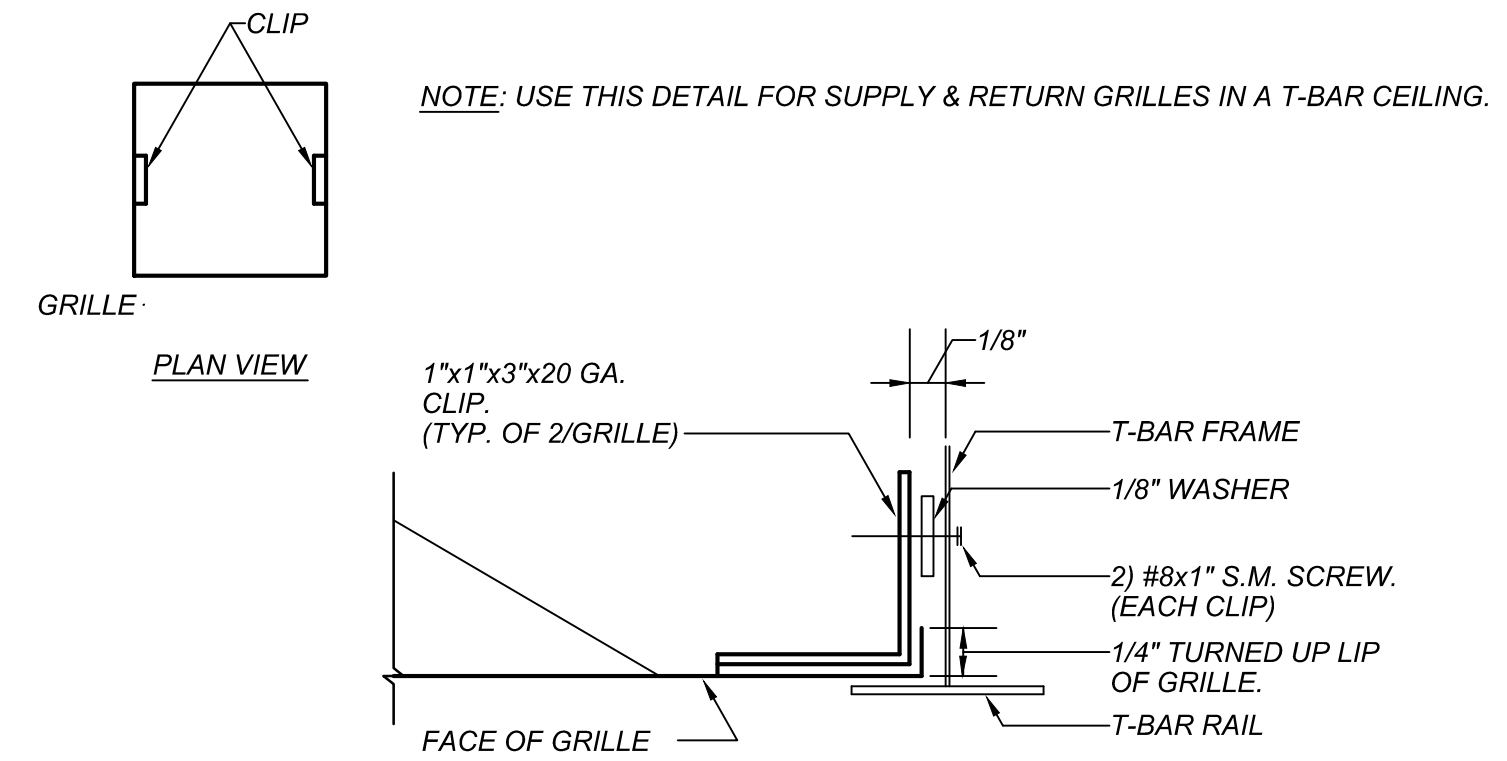
ARCHITECT:  
Tiana L. Perez, Architect  
California Licensed Architect No. C-38000  
Ren. 01-31-21  
Fresno County Department of  
Public Works and Planning  
Development Services and  
Capital Projects Division  
2220 Tulare Street, Eighth Floor  
Fresno, California 93721  
Office: (559) 600-4536  
E-mail: tperez@fresnocountyca.gov

PROJECT:  
Fresno County  
Environmental Compliance Center  
Phase 2 - Office/Storage Building  
Project Address: 310 S. West Avenue, Fresno CA 93706  
APN: 458-060-72  
Issue Date:  
Project No. T90203  
File Path: G:\Capital \Projects \Building Numbers \American  
Ave Landfill \T90203 Environmental Compliance Center\ 00  
2018 ECC

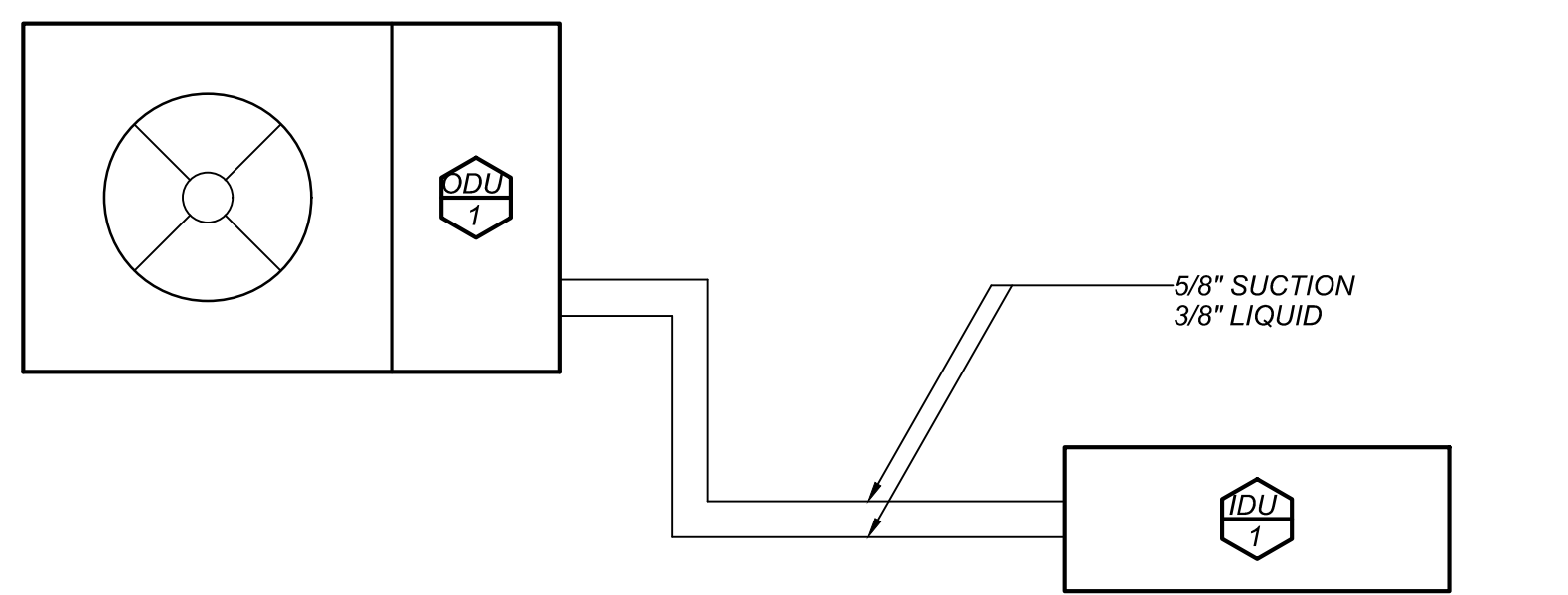
SHEET CONTENT:  
OFFICE BLDG.  
MECHANICAL  
SCHEDULES  
AND DETAILS

Fresno County Department of  
Public Works and Planning  
Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

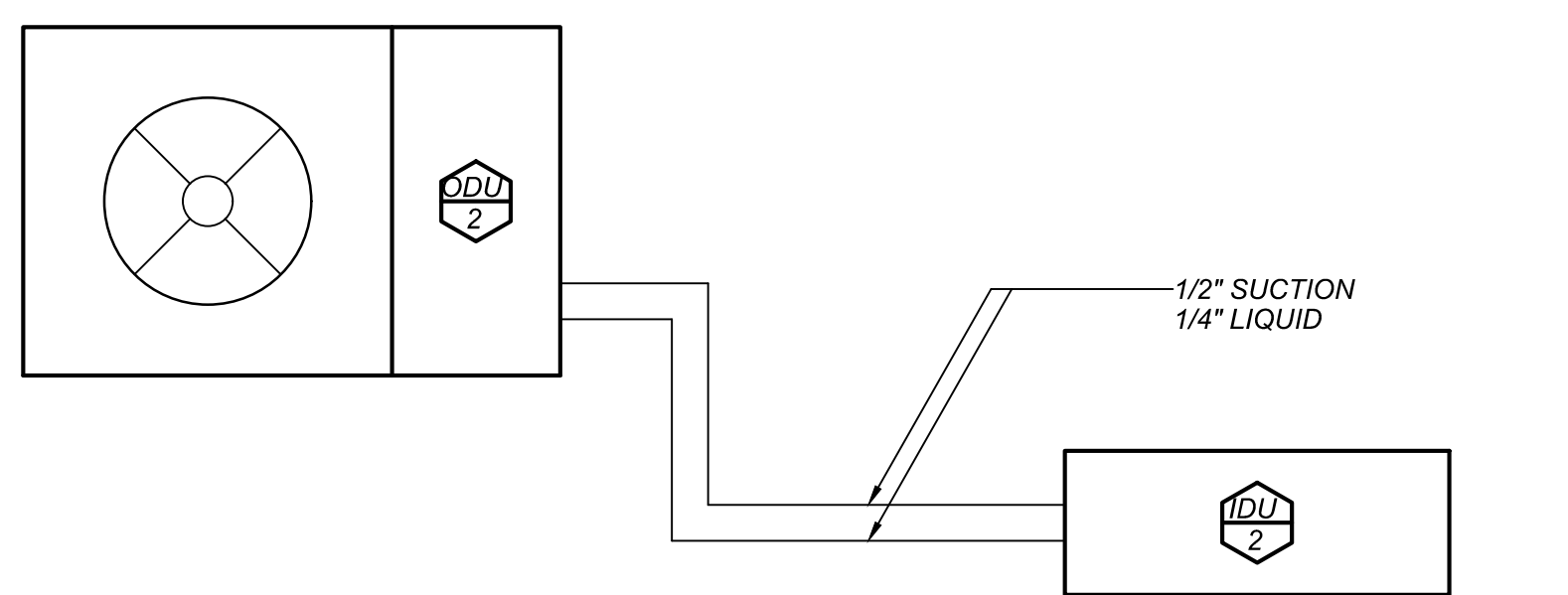
GRILLE SCHEDULE		
MARK	DUTY	DESCRIPTION
A	CEILING SUPPLY	TITUS TDC (TYPE 3) FULL LOUVER FACE ROUND OR RECTANGULAR NECK DIFFUSER FOR STD. LAY-IN CEILING WITH NO. 26 WHITE FINISH. (18"x18" NECK, ADAPTER SIZE SHOWN)
B	CEILING RETURN	TITUS CORE 50F (TYPE 3) ALUMINUM EGG CRATE REGISTER WITH 1/2"x1/2" GRID FOR STD. LAY-IN CEILING WITH NO. 26 WHITE FINISH.
C	WALL EXHAUST	TITUS MODEL 350RL STEEL RETURN GRILLE WITH 35° DEFLECTION BLADES AT 3/4" SPACING AND NO. 26 WHITE FINISH.
D	LOUVER	RUSKIN L811 20 GAUGE GALVANIZED SHEET METAL LOUVER WITH 1/2" MESH SCREEN ON INSIDE FACE. PRIME FOR PAINT.
E	CEILING SUPPLY	TITUS TDC (TYPE 1) LOUVER FACE SQUARE OR RECTANGULAR NECK DIFFUSER FOR SURFACE MOUNTING WITH NO. 26 WHITE FINISH.



**GRILLE RESTRAINT DETAIL** A  
SCALE: NONE MD090 M2.1



**REFRIGERANT PIPING DETAIL FOR ODU-1** B  
SCALE: NONE M2.1



**REFRIGERANT PIPING DETAIL FOR ODU-2** C  
SCALE: NONE M2.1

**LAWRENCE**  
ENGINEERING GROUP

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ARCHITECT:  
Tiana L. Perez, Architect  
California Licensed Architect No. C-38000  
Ren. 01-31-21  
Fresno County Department of  
Public Works & Planning  
Development Services and  
Capital Projects Division  
2220 Tulare Street, Eighth Floor  
Fresno, California 93721  
Office: (559) 600-4536  
E-mail: tperez@fresnocountyca.gov

**Project:**  
Fresno County  
Environmental Compliance Center  
Phase 2 - Office/Storage Building  
Project Address: 310 S. West Avenue, Fresno CA 93706  
APN: 458-060-72  
Issue Date:  
Project No. T90203  
File Path: G:Capital \ Projects \ Building Numbers \ American  
Ave Landfill \ T90203 Environmental Compliance Center\ 00  
2018 ECC

**Sheet Content:**  
MECHANICAL  
SCHEDULES  
AND DETAILS

Fresno County Department of  
Public Works and Planning  
Capital Projects

2220 Tulare Street, 8th Floor  
Fresno, California 93721

Sheet No.  
**M2.1**

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Project Address:	310 S. West Avenue Fresno 93657	Calculation Date/Time:	09:37, Fri, Jun 12, 2020
Input File Name:	Fresno Environmental Compliance_V8_06.11.2020.cibd19x		

**E. HERS VERIFICATION**

This Section Does Not Apply

**F. ADDITIONAL REMARKS**

This Section Does Not Apply

**G. ENVELOPE GENERAL INFORMATION**

1	2	3	4
Opaque Surfaces & Orientation	Total Gross Surface Area (ft²)	Total Fenestration Area (ft²)	Window to Wall Ratio (%)
North-Facing <sup>1</sup>	183 ft²	0 ft²	00.0%
East-Facing <sup>2</sup>	210 ft²	51 ft²	24.3%
South-Facing <sup>3</sup>	0 ft²	0 ft²	00.0%
West-Facing <sup>4</sup>	337 ft²	0 ft²	00.0%
<b>Total</b>	<b>730 ft²</b>	<b>51 ft²</b>	<b>07.0%</b>
Roof	375 ft²	0 ft²	00.0%

Notes:  
<sup>1</sup>North-Facing is oriented to within 45 degrees of true north, including 45°00'00" east of north (NE), but excluding 45°00'00" west of north (NW).  
<sup>2</sup>East-Facing is oriented to within 45 degrees of true east, including 45°00'00" south of east (SE), but excluding 45°00'00" north of east (NE).  
<sup>3</sup>South-Facing is oriented to within 45 degrees of true south, including 45°00'00" west of south (SW), but excluding 45°00'00" east of south (SE).  
<sup>4</sup>West-Facing is oriented to within 45 degrees of true west, including 45°00'00" north of due west (NW), but excluding 45°00'00" south of west (SW).

Project Name:	Fresno County Environmental Compliance Center	NRCC-PRF-01-E	Page 2 of 14
Project Address:	310 S. West Avenue Fresno 93657	Calculation Date/Time:	09:37, Fri, Jun 12, 2020
Input File Name:	Fresno Environmental Compliance_V8_06.11.2020.cibd19x		

**C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kWh/ft²-yr)**

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) <sup>1</sup>
Space Heating	6.40	17.00	-10.60
Space Cooling	226.75	250.73	-23.98
Indoor Fans	310.53	236.11	74.42
Heat Rejection	-	-	-
Pumps & Misc.	-	-	-
Domestic Hot Water	23.69	19.31	4.38
Indoor Lighting	40.32	40.32	-
<b>ENERGY STANDARDS COMPLIANCE TOTAL</b>	<b>607.69</b>	<b>563.47</b>	<b>44.22 (7.3%)</b>

<sup>1</sup> Notes: The number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

**C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS<sup>1</sup>**

Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) <sup>1</sup>
Receptacle	87.62	87.62	-
Process	395.64	395.64	-
Other Ltg	-	-	-
Process Motors	-	-	-
<b>COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS</b>	<b>1,090.95</b>	<b>1,046.73</b>	<b>44.2 (4.1%)</b>

<sup>1</sup> Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.

**D. EXCEPTIONAL CONDITIONS**

This project includes partial performance compliance scope options. The building must show compliance with all other applicable compliance scope options (performance or prescriptive) before occupying.  
 This project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-4) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is required.

Project Name:	Fresno County Environmental Compliance Center	NRCC-PRF-01-E	Page 1 of 14
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Input File Name:	Fresno Environmental Compliance_V8_06.11.2020.cibd19x		

**A. GENERAL INFORMATION**

1. Project Location (city)	Fresno	8. Standards Version	Compliance2019
2. CA Zip Code	93657	9. Compliance Software (version)	EnergyPro 8.1
3. Climate Zone	13	10. Weather File	FRESNO_723890_CZ2010.epw
4. Total Conditioned Floor Area in Scope	375 ft²	11. Building Orientation (deg)	(N) 0 deg
5. Total Unconditioned Floor Area	0 ft²	12. Permitted Scope of Work	NewEnvelopeAndMechanical
6. Total # of Stories (Habitable Above Grade)	1	13. Building Type(s)	Nonresidential
7. Total # of dwelling units	0	14. Gas Type	NaturalGas

**B. PROJECT SUMMARY**

Table Instructions: Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within permit application.

Envelope	Building Components Complying via Performance		Building Components Complying Prescriptively	
	Performance	Not Included	Performance	Not Included
Mechanical	<input checked="" type="checkbox"/>	Covered Process: Commercial Kitchens	<input checked="" type="checkbox"/>	Indoor Lighting (Unconditioned)§140.6
	<input checked="" type="checkbox"/>	Covered Process: Computer Rooms	<input checked="" type="checkbox"/>	Outdoor Lighting §140.7
Domestic Hot Water	<input checked="" type="checkbox"/>	Covered Process: Laboratory Exhaust	<input checked="" type="checkbox"/>	Sign Lighting §140.8
	<input checked="" type="checkbox"/>	Covered Process: Laboratory Exhaust	<input checked="" type="checkbox"/>	Mandatory Measures
Lighting (Indoor Conditioned)	<input checked="" type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	Electrical power systems, commissioning and solar ready requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)
	<input checked="" type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	Electrical Power Distribution §110.11
Solar Thermal Water Heating	<input checked="" type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	Commissioning §120.8
	<input checked="" type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	Solar Ready §110.10

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**K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)**

1	2	3	4	5	6	7	8	9	10
Equipment Name	Equipment Type	Qty	Heating			Cooling			Efficiency
			Total Heating Output (kBtu/h)	Supp Heat Source (V/N)	Supp Heat Output (kBtu/h)	Total Cooling Output (kBtu/h)	Efficiency		
IDU 2	SZHP (CRAC)	1	14	No	0	HSPF-12.00	11	SEER-22.50 / EER-10.00	N

Notes: N - New, A - Altered, E - Existing

**K2. ECONOMIZER & FAN SYSTEMS §140.4<sup>1</sup>**

1	2	3	4	5	6	7	8	9	10	11	12	13
Name or Item Tag	System Type	Design OA	Supply Fan				Return Fan				Economizer Type (if present)	
			CFM	CFM	BHP	Watts	CFM	BHP	Watts	Control		
IDU 1	SZHP	31	910	0.344	299.8	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
IDU 2	SZHP	6	380	0.100	87.2	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N

Notes: N - New, A - Altered, E - Existing

**K3. EXHAUST FAN SUMMARY**

1	2	3	4	5	6	7
System ID	Zone Name	Qty	CFM	Motor BHP	Motor Watts	Total Static Pressure (in H2O)
Restrooms17	2-Restrooms	2	120	0.045	39.0	1.54

**K4. Wet System Equipment (boilers, chillers, cooling towers, etc.)**

1	2	3	4	5	6	7	8	9	10	11	12
Name or Item Tag	Equipment Type	Qty	Vol (gal)	Rated Capacity (kBtu/h)	Efficiency	Standby Loss	Pumps			VSD (Y/N)	
							Qty	GPM	HP		

Notes: N - New, A - Altered, E - Existing

Project Name:	Fresno County Environmental Compliance Center	NRCC-PRF-01-E	Page 5 of 14
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Input File Name:	Fresno Environmental Compliance_V8_06.11.2020.cibd19x		

**I. ENVELOPE DETAILS §120.7 & §140.3**

1	2	3	4	5	6	7	8	9
Surface Name	Surface Type	Description of Assembly Layers	Area (ft²)	Framing Type	Cavity R-Value	Continuous R-Value	U-Factor / F-Factor / C-Factor	Status <sup>2</sup>
Slab On Grade16	UndergroundFloor	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0	375	NA	0	NA	F-Factor: 0.730	N

Notes: N - New, A - Altered, E - Existing

**I2. OVERHANG DETAILS**

This Section Does Not Apply

**I3. OPAQUE DOOR SUMMARY**

1	2	3
Assembly Name	Overall U-factor	Status <sup>2</sup>
Metal Door21	0.700	N

**J. CRRC ROOFING PRODUCT SUMMARY §140.3**

This Section Does Not Apply

**K. HVAC SYSTEM SUMMARY §110.1 & §110.2**

**K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)**

1	2	3	4	5	6	7	8	9	10
Equipment Name	Equipment Type	Qty	Heating			Cooling			Efficiency
			Total Heating Output (kBtu/h)	Supp Heat Source (V/N)	Supp Heat Output (kBtu/h)	Total Cooling Output (kBtu/h)	Efficiency		
IDU 1	SZHP (Split3Phase)	1	39	No	0	HSPF-11.50	25	SEER-16.50 / EER-9.00	N

Notes: N - New, A - Altered, E - Existing

Project Name:	Fresno County Environmental Compliance Center	NRCC-PRF-01-E	Page 4 of 14
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**H. FENESTRATION ASSEMBLY SUMMARY §110.6**

1	2	3	4	5	6	7	8	9
Fenestration Assembly Name / Tag or I.D.	Fenestration Type / Product Type / Frame Type	Certification Method <sup>1</sup>	Assembly Method	Area ft²	Overall U-factor	Overall SHGC	Overall VT	Status <sup>2</sup>
Glass 1	VerticalFenestration FixedWindow N/A	NFRC Rated	SiteBuilt	36	0.36	0.25	0.42	N
Door Glass	VerticalFenestration FixedWindow N/A	NFRC Rated	SiteBuilt	15	1.10	0.83	1.00	N

<sup>1</sup> Newly installed fenestration shall have a certified NFRC Label Certificate or use the CRC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer and are shown for ease of verification. See built fenestration values are calculated per Nonresidential Appendix 140d and are used in the analysis.  
<sup>2</sup> Status: N - New, A - Altered, E - Existing

**I. ENVELOPE DETAILS §120.7 & §140.3**

1	2	3	4	5	6	7	8	9
Surface Name	Surface Type	Description of Assembly Layers	Area (ft²)	Framing Type	Cavity R-Value	Continuous R-Value	U-Factor / F-Factor / C-Factor	Status <sup>2</sup>
Roof 1 - 2x12 R308	Roof	Metal Standing Seam - 1/16 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Ceiling - 3/4 in. Metal framed roof, 16in. OC, 11.25in., R-30 Air - Cavity - Wall Roof Ceiling - 4 in. or more Acoustic Tile - 1/2 in. Metal Siding - 1/16 in. Vapor permeable felt - 1/8 in. Cellular polystyreneunfaced (unfaced) - 1/4 in. R1.5 Air - Cavity - Wall Roof Ceiling - 4 in. or more Metal framed wall, 16in. OC, 3.5in., R-11 Gypsum Board - 5/8 in.	375	Metal	30	NA	U-Factor: 0.063	N
Wall 1 - 2x4 R11 + R1.510	ExteriorWall	Metal Siding - 1/16 in. Vapor permeable felt - 1/8 in. Cellular polystyreneunfaced (unfaced) - 1/4 in. R1.5 Air - Cavity - Wall Roof Ceiling - 4 in. or more Metal framed wall, 16in. OC, 3.5in., R-11 Gypsum Board - 5/8 in.	730	Metal	11	1	U-Factor: 0.147	N

Project Name:	Fresno County Environmental Compliance Center	NRCC-PRF-01-E	Page 8 of 14
Project Address:	310 S. West Avenue Fresno 93657	Calculation Date/Time:	09:37, Fri, Jun 12, 2020
Input File Name:	Fresno Environmental Compliance_V8_06.11.2020.cibd19x		

**K5. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4**

1	2	3	4	5	6	7	8	9	10	11	12
System ID	Zone Name	System Type	Rated Capacity (kBtu/h)		Airflow (cfm)			Fan			
			Heating	Cooling	Design	Min.	Ratio	BHP	Watts	Cycles	ECM Motor
2-Restrooms-Trm	2-Restrooms	Uncontrolled	NA	NA	358	NA	0.00	NA	NA	NA	<input type="checkbox"/>
1-Office-Trm	1-Office	Uncontrolled	NA	NA	553	NA	0.00	NA	NA	NA	<input type="checkbox"/>
3-Data-Trm	3-Data	Uncontrolled	NA	NA	380	NA	0.00	NA	NA	NA	<input type="checkbox"/>

**K6. EVAPORATIVE COOLER SUMMARY**

This Section Does Not Apply

**L. DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY**

**L1. DHW EQUIPMENT SUMMARY**

1	2	3	4	5	6	7	8	9	10	11
DHW Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input (kBtu/h)	Efficiency	Tank Insulation R-value (In/Ext)	Standby Loss Fraction	Heat Pump Type	Tank Location or Ambient Condition
WH 1 - Chromalite M 30L 12	Electricity	Instantaneous	2	1.00	3.6 (kW)	UEF: 0.95	NA	SBLF: NA	NA	NA

**L2. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS**

This Section Does Not Apply

**L3. SOLAR HOT WATER HEATING SUMMARY**

This Section Does Not Apply

**M. COVERED PROCESS SUMMARY §140.9**

This Section Does Not Apply

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**K5. SYSTEM FEATURES §120.2**

1	2	3	4	5	6
System Name	Optimum Start	Window Interlocks per §140.4(f)	Evaporative Cooling	Heat Recovery	Other Controls
IDU 1	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
IDU 2	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control



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**P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE**  
 Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. 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: [https://www.energy.ca.gov/title24/2019standards/2019\\_compliance\\_documents/Nonresidential\\_Documents/NRCA/](https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/)

Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Envelope	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-ENV-02-F - NRFC label verification for fenestration	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	NRCA-ENV-03-F - Daylighting Design PAFs	<input type="checkbox"/>	<input type="checkbox"/>
Indoor Lighting	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-LTI-03-A - Automatic Daylight Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-LTI-04-A - Demand Responsive Lighting Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-LTI-05-A - Institutional Tuning Power Adjustment Factor (PAF)	<input type="checkbox"/>	<input type="checkbox"/>
Covered Process	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-02-F - Kitchen Exhaust	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-03-F - Garage Exhaust	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-12-F - Escalator and Moving Walkways Speed Control	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-13-F - Escalator and Moving Walkways Speed Control	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-14-F - Lab Exhaust Ventilation System	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-15-F - Fume Hood Automatic Sash Closures System	<input type="checkbox"/>	<input type="checkbox"/>

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**Q. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION**  
 Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online at: [https://www.energy.ca.gov/title24/2019standards/2019\\_compliance\\_documents/Nonresidential\\_Documents/NRCA/](https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/)

Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Envelope	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-ENV-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
Mechanical	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-MCH-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
Plumbing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-PLB-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-PLB-02-E - Must be submitted for high-rise residential and hotel/ motel central hot water distribution systems to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-PLB-03-E - Must be submitted for high-rise residential and hotel/motel single dwelling unit hot water system distribution systems to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-PLB-21-E - Must be HERS verified for central systems in high-rise residential hotel/ motel application	<input type="checkbox"/>	<input type="checkbox"/>
Indoor Lighting	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-PLB-22-E - Must be HERS verified for single dwelling unit systems in high-rise residential, hotel/motel application	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-STH-01-E - Must be submitted for solar hot water heating systems	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-LTI-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS) to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
Covered Process	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-PRC-01-E - Must be submitted for all Covered Processes	<input type="checkbox"/>	<input type="checkbox"/>

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**N. INDOOR LIGHTING SUMMARY §140.6**  
 This Section Does Not Apply

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**DOCUMENTATION AUTHOR'S DECLARATION STATEMENT**  
 I certify that this certificate of compliance documentation is accurate and complete.

Documentation Author Name: Craighost Whaley  
 Company: Lawrence Engineering Group  
 Address: 7084 North Maple Ave., Suite 101  
 City/State/Zip: Fresno CA 93720  
 Phone: (559) 431-0101  
 Signature: *Craighost Whaley*  
 Signature Date: 2020-06-12  
 CEAT/HERS Certification Identification (if applicable):

**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 Envelope Designer Name: Tiana L. Perez  
 Company: Fresno County Department of Public Works and Planning  
 Address: 2220 Tulare Street, Eighth Floor  
 City/State/Zip: Fresno CA 93721  
 Phone: (559) 600-4477  
 Title: License #: C-38000

Responsible Lighting Designer Name:  
 Company:  
 Address:  
 City/State/Zip:  
 Phone:  
 Title: License #:

Responsible Mechanical Designer Name: Michael D. Cartelini, P.E.  
 Company: Lawrence Engineering Group  
 Address: 7084 North Maple Avenue, Suite 101  
 City/State/Zip: Fresno CA 93720  
 Phone: (559) 431-0101  
 Title: License #: M23588

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**Q. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION**  
 Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online at: [https://www.energy.ca.gov/title24/2019standards/2019\\_compliance\\_documents/Nonresidential\\_Documents/NRCA/](https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/)

Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Mechanical	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-04-H Duct Leakage Test	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-24-H Enclosure Air Leakage	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-27 Indoor Air Quality & Mechanical Ventilation	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-32-H Local Mechanical Exhaust	<input type="checkbox"/>	<input type="checkbox"/>
Plumbing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-PLB-21-H - HERS verified central systems in high-rise residential, hotel/motel application	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application	<input type="checkbox"/>	<input type="checkbox"/>

**R. UNMET LOAD HOURS**  
 This Section Does Not Apply

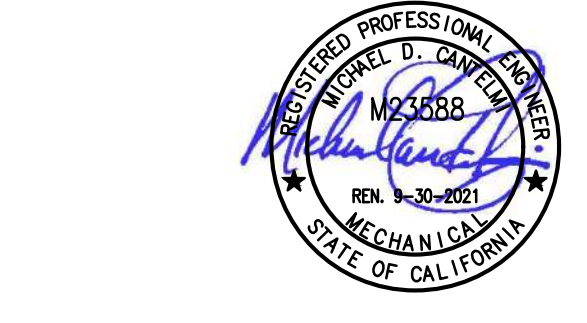
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**P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE**  
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Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Mechanical	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-03-A Constant Volume Single Zone HVAC	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-04(a)-H Air Distribution Duct Leakage - HERS Verification required	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-04(b)-A Air Distribution Duct Leakage - ATT only	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-05-A Air Economizer Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to maintain interior carbon dioxide (CO2) concentration setpoints	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-07-A Supply Fan Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-08-A Valve Leakage Test	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-09-A Supply Water Temperature Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-10-A Hydronic System Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-11-A Automatic Demand Shed Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-16-A Supply Air Temperature Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-18 Energy Management Control Systems	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-19 Occupancy Sensor Controls	<input type="checkbox"/>	<input type="checkbox"/>	

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**LAWRENCE ENGINEERING GROUP**  
 7084 N. Maple Ave., Suite 101  
 (559) 431-0101 19400 Fresno, CA 93720  
 FAX (559) 431-1342



ARCHITECT:  
 Tiana L. Perez, Architect  
 California Licensed Architect No. C-38000  
 Res. 01-31-21  
 Fresno County Department of Public Works and Planning  
 Development Services and Capital Projects Division  
 2220 Tulare Street, Eighth Floor  
 Fresno, California 93721  
 Office: (559) 600-4536  
 E-mail: tperez@fresnocountyca.gov

**Project:**  
 Fresno County Environmental Compliance Center  
 Phase 2 - Office/Storage Building  
 Project Address: 310 S. West Avenue, Fresno CA 93706  
 APN: 458-060-72  
 Issue Date:  
 Project No. T90203  
 File Path: G:Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00 2018 ECC

**Sheet Content:**  
 MECHANICAL  
 TITLE 24

Fresno County Department of Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No.  
**M2.3**

# Electrical General Notes

- ALL WORK SHALL MEET THE LATEST ADOPTED ADDITIONS OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 24 AND ALL OTHER APPLICABLE REGULATIONS, WHICH INCLUDE:
  - CALIFORNIA BUILDING CODE 2019
  - CALIFORNIA ELECTRICAL CODE 2019
  - NON RESIDENTIAL CEC ENERGY STANDARDS 2019
- NOTHING IN THE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
- IT IS THE INTENTION OF THESE PLANS AND SPECIFICATIONS TO COVER EVERYTHING REQUIRED TO PROVIDE FOR COMPLETE AND OPERATIVE SYSTEMS. THE CONTRACTOR IS TO FURNISH LABOR, MATERIAL, TRANSPORTATION, EQUIPMENT, MISCELLANEOUS SERVICES, ETC. REQUIRED TO ACCOMPLISH THIS RESULT. ANYTHING WHICH MAY BE REASONABLY CONSTRUED AS A NECESSARY PART OF THE INSTALLATION IS TO BE INCLUDED, WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED.
- THE CONTRACTOR SHALL EXAMINE THE SITE AND EXISTING CONDITIONS AND MAKE ALLOWANCES IN THE BID FOR ANY CONDITIONS NOT SHOWN ON THE ELECTRICAL DOCUMENTS.
- THE PLANS AND SPECIFICATIONS ARE INTENDED TO BE USED AS CONSTRUCTION GUIDELINES AND ARE NOT THE TOTAL INSTRUMENT OF CONTRACT DOCUMENTS. IT IS NOT THE INTENTION OF ANY CONSTRUCTION PLANS TO DIVIDE WORK AMONG DIFFERENT TRADES. VERIFY THE SCOPE OF WORK WITH THE ARCHITECT AND THE GENERAL CONTRACTOR.
- ELECTRICAL ROUTING IS DIAGRAMMATIC ONLY. ACTUAL ROUTING & PHYSICAL CONDITIONS MAY VARY. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL ROUTING, CONNECTIONS, & PROVISION OF ALL APPURTENANCES NECESSARY FOR A COMPLETE & OPERATING SYSTEM.
- ELECTRICAL EQUIPMENT SHALL HAVE AN APPROVED TESTING LABORATORY LABEL ATTACHED (UL, CSA ETC.) PER CEC 110.2.
- ELECTRICAL EQUIPMENT SHALL HAVE A SHORT CIRCUIT CURRENT RATING CAPABLE OF WITHSTANDING THE AVAILABLE SHORT CIRCUIT CURRENT PER CEC 110.4. WHERE SERIES COMBINATION RATINGS ARE USED FOR NEW PANELS, PROVIDE A CAUTIONARY LABEL TO THE SERIES RATED DEVICE COVER STATING "CAUTION - SERIES RATED SYSTEM AMPACITY AVAILABLE" AND IDENTIFY THE COMPONENTS, PER CEC 110.3, 110.22(C), 240.86, AND THE UL RECOGNITION DIRECTORY.
- PROVIDE MINIMUM 30" WIDE x 78" HIGH x 36" DEEP WORK CLEARANCES IN FRONT OF PANELS, SERVICE OR EQUIPMENT RATED AT 120/208V 3Ø 4W PER CEC 110.26.
- PROVIDE MINIMUM 30" WIDE x 78" HIGH x 42" DEEP WORK CLEARANCES IN FRONT OF PANELS, SERVICE OR EQUIPMENT RATED AT 277/480V 3Ø 4W PER CEC 110.26.
- PROVIDE A PLACARD ON EACH PANELBOARD INDICATING THE LOCATION AND IDENTIFICATION OF THE FEEDER SERVING THE PANEL PER CEC 408.4(B).
- PROVIDE ILLUMINATED EMERGENCY POWER PER 2016 CFC, SECTION 1006.3. EMERGENCY EGRESS LIGHTING SHALL PROVIDE A MINIMUM LUMINANCE OF 1 FOOTCANDLE AT THE WALKING SURFACE FOR A MINIMUM OF 90 MINUTES.
- FIRE ALARM EQUIPMENT SHALL BE SERVED BY DEDICATED FIRE ALARM BRANCH CIRCUITS PER NFPA 72 10.6.5.1.2. THE CIRCUIT NUMBER SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM EQUIPMENT PER NFPA 10.6.5.2.1. THE CIRCUIT BREAKER SHALL BE EQUIPPED WITH RED HANDLE AND LOCK-ON DEVICE, AND PERMANENTLY IDENTIFIED AS "FIRE ALARM CIRCUIT" PER NFPA 72 10.6.5.2.2, 10.6.5.2.3, 10.6.5.2.4, AND 10.6.5.4.
- WIRING FOR 120/208V AND 277/480V SYSTEMS SHALL BE MIN. #12 AWG THHN/THWN-2 COPPER.
- 120V AND 277V BRANCH CIRCUITS SHALL HAVE DEDICATED NEUTRALS. SHARING NEUTRALS IS NOT ACCEPTABLE.
- FEEDERS SIZE #4 AND LARGER SHALL BE MEGGER TESTED. TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER.
- ALL UNDERGROUND CONDUITS SHALL HAVE MINIMUM 24" COVER. INSTALL GALVANIZED RIGID STEEL RISERS & ELBOWS WHERE RISERS OCCUR. WRAP GRS BELOW GRADE OR PROVIDE PVC COATED GRS. EXPOSED CONDUIT SHALL BE GRS TO 8'-0", THEN ENT ABOVE AS APPROPRIATE. UNDER NO CIRCUMSTANCE SHALL PVC CONDUIT BE INSTALLED ABOVE GRADE.
- CONDUIT INSTALLED ABOVE GRADE SHALL BE MIN. 3/4" TRADE SIZE. CONDUIT BELOW GRADE SHALL BE MIN. 1" TRADE SIZE.
- PROVIDE (4) 1" CONDUIT STUBS FROM EACH NEW ELECTRICAL PANEL TO ACCESSIBLE ATTIC SPACE FOR FUTURE USE.
- COLORS/FINISHES/MATERIALS FOR ALL ELECTRICAL DEVICES, PLATES, LIGHT FIXTURES, ETC. SHALL BE CHOSEN BY THE ARCHITECT.
- PROVIDE PERMANENT LOCK-OPEN DEVICES ON CIRCUIT BREAKERS SERVING ELECTRIC WATER HEATERS TO MEET THE REQUIREMENTS OF CEC 422.31.
- BEFORE AN OCCUPANCY PERMIT IS GRANTED FOR A NEWLY CONSTRUCTED BUILDING OR AREA, OR NEW LIGHTING SERVING A BUILDING, AREA OR SITE IS OPERATED FOR NORMAL USE, ALL INDOOR AND OUTDOOR LIGHTING CONTROLS SERVING THE BUILDING, AREA OR SITE SHALL BE CERTIFIED AS MEETING THE "ACCEPTANCE REQUIREMENTS" FOR CODE COMPLIANCE IN ACCORDANCE WITH SECTION 130.4. A "CERTIFICATE OF ACCEPTANCE" SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY UNDER SECTION 10-103(a) OF PART 1 THRU 7(C).
- AT TIME OF "FINAL INSPECTION", ALL CODE REQUIRED SIGN CONTROLS WILL BE REQUIRED TO HAVE BEEN INSTALLED. REFERENCE SECTION 130.4 OF THE 2016 CALIFORNIA ENERGY CODE.
- THE CALIFORNIA STATE LICENSE BOARD (CSLB) "ZERO TOLERANCE POLICY" IN EFFECT FOR NON-COMPLIANT LABOR CODE SECTIONS 3049 AND 2049.2, SECTIONS 204.0 AND THE AB 931, AS OF JANUARY 2006, ENFORCEMENT OF LEGAL ACTION WILL BE ISSUED TO ANY C-10 CONTRACTOR WHO WILLFULLY EMPLOYS AN "UNCERTIFIED ELECTRICIAN" TO PERFORM ELECTRICAL WORK IN THE STATE OF CALIFORNIA.
- THE GENERAL CONTRACTOR SHALL COORDINATE THE FIRE ALARM SYSTEM INTERFACES BETWEEN THE FIRE ALARM CONTRACTOR, SPRINKLER CONTRACTOR, MECHANICAL CONTRACTOR, AND ANY OTHER PERTINENT TRADES (FIRE ALARM, SPRINKLER SYSTEM, HOOD AND VENT EXHAUSTING SYSTEM, HVAC, FIRE SMOKE DAMPERS, ETC.).
- WHEN A FIRE ALARM SYSTEM IS PRESENT AND THE TOTAL COMBINED CFM FOR ALL HVAC UNITS IN A FIRE COMPARTMENT IS IN EXCESS OF 2000, DETECTION OF SMOKE IN ANY ONE OF THE DUCT DETECTORS SHALL SHUT OFF THE POWER SOURCES TO ALL THE UNITS PER FRESNO FIRE POLICY 401.4.
- PROVIDE START-UP, TESTING, ADJUSTMENT, AND REPORTING OF BUILDING LIGHTING SYSTEM PER C685C 5.410.4.
- ARC-FLASH WARNING SIGNS SHALL BE PROVIDED PER CEC SECTION 110.16.
- FAULT CURRENT SHALL BE CALCULATED AND POSTED PRIOR TO FINAL INSPECTION PER CEC 110.24.

# Electrical Symbols

SYMBOL	DESCRIPTION	NOTES	SYMBOL	DESCRIPTION	NOTES
	POLE WITH SINGLE AREA LUMINAIRE			SWITCHBOARD	REFER TO POWER SINGLE LINE DIAGRAM
	POLE WITH DOUBLE AREA LUMINAIRES			POWER PANEL	REFER TO PANEL SCHEDULE
	POLE WITH POST TOP AREA LUMINAIRE			JUNCTION BOX	4-11/16" SQUARE BOX & COVER PLATE MIN.
	FIXTURE TYPE 'A'	REFER TO FIXTURE SCHEDULE		DISCONNECT SWITCH, FUSIBLE	REFER TO MECH. PLANS & SPECS.
	SURFACE CEILING LIGHT			MOTOR CONTROLLER/DISCONNECT SWITCH	REFER TO MECH. PLANS & SPECS.
	RECESSED DOWN LIGHT			MOTOR	REFER TO MECH. PLANS & SPECS.
	WALL LIGHT			EXHAUST FAN, CEILING MOUNTED	REFER TO MECH. PLANS & SPECS.
	FIXTURE ON EMERGENCY POWER	PROVIDE UNSWITCHED HOT TO BATT PACKS		SINGLE CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED
	EXIT SIGN, CEILING (ARROWS INDICATE CHEVRONS)	PROVIDE UNSWITCHED HOT TO BATT PACKS		DUPLEX CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED
	EXIT SIGN, WALL (ARROWS INDICATE CHEVRONS)	PROVIDE UNSWITCHED HOT TO BATT PACKS		QUADPLEX CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED
	DEDICATED EMERGENCY LIGHT	PROVIDE UNSWITCHED HOT TO BATT PACKS		DUPLEX GFI CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED LEVITON #XT849-W
	INVERTER			QUADPLEX GFI CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED LEVITON #XT849-W
	SWITCH AT +48" AFF TO TOP OF BOX	20A 2TTV QUIET TOGGLE		WEATHERPROOF, GFI OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N. W/ WEATHERPROOF IN-USE TYPE COVER	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED LEVITON #XT849-W
	3-WAY SWITCH AT +48" AFF TO TOP OF BOX	20A 2TTV QUIET TOGGLE		DUPLEX CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N. SPLIT-WIRED WITH UNSWITCHED AND SWITCHED BY OCCUPANCY SENSOR	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED, LEVITON #TR20-SIM CODE COMPLIANT MARKING REQUIRED
	DIMMER SWITCH, TO BE COMPATIBLE WITH CONTROLLED FIXTURES, AT +48" AFF TO TOP OF BOX	ROUGH IN WITH 1/2" BOX PER SWITCH W/ RING, 1" C. TO ACCESSIBLE ATTIC SPACE		QUADPLEX CONVENIENCE OUTLET, CONTROLLED AT +15" AFF TO BOTTOM OF BOX, U.O.N. ONE UNSWITCHED AND ONE SWITCHED BY OCCUPANCY SENSOR	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED, LEVITON #TR20-W AND LEVITON #TR20-S2M CODE COMPLIANT MARKING REQUIRED
	WALL MOUNTED DUAL TECH OCCUPANCY SENSOR SWITCH, 0-10V DIMMING, AT +48" AFF TO TOP OF BOX	ROUGH IN WITH 1/2" BOX PER SWITCH W/ RING, 1" C. TO ACCESSIBLE ATTIC SPACE		HEAVY DUTY POWER PEDESTAL	SEE DETAIL
	WALL MOUNTED ULTRASONIC OCCUPANCY SENSOR SWITCH, W SEPARATE EXHAUST FAN RELAY AT +48" AFF TO TOP OF BOX	ROUGH IN WITH 1/2" BOX PER SWITCH W/ RING, 1" C. TO ACCESSIBLE ATTIC SPACE		SPECIAL EQUIPMENT OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	VERIFY REQTS W/ EQUIPMENT VENDOR
	DIGITAL DIMMER SWITCH, AT +48" AFF TO TOP OF BOX	nLIGHT SYSTEM, ROUGH IN WITH 1/2" BOX & RING, 1" C. TO ACCESSIBLE ATTIC		26 FLOOR BOX WITH POWER FEED COVER	MAKE CONNECTION TO MODULAR FURNITURE SYSTEM WITH #6 GREEN GROUND WIRE TO G.E.C.
	DIGITAL DIMMER SWITCH, WIRELESS, LINE VOLTAGE AT +48" AFF TO TOP OF BOX	nLIGHT AIR SYSTEM, ROUGH IN WITH 1/2" BOX & RING, 120-277V POWERED		12" CU GROUND BUS BAR	PROVIDE 120V F.A. CIRCUIT TO DAMPER VIA F.A. RELAY.
	DIGITAL DIMMER SWITCH W INTEGRAL OCCUPANCY SENSOR AND PHOTOSENSOR AT +48" AFF TO TOP OF BOX	nLIGHT SYSTEM, ROUGH IN WITH 1/2" BOX & RING, 1" C. TO ACCESSIBLE ATTIC		FIRE/SMOKE DAMPER	PROVIDE 120V F.A. CIRCUIT TO DAMPER VIA F.A. RELAY.
	DIGITAL "FRESCO" GRAPHICAL TOUCHSCREEN DIMMING, CONTROLLER AT +48" AFF TO TOP OF BOX	nLIGHT SYSTEM, ROUGH IN WITH 1/2" BOX & RING, 1" C. TO ACCESSIBLE ATTIC		PUBLIC ADDRESS SPEAKER, CEILING MOUNTED	HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK
	DIGITAL OCCUPANCY SENSOR W PHOTOSENSOR DUAL-TECHNOLOGY CEILING MOUNT	nLIGHT SYSTEM #4CM PDT 10		PUBLIC ADDRESS SPEAKER WALL MOUNTED, +120" U.O.N.	RUN 1" C. TO ACCESSIBLE ATTIC SPACE AND HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK
	DIGITAL OCCUPANCY SENSOR W PHOTOSENSOR DUAL-TECHNOLOGY WALL MOUNT	nLIGHT SYSTEM, ROUGH IN WITH 1/2" BOX & RING, 1" C. TO ACCESSIBLE ATTIC		WFO OUTDOOR PUBLIC ADDRESS SPEAKER, WALL MOUNTED, +120" U.O.N.	RUN 1" C. TO ACCESSIBLE ATTIC SPACE AND HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK
	WIRELESS DIGITAL OCCUPANCY SENSOR W PHOTOSENSOR, DUAL-TECHNOLOGY CEILING MOUNT	PROVIDE XPOINT SBOR SENSOR INTERFACE		SURVEILLANCE (CCTV) CAMERA PROVISION, WALL MOUNTED. VERIFY HEIGHTS AT EACH LOCATION. C-CEILING MOUNTED.	INTERIOR: 1/2" J-BOX, 1/2" RING, MODULAR PLATE, 3/4" C. TO ACCESSIBLE ATTIC SPACE. EXTERIOR: 1/2" FLUSH BELL BOX, MODULAR PLATE, 3/4" C. TO ACCESSIBLE ATTIC SPACE. PROVIDE (1) CAT6 CABLE AND DATA JACK TO EACH CAMERA PROVISION. VERIFY EXACT REQUIREMENTS PRIOR TO ROUGH-IN.
	DIGITAL GATEWAY	nLIGHT SYSTEM, PROVIDE (1) GATEWAY AT EACH BUILDING AND CONNECT TO LAN. PROVIDE BOX/OUTLET AT GATEWAY LOCATION FOR GATEWAY POWER SUPPLY.		RECESSED TV BOX WITH POWER OUTLET, (2) DATA JACKS, HDMI AND CATV JACKS. VERIFY HEIGHT/LOCATION PRIOR TO ROUGH-IN.	MAKE POWER CONNECTION AND PROVIDE 1 1/2" C. STUB TO EXPOSED CABLE SPACE NEAR ROOF. VERIFY HEIGHTS W/ ARCH.
	DIGITAL BRIDGE	nLIGHT SYSTEM, PROVIDE (1) BRIDGE FOR EACH (6) nLIGHT ZONES. CONNECT BRIDGE POWER SUPPLY TO LOCAL LIGHTING CIRCUIT.		AV INPUT HDMI/6A/3.5MM AUDIO/USB JACK WALL PLATE AT +18" AFF	26 BOX, 1/2" RING, (2) 1 1/4" C. TO ATTIC SPACE. INSTALL CABLES FROM STATION TO TV.
	DIGITAL XPOINT WIRELESS BRIDGE	INTERFACE WITH nLIGHT SYSTEM GATEWAY		DEVICES TO BE REMOVED	
	DIMMING POWER PACK VERIFY 0-10V, 2- OR 3-WIRE, MLV, OR ELV BY FIXTURE	nLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING		EXISTING CONDUIT/WIRINGS TO BE DEMOLISHED	
	DIMMING POWER PACK W EMERGENCY CONTROL RELAY VERIFY 0-10V, 2- OR 3-WIRE, MLV, OR ELV BY FIXTURE	nLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING		EXISTING DEVICES	
	DMX CONTROLLER PACK	nLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING		EXISTING CONDUIT/WIRINGS	
	RECEPTACLE RELAY CONTROLLED BY OCCUPANCY SENSOR	nLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING. (1) RELAY PER CIRCUIT IN EACH CONTROLLED AREA.		WIRING IN CONDUIT, BELOW GRADE	3/4" CONDUIT MIN.
	TERMINAL CABINET			WIRING IN CONDUIT, IN WALL OR CEILING	3/4" CONDUIT MIN.
	DATA OUTLET (RJ-45 CAT6) WITH 2 JACK AT +18" AFF, U.O.N.	4-11/16 SQ. BOX, 1/2" RING, MODULAR PLATE, & 1 1/2" C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.		LOW VOLTAGE WIRING IN ATTIC SPACE	TYPE PER EQUIPMENT MANUFACTURER
	(2) WAP DATA JACKS (RJ-45 CAT6A) MOUNTED IN ATTIC SPACE	4-11/16 SQ. BOX, 1/2" RING, MODULAR PLATE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END.		CONDUIT RISER	3/4" CONDUIT MIN.
	(2) WAP DATA JACKS (RJ-45 CAT6A) AT +108" AFF, U.O.N.	4-11/16 SQ. BOX, 1/2" RING, MODULAR PLATE, & 1 1/2" C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.		FLEXIBLE CONDUIT	3/4" CONDUIT MIN.
	WALL MOUNT VOIP OUTLET (RJ-45 CAT6) AT +45" AFF, U.O.N.	4-11/16 SQ. BOX, 1/2" RING, MODULAR PLATE, & 1 1/2" C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.		CONDUIT STUB AND CAP	3/4" CONDUIT MIN.
	WALL MOUNT DATA/COMM OUTLET AT +45" AFF, U.O.N.	4-11/16 SQ. BOX, 1/2" RING, MODULAR PLATE, & 1 1/2" C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.		CROSS HATCHES INDICATE NUMBER OF #14 AWG CONDUCTORS IN CONDUIT, WHEN MORE THAN TWO. WIRE SIZE INDICATED ON PLANS WHEN OTHER #14 AWG. PROVIDE GROUND PER CEC 250. PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT.	3/4" CONDUIT MIN.
	"MAIN DISTRIBUTION FRAME"			CURVED CROSS HATCHES INDICATE #14 AWG PURPLE & GRAY CONDUCTORS FOR DIMMING CONTROL.	3/4" CONDUIT MIN.
	"INTERMEDIATE DISTRIBUTION FRAME"			HOME RUN (TO PANEL "A", CIRCUIT "15")	3/4" CONDUIT MIN.

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**Project:**  
 Fresno County  
 Environmental Compliance Center  
 Office / Storage Building  
 Project Address: 310 S. West Avenue, Fresno CA 93706  
 APN: 458-060-72  
 Issue Date:  
 Project No: T90203  
 File Path: G:\Capital \ Projects \ Building Numbers \ American  
 Ave Landfill \ T90203 Environmental Compliance Center\ 00  
 2018 ECC

**Sheet Content:**  
 Electrical Notes and Symbols

Fresno County Department of  
 Public Works and Planning  
 Capital Projects

2220 Tulare Street, 8th Floor  
 Fresno, California 93721

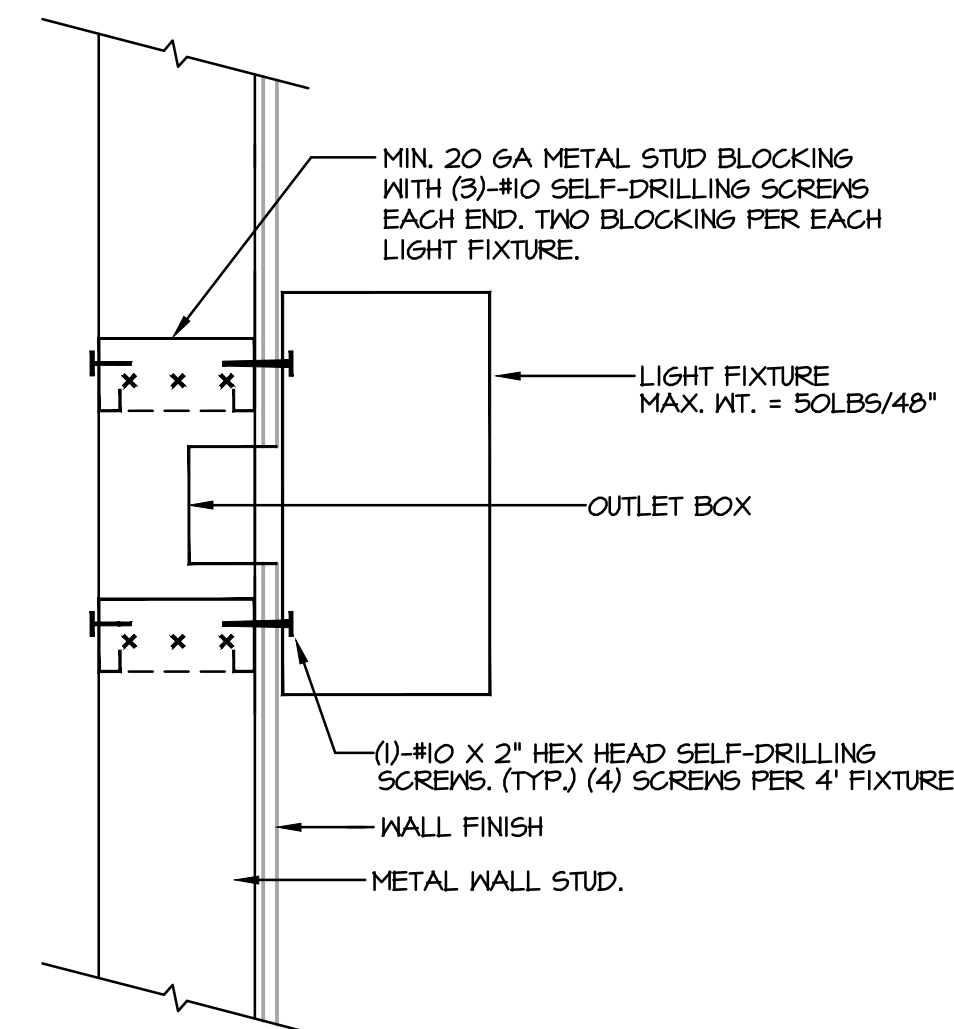
**Sheet No.**  
**E1.1**

TYPE	MANUFACTURER	CATALOG NO.	LAMPING	WATTS	VOLTS	MOUNTING	REMARK
A	LITHONIA	EPANL 2x2 4000LMHE 80CRI 35K MIN10 NLIGHT MVOLT	LED	32.9	120	RECESSED	SEE DETAIL C4/E2.1
B	LUMINAIRE	CLF11 4FT AL MIN10 40W 35K MVOLT OP GRY	LED	40.0	120	SURFACE	SEE DETAIL A4/E2.1
C	LITHONIA	ZL1D L48 SMR 3000LM FST MVOLT 35K 80CRI WH HC36	LED	30.0	120	CHAIN	
CS	LITHONIA	ZL1D L48 SMR 3000LM FST MVOLT 35K 80CRI WH HC36	LED	30.0	120	CHAIN	
DS	LITHONIA	ZL1D L24 SMR 3000LM FST MVOLT 35K 80CRI WH HC36	LED	17.0	120	CHAIN	
P	LUMINAIRE	SWP1212 MIN10 25W 40K MVOLT OP GRY	LED	25.0	120	WALL	

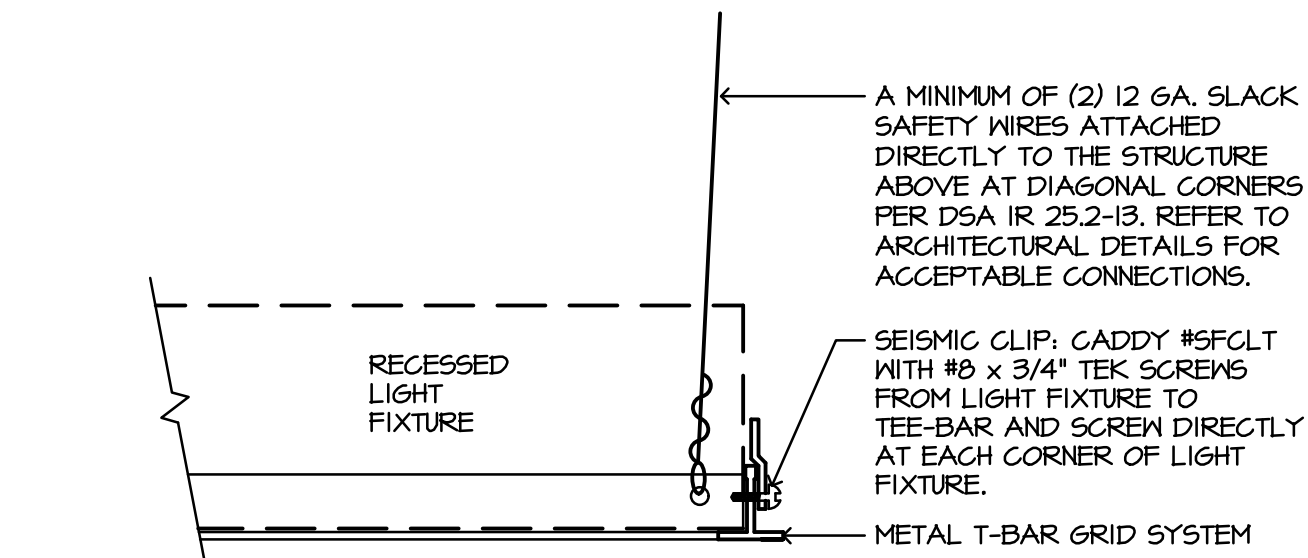
**G1 Light Fixture Schedule**

Scale: None

HEAVY DUTY GRID SYSTEM			
MAX. LIGHT FIXTURE DIMENSION	WEIGHT	NO. OF HANGER WIRES	TYPE
< 24" x 48"	< 56 LBS	2	SLACK
> 24" x 48"	> 56 LBS	4	TAUT

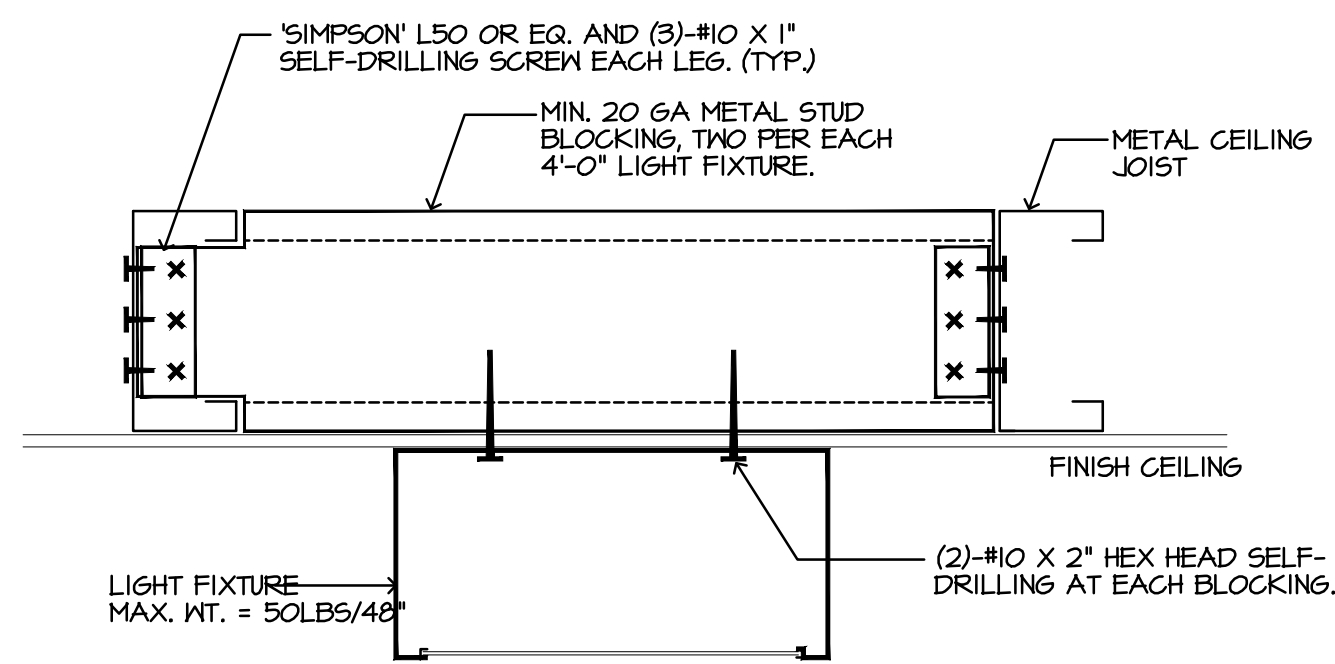


NOTE:  
BOTTOM OF FIXTURE TO BE MIN. OF 80" AFF IF PROTRUDE MORE THAN 4" FROM FACE OF WALL (CBC IIB-307.2)



**C4 Fixture T-Bar Mounting Detail**

Scale: None

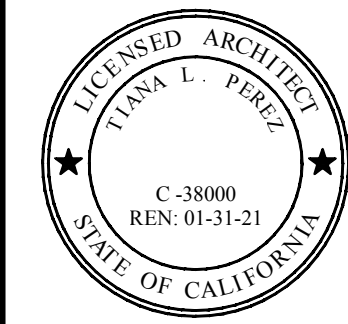


**A4 Fixture Surface Mounting Detail**

Scale: None

**A1 Fixture Wall Mounting Detail**

Scale: None



ARCHITECT:  
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California Licensed Architect No. C-38000  
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**Project:**

Fresno County  
Environmental Compliance Center  
Office / Storage Building  
Project Address: 310 S. West Avenue, Fresno CA 93706  
APN: 458-060-72  
Issue Date:  
Project No. T90203  
File Path: G:\Capital \ Projects \ Building Numbers \ American  
Ave Landfill \ T90203 Environmental Compliance Center\ 00  
2018 ECC

**Sheet Content:**

Lighting Schedules and Details

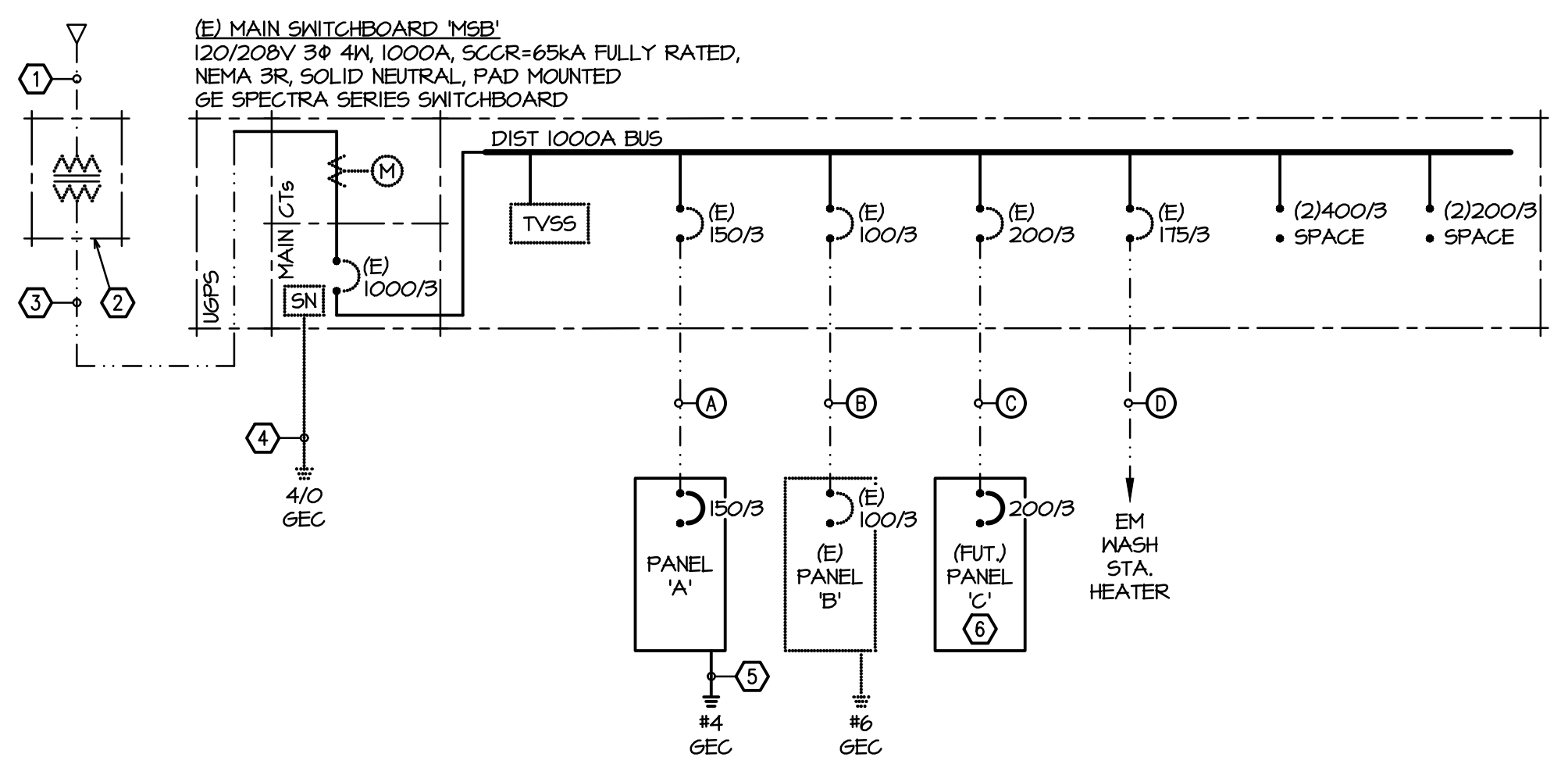
Fresno County Department of  
Public Works and Planning  
Capital Projects

2220 Tulare Street, 8th Floor  
Fresno, California 93721



**Sheet No.**

**E1.2**



**LINE DIAGRAM KEY NOTES**

- (E) 4" UTILITY PRIMARY PER RULE 16 DOCS.
- (E) UTILITY TRANSFORMER & CONCRETE PAD PER RULE 16 DOCS.
- (B) 5" UTILITY SECONDARY PER P&E PER RULE 16 DOCS.
- (E) SERVICE GROUNDING ELECTRODE CONDUCTOR.
- GROUNDING ELECTRODE CONDUCTOR TO UFER, STRUCTURAL STEEL, METAL WATER PIPE, AND FIRE SPRINKLER RISER.
- PANEL SHOWN FOR REFERENCE ONLY. DO NOT INCLUDE IN BID.

**FEEDERS**

- (E) 2-1/2" C, 4#1/0, 1#6G.
- (E) 2" C, 4#1, 1#6G.
- (E) 3" C, 4#4/0, 1#6G.
- (E) 2" C, 3#2/0, 1#6G.

**J1 Power Single Line Diagram**

Scale: None

No.	Feeder Origin	Feeder Destination	Potential at Origin (P <sub>i</sub> ) (Volts)	System	Design Current (Amps)	Raceway Type	Sets of Cond.	Conductor Trade Size	Conductor Cross-Sectional Area (CM)	Conductor Material	DC Conductor Material Constant (K)	Q	Distance (ft)	Voltage Drop (VD) (Volts)	Potential at Load (P <sub>L</sub> ) (Volts)	Percent Voltage Drop (%VD)
1	MSB	Panel 'A'	208	AC 3-Phase	150	PVC	1	1/0	105600	CU	12.9	0.9836	35	1.09	206.91	0.53
2	MSB	Panel 'B'	208	AC 3-Phase	100	PVC	1	1	83690	CU	12.9	0.9740	125	3.25	204.75	1.56
3	MSB	Panel 'C'	208	AC 3-Phase	200	PVC	1	4/0	211600	CU	12.9	1.0197	135	2.91	205.09	1.40
4	Panel 'A'	Farthest #12 outlet	120	AC 1-Phase	16	Steel	1	12	6530	CU	12.9	1.0101	75	4.79	115.21	3.99
5	Panel 'A'	Farthest #10 outlet	120	AC 1-Phase	16	Steel	1	10	10380	CU	12.9	0.9677	125	4.81	115.19	4.01
6	Panel 'B'	Farthest A/C Unit	208	AC 3-Phase	30	Steel	1	6	26240	CU	12.9	0.9980	45	1.15	206.85	0.55

**Definitions**

VD = Voltage Drop (Volts)  
 K = DC Conductor Material Constant (12.9 for Copper, 21.2 for Aluminum)  
 Q = AC Adjustment Factor for conductors sized #2/0 AWG and larger (R<sub>sc</sub> / R<sub>dc</sub>)  
 I = Current (Amps)  
 D = Distance to Load (ft)  
 CM = Conductor Cross-Sectional Area (Circular Mils)  
 P = Potential (Volts)

**Formulae**

VD (single phase or DC) = 2 x K x Q x I x D / CM  
 VD (three phase) =  $\sqrt{3}$  x K x Q x I x D / CM  
 %VD = VD / P<sub>i</sub> x 100

**E1 Voltage Drop Calculations**

Scale: None

**PANEL "A" SCHEDULE**

CKT. NO.	DESCRIPTION	BREAKER		VA	Φ	VA	BREAKER		DESCRIPTION	CKT. NO.
		AMPS	POLE(S)				AMPS	POLE(S)		
1	LIGHTING CONTROL PANEL	15	1	150	A	1000	20	1	OUTLETS - BACKBOARD	2
3	LIGHTS - INTERIOR	15	1	319	B	1000	20	1	OUTLETS - BACKBOARD	4
5	LIGHTS - EXTERIOR	15	2	125	C	1000	20	1	* FIRE SPRINKLER SYSTEM	6
7	LIGHTS - SITE POLES (208V)	15	2	229	A	1000	20	1	OUTLETS - BACKBOARD	8
9	-----	--	--	229	B	540	20	1	OUTLETS - OFFICE	10
11	SPARE	15	1		C	720	20	1	OUTLETS - OFFICE	12
13	SPARE	20	1		A	540	20	1	OUTLETS - OFFICE	14
15	SPARE	20	1		B	720	20	1	OUTLETS - STORAGE	16
17	SPARE	20	1		C	540	20	1	OUTLETS - EXTERIOR, NE RESTROOM	18
19	AIR CONDITIONER ODU-1 / IDU-1	50	2	3120	A	360	20	1	OUTLETS - EXTERIOR, NW RESTROOM	20
21	-----	--	--	3120	B	2000	20	1	HAND DRYER - NE RESTROOM	22
23	AIR CONDITIONER ODU-2 / IDU-2	15	2	936	C	3000	30	1	** WATER HEATER - NE RESTROOM	24
25	-----	--	--	936	A	2000	20	1	HAND DRYER - NW RESTROOM	26
27	EXHAUST FAN EF-2	15	1	696	B	3000	30	1	** WATER HEATER - NW RESTROOM	28
29	SPACE ONLY				C	360	20	1	OUTLETS - HAZMAT CONTAINER	30
31	SPACE ONLY				A		20	1	SPARE	32
33	SPACE ONLY				B		20	1	SPARE	34
35	SPACE ONLY				C		20	1	SPARE	36
37	SPACE ONLY				A		20	1	SPARE	38
39	SPACE ONLY				B		20	1	SPARE	40
41	SPACE ONLY				C		20	1	SPARE	42

LOAD SUMMARY: Φ A 9335 VA, Φ B 11624 VA, Φ C 6681 VA, MAX CURRENT: 27.6 KVA, 97 A

BUSING: 200A MAIN: 150A

NOTES: \* PROVIDE RED LOCK-ON DEVICE FOR F.A. CKTS. \*\* PROVIDE LOCK-OUT DEVICE FOR SERVICE

**PANEL "B" SCHEDULE**

CKT. NO.	DESCRIPTION	BREAKER		VA	Φ	VA	BREAKER		DESCRIPTION	CKT. NO.
		AMPS	POLE(S)				AMPS	POLE(S)		
1	CANOPY LIGHTS	15	1	736	A	1176	20	1	LIQUID RECOVERY TANK	2
3	SPARE	15	1		B	500	20	1	NORTH SEA TRAIN	4
5	SPARE	20	1		C	500	20	1	SOUTH SEA TRAIN	6
7	OUTLETS - CANOPY	20	1	360	A	500	15	1	N. LIFT GATE	8
9	OUTLETS - CANOPY	20	1	360	B	500	15	1	S. LIFT GATE	10
11	OUTLETS - CANOPY	20	1	360	C		20	1	SPARE	12
13	OUTLETS - TERMINAL CABINET	15	1	360	A		20	1	SPARE	14
15	SPARE	20	1		B		20	1	SPARE	16
17	SPARE	20	1		C		20	1	SPARE	18
19	SPACE ONLY				A				SPACE ONLY	20
21	SPACE ONLY				B				SPACE ONLY	22
23	SPACE ONLY				C				SPACE ONLY	24
25	SPACE ONLY				A				SPACE ONLY	26
27	SPACE ONLY				B				SPACE ONLY	28
29	SPACE ONLY				C				SPACE ONLY	30

LOAD SUMMARY: Φ A 3132 VA, Φ B 1360 VA, Φ C 860 VA, MAX CURRENT: 5.4 KVA, 26 A

BUSING: 100A MAIN: 100A

PANEL "B" SCHEDULE FOR REFERENCE ONLY. NOT INCLUDED IN BID.

**PANEL "C" SCHEDULE**

CKT. NO.	DESCRIPTION	BREAKER		VA	Φ	VA	BREAKER		DESCRIPTION	CKT. NO.
		AMPS	POLE(S)				AMPS	POLE(S)		
1	LIGHTING CONTROL PANEL	15	1	150	A	500	20	1	OUTLETS - BACKBOARD	2
3	LIGHTS - INTERIOR	20	1		B	500	20	1	OUTLETS - BACKBOARD	4
5	LIGHTS - EXTERIOR	15	1		C	1000	20	1	OUTLETS - BACKBOARD	6
7	MARQUEE SIGN	15	1		A	360	20	1	OUTLETS - INTERIOR	8
9	SPACE ONLY				B	360	20	1	OUTLETS - INTERIOR	10
11	SPACE ONLY				C	360	20	1	OUTLETS - INTERIOR	12
13	ROLL-UP DOOR MOTOR	15	3	444	A	360	20	1	OUTLETS - INTERIOR	14
15	-----	--	--	444	B	500	20	1	* FIRE SPRINKLER SYSTEM	16
17	-----	--	--	444	C		20	1	SPARE	18
19	ROLL-UP DOOR MOTOR	15	3	444	A		20	1	SPARE	20
21	-----	--	--	444	B		20	1	SPARE	22
23	-----	--	--	444	C		20	1	SPARE	24
25	ROLL-UP DOOR MOTOR	15	3	444	A	4800	50	3	OUTLET - FORKLIFT CHARGER	26
27	-----	--	--	444	B	4800	--	--	-----	28
29	-----	--	--	444	C	4800	--	--	-----	30
31	EXHAUST FAN EF-1	20	1	1176	A				SPACE ONLY	32
33	SPACE ONLY				B				SPACE ONLY	34
35	SPACE ONLY				C				SPACE ONLY	36
37	SPACE ONLY				A				SPACE ONLY	38
39	SPACE ONLY				B				SPACE ONLY	40
41	SPACE ONLY				C				SPACE ONLY	42

LOAD SUMMARY: Φ A 8678 VA, Φ B 7492 VA, Φ C 7492 VA, MAX CURRENT: 23.7 KVA, 72 A

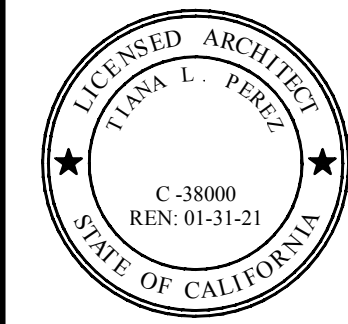
BUSING: 200A MAIN: 200A

NOTES: \* PROVIDE RED LOCK-ON DEVICE FOR F.A. CKTS.

PANEL "C" SCHEDULE FOR REFERENCE ONLY. NOT INCLUDED IN BID.



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 Clovis, CA 93612  
 559.323.4995 tel  
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ARCHITECT:  
 Tiana L. Perez, Architect  
 California Licensed Architect No. C-38000  
 Ren. 01-31-21  
 Fresno County Department of  
 Public Works & Planning  
 Development Services and  
 Capital Projects Division  
 2220 Tulare Street, Eighth Floor  
 Fresno, California 93721  
 Office: (559) 600-4536  
 E-mail: tperez@fresnocountyca.gov

**Project:**  
 Fresno County  
 Environmental Compliance Center  
 Office / Storage Building  
 Project Address: 310 S. West Avenue, Fresno CA 93706  
 APN: 458-060-72  
 Issue Date:  
 Project No. T90203  
 File Path: G:\Capital \ Projects \ Building Numbers \ American  
 Ave Landfill \ T90203 Environmental Compliance Center \ 00  
 2018 ECC

**Sheet Content:**  
 Power Details and Schedules



2220 Tulare Street, 8th Floor  
 Fresno, California 93721

**Sheet No.**  
**E1.3**

**A10 Panel Schedules**

Scale: None

STATE OF CALIFORNIA  
**Electrical Power Distribution**  
 NRC-ELC-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-ELC-E  
 This document is used to demonstrate compliance with mandatory requirements in §130.5, for electrical systems in newly constructed nonresidential, high-rise residential or hotel/motel occupancies. Additions and alterations to electrical systems in these occupancies will also use this document to demonstrate compliance per §141.00(a) for alterations.

Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 1 of 5)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**A. GENERAL INFORMATION**  
 01 Project Location (City) Fresno 02 Warehouse 03 Occupancy Types Within Project: School  Support Areas  Office  Retail  Hotel/Motel  School  Support Areas  Parking Garage  High-Rise Residential  Inhabitable  Healthcare Facilities  Other (write in) See Table I

**B. PROJECT SCOPE**  
 This table includes electrical systems that are within the scope of the permit application.

01	02	03	04	05
Electrical Service Designation/Description	Scope of Work <sup>1</sup>	Rating (kVA)	Utility Provided Metering System Exception to §130.5(a) <sup>2</sup>	System subject to CA Elec Code Article 117 (Exception to §130.5(a)) <sup>3</sup>
Panel A	New electrical service equipment and meter	54	<input checked="" type="checkbox"/>	<input type="checkbox"/>
05	Demand Response Controls	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections §120.2, §130.1 and §130.3, and compliance documents NRC-MCH, NRC-L1 and NRC-L15 will include when demand response controls are required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**C. COMPLIANCE RESULTS**  
 Results in this table are automatically calculated from data input and calculations in Tables F through I. 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.

01	02	03	04	05
Service Electrical Metering §130.5(a) (See Table F)	Separation for Monitoring §130.5(b) (See Table G)	Voltage Drop §130.5(c) (See Table H)	Controlled Receptacles §130.5(d) (See Table I)	COMPLIES
Yes	AND Yes	AND Yes	AND Yes	COMPLIES

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
 Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20190401  
 Registration Provider: Energysoft  
 Report Generated: 2020-07-20 11:42:08

STATE OF CALIFORNIA  
**Electrical Power Distribution**  
 NRC-ELC-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-ELC-E  
 This document is used to demonstrate compliance with requirements in §130.5(b). For alterations, only the altered circuits must demonstrate compliance per §141.00(a) for alterations.

Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 2 of 5)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**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.

**F. SERVICE ELECTRICAL METERING**  
 This section does not apply to this project.

**G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING**  
 This table includes entirely new or complete replacement electrical power distribution systems to demonstrate compliance with §130.5(b). Any load types that are not included in the service do not need to be shown.

01	02	03	04	05
Load Type per Table 130.5.8.1	Minimum Required Separation of Load per Table 130.5.8	Compliance Method <sup>1</sup>	Location of Requirements in Construction Documents	Field Inspector Pass/Fail
Panel A	All lighting in aggregate	Method 1	E1.3	<input type="checkbox"/>
Plug Loads and appliances less than 25kVA	All plug loads in aggregate Groups of plug loads exceeding 25 kVA connected load in an area less than 5000 ft <sup>2</sup>	Method 1	E1.3	<input type="checkbox"/>
HVAC systems and components	All HVAC in aggregate	Method 1	E1.3	<input type="checkbox"/>

**H. VOLTAGE DROP**  
 This table includes entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with §130.5(c). For alterations, only the altered circuits must demonstrate compliance per §141.00(a) for alterations.

01	02	03	04	05
Electrical Service Designation/Description	Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method	Location of Voltage Drop Calculations <sup>1</sup>	Sheet Number for Voltage Drop Calculations in Construction Documents	Field Inspector Pass/Fail
Panel A	Voltage drop less than 5% <input checked="" type="checkbox"/> Permitted by CA Elec Code (Exception to §130.5(c)) <sup>2</sup> <input type="checkbox"/>	Attached	E1.3	<input type="checkbox"/>

**I. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES**  
 This table includes entirely new or complete replacement electrical power distribution systems to demonstrate compliance with §130.5(d). Both controlled and uncontrolled receptacles must be provided in office areas, lobbies, conference rooms, kitchen areas in office spaces, copy rooms and hotel/motel guest rooms.

01	02	03	04	05	06
Room name or Location/Type of Controlled Receptacle	Shut-Off Controls	Permanent Durable Marking Will be Used	Location of Requirements in Construction Documents	Field Inspector Pass/Fail	Field Inspector Pass/Fail
Panel A	Within 6ft of uncontrolled receptacle	Occupancy Sensor <input checked="" type="checkbox"/>	E2.1	<input type="checkbox"/>	<input type="checkbox"/>

**J. 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 at https://www.energy.ca.gov/files/24/2019standards/2019\_compliance\_documents/Nonresidential\_Documents/NRC/

Yes	No	Form/Title	Field Inspector Pass/Fail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRC-ELC-E-1 - Must be submitted for all buildings	<input type="checkbox"/>

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
 Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20190401  
 Registration Provider: Energysoft  
 Report Generated: 2020-07-20 11:42:08

STATE OF CALIFORNIA  
**Electrical Power Distribution**  
 NRC-ELC-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-ELC-E  
 This document is used to demonstrate compliance with requirements in §110.9, §110.12(a), §130.1, §140.6 and §141.00(a) for indoor lighting systems using the prescriptive path.

Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 3 of 7)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**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 §140.6(a)(2) (See Table I)	Allowed Lighting Power per §140.6(a) (Watts)					Adjusted Lighting Power per §140.6(a) (Watts)			Compliance Results
	01	02	03	04	05	06	07	08	
Complete Building §140.6(a)(1) (See Table I)	Area Category §140.6(a)(2) (See Table I)	Area Category Additional §140.6(a)(2) (+) (See Table I)	Tailored §140.6(a)(2) (+) (See Table I)	Total Allowed (Watts) (See Table I)	Total Designed (Watts) (See Table I)	PAF Lighting Control Credits §140.6(a)(2) (See Table I)	Total Adjusted (Watts) *Includes Adjustments (See Table I)	OS must be >= OS §140.6 (See Table I)	COMPLIES
Conditioned	349.6	0		349.6	0	0	318.6	COMPLIES	
Unconditioned								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.

**F. INDOOR LIGHTING FIXTURE SCHEDULE**  
 This table includes all permanent designed lighting and all portable lighting in offices.

01	02	03	04	05	06	07	08	09	10
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change	Watts per luminaire <sup>1</sup>	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)(3) (See Table I)	Design Watts	Field Inspector Pass/Fail
A	32 5w LED Flat Panel	No	No	32.9	CEC Default	4	No	131.6	<input type="checkbox"/>
B	40.0w LED Surface Light	No	No	40	CEC Default	2	No	80	<input type="checkbox"/>

**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. When a control having a "1" is shown, the notes section of this table provides more detail on how compliance is achieved. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.

01	02	03
Mandatory Demand Response §110.12(c)	Shut-off controls §130.1(c)	Field Inspector Pass/Fail
Not Required <= 10,000 SF	Whole Building Other	<input type="checkbox"/>

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
 Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20190401  
 Registration Provider: Energysoft  
 Report Generated: 2020-07-20 11:42:08

STATE OF CALIFORNIA  
**Electrical Power Distribution**  
 NRC-ELC-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-ELC-E  
 This document is used to demonstrate compliance with requirements in §110.9, §110.12(a), §130.1, §140.6 and §141.00(a) for indoor lighting systems using the prescriptive path.

Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 4 of 7)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**I. INDOOR LIGHTING CONTROLS (Not including PAFs)**  
 This table includes lighting controls for conditioned and unconditioned spaces. When a control having a "1" is shown, the notes section of this table provides more detail on how compliance is achieved. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.

**J. INDOOR LIGHTING FIXTURE SCHEDULE**  
 This table includes all permanent designed lighting and all portable lighting in offices.

01	02	03	04	05	06	07	08	09	10
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change	Watts per luminaire <sup>1</sup>	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)(3) (See Table I)	Design Watts	Field Inspector Pass/Fail
C	30.0w LED Strip Light	No	No	30	CEC Default	1	No	30	<input type="checkbox"/>
D	17.0w LED Strip Light	No	No	17	CEC Default	1	No	17	<input type="checkbox"/>

**K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE**  
 There are no Certificates of Acceptance applicable to electrical power distribution requirements.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
 Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20190401  
 Registration Provider: Energysoft  
 Report Generated: 2020-07-20 11:42:08

STATE OF CALIFORNIA  
**Electrical Power Distribution**  
 NRC-ELC-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-ELC-E  
 This document is used to demonstrate compliance with requirements in §110.9, §110.12(a), §130.1, §140.6 and §141.00(a) for indoor lighting systems using the prescriptive path.

Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 5 of 7)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**DECLARATION OF COMPLIANCE**  
 I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Signature: C. Scott Davidson  
 Signature Date: 2020-07-20  
 Title: Hardin-Davidson Engineering  
 Address: 356 Pollasky Ave., Suite 200  
 City/State/Zip: Clovis, CA 93612  
 Phone: (559) 323-4995

**RESPONSIBLE PERSON'S DECLARATION STATEMENT**  
 I, the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 1 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
- 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 the CA, Part 1 and Part 4 of the California Code of Regulations.
- 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.
- 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: C. Scott Davidson  
 Signature Date: 2020-07-20  
 Title: Hardin-Davidson Engineering  
 Address: 356 Pollasky Ave., Suite 200  
 City/State/Zip: Clovis, CA 93612  
 Phone: (559) 323-4995

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
 Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20190401  
 Registration Provider: Energysoft  
 Report Generated: 2020-07-20 11:42:08

STATE OF CALIFORNIA  
**Indoor Lighting**  
 NRC-L1-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-L1-E  
 This document is used to demonstrate compliance with requirements in §110.9, §110.12(a), §130.1, §140.6 and §141.00(a) for indoor lighting systems using the prescriptive path.

Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 6 of 7)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**A. GENERAL INFORMATION**  
 01 Project Location (City) Fresno 02 Total Conditioned Floor Area (ft<sup>2</sup>) 592 03 Complete Zone 13 04 Total Unconditioned Floor Area (ft<sup>2</sup>) 0 05 Occupancy Types Within Project (select all that apply): Warehouse  Office  Retail  Hotel/Motel  School  Support Areas  Parking Garage  High-Rise Residential  Inhabitable  Healthcare  Other (write in) See Table I

**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 or §141.00(a) 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 (ft <sup>2</sup> )	Calculation Method	Area (ft <sup>2</sup> )
<input checked="" type="checkbox"/> New Lighting System	Area Category Method	592	Area Category Method	0
<input type="checkbox"/> New Lighting System - Parking Garage				
<b>Total Area of Work (ft<sup>2</sup>)</b>		<b>592</b>		<b>0</b>

**C. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS**  
 Electrical Room: 04 40 16 No No  
 Electrical Mechanical Telephone Room: 04 40 16 No No  
**TOTALS:** 592 349.6 See Tables I, 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.

**M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING**  
 This section does not apply to this project.

**N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/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 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.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
 Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20190401  
 Registration Provider: Energysoft  
 Report Generated: 2020-07-20 11:42:08

STATE OF CALIFORNIA  
**Indoor Lighting**  
 NRC-L1-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-L1-E  
 This document is used to demonstrate compliance with requirements in §110.9, §110.12(a), §130.1, §140.6 and §141.00(a) for indoor lighting systems using the prescriptive path.

Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 7 of 7)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)**  
 This section does not apply to this project.

**T. 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 at https://www.energy.ca.gov/files/24/2019standards/2019\_compliance\_documents/Nonresidential\_Documents/NRC/

Yes	No	Form/Title	Field Inspector Pass/Fail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRC-L1-01-E - Must be submitted for all buildings	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRC-L1-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRC-L1-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room or a theater to be recognized for compliance.	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRC-L1-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRC-L1-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	<input type="checkbox"/>

**U. 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 any with "A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: https://www.energy.ca.gov/files/24/attcp/providers.html

Yes	No	Form/Title	Field Inspector Pass/Fail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-L1-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-L1-03-A - Must be submitted for automatic daylight controls.	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-L1-04-A - Must be submitted for demand responsive lighting controls.	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-L1-05-A - Must be submitted for institutional tuning power adjustment factor (PAF)	<input type="checkbox"/>

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
 Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20190401  
 Registration Provider: Energysoft  
 Report Generated: 2020-07-20 11:42:08

STATE OF CALIFORNIA  
**Indoor Lighting**  
 NRC-L1-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-L1-E  
 This document is used to demonstrate compliance with requirements in §110.9, §110.12(a), §130.1, §140.6 and §141.00(a) for indoor lighting systems using the prescriptive path.

Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 8 of 7)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**DOCUMENTATION AUTHOR'S DECLARATION STATEMENT**  
 I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Signature: C. Scott Davidson  
 Signature Date: 2020-07-20  
 Title: Hardin-Davidson Engineering  
 Address: 356 Pollasky Ave., Suite 200  
 City/State/Zip: Clovis, CA 93612  
 Phone: (559) 323-4995

**RESPONSIBLE PERSON'S DECLARATION STATEMENT**  
 I, the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 1 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
- 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 the CA, Part 1 and Part 4 of the California Code of Regulations.
- 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.
- 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: C. Scott Davidson  
 Signature Date: 2020-07-20  
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Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
 Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20190401  
 Registration Provider: Energysoft  
 Report Generated: 2020-07-20 11:42:08



**Hardin-Davidson Engineering**  
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 559.323.4995 tel  
 www.hardin-davidson.com



**ARCHITECT:**  
 Tiana L. Paraz, Architect  
 California Licensed Architect No. C-38000  
 Ran. 01-31-21  
 Fresno County Department of Public Works & Planning  
 Development Services and Capital Projects Division  
 2220 Tulare Street, Eighth Floor  
 Fresno, California 93721  
 Office: (559) 600-4536  
 E-mail: tparaz@fresnocountyca.gov

**Project:**  
 Fresno County  
 Environmental Compliance Center  
 Office / Storage Building  
 Project Address: 310 S. West Avenue, Fresno CA 93706  
 APN: 458-060-72  
 Issue Date:  
 Project No: T90203  
 File Path: G:\Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Centert 00 2018 ECC

**Sheet Content:**  
 Title 24 Compliance Documents

Fresno County Department of Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No.  
**E1.4**

STATE OF CALIFORNIA  
**Outdoor Lighting**  
 NRC-170-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-170-E  
 Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 1 of 7)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**A. GENERAL INFORMATION**

01 Project Location (City) Fresno 04 Total Illuminated Hardcape Area (ft²) 1435  
 02 Climate Zone 13  
 03 Outdoor Lighting Zone per Title 24 Part 1 §10.116 or as designated by Authority Having Jurisdiction (AHJ):  
 L2-0: Very Low - Undeveloped Parkland  L2-2: Moderate - Rural Areas  L2-4: High - Must be Reviewed by CA Energy Commission for Approval  
 L2-1: Low - Developed Parkland  L2-3: Moderately High - Urban Areas

**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 §160.7 or §164.0002, for alterations.

My Project Consists of:  
 01 New Lighting System Must Comply with Allowances from §160.7  
 02 Altered Lighting System Is your alteration increasing the connected lighting load (Watts)?  Yes  No  
 03 % of Existing Luminaires Being Altered? 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.  
 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.

Registration Number: Registration Date/Time: Registration Provider: Energsoft  
 CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20190401 Report Generated: 2020-07-20 11:42:08

STATE OF CALIFORNIA  
**Outdoor Lighting**  
 NRC-170-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-170-E  
 Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 2 of 7)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

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

Calculations of Total Allowed Lighting Power (Watts) §160.7 or §164.0002						Compliance Results		
01	02	03	04	05	06	07	08	09
General Hardcape Allowance §160.7(a)(1) (See Table I)	Per Application §160.7(a)(2) (See Table J)	Sales Frontage §160.7(a)(3) (See Table K)	Ornamental §160.7(a)(4) (See Table L)	Per Specific Area §160.7(a)(5) (See Table M)	Existing Power Allowance §164.0002 (See Table N)	Total Allowed (Watts)	Total Actual (Watts)	07 must be >= 08
431.88	---	---	---	---	---	431.88	125	COMPLIES

Cutoff Compliance (See Table G for Details)  Controls Compliance (See Table H for Details)  **COMPLIES**

**D. EXCEPTIONAL CONDITIONS**  
 This table is auto-filled with applicable 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.

Registration Number: Registration Date/Time: Registration Provider: Energsoft  
 CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20190401 Report Generated: 2020-07-20 11:42:08

STATE OF CALIFORNIA  
**Outdoor Lighting**  
 NRC-170-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-170-E  
 Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 3 of 7)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**F. OUTDOOR LIGHTING FIXTURE SCHEDULE**  
 For new or altered lighting systems demonstrating compliance with §160.7, 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 §164.0002, only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (i.e., existing luminaires remaining or existing luminaires being moved are not included).

01	02	03	04	05	06	07	08	09	10
Name or Item Tag	Complete Luminaire Description	Watts per luminaire <sup>1,2</sup>	How is Wattage determined	Total number luminaires <sup>1</sup>	Luminaire Status <sup>2</sup>	Excluded per §160.7(a)	Design Watts	Cutoff Req. > 6,200 initial lumens output §130.2(c)(1)	Field Inspector
P	25.0w LED Wall Light <input type="checkbox"/> Linear	25	CEC Default	5	New	<input type="checkbox"/>	125	NA: < 6200 lumens	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
<b>Total Design Watts:</b>							125		

\* NOTES: Selections with a \* require a note in the space below explaining how compliance is achieved.  
 (1) Luminaire lighting output (LUMENS) per §160.7(a)(5).  
 (2) FOOTNOTES: Authority having jurisdiction may use for luminaire cut sheets to confirm wattage used for compliance per §130.2(c).  
 For linear luminaires, wattage should be indicated as W/ft instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.  
 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 to be Replaced" for existing luminaires which are being removed and replaced as part of the project scope.  
 Compliance with mandatory cutoff requirements is required for luminaires with initial lumens output >= 6,200 unless exempted by §130.2(b).

**G. OUTDOOR LIGHTING (BUS)**  
 This section does not apply to this project.

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STATE OF CALIFORNIA  
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**CERTIFICATE OF COMPLIANCE** NRC-170-E  
 Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 4 of 7)  
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**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 (in unaltered) and luminaires which are removed and reinstalled (being only) do not need to be included in this table even if they are within the spaces covered by the permit application. When an option having a \* is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.

01	02	03	04	05
Area Description	Shut Off §130.2(c)(3)	Auto-Schedule §130.2(c)(2)	Motion Sensor §130.2(c)(3)	Field Inspector
Bldg. Exterior	Astronomical Timer	Yes	NA: Facade, etc. <=24 ft	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

\* NOTES: Controls with a \* require a note in the space below explaining how compliance is achieved.  
 (1) Not permitted by health & safety as to control off. EXCEPTION 1 in §130.2(c).

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**Outdoor Lighting**  
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 Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 5 of 7)  
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**I. LIGHTING POWER ALLOWANCE (per §140.7)**  
 This table includes areas using allowance calculations per §140.7, General Hardcape Allowance is per Table 140.7.2 while "Use it or lose it" Allowances are per Table 140.7.2-B. 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.

01 General Hardcape Allowance Table 1 (Below) 02 "Use it or lose it" Allowance (select all that apply) (select all that apply)  Per Application Table J  Sales Frontage Table K  Ornamental Table L  Per Specific Area Table M

Calculated General Hardcape Lighting Power Allowance per Table 140.7-A (L2-0, L2 & 4) This section does not apply to this project.  
 Calculated General Hardcape Lighting Power Allowance per Table 140.7-A (L2 & 3)

03	04	05	06	07	08	09	10	
Area Description	Surface Type	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (ft)	Allowed Density (W/ft)	Linear Allowance (Watts)	Total General AWA + LWA (Watts)
Walkway	Asphalt	1435	0.03	35.875	184	0.4	46	81.875
<b>Initial Wattage Allowance for Entire Site (Watts):</b>							350	
<b>Total General Hardcape Allowance (Watts):</b>							431.875	

**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.

**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.

Registration Number: Registration Date/Time: Registration Provider: Energsoft  
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STATE OF CALIFORNIA  
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 NRC-170-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-170-E  
 Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 6 of 7)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**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 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 at [https://www.energy.ca.gov/sites/default/files/2019-08/2019standards/2019\\_compliance\\_documents/Nonresidential\\_Documents/NRC/](https://www.energy.ca.gov/sites/default/files/2019-08/2019standards/2019_compliance_documents/Nonresidential_Documents/NRC/)

Yes	No	Form/Title	Field Inspector
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-LTO-01-E - Must be submitted for all buildings	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-LTO-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

**P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE**  
 Selections have been made based on information provided in this document. If any selection 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 must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: [http://www.energy.ca.gov/sites/default/files/2019-08/2019standards/2019\\_compliance\\_documents/Nonresidential\\_Documents/NRC/](http://www.energy.ca.gov/sites/default/files/2019-08/2019standards/2019_compliance_documents/Nonresidential_Documents/NRC/)

Yes	No	Form/Title	Field Inspector
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

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STATE OF CALIFORNIA  
**Outdoor Lighting**  
 NRC-170-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRC-170-E  
 Project Name: Environmental Compliance Center Office/Storage Building Report Page: (Page 7 of 7)  
 Project Address: 310 S. West Ave. Date Prepared: 7/20/2020

**DOCUMENTATION AUTHOR'S DECLARATION STATEMENT**  
 I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: C. Scott Davidson  
 Company: Hardin-Davidson Engineering  
 Address: 356 Pollasky Ave., Suite 200  
 City/State/Zip: Clovis CA 93612  
 Signature Date: 7/17/20  
 (CA HERS Certification Identification (if applicable): E17850  
 Phone: 559-323-4995

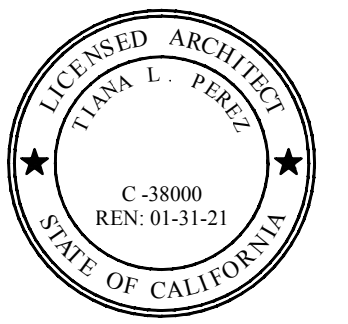
**RESPONSIBLE PERSON'S DECLARATION STATEMENT**  
 I verify the following under penalty of perjury, under the laws of the State of California:  
 1. The information provided on this Certificate of Compliance is true and correct.  
 2. I am eligible under Division 3 of the Business and Professions Code 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 the 2019 Title 24 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: C. Scott Davidson  
 Signature Date: 2020-07-20  
 Company: Hardin-Davidson Engineering  
 Address: 356 Pollasky Ave., Suite 200  
 City/State/Zip: Clovis CA 93612  
 Phone: 559-323-4995

Registration Number: Registration Date/Time: Registration Provider: Energsoft  
 CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20190401 Report Generated: 2020-07-20 11:42:08



**Hardin-Davidson Engineering**  
 356 Pollasky Ave.  
 Suite 200  
 Clovis, CA 93612  
 559.323.4995  
 www.hardin-davidson.com



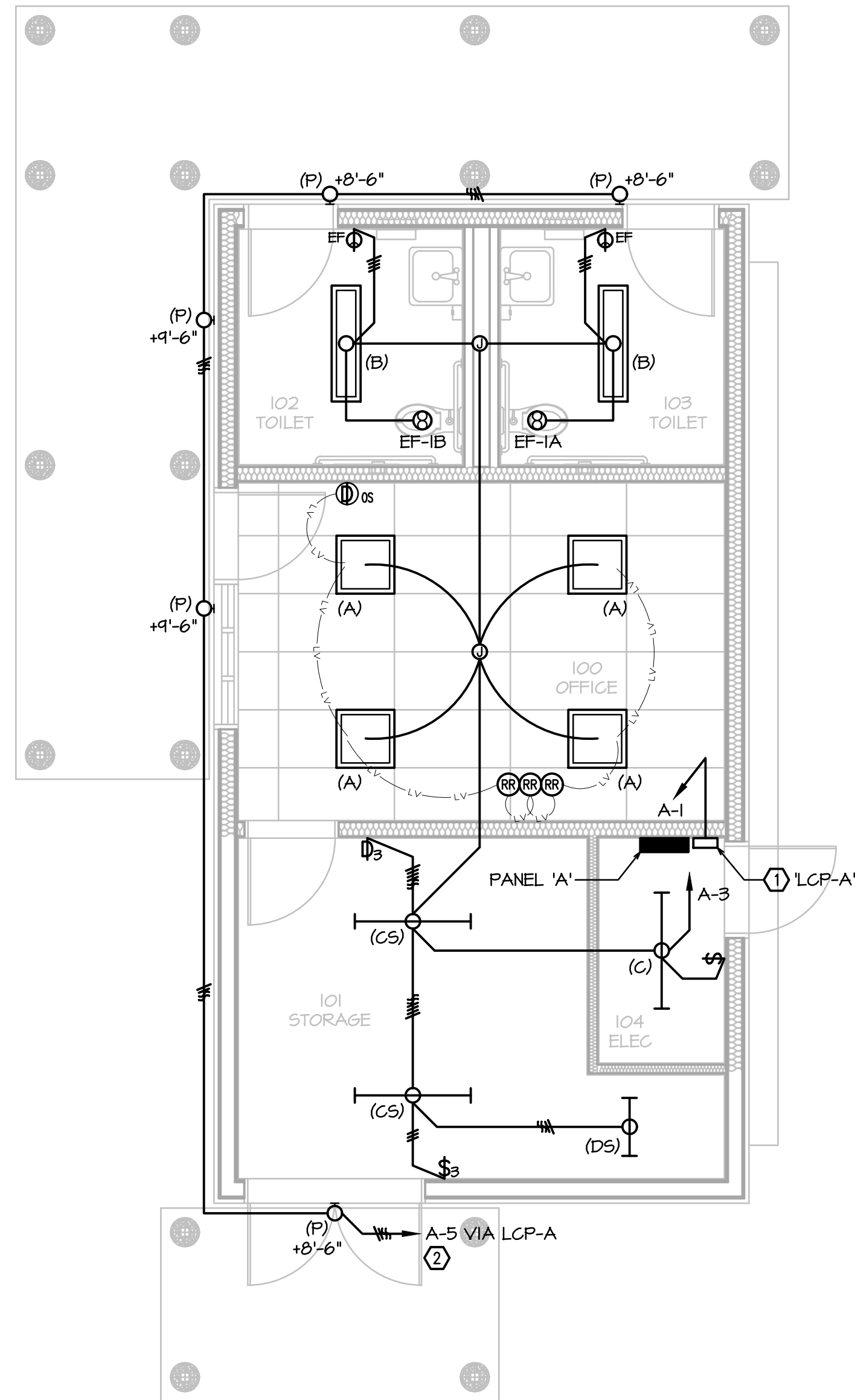
**ARCHITECT:**  
 Tiana L. Perez, Architect  
 California Licensed Architect No. C-38000  
 Ran. 01-31-21  
 Fresno County Department of Public Works & Planning  
 Development Services and Capital Projects Division  
 2220 Tulare Street, Eighth Floor  
 Fresno, California 93721  
 Office: (559) 600-4536  
 E-mail: tperez@fresnocountyca.gov

**Project:**  
 Fresno County  
 Environmental Compliance Center  
 Office / Storage Building  
 Project Address: 310 S. West Avenue, Fresno CA 93706  
 APN: 458-060-72  
 Issue Date:  
 Project No: T90203  
 File Path: G:Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center \ 00 2018 ECC

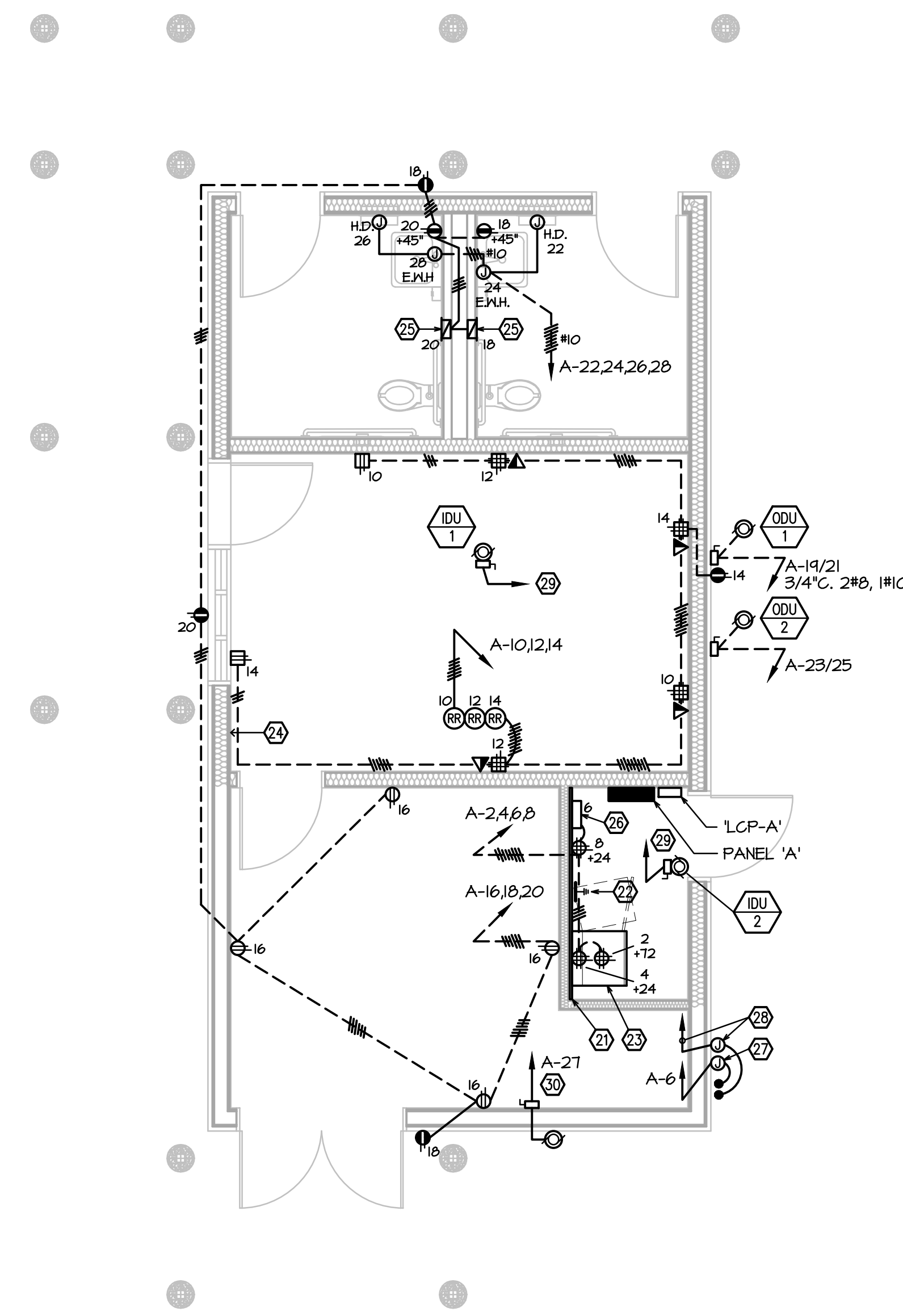
**Sheet Content:**  
 Title 24 Compliance Documents

Fresno County Department of Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No.  
**E1.5**



**A1** Lighting Plan  
Scale: 1/4" = 1'-0"



**A8** Power and Low Voltage Plan  
Scale: 1/4" = 1'-0"

**KEYNOTES**

1. LIGHTING CONTROL PANEL: LITHONIA ALIGHT ARP PANEL, MOUNT ADJACENT TO POWER PANEL. CONNECT EXTERIOR LIGHTING POWER AND DIMMING CONDUCTORS.
2. PROVIDE VIOLET & GRAY 0-10V DIMMING CONDUCTORS ALONG WITH POWER CONDUCTORS.
3. 3/4" x 8 FT. HIGH FIRE RESISTANT FLYMOOD BACKBOARD. INSTALL OUTLETS AT 24" AFF AND 12" AFF WHERE SHOWN. MOUNT UTILITY PRICE, DATA, VOICE, INTRUSION, SPRINKLER MONITOR, AND LEAK DETECTION PANELS AT THIS BOARD.
22. PROVIDE 12" COPPER COMMUNICATION BUS BAR ON STAND-OFFS. RUN #6 GREEN GROUND WIRE TO MAIN PANEL GEC.
23. NETWORK ELECTRONICS CABINET.
24. MOUNT ANNUNCIATORS FOR LEAK DETECTION EQUIPMENT AT THIS HALL.
25. PROVIDE STEEL CABINET WITH HINGED DOOR AND MOUNT FLUSH IN HALL, 4" BELOW CEILING. HARMOND RNF1004, OR SIMILAR. INSTALL FUSING AND VALVE TRANSFORMER AT INTERIOR AND CORRECT LOW VOLTAGE CABLEING TO SINK AND FLUSH VALVES.
26. SPRINKLER MONITOR PANEL AND LITE DIALER. PROVIDE 120V DEDICATED CIRCUIT AND INSTALL RED LOCK-ON DEVICE ON CIRCUIT BREAKER. CORRECT FRY TAMPER, RISER TAMPER, AND RISER FLOW SWITCHES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRODUCING DRAWINGS, CALCULATIONS, AND GUT SHEETS AND SUBMITTING THOSE TO THE A/E TO OBTAIN PERMITS FOR THE SPRINKLER MONITOR SYSTEM. THE CONTRACTOR SHALL INCLUDE IN BID ALL WORK REQUIRED FOR THIS SYSTEM.
27. 1/2" J-BOX FOR FIRE SPRINKLER RISER BELL. CONNECT TO FLOW SWITCH AND RISER BELL ON NOTED POWER.
28. 1/2" J-BOX FOR FIRE SPRINKLER RISER TAMPER AND FLOW SWITCHES. RUN 3/4" C. TO SPRINKLER RISER PANEL.
29. CHASE DOWN HALL AND HOME RUN TO RESPECTIVE OUTDOOR UNIT FOR POWER PER MFGOR.
30. HOMERUN VIA CONTROLS PER MECHANICAL DRAWINGS.



**Project:**  
 Fresno County  
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 Office / Storage Building  
 Project Address: 310 S. West Avenue, Fresno CA 93706  
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 File Path: G:Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00 2018 ECC

**Sheet Content:**  
 Office/Storage Building  
 Electrical Plans



**Sheet No.**  
**E2.1**