

ACCESSORY DWELLING UNIT OPTION # 2

500 SQ. FT. MODEL (515 SQ. FT.)
1-BEDROOM / 1-BATH
COVERED PORCH



OWNER: _____
ADDRESS: _____
TEL. NO.: _____

PROJECT INFORMATION

PROJECT OF:
THE COUNTY OF FRESNO
DEPARTMENT OF PUBLIC WORKS AND PLANNING

Capital Projects Division
2220 Tulare St., Ste. 720, Fresno, CA. 93721
Phone: (559) 262-4212 Fax: (559) 262-4879

SCOPE OF WORK:
PROPOSED ONE (1) STORY ACCESSORY DWELLING UNIT (ADU)

| | |
|--------------------------------|--------|
| FLOOR AREA (CONDITIONED SPACE) | 515 SF |
| COVERED PORCH 1 | 53 SF |
| COVERED PORCH 2 (OPTIONAL) | 60 SF |
| TOTAL | 628 SF |

BUILDING DATA:
OCCUPANCY CLASSIFICATION: R3
GROUP USE : (R-3) SINGLE FAMILY RESIDENCE
TYPE OF CONSTRUCTION: VB
SPRINKLERED: YES

STRUCTURAL DESIGN CRITERIA:
ROOF DEAD LOAD = 20 PSF
LIVE LOAD = 20 PSF
WIND SPEED = 110 MPH (ALLOWABLE STRESS) / EXPOSURE C, LOW-RISE BUILDING
SEISMIC DESIGN CATEGORY: D
SS = 0.531
SDS = .060
Fa = 1.375
SNOW LOAD = NONE
ALLOWABLE SOIL PRESSURE: 1500 PSF PER CBC 2022
CONCRETE DESIGN STRENGTH OF 2500 PSI PER CRC TABLE R402.2

DEFERRED SUBMITTAL ITEMS

THE OWNER / APPLICANT IS RESPONSIBLE FOR PREPARING DOCUMENTATIONS, APPLICATIONS, PROCESSING THROUGH THE AUTHORITY HAVING JURISDICTION AND PAYING ALL APPLICABLE FEES FOR THE DEFERRED SUBMITTALS. REFER TO "RIGHTS AND LIMITATIONS OF USING PRE-APPROVED PLANS" FOR ADDITIONAL INFORMATION.

- ROOF TRUSSES
- FIRE SPRINKLERS
- SOLAR PV - MINIMUM 2.02 kW DC PER TITLE 24 HVAC (DUCTLESS MINI-SPLIT HEAT PUMP WITH MINIMUM HEATING EFFICIENCY - 8.5 HSPF / COOLING EFFICIENCY- 15 SEER 9 EER) WITH PERMANENTLY INSTALLED WALL MOUNTED THERMOSTAT @ LIVING ROOM.

REQUIREMENTS

FIRE DEPARTMENT APPROVAL MUST BE OBTAINED. PROVIDE EVIDENCE OF FIRE PROTECTION DISTRICT APPROVAL TO MATTHEW B. LOPEZ, PLANS EXAMINER AT (559) 600-4324 OR E-MAIL: MAIL.mattopez@fresnocountyca.gov.

FOR QUESTIONS REGARDING ZONING REQUIREMENTS, CONTACT: ZONING, AT (559) 600-4540 OR E-MAIL: zoningenforcement2@fresnocountyca.gov

FOR QUESTIONS REGARDING GRADING REQUIREMENTS, CONTACT: DANA RITSCHEL, AT (559) 600-4212 OR EMAIL: dritschel@fresnocountyca.gov

FOR QUESTIONS REGARDING CODE ENFORCEMENT COMMENTS, CONTACT: ELISABETH HARRISON AT (559) 600-2519 OR E-MAIL, eharrison@fresnocountyca.gov

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8.5' x 11" ATTACHMENTS:
STRUCTURAL ANALYSIS
TITLE 24 DOCUMENTATIONS

ADDITIONAL REQUIREMENTS

1. STATE LAW REQUIRES THIS PROJECT COMPLY WITH THE CURRENT EDITION OF THE CALIFORNIA FIRE CODE. CONTACT THE FOLLOWING FIRE PROTECTION DISTRICT AND OBTAIN APPROVAL PRIOR TO OBTAINING THE PERMITS FROM THE COUNTY OF FRESNO. VERIFY THE SITE ADDRESS WITH THE CORRECT JURISDICTION BELOW:

FRESNO COUNTY FIRE PROTECTION DISTRICT
1700 JENSEN AVENUE SUITE 103
SANGER, CA. 93657
PHONE: (559) 319-0400

CITY OF FRESNO FIRE DEPARTMENT
911 H ST.
FRESNO, CA. 93721
PHONE: (559) 621-4000

THE COUNTY OF FRESNO
DEPARTMENT OF PUBLIC WORKS AND PLANNING
DEVELOPMENT SERVICES
2220 TULARE ST. STREET LEVEL.
FRESNO, CA. 93721
PHONE (559) 600-4219

NORTH CENTRAL FIRE DEPARTMENT
15850 W. KEARNEY BLVD.
KERMAN, CA. 93630
PHONE (559) 275-5531

CSA 60 - AUBERRY VOLUNTEER FIRE DEPARTMENT
PO BOX 191
AUBERRY, CA. 93602
559-855-2777

SHAVER LAKE FIRE DISTRICT
41795 TOLLHOUSE
SHAVER LAKE, CA. 93664
559-841-8136

ORANGE COVE FIRE DEPARTMENT
550 CENTER STREET
ORANGE COVE, CA. 93646
559-626-7758

2. PROVIDE A COMPLETE SITE PLAN AS PART OF THE PLANS, DRAWN TO SCALE, ON A FULL-SIZE SHEET WITH THE FOLLOWING INFORMATION:

- PROVIDE PROPERTY LINE DIMENSIONS.
- INDICATE A NORTH ARROW.
- DIMENSION DISTANCES TO ALL PROPERTY LINES AND ADJACENT BUILDINGS.
- LOCATE THE FOLLOWING:
 - ALL STRUCTURES ON-SITE
 - EASEMENTS AND SETBACKS
 - MECHANICAL OR OTHER GROUND MOUNTED EQUIPMENT
 - LPG TANKS OR GAS METER
 - WELLS OR WATER METERS
 - SEPTIC SYSTEMS (INCLUDING 100% EXPANSION AREA FOR LEACHING FIELD) OR SEWER CONNECTIONS
 - DRIVEWAY (MATERIALS TO BE USED FOR THE DRIVEWAY)

3. PROVIDE A DRAINAGE PLAN FOR THE DEVELOPED PORTION OF THE PROPERTY [CRC R300.2]

- FOR VALLEY FLOOR ("FLAT" LAND) PARCELS, ADDRESS THE FOLLOWING:
 - SHOW THE DRAINAGE AWAY FROM THE PROPOSED CONSTRUCTION. "PROVIDE A TWO PERCENT SLOPE AWAY FROM THE PROPOSED BUILDING FOR A MINIMUM OF FIVE FEET." [FCOC 15.08.020 O]
 - SHOW DRAINAGE PATTERNS TO THE STREET OR AN APPROVED DRAINAGE FACILITY.
 - PROVIDE ACTUAL/RELATIVE ELEVATIONS FOR THE BUILDING PAD, LOT CORNERS AND CROWN OF ADJACENT STREETS. "FINISH FLOOR ELEVATION IS TO BE ABOVE THE CROWN OF THE STREET."
 - DELINEATE THE EXTENT OF THE BUILDING PAD WITH DIMENSIONS FROM THE BUILDING TO THE EDGE OF THE PAD.
- FOR ALL FOOTHILL AND MOUNTAIN PARCELS WITH SLOPED GRADES, ADDRESS THE FOLLOWING:
 - SHOW THE DRAINAGE AWAY FROM THE PROPOSED CONSTRUCTION. "PROVIDE A TWO PERCENT SLOPE AWAY FROM THE PROPOSED BUILDING FOR A MINIMUM OF FIVE FEET." [FCOC 15.08.020 O]
 - SHOW DRAINAGE PATTERNS TO THE STREET OR AN APPROVED DRAINAGE FACILITY (EXISTING AND PROPOSED CONTOURS) INCLUDING:
 - TERRACING
 - SWALES
 - RETAINING WALLS
 - ROOF RAINWATER RUNOFF. SHOW GUTTERS AND DOWNSPOUT DISCHARGE LOCATIONS.
 - DELINEATE THE EXTENT OF THE BUILDING PAD WITH DIMENSIONS FROM THE BUILDING TO THE EDGE OF THE PAD.
 - CUT AND FILL AREAS (WITH QUANTITIES IN CUBIC YARDS) ON BOTH PLAN AND SCHEMATIC (SECTION) VIEWS IN BOTH DIRECTIONS.
 - DRIVEWAYS AND PRIVATE ROADS SHALL HAVE A MAXIMUM SLOPE OF 12%. THE GRADE MAY BE INCREASED TO A MAXIMUM OF 20% FOR PAVED SURFACES." [FCOC 15.60.505].

- ADD THE FOLLOWING NOTES ON THE SITE OR DRAINAGE PLANS:
 - "FINISH FLOOR ELEVATION IS TO BE ABOVE THE CROWN OF THE STREET."
 - "PROVIDE A TWO PERCENT SLOPE AWAY FROM THE PROPOSED BUILDING FOR A MINIMUM OF FIVE FEET." [FCOC 15.08.020 O]
 - "DRIVEWAYS AND PRIVATE ROADS SHALL HAVE A MAXIMUM SLOPE OF 12%. THE GRADE MAY BE INCREASED TO A MAXIMUM OF 20% FOR PAVED SURFACES." [FCOC 15.60.505].

APPLICABLE CODE

2022 CALIFORNIA ADMINISTRATIVE CODE
2022 CALIFORNIA BUILDING CODE
2022 CALIFORNIA PLUMBING CODE
2022 CALIFORNIA MECHANICAL CODE
2022 CALIFORNIA ELECTRICAL CODE
2022 CALIFORNIA FIRE CODE
2022 CALIFORNIA RESIDENTIAL CODE
2022 CALIFORNIA ENERGY CODE
2022 CALIFORNIA GREEN BUILDING CODE
2022 CALIFORNIA REFERENCE STANDARDS CODE
FRESNO COUNTY ORDINANCE TITLE 15

REFER TO G-101, G-102 FOR ADDITIONAL INFORMATION.

GENERAL NOTES:

- CONSTRUCTION WASTE MANAGEMENT PLAN MUST BE FINALIZED PRIOR TO OCCUPANCY.
- INSTALL STREET ADDRESS NUMERALS, AT LEAST FOUR INCHES HIGH WITH MINIMUM 1/2-INCH STROKE, MOUNTED ON A CONTRASTING BACKGROUND CLEARLY VISIBLE FROM THE STREET.
- PRIOR TO PERMIT ISSUANCE, PROVIDE AN ADDITIONAL FLOOR PLAN AND SITE PLAN FOR USE BY THE ASSESSOR'S OFFICE.

RIGHTS AND LIMITATIONS IN USING PRE-APPROVED PLANS

- RIGHTS OF THE OWNER/APPLICANT:
 - THE OWNER/APPLICANT HAS THE RIGHT TO UTILIZE THE PRE-APPROVED PLANS FOR THEIR INTENDED CONSTRUCTION PROJECT, SUBJECT TO COMPLIANCE WITH APPLICABLE REGULATIONS AND GUIDELINES.
- RESPONSIBILITY OF THE OWNER/APPLICANT:
 - THE OWNER/APPLICANT IS RESPONSIBLE FOR SUBMITTING ALL ITEMS LISTED UNDER THE DEFERRED SUBMITTAL AS REQUIRED BY THE RELEVANT AUTHORITIES. THIS INCLUDES ANY ADDITIONAL DOCUMENTS, PERMITS, OR INFORMATION THAT WERE NOT INCLUDED IN THE PRE-APPROVED PLANS.
 - THE OWNER/APPLICANT MUST ENSURE THAT THE CONSTRUCTION PROJECT ADHERES TO ALL RELEVANT BUILDING CODES, ZONING REGULATIONS, AND OTHER APPLICABLE LAWS.
 - IT IS THE RESPONSIBILITY OF THE OWNER/APPLICANT TO SECURE APPROVAL FROM THE ZONING DEPARTMENT FOR SITE-SPECIFIC LOCATIONS. THE PRE-APPROVED PLANS DO NOT INCLUDE SUCH SITE-SPECIFIC DETAILS, AND THE OWNER/APPLICANT MUST OBTAIN NECESSARY PERMITS OR VARIANCES AS REQUIRED.
- LIMITATIONS ON SITE-SPECIFIC LOCATIONS:
 - THE PRE-APPROVED PLANS DO NOT PROVIDE SITE-SPECIFIC INFORMATION OR DETAILS REGARDING THE CONSTRUCTION SITE. THE OWNER/APPLICANT MUST CONSULT WITH THE APPROPRIATE AUTHORITIES, SUCH AS THE ZONING DEPARTMENT, TO OBTAIN THE NECESSARY APPROVALS FOR THE SPECIFIC LOCATION OF THE CONSTRUCTION PROJECT.
 - THE OWNER/APPLICANT MUST COMPLY WITH ALL ZONING REGULATIONS, SETBACK REQUIREMENTS, ENVIRONMENTAL CONSIDERATIONS, AND ANY OTHER SITE-SPECIFIC RESTRICTIONS IMPOSED BY THE RELEVANT AUTHORITIES.
- COMPLIANCE WITH BUILDING CODES AND REGULATIONS:
 - THE OWNER/APPLICANT MUST ENSURE THAT THE CONSTRUCTION PROJECT COMPLIES WITH ALL APPLICABLE BUILDING CODES, REGULATIONS, AND STANDARDS, EVEN IF THE PRE-APPROVED PLANS WERE UTILIZED.
 - THE USE OF PRE-APPROVED PLANS DOES NOT EXEMPT THE OWNER/APPLICANT FROM FULFILLING THEIR OBLIGATIONS TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS AS REQUIRED BY LOCAL, STATE, AND FEDERAL REGULATIONS.
- LIABILITY AND INDEMNIFICATION:
 - THE OWNER/APPLICANT ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE CONSTRUCTION PROJECT, INCLUDING ANY CONSEQUENCES ARISING FROM THE USE OF THE PRE-APPROVED PLANS.
 - THE OWNER/APPLICANT AGREES TO INDEMNIFY AND HOLD HARMLESS THE RELEVANT AUTHORITIES, ARCHITECTS, ENGINEERS, AND ANY OTHER PARTIES INVOLVED IN THE APPROVAL PROCESS, FROM ANY CLAIMS, DAMAGES, OR LIABILITIES ARISING OUT OF THE USE OF THE PRE-APPROVED PLANS OR THE CONSTRUCTION PROJECT.
- GEOGRAPHIC LIMITATIONS:
 - THE PRE-APPROVED PLANS HAVE BEEN DESIGNED SPECIFICALLY FOR USE IN FRESNO COUNTY AND ARE NOT INTENDED FOR AREAS SUBJECT TO SNOW LOAD, WILDFIRE RISK, FLOOD ZONES, OR OTHER SPECIFIC GEOGRAPHIC CONDITIONS.
 - THE OWNER/APPLICANT ACKNOWLEDGES AND UNDERSTANDS THAT THE PRE-APPROVED PLANS MAY NOT ACCOUNT FOR UNIQUE SITE CONDITIONS OR REGIONAL REQUIREMENTS IN AREAS OUTSIDE OF FRESNO COUNTY.
- SITE-SPECIFIC CONSIDERATIONS:
 - THE OWNER/APPLICANT MUST ASSESS AND ADDRESS ANY SITE-SPECIFIC FACTORS THAT ARE NOT COVERED BY THE PRE-APPROVED PLANS, INCLUDING BUT NOT LIMITED TO SOIL CONDITIONS, TOPOGRAPHY, DRAINAGE, AND OTHER ENVIRONMENTAL CONSIDERATIONS.
 - IT IS THE RESPONSIBILITY OF THE OWNER/APPLICANT TO ENGAGE THE NECESSARY PROFESSIONALS, SUCH AS GEOTECHNICAL ENGINEERS OR ENVIRONMENTAL CONSULTANTS, TO EVALUATE AND MITIGATE ANY SITE-SPECIFIC RISKS OR CHALLENGES.
- COMPLIANCE WITH LOCAL REGULATIONS:
 - THE OWNER/APPLICANT MUST COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS THAT APPLY TO THEIR SPECIFIC GEOGRAPHIC AREA, INCLUDING BUT NOT LIMITED TO BUILDING CODES, ZONING ORDINANCES, FIRE CODES, AND ENVIRONMENTAL REGULATIONS.
 - THE USE OF THE PRE-APPROVED PLANS DOES NOT EXEMPT THE OWNER/APPLICANT FROM FULFILLING THEIR OBLIGATIONS TO ADHERE TO THESE LOCAL REGULATIONS AND OBTAIN ANY NECESSARY PERMITS OR APPROVALS.
- MODIFICATION RESTRICTIONS:
 - THE OWNER/APPLICANT SHOULD BE AWARE THAT MODIFICATIONS TO THE PRE-APPROVED PLANS MAY BE REQUIRED TO ADDRESS SPECIFIC SITE CONDITIONS OR MEET LOCAL REGULATIONS. ANY SUCH MODIFICATIONS MUST BE CARRIED OUT IN COMPLIANCE WITH THE APPLICABLE LAWS AND REGULATIONS.
 - THE OWNER/APPLICANT MAY NEED TO ENGAGE DESIGN PROFESSIONALS, SUCH AS ARCHITECTS OR ENGINEERS, TO REVIEW AND REVISE THE PRE-APPROVED PLANS AS NECESSARY TO ENSURE COMPLIANCE WITH LOCAL REQUIREMENTS.
- RELIANCE AND VERIFICATION:
 - THE OWNER/APPLICANT ACKNOWLEDGES THAT THE USE OF PRE-APPROVED PLANS IS BASED ON THE ASSUMPTION THAT THEY ARE ACCURATE, COMPLETE, AND COMPLIANT WITH RELEVANT REGULATIONS.
 - HOWEVER, THE OWNER/APPLICANT ALSO UNDERSTANDS THAT IT IS THEIR RESPONSIBILITY TO VERIFY THE SUITABILITY AND APPLICABILITY OF THE PRE-APPROVED PLANS FOR THEIR SPECIFIC PROJECT AND SITE CONDITIONS. THEY SHOULD EXERCISE DUE DILIGENCE IN CONFIRMING THE PLANS' ADEQUACY BEFORE PROCEEDING WITH CONSTRUCTION.

AGING-IN-PLACE DESIGN AND FALL PROTECTION

- THE BATHROOM SHALL BE PROVIDED WITH REINFORCEMENT INSTALLED IN ACCORDANCE WITH THIS SECTION. WHERE THERE IS NO BATHROOM ON THE ENTRY LEVEL, AT LEAST ONE BATHROOM ON THE SECOND OR THIRD FLOOR OF THE DWELLING SHALL COMPLY WITH THIS SECTION. [CRC R327.1.1]
 - REINFORCEMENT SHALL BE SOLID LUMBER OR OTHER CONSTRUCTION MATERIALS APPROVED BY THE ENFORCING AGENCY. [CRC R327.1.1(1)]
 - REINFORCEMENT SHALL NOT BE LESS THAN 2 INCHES BY 8-INCH NOMINAL LUMBER (1-1/2 INCH BY 7-1/4 INCH ACTUAL DIMENSION) OR OTHER CONSTRUCTION MATERIAL PROVIDING EQUAL HEIGHT AND LOAD CAPACITY. REINFORCEMENT SHALL BE LOCATED BETWEEN 32 INCHES AND 39-1/4 INCHES ABOVE THE FINISH FLOOR FLUSH WITH WALL FRAMING [CRC R327.1.1(2)]
 - WATER CLOSET REINFORCEMENT SHALL BE INSTALLED ON BOTH SIDE WALLS OF THE FIXTURE OR ONE SIDE WALL AND BACK WALL. [CRC R327.1.1(3)]
 - SHOWER REINFORCEMENT SHALL BE CONTINUOUS WHERE WALL FRAMING IS PROVIDED. [CRC R327.1.1(4)]
 - BATHTUB AND COMBINATION BATHTUB/SHOWER REINFORCEMENT SHALL BE CONTINUOUS ON EACH END OF THE BATHTUB AND THE BACK WALL. ADDITIONALLY, BACK WALL REINFORCEMENT FOR A LOWER GRAB BAR SHALL BE PROVIDED WITH THE BOTTOM EDGE LOCATED NO MORE THAN 6 INCHES ABOVE THE BATHTUB RIM [CRC R327.1.1(5)]
 - WHERE THE WATER CLOSET IS NOT PLACED ADJACENT TO A SIDEWALL CAPABLE OF ACCOMMODATING A GRAB BAR, THE BATHROOM SHALL HAVE PROVISIONS FOR INSTALLATION OF FLOOR-MOUNTED, FOLD-AWAY, OR SIMILAR ALTERNATE GRAB BAR REINFORCEMENTS APPROVED THE ENFORCING AGENCY [CRC R327.1.1 EXCEPTION 1]
 - REINFORCEMENT SHALL NOT BE REQUIRED IN WALL FRAMING FOR PREFABRICATED SHOWER ENCLOSURES AND BATHTUB WALL PANELS WITH INTEGRAL FACTORY INSTALLED GRAB BARS OR WHEN FACTORY INSTALLED REINFORCEMENT FOR GRAB BARS IS PROVIDED. [CRC R327.1.1 EXCEPTION 2]
 - SHOWER ENCLOSURES THAT DO NOT PERMIT INSTALLATION OF REINFORCEMENT OR GRAB BARS SHALL BE PERMITTED, PROVIDED REINFORCEMENT FOR INSTALLATION OF FLOOR MOUNTED GRAB BARS OR AN ALTERNATE METHOD IS APPROVED BY THE ENFORCING AGENCY. [CRC R327.1.1 EXCEPTION 3]
 - BATHTUBS WITH NO SURROUNDING WALLS, OR WHERE WALL PANELS DO NOT PERMIT THE INSTALLATION OF REINFORCEMENT SHALL BE PERMITTED, PROVIDED REINFORCEMENT FOR INSTALLATION OF FLOOR MOUNTED GRAB BARS ADJACENT TO THE BATHTUB OR AN ALTERNATE METHOD IS APPROVED BY THE ENFORCING AGENCY. [CRC R327.1.1 EXCEPTION 4]
 - REINFORCEMENT OF FLOORS SHALL NOT BE REQUIRED FOR BATHTUBS AND WATER CLOSETS INSTALLED ON CONCRETE SLABS. [CRC R327.1.1 EXCEPTION 5]
- DOORBELL BUTTONS OR CONTROLS, WHEN INSTALLED SHALL NOT EXCEED 48 INCHES ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON ASSEMBLY. WHERE DOORBELL BUTTONS OR CONTROLS ARE INSTALLED ABOVE 48 INCHES MEASURED FROM THE EXTERIOR FLOOR OR LANDING, A STANDARD DOORBELL BUTTON OR CONTROL SHALL ALSO BE PROVIDED AT A HEIGHT NOT EXCEEDING 48 INCHES ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL CONTROL. [CRC R327.1.4]
 - R327.1.2 ELECTRICAL RECEPTACLE OUTLET, SWITCH AND CONTROL HEIGHTS. ELECTRICAL RECEPTACLE OUTLETS, SWITCHES, AND CONTROLS (INCLUDING CONTROLS FOR HEATING, VENTILATION, AND AIR CONDITIONING) INTENDED TO BE USED BY OCCUPANTS, SHALL BE LOCATED NO MORE THAN 48 INCHES (1219.2 MM) MEASURED FROM THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES (381 MM) MEASURED FROM THE BOTTOM OF THE OUTLET BOX ABOVE THE FINISH FLOOR.
 - DEDICATED RECEPTACLE OUTLETS; FLOOR RECEPTACLE OUTLETS; CONTROLS MOUNTED ON CEILING FANS AND CEILING LIGHTS; AND CONTROLS LOCATED ON APPLIANCES.
 - RECEPTACLE OUTLETS REQUIRED BY THE CALIFORNIA ELECTRICAL CODE ON A WALL SPACE WHERE THE DISTANCE BETWEEN THE FINISHED FLOOR AND A BUILT-IN FEATURE ABOVE THE FINISH FLOOR, SUCH AS A WINDOW, IS LESS THAN 15 INCHES.

500 SQ. FT. MODEL (515 SQ. FT.)

OPTION # 2

PROJECT
ACCESSORY DWELLING UNIT

PWP23-003

DEPARTMENT OF PUBLIC WORKS AND PLANNING



CAPITAL PROJECTS DIVISION

2220 Tulare St., Ste. 720, Fresno, CA. 93721
Phone: (559) 262-4212 Fax: (559) 262-4879

SEAL & SIGNATURE



UPDATE

JULY 5, 2023

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY AND COPYRIGHT OF THE ARCHITECT AND SHALL NOT BE USED ON ANY OTHER PROJECT OR LOCATIONS EXCEPT AS DESCRIBED ON THE DRAWINGS WITHOUT WRITTEN AGREEMENT WITH THE ARCHITECT.

TITLE

COVER PAGE

SCALE As indicated

A-100

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|----------------|------------|
| ISSUE DATE | JOB NUMBER |
| APRIL 12, 2023 | 2023_19 |
| DRAWN BY | CHECKED BY |
| Author | Checker |

GENERAL NOTES

- 1. SCOPE OF WORK SHALL BE CONSTRUCTED ACCORDING TO THESE WORKING DRAWINGS AS AGREED UPON BETWEEN OWNER AND CONTRACTOR. THE WORD "CONTRACTOR" REFERS TO THE GENERAL CONTRACTOR. "SUBCONTRACTOR" REFERS TO ONE HAVING DIRECT CONTACT WITH THE CONTRACTOR.
2. CONTRACTOR'S RESPONSIBILITIES:
A. CONTRACTOR AND SUBCONTRACTORS SHALL VISIT THE JOB SITE BEFORE THEIR BID IS SUBMITTED TO FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS.
B. THE GENERAL CONTRACTOR SHALL READ, EXAMINE AND BE THOROUGHLY FAMILIAR WITH THESE DRAWINGS AND WITH THE EXISTING SITE CONDITIONS PRIOR TO THE START OF WORK. IN THE EVENT THERE ARE DISCREPANCIES OR OMISSIONS WITHIN THE DRAWINGS AND/OR SPECIFICATIONS, THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY.
C. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS, FOUNDATION, ETC., AND BURIED ARTIFACTS SUCH AS INDIAN OR DINOSAUR BONES. IF ANY SUCH ITEMS ARE FOUND THE ARCHITECT, CIVIL ENGINEER, AND SOILS ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
D. NO DRAWINGS, DETAILS, NOTES, ETC., SHALL BE INTERPRETED TO ALLOW FOR A VIOLATION OF THE LOCAL BUILDING CODE, STATE BUILDING CODE AND OTHER APPLICABLE CODES AND GOOD CONSTRUCTION PRACTICES AND TRADE CODES.
E. THE GENERAL CONTRACTOR SHALL REVIEW ALL GRADE ELEVATIONS PRIOR TO CONSTRUCTION.
F. CONTRACTORS SHALL VERIFY ALL DIMENSIONS, CONSTRUCTION METHODS, MATERIALS, SIZE OF MEMBERS, ETC., PRIOR TO ON-SITE DELIVERY.
G. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO FULLY PROTECT ADJACENT PROPERTIES.
H. JOB SHALL BE COMPLETED WITH AS MUCH SPEED AS POSSIBLE WHEN WORK BEGINS.
I. INSPECTIONS: THE CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS FOR HIS WORK AND GIVE THE OWNER TIMELY NOTICE OF HIS INTENT TO HAVE INSPECTION.
J. THE GENERAL CONTRACTOR SHALL COORDINATE AND VERIFY WITH THE PLUMBING, MECHANICAL AND ELECTRICAL CONTRACTORS, THE SIZE AND LOCATION OF ALL PIPING, DUCTWORK, TRENCHES, SLEEVES, SPACINGS, ETC.
K. THE DESIGN, ADEQUACY AND SAFETY OF ERECTION, BRACING, SHORING, TEMPORARY SUPPORTS, ETC., IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND HAS NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER AND ARCHITECT.
L. THE CONTRACTOR SHALL PROVIDE ALL RISK INSURANCE. REFER TO PROJECT MANUAL FOR MINIMUM LIABILITY WITH APPLICABLE TRADE CODE REQUIREMENTS.
M. THE GENERAL CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY SANITARY FACILITY ENCLOSURES. LOCATE AS DIRECTED BY OWNER.
N. THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL COMPLY WITH ALL APPLICABLE LAWS AND CODE REGULATIONS. THESE CODES INCLUDE BUT NOT LIMITED TO THE FOLLOWING:
2022 CALIFORNIA ADMINISTRATIVE CODE
2022 CALIFORNIA BUILDING CODE
2022 CALIFORNIA PLUMBING CODE
2022 CALIFORNIA MECHANICAL CODE
2022 CALIFORNIA ELECTRICAL CODE
2022 CALIFORNIA FIRE CODE
2022 CALIFORNIA RESIDENTIAL CODE
2022 CALIFORNIA ENERGY CODE
2022 CALIFORNIA GREEN BUILDING CODE
2022 CALIFORNIA REFERENCE STANDARDS CODE
FRESNO COUNTY ORDINANCE TITLE 15
O. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS, AND CAREFULLY COMPARE WITH THE CONSTRUCTION DOCUMENTS SUCH FIELD MEASUREMENTS, CONDITIONS, AND DISCREPANCIES TO CONTRACTOR BEFORE COMMENCING THE WORK. REPORT ERRORS, INCONSISTENCIES, OR OMISSIONS DISCOVERED AT ANY TIME SHALL BE PROMPTLY REPORTED IN WRITING TO THE OWNER / BUILDER.
P. CONTRACTOR SHALL PROMPTLY NOTIFY OWNER'S REPRESENTATIVE IF CONTRACTOR BECOMES AWARE DURING THE PERFORMANCE OF THE WORK THAT THE CONSTRUCTION DOCUMENTS ARE NOT IN COMPLIANCE WITH APPLICABLE TRADE CODES.
Q. BY SUBMITTAL OF BID, CONTRACTOR WARRANTS TO OWNER / BUILDER THAT ALL MATERIALS AND EQUIPMENT TO BE FURNISHED ARE NEW UNLESS NOTED OTHERWISE AND ALL WORK WILL BE OF GOOD QUALITY AND FREE FROM FAULTS AND DEFECTS.
R. SUBCONTRACTORS SHALL INSURE THAT ALL WORK IS DONE IN A PROFESSIONAL WORKMANLIKE MANNER BY SKILLED MECHANICS AND SHALL BE REPLACE ANY MATERIALS OR ITEMS DAMAGED BY SUBCONTRACTOR'S PERFORMANCE. SUBCONTRACTORS AND SUPPLIERS ARE HEREBY NOTIFIED THAT THEY ARE TO CONFER AND COOPERATE FULLY WITH EACH OTHER DURING THE COURSE OF CONSTRUCTION TO DETERMINE THE EXACT EXTENT AND OVERLAP OF EACH OTHER'S WORK AND TO SUCCESSFULLY COMPLETE THE EXECUTION OF THE WORK. ALL SUBCONTRACTOR WORKMANSHIP SHALL BE OF QUALITY TO PASS INSPECTIONS BY THE ARCHITECT, LENDING INSTITUTIONS, ARCHITECT OR BUILDER. ANY ONE OR ALL OF THE ABOVE MENTIONED INSPECTORS MAY INSPECT WORKMANSHIP AT ANY TIME, AND CORRECTIONS NEEDED TO ENHANCE THE QUALITY OF BUILDING WILL BE DONE IMMEDIATELY. EACH SUBCONTRACTOR, UNLESS SPECIFICALLY EXEMPTED BY THE TERMS OF HIS / HERS SUBCONTRACT AGREEMENT, SHALL BE RESPONSIBLE FOR CLEANING UP AND REMOVING FROM THE JOB SITE ALL TRASH AND DEBRIS NOT LEFT BY OTHER SUBCONTRACTORS. OWNER / BUILDER WILL DETERMINE HOW SOON AFTER SUBCONTRACTOR COMPLETES EACH PHASE OF HIS / HER WORK THAT TRASH AND DEBRIS WILL BE REMOVED FROM THE SITE.
S. APPROVAL BY THE BUILDING INSPECTOR DOES NOT MEAN APPROVAL OR ALLOWABLE FAILURE TO COMPLY WITH THE PLANS AND SPECIFICATIONS. ANY DESIGN WHICH FAILS TO BE CLEAR OR IS AMBIGUOUS MUST BE REFERRED TO THE ARCHITECT OR ENGINEER FOR INTERPRETATION OR CLARIFICATION.
T. ALL EQUIPMENT AND MATERIALS FURNISHED AND INSTALLED UNDER THESE PLANS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE WORK BY OWNER / BUILDER UNLESS STIPULATED OTHERWISE.
U. ALL TRADE NAMES AND BRAND NAMES CONTAINED HEREIN ESTABLISH QUALITY STANDARDS. SUBSTITUTIONS SHALL BE WITH PRIOR APPROVAL BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL SUBMIT FOR THE ARCHITECT'S AND BUILDERS APPROVAL ALL MATERIALS OR EQUIPMENT WHICH IS CONSIDERED "OR EQUAL" TO THAT SPECIFIED.
V. CONSTRUCTION DOCUMENTS IDENTIFIED A "NOT FOR CONSTRUCTION" WATERMARK ON ANY OR ALL SHEETS MAY BE SUBJECT TO REVIEW. THIS REVIEW MAY RESULT IN CHANGES WHICH MAY BE MADE TO THE PLANS PRIOR TO THE FINAL CONSTRUCTION WHICH WILL CONTAIN NO WATERMARK DESIGNATIONS. CONSTRUCTION DOCUMENTS IDENTIFIED WITH A WATERMARK ARE NOT TO BE CONSTRUED AS BEING THE COMPLETED OR FINAL DRAWINGS AND THEY SHOULD NOT IN ANY WAY BE USED AS SUCH.
W. ALL STANDARD NOTES CONTAINED HEREIN ARE TYPICAL UNLESS NOTED OTHERWISE.
X. TYPICAL DETAIL NOTATIONS ARE MINIMUM REQUIREMENTS TO BE USED WHEN CONDITIONS ARE NOT SHOWN OTHERWISE. SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS, WHERE NO DETAILS ARE SHOWN CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.
Y. THE CONSTRUCTION DOCUMENTS AND ALL COPIES THEREOF FURNISHED TO CONTRACTOR ARE THE PROPERTY OF THE COUNTY OF FRESNO AND ARE NOT TO BE USED ON OTHER WORK.
3. ERRORS AND OMISSIONS: IF ANY ERRORS OR OMISSIONS APPEAR IN THESE DRAWINGS, OR OTHER CONTRACT DOCUMENTS, THE GENERAL CONTRACTOR AND SUBCONTRACTORS AFFECTED SHALL NOTIFY THE OWNER / BUILDER IN WRITING OF SUCH ERROR OR OMISSION. IN THE EVENT OF FAILING TO GIVE SUCH WRITTEN NOTICE BEFORE CONSTRUCTION AND/OR FABRICATION OF THE WORK, HE WILL BE HELD RESPONSIBLE FOR THE RESULT OF THE ANY SUCH ERRORS OR OMISSIONS AND THE COST FOR RECTIFYING THE SAME.
4. GUARANTEES: CONTRACTOR SHALL GUARANTEE THE WORK IN GENERAL FOR ONE YEAR AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING THE BUILDING FREE FROM DEFECTS OF MATERIALS AND POOR WORKMANSHIP FROM DATE OF COMPLETION. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE STATING THAT ALL WORK EXECUTED BY HIM WILL BE FREE FROM DEFECTS OF THE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR (UNLESS OTHERWISE SPECIFIED) FROM DATE OF ACCEPTANCE OF HIS WORK, THAT HE WILL REPAIR AND REPLACE ALL SUCH DEFECTIVE WORK AND ALL OTHER WORK DAMAGE WITHOUT COST TO THE OWNER.
5. ASSURING THAT PLANS ARE BEING FOLLOWED, IT DOES NOT RELIEVE THE CONTRACTOR OR ANY SUBCONTRACTORS FROM ANY RESPONSIBILITY FOR WORK WHICH MAY PROVE FAULTY.
6. JOB CONDITIONS:
A. DUST CONTROL: USE ALL MEANS NECESSARY TO PREVENT THE SPREAD OF DUST DURING THE PERFORMANCE OF SITE WORK, THOROUGHLY MOISTEN ALL EXTERIOR SURFACES AS REQUIRED TO PREVENT DUST FROM BEING A NUISANCE TO THE PUBLIC, NEIGHBORS AND CONCURRENT PERFORMANCES ON THE OTHER SIDE OF THE PROPERTY.
B. PROTECTION: USE ALL MEANS NECESSARY TO PROTECT EXISTING OBJECTS TO REMAIN AND IN THE EVENT OF DAMAGE, IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO THE SATISFACTION OF THE ARCHITECT AND AT NO ADDITIONAL COST TO THE OWNER.
7. PREPARATION:
A. CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR HAZARDOUS MATERIALS SUCH AS CESSPOOLS, CISTERS, FOUNDATION, ETC., AND BURIED ARTIFACTS SUCH AS INDIAN OR DINOSAUR BONES. IF ANY SUCH ITEMS ARE FOUND THE ARCHITECT, CIVIL ENGINEER, AND SOILS ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
B. NOTIFICATION: THE CONTRACTOR SHALL INFORM THE OWNER AND ARCHITECT OF THE DATE FOR START OF SITE WORK. THE DATE SHALL BE ACCEPTABLE TO ALL PARTIES.
C. SITE INSPECTION:
P. PRIOR TO ANY DEMOLITION, CAREFULLY INSPECT THE ENTIRE SITE & ALL OBJECTS DESIGNATED TO BE REMOVED & TO REMAIN.
Q. LOCATE ALL EXISTING UTILITY LINES AND EQUIPMENT. DETERMINE WHICH UTILITIES MUST BE REMOVED AND WHICH ARE TO REMAIN AS WELL AS ALL REQUIREMENTS FOR DISCONNECTING OR CAPPING.
D. PROTECTIVE WORKS:
P. DEMOLITION SHALL NOT PROCEED UNTIL SUCH PROTECTIVE WORKS ARE PLACED AS ARE REQUIRED TO PROTECT THE PROPERTY AND PERSONNEL FROM THAT HAZARDS OF THE WORK.
Q. LOCATE ALL EXISTING UTILITY LINES AND EQUIPMENT. DETERMINE WHICH UTILITIES MUST BE REMOVED AND WHICH ARE TO REMAIN AS WELL AS ALL REQUIREMENTS FOR DISCONNECTING OR CAPPING.
E. DAMAGE TO EXISTING WORK: EXISTING WORK DAMAGE IN THAT EXECUTION OF THIS WORK SHALL BE REPAIRED OR RESTORED TO THE ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

- 8. DISCONNECTION OF UTILITIES: BEFORE STARTING JOB OPERATIONS, DISCONNECT OR ARRANGE FOR THE DISCONNECTION OF ALL UTILITIES TO BE REMOVED, PERFORMING ALL SUCH WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY OR AGENCY INVOLVED, AND WITH OWNER.
9. PROTECTION OF UTILITIES:
P. PRESERVE IN OPERATING CONDITION ALL ACTIVE UTILITIES REMAINING.
10. USE OF THE PREMISES: THE CONTRACTOR SHALL CONFINE HIS WORKMEN, AND THE PARKING OF WORKMEN'S VEHICLES TO THE LIMITS INDICATED BY LAW, ORDINANCE, PERMITS OR DIRECTION OF THE OWNER.
11. MATERIALS AND EMPLOYEES: UNLESS OTHERWISE DIRECTED BY THE OWNER, THE CONTRACTOR AND/OR SUBCONTRACTOR SHALL PROVIDE AND PAY FOR ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, TELEPHONE, AND GAS TRANSPORTATION. MATERIALS SHALL BE OF GOOD QUALITY. CLARIFY LOCATION OF ALL UTILITIES AND SIMILAR MANNER AND SPIRIT OF DETAILS WHICH ARE SHOWN. IF THE CONTRACTOR FINDS DETAILS WHICH IN HIS OPINION ARE UNSOUND OR NOT STANDARDS, IT IS HIS DUTY TO NOTIFY THE ARCHITECT OF THIS FACT. IF HE PERFORMS THE WORK AS DETAILED WITHOUT SAID NOTIFICATIONS, THEN IT SHALL BE ASSUMED THAT HE DOES NOT OBJECT TO DETAIL. REFER TO RELATED NOTE BELOW FOR ERRORS AND OMISSION.
14. SPECIFIC NOTES: NOTE THE DRAWINGS DO NOT SUPPORT TO SHOW ALL OBJECTS EXISTING ON THE JOB. BEFORE COMMENCING ANY DEMOLITION, VERIFY ALL OBJECTS TO BE REMOVED AND ALL OBJECTS TO BE PRESERVED.
15. DIMENSIONS: FIGURED DIMENSIONS SHALL BE FOLLOWED IN PREFERENCE TO SMALL SCALE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD BEFORE ANY WORK IS CONSTRUCTED AND/OR FABRICATED. THE SPECIFICATION AND SCHEDULES ON THE DRAWINGS SHALL HAVE WRITTEN NOTES AND OR BE FOLLOWED IN PREFERENCE TO INFORMATION FURNISHED IN THE FORM OF LINES ON DRAWINGS. DETAILED CLARIFICATION DRAWINGS FURNISHED DURING CONSTRUCTION OR APPROVED BY THE ARCHITECT ARE TO BE CONSIDERED EXPLANATORY AND NOT AS MODIFICATIONS OF THESE PLANS AS SHALL BE CALLED CLARIFICATION DRAWINGS. ALL NOTES, FIGURES AND DETAIL DRAWINGS SHALL BE FOLLOWED AND EXECUTED AS PART OF THESE NOTES.
16. ALL WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. DIMENSION LINES ARE TO FACE OF STUD UNLESS NOTED OTHERWISE (U.N.O.)
17. PLEASE NOTE THAT ALL SPECIFIED MATERIALS ARE SUBJECT TO CHANGE UPON APPROVAL BY ALL PARTIES WITH AN EQUAL AND COMPARABLE ALTERNATE.

03-CONCRETE WORK

- 1. REFER TO STRUCTURAL ENGINEERING CALCULATIONS AND THE MOST CURRENT SOILS REPORT FOR THE PERFORMANCE REQUIREMENTS FOR CONCRETE FOUNDATIONS.
2. CONCRETE STRENGTH SHALL BE PER CRC SECTION R402.2 AND TABLE R402.2 REFER TO STRUCTURAL ENGINEERING FOR ADDITIONAL INFORMATION.
3. CONCRETE SHALL BE MIXED IN ACCORDANCE WITH CRC SECTION R404.1.3.3.2.
4. CONCRETE PROPORTION SHALL BE PLACED IN ACCORDANCE WITH CRC SECTION R404.1.3.3.4.
5. CONCRETE SHALL BE CURED IN ACCORDANCE WITH CRC CHAPTER 44 D 318-14.
6. ALL FORM WORK SHALL BE DESIGNED, CONSTRUCTED, UTILIZED, AND REMOVED PER CRC SECTION R404.1.3.3.6.
7. CONDUIT, PIPES, OR SLEEVES MAY PENETRATE OR BE EMBEDDED IN CONCRETE ONLY IN ACCORDANCE WITH PER G 316-14.
8. CONSTRUCTION JOINTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CRC SECTION R404.1.3.3.7.8.
9. ALL STEEL REINFORCING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH CRC SECTION R404.1.3.3.7.
10. ALL CONCRETE SLABS TO BE MINIMUM 6" (6" HUD) ABOVE FINISH GRADE. CRC SECTION R404.1.6. FOUNDATION WIDTHS, DEPTHS, AND REINFORCING, AS SHOWN ON PLANS, ARE SUPERCEDED BY ANY LOCAL CODES OR ORDINANCES WHICH REQUIRES INCREASES OF THE SAME.
11. ALL REINFORCEMENT, CONDUIT, OUTLET BOXES, ANCHORS, HANGERS, SLEEVES, BOLTS OR OTHER EMBEDDED MATERIALS AND ITEMS MUST BE SECURED AND APPROPRIATELY FASTENED IN THEIR PROPER LOCATION DRAWN TO THE PLAN OF CONCRETE. SUB-CONTRACTOR SHALL VERIFY INSTALLATION OF HOLD-DOWNS, ANCHOR BOLTS, PA STRAPS, AND OTHER ANCHORAGE MATERIALS AND ITEMS PRIOR TO PLACEMENT OF CONCRETE.

04-MASONRY

- 1. ANY AND ALL MATERIALS USED FOR THE CONSTRUCTION AND / OR INSTALLATION OF STONE OR MASONRY VENEER SHALL MEET THE QUALITY STANDARDS AS SET FORTH IN CRC SECTION R703.8.
2. ALL MORTAR AND GROUT USED FOR THE CONSTRUCTION AND/OR INSTALLATION OF STONE OR MASONRY VENEER SHALL MEET THE REQUIREMENTS OF CRC SECTION R606.2.8.2 & R606.3.5.
3. WATER USED IN MORTAR OR GROUT SHALL BE CLEAN AND FREE OF DELETERIOUS AMOUNTS OF ACID, ALKALIS, OR ORGANIC MATERIAL OR OTHER HARMFUL SUBSTANCES EXCEPT FOR THAT LISTED IN SECTION R606.2.8.2 AND R606.2.10. MORTAR FOR USE IN MASONRY CONSTRUCTION SHALL MEET THE PROPORTION SPECIFICATIONS OF TABLE R606.2.8.0 OR THE PROPERTY SPECIFICATION OF ASTM C270. THE TYPE OF MORTAR SHALL BE IN ACCORDANCE WITH SECTION R606.2.8.1, R606.2.8.2 AND R606.2.8.3 (CRC SECTION R606.2.8)
5. GROUT SHALL CONSIST OF CEMENTITIOUS MATERIAL AND AGGREGATE IN ACCORDANCE WITH ASTM C 476 OR THE PROPORTION SPECIFICATIONS OF TABLE R606.2.12 TYPE M OR TYPE S MORTAR TO WHICH SUFFICIENT WATER HAS BEEN ADDED TO PRODUCE POURING CONSISTENCY SHALL BE PERMITTED TO BE USED AS GROUT (CRC SEC R606.2.12)
6. CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150-12.
7. ALL BRICK SHALL CONFORM TO ASTM C1098-13 FOR SOLID UNITS OF THIN VENEER BRICK
8. UNLESS SPECIFICALLY SHOWN OTHERWISE ALL BRICK SHALL BE LAID IN A RUNNING BOND PATTERN.
9. MASONRY VENEER SHALL BE ANCHORED TO THE SUPPORTING WALL STUDS WITH CORROSION-RESISTANT METAL TIES EMBEDDED IN MORTAR OR GROUT AND EXTENDING INTO THE VENEER A MINIMUM OF 1 1/2 INCHES, WITH NOT LESS THAN 5/8 INCH MORTAR OR GROUT COVER TO OUTSIDE FACE. MASONRY VENEER SHALL CONFORM TO TABLE R703.8.4(1) (Circs Section R703.8.4) AS AN ALTERNATIVE TO THE AIRSPACE REQUIRED BY TABLE R703.8.4. GROUT SHALL BE PERMITTED TO FILL THE AIRSPACE, WHERE THE AIRSPACE IS FILLED WITH GROUT, A WATER-RESISTIVE BARRIER IS REQUIRED OVER STUDS OR SHEATHING, WHERE THE AIRSPACE IS FILLED, REPLACING THE SHEATHING AND WATER-RESISTIVE BARRIER WITH WIRE MESH AND APPROVED WATER RESISTIVE BARRIER-BACKED REINFORCEMENT ATTACHED DIRECTLY TO STUDS IS PERMITTED. (CRC SECTION R703.8.4.2)
10. ADHERED MASONRY VENEER SHALL COMPLY WITH THE REQUIREMENTS OF SECTION R703.7.3 AND THE REQUIREMENTS IN SECTION 12.1 AND 12.3 OF MS 402. ADHERED MASONRY VENEER SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R703.7.1, ARTICLE 3.3.C OF TOMB 602 OR THE MANUFACTURER'S INSTRUCTIONS. (CRC SECTION R703.12)
11. FLASHING SHALL BE LOCATED BENEATH THE FIRST COURSE OF MASONRY ABOVE FINISHED GROUND LEVEL ABOVE THE FOUNDATION WALL OR SLAB AND AT OTHER POINTS OF SUPPORT, INCLUDING STRUCTURAL FLOORS, SHELF, ANGLES AND LINTELS WHERE THE MASONRY VENEERS ARE DESIGNED IN ACCORDANCE WITH SECTION R703.8. SEE SECTION R703.4 FOR ADDITIONAL REQUIREMENT (CRC SECTION R703.8.5)
12. WEEPHOLES SHALL BE PROVIDED IN THE OUTSIDE WYTHE OF MASONRY WALLS AT A MAXIMUM SPACING OF 33 INCHES ON CENTER. WEEPHOLES SHALL BE LOCATED IMMEDIATELY ABOVE THE FLASHING. (CRC SECTION R703.8.6)

05-METALS

- 1. REFER TO STRUCTURAL NOTES AND SPECIFICATIONS FOR STRUCTURAL STEEL AND METAL AND REINFORCING STEEL SPECIFICATIONS
2. ALL STRUCTURAL STEEL SHALL CONFORM TO 2022 CRC, ANSI S100, AISI S200 AND ASTM C955 SEC. 8, AISI S220 AND ASTM C845, SEC. 10 AND AISI S230
3. FASTENERS ON OR THROUGH WOOD SILL PLATES AND WOOD WALLS SUPPORTED DIRECTLY ON CONTINUOUS FOUNDATION SHALL BE ANCHORED TO THE FOUNDATION IN ACCORDANCE TO CRC SECTION R403.1.6
4. FASTENERS FOR ALL PRESERVATIVE TREATED WOOD INCLUDING NUTS AND WASHERS SHALL BE OF HOT-DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.

06-WOOD, PLASTIC & COMPOSITES

LUMBER

- 1. WOOD AND WOOD-BASE PRODUCTS USED FOR LOAD-SUPPORTING PURPOSES SHALL CONFORM TO BE APPLICABLE PROVISIONS OF CRC SECTION R302. SAWN LUMBER SHALL BE IDENTIFIED BY A GRADE MARK OF AN ACCREDITED LUMBER GRADING OR INSPECTION AGENCY AND HAVE DESIGN VALUES CERTIFIED BY AN ACCREDITATION BODY THAT COMPLY WITH A GRADE MARK OR GRADE WITH A CERTIFICATE OF INSPECTION ISSUED BY A LUMBER GRADING OR INSPECTION AGENCY MEETING THAT REQUIREMENTS OF THE FOLLOWING SECTION CRC SECTION R302.1, R602.1, R802.1
2. ALL PRESERVATIVE TREATED WOOD REQUIRED TO BE TREATED UNDER CRC SECTION R318.1 SHALL BEAR THE QUALITY MARK OF AN INSPECTION AGENCY WHICH HAS BEEN CREATED BY AN ACCREDITATION BODY THAT COMPLY WITH A GRADE MARK OR GRADE WITH A CERTIFICATE OF INSPECTION ISSUED BY A LUMBER GRADING OR INSPECTION AGENCY MEETING THAT REQUIREMENTS OF THE FOLLOWING SECTION CRC SECTION R302.1, R602.1, R802.1
3. ALL LUMBER SIZES NOTED AND SPECIFIED ON PLANS ARE NOMINAL SIZES UNLESS SPECIFICALLY INDICATED AS NET SIZE

GLUE LAMINATED LUMBER

- 1. ALL GLUE LAMINATED TIMBER SHALL MEET THE STANDARDS OF QUALITY AND WORKMANSHIP AS STATED IN CRC SECTION R317.1 AND THE CURRENT EDITION OF THE TIMBER CONSTRUCTION MANUAL BY THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
STRUCTURAL GLUE LAMINATED TIMBERS SHALL BE MANUFACTURED AND IDENTIFIED AS REQUIRED IN ANSI A190.1, ANSI 1117 AND ASTM D 3737. (CRC SECTIONS R502.1.3 R602.1.3 AND R802.12)
3. REFER TO THE STRUCTURAL ENGINEER'S CURRENT NOTES, CALCULATIONS AND SPECIFICATIONS

PROTECTION AGAINST DECAY & TERMITE

- 1. ALL WOOD IN CONTACT WITH GROUND, EMBEDDED IN CONCRETE IN DIRECT CONTACT WITH THE GROUND OR DECEAED IN CONTACT EXPOSED TO THE OCCUPANCY TO BE PROTECTION OF WOOD OR WOOD BASED PRODUCTS FROM DECAY SHALL BE PROVIDED IN THE LOCATIONS SPECIFIED IN SECTIONS R317.1 SHALL BE NATURALLY DURABLE WOOD OR PRESERVATIVE-TREATED IN ACCORDANCE WITH AWPA U1 FOR SPECIES, PRODUCT, PRESERVATIVE AND END USE PRESERVATIVES SHALL BE LISTED IN SECTION 4 OF AWPA U1-14.
2. WOOD JOIST OR THE BOTTOM OF WOOD STRUCTURAL FLOOR WHEN CLOSER THAN 18 INCHES, OR WOOD GIRDERS ARE CLOSER THAN 12 INCHES TO THE EXPOSED GROUND IN CRAWL SPACES OR UNEXCAVATED AREAS LOCATED WITHIN THE PERIPHERY OF THE BUILDING FOUNDATION. (CRC SECTION R317.1 (1))
3. WOOD FRAMING MEMBERS THAT REST ON CONCRETE OR MASONRY EXTERIOR FOUNDATION WALLS AND ARE LESS THAN 8 INCHES FROM EXPOSED GROUND (SEC R317.1 (2)) SILL AND SLEEPERS ON CONCRETE OR MASONRY SLAB THAT IS IN DIRECT CONTACT WITH GROUND UNLESS SEPARATED FROM SUCH SLAB BY AN IMPERVIOUS MOISTURE BARRIER. (CRC SEC R317.1 (3)).
4. END OF WOOD GIRDERS ENTERING EXTERIOR MASONRY OR CONCRETE WALLS HAVING CLEARANCES OF LESS THAN 1/2 INCH ON TOPS, SIDES, AND ENDS. (SECTIONS R317.1 (4)).
5. WOOD SIDING, SHEATHINGS AND WALL FRAMING ON THE EXTERIOR OF A BUILDING HAVING CLEARANCES OF LESS THAN 6 INCHES FROM THE GROUND OR LESS THAN 2 INCHES MEASURED VERTICALLY FROM CONCRETE STRESS, PORCH SLABS, PATIO SLABS, AND SIMILAR HORIZONTAL SURFACES EXPOSED TO WEATHER. (CRC SEC R317 (5))
6. WOOD STRUCTURAL MEMBERS SUPPORTING MOISTURE-PERMEABLE FLOORS OR ROOFS THAT ARE EXPOSED TO THE WEATHER, SUCH AS CONCRETE OR MASONRY SLABS, UNLESS SEPARATED FROM WHICH FLOORS OR ROOFS BY AN IMPERVIOUS MOISTURE BARRIER. (SEC R317.1 (6)) WOOD FURRING STRIPS OR OTHER WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY OR CONCRETE WALLS BELOW GRADE EXCEPT WHERE AN APPROVED VAPOR RETARDER IS APPLIED BETWEEN THE WALL AND THE FURRING STRIPS OR FRAMING MEMBERS (SEC R317.1 (7))
7. IN GEOGRAPHICAL AREAS WHERE EXPERIENCE HAS DEMONSTRATED A SPECIFIC NEED, APPROVED NATURALLY DURABLE OR PRESSURE-PRESERVATIVE-TREATED WOOD SHALL BE USED FOR THOSE PORTIONS OF WOOD MEMBERS THAT FORM THE STRUCTURAL SUPPORTS OF BUILDINGS, BALCONIES, PORCHES OR SIMILAR PERMANENT BUILDING APPURTENANCES WHEN THOSE MEMBERS ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE PROTECTION FROM A ROOF, EAVE, OVERFLOW OR OTHER COVERING THAT WOULD PREVENT MOISTURE OR WATER ACCUMULATION ON THE SURFACE OR AT JOINTS BETWEEN MEMBERS, MAY INCLUDE SUCH MEMBERS
A. HORIZONTAL MEMBERS SUCH AS GIRDERS, JOIST AND DECKING
B. VERTICAL MEMBERS SUCH AS POSTS, POLES, AND COLUMNS
C. BOTH HORIZONTAL AND VERTICAL MEMBERS
8. WOOD COLUMNS SHALL BE APPROVED WOOD OF NATURAL DECAY RESISTANCE OR APPROVED PRESSURE PRESERVATIVE TREATED WOOD. (CRC SECTION R317.1.4)

SHEATHING

- 1. WOOD STRUCTURAL PANEL WALL SHEATHING SHALL CONFORM TO DOS PS I OR DOC PS 2 OR ANSI/APA PRP 210 CSA 0437 OR CSA 0325. PANELS SHALL BE IDENTIFIED BY A GRADE MARK OR CERTIFICATE OF INSPECTION ISSUED BY AN APPROVED AGENCY (SEC R604.1)
2. WOOD STRUCTURAL PANEL USED AS ROOF SHEATHING SHALL CONFORM TO REQUIREMENTS OF CRC SECTION 803.2
3. REFER TO THE STRUCTURAL ENGINEER'S CURRENT SPECIFICATIONS CALCULATIONS AND PLANS FOR REQUIRED STRENGTH, GRADE, AND THICKNESS FOR WOOD STRUCTURAL PANEL ROOF SHEATHING AND FOR DIAPHRAGM NAILING.
4. REFER TO THE STRUCTURAL ENGINEER'S CURRENT SPECIFICATIONS, CALCULATIONS AND PLANS FOR REQUIRED STRENGTH, GRADE, AND THICKNESS FOR PLYWOOD FLOOR SHEATHING PANELS AND FOR DIAPHRAGM NAILING AND ADHESIVE REQUIREMENTS
5. WHERE APPLICABLE, REFER TO THE SHEAR WALL SCHEDULE FOR REQUIRED STRENGTH, GRADE, AND THICKNESS OF PLYWOOD SHEAR PANELS AND FOR REQUIRED SHEAR WALL NAILING SCHEDULE

FLOOR FRAMING

- 1. REFER TO THE STRUCTURAL ENGINEER'S CURRENT PLAN & CALCULATIONS FOR SIZE, SPACING AND ANCHORAGE OF ALL FLOOR JOISTS; SIZE, LOCATION, AND ANCHORAGE OF ALL FLOOR BEAMS AND HEADERS, AND ALL RELATED FRAMING ISSUES.
2. THE PLACEMENT OF HOLES IN FLOOR JOISTS SHALL BE PER MANUFACTURER'S SPECIFICATIONS. THE NOTCHING OR CUTTING OF FLOOR JOIST FLANGES IS NOT ALLOWED.

ROOF FRAMING

- 1. ROOF FRAMING SHALL BE PRE-MANUFACTURED ROOF TRUSSES SPACED AT 24 INCHES ON CENTER UNLESS NOTED OTHERWISE.
2. THE MANUFACTURER SHALL SUPPLY TO THE ARCHITECT AND BUILDER CALCULATIONS AND SHOP DRAWINGS FOR APPROVAL OF DESIGN LOADS CONFIGURATION (2 OR 3 POINT BEARING), VOLUME CEILING OPTIONS, AND SHEAR TRANSFER, PRIOR TO FABRICATION
ALL CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED BY PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHEREIN THE PROJECT IS TO BE BUILT
3. MANUFACTURER IS TO SECURE BUILDING DEPARTMENT APPROVAL OF CALCULATIONS AND SHOP DRAWINGS PROPER TO FABRICATION
4. TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST BUILDING CODE FOR ALL LOADS IMPOSED, INCLUDING LATERAL LOADS AND MECHANICAL EQUIPMENT LOADS.
5. ALL CONNECTORS SHALL BE ICC APPROVED AND OF ADEQUATE STRENGTH TO RESIST ALL DESIGN LOADS.
6. AN ATTIC ACCESS MINIMUM OPENING ALLOWED IS 22" X 30", PROVIDED THE LARGEST PIECE OF EQUIPMENT CAN BE REMOVED THROUGH THE OPENING. (2022 CALIFORNIA MECHANICAL CODE - SECTION 904.10) ATTIC ACCESS BE PROVIDED AND LOCATED IN A CORRIDOR, HALLWAY OR OTHER READILY ACCESSIBLE LOCATION. THIRTY-INCH-MINIMUM UNOBSTRUCTED HEADROOM IN THE ATTIC SPACE SHALL BE PROVIDED AT SOME POINT ABOVE THE ACCESS MEASURED VERTICALLY FROM THE BOTTOM OF CEILING FRAMING MEMBERS (CRC SEC R807)

WALL FRAMING

- 1. ROOF FRAMING SHALL BE PRE-MANUFACTURED ROOF TRUSSES SPACED AT 24 INCHES ON CENTER UNLESS NOTED OTHERWISE.
2. THE MANUFACTURER SHALL SUPPLY TO THE ARCHITECT AND BUILDER CALCULATIONS AND SHOP DRAWINGS FOR APPROVAL OF DESIGN LOADS CONFIGURATION (2 OR 3 POINT BEARING), VOLUME CEILING OPTIONS, AND SHEAR TRANSFER, PRIOR TO FABRICATION
3. ALL CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED BY PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHEREIN THE PROJECT IS TO BE BUILT
4. MANUFACTURER IS TO SECURE BUILDING DEPARTMENT APPROVAL OF CALCULATIONS AND SHOP DRAWINGS PROPER TO FABRICATION
5. TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST BUILDING CODE FOR ALL LOADS IMPOSED, INCLUDING LATERAL LOADS AND MECHANICAL EQUIPMENT LOADS.
6. ALL CONNECTORS SHALL BE ICC APPROVED AND OF ADEQUATE STRENGTH TO RESIST ALL DESIGN LOADS.
7. AN ATTIC ACCESS MINIMUM OPENING ALLOWED IS 22" X 30", PROVIDED THE LARGEST PIECE OF EQUIPMENT CAN BE REMOVED THROUGH THE OPENING. (2022 CALIFORNIA MECHANICAL CODE - SECTION 904.10) ATTIC ACCESS BE PROVIDED AND LOCATED IN A CORRIDOR, HALLWAY OR OTHER READILY ACCESSIBLE LOCATION. THIRTY-INCH-MINIMUM UNOBSTRUCTED HEADROOM IN THE ATTIC SPACE SHALL BE PROVIDED AT SOME POINT ABOVE THE ACCESS MEASURED VERTICALLY FROM THE BOTTOM OF CEILING FRAMING MEMBERS (CRC SEC R807)

FIRE BLOCKING

- 1. IN COMBUSTIBLE CONSTRUCTION, FIRE BLOCKING SHALL BE PROVIDED TO CUT OFF BOTH VERTICAL AND HORIZONTAL CONCEALED DRAFT PATHS AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE. FIREBLOCKING SHALL BE PROVIDED IN A WOOD-FRAMED CONSTRUCTIONS IN THE LOCATIONS SPECIFIED IN CRC SECTIONS.
2. FIREBLOCKING SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS:
A. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AND PARALLEL ROWS AND STAGGERED STUDS AS FOLLOWS:
a. VERTICALLY AT THE CEILING AND FLOOR LEVELS
b. HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET
B. AT INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS
C. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN.
D. AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES, AND WIRES AT CEILING & FLOOR LEVELS, WITH AN APPROVED MATERIAL TO RESIST FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS.
E. FOR THE FIREBLOCKING AT CHIMNEYS AND FIREPLACES, SEE SECTION R1003.19
3. FIREBLOCKING OF CORNICES OF A TWO-FAMILY DWELLING IS REQUIRED AT THE LINE OF DWELLING UNIT SEPARATION. (CRC SECTION R302.11)
4. FIRE BLOCKING SHALL CONSIST OF 2 INCHES NOMINAL LUMBER OR TWO THICKNESS OF 1-INCH NOMINAL LUMBER WITH BROKEN LAP JOINTS OR ONE THICKNESS OF 28/32-INCH WOOD STRUCTURAL PANELS BACKED BY 23/32-INCH WOOD STRUCTURAL PANELS OR ONE THICKNESS OF 3/4 - INCH PARTICLEBOARD WITH JOINTS BACKED BY 3/4-INCH PARTICLEBOARD OR ONE-HALF-INCH GYPSUM BOARD OR ONE-QUARTER-INCH CEMENT-BASED MILLBBOARD OR BATTS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER OR OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO BE SECURELY RETAINED IN PLACE OR CELLULOSE INSULATION INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E 119 OR UL 263 FOR APPLICATIONS.
5. WALLS CONSTRUCTED USING PARALLEL OR STAGGERED STUDS FOR SOUND TRANSMISSION CONTROL SHALL HAVE FIRE BLOCKS OF BATTS OR BLANKETS OF MINERAL OR GLASS FIBER OR OTHER APPROVED NONRIGID MATERIALS SHALL BE PERMITTED FOR COMPLIANCE WITH 10-FOOT HORIZONTAL FIREBLOCKING (CRC SEC R302.11.1.1)

- 5. IN COMBUSTIBLE CONSTRUCTION WHERE THERE IS USABLE SPACE BOTH ABOVE AND BELOW THE CONCEALED SPACE OF FLOOR-CEILING ASSEMBLY DRAFTSTOPS SHALL BE INSTALLED SO THAT THE AREA OF THE CONCEALED SPACE DOES NOT EXCEED 1000 SQUARE FEET. DRAFT-STOPPING SHALL DIVIDE THE CONCEALED SPACE INTO APPROXIMATELY EQUAL AREAS WHERE THE ASSEMBLY IS ENCLOSED BY A FLOOR MEMBRANE ABOVE AND A CEILING MEMBRANE BELOW. DRAFTSTOPPING SHALL BE PROVIDED IN FLOOR-CEILING ASSEMBLIES UNDER THE FOLLOWING CIRCUMSTANCES:
A. CEILING IS SUSPENDED UNDER THE FLOOR FRAMING
B. FLOOR FRAMING IS CONSTRUCTED OF TRUSS-TYPE OPEN-WEB OR PERFORATED MEMBERS (CRC SECTION R302.12)
6. DRAFTSTOPPING MATERIALS SHALL NOT BE LESS THAN 1/2-INCH GYPSUM BOARD, 3/8-INCH WOOD STRUCTURAL PANELS ADEQUATELY SUPPORTED. DRAFTSTOPPING SHALL BE INSTALLED PARALLEL TO THE FLOOR FRAMING MEMBERS UNLESS OTHERWISE APPROVED BY THE BUILDING OFFICIAL. INTEGRITY OF THE DRAFTSTOPS SHALL BE MAINTAINED. (CRC SEC R302.12.1)

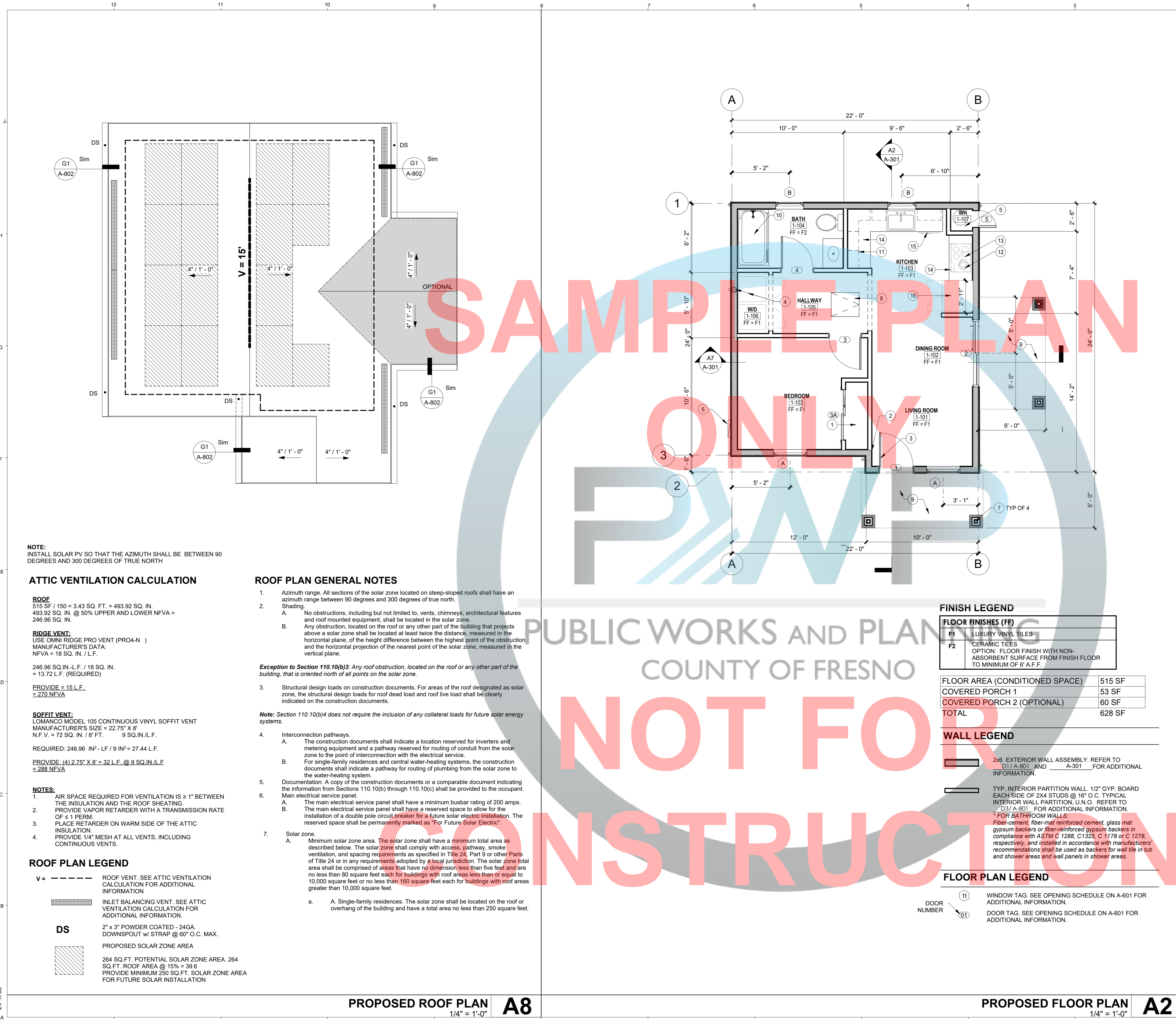
07-THERMAL & MOISTURE PROTECTION

- 1. PROVIDE ALL FLASHING, COUNTER-FLASHING, BITUMEN, MEMBRANE WATERPROOFING, SHEET METAL, CAULKING, SEALANTS, ELECTROMETRIC WALKING SURFACES, AND RAIN GUTTERS AND/OR DRAINERS WHERE REQUIRED. TO MAKE WORK COMPLETELY WATER-TIGHT.
2. THE TERMS "CORROSION RESISTANT" OR "NON-CORROSIVE" THE ABILITY OF A MATERIAL TO WITHSTAND DETERIORATION OF ITS SURFACE OR ITS PROPERTIES WHEN EXPOSED TO ITS ENVIRONMENT. (CRC SEC 202). WHEN AN ELEMENT IS REQUIRED TO BE CORROSION RESISTANT OR NON-CORROSIVE, ALL OF ITS PARTS, SUCH AS SCREWS, NAILS, WIRE, DOWELS, BOLTS, NUTS, WASHERS, SHIMS, ADHESIVES, AND FASTENERS SHALL HAVE THE CORROSION RESISTANT MATERIALS USED FOR CONSTRUCTION OF EXTERIOR WALLS SHALL COMPLY WITH THE PROVISIONS OF SECTION R703. THE EXTERIOR WALL ENVELOPE SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT PREVENTS THE ACCUMULATION OF WATER WITHIN THE WALL ASSEMBLY BY PROVIDING WATER RESISTIVE BARRIER WHICH IS A MINIMUM OF ONE LAYER OF NO. 15 ASPHALT FELT COMPLYING WITH ASTM D226 FOR TYPE I FELT OR OTHER APPROVED WATER-RESISTIVE BARRIER SHEET OR MEMBRANE. DECKS OR PARTITIONS OF EXTERIOR WALLS AS DESCRIBED IN SEC R703.2 PROTECTION AGAINST CONDENSATION IN THE EXTERIOR WALL ASSEMBLY SHALL BE PROVIDED IN ACCORDANCE WITH THE CALIFORNIA ENERGY CODE (CRC SECTION R703.1.1)
4. EXTERIOR WALLS SHALL PROVIDE THE BUILDING WITH WEATHER RESISTANT EXTERIOR WALL ENVELOPE. THE EXTERIOR WALL ENVELOPE SHALL INCLUDE FLASHING AS DESCRIBED IN SECTION R703.4 (CRC SECTION R703.4)
5. APPROVED CORROSION RESISTANT FLASHING SHALL BE APPLIED SINGLE FASHION IN A MANNER TO PREVENT ENTRY OF WATER INTO THE WALL CAVITY OR PENETRATION OF WATER TO BUILDING STRUCTURAL FRAMING COMPONENTS SELF-ADHERED MEMBRANES USED AS FLASHING SHALL AAMA 711. FLUID-APPLIED MEMBRANES USED AS FLASHING IN EXTERIOR WALLS SHALL COMPLY WITH AAMA 714. THE FLASHING SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH. APPROVED CORROSION RESISTANT FLASHING SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
A. FLASHING AT EXTERIOR WINDOW AND DOOR OPENINGS SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH OR TO THE WATER RESISTIVE BARRIER FOR SUBSEQUENT DRAINAGE.
B. AT THE INTERSECTION OF CHIMNEYS OR OTHER MASONRY CONSTRUCTION WITH FRAME OR STUCCO WALLS, WITH PROJECTING LIPS ON BOTH SIDES UNDER STUCCO COPINGS.
C. UNDER AND THE ENDS OF MASONRY, WOOD, OR METAL COPINGS AND SILLS
D. CONTINUOUSLY ABOVE ALL PROJECTING WOOD TRIMS
E. WHERE EXTERIOR WALLS ARE ATTACHED TO A WALL OR
F. AT WALL AND ROOF INTERSECTIONS
AT BUILT-IN GUTTERS
6. BALCONIES, LANDINGS, EXTERIOR STAIRWAYS, OCCUPIED ROOFS AND SIMILAR SURFACES EXPOSED TO THE WEATHER AND SEALED UNDERNEATH SHALL BE AND SUBMIT TO A MINIMUM OF 1/4 INCH VERTICAL IN 12 UNITS HORIZONTAL (2% SLOPE) FOR DRAINAGE (CRC SECTION R311.3)
7. PROVIDE A MINIMUM 2 INCH DROP FROM FINISHED INTERIOR FLOOR ELEVATIONS TO THE HIGHEST FLOOR ELEVATION OF ANY ADJOINING DECK OR BALCONY. PROVIDED THAT THE DOOR DOES NOT SWING OVER THE LANDING OR FLOOR. (CRC SECTION R311.3.1)
8. ELIMINATE OR MINIMIZE CORNER JUNCTIONS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AT DECKS AND BALCONIES. COLOR FINISH AND DETAILING SHALL BE APPROVED BY OWNER / BUILDER AND ARCHITECT.
9. UNLESS DESIGNED TO DRAIN OVER DECK EDGES, DRAINS, AND OVER-FLOWS ADEQUATE SIZE SHALL BE INSTALLED AT THE LOW POINTS OF DECK OR BALCONY.
10. ALL SHEET METAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS AND STANDARDS OF THE NATIONAL ASSOCIATION OF CONTRACTORS NATIONAL ASSOCIATION (S.M.A.C.N.A.), THE ARCHITECTURAL SHEET METAL MANU. AND SEALANT, WATERPROOFING AND RESTORATION INSTITUTE'S (S.W.R.I.) GUIDE - "SEALANTS" THE PROFESSIONAL'S GUIDE"
11. SHEET METAL SHALL BE STEEL, HOT-DIPPED, TIGHT COATED IN GALVANIZED, CONFORMING TO ASTM A525 AND SHALL BE A MINIMUM 24 GAUGE UNLESS OTHERWISE NOTED IN THESE NOTES, PLANS, OR MANUFACTURER'S SPECIFICATIONS.
12. SHEET ALUMINUM SHALL CONFORM WITH FEDERAL SPECIFICATIONS QQ-A-358 AND ASTM B209 ALLOY 3003.
13. FLASHING FOR ASPHALT SHINGLES SHALL COMPLY WITH SECTION R905.2.8. FABRICATE SHEET METAL WITH FLAT LOCK SEAMS AND COVER WITH TYPE AND FLUX RECOMMENDED BY MANUFACTURER. SEAL ALUMINUM SEAMS WITH EPOXY METAL SEAM CEMENT, WHERE REQUIRED FOR STRENGTH, RIVET, SEAMS, AND JOINTS.
14. SHOP FABRICATE TO THE GREATEST EXTENT POSSIBLE IN ACCORDANCE WITH APPLICABLE STANDARDS TO PROVIDE A PERMANENTLY WATER-PROOF, WEATHER RESISTANT INSTALLATION
15. BASE AND CAP FLASHING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. BASE FLASHING SHALL BE EITHER CORROSION RESISTANT METAL OF MINIMUM NOMINAL 0.019-INCH THICKNESS OR MINERAL SURFACE ROLL ROOFING WEIGHING A MINIMUM OF 77 POUNDS PER 100 SQUARE FEET. CAP FLASHING SHALL BE CORROSION-RESISTANT METAL OF MINIMUM NOMINAL 0.019-INCH THICKNESS. (CRC SECTION R905.2.8.1)
16. VALLEY LININGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS BEFORE APPLYING SHINGLES. VALLEY LINING OF THE FOLLOWING TYPES SHALL BE PERMITTED:
A. FOR OPEN VALLEYS (VALLEY LINING EXPOSED) LINED WITH METAL, THE VALLEY LINING SHALL BE NOT LESS THAN 24 INCHES WIDE AND OF ANY OF THE CORROSION-RESISTANT METALS IN TABLE R905.2.8.2
B. FOR OPEN VALLEYS, VALLEY LINING OF TWO PLYS OF MINERAL-SURFACED ROLL ROOFING COMPLYING WITH ASTM D 3909 OR ASTM D 6380 CLASS M, SHALL BE PERMITTED. THE BOTTOM LAYER SHALL BE 18 INCHES AND THE TOP LAYER A MINIMUM OF 36 INCHES WIDE.
C. FOR CLOSED VALLEYS (VALLEYS COVERED WITH SHINGLES), VALLEY LINING OF ONE PLY OF SMOOTH ROLL ROOFING COMPLYING WITH ASTM D 6380 AND AT LEAST 36 INCHES WIDE OR VALLEY LINING AS DESCRIBED IN ITEM 1 OR 2 ABOVE SHALL BE PERMITTED. SELF-ADHERING POLYMER MODIFIED BITUMEN UNDERLAYMENT COMPLYING WITH ASTM D1970 SHALL BE PERMITTED IN LIEU OF THE LINING MATERIAL. (CRC SECTION R905.2.8.2)
17. BASE FLASHING AGAINST A VERTICAL SIDEWALL SHALL BE CONTINUOUS OR STEP FLASHING SHALL NOT BE LESS THAN 4 INCHES IN HEIGHT AND 4 INCHES IN WIDTH AND SHALL DIRECT WATER AWAY FROM THE VERTICAL SIDEWALL OR GUTTER. (CRC SECTION R905.2.8.3) FLASHING ONTO THE ROOF OR GUTTER. (CRC SECTION R905.2.8.3). FLASHING AGAINST VERTICAL FRONT WALL AS WELL AS SOIL STACK, VENT PIPE AND CHIMNEY FLASHING, SHALL BE APPLIED IN ACCORDANCE WITH THE ASPHALT SHINGLE MANUFACTURER'S PRINTED INSTRUCTIONS (CRC SECTION R905.2.8.4) ASPHALT SHINGLES ROOF MATERIAL.
18. AT THE JUNCTURE OF ROOF VERTICAL SURFACES, FLASHING, AND COUNTER-FLASHING SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 9 AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND, WHERE OF METAL, - SHALL NOT BE LESS THAN 0.019 INCH (NO. 26 GALVANIZED SHEET GAGE) CORROSION-RESISTANT METAL. THE VALLEY FLASHING SHALL EXTEND AT LEAST 11 INCHES FROM THE CENTERLINE EACH WAY AND HAVE A SPLASH DIVERTER RIB NOT LESS THAN 1 INCH HEIGHT AT THE FLOW LINE FORMED AS PART OF THE FLASHING. SECTIONS OF FLASHING SHALL HAVE AN END LAP OF NOT LESS THAN 4 INCHES. FOR ROOF SLOPES OF THREE UNITS VERTICAL IN 12 UNITS HORIZONTAL (25-PERCENT SLOPE) AND GREATER, VALLEY FLASHING SHALL HAVE A 36-INCHES WIDE UNDERLAYMENT OF ONE LAYER OF TYPE 1 UNDERLAYMENT RUNNING THE FULL LENGTH OF THE VALLEY. IN ADDITION TO THE OTHER REQUIRED UNDERLAYMENT, IN AREAS WHERE THE AVERAGE FLOOR OR LESS THAN 36 INCHES WIDE VALLEY FLASHING IS REQUIRED, FLASHING UNDERLAYMENT SHALL BE SOLID-CEMENT TO THE ROOFING UNDERLAYMENT OR SLOPES LESS THAN SEVEN UNITS VERTICAL IN 12 UNITS HORIZONTAL (58-PERCENT SLOPE) OR BE OF SELF-ADHERING POLYMER MODIFIED BITUMEN SHEET. (CRC SEC R905.3.8)

EXTERIOR WALL COVERINGS

- 1. SEE FINISHES IN THESE GENERAL NOTES FOR EXTERIOR PLASTER
2. ALL EXTERIOR MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT EDITION THE CALIFORNIA BUILDING CODE AND ALL STATE AND LOCAL CODES
3. WATER-RESISTIVE BARRIERS SHALL BE INSTALLED AS REQUIRED PER CRC SECTION R703.2 AND WHEN APPLIED OVER WOOD BASE SHEATHING, SHALL INCLUDE TWO LAYERS OF GRADE 'D' PAPER (CRC SECTION R703.7.3)
4. FIBER-CEMENT PANELS SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C1186 TYPE A, MINIMUM GRADE I OR ISO 8338, CATEGORY A, MINIMUM CLASS 2. PANELS SHALL BE INSTALLED WITH LONG DIMENSIONS EITHER PARALLEL OR PERPENDICULAR TO FRAMING, VERTICAL AND HORIZONTAL JOINTS SHALL OCCUR OVER FRAMING MEMBERS AND SHALL BE PROTECTED WITH CAULK

7/12/2023 12:30:24 PM 24" X 36"



FLOOR PLAN KEYNOTES

- BUILT-IN CLOSET/DRAWERS WITH CLOTHES ROD.
- ALIGN EDGE OF WALL FOR A SMOOTH AND FLUSHED FINISHED.
- PROVIDE PEEP HOLE OR VISION PANEL AT 1 PEEP HOLE AT 43" MAX. (OPTIONS PEEP HOLE @ MAX. 60" O.C. AFF.) PROVIDE STEEL PLATE AT THE DEAD BOLT STRIKER. SOLID SHIM 6" ABOVE & BELOW WITH 2/8 BY 2" SCREWS.
- WASHING MACHINES AND CLOTHES DRYERS. DRYER SHALL HAVE 4" VENT DUCT TO EXTERIOR WITH MAXIMUM RUN OF 14' INCLUDING 2-90° ELBOWS. TWO FEET SHALL BE DEDUCTED FOR EACH 90 DEGREE ELBOW IN EXCESS OF TWO. REFER TO E5/A-804 FOR ADDITIONAL INFORMATION.
- HEAT PUMP WATER HEATER. (MINIMUM OF 3.1 UEF PER TITLE 24). INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- NEW SERVICE PANEL. COORDINATE WITH POWER AND GAS COMPANY PRIOR TO COMMENCING WORK. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- POST WITH OPTIONAL 2X POST WRAP. REFER TO A6/A-802 & STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- MIN. 24" X 36" ATTIC ACCESS PANEL.
- CONCRETE PATIO/LANDING. SLOPED AT 2% MAXIMUM AWAY FROM THE BUILDING. REFER TO A1/A-801 FOR ADDITIONAL INFORMATION.
- BUILT-IN BATH TUB AND SHOWER COMBO.
- UPPER KITCHEN CABINET. REFER TO G6/A-802 FOR ADDITIONAL INFORMATION.
- HOOD WITH FAN OVER ELECTRIC COOKTOP. PROVIDE 30" VERTICAL AND 6" HORIZONTAL CLEARANCE VENT THROUGH ROOF.
- 4 BURNER ELECTRICAL COOKTOP. PROVIDE (OPTIONAL GAS) LINE. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- COUNTERTOP WITH BUILT-IN CABINET AND PULL OUT DRAWERS. REFRIGERATOR SPACE WITH WATER CONNECTION.

FLOOR PLAN GENERAL NOTES:

- VERIFY ALL DIMENSIONS, GRADES, AND OTHER CONDITIONS AT JOB SITE BEFORE COMMENCING WORK. DIMENSIONS SHOWN ON THESE PLANS ARE FROM FACE OF FINISH, UNLESS OTHERWISE NOTED.
- WEATHER-STRIP ALL EXTERIOR DOORS AND WINDOWS CERTIFIED ACCORDING TO SECTION 2-555 OF STANDARD FOR DOORS AND WINDOWS.
- ALL OPENINGS AROUND DUCTING, GAS VENTS, PIPES, CHIMNEYS AT THE CEILING SHALL BE FIRE BLOCKED PER CBC AND CRC. ALL WINDOWS AND DOORS SHALL MEET THE AIR INFILTRATION STANDARDS OF THE 2022 CALIFORNIA RESIDENTIAL AND ENERGY CODES SHALL BE CERTIFIED AND LABELED.
- INTERIOR WALL COVERING TO BE 1/2" THK. GYP. BRD., UNLESS OTHERWISE NOTED. (FLAME SPREAD CLASS 111)
- ALL WINDOW GLAZING ARE TO BE DUAL-GLAZED AND PROVIDE SOLAR SCREENS.
- GLASS DOORS AND WINDOWS IMMEDIATELY TO OR LESS THAN 18" FROM FLOOR OR IN DOOR SHALL BE TEMPERED.
- THE FOLLOWING SHALL BE CAULKED OR OTHERWISE SEALED TO LIMIT AIR INFILTRATION:
 - EXTERIOR JOINTS AROUND WINDOWS AND DOOR FRAMES, BETWEEN WALLS SOLE PLATES AND FLOORS AND BETWEEN WALL PANELS.
 - OPENING FOR PLUMBING, ELECTRICITY, AND GAS LINES IN WALLS, CEILINGS AND FLOORS.
 - OPENINGS IN THE ATTIC FLOOR (SUCH AS WHERE CEILING PANELS MEET INTERIOR AND EXTERIOR WALLS AND MASONRY FIREPLACES.)
- PROVIDE 2x SOLID BLOCKING BEHIND ALL TOILET FIXTURES, CABINETS, WATER HEATER, CEILING LIGHT FIXTURES (FUTURE FAN LOCATION) AND WHEREVER DIRECTED BY THE OWNER, INSPECTOR OR ARCHITECT.
- DUCT CONSTRUCTED, INSTALLED AND INSULATED PER CURRENT CODE AND TITLE 24.
- MECHANICAL VENTILATION SYSTEMS MUST SUPPLY 5 CHANGES PER HOUR IN BATHROOMS AND LAUNDRY ROOMS; 2 AIR CHANGES PER HOUR IN OTHER HABITABLE ROOMS.
- PROVIDE 1-1/2" DUCT INSULATION (TYPICAL).
- VERIFY ALL APPLIANCE SPECIFICATIONS, SIZES AND OWNER'S REQUIREMENT FOR BUILT-IN ASSEMBLY PRIOR TO PRODUCTION OF CASEWORKS. ADJUST DIMENSIONS OF BUILT IN CASEWORK WITH APPLIANCE DIMENSION.
- CONSTRUCT PATIO SLABS WITH 4" THK. CONCRETE X 12" DP. SHOVEL (1 #4 BAR) FOOTING AT PERIMETER. SLABS ARE TO BE BROOM FINISH. PROVIDE 6x6x10 (10 W/M) IN MIDDLE OF SLABS.
- THE ENERGY CERTIFICATION OF COMPLIANCE MUST BE SUBMITTED AFTER INSTALLATION OF THE REQUIRED EQUIPMENT AND/OR MATERIAL AND PRIOR TO REQUEST OF FINAL INSPECTION.
- WALL 1-1/2" OUTLET (W.P., G.F.I.) WITHIN 25 FEET OF ROOF MOUNTED EQUIPMENT.
- AFTER INSTALLING INSULATION, THE INSTALLER SHALL POST IN A CONSPICUOUS LOCATION IN THE BUILDING A CERTIFICATE SIGNED BY THE INSTALLER AND THE BUILDER STATING THAT THE INSTALLATION CONFORMS WITH THE REQUIREMENTS FOR TITLE 24 PART 2, CHAPTER 2-53 AND THAT THE MATERIALS INSTALLED CONFORM WITH THE REQUIREMENTS OF TITLE 20, CHAPTER 2 SUB-CHAPTER 4, ARTICLE 3. THE CERTIFICATE SHALL STATE THE MANUFACTURER'S NAME AND MATERIAL IDENTIFICATION, THE INSTALLED "R" VALUE, AND (IN APPLICATIONS OF LOOSE FILL INSULATION) THE MINIMUM INSTALLED WEIGHT PER SQUARE FOOT CONSISTENT WITH THE MANUFACTURER'S LABEL DENSITY FOR THE DESIRED "R" VALUE TO BE INSTALLED IN CEILING AND IN WALLS.
- WALL AND CEILING FINISHES SHALL HAVE A FLAME SPREAD INDEX OF NOT GREATER THAN 200. **CRC R302.9.1**
- WALL AND CEILING FINISHES SHALL HAVE A SMOKE-DEVELOPED INDEX OF NOT GREATER THAN 450. **CRC R302.9.2**
- PROVIDE FALL PROTECTION REINFORCEMENT AND ADDRESS FALL PROTECTION REQUIREMENTS. REFER TO A-501 AND FOR ADDITIONAL INFORMATION.
- ALL TUB AND SHOWER VALVES ARE TO BE SINGLE CONTROL PRESSURE BALANCING OR THERMOSTATIC ANTI-SCALD TYPE.
- WATER HAMMER ARRESTORS SHALL BE INSTALLED AT THE FOLLOWING QUICK-ACTING SHUT-OFF VALVES [CPC 609.10]:
 - AUTOMATIC WASHING MACHINE (HOT AND COLD WATER)
 - CEMAKER
 - DISHWASHER
 - FRONT AND REAR SPRINKLER OUTLETS
- ALL HOSE BIBS SHALL BE EQUIPPED WITH NON-REMOVABLE BACKFLOW PREVENTERS.
- PROVIDE ONE INCH UNDERCUT FOR EXTERIOR DOORS OF LPG WATER HEATER OR FURNACE COMPARTMENTS

FLOOR PLAN LEGEND

11 WINDOW TAG. SEE OPENING SCHEDULE ON A-601 FOR ADDITIONAL INFORMATION.

12 DOOR TAG. SEE OPENING SCHEDULE ON A-601 FOR ADDITIONAL INFORMATION.

DOOR LANDING NOTES

- LANDING SHALL HAVE A WIDTH NOT LESS THAN THE WIDTH OF THE DOOR AND 36" MIN. IN THE DIRECTION OF TRAVEL. (CBC 1008.1.5)
- PER CBC 1008.1.6 BELOW:
 - "1008.1.6 THRESHOLDS. THRESHOLDS AT DOORWAYS SHALL NOT EXCEED 0.75 INCH IN HEIGHT FOR SLIDING DOORS SERVING DWELLING UNITS OR 0.5 INCH FOR OTHER DOORS.
 - RAISED THRESHOLDS AND FLOOR LEVEL CHANGES GREATER THAN 0.25 INCH AT DOORWAYS SHALL BE BEVELED WITH A SLOPE NOT GREATER THAN ONE UNIT VERTICAL IN TWO UNITS HORIZONTAL (50-PERCENT SLOPE).
 - EXCEPTION: THE THRESHOLD HEIGHT SHALL BE LIMITED TO 7.75 INCHES WHERE THE OCCUPANCY IS GROUP R-2 OR R-3; THE DOOR IS AN EXTERIOR DOOR THAT IS NOT A COMPONENT OF THE REQUIRED MEANS OF EGRESS; THE DOOR, OTHER THAN AN EXTERIOR STORM OR SCREEN DOOR DOES NOT SWING OVER THE LANDING OR STEP; AND THE DOORWAY IS NOT ON AN ACCESSIBLE ROUTE AS REQUIRED BY CHAPTER 11A OR 11B AND IS NOT PART OF AN ADAPTABLE OR ACCESSIBLE DWELLING UNIT."

FINISH LEGEND

FLOOR FINISHES (FF)

| | |
|----|--|
| F1 | LUXURY VINYL TILES |
| F2 | CERAMIC TILES OPTION: FLOOR FINISH WITH NON-ABSORBENT SURFACE FROM FINISH FLOOR TO MINIMUM OF 6' A.F.F. |

WALL LEGEND

2x6 EXTERIOR WALL ASSEMBLY. REFER TO D1/A-301 AND A-301 FOR ADDITIONAL INFORMATION.

TYP. INTERIOR PARTITION WALL. 1/2" GYP. BOARD EACH SIDE OF 2X4 STUDS @ 16" O.C. TYPICAL INTERIOR WALL PARTITION, U.N.O. REFER TO D3/A-301 FOR ADDITIONAL INFORMATION.

*FOR BATHROOM WALLS:
Fiber-cement, fiber-mat reinforced cement, glass mat gypsum backers or fiber-reinforced gypsum backers in compliance with ASTM C 1288, C 1325, C 1178 or C 1278, respectively, and installed in accordance with manufacturers' recommendations shall be used as backers for wall tile in tub and shower areas and wall panels in shower areas.

FLOOR AREA (CONDITIONED SPACE)

| | |
|--------------------------------|--------|
| FLOOR AREA (CONDITIONED SPACE) | 515 SF |
| COVERED PORCH 1 | 53 SF |
| COVERED PORCH 2 (OPTIONAL) | 60 SF |
| TOTAL | 628 SF |

500 SQ. FT. MODEL (515 SQ. FT.)

OPTION # 2

PROJECT

ACCESSORY DWELLING UNIT

PWP23-003

DEPARTMENT OF PUBLIC WORKS AND PLANNING

CAPITAL PROJECTS DIVISION

2220 Tulare St., Ste. 720, Fresno, CA. 93721
Phone: (559) 262-4212 Fax: (559) 262-4879

SEAL & SIGNATURE

UPDATE

JULY 5, 2023

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TITLE

PROPOSED FLOOR PLAN & ROOF PLAN

SCALE 1/4" = 1'-0"

A-201

| | |
|----------------|------------|
| ISSUE DATE | JOB NUMBER |
| APRIL 12, 2023 | 2023_19 |
| DRAWN BY | CHECKED BY |
| Author | Checker |

500 SQ. FT. MODEL (515 SQ. FT.)

OPTION #2

PROJECT
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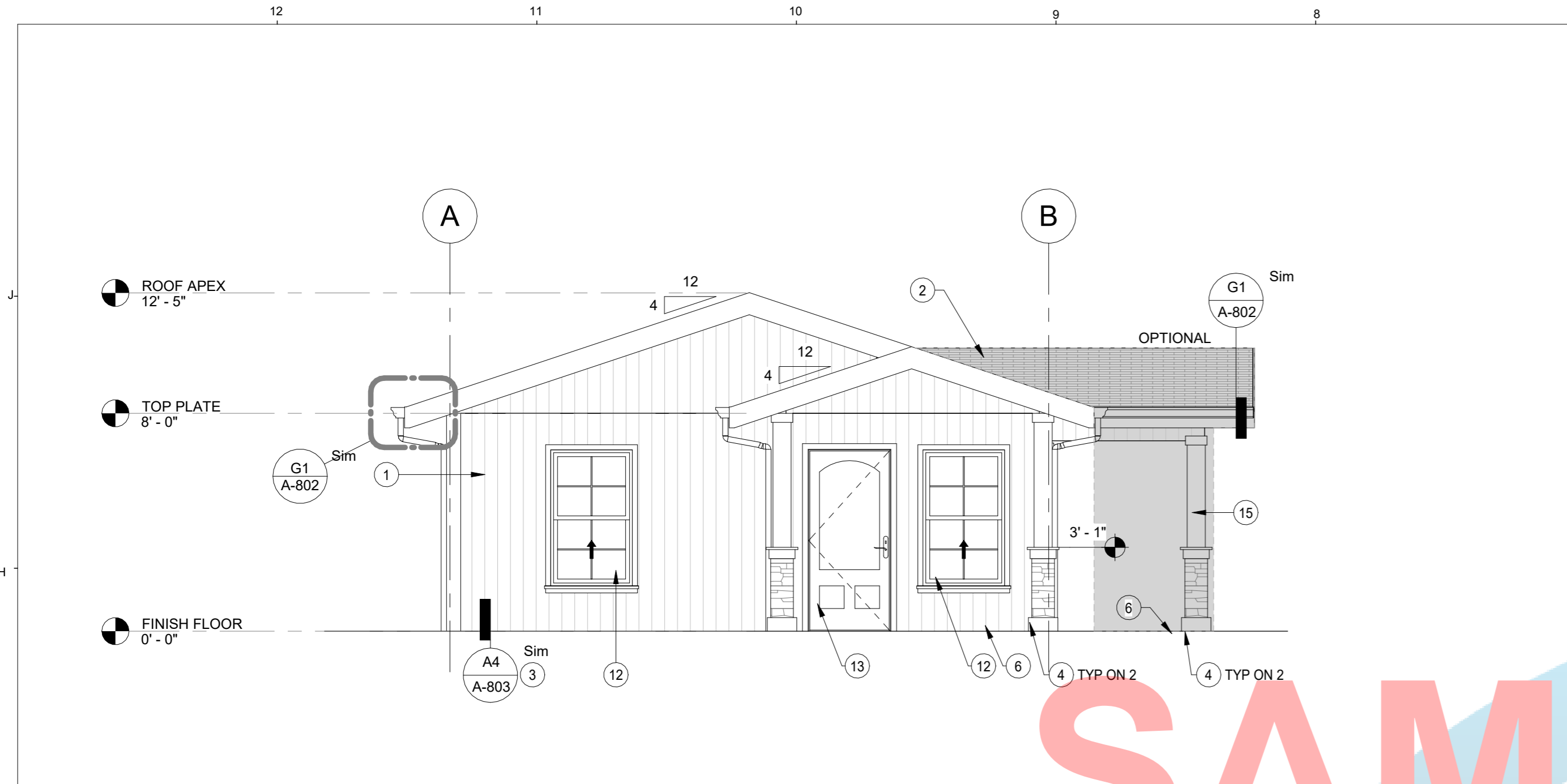
TITLE
ELEVATIONS & SECTIONS

SCALE 1/4" = 1'-0"

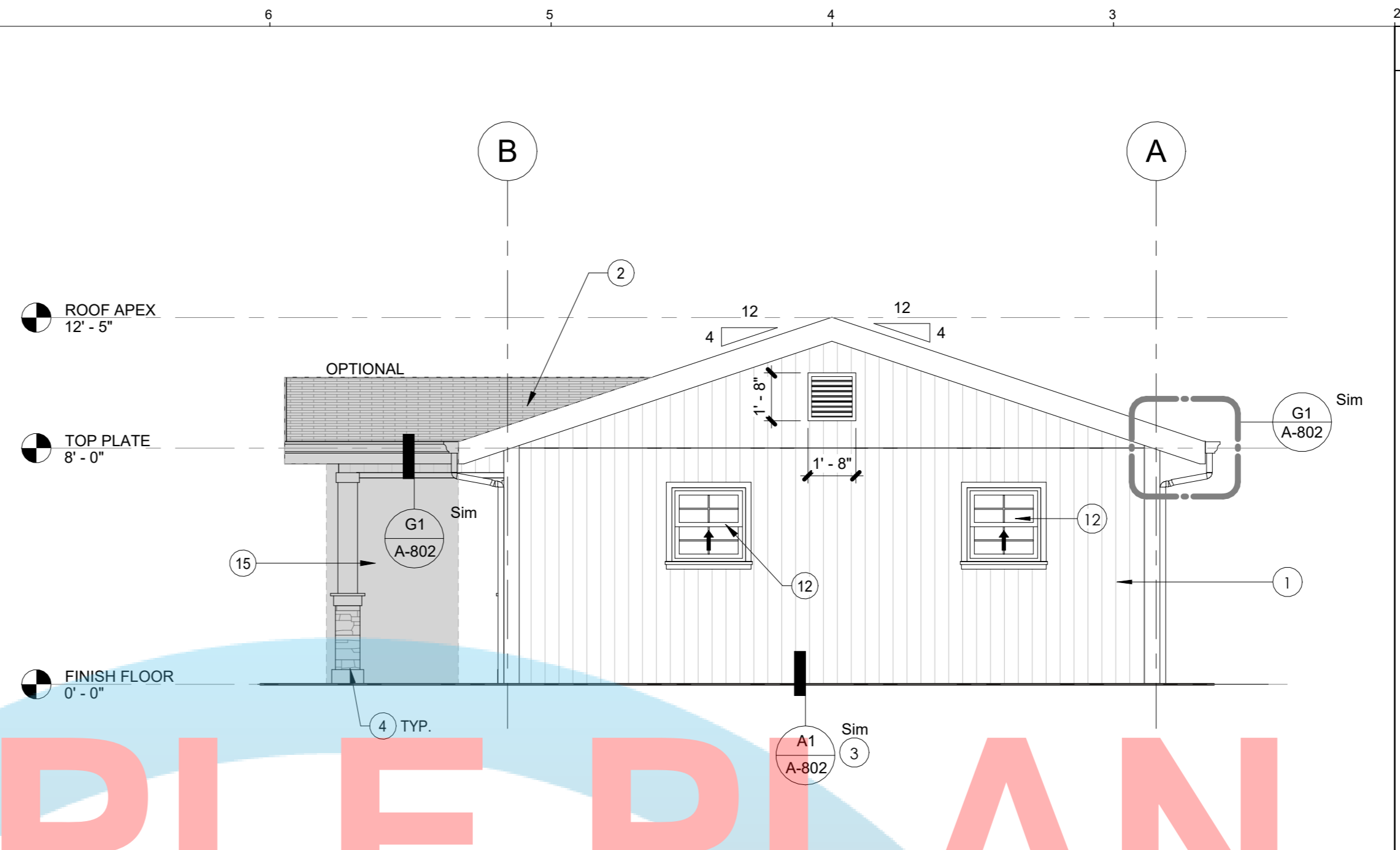
A-301

ISSUE DATE: APRIL 12, 2023
JOB NUMBER: 2023_19
DRAWN BY: Author
CHECKED BY: Checker

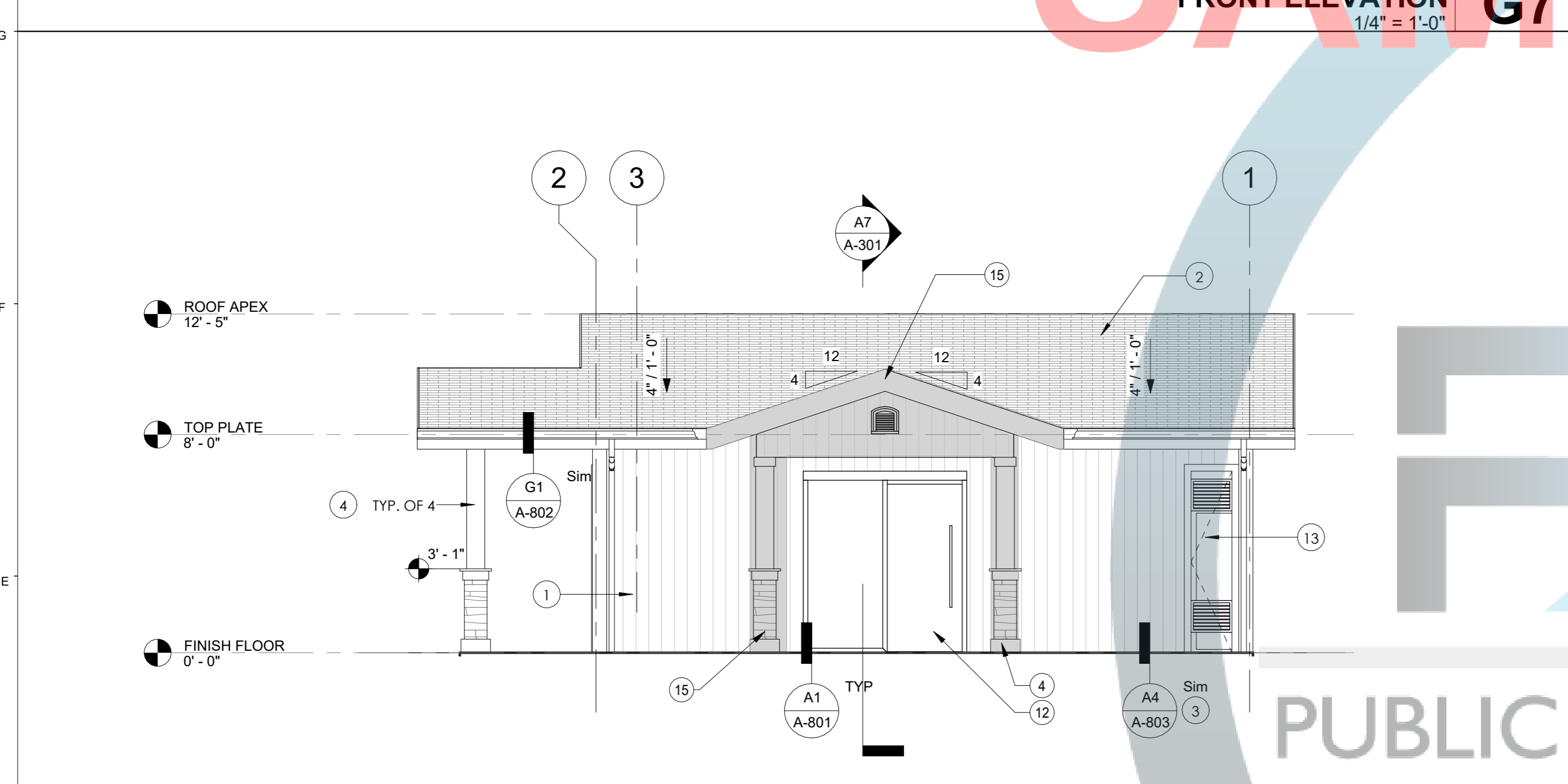
- ELEVATION / SECTIONS KEYNOTES**
- "HARDIE PLANK" LAP SIDING OVER 2 LAYER GRADE "D" BUILDING PAPER WITH PERIMETER WEEP SCREED. REFER TO A-803 FOR ADDITIONAL INFORMATION. OPTIONAL FINISH: 7/8" STUCCO FINISH OVER 2 LAYERS OF GRADE "D" PAPER INSTALLED OVER PLYWOOD SHEATHING (AS REQUIRED PER STRUCTURAL DRAWING). INSTALL METAL LATH OVER PLYWOOD SHEATHING PER R703.7.1. PROVIDE PERIMETER WEEP SCREED. REFER TO D1/A-801 FOR ADDITIONAL INFORMATION.
 - 25 YEAR ASPHALT COMPOSITION ROOFING WITH MINIMUM CLASS "C" RATING OVER 30# FELT OVER PLYWOOD SHEATHING. REFER TO A8/A-201 FOR ADDITIONAL INFORMATION. OPTION ROOF: GA. 24 STANDING SEAMLESS METAL ROOF.
 - PERIMETER WEEP SCREED FOR STUCCO APPLICATION. REFER TO A4/A-803, F4/A-803, A9/A-802 FOR ADDITIONAL INFORMATION.
 - TREATED WOOD POST WITH OPTIONAL 2X WRAPPED POST OVER CEMENT PLASTER FINISH AND VENEER STONE. REFER TO STRUCTURAL DRAWINGS AND A6/A-802 FOR ADDITIONAL INFORMATION.
 - ENGINEERED ROOF TRUSS AND PLYWOOD SHEATHING.
 - CONCRETE PATIO/LANDING. SLOPED AT 2% MAXIMUM AWAY FROM THE BUILDING.
 - R-21 MINIMUM FIBERGLASS BATTS WALL INSULATION. TYPICAL ON ALL EXTERIOR WALL.
 - R-38 MINIMUM FIBERGLASS BATT INSULATION. TYPICAL ON ATTIC.
 - R-13 MINIMUM BATT INSULATION. TYPICAL AT FRAME CAVITY OF ROOF.
 - 11" X 24" CONCRETE BACK SPLASH. PROVIDE ONE PER DOWNSPOUT. POSITION TO DRAIN AWAY FROM THE BUILDING.
 - CONCRETE FOOTING / FOUNDATION. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - DUAL GLAZED WINDOW. REFER TO A2/A-201 FOR ADDITIONAL INFORMATION.
 - DOOR. SEE SEE A2/A-201 FOR ADDITIONAL INFORMATION.
 - SERVICE PANEL. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - HATCHED AREA DENOTES OPTIONAL PATIO / POST AND COVERED ROOFING ASSEMBLY. PROVIDE MINIMUM LANDING REQUIREMENTS. SEE A2/A-201 FOR ADDITIONAL INFORMATION.



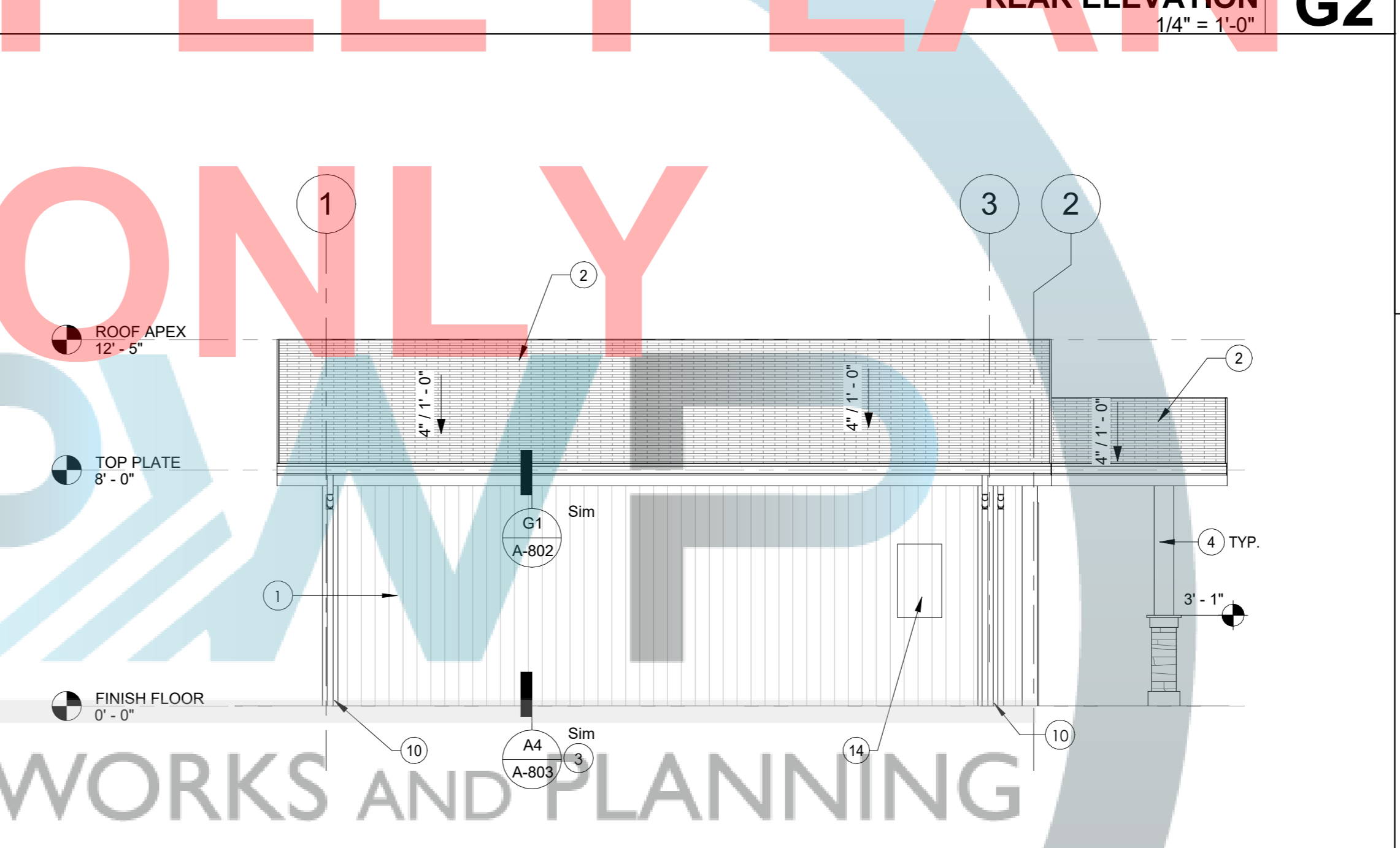
FRONT ELEVATION G7
1/4" = 1'-0"



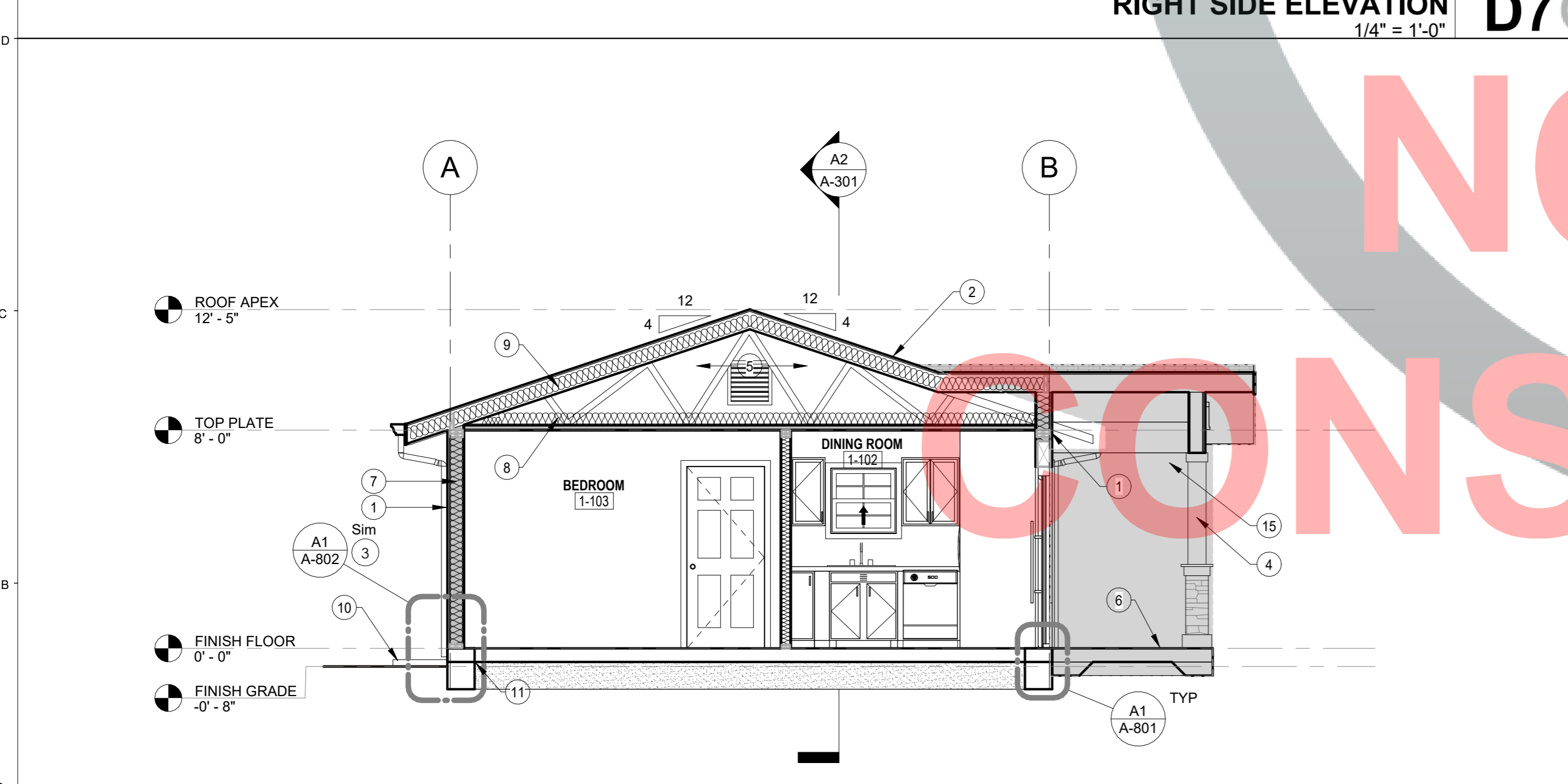
REAR ELEVATION G2
1/4" = 1'-0"



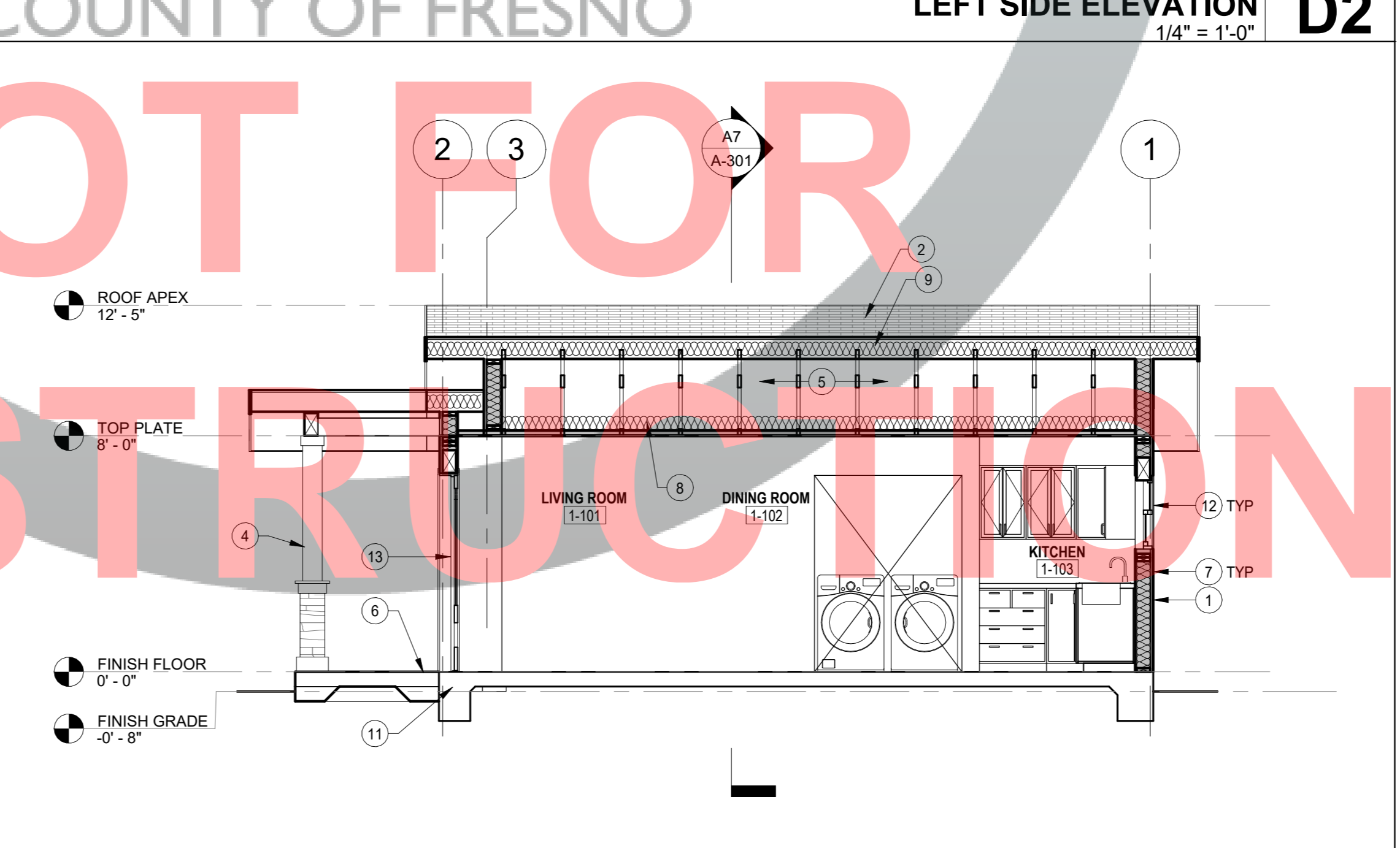
RIGHT SIDE ELEVATION D7
1/4" = 1'-0"



LEFT SIDE ELEVATION D2
1/4" = 1'-0"



SECTION 1 A7
1/4" = 1'-0"



SECTION 2 A2
1/4" = 1'-0"

SAMPLE PLAN

ONLY

PUBLIC WORKS AND PLANNING

COUNTY OF FRESNO

NOT FOR

CONSTRUCTION

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24" X 36"

SECTION R327 AGING-IN-PLACE DESIGN AND FALL PREVENTION

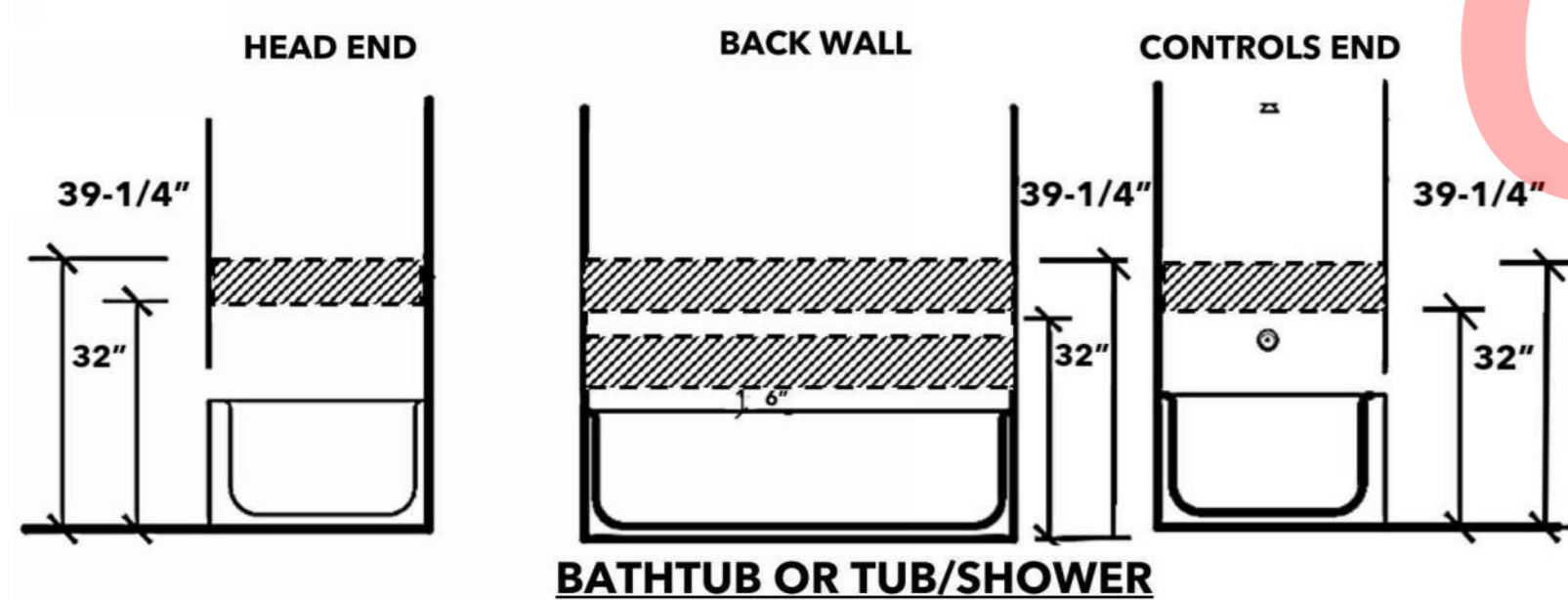
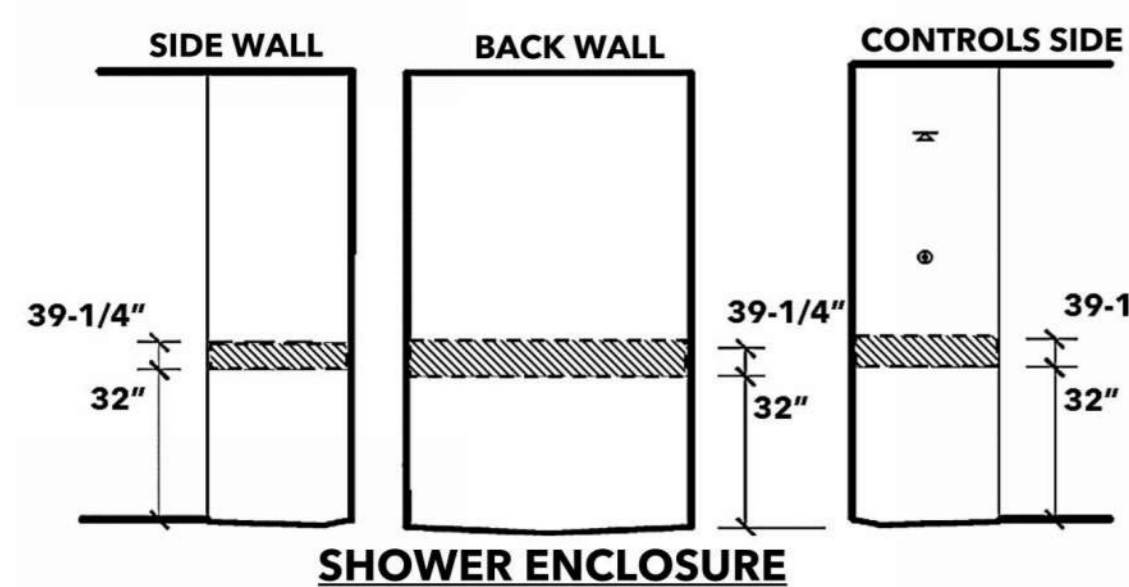
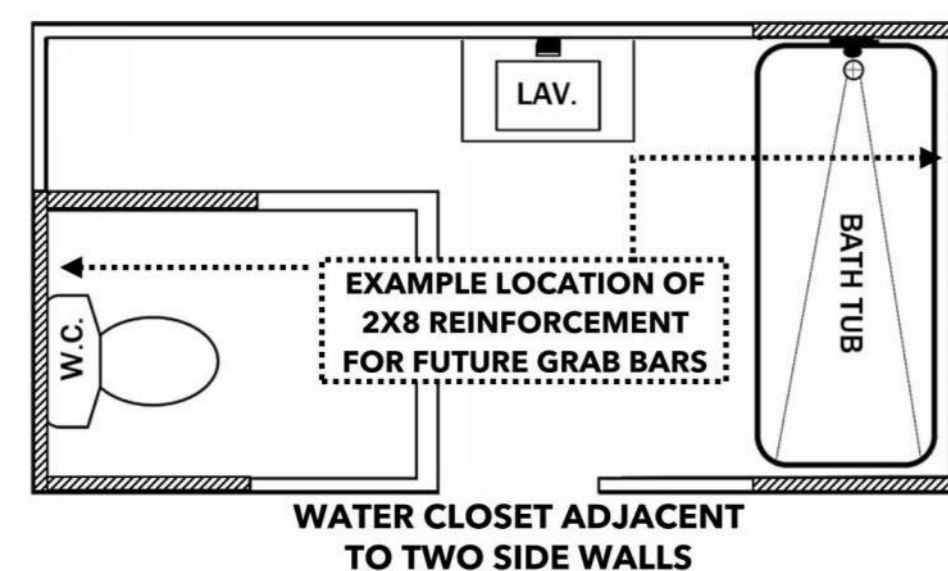
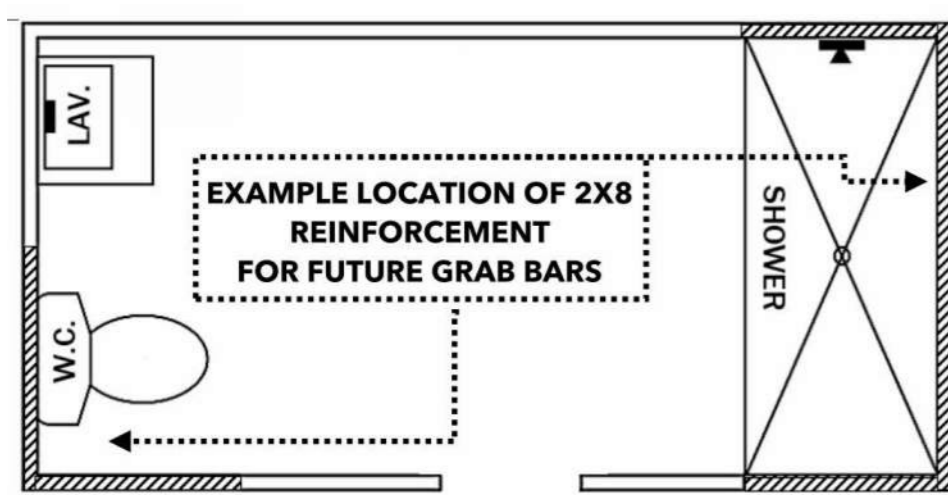
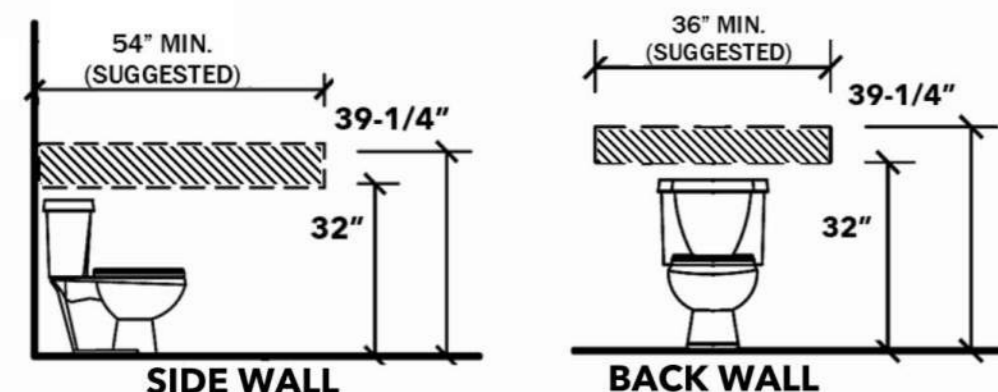
R327.1.1 REINFORCEMENT FOR GRAB BARS

AT LEAST ONE BATHROOM ON THE ENTRY LEVEL SHALL BE PROVIDED WITH REINFORCEMENT INSTALLED IN ACCORDANCE WITH THIS SECTION. WHERE THERE IS NO BATHROOM ON THE ENTRY LEVEL, AT LEAST ONE BATHROOM ON THE SECOND OR THIRD FLOOR OF THE DWELLING SHALL COMPLY WITH THIS SECTION.

- REINFORCEMENT SHALL BE SOLID LUMBER OR OTHER CONSTRUCTION MATERIALS APPROVED BY THE ENFORCING AGENCY.
- REINFORCEMENT SHALL NOT BE LESS THAN 2 BY 8 INCH NOMINAL LUMBER, (1 1/2 INCH BY 7 1/4 INCH ACTUAL DIMENSION) OR OTHER CONSTRUCTION MATERIAL PROVIDING EQUAL HEIGHT AND LOAD CAPACITY. REINFORCEMENT SHALL BE LOCATED BETWEEN 32 INCHES AND 39 1/4 INCHES ABOVE THE FINISHED FLOOR FLUSH WITH THE WALL FRAMING.
- WATER CLOSET REINFORCEMENT SHALL BE INSTALLED ON BOTH SIDE WALLS OF THE FIXTURE, OR ONE SIDE WALL AND THE BACK WALL.
- SHOWER REINFORCEMENT SHALL BE CONTINUOUS WHERE WALL FRAMING IS PROVIDED.
- BATHTUB AND COMBINATION BATHTUB/SHOWER REINFORCEMENT SHALL BE CONTINUOUS ON EACH END OF THE BATHTUB AND THE BACK WALL.
- ADDITIONAL BACK WALL REINFORCEMENT FOR A LOWER GRAB BAR SHALL BE PROVIDED WITH THE BOTTOM EDGE LOCATED NO MORE THAN 6 INCHES ABOVE THE BATHTUB RIM.

EXCEPTIONS:

- WHERE THE WATER CLOSET IS NOT PLACED ADJACENT TO A SIDE WALL CAPABLE OF ACCOMMODATING A GRAB BAR, THE BATHROOM SHALL HAVE PROVISIONS FOR INSTALLATION OF FLOOR-MOUNTED, FOLD-AWAY OR SIMILAR ALTERNATE GRAB BAR REINFORCEMENTS APPROVED BY THE ENFORCING AGENCY.
- REINFORCEMENT SHALL NOT BE REQUIRED IN WALL FRAMING FOR PRE-FABRICATED SHOWER ENCLOSURES AND BATHTUB WALL PANELS WITH INTEGRAL FACTORY-INSTALLED GRAB BARS OR WHEN FACTORY-INSTALLED REINFORCEMENT FOR GRAB BARS IS PROVIDED.
- SHOWER ENCLOSURES THAT DO NOT PERMIT INSTALLATION OF REINFORCEMENT AND/OR GRAB BARS SHALL BE PERMITTED. PROVIDED REINFORCEMENT FOR INSTALLATION OF FLOOR-MOUNTED GRAB BARS OR AN ALTERNATE METHOD IS APPROVED BY THE ENFORCING AGENCY.
- BATHTUBS WITH NO SURROUNDING WALLS, OR WHERE WALL PANELS DO NOT PERMIT THE INSTALLATION OF REINFORCEMENT SHALL BE PERMITTED. PROVIDED REINFORCEMENT FOR INSTALLATION OF FLOOR-MOUNTED GRAB BARS ADJACENT TO THE BATHTUB OR AN ALTERNATE METHOD IS APPROVED BY THE ENFORCING AGENCY.
- REINFORCEMENT OF FLOORS SHALL NOT BE REQUIRED FOR BATHTUBS AND WATER CLOSETS INSTALLED ON CONCRETE SLAB FLOORS.



GRAB BAR REINFORCEMENT
12" = 1'-0" **5**

SECTION R327 AGING-IN-PLACE DESIGN AND FALL PREVENTION

R327.1.2 ELECTRICAL RECEPTACLE OUTLET, SWITCH AND CONTROL HEIGHTS

ELECTRICAL RECEPTACLE OUTLETS, SWITCHES AND CONTROLS (INCLUDING CONTROLS FOR HEATING, VENTILATION AND AIR CONDITIONING) INTENDED TO BE USED BY OCCUPANTS SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX ABOVE THE FINISH FLOOR.

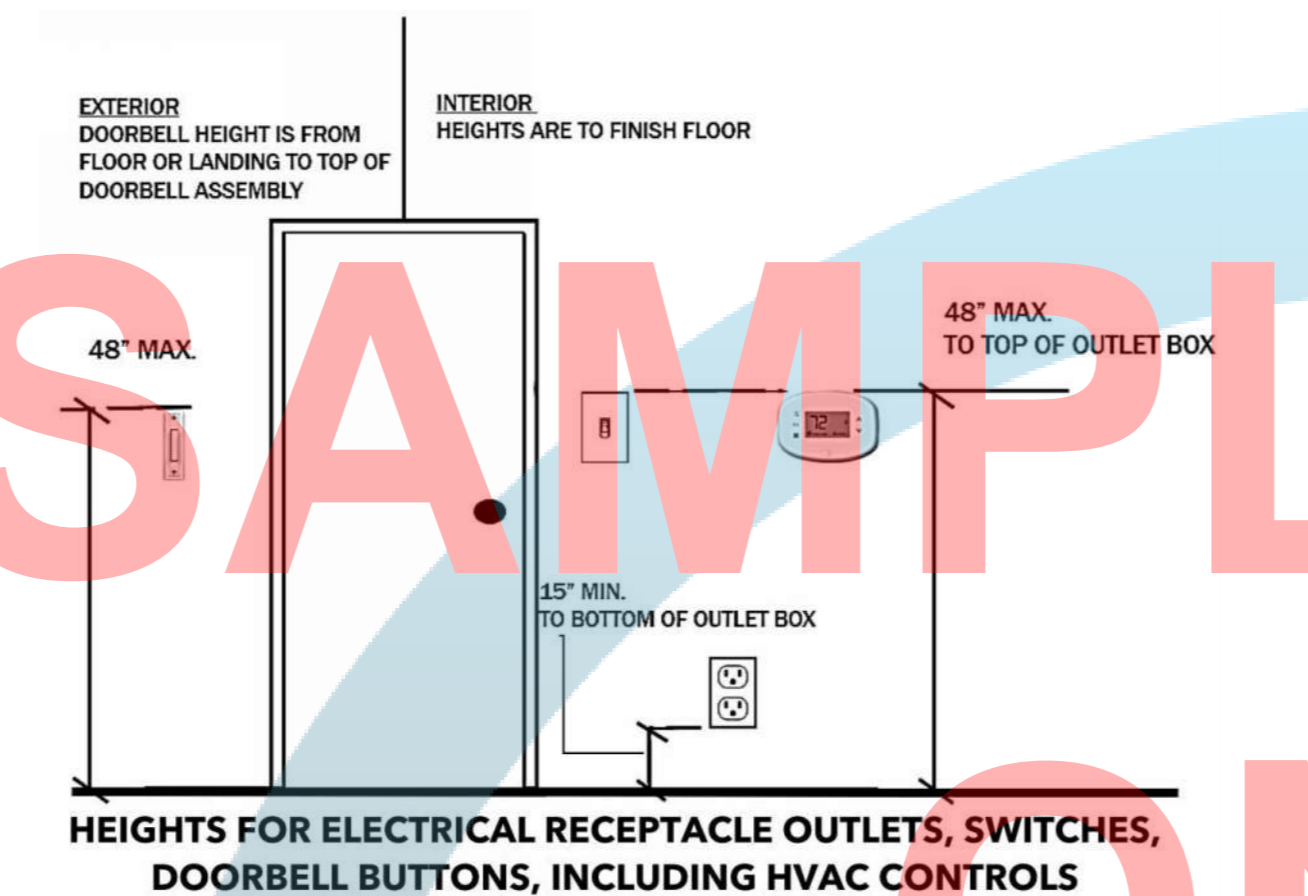
- DEDICATED RECEPTACLE OUTLETS; FLOOR RECEPTACLE OUTLETS; CONTROLS MOUNTED ON CEILING FANS AND CEILING LIGHTS; AND CONTROLS LOCATED ON APPLIANCES.
- RECEPTACLE OUTLETS REQUIRED BY THE CALIFORNIA ELECTRICAL CODE ON A WALL SPACE WHERE THE DISTANCE BETWEEN THE FINISHED FLOOR AND A BUILT-IN FEATURE ABOVE THE FINISH FLOOR, SUCH AS A WINDOW, IS LESS THAN 15 INCHES.

R327.1.3 INTERIOR DOORS

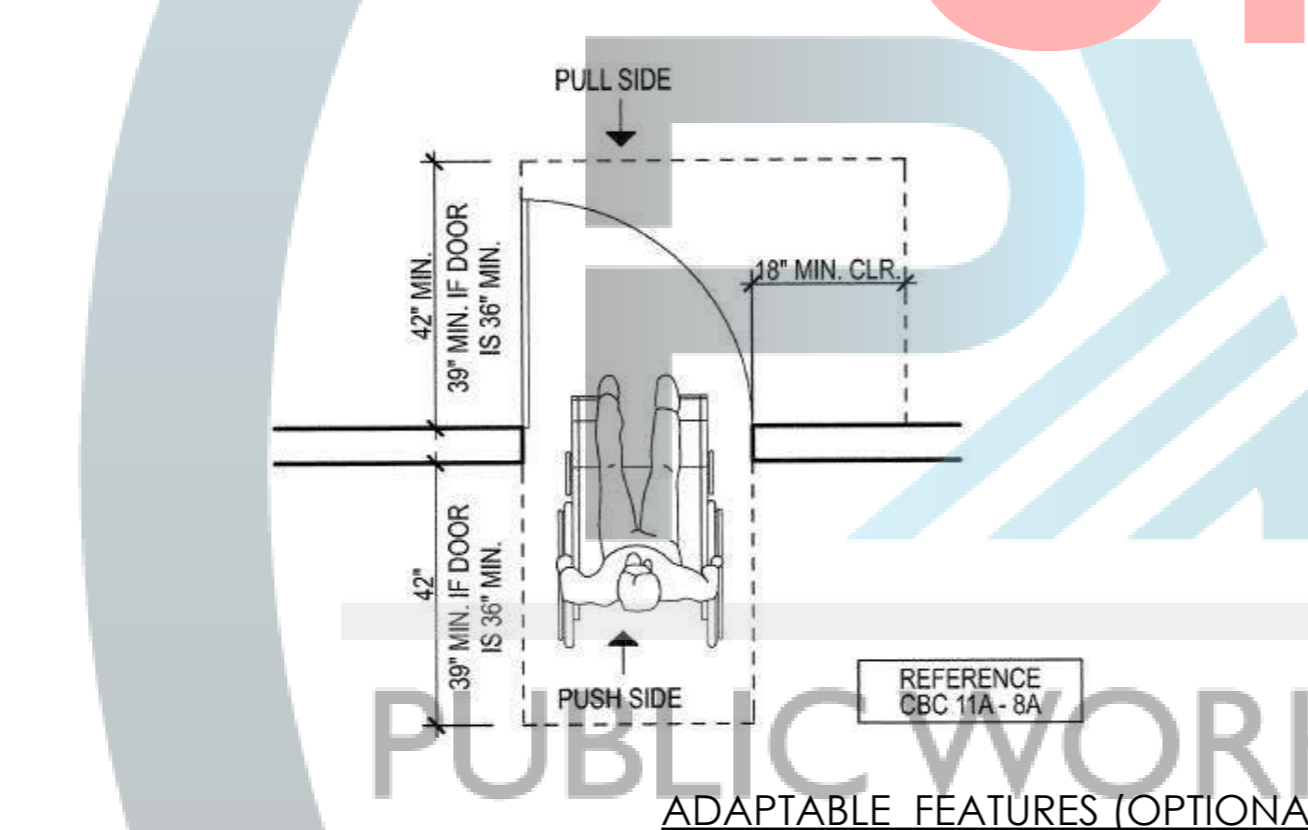
EFFECTIVE JULY 1, 2024, AT LEAST ONE BATHROOM AND ONE BEDROOM ON THE ENTRY LEVEL SHALL PROVIDE A DOORWAY WITH A NET CLEAR OPENING OF NOT LESS THAN 32 INCHES, MEASURED WITH THE DOOR POSITIONED AT AN ANGLE OF 90 DEGREES FROM THE CLOSED POSITION, OR, IN THE CASE OF A TWO- OR THREE-STORY SINGLE FAMILY DWELLING, ON THE SECOND OR THIRD FLOOR OF THE DWELLING IF A BATHROOM OR BEDROOM IS NOT LOCATED ON THE ENTRY LEVEL.

R327.1.4 DOORBELL BUTTONS

DOORBELL BUTTONS OR CONTROLS, WHEN INSTALLED, SHALL NOT EXCEED 48 INCHES ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON ASSEMBLY. WHERE DOORBELL BUTTONS INTEGRATED WITH OTHER FEATURES ARE REQUIRED TO BE INSTALLED ABOVE 48 INCHES MEASURED FROM THE EXTERIOR FLOOR OR LANDING, A STANDARD DOORBELL BUTTON OR CONTROL SHALL ALSO BE PROVIDED AT A HEIGHT NOT EXCEEDING 48 INCHES ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON OR CONTROL.

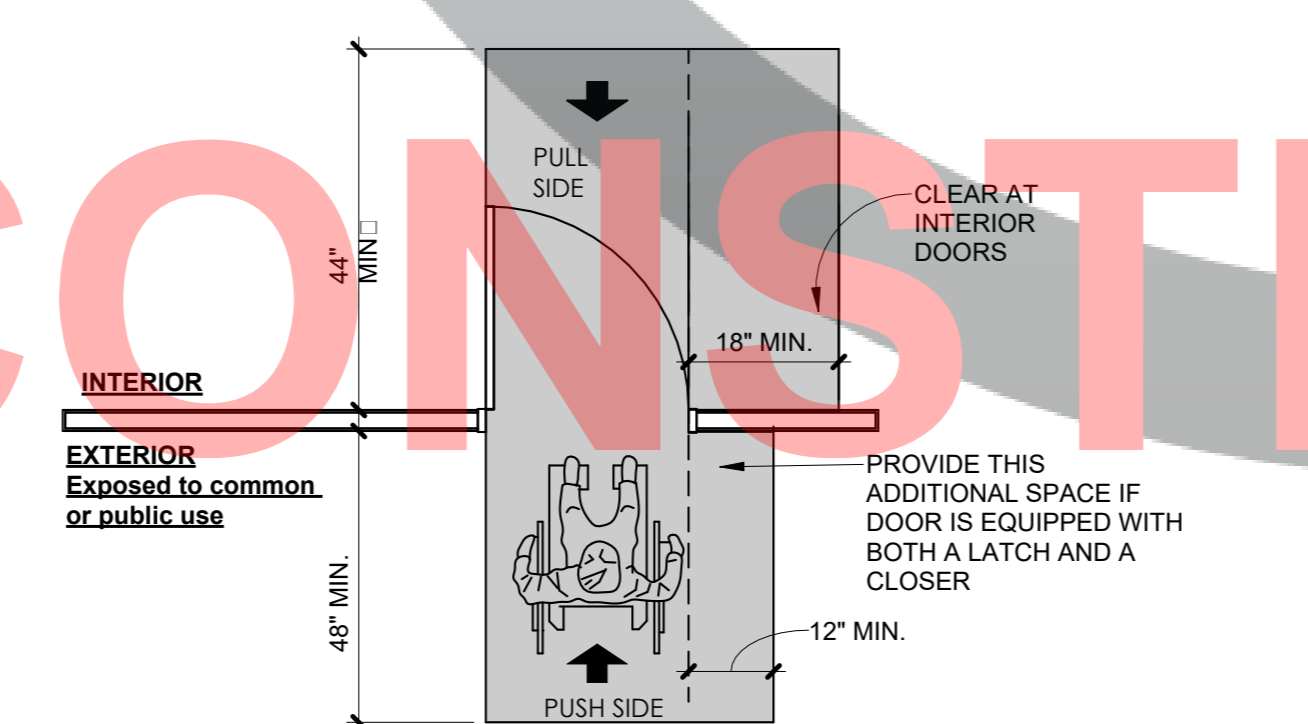


HEIGHTS FOR ELECTRICAL RECEPTACLE OUTLETS, SWITCHES, DOORBELL BUTTONS, INCLUDING HVAC CONTROLS
12" = 1'-0" **1**



DOOR MANUEVERING - INTERIOR UNITS
12" = 1'-0" **3**

1132A.5.1 GENERAL
THE FLOOR OR LANDING ON THE DWELLING UNIT SIDE OF THE PRIMARY ENTRY DOOR AND ANY REQUIRED EXIT DOOR SHALL HAVE A MINIMUM LENGTH OF NOT LESS THAN 44 INCHES.
SECTION 1126A.3 SHALL APPLY TO MANUEVERING CLEARANCES AT THE SIDE OF THE DOOR EXPOSED TO COMMON OR PUBLIC USE SPACES.
MANUEVERING CLEARANCES AT INTERIOR DOORS SHALL PROVIDE A MINIMUM LENGTH ON BOTH SIDES OF THE DOOR OF AT LEAST 42 INCHES MEASURED AT A RIGHT ANGLE TO THE PLANE OF THE DOOR IN ITS CLOSED POSITION.
EXCEPTION: A 39-INCH LENGTH IS ACCEPTABLE AT INTERIOR DOORS WHEN A MINIMUM CLEAR OPENING WIDTH OF 34 INCHES IS PROVIDED.



PRIMARY DOOR MANUEVERING CLEARANCE
1/4" = 1'-0" **4**

SECTION 1134A BATHING AND TOILET FACILITIES (ADAPTABLE)

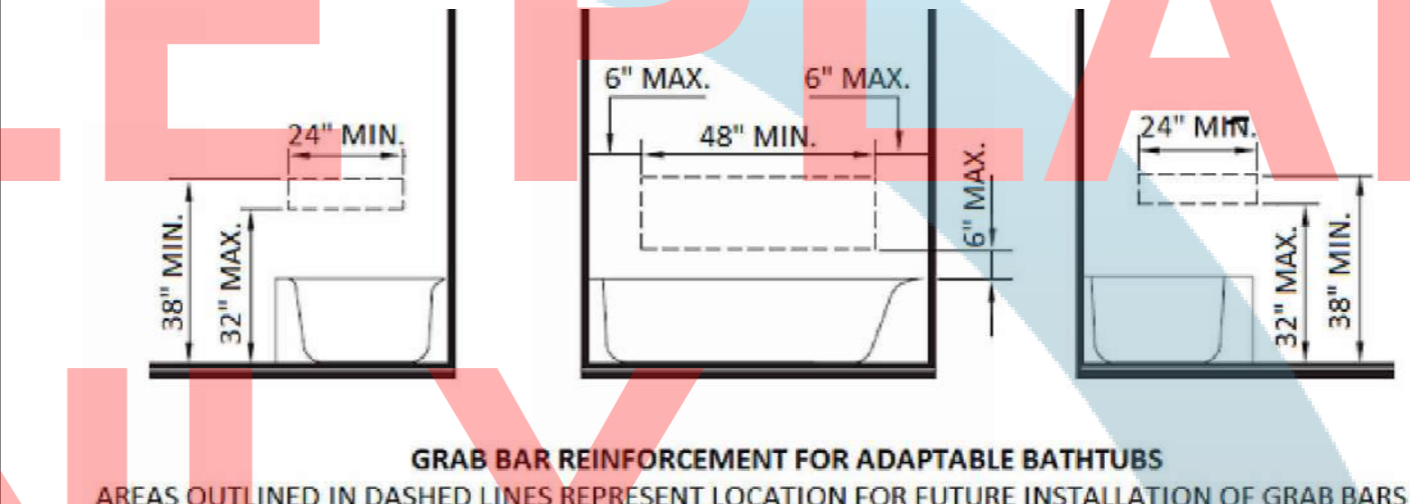
OPTION 2, ONLY ONE BATHROOM WITHIN THE DWELLING UNIT SHALL BE DESIGNED TO COMPLY WITH THE FOLLOWING:

- TOILET, BATHING AND SHOWER FACILITIES SHALL COMPLY WITH SECTION 1134A.4.
- BATHROOMS SHALL COMPLY WITH SECTION 1134A.5.
- SHOWERS SHALL COMPLY WITH SECTION 1134A.6.
- WATER CLOSETS SHALL COMPLY WITH SECTION 1134A.7.
- LAVATORIES, VANITIES, MIRRORS AND TOWEL FIXTURES SHALL COMPLY WITH SECTION 1134A.8.
- WHERE BOTH A TUB AND SHOWER ARE PROVIDED IN THE BATHROOM, AT LEAST ONE SHALL BE MADE ACCESSIBLE. ADDITIONAL REQUIREMENTS APPLY TO DWELLING UNITS CONTAINING TWO OR MORE BATHROOMS WHEN A BATHTUB IS PROVIDED AS THE ACCESSIBLE BATHING FIXTURE.
- WHERE TWO OR MORE BATHROOMS ARE PROVIDED WITHIN THE SAME DWELLING UNIT AND A BATHTUB IS INSTALLED TO COMPLY WITH OPTION 2, ITEM 6 IN ONE BATHROOM AND A SHOWER STALL IS PROVIDED IN A SUBSEQUENT BATHROOM, BOTH THE BATHTUB SELECTED TO COMPLY WITH OPTION 2, ITEM 6 AND AT LEAST ONE SHOWER STALL WITHIN THE DWELLING UNIT SHALL MEET ALL THE APPLICABLE ACCESSIBILITY REQUIREMENTS PROVIDED IN SECTION 1134A. (SEE SECTION 1134A.5 FOR BATHTUBS, OR SECTION 1134A.6 FOR SHOWERS.)
- WHEN TWO OR MORE LAVATORIES ARE PROVIDED, AT LEAST ONE SHALL BE MADE ACCESSIBLE AND COMPLY WITH SECTION 1134A.8.
- BATHROOMS SHALL BE PROVIDED WITH AN ACCESSIBLE ROUTE INTO AND THROUGH THE BATHROOM.
- IF A DOOR IS PROVIDED, IT SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 1132A.5.
- A MINIMUM 18-INCH CLEAR MANUEVERING SPACE SHALL BE PROVIDED ON THE SWING SIDE OF THE DOOR AT THE STRIKE EDGE OF THE DOOR.
- SWITCHES, OUTLETS AND CONTROLS SHALL COMPLY WITH SECTION 1142A.
- REINFORCED WALLS TO ALLOW FOR THE FUTURE INSTALLATION OF GRAB BARS AROUND THE TOILET, TUB AND SHOWER SHALL COMPLY WITH SECTIONS 1134A.5 FOR BATHTUBS, 1134A.6 FOR SHOWERS AND 1134A.7 FOR WATER CLOSETS. GRAB BARS SHALL COMPLY WITH SECTIONS 1127A.4 AND 1127A.2.2, ITEM 4.

WHEN OPTION 2 IS USED, ALL ADDITIONAL BATHROOMS MUST COMPLY WITH ITEMS 8 THROUGH 12 ABOVE

1134A.4 SUFFICIENT MANUEVERING SPACE.

BATHING AND TOILET FACILITIES REQUIRED TO BE ADAPTABLE SHALL PROVIDE SUFFICIENT MANUEVERING SPACE FOR A PERSON USING A WHEELCHAIR OR OTHER MOBILITY AID TO ENTER AND CLOSE THE DOOR, USE THE FIXTURES, REOPEN THE DOOR AND EXIT, WHERE THE DOOR SWINGS INTO THE BATHROOM OR POWDER ROOM. THERE SHALL BE A CLEAR MANUEVERING SPACE OUTSIDE THE SWING OF THE DOOR OF AT LEAST 30 INCHES BY 48 INCHES WITHIN THE ROOM. THE CLEAR MANUEVERING SPACE SHALL ALLOW THE USER TO POSITION A WHEELCHAIR OR OTHER MOBILITY AID CLEAR OF THE PATH OF THE DOOR AS IT IS CLOSED AND TO PERMIT USE OF FIXTURES. DOORS MAY SWING INTO THE REQUIRED CLEAR SPACE AT ANY FIXTURE WHEN A CLEAR MANUEVERING SPACE IS PROVIDED OUTSIDE THE SWING ARC OF THE DOOR SO IT CAN BE CLOSED. MANUEVERING SPACES MAY INCLUDE ANY KNEE SPACE OR TOE SPACE AVAILABLE BELOW BATHROOM FIXTURES.



GRAB BAR REINFORCEMENT FOR ADAPTABLE BATHTUBS
AREAS OUTLINED IN DASHED LINES REPRESENT LOCATION FOR FUTURE INSTALLATION OF GRAB BARS

1134A.7 WATER CLOSETS.

WATER CLOSETS IN BATHROOMS OR POWDER ROOMS REQUIRED TO BE ACCESSIBLE SHALL COMPLY WITH THIS SECTION.
1. FLOOR SPACE AND LOCATION. THE MINIMUM FLOOR SPACE PROVIDED AT A WATER CLOSET SHALL BE 48 INCHES IN CLEAR WIDTH. THE CLEAR FLOOR SPACE SHALL EXTEND PAST THE FRONT EDGE OF THE WATER CLOSET AT LEAST 36 INCHES. SEE FIGURE 11A-9B.
EXCEPTION: THE 48-INCH MINIMUM CLEAR WIDTH MAY BE REDUCED TO 36 INCHES FOR LAVATORIES, CABINETS, WING WALLS OR PRIVACY WALLS LOCATED IMMEDIATELY ADJACENT TO A WATER CLOSET WHICH EXTEND NO MORE THAN 24 INCHES IN DEPTH.

WATER CLOSETS SHALL BE LOCATED WITHIN BATHROOMS IN A MANNER THAT PERMITS A GRAB BAR TO BE INSTALLED ON AT LEAST ONE SIDE OF THE FIXTURE. THE CENTERLINE OF THE WATER CLOSET SHALL BE 17 INCHES MINIMUM TO 18 INCHES MAXIMUM FROM A GRAB BAR WALL OR PARTITION. IN LOCATIONS WHERE WATER CLOSETS ARE ADJACENT TO NON-GRAB BAR WALLS, VANITIES, LAVATORIES OR BATHTUBS, THE CENTERLINE OF THE FIXTURE SHALL BE A MINIMUM OF 18 INCHES FROM THE OBSTACLE.

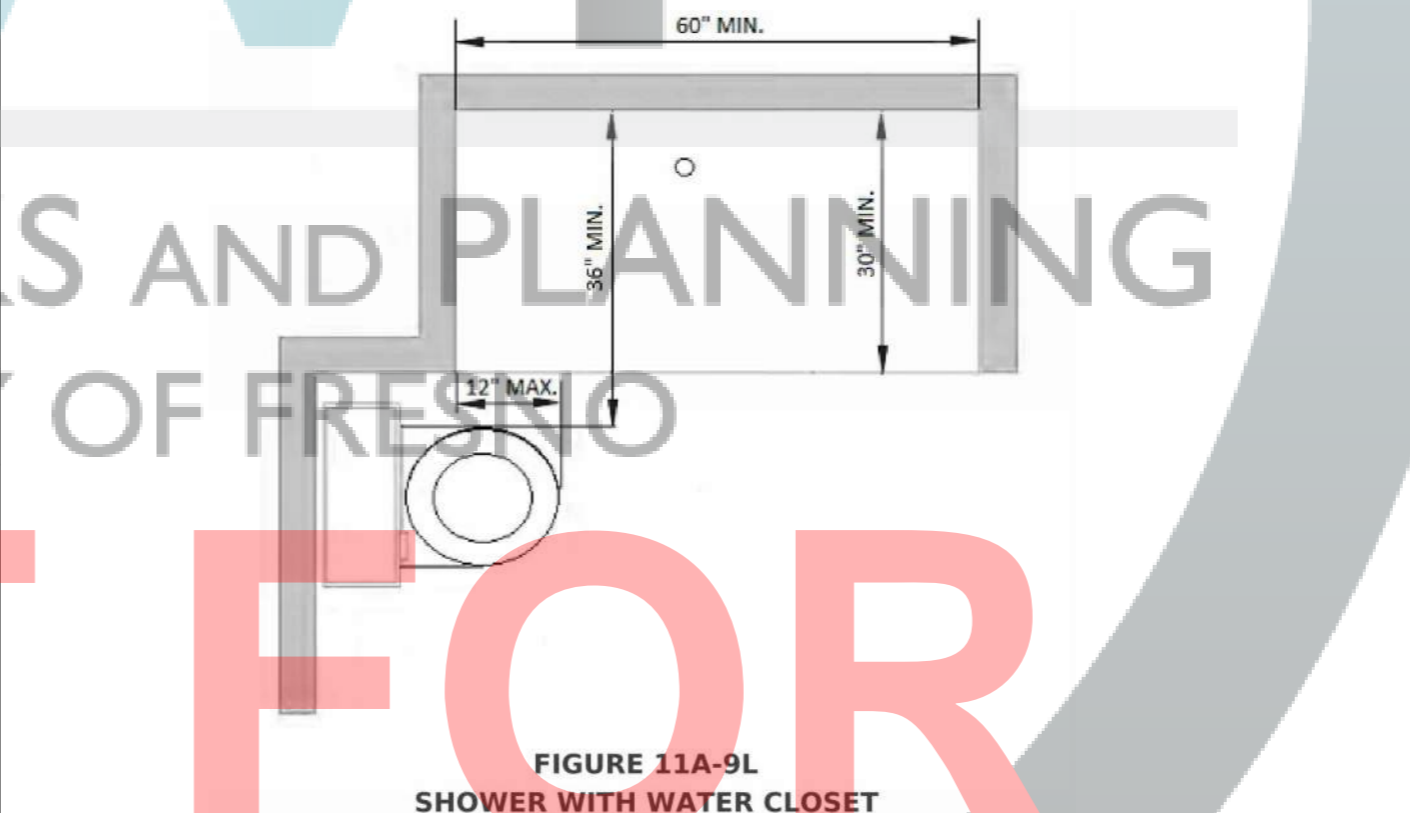
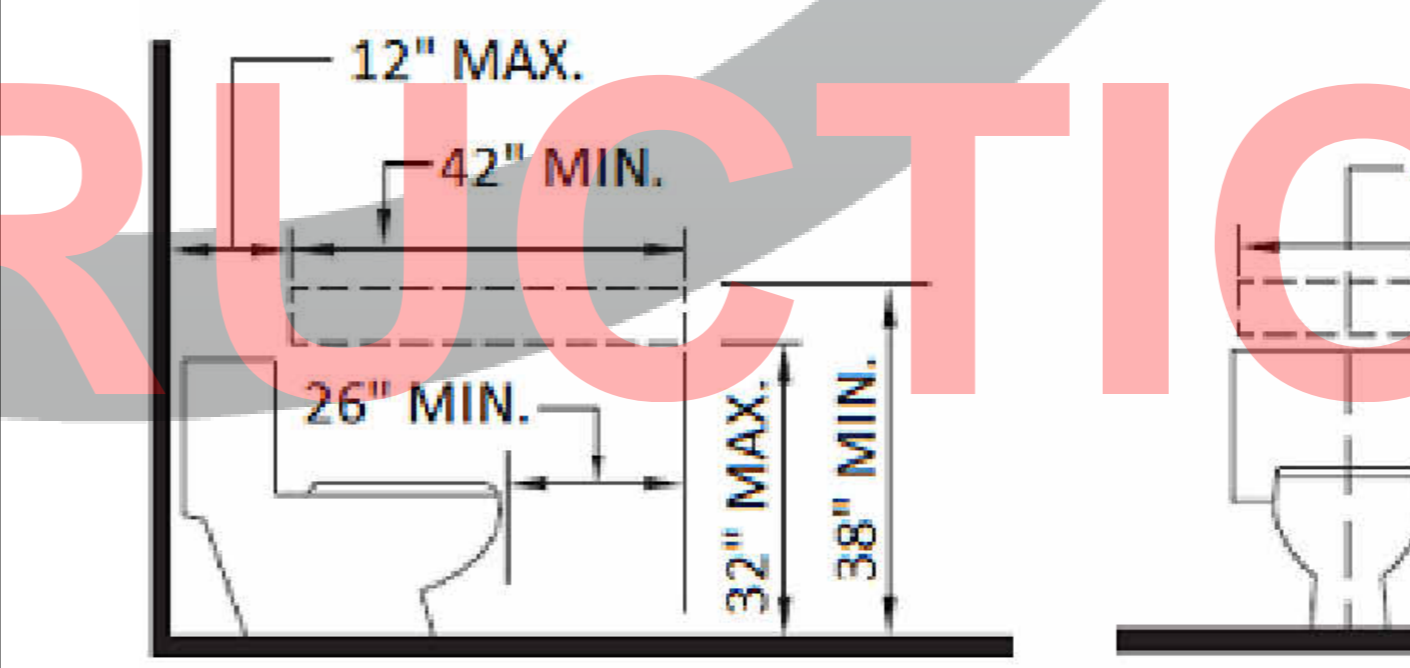
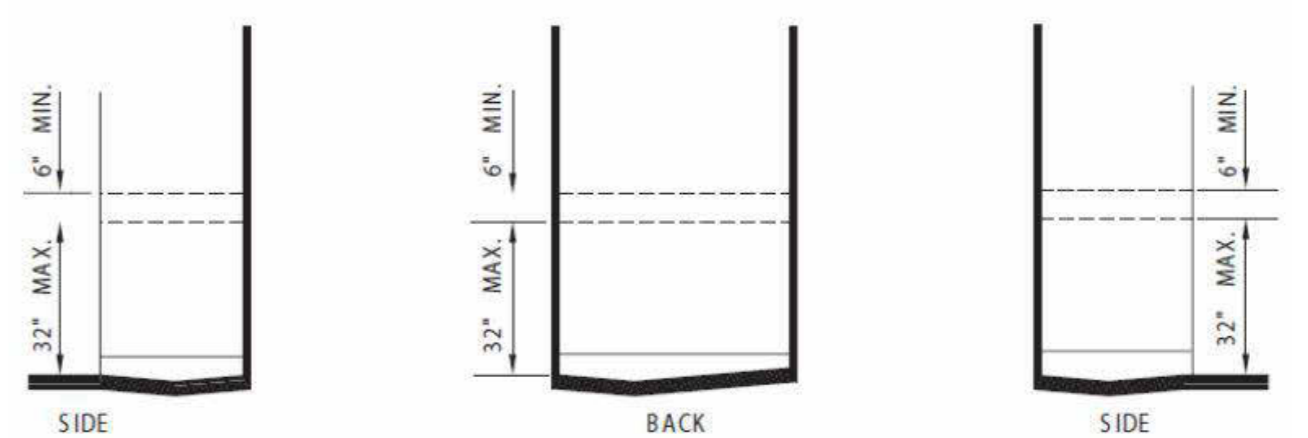


FIGURE 11A-9L
SHOWER WITH WATER CLOSET



GRAB BAR REINFORCEMENT FOR ADAPTABLE WATER CLOSETS



Location of grab bar reinforcement for adaptable showers
NOTE: THE AREA OUTLINED IN DASHED LINES REPRESENT LOCATION FOR FUTURE INSTALLATION OF GRAB BARS

1134A.5 BATHTUBS. BATHTUBS REQUIRED TO BE ACCESSIBLE SHALL COMPLY WITH THIS SECTION.

- FLOOR SPACE.** THERE SHALL BE A MINIMUM CLEAR FLOOR SPACE 48 INCHES PARALLEL BY 30 INCHES PERPENDICULAR TO THE SIDE OF A BATHTUB OR BATHTUB-SHOWER COMBINATION TO PROVIDE FOR THE MANUEVERING OF A WHEELCHAIR AND TRANSFER TO AND FROM THE BATHING FACILITIES. THE CONTROLS SHALL BE ON THE WALL AT THE FOOT OF THE BATHTUB. THE EDGE OF THE CLEAR FLOOR SPACE SHALL BE FLUSH WITH THE CONTROL WALL SURFACE. THE AREA UNDER A LAVATORY, LOCATED AT THE CONTROL END OF THE TUB, MAY BE INCLUDED IN THE CLEAR FLOOR SPACE PROVIDED THE LAVATORY IS 19 INCHES MAXIMUM DEEP, AND THE KNEE AND TOE SPACE COMPLY WITH SECTION 1134A.8. CABINETS UNDER LAVATORIES AND TOILETS SHALL NOT ENCRUSH INTO THE CLEAR FLOOR SPACE.
- REINFORCED WALLS FOR GRAB BARS.** A BATHTUB INSTALLED WITHOUT SURROUNDING WALLS SHALL PROVIDE REINFORCED AREAS FOR THE INSTALLATION OF FLOOR-MOUNTED GRAB BARS. WHERE A BATHTUB IS INSTALLED WITH SURROUNDING WALLS, GRAB BAR REINFORCEMENT SHALL BE LOCATED ON EACH END OF THE BATHTUB, 32 INCHES TO 38 INCHES ABOVE THE FLOOR, EXTENDING A MINIMUM OF 24 INCHES FROM THE FRONT EDGE OF THE BATHTUB TOWARD THE BACK WALL OF THE BATHTUB. THE GRAB BAR REINFORCEMENT SHALL BE A MINIMUM OF 6 INCHES NOMINAL IN HEIGHT. (SEE FIGURE 11A-9C.) GRAB BAR REINFORCEMENT SHALL BE INSTALLED ON THE BACK WALL OF THE BATHTUB A MAXIMUM OF 6 INCHES ABOVE THE BATHTUB RIM EXTENDING UPWARD TO AT LEAST 38 INCHES ABOVE THE FLOOR. GRAB BAR BACKING SHALL BE INSTALLED HORIZONTALLY TO PERMIT THE INSTALLATION OF A 48-INCH GRAB BAR WITH EACH END A MAXIMUM OF 6 INCHES FROM THE END WALLS OF THE BATHTUB. THE GRAB BAR REINFORCEMENT SHALL BE A MINIMUM OF 6 INCHES NOMINAL IN HEIGHT.

- BATHTUB CONTROLS.** FAUCET CONTROLS AND OPERATION MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS. LEVER OPERATED, PUSH TYPE AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS.
- SHOWER UNIT.** A SHOWER SPRAY UNIT IS NOT REQUIRED IN BATHTUBS.
- BATHTUB ENCLOSURES.** DOORS AND PANELS OF BATHTUB ENCLOSURES SHALL BE SUBSTANTIALLY CONSTRUCTED FROM APPROVED, SHATTER-RESISTANT MATERIALS. HINGED DOORS SHALL OPEN OUTWARD. GLAZING USED IN DOORS AND PANELS OF BATHTUB ENCLOSURES SHALL BE FULLY TEMPERED, LAMINATED SAFETY GLASS OR APPROVED PLASTIC. WHEN GLASS IS USED, IT SHALL HAVE MINIMUM THICKNESS OF NOT LESS THAN 1/8 INCH WHEN FULLY TEMPERED, OR 1/4 INCH WHEN LAMINATED, AND SHALL PASS THE TEST REQUIREMENTS OF THIS PART, CHAPTER 24, GLASS AND GLAZING. PLASTICS USED IN DOORS AND PANELS OF BATHTUB ENCLOSURES SHALL BE OF A SHATTER-RESISTANT TYPE.

ADAPTABLE FEATURES (OPTIONAL)
GRAB BAR REINFORCEMENT
12" = 1'-0" **2**

2. REINFORCED WALLS FOR GRAB BARS WHERE THE WATER CLOSET IS NOT PLACED ADJACENT TO A SIDE WALL CAPABLE OF ACCOMMODATING A GRAB BAR, THE BATHROOM SHALL HAVE PROVISIONS FOR INSTALLATION OF FLOOR-MOUNTED, FOLD-AWAY OR SIMILAR ALTERNATIVE GRAB BARS.
WHERE THE WATER CLOSET IS PLACED ADJACENT TO A SIDE WALL, REINFORCEMENT SHALL BE INSTALLED ON BOTH SIDES OR ONE SIDE AND THE BACK. IF REINFORCEMENT IS INSTALLED AT THE BACK, IT SHALL BE INSTALLED BETWEEN 32 INCHES AND 38 INCHES ABOVE THE FLOOR. THE GRAB BAR REINFORCEMENT SHALL BE A MINIMUM OF 6 INCHES NOMINAL IN HEIGHT. THE BACKING SHALL BE A MINIMUM OF 40 INCHES IN LENGTH. REINFORCEMENT INSTALLED AT THE SIDE OF THE WATER CLOSET SHALL BE INSTALLED 32 INCHES TO 38 INCHES ABOVE THE FLOOR. THE REINFORCEMENT SHALL BE INSTALLED A MAXIMUM OF 12 INCHES FROM THE REAR WALL AND SHALL EXTEND A MINIMUM OF 26 INCHES IN FRONT OF THE WATER CLOSET. THE GRAB BAR REINFORCEMENT SHALL BE A MINIMUM OF 6 INCHES NOMINAL IN HEIGHT.

3. SEAT HEIGHT. THE MINIMUM HEIGHT OF WATER CLOSET SEATS SHALL BE 15 INCHES ABOVE THE FLOOR.

4. WATER CLOSET CONTROLS. WATER CLOSET CONTROLS SHALL BE MOUNTED NO MORE THAN 44 INCHES ABOVE THE FLOOR. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS.

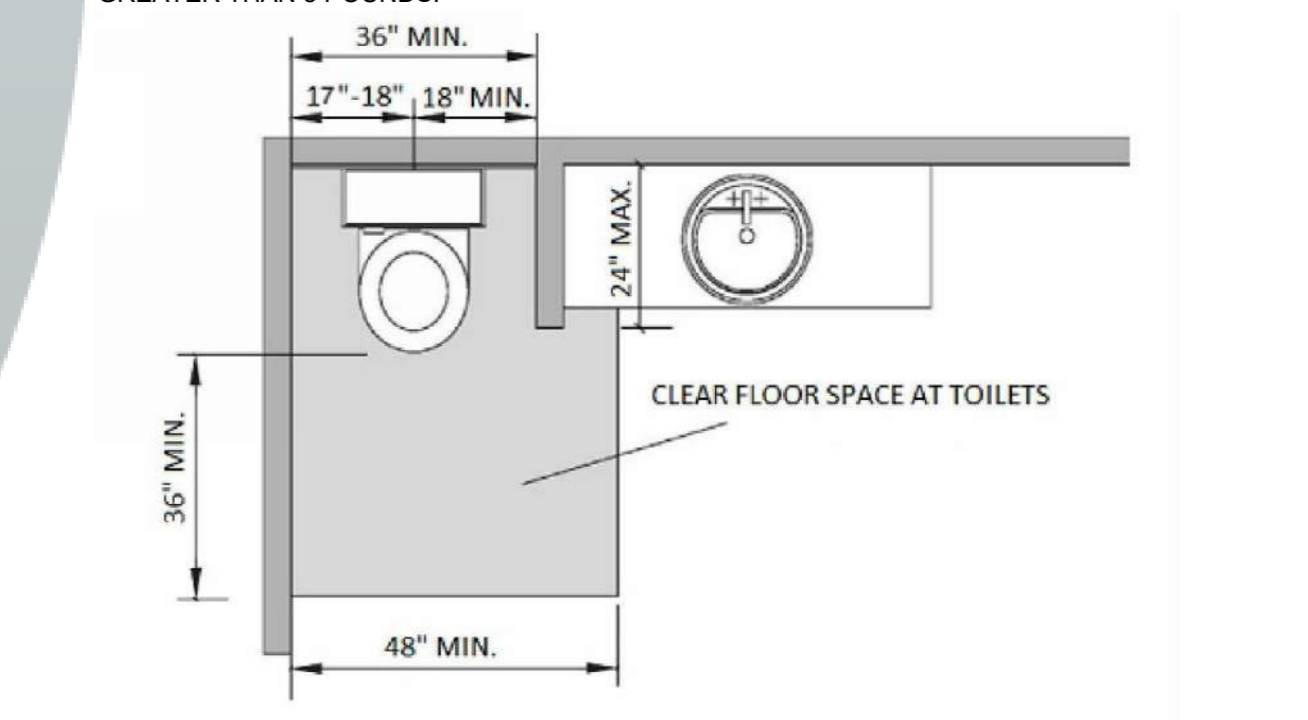


FIGURE 11A-9M
WING WALL OR CABINET AT WATER CLOSET



GRAB BAR REINFORCEMENT (AGING-IN PLACE)
12" = 1'-0" **6**

500 SQ. FT. MODEL (515 SQ. FT.)

OPTION #2

PROJECT
ACCESSORY DWELLING UNIT

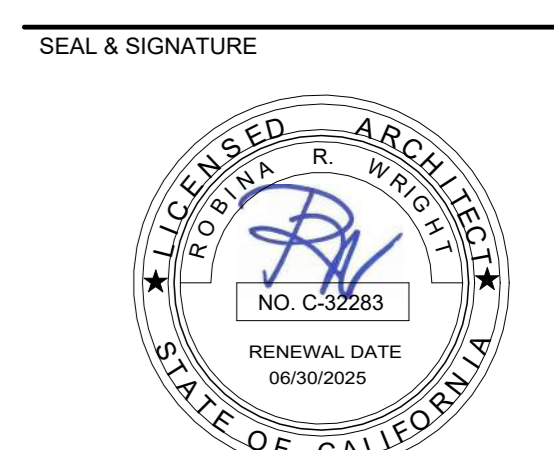
PWP23-003
DEPARTMENT OF PUBLIC WORKS AND PLANNING

SEAL & SIGNATURE



CAPITAL PROJECTS DIVISION

2220 Tulare St., Ste. 720, Fresno, CA. 93721
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UPDATE
JULY 5, 2023

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| | |
|------------|-----------------------|
| TITLE | AGING-IN PLACE DESIGN |
| SCALE | As indicated |
| ISSUE DATE | APRIL 12, 2023 |
| JOB NUMBER | 2023_19 |
| DRAWN BY | Author |
| CHECKED BY | Checker |

A-501

| | |
|------------|----------------|
| ISSUE DATE | APRIL 12, 2023 |
| JOB NUMBER | 2023_19 |
| DRAWN BY | Author |
| CHECKED BY | Checker |

OPTION #2

PROJECT ACCESSORY DWELLING UNIT

PWP23-003

DEPARTMENT OF PUBLIC WORKS AND PLANNING



CAPITAL PROJECTS DIVISION

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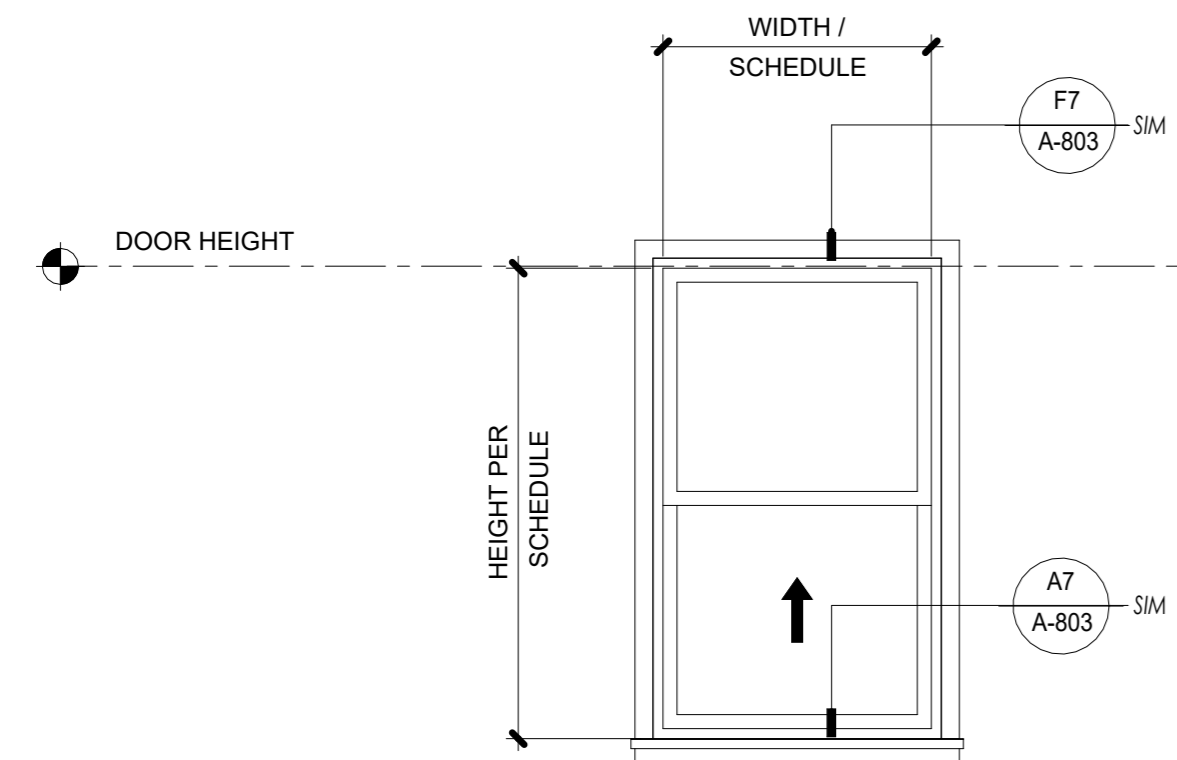
TITLE
OPENING SCHEDULE

SCALE As indicated

A-601

| | |
|----------------|------------|
| ISSUE DATE | JOB NUMBER |
| APRIL 12, 2023 | 2023_19 |
| DRAWN BY | CHECKED BY |
| Author | Checker |

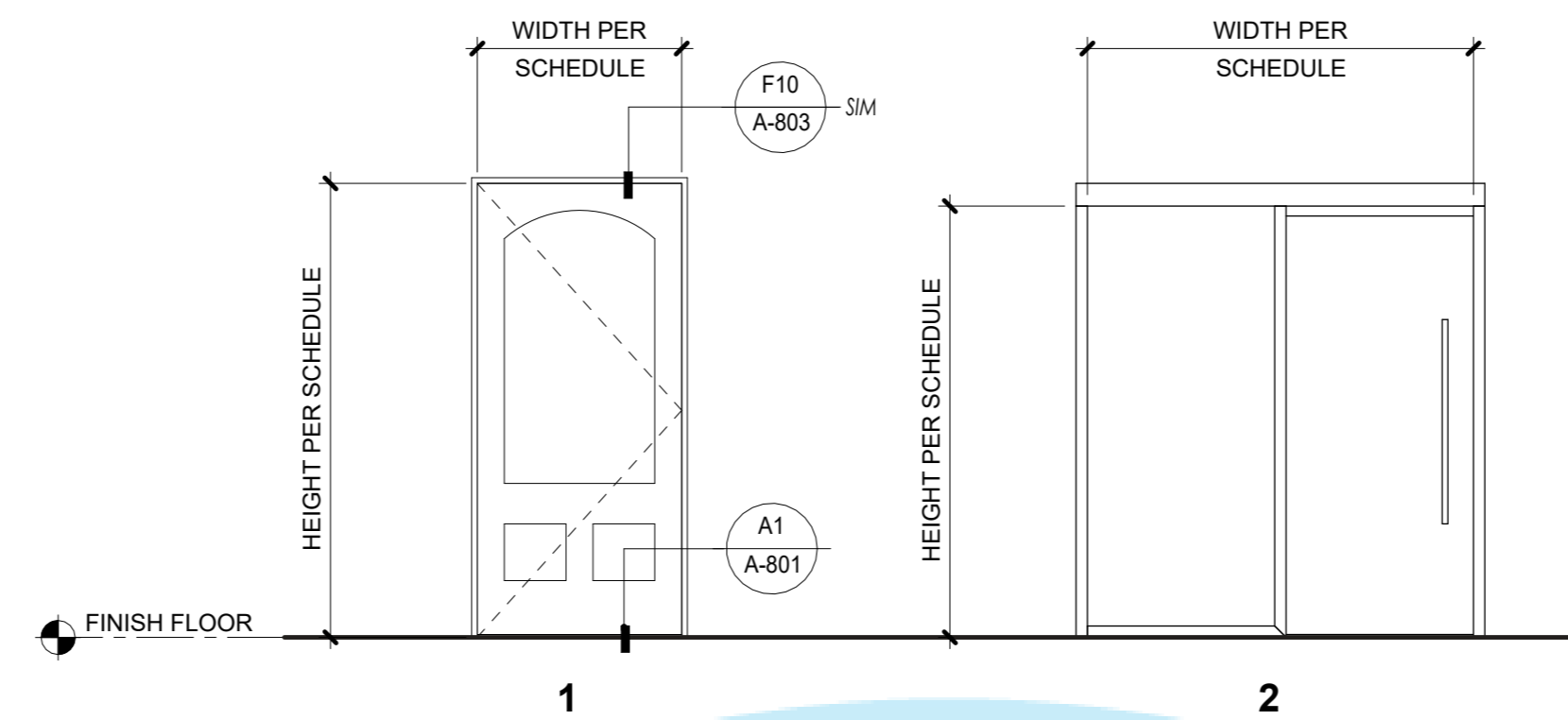
| WINDOW SCHEDULE | | | | | | | |
|-----------------|-------|--------|-------------|-------------|------|----------|----------|
| TYPE MARK | WIDTH | HEIGHT | HEAD HEIGHT | SILL HEIGHT | SHGC | U-FACTOR | COMMENTS |
| A | 3'-0" | 5'-0" | 6'-8" | 1'-8" | 0.23 | 0.3 | |
| B | 2'-6" | 2'-6" | 6'-8" | 4'-2" | 0.23 | 0.3 | |



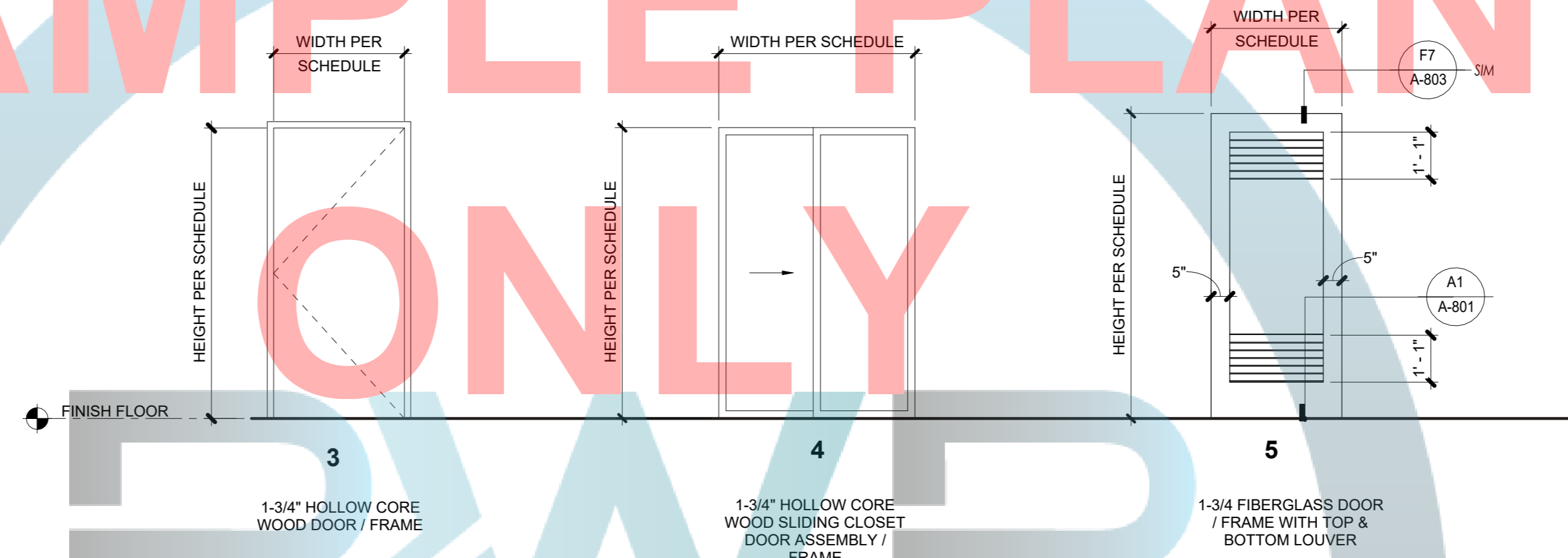
A B
SINGLE-HUNG WINDOW
LOW-E W/ ARGON
DUAL PANE
(MARVIN ESSENTIAL
COLLECTION OR EQUAL)

- NOTE:
1. PROVIDE WINDOW FLASHING, TYPICAL ON ALL. REFER TO H1/A-801 FOR ADDITIONAL INFORMATION.
 2. REFER TO F10/S-102 FOR WINDOW SILL TRIM OVER CEMENT PLASTER WALL FINISH OPTIONS.

WINDOW SCHEDULE
1/2" = 1'-0"



| DOOR SCHEDULE | | | | | |
|---------------|---------------|------|--------|--------|----------|
| TAG # | ROOM | TYPE | WIDTH | HEIGHT | COMMENTS |
| 1 | LIVING ROOM | 1 | 3'-0" | 6'-8" | |
| 2 | COVERED PORCH | 2 | 6'-0" | 6'-8" | |
| 3 | BEDROOM | 3 | 2'-10" | 6'-8" | |
| 3A | BEDROOM | 4 | 4'-6" | 6'-8" | |
| 4 | BATH | 3 | 2'-10" | 6'-8" | |
| 5 | WH | 5 | 1'-6" | 6'-8" | |



DOOR SCHEDULE
3/8" = 1'-0"

SAMPLE PLAN ONLY

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PUBLIC WORKS AND PLANNING
COUNTY OF FRESNO

OPTION #2

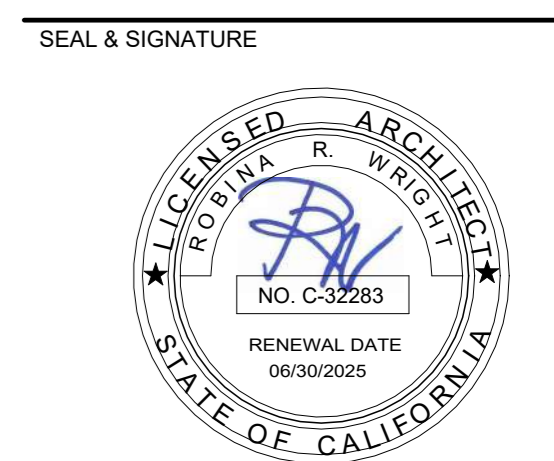
PROJECT
ACCESSORY DWELLING UNIT

PWP23-003

DEPARTMENT OF PUBLIC WORKS AND PLANNING



CAPITAL PROJECTS DIVISION
2220 Tulare St., Ste. 720, Fresno, CA. 93721
Phone: (559) 262-4212 Fax: (559) 262-4879



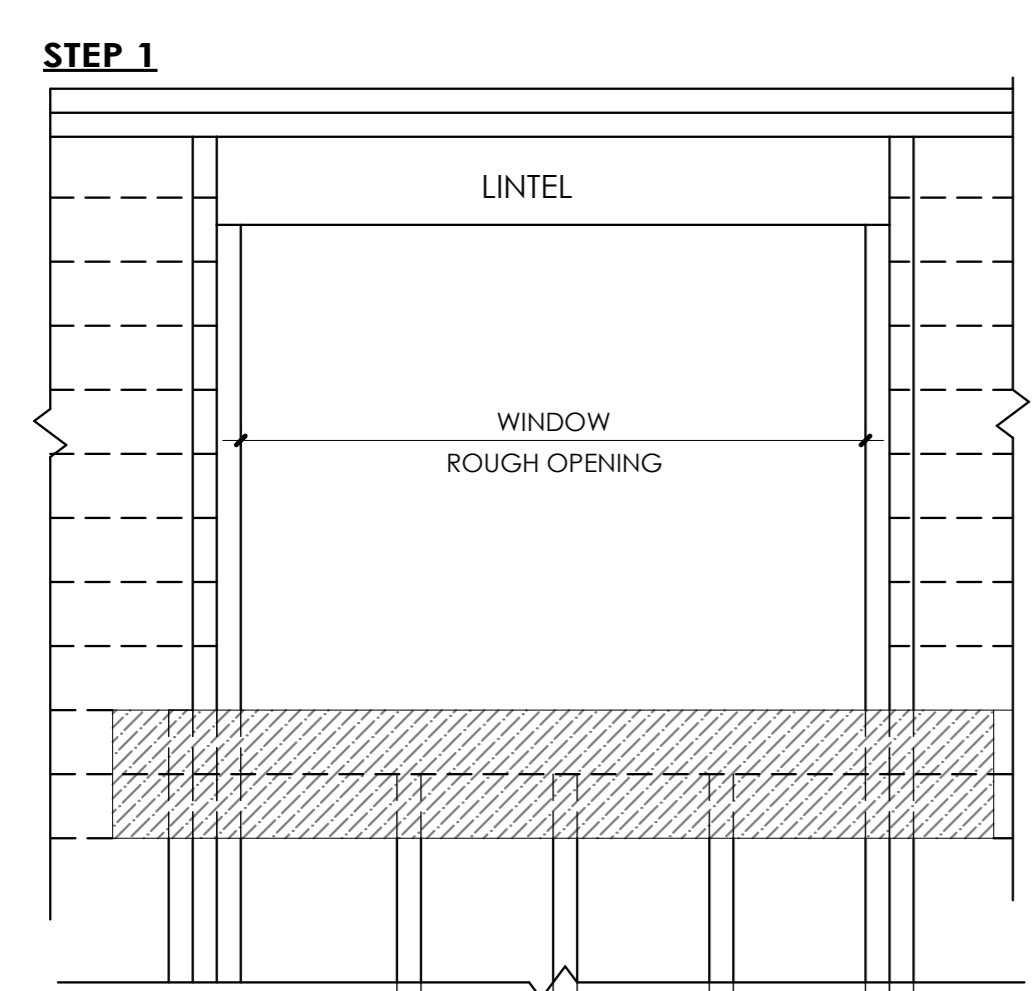
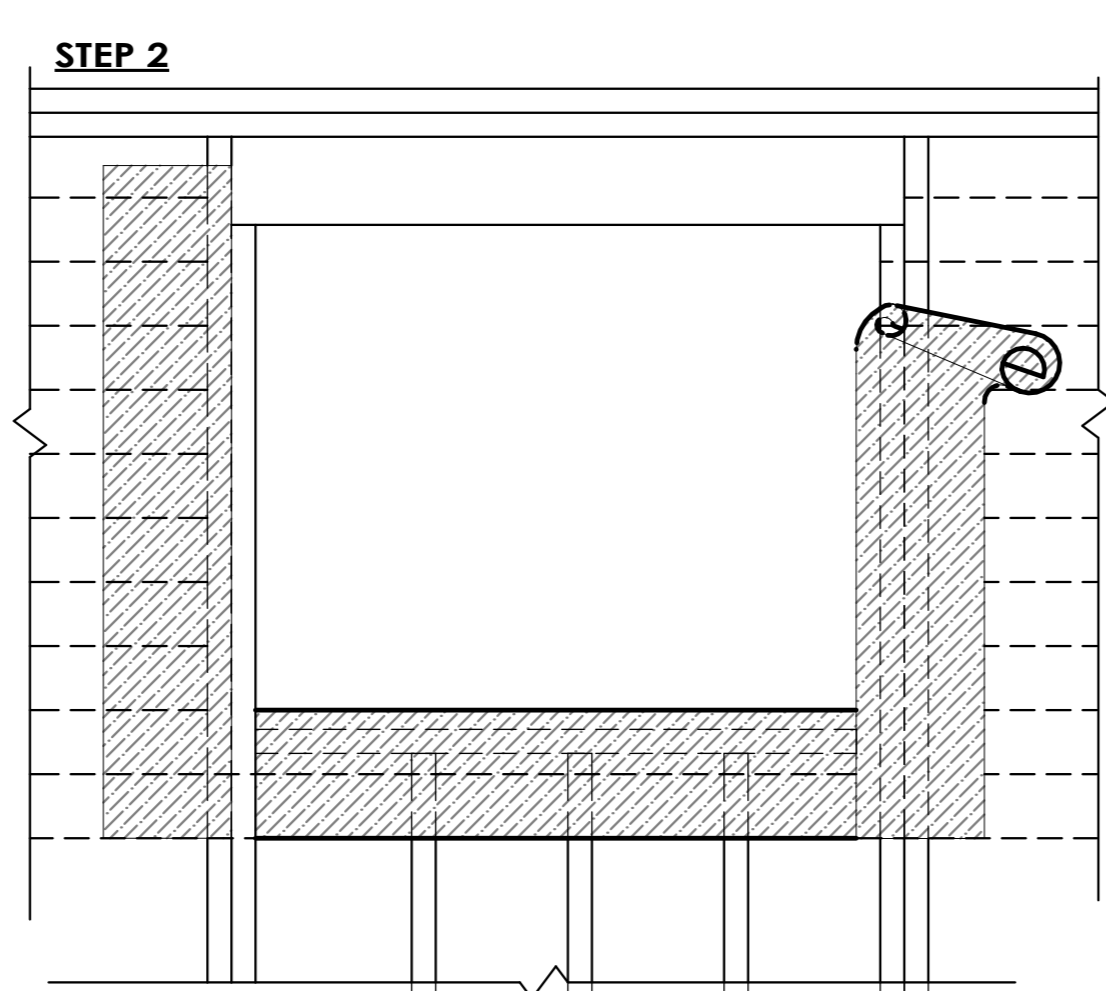
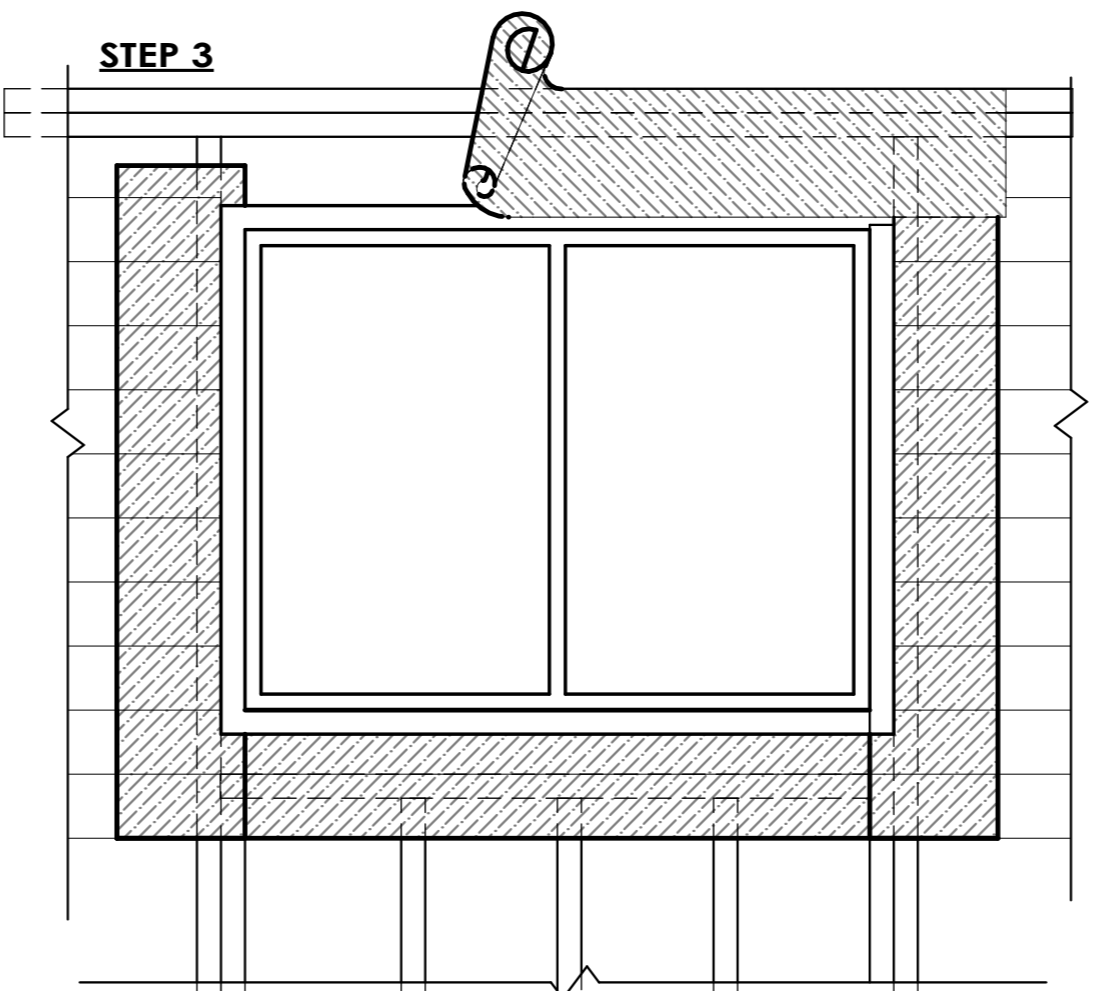
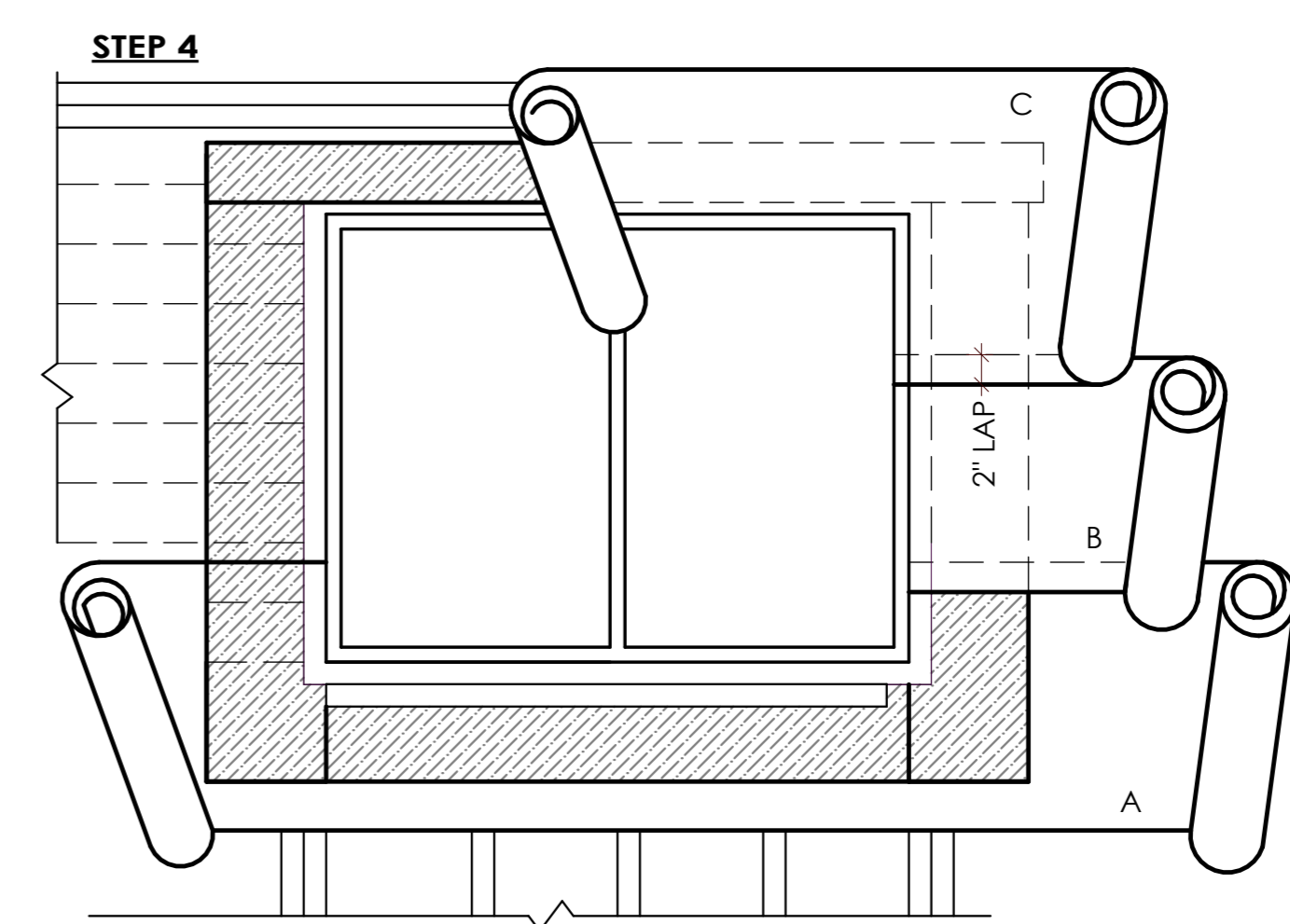
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TITLE
ARCHITECTURAL DETAILS

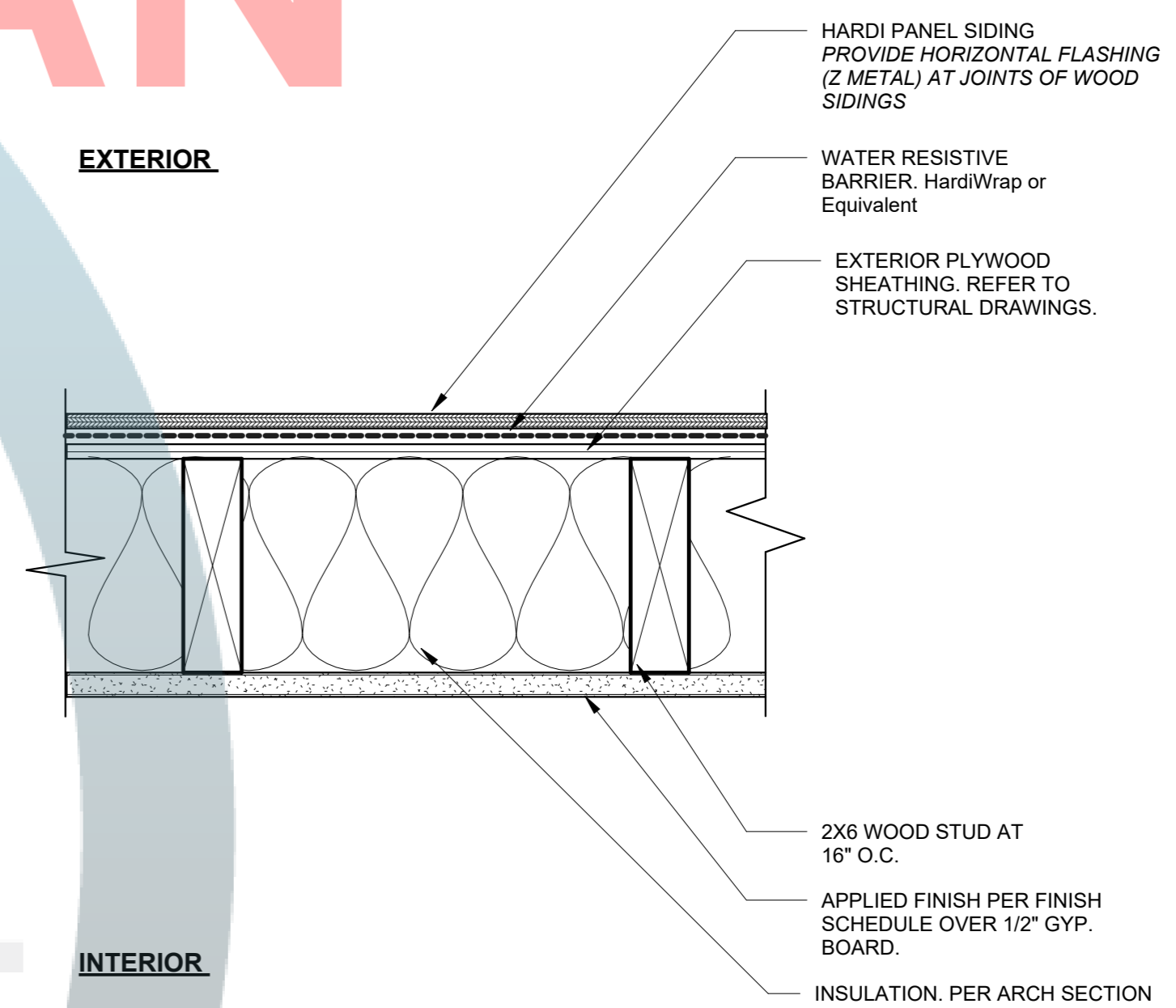
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A-801

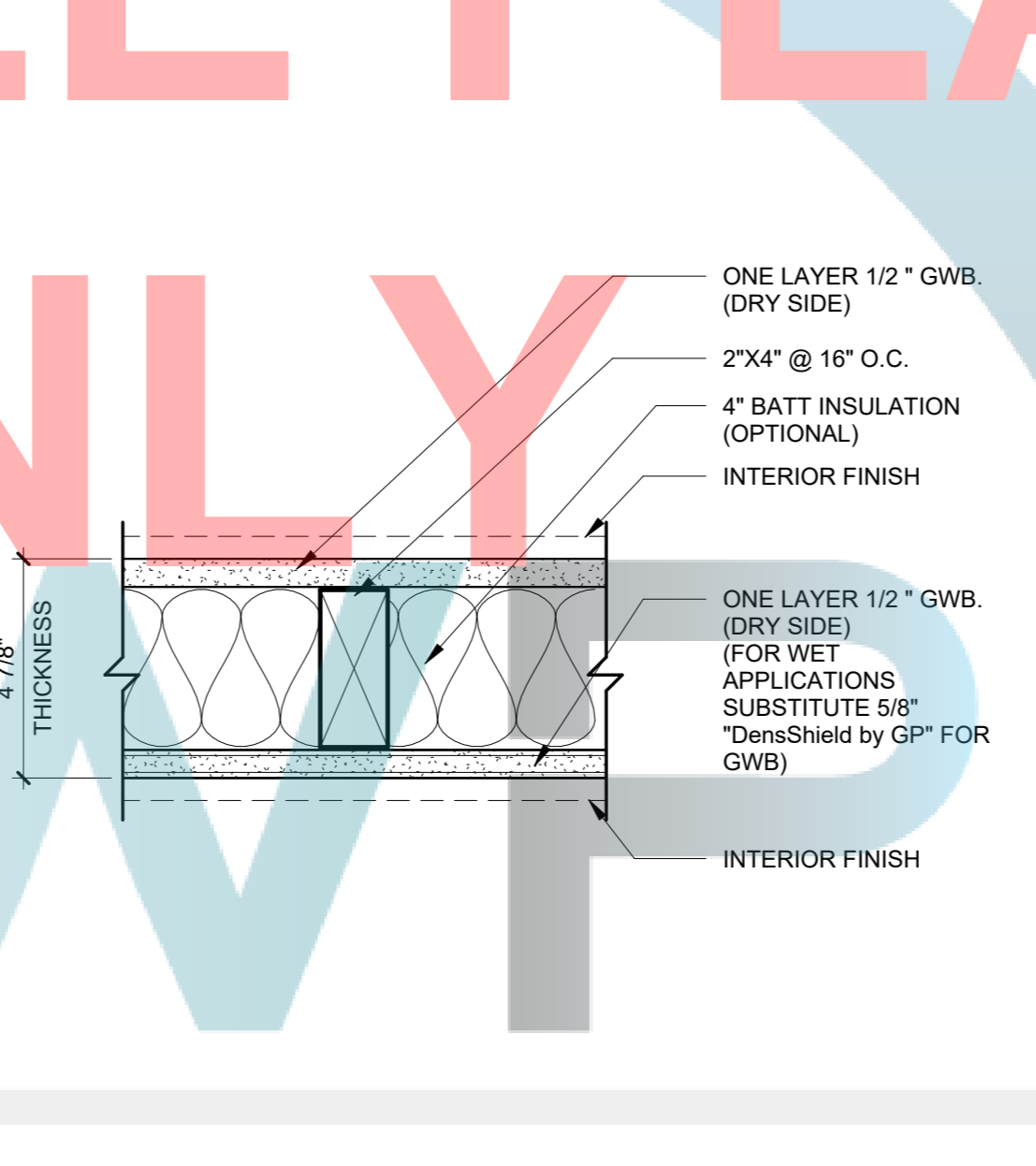
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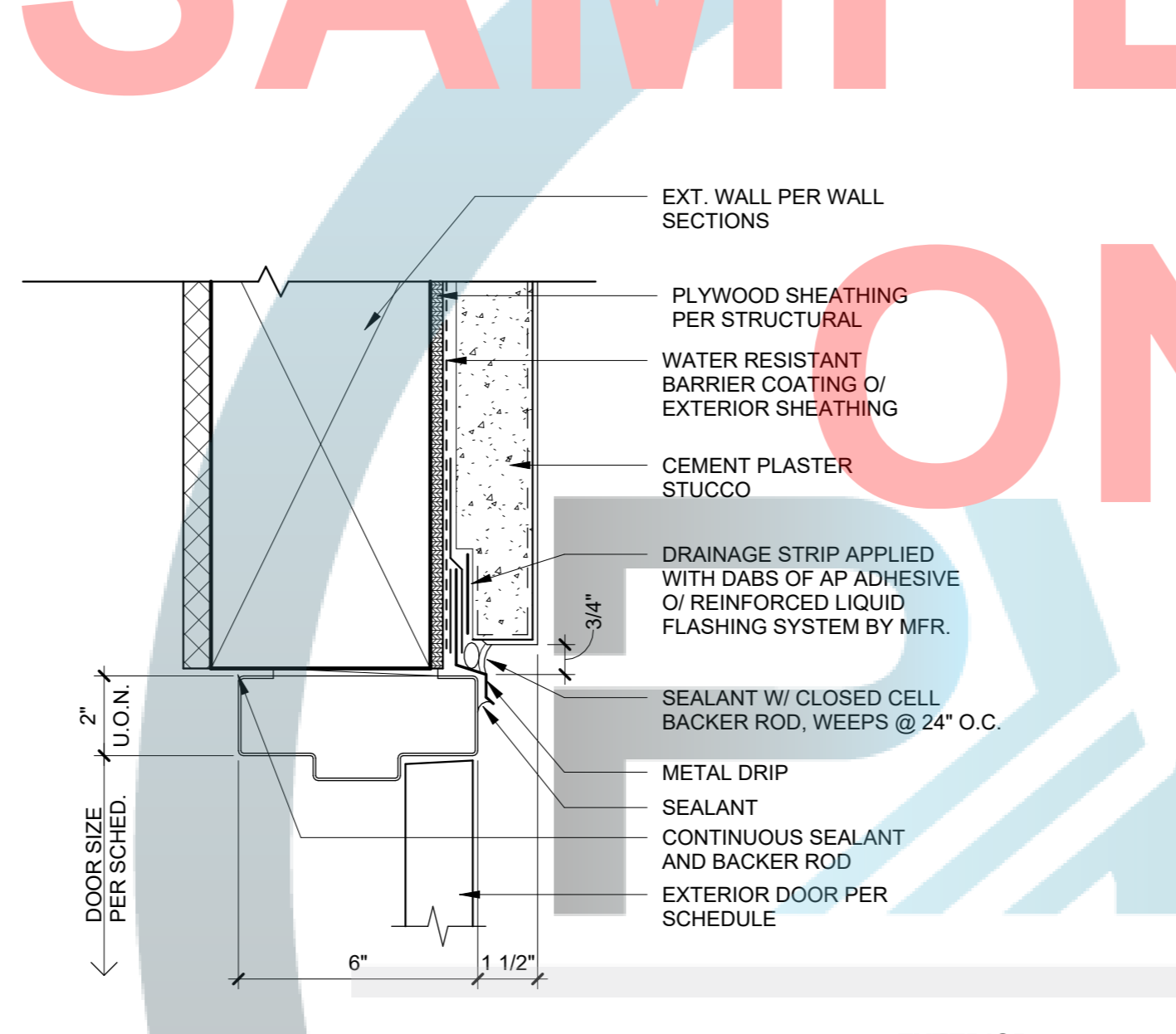
WINDOW FLASHING DETAIL 1
1" = 1'-0" H1



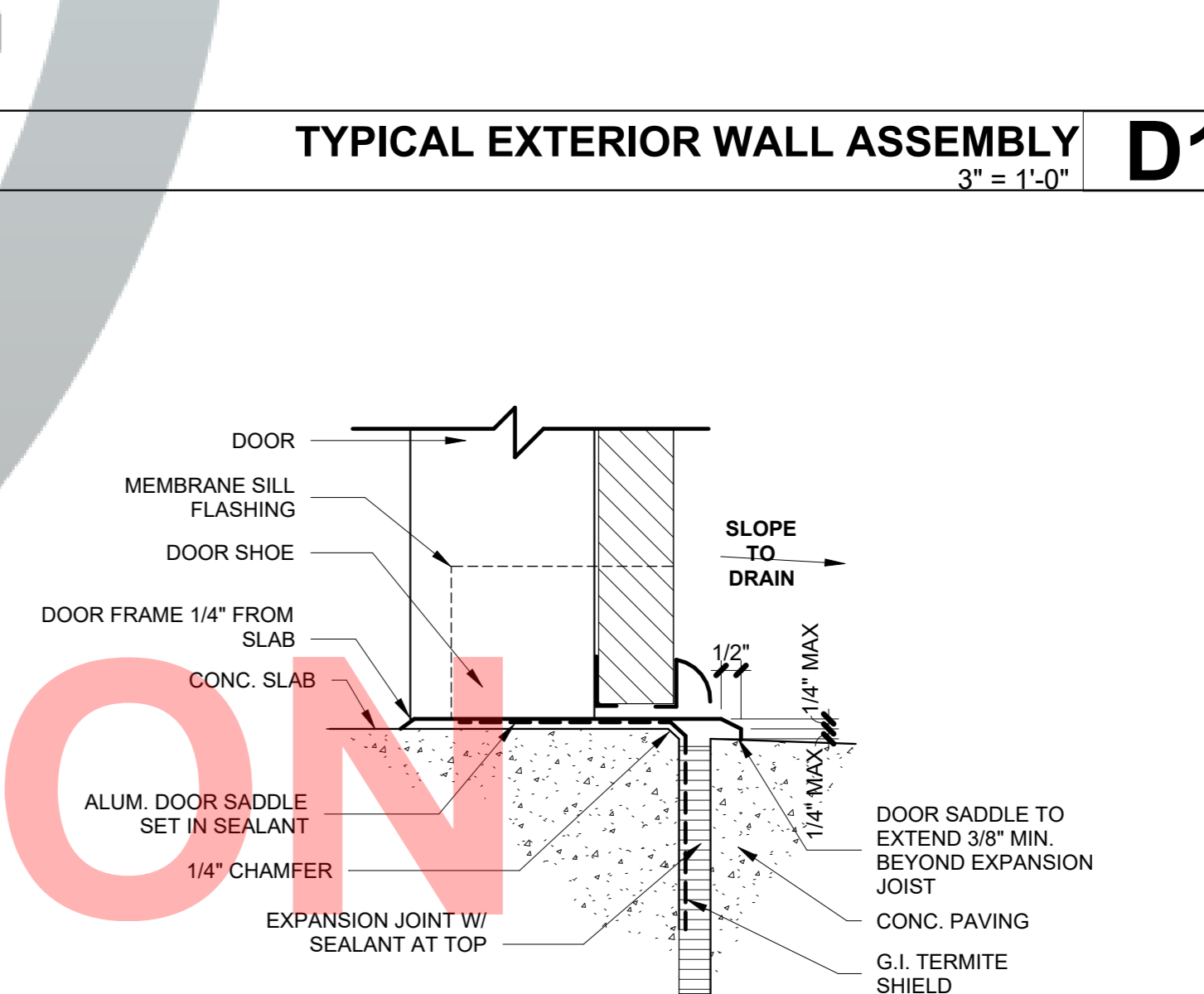
TYPICAL EXTERIOR WALL ASSEMBLY
3" = 1'-0" D1



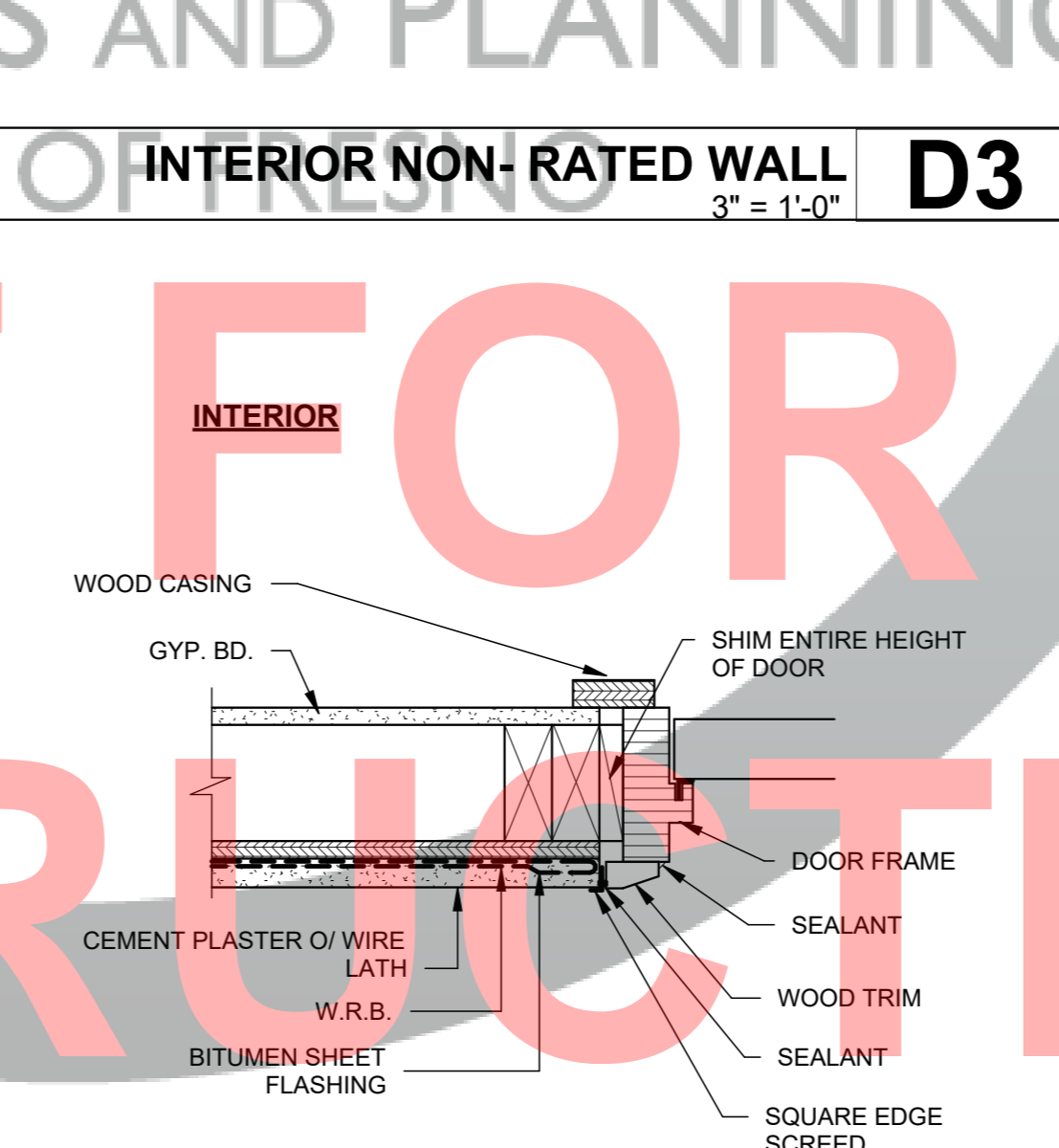
INTERIOR NON-RATED WALL
3" = 1'-0" D3



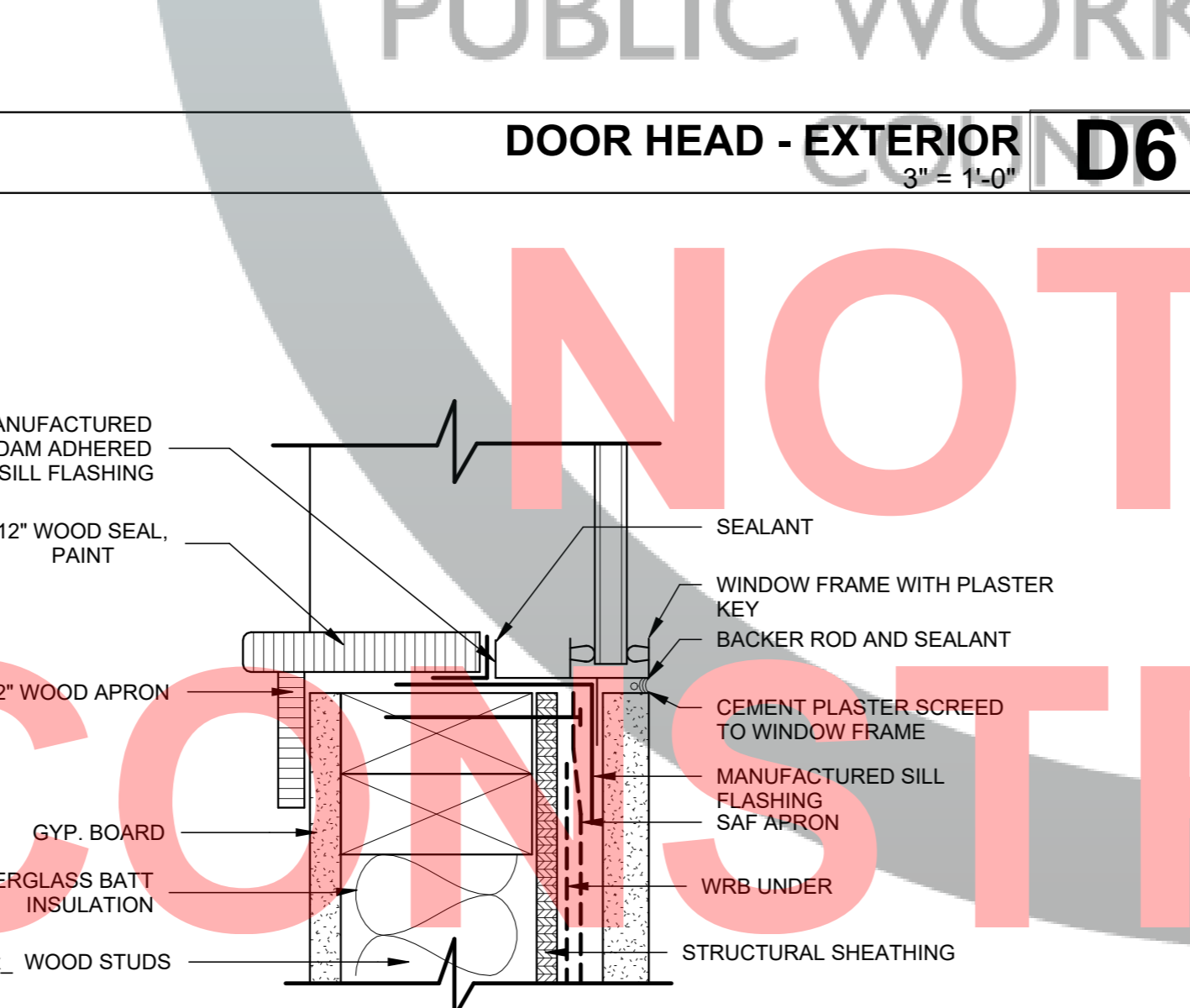
DOOR HEAD - EXTERIOR
3" = 1'-0" D6



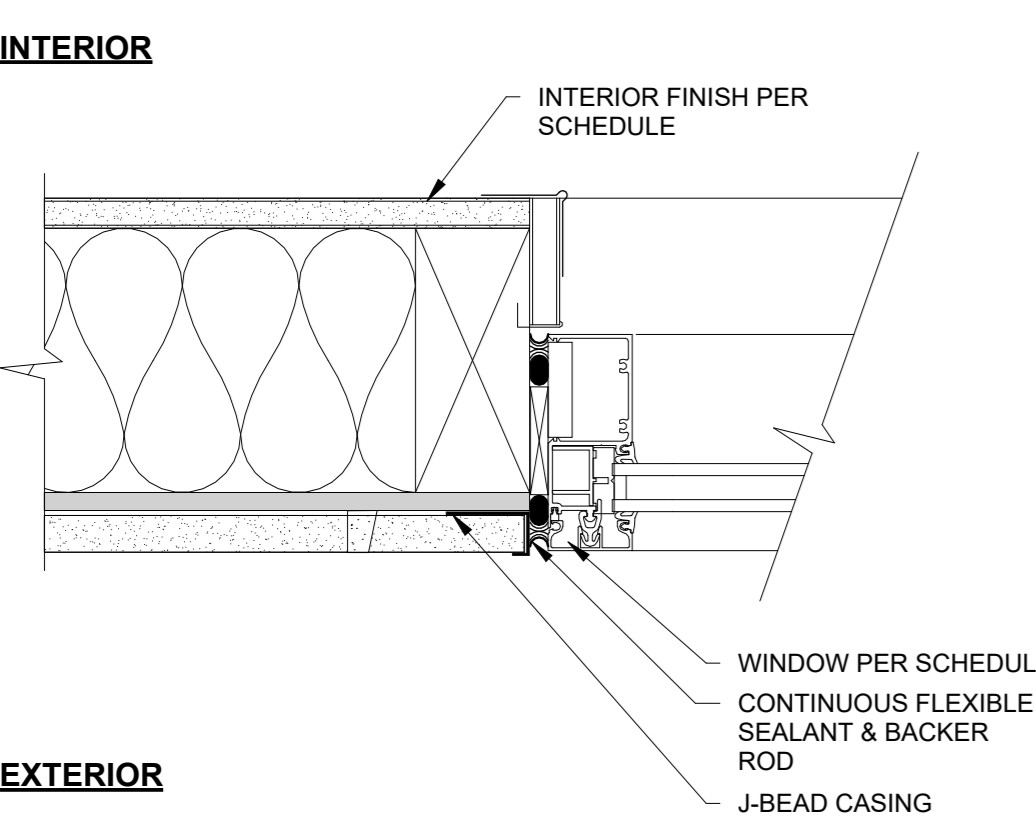
EXTERIOR DOOR SILL
3" = 1'-0" A1



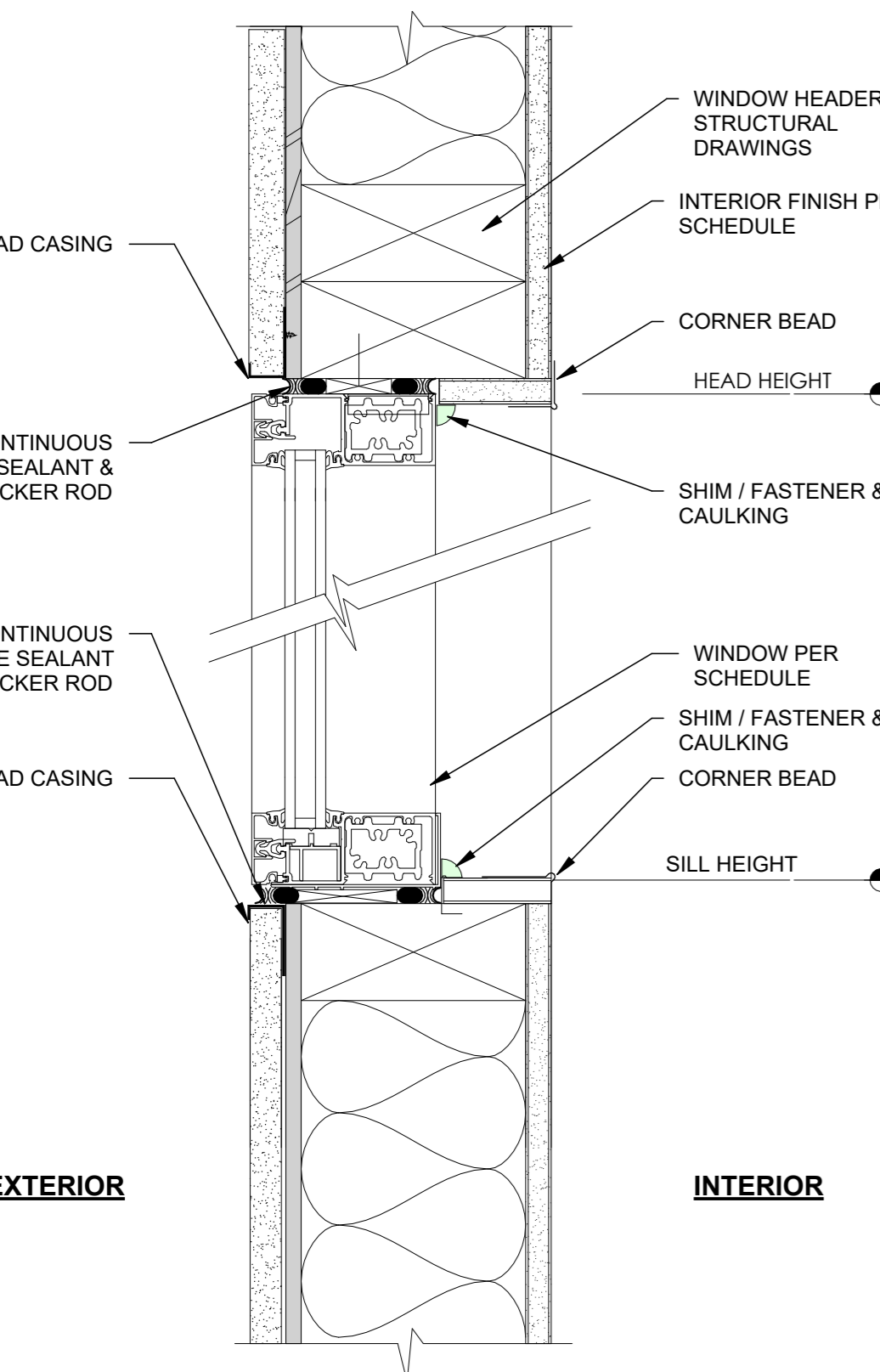
EXTERIOR DOOR JAMB @ STUCCO
3" = 1'-0" A3



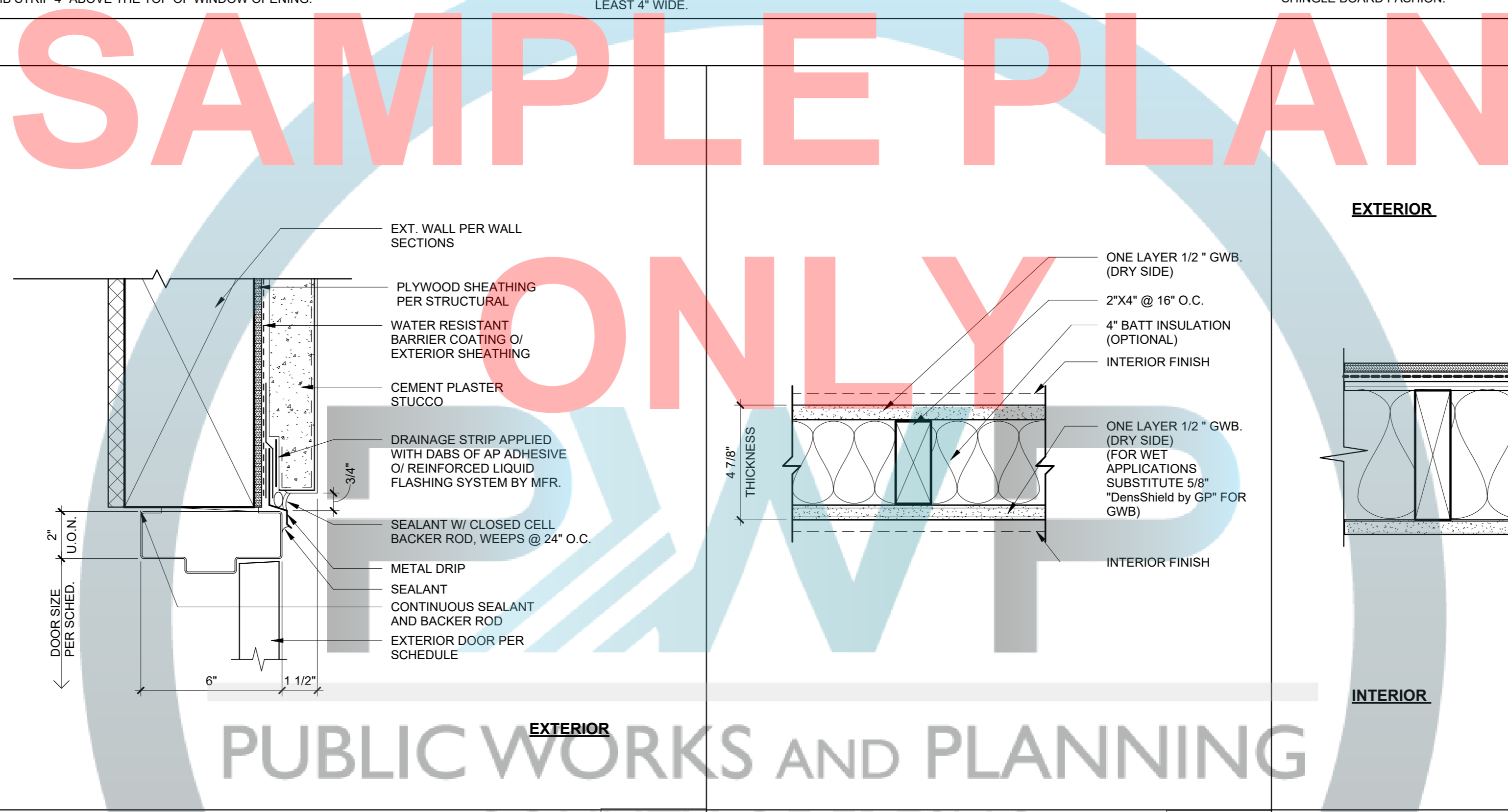
WINDOW SILL AND FLASHING
3" = 1'-0" A6



WINDOW DETAIL - EXTERIOR JAMB
3" = 1'-0" E10



WINDOW DETAIL - VERTICAL SECTION
3" = 1'-0" A10



PUBLIC WORKS AND PLANNING

OPTION #2

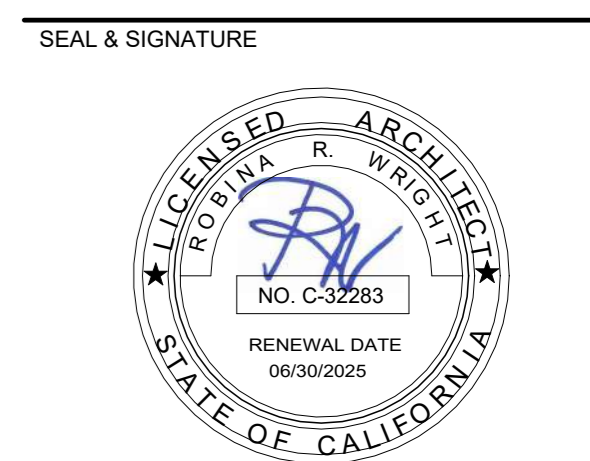
PROJECT
ACCESSORY DWELLING UNIT

PWP23-003

DEPARTMENT OF PUBLIC WORKS AND PLANNING



CAPITAL PROJECTS DIVISION
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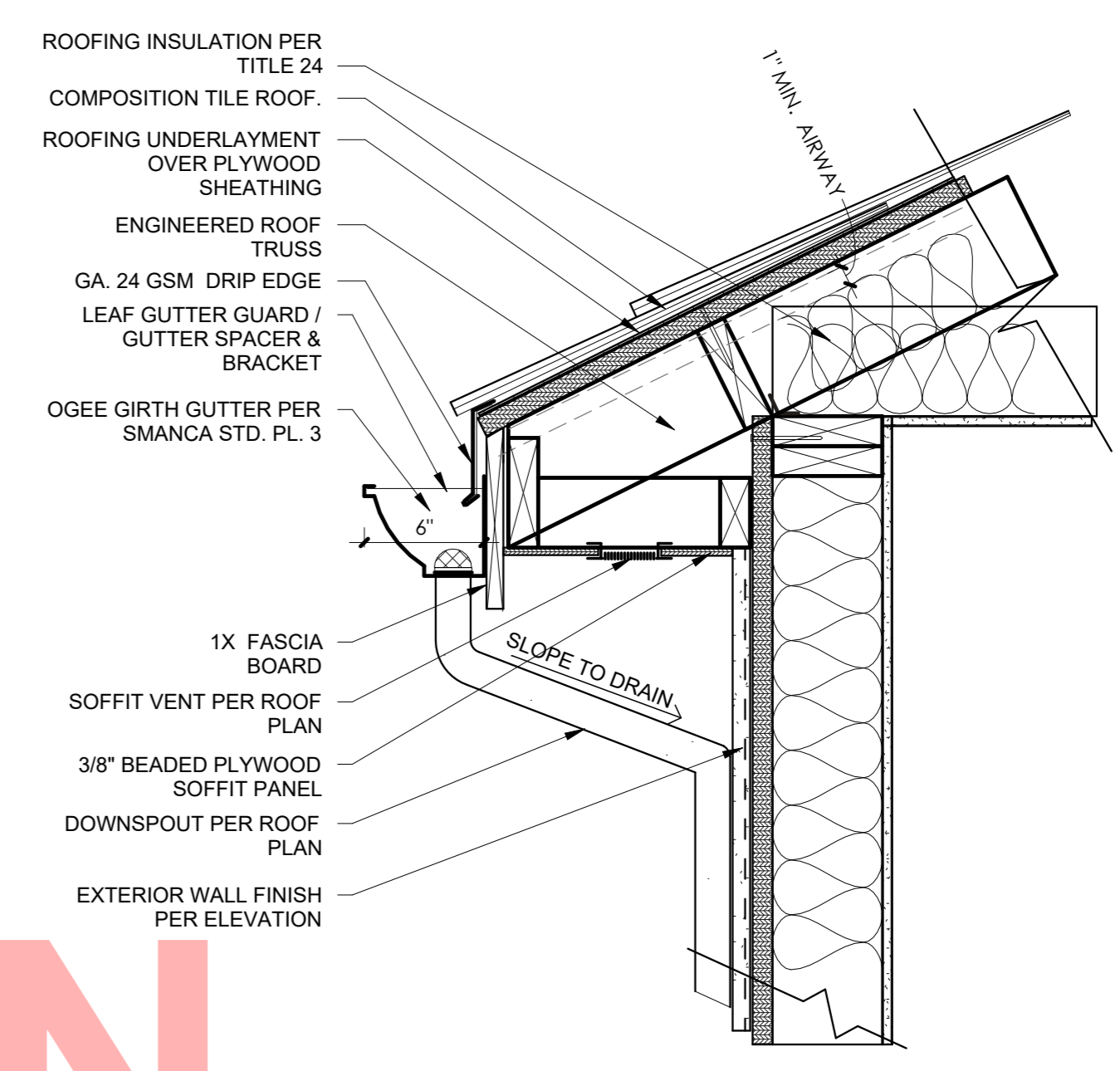
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TITLE
ARCHITECTURAL DETAILS

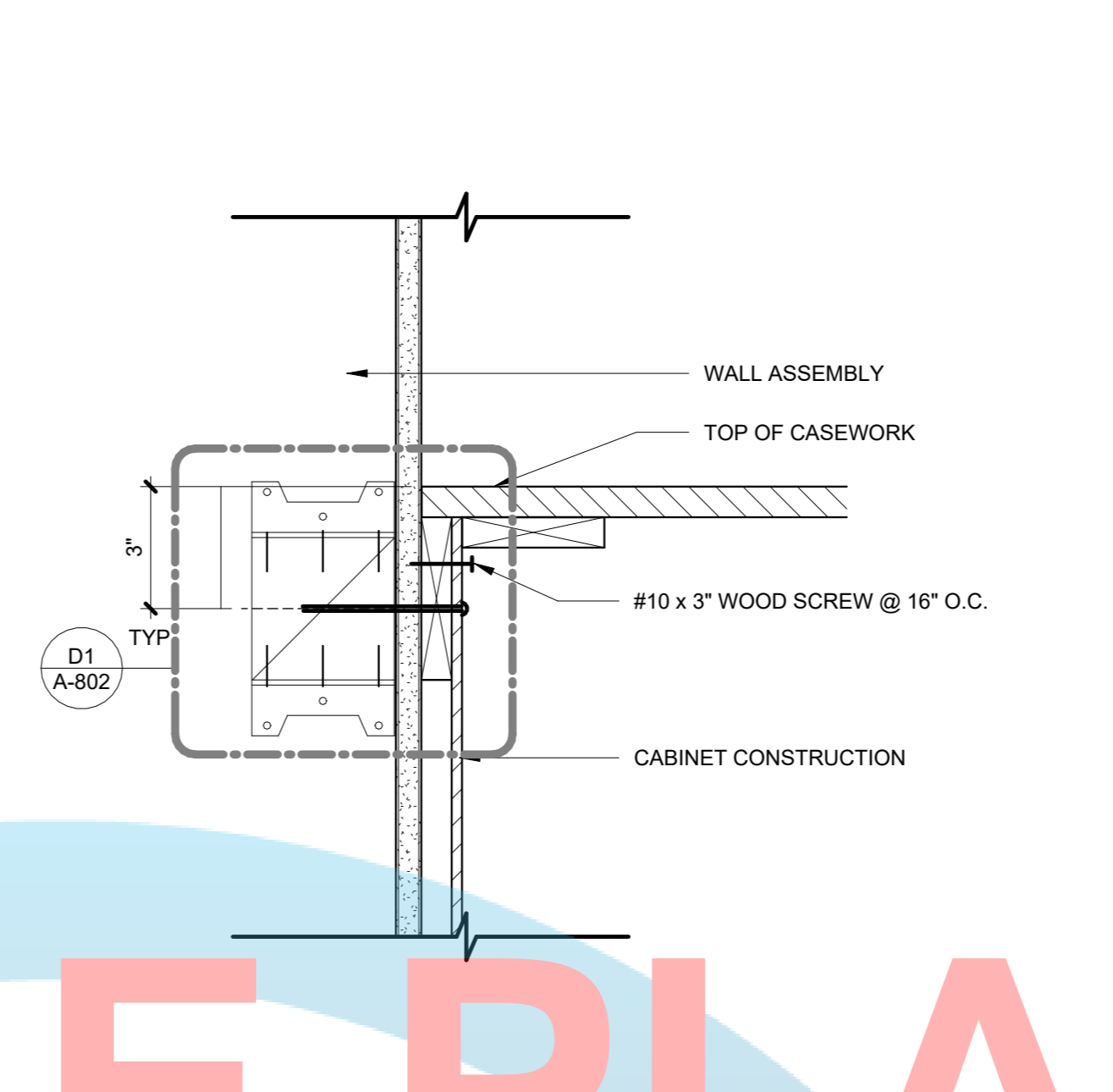
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A-802

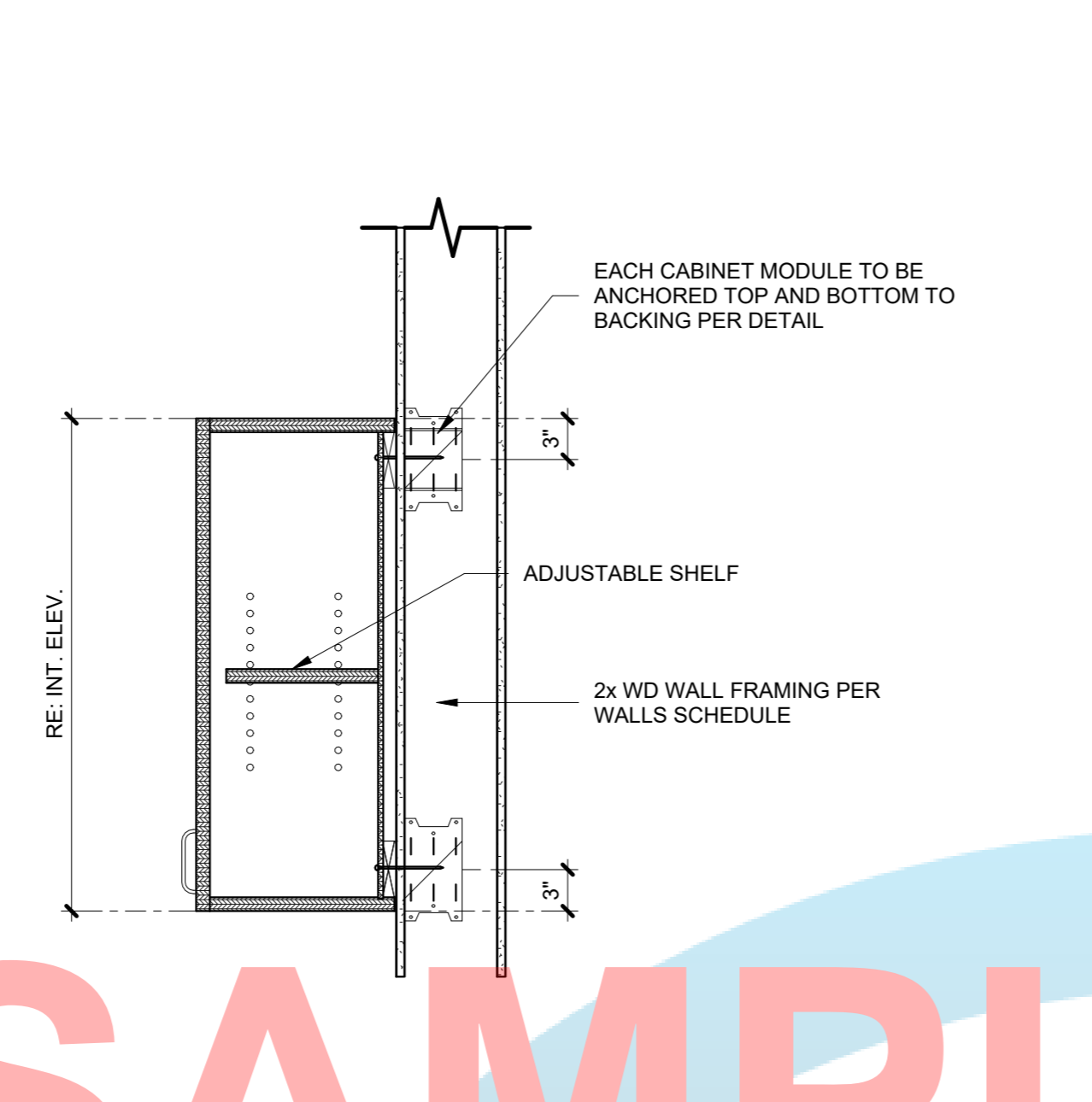
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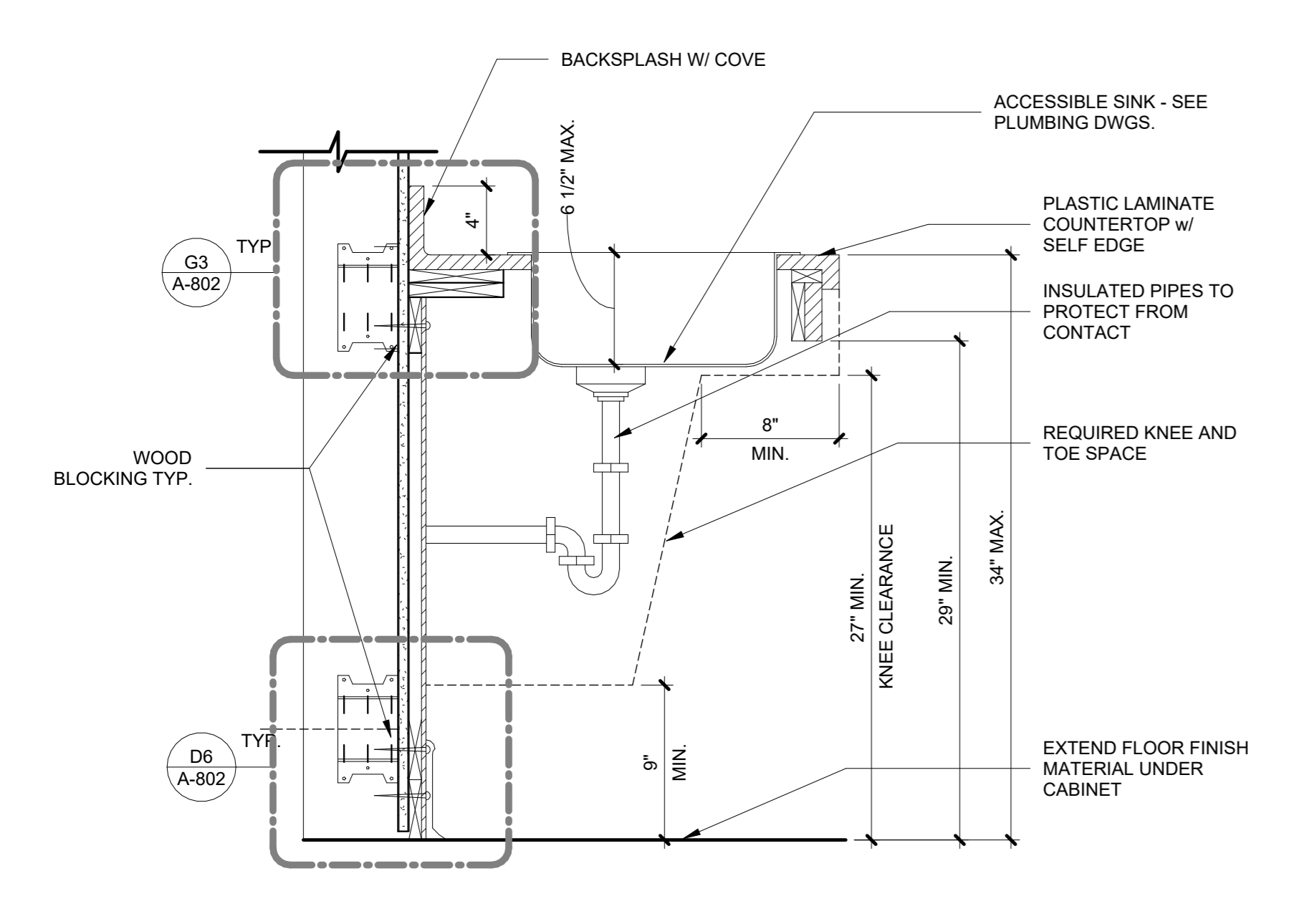
TYPICAL ROOF EAVES DETAIL G1
1 1/2" = 1'-0"



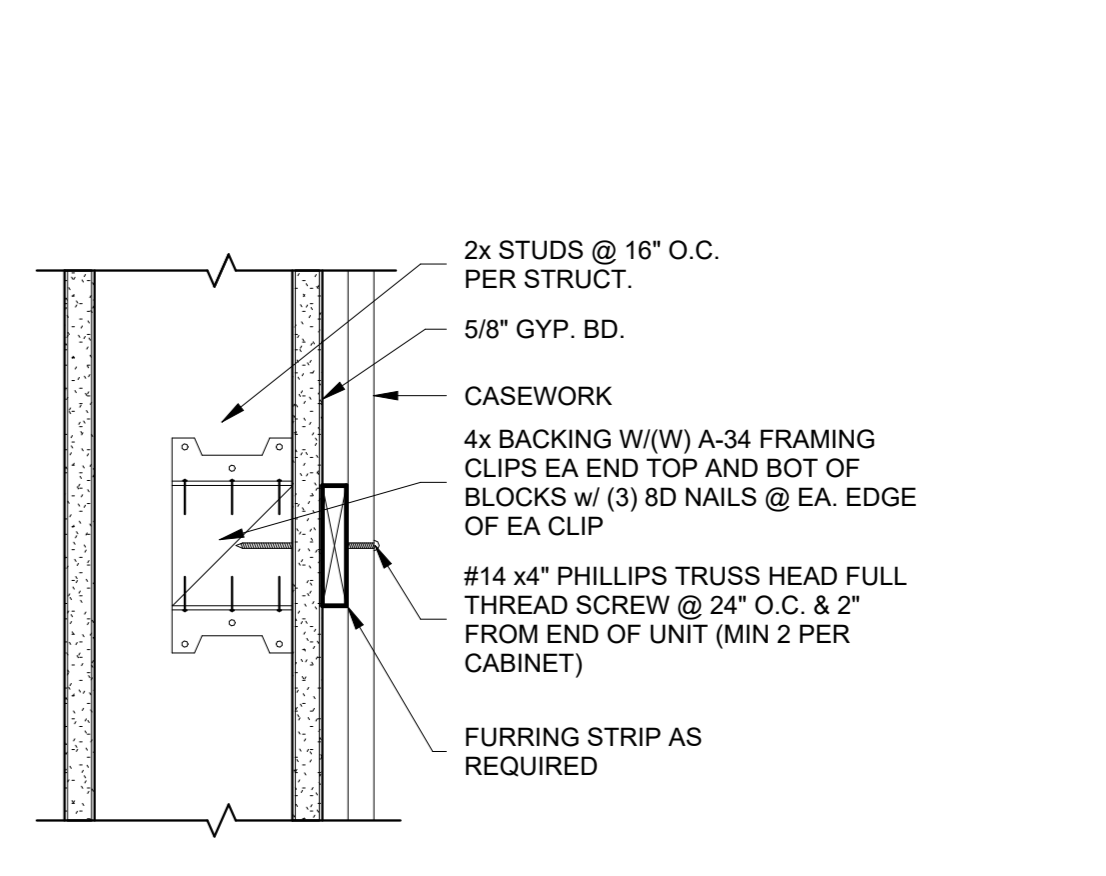
CASEWORK ATTACHED TO WALL (TOP) G3
3" = 1'-0"



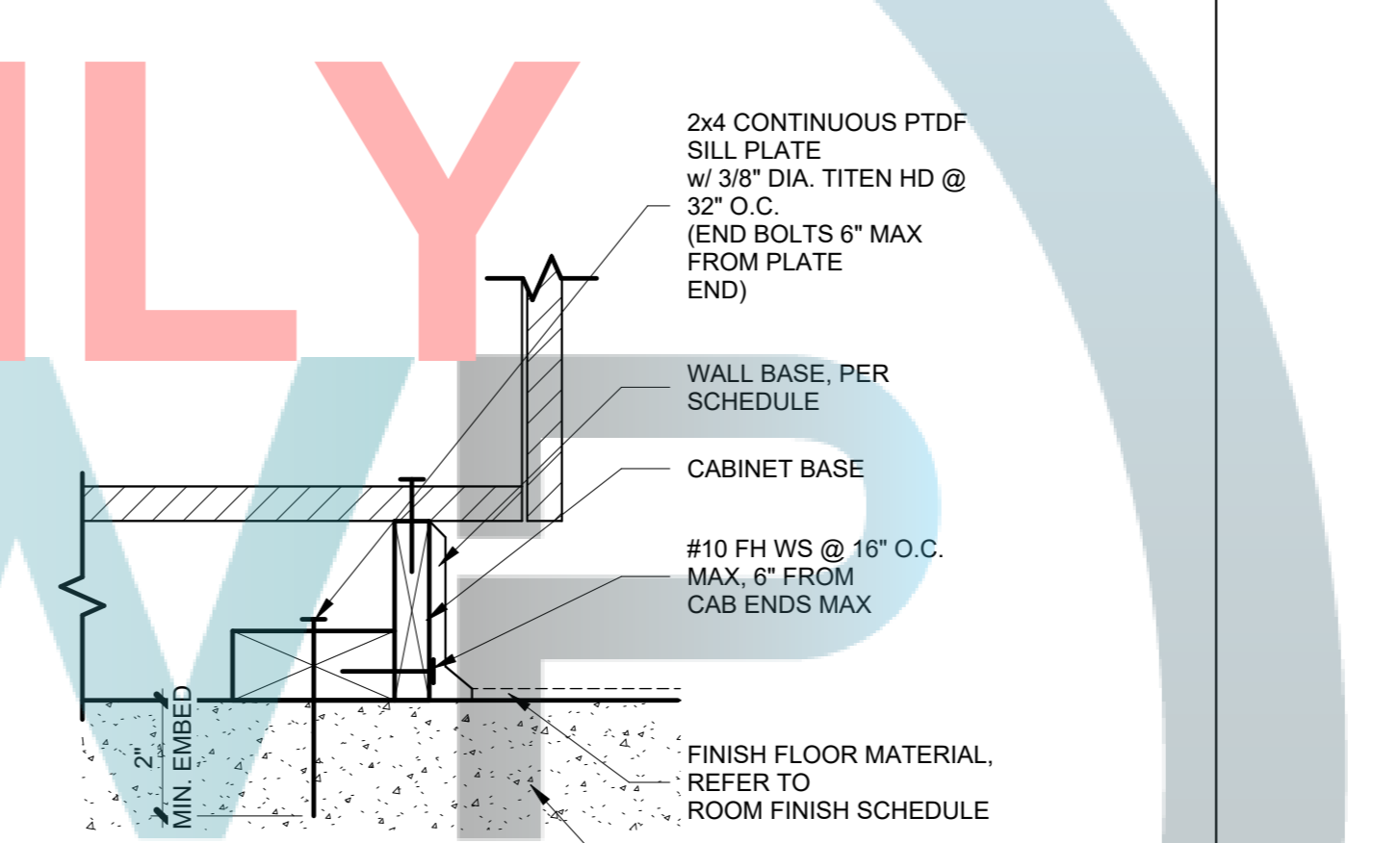
UPPER CABINET G6
1" = 1'-0"



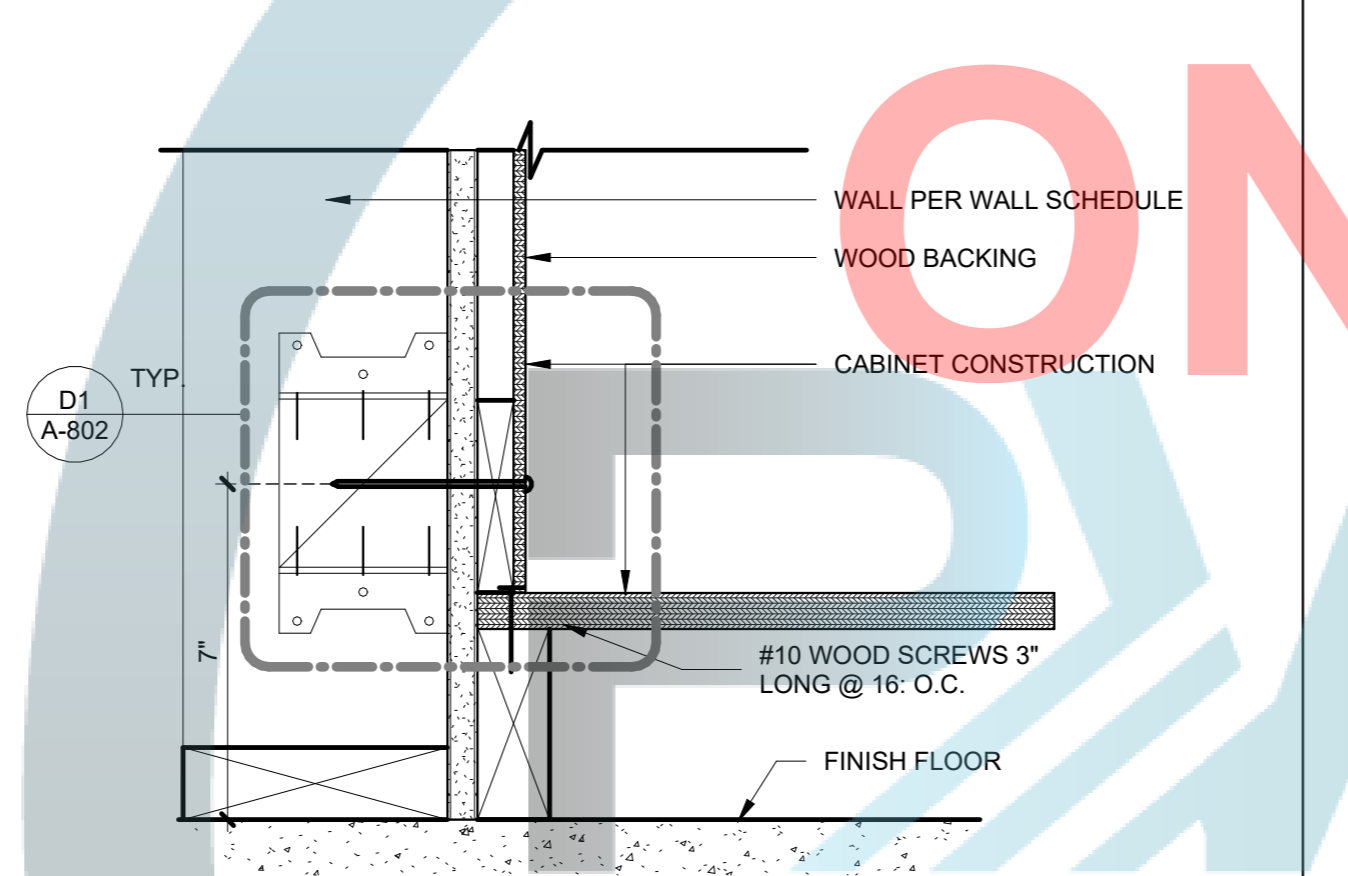
ACCESSIBLE SINK BASE CABINET DETAIL 1 G9
1 1/2" = 1'-0"



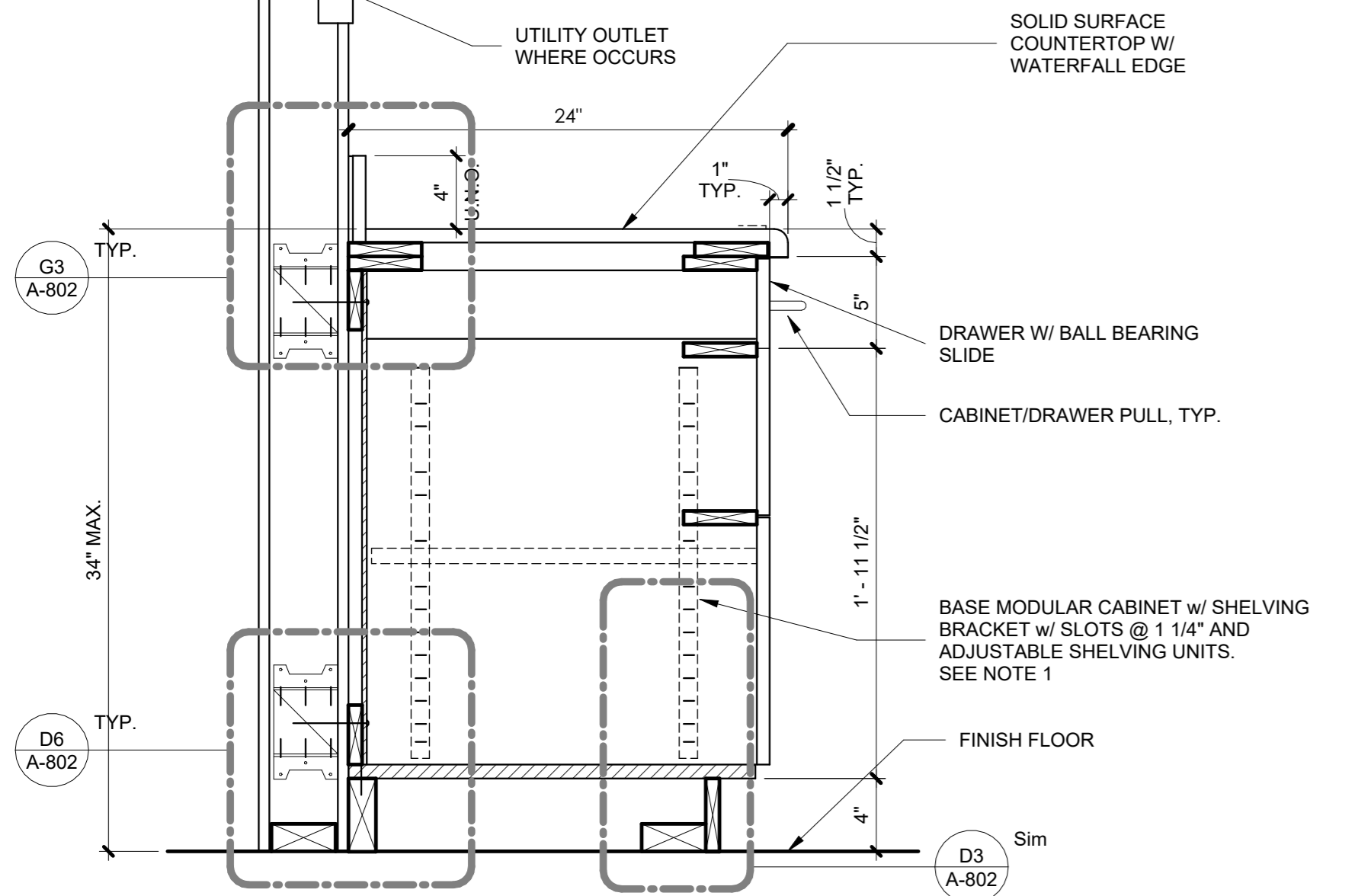
CASEWORK BACKING @ WD STUD WALL D1
3" = 1'-0"



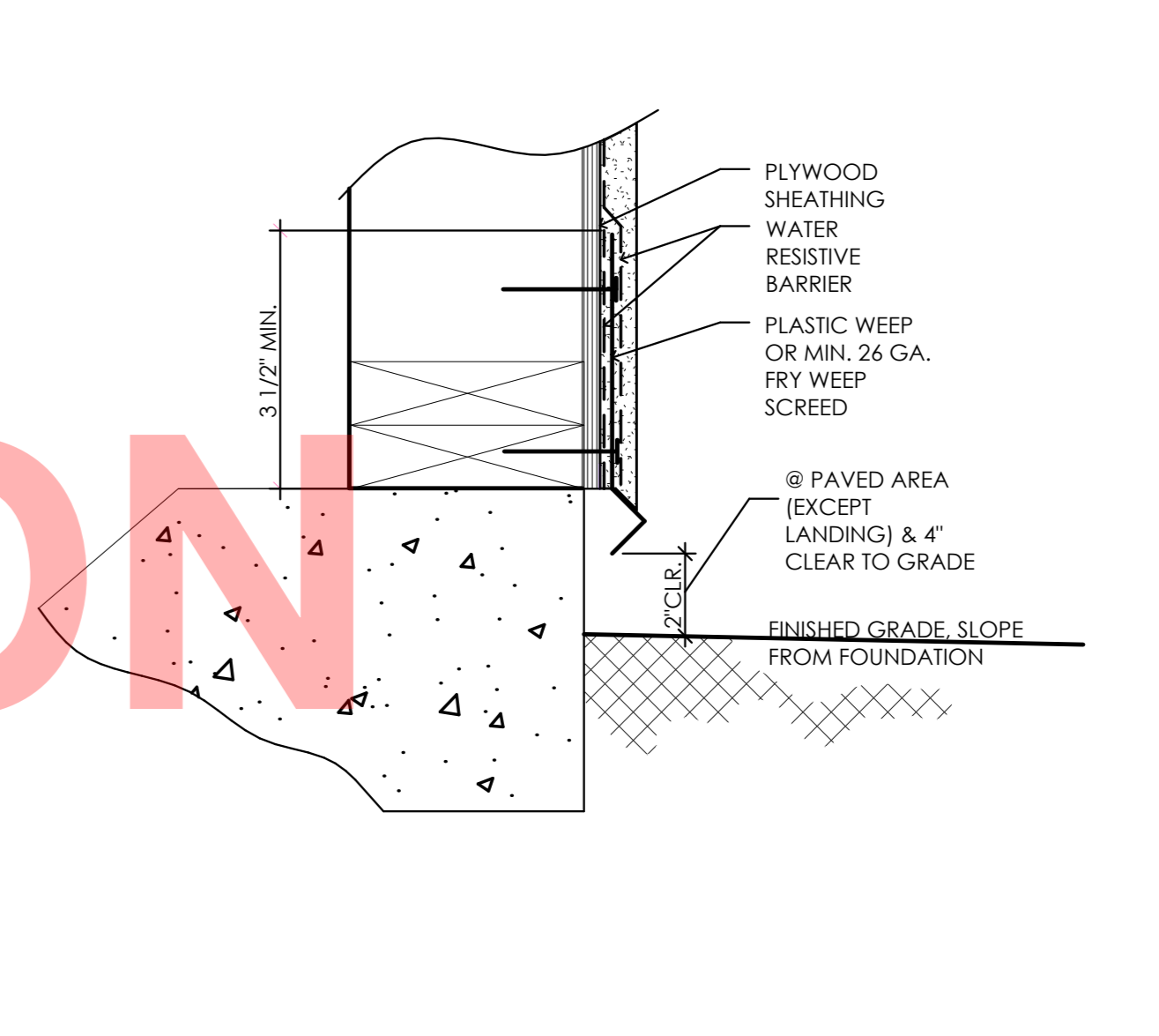
BASE CABINET ANCHORAGE D3
3" = 1'-0"



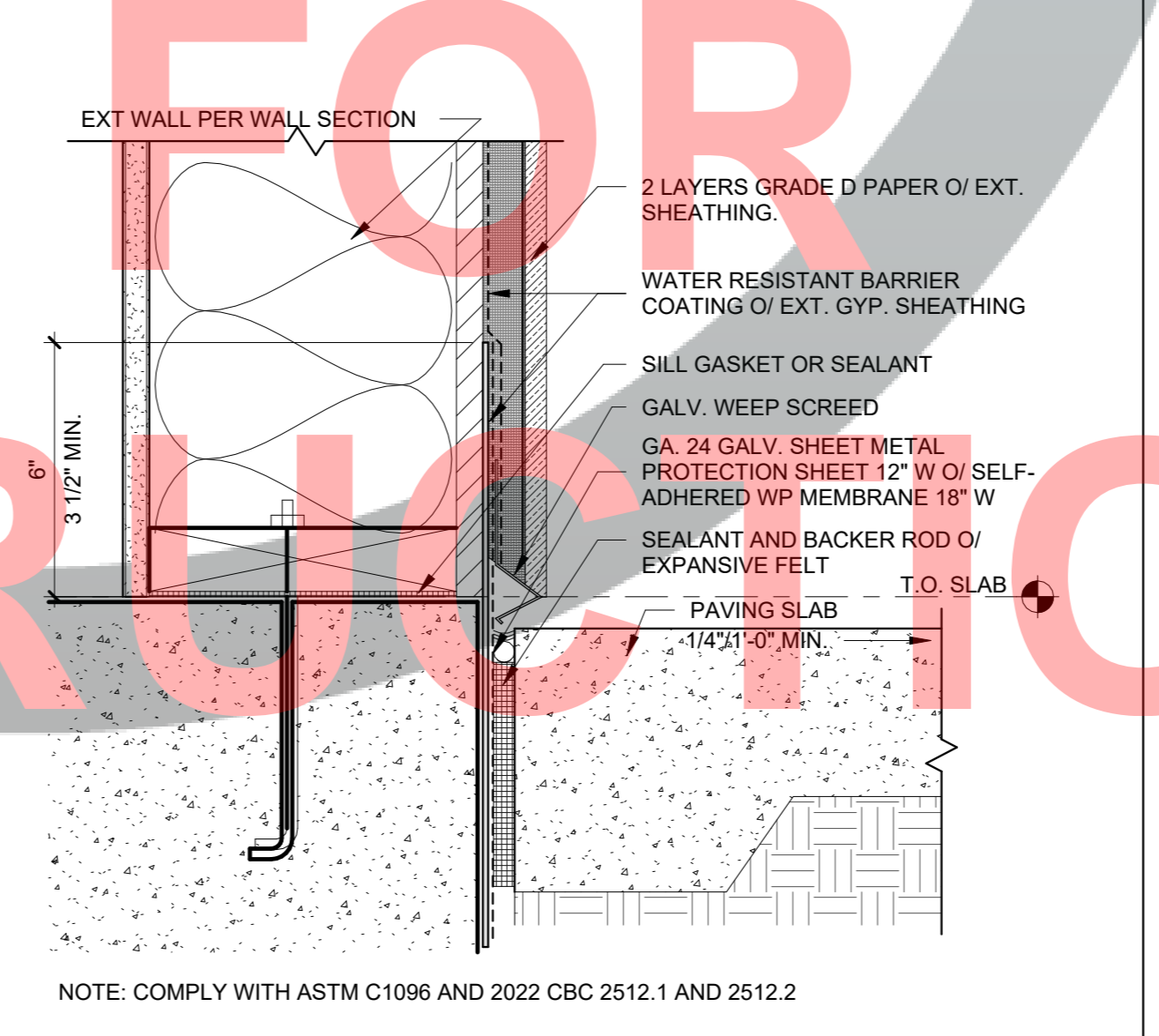
CASEWORK ATTACHED TO STUD WALL D6
3" = 1'-0"



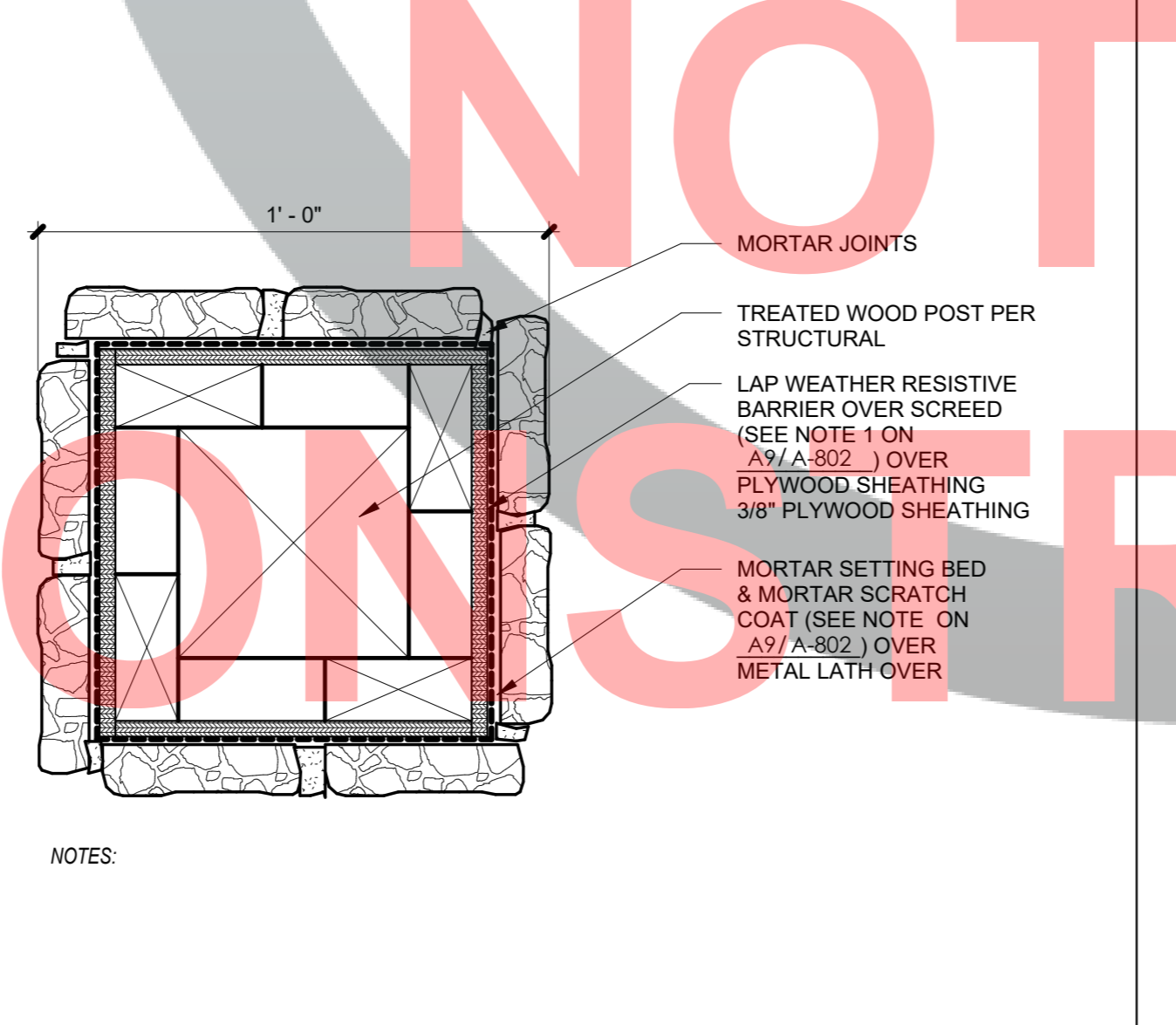
BASE CABINET W/ DRAWER D9
1 1/2" = 1'-0"



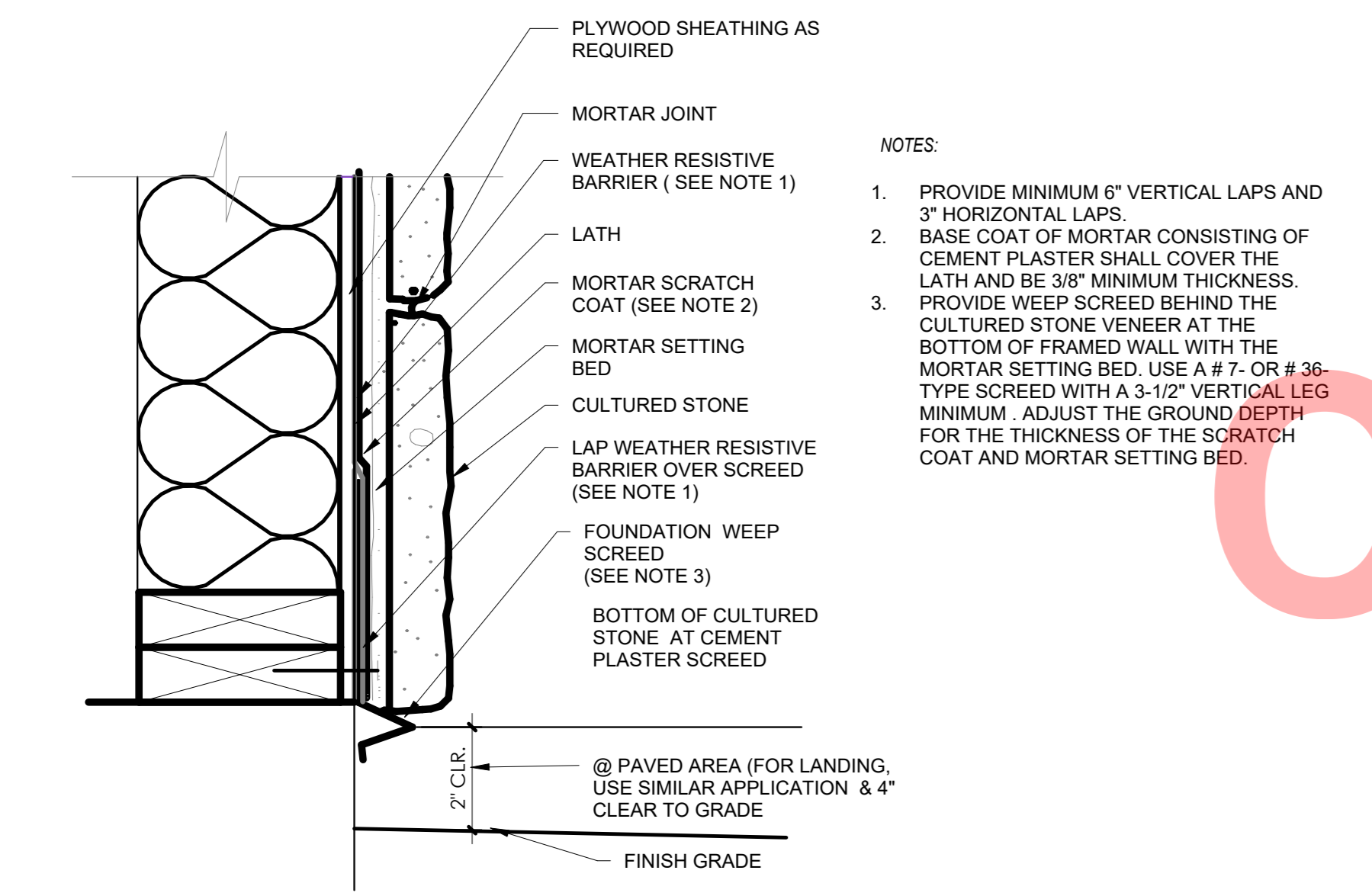
TYPICAL WEEP SCREED DETAIL A1
3" = 1'-0"



WEEP SCREED ADJ. TO PAVED WALK A3
3" = 1'-0"



WRAPPED POST W/ CULTURED STONE WALL A6
3" = 1'-0"



CULTURED STONE WALL DETAIL A9
3" = 1'-0"

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PROJECT
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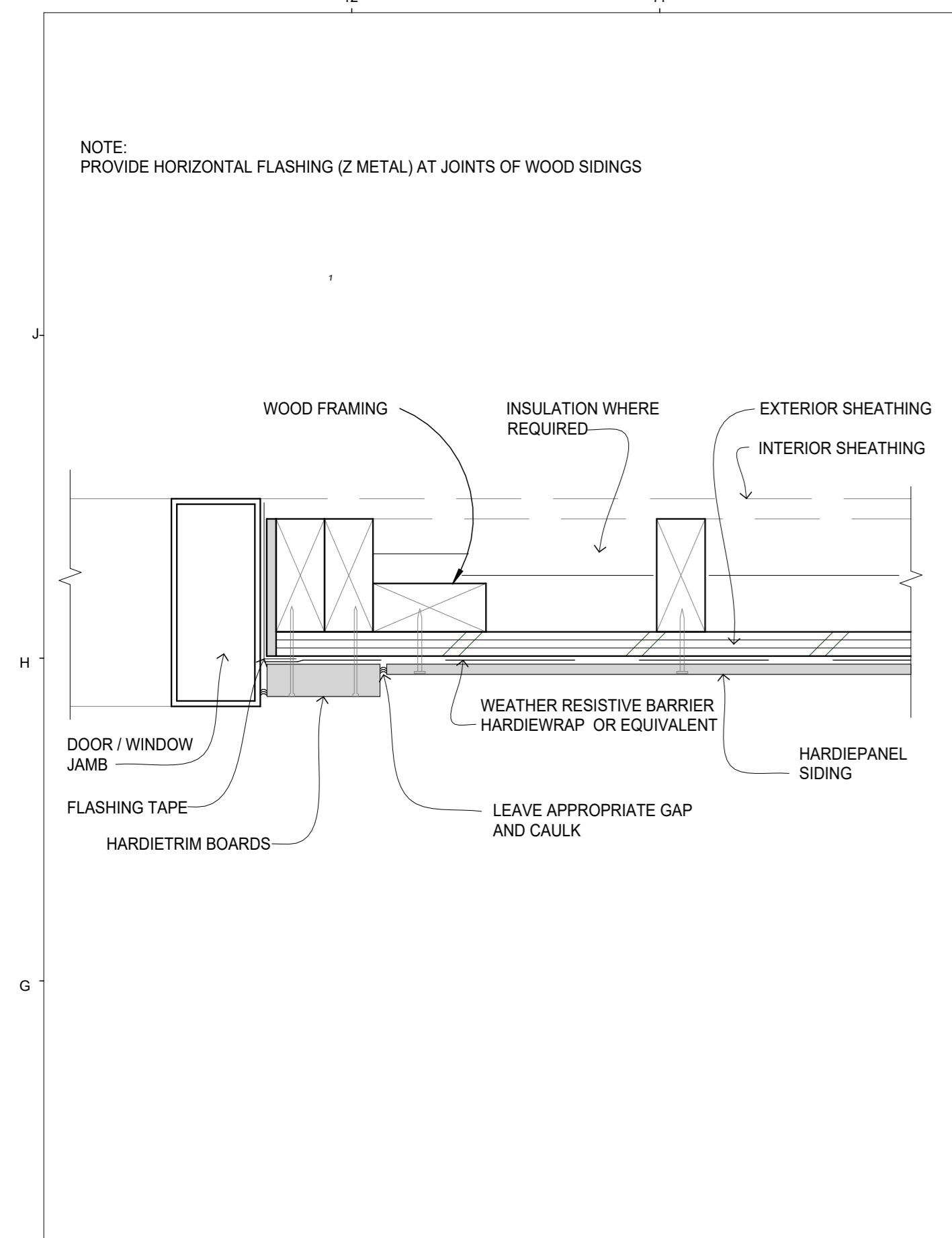
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TITLE
WALL SIDING TYPICAL DETAILS

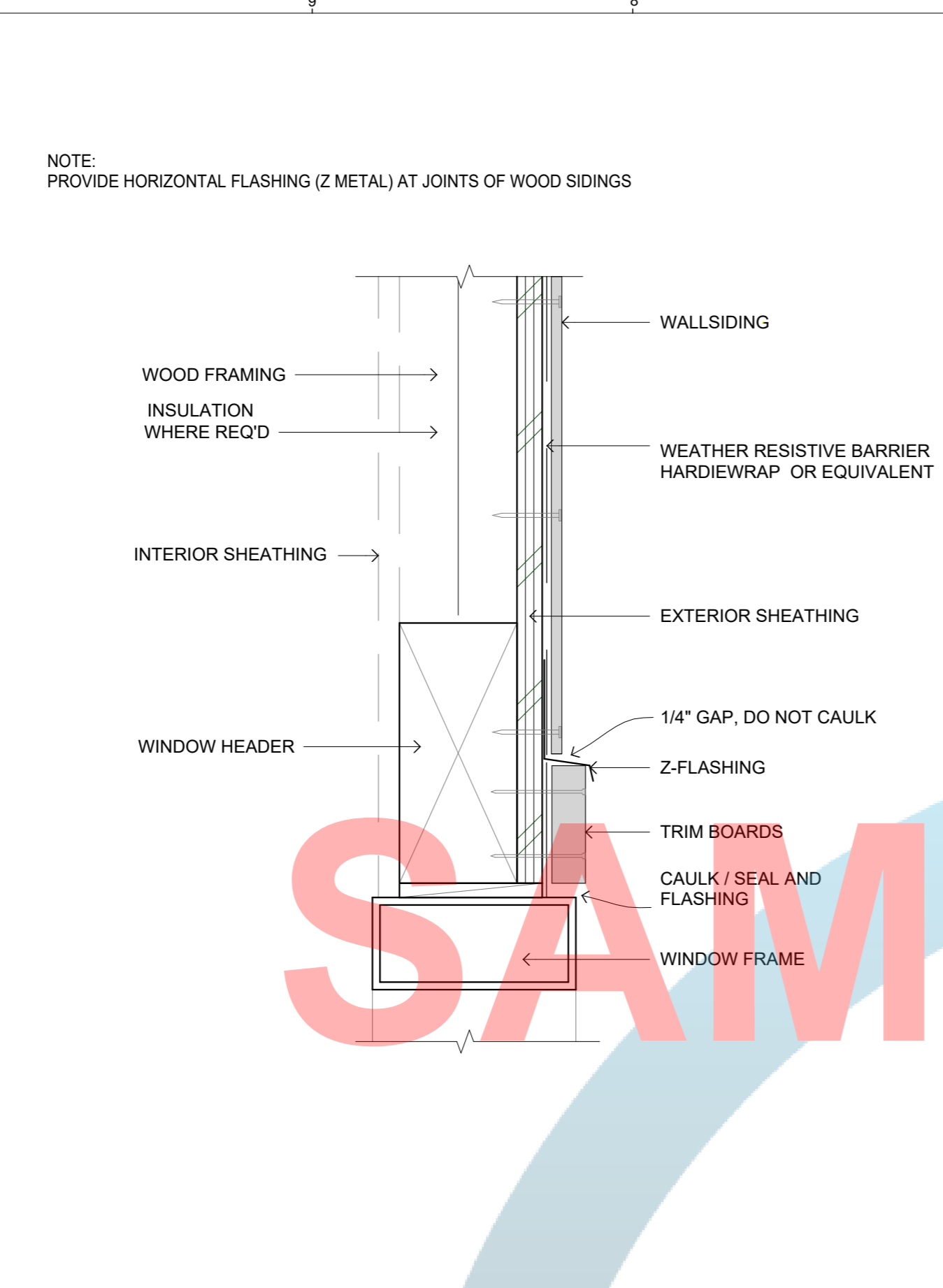
SCALE 3" = 1'-0"

A-803

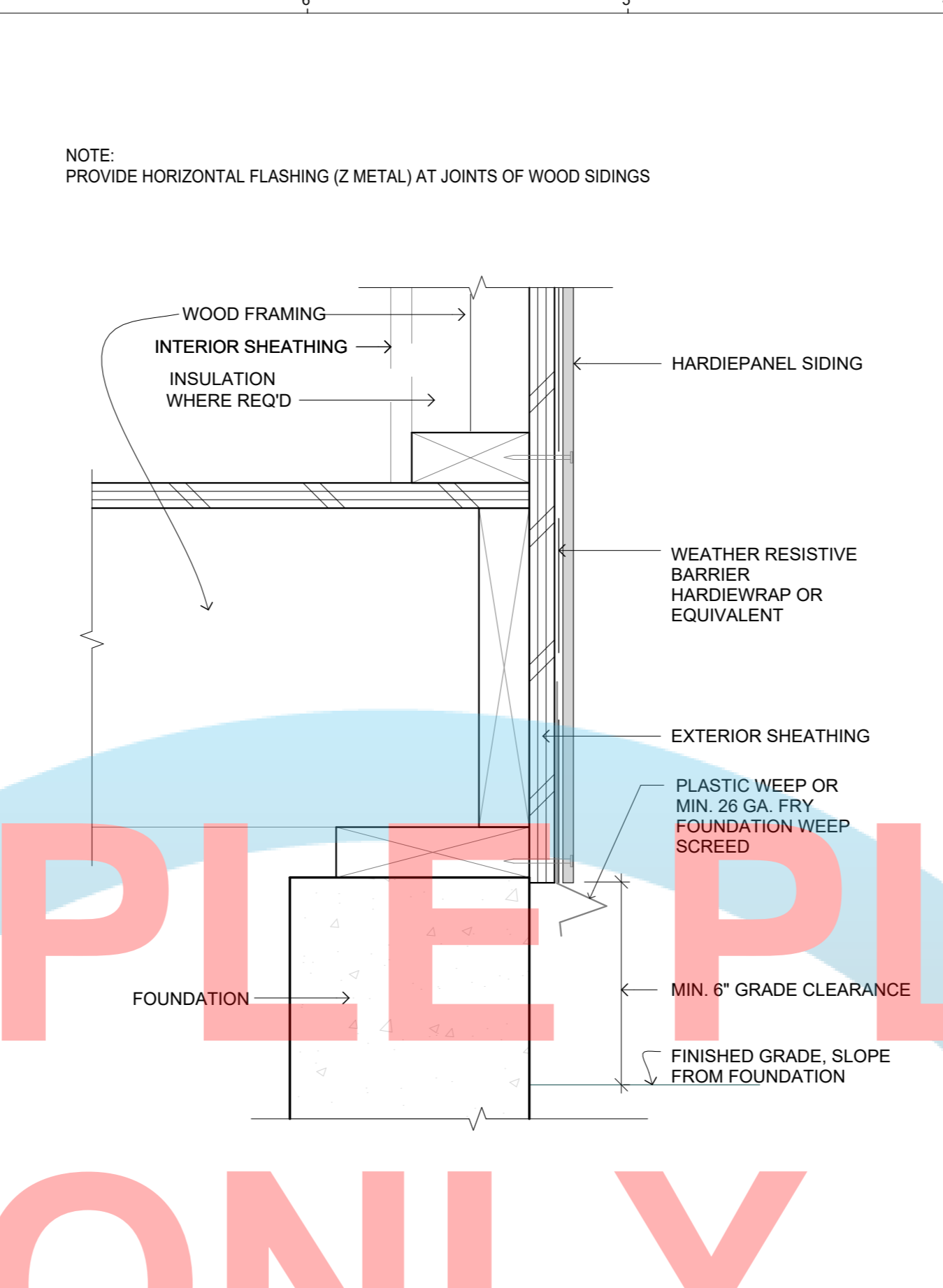
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| ISSUE DATE APRIL 12, 2023 | JOB NUMBER 2023_19 |
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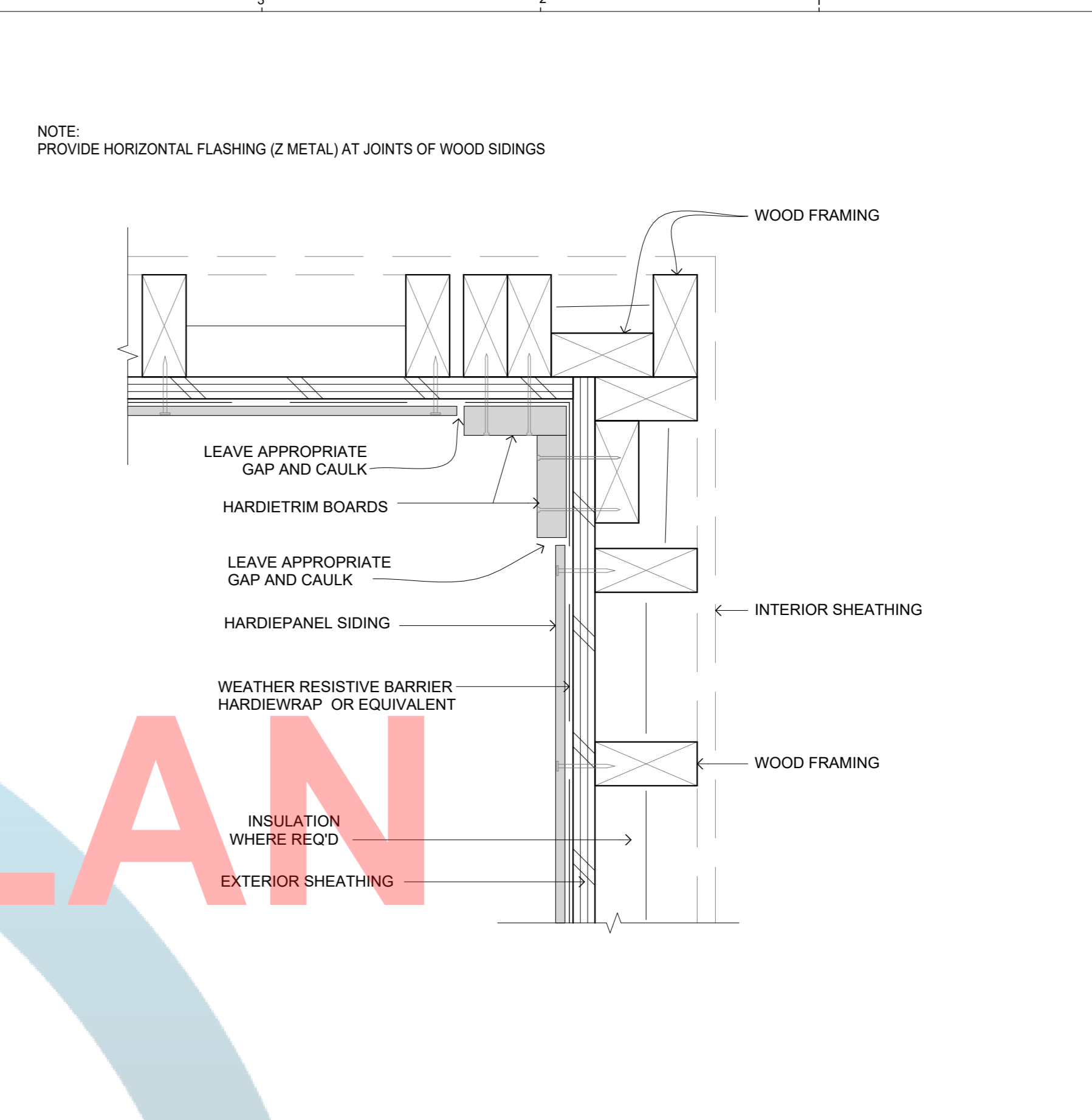
DOOR / WINDOW JAMB DETAIL F10
3" = 1'-0"



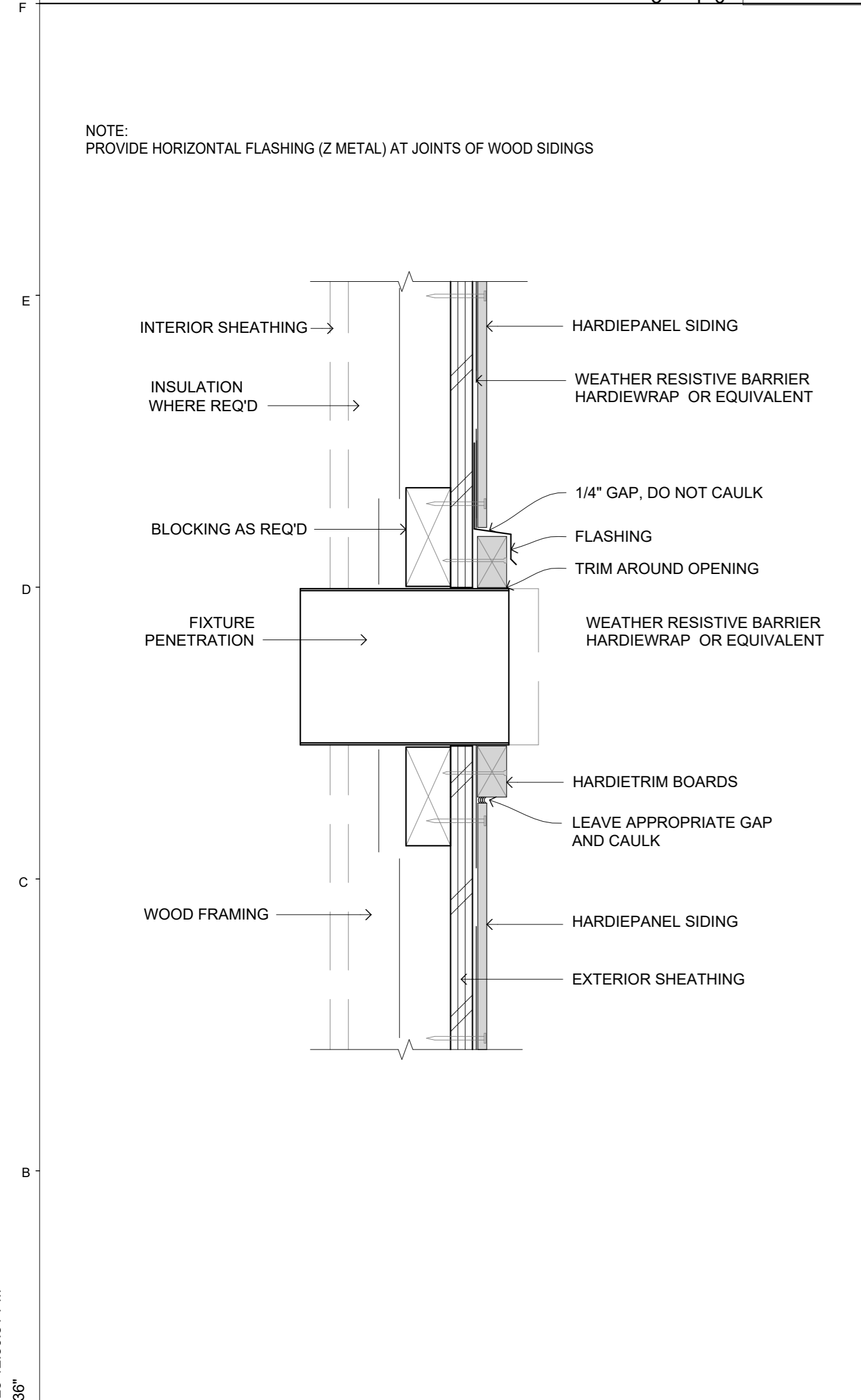
WINDOW / DOOR HEAD F7
3" = 1'-0"



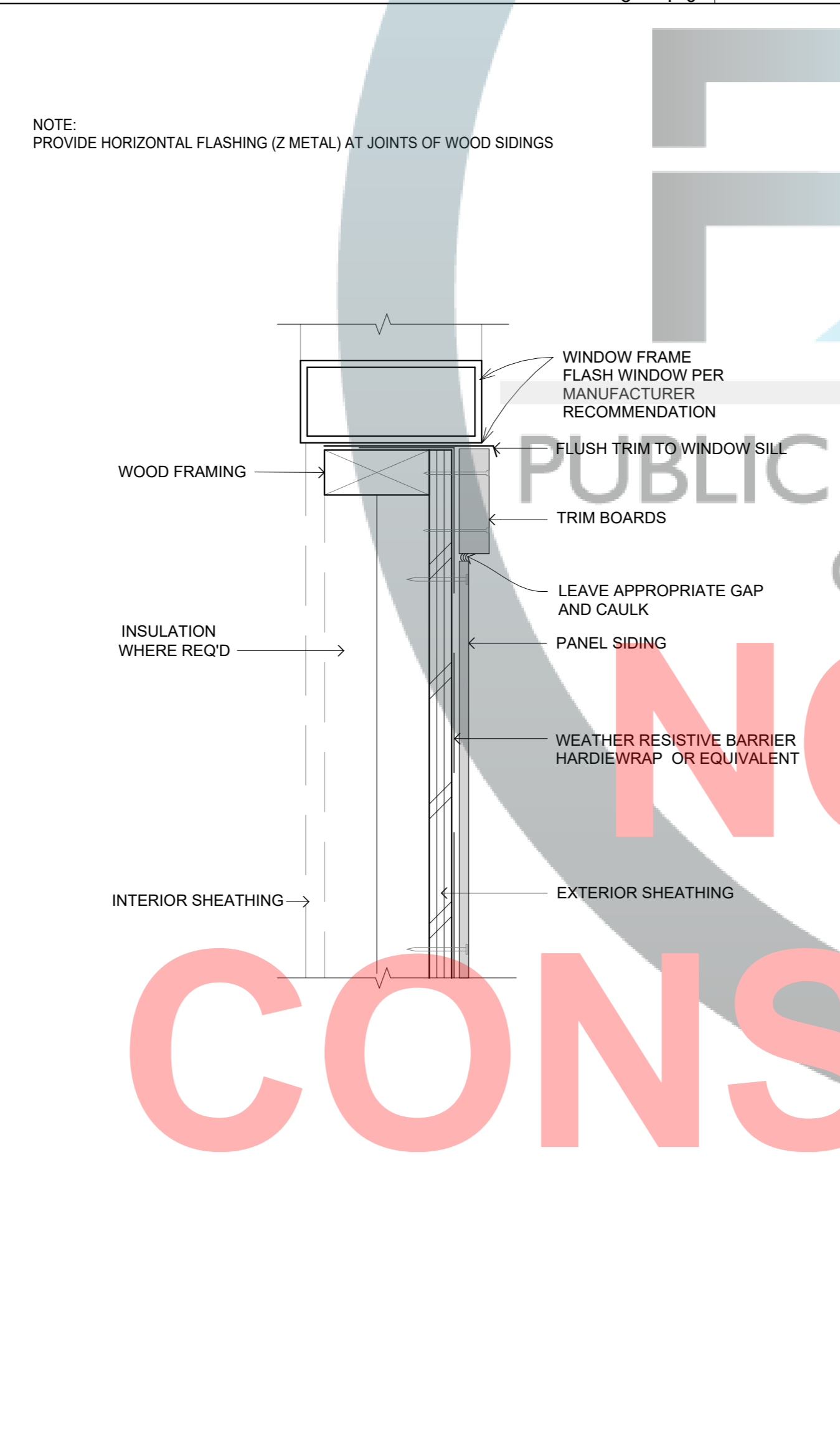
WEEP SCREED AT GRADE (HARDI WALL) F4
3" = 1'-0"



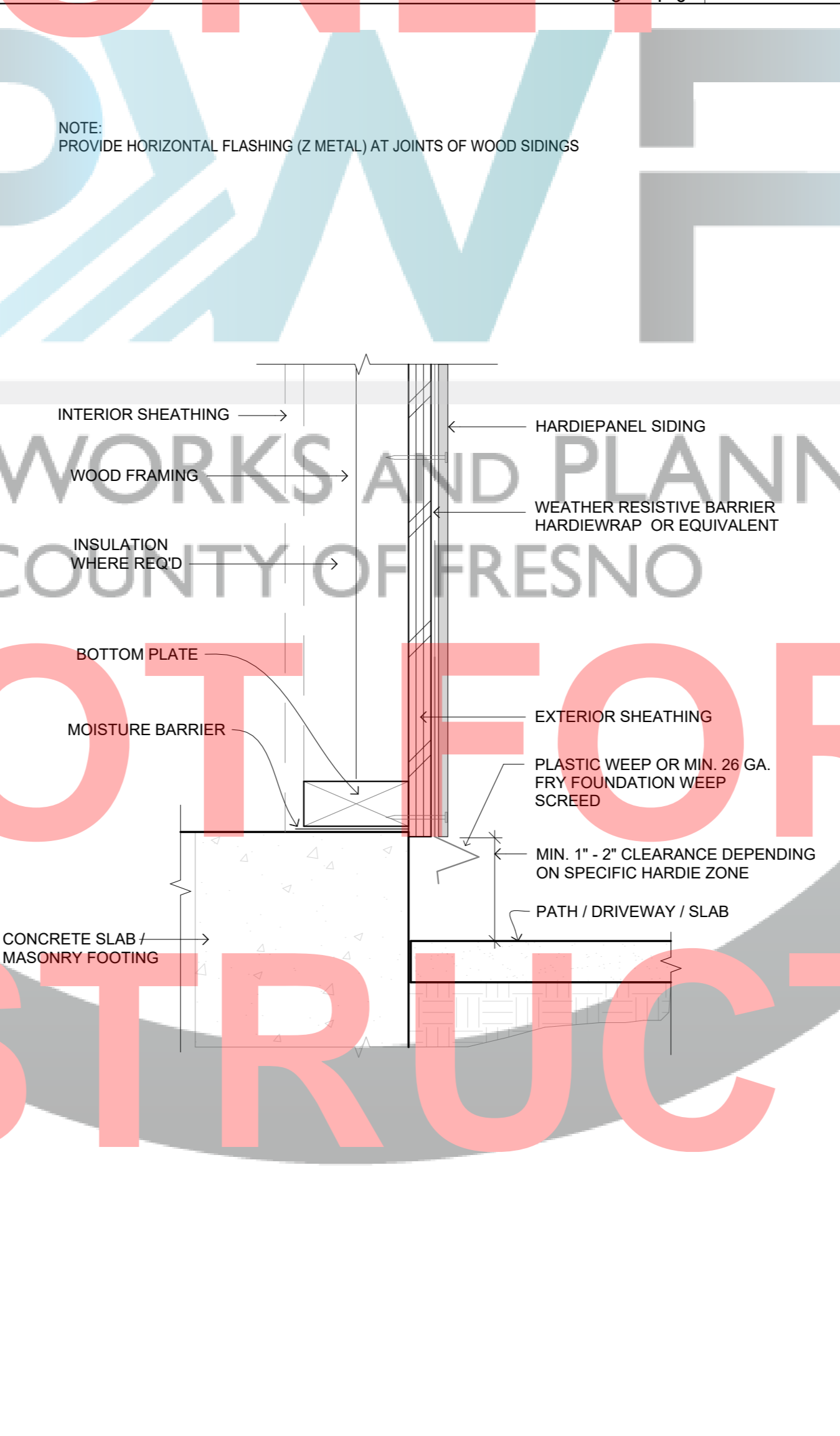
INSIDE CORNER CONDITION AT HARDI WALL F1
3" = 1'-0"



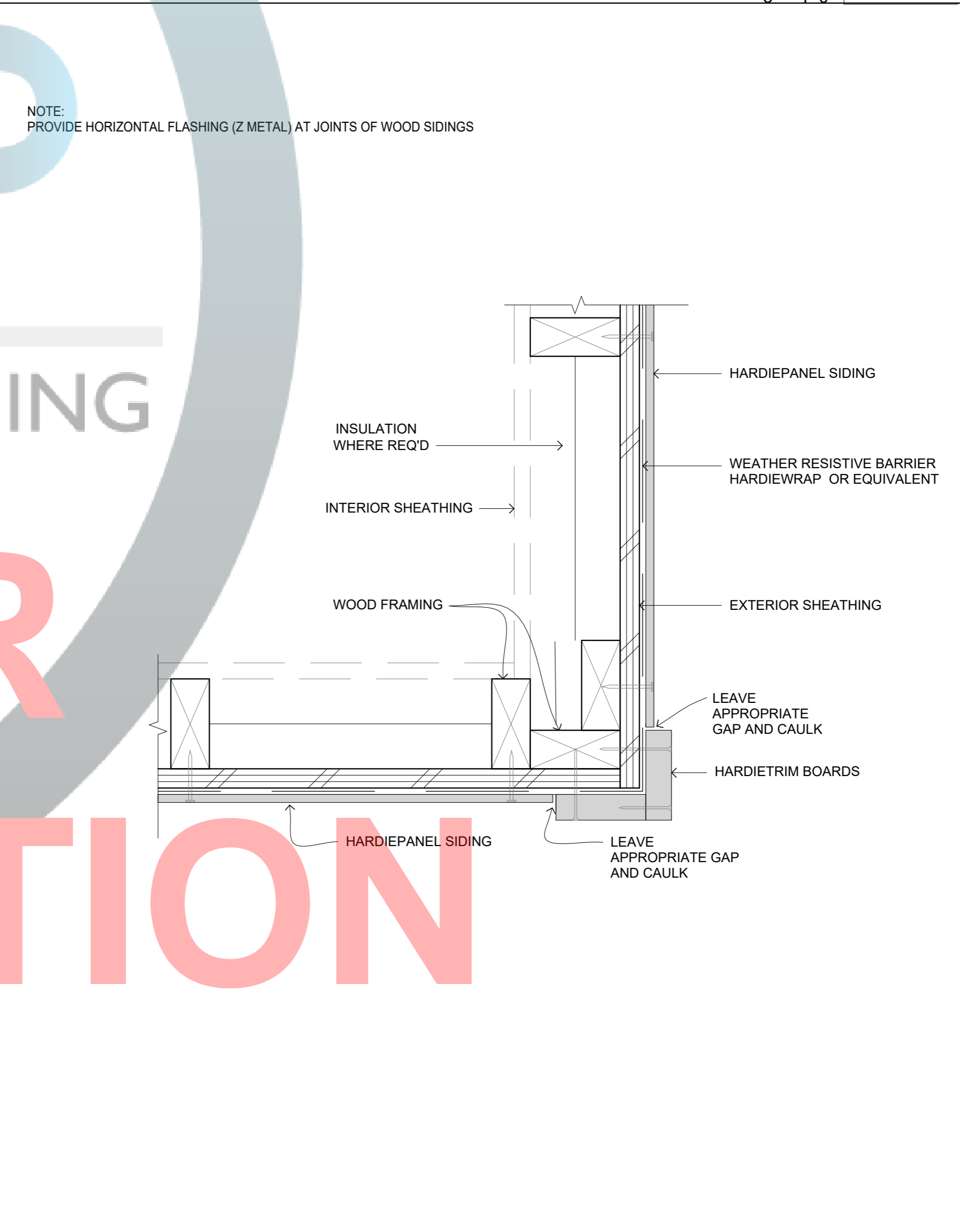
FIXTURE PENETRATION @ HARDI WALL A10
3" = 1'-0"



WINDOW SILL A7
3" = 1'-0"



WEEP SCREED @ PAVED SURFACE (HARDI) A4
3" = 1'-0"



OUTSIDE CORNER DETAIL (HARDI WALL) A1
3" = 1'-0"

7/12/2023 12:30:31 PM 24" X 36"

OPTION # 2

PROJECT
ACCESSORY DWELLING UNIT

PWP23-003

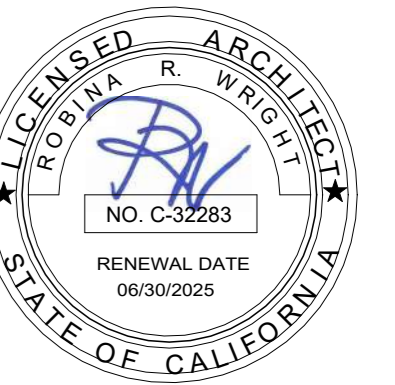
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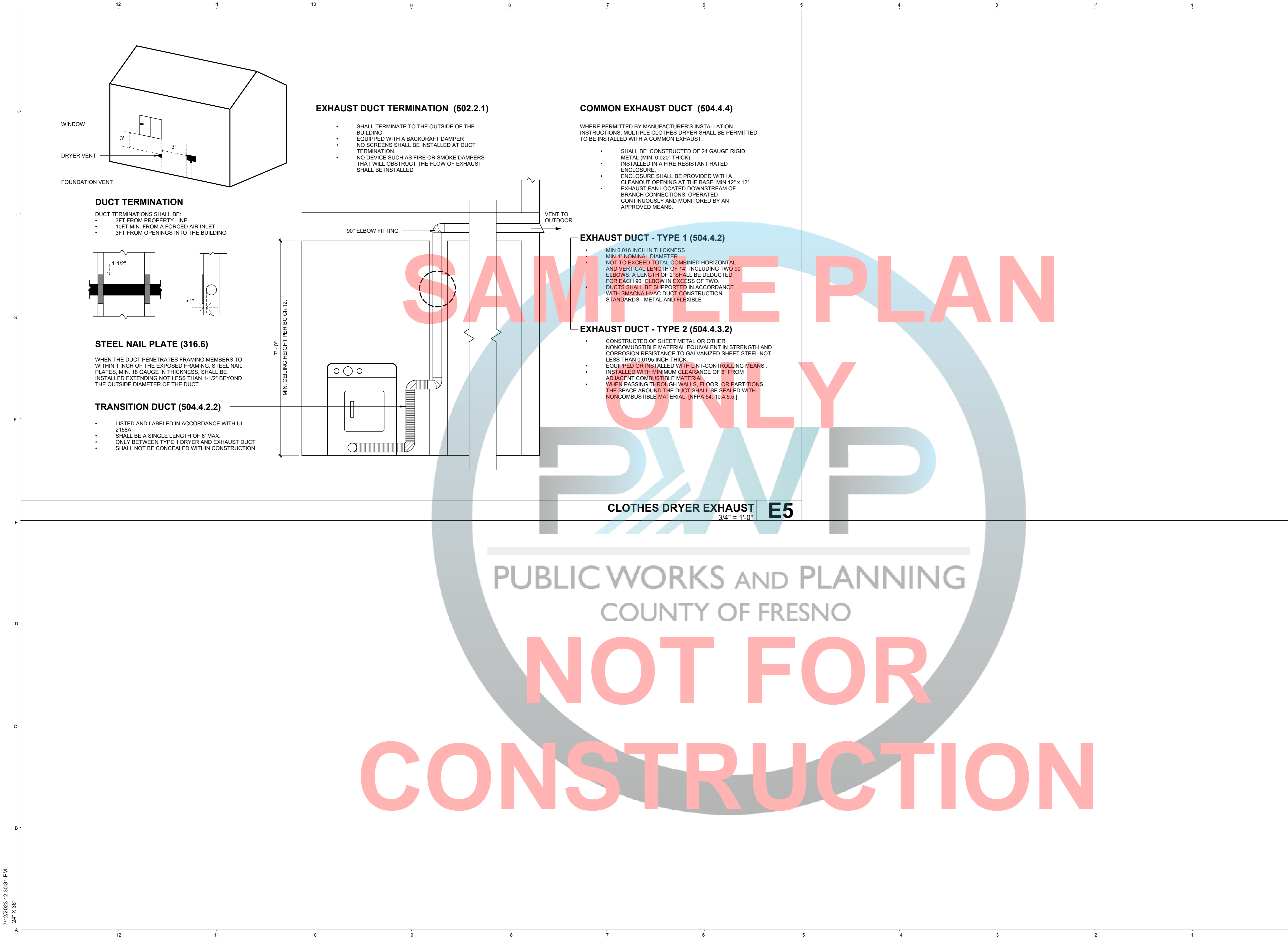
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TITLE
CLOTHES DRYER EXHAUST DETAILS

SCALE 3/4" = 1'-0"

A-804

| | |
|------------------------------|-----------------------|
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SAMPLE PLAN ONLY
PUBLIC WORKS AND PLANNING
COUNTY OF FRESNO
NOT FOR
CONSTRUCTION

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023)

500 SQ. FT. MODEL (515 SQ. FT.)

OPTION # 2

PROJECT

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GREEN BUILDING MANDATORY MEASURES 1

SCALE 1/2" = 1'-0"

GBC-1

| | |
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| ISSUE DATE | JOB NUMBER |
| APRIL 12, 2023 | 2023_19 |
| DRAWN BY | CHECKED BY |
| RW | RW |

Chapter 3 – Additions and Alterations

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.

301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

The mandatory provision of Section 4.106.4.2 may apply to additions or alterations of existing parking facilities or the addition of new parking facilities serving existing multifamily buildings. See Section 4.106.4.3 for application.

E-015.18;
Note: Repairs including, but not limited to, resurfacing, restriping and repairing or maintaining existing lighting fixtures are not considered alterations for the purpose of this section.

Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings or high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies, specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

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.

Exceptions:
1. [HCD] Accessory structures and accessory occupancies serving residential buildings shall comply with Chapter 4 and Appendix A4, as applicable.
2. [HCD] For purposes of CALGreen, live/work units, complying with Section 419 of the California Building Code, shall not be considered mixed occupancies. Live/Work units shall comply with Chapter 4 and Appendix A4, as applicable.

DIVISION 4.1 PLANNING AND DESIGN

ABBREVIATION DEFINITIONS:

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

CHAPTER 4 RESIDENTIAL MANDATORY MEASURES

SECTION 4.102 DEFINITIONS

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

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.

WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls.

4.106 SITE DEVELOPMENT

4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.

4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.

- Retention basins of sufficient size shall be utilized to retain storm water on the site.
- Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
- Compliance with a lawfully enacted storm water management ordinance.

Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil. (Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html)

4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or 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.

4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.4.1 or 4.106.4.2 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.

Exceptions:
1. On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
1.1 Where there is no local utility power supply or the local utility is unable to supply adequate power.
1.2 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 4.106.4, may adversely impact the construction cost of the project.
2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.

4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the proposed location of an EV charger at the time of original construction in accordance with the California Electrical Code.

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

4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities. When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the requirements of Sections 4.106.4.2.1 and 4.106.4.2.2. Calculations for hotels shall be rounded up to the nearest whole number. A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by a local jurisdiction. See Vehicle Code Section 22511.2 for further details.

4.106.4.2.1 Multifamily development projects with less than 20 dwelling units; and hotels and motels with less than 20 sleeping units or guest rooms. The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

1.EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

Exceptions:

1. When EV chargers (Level 2 EVSE) are installed in a number equal to or greater than the required number of EV capable spaces.

2. When EV chargers (Level 2 EVSE) are installed in a number less than the required number of EV capable spaces, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed.

Notes:

a. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.

b. There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

4.106.4.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms. The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

1.EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

Exception: When EV chargers (Level 2 EVSE) are installed in a number greater than five (5) percent of parking spaces required by Section 4.106.4.2.2, Item 3, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed over the five (5) percent required.

Notes:

a. Construction documents shall show locations of future EV spaces.
b. There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

3.EV Chargers. Five (5) percent of the total number of parking spaces shall be equipped with Level 2 EVSE. Where common use parking is provided, at least one EV charger shall be located in the common use parking area and shall be available for use by all residents or guests.

When low power Level 2 EV charging receptacles or Level 2 EVSE are installed beyond the minimum required, an automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes, and installed EVSE shall have a capacity of not less than 30 amperes. ALMS shall not be used to reduce the minimum required electrical capacity to the required EV capable spaces.

4.106.4.2.2.1 Electric vehicle charging stations (EVCS). Electric vehicle charging stations required by Section 4.106.4.2.2, Item 3, shall comply with Section 4.106.4.2.2.1.

Exception: Electric vehicle charging stations serving public accommodations, public housing, motels and hotels shall not be required to comply with this section. See California Building Code, Chapter 11B, for applicable requirements.

4.106.4.2.2.1 Location.

EVCS shall comply with at least one of the following options:

- The charging space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space.
- The charging space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building.

Exception: Electric vehicle charging stations designed and constructed in compliance with the California Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1.1 and Section 4.106.4.2.2.1.2, Item 3.

4.106.4.2.2.1.2 Electric vehicle charging stations (EVCS) dimensions.

The charging spaces shall be designed to comply with the following:

- The minimum length of each EV space shall be 18 feet (5486 mm).
- The minimum width of each EV space shall be 9 feet (2743 mm).
- One in every 25 charging spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).

a. Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

4.106.4.2.2.1.3 Accessible EV spaces.

In addition to the requirements in Sections 4.106.4.2.2.1.1 and 4.106.4.2.2.1.2, all EVSE, when installed, shall comply with the accessibility provisions for EV chargers in the California Building Code, Chapter 11B. EV ready spaces and EVCS in multifamily developments shall comply with California Building Code, Chapter 11A, Section 1109A.

4.106.4.2.3 EV space requirements.

1. Single EV space required. Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the location or the proposed location of the EV space. Construction documents shall identify the raceway termination point, receptacle or charger location, as applicable. The service panel and/or subpanel shall have a 40-ampere minimum dedicated branch circuit, including branch circuit overcurrent protective device installed, or space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space, at the time of original construction in accordance with the California Electrical Code.

2. Multiple EV spaces required. Construction documents shall indicate the raceway termination point and the location of installed or future EV spaces, receptacles or EV chargers. Construction documents shall also provide information on amperage of installed or future receptacles or EVSE, raceway method(s), wiring schematics and electrical load calculations. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction. Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space at the time of original construction in accordance with the California Electrical Code.

4.106.4.2.4 Identification.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

4.106.4.2.5 Electric Vehicle Ready Space Signage.

Electric vehicle ready spaces shall be identified by signage or pavement markings, in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multifamily buildings.

When new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or altered and the work requires a building permit, ten (10) percent of the total number of parking spaces added or altered shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE.

Notes:
1. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.
2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL

4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303 INDOOR WATER USE

4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.4.4.

Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

4.303.1.1 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.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.6 gallons per flush.

4.303.1.3 Showerheads.

4.303.1.3.1 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.

4.303.1.3.2 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 only allow one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.

4.303.1.4 Faucets.

4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 80 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.

4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.

4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 80 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 80 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

4.303.1.4.5 Pre-rinse spray valves.

When installed, shall meet the requirements in the California Code of Regulations, Title 20 (Appliance Efficiency Regulations), Sections 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607 (d) (7) and shall be equipped with an integral automatic shutoff.

FOR REFERENCE ONLY: The following table and code section have been reprinted from the California Code of Regulations, Title 20 (Appliance Efficiency Regulations), Section 1605.1 (h)(4) and Section 1605.3 (h)(4)(A).

Title 20 Section 1605.3 (h)(4)(A). Commercial pre-rinse spray valves manufactured on or after January 1, 2006, shall have a minimum spray force of not less than 4.0 ounces-force (ozf) [113 grams-force(gf)]

4.303.2 Submeters for multifamily buildings and dwelling units in mixed-used residential/commercial buildings.

Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the California Plumbing Code.

4.303.3 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.

TABLE - MAXIMUM FIXTURE WATER USE

| FIXTURE TYPE | FLOW RATE |
|---|--|
| SHOWER HEADS (RESIDENTIAL) | 1.8 GMP @ 80 PSI |
| LAVATORY FAUCETS (RESIDENTIAL) | MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20PSI |
| LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS | 0.5 GPM @ 60 PSI |
| KITCHEN FAUCETS | 1.8 GPM @ 60 PSI |
| METERING FAUCETS | 0.2 GAL/CYCLE |
| WATER CLOSET | 1.28 GAL/FLUSH |
| URINALS | 0.125 GAL/FLUSH |

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

(January 2023)

RESIDENTIAL MANDATORY MEASURES, SHEET 2

500 SQ. FT. MODEL (515 SQ. FT.)

OPTION # 2

ACCESSORY DWELLING UNIT

PWP23-003

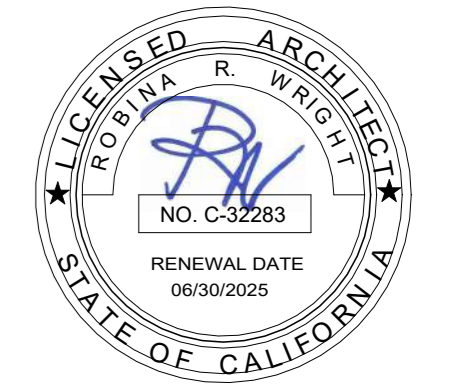
DEPARTMENT OF PUBLIC WORKS AND PLANNING



CAPITAL PROJECTS DIVISION

2220 Tulare St., Ste. 720, Fresno, CA. 93721
Phone: (559) 262-4212 Fax: (559) 262-4879

SEAL & SIGNATURE



UPDATE

JULY 5, 2023

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY AND COPYRIGHT OF THE ARCHITECT AND SHALL NOT BE USED ON ANY OTHER PROJECT OR LOCATIONS EXCEPT AS DESCRIBED IN THE DRAWINGS WITHOUT WRITTEN AGREEMENT WITH THE ARCHITECT.

GREEN BUILDING MANDATORY MEASURES 2

SCALE 1/2" = 1'-0"

GBC-2

| | |
|----------------|------------|
| ISSUE DATE | JOB NUMBER |
| APRIL 12, 2023 | 2023_19 |
| DRAWN BY | CHECKED BY |
| RW | RW |

Y NA RESPON PARTY

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

4.501.1 Scope

The provisions of this chapter shall outline means of reducing the quality 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 4.502 DEFINITIONS

5.102.1 DEFINITIONS

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

AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.

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, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of Regulations (CCR), Title 17, Section 93120.1.

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

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).
Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94701.

MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.

PRODUCT-WEIGHTED MIR (PVMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PVMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).
Note: PVMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

VOC. A volatile organic compound (VOC) 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).

4.503 FIREPLACES

4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove 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. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.

4.504 POLLUTANT CONTROL

4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION.

At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system.

4.504.2 FINISH MATERIAL POLLUTANT CONTROL.

Finish materials shall comply with this section.

4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

1. 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 Table 4.504.1 or 4.504.2, as applicable. 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.

2. 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 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, prohibitions on use of certain toxic compounds, of California Code of Regulations, Title commencing with section 94507.

4.504.2.2 Paints and Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, 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 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 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 4.504.3 shall apply.

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) 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 8, Rule 49.

4.504.2.4 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:

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

TABLE 4.504.1 - ADHESIVE VOC LIMIT ^{1,2}

| ARCHITECTURAL APPLICATIONS | | VOC LIMIT |
|---|-----|-----------|
| (Less Water and Less Exempt Compounds in Grams per Liter) | | |
| 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 | 60 | |
| DRYWALL & PANEL ADHESIVES | 50 | |
| COVE BASE ADHESIVES | 50 | |
| MULTIPURPOSE CONSTRUCTION ADHESIVE | 70 | |
| STRUCTURAL GLAZING ADHESIVES | 100 | |
| SINGLE-PLY ROOF MEMBRANE ADHESIVES | 250 | |
| OTHER ADHESIVES NOT LISTED | 50 | |

CONT.

TABLE 4.504.1 - ADHESIVE VOC LIMIT ^{1,2}

| SPECIALTY APPLICATIONS | | VOC LIMIT |
|----------------------------------|-----|-----------|
| 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 | |

| SUBSTRATE SPECIFIC APPLICATIONS | | VOC LIMIT |
|---------------------------------|----|-----------|
| 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.

TABLE 4.504.2 - SEALANT VOC LIMIT

(Less Water and Less Exempt Compounds in Grams per Liter)

| SEALANTS | VOC LIMIT |
|--------------------------|-----------|
| ARCHITECTURAL | 250 |
| MARINE DECK | 760 |
| NONMEMBRANE ROOF | 300 |
| ROADWAY | 250 |
| SINGLE-PLY ROOF MEMBRANE | 450 |
| OTHER | 420 |

| SEALANT PRIMERS | VOC LIMIT |
|---------------------|-----------|
| ARCHITECTURAL | 250 |
| NON-POROUS | 250 |
| POROUS | 775 |
| MODIFIED BITUMINOUS | 500 |
| MARINE DECK | 760 |
| OTHER | 750 |

Adhesives, sealant and caulks used on the project shall meet the

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS ^{2,3}

| COATING CATEGORY | | VOC LIMIT |
|---|-----|-----------|
| GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS | | |
| FLAT COATINGS | 50 | |
| NON-FLAT COATINGS | 100 | |
| NONFLAT-HIGH GLOSS COATINGS | 150 | |

| SPECIALTY COATINGS | | VOC LIMIT |
|---|-----|-----------|
| 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 | 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 | |
| SHELLACS | | |
| CLEAR | 730 | |
| OPAQUE | 550 | |
| SPECIALTY PRIMERS, SEALERS & UNDERCOATERS | 100 | |
| STAINS | 250 | |

Adhesives, sealant and caulks used on the project shall meet the

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS ^{2,3}

| SPECIALTY COATINGS (CONT.) | | VOC LIMIT |
|------------------------------|-----|-----------|
| 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.

TABLE 4.504.5 - FORMALDEHYDE LIMITS ¹

| 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 ² | 0.13 |

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.
2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).

DIVISION 4.5 ENVIRONMENTAL QUALITY (CONT.)

4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the requirements of 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 1.2, January 2017 (Emission testing method for California Specification 01350).

See California Department of Public Health's website for certification programs and testing labs.

<https://www.cdph.ca.gov/Programs/CCDPHP/DEOD/CEHLB/IAQ/Pages/VOC.aspx>.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of 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 1.2, January 2017 (Emission testing method for California Specification 01350).

See California Department of Public Health's website for certification programs and testing labs.

<https://www.cdph.ca.gov/Programs/CCDPHP/DEOD/CEHLB/IAQ/Pages/VOC.aspx>.

4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.

4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall meet the requirements of 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 1.2, January 2017 (Emission testing method for California Specification 01350).

See California Department of Public Health's website for certification programs and testing labs.

<https://www.cdph.ca.gov/Programs/CCDPHP/DEOD/CEHLB/IAQ/Pages/VOC.aspx>.

4.504.5 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 for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5.

4.504.5.1 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:

1. Product certifications and specifications.
2. Chain of custody certifications.
3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards.
5. Other methods acceptable to the enforcing agency.

4.505 INTERIOR MOISTURE CONTROL

4.505.1 General. Buildings shall meet or exceed the provisions of the California Building Standards Code.

4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 13, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.

4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:

1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.
2. Other equivalent methods approved by the enforcing agency.
3. A slab design specified by a licensed design professional.

4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:

1. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.
2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified.
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.

Y NA RESPON PARTY

4.506 INDOOR AIR QUALITY AND EXHAUST

4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.

a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment.

b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)

Notes:

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.
2. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.

4.507 ENVIRONMENTAL COMFORT

4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:

1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.
2. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.
3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.

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:

1. State certified apprenticeship programs.
2. Public utility training programs.
3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
4. Programs sponsored by manufacturing organizations.
5. 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:

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

Notes:

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

[BSC] 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.

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OPTION #2

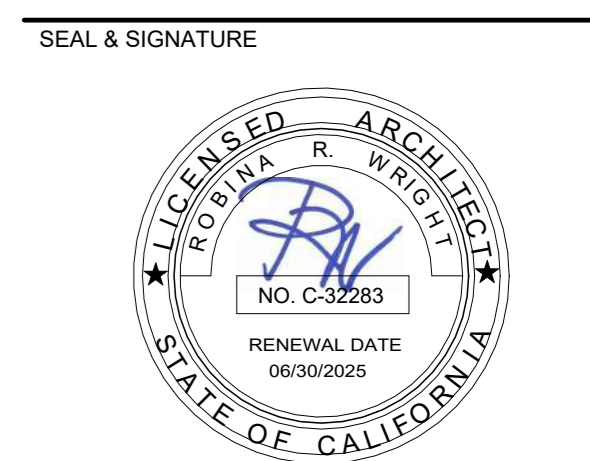
PROJECT
ACCESSORY DWELLING UNIT

PWP23-003

DEPARTMENT OF PUBLIC WORKS AND PLANNING



CAPITAL PROJECTS DIVISION
2220 Tulare St., Ste. 720, Fresno, CA. 93721
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UPDATE
JULY 5, 2023

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TYPICAL WOOD FRAMING DETAILS

SCALE 1/4" = 1'-0"

S-101

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| APRIL 12, 2023 | 2023_19 |
| DRAWN BY | CHECKED BY |
| RL | RW |

SAMPLE PLAN ONLY FOR PWP

NOT FOR CONSTRUCTION

0.125"Øx3" PDF @ 16"OC W/ WASHERS & 1" MIN PENETRATION OR 2X PRESSURE TREATED DOUGLAS FIR SILL W/ HILTI X-U FASTENER @ 32" O.C. ESR-2379

max. penetration = 1/3 of slab thickness

EDGE NAILING (E.N.) STAGGERED AT DOUBLE PLATES

FIELD NAILING- WALLS AND ROOF

8Ø MIN. @ 6" O.C. UNLESS NOTED OTHERWISE ON PLANS

2X MIN. 3X MIN.

3/8" 3/8"

STAGGERED NAILING DETAIL

1X4 DIAGONAL LET-IN BRACE AT 45° MIN. TO 60° MAX.

2X BLK'G. (U.O.N.) W/ 2-8d T.N. EA. CONT. (AT 8'-0" O.C.)

(3) 8d

PARTITION

CONT. STUD WALL

2-8d PER CONTACT

PARTITION WALL 16d @ 12" O.C. TYPICAL

(3) 8d

TYPICAL WALL ELEVATION E6

PARTIAL PLAN

B.N. = BOUNDARY NAILING E.N. = EDGE NAILING

SILL PLATE @ NON-LOAD BEARING WALL E10

(SJA35 (OR APPROVED EQUAL) AT 2x4; (SJA34 (OR APPROVED EQUAL) AT OTHERS; (SJA35 (OR APPROVED EQUAL))

F.A.-A F.A.-B F.A.-C

NOTES:
1. NAILS TO BE MINIMUM OF 8d COMMON x 1-8"

PLYWOOD SIDING NAILS E7

PLYWOOD SHEATHING

8D P.E.N. PER SHEAR WALL SCHEDULE

2X6 STUDS

16D @ 12" O.C. (TYP.)

PLYWOOD SHEATHING

2X6 STUDS

16D @ 12" O.C. (TYP.)

PLYWOOD SHEATHING

8D P.E.N. PER SHEAR WALL SCHEDULE

PLYWOOD SHEATHING

2X6 STUDS

16D @ 12" O.C. (TYP.)

INTERSECTION WITH SHEATHING INTERSECTION W/O SHEATHING EXTERIOR CORNER

TYPICAL WALL ELEVATION E6

E.O. LEDGER 1'-9" 1'-9" 1'-9"

ANCHOR BOLT

WHERE DEPTH OF NOTCH "B" IS GREATER THAN D/5 PROVIDE ANCHOR BOLT AT EA SIDE OF NOTCH AS SHOWN.

LEDGER

NOTE: DRILL HOLE IN CORNER PRIOR TO NOTCHING.

WOOD STUD

NOTE: WHEN Ø OF HOLE EXCEEDS D/3 IT SHALL BE TREATED AS A NOTCH.

FLOOR OR ROOF JOIST OR BMS SUPPORT (TO SUPPORT)

NOTES:
1. NOTCHES AND DRILLED HOLES AS SHOWN ABOVE MAY BE USED ONLY WITH THE APPROVAL OF THE SEOR.
2. DO NOT PLACE NOTCH BETWEEN SUPPORTS.

PURLINS & BEAMS

PLYWOOD NAILING E1

NOTCH 5" 3" MAX 5"

(8) 16d EA SIDE OF NOTCH (4 EA PL)

DRILLED HOLE

NOTE: WHERE DEPTH OF NOTCH IS GREATER THAN 1" PROVIDE 10GA STRAP W/ WIDTH SAME AS DBL TOP PL. TOP PL OF SHEARWALLS SHALL NOT BE NOTCHED UNLESS SPECIFICALLY DETAILED.

DOUBLE TOP PLATE

END OF SILL PL

5" MIN 9" MAX 5" MIN 9" MAX 5" MIN 9" MAX

8" MAX @ SHEAR WALL

DRILLED HOLE

NOTE:
WHERE DEPTH OF NOTCH "B" IS GREATER THAN D/5 PROVIDE ANCHOR BOLT EA SIDE OF NOTCH AS PER END REQUIREMENT. NO MORE THAN ONE NOTCH IS PERMITTED IN EVERY 12'-0" @ SHEARWALL.

SILL PL

TYPICAL FRAMING ANCHOR CONFIGURATION D10

6" MIN 9" MAX 6" MIN 9" MAX

CL BOL

SILL, PL

CL OF SPLICE

PLAN

LEDGER SEE PLAN

(2) MST48 CENTERED

CL OF SPLICE

TYPICAL STUD ANGLES & CORNERS, U.O.N. D7

2" OR 2 1/2" BOUNDARY & CONT. JOINT NAILING

PLYWOOD JOINT

TYPICAL CONDITION @ CORNER PL LAP

| NON-BEARING PARTITION HEADERS | | | |
|-------------------------------|---------------|---------------|---------------|
| SPAN | 2x4 STUD WALL | 2x6 STUD WALL | 2x8 STUD WALL |
| UP TO 8'-0" | (2) 2x6 | (3) 2x6 | (4) 2x6 |
| 8'-1" TO 10'-0" | (2) 2x8 | (3) 2x8 | (4) 2x8 |
| 10'-1" TO 12'-0" | (2) 2x10 | (3) 2x10 | (4) 2x10 |

NOTES:
1. SEE PLAN FOR HEADERS REQ'D @ BEARING WALLS.
2. SOLID HEADERS MAY BE USED W/ SAME THICKNESS & DEPTH AS BUILT-UP HEADERS SHOWN ABOVE.

NOTE: STUD SPACING = 16"OC NAILING = SEE NAILING SCHEDULE

4x LEDGER OR PURLINS

HOLES & NOTCHING IN WOOD FRAMING D1

LAP TOP PL 48" MIN (18) 16d @ TOP PL FOR SHEARWALLS, UNO PROVIDE (8) 16d FOR ALL OTHER WALLS

PROVIDE MIN (18) 16d @ 8"OC BTWN LAPPED TOP PL (TYP @ ALL WALLS)

TRUSSES OR JOISTS DEEPER THAN 12"

(2) (SJA35 FOR OPNG OVER 6'-0" WIDE, TOP & BOT)

CENTER STUD & JOIST

FULL HEIGHT HOLDDOWN POST WHERE OCCURS. SEE PLAN IF REQ'D.

(2) 16d EA END, EA PIECE, TOP & BOT, TYP

HDR PER PLAN OR SCHED FOR NON-BRG PARTITIONS (SHOWN BELOW)

2x BLKG, TYP

PROVIDE:
(1) 2x STUD, UP TO 6'-0" WIDE OPENING
(2) 2x STUDS, 6'-0"-10'-0" WIDE OPENING
(3) 2x STUDS, OVER 10'-0" WIDE OPENING

PLACE BOLTS TO MISS STUDS. SEE NOTES FOR BOLTING.

SILL PL. SEE NOTES.

(S) STRAP & BLKG. WHERE OCCURS, SEE PLAN

2x STUD TO SILL PL SAME WIDTH AS WALL STUDS (2) 2x STUDS OVER 10'-0" WIDE OPNG, UNO ON PLANS

NOTE: LOCATE BLKG FOR PLYWD SPLICES DBL PL @ SPANS GREATER THAN 4'-0"

6" MIN 9" MAX

2x FRAMING @ WINDOW OPNGS AS REQ'D.

SPLICE FOR SILL, PLATES, & LEDGERS A10

PLYWOOD NAILING A7

WALL & OPENING FRAMING A1

OPTION # 2

PROJECT ACCESSORY DWELLING UNIT

PWP23-003

DEPARTMENT OF PUBLIC WORKS AND PLANNING



CAPITAL PROJECTS DIVISION

2220 Tulare St., Ste. 720, Fresno, CA. 93721
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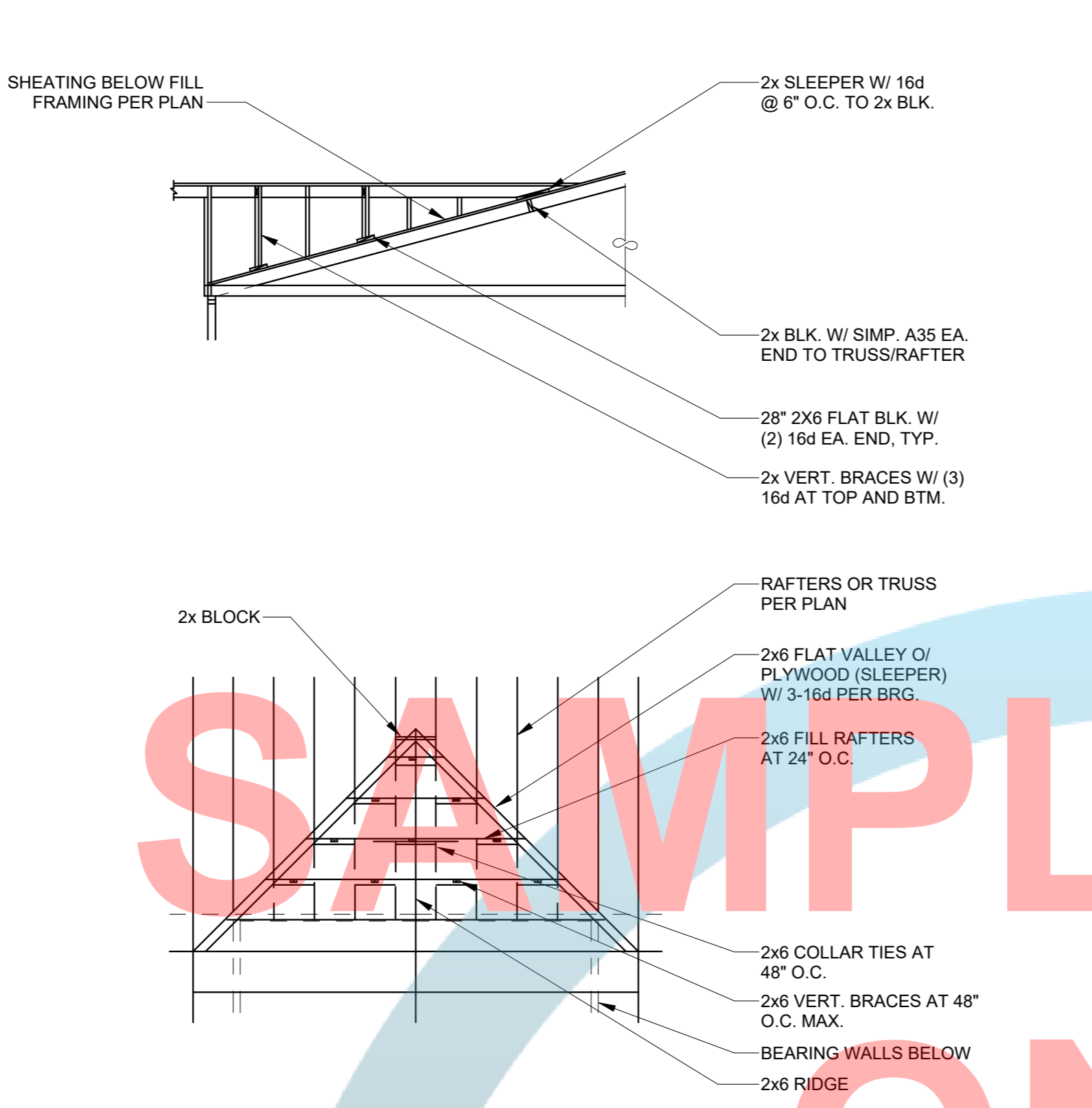
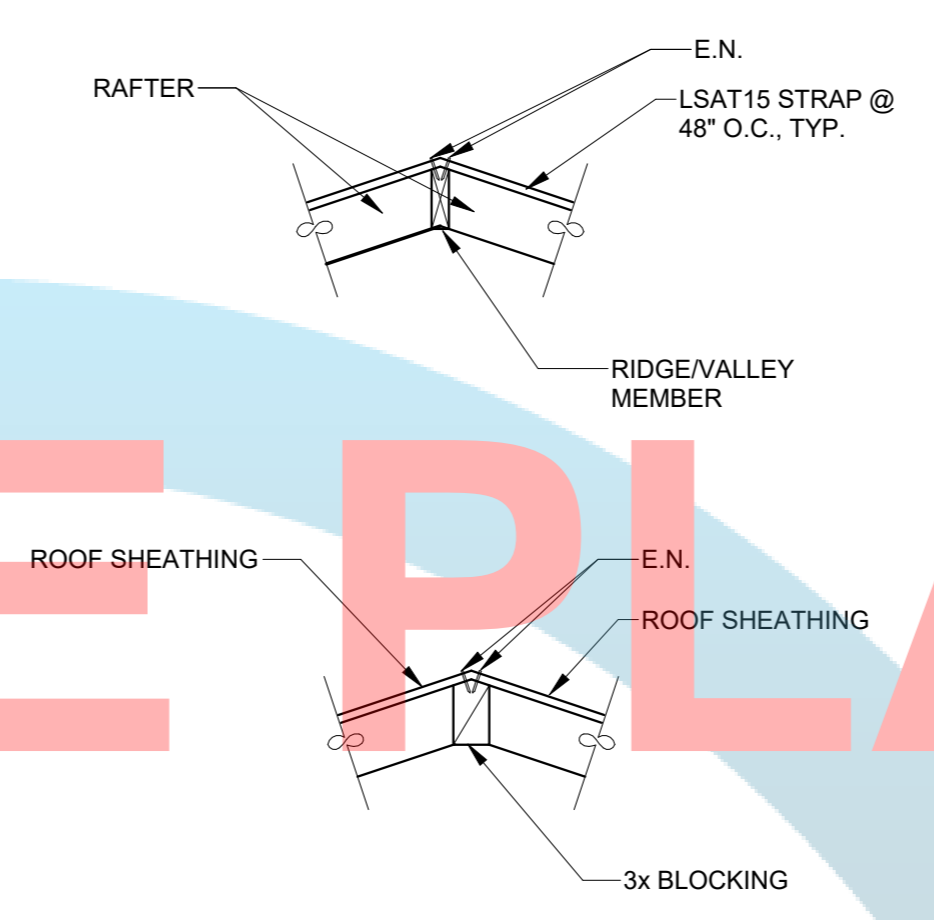
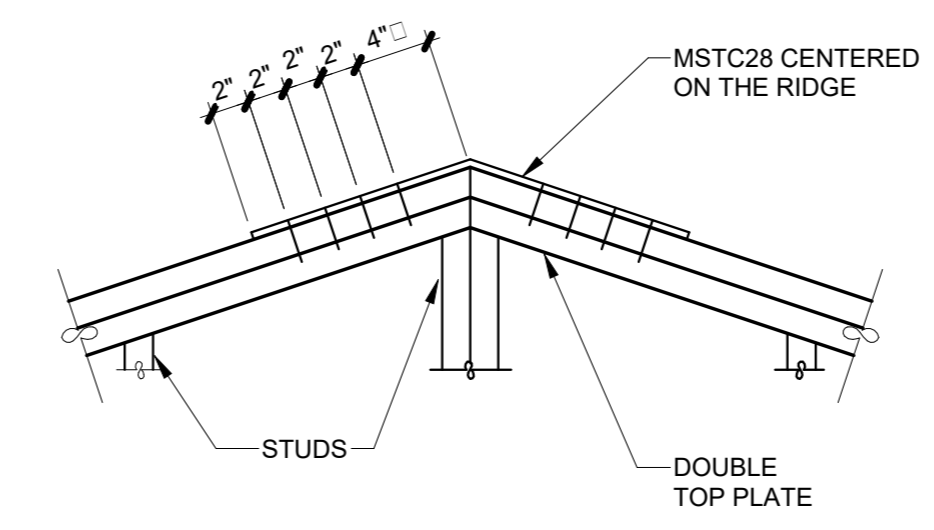
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SCALE As indicated

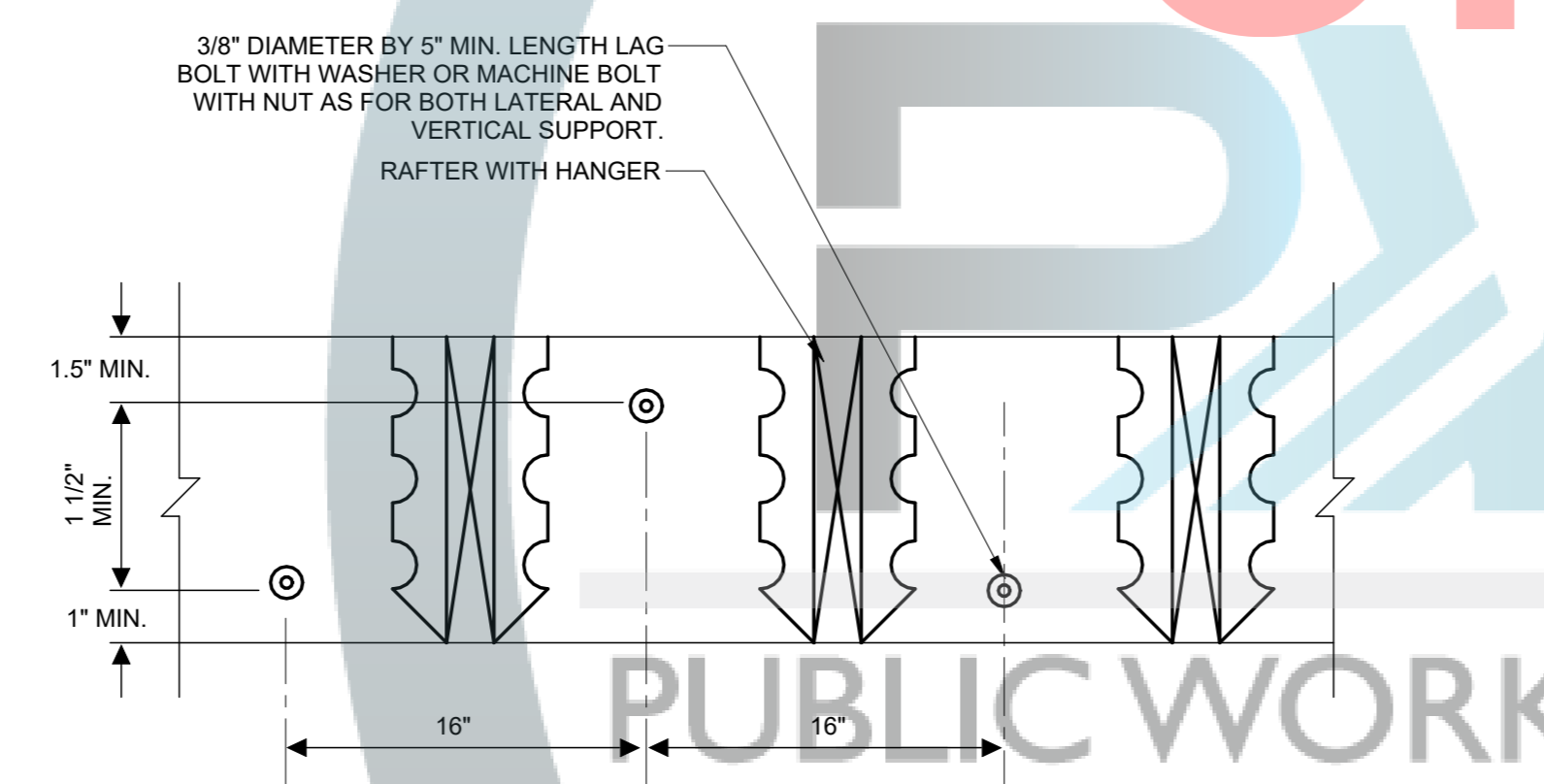
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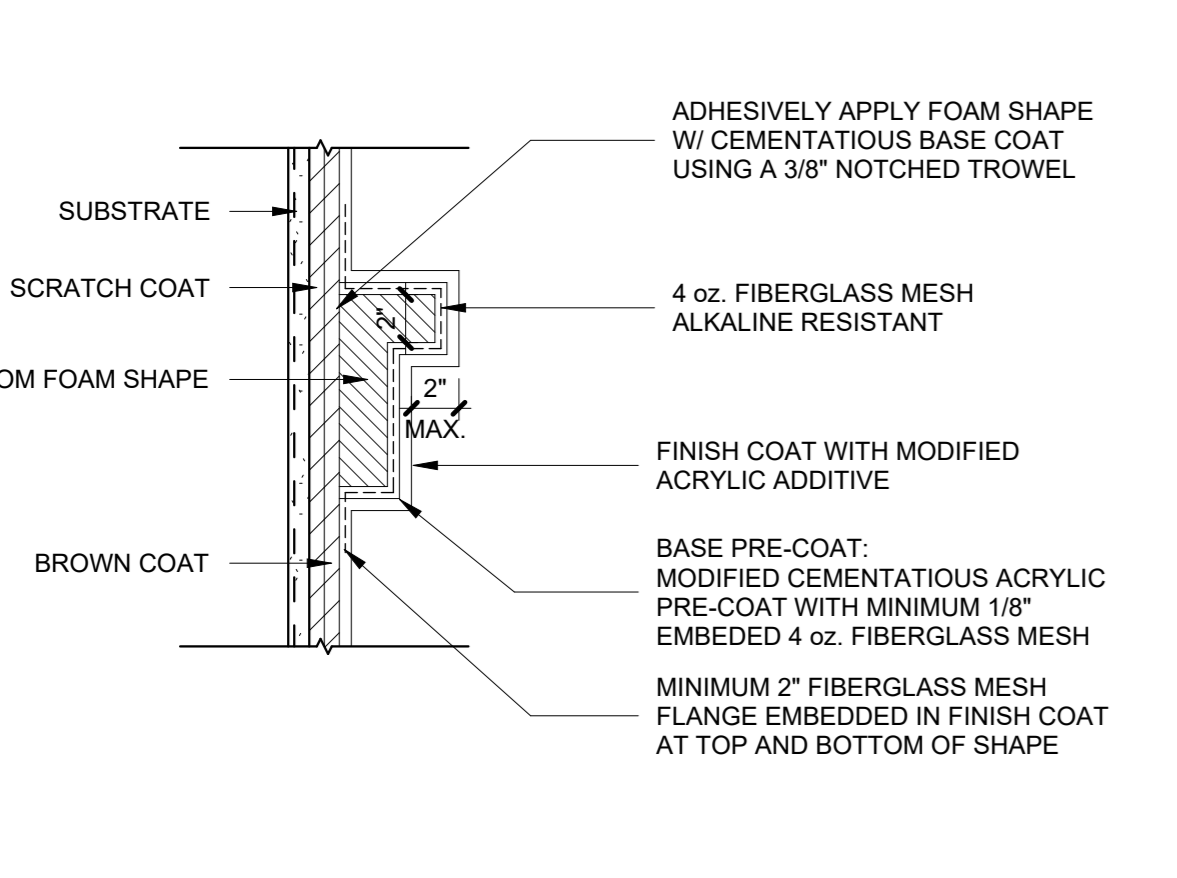
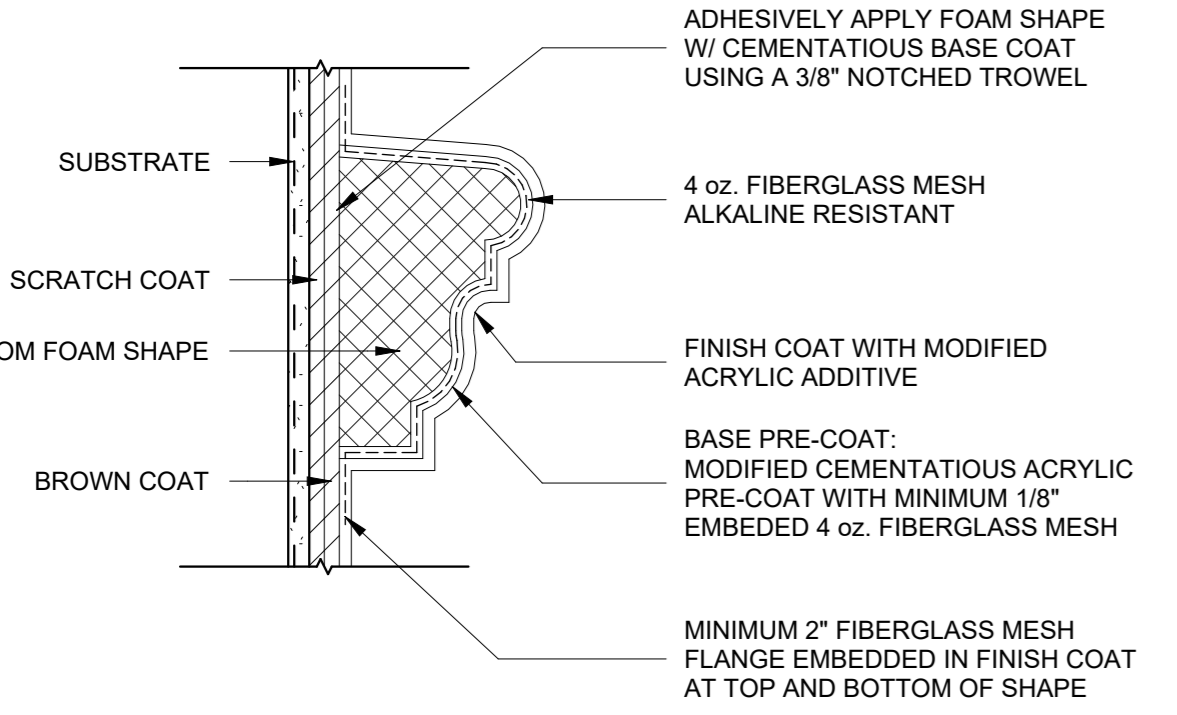
- ALL BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS.
- ALL WELDING OF STRUCTURAL STEEL MEMBERS SHALL BE DONE BY CURRENTLY CERTIFIED WELDERS AND DONE IN CONFORMANCE WITH THE A.I.S.C. AND A.W.S. SPECIFICATIONS. ALL WELDING SHALL BE ACCOMPLISHED USING THE SHIELD METAL ARC WELDING PROCESS (SMAW WITH E7-XX ELECTRODES OF THE SUBMERGED ARC WELDING PROCESS (SAW) WITH E7X-EXXX ELECTRODES OR THE FLUX-CORED ARC WELDING PROCESS (FCAW WITH E71-8 ELECTRODES. (E701-4 ELECTRODES ALLOWED FOR SHOP WELDING ONLY) LOW HYDROGEN ELECTRODES SHALL BE USED AND KEPT DRY, AND PARENT METALS SHALL BE PREHEATED IN ACCORDANCE WITH AWS STANDARDS. NO WELDING PERMITTED ON MEMBERS SUPPORTING LOADS.
- WHERE THE CONTRACTOR REQUESTS WELDING TO BE USED IN LIEU OF BOLTED CONNECTIONS SUCH WELDING SHALL BE DONE ONLY WITH THE ENGINEERS PRIOR APPROVAL.
- HOLES PUNCHED OR DRILLED IN BEAMS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE ON THE DRAWING: HOLES FOR BOLTS SHALL BE 1/16" LARGER THAN THE NOMINAL DIAMETER OF THE BOLT WHERE CONNECTION IS OF SHEAR TYPE, AND 3/16" LARGER WHERE CONNECTION IS OF BEARING TYPE ON CONCRETE OR MASONRY.
- ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL SHALL RECEIVE ONE SHOP COAT OF RED OXIDE OR ZINC CHROMATE OR APPROVED EQUAL BASE.
- ALL STRUCTURAL & MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS:
 - WIDE FLANGE MEMBERS (W, S, AND HP SHAPES) ARE TO BE ASTM A992 (Fy=50ksi) IN ACCORDANCE WITH AISC.
 - CHANNELS, ANGLES, TEES, AND MISCELLANEOUS AISC STEEL SHAPES ARE TO BE ASTM A36, Fy=36 KSI MIN. UNO
 - HIGH STRENGTH BOLTS: ASTM A325N 1/2" TO 1" DIAMETER INCLUSIVE Fy=92 KSI. 1 1/8" TO 1 1/2" DIAMETER INCLUSIVE Fy=81 KSI
 - ASTM A-307 BOLTS SHALL BE USED UNLESS OTHERWISE NOTED.
 - STRUCTURAL PIPE SHALL CONFORM TO A.S.T.M. A-53 GRADE "B" Fy=35 KSI. MIN.
 - STRUCTURAL TUBING SHALL CONFORM TO A.S.T.M. A-500 GRADE "C" Fy=50 KSI.
 - ANCHOR BOLTS: ASTM A307 TYPICAL.
 - HEADED STUDS: ASTM A108.
 - WELDING ELECTRODES: E70XX
 - ALL PLATES, MISC. SHAPES, AND STRUCTURAL SHAPES (AISC, etc.) USED AS PART OF A CONNECTION, DOUBLER PLATES, CONTINUITY PLATES, ETC. IN THESE PLANS SHALL BE MADE OF EQUAL MATERIAL (MATERIAL, PROPERTIES, GRADE, YIELD STRENGTH, ETC.) AS THE MAIN STRUCTURAL MEMBERS BEING CONNECTED. TYP.
- LIGHT GAUGE COLD-FORMED STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATIONS OF THE AISI - GENERAL - 04 AND AISI - NAS - 01
- LIGHT GAUGE STRUCTURAL STEEL SHALL BE SHAPED AS SHOWN IN THE A.I.S.I. DESIGN MANUAL, UNLESS SPECIFICALLY OTHERWISE CALLED FOR.
- ALL ENDS OF EXPOSED STRUCTURAL SHAPES AND TUBE STEEL MEMBERS SHALL HAVE 1/4" CAP PLATE WITH WELDS GRIND SMOOTH.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL TEMPORARY SUPPORTS REQUIRED FOR ERECTION. IF ERECTION BRACING IS REQUIRED IT IS TO BE PREPARED BY A LICENSED ENGINEER.
- ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST REVISED EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION, WHICH INCLUDES THE SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, THE CODE OF STANDARD PRACTICE AND THE AWS STRUCTURAL WELDING CODE.
- GROUTING OF COLUMN BASE PLATES: BASE PLATES SHALL BE DRYPACKED OR GROUTED WITH 1 1/2" NON-SHRINK GROUT OR EQUAL. MINIMUM COMPRESSIVE STRENGTH SHALL BE 4000 PSI AT 28 DAYS. ALL SURFACES SHALL BE PROPERLY CLEANED OF FOREIGN MATERIAL PRIOR TO THE GROUTING OPERATION.
- FULL PENETRATION WELDED CONNECTIONS (100%) AT MOMENT FRAMES, BRACED FRAMES, AND ALL FULL PENETRATIONS FIELD WELDS SHALL HAVE ULTRASONIC TESTING FOR COMPLIANCE WITH AISC 13th EDITION ULTRASONIC TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING AGENCY THAT HAS BEEN INSPECTED BY THE NATIONAL STANDARDS. TESTING INSPECTIONS SHALL BE QUALIFIED BY ASNT BUREAU OF RECOMMENDED PRACTICE SNT-TC-1. PROVIDE PROPER SURFACE PREP. AND BACKUP PLATES AS REQUIRED PER AISC AND AWS.
- ALL EXPOSED WELDS SHALL BE FILLED AND GROUND SMOOTH WHERE METAL COULD COME IN CONTACT WITH THE PUBLIC. UNLESS WELDS ARE PERMITTED BY THE PROJECT ARCHITECT.
- NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THRU STRUCTURAL STEEL MEMBERS. BOLT HOLES SHALL CONFORM TO AISC SPECIFICATION, AND SHALL BE STANDARD HOLES UNLESS OTHERWISE NOTED. NO CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT PRIOR CONSENT OF THIS ENGINEER.
- HIGH STRENGTH BOLTS WHERE INDICATED IN THE PLANS OR DETAILED SHALL CONFORM TO A.S.T.M. A325 OR A490, AND BE PROVIDED WITH HARDENED WASHERS CONFORMING TO A.S.T.M. F436. SLIP-CRITICAL TYPE BOLTS (A325-SC OR A490-SC) SHALL BE TWIST-OFF-TYPE TENSION-CONTROL BOLT ASSEMBLY. AT CONTRACTORS OPTION, THE COMBINATION OF HIGH STRENGTH BOLTS AND DIRECT TENSION LOAD INDICATING WASHERS CONFORMING TO ASTM F-959 ARE ACCEPTABLE SUBSTITUTIONS. CONTACT SURFACES SHALL BE CLEAN MILL SCALE OR CLASS A QUALIFIED COATINGS.
- ALL SHOP AND FIELD BOLTED CONNECTIONS SHALL BE IN ACCORDANCE WITH ASTM A-307 USING UNFINISHED AMERICAN STANDARD REGULAR BOLTS, UNLESS OTHERWISE NOTED. WHERE STEEL MEMBERS BEAR IN CONCRETE OR MASONRY WALLS, OPENINGS SHALL BE DRY-PACKED AFTER STEEL IS IN PLACE.
- PROVIDE SHOP DRAWINGS INDICATING SIZES, SPACING AND LOCATION OF JOISTS, GIRDERS, CONNECTIONS, BRIDGING, REINFORCING, ANCHORAGES, CAMBERS, AND LOADS. INDICATE WELDING CONNECTIONS USING STANDARD AWS WELDING SYMBOLS. INDICATE NEW WELD LENGTHS. INDICATE RECOMMENDED PROCEDURES FOR JOIST SEATS WITH UNSUFFICIENT BEARING.



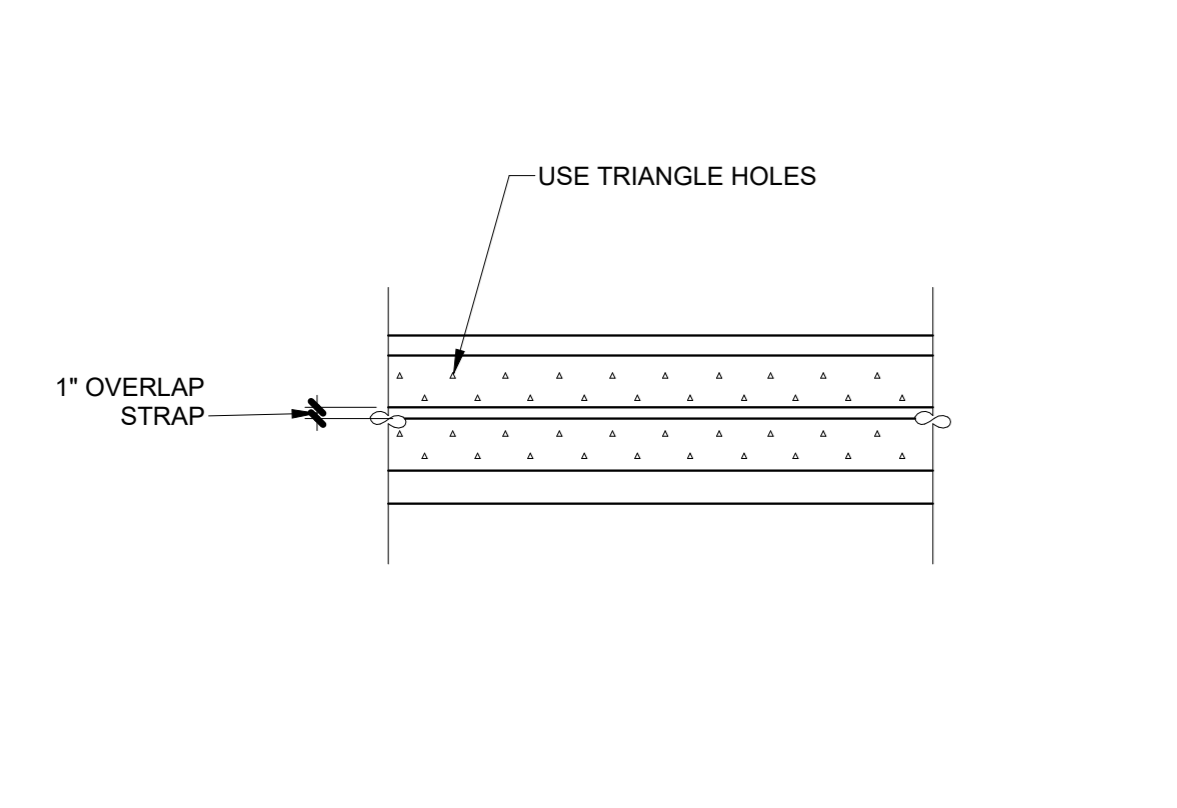
TYPICAL "CALIFORNIA FILL" FRAMING **F6** NTS



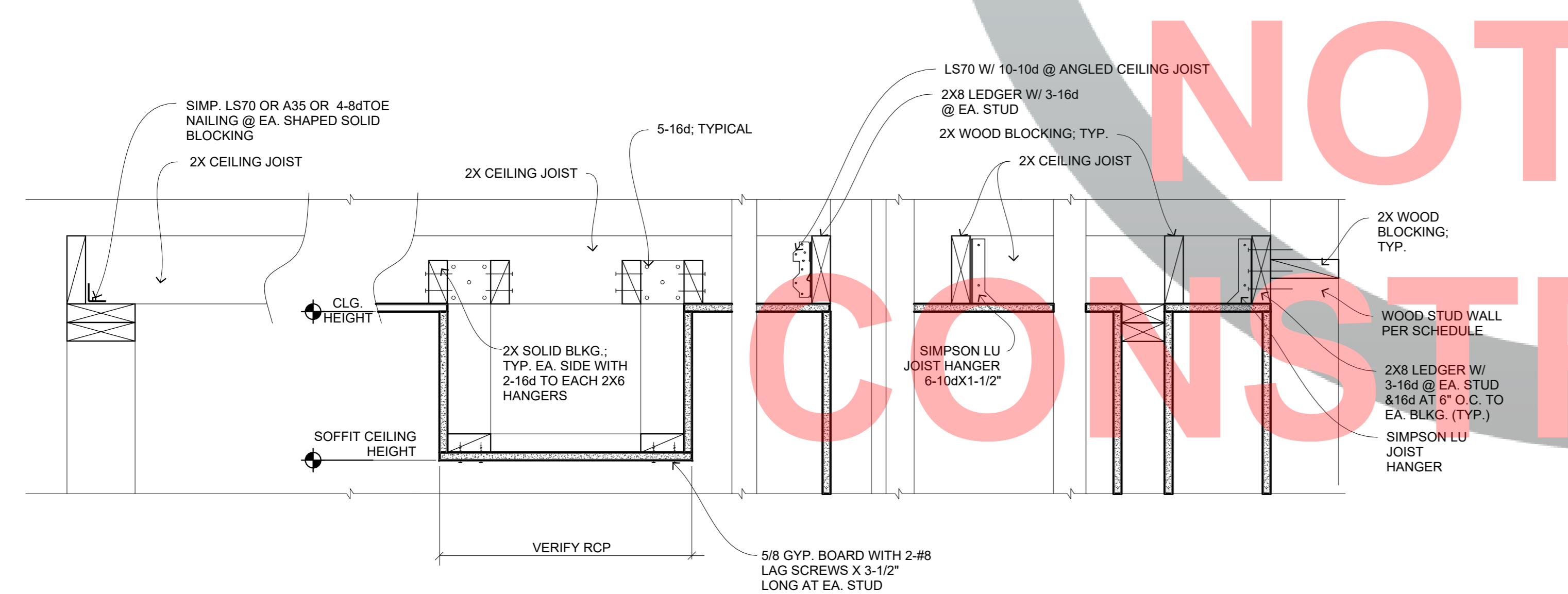
TYPICAL LEDGER DETAILS **D6** NTS



OPTIONAL FOAM TRIMS **F10** 1 1/2" = 1'-0"



DOUBLE STEEL COIL STRAP **D10** NTS



TYPICAL WOOD FRAMED CEILING **A6** NTS

GENERAL STUCTURAL STEEL NOTES **A1** NTS

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| TABLE R602.3(2) ALTERNATE ATTACHMENTS TO TABLE R602.3(1) | | | | |
|---|--|-----------------------------------|--------------------------------|--|
| NOMINAL MATERIAL THICKNESS (inches) | DESCRIPTION ^{a,b} OF FASTENER AND LENGTH (inches) | SPACING ^c OF FASTENERS | | |
| | | EDGES (inches) | INTERMEDIATE SUPPORTS (inches) | |
| WOOD STRUCTURAL PANELS SUBFLOOR, ROOF AND WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING^d | | | | |
| UP TO 1/2 | STAPLE 15 GA. 13/4 | 4 | 8 | |
| | 0.097 - 0.099 NAIL 21/4 | 3 | 6 | |
| | STAPLE 16 GA. 13/4 | 3 | 6 | |
| | 0.113 NAIL 2 | 3 | 6 | |
| 19/32 AND 5/8 | STAPLE 15 AND 16 GA. 2 | 4 | 8 | |
| | 0.097 - 0.099 NAIL 21/4 | 4 | 8 | |
| 23/32 AND 3/4 | STAPLE 14 GA. 2 | 4 | 8 | |
| | STAPLE 15 GA. 13/4 | 3 | 6 | |
| | 0.097 - 0.099 NAIL 21/4 | 4 | 8 | |
| | STAPLE 16 GA. 2 | 4 | 8 | |
| | STAPLE 14 GA. 21/4 | 4 | 8 | |
| | 0.113 NAIL 21/4 | 3 | 6 | |
| | STAPLE 15 GA. 21/4 | 4 | 8 | |
| | 0.097 - 0.099 NAIL 21/2 | 4 | 8 | |
| NOMINAL MATERIAL THICKNESS (inches) | DESCRIPTION ^{a,b} OF FASTENER AND LENGTH (inches) | SPACING ^c OF FASTENERS | | |
| | | EDGES (inches) | BODY OF PANEL (inches) | |
| FLOOR, UNDERLAYMENT, PLYWOOD-HARDBOARD-PARTICLEBOARD-FIBER-CEMENT^e | | | | |
| FIBER-CEMENT | | | | |
| | 3D, CORROSION-RESISTANT, RING SHANK NAILS (FINISHED FLOORING OTHER THAN TILE) | 3 | 6 | |
| | STAPLE 18 GA., 7/8 LONG, 1/4 CROWN (FINISHED FLOORING OTHER THAN TILE) | 3 | 6 | |
| 1/4 | 1 1/4 LONG X .121 SHANK X .375 HEAD DIAMETER CORROSION-RESISTANT (GALVANIZED OR STAINLESS STEEL) ROOFING NAILS (FOR TILE FINISH) | | 8 | |
| | 1 1/4 LONG NO. 8 X .375 HEAD DIAMETER, RIBBED WAFER-HEAD SCREWS (FOR TILE FINISH) | | 8 | |
| PLYWOOD | | | | |
| 1/4 AND 5/16 | 1 1/4 RING OR SCREW SHANK NAIL-MINIMUM 12 1/2 GA. (0.099") SHANK DIAMETER | 3 | 6 | |
| | STAPLE 18 GA., 7/8, 3/16 CROWN WIDTH | 2 | 5 | |
| 11/32, 3/8, 15/32, AND 1/2 | 1 1/4 RING OR SCREW SHANK NAIL-MINIMUM 12 1/2 GA. (0.099") SHANK DIAMETER | 6 | 8 | |
| 19/32, 5/8, 23/32 AND 3/4 | 1 1/2 RING OR SCREW SHANK NAIL-MINIMUM 12 1/2 GA. (0.099") SHANK DIAMETER | 6 | 8 | |
| | STAPLE 16 GA. 1 1/2 | 6 | 8 | |
| HARDBOARD^f | | | | |
| 0.200 | 1 1/2 LONG RING-GROOVED UNDERLAYMENT NAIL | 6 | 6 | |
| | 4D CEMENT-COATED SINKER NAIL | 6 | 6 | |
| | STAPLE 18 GA., 7/8 LONG (PLASTIC COATED) | 3 | 6 | |
| PARTICLEBOARD | | | | |
| 1/4 | 4D RING-GROOVED UNDERLAYMENT NAIL | 3 | 6 | |
| | STAPLE 18 GA., 7/8 LONG, 3/16 CROWN | 3 | 6 | |
| 3/8 | 6D RING-GROOVED UNDERLAYMENT NAIL | 6 | 10 | |
| | STAPLE 16 GA., 1 1/8 LONG, 3/8 CROWN | 3 | 6 | |
| 1/2, 5/8 | 6D RING-GROOVED UNDERLAYMENT NAIL | 6 | 10 | |
| | STAPLE 16 GA., 1 5/8 LONG, 3/8 CROWN | 3 | 6 | |
| FOR SI: 1 inch = 25.4 mm. | | | | |
| a. NAIL IS A GENERAL DESCRIPTION AND SHALL BE PERMITTED TO BE T-HEAD, MODIFIED ROUND HEAD OR ROUND HEAD. | | | | |
| b. STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF 7/16-INCH ON DIAMETER EXCEPT AS NOTED. | | | | |
| c. NAILS OR STAPLES SHALL BE SPACED AT NOT MORE THAN 6 INCHES IN CENTER AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR GREATER. NAILS OR STAPLES SHALL BE SPACED AT NOT MORE THAN 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS FOR FLOORS. | | | | |
| d. FASTENERS SHALL BE PLACED IN A FRID PATTERN THROUGHOUT THE BODY OF THE PANEL FOR 5-PLY PANELS, INTERMEDIATE NAILS SHALL BE SPACED NOT MORE THAN 12 INCHES ON CENTER EACH WAY. | | | | |
| e. HARDBOARD UNDERLAYMENT SHALL CONFORM TO CPA/ANSI A135.4 | | | | |
| f. SPECIFIED ALTERNATE ATTACHMENTS FOR ROOF SHEATHING SHALL BE PERMITTED WHERE THE ULTIMATE DESIGN WIND SPEED IS LESS THAN 130 MPH. FASTENERS ATTACHING WOOD STRUCTURAL PANEL ROOF SHEATHING TO GABLE END WALL FRAMING SHALL BE INSTALLED USING THE SPACING LISTED FOR PANEL EDGES. | | | | |
| g. FIBER-CEMENT UNDERLAYMENT SHALL CONFORM TO ASTM C 1288 OR ISO 8336, CATEGORY C. | | | | |

| TABLE R702.3.5 MINIMUM THICKNESS AND APPLICATION OF GYPSUM BOARD AND GYPSUM PANEL PRODUCTS | | | | | | |
|--|--|--|--|---------------------------------------|--|---|
| THICKNESS OF GYPSUM BOARD OR GYPSUM PANEL PRODUCTS (inches) | APPLICATION | ORIENTATION OF GYPSUM BOARD OR GYPSUM PANEL PRODUCT TO FRAMING | MAXIMUM SPACING OF FRAMING MEMBERS (inches O.C.) | MAXIMUM SPACING OF FASTENERS (inches) | SIZE OF NAILS FOR APPLICATION TO WOOD FRAMING ^a | |
| | | | | | | |
| APPLICATION WITHOUT ADHESIVE | | | | | | |
| 3/8 | CEILING ^d | PERPENDICULAR | 16 | 7 | 12 | 13 GAGE, 1 1/4" LONG, 19/64" HEAD, 0.088" DIAMETER |
| | WALL | EITHER DIRECTION | 16 | 8 | 16 | 1 1/4" LONG, ANNULAR-RINGED; OR 4d COOLER NAIL, 0.080" DIAMETER, 13/8" LONG, 7/32" HEAD. |
| 1/2 | CEILING | EITHER DIRECTION | 16 | 7 | 12 | 13 GAGE, 1 3/8" LONG, 19/64" HEAD, 0.088" DIAMETER; 1 1/4" LONG, ANNULAR-RINGED; OR 5d COOLER NAIL, 0.086" DIAMETER, 15/8" LONG, 15/64" HEAD; OR GYPSUM BOARD NAIL, 0.086" DIAMETER, 15/8" LONG, 9/32" HEAD. |
| | WALL | EITHER DIRECTION | 24 | 7 | 12 | 13 GAGE, 1 3/8" LONG, 19/64" HEAD, 0.088" DIAMETER, 13/8" LONG, ANNULAR-RINGED; OR 5d COOLER NAIL, 0.086" DIAMETER, 15/8" LONG, 15/64" HEAD; OR GYPSUM BOARD NAIL, 0.0915" DIAMETER, 17/8" LONG, 19/64" HEAD. |
| 5/8 | TYPE X AT GARAGE BENEATH HABITABLE ROOMS | PERPENDICULAR | 24 | 6 | 6 | 17/8" LONG 6d COATED NAILS OR EQUIVALENT DRYWALL SCREWS. SCREWS SHALL COMPLY WITH SECTION R702.3.5.1 |
| | WALL | EITHER DIRECTION | 24 | 8 | 12 | 13 GAGE, 1 5/8" LONG, 19/64" HEAD, 0.088" DIAMETER, 13/8" LONG, ANNULAR-RINGED; OR 5d COOLER NAIL, 0.086" DIAMETER, 17/8" LONG, 14" HEAD; OR GYPSUM BOARD NAIL, 0.0915" DIAMETER, 17/8" LONG, 19/64" HEAD. |
| APPLICATION WITH ADHESIVE | | | | | | |
| 3/8 | CEILING ^d | PERPENDICULAR | 16 | 16 | 16 | SAME AS ABOVE FOR 3/8" GYPSUM BOARD AND GYPSUM PANEL PRODUCTS. |
| | WALL | EITHER DIRECTION | 16 | 16 | 24 | |
| 1/2 OR 5/8 | CEILING ^d | PERPENDICULAR | 24 | 12 | 16 | SAME AS ABOVE FOR 1/2" AND 5/8" GYPSUM BOARD AND GYPSUM PANEL PRODUCTS, RESPECTIVELY. |
| | WALL | EITHER DIRECTION | 24 | 16 | 24 | |
| TWO 3/8 LAYERS | CEILING | PERPENDICULAR | 16 | 16 | 16 | BASE PLY NAILED AS ABOVE FOR 1/2" GYPSUM BOARD AND GYPSUM PANEL PRODUCTS; FACE PLY INSTALLED WITH ADHESIVE. |
| | WALL | EITHER DIRECTION | 24 | 24 | 24 | |
| FOR SI: 1 inch = 25.4 mm. | | | | | | |
| a. FOR APPLICATION WITHOUT ADHESIVE, A PAIR OF NAILS SPACED NOT LESS THAN 2 INCHES APART OR MORE THAN 2 1/2 INCHES APART SHALL BE PERMITTED TO BE USED WITH THE PAIR OF NAILS SPACED 12 INCHES ON CENTER. | | | | | | |
| b. SCREWS SHALL BE IN ACCORDANCE WITH SECTION R702.3.5.1. SCREWS FOR ATTACHING GYPSUM BOARD OR GYPSUM PANEL PRODUCTS TO STRUCTURAL INSULATED PANELS SHALL PENETRATE THE WOOD STRUCTURAL PANEL, FACING NOT LESS THAN 7/16 INCH. | | | | | | |
| c. WHERE COLD FORMED STEEL FRAMING IS USED WITH A CLINCHING DESIGN TO RECEIVE NAILS BY TWO EDGES OF METAL, THE NAILS SHALL BE NOT LESS THAN 5/8 INCH LONGER THAN THE GYPSUM BOARD OR GYPSUM PANEL PRODUCT THICKNESS AND SHALL HAVE RINGED SHANKS. WHERE THE COLD-FORMED STEEL FRAMING HAS A NAILING GROOVE FORMED TO RECEIVE THE NAILS, THE NAILS SHALL HAVE BARBED SHANKS OR BE 5D, 13 1/2 GAGE, 15/8 INCHES LONG, 15/64-INCH HEAD FOR 1/2-INCH GYPSUM BOARD OR GYPSUM PANEL PRODUCT, AND 6D, 13 GAGE, 17/8 INCHES LONG, 15/64-INCH HEAD FOR 5/8-INCH GYPSUM BOARD OR GYPSUM PANEL PRODUCT. | | | | | | |
| d. THREE-EIGHTHS-INCH THICK SINGLE-PLY GYPSUM BOARD OR GYPSUM PANEL PRODUCT SHALL NOT BE USED ON A CEILING WHERE A WATER-BASED TEXTURED FINISH IS TO BE APPLIED, OR WHERE IT WILL BE REQUIRED TO SUPPORT INSULATION ABOVE A CEILING. ON CEILING APPLICATIONS TO RECEIVE A WATER-BASED TEXTURE MATERIAL, EITHER HAND OR SPRAY APPLIED, THE GYPSUM BOARD OR GYPSUM PANEL PRODUCT SHALL BE APPLIED PERPENDICULAR TO FRAMING. WHERE APPLYING A WATER-BASED TEXTURE MATERIAL, THE MINIMUM GYPSUM BOARD THICKNESS SHALL BE INCREASED FROM 3/8 INCH TO 1/2 INCH FOR 16-INCH ON CENTER FRAMING, AND FROM 1/2 INCH TO 5/8 INCH FOR 24-INCH ON CENTER FRAMING OR 12-INCH SAG-RESISTANT GYPSUM CEILING BOARD SHALL BE USED. | | | | | | |

| TABLE R602.3(3) REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES | | | | | | | | | |
|--|----------------------|---|--|------------------------------------|---------------------|---------------------|------------------------|-----|-----|
| MINIMUM NAIL SIZE | PENETRATION (inches) | MINIMUM WOOD STRUCTURAL PANEL SPAN RATING | MINIMUM NOMINAL PANEL THICKNESS (inches) | MAXIMUM WALL STUD SPACING (inches) | PANEL NAIL SPACING | | PANEL NAIL SPACING | | |
| | | | | | EDGES (inches o.c.) | FIELD (inches o.c.) | WIND EXPOSURE CATEGORY | B | C |
| 6d COMMON (2.0" x 0.131") | 1.5 | 24/0 | 3/8 | 3/8 | 16 | 12 | 140 | 115 | 110 |
| 8d COMMON (2.5" x 0.131") | 1.75 | 24/16 | 7/16 | 7/16 | 16 | 12 | 170 | 140 | 135 |
| | | | | 7/16 | 24 | 12 | 140 | 115 | 110 |
| FOR SI: 1 inch = 25.4 mm, 1 MILE PER HOUR = 0.447 m/s | | | | | | | | | |
| a. PANEL STRENGTH AXIS PARALLEL OR PERPENDICULAR TO SUPPORTS. THREE-PLY PLYWOOD SHEATHING WITH STUDS SPACED MORE THAN 16 INCHES ON CENTER SHALL BE APPLIED WITH PANEL STRENGTH AXIS PERPENDICULAR TO SUPPORTS. | | | | | | | | | |
| b. TABLE IS BASED ON WIND PRESSURES ACTING TOWARD AND AWAY FROM BUILDING SURFACES IN ACCORDANCE WITH SECTION R301.2. LATERAL BRACING REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION R802.10. | | | | | | | | | |
| c. WOOD STRUCTURAL PANELS WITH SPAN RATINGS OF WALL-16 OR WALL-24 SHALL BE PERMITTED AS AN ALTERNATE TO PANELS WITH A 24/0 SPAN RATING. PLYWOOD SIDING RATED 16 O.C. OR 24 O.C. SHALL BE PERMITTED AS AN ALTERNATE TO PANELS WITH A 24/16 SPAN RATING. WALL-16 AND PLYWOOD SIDING 16 O.C. SHALL BE USED WITH STUDS SPACED NOT MORE THAN 16 INCHES ON CENTER. | | | | | | | | | |

| TABLE R602.3(4) ALLOWABLE SPANS FOR PARTICLE BOARD WALL SHEATHING | | | | |
|---|-------------------|--------------------------------|------------------------------------|--|
| THICKNESS (inches) | GRADE | STUD SPACING (inches) | | |
| | | WHEN SIDING IS NAILED TO STUDS | WHEN SIDING IS NAILED TO SHEATHING | |
| 3/8 | M-1 EXTERIOR GLUE | 16 | ---- | |
| 1/2 | M-2 EXTERIOR GLUE | 16 | 16 | |
| FOR SI: 1 inch = 25.4 mm. | | | | |
| a. WALL SHEATHING NOT EXPOSED TO THE WEATHER. IF THE PANELS ARE APPLIED HORIZONTALLY, THE END JOINTS OF THE PANEL SHALL BE OFFSET SO THAT FOUR PANEL CORNERS WILL NOT MEET. ALL PANEL EDGES MUST BE SUPPORTED. LEAVE A 1/16-INCH GAP BETWEEN PANELS AND NAIL NOT LESS THAN 3/8 INCH FROM PANEL EDGES. | | | | |

| TABLE R602.3 (1) FASTENING SCHEDULE | | | | |
|-------------------------------------|---|--|---|--|
| ITEM | DESCRIPTION OF BUILDING ELEMENTS | NUMBER AND TYPE OF FASTENERS ^{a,b,c} | SPACING AND LOCATION | |
| 1 | BLOCKING BETWEEN CEILING JOIST OR RAFTERS TO TOP PLATE | 4-8d BOX (2 1/2" x 0.113") OR 3-8d COMMON (2 1/2" x 0.131") OR 3-10d BOX (3" x 0.128") OR 3-3" x 0.131" NAILS | TOE NAIL | |
| 2 | CEILING JOIST TO TOP PLATE | 4-8d BOX (2 1/2" x 0.113") OR 3-8d COMMON (2 1/2" x 0.131") OR 3-10d BOX (3" x 0.128") OR 3-3" x 0.131" NAILS | PER JOIST TOE NAIL | |
| 3 | CEILING JOIST NOT ATTACHED TO PARALLEL RAFTERS, LAPS OVER PARTITION (SEE SECTION R802.3.1, R802.3.2 AND TABLE R802.5.1 (9)) | 4-10d BOX (2 1/2" x 0.113") OR 3-16d COMMON (3 1/2" x 0.162") OR 3-10d BOX (3" x 0.128") OR 4-3" x 0.131" NAILS | FACE NAIL | |
| 4 | CEILING JOIST ATTACHE TO PARALLEL RAFTER (HEEL JOINT) (SEE SECTION R802.3.1 AND R802.3.2 AND TABLE R802.5.1 (9)) | TABLE R802.5.1 (9) | FACE NAIL | |
| 5 | COLLAR TIE TO RAFTER, FACE NAIL OR 1 1/4" x 20ga. | 4-10d BOX (3" x 0.128") OR 3-10d COMMON (3" x 0.148") OR 4-3" x 0.131" NAILS | FACE NAIL EA. RAFTER | |
| 6 | RAFTER OR ROOF TRUSS TO PLATE | 3-16d BOX (3 1/2" x 0.135") OR 3-10d COMMON NAILS (3 1/2" x 0.148") OR 4-10d BOX (3" x 0.128") OR 4-3" x 0.131" NAILS | 2 TOE NAILS ON ONE SIDE AND 1 TOE NAIL ON OPPOSITE SIDE OF EACH RAFTER OR TRUSS | |
| 7 | ROOF RAFTERS TO RIDGE, VALLET OR HIP RAFTERS OR ROOF RAFTER TO MINIMUM 2" RIDGE BEAM | 4-16d BOX (3 1/2" x 0.135") OR 3-10d COMMON NAILS (3 1/2" x 0.148") OR 4-10d BOX (3" x 0.128") OR 4-3" x 0.131" NAILS | TOE NAIL | |
| | | 3-16d BOX (3 1/2" x 0.135") OR 3-16d COMMON (3 1/2" x 0.162") OR 3-10d BOX (3" x 0.128") OR 3-3" x 0.131" NAILS | END NAIL | |
| WALL | | | | |
| 8 | STUD TO STUD (NOT AT BRACED WALL PANELS) | 16d COMMON (3 1/2" x 0.162") OR 10d BOX (3" x 0.128") OR 3" x 0.131" NAILS | 24" O.C. FACE NAIL | |
| 9 | STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS) | 16d COMMON (3 1/2" x 0.162") OR 10d BOX (3" x 0.128") OR 3" x 0.131" NAILS | 12" O.C. FACE NAIL | |
| 10 | BUILT-UP HEADER (2" TO 2" HEADER WITH 1/2" SPACER) | 16d COMMON (3 1/2" x 0.162") OR 16d BOX (3" x 0.135") | 16" O.C. EACH EDGE | |
| 11 | CONTINUOUS HEADER TO STUD | 5-8d BOX (2 1/2" x 0.113") OR 4-8d COMMON (2 1/2" x 0.131") OR 4-10d BOX (3" x 0.128") | TOE NAIL | |
| 12 | TOP PLATE TO TOP PLATE | 16d COMMON (3 1/2" x 0.162") OR 10d BOX (3" x 0.128") OR 3" x 0.131" NAILS | 12" O.C. FACE NAIL | |
| 13 | DOUBLE TOP PLATE SPLICE FOR SDCs A-D2 WITH SEISMIC BRACED WALL LINE SPACING <25' | 8-16d BOX (3 1/2" x 0.135") OR 12-16d COMMON (3 1/2" x 0.162") OR 12-3" x 0.131" NAILS | PER JOIST TOE NAIL | |
| 14 | DOUBLE TOP PLATE SPLICE FOR SDCs D0, D1, D2, AND BRACED WALL LINE SPACING >25' | 12-16d (3 1/2" x 0.135") | FACE NAIL ON EACH SIDE OF END JOINT (MIN. 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT) | |
| 15 | BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANELS) | 16d COMMON (3 1/2" x 0.162") OR 16d BOX (3 1/2" x 0.135") OR 3" x 0.131" NAILS | 16" O.C. FACE NAIL | |
| 16 | TOP OR BOTTOM PLATE TO STUD | 16d BOX (3 1/2" x 0.135") OR 3-10d BOX (3" x 0.128") OR 3-3" x 0.131" NAILS | 12" O.C. FACE NAIL | |
| 17 | TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS | 3-10d BOX (3" x 0.128") OR 2-16d COMMON (3 1/2" x 0.162") OR 3-3" x 0.131" NAILS | FACE NAIL | |
| 18 | 1" BRACE TO EACH STUD AND PLATE | 3-8d BOX (2 1/2" x 0.113") OR 2-8d COMMON (2 1/2" x 0.131") OR 2-10d BOX (3" x 0.128") OR 2 STAPLES, 1" CROWN, 16ga, 1 3/4" LONG | FACE NAIL | |
| 19 | 1" x 6" SHEATHING TO EACH BEARING | 3-8d BOX (2 1/2" x 0.113") OR 2-8d COMMON (2 1/2" x 0.131") OR 2-10d BOX (3" x 0.128") OR 2 STAPLES, 1" CROWN, 16ga, 1 3/4" LONG | FACE NAIL | |
| 20 | 1" x 8" WIDER SHEATHING TO EACH BEARING | 3-8d BOX (2 1/2" x 0.113") OR 3-8d COMMON (2 1/2" x 0.131") OR 3-10d BOX (3" x 0.128") OR 3 STAPLES, 1" CROWN, 16ga, 1 3/4" LONG | FACE NAIL | |

| TABLE R602.3 (2) SINGLE TOP-PLATE SPLICE CONNECTION DETAILS | | | | |
|---|---------------------------------------|------------------------------------|--|-------------------------------------|
| CONDITION | TOP - PLATE SPLICE CONNECTION DETAILS | | | |
| | CORNERS AND INTERSECTING | MINIMUM NAILS EACH SIDE OF JOINT | SPLICE PLATE SIZE | MINIMUM NAILS EACH SIDE OF JOINT |
| STRUCTURE IN SDC D0, D1A AND D2, WITH BRACED WALL LINE SPACING GREATER THAN OR EQUAL TO 25 FEET | | (6) 8d BOX (2 1/2" x 0.113") NAILS | 3" x 12" x 0.036" GALVANIZED STEEL PLATE OR EQUIVALENT | (12) 8d BOX (2 1/2" x 0.113") NAILS |
| STRUCTURE IN SDC A-C, AND IN SDC D0, D1 AND D2 WITH BRACED WALL LINE SPACING LESS THAN 25 FEET | | (9) 8d BOX (2 1/2" x 0.113") NAILS | 3" x 8" x 0.036" GALVANIZED STEEL PLATE OR EQUIVALENT | (18) 8d BOX (2 1/2" x 0.113") NAILS |
| FOR SI: 1 inch = 25.4 mm, 1 FOOT = 304.8 mm. | | | | |

| TABLE R602.3 (2) SINGLE TOP-PLATE SPLICE CONNECTION DETAILS | | | | |
|---|---------------------------------------|------------------------------------|--|-------------------------------------|
| CONDITION | TOP - PLATE SPLICE CONNECTION DETAILS | | | |
| | CORNERS AND INTERSECTING | MINIMUM NAILS EACH SIDE OF JOINT | SPLICE PLATE SIZE | MINIMUM NAILS EACH SIDE OF JOINT |
| STRUCTURE IN SDC D0, D1A AND D2, WITH BRACED WALL LINE SPACING GREATER THAN OR EQUAL TO 25 FEET | | (6) 8d BOX (2 1/2" x 0.113") NAILS | 3" x 12" x 0.036" GALVANIZED STEEL PLATE OR EQUIVALENT | (12) 8d BOX (2 1/2" x 0.113") NAILS |
| STRUCTURE IN SDC A-C, AND IN SDC D0, D1 AND D2 WITH BRACED WALL LINE SPACING LESS THAN 25 FEET | | (9) 8d BOX (2 1/2" x 0.113") NAILS | 3" x 8" x 0.036" GALVANIZED STEEL PLATE OR EQUIVALENT | (18) 8d BOX (2 1/2" x 0.113") NAILS |
| FOR SI: 1 inch = 25.4 mm, 1 FOOT = 304.8 mm. | | | | |

500 SQ. FT. MODEL (515 SQ. FT.)

OPTION #2

ACCESSORY DWELLING UNIT

PWP23-003

DEPARTMENT OF PUBLIC WORKS AND PLANNING



CAPITAL PROJECTS DIVISION

2220 Tulare St., Ste. 720, Fresno, CA. 93721
Phone: (559) 262-4212 Fax: (559) 262-4879



RENEWAL DATE: 06/30/2025
UPDATE: JULY 5, 2023

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FASTENING SCHEDULE (RESIDENTIAL)

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

S-103

ISSUE DATE: APRIL 12, 2023
JOB NUMBER: 2023_19
DRAWN BY: Author
CHECKED BY: Checker

7/12/2023 12:30:37 PM 24" x 36"

OPTION #2

PROJECT
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PWP23-003

DEPARTMENT OF PUBLIC WORKS AND PLANNING



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2220 Tulare St., Ste. 720, Fresno, CA. 93721
Phone: (559) 262-4212 Fax: (559) 262-4879

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TITLE
STRUCTURAL PLANS

SCALE As indicated

S-201

| | |
|----------------|------------|
| ISSUE DATE | JOB NUMBER |
| APRIL 12, 2023 | 2023_19 |
| DRAWN BY | CHECKED BY |
| Author | Checker |

GENERAL NOTES

R401.4.1.1 GENERAL AND WHERE REQUIRED FOR APPLICATIONS LISTED IN SECTION 1.8.2.1.1 REGULATED BY THE DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT FOUNDATIONS AND SOILS INVESTIGATIONS SHALL BE CONDUCTED IN CONFORMANCE WITH HEALTH AND SAFETY CODE SECTIONS 17953 THROUGH 17957 AS SUMMARIZED BELOW.

R401.4.1.1.1 PRELIMINARY SOIL REPORT EACH CITY, COUNTY, OR CITY AND COUNTY SHALL ENACT AN ORDINANCE WHICH REQUIRES A PRELIMINARY SOIL REPORT, PREPARED BY A CIVIL ENGINEER WHO IS REGISTERED BY THE STATE. THE REPORT SHALL BE BASED UPON ADEQUATE TEST BORINGS OR EXCAVATIONS, OF EVERY SUBDIVISION, WHERE A TENTATIVE AND FINAL MAP IS REQUIRED PURSUANT TO SECTION 66426 OF THE GOVERNMENT CODE. THE PRELIMINARY SOIL REPORT MAY BE WAIVED IF THE BUILDING DEPARTMENT OF THE CITY, COUNTY OR CITY AND COUNTY, OR OTHER ENFORCEMENT AGENCY CHARGED WITH THE ADMINISTRATION AND ENFORCEMENT OF THE PROVISIONS OF SECTION R401.4.1.1, SHALL DETERMINE THAT, DUE TO THE KNOWLEDGE SUCH DEPARTMENT HAS AS TO THE SOIL QUALITIES OF THE SOIL OF THE SUBDIVISION OR LOT, NO PRELIMINARY ANALYSIS IS NECESSARY.

R401.4.1.1.2 SOIL INVESTIGATION BY LOT, NECESSITY, PREPARATION AND RECOMMENDATIONS IF THE PRELIMINARY SOIL REPORT INDICATES THE PRESENCE OF CRITICALLY EXPANSIVE SOILS OR OTHER SOIL PROBLEMS WHICH, IF NOT CORRECTED, WOULD LEAD TO STRUCTURAL DEFECTS, SUCH ORDINANCE SHALL REQUIRE A SOIL INVESTIGATION OF EACH LOT IN THE SUBDIVISION. THE SOIL INVESTIGATION SHALL BE PREPARED BY A CIVIL ENGINEER WHO IS REGISTERED IN THIS STATE. IT SHALL RECOMMEND CORRECTIVE ACTION WHICH IS LIKELY TO PREVENT STRUCTURAL DAMAGE TO EACH DWELLING PROPOSED TO BE CONSTRUCTED ON THE EXPANSIVE SOIL.

R401.4.1.1.3 APPROVAL, BUILDING PERMIT CONDITIONS, APPEAL THE BUILDING DEPARTMENT OF EACH CITY, COUNTY OR CITY AND COUNTY, OR OTHER ENFORCEMENT AGENCY CHARGED WITH THE ADMINISTRATION AND ENFORCEMENT OF THE PROVISIONS OF THIS CODE, SHALL APPROVE THE SOIL INVESTIGATION IF IT DETERMINES THAT THE RECOMMENDED ACTION IS LIKELY TO PREVENT STRUCTURAL DAMAGE TO EACH DWELLING TO BE CONSTRUCTED, AS A CONDITION TO THE BUILDING PERMIT. THE ORDINANCE SHALL REQUIRE THAT THE APPROVED RECOMMENDED ACTION BE INCORPORATED IN THE CONSTRUCTION OF EACH DWELLING. APPEAL FROM SUCH DETERMINATION SHALL BE TO THE LOCAL APPEALS BOARD.

R401.4.1.1.4 LIABILITY A CITY, COUNTY, OR CITY AND COUNTY OR OTHER ENFORCEMENT AGENCY CHARGED WITH THE ADMINISTRATION AND ENFORCEMENT OF THE PROVISIONS OF SECTION R401.4.1.1, IS NOT LIABLE FOR ANY INJURY WHICH ARISES OUT OF ANY ACT OR OMISSION OF THE CITY, COUNTY OR CITY AND COUNTY, OR OTHER ENFORCEMENT AGENCY, OR A PUBLIC EMPLOYEE OR ANY OTHER PERSON UNDER SECTION R401.4.1.1.1, R401.4.1.1.2 OR R401.4.1.1.3.

R401.4.1.1.5 ALTERNATE PROCEDURES THE GOVERNING BODY OF ANY CITY, COUNTY, OR CITY AND COUNTY MAY ENACT AN ORDINANCE PRESCRIBING AN ALTERNATE PROCEDURE WHICH IS EQUAL TO OR MORE RESTRICTIVE THAN THE PROCEDURES SPECIFIED IN SECTIONS R401.4.1.1.1, R401.4.1.1.2 AND R401.4.1.1.3.

R401.4.2 COMPRESSIBLE OR SHIFTING SOIL INSTEAD OF A COMPLETE GEOTECHNICAL EVALUATION, WHERE TOP OR SUBSOILS ARE COMPRESSIBLE OR SHIFTING, THEY SHALL BE REMOVED TO A DEPTH AND WIDTH SUFFICIENT TO ENSURE STABLE MOISTURE CONTENT IN EACH ACTIVE ZONE AND SHALL NOT BE USED AS FILL OR STABILIZED WITHIN EACH ACTIVE ZONE BY CHEMICAL, DEWATERING OR PRESATURATION.

| FOOTING ID | PAD SIZE | LUMBER GRADE | | H inches |
|------------|--------------------------|--------------|-------|------------|
| | | # REQ'D | BAR # | |
| F1 | 1'-0" WIDE CONT. FOOTING | 2 | 4 | SEE DETAIL |
| F2 | 1'-4" SQUARE | 2 | 4 | SEE DETAIL |

FOUNDATION NOTES

- THE CONTRACTOR MUST READ & UNDERSTAND ALL STANDARDS NOTES & DETAILS BEFORE BEGINNING CONSTRUCTION OR FABRICATION.
- ALL UNCLEAR AND / OR MISSING DETAILS OR INFO. SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE PROCEEDING WITH CONSTRUCTION.
- ALL CONCRETE PLACEMENT SHALL MEET WITH THE 2022 CALIFORNIA BUILDING CODE REQUIREMENTS.
- CONCRETE SHALL BE PROTECTED ADEQUATELY FROM INJURIOUS ACTION BY THE SUN, RAIN, WIND, FLOWING WATER, FROST AND MECHANICAL INJURY, AND SHALL NOT BE ALLOWED TO DRY OUT FROM THE TIME IT IS PLACED UNTIL THE EXPIRATION OF THE MINIMUM CURING PERIOD. A FINE FOG SPRAY SHALL BE USED TO REDUCE PLASTIC SHRINKAGE CRACKS AFTER FINISHING OPERATIONS. IMMEDIATELY AFTER THE NET CONCRETE HAS BEEN BROUGHT TO A FLAT SURFACE AND THE SHINY SURFACE HAS DISAPPEARED, ADDITIONAL MOISTURE SHALL BE APPLIED TO RESTORE SHINE, USING AN ATOMIZING TYPE FOG SPRAYER. FREQUENT LIGHT APPLICATION OF MOISTURE SHALL BE PROVIDED AS REQUIRED BY NEITHER CONDITIONS.
- SLOPE ALL LANDINGS AND WALKWAYS AWAY FROM THE BUILDING.
- FOUNDATION WALLS SHALL EXTEND AT LEAST 8" ABOVE THE FINISHED GRADE ADJACENT TO THE FOUNDATION AT ALL POINTS. FOR MASONRY OR CONCRETE CONSTRUCTION, THE MINIMUM FOUNDATION WALL WILL BE 6 INCHES.
- WOOD SOLE PLATES AT ALL EXTERIOR WALLS ON MONOLITHIC SLABS, WOOD SOLE PLATES OF BRACED WALL PANELS AT BUILDING INTERIORS ON MONOLITHIC SLABS AND ALL WOOD SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH MINIMUM 1/2-INCH-DIAMETER ANCHOR BOLTS SPACED NOT GREATER THAN 6 FEET ON CENTER OR APPROVED ANCHORS OR ANCHOR STRAPS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2-INCH-DIAMETER ANCHOR BOLTS.
- BOLTS SHALL EXTEND NOT LESS THAN 7 INCHES INTO CONCRETE OR GROUTED CELLS OF CONCRETE MASONRY UNITS. THE BOLTS SHALL BE LOCATED IN THE MIDDLE THIRD OF THE WIDTH OF THE PLATE. A NUT AND WASHER SHALL BE TIGHTENED ON EACH ANCHOR BOLT. THERE SHALL BE NOT FEWER THAN TWO BOLTS PER PLATE SECTION WITH ONE BOLT LOCATED NOT MORE THAN 12 INCHES OR LESS THAN SEVEN BOLT DIAMETERS FROM EACH END OF THE PLATE SECTION.
- INTERIOR BEARING WALL SOLE PLATES ON MONOLITHIC SLAB FOUNDATION THAT ARE NOT PART OF A BRACED WALL PANEL SHALL BE POSITIVELY ANCHORED WITH APPROVED FASTENERS, SILL PLATES AND SOLE PLATES SHALL BE PROTECTED AGAINST DECAY AND TERMITES WHERE REQUIRED BY SECTIONS R317 AND R318. ANCHOR BOLTS SHALL BE PERMITTED TO BE LOCATED WHILE CONCRETE IS STILL PLASTIC AND BEFORE IT HAS SET, WHERE ANCHOR BOLTS RESIST PLACEMENT OR THE CONSOLIDATION OF CONCRETE AROUND ANCHOR BOLTS IS IMPEDED, THE CONCRETE SHALL BE VIBRATED TO ENSURE FULL CONTACT BETWEEN THE ANCHOR BOLTS AND CONCRETE.
- ALL DISTURBED OR FILL SOIL UNDER CONCRETE SHALL BE COMPACTED TO A MINIMUM OF 40% RELATIVE COMPACTION PER ASTM STANDARD D-1557, INCLUDING RETAINING WALL BACKFILL.
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND BRING ANY OMISSIONS OR DISCREPANCIES TO THE ATTENTION OF THE ENGINEER.
- HOLD-DOWN HARDWARE MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION FINISH GRADE FOR THE FIRST 1 FOOT FROM THE FOUNDATION SHALL SLOPE MINIMUM OF 5% ON ALL SIDES. THIS INCLUDES ANY IMPERVIOUS SURFACES.
- WOOD FRAMING MEMBERS THAT REST ON EXTERIOR FOUNDATION WALL AND ARE LESS THAN 8" FROM EXPOSED EARTH SHALL BE ON NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD.
- PONDER DRIVEN FASTENERS SHALL NOT BE USED IN STEM WALLS LESS THAN 5 1/2" WIDE OR GREATER THAN 5 1/2" HIGH.
- THE FASTENERS AND CONNECTORS IN DIRECT CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.

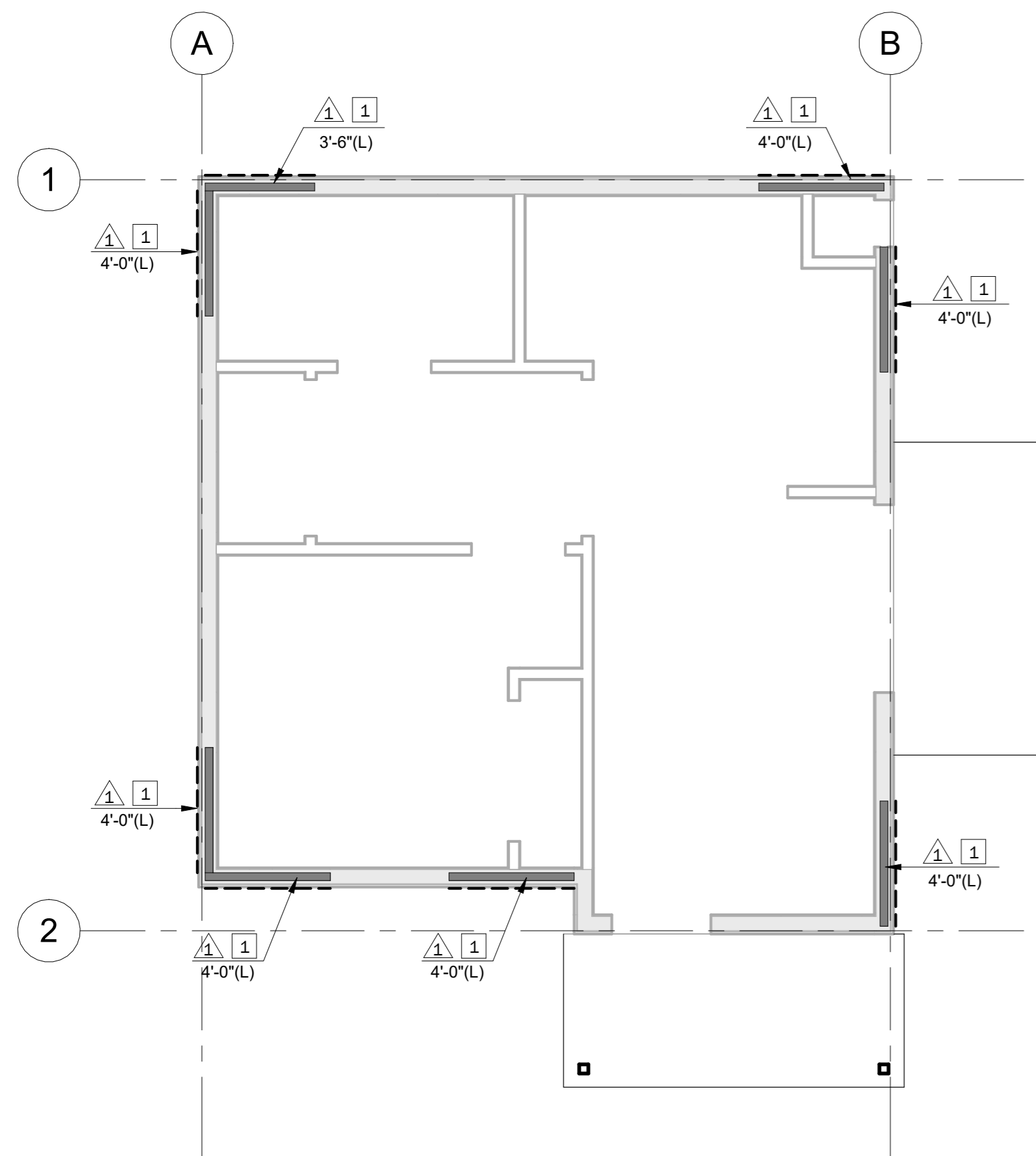
| ROOF BEAM SCHEDULE | | |
|--------------------|----------------|--------------|
| BEAM ID | SIZE | LUMBER GRADE |
| B1 | 6 x 8 | DF NO. 2 |
| B2 | 6 x 8 | DF NO. 2 |
| B3 | 4 x 8 or 6 x 8 | DF NO. 2 |
| B4 | 6 x 12 | DF NO. 2 |

TRUSS NOTES

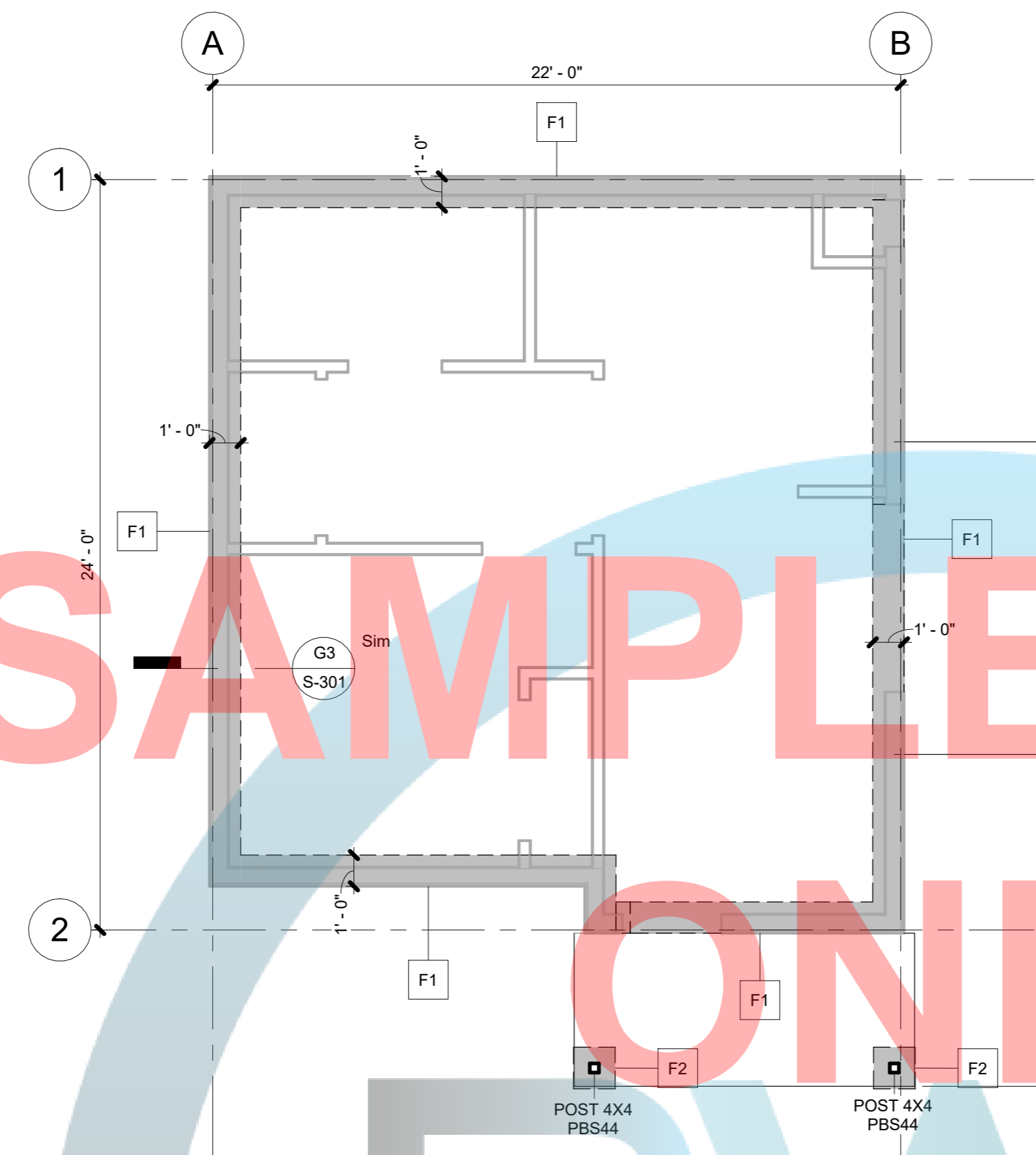
- STRUCTURAL CALCULATIONS SHALL BE PROVIDED BY TRUSS MANUFACTURER FOR ALL TRUSS TYPES AND SHALL INCLUDE SUPPORT FOR MECHANICAL UNIT, PLATFORM AND ACCESS CATWALK.
- TRUSS FABRICATOR SHALL PROVIDE A SCHEMATIC LAYOUT OF ALL TRUSSES SEQUENCE OF ERECTION AND INSTALLATION TO THE DESIGNER FOR REVIEW PRIOR TO PROCEEDING WITH CONSTRUCTION.
- TRUSS-TO-TRUSS CONNECTIONS AND OTHER DETAILS RELATED TO TRUSSES SHALL BE VERIFIED BY TRUSS FABRICATOR, INCLUDING BRACING, STRONG BACKS AND ERECTION DETAILS.
- ALL TRUSSES AND TRUSS DRAWINGS SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND DRAWINGS.
- THE TRUSS DRAWINGS AND STRUCTURAL CALCULATIONS SHALL BE SUPPLIED BY THE TRUSS MANUFACTURER AND SUBMITTED FOR APPROVAL PRIOR TO BUILDING PERMITS BEING ISSUED.
- TRUSS MANUFACTURER SHALL VERIFY ALL DIMENSIONS AT JOB SITE AND BRING ANY DISCREPANCIES WITH THESE PLANS TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO TRUSS FABRICATION.
- THE GENERAL CONTRACTOR SHALL NOT PERMIT DRILLING, CUTTING OR ANY OTHER DAMAGE TO TRUSSES.
- MAINTAIN 1/4" CLEARANCE BETWEEN TOP PLATE OF NON BEARING WALLS AND BOTTOM CHORDS OF TRUSSES, PROVIDE "SIMPSON" (OR EQ) ST TRUSS CLIP AT 48" O.C. (MAX) AT SUCH LOCATION.
- PROVIDE 2 X 4 CONTINUOUS BRACING AT 10'-0" O.C. MAX. TO BOTTOM CHORDS OR AS REQUIRED BY TRUSS MANUFACTURER.
- THE CONTRACTOR SHALL INSTALL TEMPORARY HORIZONTAL AND CROSS BRACING TO HOLD TRUSSES PLUMB AND IN SAFE CONDITION.
- INSTALL PERMANENT BRACING PRIOR TO LOADING TRUSSES.
- PROVIDE SIMPSON CONNECTORS AT E.A. TRUSS END (TYPICAL).
- INSTALL X BRACE AT BOTH ENDS AND AT 20' O.C. PER PLANS.
- APPROVED TRUSS DRAWINGS MUST BE ON JOB SITE FOR INSPECTION PURPOSES.

TRUSSES ARE UNDER A DEFERRED SUBMITTAL.

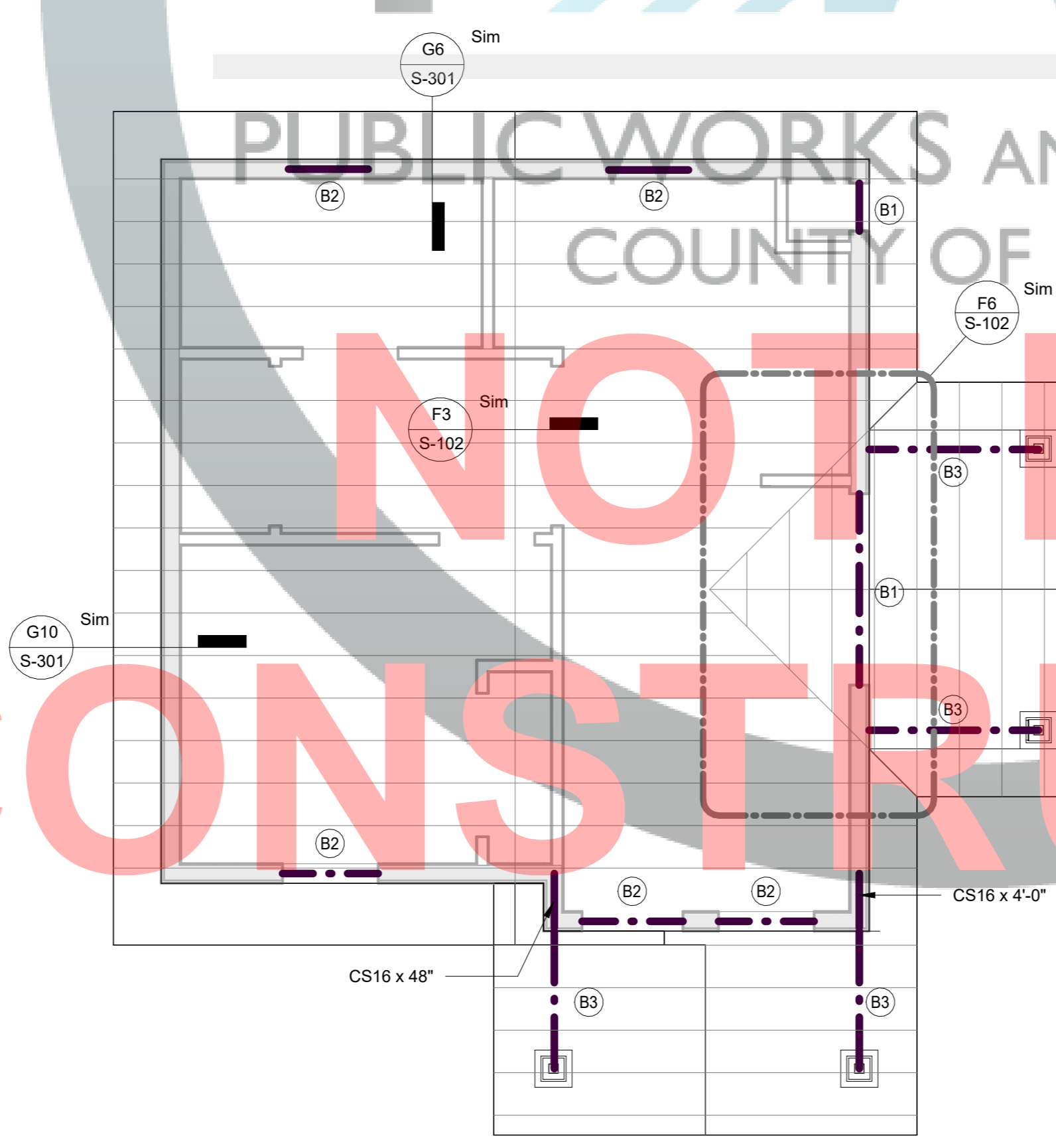
- THE OWNER / BUILDER IS RESPONSIBLE FOR SUBMITTING ALL ITEMS LISTED UNDER THE DEFERRED SUBMITTAL AS REQUIRED BY THE RELEVANT AUTHORITIES. THIS INCLUDES ANY ADDITIONAL DOCUMENTS, PERMITS, OR INFORMATION THAT WERE NOT INCLUDED IN THE PRE-APPROVED PLANS.
- THE OWNER IS RESPONSIBLE IN SELECTING A TRUSS COMPANY TO SUPPLY THE TRUSSES. THE TRUSS COMPANY THAT WILL SUPPLY THE TRUSSES SHALL PROVIDE ADDITIONAL DOCUMENTS AND INFORMATION AS REQUIRED BY RELEVANT AUTHORITIES.
- ALL TRUSS MANUFACTURERS SHALL HAVE AN "IN PLANT" INSPECTION BY AN APPROVED AGENCY PER CRC R106.1. SUBMIT CERTIFICATION TO THE FRESNO COUNTY DEVELOPMENT SERVICES DIVISION.



SHEAR WALL PLAN E8
1/4" = 1'-0"

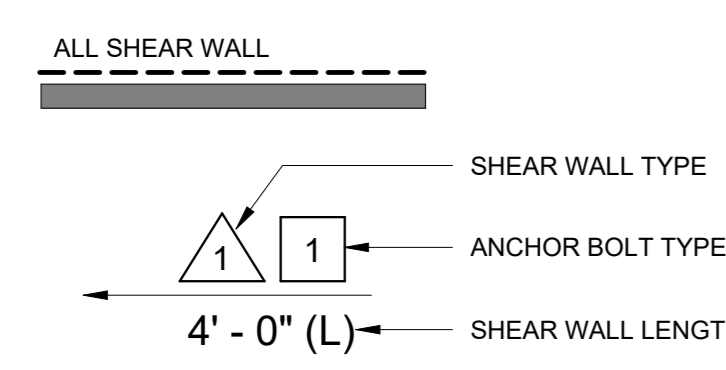


FOUNDATION PLAN E3
1/4" = 1'-0"



ROOF FRAMING PLAN A3
1/4" = 1'-0"

LEGEND



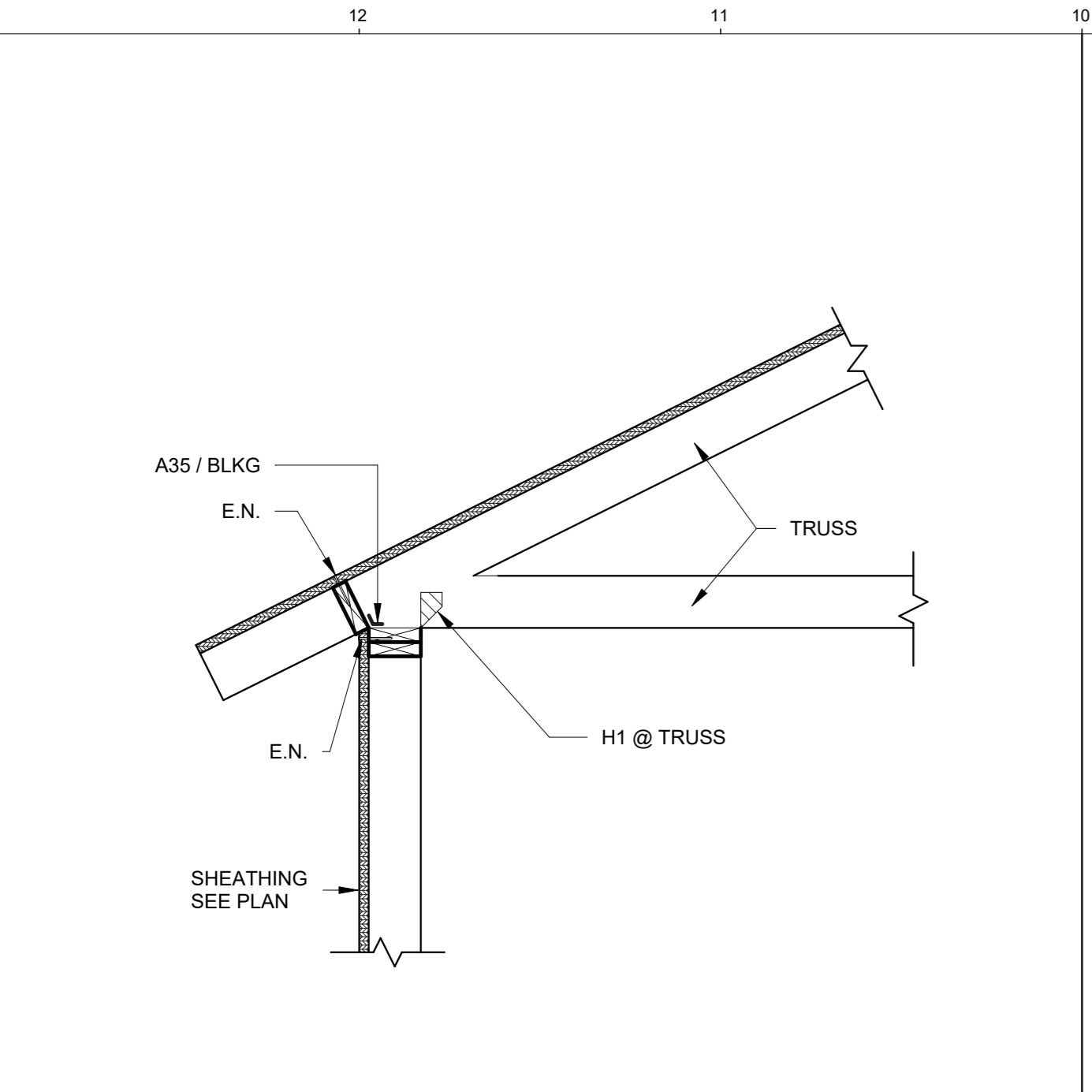
| SHEAR WALL SCHEDULE | | CAPACITY | |
|---------------------|---------------------------|----------|---------|
| TYPE | SHEATHING | Seismic | Wind |
| 1 | 3/8" APA STRUCTURAL PANEL | 260 plf | 365 plf |
| | 24/0 CDX or OSB | | |

- NOTE:**
- ALL PANEL EDGES TO BE BLOCKED UNO
 - NAILS TO BE COMMON NAILS UNO
 - **PROVIDE 3X OR DBL STUDS AT ADJOINING EDGES
 - ** STAGGER NAILS

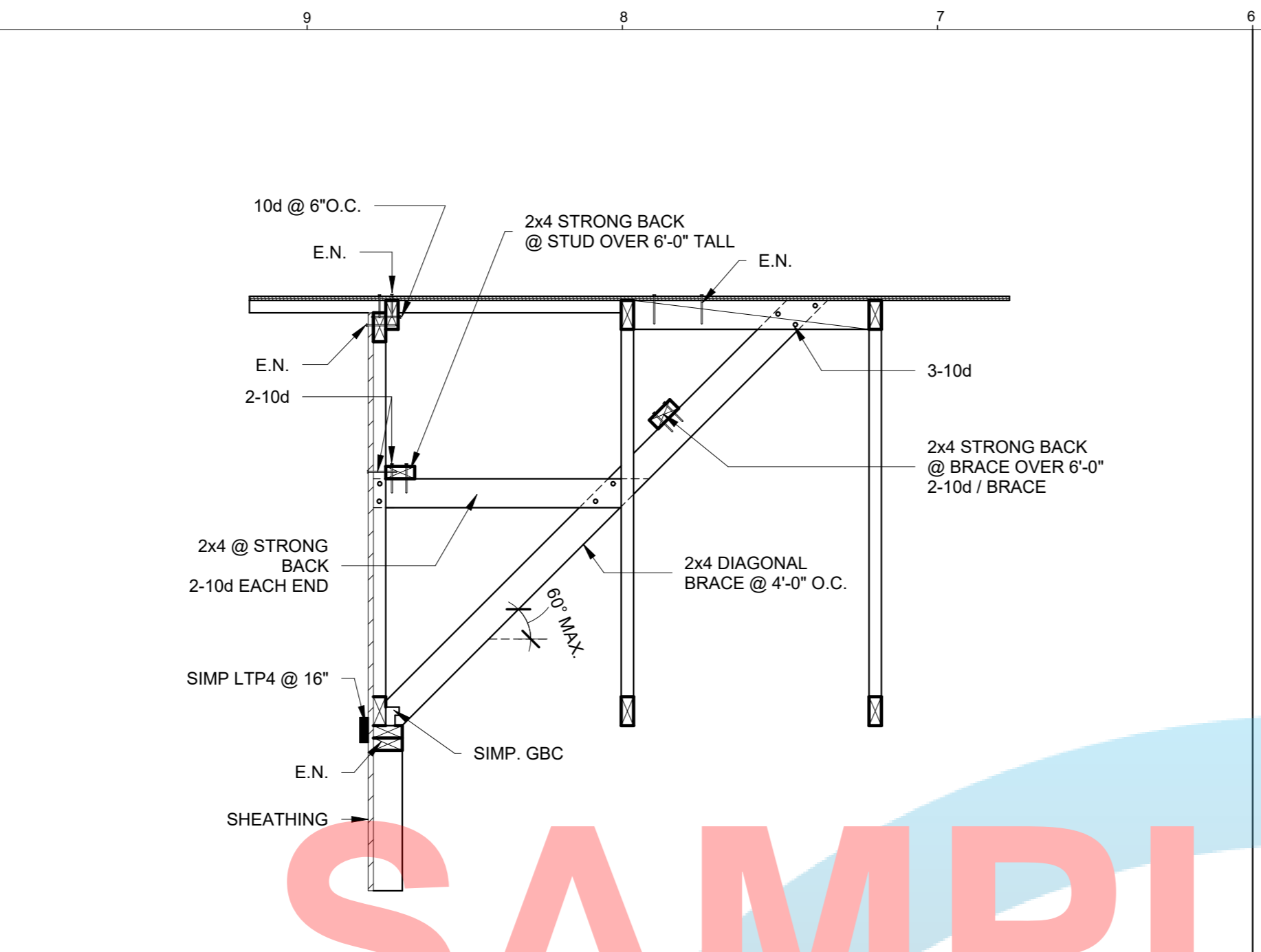
| ANCHOR BOLT SCHEDULE | | | |
|----------------------|---------------------------|-----------------------|---------|
| TYPE | ANCHOR BOLTS | ALLOWABLE LOADS (PLF) | |
| | | 2x Sill | 3x Sill |
| 1 | 1/2" Ø x 10" @ 6'-0" o.c. | 173 | 205 |

- NOTE:**
- PROVIDE 3" SOX 0.299" WASHERS AT ANCHOR BOLTS
 - PROVIDE 2 AB MIN PER SHEAR WALL PANEL
 - PROVIDE 7" MIN. EMBEDMENT IN CONCRETE.
 - SILL PLATES TO BE PRESSURE TREATED DF.
 - FASTENERS IN P.T. WOOD SHALL BE HOT-DIPPED ZINC-COATED GAL-STEEL.

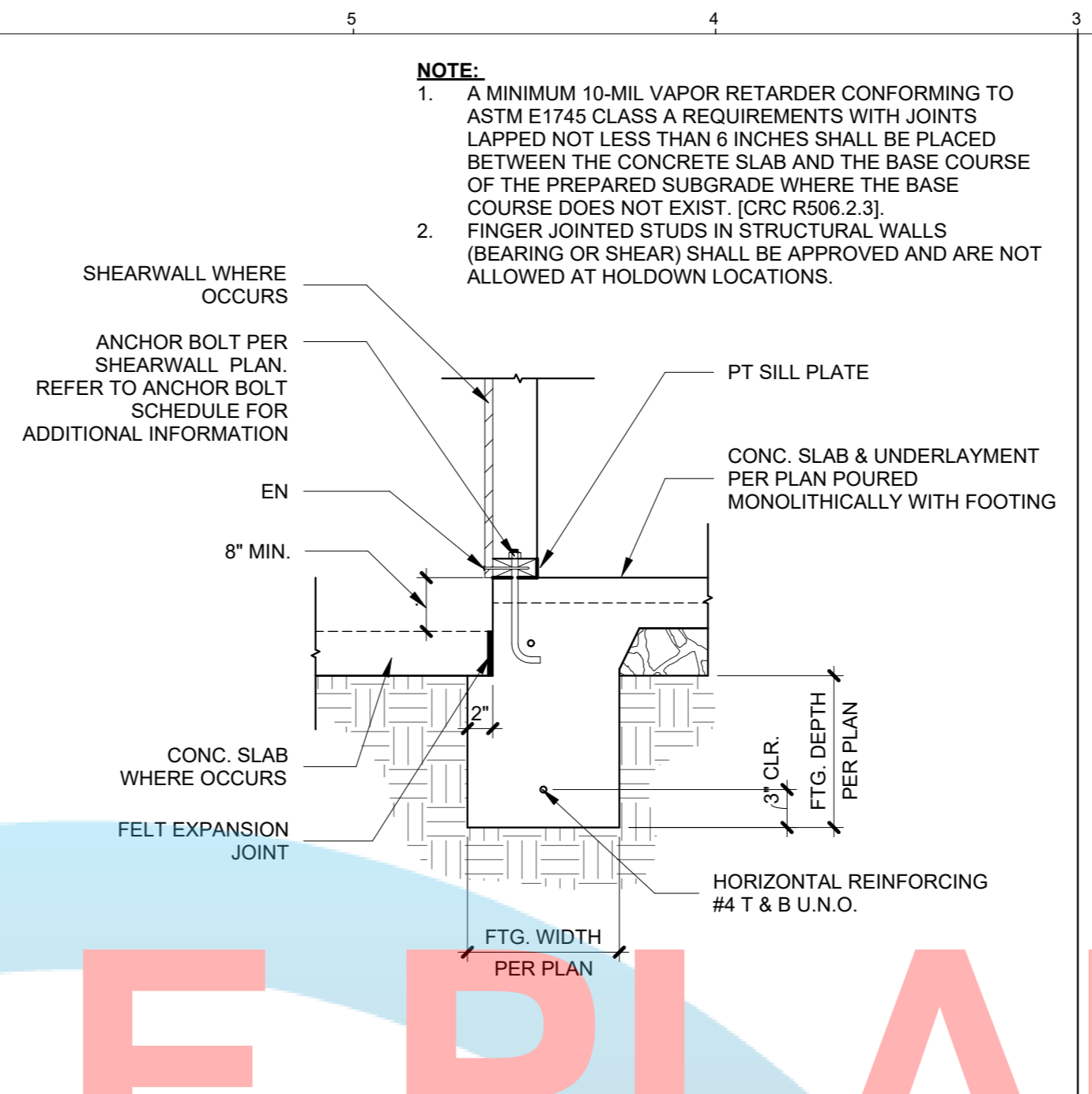
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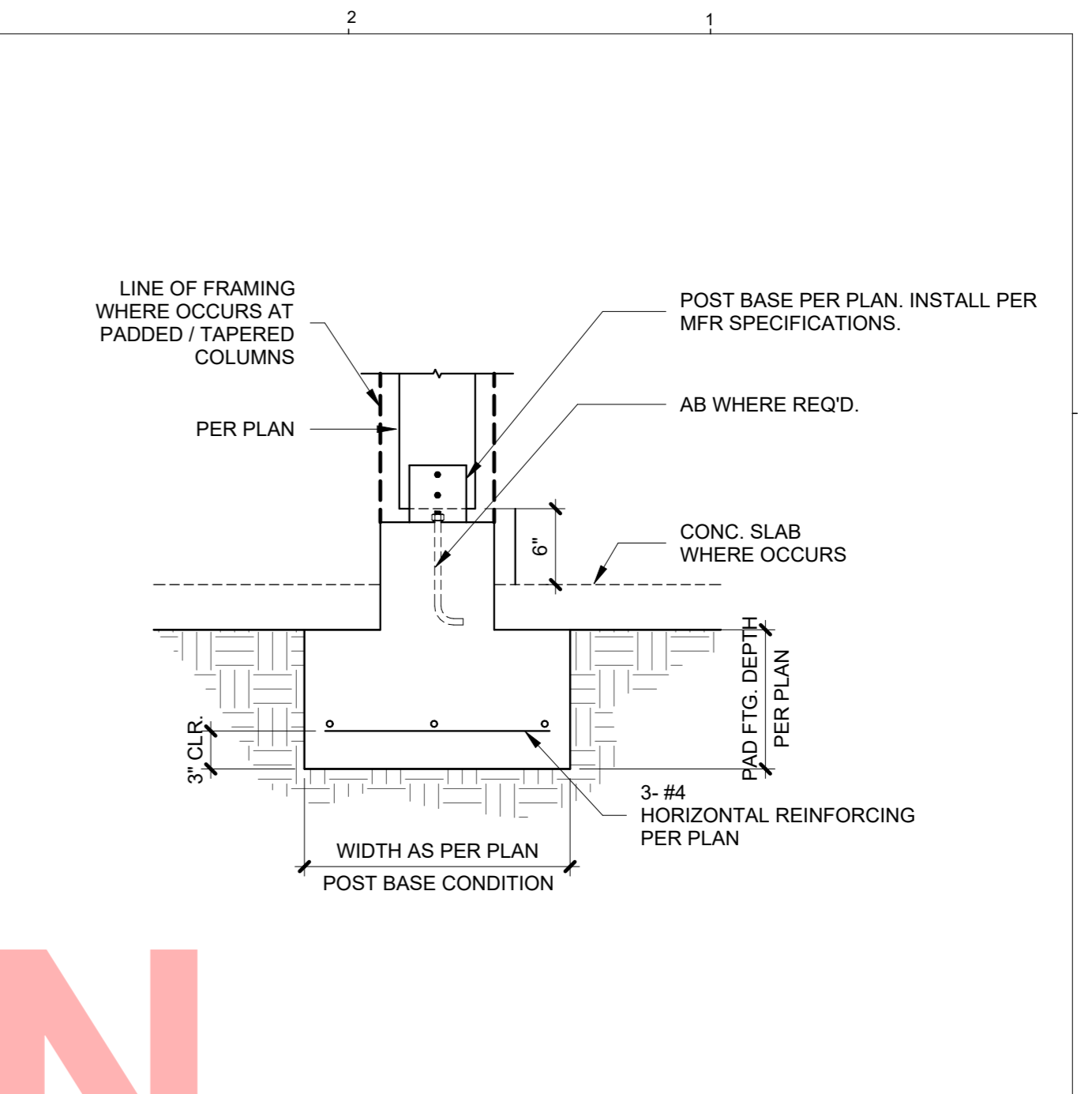
STRUCTURAL DETAIL A
3/4" = 1'-0" **G10**



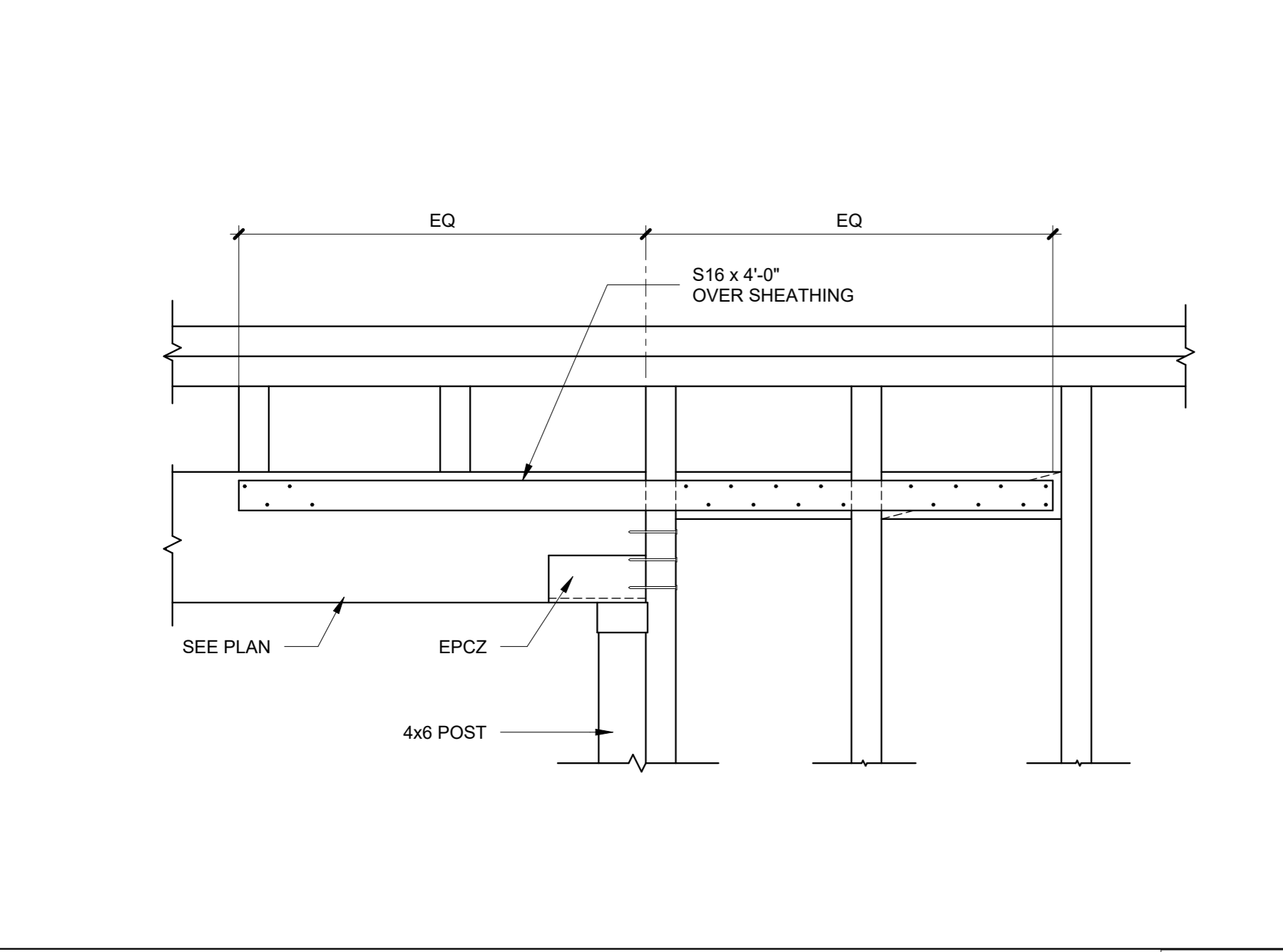
STRUCTURAL DETAIL B
3/4" = 1'-0" **G6**



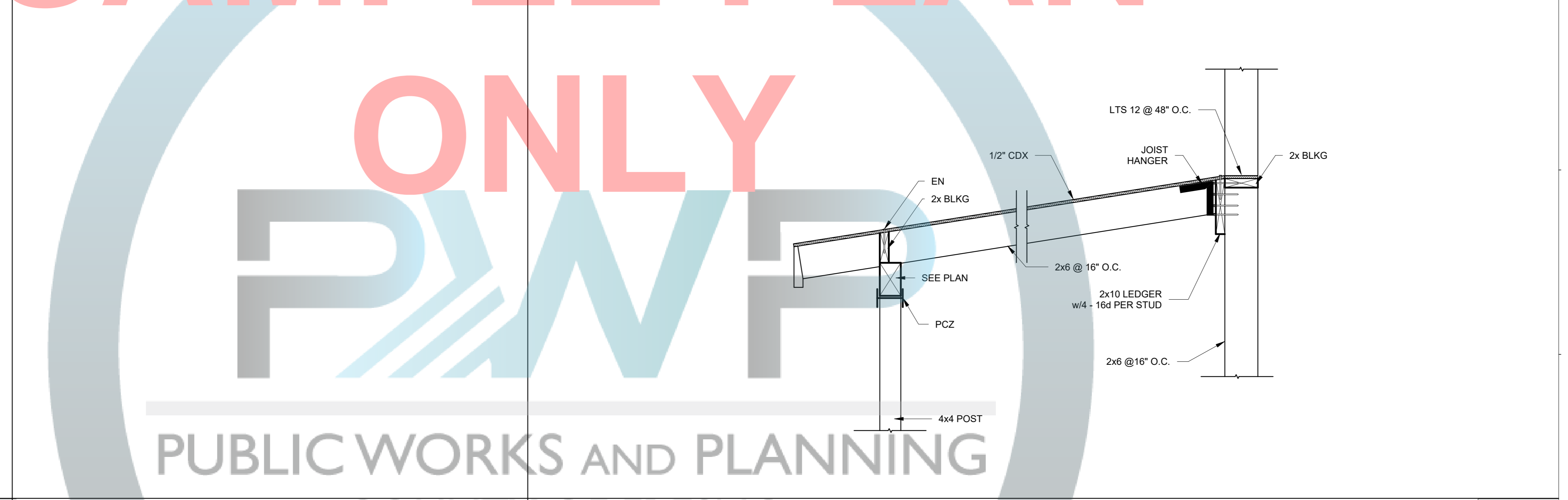
CONT. FOOTING @ PERIMETER / DETAIL C
1" = 1'-0" **G3**



PAD FTG. AT EXTERIOR COLUMN / DETAIL D
1" = 1'-0" **G1**



CONNECTION @ OPENING / DETAIL E
3/4" = 1'-0" **D9**



STRUCTURAL DETAIL G
1" = 1'-0" **D1**

ONLY
PWP
PUBLIC WORKS AND PLANNING
COUNTY OF FRESNO
NOT FOR CONSTRUCTION

500 SQ. FT. MODEL (515 SQ. FT.)

OPTION #2

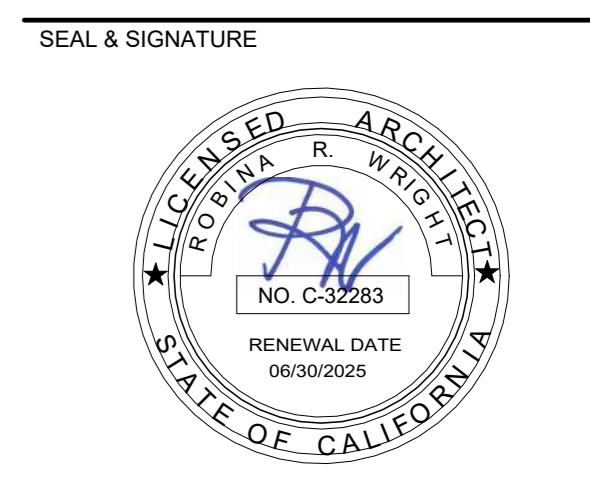
PROJECT
ACCESSORY DWELLING UNIT

PWP23-003

DEPARTMENT OF PUBLIC WORKS AND PLANNING



CAPITAL PROJECTS DIVISION
2220 Tulare St., Ste. 720, Fresno, CA. 93721
Phone: (559) 262-4212 Fax: (559) 262-4879



UPDATE
JULY 5, 2023

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TITLE
TYPICAL STRUCTURAL DETAILS

SCALE
As indicated

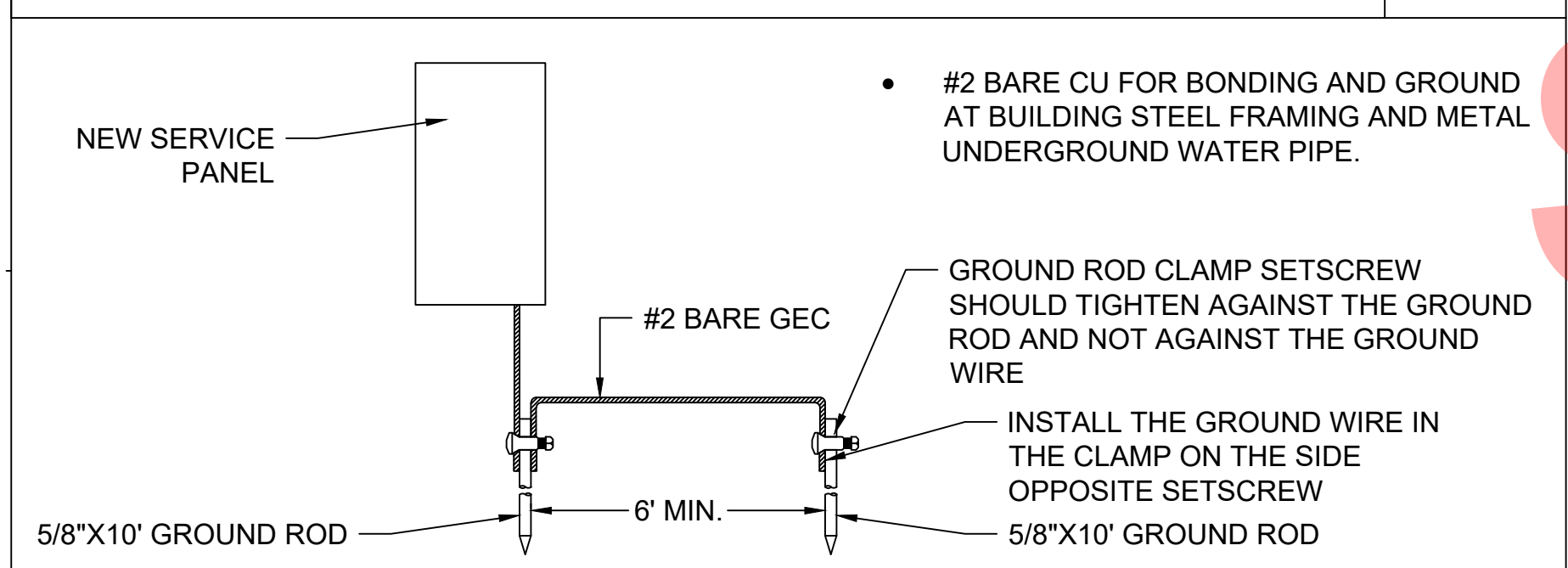
S-301

ISSUE DATE: APRIL 12, 2023
JOB NUMBER: 2023_19
DRAWN BY: Author
CHECKED BY: Checker

SMOKE/CARBON MONOXIDE NOTES

R314.2 SMOKE DETECTION SYSTEMS
R314.3 LOCATION. SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS:
 1. IN EACH SLEEPING ROOM.
 2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
R314.4 POWER SOURCE. SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING PROVIDED THAT SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. SMOKE ALARMS WITH INTEGRAL STROBES THAT ARE NOT EQUIPPED WITH BATTERY BACKUP SHALL BE CONNECTED TO AN EMERGENCY ELECTRICAL SYSTEM. SMOKE ALARMS SHALL EMIT A SIGNAL WHEN THE BATTERIES ARE LOW.
R314.5 INTERCONNECTION.
 WHERE MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING OR SLEEPING UNIT, THE SMOKE ALARM SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. THE ALARMS SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED.
R315.1 CARBON MONOXIDE ALARMS.
R315.1.1 POWER SUPPLY. FOR NEW CONSTRUCTION REQUIRED CARBON MONOXIDE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING
 WHERE SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED WITH A BATTERY BACK-UP.
R315.1.2 INTERCONNECTION. WHERE MORE THAN ONE CARBON MONOXIDE ALARM IS REQUIRED TO BE INSTALLED WITHIN THE DWELLING UNIT OR WITHIN A SLEEPING UNIT THE ALARMS SHALL BE INTERCONNECTED IN A MANNER THAT ACTIVATION OF ONE ALARM SHALL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT.
R315.3 ALARM REQUIREMENTS. CARBON MONOXIDE ALARMS REQUIRED BY SECTION R315.1 AND R315.2 SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS:
 1. OUTSIDE OF EACH SEPARATE DWELLING UNIT SLEEPING AREA. IN THE IMMEDIATE VICINITY OF THE BEDROOM(S).
 2. AT EVERY LEVEL OF A DWELLING UNIT INCLUDING BASEMENTS.

GROUND ROD DETAIL



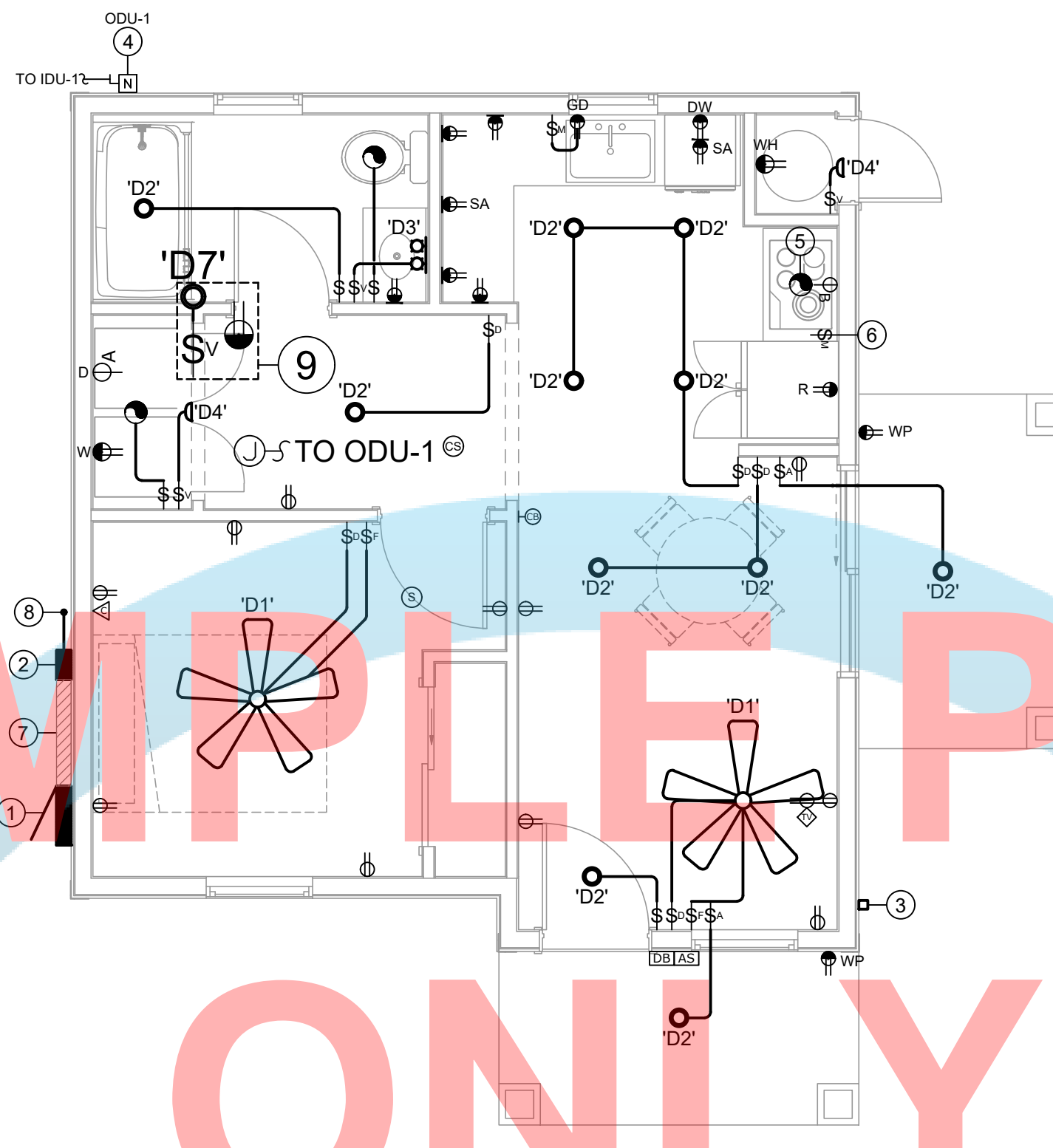
UNIT FIXTURE SCHEDULE

| SYMB. | TYPE | MAKE AND MODEL | MNTG. | LAMP / BULB | VOLT | NOTES |
|-------|------|---|-------|-------------|------|----------------|
| ✂ | 'D1' | AIRE DELUXE #FP6285B | J-BOX | 20W LED | 120 | |
| ○ | 'D2' | LITHONIA# WF6ELED-30K-90CRI-MW-M6 | REC. | 11W LED | 120 | DIM, WET RATD. |
| Ω | 'D3' | PROJECT SOURCE MOD# 42007 ITEM# 1362638 | SURF. | 60W LED | 120 | DAMP RATED |
| ○/○ | 'D4' | C-LITE# C-DS4-650-27 | SURF. | 11W LED | 120 | DIM, WET RATD. |
| ○ | 'D7' | DESIGNHOUSE# MOD#587238 ITEM#1004060081 | FLUSH | 60W LED | 120 | DAMP RATD. |

LIGHTING FIXTURE SCHEDULE
N.T.S

FLOOR NOTES:

- FOR ADAPTABLE UNITS, PLEASE REFER TO ARCHITECTURAL DRAWINGS FOR REACH RANGE REQUIREMENTS.
- ELECTRICAL RECEPTACLE OUTLETS, SWITCHES, AND CONTROLS (INCLUDING CONTROLS FOR HEATING AND VENTILATION AND AIR CONDITIONING) INTENDED TO BE USED BY THE OCCUPANTS SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX ABOVE THE FINISH FLOOR.



ADU OPTION 2
TOTAL: 1 515 SF

PROPOSED FLOOR PLAN
1/4" = 1'-0" **E1**

- INDOOR LUMINAIRES SHALL HAVE A COLOR RENDERING INDEX (CRI) OF AT LEAST 90.
- ALL INSTALLED LUMINAIRES SHALL MEET THE REQUIREMENTS OF CALIFORNIA ENERGY CODE TABLE 150.0-A. SEE SECTION 150(K)1A FOR EXCEPTIONS.
- SCREW-BASED LUMINAIRES SHALL CONTAIN LAMPS THAT COMPLY WITH REFERENCE JOINT APPENDIX JA8.
- RECESSED DOWNLIGHT LUMINAIRES IN CEILINGS. LUMINAIRE RECESSED INTO CEILINGS SHALL MEET ALL OF THE FOLLOWING REQUIREMENTS:
 - SHALL NOT CONTAIN SCREW BASE LAMP SOCKETS; AND
 - HAVE A LABEL THAT CERTIFIES THE LUMINAIRE IS AIRTIGHT WITH AIR LEAKAGE LESS THAN 2.0 CFM AT 75 PASCALS WHEN TESTED IN ACCORDANCE WITH ASTM E283. AN EXHAUST FAN HOUSING WITH INTEGRAL LIGHT SHALL NOT BE REQUIRED TO BE CERTIFIED AIRTIGHT; AND
 - BE SEALED WITH A GASKET OR CAULK BETWEEN THE LUMINAIRE HOUSING AND CEILING, AND HAVE ALL AIR LEAK PATHS BETWEEN CONDITIONED AND UNCONDITIONED SPACES SEALED WITH A GASKET OR CAULK, OR BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS TO MAINTAIN AIR TIGHTNESS BETWEEN THE LUMINAIRE HOUSING AND CEILING; AND
 - MEET THE CLEARANCE AND INSTALLATION REQUIREMENTS OF CALIFORNIA ELECTRICAL CODE SECTION 410.116 FOR RECESSED LUMINAIRES.
- BLANK ELECTRICAL BOXES. THE NUMBER OF ELECTRICAL BOXES THAT ARE MORE THAN 5 FEET ABOVE THE FINISHED FLOOR AND DO NOT CONTAIN A LUMINAIRE OR OTHER DEVICE SHALL BE NO GREATER THAN THE NUMBER OF BEDROOMS. THESE ELECTRICAL BOXES MUST BE SERVED BY A DIMMER, VACANCY SENSOR CONTROL, LOW VOLTAGE WIRING OR FAN SPEED CONTROL.
 - EXCEPTION TO SECTION 150.0(K)2A: CEILING FANS MAY PROVIDE CONTROL OF INTEGRATED LIGHTING VIA A REMOTE CONTROL.
- NO CONTROLS SHALL BYPASS A DIMMER, OCCUPANT SENSOR OR VACANCY SENSOR FUNCTION WHERE THAT DIMMER OR SENSOR HAS BEEN INSTALLED TO COMPLY WITH SECTION 150.0(K).
- AUTOMATIC-OFF CONTROLS.
 - IN BATHROOMS, GARAGES, LAUNDRY ROOMS, UTILITY ROOMS AND WALK-IN CLOSETS, AT LEAST ONE INSTALLED LUMINAIRE SHALL BE CONTROLLED BY AN OCCUPANCY OR VACANCY SENSOR PROVIDING AUTOMATIC-OFF FUNCTIONALITY.
 - FOR LIGHTING INTERNAL TO DRAWERS AND CABINETS WITH OPAQUE FRONTS OR DOORS, CONTROLS THAT TURN THE LIGHT OFF WHEN THE DRAWER OR DOOR IS CLOSED SHALL BE PROVIDED.
- VACANCY SENSOR CONTROLS SHALL USE A NEUTRAL CONDUCTOR FOR OPERATING CURRENT.
- DIMMING CONTROLS. LIGHTING IN HABITABLE SPACES, INCLUDING BUT NOT LIMITED TO LIVING ROOMS, DINING ROOMS, KITCHENS AND BEDROOMS, SHALL HAVE READILY ACCESSIBLE WALL-MOUNTED DIMMING CONTROLS THAT ALLOW THE LIGHTING TO BE MANUALLY ADJUSTED UP AND DOWN.
- INDEPENDENT CONTROLS. INTEGRATED LIGHTING OF EXHAUST FANS SHALL BE CONTROLLED INDEPENDENTLY FROM THE FANS.
- FOR SINGLE-FAMILY RESIDENTIAL BUILDINGS, OUTDOOR LIGHTING PERMANENTLY MOUNTED TO A RESIDENTIAL BUILDING OR TO OTHER BUILDINGS ON THE SAME LOT SHALL MEET THE REQUIREMENT IN ITEM I AND THE REQUIREMENTS IN EITHER ITEM II OR ITEM III:
 - CONTROLLED BY A MANUAL ON AND OFF CONTROL SWITCH THAT PERMITS THE AUTOMATIC ACTIONS OF ITEMS II OR III BELOW; AND
 - CONTROLLED BY A PHOTOCELL AND EITHER A MOTION SENSOR OR AN AUTOMATIC TIME SWITCH CONTROL; OR
 - CONTROLLED BY AN ASTRONOMICAL TIME CLOCK CONTROL.
- CONTROLS THAT OVERRIDE TO ON SHALL NOT BE ALLOWED UNLESS THE OVERRIDE AUTOMATICALLY RETURNS THE AUTOMATIC CONTROL TO ITS NORMAL OPERATION WITHIN 6 HOURS. AN ENERGY MANAGEMENT CONTROL SYSTEM THAT PROVIDES THE SPECIFIED LIGHTING CONTROL FUNCTIONALITY AND COMPLIES WITH ALL REQUIREMENTS APPLICABLE TO THE SPECIFIED CONTROLS MAY BE USED TO MEET THESE REQUIREMENTS.
- ILLUMINATED ADDRESS SIGN SHALL NOT CONSUMER NO MORE THAN 5 WATTS OF POWER.
- ENERGY STORAGE SYSTEMS (ESS) READY. AT LEAST ONE OF THE FOLLOWING SHALL BE PROVIDED:
 - ESS READY INTERCONNECTION EQUIPMENT WITH A MINIMUM BACKED-UP CAPACITY OF 60 AMPS AND A MINIMUM OF FOUR ESS-SUPPLIED BRANCH CIRCUITS, OR
 - A DEDICATED RACEWAY FROM THE MAIN SERVICE TO A PANELBOARD (SUBPANEL) THAT SUPPLIES THE BRANCH CIRCUITS IN SECTION 150.0(S)(2). ALL BRANCH CIRCUITS ARE PERMITTED TO BE SUPPLIED BY THE MAIN SERVICE PANEL PRIOR TO THE INSTALLATION OF AN ESS. THE TRADE SIZE OF THE RACEWAY SHALL BE NOT LESS THAN ONE INCH. THE PANELBOARD THAT SUPPLIES THE BRANCH CIRCUITS (SUBPANEL) MUST BE LABELED "SUBPANEL SHALL INCLUDE ALL BACKED-UP LOAD CIRCUITS."
- A MINIMUM OF FOUR BRANCH CIRCUITS SHALL BE IDENTIFIED AND HAVE THEIR SOURCE OF SUPPLY COLLOCATED AT A SINGLE PANELBOARD SUITABLE TO BE SUPPLIED BY THE ESS. AT LEAST ONE CIRCUIT SHALL SUPPLY THE REFRIGERATOR, ONE LIGHTING CIRCUIT SHALL BE LOCATED NEAR THE PRIMARY EGRESS, AND AT LEAST ONE CIRCUIT SHALL SUPPLY A SLEEPING ROOM RECEPTACLE OUTLET.
- THE MAIN PANELBOARD SHALL HAVE A MINIMUM BUSS BAR RATING OF 225 AMPS.
- SUFFICIENT SPACE SHALL BE RESERVED TO ALLOW FUTURE INSTALLATION OF A SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH WITHIN 3 FEET OF THE MAIN PANELBOARD. RACEWAYS SHALL BE INSTALLED BETWEEN THE PANELBOARD AND THE SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH LOCATION TO ALLOW THE CONNECTION OF BACKUP POWER SOURCE.
- EXHAUST FANS SHALL BE CONTROLLED INDEPENDENTLY.
- ASTRONOMICAL TIME-SWITCH CONTROLS SHALL:
 - HAVE SUNRISE AND SUNSET PREDICTION ACCURACY WITHIN PLUS-OR-MINUS 15 MINUTES AND TIMEKEEPING ACCURACY WITHIN 5 MINUTES PER YEAR;
 - BE CAPABLE OF DISPLAYING DATE, CURRENT TIME, SUNRISE TIME, SUNSET TIME, AND SWITCHING TIMES FOR EACH STEP DURING PROGRAMMING;
 - BE CAPABLE OF AUTOMATICALLY ADJUSTING FOR DAYLIGHT SAVINGS TIME; AND
 - HAVE THE ABILITY TO INDEPENDENTLY OFFSET THE ON AND OFF FOR EACH CHANNEL BY AT LEAST 90 MINUTES BEFORE AND AFTER SUNRISE OR SUNSET.

CALIFORNIA ENERGY CODE T24 NOTES
N.T.S. **E2**

ELECTRICAL PLAN KEYNOTES

- NEW 225ABUSS-120/240V-1PH-3W-N3R MAIN SERVICE PANEL WITH 200A MAIN CIRCUIT BREAKER. MAIN ELECTRICAL POWER PANEL.
- POSSIBLE LOCATION OF FUTURE SOLAR PANEL INVERTER.
- POSSIBLE LOCATION OF FUTURE. EV CHARGING STATION. VERIFY EXACT LOCATION DURING INSTALLATION.
- 240V-30A-2P-N3R DISCONNECT FOR CONDENSING UNIT.
- ABOVE IN CABINET FOR HOOD EXHAUST.
- SWITCH FOR HOOD FAN.
- 3 FT OF ALLOCATED SPACE RESERVED FOR FUTURE SYSTEM ISOLATION/TRANSFER EQUIPMENT. DEDICATED RACEWAY SHALL BE BEHIND CLEARANCE.
- INTERCONNECTION PATHWAY. REFER TO ARCHITECTURAL PLANS FOR SOLAR ZONE AREA.
- LIGHT FIXTURE AND RECEPTACLE IN ATTIC. SEE BUILDING SECTIONS.

ELECTRICAL LEGEND

- ⊞ SINGLE POLE SWITCH
- ⊞ 3 WAY SWITCH
- ⊞ DIMMER SWITCH
- ⊞ FAN SPEED SWITCH
- ⊞ MOTOR RATED SWITCH
- ⊞ VACANCY SWITCH
- ⊞ ASTRONOMICAL SWITCH
- ⊞ HUMIDITY SENSOR SWITCH
- ⊞ DUPLEX - +15" BOTTOM OF RECEPTACLE BOX
- ⊞ DUPLEX - ABOVE COUNTER - +48" TOP OF RECEPTACLE BOX
- ⊞ DUPLEX - GROUND FAULT CIRCUIT INTERRUPTER - +15" BOTTOM OF RECEPTACLE BOX
- ⊞ GFCI DUPLEX - ABOVE COUNTER - +48" TOP OF RECEPTACLE BOX
- ⊞ RECEPTACLE - SPECIAL (RATING AS INDICATED)
- ⊞ RECEPTACLE - 30A. 120/240V. NEMA 14-30R (CLOTHES DRYER TYPE)
- ⊞ RECEPTACLE - 50A. 120/240V. NEMA 14-50R (DOMESTIC RANGE TYPE)
- ⊞ COMMUNICATION DATA
- ⊞ TV DATA AND DUPLEX - + 60" (FIELD VERIFY HEIGHT)
- ⊞ DISCONNECT
- ⊞ SMOKE ALARM 'BRK'. 7010B W/ BATTERY BACK-UP. HARD WIRED. MOUNT WITHIN 6 INCHES OF HIGH POINT OF CEILING. (CSFM 7257-0087:140)
- ⊞ CARBON MONOXIDE/SMOKE ALARM 'BRK'. SC910B W/ BATTERY BACK-UP. HARD WIRED. MOUNT WITHIN 6 INCHES OF HIGH POINT OF CEILING. (CSFM 7256-0087:140)
- ⊞ (HEARING IMPAIRED UNITS) SMOKE ALARM & STROBE COMBINATION 'BRK' 7010BSL W/ BATTERY BACK-UP. HARD WIRED. MOUNT WITHIN 6 INCHES OF HIGH POINT OF CEILING. (CSFM 7257-0087:159)
- ⊞ (HEARING IMPAIRED UNITS) CARBON MONOXIDE ALARM 'BRK' CO5120BN W/ BATTERY BACK-UP. HARD WIRED. MOUNT WITHIN 6 INCHES OF HIGH POINT OF CEILING. (CSFM 7256-0087:159)
- ⊞ CHIME BELL
- ⊞ DOOR BELL
- ⊞ ILLUMINATED ADDRESS SIGN
- ⊞ EXHAUST FAN - SPECS PER MECHANICAL PLANS

CALIFORNIA ELECTRICAL CODE NOTES

- COORDINATE WITH UTILITY COMPANY PROVIDER PRIOR TO COMMENCING WORK. THE AVAILABLE FAULT CURRENT WILL BE PROVIDED BY THE UTILITY PROVIDER.
- LIGHTING FIXTURES SPECIFIED CAN BE SUBSTITUTED WITH AN EQUIVALENT FIXTURE.
- UNLESS OTHERWISE NOTED; ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX NOR LESS THAN 15 INCHES (381 MM) MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM.
- UNLESS OTHERWISE NOTED; CONTROLS OR SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES, ALARMS OR COOLING, HEATING AND VENTILATING EQUIPMENT SHALL BE LOCATED NO MORE THAN 48 INCHES (1219 MM) MEASURED FROM THE TOP OF THE OUTLET BOX NOR LESS THAN 15 INCHES (381 MM) MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM.
- REFER TO EQUIPMENT MANUFACTURER SPECS FOR ADDITIONAL OVER-CURRENT PROTECTIONS OTHER THAN THE BRANCH CIRCUIT BREAKER.
- ALL WIRING IN DWELLINGS TO BE NONMETALLIC SHEATHED CABLES (ROMEX).
- A THREE-WIRE SERVING BRANCH CIRCUIT IS REQUIRED FOR ALL 240V CIRCUITS SERVING COOKING EQUIPMENT AND CLOTHES DRYER. PROVIDE WEATHER PROOF BOXES FOR ALL EXTERIOR SWITCHES AND CONTROLS.
- ALL 120V-1PH-15A AND 20A BRANCH CIRCUITS SUPPLYING RECEPTACLES IN KITCHENS, FAMILY, DINNING, LIVING, DENS, BEDROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS OR SIMILAR ROOMS SHALL HAVE A LISTED ARC-PROTECTION CIRCUIT BREAKER INSTALLED IN COMBINATION WITH OUTLET BRANCH CIRCUIT TYPE ARC-FAULT CIRCUIT INTERRUPTER INSTALLED AT THE FIRST BOX. SEE SECTION 210.12(A)(3) FOR WIRING METHODS.
- RECEPTACLES SHALL BE INSTALLED SUCH THAT NO POINT MEASURED HORIZONTALLY ALONG THE FLOOR LINE OF ANY WALL SPACE IS MORE THAN 6 FT FROM A RECEPTACLE OUTLET.
- WATER HEATER SHALL USE A 120/240 VOLT 3 CONDUCTOR, 10 AWG COPPER BRANCH CIRCUIT, WITHIN 3 FEET FROM THE WATER HEATER AND ACCESSIBLE TO THE WATER HEATER WITH NO OBSTRUCTIONS.

500 SQ. FT.
W/ ADAPTABLE FEATURES

PLAN
2

PROJECT
ACCESSORY DWELLING UNIT

PWP23-003

DEPARTMENT OF PUBLIC WORKS AND PLANNING



CAPITAL PROJECTS DIVISION

2220 Tulare St., Ste. 720, Fresno, CA. 93721
Phone: (559) 262-4212 Fax: (559) 262-4879

SEAL & SIGNATURE



UPDATE

JULY 10, 2023

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY AND COPYRIGHT OF THE ARCHITECT AND SHALL NOT BE USED ON ANY OTHER PROJECT OR LOCATIONS EXCEPT AS DESCRIBED ON THE DRAWINGS WITHOUT WRITTEN AGREEMENT WITH THE ARCHITECT.

TITLE
PROPOSED FLOOR PLAN

SCALE 1/4" = 1'-0"

E-101

| | |
|------------------------------|-----------------------|
| ISSUE DATE APRIL 12, 2023 | JOB NUMBER 2023_20 |
| DRAWN BY Author | CHECKED BY Checker |

24" X 36"

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Option # 2 ADU
 Calculation Date/Time: 2023-05-30T10:01:23-05:30
 Input File Name: 4111_Prototypical ADU Designs for Fresno County_Energy Analysis_V9.1_ Unit 19_rbd22x

GENERAL INFORMATION

| | | |
|----|-----------------------------------|---------------------------|
| 01 | Project Name | Option # 2 ADU |
| 02 | Plan Title | Title 24 Analysis |
| 03 | Project Location | Option # 2 |
| 04 | City | Fresno County |
| 05 | Standards Version | 2022 |
| 06 | Zip code | 07 |
| 07 | Software Version | EnergyPro 9.1 |
| 08 | Climate Zone | 13 |
| 09 | Front Orientation (Mag/ Cardinal) | All orientations |
| 10 | Building Type | Single family |
| 11 | Number of Dwelling Units | 1 |
| 12 | Project Status | Project Ready Constructed |
| 13 | Number of Bedrooms | 1 |
| 14 | Addition Cond. Floor Area (ft²) | 0 |
| 15 | Number of Stories | 1 |
| 16 | Existing Cond. Floor Area (ft²) | n/a |
| 17 | Fenestration Average U-Factor | 0.3 |
| 18 | Total Cond. Floor Area (ft²) | 515 |
| 19 | Glazing Percentage (%) | 19.00% |
| 20 | ADU Bedroom Count | n/a |

COMPLIANCE RESULTS

| | |
|----|---|
| 01 | Building Complies with Computer Performance |
| 02 | This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider. |
| 03 | This building incorporates one or more Special Features shown below |

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ENERGY DESIGN RATINGS

| Energy Use Category | Energy Design Ratings | | | Compliance Margins | | |
|---------------------|-----------------------|--|------------------------------------|---------------------|--|------------------------------------|
| | Source Energy (EUI) | Efficiency ¹ EDR (EDR/Efficiency) | Total ² EDR (EDR/Total) | Source Energy (EUI) | Efficiency ¹ EDR (EDR/Efficiency) | Total ² EDR (EDR/Total) |
| Standard Design | 34.6 | 41.8 | 35.9 | | | |
| Proposed Design | | | | | | |
| North Facing | 33.3 | 41.6 | 35.8 | 1.3 | 0.2 | 0.1 |
| East Facing | 33.2 | 40.7 | 35.2 | 1.4 | 1.1 | 0.7 |
| South Facing | 32.8 | 39.7 | 34.7 | 1.8 | 2.1 | 1.2 |
| West Facing | 33.1 | 41.7 | 35.9 | 1.5 | 0.1 | 0 |

RESULT: PASS

¹Efficiency EDR includes improvements like a better building envelope and more efficient equipment.
²Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries.
 Building complies when source energy efficiency and total compliance margin are greater than or equal to zero and unmet load hour limits are not exceeded.

- Standard Design PV Capacity: 2.02 kWdc
- Proposed PV Capacity Scaling: North (2.02 kWdc) East (2.02 kWdc) South (2.02 kWdc) West (2.02 kWdc)

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ENERGY USE SUMMARY

| Energy Use | Standard Design Source Energy (EUI) (kWh/ft²-yr) | Standard Design TOV Energy (EUI) (kWh/ft²-yr) | Proposed Design Source Energy (EUI) (kWh/ft²-yr) | Proposed Design TOV Energy (EUI) (kWh/ft²-yr) | Compliance Margin (EUI) | Compliance Margin (EUI) |
|--|--|---|--|---|-------------------------|-------------------------|
| Space Heating | 2.38 | 10.5 | 3.55 | 26.96 | -1.17 | -16.46 |
| Space Cooling | 3.3 | 2.81 | 67.24 | 65.31 | 0.49 | 1.93 |
| IAQ Ventilation | 0.45 | 4.84 | 0.45 | 4.84 | 0 | 0 |
| Water Heating | 3.98 | 40.99 | 2.48 | 25.94 | 1.5 | 15.05 |
| Self Utilization/Flexibility Credit | | | 0 | | | 0 |
| North Facing Efficiency Compliance Total | 10.11 | 123.57 | 9.29 | 123.05 | 0.82 | 0.52 |
| Space Heating | 2.38 | 10.5 | 3.55 | 26.93 | -1.17 | -16.33 |
| Space Cooling | 3.3 | 67.24 | 2.75 | 62.76 | 0.55 | 4.48 |
| IAQ Ventilation | 0.45 | 4.84 | 0.45 | 4.84 | 0 | 0 |
| Water Heating | 3.98 | 40.99 | 2.48 | 25.93 | 1.5 | 15.06 |
| Self Utilization/Flexibility Credit | | | 0 | | | 0 |
| East Facing Efficiency Compliance Total | 10.11 | 123.57 | 9.23 | 120.36 | 0.88 | 3.21 |

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ENERGY USE SUMMARY

| Energy Use | Standard Design Source Energy (EUI) (kWh/ft²-yr) | Standard Design TOV Energy (EUI) (kWh/ft²-yr) | Proposed Design Source Energy (EUI) (kWh/ft²-yr) | Proposed Design TOV Energy (EUI) (kWh/ft²-yr) | Compliance Margin (EUI) | Compliance Margin (EUI) |
|--|--|---|--|---|-------------------------|-------------------------|
| Space Heating | 2.38 | 10.5 | 3.35 | 24.89 | -0.97 | -14.39 |
| Space Cooling | 3.3 | 67.24 | 2.72 | 61.94 | 0.58 | 5.3 |
| IAQ Ventilation | 0.45 | 4.84 | 0.45 | 4.84 | 0 | 0 |
| Water Heating | 3.98 | 40.99 | 2.47 | 25.88 | 1.51 | 15.11 |
| Self Utilization/Flexibility Credit | | | 0 | | | 0 |
| South Facing Efficiency Compliance Total | 10.11 | 123.57 | 8.99 | 117.55 | 1.12 | 6.02 |
| Space Heating | 2.38 | 10.5 | 3.35 | 25.15 | -0.97 | -14.65 |
| Space Cooling | 3.3 | 67.24 | 2.9 | 67.63 | 0.4 | -0.39 |
| IAQ Ventilation | 0.45 | 4.84 | 0.45 | 4.84 | 0 | 0 |
| Water Heating | 3.98 | 40.99 | 2.47 | 25.88 | 1.51 | 15.11 |
| Self Utilization/Flexibility Credit | | | 0 | | | 0 |
| West Facing Efficiency Compliance Total | 10.11 | 123.57 | 9.17 | 123.5 | 0.94 | 0.07 |

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ENERGY USE INTENSITY

| Orientation | Standard Design (kBtu/ft²-yr) | Proposed Design (kBtu/ft²-yr) | Compliance Margin (kBtu/ft²-yr) | Margin Percentage |
|---------------------|-------------------------------|-------------------------------|---------------------------------|-------------------|
| North Facing | 34.68 | 32.72 | 1.96 | 5.65 |
| Net EU ¹ | 33.51 | 31.54 | 1.97 | 14.58 |
| East Facing | 34.68 | 32.74 | 1.94 | 5.59 |
| Net EU ¹ | 33.51 | 31.57 | 1.94 | 14.36 |
| South Facing | 34.68 | 32.54 | 2.14 | 6.17 |
| Net EU ¹ | 33.51 | 31.36 | 2.15 | 15.91 |
| West Facing | 34.68 | 32.83 | 1.85 | 5.33 |
| Net EU ¹ | 33.51 | 31.65 | 1.86 | 13.77 |

Notes:
 1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.
 2. Net EUI is Energy Use Total (including PV) / Total Building Area.

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REQUIRED PV SYSTEMS

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
|----------------|-----------|-------------------|------------|-------------------|------|--------------|------|-------------------|--------------|-------------------|-------------------------|
| DC System Size | Exception | Module Type | Array Type | Power Electronics | CFI | Alcath (deg) | Tilt | Array Angle (deg) | Tilt in (in) | Inverter Eff. (%) | Annual Solar Access (%) |
| 2.02 | NA | Standard (14-17%) | Fixed | none | True | 150-270 | n/a | n/a | <=7.12 | 96 | 98 |

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- Variable capacity heat pump compliance option (verification details from VCPH Staff report, Appendix B, and HAZ).
- Northwest Energy Alliance (NEA) rated heat pump water heater, specific brand/model, or equivalent, must be installed.

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building details below. Registered CTRs and CTRs are required to be completed in the HERS Rater.

- Indoor air quality ventilation
- Kitchen range hood
- Verified Refrigeration Charge
- Airflow in habitable rooms (SC1.4.1.3)
- Verified heat pump rated heating capacity
- Wall-mounted thermostat in zones greater than 150 ft² (SC1.4.5)
- Ductless indoor units located entirely in conditioned space (SC1.4.1.4)

BUILDING - FEATURES INFORMATION

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|----------------|------------------------------|--------------------------|--------------------|-----------------|---------------------------------------|---------------------------------|
| Project Name | Conditioned Floor Area (ft²) | Number of Dwelling Units | Number of Bedrooms | Number of Zones | Number of Ventilation Cooling Systems | Number of Water Heating Systems |
| Option # 2 ADU | 515 | 1 | 1 | 1 | 0 | 1 |

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ZONE INFORMATION

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-----------------|-------------|------------------|-----------------------|---------------------|------------------------|--------|
| Zone Name | Zone Type | HVAC System Name | Zone Floor Area (ft²) | Avg. Ceiling Height | Water Heating System 1 | Status |
| Living Area_ADU | Conditioned | HVAC System1 | 515 | 8 | DHW Sys 1 | New |

OPAQUE SURFACES

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|---------------|---------------------------------|-----------------|-------|-------------|------------------|----------------------------|----------|
| Name | Zone | Construction | Admth | Orientation | Gross Area (ft²) | Window and Door Area (ft²) | TR (deg) |
| Front Wall W | Living Area_ADU | R-21 Wall + OS | 0 | Front | 176 | 50 | 90 |
| Rear Wall E | Living Area_ADU | R-21 Wall + OS | 180 | Back | 156 | 12.5 | 90 |
| Left Wall N | Living Area_ADU | R-21 Wall + OS | 90 | Left | 204 | 0 | 90 |
| Right Wall S | Living Area_ADU | R-21 Wall + OS | 270 | Right | 172 | 40 | 90 |
| Interior Wall | Living Area_ADU/Living Area_ADU | R-13 Wall | n/a | n/a | 60.8 | 0 | n/a |
| Attic Roof | Living Area_ADU | R-30 Roof Attic | n/a | n/a | 515 | n/a | n/a |

ATTIC

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|-----------------------|----------------------------|------------|-------------------|------------------|----------------|-----------------|-----------|
| Name | Construction | Type | Roof Rise (in 12) | Roof Reflectance | Roof Emittance | Radiant Barrier | Cool Roof |
| Attic Living Area_ADU | Attic/Unhabitable Area_ADU | Ventilated | 4 | 0.1 | 0.85 | No | No |

FENESTRATION / GLAZING

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 |
|----------------|--------|--------------|-------------|-------|------------|-------------|-------|----------|------|-------------|------------------|----|----|
| Name | Type | Surface | Orientation | Admth | Width (ft) | Height (ft) | Mult. | U-factor | SHGC | SHGC Source | Exterior Shading | | |
| Window A_3050L | Window | Front Wall W | Front | 0 | 1 | 15 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | | |

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FENESTRATION / GLAZING

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 |
|------------------|--------|--------------|-------------|-------|------------|-------------|-------|----------|-----------------|------|-------------|------------------|----|
| Name | Type | Surface | Orientation | Admth | Width (ft) | Height (ft) | Mult. | U-factor | U-factor Source | SHGC | SHGC Source | Exterior Shading | |
| Door J_3066L | Window | Front Wall W | Front | 0 | 1 | 20 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | | |
| Window A_3050L | Window | Front Wall W | Front | 0 | 1 | 15 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | | |
| Window B_2626L | Window | Rear Wall E | Back | 180 | 1 | 6.25 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | | |
| Window B_2626L_2 | Window | Rear Wall E | Back | 180 | 1 | 6.25 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | | |
| Door J_3066L | Window | Right Wall S | Right | 270 | 1 | 40 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | | |

SLAB FLOORS

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|---------------|-----------------|------------|----------------|-------------------------------|-------------------------------|-------------------|--------|
| Name | Zone | Area (ft²) | Perimeter (ft) | Edge Insul. R-value and Depth | Edge Insul. R-value and Depth | Carpeted Fraction | Heated |
| Slab-on-Grade | Living Area_ADU | 515 | 47.37 | none | 0 | 80% | No |

OPAQUE SURFACE CONSTRUCTIONS

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|-------------------|----------------|-------------------|-------------------|----------------------|-----------------------------|----------|---|
| Construction Name | Surface Type | Construction Type | Framing | Total Cavity R-value | Interior / Exterior R-value | U-factor | Assembly Layers |
| R-21 Wall + OS | Exterior Walls | Wood Framed Wall | 2x6 @ 16 in. O.C. | R-21 | None / None | 0.068 | Inside Finish: Gypsum Board Cavity / Frame: R-21 / Outside Finish: All Other Siding |

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OPAQUE SURFACE CONSTRUCTIONS

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|----------------------------|------------------------|---------------------|-------------------|----------------------|-----------------------------|----------|---|
| Construction Name | Surface Type | Construction Type | Framing | Total Cavity R-value | Interior / Exterior R-value | U-factor | Assembly Layers |
| R-13 Wall | Interior Walls | Wood Framed Wall | 2x4 @ 16 in. O.C. | R-13 | None / None | 0.092 | Inside Finish: Gypsum Board Cavity / Frame: R-13 / Outside Finish: Gypsum Board |
| Attic Roof/Living Area_ADU | Attic Roofs | Wood Framed Ceiling | 2x4 @ 24 in. O.C. | R-0 | None / 0 | 0.644 | Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/Insulating/Glazing Cavity / Frame: no Insul. / 2x4 Inside Finish: Gypsum Board |
| R-30 Roof Attic | Ceilings (Below attic) | Wood Framed Ceiling | 2x4 @ 24 in. O.C. | R-30 | None / None | 0.032 | Over Ceiling Joists: R-20.9 Insul. Cavity / Frame: R-1 / 2x4 Inside Finish: Gypsum Board |

BUILDING ENVELOPE - HERS VERIFICATION

| 01 | 02 | 03 | 04 | 05 |
|--------------------------------------|------------------------------------|-------------------------------|-------|-------|
| Quality Insulation Installation (QI) | High R-value Spray Foam Insulation | Building Envelope Air Leakage | CFM50 | CFM50 |
| Not Required | Not Required | N/A | n/a | n/a |

WATER HEATING SYSTEMS

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
|-----------|--------------------------|-------------------|-------------------|-----------------|----------------------|----------------------|-------------------|-----------------------|
| Name | System Type | Distribution Type | Water Heater Name | Number of Units | Solar Heating System | Compact Distribution | HERS Verification | Water Heater Name (H) |
| DHW Sys 1 | Domestic Hot Water (DHW) | Standard | DHW Heater 1 | 1 | n/a | None | n/a | DHW Heater 1 (1) |

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WATER HEATERS - HERS VERIFICATION

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|--------------|------------|-----------------|----------------------|------------------------|-----------------|-----------------------|-------------------------|
| Name | # of Units | Task Vol. (gal) | NEEA Heat Pump Brand | NEEA Heat Pump Model | Task Location | Duct Inlet Air Source | Duct Outlet Air Sources |
| DHW Heater 1 | 1 | 40 | Electra | Electra-HP1772R-HP1515 | Living Area_ADU | Living Area_ADU | Living Area_ADU |

WATER HEATING - HERS VERIFICATION

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-----------------|-----------------|-----------------|----------------------|---------------------------|-----------------------|----------------------------------|
| Name | Pipe Insulation | Parallel Piping | Compact Distribution | Compact Distribution Type | Recirculation Control | Shower Drain Water Heat Recovery |
| DHW Sys 1 - 171 | Not Required | Not Required | Not Required | None | Not Required | Not Required |

SPACE CONDITIONING SYSTEMS

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
|--------------|---------------------------|--------------------|-------------------------|--------------------|-------------------------|----------|-------------------|--------------------------|
| Name | System Type | Heating Unit Name | Heating Equipment Count | Cooling Unit Name | Cooling Equipment Count | Fan Name | Distribution Name | Required Thermostat Type |
| HVAC System1 | Heat pump heating cooling | Heat Pump System 1 | 1 | Heat Pump System 1 | 1 | n/a | n/a | Setback |

HVAC - HEAT PUMPS

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 |
|--------------------|---------------|-----------------|-----------------|------------|--------|--------|-----------------|--------------|------------|--------------------|-----------------|------------------------------|
| Name | System Type | Number of Units | Efficiency Type | HPF2 / COP | Cap 47 | Cap 17 | Efficiency Type | SEER / SEER2 | EER / EER2 | Zonally Controlled | Compressor Type | HERS Verification |
| Heat Pump System 1 | VCHP-ductless | 1 | HPF | 8.5 | 18000 | 14400 | EERSEER | 15 | 9 | Not Zonal | Single Speed | Heat Pump System 1-Heat Pump |

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HVAC HEAT PUMPS - HERS VERIFICATION

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
|------------------------------|------------------|----------------|--------------------|---------------------|--------------------|-------------------------|-------------------------|-------------------------|
| Name | Verified Airflow | Airflow Target | Verified EER/SEER2 | Verified SEER/SEER2 | Verified HSPF/HPF2 | Verified Heating Cap 47 | Verified Heating Cap 17 | Verified Heating Cap 17 |
| HVAC Pump System 1-Heat Pump | Not Required | 0 | Not Required | Yes | No | Yes | Yes | Yes |

VARIABLE CAPACITY HEAT PUMP COMPLIANCE OPTION - HERS VERIFICATION

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
|--------------------|----------------------------------|----------------------------|-------------------------------------|-----------------------|---|--|---|------------------------------|-------------------------------------|
| Name | Certified Low-Static VCHP System | Airflow to Habitable Rooms | Ductless Units in Conditioned Space | Wall Mount Thermostat | Air Filter Sizing Ramp Pressure Drop Rating | Low Leakage Ducts in Conditioned Space | Minimum Airflow per RA3.3 and SC1.3.3.4.1 | Certified non-continuous Fan | Indoor Fan not Running Continuously |
| Heat Pump System 1 | Not required | Required | Required | Required | Not required | Not required | Not required | Not required | Not required |

INDOOR AIR QUALITY (IAQ) HANS

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
|---------------|---------------|-------------------------|--------------|--------------------------------|---------------------------------|-----------------------------------|-------------------|--------|
| Dwelling Unit | Airflow (CFM) | Fan Efficiency (CFM/HP) | IAQ Fan Type | Includes Heat/Energy Recovery? | IAQ Recovery Effectiveness - ME | Includes Fault Indicator Display? | HERS Verification | Status |
| SFan IAQVnRPT | 30 | 0.35 | Exhaust | No | n/a / n/a | No | Yes | |

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Viranchi Shah
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| RESIDENTIAL MEASURES SUMMARY | | | | | | RMS-1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------------|--|---------------------|--------------------------------------|-------------------------------|-------------------|--------|--------------|---------------------|--------------|-------------------------------|---------|-------------|------------------------|-------|-------------|-------------------|----------|-----------------|--------|--------------------|-----------|-----------------|-----------|---------|------|-----|-----|-----------|------|-------|------|------|------|-----|-----|----------|------|-------|------|------|------|-----|-----|-----------|------|-------|------|------|------|-----|-----|
| Project Name Option # 2 ADU | | Building Type <input checked="" type="checkbox"/> Single Family <input type="checkbox"/> Addition Alone | | Date 30-05-2023 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project Address Option # 2, Fresno County | | California Energy Climate Zone CA Climate Zone 13 | | Total Cond. Floor Area 515 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insulation | | Area | | Addition | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Construction Type | | Cavity (ft ²) | | Special Features | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Status | | Status | | Status | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wall | Wood Framed | R-20 | 606 | | New | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Roof | Wood Framed | R-13 | 61 | | New | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Slab | Unheated Slab-on-Grade | -no insulation | 515 | Perim = 88' | New | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Roof | Wood Framed Attic | R-30 | 515 | | New | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">FENESTRATION</th> <th>Total Area:</th> <th>Glazing Percentage:</th> <th>19.9%</th> <th>New/Altered Average U-Factor:</th> <th>0.30</th> </tr> <tr> <th>Orientation</th> <th>Area(ft²)</th> <th>U-Fac</th> <th>SHGC</th> <th>Overhang</th> <th>Sidelins</th> <th>Exterior Shades</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Front (W)</td> <td>30.0</td> <td>0.300</td> <td>0.23</td> <td>none</td> <td>none</td> <td>N/A</td> <td>New</td> </tr> <tr> <td>Front (E)</td> <td>20.0</td> <td>0.300</td> <td>0.23</td> <td>none</td> <td>none</td> <td>N/A</td> <td>New</td> </tr> <tr> <td>Rear (E)</td> <td>12.5</td> <td>0.300</td> <td>0.23</td> <td>none</td> <td>none</td> <td>N/A</td> <td>New</td> </tr> <tr> <td>Right (S)</td> <td>40.0</td> <td>0.300</td> <td>0.23</td> <td>none</td> <td>none</td> <td>N/A</td> <td>New</td> </tr> </tbody> </table> | | | | | | FENESTRATION | | Total Area: | Glazing Percentage: | 19.9% | New/Altered Average U-Factor: | 0.30 | Orientation | Area(ft ²) | U-Fac | SHGC | Overhang | Sidelins | Exterior Shades | Status | Front (W) | 30.0 | 0.300 | 0.23 | none | none | N/A | New | Front (E) | 20.0 | 0.300 | 0.23 | none | none | N/A | New | Rear (E) | 12.5 | 0.300 | 0.23 | none | none | N/A | New | Right (S) | 40.0 | 0.300 | 0.23 | none | none | N/A | New |
| FENESTRATION | | Total Area: | Glazing Percentage: | 19.9% | New/Altered Average U-Factor: | 0.30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Orientation | Area(ft ²) | U-Fac | SHGC | Overhang | Sidelins | Exterior Shades | Status | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front (W) | 30.0 | 0.300 | 0.23 | none | none | N/A | New | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front (E) | 20.0 | 0.300 | 0.23 | none | none | N/A | New | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rear (E) | 12.5 | 0.300 | 0.23 | none | none | N/A | New | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Right (S) | 40.0 | 0.300 | 0.23 | none | none | N/A | New | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Qty. | Heating | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| HVAC DISTRIBUTION | | Duct R-Value | | Status | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Location | Heating | Cooling | Duct Location | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HVAC System | Ductless with Fan | Ductless | ria | ria | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| EnergyPro 9.1 by EnergySoft User Number: 3835 ID: 14411 Page 15 of 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 2022 Single-Family Residential Mandatory Requirements Summary | |
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| NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. (04/2022) | |
| Building Envelope: | |
| § 110.6(a)(1): | Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 1011.8.2/A440-2011. |
| § 110.6(a)(5): | Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 110.11(a). |
| § 110.6(b): | Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or J4.5 for exterior doors. They must be caulked and/or weather-stripped. |
| § 110.7: | Air Leakage. All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped. |
| § 110.8(A): | Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS). |
| § 110.8(G): | Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(G). |
| § 110.8(j): | Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(j) and be labeled per §10-113 when the installation of a cool roof is specified on the CFIR. |
| § 110.8(k): | Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs. |
| § 150.0(a): | Roof Deck, Ceiling and Rafter Roof Insulation. Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average U-factor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration, as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling. |
| § 150.0(b): | Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value. |
| § 150.0(c): | Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B. |
| § 150.0(d): | Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. |
| § 150.0(f): | Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and when installed as part of a heated slab floor, meet the requirements of § 110.8(j). |
| § 150.0(g)(1): | Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(g). |
| § 150.0(g)(2): | Vapor Retarder. In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation. |
| § 150.0(j): | Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45, or area-weighted average U-factor of fenestration must not exceed 0.45. |
| Fireplaces, Decorative Gas Appliances, and Gas Logs: | |
| § 110.5(a): | Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces. |
| § 150.0(e)(1): | Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox. |
| § 150.0(e)(2): | Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device. |
| § 150.0(j): | Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. |
| Space Conditioning, Water Heating, and Plumbing Systems: | |
| § 110.0-§ 110.3: | Certification. Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission. |
| § 110.2(a): | HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N. |
| § 110.2(b): | Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating. |
| § 110.2(c): | Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat. |
| § 110.3(c)(3): | Insulation. Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating. |
| § 110.3(c)(6): | Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed. |

| 2022 Single-Family Residential Mandatory Requirements Summary | |
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| NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. (04/2022) | |
| Building Envelope: | |
| § 110.5: | Pilot Lights. Continuously burning pilot lights are prohibited for natural gas; fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters. |
| § 150.0(f)(1): | Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SIMANA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)(2). |
| § 150.0(h)(3A): | Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer. |
| § 150.0(h)(3B): | Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions. |
| § 150.0(j): | Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code. |
| § 150.0(j)(1): | Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by § 120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-curable casing or sleeve. |
| § 150.0(j)(2): | Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5 x 2.5 x 7 feet suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain no more than 2' higher than the base of the water heater. |
| § 150.0(j)(3): | Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director. |
| Ducts and Fans: | |
| § 110.0(d)(3): | Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement. |
| § 110.0(d)(3): | CMC Compliance. All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air- and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of mastic and other mesh or tape must be used to seal openings greater than 1/2". If mastic or tape is used, building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in these spaces must not be compressed. |
| § 150.0(m)(2): | Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tapes are used in combination with mastic and draw bands. |
| § 150.0(m)(3): | Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction. |
| § 150.0(m)(7): | Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers. |
| § 150.0(m)(8): | Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either an automatic or readily accessible, manually operated damper in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents. |
| § 150.0(m)(9): | Protection of Insulation. Insulation must be protected from damage due to sunlight, moisture, equipment maintenance, and wind. |
| § 150.0(m)(9): | Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating. |
| § 150.0(m)(10): | Porous Inner Core Flex Duct. Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and outer vapor barrier. |
| § 150.0(m)(11): | Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct field verification and supply conditioned air to an occupiable space, the duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1. |
| § 150.0(m)(12): | Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labeling must meet the requirements in § 150.0(m)(12). Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters and prevent air from bypassing the filter. |

| 2022 Single-Family Residential Mandatory Requirements Summary | |
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| NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. (04/2022) | |
| Building Envelope: | |
| § 150.0(m)(13): | Space Conditioning System Airflow Rate and Fan Efficacy. Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≥ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≥ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3. |
| Ventilation and Indoor Air Quality: | |
| § 150.0(o)(1): | Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o). * |
| § 150.0(o)(1B): | Central Fan Integrated (CFI) Ventilation Systems. Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling unit ventilation airflow required per § 150.0(o)(1C). A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed and controlled per § 150.0(o)(1B)(ii). CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with § 150.0(o)(1C). |
| § 150.0(o)(1C): | Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses. Single-family detached dwelling units, and attached dwelling units not sharing ducts or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow specified in § 150.0(o)(1C)-ii. |
| § 150.0(o)(1G): | Local Mechanical Exhaust. Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-controlled exhaust system meeting requirements of § 150.0(o)(1G)-ii, enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting § 150.0(o)(1G)-iv. Airflow must be measured by the installer per § 150.0(o)(1G)-v, and rated for sound per § 150.0(o)(1G)-vi. |
| § 150.0(o)(1H): | Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems. The airflow required per § 150.0(o)(1C) must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 § 7.2 at no less than the minimum airflow rate required by § 150.0(o)(1C). |
| § 150.0(o)(2): | Field Verification and Diagnostic Testing. Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per § 150.0(o)(1G). |
| Pool and Spa Systems and Equipment: | |
| § 110.4(a): | Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent waterproof plate or card with operating instructions; and must not use electric resistance heating. |
| § 110.4(b)(1): | Piping. Any pool or spa heating system or equipment must be installed with at least 38 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating. |
| § 110.4(b)(2): | Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover. |
| § 110.4(b)(3): | Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods. |
| § 110.5: | Pilot Light. Natural gas pool and spa heaters must have a continuously burning pilot light. |
| § 150.0(p): | Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves. |
| Lighting: | |
| § 110.9: | Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9. |
| § 150.0(k)(1A): | Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitchen range hoods, both vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting integral to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt. |
| § 150.0(k)(1B): | Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JAB. * |
| § 150.0(k)(1C): | Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must not contain screw based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code 410.116 must also be met. |
| § 150.0(k)(1D): | Light Sources in Enclosed or Recessed Luminaires. Lamps and other replaceable light sources that are not compliant with the JAB elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires. |
| § 150.0(k)(1E): | Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control. |
| § 150.0(k)(1F): | Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k). * |

| 2022 Single-Family Residential Mandatory Requirements Summary | |
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| § 150.0(k)(1G): | Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JAB. * |
| § 150.0(k)(1H): | Light Sources in Enclosed or Recessed Luminaires. Lamps and other replaceable light sources that are not compliant with the JAB elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires. |
| § 150.0(k)(1I): | Light Sources in Drawers, Cabinets, and Linen Closets. Light sources provided to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A, or be controlled by vacancy sensors in order to be used to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed. |
| § 150.0(k)(2A): | Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A. |
| § 150.0(k)(2B): | Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems. |
| § 150.0(k)(2A): | Accessible Controls. Lighting must have readily accessible walk-mounted controls that allow the lighting to be manually turned on and off. |
| § 150.0(k)(2B): | Multiple Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k). |
| § 150.0(k)(2C): | Mandatory Requirements. Lighting controls must comply with the applicable requirements of § 110.9. |
| § 150.0(k)(2D): | Energy Management Control Systems. An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(k)(2A). |
| § 150.0(k)(2E): | Automatic Shutoff Controls. In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed. |
| § 150.0(k)(2F): | Dimmers. Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible walk-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A. |
| § 150.0(k)(2G): | Independent controls. Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting. |
| § 150.0(k)(3A): | Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must have a manual on/off switch and either a photo-cell and motion sensor or automatic time switch control or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements. |
| § 150.0(k)(4): | Internally illuminated address signs. Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 watts of power. |
| § 150.0(k)(5): | Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0. |
| Solar Readiness: | |
| § 110.10(a)(1): | Single-Family Residences. Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e). |
| § 110.10(b)(1A): | Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. |
| § 110.10(b)(2): | Azimuth. All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north. |
| § 110.10(b)(3A): | Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment. |
| § 110.10(b)(3B): | Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane. |
| § 110.10(b)(4): | Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents. |
| § 110.10(c): | Interconnection Pathways. The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system. |
| § 110.10(d): | Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be provided to the occupant. |
| § 110.10(e)(1): | Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps. |
| § 110.10(e)(2): | Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric." |
| Electric and Energy Storage Ready: | |

| 2022 Single-Family Residential Mandatory Requirements Summary | |
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| § 150.0(e): | Energy Storage System (ESS) Ready. All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 80 amps or more and four or more ESS supplied branch circuits, or a dedicated roadway from the main service to a subpanel that supplies the branch circuits in § 150.0(e); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source. |
| § 150.0(f): | Heat Pump Space Heater Ready. Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready"; and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use." |
| § 150.0(g): | Electric Cooktop Ready. Systems using gas or propane cooking to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready"; and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use." |
| § 150.0(h): | Electric Clothes Dryer Ready. Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready"; and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use." |
| *Exceptions may apply. | |

| HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY | |
|---|--|
| Project Name Option # 2 ADU | |
| Date 30-05-2023 | |
| System Name HVAC System | |
| Floor Area 515 | |
| ENGINEERING CHECKS | |
| SYSTEM LOAD | |
| COIL COOLING PEAK | |
| COIL HTG. PEAK | |
| HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak) | |
| COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak) | |

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)

COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)

| 2022 Single-Family Residential Mandatory Requirements Summary | |
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| NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. (04/2022) | |
| Building Envelope: | |
| § 110.5: | Pilot Lights. Continuously burning pilot lights are prohibited for natural gas; fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters. |
| § 150.0(f)(1): | Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SIMANA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)(2). |
| § 150.0(h)(3A): | Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer |