

BUILDING CODE NOTES:

VICINITY MAP

SHEET INDEX

AREA CALCULATIONS

PROJECT INFORMATION

- 1. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE-FOOT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL-BOXES, TRANSFORMERS, VALVES, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO THE LOCATION OF THE HOOK-UP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES-WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.

LEGEND

- NEW WALLS/CONSTRUCTIONS
EXISTING WALLS/CONSTRUCTIONS
SLOPE

- 0.1 PROPOSED SITE PLAN
0.2 GENERAL NOTES
0.3 GREEN BUILDING REQUIREMENTS
0.4 GREEN BUILDING REQUIREMENTS
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- T24.1 TITLE 24
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S-0.1/2.0 STRUCTURAL SHEETS

LOT COVERAGE CALCULATIONS

LOT AREA:
(E) SINGLE FAMILY RESIDENCE:
(N) 1-STORY DETACHED ADU 732.5 S.F.
TOTAL AREA:

BUILDING CODE DATA

TYPE OF CONSTRUCTION: TYPE VB
SPRINKLERED: IF (E) BUILDING IS SPRINKLERED
OCCUPANCY CLASSIFICATION(S):
LAND USE:
NUMBER OF STORIES:
BUILDING HEIGHT:
GOVERNING CODES:
THE CONSTRUCTION OF THIS PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF:
2022 CALIFORNIA BUILDING CODE WITH 2023 LA COUNTY AMENDMENTS
2022 CALIFORNIA RESIDENTIAL CODE WITH 2023 LA COUNTY AMENDMENTS
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE WITH 2023 LA COUNTY AMENDMENTS
2022 CALIFORNIA MECHANICAL CODE WITH 2023 LA COUNTY AMENDMENTS
2022 CALIFORNIA ELECTRICAL CODE WITH 2023 LA COUNTY AMENDMENTS
2022 CALIFORNIA PLUMBING CODE WITH 2023 LA COUNTY AMENDMENTS
2022 CALIFORNIA FIRE CODE WITH 2023 LA COUNTY AMENDMENTS
2022 CALIFORNIA ENERGY CODE WITH 2023 LA COUNTY AMENDMENTS

SCOPE OF WORK

1. NEW DETACHED ADU

PROJECT DATA / SQ. FT.

PROJECT ADDRESS: ADDRESS
TYPE OF CONSTRUCTION: TYPE V-B
ZONE: R-1
HILLSIDE:
FLOOD ZONE: (YES OR NO)
SPRINKLERED: PER NFPA 13D IF (E) STRUCTURE IS SPRINKLERED
GROSS SITE AREA:
A.P.N.#:
TRACT:
LOTS(S):
BLOCK:

PARKING

OWNER INFO

ENGINEER INFO

NAME: SAA STRUCTURAL ENGINEERING, INC.
ADDRESS: 23901 CALABASAS ROAD, SUITE 1023, CALABASAS, CA 91302
PHONE: 323-448-4682
E-MAIL: NICK@SAAENG.COM

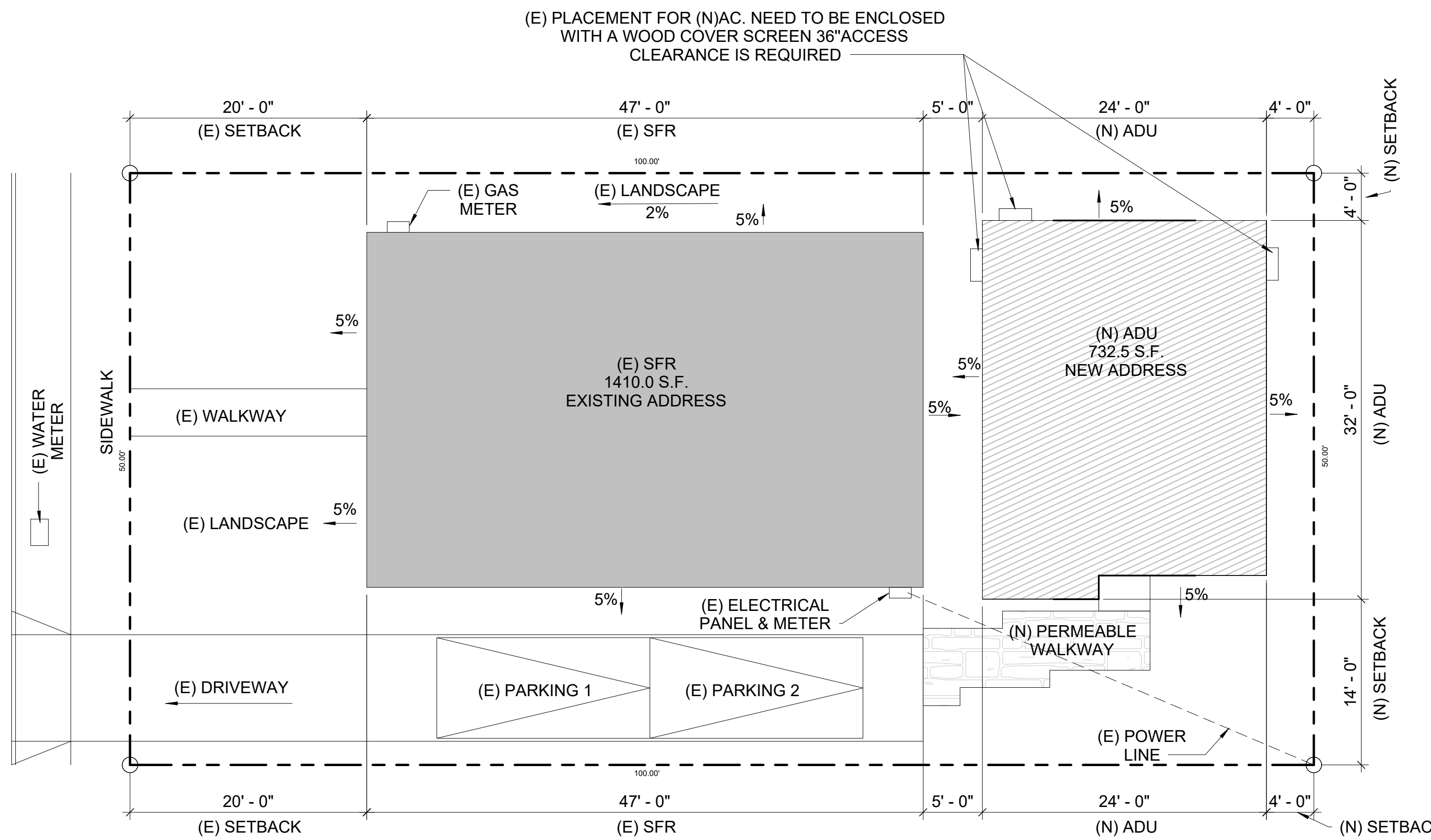
DRAFTER INFO

NAME: YAKOV DESIGN
ADDRESS: 8055 W MANCHESTER AVE #510, LOS ANGELES, CA 90023
PHONE: (323)922-2211
E-MAIL: INFO@YAKOVDESIGN.COM

SITE PLAN NOTES:

- 1. ALL PORTIONS OF REQUIRED FRONT YARD NOT USED FOR NECESSARY DRIVENWAYS AND WALKWAYS, INCLUDING DECORATIVE WALKWAYS SHALL BE USED FOR PLANTING AND SHALL NOT BE PAVED.
2. AUTOMATIC IRRIGATION SYSTEM CONTROLLERS TO BE WEATHER- OR SOIL-BASED CONTROLLERS.
3. FOR PROJECTS THAT INCLUDE LANDSCAPE WORK, THE LANDSCAPE CERTIFICATION, FORM GRN12, SHALL BE COMPLETED PRIOR TO FINAL INSPECTION APPROVAL.
4. ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS, OR OTHER OPENINGS IN THE BUILDING'S ENVELOPE AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR SIMILAR METHODS. (4.406.1)
5. MATERIALS DELIVERED TO THE CONSTRUCTION SITE SHALL BE PROTECTED FROM RAIN OR OTHER SOURCES OF MOISTURE.
6. CONSTRUCTION WASTE SHALL BE REDUCED BY 50%.
7. AN OPERATION AND MAINTENANCE MANUAL INCLUDING, AT A MINIMUM, THE ITEMS LISTED IN SECTION 4.410.1 SHALL BE COMPLETED AND PLACED IN THE BUILDING AT THE TIME OF FINAL INSPECTION. FORM GRN 6
8. LOT SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS WITH A MINIMUM FALL OF 6" WITHIN THE FIRST 10 FEET.
9. ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, OR SHEET METAL UNTIL THE FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT.
10. THE VOC CONTENT VERIFICATION CHECKLIST, FORM GRN 2, SHALL BE COMPLETED AND VERIFIED PRIOR TO FINAL INSPECTION APPROVAL. THE MANUFACTURER'S SPECIFICATIONS SHOWING VOC CONTENT FOR ALL APPLICABLE PRODUCTS SHALL BE READILY AVAILABLE AT THE JOB SITE AND BE PROVIDED TO THE FIELD INSPECTOR FOR VERIFICATION. (4.504.2.4, 4.504.2.4)
11. ADHESIVES, SEALANTS AND CAULKS SHALL MEET OR EXCEED THE STANDARDS OUTLINED IN SECTION 4.504.2.1 AND COMPLY WITH THE VOC LIMITS IN TABLES 4.504.1 AND 4.504.2 AS APPLICABLE. (4.504.2.1)
12. PAINTS AND COATINGS SHALL MEET OR EXCEED THE STANDARDS OUTLINED IN SECTION 4.504.2.2 AND COMPLY WITH THE VOC LIMITS IN TABLE 4.504.3.
13. AESTHETIC PAINTS AND COATINGS SHALL MEET OR EXCEED THE STANDARDS OUTLINED IN SECTION 4.504.2.3. (4.504.2.3)
14. ALL NEW CARPET INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE TESTING AND PRODUCT REQUIREMENTS OF ONE OF THE FOLLOWING:
A. CARPET AND RUG INSTITUTE'S GREEN LABEL PLUS PROGRAM OR
B. CALIFORNIA DEPARTMENT OF PUBLIC HEALTH STANDARD METHOD OF THE TESTING OF VOC EMISSIONS (SPECIFICATION 013580) OR
C. NSF/ANSI 140 AT THE GOLD LEVEL OR
D. SCIENTIFIC CERTIFICATIONS SYSTEMS INDOOR ADVANTAGE GOLD (4.504.3)
15. ALL NEW CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CARPET AND RUG INSTITUTE GREEN LABEL PROGRAM. CARPET ADHESIVES SHALL NOT EXCEED A VOC LIMIT OF 50 G/L (4.504.3.1, 4.504.3.2)
16. A MINIMUM OF 80% OF FLOOR AREA RECEIVING RESILIENT FLOORING SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING:
A. PRODUCTS CERTIFIED AS A LOW-EMITTING MATERIAL IN THE CHPS HIGH PERFORMANCE PRODUCTS DATABASE OR
B. VOC EMISSION LIMITS DEFINED IN THE CHPS HIGH PERFORMANCE PRODUCTS DATABASE OR
C. PRODUCTS COMPLIANT WITH THE CHPS CRITERIA CERTIFIED UNDER THE GREENGUARD CHILDREN & SCHOOLS PROGRAM OR
D. CERTIFICATION UNDER THE RESILIENT FLOOR COVERING INSTITUTE (RFCI) FLOORSORE PROGRAM OR
E. MEET THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S SPECIFICATION
17. NEW HARDWOOD PLYWOOD, PARTICLE BOARD, AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED IN THE INTERIOR OR EXTERIOR OF THE BUILDING SHALL MEET THE FORMALDEHYDE LIMITS LISTED IN TABLE 4.504.5, TABLE 9.504.5, (4.504.5, 9.504.5)
18. THE FORMALDEHYDE EMISSIONS VERIFICATION CHECKLIST, FORM GRN 3, SHALL BE COMPLETED PRIOR TO FINAL INSPECTION APPROVAL. THE MANUFACTURER'S SPECIFICATIONS SHOWING FORMALDEHYDE CONTENT FOR ALL APPLICABLE WOOD PRODUCTS SHALL BE READILY AVAILABLE AT THE JOB SITE AND BE PROVIDED TO THE FIELD INSPECTOR FOR VERIFICATION (4.504.5.1, 9.504.5.1)
19. BUILDING MATERIALS WITH VISIBLE SIGNS OF WATER DAMAGE SHALL NOT BE INSTALLED. THE BUILDING INSPECTOR SHALL NOT ENCLOSE WALL AND FLOOR FRAMING UNTIL IT IS INSPECTED AND FOUND TO BE SATISFACTORY.
20. THE HEATING AND AIR-CONDITIONING SYSTEMS SHALL BE SIZED AND DESIGNED USING ANSII/ACCA MANUAL J-2004, ANSII/ACCA 29-D-2009 OR ASHRAE HANDBOOKS AND HAVE THEIR EQUIPMENT SELECTED IN ACCORDANCE WITH ANSII/ACCA 36-S MANUAL S.
21. PROVIDE MINIMUM 1" (INSIDE DIAMETER) LISTED RACEWAY INSTALLED FOR EACH UNIT TO ACCOMMODATE A DEDICATED 208/240 VOLT BRUNCH CIRCUIT. THE RACEWAY SHALL ORIGINATE AT THE MAIN SERVICE OR A SUBPANEL AND TERMINATE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF THE CHARGING SYSTEM INTO A LISTED CABINET, BOX OR ENCLOSURE. SUFFICIENT CONDUCTOR SIZING AND SERVICE CAPACITY TO INSTALL LEVEL 2 EVSE SHALL BE PROVIDED. A LABEL STATING 'EV CAPABLE' SHALL BE POSTED IN CONSPICUOUS PLACE AT THE SERVICE PANEL OR SUBPANEL AND NEXT TO THE RACEWAY TERMINATION POINT.
22. THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE A RESERVED SPACE TO ALLOW FOR INSTALLATION OF A DOUBLE POLE CIRCUIT BREAKER FOR A FUTURE SOLAR ELECTRICAL INSTALLATION. THE RESERVED SPACE SHALL BE POSITIONED AT THE OPPOSITE (LOAD) END FROM THE INRUIT FEEDER LOCATION OR MAIN CIRCUIT LOCATION AND SHALL BE PERMANENTLY MARKED AS 'FOR FUTURE SOLAR ELECTRICAL'.
23. BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACE IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.
24. PROTECTION OF WOOD AND WOOD BASED PRODUCTS FROM DECAY SHALL BE PROVIDED IN THE LOCATIONS SPECIFIED PER SECTION R317.1 BY THE USE OF NATURALLY DURABLE WOOD OR WOOD THAT IS PRESERVATIVE-TREATED IN ACCORDANCE WITH AWPA U1 FOR THE SPECIES, PRODUCT, PRESERVATIVE AND END USE. PRESERVATIVES SHALL BE LISTED IN SECTION 4 OF AWPA U1. PROVIDE ANTI-GRAFFITI FINISH WITHIN THE FIRST 9 FEET, MEASURED FROM GRADE, AT EXTERIOR WALLS AND DOORS.
25. APPLICATIONS FOR WHICH NO PERMIT IS ISSUED WITHIN 180 DAYS FOLLOWING THE DATE OF APPLICATION SHALL AUTOMATICALLY EXPIRE. (R105.3.2 CRC)
26. EVERY PERMIT ISSUED SHALL BECOME INVALID UNLESS WORK AUTHORIZED IS COMMENCED WITHIN 180 DAYS OR IF THE WORK AUTHORIZED IS SUSPENDED OR ABANDON FOR A PERIOD OF 180 DAYS. A SUCCESSFUL INSPECTION MUST BE OBTAINED WITHIN 180 DAYS. A PERMIT MAY BE EXTENDED IF A WRITTEN REQUEST INCLUDING JUSTIFICATION FOR EXTENSION AND AN EXTENSION FEE IS RECEIVED PRIOR TO EXPIRATION OF THE PERMIT AND GRANTED BY THE BUILDING OFFICIAL. NO MORE THAN ONE (1) EXTENSION MAY BE GRANTED. PERMITS WHICH HAVE BECOME INVALID SHALL PAY A REACTIVATION FEE OF APPROXIMATELY 50% OF THE ORIGINAL PERMIT FEE AMOUNT WHEN THE PERMIT HAS BEEN EXPIRED FOR UP TO SIX (6) MONTHS. WHEN A PERMIT HAS BEEN EXPIRED FOR A PERIOD IN EXCESS OF ONE (1) YEAR, THE REACTIVATION FEE SHALL BE APPROXIMATELY 100% OF THE ORIGINAL PERMIT FEE (R105.3 CRC).
27. EFFECTIVE JAN 1, 2014, SB 407 REQUIRES REPLACEMENT OF ALL NONCOMPLIANT PLUMBING FIXTURES IN PROPERTIES BUILT ON OR BEFORE JAN 1, 1994 WITH WATER-CONSERVING PLUMBING FIXTURES.
28. THE PANEL OR SUBPANEL SHALL PROVIDE CAPACITY TO INSTALL A 40-AMPERE MINIMUM DEDICATED BRANCH CIRCUIT AND SPACE(S) RESERVED TO PERMIT INSTALLATION OF A BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE.
29. THE SERVICE PANEL OR SUBPANEL CIRCUIT DIRECTORY SHALL IDENTIFY THE OVERCURRENT PROTECTIVE DEVICE(S) RESERVED FOR FUTURE EV CHARGING AS EV CAPABLE. THE RACEWAY TERMINATION LOCATION SHALL BE PERMANENT AND VISIBLY MARKED BY CAPABLE.
30. EARTH IMPORT AND EXPORT ACTIVITIES MAY TAKE PLACE ONLY BETWEEN THE HOURS OF 9:00A.M. AND 3:00 P.M., MONDAY THROUGH FRIDAY.
31. MIN. 1" (INSIDE DIAMETER) LISTED RACEWAY IS INSTALLED FOR EACH UNIT TO ACCOMMODATE A DEDICATED 108/240 VOLT BRANCH CIRCUIT. THE RACEWAY SHALL ORIGINATE AT THE MAIN SERVICE OR A SUBPANEL AND TERMINATE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF THE CHARGING SYSTEM INTO A LISTED CABINET, BOX OR ENCLOSURE.
32. THE PANEL OR SUBPANEL SHALL PROVIDE CAPACITY TO INSTALL A 40-AMPERE MIN. DEDICATED BRANCH CIRCUIT AND SPACE(S) RESERVED TO PERMIT INSTALLATION OF BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE.
33. THE SERVICE PANEL OR SUBPANEL CIRCUIT DIRECTORY SHALL IDENTIFY THE OVERCURRENT PROTECTIVE DEVICE(S) RESERVED FOR FUTURE EV CHARGING AS EV CAPABLE. THE RACEWAY TERMINATION LOCATION SHALL BE PERMANENT AND VISIBLY MARKED BY CAPABLE.

STREET NAME



1 PROPOSED SITE PLAN
1/8" = 1'-0"

Yakov Design
Drafting service
(323)922-2211
info@yakovdesign.com

ADDRESS

PROPOSED SITE PLAN

NOTES:
SCALE: 1/8" = 1'-0"
DATE: 08.18.2024

0.1

GENERAL NOTES:

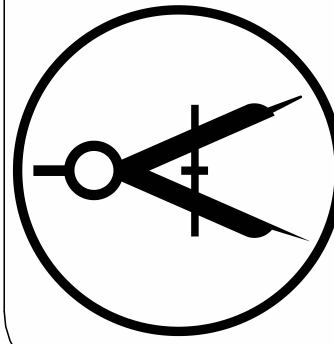
- The construction shall not restrict a five-foot clear and unobstructed access to any water or power distribution facilities (power poles, pull-boxes, transformers, vaults, pumps, valves, meters, appurtenances, etc.) or to the location of the hook-up. The construction shall not be within ten feet of any power lines-whether or not the lines are located on the property. Failure to comply may cause construction delays and/or additional expenses.
- An approved seismic Gas Shutoff Valve will be installed on the fuel gas line on the down stream side of the utility meter and be rigidly connected to the exterior of the building or structure containing the fuel gas piping . (Per ordinance 170, 158). Separate plumbing permit is required.
- Plumbing fixtures are required to be connected to a sanitary sewer or to an (approved sewage disposal system (R306.3).
- Kitchen sinks, lavatories, bathtubs, showers, bidets, laundry tubs and washing machine outlets shall be provided with hot and cold water and connected to an approved water supply (R306.4).
- Bathtub and shower floors, walls above bathtubs with a showerhead, and shower compartments shall be finished with a nonabsorbent surface. Such wall surfaces shall extend to a height of not less than 6 feet above the floor (R307.2).
- Provide ultra-low flush water closets for all new construction. Existing shower heads and toilets must be adapted for low water consumption.
- Provide ultra-low flush water closets for all new constructions. Existing shower heads and toilets must be adapted for low water consumption.
- Provide 72" high non-absorbent wall adjacent to shower and approved shatter-resistant materials for shower enclosure.
- Water heater must be strapped to wall.
- Smoke detectors shall be provided for all dwelling units intended for human occupancy, upon the owner's application for a permit for alterations, repairs, or additions, exceeding one thousand dollars (\$1,000). (R314.6.2)
- Where a permit is required for alterations, repairs or additions exceeding one thousand dollars (\$1,000), existing dwellings or sleeping units that have attached garages or fuel-burning appliances shall be provided with a carbon monoxide alarm in accordance with Section R315.2. Carbon monoxide alarms shall only be required in the specific dwelling unit or sleeping unit for which the permit was obtained. (R315.2.2)
- Every space intended for human occupancy shall be provided with natural light by means of exterior glazed openings in accordance with Section R303.1 or shall be provided with artificial light that is adequate to provide an average illumination of 6 foot-candles over the area of the room at a height of 30 inches above the floor level. (R303.1)
- A copy of the evaluation report and/or conditions of listing shall be made available at the job site
- Lots shall be graded to drain surface water away from foundation walls with a minimum fall of 6 inches within the first 10 feet (R401.3)
- Ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage sheet steel or other approved material and shall not have openings into L ' the garage (R302.5.2).
- Other penetrations of garage/dwelling ceilings and walls shall be protected as required by Section R302.11, Item 4 (R302.5.3).
- Through penetrations of fire-resistance-rated wall or floor assemblies shall comply with Section R302.4.1.1 or R302.4.1.2.
- Membrane penetrations shall comply with Section R302.4.1 Where walls are required to have a fire-resistance rating, recessed fixtures shall be installed so that the required fire-resistance rating is not reduced.
- In combustible construction, fire blocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective fire barrier between stories, and between a top story and the roof space. (R302.1 1)
- In combustible construction where there is usable space both above and below the concealed space of a floor/ceiling assembly, draftstops shall be installed so that the area of the concealed space does not exceed 1,000 square feet. Draftstopping shall divide the concealed space into approximately equal areas. (R302.12)
- The building shall be equipped with an automatic 1' residential fire sprinkler system in accordance with section R313.3 or NFPA13D. (R313, 12.21A17(d))
- The Sprinkler System shall be approved by Plumbing Division prior to installation
- An approved smoke alarm shall be installed in each sleeping room & hallway or area giving access to a sleeping room, and on each story and basement for dwellings with more than one story. Smoke alarms shall be interconnected so that actuation of one alarm will activate all the alarms within the individual dwelling unit. In new construction smoke alarms shall receive their primary power source from the building wiring and shall be equipped with battery back-up and low battery signal. (R314)
- An approved carbon monoxide alarm shall be installed in dwelling units and in sleeping units within which fuel-burning appliances are installed and in dwelling units that have attached garages. Carbon monoxide alarm shall be provided outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedroom(s) and on every level of a dwelling unit including basements. (R315)
- Heater shall be capable of maintaining a minimum room temperature of 68°F at a point 3 feet above the floor and 2 feet from exterior walls in all habitable rooms at the design temperature. (R303.9)
- Buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. (R319.1)
- Protection of wood and wood based products from decay shall be provided in the locations specified per Section R317.1 by the use of naturally durable wood or wood that is preservative-treated in accordance with AWPA U1 for the species, product, preservative and end use. Preservatives shall be listed in Section 4 of AWPA U1.
- Provide min. 1/4 inch per foot roof/deck slope for drainage (R806.3)
- Form GRN16 and an operation and maintenance manual, including, at a minimum, the items listed in Section 4.410.1, shall be completed and placed in the building at the time of final inspection.
- Compliance Information: The builder shall leave in the building, copies of the completed, signed and submitted compliance documents for the building owner at occupancy. For low-rise residential buildings, such information shall, at a minimum, include copies of all Certificate of Compliance, Certificate of Installation, and Certificate of Verification documentation submitted. 10-103(b)1
- Operating Information: The builder shall provide the building owner at occupancy, operating information for all applicable features, materials, components, and mechanical devices installed in the building. Operating information shall include instructions on how to operate the features, materials, components, and mechanical devices correctly and efficiently. The instructions shall be consistent with specifications set forth by the Executive Director.
 - For residential buildings, such information shall be contained in a folder or manual which provides all Certificate of Compliance, Certificate of Installation, and Certificate of Verification documentations. This operating information shall be in paper or electronic format. 10-103(b)2
- Maintenance Information: The builder shall provide to the building owner at occupancy, maintenance information for all features, materials, components, and manufactured devices that require routine maintenance for efficient operation. Required routine maintenance actions shall be clearly stated and incorporated on a readily accessible label. The label may be limited to identifying, by title and/or publication number, the operation and maintenance manual for that particular model and type of feature, material, component or manufactured device. 10-103(b)3
- Ventilation Information: The builder shall provide to the building owner at occupancy, a description of the quantities of outdoor air that the ventilation system(s) are designed to provide to the buildings conditioned space, and instructions for proper operation and maintenance of the ventilation system. 10-103(b)4
- All systems, equipment, appliances and building components shall comply with the applicable manufacturing, construction, and installation provisions of Sections 110.0 through 110.11 for newly constructed buildings.
- Any appliance regulated by the Appliance Efficiency Regulations, Title 20 California Code of Regulations, Section 1601 et seq., may be installed only if the appliance fully complies with Section 1608(a) of those regulations. 110.1(a)
- Service water-heating systems shall be equipped with automatic temperature controls capable of adjustment from the lowest to the highest acceptable temperature settings for the intended use as listed in Table 3, Chapter 50 of the ASHRAE Handbook, HVAC Applications Volume. 110.3(a)
- On systems that have a total capacity greater than 167,000 tu/hr, outlets that require higher than service water temperatures as listed in the ASHRAE Handbook, Applications Volume, shall have separate remote heaters, heat exchangers, or boosters to supply the outlet with the higher temperature. 110.3(c)1
- Service hot water systems with circulating pumps or with electrical heat trace systems shall be capable of automatically turning off the system. 110.3(c)2
- Controls for service water-heating systems shall limit the outlet temperature at public lavatories to 110°F. 110.3(c)3
- Unfired service water-heater storage tanks and backup tanks for solar water-heating systems shall have:
 - External insulation with an installed R-value of at least R-12, or
 - Internal and external insulation with a combined Rvalue of at least R-16, or
 - The heat loss of the tank surface based on an 80°F water-air temperature difference shall be less than 6.5 Btu/hr per square foot. 110.3(c)4
- Continuously burning pilot light shall be prohibited for the following natural gas system or equipment listed below: 110.5
 - Fan-type central furnaces
 - Household cooking appliances, except for household cooking appliances without an electrical supply voltage connection and in which each pilot consumes less than 150 Btu/hr
 - Pool heaters
 - Spa heaters
 - Indoor and outdoor fireplaces
- Manufactured fenestration products and exterior doors shall have air infiltration rates not exceeding 0.3 cfm/ft2 of window area, 0.3 cfm/ft2 of door area for residential doors, 0.3 cfm/ft2 of nonresidential single door area, and 1.0 cfm/ft2 of nonresidential double door area. 110.6(a)1
16. Fenestration products shall be rated in accordance with NFRC 100 for U-factor, NFRC 200 for SHGC, and VT or use the applicable default value. Fenestration products shall have a temporary label, for manufactured fenestration products and exterior doors, a temporary label certificate approved by the supervisory entity (NFRC) meets the requirements of this section. When Component Modeling Approach is used and for site-built fenestration products, a label certificate approved by the supervisory entity (NFRC) meets the requirements of this section 10-111(a)1, 110.6(a)2, 110.6(a)3, 110.6(a)4, 110.6(a)5
- Field-fabricated fenestration products and exterior doors, other than unframed glass doors and fire doors, shall be caulked between the fenestration products or exterior door and the building, and shall be weatherstripped. 110.6(b)
- Joints, penetrations and other openings in the building envelope that are potential sources of air leakage shall be caulked, gasketed, weather stripped, or otherwise sealed to limit infiltration and exfiltration. 110.7
- Insulation shall be certified by Department of Consumer Affairs, Bureau of Electronic and Appliance Repair, Home Furnishing and Thermal Insulation that the insulation conductive thermal performance is approved pursuant to the California Code of Regulations, Title 24, Part 12, Chapter 12-13, Article 3Standards for Insulating Material." 110.8(a)
- Urea formaldehyde foam insulation may only be used in exterior side walls, and requires a four-mil-thick plastic polyethylene vapor barrier between the urea formaldehyde foam insulation and the interior space in all applications. 110.8(b)
- Insulating material shall be installed in compliance with the flame spread rating and smoke density requirements of the CBC. 110.8(c)
- Insulation installed on an existing space conditioning duct, it shall comply with Section 604.0 of the CMC. 110.8(d)3
- External insulation installed on an existing unfired water storage tank or on an existing back-up tank for a solar waterheating system, it shall have an R-value of at least R-12, or the heat loss of the tank surface based on an 80°F water-air temperature difference shall be less than 6.5 Btu per hour per square foot.
- Exterior walls of dwellings and accessory buildings less than 5-ft.(non-sprinklered) / 3-ft. (Sprinklered) to the property line shall be 1-hour fire-resistance-rated construction. (R302.1, T-R302.1(1) & (2))
- No openings other than approved foundation vents shall be permitted in the exterior walls of dwellings and accessory buildings where the exterior wall is less than 3-ft. to the property line. (R302.1, T-R302.1(1) & (2))
- The area of exterior wall openings of non-sprinklered dwellings and accessory buildings located 3-ft. and < 5-ft. to the property line shall be limited to 25% of the wall area. The area of exterior wall openings is unlimited when exterior walls are located 5-ft for non-sprinklered buildings and 3-ft. for sprinklered buildings. (T-R302.1(1) & (2))
- Projections, including eaves, are not permitted within 2-ft. from the property line, except detached garages
- accessory to a dwelling are permitted to have 4-in. eave. Projections located 2-ft. and < 5-ft.(non-sprinklered) / 3-ft.(sprinklered) to the property line shall be of at least 1-hour fire-resistance-rated on the underside. (R302.1, T-R302.1(1) & (2))
- Buildings adjacent to ascending or descending slopes shall maintain setback according to the requirements of Section R403.1.7. (See Fig. R403.1.7.1)
- In newly constructed dwelling units, reinforcement for grab bars must be installed in one bathroom on the entry level in accordance with section R327.1.1. Reinforcement shall be located between 32-inches and 39 1/4-inches above the finished floor flush with the wall.
 - Water closet reinforcement shall be installed on both side walls of the fixture, or on one side wall and the back wall.
 - Where there is no bathroom at the entry level, the reinforcement for grab bars may be installed on the second or third floor
- All 120-volt, single phase, 15- and 20-amp branch circuits supplying outlets or devices installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas shall be protected by any of the means described in 210.12(A)(1) through (6). The arc fault circuit interrupter shall be installed in a readily accessible location. (EC 210.12)
- a. Dual waste piping shall be installed to permit the discharge from clothes washers, bathtubs, showers, and bathroom/restroom wash basins to be used for a graywater irrigation system. (PC 304.1)
 - Buildings with a graywater system, rain catchment system or recycled water system.
 - Sites with landscape areas not exceeding 500 square feet.
 - Projects where graywater systems are not permitted due to geological conditions.
 - Additions and alterations that use the existing building drain.
- b. A hot water recirculation system shall be installed, as defined in Chapter 2 of Los Angeles County Plumbing Code and shall not allow more than 0.6 gallons of water to be delivered to any fixture before hot water arrives. Hot water recirculation systems may include, but are not limited to, the following: (PC 601.2.2)
 - Timer-initiated systems.
 - Temperature sensor-initiated systems.
 - Occupancy sensor-initiated systems.
 - Smart hot water recirculation systems.
 - Demand hot water recirculation systems.
 - Other systems acceptable to the Authority Having Jurisdiction.

An individual water meter or submeter shall be provided for each dwelling unit in newly constructed multi-unit rental apartment, condominium structures and in residential portion of newly constructed mixed-use structures. (PC 601.2.1 & 601.2.1.1)

SECURITY REQUIREMENTS:

- All entry doors to dwelling units or guest rooms shall be arranged so that the occupant has a view of the area immediately outside the door without opening the door. Such view may be provided by a door viewer, through windows located in the vicinity of the door or through view ports in the door or adjoining wall. (6706)
- Screens, barricades, or fences made of a material which would preclude human climbing shall be provided at every portion of every roof, balcony, or similar surface which is within 8 ft. of the utility pole or similar structures. (6707)
- Wood flush-type doors shall be 1 3/8" thick minimum with solid core construction. 91.6709.1 - Door stops of in-swinging doors shall be of one-piece construction with the jamb or joined by rabbet to the jamb. (6709.4)
- Every door in a security opening for an apartment house shall be provided with a light bulb (60 watt min.) At a maximum height of 8 feet on the exterior. (6708)
- All pin-type door hinges accessible from outside shall have non-removable hinge pins. Hinges shall have min. 1/4" dia. steel jamb stud with 1/4" min. protection. The strike plate for latches and holding device for projecting dead bolts in wood construction shall be secured to the jamb and the wall framing with screws no less than 2-1/2" long. (91.6709.5, 6709.7)
- Provide dead bolts with hardened inserts; deadlocking latch with key-operated locks on exterior. Doors must be operable from the inside without a key, special knowledge, or special effort (latch not required in B, F, and S occupancies). (6709.2)
- Straight dead bolts shall have a min. throw of 1" and an embedment of not less than 5/8", and a hook-shaped or an expanding-jug deadbolt shall have a minimum throw of 3/4". (6709.2)
- The use of a locking system which consists of a deadlocking latch operated by a doorknob and a deadbolt operated by a non-removable thumb turn which is independent of the deadlocking latch and which must be separately operated, shall not be considered as a system which requires special knowledge or effort when used in dwelling units. The door knob and the thumb turn which operates the deadbolt shall not be separated by more than 8 inches.
- Wood panel type doors must have panels at least 9/16 in. thick with shaped portions not less than 1/4 in. thick and individual panels must be no more than 300 sq. in. in area. Mullions shall be considered a part of adjacent panels except mullions not over 18 inches long may have an overall width of not less than 2 inches. Stiles and rails shall be of solid lumber in thickness with overall dimensions of not less than 1 3/8 inches and 3 inches in width. (91.6709.1 item 2)
- Sliding doors shall be provided with a device in the upper channel of the moving panel to prohibit raising and removing of the moving panel in the closed or partially open position. (6710)
- Sliding glass doors shall be equipped with locking devices and shall be so constructed and installed that they remain intact and engaged when subjected to the tests specified in Sec.6717.1
- Metal or wooden overhead or sliding doors shall be secured with a cylinder lock, padlock with a min. 9/32" diameter hardened steel shackle and bolted, hardened steel hasps, metal slide board, bolt or equivalent device unless secured electrically operated. (6711)
- Provide metal guides at top and bottom of metal accordion grate or grill-type doors and cylinder locks or padlocks. Cylinder guards shall be installed on all cylinder locks whenever the cylinder projects beyond the face of the door or is otherwise accessible to gripping tools. (6712)
- In B, F, M, and S occupancies, panes of glazing with atleast one dimension greater than 5 in. butless than 48 in, shall be constructed of tempered or approved burglary-resistant material or protected with metal bars or grilles (6714)
- Glazed openings within 40" of the door lock when the doors in the closed position, shall be fully tempered glass or approved burglary resistant material, or shall be protected by metal bars, screens or grils having a maximum opening of 2". The provisions of this section shall not apply to view ports or windows which do not exceed 2" in their greatest dimensions. (6713)
- Louvered windows shall be protected by metal bars or grills with openings that have at least one dimension of 6" orless, which are constructed to preclude human entry. (6715.3)
- Other operable windows shall be provided with substantial locking devices. In B, F, M and S occupancies, such devices shall be glide bars, bolts, cross-bars, and/or padlocks with minimum 9/32" hardened steel shackles and bolted, hardened steel hasps. (6715.2)
- Sliding windows shall be provided with a device in the upper channel of the moving panel to prohibit raising and removing of the moving panel in the closed or partially open position. 6715.1
- Sliding windows shall be equipped with locking devices and shall be so constructed and installed that they remain intact and engaged when subjected to the tests specified in Sec. 6717.2.
- Any release for metal bars, grills, grates or similar devices constructed to preclude human entry that are installed shall be located on the inside of the adjacent room and at least 24 inches from the closest opening through such metal bars, grills, grates or similar devices that exceeds two inches in any dimension. (91.6715.4)
- All other openings must be protected by metal bars or grilles with openings of not less than 6 inches in one dimension. (91.6716)

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Drafting service
(323)922-2211
info@yakovdesign.com



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GENERAL NOTES

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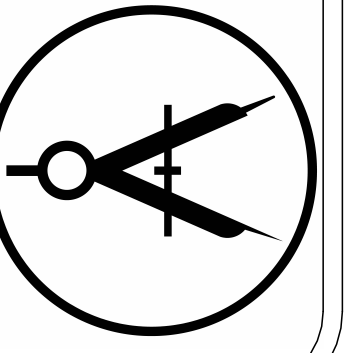
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2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023)

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(323)922-2211
info@yakovdesign.com



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GREEN BUILDING REQUIREMENTS

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Y	N/A	RESPON. PARTY	CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL	Y	N/A	RESPON. PARTY	CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL	Y	N/A	RESPON. PARTY	CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL	Y	N/A	RESPON. PARTY	CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL	Y	N/A	RESPON. PARTY	CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL																																				
			<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>				<p>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 spaces 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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> When EV chargers (Level 2 EVSE) are installed in a number equal to or greater than the required number of EV capable spaces. 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. <p>Notes:</p> <p>a. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.</p> <p>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.</p> <p>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.</p> <p>Exception: Areas of parking facilities served by parking lifts.</p>				<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Notes:</p> <p>a. Construction documents shall show locations of future EV spaces.</p> <p>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.</p> <p>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.</p> <p>Exception: Areas of parking facilities served by parking lifts.</p> <p>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.</p> <p>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.</p>				<p>4.106.4.2.1 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, hotels and motels shall not be required to comply with this section. See California Building Code, Chapter 11B, for applicable requirements.</p> <p>4.106.4.2.2.1 Location. EVCS shall comply with at least one of the following options:</p> <ol style="list-style-type: none"> 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. <p>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.</p> <p>4.106.4.2.2.1.2 Electric vehicle charging stations (EVCS) dimensions. The charging spaces shall be designed to comply with the following:</p> <ol style="list-style-type: none"> 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). 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. <p>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.</p> <p>4.106.4.2.3 EV space requirements.</p> <ol style="list-style-type: none"> 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 proposed location of an EV charger. Raceways shall be installed in 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 for permit installation of a branch circuit overcurrent protective device. <p>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.</p> <p>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".</p>				<p>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.</p> <p>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.</p> <p>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).</p> <p>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.</p> <p>Notes:</p> <ol style="list-style-type: none"> Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use. <p>DIVISION 4.2 ENERGY EFFICIENCY</p> <p>4.201 GENERAL</p> <p>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.</p> <p>DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION</p> <p>4.303 INDOOR WATER USE</p> <p>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 4.303.1.4.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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 0.5 gallons per flush.</p> <p>4.303.1.3 Showerheads.</p> <p>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.</p> <p>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.</p> <p>Note: A hand-held shower shall be considered a showerhead.</p> <p>4.303.1.4 Faucets.</p> <p>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 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.</p> <p>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 80 psi.</p> <p>4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.</p> <p>4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.</p> <p>Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.</p> <p>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 (g)(7) and shall be equipped with an integral automatic shutoff.</p> <p>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).</p>				<p>4.304 OUTDOOR WATER USE</p> <p>4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.</p> <p>NOTES:</p> <ol style="list-style-type: none"> The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code Regulations, Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are available at: https://www.water.ca.gov/ <p>DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY</p> <p>4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE</p> <p>4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in soffit/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.</p> <p>4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING</p> <p>4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> Excavated soil and land-clearing debris. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility. <p>4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.</p> <ol style="list-style-type: none"> Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream). Identify diversion facilities where the construction and demolition waste material collected will be taken. Identify construction methods employed to reduce the amount of construction and demolition waste generated. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both. <p>4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.</p> <p>Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.</p> <p>4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.</p> <p>4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.</p> <p>4.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1 through 5, Section 4.408.3 or Section 4.408.4.</p> <p>Notes:</p> <ol style="list-style-type: none"> Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle). 				<p>4.410 BUILDING MAINTENANCE AND OPERATION</p> <p>4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:</p> <ol style="list-style-type: none"> Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure. Operation and maintenance instructions for the following: <ol style="list-style-type: none"> Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment. Roof and yard drainage, including gutters and downspouts. Space conditioning systems, including condensers and air filters. Landscape irrigation systems. Water reuse systems. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations. Public transportation and/or carpool options available in the area. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range. Information about water-conserving landscape and irrigation design and controllers which conserve water. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc. Information about state solar energy and incentive programs available. A copy of all special inspections verifications required by the enforcing agency or this code. Information from the Department of Forestry and Fire Protection on maintenance of defensible space around residential structures. Information and/or drawings identifying the location of grab bar reinforcements. <p>4.410.2 RECYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic wastes, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.</p> <p>Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are not required to comply with the organic waste portion of this section.</p>				<p>TABLE H-2</p> <p>STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY VALVES MANUFACTURED ON OR AFTER JANUARY 28, 2019</p> <table border="1"> <thead> <tr> <th>PRODUCT CLASS [spray force in ounces force (ozf)]</th> <th>MAXIMUM FLOW RATE (gpm)</th> </tr> </thead> <tbody> <tr> <td>Product Class 1 (≤ 5.0 ozf)</td> <td>1.00</td> </tr> <tr> <td>Product Class 2 (> 5.0 ozf and ≤ 8.0 ozf)</td> <td>1.20</td> </tr> <tr> <td>Product Class 3 (> 8.0 ozf)</td> <td>1.28</td> </tr> </tbody> </table> <p>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)]</p> <p>4.303.2 Submitters for multifamily buildings and dwelling units in mixed-used residential/commercial buildings. Submitters shall be installed to measure water usage of individual retail dwelling units in accordance with the California Plumbing Code.</p> <p>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.</p> <p>NOTE: THIS TABLE COMPLETES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER.</p> <table border="1"> <thead> <tr> <th>FIXTURE TYPE</th> <th>FLOW RATE</th> </tr> </thead> <tbody> <tr> <td>SHOWER HEADS (RESIDENTIAL)</td> <td>1.8 GMP @ 80 PSI</td> </tr> <tr> <td>LAVATORY FAUCETS (RESIDENTIAL)</td> <td>MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI</td> </tr> <tr> <td>LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS</td> <td>0.5 GPM @ 60 PSI</td> </tr> <tr> <td>KITCHEN FAUCETS</td> <td>1.8 GMP @ 60 PSI</td> </tr> <tr> <td>METERING FAUCETS</td> <td>0.2 GAL/CYCLE</td> </tr> <tr> <td>WATER CLOSET</td> <td>1.28 GAL/FLUSH</td> </tr> <tr> <td>URINALS</td> <td>0.125 GAL/FLUSH</td> </tr> </tbody> </table>	PRODUCT CLASS [spray force in ounces force (ozf)]	MAXIMUM FLOW RATE (gpm)	Product Class 1 (≤ 5.0 ozf)	1.00	Product Class 2 (> 5.0 ozf and ≤ 8.0 ozf)	1.20	Product Class 3 (> 8.0 ozf)	1.28	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 @ 20 PSI	LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI	KITCHEN FAUCETS	1.8 GMP @ 60 PSI	METERING FAUCETS	0.2 GAL/CYCLE	WATER CLOSET	1.28 GAL/FLUSH	URINALS	0.125 GAL/FLUSH
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			<p>CHAPTER 4</p> <p>RESIDENTIAL MANDATORY MEASURES</p> <p>SECTION 4.102 DEFINITIONS</p> <p>4.102.1 DEFINITIONS</p> <p>The following terms are defined in Chapter 2 (and are included here for reference)</p> <p>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.</p> <p>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.</p> <p>4.106 SITE DEVELOPMENT</p> <p>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.</p> <p>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.</p> <ol style="list-style-type: none"> 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. <p>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)</p> <p>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:</p> <ol style="list-style-type: none"> 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. <p>Exception: Additions and alterations not altering the drainage path.</p> <p>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.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 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: <ol style="list-style-type: none"> Where there is no local utility power supply or the local utility is unable to supply adequate power. 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. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities. <p>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 enclosure in close proximity to the proposed location of an EV charger. Raceways shall be installed in 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 for permit installation of a branch circuit overcurrent protective device.</p> <p>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.</p> <p>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".</p>																																																				

DISCLAIMER: THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING DEPARTMENT JURISDICTIONS, THIS CHECKLIST IS TO BE USED ON AN INDIVIDUAL PROJECT BASIS AND MAY BE MODIFIED BY THE END USER TO MEET THOSE INDIVIDUAL NEEDS. THE END USER ASSUMES ALL RESPONSIBILITY ASSOCIATED WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.

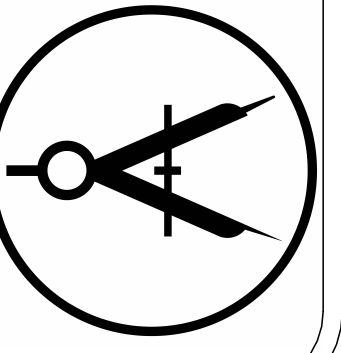
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE RESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2023)

Y NA RESPON PARTY
= YES APPLICABLE RESPONSIBLE PARTY (i.e. ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)
= NOT APPLICABLE

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			<p>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.</p> <p>MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.</p> <p>PRODUCT-WEIGHTED MIR (PW MIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PW MIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging). Note: PW MIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).</p> <p>REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.</p> <p>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).</p> <p>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.</p> <p>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.</p> <p>4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.</p> <p>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:</p> <ol style="list-style-type: none"> 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. 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, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with section 94507. <p>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.</p> <p>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 toxic 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.</p> <p>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:</p> <ol style="list-style-type: none"> Manufacturer's product specification. Field verification of on-site product containers. 																																																																																										
			<p>TABLE 4.504.1 - ADHESIVE VOC LIMIT^{1,2} (Less Water and Less Exempt Compounds in Grams per Liter)</p> <table border="1"> <thead> <tr> <th>ARCHITECTURAL APPLICATIONS</th> <th>VOC LIMIT</th> </tr> </thead> <tbody> <tr><td>INDOOR CARPET ADHESIVES</td><td>50</td></tr> <tr><td>CARPET PAD ADHESIVES</td><td>50</td></tr> <tr><td>OUTDOOR CARPET ADHESIVES</td><td>150</td></tr> <tr><td>WOOD FLOORING ADHESIVES</td><td>100</td></tr> <tr><td>RUBBER FLOOR ADHESIVES</td><td>60</td></tr> <tr><td>SUBFLOOR ADHESIVES</td><td>50</td></tr> <tr><td>CERAMIC TILE ADHESIVES</td><td>65</td></tr> <tr><td>VCT & ASPHALT TILE ADHESIVES</td><td>50</td></tr> <tr><td>DRYWALL & PANEL ADHESIVES</td><td>50</td></tr> <tr><td>COVE BASE ADHESIVES</td><td>50</td></tr> <tr><td>MULTIPURPOSE CONSTRUCTION ADHESIVE</td><td>70</td></tr> <tr><td>STRUCTURAL GLAZING ADHESIVES</td><td>100</td></tr> <tr><td>SINGLE-PLY ROOF MEMBRANE ADHESIVES</td><td>250</td></tr> <tr><td>OTHER ADHESIVES NOT LISTED</td><td>50</td></tr> <tr><td>SPECIALTY APPLICATIONS</td><td></td></tr> <tr><td>PVC WELDING</td><td>510</td></tr> <tr><td>CPVC WELDING</td><td>490</td></tr> <tr><td>ABS WELDING</td><td>325</td></tr> <tr><td>PLASTIC CEMENT WELDING</td><td>250</td></tr> <tr><td>ADHESIVE PRIMER FOR PLASTIC</td><td>550</td></tr> <tr><td>CONTACT ADHESIVE</td><td>80</td></tr> <tr><td>SPECIAL PURPOSE CONTACT ADHESIVE</td><td>250</td></tr> <tr><td>STRUCTURAL WOOD MEMBER ADHESIVE</td><td>140</td></tr> <tr><td>TOP & TRIM ADHESIVE</td><td>250</td></tr> <tr><td>SUBSTRATE SPECIFIC APPLICATIONS</td><td></td></tr> <tr><td>METAL TO METAL</td><td>30</td></tr> <tr><td>PLASTIC FOAMS</td><td>50</td></tr> <tr><td>POROUS MATERIAL (EXCEPT WOOD)</td><td>50</td></tr> <tr><td>WOOD</td><td>30</td></tr> <tr><td>FIBERGLASS</td><td>80</td></tr> </tbody> </table> <p>1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.</p> <p>2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.</p>	ARCHITECTURAL APPLICATIONS	VOC LIMIT	INDOOR CARPET ADHESIVES	50	CARPET PAD ADHESIVES	50	OUTDOOR CARPET ADHESIVES	150	WOOD FLOORING ADHESIVES	100	RUBBER FLOOR ADHESIVES	60	SUBFLOOR ADHESIVES	50	CERAMIC TILE ADHESIVES	65	VCT & ASPHALT TILE ADHESIVES	50	DRYWALL & PANEL ADHESIVES	50	COVE BASE ADHESIVES	50	MULTIPURPOSE CONSTRUCTION ADHESIVE	70	STRUCTURAL GLAZING ADHESIVES	100	SINGLE-PLY ROOF MEMBRANE ADHESIVES	250	OTHER ADHESIVES NOT LISTED	50	SPECIALTY APPLICATIONS		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		METAL TO METAL	30	PLASTIC FOAMS	50	POROUS MATERIAL (EXCEPT WOOD)	50	WOOD	30	FIBERGLASS	80																												
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			<p>CHAPTER 7 INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS</p> <p>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:</p> <ol style="list-style-type: none"> State certified apprenticeship programs. Public utility training programs. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. Programs sponsored by manufacturing organizations. Other programs acceptable to the enforcing agency. <p>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:</p> <ol style="list-style-type: none"> Certification by a national or regional green building program or standard publisher. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors. Successful completion of a third party apprentice training program in the appropriate trade. Other programs acceptable to the enforcing agency. <p>Notes:</p> <ol style="list-style-type: none"> Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS). <p>[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.</p> <p>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.</p> <p>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.</p>																																																																																										
			<p>DIVISION 4.5 ENVIRONMENTAL QUALITY (continued) 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/CCDCDP/DEDC/ELH/IAQ/Pages/VOC.aspx.</p> <p>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/CCDCDP/DEDC/ELH/IAQ/Pages/VOC.aspx.</p> <p>4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.</p> <p>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/CCDCDP/DEDC/ELH/IAQ/Pages/VOC.aspx.</p> <p>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</p> <p>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:</p> <ol style="list-style-type: none"> Product certifications and specifications. Chain of custody certifications. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.) Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0225 standards. Other methods acceptable to the enforcing agency. <p>4.505 INTERIOR MOISTURE CONTROL 4.505.1 General. Buildings shall meet or exceed the provisions of the California Building Standards Code.</p> <p>4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, 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.</p> <p>4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:</p> <ol style="list-style-type: none"> 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. Other equivalent methods approved by the enforcing agency. A slab design specified by a licensed design professional. <p>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:</p> <ol style="list-style-type: none"> 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. 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. 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. <p>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.</p> <p>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:</p> <ol style="list-style-type: none"> Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control. <ol style="list-style-type: none"> 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. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in) <p>Notes:</p> <ol style="list-style-type: none"> For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code. <p>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:</p> <ol style="list-style-type: none"> 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. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods. <p>Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.</p>																																																																																										

DISCLAIMER: THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE CALIFORNIA GREEN BUILDING STANDARDS [CALGREEN] CODE. DUE TO THE VARIABLES BETWEEN BUILDING DEPARTMENT JURISDICTIONS, THIS CHECKLIST IS TO BE USED ON AN INDIVIDUAL PROJECT BASIS AND MAY BE MODIFIED BY THE END USER TO MEET THOSE INDIVIDUAL NEEDS. THE END USER ASSUMES ALL RESPONSIBILITY ASSOCIATED WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.

Yakov Design
Drafting service
(323)922-2211
info@yakovdesign.com



ADDRESS

GREEN BUILDING
REQUIREMENTS

NOTES:

SCALE:

DATE: 08.18.2024

0.4



Master Flow® Power Attic Vent Roof Mount

Remove excess heat and moisture from your attic and protect your roof system from premature deterioration



- Improve energy efficiency by reducing attic heat and your summer air conditioning load
- Exhaust a larger amount of heat and moisture vs. typical static exhaust vents
- Limit the growth of harmful mold and mildew



Master Flow® Power Attic Vent Roof Mount

Benefits:

- Exhausts large amounts of heat and moisture from the attic
- High-efficiency PSC motor uses less energy vs. typical competitors' vents!
- Compact size and hemmed dome for a sleek finished look
- Adjustable thermostat included on all models. Optional humidistat/thermostat available on select models.
- Weather-resistant design passes the 110 mph wind-driven rain test*
- Popular colors to complement your finished roof (see chart below)
- Eligible component for GAF residential enhanced warranties

Balanced Ventilation:

Balanced attic ventilation means there's an equal amount of air entering it as there is exiting it. The amount of exhaust ventilation must never exceed the amount of intake ventilation at the soffits or eaves. GAF recommends a minimum of 1 sq. ft. of net free ventilation for every 300 sq. ft. of attic floor space. Always consult local building codes for specific ventilation requirements.

How Much Do I Need?

Calculate the total square footage of your attic floor space and then review the chart below for the recommended Master Flow® Power Attic Vent - Roof Mount model:

Total Attic Sq. Footage	Recommended Power Attic Vent Roof Mount Model	Minimum Intake Ventilation (net free area in sq. ft.)
up to 1,000	ERV4	450
up to 2,000	ERV5	600
up to 2,800	ERV6	720

Note: Always leave a basement attic ventilation system in its rated design placement of eaves/soffits. Visit www.gaf.com/ventilation for more details.

Available Models & Key Features

	ERV4	ERV5	ERV6
CFM Air Flow	1,000	1,250	1,500
Maximum Attic Floor Sq. Footage	1,000	2,000	2,800
Minimum Intake Ventilation Required (sq. inches of NFA)	450	600	720
Energy Usage vs. Typical Competitors' Vents ¹	Up to 55% less	Up to 55% less	Up to 15% less
Thermostat Included	Yes	Yes	Yes
Optional Humidistat/Thermostat Available	-	Yes	Yes
Ltd. Warranty Against Manufacturing Defects ² (years)	5	5	10
Labor Protection Plus ³ (years)	2	3	5

Colors Available	Mil. Black, Brown & Weathered Wood	Mil. Black, Brown & Weathered Wood	Black, Brown, Weathered Wood & ShinglesMatch™ Weathered Wood



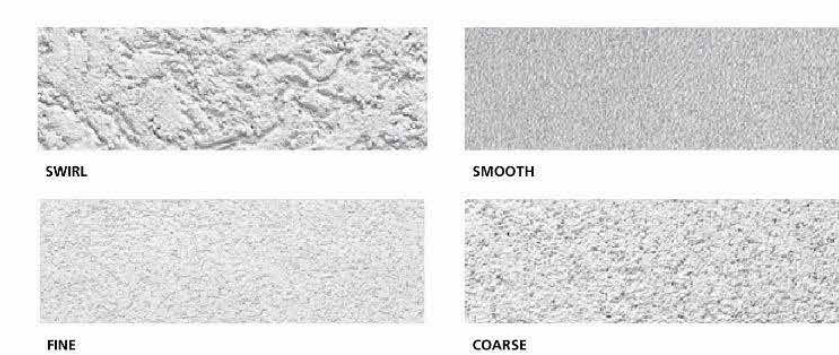
We protect what matters most™

LaHabra®

Swirl Smooth Fine Coarse
Perma-Flex Stucco Grade Acrylic Finish

Test	Method	ICC/ASTM Criteria	Results
Accelerated Weathering	ASTM G153 (Formery ASTM G23)	No deleterious effects at 2000 hours when viewed under 5x magnification	Pass @ 2,000 hours
Flexibility (Mandrel Bend)	ASTM D522, Method B	No Requirement	3/16" diameter
Freeze/Thaw Resistance*	ASTM E2485	No deleterious effects at 10 cycles when viewed under 5x magnification	Pass @ 10 cycles
Scrub Resistance	ASTM D2486	No Requirement	Pass @ 8,000 Cycles
Yellowness after 2000 hrs QUV Exposure	ASTM E313	Individual components shall each have a flame spread <25, and smoke developed <450	ΔE= 0.57 Pass

*Tested with LaHabra Basecoat



- Warm, moist air is exhausted from the attic through the Master Flow® Power Attic Vent Roof Mount.
- Fresh air enters attic through intake vent of the soffit or eave.

Base or GFI rating is 100 volts. Under-recessed recessed range certified by GAF. See Master Flow® Power Attic Vent Brochure Limited Warranty for complete coverage and restrictions. *Always refer to US Green Certification Directory.

DESCRIPTION:
 ■ 100% acrylic-based textured finish.
 ■ Dirt Pick-up Resistance (DPR): The surface of the finish hardens and does not soften again under heat. The non-tacky surface provides high resistance to accumulation of dirt, mold, and pollutants.

USES:
 Exterior finish coat over:
 ■ Properly prepared stucco, masonry and concrete surfaces.

COMPOSITION:
 ■ 100% acrylic polymer.
 ■ Aggregate: Pure crushed marble, rust-free.
 ■ Water-based: VOC-compliant. Meets SCAQMD Rule 1113 when using Parex USA Non-VOC Colorants.
 ■ Pigment base: Titanium dioxide.
 ■ Colors: LaHabra standard colors or tinted to desired custom color.

CONTAINER:
 65 lbs. (29.5 kg) net weight in plastic pails.
 ■ Storage: Protect from direct sunlight and freezing at all times.
 ■ Do not stack pails more than 3 pails high.
 ■ Shelf Life: Reference Parex USA Expiration Date of Products Technical Bulletin.

COVERAGE:
 Depending on the condition of the substrate and method of application, approximate coverages per pail are:
Smooth
 Aggregate size: 0.5mm
 280-300 ft² (26-28 m²)
Swirl
 Aggregate size: 1.5mm
 120-135 ft² (11-12.5 m²)
Fine
 Aggregate size: 1.0mm
 150-165 ft² (14-15 m²)
Coarse
 Aggregate size: 1.5mm
 110-125 ft² (10-11.5 m²)

DRYING TIME:
 24 hours under normal conditions. High humidity and low temperatures extend drying time.

CLEAN-UP:
 Water soluble prior to drying. Clean tools and equipment with water prior to drying.

SURFACE PREPARATION:
 ■ Remove surface contaminants such as dust or dirt without damaging the substrate.
 ■ For previously painted surfaces, all loose and chalking paint must be removed, and glossy surfaces dulled.
 ■ New concrete and masonry must be clean and cured a minimum of 28 days.
 ■ Check concrete surfaces for alkalinity and treat. Any form-release agents or bond breakers must be removed.
 ■ Portland Cement Plaster must be clean and cured a minimum of 7 days or in accordance with LaHabra Fatwall Specifications.
 ■ Uneven concrete or masonry can be leveled with Stucco Level Coat.
 ■ For interior drywall, prepare as for painting.

■ Parex USA recommends the use of primers to enhance the appearance and uniformity of the finish, improve coverage and reduce the chances of efflorescence. This is especially true when using dark colors or finishes with a large aggregate. If specified prime with Parex USA Primer or Variance VarioPrime Sanded, refer to Product Data Sheet.
 ■ For additional options, contact Parex USA Technical Services Department.

MIXING:
 ■ Use clean equipment for mixing and preparation.
 ■ Stir to obtain a homogeneous consistency using a heavy-duty 1/2-in. (13mm) drill with a rust free paddle at 400-500 rpm. Avoid air entrainment.
 ■ Add liquid color to the pail of finish. Make sure all of the color is added by rinsing out the color vial with water (1/3 of the vial's volume) into the pail.
 ■ Add the amount of water needed (up to a maximum of 16 oz. per pail) to achieve finish texture. To avoid color variations, add the same amount of water to each pail of finish.

APPLICATION:
 ■ Read the entire label before using this product.
 ■ Always maintain a wet edge and work to corners or joints. For best color consistency, use finish with the same batch number within a wall section. For more information, see Technical Bulletin: "Boxing Acrylic Finishes".
 ■ Keep container closed when not in use.
 ■ Use a clean stainless steel trowel and apply a uniform coat the thickness of the largest aggregate size of the finish.
 ■ Texturing LaHabra Fine, Swirl and Coarse Finishes: Use a clean plastic float or a stainless steel trowel. A plastic float will roll the large aggregates more than a stainless steel trowel and may cause swirling. Continuously dry clean the plastic float or steel trowel while texturing. Use consistent pressure and motion to achieve the desired texture.
 ■ Texturing Smooth Finishes:
 - Optional: Level stucco brown coats with Stucco Level Coat and let dry prior to finish application.
 - Smooth Finish cannot generally be floated. Texture will be "as trowelled."
 - Smooth Finish can be trowelled smooth to simulate the texture of limestone.

- For smoothest application, apply in two light coats. Allow first coat to dry enough that it will not be disturbed during application of the second coat. When second coat is partially dry, trowel to desired smoothness. Light, consistent misting with water during smoothing will increase smoothness. Variations in color tint and smoothness should be expected.
 ■ Spray application: To achieve consistent texture, spray application must use consistent motion, pressure, distance and spray angle. A job-site mock-up for spray application is advised.

LIMITATIONS:
 ■ Ambient and surface temperature must be 40°F (4°C) or higher during application and drying time. Supplemental heat and protection from precipitation must be provided as needed.
 ■ Use only on surfaces that are sound, clean, dry and free from any residue that might affect the ability of the finish to bond to the surface.
 ■ Application in direct sunlight or hot weather may adversely affect aesthetics.
 ■ Not for use with EIFS.
 ■ Parex USA is not responsible for color correctness after finish has been applied.

WARNING:
 ■ Read complete Warning information printed on product container prior to use. For medical emergency information, call 1-800-424-9300.
 ■ For more information on handling this product refer to its Safety Data Sheet (SDS). The most current SDS and Product Data Sheet (PDS) can be found on our website.
 ■ This Product Data Sheet has been prepared in good faith on the basis of information available at the time of publication. It is intended to provide users with information about the guidelines for the proper use and application of the covered product(s) under normal environmental and working conditions. Because each project is different, Parex USA, Inc. cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

Parex USA, Inc.
 4125 E. La Palma Ave., Suite 250
 Anaheim, CA 92807
 (866) 516-0061 Tech Support: (800) 226-2424

Facilities
 French Camp, CA
 North Hollywood, CA
 Riverside, CA
 San Diego, CA

Colorado Springs, CO
 Haines City, FL
 Duluth, GA
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RENOGY



RNG-100MB Premium 100W Monocrystalline Solar Panel

Key Features

Sleek design and a durable frame, the Renogy Premium 100 Watt 12 Volt Monocrystalline Panel provides you with the highest efficiency per area and is the perfect item for off-grid applications.

- High module conversion efficiency
- Top ranked PTC rating
- Quick and inexpensive mounting
- 100% EL testing on all Renogy modules
- No hot spots guaranteed

Potential Uses

The Renogy 100 Watt Monocrystalline Panel can be used in various off-grid applications that include 12 and 24 volts arrays, water pumping systems, signaling systems and other off-grid applications.

25 Years Power Output Warranty

5 Years Material and Workmanship Warranty

RNG-100MB

Premium 100W Monocrystalline Solar Panel

Electrical Data

Maximum Power at STC*	100 W
Optimum Operating Voltage (V _{oc})	17.7 V
Optimum Operating Current (I _{mp})	5.70 A
Open Circuit Voltage (V _{oc})	21.2 V
Short Circuit Current (I _{sc})	6.10 A
Cell Efficiency	22%
Maximum System Voltage	600 VDC ULL
Maximum Series Fuse Rating	10 A

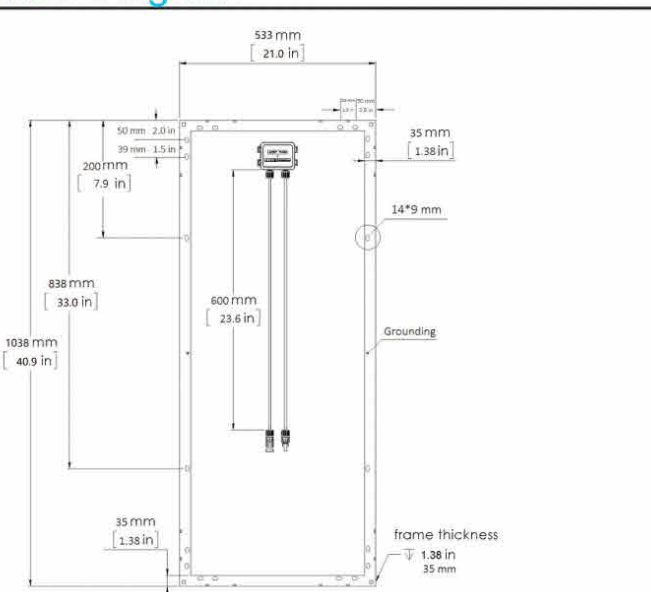
Thermal Characteristics

Operating Module Temperature	-40°F to 176°F
Nominal Operating Cell Temperature (NOCT)	47±2°C
Temperature Coefficient of P _{max}	-0.38%/°C
Temperature Coefficient of Voc	-0.28%/°C
Temperature Coefficient of Isc	0.06%/°C

Junction Box

IP Rating	IP 65
Diode Type	15SQ045
Number of Diodes	2 Diode(s)
Output Cables	14 AWG (2.00 ft long)

Module Diagram



Mechanical Data

Solar Cell Type	Monocrystalline (4.92 x 4.92 in)
Number of Cells	32 (4 x 8)
Dimensions	40.9 x 21.0 x 1.4 in (1038 x 533 x 35 mm)
Weight	15 lbs (6.8 kg)
Front Glass	Tempered Glass 0.13 in (3.2 mm)
Frame	Black Electrophoresis Aluminum Alloy
Connectors	MC4 Connectors
Fire Rating	Class C

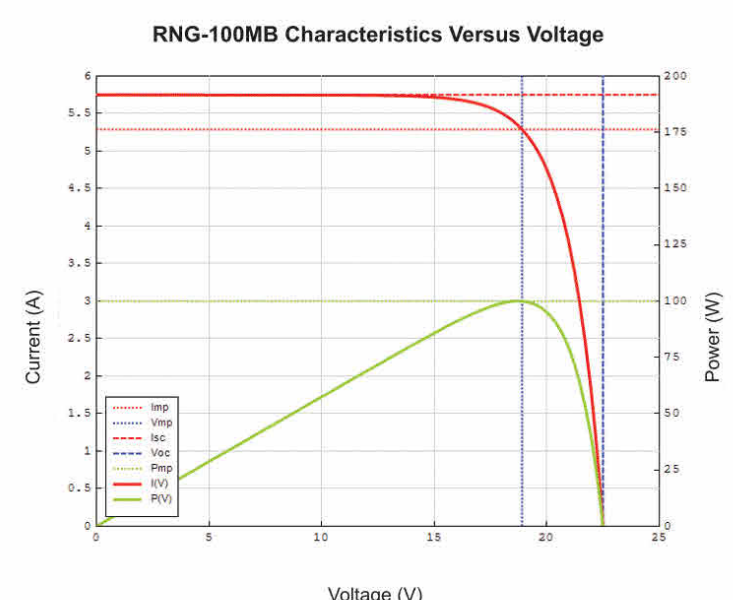
MC4 Connectors

Rated Current	30A
Maximum Voltage	1000VDC
Maximum AWG Size Range	10 AWG
Temperature Range	-40°F to 194°F
IP Rating	IP 67

Certifications



IV-Curve



*All specifications and data described in this data sheet are tested under Standard Test Conditions (STC - Irradiance: 1000W/m², Temperature: 25°C, Air Mass: 1.5) and may deviate marginally from actual values. Renogy and any of its affiliates has reserved the right to make any modifications to the information on this data sheet without notice. It is our goal to supply our customers with the most recent information regarding our products. These data sheets can be found in the downloads section of our website, www.renogy.com

Renogy | www.renogy.com | customerservice@renogy.com | 909-287-7111
 2775 E. Philadelphia St, Ontario, CA 91761

CertainTeed Technical Data Sheet

SAINT-GOBAIN Landmark Solaris®

PRODUCT INFORMATION

Landmark Solaris® innovative technology produces a shingle that reflects solar energy in a traditional color palette. All colors are rated by Cool Roof Rating Council (CRR) and meet California's Title 24 requirements for cool steep slope roofing. Landmark Solaris shingles are manufactured using the same high standards as all CertainTeed roofing products and are covered by the same superior warranty protection. These shingles are available in "Metric" dimensions 13 1/4" x 36 3/4". This product also features CertainTeed's NailTrak® that offers a wider nailing area.

Landmark Solaris algae-resistant (AR) shingles have the additional attribute of resisting the growth of algae especially in damp regions. AR shingles are not available in all regions.

Colors: Please refer to product brochure or CertainTeed website for the colors available in your region.

Color	Solar Radiative Properties						Energy Star Certified?	
	CRR Product ID#	Solar Reflectance		Thermal Emittance		Solar Reflective Index		
		Initial	Aged	Initial	Aged	Initial		Aged
Aged Cedar **	0668-0055	0.26	0.24	0.92	0.90	28	24	Yes
Birchwood	0668-0084	0.21	0.21	0.92	0.83	21	17	No
Burnt Sienna **	0668-0153	0.20	Pending	0.92	Pending	20	20 *	No
Crystal Gray **	0668-0058	0.27	0.26	0.93	0.90	29	27	Yes
Georgetown Gray **	0668-0116	0.20	0.20	0.91	0.92	19	20	No
Graphite **	0668-0155	0.21	Pending	0.91	Pending	21	21 *	No
Heather Blend **	0668-0117	0.20	0.20	0.91	0.92	19	20	No
Mist White **	0668-0071	0.26	0.28	0.92	0.90	28	29	Yes
Molé Black	0668-0129	0.19	0.18	0.91	0.92	18	17	No
Mojave Tan	0668-0115	0.19	0.20	0.88	0.90	17	19	No
Russian Shake **	0668-0118	0.19	0.20	0.92	0.93	19	20	No
Silver Birch **	0668-0072	0.26	0.27	0.90	0.89	27	28	Yes
Weathered Wood **	0668-0119	0.20	0.21	0.91	0.91	19	21	No

** Aged SRI is calculated using the California Energy Commission's Solar Reflective Index (SRI) Calculation Worksheet

** Product meets the cool roofing requirements of Green Building Standards Code of Los Angeles County for residential buildings.

Limitations: Use on roofs with slopes greater than 2° per foot. Low-slope applications (2:12 to 4:12) require additional underlayment. In areas prone to snow and ice, apply CertainTeed WinterGuard® Waterproofing Shingle Underlayment, or its equivalent along the eaves, according to application instructions provided with the product and on the shingle package.

Product Composition: Landmark Solaris shingles are composed of a fiber glass mat base. Ceramic-coated mineral granules with high solar reflectance are tightly embedded in carefully refined, water-resistant asphalt. Two pieces of the shingle are firmly laminated together in special tough asphaltic cement. All Landmark Solaris shingles have self-sealing adhesive strips.

Applicable Standards:
 ASTM E106 Class A Fire Resistance
 UL 790 Class A Fire Resistance
 ASTM D3462
 ASTM D3018 Type I
 ASTM D3161 Class F Wind Resistance
 Miami-Dade County Product Control Approved
 Meets TDI Windstorm Requirements

ASTM D7158 Class H Wind Resistance
 CSA Standard A123.5
 ICC-ES ESR-1389 & ESR-3537
 Florida Product Approval # FL5444
 Can be used to comply with California Title 24, Part 6 (Steep Slope)
 Meets TDI Windstorm Requirements

Technical Data:
 Weight/Square (approx.) 216 lb
 Shingles/Square (approx.) 65
 Dimensions (overall) 13 1/4" x 36 3/4"
 Weather Exposure 5/8"

*Based on 100 sq. ft. of exposed area.

INSTALLATION
 Detailed installation instructions are supplied on each bundle of shingles and must be followed. Separate application sheets may also be obtained from CertainTeed.

Hips and Ridges: Use CertainTeed Shadow Ridge® or Mountain Ridge® shingles of a like color for capping hips and ridges.

MAINTENANCE
 These shingles do not require maintenance when installed according to manufacturer's application instructions. However, to protect the investment, any roof should be routinely inspected at least once a year. Older roofs should be looked at more frequently.

WARRANTY
 Landmark Solaris shingles carry a Lifetime Limited Warranty and 10-year SureStart™ protection when applied to stated CertainTeed application instructions for this product. Landmark Solaris AR shingles carry a 10-year algae resistance warranty. For specific warranty details and limitations, refer to the warranty itself (available from the local supplier, roofing contractor or on-line at www.certainteed.com).

FOR MORE INFORMATION:
 Sales Support Group: 800-233-8990
 Web site: www.certainteed.com

CertainTeed
 20 Moores Road
 Malvern, PA 19355

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Yakov Design
 Drafting service
 (323)922-2211
 info@yakovdesign.com

ADDRESS

MODIFICATIONS

NOTES:
 SCALE:
 DATE: 08.18.2024

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Split System Submittal Data

Wall Mounted Air Conditioner - Low Ambient
System: KS30NKUA Indoor/Outdoor: CS-KS30NKU/CU-KS30NKUA



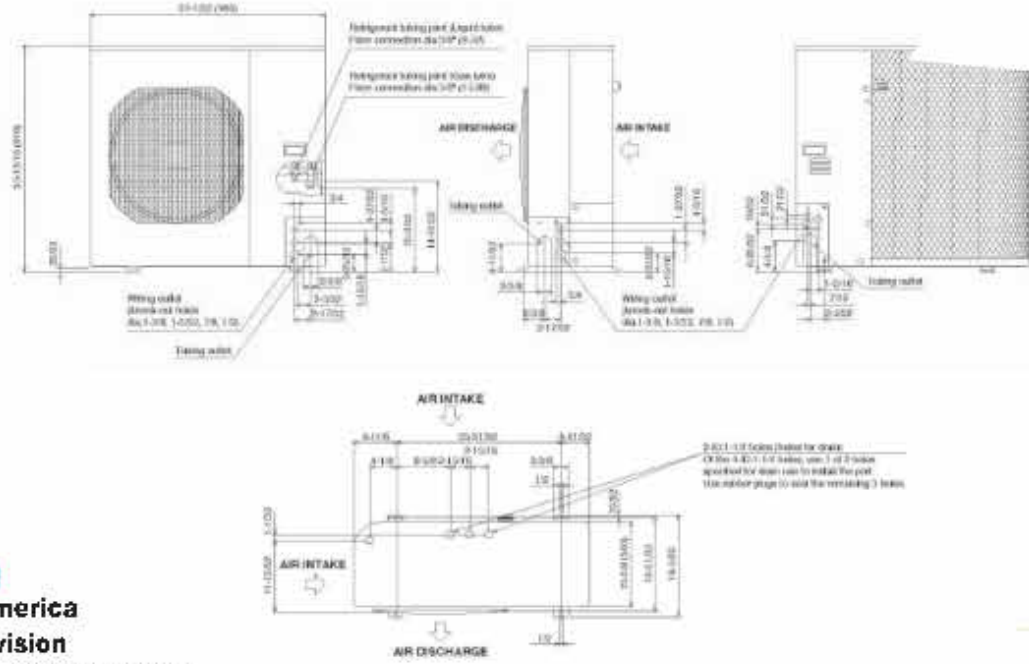
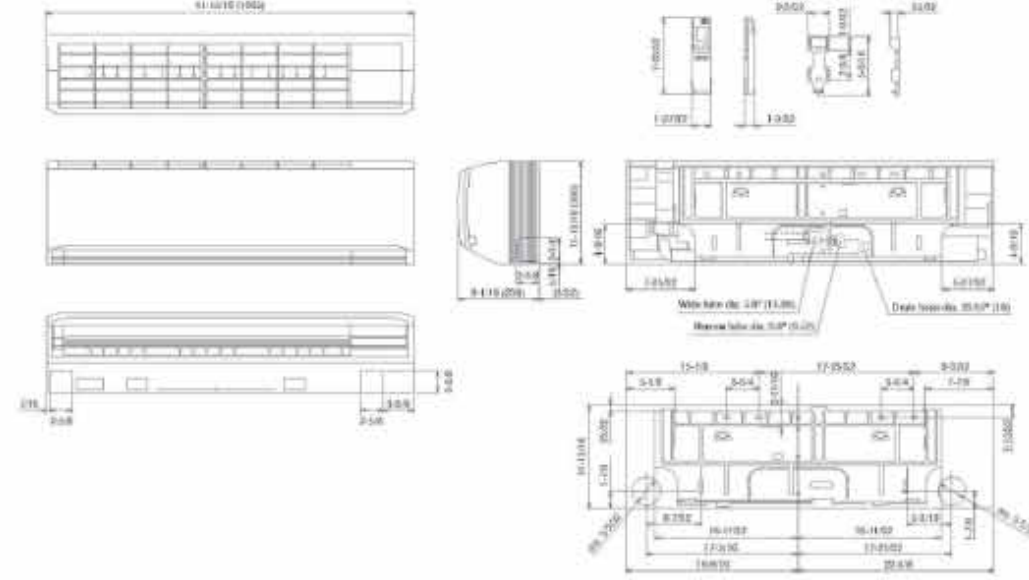
Job Name: _____ Approval: _____
 Location: _____ Date: _____
 Engineer: _____ Constructed: _____
 Submitted to: _____ Unit #: _____
 Submitted by: _____ Drawing #: _____
 Reference: _____

General Data (at 230V)	
Power	W/PH/Hz 230/205/1/60
Circuit Ampacity	(A) 16.5-18.0
Fuse Size, Max.	(A) 35
Compressor	DC Rotary Inverter
No. used	1
R.L. Amps - L.R.	(A) 16.5-31.0
Refrigerant	R410A
Control	Electric Expansion Valve
Line Length, Max (ft.)	165
Life Difference, Max (H-90 outdoor lower), 100 (outdoor higher)	
Line Size (in. O.D. Discharge)	3/8"
Line Size (in. O.D. Suction)	5/8"
Outdoor Unit	
Fan type	Propeller
Da. (in.) - No. Speeds	19-9/32-1
Type Drive	DC Motor
No. Poles (RPM)	8 - 750
No. Motors (W)	1 - 142
CFM (High)	2060
FL Amps (A)	11.6/16.1
Dimensions (in.)	H x W x D
Indoor Unit (Uncrated)	11-3/16 x 41-15/16 x 9-1/16
Indoor Unit (Crated)	12-7/32 x 44-7/8 x 14-31/32
Outdoor Unit (Uncrated)	35-13/16 x 37-1/32 x 13-3/8
Outdoor Unit (Crated)	42-3/8 x 40 x 16-3/8
Coil Type	Aluminum Fin & Copper Pipe
Fin Type - Pipe Type	Slit Plate - Inner Rifled
Rows - F.P.I.	2 - 21.2
Face Area (sq.ft.)	8.05
Tube Size (in.)	3/8"
Weight	Indoor 32.0 Outdoor 183.0
Shipping	(lbs.) 39.7 205.0
Shipping Volume (cu.ft.)	Indoor 4.59 Outdoor 15.88
Indoor Unit	
Fan type	Cross Flow
Da. & Length (in.) - No. Speeds	315/16 L32
No. Motors (RPM, High)	8 - 1370
No. Motors (W)	47
CFM (Hi/Med/Lo)	630/530/412
Indoor Sound Rating (H) (dB-A)	49
FL Amps (A)	0.4
Coil Type	Aluminum Plate Fin & Copper Tube
Fin Type - Pipe Type	Slit Plate - Inner Rifled
Rows - F.P.I.	2 - 19.5
Face Area (sq.ft.)	4.55
Tube Size (in.)	3/8"
Drain Connection Size (in.)	1-1/4"
Cross Flow	Performance Data @ ARI Standard Conditions (230/208V)
Cooling	Total Capacity (BTU/H) 30,600 (10,900-30,600)
Sensible Capacity (BTU/H)	18,600
Latent Capacity (BTU/H)	12,000
SEER	16
Dehumidification (Pints/H)	9.57
Amps (A)	18-16.5
Power Inputs (W)	3,290
Outdoor Sound Rating (dB-A)	55



Dimensions

Features	Options	Available
Remote Controller	Microprocessor	N/A
Temperature Control	Refrigerant Line Set	N/A
Timer	Fresh Air Intake	N/A
Night Setback	AirDuct Extension	N/A
Air Louver	Indoor Frame Extension	Available
(Horizontal)	Condensate Drain Pump	Available
(Vertical)	Non-Removable Remo-Con Bracket	Available
Power Failure Automatic Restart	Manual	Available
Self-Diagnosis	Automatic	Available
Air Filter	Operating Range	
Washable, Anti-Mold	Indoor Air Intake Temp. Outdoor Air Intake Temp.	
	Cooling	Maximum 95F DB/71F WB Minimum 67F DB/57F WB
		115F DB 6F DB



Panasonic ideas for life
 Panasonic North America
 Air Conditioning Division
 1690 Roberts Blvd., NW, Suite 110
 Kennesaw, GA 30144
<http://www.panasonic.com/aircon>



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PERFORMANCE PLATINUM™



PERFORMANCE PLATINUM™ Hybrid Electric is the most efficient water heater available

- Efficiency**
 - High 3.75 - 4.07 UEF reduces operating cost
 - ENERGY STAR® rated
- Performance**
 - Delivers hot water faster than most standard electric water heaters - 60-87 gallons first-hour delivery, depending on model
 - Ambient operating range: 37-145° F is widest in class, offering more days of HP operation annually, designed to meet Northern Climate Spec (Tier 4)
- Easy Installation**
 - Easy access side connections
 - Quick access to electrical junction box
 - Easy replace a standard electric water heater
- Integration**
 - Electronic control for easy temperature adjustment and mode management
 - Audible alarm for service alerts
- Operation Modes**
 - Energy Saver
 - Heat Pump
 - High Demand
 - Electric
 - Vacation/Away: 2-28 days (or placed on hold indefinitely)
- Plus...**
 - Premium grade anode rod with resistor extends the life of the tank
 - 3/4" NPT water inlet and outlet
 - 3/4" condensate drain connections
 - hobby stainless steel resistor elements
 - Dry-fire protection
 - Easy access, top mounted washable air filter
 - 2" Non-CFC foam insulation
 - Enhanced low brass drain valve
 - Temperature and pressure relief valve installed
 - Design certified to NSF/ANSI 372 (Lead Content)
- Warranty**
 - 10-Year limited warranty for tank and parts, 1-year full in-home labor warranty
 - See Rheemstar Warranty Certificate for complete information
 - Units meet or exceed ANSI requirements and have been tested according to DOE procedures. Units meet or exceed the energy efficiency requirements of ENERGY STAR and are CEC Code listed at date of energy efficiency performance testing.
 - *With standard internet connection required

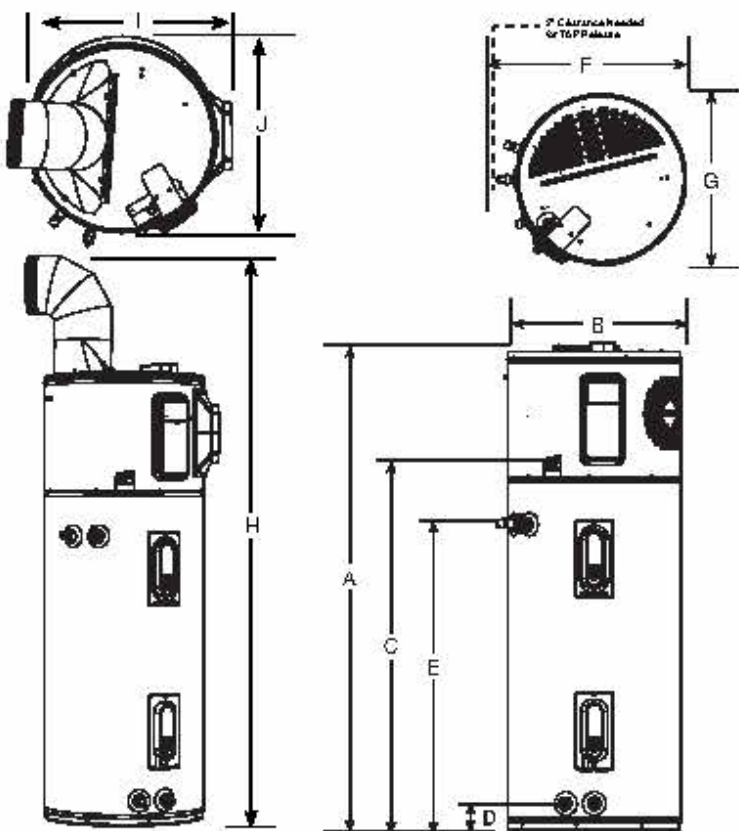


PERFORMANCE PLATINUM Hybrid
 40, 50, 65 and 80-Gallon Capacities
 208-240 Volt / 1 PH Electric



See specifications chart on back.

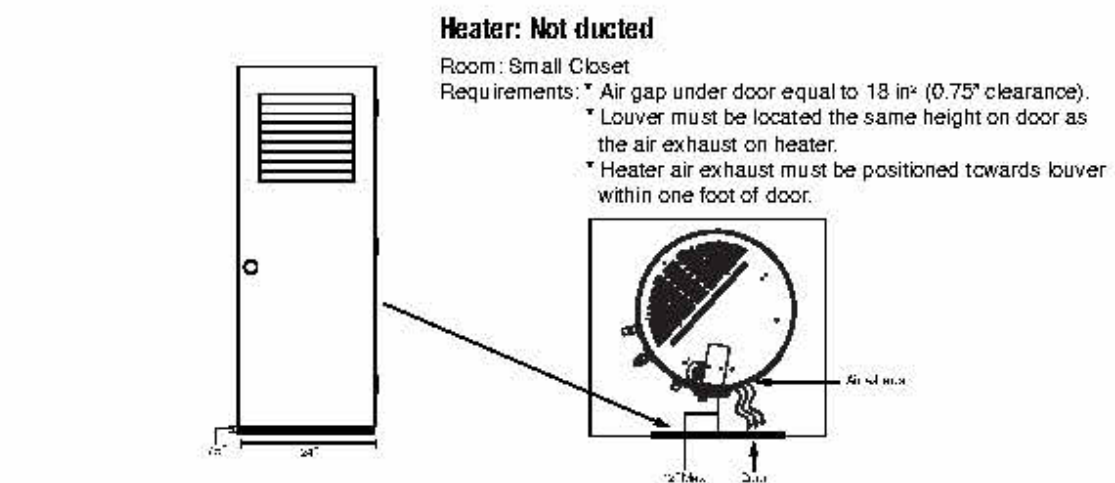
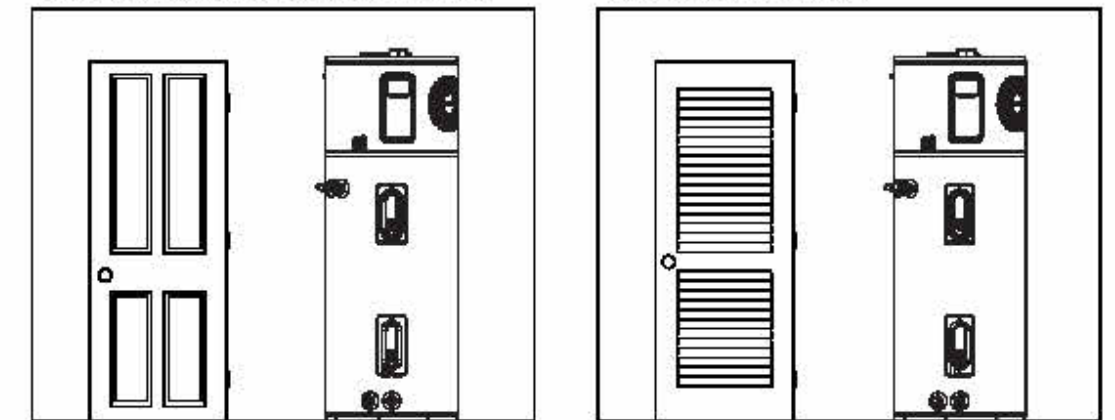
Model	Capacity	Height	Width	Depth	Weight	Energy Factor	SEER	BTU/H	Latent	Sensible	SEER2	BTU/H	Latent	Sensible	SEER2	BTU/H	Latent	Sensible	SEER2	BTU/H	Latent	Sensible	
40	40	36	24	18	38.5	3.75	13.0	4200	60	27	63	20-14	3-54	29-54	127	174							
50	50	45	30	24	51.7	4.00	13.0	4200	67	27	62	20-14	3-54	29-54	176	218							
65	65	55	36	30	67.1	4.00	13.0	4200	75	27	61	20-14	3-54	29-54	221	263							
80	80	72	42	36	87.1	4.00	13.0	4200	87	27	71	20-14	3-54	29-54	244	281							



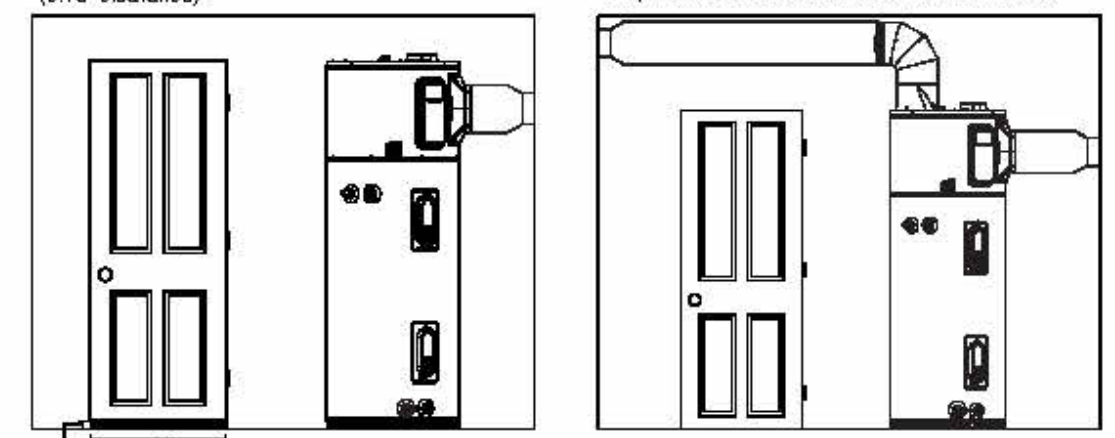
DESCRIPTION	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J
40	K40T1040E0	63-5/8	20-1/4	47	3-5/8	29-5/8	23-3/8	20-1/2	76-7/8	22-3/8	20-1/4
50	K50T1040E0	61-3/4	22-1/4	47	3-5/8	29-5/8	23-3/8	22-1/2	76-5/8	24-3/8	20-5/8
65	K65T1040E0	64-5/8	24-1/4	49	3-7/8	42-3/8	27-1/2	24-5/8	81-1/8	26-1/2	22-3/8
80	K80T1040E0	70-5/8	26-1/4	52	3-7/8	42-3/8	27-1/2	24-5/8	91	26-1/2	22-3/8

Hybrid Water Heater Installation Guidelines to Provide Optimal Efficiency

Heater: Not Ducted
 Room size: Larger than 700 ft³ (e.g. 7' x 10' x 10').
 Requirements: No additional ventilation needed.



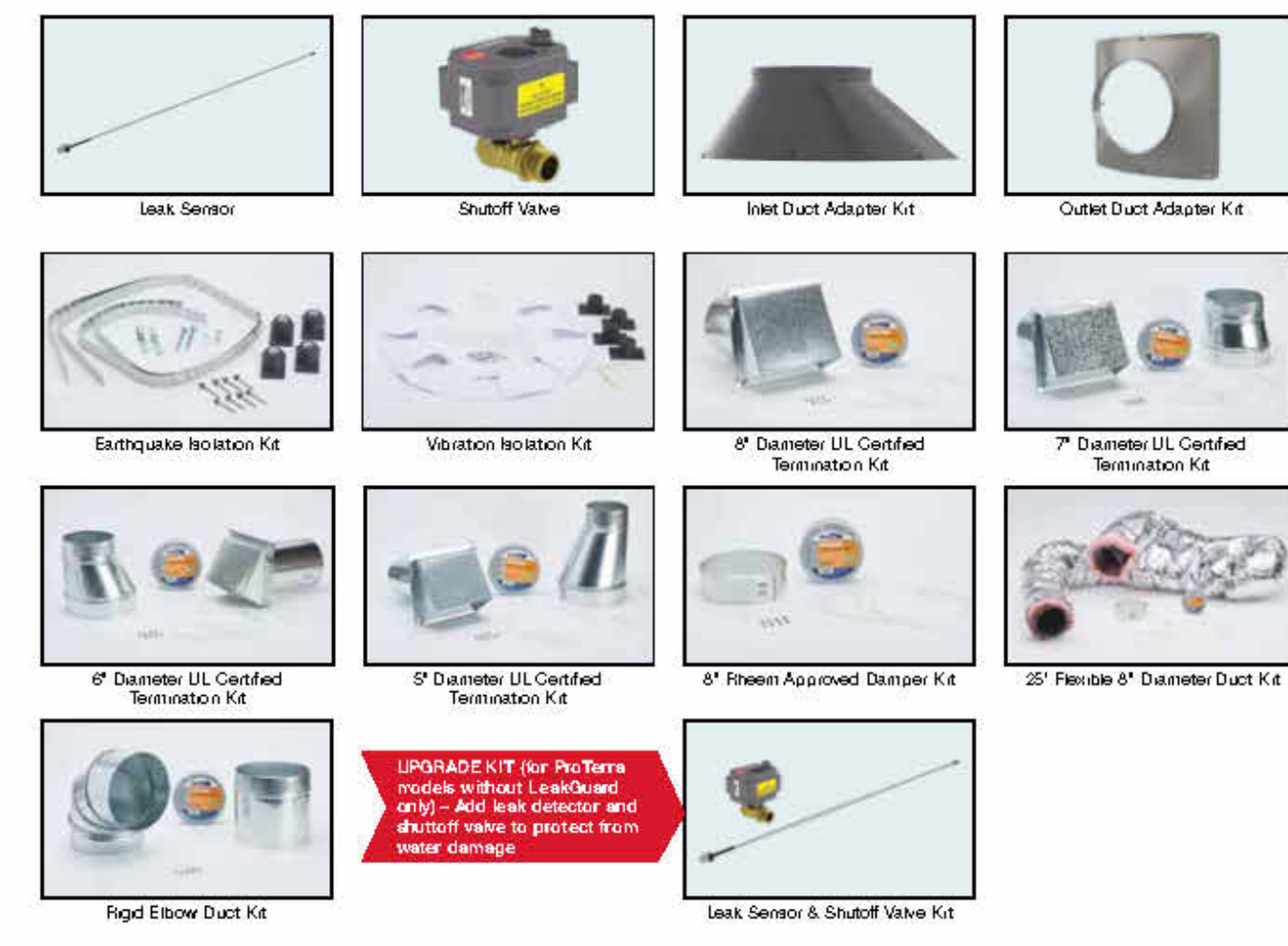
Heater: Ducted with inlet OR outlet duct
 Room size: Any size room
 Requirements: Air gap under door equal to 18 in" (0.75" clearance)



Heater: Ducted with inlet AND outlet duct
 Room size: Any size room
 Requirements: No additional ventilation needed.

Hybrid Accessories List

PART NUMBER	DESCRIPTION	USE FOR
A2PH34	Leak Sensor	Automatic detection of internal and external leaks
A2PH30	Shutoff Valve	Automatic shut off of water supply to unit
SP1105	Inlet Duct Adapter Kit	Applies for ducting to be connected on the top inlet
SP17829	Outlet Duct Adapter Kit	Applies for ducting to be connected to the unit
SP2082	Earthquake Isolation Kit	Installation in seismic regions
SP2083	Vibration Isolation Kit	Installation on non-concrete floor
SP2084	6" Diameter UL Certified Termination Kit	Termination to the outside or to the attic with 6" diameter
SP2085	7" Diameter UL Certified Termination Kit	Termination to the outside or to the attic with 7" diameter
SP2086	8" Diameter UL Certified Termination Kit	Termination to the outside or to the attic with 8" diameter
SP2087	5" Diameter UL Certified Termination Kit	Termination to the outside or to the attic with 5" diameter
SP2088	6" Rheem Approved Damper Kit	Exhaust only to the outside ducting configuration (no inlet duct)
SP2089	25' Flexible 6" Diameter Duct Kit	For up to 25' of ducting
SP2090	Rigid Elbow Duct Kit	Installation in tight places where space needs to be minimized
UPGRADE KIT		
SP21111	Leak Sensor & Shutoff Valve Kit	Add leak detector and shutoff valve to protect from water damage

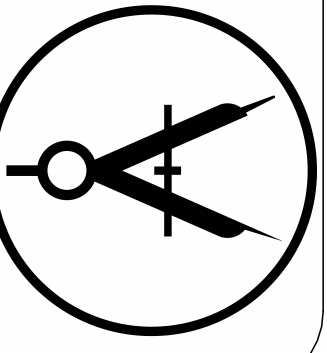


UPGRADE KIT (for ProTera models without Leak and Shut) - Add leak detector and shutoff valve to protect from water damage.

In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice.

Rheem Water Heating • 1115 Northwood Parkway, Suite 100
 Forest, Georgia 30076 • www.rheem.com

Yakov Design
 Drafting service
 (323)922-2211
 info@yakovdesign.com



ADDRESS

MODIFICATIONS

NOTES:

SCALE:

DATE: 08.18.2024

0.6

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
Project Name: Proposed ADU for Standard Plan
Calculation Date/Time: 2024-05-30T18:44:30-07:00
Calculation Description: Title 24 Analysis
Input File Name: 21-0006-Standard ADU.rbd22x

CF18-PRF-01-E (Page 1 of 10)

GENERAL INFORMATION	
01	Project Name
02	Run Title
03	Project Location
04	City
05	Standards Version
06	Zip code
07	Software Version
08	Climate Zone
09	Front Orientation (deg Cardinal)
10	Building Type
11	Number of Dwelling Units
12	Project Scope
13	Number of Bedrooms
14	Addition Cond. Floor Area (ft²)
15	Number of Stories
16	Existing Cond. Floor Area (ft²)
17	Fenestration Average U-factor
18	Total Cond. Floor Area (ft²)
19	Glazing Percentage (%)
20	ADU Bedroom Count
21	ADU Conditioned Floor Area
22	Fuel Type
23	No Dwelling Unit

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

Registration Number: 424-P010096467A-000-000-0000000-0000
Registration Date/Time: 05/30/2024 19:36
HERS Provider: CHEERS
NOTE: This document has been generated by California Home Energy Rating Service (CHERS) using information submitted by third parties not affiliated with or related to CHEERS. Therefore, CHEERS is not responsible for, and cannot guarantee, the accuracy or completeness of the information contained in this document.
CA Building Energy Efficiency Standards - 2022 Residential Compliance
Report Version: 2022.0.000
Report Generated: 2024-05-30 18:45:04
Schema Version: rev 20220901

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
Project Name: Proposed ADU for Standard Plan
Calculation Date/Time: 2024-05-30T18:44:30-07:00
Calculation Description: Title 24 Analysis
Input File Name: 21-0006-Standard ADU.rbd22x

CF18-PRF-01-E (Page 2 of 10)

ENERGY DESIGN RATINGS	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2/Efficiency)	Total ² EDR (EDR2+Total)	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2/Efficiency)	Total ² EDR (EDR2+Total)
Standard Design	31.5	37	32.8			
Proposed Design	30.9	36.6	31.6	0.6	0.4	1.2

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) systems and batteries.
Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded.

- Standard Design PV Capacity: 1.63 kWdc
- PV System resized to 1.63 kWdc (a factor of 1.622) to achieve Standard Design PV PV scaling

Registration Number: 424-P010096467A-000-000-0000000-0000
Registration Date/Time: 05/30/2024 19:36
HERS Provider: CHEERS
NOTE: This document has been generated by California Home Energy Rating Service (CHERS) using information submitted by third parties not affiliated with or related to CHEERS. Therefore, CHEERS is not responsible for, and cannot guarantee, the accuracy or completeness of the information contained in this document.
CA Building Energy Efficiency Standards - 2022 Residential Compliance
Report Version: 2022.0.000
Report Generated: 2024-05-30 18:45:04
Schema Version: rev 20220901

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Calculation Description: Title 24 Analysis
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CF18-PRF-01-E (Page 3 of 10)

ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDR2) (kWh/ft²-yr)	Proposed Design Source Energy (EDR1) (kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kWh/ft²-yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.57	2.64	1.43	10.63	-0.86	-7.99
Space Cooling	1	23.26	0.66	19.98	0.34	3.28
IAQ Ventilation	0.38	4.03	0.38	4.03	0	0
Water Heating	2.3	23.95	1.68	18.69	0.62	5.26
Self Utilization/Flexibility Credit						
Efficiency Compliance Total	4.25	53.88	4.15	53.35	0.1	0.53
Photovoltaics	-2.48	-73.52	-2.58	-76.23		
Battery			0	0		
Flexibility						
Indoor Lighting	0.97	9.13	0.97	9.13		
App. & Cooking	4.68	55.77	4.65	55.42		
Plug Loads	4.88	49.63	4.88	49.63		
Outdoor Lighting	0.21	1.83	0.21	1.83		
TOTAL COMPLIANCE	12.51	96.72	12.28	93.11		

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ENERGY USE INTENSITY				
	Standard Design (kBtu/ft²-yr)	Proposed Design (kBtu/ft²-yr)	Compliance Margin (kBtu/ft²-yr)	Margin Percentage
Gross EUI ¹	20.52	19.89	0.63	3.07
Net EUI ²	7.76	6.6	1.16	14.95

Notes:
1. Gross EUI is Energy Use Total (including PV) / Total Building Area.
2. Net EUI is Energy Use Total (including PV) / Total Building Area.

REQUIRED PV SYSTEMS											
01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Altitude (deg)	Tilt Input	Array Angle (deg)	Tilt (in 12)	Inverter Eff (%)	Annual Solar Access (%)
1.62	NA	Standard (16-17%)	Fixed	none	true	150-270	n/a	n/a	<=7.12	96	100

REQUIRED SPECIAL FEATURES	
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.	
• Cool roof	
• Insulation below roof deck	
• Northwest Energy Efficiency Alliance (NEEA) 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 table below. Registered CFPs and CFPs are required to be completed in the HERS Registry.	
• Indoor air quality ventilation	
• Kitchen range hood	
• Verified Refrigerant Charge	
• Verified heat pump rated heating capacity	

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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
Proposed ADU for Standard Plan	740	1	1	1	0	1

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
Proposed ADU	Conditioned	ADU Mini Split	740	9	DHW Sys 1	New

OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Altitude	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)
Front Wall	Proposed ADU	R-15 Wall	270	Front	200	20	90
Left Wall	Proposed ADU	R-15 Wall	0	Left	266.66	12	90
Rear Wall	Proposed ADU	R-15 Wall	90	Back	200	42	90
Right Wall	Proposed ADU	R-15 Wall	180	Right	266.66	5.25	90
Roof	Proposed ADU	R-30 Roof Attic	n/a	n/a	740	n/a	n/a

ATTIC							
01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (in 12)	Roof Incline	Roof Emittance	Radiant Barrier	Cool Roof
Attic Proposed ADU	Attic Roof/Proposed ADU	Ventilated	4	0.3	0.75	Yes	Yes

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FENESTRATION / GLAZING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Altitude	Width (ft)	Height (ft)	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	
Window 1	Window	Front Wall	Front	270	1	20	0.3	NFRC	0.23	NFRC		Bug Screen	
Window 2	Window	Left Wall	Left	0	1	12	0.3	NFRC	0.23	NFRC		Bug Screen	
Window 3	Window	Rear Wall	Back	90	1	42	0.3	NFRC	0.23	NFRC		Bug Screen	
Window 4	Window	Right Wall	Right	180	1	5.25	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	Proposed ADU	740	112	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 Continuous R-value	U-factor	Assembly Layers
R-15 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R-15	8 / None	0.05	Inside Finish: Gypsum Board Sheathing / Insulation: 8" & Sheathing Cavity Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco
Attic Roof/Proposed ADU	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-19	None / 0	0.059	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/locking Cavity Frame: R-13.8 / 2x4 Arched Roof Joists: 8" @ 24" Insul.

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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 Continuous R-value	U-factor	Assembly Layers
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-30 Insul. Cavity / Frame: R-9.1 / 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 (ft)
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

WATER HEATERS - NEEA HEAT PUMP							
01	02	03	04	05	06	07	08
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source
DHW Heater 1	1	40	Rheem	X140T10H5LUD (40 gal, H13)	Outside	Proposed ADU	Proposed ADU

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WATER HEATING - HERS VERIFICATION						
01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Recirculation Control	Shower Drain Water Heat Recovery	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	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
ADU Mini Split	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	Heating Efficiency Type	Heating COP/SEER	Cap 47	Cap 17	Cooling Efficiency Type	SEER/EEER	Zonally Controlled	Compressor Type	HERS Verification	
Heat Pump System 1	Ductless MiniSplit HP	1	HERF	9	17900	10200	EERSEER	17	10.5	Not Zonal	Single Speed	Heat Pump System 1 HERS Hitump

HVAC HEAT PUMPS - HERS VERIFICATION								
01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EEER	Verified SEER/NEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1 HERS Hitump	Not Required	0	Not Required	Not Required	Yes	No	Yes	Yes

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INDOOR AIR QUALITY (IAQ) FANS								
01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficiency (W/CFM)	Includes Heat/Energy Recovery?	Includes Fault Indicator Display?	HERS Verification	Status		
1st Flr IAQ/ventilat	37	0.35	Exhaust	N/A	N/A	No	Yes	

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



2022 Single-Family Residential Mandatory Requirements Summary

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)

Table with 2 columns: Code Reference and Requirement Description. Includes sections for Building Envelope, Fireplaces, Space Conditioning, and Solar Readiness.

5/6/22



2022 Single-Family Residential Mandatory Requirements Summary

Table with 2 columns: Code Reference and Requirement Description. Includes sections for Solar Readiness, Electric and Energy Storage Ready, and various energy efficiency requirements.

5/6/22



2022 Single-Family Residential Mandatory Requirements Summary

Table with 2 columns: Code Reference and Requirement Description. Includes sections for Pilot Lights, Building Cooling and Heating Loads, Ducts and Fans, and various mechanical and electrical requirements.

5/6/22



2022 Single-Family Residential Mandatory Requirements Summary

Table with 2 columns: Code Reference and Requirement Description. Includes sections for Energy Storage System (ESS) Ready, Heat Pump Space Heater Ready, Electric Cooptop Ready, and Electric Clothes Dryer Ready.

*Exceptions may apply.

5/6/22



2022 Single-Family Residential Mandatory Requirements Summary

Table with 2 columns: Code Reference and Requirement Description. Includes sections for Space Conditioning System Airflow Rate and Fan Efficacy, Ventilation and Indoor Air Quality, Pool and Spa Systems and Equipment, and Lighting.

5/6/22



ADU STANDARD PLAN

TITLE 24

SCALE: DATE: 05.30.2024

T-24.2

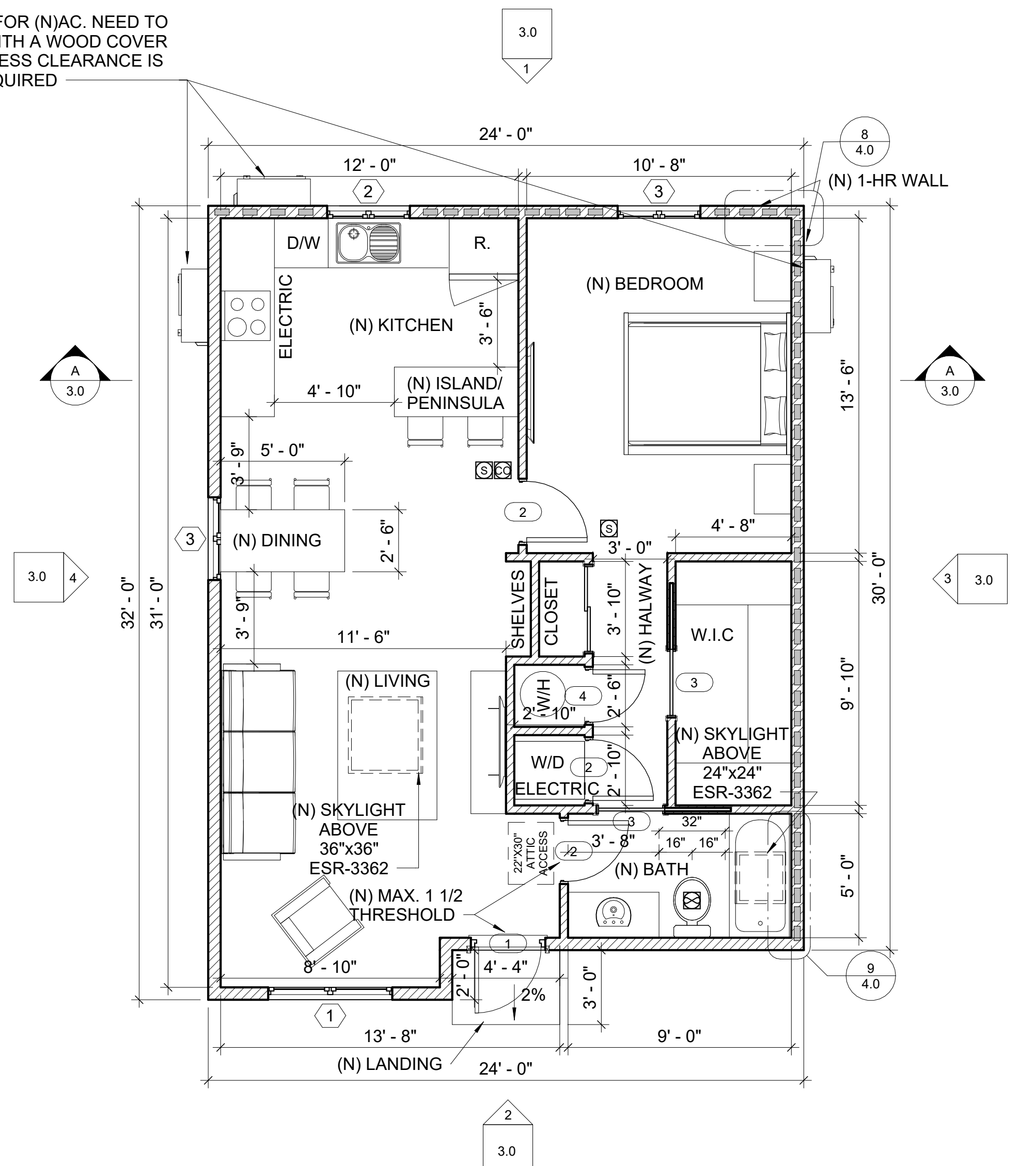
FLOOR PLAN NOTES:

- PROVIDE MIN. 24" CLEAR IN FRONT OF THE WATER CLOSET.
- PROVIDE MIN. 30" CLEAR WIDTH FOR THE WATER CLOSET
- HANDRAIL 34"-46" ABOVE THE STAIR NOSING PER APPLICABLE CBC
- 42" HIGH GUARDRAIL, PER APPLICABLE CBC
- DRYER VENT HORIZONTAL TO OUTSIDE W/ BACKDRAFT DAMPER.
- ROOF ABOVE
- BASEMENT BELOW
- 5/8" TYPE "X" GYP. BD. IN THE GARAGE AND UNDER STAIRS AT ENCLOSED USABLE SPACE W/ 6d COOLER NAILS @7" O.C.
- ULTRA-LOW CONSUMPTION WATER CLOSET (1.28 GAL/FLUSH).
- PROVIDE COPPER WATER LINE FOR ICE MAKER.
- PROVIDE WATER AND WASTE FOR WASHER (RECESSED BOX AT INTERIOR LOCATIONS)
- ELECTRICAL SERVICE PANEL.
- SHOWER DRAIN IN FLOOR BELOW WASHER, CONN. TO 1 1/2" - DIA ABS PIPE W/ 1/4" PER FOOT SLOPED TO EXT.
- 30" WIDE COOK TOP, BUILT-IN HOOD WITH LIGHT AND VENT TO OUTSIDE AIR.
- STAIRS:
 - STAIRS SHALL HAVE MIN. 7.75" RISE & MIN. 10" RUN
 - MIN. 6'-8" HEADROOM CLEARANCE.
 - MIN. 30" CLEAR WIDTH
 - HANDRAILS 34" TO 38" HIGH ABOVE TREAD NOSING
 - HANDGRIPS PORTION OF HANDRAIL SHALL NOT BE LESS THAN 1.25" AND NO MORE THAN 2" CROSS-SECTIONAL DIMENSION HAVING A SMOOTH SURFACE WITH NO SHARP CORNERS.
 - MAX. 4" CLEAR SPACING OPENING BETWEEN RAILS.
- GLAZING IN HAZARDOUS LOCATIONS SHALL BE TEMPERED. (2406.4)
 - PANELS IN SLIDING OR SWINGING DOORS.
 - DOORS AND ENCLOSURE FOR HOT TUB, BATHTUB, SHOWERS (ALSO GLAZING IN WALL ENCLOSING THESE COMPARTMENTS WITHIN 5 FT. OF STANDING SURFACE.
 - GLAZING IN FIXED OR OPERABLE PANELS TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 24 INCH ARC OF VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE THE WALKING SURFACE.
- PROVIDE SLIDING FLY SCREEN AT OPENABLE PORTIONS OF SLIDING DOORS. PROVIDE STATIONARY FLY SCREENS AT OPENABLE PORTIONS OF WINDOWS.
- EACH WATER CLOSET STOOL SHOULD BE LOCATED IN A CLEAR SPACE NOTE LESS THAN 30" IN WIDTH AND HAVE A MINIMUM CLEAR SPACE IN FRONT OF NOT LESS THAN 24" MAXIMUM 1.6 GALLONS/FLUSH FOR ALL TEH WATER CLOSETS.
- PROVIDE ONLY VENTLESS ON-DEMAND WATER HEATERS.
- FIRE BLOCKING MUST BE PROVIDED IN ACCORDANCE WITH SECTION 717 IN THE FOLLOWING LOCATIONS:
 - IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AT THE CEILING AND FLOOR LEVELS.
 - IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AT 10 FOOT INTERVALS ALONG THE LENGTH OF THE WALL
 - AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVERED CEILINGS.
 - IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN AND BETWEEN STUDS ALONG AND IN LINE WITH THE RUN OF STAIRS IF THE WALL UNDER THE STAIRS IS UNFINISHED.
 - IN OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES AND SIMILAR OPENINGS WHICH AFFORD A PASSAGE FOR FIRE AT CEILING AND FLOOR LEVELS, WITH NONCOMBUSTIBLE MATERIALS. SUCH CLEARANCE SHALL BE MEASURED VERTICALLY FROM A PLANE PARALLEL AND TANGENT TO THE STAIRWAY TREAD NOSING TO THE SOFFIT ABOVE ALL POINTS.
- PROVIDE 6" INCH CLEARANCES ON THE SIDES, BACK, FRONT AND CEILING OF THE FURNACE
- THE CONSTRUCTION SHALL NOT RESTRICT A FIXED AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL-BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO THE LOCATION OF THE HOOK-UP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES-WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND /OR ADDITIONAL EXPENSES.
- AN APPROVED SEISMIC GAS SHUTOFF VALVE WILL BE INSTALLED ON THE FUEL GAS LINE ON THE DOWN STREAM SIDE OF THE UTILITY METER AND BE RIGIDLY CONNECTED TO THE EXTERIOR OF THE BUILDING OR STRUCTURE CONTAINING THE FUEL GAS PIPING . PER ORDINANCE 170,158 INCLUDES COMMERCIAL ADDITIONS AND TI WORK OVER \$10,000. SEPARATE PLUMBING PERMIT IS REQUIRED.
- PROVIDE ULTRA-LOW FLUSH WATER CLOSETS FOR ALL NEW CONSTRUCTIONS. EXISTING SHOWER HEADS AND TOILETS MUST BE ADAPTED FOR LOW WATER CONSUMPTION.
- PROVIDE 72" HIGH NON-ABSORBENT WALL ADJACENT TO SHOWER AND APPROVED SHATTER-RESISTANT MATERIALS FOR SHOWER ENCLOSURE. WATER HEATER MUST BE STRAPPED TO WALL.
- UNDER FLOOR VENTILATION OPENINGS IN THE UNDER FLOOR AREA SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
 - THE TOP OF THE OPENING SHALL BE LOCATED NOT MORE THAN 12 INCHES BELOW THE BOTTOM OF THE FLOOR JOIST.
 - THE OPENINGS SHALL BE DISTRIBUTED APPROXIMATELY EQUALLY AND LOCATED TO PROVIDE CROSS VENTILATION, FOR EXAMPLE, BE LOCATING THE OPENING ALONG THE LENGTH OF AT LEAST TWO OPPOSITE SIDES OF THE BUILDING.
 - THE OPENINGS SHALL BE THE LARGER OF: 1.5 SQUARE FEET FOR EACH 25 LINEAR FEET OR FRACTION OF EXTERIOR WALL, OR OPENINGS SHALL BE EQUAL TO 1% OF UNDER FLOOR AREA. THE OPENINGS MAY BE COVERED WITH CORROSION RESISTANT WIRE MESH WITH MESH SHALL BE EQUAL TO 1% OF UNDER FLOOR AREA. THE OPENINGS SHALL BE COVERED WITH CORROSION RESISTANT WIRE MESH WITH MESH SHALL BE EQUAL TO 1% OF UNDER FLOOR AREA. THE OPENINGS MAY BE COVERED WITH CORROSION RESISTANT WIRE MESH WITH MESH SHALL BE EQUAL TO 1% OF UNDER FLOOR AREA.
- OPENINGS OF GREATER THAN 1 1/4 INCH AND LESS THAN 1 1/2 INCH IN DIMENSION, BUILDINGS WITH NATURAL VENTILATION ARE EXEMPTED FROM THE CONSTRUCTION REQUIREMENTS OF TABLE 71 PROVIDED THEY COMPLY WITH THE FOLLOWING:
 - THE UNOBSTRUCTED OPENINGS SHALL EXCHANGE OUTSIDE AIR.
 - THE SIZE OF THE UNOBSTRUCTED OPENINGS SHALL BE THE LARGER OF: 25% OF THE TOTAL PERIMETER WALL AREA OF THE LOWEST LEVEL OF THE BUILDING, OR AT LEAST 25% OF THE FLOOR AREA OF THE LOWEST OF THE BUILDING.
 - THE UNOBSTRUCTED OPENINGS SHALL BE EVENLY DISTRIBUTED AND LOCATED WITHIN THE UPPER PORTION OF AT LEAST TWO OPPOSITE EXTERIOR WALLS OF THE LOWEST LEVEL OF THE BUILDING. THEY ARE PROVIDED WITH TRENCH DAMS AND CABLE OR CONDUIT SEALS.
- PLUMBING FIXTURES ARE REQUIRED TO BE CONNECTED TO A SANITARY SEWER OR TO AN APPROVED SEWAGE DISPOSAL SYSTEM.
- KITCHEN SINKS, LAVATORIES, BATHTUBS, SHOWERS, BIDETS, LAUNDRY TUBS, AND WASHING MACHINE OUTLETS SHALL BE PROVIDED WITH HOT AND COLD WATER AND CONNECTED TO AN APPROVED WATER SUPPLY.
- THE PANEL OR SUBPANEL SHALL PROVIDE CAPACITY TO INSTALL A 40-AMPERE MINIMUM DEDICATED BRANCH CIRCUIT AND SPACE(S) RESERVED TO PERMIT INSTALLATION OF A BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE
- THE PANEL OR SUBPANEL CIRCUIT DIRECTORY SHALL IDENTIFY THE OVERCURRENT PROTECTIVE DEVICE SPACE(S) RESERVED FOR FUTURE EV CHARGING AS EV CAPABLE. THE RACKWAY TERMINATION LOCATION SHALL BE PERMANENT AND VISIBLY MARKED EV CAPABLE.
- THE ELECTRICAL SYSTEM SHALL HAVE SUFFICIENT CAPACITY TO SIMULTANEOUSLY CHARGE ALL DESIGNATED EV SPACES AT THE FULL RATED AMPERAGE OF THE EVSE. PLAN DESIGN SHALL BEBASED UPON A 40-AMPERE MIN. BRANCH CIRCUIT. A SEPARATE ELECTRICAL PERMIT IS REQUIRED.
- THE 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 LOS ANGELES ELECTRICAL CODE.
- THE FLOW RATES FOR ALL PLUMBING FIXTURES SHALL COMPLY WITH THE MAXIMUM FLOW RATES SPECIFIED IN SECTION 4.303.1.
- MULTI-FAMILY DWELLINGS NOT EXCEEDING THREE STORIES AND CONTAINING 50 UNITS OR LESS SHALL INSTALL A SEPARATE METER OR SUBMETER WITHIN COMMON AREAS AND WITHIN EACH INDIVIDUAL DWELLING UNIT.
- FOR PROJECTS THAT INCLUDE LANDSCAPE WORK, THE LANDSCAPE CERTIFICATION, FORM GRN 12, SHALL BE COMPLETED PRIOR TO FINAL INSPECTION APPROVAL.
- LOCKS SHALL BE INSTALLED ON ALL PUBLICLY ACCESSIBLE EXTERIOR FAUCETS AND HOSE BIBS. (4.304.4)
 - FOR ONE- AND TWO-FAMILY DWELLINGS, ANY PERMANENTLY INSTALLED OUTDOOR IN-GROUND SWIMMING POOL OR SPA SHALL BE EQUIPPED WITH A COVER HAVING A MANUAL OR POWER-OPERATED REEL SYSTEM. FOR IRREGULAR-SHAPED POOLS WHERE IT IS INFEASIBLE TO COVER 100 PERCENT OF THE POOL DUE TO ITS IRREGULAR SHAPE, A MINIMUM OF 80 PERCENT OF THE POOL SHALL BE COVERED. (4.304.5)
 - FOR SITES WITH OVER 500 SQUARE FEET OF LANDSCAPE AREA, WASTE PIPING SHALL BE ARRANGED TO PERMIT DISCHARGE FROM THE CLOTHES WASHER, BATHTUB, SHOWERS, AND BATHROOM/RESTROOMS WASH BASINS TO BE USED FOR A FUTURE GRAYWATER IRRIGATION SYSTEM. (4.305.1)
- D. WATER USED IN THE BUILDING FOR WATER CLOSETS, URINALS, FLOOR DRAINS, AND PROCESS COOLING AND HEATING SHALL COME FROM CITY-RECYCLE WATER IF AVAILABLE FOR USE WITHIN 200 FEET OF THE PROPERTY LINE. (4.305.2)
- E. BUILDING NOT EXCEEDING 25 STORIES SHALL HAVE COOLING TOWERS WITH MINIMUM OF 6 CYCLES OF CONCENTRATION (BLOWDOWN) OR HAVE A MINIMUM OF 50% OF MAKEUP WATER SUPPLY TO COOLING TOWERS COME FROM NON-POTABLE WATER SOURCES. (4.305.3.1)
- F. BUILDING EXCEEDING 25 STORIES SHALL HAVE COOLING TOWERS WITH MINIMUM OF 6 CYCLES OF CONCENTRATION (BLOWDOWN) AND HAVE A MINIMUM OF 100% OF MAKEUP WATER SUPPLY TO COOLING TOWERS COME FROM NON-POTABLE WATER SOURCES. (4.305.3.2)
- G. WHERE GROUNDWATER IS BEING EXTRACTED AND DISCHARGED, A SYSTEM FOR ONSITE REUSE OF THE GROUNDWATER SHALL BE DEVELOPED AND CONSTRUCTED IF THE GROUNDWATER WILL NOT BE DISCHARGED TO THE SEWER. (4.305.4)
- H. THE HOT WATER SYSTEM SHALL NOT ALLOW MORE THAN 0.6 GALLONS OF WATER TO BE DELIVERED TO ANY FIXTURE BEFORE HOT WATER ARRIVES OR SHALL COMPLY WITH EITHER LOS ANGELES PLUMBING CODE SECTION 610.4.1.2 OR 610.4.1.3.
- MATERIALS DELIVERED TO THE CONSTRUCTION SHALL BE PROTECTED FROM RAIN OR OTHER SOURCES OF MOISTURE.
- WOOD BURNING FIREPLACES AND OTHER WOOD BURNING DEVICES ARE PROHIBITED.
- ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, OR SHEET METAL UNTIL THE FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT.
- ARCHITECTURAL PAINTS AND COATINGS, ADHESIVES, CAULKS AND SEALANTS SHALL COMPLY WITH THE VOLATILE ORGANIC COMPOUND (VOC) LIMITS LISTED IN TABLES 4.504.1- 4.504.3.
- THE VOC CONTENT VERIFICATION CHECKLIST, FORM GRN 2, SHALL BE COMPLETED AND VERIFIED PRIOR TO FINAL INSPECTION APPROVAL. THE MANUFACTURER'S SPECIFICATIONS SHOWING VOC CONTENT FOR ALL APPLICABLE PRODUCTS SHALL BE READILY AVAILABLE AT THE JOB SITE AND BE PROVIDED TO THE FIELD INSPECTOR FOR VERIFICATION. (4.504.2.4)
- ALL NEW CARPET INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE TESTING AND PRODUCT REQUIREMENTS OF ONE OF THE FOLLOWING:
 - CARPET AND RUG INSTITUTE'S GREEN LABEL PLUS SPECIFICATION
 - CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S SPECIFICATION 01350
 - NSF/ANSI 140 AT THE GOLD LEVEL
 - SCIENTIFIC CERTIFICATIONS SYSTEMS INDOOR ADVANTAGE™ GOLD (4.504.3)
- ALL NEW CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CARPET AND RUG INSTITUTE GREEN LABEL PROGRAM. (4.504.3.1)
- 80% OF THE TOTAL AREA RECEIVING RESILIENT FLOORING SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING:
 - CERTIFIED AS A CHPS LOW-EMITTING MATERIAL IN THE CHPS HIGH PERFORMANCE PRODUCTS DATABASE
 - CERTIFIED UNDER UL GREENGUARD GOLD
 - CERTIFIED UNDER THE RESILIENT FLOOR COVERING INSTITUTE (RFCI) FLOORSORE PROGRAM IV. MEET THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S SPECIFICATION 01350 (4.504.4)
- NEW HARDWOOD PLYWOOD, PARTICLE BOARD, AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED IN THE INTERIOR OR EXTERIOR OF THE BUILDING SHALL MEET THE FORMALDEHYDE LIMITS LISTED IN TABLE 4.504.5. (4.504.5)
- THE FORMALDEHYDE EMISSIONS VERIFICATION CHECKLIST, FORM GRN 3, SHALL BE COMPLETED PRIOR TO FINAL INSPECTION APPROVAL. THE MANUFACTURER'S SPECIFICATIONS SHOWING FORMALDEHYDE CONTENT FOR ALL APPLICABLE WOOD PRODUCTS SHALL BE READILY AVAILABLE AT THE JOB SITE AND BE PROVIDED TO THE FIELD INSPECTOR FOR VERIFICATION.
- NEW MECHANICALLY VENTILATED AIR DISTRIBUTION WITHIN 1,000 FEET OF A FREEWAY SHALL PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH A MERV 13 FILTER FOR OUTSIDE AND RETURN AIR. FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL.
- 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. [CRC R327.1.2]
- 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. [CRC R327.1.4]
- EXHAUST DUCT TERMINATION IS AS FOLLOWS PER CMC 502.2:
 - 13 FEET FROM A PROPERTY LINE,
 - 10 FEET FROM A FORCED AIR INLET, AND
 - 3 FEET FROM OPENINGS INTO THE BUILDING.
- EXHAUST DUCT SHALL NOT DISCHARGE ONTO A PUBLIC WAY. CMC 502.2

NOTE: GYPSUM BOARD SHALL NOT BE USED WHERE THERE WILL BE DIRECT EXPOSURE TO WATER, OR IN AREAS SUBJECT TO CONTINUOUS HIGH HUMIDITY. CRC R702.3.7.1

NOTE: WINDOWS ALLOWED SHOULD FOLLOW THE GUIDELINES FOR SANTA BARBARA EPV

(E) PLACEMENT FOR (N)JAC. NEED TO BE ENCLOSED WITH A WOOD COVER SCREEN 36" ACCESS CLEARANCE IS REQUIRED



1 PROPOSED ADU FLOOR PLAN
1/4" = 1'-0"

Proposed door schedule						
Mark	Width	Height	Count	Type	Phase Created	Phase Demolished
2	2' - 8"	6' - 8"	3	HINGED SINGLE FLUSH	New Construction	None
3	2' - 8"	6' - 8"	2	POCKET DOOR	New Construction	None
4	2' - 4"	6' - 8"	1	HINGED SINGLE FLUSH	New Construction	None
Grand total: 6						

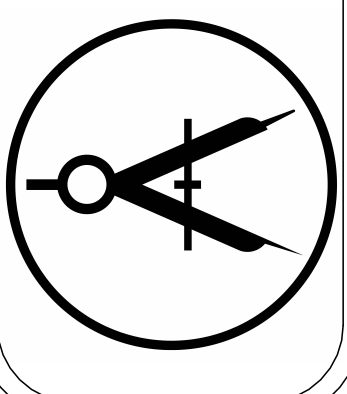
Plumbing Fixtures Schedule		
Name	Count	Drain
Lavatory Faucet	1	1.2 GPF
Kitchen Faucet	1	1.8
Water Closet	1	1.28
Single showerhead	1	1.8

Schedule of proposed windows							
Mark	Width	Height	Sill Height	Head Height	Count	Phase Created	Phase Demolished
1	5' - 0"	4' - 0"	2' - 8"	6' - 8"	1	New Construction	None
2	3' - 4"	2' - 6"	4' - 2"	6' - 8"	1	New Construction	None
3	3' - 4"	4' - 0"	2' - 8"	6' - 8"	2	New Construction	None
Grand total: 4							

LEGEND

- NEW CONSTRUCTIONS
- 1-HR WALL (REQUIRED IF FIRE SEPARATION DISTANCE LESS THAN 5')
- 120v HARD-WIRED SMOKE DETECTOR WITH BATTERY BACK UP
- CARBON MONOXIDE SENSOR WITH BATTERY BACK UP
- EXHAUST FAN CAPABLE OF FIVE AIR CHANGES PER MINUTE ENERGY STAR COMPLIANT W/HUMIDISTAT

Yakov Design
Drafting service
(323)922-2211
info@yakovdesign.com



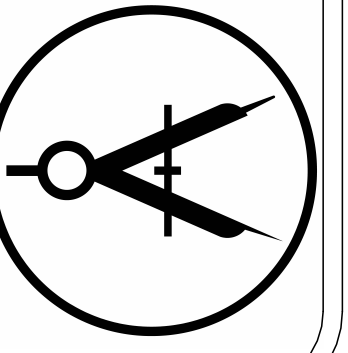
ADDRESS

PROPOSED ADU FLOOR PLAN

NOTES:

SCALE: 1/4" = 1'-0"
DATE: 08.18.2024

1.0



ADDRESS

PROPOSED ADU
 ROOF PLAN

NOTES:

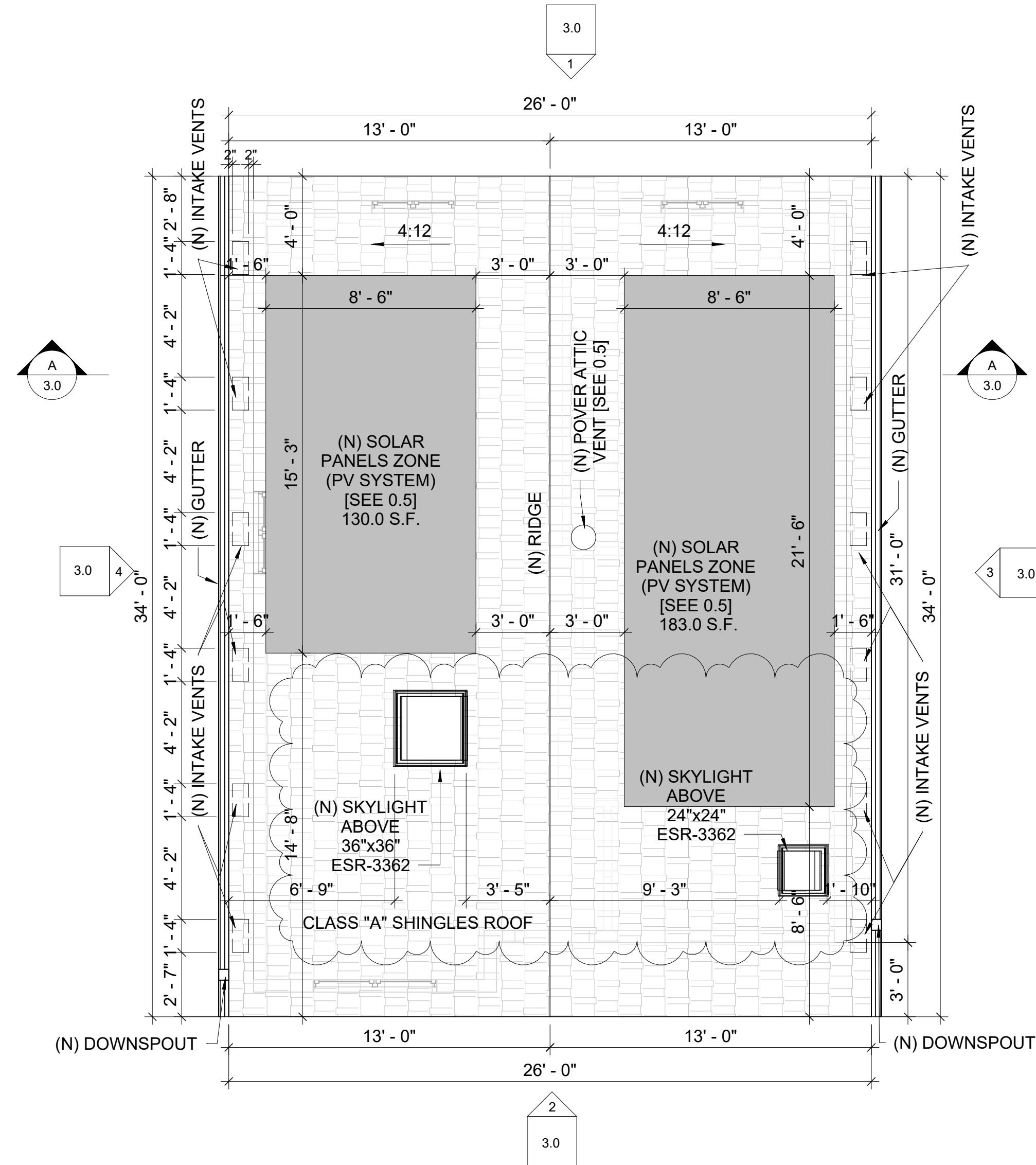
SCALE: 1/4" = 1'-0"

DATE: 08.18.2024

2.0

NOTES:
 A) DOWNSPOUTS/GUTTER/LEADER HEADS GALVANIZED
 STEEL PAINTED
 B) ROOF SCOOPERS SHOULD BE GALVANIZED

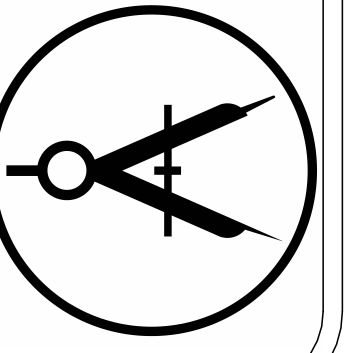
NOTE: SOLAR PANELS SHALL BE SUBMITTED FOR PLAN
 CHECK PRIOR TO FRAMING AND MUST BE INSTALLED AND
 OPERATING PRIOR TO FINAL BUILDING INSPECTION



ATTIC VENTILATION:

AREA TO BE VENTILATED: 684.7 S.F.
 VENTILATION REQUIRED: 684.7 : 150 = 4.56 S.F.
 VENTILATION PROVIDED:
 ONE MASTER FLOW POWER ATTIC VENT ERV4
 12 PIECES MASTER FLOW UNDEREAVE 8"x16"
 INTAKE VENT 56 SQ. IN EACH
 12 x 56 = 672 SQ. IN. (4.6 S.F.)

1 PROPOSED ADU ROOF PLAN (N)
 1/4" = 1'-0"



ADDRESS

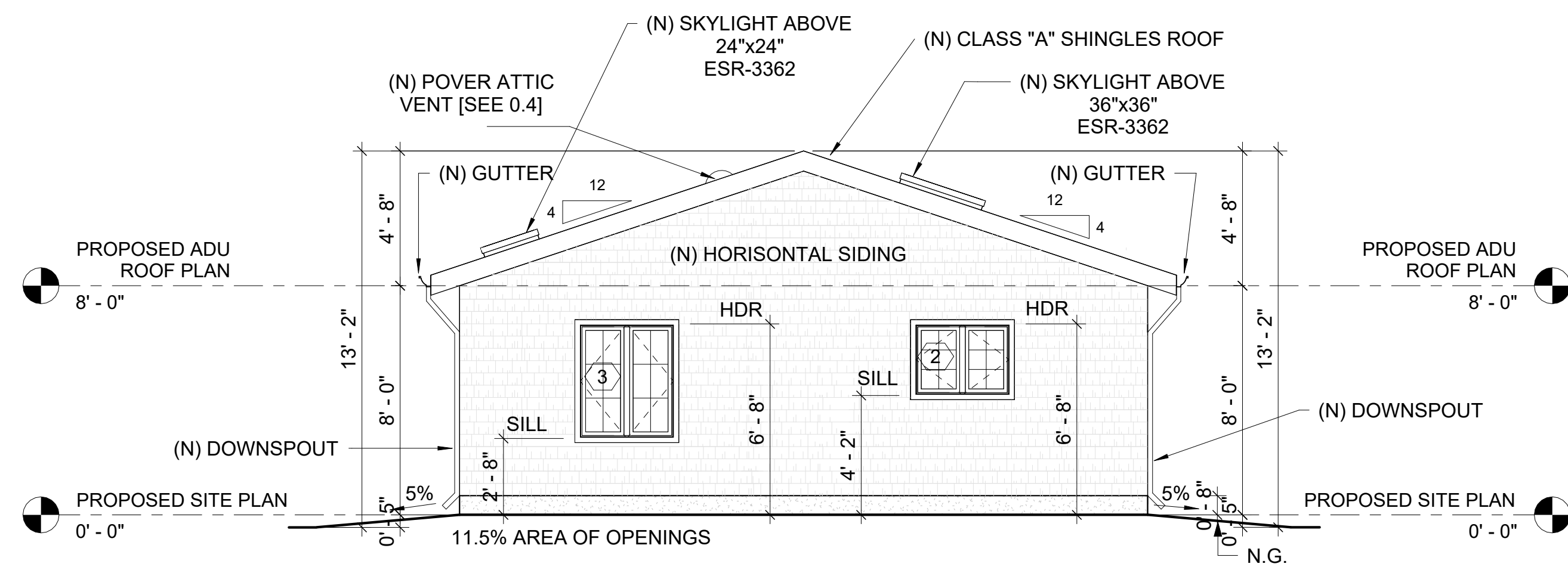
ELEVATIONS,
 SECTION A-A

NOTES:

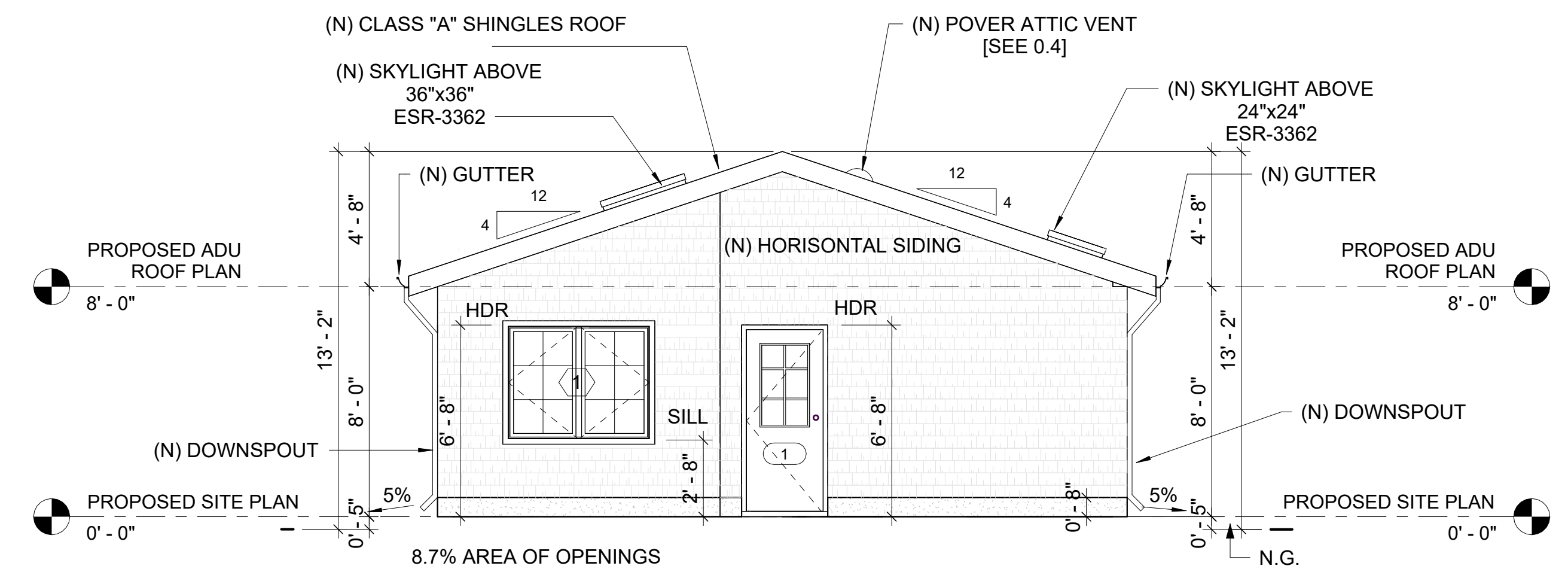
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DATE: 08.18.2024

3.0

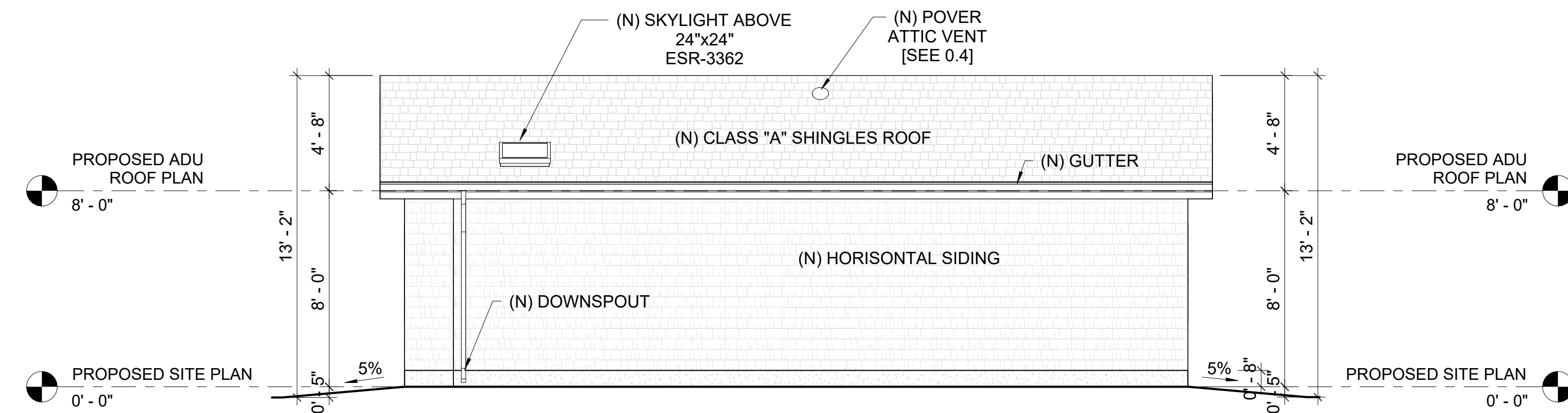


1 ELEVATION A
 1/4" = 1'-0"

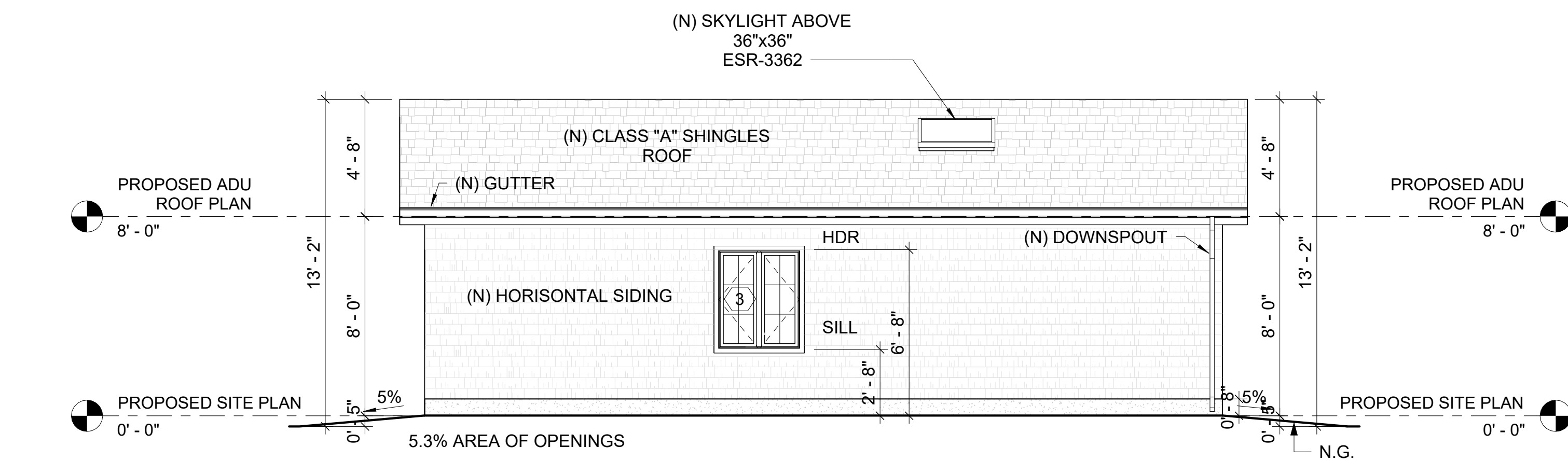


2 ELEVATION B
 1/4" = 1'-0"

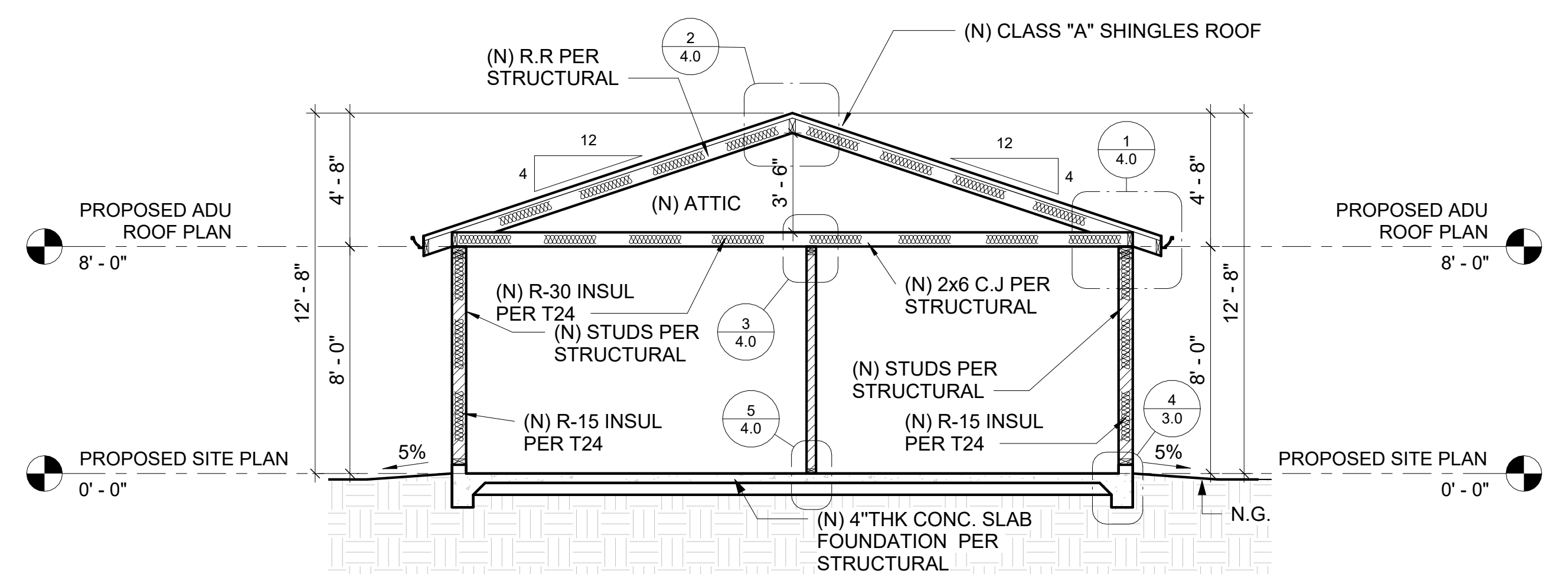
- NOTES:
- 1) THE EXTERIOR OF THE ADU SHOULD MATCH THE AESTHETIC AND MATERIALITY OF THE MAIN HOUSE/DWELLING
 - 2) COLOR TONE SHOULD BE MUTED EARTH TONES FOLLOWING GUIDELINES
 - 3) WROUGHT IRON FOR LIGHT FIXTURES IS A MUST
 - 4) THE MATERIALS USED FOR DOOR AND WINDOW FRAMES AND MULLIONS ARE TO BE PAINTED OR STAINED AND SHOULD BE CONSTRUCTED OF WOOD OR TRADITIONAL STEEL (IRON).
 - 5) MOLDING BELOW THE TILE



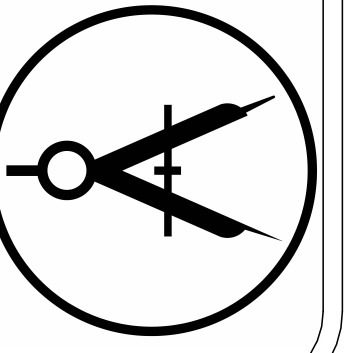
3 ELEVATION C
 1/4" = 1'-0"



4 ELEVATION D
 1/4" = 1'-0"



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



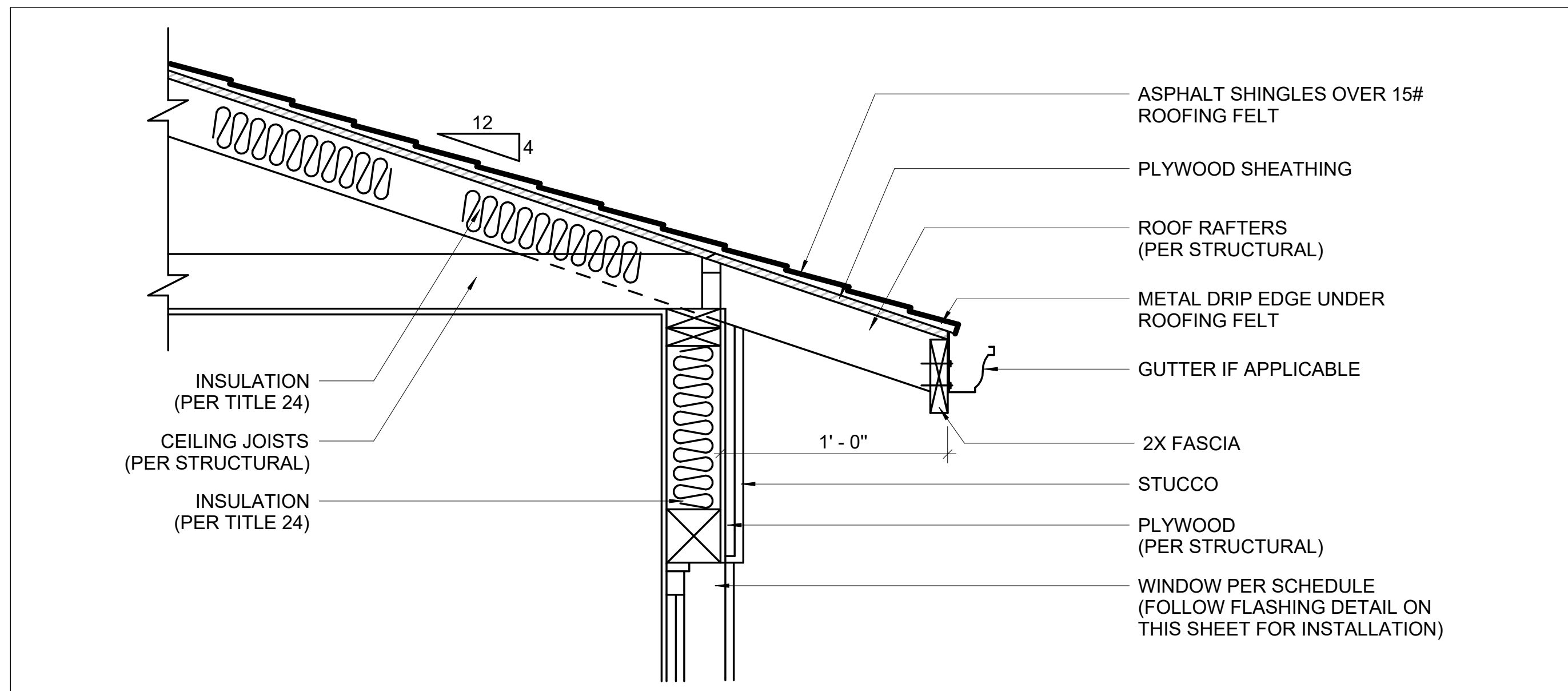
ADDRESS

DETAILS

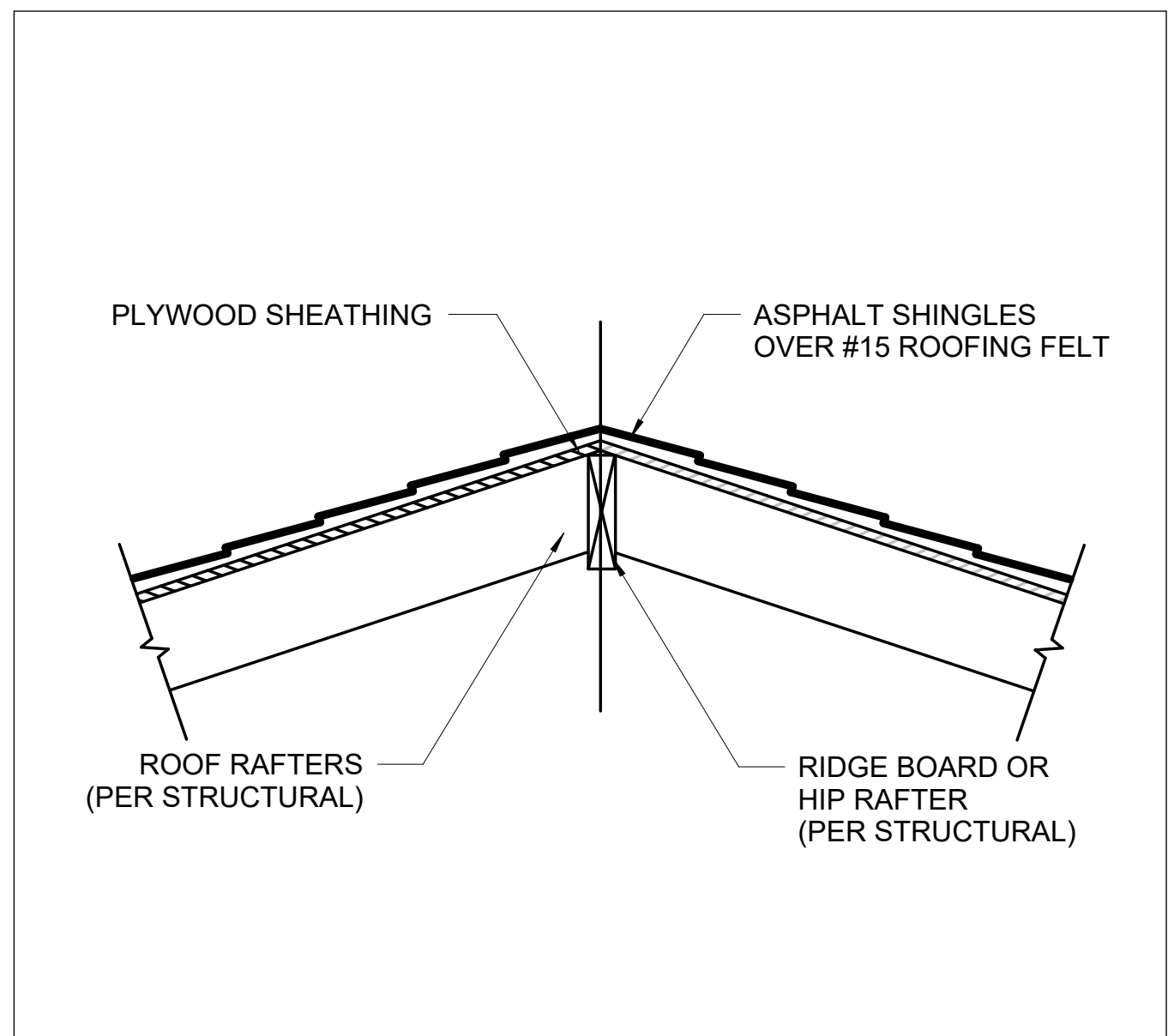
NOTES:

SCALE:

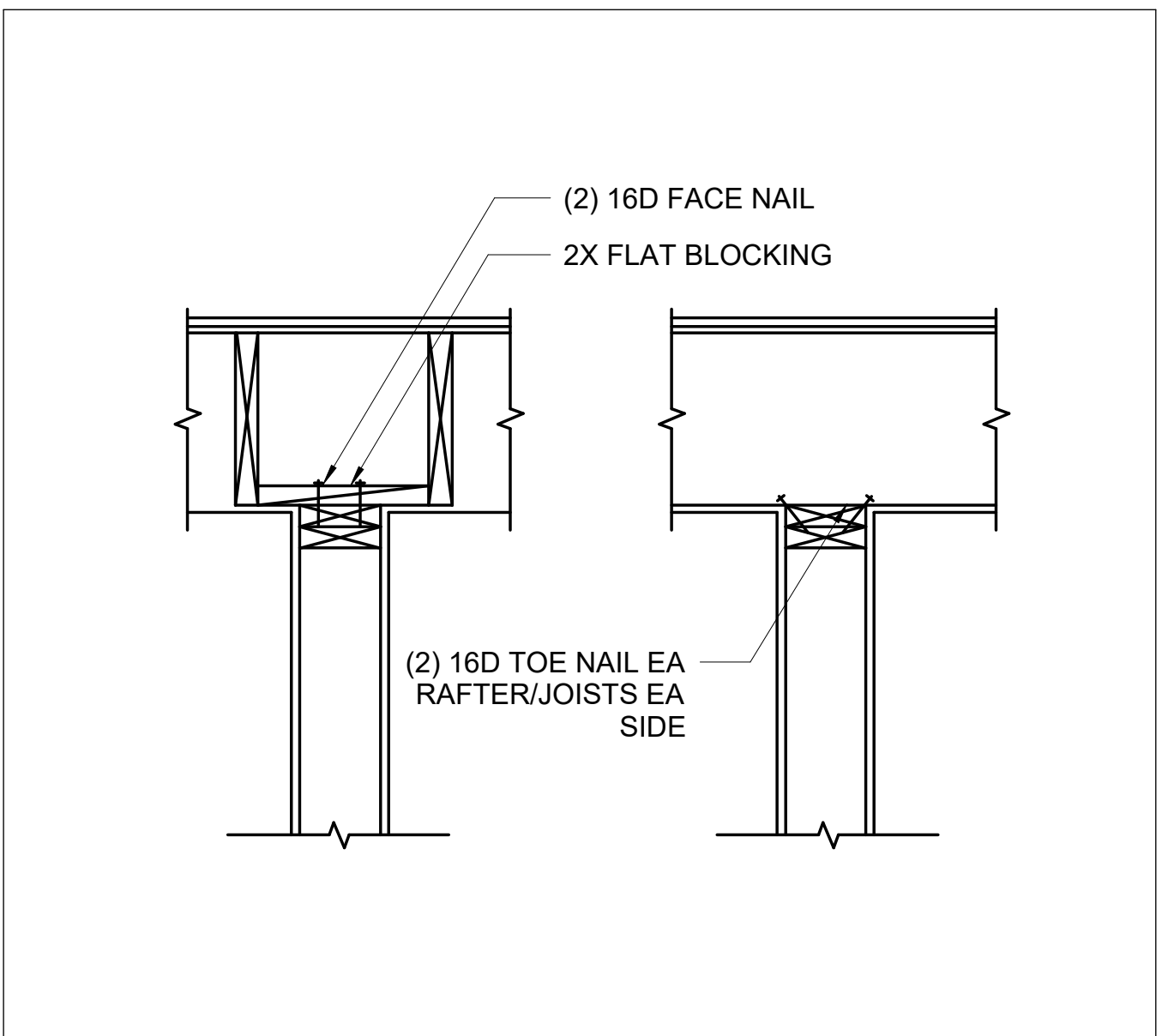
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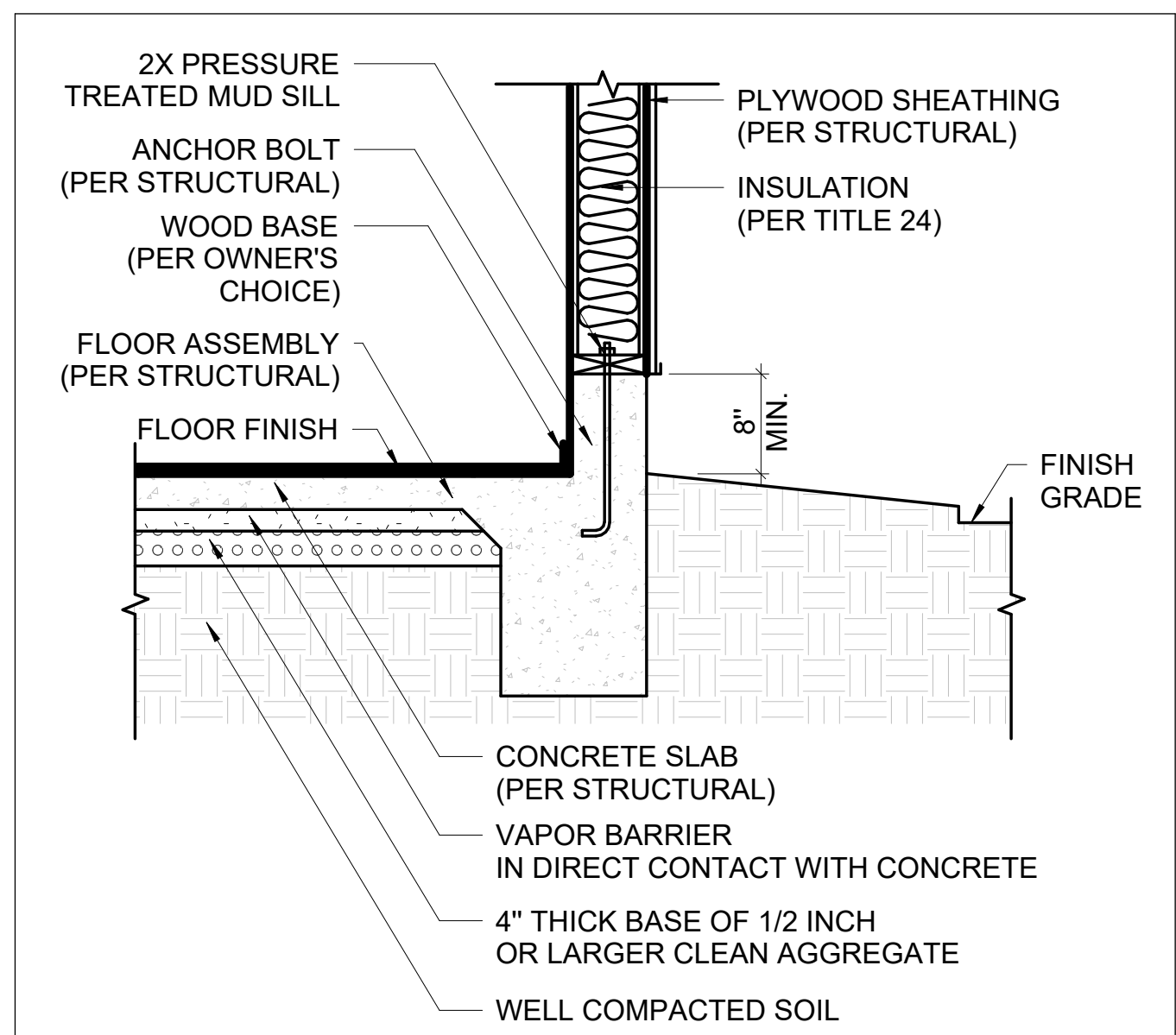
1 EAVE DETAIL



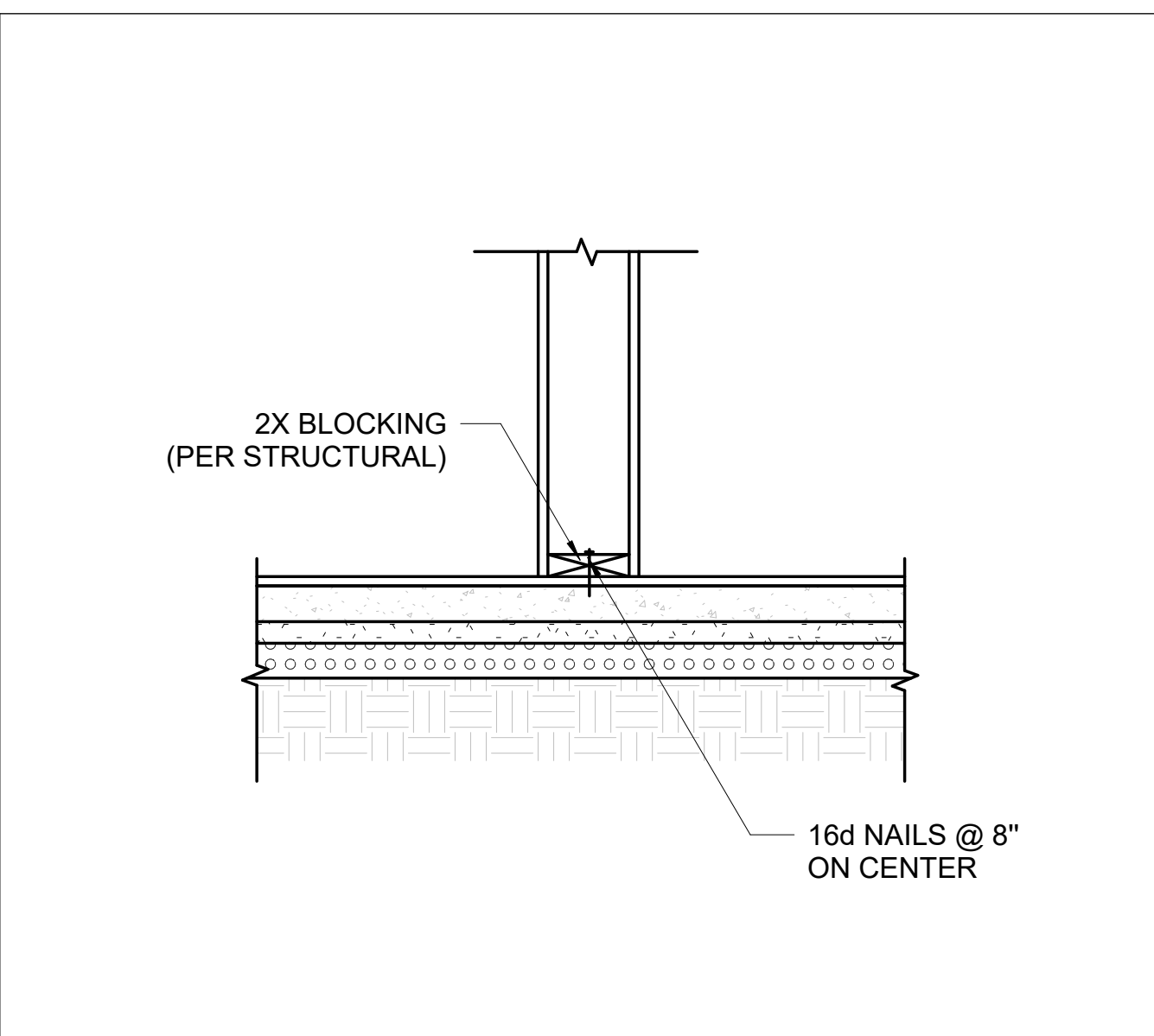
2 RIDGE AND HIP FLASHING



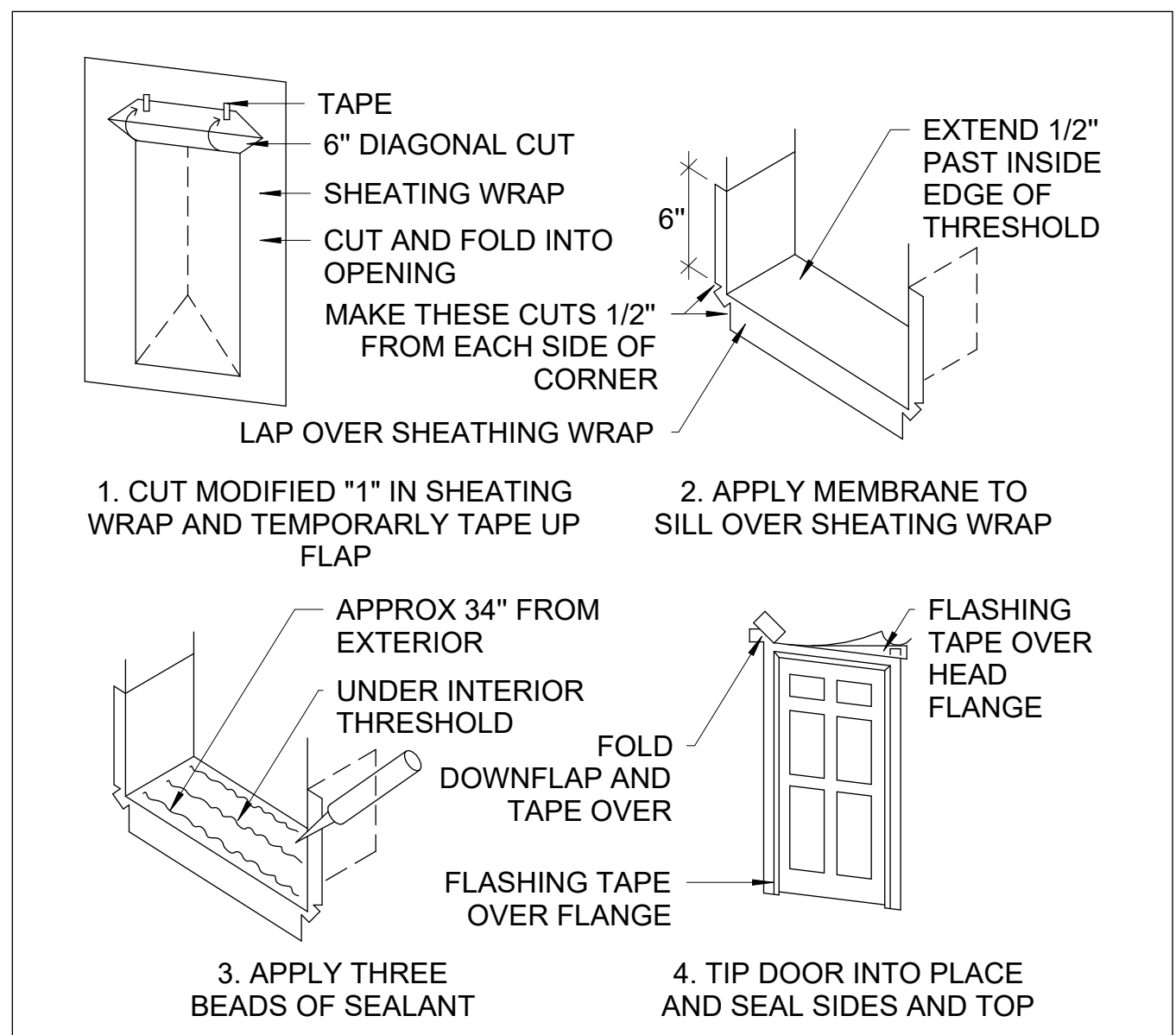
3 INTERIOR PARTITIONS DETAILS (UPPER)



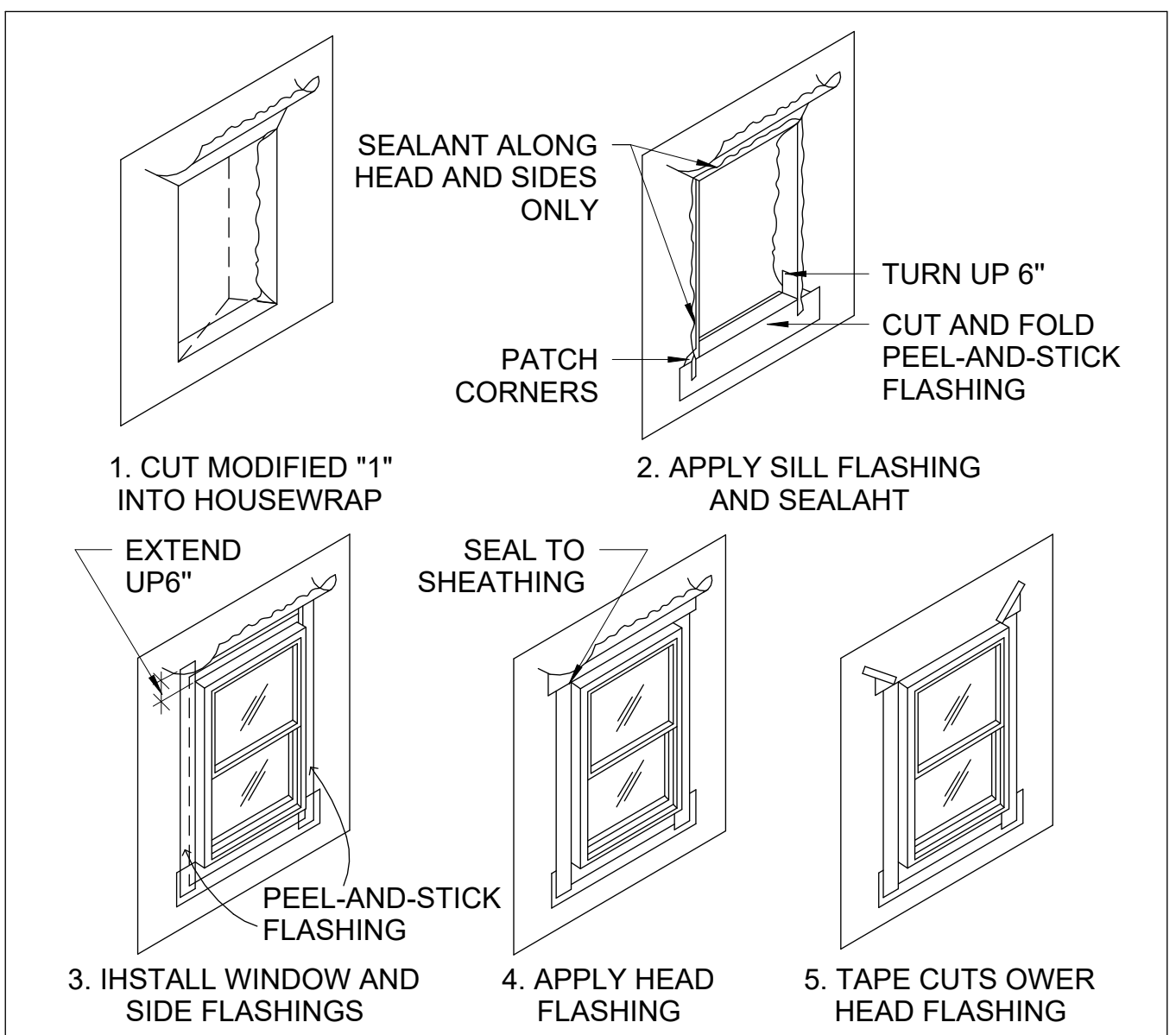
4 EXTERIOR WALL AT FIRST FLOOR



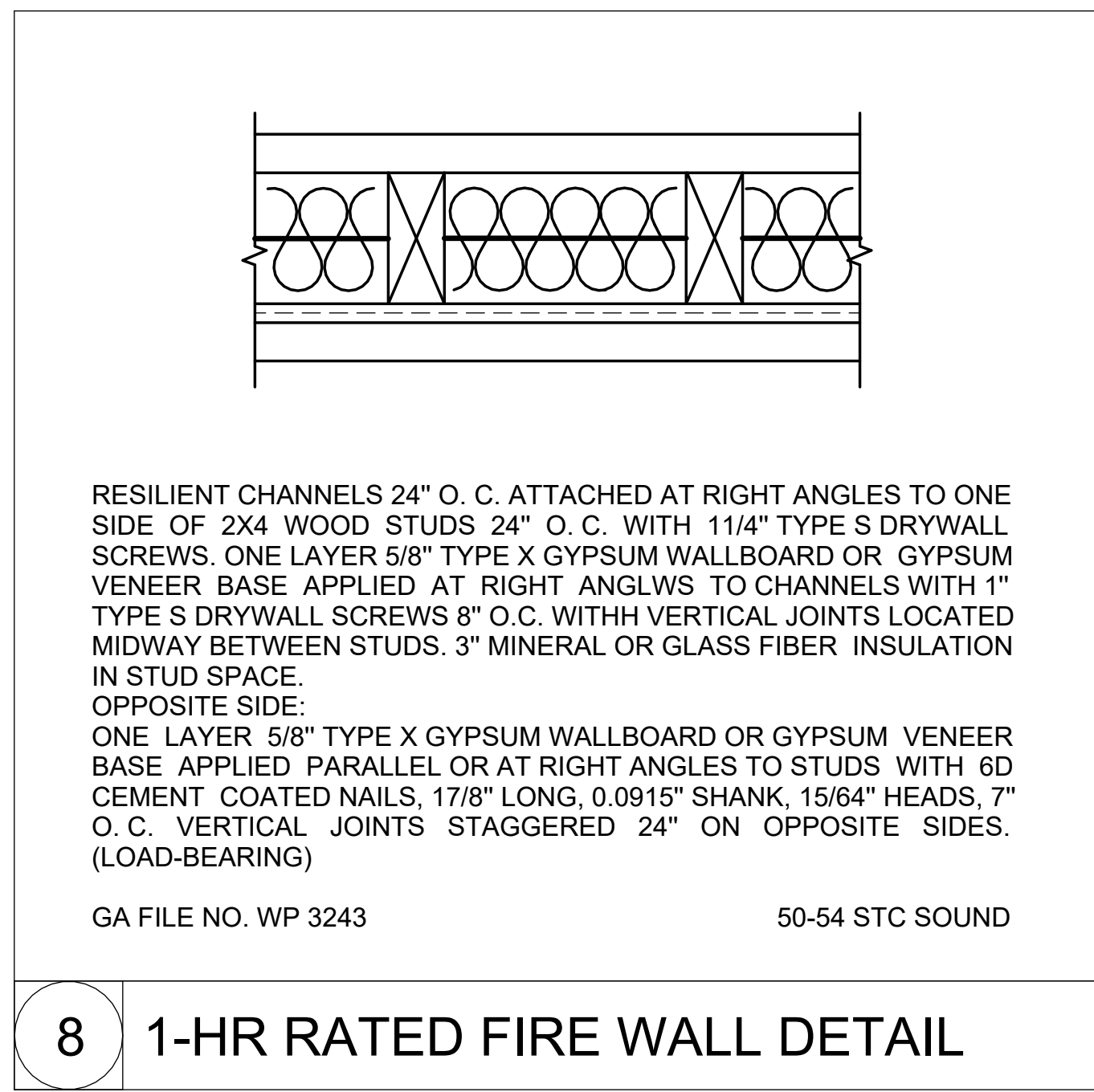
5 INTERIOR PARTITIONS DETAILS (LOWER) FOR CONCRETE SLAB



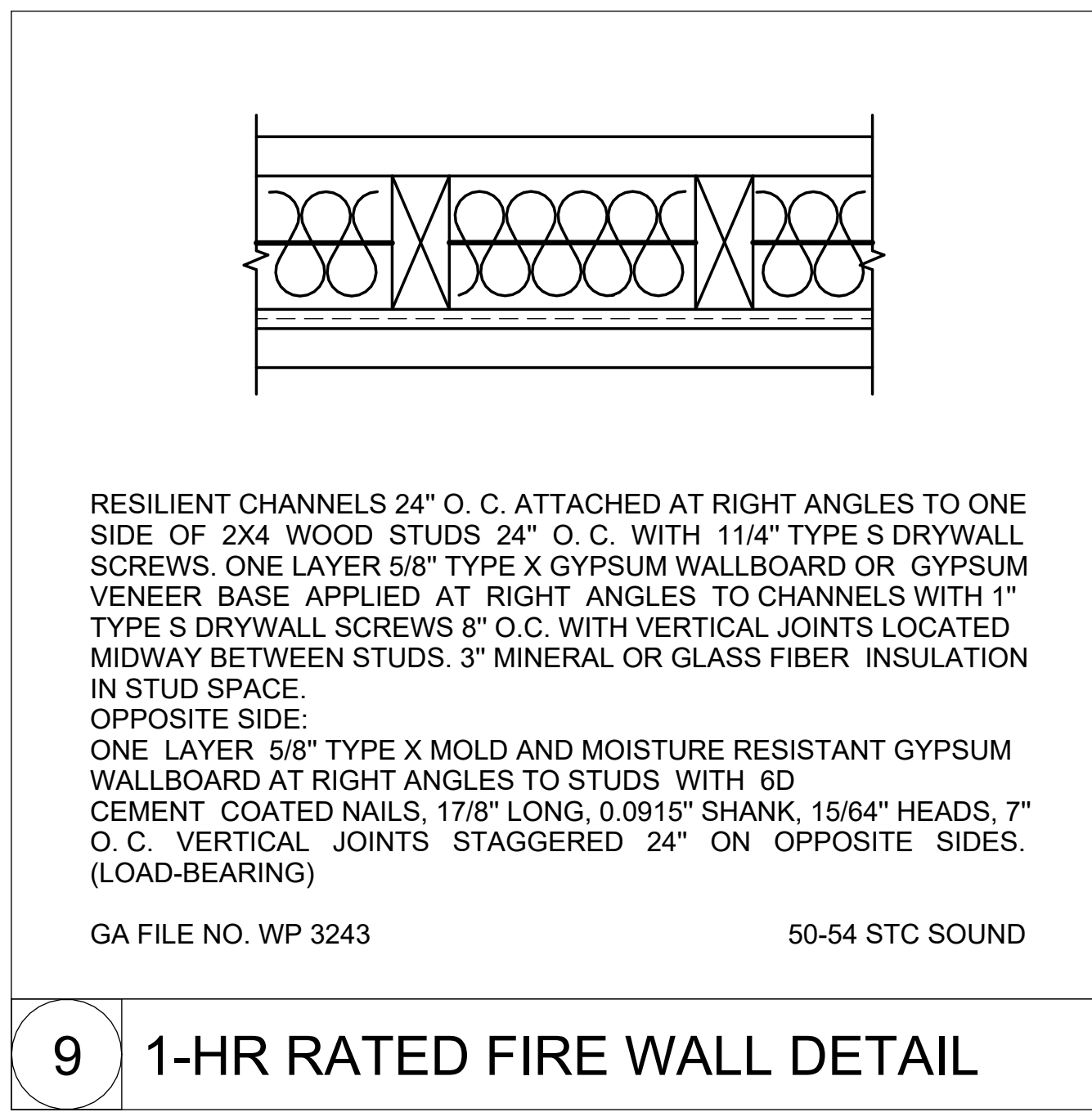
6 DOOR FLASHING



7 WINDOW FLASHING



8 1-HR RATED FIRE WALL DETAIL



9 1-HR RATED FIRE WALL DETAIL

ALL TRADES

A. THE FOLLOWING ABBREVIATIONS OR ACRONYMS MAY BE USED IN THESE DRAWINGS:

- PROJECT = NEW ADU
- ARCHITECT = YAKOV DESIGN
- SAA = SAA STRUCTURAL ENGINEERING
PRIMARY CONTACT: NICK SIVUSHENKA, P.E.
- GEOTECHNICAL ENGINEER = N/A
- BUILDING DEPARTMENT = THE CITY OF LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY
- IBC = THE INTERNATIONAL BUILDING CODE, 2018 EDITION; SECONDARY BUILDING CODE FOR PROJECT.
- CBC = THE CALIFORNIA BUILDING CODE, 2019 EDITION (CONSISTING OF THE 2018 IBC AS ADOPTED BY THE STATE OF CALIFORNIA); SECONDARY BUILDING CODE FOR PROJECT
- ICC = THE INTERNATIONAL CODE CONFERENCE; AUTHOR OF IBC, SOURCE AUTHORITY FOR GENERAL CODE REQUIREMENTS.
- ACI = THE AMERICAN CONCRETE INSTITUTE; SOURCE AUTHORITY FOR STRUCTURAL CONCRETE WORK.
- AISC = THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION; SOURCE AUTHORITY FOR STRUCTURAL STEEL WORK.
- AISI = THE AMERICAN IRON AND STEEL INSTITUTE; SOURCE AUTHORITY FOR LIGHT GAGE STEEL FRAMING.
- AWS = THE AMERICAN WELDING SOCIETY; SOURCE AUTHORITY FOR WELDING.
- ASTM = THE AMERICAN SOCIETY FOR TESTING OF MATERIALS; SOURCE AUTHORITY FOR MATERIAL QUALITY AND TESTING STANDARDS.
- CRSI = THE CONCRETE REINFORCING STEEL INSTITUTE; SOURCE AUTHORITY FOR REINFORCING STEEL FABRICATION AND INSTALLATION STANDARDS.
- ABV = ABOVE
- A.B. = ANCHOR BOLTS(S)
- APX = APPROXIMATE OR APPROXIMATELY
- ARCH = ARCHITECTURAL
- BTWN = BETWEEN
- REQD = REQUIRED
- BLW = BELOW
- BOT = BOTTOM
- COL = COLUMN
- CONT = CONTINUOUS
- (E) = EXISTING (CONTRACTOR TO FIELD VERIFY)
- EA = EACH
- EL = ELEVATION
- EMBD = EMBEDMENT
- EQ = EQUAL
- FIN = FINISH (SEE ARCHITECTURAL DETAILS)
- FOF = FACE OF FINISH
- FP = FULL PENETRATION (WELD)
- F.S. = FAR SIDE
- GA = GAGE (SHEET METAL OR WIRE AS APPLICABLE)
- HORZ = HORIZONTAL
- LLH = LONG LEG HORIZONTAL (ORIENTATION OF UNEQUAL LEG ANGLE)
- LLV = LONG LEG VERTICAL (ORIENTATION OF UNEQUAL LEG ANGLE)
- LSH = LONG SIDE HORIZONTAL (ORIENTATION OF RECTANGULAR TUBE)
- LSV = LONG SIDE VERTICAL (ORIENTATION OF RECTANGULAR TUBE)
- MAX = MAXIMUM
- M.B. = MACHINE BOLTS OR BOLTS (INDICATED ASTM A307 FASTENERS)
- MIN = MINIMUM
- (N) = NEW
- NIC = NOT IN CONTRACT (WORK EXCLUDED FROM SCOPE)
- NOM = NOMINAL
- NTS = NOT TO SCALE
- O.C. = ON CENTER
- OP = OPPOSITE
- PC = PIECE
- PP = PARTIAL PENETRATION (WELD)
- PSF = POUNDS PER SQUARE FOOT
- ROD = REQUIRED
- SIM = SIMILAR
- SMS = SHEET METAL SCREW (SELD TAPPING UNO)
- SYM = SYMMETRICAL OR STMMETRY
- STD = STANDARD
- TOC = TOP OF CONCRETE
- TOF = TOP OF FINISH
- TOS = TOP OF STEEL (NOT TOP OF SLAB)
- TYP = TYPICAL
- UNO = UNLESS NOTED OTHERWISE
- VERT = VERTICAL

B. LADBS NOTES:

1. CONTRACTORS RESPONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC FORCE RESISTING SYSTEM/COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTION SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE LADBS INSPECTORS AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON SUCH SYSTEM OR COMPONENT PER SEC 1704.4.
2. CONTINUOUS SPECIAL INSPECTION BY A REGISTERED DEPUTY INSPECTOR IS REQUIRED FOR FIELD WELDING, POST-INSTALLED ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED TO RESIST SUSTAINED TENSION LOADS, SHOTCRETE PLACEMENT, CONCRETE STRENGTH F-C > 2500 PSI, SPRAYED-ON FIREPROOFING, ENGINEERED MASONRY, HIGH-LIFT GROUTING, HIGH LOAD DIAPHRAGMS, SPECIAL MOMENT-RESISTING CONCRETE FRAMES, AND HELICAL PILE FOUNDATIONS.
3. FOUNDATION SILLS SHALL BE NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD.
4. SHOP WELDS MUST BE PERFORMED IN A LADBS LICENSED FABRICATOR SHOP
5. LADBS LICENSED FABRICATOR IS REQUIRED FOR STRUCTURAL STEEL
6. PROVIDE LEAD HOLE 40% - 70% OF THREADED SHANK DIAMETER AND FULL DIAMETER FOR SMOOTH SHANK PORTION.
7. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS, AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING, AND OTHER FASTENING TO COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM. SPECIAL INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED WHERE THE FASTENER SPACING OF THE SHEATHING IS 4 INCHES ON CENTER OR LESS.
8. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS, AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING, AND OTHER FASTENING TO COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM. SPECIAL INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED WHERE THE FASTENER SPACING OF THE SHEATHING IS 4 INCHES ON CENTER OR LESS.

C. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS ON THE SITE.

1. THE CONTRACTOR SHALL MAKE A SURVEY FOR GENERAL CONSISTENCY OF FIELD CONDITIONS WITH INFORMATION SHOWN IN THE CONTRACT DOCUMENTS BEFORE STARTING WORK. THIS SURVEY SHALL INCLUDE VERIFICATION OF DIMENSIONS AND ELEVATIONS.
2. SHOULD THE CONTRACTOR BECOME AWARE OF A DISCREPANCY OR INCONSISTENCY BETWEEN FIELD CONDITIONS AND INFORMATION SHOWN IN THE CONTRACT DOCUMENTS AT ANY TIME, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY ARCHITECT IF THE DISCREPANCY OR INCONSISTENCY INVOLVES OR EFFECTS WORK SHOWN IN THE STRUCTURAL DRAWINGS, SAA SHALL ALSO BE NOTIFIED, AND THE CONTRACTOR SHALL OBTAIN DIRECTION FROM SAA BEFORE PROCEEDING WITH AFFECTED WORK.
3. THE CONTRACTOR SHALL CONFIRM AND LIMIT LOADS IMPOSED ON THE STRUCTURE BY NEW MECHANICAL EQUIPMENT OR OTHER NEW NONSTRUCTURAL ITEMS, INCLUDING FRAMES, CURBS OR OTHER SUPPORTS AS OCCUR. WEIGHTS AND OTHER LOADS SHALL BE COMPARED TO AND SHALL NOT EXCEED THOSE SHOWN IN THESE STRUCTURAL DRAWINGS. WHERE WEIGHTS OR LOADS ARE NOT SHOWN, THE CONTRACTOR SHALL DETERMINE AND SUBMIT THEM TO SAA, WHICH SHALL VERIFY COMPATIBILITY WITH STRUCTURAL DESIGN BEFORE INSTALLATION.
4. NO SUBSTITUTION, CHANGE OR OTHER DEVIATION FROM THE REQUIREMENTS OF ANY CONTRACT DOCUMENT SHALL BE MADE WITHOUT THE APPROVAL OF OWNER.
 - a. UNAUTHORIZED SUBSTITUTION, CHANGE OR DEVIATION SHALL BE SUFFICIENT CAUSE FOR REJECTION OF THE WORK AND/OR OF PAYMENT REQUESTS.
 - b. NO DEVIATION FROM INFORMATION SHOWN IN THE STRUCTURAL DRAWINGS SHALL BE MADE WITHOUT WRITTEN APPROVAL FROM SAA.
5. SHOP DRAWINGS AND OTHER SUBMITTALS PREPARED BY SUBCONTRACTORS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION.
 - a. ACCEPTANCE OF A SHOP DRAWING SHALL NOT CONSTITUTE APPROVAL OF ANY DEVIATION FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS.
 - b. REQUESTS FOR APPROVAL OF PROPOSED ALTERNATE DETAILS, MATERIAL SUBSTITUTIONS OR OTHER DEVIATIONS SHALL BE DIRECTED TO SAA INDEPENDENTLY FROM AND IN ADVANCE OF SUBMISSION OF AFFECTED SHOP DRAWINGS OR START-UP OF AFFECTED PARTS OF THE WORK.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY ON THE PROJECT SITE.

1. SHOULD THE CONTRACTOR BECOME AWARE OF ANY CONDITION WHICH IN HIS OPINION MIGHT CAUSE DISTRESS OF ANY PART OF THE CONSTRUCTION OR ENDANGER STABILITY, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER, ARCHITECT AND SAA AND TAKE ANY ACTION NECESSARY TO PROTECT LIFE AND PROPERTY PENDING DIRECTION FROM OWNER.
2. MEANS AND METHODS OF CONSTRUCTION SHALL BE SELECTED BY THE CONTRACTOR, WHO SHALL BE RESPONSIBLE FOR BRACING OR SHORING AS REQUIRED TO ASSURE SAFETY AND STABILITY DURING CONSTRUCTION AND TO SATISFY BUILDING DEPARTMENT REQUIREMENTS.

E. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PLAN THE WORK SO AS TO MINIMIZE ITS IMPACT ON THE OPERATIONS OF THE BUILDING'S OCCUPANTS, WHO MAY INTEND TO ATTEMPT TO REMAIN IN OPERATION TO THE GREATEST EXTENT POSSIBLE DURING THE PROJECT.

1. NO PROCEDURE WHICH CAUSES DAMAGE TO THE BUILDING OR ITS CONTENTS OR WHICH AFFECTS OCCUPANT OPERATIONS SHALL BE USED UNLESS NO REASONABLE ALTERNATIVE THAT WOULD REDUCE THE IMPACT IS POSSIBLE.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INFORM THE OWNER OR LANDLORD OF ANY PROCEDURE WHICH MIGHT IMPACT THEIR OPERATIONS WITH AS MUCH ADVANCE NOTICE AS POSSIBLE AND TO MAKE ALL TREASONABLE EFFORTS TO COORDINATE OPERATIONS WITH THE OCCUPANTS SO AS TO MINIMIZE THE DISTURBANCE.

F. THE DESIGN REPRESENTED IN THESE DESIGN DRAWINGS IS BASED ON THE FOLLOWING DESIGN PARAMETERS:

1. **GRAVITY LOADS:**
 ROOF DEAD LOAD = 7 PSF
 ROOF LIVE LOAD = 20 PSF
 CEILING DEAD LOAD = 6 PSF
 CEILING LIVE LOAD = 10 PSF
2. **WIND DESIGN DATA:**
 EXPOSURE
 BASIC WIND SPEED = 95 MPH
 RISK CATEGORY = II
3. **EARTHQUAKE DESIGN DATA:**
 SEISMIC DESIGN CATEGORY = E (WORST CASE ASSUMED)
 OCCUPANCY CATEGORY = II
 IMPORTANCE FACTOR I = 1.0
 EQUIVALENT LATERAL FORCE PROCEDURE:
 LIGHT-FRAME (WOOD) SHEAR WALLS : R = 6.5; Cs = 0.400
 REDUNDANCY FACTOR = 1.3
 (WORST CASE ASSUMED)
4. **FOUNDATIONS:**
 FOUNDATIONS HAVE BEEN PROPORTIONED BASED ON THE FOLLOWING ALLOWABLE BEARING PRESSURES PER CBC:
 CONTINUOUS FOOTINGS 1500 PSF

PROJECT SCOPE

THE PROPOSED PROJECT INVOLVES THE CONSTRUCTION OF NEW ADU

STRUCTURAL OBSERVATION

THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED.

THE STRUCTURAL OBSERVER SHALL PREPARE A REPORT OF THE STRUCTURAL OBSERVATION REPORT FORM FOR EACH SIGNIFICANT STAGE OF CONSTRUCTION OBSERVED. THE ORIGINAL OF THE STRUCTURAL OBSERVATION REPORT SHALL BE SENT TO THE BUILDING INSPECTOR'S OFFICE AND SHALL BE SIGNED AND SEALED (WET STAMP) BY THE RESPONSIBLE STRUCTURAL OBSERVER. ONE COPY OF THE OBSERVATION REPORT SHALL BE ATTACHED TO THE APPROVED PLANS. THE COPY ATTACHED TO THE PLANS SHALL BE SIGNED AND SEALED BY THE RESPONSIBLE STRUCTURAL OBSERVER OR THE DESIGNEE. COPIES OF THE REPORT SHALL ALSO BE GIVEN TO THE OWNER, CONTRACTOR, AND DEPUTY INSPECTOR. ANY DEFICIENCY NOTED ON THE OBSERVATION REPORT WILL BECOME THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD TO VERIFY ITS COMPLETION BY HIM (HER), OR BY A REGISTERED DEPUTY INSPECTOR AT THE DISCRETION OF THE STRUCTURAL OBSERVER.

A FINAL OBSERVATION REPORT AND THAT OF THE REGISTERED DEPUTY INSPECTOR MUST BE SUBMITTED WHICH SHOWS THAT ALL OBSERVED DEFICIENCIES WERE RESOLVED AND STRUCTURAL SYSTEM GENERALLY CONFORMS TO THE APPROVED PLANS AND SPECIFICATIONS. THE DEPARTMENT OF BUILDING AND SAFETY WILL NOT ACCEPT THE STRUCTURAL WORK WITHOUT THIS FINAL OBSERVATION REPORT AND THAT OF THE REGISTERED DEPUTY INSPECTOR (WHEN PROVIDED) AND THE CORRECTION OF SPECIFIC DEFICIENCIES NOTED DURING NORMAL BUILDING INSPECTION.

STRUCTURAL OBSERVATION/ SIGNIFICANT CONSTRUCTION STAGES (Only Checked Items are required)		
Architect or Engineer of Record for the project to be responsible for the "Structural Observation": Name: Nick Sivushenka <input type="checkbox"/> Licensed Architect <input checked="" type="checkbox"/> Registered Engineer Phone: (323) 448-4682 California Registration Number: C-87698		
Construction Stage	Construction Type	Elements/Connections to be observed
Foundation	<input checked="" type="checkbox"/> Footing, Stem Walls, Piers <input type="checkbox"/> Mat Foundation <input type="checkbox"/> Caisson, Pile, Grade beams <input type="checkbox"/> Stepping/Retaining Foundation, Hillside Special Anchors <input checked="" type="checkbox"/> Others: slab on grade	Excavations, rebar placement, and anchor bolt templates prior to pouring concrete
Wall	<input type="checkbox"/> Concrete <input type="checkbox"/> Masonry <input checked="" type="checkbox"/> Wood <input type="checkbox"/> Others:	Shear wall framing, sheathing, nailing and hardware (including holdowns)
Frame	<input type="checkbox"/> Steel Moment Frame <input type="checkbox"/> Steel Braced Frame <input type="checkbox"/> Concrete Moment Frame <input type="checkbox"/> Masonry Moment Frame <input type="checkbox"/> Others:	
Diaphragm	<input type="checkbox"/> Concrete <input type="checkbox"/> Steel Deck <input checked="" type="checkbox"/> Wood <input type="checkbox"/> Others:	Roof framing, sheathing, nailing, and hardware
Others		

DECLARATION BY OWNER OR OWNER'S REPRESENTATIVE

I, the owner of the project the owner's representative, declare that the above listed firm or individual is hired by me to be the Structural Observer.

Signature _____ Date _____

As a covered entity under Title 1 of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities. For efficient handling of information internally and in the internet, consent to this new form of code review and administrative information includes using WCD and RCD. The review process will allow flexibility and timely distribution of information to the public.



STRUCTURAL OBSERVATION PROGRAM AND DESIGNATION OF THE STRUCTURAL OBSERVER

PROJECT ADDRESS: _____ PERMIT APPL. NO.: _____
 Description of Work: New ADU
 Owner: _____ Architect: Yakov Design Engineer: SAA Structural

STRUCTURAL OBSERVATION (only checked items are required)			
Firm or Individual to be responsible for the Structural Observation: Name: <u>SAA Structural Engineering</u> Phone: (323) 448-4682 Calif. Registration: C-87698			
FOUNDATION	WALL	FRAME	DIAPHRAGM
<input checked="" type="checkbox"/> Footing, Stem Walls, Piers	<input type="checkbox"/> Concrete	<input type="checkbox"/> Steel Moment Frame	<input type="checkbox"/> Concrete
<input type="checkbox"/> Mat Foundation	<input type="checkbox"/> Masonry	<input type="checkbox"/> Steel Braced Frame	<input type="checkbox"/> Steel Deck
<input type="checkbox"/> Caisson, Piles, Grade Beams	<input checked="" type="checkbox"/> Wood	<input type="checkbox"/> Concrete Moment Frame	<input checked="" type="checkbox"/> Wood
<input type="checkbox"/> Step g/Retain'g Foundation, Hillside Special Anchors	<input type="checkbox"/> Others:	<input type="checkbox"/> Others:	<input type="checkbox"/> Others:
<input checked="" type="checkbox"/> Others: slab on grade			

DECLARATION BY OWNER

I, the Owner of the project, declare that the above listed firm or individual is hired by me to be the Structural Observer.

Signature _____ Date _____

DECLARATION BY ARCHITECT OR ENGINEER OF RECORD (required if the Structural Observer is different from the Architect or Engineer of Record)
 I, the Architect or Engineer of record for the project, declare that the above listed firm or individual is designated by me to be responsible for the Structural Observation.

Signature _____ License No. _____ Date _____

SBForm 08 (Rev. 06/19/17)

SPECIAL INSPECTIONS

THE OWNER SHALL RETAIN A DEPUTY INSPECTOR LICENSED BY THE CITY OF LOS ANGELES DEPARTMENT OF BUILDING & SAFETY IN ACCORDANCE WITH CHAPTER 17 OF CBC. THE FOLLOWING AREAS OF WORK REQUIRE INSPECTIONS BY A DEPUTY INSPECTOR TO VERIFY COMPLIANCE WITH CBC:

TRADE	INSPECTION DUTIES	INSPECTION DURATION
REBAR PLACEMENT	MATERIAL SPEC, REBAR SIZE AND CONFIGURATION	INTERMITTENT
INSTALLATION OF HOLDOWN ANCHOR BOLTS PRIOR TO CONCRETE PLACEMENT	VERIFY MATERIAL, SIZE, LOCATION AND INSTALLATION FOR COMPLIANCE WITH DESIGN DRAWINGS	PERIODIC
ADHESIVE ANCHORS	INSPECTION OF MATERIALS ND INSTALLATION IN ACCORDANCE WITH ICC APPROVAL	CONTINUOUS

ICC/LARR

THE FOLLOWING ARE A LIST OF COMPONENTS USED WITHIN THE PROJECT WITH INTERNATIONAL CODE COUNCIL REPORT NUMBERS AND CITY OF LOS ANGELES RESEARCH REPORT NUMBERS FOR THE CONTRACTOR TO OBTAIN AND FOLLOW PROVISIONS OF. ITEMS WITHOUT AN LARR# REQUIRE ONE TIME APPROVAL FROM CITY OF LOS ANGELES.

COMPONENT	ICC-ESR / IAPMO #	LARR # (LABC YR)
SIMPSON SDS WOOD SCREWS	ICC-ESR # 2236	LARR # 25711 (2011)
SIMPSON A35	ICC-ESR # 2606	LARR # 25814 (2014)
SIMPSON STRAPS	ICC-ESR # 2105	LARR # 25713 (2014)
SIMPSON HOLDOWNS	ICC-ESR # 2330	LARR # 25720 (2011)

Yakov Design
 Drafting service
 (562) 322-80-70
 info@yakovdesign.com

NEW ADU

GENERAL NOTES

SAA STRUCTURAL ENGINEERING
 PHONE: 323-448-4682

SCALE: AS NOTED
 DATE: 05/03/2024

S-0.1

STRUCTURAL LUMBER

A. IN ADDITION TO CODE, THE FOLLOWING SPECIFICATIONS AND STANDARDS APPLY TO STRUCTURAL LUMBER AND RELATED CARPENTRY WORK FOR PROJECT:

B.

- NFPA NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.
- WCLIB GRADING RULES NO. 16 OR APPLICABLE WWPA GRADING RULES.

B. MATERIAL QUALITY SHALL BE CONSISTENT WITH DESIGN ASSUMPTIONS.

- STRUCTURAL LUMBER SHALL BE DOUGLAS FIR-LARCH (UNO).
- MEMBER SIZES SPECIFIED ARE NOMINAL. STRUCTURAL LUMBER SHALL BE FINISHED S4S (UNO).
- STRUCTURAL LUMBER SHALL BE GRADE MARKED IN ACCORDANCE WITH REFERENCED GRADING STANDARDS (UNO).
- MINIMUM GRADES SHALL BE AS REQUIRED BY APPLICABLE STANDARDS BUT AT LEAST EQUAL TO THE FOLLOWING:
 - 2X WALL STUDS ONLY -- CONSTRUCTION GRADE
 - OTHER STUDS, JOISTS AND RAFTERS -- NO. 2
 - BEAMS, POSTS AND ALL OTHER STRUCTURAL LUMBER -- NO. 1 OR BETTER
- HIGHER LUMBER GRADES SHALL BE USED WHERE INDICATED.
- NAILS SHALL BE COMMON WIRE NAILS (UNO).
- BOLTS SHALL BE M.B. WITH STANDARD MALLEABLE IRON OR STEEL PLATE WASHERS UNDER ALL BOLT HEADS AND NUTS BEARING ON WOOD (UNO).
- CONNECTION HARDWARE SHALL BE AS CALLED FOR. ALTERNATE PRODUCTS SHALL BE SUBSTITUTED ONLY WITH THE APPROVAL OF SAA AND BUILDING DEPARTMENT.
- MACHINE NAILING SYSTEMS SHALL BE SUBJECT TO SATISFACTORY DEMONSTRATION AND TO THE ACCEPTANCE OF SAA AND BUILDING DEPARTMENT.
 - THE CONTRACTOR SHALL MAKE APPROPRIATE SUBMISSIONS, INCLUDING TECHNICAL DATA, IN SUPPORT OF ANY PROPOSED MACHINE NAILING SYSTEM ON REQUEST.
 - HEADS OR TOPS OF NAILS OR OTHER MACHINE DRIVEN FASTENERS SHALL NOT PENETRATE THE SURFACE OF THE WOOD MORE THAN WOULD BE NORMAL FOR HAND DRIVING.
 - LUMBER DAMAGED BY OVERDRIVING SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
 - PERSISTANT OVERDRIVING SHALL BE SUFFICIENT CAUSE FOR REJECTION OF A MACHINE NAILING SYSTEM.
 - EDGE DISTANCES FOR MACHINE DRIVEN FASTENERS SHALL BE AS REQUIRED FOR HAND DRIVING AND BY APPLICABLE CODES AND STANDARDS AND SHALL BE CONSISTENT WITH THE NAILING SYSTEM MANUFACTURER'S RECOMMENDATIONS.
 - ACCEPTANCE OF A MACHINE NAILING SYSTEM SHALL BE SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE.
 - MACHINE NAILING SHALL NOT BE USED WITH PLYWOOD LESS THAN 3/8" THICK.

C. APPROPRIATE PRECAUTIONS SHALL BE TAKEN TO ASSURE DURABILITY:

- WOOD EXPOSED TO MOISTURE OR EARTH SHALL BE TREATED FOR PROTECTION AGAINST DECAY AND TERMITE ATTACK OR SHALL BE FOUNDATION GRADE REDWOOD. THIS REQUIREMENT SHALL APPLY TO:
 - ANY WOOD EMBEDDED IN OR IN DIRECT CONTACT WITH CONCRETE OR MASONRY.
 - ANY WOOD OTHER THAN WALL STUDS WITHIN ONE FOOT OF EARTH.
 - ANY FLOOR JOIST WITHIN 18" OF EARTH.
- PRESSURE TREATMENT PROCESS SHALL BE APPROVED BY BUILDING DEPARTMENT AND SAA. TREATMENT PROCESSES EFFECTING MATERIAL PROPERTIES SHALL NOT BE USED ON STRUCTURAL LUMBER WITHOUT SAA'S WRITTEN APPROVAL. ADDITIONALLY CUT ENDS OF LUMBERS MUST BE FIELD TREATED WITH AN APPROPRIATE AGENT TO AVOID COMPROMISING DECAY RESISTENCE OF LUMBER.
- LUMBER USED IN THE WORK SHALL BE KILN DRIED TO AVOID EXCESSIVE SHRINKAGE OR WARPING. "GREEN" LUMBER WITH EXCESSIVE MOISTURE CONTENT SHALL NOT BE USED IN THE WORK.
- SUBFLOORS, ATTICS, PLENUMS, AND OTHER VOID SPACES SHALL BE APPROPRIATELY VENTILATED.

D. QUALITY FRAMING PRACTICES SHALL BE EMPLOYED IN THE CONSTRUCTION:

- WOOD COLUMNS AND POSTS SHALL BE SECURED IN POSITION AT TRUE END BEARINGS DESIGNED TO PROTECT AGAINST DECAY OR OTHER DAMAGE.
- STUDS FOR WALLS AND PARTITIONS SHALL BE AS REQUIRED BY APPLICABLE STANDARDS OR SPECIFIC DETAILS, WHICHEVER ARE MORE RESTRICTIVE, BUT NO LESS THAN:
 - 2X4 AT 16" o.c. FOR ANY WALL OR PARTITION.
 - 2X6 AT 16" o.c. FOR STUDS OVER 9'-0" HIGH, CARRYING COMBINED FLOOR LOADS FROM MORE THAN ONE LEVEL OR EXTERIOR WALLS (UNO)
- DOUBLE TOP PLATES MATCHING STUDS FOR SIZE AND GRADE SHALL BE PROVIDED AT ALL WALLS (UNO). SPLICES IN PLATES, IF USED, SHALL BE STAGGERED NO LESS THAN 4'-0" o.c.
- 4X6 OR BETTER HEADER BEAMS OR LINTELS SHALL BE PROVIDED AT ALL OPENINGS IN WALLS AND PARTITIONS.
- CONTINUOUS HORIZONTAL 2X FIRE BLOCKING OF DEPTH TO MATCH STUDS SHALL BE PROVIDED AT FLOORS, CEILINGS, SOFFITS AND AT NO MORE THAN 8'-0" o.c. VERTICALLY IN ALL STUD WALLS.
- BORED HOLES IN STUDS SHALL BE PERMITTED ONLY WITHIN THE FOLLOWING RESTRICTIONS:
 - HOLES SHALL NOT APPROACH WITHIN 3/4" OF EITHER EDGE OF THE STUD.
 - HOLES SHALL NOT OCCUR WITHIN 6" OF ANY OTHER BORED HOLE, CUT, NOTCH, OR END OF THE STUD.
 - HOLE DIAMETER SHALL BE LIMITED TO 60% OF WIDTH AT NON-BEARING STUDS IN INTERIOR PARTITIONS SUPPORTING ONLY THEIR OWN WEIGHT AND 40% OF WIDTH AT ALL OTHER STUDS.
- NOTCHING OF STUDS SHALL BE PERMITTED ONLY WITHIN THE FOLLOWING RESTRICTIONS:
 - NOTCHES SHALL BE NEATLY MADE WITH PREDRILLED CORNERS AND WITHOUT OVERCUTTING.
 - NOTCHES SHALL NOT OCCUR WITHIN 6" OF ANY OTHER NOTCH, CUT, BORED HOLE, OR END OF THE STUD.
 - NOTCH DEPTH SHALL BE LIMITED TO 40% OF WIDTH AT NON-BEARING STUDS IN INTERIOR PARTITIONS SUPPORTING ONLY THEIR OWN WEIGHT AND 25% OF WIDTH AT ALL OTHER STUDS.
 - NOTCH WIDTH SHALL BE LIMITED TO TWICE MAXIMUM PERMITTED DEPTH BUT IN NO CASE MORE THAN SIX INCHES.
- ALL STUD WALLS SHALL BE BRACED BY ONE OF THE FOLLOWING METHODS:

- 1/2" GYPSUM BOARD SHEATHING WITH 5d COOLER NAILS AT 7" o.c. TO ALL STUDS AND TOP AND BOTTOM PLATES AND AT 12" o.c. AT ALL OTHER STUDS. EDGE BLOCKING NOT REQUIRED.
- OTHER SHEAR RESISTING FINISH APPROVED BY BUILDING DEPARTMENT FOR EQUAL OR GREATER SHEAR STRENGTH THAN ITEM (a) ABOVE.
- 1X6 LET IN DIAGONAL BRACING AT NO MORE THAN 25'-0" o.c. ALONG WALL ANGLED TO CROSS AT LEAST FOUR STUD SPACES IN WALL HEIGHT, WITH 2-8d NAILS AT EACH STUD AND AT TOP AND BOTTOM PLATES.
- APPROVED STEEL STRAP BRACING SIMILAR TO ITEM (c) ABOVE.
- 5/16" PLYWOOD PANELS AT LEAST 4'-0" WIDE AND EXTENDING FULL HEIGHT OF WALL AT NO MORE THAN 25'-0" o.c. WITH 6d NAILS AT 6" o.c. TO STUDS AT VERTICAL SHEET EDGES AND TO TOP AND BOTTOM PLATES AND AT 12" o.c. AT ALL OTHER STUDS. EDGE BLOCKING NOT REQUIRED.
- BEAMS OR GIRDELS SUPPORTED BY HANGERS OR STRUCTURAL STEEL SHALL HAVE AT LEAST 3" OF FIRM BEARING IN A DETAIL APPROVED BY SAA (UNO).
- BEAMS OR GIRDELS SUPPORTED BY CONCRETE OR MASONRY SHALL HAVE AT LEAST 4" OF FIRM BEARING ON SOUND MATERIAL (UNO).
- BEAMS OR GIRDELS SUPPORTED BY TIMBER SHALL HAVE FULL BEARING ACROSS THE SECTION OF THE POST, GIRDER OR OTHER SUPPORT (UNO).
- JOISTS OR RAFTERS SUPPORTED BY METAL HANGERS SHALL HAVE AT LEAST 1%³⁰ 1/2" OF FIRM BEARING (UNO).
- JOISTS OR RAFTERS SUPPORTED BY CONCRETE OR MASONRY SHALL HAVE AT LEAST 3" OF FIRM BEARING ON SOUND MATERIAL (UNO).
- JOISTS OR RAFTERS SUPPORTED BY TIMBER SHALL HAVE FULL BEARING ACROSS THE WIDTH OF BEAMS OR GIRDELS OR THE TOP PLATES OF STUD WALLS OR SHALL BE ALIGNED WITH AND FACE NAILED TO STUDS AND SUPPORTED BY A 1X4 RIBBON STRIP (UNO).
- STABILITY BRACING SHALL BE PROVIDED AT NO MORE THAN 10'-0" o.c. FOR RAFTERS AND 8'-0" FOR JOISTS IN ONE OF THE FOLLOWING WAYS:
 - CONTINUOUS 2X3 CROSS BRIDGING.
 - CONTINUOUS FULL DEPTH BLOCKING.
 - APPROVED METAL BRIDGING.
- STABILITY BRACING SHALL BE PROVIDED FOR JOISTS AND RAFTERS AT ALL SUPPORTS IN ONE OF THE FOLLOWING WAYS:
 - CONTINUOUS FULL DEPTH BLOCKING.
 - FULL NAILING OF A HANGER APPROVED FOR ROTATIONAL RESTRAINT.
 - END NAILING TO A RIM JOIST OR RAFTER.
- RAFTERS OR JOISTS WITH COMMON INTERIOR BEARINGS SHALL BE LAPPED AT LEAST 4" OVER SUPPORT AND ATTACHED TO ONE ANOTHER WITH 3-16d NAILS.
- FLOOR JOISTS UNDER PARTITIONS PARALLEL TO THEIR SPAN SHALL BE DOUBLED (UNO).
- DOUBLED JOISTS OR OTHER VERTICALLY LAMINATED MEMBERS SHALL BE SECURELY INTERCONNECTED ALONG THEIR ENTIRE LENGTH.
 - FASTENERS SHALL BE PLACED AT TOP AND BOTTOM QUARTER POINTS OF DEPTH AND STAGGERED.
 - FASTENERS FOR 2X MEMBERS LESS THAN 12" DEEP MAY BE 16d NAILS AT 12" o.c. (UNO).
 - FASTENERS FOR OTHER MEMBERS SHALL BE 1/2" DIAMETER BOLTS AT 24" o.c. (UNO).
- STRUCTURAL FRAMING MEMBERS SHALL NOT BE NOTCHED WITHOUT SAA'S SPECIFIC APPROVAL.
- BORED HOLES IN JOISTS OR RAFTERS SHALL BE PERMITTED ONLY WITHIN THE FOLLOWING RESTRICTIONS:
 - HOLES SHALL NOT APPROACH WITHIN 2" OF EITHER EDGE OF THE MEMBER.
 - HOLES SHALL NOT OCCUR WITHIN 12" OF ANY OTHER HOLE OR OF THE END OF THE MEMBER.
 - HOLE DIAMETER SHALL BE LIMITED TO ONE-THIRD OF DEPTH.
- END JOINTS IN ADJACENT BOARDS IN LUMBER SHEATHING SHALL BE SEPARATED BY AT LEAST TWO SUPPORT SPACES AND AT LEAST TWO BOARDS SHALL SEPARATE ANY TWO JOINTS ON THE SAME SUPPORT.
- NAILS DRIVEN PERPENDICULAR TO GRAIN SHALL BE USED IN FAVOR OF TOE NAILS WHENEVER POSSIBLE.
- WHEN TOE NAILS MUST BE USED, THEY SHALL BE DRIVEN AT AN ANGLE OF APPROXIMATELY THIRTY DEGREES TO THE FACE AND STARTED APPROXIMATELY ONE-THIRD OF THEIR LENGTH FROM THE END OF THE PIECE.
- IMPROPERLY INSTALLED TOE NAILS SHALL NOT BE CONSIDERED AS HAVING STRUCTURAL VALUE AND MEMBERS DAMAGED BY IMPROPER TOE NAILING SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- BOLT HOLES, INCLUDING THOSE AT SILL ANCHORS, SHALL BE NO LESS THAN 1/32" AND NO MORE THAN 1/16" LARGER THAN THE NOMINAL DIAMETER OF THE FASTENER (UNO). OVERSIZE BOLT HOLES SHALL BE SUFFICIENT CAUSE FOR REJECTION OF THE WORK.
- THE CONTRACTOR SHALL VERIFY AND RETIGHTEN ALL BOLTS PRIOR TO APPLICATION OF FINISH OR TO OTHER CONSTRUCTION WHICH WOULD MAKE THEM INACCESSIBLE.
- NEITHER BOLTS, LAG SCREWS NOR WOOD SCREWS SHALL BE HAMMERED OR OTHERWISE DRIVEN INTO PLACE. DRIVING OF SUCH MEMBERS SHALL BE SUFFICIENT CAUSE FOR REJECTION OF THE FASTENING.
- FRAMING HARDWARE SHALL BE INSTALLED WITH PROPER SIZE, LOCATION AND NUMBER OF FASTENERS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND CONDITIONS OF RELEVANT APPROVALS.
- SILL PLATES AT STUD WALLS SHALL BE PROPERLY DETAILED AND ANCHORED:
 - SILLS SHALL BE 3X MINIMUM (UNO).
 - SILLS BEARING ON MASONRY OR CONCRETE SHALL BE SECURED IN POSITION WITH NO LESS THAN 5/8" ANCHOR BOLTS AT 48" o.c. MAXIMUM WITH AT LEAST 7" EMBEDMENT INTO SOUND CONCRETE OR MASONRY GROUT.
 - SILL ANCHOR BOLTS SHALL BE PROVIDED WITHIN 9" OF EACH END OF EACH PIECE AND NO PIECE SHALL HAVE LESS THAN TWO BOLTS.
 - SILL ANCHOR BOLTS SHALL BE ARRANGED TO AVOID INTERFERENCE WITH FRAMING WHENEVER POSSIBLE.
- WHERE GYPSUM BOARD, PLYWOOD OR OTHER STRUCTURAL SHEATHING IS SPECIFIED IN THE STRUCTURAL DRAWINGS, JOINTS SHALL NOT BE TAPED OR FINISH APPLIED UNTIL ATTACHMENT TO SUPPORTING FRAMING HAS BEEN INSPECTED AND APPROVED.
- WHERE PLASTER OR STUCCO IS SPECIFIED IN THE STRUCTURAL DRAWINGS, APPLICATION SHALL NOT BEGIN UNTIL LATH TYPE AND ATTACHMENT TO SUPPORTING FRAMING HAS BEEN INSPECTED AND APPROVED.

EXCAVATIONS AND FOUNDATIONS

A. FOUNDATION EXCAVATION AND CONSTRUCTION SHALL BE ACCOMPLISHED IN A MANNER CONSISTENT WITH DESIGN ASSUMPTIONS:

- FOOTINGS SHALL BE FOUNDED NO LESS THAN TWO FEET (2'-0") BELOW LOWEST ADJACENT FINISH GRADE, SLAB OR PAVEMENT AND BE EMBEDDED INTO NATIVE SOIL OR CERTIFIED COMPACTED FILL.
- ALL EXCAVATION AND GRADING OPERATIONS SHALL BE CONDUCTED IN ACCORDANCE WITH REQUIREMENTS OF GOVERNING AUTHORITIES AND IN A MANNER CONSISTENT WITH QUALITY CONSTRUCTION STANDARDS.
 - EXCAVATIONS SHALL BE LAID BACK OR SHORED AS REQUIRED FOR SAFETY AND STABILITY AT ALL STAGES OF THE WORK.
 - ADEQUATE PROVISIONS FOR DRAINAGE AND REMOVAL OF RAINWATER AND GROUNDWATER IF PRESENT, SHALL BE INCORPORATED INTO TEMPORARY SLOPES OR GRADED SURFACES IN ORDER TO PRESERVE STABILITY AND PROTECT AGAINST ILLEGAL, DANGEROUS, UNSIGHTLY, OR OTHERWISE INAPPROPRIATE RUN-OFF.
 - BACKFILL WHICH WILL SUPPORT STRUCTURAL LOADS SHALL BE PLACED IN LIFTS AND COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY UNDER THE SUPERVISION OF GEOTECHNICAL ENGINEER.
 - BACKFILL SHALL NOT BE PLACED AGAINST NEW RETAINING STRUCTURES UNTIL THEY AND THEIR SUPPORTS HAVE ACHIEVED THEIR DESIGN STRENGTH UNLESS APPROPRIATE TEMPORARY SUPPORTS ARE PROVIDED.
 - COMPACTION METHODS USED FOR BACKFILL BEHIND RETAINING STRUCTURES SHALL TAKE SURCHARGE OF THOSE STRUCTURES INTO CONSIDERATION. APPROPRIATE TEMPORARY SUPPORTS SHALL BE PROVIDED AS NECESSARY.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR TO THE SATISFACTION OF OWNER, LANDLORD, ARCHITECT, BUILDING DEPARTMENT, AND SAA OF ANY DAMAGE TO RETAINING STRUCTURES CAUSED BY PREMATURE BACKFILLING, COMPACTION EFFORTS, OR OTHER CONSTRUCTION SURCHARGE.
 - CONCRETE SHALL NOT BE PLACED IN EXCAVATIONS CONTAINING STANDING WATER WITHOUT PRIOR APPROVAL. REQUESTS FOR SUCH APPROVAL SHALL INCLUDE DETAILED DESCRIPTION OF APPROPRIATE WIET PLACEMENT PROCEDURES THAT SHALL BE SUBJECT TO THE APPROVAL OF GEOTECHNICAL ENGINEER, BUILDING DEPARTMENT, AND SAA AND WHICH, IF APPROVED, SHALL BE STRICTLY FOLLOWED.

STRUCTURAL CONCRETE

A. IN ADDITION TO CODE, THE FOLLOWING SPECIFICATIONS AND STANDARDS APPLY TO STRUCTURAL CONCRETE WORK FOR PROJECT:

- ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318).
- ACI CODE OF STANDARD PRACTICE.
- ASTM C33 FOR AGGREGATE (UNO).
- ASTM C330 FOR AGGREGATE FOR STRUCTURAL LIGHTWEIGHT CONCRETE (AS SPECIFIED).
- ASTM C150 TYPE I OR II FOR CEMENT. ALL STRUCTURAL CONCRETE IN CONTACT WITH SOIL SHALL BE MADE WITH TYPE II CEMENT.
- ASTM C260 FOR AIR ENTRAINING ADMIXTURES WHERE SPECIFIED OR ADDED AT CONTRACTOR'S OPTION.
- ASTM C494 FOR WATER-REDUCING, RETARDING, ACCELERATING, WATER-REDUCING AND RETARDING OR WATER-REDUCING AND ACCELERATING ADMIXTURES WHERE SPECIFIED OR ADDED AT CONTRACTOR'S OPTION.
- ASTM C618 FOR FLY ASH OR OTHER POZZOLANIC ADMIXTURES WHERE SPECIFIED OR ADDED AT CONTRACTOR'S OPTION. NO MORE THAN 15% OF THE TOTAL CEMENT CONTENT IN ANY STRUCTURAL CONCRETE MIX SHALL BE SUCH MATERIAL (UNO).
- ASTM C94 FOR READY-MIXED CONCRETE. ALL STRUCTURAL CONCRETE SHALL BE DELIVERED TO THE SITE READY-MIXED.
- STRUCTURAL CONCRETE SHALL BE OF SPECIFIED TYPES AND STRENGTHS AND OF QUALITY COMPATIBLE WITH THE REQUIREMENTS OF THE WORK.
 - ALL STRUCTURAL CONCRETE SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH OF AT LEAST 3,000 PSI AT THE AGE OF 28 DAYS (UNO). STRUCTURAL CONCRETE FOR THIS PROJECT DESIGNED USING 2500 PSI, BUT CONTRACTOR TO PLACE 3000 PSI MATERIAL (NO SPECIAL INSPECTION REQUIRED).
 - ALL STRUCTURAL CONCRETE SHALL BE STONE TYPE WITH A FULLY CURED DENSITY BETWEEN 140 AND 150 PCF (UNO).
 - STRUCTURAL LIGHTWEIGHT CONCRETE, WHERE SPECIFIED, SHALL HAVE A FULLY CURED DENSITY BETWEEN 110 AND 120 PCF (UNO).
 - SUMPS OF STRUCTURAL CONCRETE SHALL BE AS SMALL AS PRACTICAL FOR THE INTENDED APPLICATION AND SHALL COMPLY WITH RECOMMENDATIONS OF REFERENCED STANDARDS AND LIMITATIONS OF THE MIX DESIGN.
 - NO CONCRETE WITH MEASURED SLUMP GREATER THAN SIX INCHES SHALL BE USED IN THE WORK WITHOUT THE SPECIFIC WRITTEN APPROVAL OF SAA. SLUMP MAY BE MEASURED AT POINT OF PLACEMENT.

C. GROUT AND DRYPACK SHALL BE TREATED AS STRUCTURAL CONCRETE AND SHALL BE SUBJECT TO ALL APPLICABLE REQUIREMENTS OF THESE NOTES (UNO).

- GROUT SHALL BE A HIGH-STRENGTH SHRINKAGE-COMPENSATING (NONSHRINK) CEMENTITIOUS MATERIAL OBTAINING AN ULTIMATE COMPRESSIVE STRENGTH OF AT LEAST 5000 PSI AT THE AGE OF 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C109.
- GROUT SHALL BE A PRE-ENGINEERED PRODUCT ACCEPTABLE TO BUILDING DEPARTMENT AND SAA.
- GROUT SHALL BE DELIVERED TO THE SITE PREMIXED IN MANUFACTURER'S ORIGINAL PACKAGING. ONLY WATER SHALL BE ADDED ON SITE. GROUT SHALL BE PREPARED AND PLACED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- GROUT SHALL BE MIXED TO A UNIFORM FLUID CONSISTENCY, POURED INTO FORMS AS REQUIRED, AND CHAINED OR RODDED TO ASSURE THAT ALL VOIDS ARE FILLED.
- GROUT CONTAINING METALLIC ADMIXTURES SHALL NOT BE USED WITHOUT THE WRITTEN APPROVAL OF BOTH ARCHITECT AND SAA.
- DRYPACK, WHERE SPECIFIED, SHALL BE GROUT MIXED TO A STIFF CLAY-LIKE CONSISTENCY. CARE SHALL BE TAKEN TO ASSURE UNIFORMITY PRIOR TO PLACEMENT.
- EXISTING CONCRETE OR OTHER POROUS SURFACES AGAINST WHICH GROUT OR DRYPACK IS TO BE PLACED SHALL BE MOISTENED TO PREVENT PREMATURE DEHYDRATION OF THE MATERIAL.
- INSPECTION REQUIREMENTS FOR STRUCTURAL GROUT AND DRYPACK SHALL BE AS FOR STRUCTURAL CONCRETE EXCEPT THAT CUBES RATHER THAN CYLINDERS MAY BE TAKEN FOR COMPRESSIVE STRENGTH TESTING.
- CONSISTENCY, POURED INTO FORMS AS REQUIRED, AND CHAINED OR RODDED TO ASSURE THAT ALL VOIDS ARE FILLED.
- GROUT CONTAINING METALLIC ADMIXTURES SHALL NOT BE USED WITHOUT THE WRITTEN APPROVAL OF BOTH ARCHITECT AND SAA.
- DRYPACK, WHERE SPECIFIED, SHALL BE GROUT MIXED TO A STIFF CLAY-LIKE CONSISTENCY. CARE SHALL BE TAKEN TO ASSURE UNIFORMITY PRIOR TO PLACEMENT.
- EXISTING CONCRETE OR OTHER POROUS SURFACES AGAINST WHICH GROUT OR DRYPACK IS TO BE PLACED SHALL BE MOISTENED TO PREVENT PREMATURE DEHYDRATION OF THE MATERIAL.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MIX DESIGNS.

- MIX DESIGNS FOR CONCRETE WITH SPECIFIED STRENGTH UP TO 2500 PSI MAY BE BY SUPPLIER AND NEED NOT BE SUBMITTED FOR REVIEW PRIOR TO USE.
 - MIX DESIGNS FOR CONCRETE WITH SPECIFIED STRENGTH GREATER THAN 2500 PSI SHALL BE BY A CALIFORNIA LICENSED CIVIL ENGINEER IN THE EMPLOY OF A CERTIFIED INDEPENDENT TESTING LABORATORY ACCEPTABLE TO BUILDING DEPARTMENT AND SAA. COSTS OF SUCH DESIGN SHALL BE BORNE BY THE CONTRACTOR.
 - CALCIUM CHLORIDE OR OTHER ADMIXTURES CONTAINING CHLORIDE OTHER THAN AS AN IMPURITY SHALL NOT BE USED IN STRUCTURAL CONCRETE WITHOUT THE WRITTEN APPROVAL OF SAA.
 - COPIES OF EACH MIX DESIGN, BEARING THE SEAL AND SIGNATURE OF THEIR DESIGNER AND ACCOMPANIED BY CERTIFIED RESULTS OF 7 AND 28 DAY TRIAL BATCH CYLINDER TEST RESULTS, SHALL BE SUBMITTED TO BUILDING DEPARTMENT AND SAA NO LESS THAN TWO WORKING DAYS BEFORE USE.
 - COPIES OF THE MIX DESIGN SHALL BE PRESENT AT BATCH PLANT AND JOB SITE PRIOR TO USE.
- E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING PROPER PREPARATIONS PRIOR TO THE PLACEMENT OF STRUCTURAL CONCRETE.
- THE CONTRACTOR SHALL DESIGN AND CONSTRUCT COMPETENT FORMS AS REQUIRED AND SHALL BE SOLELY RESPONSIBLE FOR THEIR ADEQUACY.
 - REINFORCEMENT SHALL BE PLACED AS CLOSE TO THE SURFACE OF CONCRETE AS PERMITTED WHILE MAINTAINING MINIMUM COVER AS FOLLOWS (UNO):
 - AT SURFACES CAST AGAINST EARTH -- THREE INCHES (3").
 - AT SURFACES EXPOSED TO EARTH OR WEATHER:
 - FOR #6 OR LARGER BARS -- TWO INCHES (2").
 - FOR #5 AND SMALLER -- ONE AND ONE-HALF INCHES (1-1/2").
 - PROJECTING CORNERS OF EXPOSED CONCRETE STRUCTURAL MEMBERS SHALL BE FORMED WITH 3/4" CHAMFER (UNO).
 - REINFORCING STEEL, ANCHOR BOLTS, AND OTHER INSERTS SHALL BE SECURED IN POSITION BEFORE CONCRETE PLACEMENT. SETTING DURING OR AFTER PLACEMENT SHALL NOT BE PERMITTED (UNO).
 - EXCEPT FOR SIMPLE, SYMMETRICAL, UNIFORM CONFIGURATIONS, THE CONTRACTOR SHALL PREPARE REINFORCEMENT PLACEMENT DRAWINGS. COPIES OF THESE DRAWINGS SHALL BE AVAILABLE FOR REFERENCE ON SITE AT LEAST ONE WORKING DAY BEFORE PLACEMENT OF CONCRETE AND BEFORE ANY INSPECTION OF THE REINFORCEMENT OR FORMWORK.
 - THE CONTRACTOR SHALL COORDINATE WITH ALL TRADES BEFORE PLACEMENT OF CONCRETE TO ASSURE PROPER INCORPORATION OF REQUIRED SLEEVES, INSERTS, CURBS, DEPRESSIONS AND SIMILAR ITEMS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL COSTS OF CORRECTIVE ACTION IN CASE OF ITEMS IMPROPERLY LOCATED OR OMITTED FROM CONCRETE PLACEMENT.
 - THE CONTRACTOR SHALL SUBMIT SKETCHES SHOWING SIZE AND LOCATION OF ANY REQUIRED SLEEVE, INSERT, DEPRESSION, OR OTHER MODIFICATION TO STRUCTURAL CONCRETE NOT SHOWN IN THESE STRUCTURAL DESIGN DRAWINGS TO SAA FOR REVIEW AND SHALL OBTAIN ITS APPROVAL BEFORE PLACEMENT.

F. CONCRETE SHALL BE PLACED, FINISHED, AND CURED IN ACCORDANCE WITH THE RECOMMENDATIONS OF REFERENCED STANDARDS.

- STRUCTURAL CONCRETE WITH SPECIFIED STRENGTH GREATER THAN 2500 PSI SHALL BE PLACED UNDER THE CONTINUOUS SUPERVISION OF A DEPUTY INSPECTOR LICENSED BY BUILDING DEPARTMENT. THIS INSPECTOR'S WORK SHALL INCLUDE PRE-PLACEMENT INSPECTION OF FORMWORK, REINFORCEMENT AND EMBEDDED ITEMS.
- EXISTING CONCRETE AGAINST WHICH NEW CONCRETE IS TO BE PLACED SHALL BE ROUGHENED TO AT LEAST 1/4" AMPLITUDE TO EXPOSE COARSE AGGREGATE. SANDBLASTED OR OTHERWISE THOROUGHLY CLEANED BY AN APPROVED METHOD, MOISTENED AND SCOURED WITH A CEMENT/WATER PASTE IMMEDIATELY PRIOR TO PLACEMENT OF NEW MATERIAL.
- COLD JOINTS IN STRUCTURAL CONCRETE SHALL BE MADE AT LOCATIONS INDICATED IN DESIGN DRAWINGS OR APPROVED BY SAA. INCORPORATION OF UNAPPROVED JOINTS SHALL BE SUFFICIENT CAUSE FOR REJECTION OF WORK.
- CURING COMPOUNDS, IF USED, SHALL BE OF APPROVED TYPES. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL OF CURING COMPOUNDS PROPOSED FOR USE ON SURFACES TO RECEIVE FINISH FROM THE FINISH MANUFACTURER PRIOR TO APPLICATION.
- FORMS SHALL BE KEPT DAMP AND STRUCTURAL CONCRETE SURFACES EXPOSED TO THE ENVIRONMENT SHALL BE MOIST CURED OR OTHERWISE PROTECTED AGAINST PREMATURE DEHYDRATION FOR AT LEAST 72 HOURS AFTER PLACEMENT.
- CONCRETE SHALL BE TESTED AND INSPECTED IN ACCORDANCE ACI-318 REQUIREMENTS BY QUALIFIED TECHNICIANS UNDER THE SUPERVISION OF A LICENSED CIVIL ENGINEER.
 - FOUR TEST CYLINDERS FROM EACH 150 YARDS, OR FRACTION THEREOF, POURED IN ANY ONE DAY, SHALL BE SECURED AND TESTED BY AN INDEPENDENT TESTING AGENCY. ONE TO BE TESTED AT 7 DAYS, TWO AT 28 DAYS, AND THE FOURTH HELD IN RESERVE.
 - QUALIFIED FIELD TESTING TECHNICIANS SHALL PERFORM TESTS ON FRESH CONCRETE AT THE JOB SITE. PREPARE SPECIMENS REQUIRED FOR CURING UNDER FIELD CONDITIONS. PREPARE SPECIMENS REQUIRED FOR TESTING IN THE LABORATORY, AND RECORD THE TEMPERATURE OF THE FRESH CONCRETE WHEN PREPARING SPECIMENS FOR STRENGTH TESTS. QUALIFIED LABORATORY TECHNICIANS SHALL PERFORM ALL REQUIRED LABORATORY TESTS.
 - THE CONTRACTOR SHALL REMOVE AND REPLACE ANY CONCRETE WHICH FAILS TO ATTAIN SPECIFIED STRENGTH IN 28 DAYS IF SO DIRECTED BY THE ENGINEER OF RECORD. ANY DEFECTS IN THE HARDENED CONCRETE SHALL BE SATISFACTORILY REPAIRED OR THE HARDENED CONCRETE SHALL BE REPLACED.

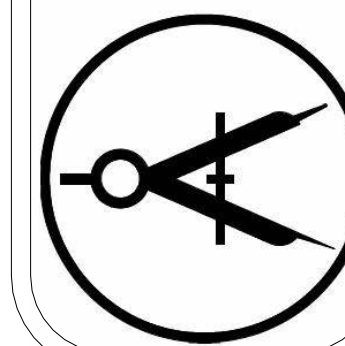
REINFORCING STEEL

A. IN ADDITION TO CODE, THE FOLLOWING SPECIFICATIONS AND STANDARDS APPLY TO THE MANUFACTURE, FABRICATION AND INSTALLATION OF REINFORCING STEEL IN STRUCTURAL CONCRETE AND/OR MASONRY WORK FOR PROJECT:

- CRSI HANDBOOK.
 - ASTM A615 GRADE 60 FOR ALL REINFORCING STEEL (UNO).
 - ASTM A185 FOR COLD DRAWN WELDED WIRE FABRIC (UNO). 4AWS D1.4 FOR WELDING OF REINFORCING STEEL.
- B. QUALITY DETAILING AND CONSTRUCTION STANDARDS SHALL BE OBSERVED.

- REINFORCEMENT SHALL BE TRACEABLE FROM SOURCE TO SITE AND SHALL BE SAMPLED AND TESTED TO CONFIRM PHYSICAL PROPERTIES AS REQUIRED BY BUILDING DEPARTMENT OR OTHERWISE NOTED IN THE PROJECT SPECIFICATION.
 - REINFORCEMENT DELIVERED TO THE SITE SHALL BE ACCOMPANIED BY APPROPRIATE TESTING REPORTS AND CERTIFICATION, INCLUDING EVIDENCE OF CONFORMANCE WITH SPECIAL DUCTILITY REQUIREMENTS SPECIFIED ABOVE.
 - LACK OF CERTIFICATION OR INADEQUATE CERTIFICATION SHALL BE SUFFICIENT CAUSE FOR REJECTION OF MATERIAL. UNCERTIFIED OR INADEQUATELY CERTIFIED MATERIAL SHALL NOT BE STORED AT THE SITE OR USED IN THE WORK AND IF DELIVERED TO THE SITE SHALL BE IMMEDIATELY REMOVED.
 - SUBJECT TO SAA'S WRITTEN APPROVAL, REINFORCEMENT NOT MEETING THE SPECIAL DUCTILITY REQUIREMENTS SPECIFIED ABOVE (NOTE 2) MAY BE PERMITTED IN LOCATIONS NOT SUBJECT TO YIELDING UNDER SEISMIC LOAD.
 - BARS SHALL BE COLD BENT AS DETAILED OR OTHERWISE NECESSARY AROUND PINS OF REQUIRED RADIUS. REBENDING OF BARS SHALL NOT BE PERMITTED (UNO).
 - BENDS SHALL BE MADE IN SHOP WHENEVER POSSIBLE. BENDING OF IN PLACE BARS IN ANY MANNER WHICH MIGHT CAUSE STRESS TO EXISTING CONCRETE SHALL NOT BE PERMITTED (UNO).
 - RUST, GREASE, MILL SCALE OR OTHER MATERIAL WHICH MIGHT EFFECT BOND TO CONCRETE SHALL BE REMOVED IN AN APPROVED MANNER WITHOUT DAMAGE TO THE REINFORCEMENT AND BEFORE PLACEMENT OF CONCRETE.
 - SEE CONCRETE NOTES FOR PLACEMENT DRAWING REQUIREMENTS.
- C. WELDING OF REINFORCEMENT IS NOT PERMITTED, UNLESS SPECIFICALLY DETAILED IN THE CONSTRUCTION DOCUMENTS.
- D. ADDITIONAL TRIM AND CRACK CONTROL STEEL MAY BE REQUIRED DURING THE PROGRESS OF THE WORK. AN ALLOWANCE OF AT LEAST ONE PERCENT BY WEIGHT OF THE TOTAL REINFORCEMENT SHALL BE SET ASIDE FOR THIS PURPOSE. SUCH STEEL SHALL BE FABRICATED AND PLACED AT SAA'S DIRECTION.

Yakov Design
Drafting service
info@yakovdesign.com
(562)322-80-70



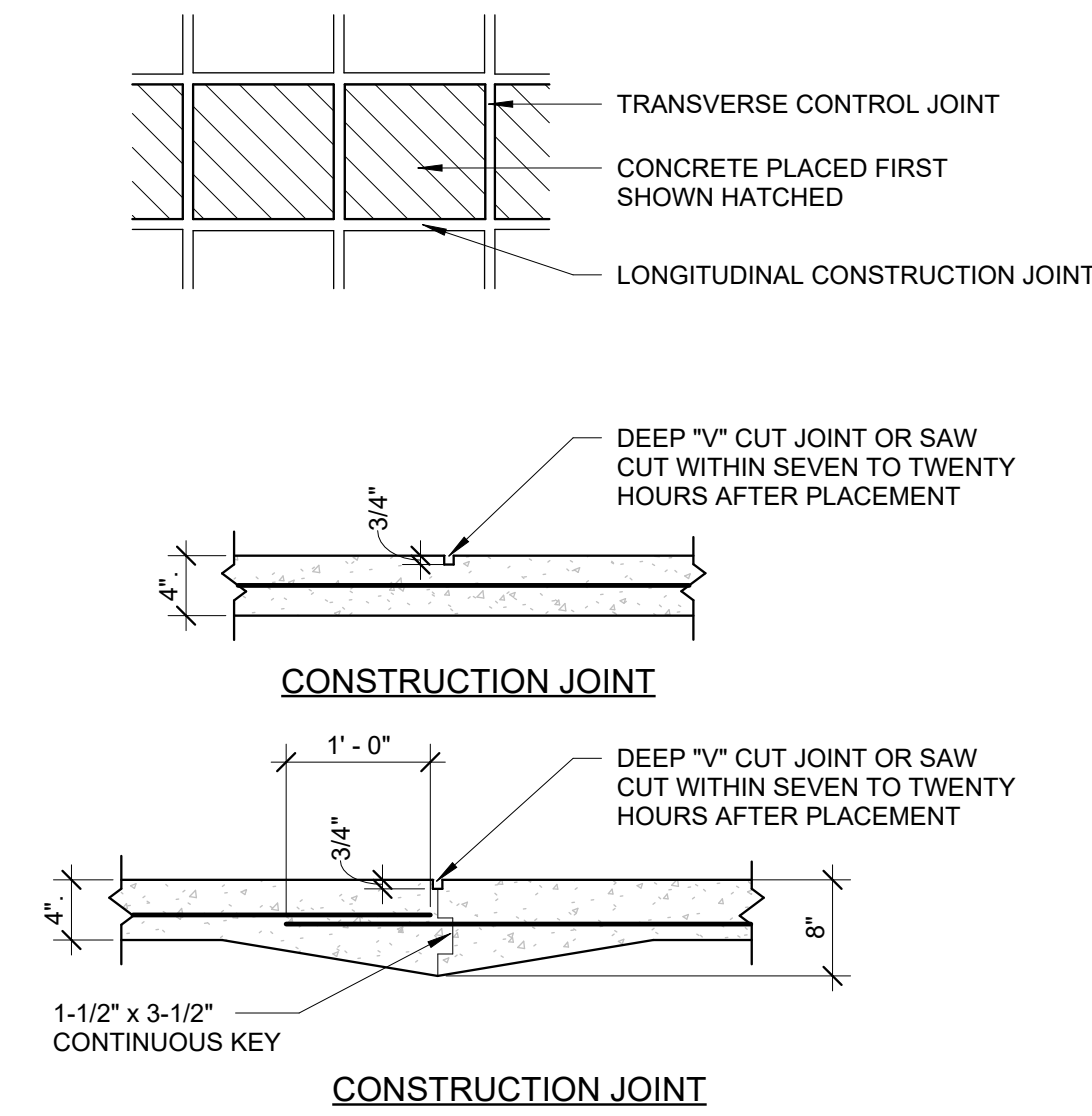
NEW ADU

GENERAL NOTES



SCALE: AS NOTED
DATE: 05/03/2024

S-0.2



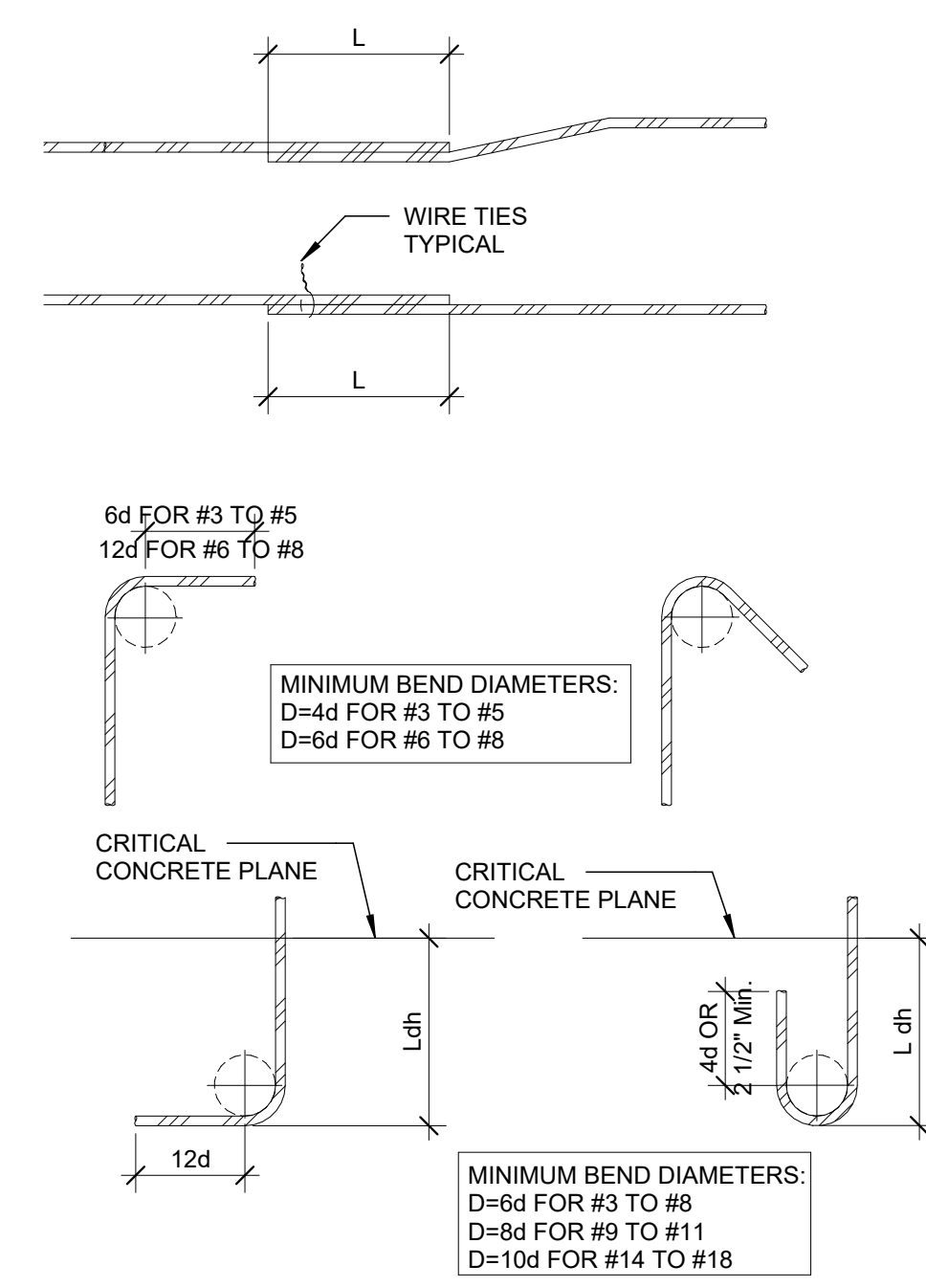
- NOTES:**
- SLABS SHALL BE PLACED IN LONGITUDINAL STRIPS OR SECTIONS HAVING A MAXIMUM WIDTH OF 20'-0".
 - SLABS SHALL BE SUBDIVIDED BY CONTROL JOINTS HAVING A MAXIMUM SPACING OF 15'-0".
 - CONTROL JOINTS TO BE PERPENDICULAR TO CONSTRUCTION JOINTS.
 - REINFORCING SHALL BE SECURELY PLACED IN MIDDLE OF SLAB.
 - CURING SHALL BE MAINTAINED PER WRITTEN SPECIFICATIONS.

2 Typical Slab on Grade Joints
S-0.3 NOT TO SCALE

HOOKED BAR DEVELOPMENT LENGTH (L _{dh})																	
BAR SIZE	f _y (ksi)	f _c = 3,000 psi		f _c = 4,000 psi		f _c = 5,000 psi		f _c = 6,000 psi		f _c = 7,000 psi		f _c = 8,000 psi		f _c = 9,000 psi		f _c = 10,000 psi	
		TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	60	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
#4	60	8	8	7	7	6	6	6	6	6	6	6	6	6	6	6	6
#5	60	10	9	9	8	8	7	7	7	7	6	6	6	6	6	6	6
#6	60	12	12	10	10	9	9	9	9	8	8	8	8	7	7	7	7
#7	60	14	14	12	12	11	11	10	10	9	9	9	9	8	8	8	8
#8	60	16	16	14	14	12	12	11	11	11	11	10	10	9	9	9	9
#9	60	18	18	15	15	14	14	13	13	12	12	11	11	10	10	10	10
#10	60	20	20	17	17	16	16	14	14	13	13	12	12	12	11	11	11
#11	60	22	22	19	19	17	17	16	16	15	15	14	14	13	13	12	12
#11	75	28	28	24	24	21	21	20	20	18	18	17	17	16	16	15	15
#14	60	38	38	33	33	29	29	27	27	25	25	23	23	22	21	21	21
#14	75	47	47	41	41	38	38	33	33	31	31	29	29	27	27	26	26

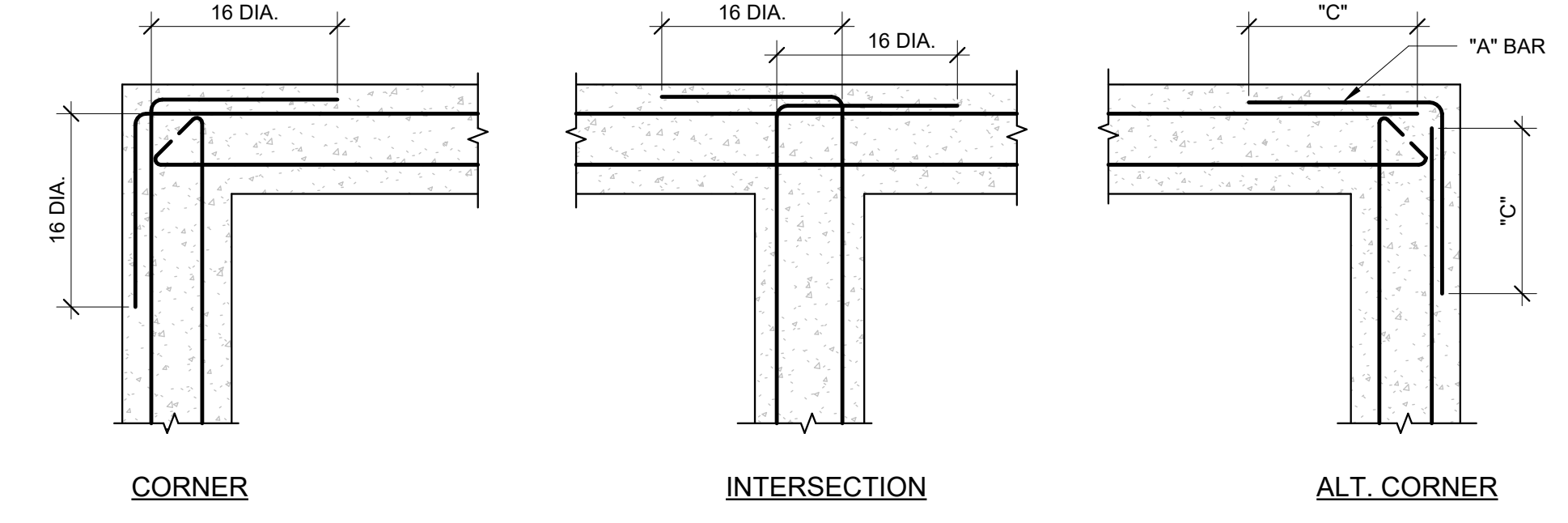
BAR DEVELOPMENT LENGTH (L _d)																	
BAR SIZE	f _y (ksi)	f _c = 3,000 psi		f _c = 4,000 psi		f _c = 5,000 psi		f _c = 6,000 psi		f _c = 7,000 psi		f _c = 8,000 psi		f _c = 9,000 psi		f _c = 10,000 psi	
		TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	60	33	25	28	22	25	20	23	18	21	17	20	16	19	15	18	14
#4	60	43	33	37	29	34	26	31	24	28	22	27	21	25	19	24	18
#5	60	54	42	47	36	42	32	38	30	35	27	33	26	31	24	30	23
#6	60	66	50	56	43	50	39	46	35	42	33	40	31	37	29	36	27
#7	60	84	72	81	63	73	56	67	51	62	48	58	45	54	42	52	40
#8	60	107	83	93	72	83	64	76	59	70	54	66	51	62	48	59	45
#9	60	121	93	105	81	94	72	86	66	79	61	74	57	70	54	66	51
#10	60	138	108	118	91	106	81	96	74	89	69	84	64	79	61	75	58
#11	60	151	116	131	101	117	90	107	82	99	76	93	71	87	67	83	64
#11	75	189	145	164	126	146	113	134	103	124	85	116	89	109	84	104	80
#14	60	181	140	157	121	141	108	128	99	119	92	111	86	105	81	100	77
#14	75	227	174	196	151	176	135	160	123	148	114	139	107	131	101	124	96

BAR LAP SPICE LENGTH																	
BAR SIZE	f _y (ksi)	f _c = 3,000 psi		f _c = 4,000 psi		f _c = 5,000 psi		f _c = 6,000 psi		f _c = 7,000 psi		f _c = 8,000 psi		f _c = 9,000 psi		f _c = 10,000 psi	
		TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	60	43	33	36	29	33	26	30	23	27	22	26	21	25	20	23	18
#4	60	56	43	48	38	44	34	40	31	36	29	35	27	33	25	31	23
#5	60	70	55	61	47	55	42	49	39	46	35	43	34	40	31	39	30
#6	60	85	65	73	56	68	51	60	46	55	43	52	40	48	38	47	35
#7	60	122	94	105	82	94	73	87	66	81	62	75	59	70	55	68	52
#8	60	139	108	121	94	108	83	99	77	91	70	86	68	81	62	77	59
#9	60	157	121	133	105	122	94	112	86	103	79	96	74	91	70	86	66
#10	60	177	137	153	118	138	105	125	96	116	90	109	83	103	79	98	75
#11	60	196	151	170	131	152	117	139	107	129	99	121	92	113	87	108	83
#11	75	246	189	213	164	190	147	174	134	161	124	151	116	142	109	139	104
#14	USE MECHANICAL SPLICE																



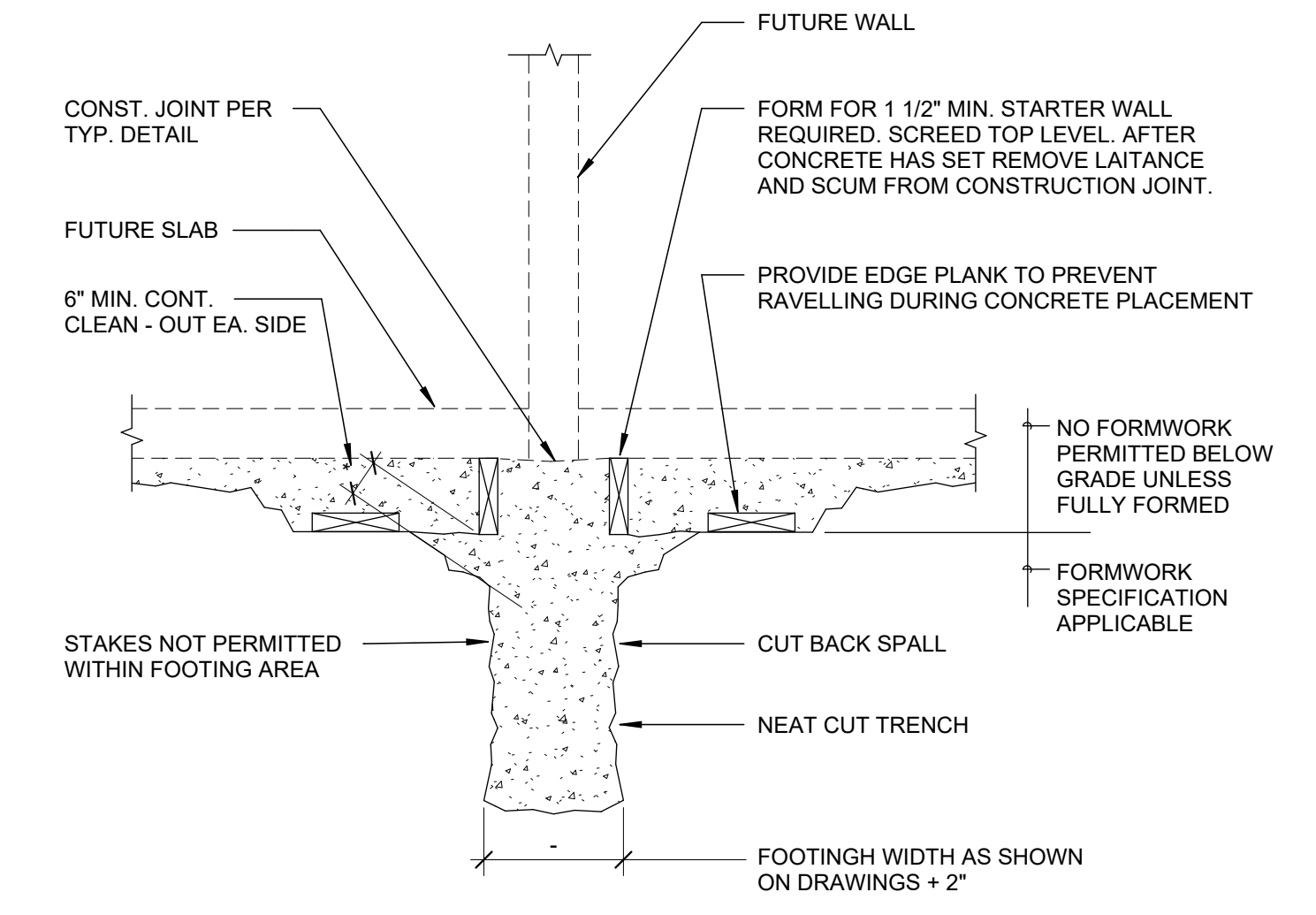
- NOTES:**
- TABULATED VALUES IN INCHES FOR NORMAL CONCRETE AND UNCOATED REINFORCING STEEL. FOR LIGHTWEIGHT CONCRETE INCREASE LENGTHS BY 30% FOR EPOXY COATED INCREASE LENGTHS BY 50%.
 - TABULATED LAP SPICE LENGTHS ARE FOR CLASS "B" SPLICES AS DEFINED IN ACI 318.9 FOR CLASS A SPLICES REDUCE LENGTH BY 30%. CLASS A SPLICES MAY BE USED WHEN SPECIFICALLY CALLED ON DRAWINGS AND IF ONE HALF OR LESS OF THE TOTAL NUMBER OF BARS ARE SPLICED WITHIN THE REQUIRED LAP LENGTH.
 - BAR DEVELOPMENT LENGTHS AND SPLICE LENGTHS OF INDIVIDUAL BARS WITHIN A BUNDLE SHALL BE INCREASED BY 20% FOR A 3-BAR BUNDLE AND 33% FOR A 4-BAR BUNDLE.
 - TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.
 - FOR COMPRESSION LAP SPICE LENGTH (ONLY WHERE INDICATED ON DRAWINGS) USE 30 BAR DIAMETER, NOT LESS THAN 12".
 - MECHANICAL SPLICES MAY BE USED AT CONTRACTOR'S OPTION. MECHANICAL SPLICES SHALL BE TYPE 2 AS DEFINED IN ACI 318 AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH (F_y) OF THE SPLICED BAR.
 - WHERE MECHANICAL SPLICES ARE USED, STAGGER ADJACENT SPLICES BY 24" O.C.
 - THE SMALLER BAR SPICE LENGTH SHALL BE USED WHEN SPLICING DIFFERENT SIZED BARS.

1 Tension Lap Splice & Embedment Length in Concrete
S-0.3 NOT TO SCALE



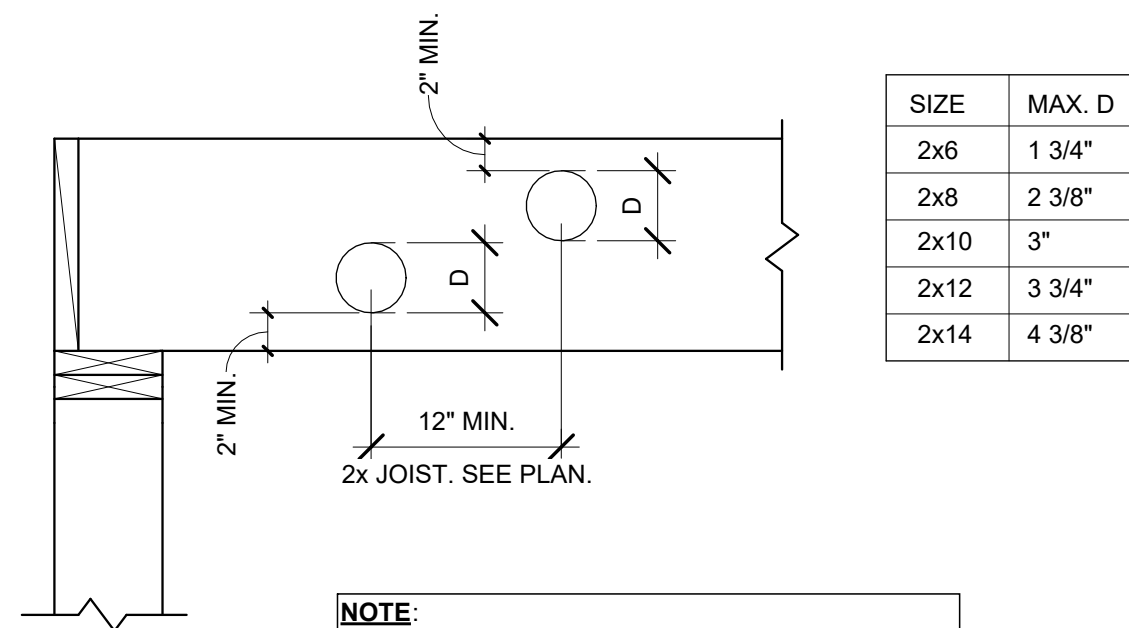
- NOTES:**
- IF "A" BAR IS USED, "C" IS BASED UPON ACI CLASS "B" SPLICE PER DETAIL 1, THIS SHEET.
 - WHERE SINGLE LAYER OF REINFORCEMENT OCCURS, BEND BARS AS SHOWN FOR BARS AT OUTSIDE FACE.
 - AT INTERSECTIONS, ALTERNATE BENDS IN EACH DIRECTION.
 - WHERE SPLICES OF DIFFERENT SIZE BARS OCCUR, CORNER DOWEL SIZE AND LAPS ARE BASED ON LARGER BAR SIZE.

5 Concrete Wall Corners
S-0.3 NOT TO SCALE



- NOTE:**
- ALL FOOTINGS POURED AGAINST EARTH ARE SUBJECT TO APPROVAL OF SOIL AND STRUCTURAL ENGINEERS AND MUST BE CONSTRUCTED IN THE MANNER SHOWN UNLESS SPECIFICALLY NOTED OTHERWISE

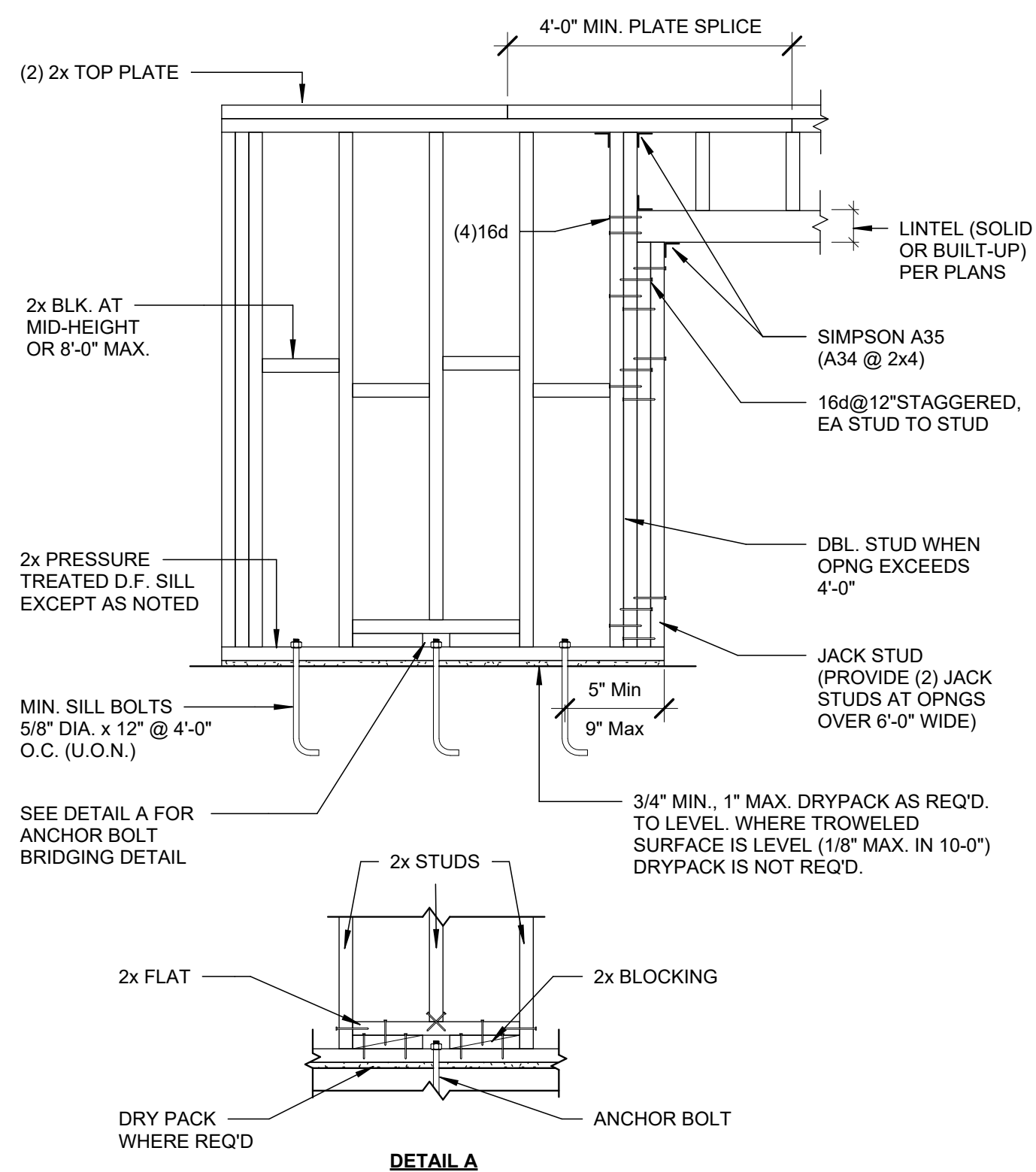
8 Footing Form Against Soil
S-0.3 NOT TO SCALE



NOTE: NOTCHING JOIST IS NOT ACCEPTABLE WITHOUT STRUCTURAL ENGINEER'S APPROVAL

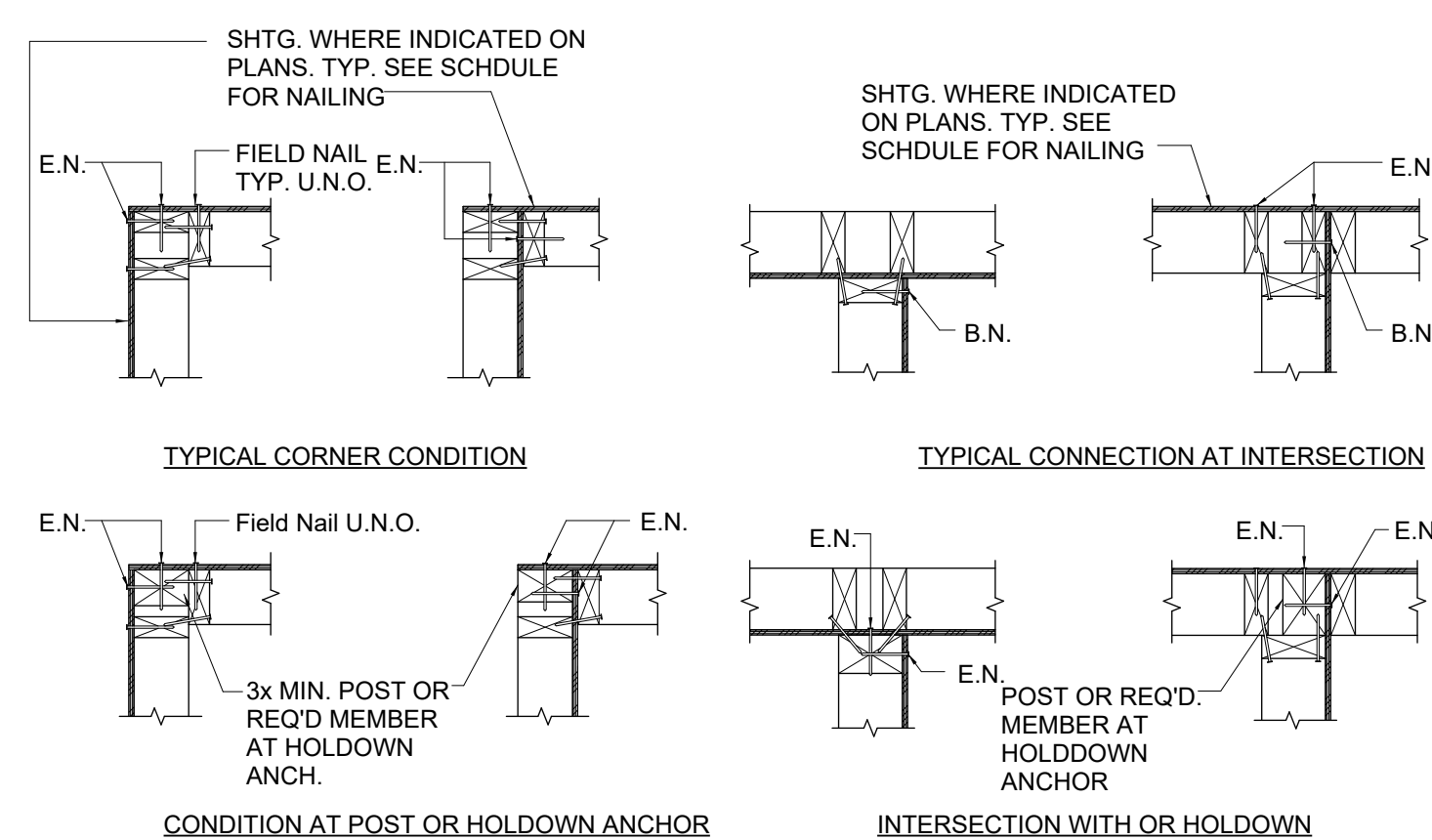
4 Typical Boring of Joists

S-0.4 NOT TO SCALE



9 Stud Wall Framing

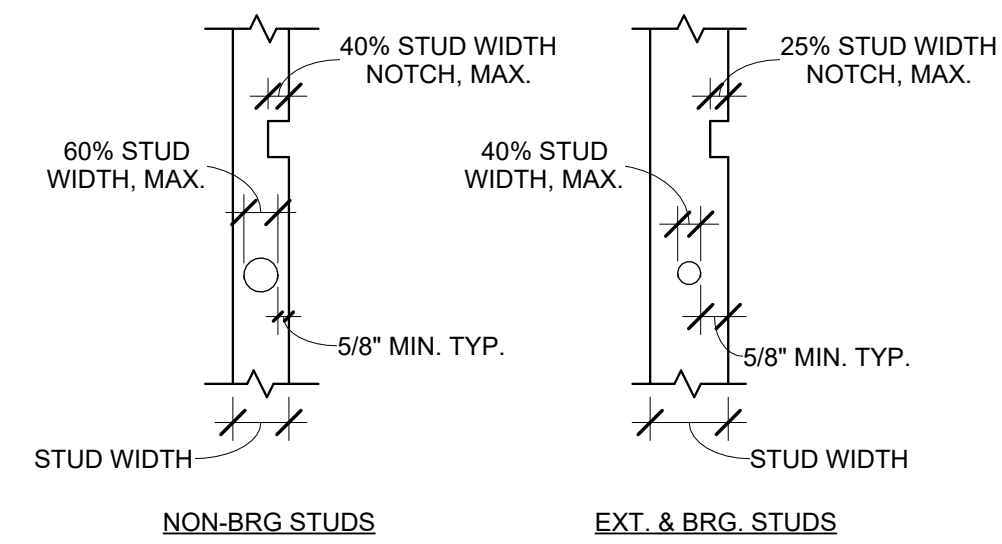
S-0.4 NOT TO SCALE



NOTES:
STUDS IN DIRECT CONTACT SHALL BE NAILED TOGETHER WITH 16d @ 12" O.C. (STAGGERED IF POSSIBLE). STUDS SEPARATED BY SHEATHING SHALL BE NAILED WITH 20d @ 12" O.C. U.N.O. PRE-DRILLED HOLES ARE REQUIRED FOR 20d SPIKES.

13 Shear Wall Corners & Intersections

S-0.4 NOT TO SCALE

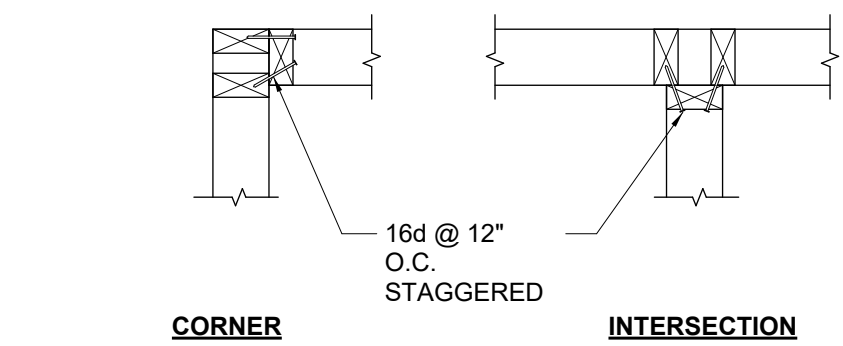


NOTE: NOTCH AND BORING NOT TO OCCUR IN SAME STUD SECTION.

3 Typical Notching & Boring of Studs

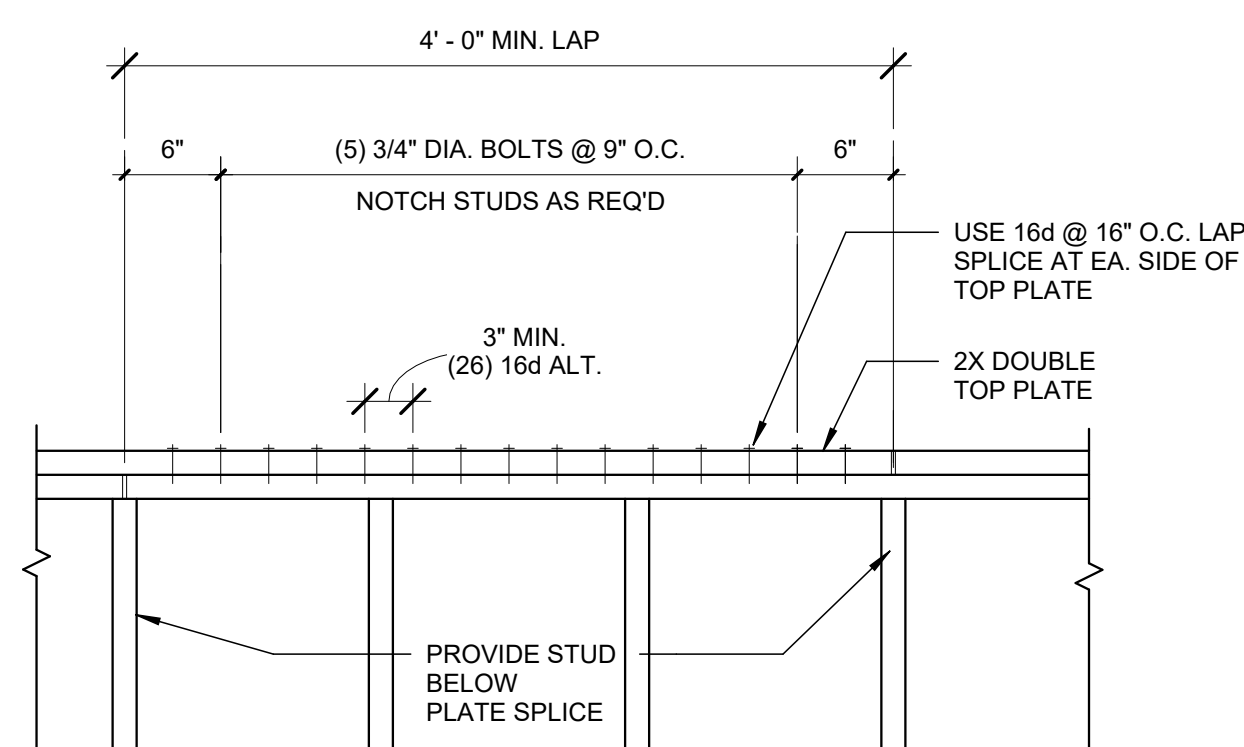
S-0.4 NOT TO SCALE

NOTCH/BORING % OF STUD	2x4	2x6
25%	7/8"	1 3/8"
40%	1 3/8"	2 1/8"
60%	2"	3 1/4"



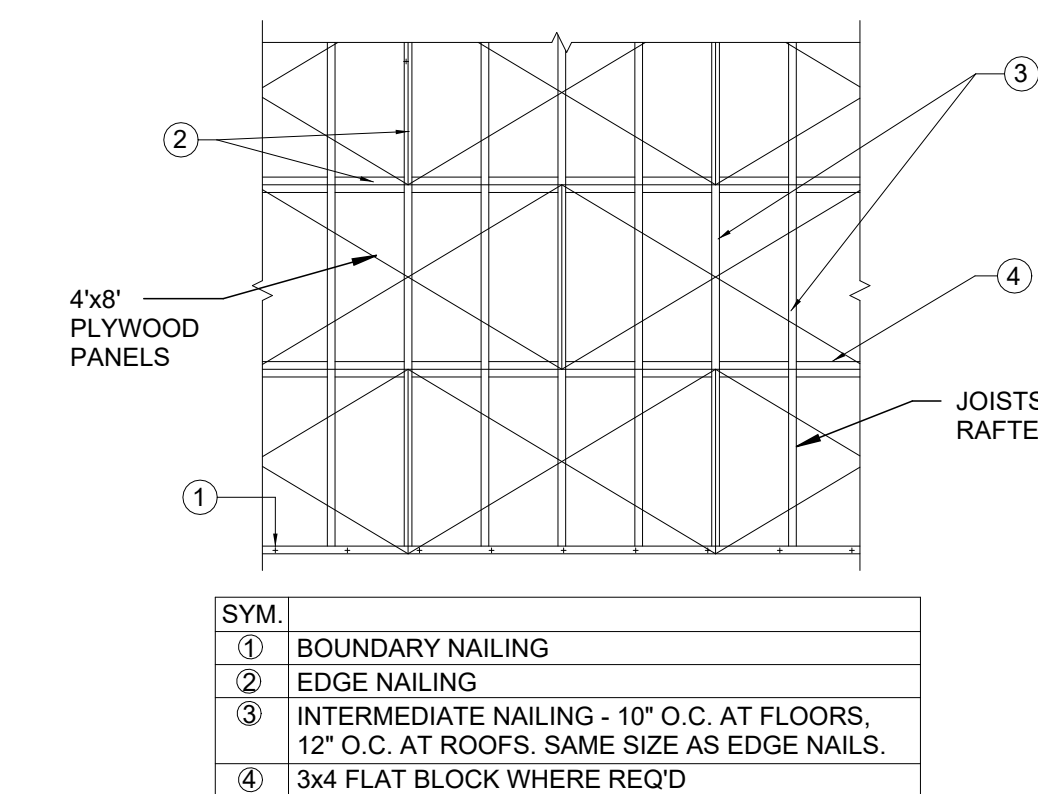
8 Typ. Stud Wall Corners & Intersections

S-0.4 NOT TO SCALE



7 Double Top Plate Splice

S-0.4 NOT TO SCALE



NOTES:
1. PLYWOOD THICKNESS AND NAILING PER PLAN.
2. FACE GRAIN OF PLYWOOD SHALL RUN PERPENDICULAR TO SUPPORTS.
3. NAILS SHALL HAVE MIN. 3/8" EDGE DISTANCE AND SHALL NOT BE OVER-DRIVEN THRU OUTER PLY.
4. CONTINUOUS PANEL EDGES SHALL RECEIVE BOUNDARY NAILING.
5. STAGGER PLYWOOD JOINTS.

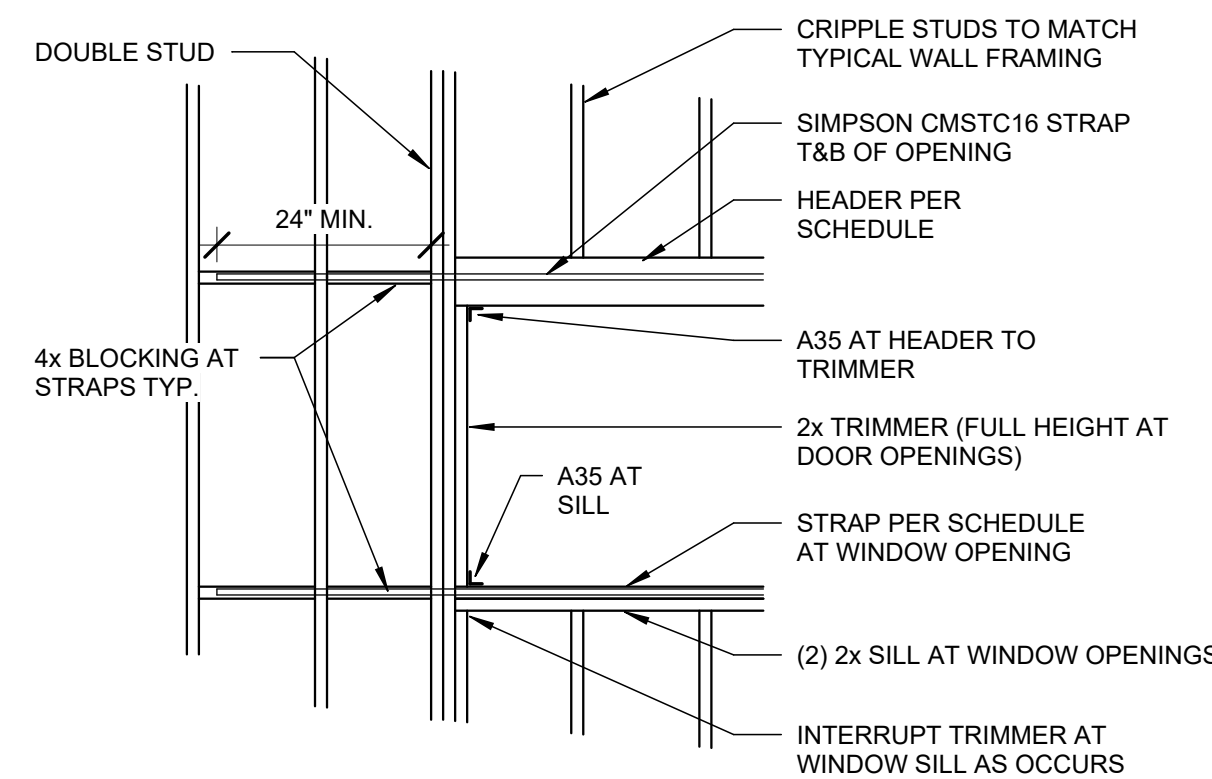
12 Typical Plywood Layout & Nailing

S-0.4 NOT TO SCALE

CONNECTION		NAILING
1.	JOIST TO SILL OR GIRDER, TOENAIL	3-8d
2.	BRIDGING TO JOIST, TOENAIL EACH END	2-8d
3.	1"x6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2-8d
4.	WIDER THAN 1"x6" SUBFLOOR TO EACH JOIST, FACE NAIL	3-8d
5.	2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	2-16d
6.	SOLE PLATE TO JOIST OR BLOCKING, TYPICAL FACE NAIL	16d AT 16" O.C.
	SOLE PLATE TO JOIST OR BLOCKING, AT BRACED WALL PANELS	3-16d PER 16"
7.	TOP PLATE TO STUD, END NAIL	2-16d
8.	STUD TO SOLE PLATE	4-8d TOENAIL OR 2-16d END NAIL
9.	DOUBLE STUDS, FACE NAIL	16d AT 24" O.C.
10.	DOUBLED TOP PLATES, TYPICAL FACE NAIL	16d AT 16" o.c.
	DOUBLED TOP PLATES, LAP SPLICE	8-16d
11.	BLOCKING BETWEEN JOIST OR RAFTERS TO TOP PLATE, TOENAIL	3-8d
12.	RIM JOIST TO TOP PLATE, TOENAIL	8d AT 6" O.C.
13.	TOP PLATES, LAPS AND INTERSECTIONS	2-16d
14.	CONTINUOUS HEADER, TWO PIECES	16d AT 16" O.C. ALONG EA. END
15.	CEILING JOIST TO PLATE, TOENAIL	3-8d
16.	CONTINUOUS HEADER TO STUD, TOENAIL	4-8d
17.	CEILING JOIST, LAPS OVER PARTITIONS, FACE NAIL	3-16d
18.	CEILING JOIST TO PARALLEL RAFTERS, FACE NAIL	3-16d
19.	RAFTER TO PLATE, TOENAIL	3-8d
20.	1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8d
21.	1"x8" SHEATHING OR LESS TO EACH BEARING, FACE NAIL	2-8d
22.	WIDER THAN 1"x8" SHEATHING TO EACH BEARING, FACE NAIL	3-8d
23.	BUILT UP CORNER STUDS	16d AT 24" O.C.
24.	BUILT UP GIRDER AND BEAMS	20d AT 32" O.C. AT TOP AND BOTTOM AND STAGGERED 2-20d AT ENDS AND AT EA. SPLICE
25.	2" PLANKS	2 - 16d AT EACH BEARING
26.	COLLAR TIE TO RAFTER, FACE NAIL	3-10d
27.	JACK RAFTER TO HIP	3-8d TOENAIL OR 2-16d FACE NAIL
28.	ROOF RAFTER TO 2x RIDGE BEAM	2-16d TOENAIL OR FACE NAIL
29.	JOIST TO BAND JOIST, FACE NAIL	3-16d
30.	LEDGER STRIP	3-16d
31.	WOOD STRUCTURAL PANELS AND PARTICLEBOARD ² SUBFLOOR, ROOF AND WALL SHEATHING (TO FRAMING)	
	1/2" AND LESS	6d ^{3,12}
	19/32" TO 3/4"	8d ³ OR 6d ⁵
	7/8" TO 1"	8d ³
	1 1/8" TO 1 1/4"	10d OR 8d ⁵
	SINGLE FLOOR (COMBINATION SUBFLOOR-UNDERLAYMENT TO FRAMING)	
	3/4" AND LESS	6d ⁵
	7/8" TO 1"	8d ⁵
	1 1/8" TO 1 1/4"	10d OR 8d ⁵
32.	PANEL SIDING (TO FRAMING):	
	1/2" OR LESS	6d ⁶
	25/32"	8d ⁶
33.	FIBERBOARD SHEATHING: ⁷	
	1/2"	NO. 11 GA. ⁸
		6d ⁴
	25/32"	NO. 11 GA. ⁸
		8d ⁴
34.	INTERIOR PANELING	
	1/4"	4 ¹⁰
	3/8"	6 ¹¹

6 Nailing Schedule

S-0.4 NOT TO SCALE



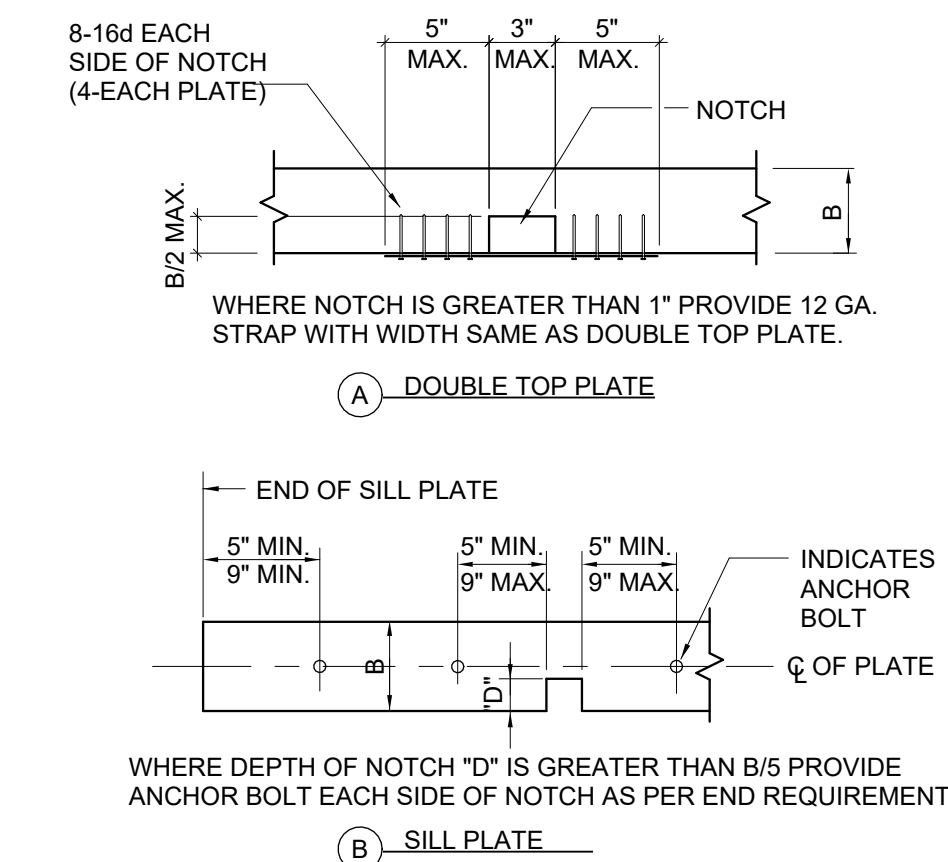
OPNG	HEADER
UP TO 3'-0"	4x4
UP TO 5'-0"	4x6
UP TO 8'-0"	4x8

NOTES:
1. HEADERS TO BE DF-L NO. 1. HEADER SIZES PER SCHEDULE U.O.N. ON PLANS.
2. STRAPS ARE TO BE INSTALLED OVER PLYWOOD.
3. PROVIDE E.N. TO ALL FRAMING MEMBERS AROUND OPENINGS AND BLOCKING.

11 Typical Framed Opening in Shearwall

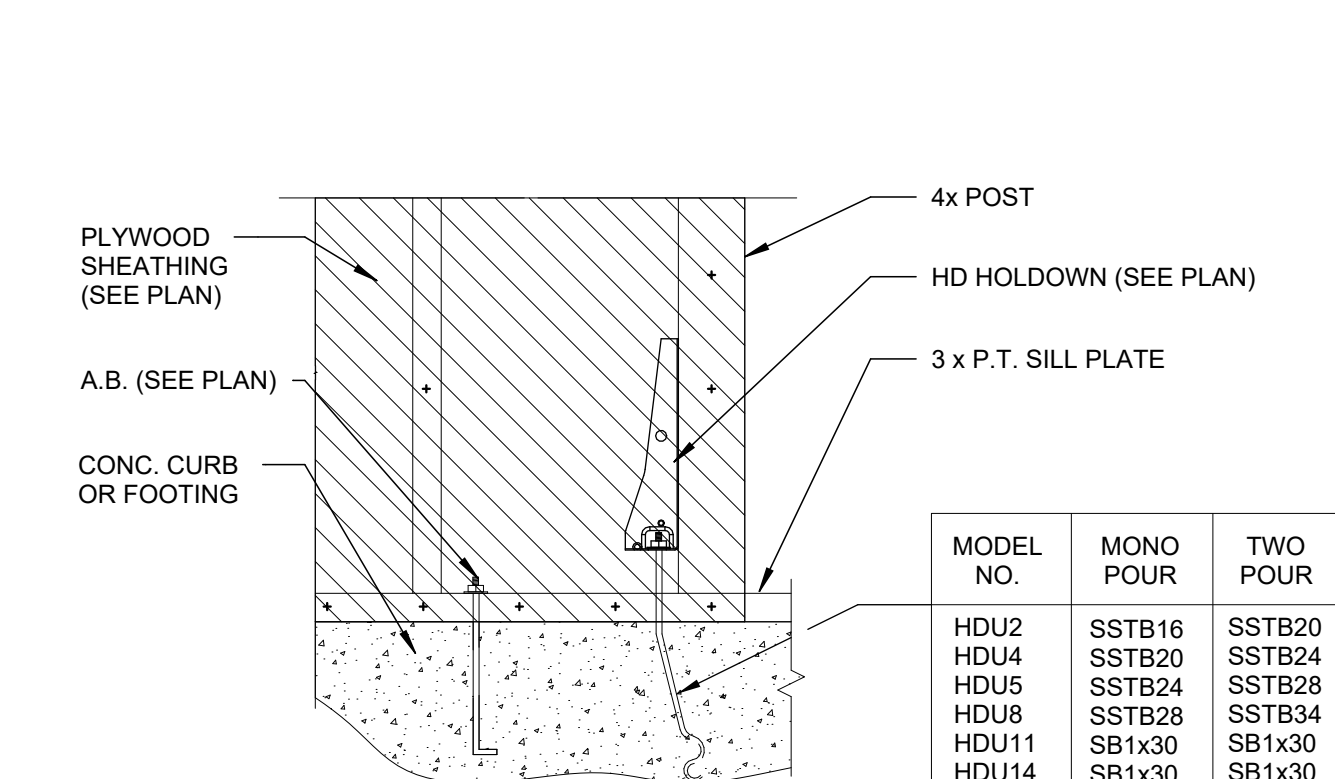
S-0.4 NOT TO SCALE

- COMMON OR BOX NAILS ARE PERMITTED TO BE USED EXCEPT WHERE OTHERWISE STATED.
- NAILS SPACED AT 6 INCHES ON CENTER AT EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS EXCEPT 6 INCHES AT SUPPORTS WHERE SPANS ARE 48 INCHES OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLE BOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO CBC SECTION 2305. NAILS FOR WALL SHEATHING ARE PERMITTED TO BE COMMON, BOX OR CASING.
- COMMON OR DEFORMED SHANK
- COMMON
- DEFORMED SHANK
- CORROSION-RESISTANT SIDING OR CASING NAIL
- FASTENERS SPACED 3 INCHES ON CENTER AT EXTERIOR EDGES AND 6 INCHES ON CENTER AT INTERMEDIATE SUPPORTS. WHEN USED AS STRUCTURAL SHEATHING, SPACING SHALL BE 6 INCHES ON CENTER ON THE EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS FOR NON-STRUCTURAL APPLICATIONS.
- CORROSION-RESISTANT ROOFING NAILS WITH 7/16" DIAMETER HEAD AND 1 1/2" LENGTH FOR 1/2" SHEATHING AND 1 3/4" LENGTH FOR 25/32" SHEATHING
- CORROSION RESISTANT STAPLES WITH NOMINAL 7/16" CROWN AND 1 1/8" LENGTH FOR 1/2" SHEATHING AND 1 1/2" LENGTH FOR 25/32" SHEATHING. PANEL SUPPORTS AT 16 INCHES (20 INCHES IF STRENGTH AXIS IN THE LONG DIRECTION OF THE PANEL, UNLESS OTHERWISE MARKED).
- CASING OR FINISH NAILS SPACED 6 INCHES ON PANEL EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS.
- PANEL SUPPORTS AT 24 INCHES. CASING OR FINISH NAILS AT 6 INCHES ON PANEL EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS.
- FOR ROOF SHEATHING APPLICATIONS, 8d NAILS ARE THE MINIMUM REQUIRED FOR WOOD STRUCTURAL PANELS.
- STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF 7/16 INCH.
- FOR ROOF SHEATHING APPLICATIONS, FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS.
- FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS FOR SUBFLOOR AND WALL SHEATHING AND 3 INCHES ON CENTER AT EDGES, 6 INCHES AT INTERMEDIATE SUPPORTS FOR ROOF SHEATHING.
- FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS.



5 Notching of Plates

S-0.4 NOT TO SCALE



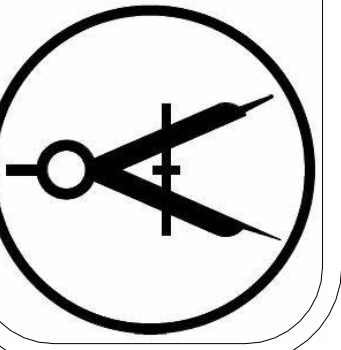
MODEL NO.	MONO POUR	TWO POUR
HDU2	SSTB16	SSTB20
HDU4	SSTB20	SSTB24
HDU5	SSTB24	SSTB28
HDU8	SSTB28	SSTB34
HDU11	SB1x30	SB1x30
HDU14	SB1x30	SB1x30

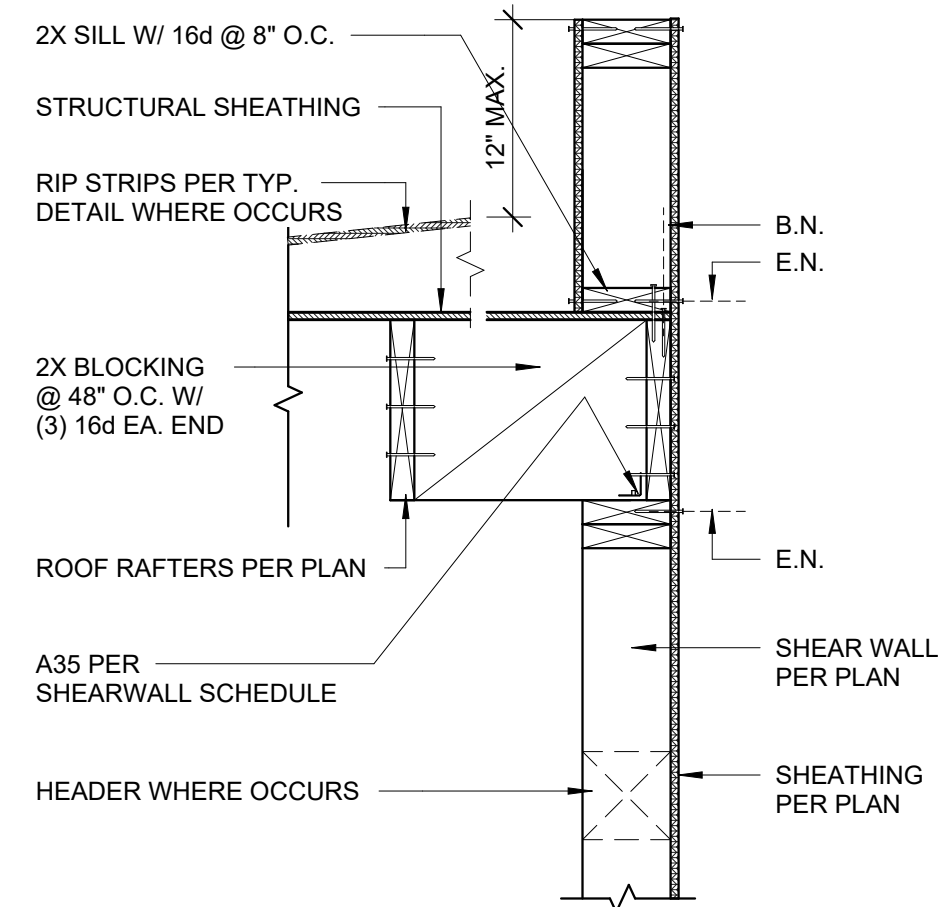
MODEL NO.	DIA.	MIN. EMBED
SSTB20	5/8"	17
SSTB24	5/8"	20
SSTB28	7/8"	25
SSTB34	7/8"	25
SSTB36	7/8"	29

NOTES:
1. HOLDDOWN HARDWARE SHALL BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION.
2. HOLDDOWN CONNECTOR BOLTS INTO WOOD FRAMING REQUIRE APPROVED PLATE WASHERS.
3. HOLDDOWN CONNECTOR BOLTS SHALL BE TIGHTENED PRIOR TO COVERING THE WALL FRAMING.
4. SEE FOUNDATION PLAN FOR LOCATION AND SHEARWALL INFORMATION.

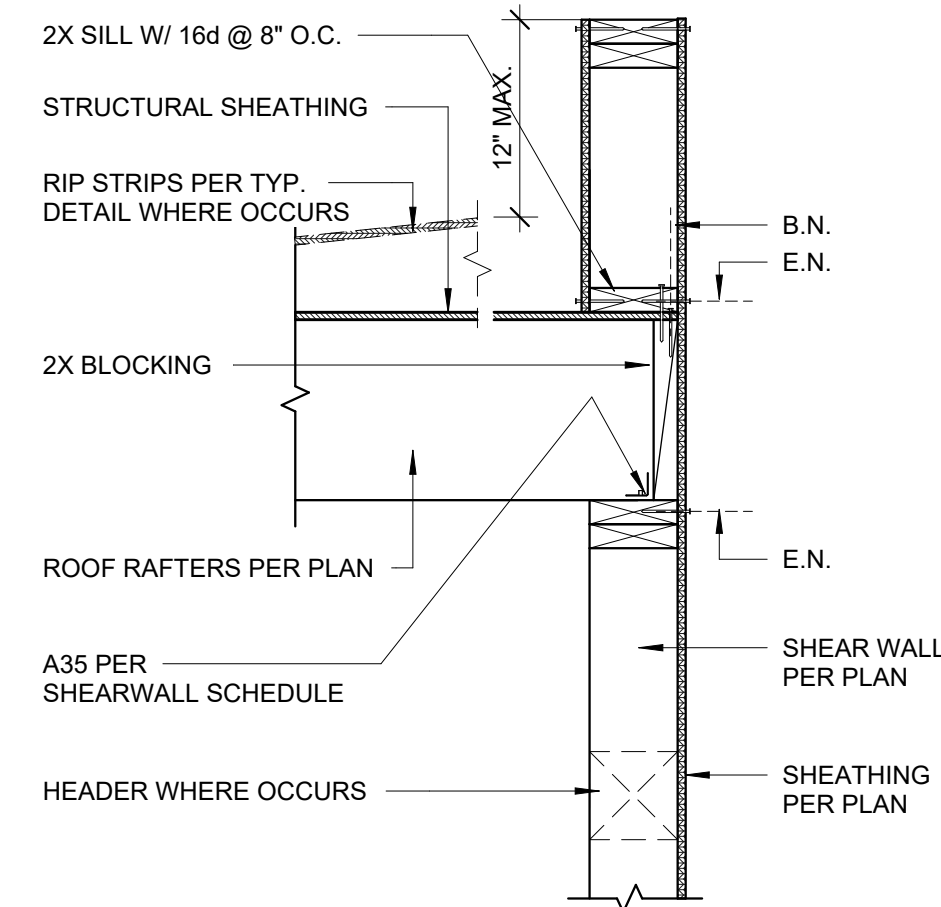
10 Typical Detail at Holddown

S-0.4 NOT TO SCALE

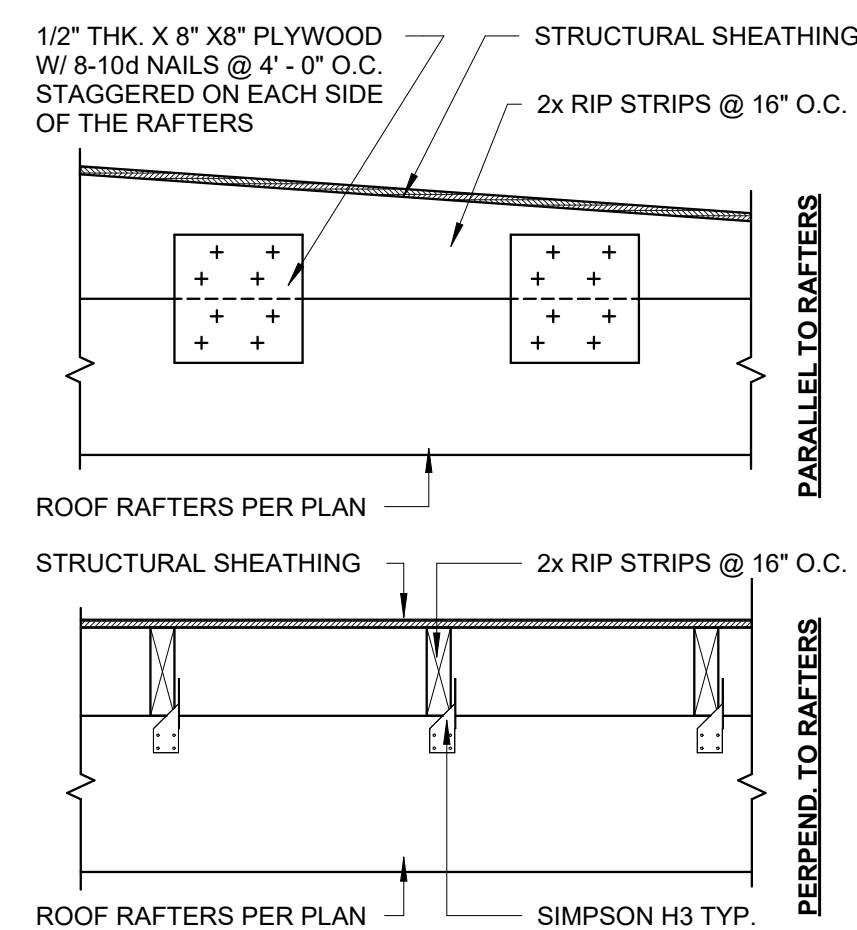




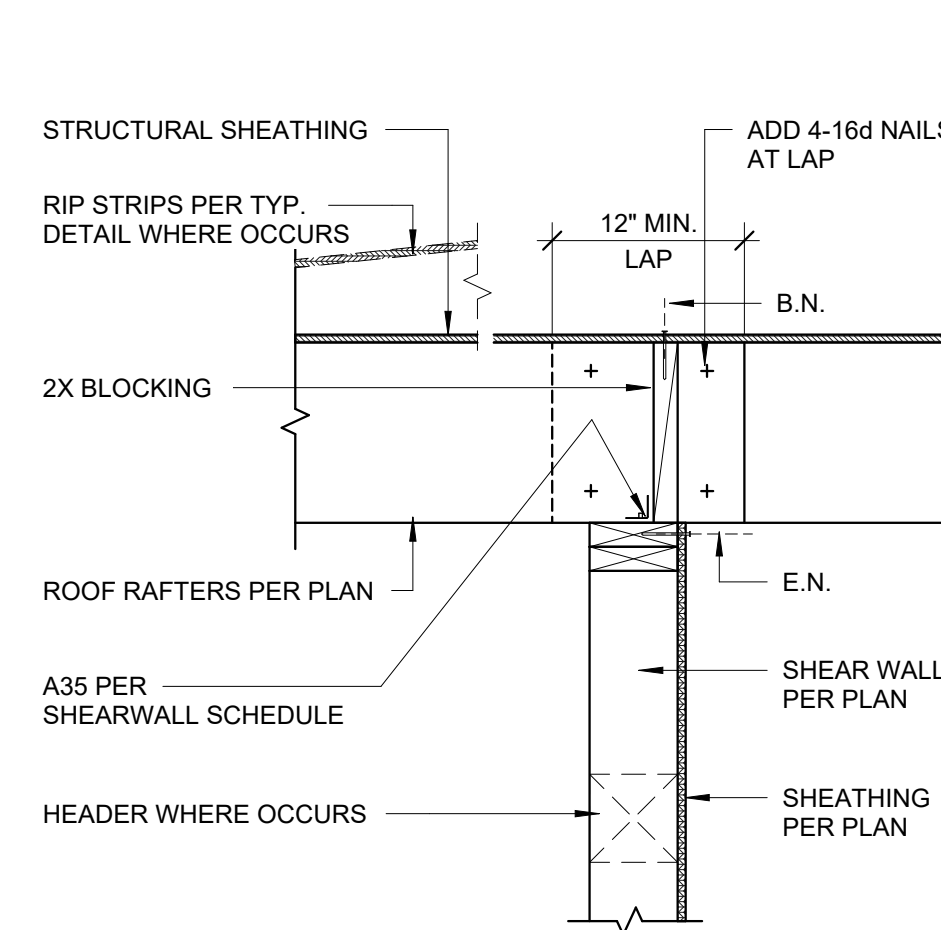
2 Roof Framing Detail (Parallel)
1" = 1'-0"



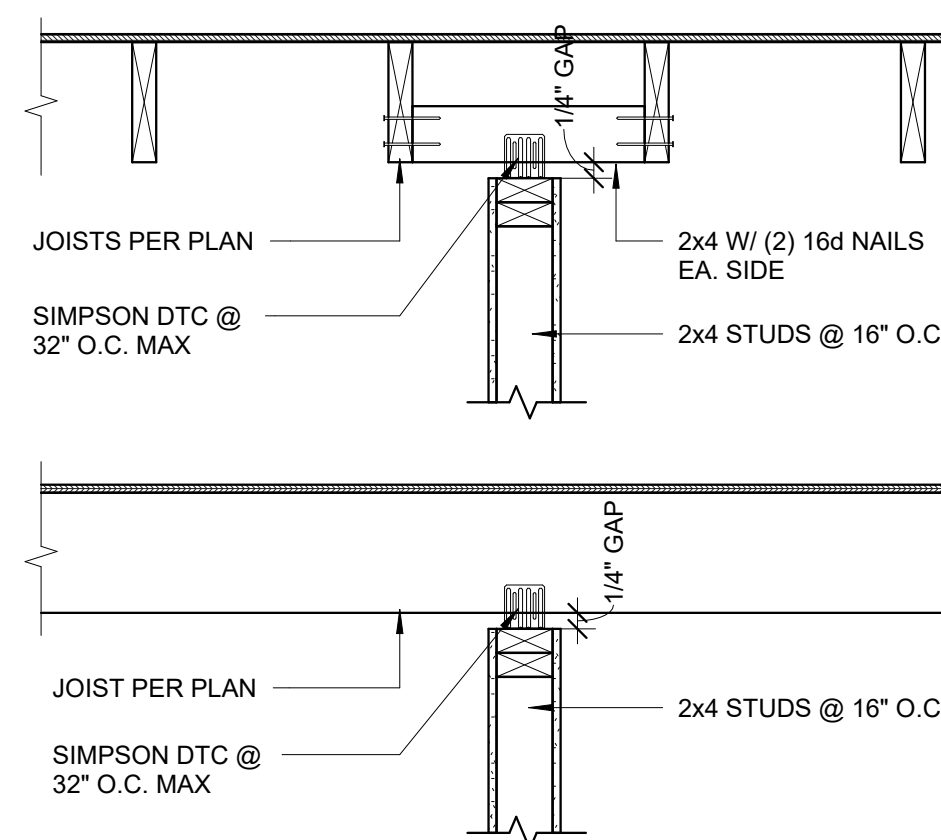
1 Roof Framing Detail (Perpend.)
1" = 1'-0"



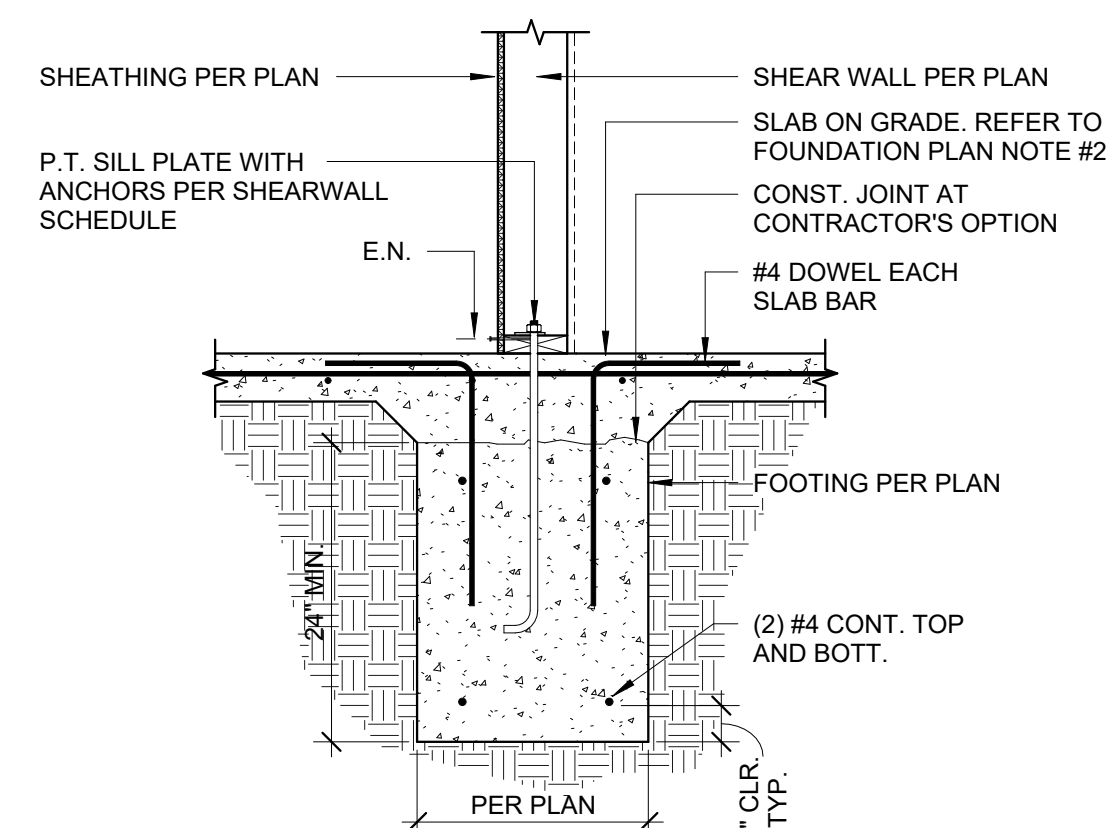
4 Typ. Rip Strips Detail
1" = 1'-0"



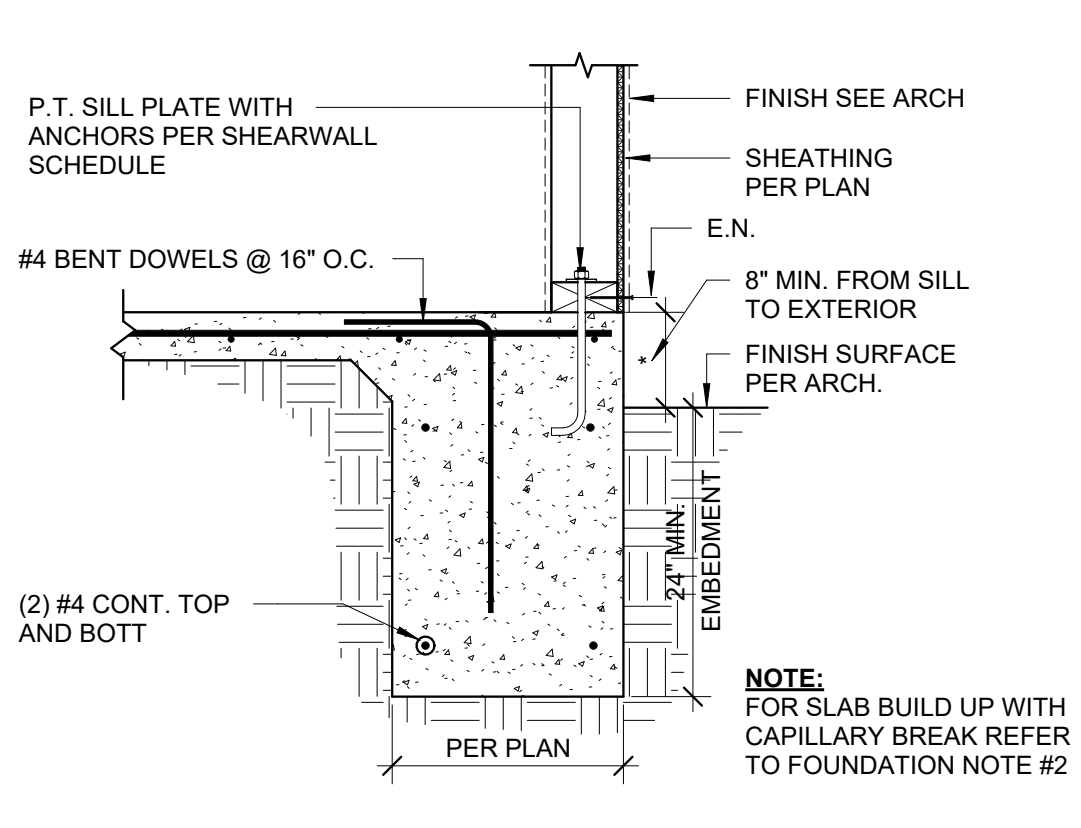
3 Roof Framing Detail (Perpend.)
1" = 1'-0"



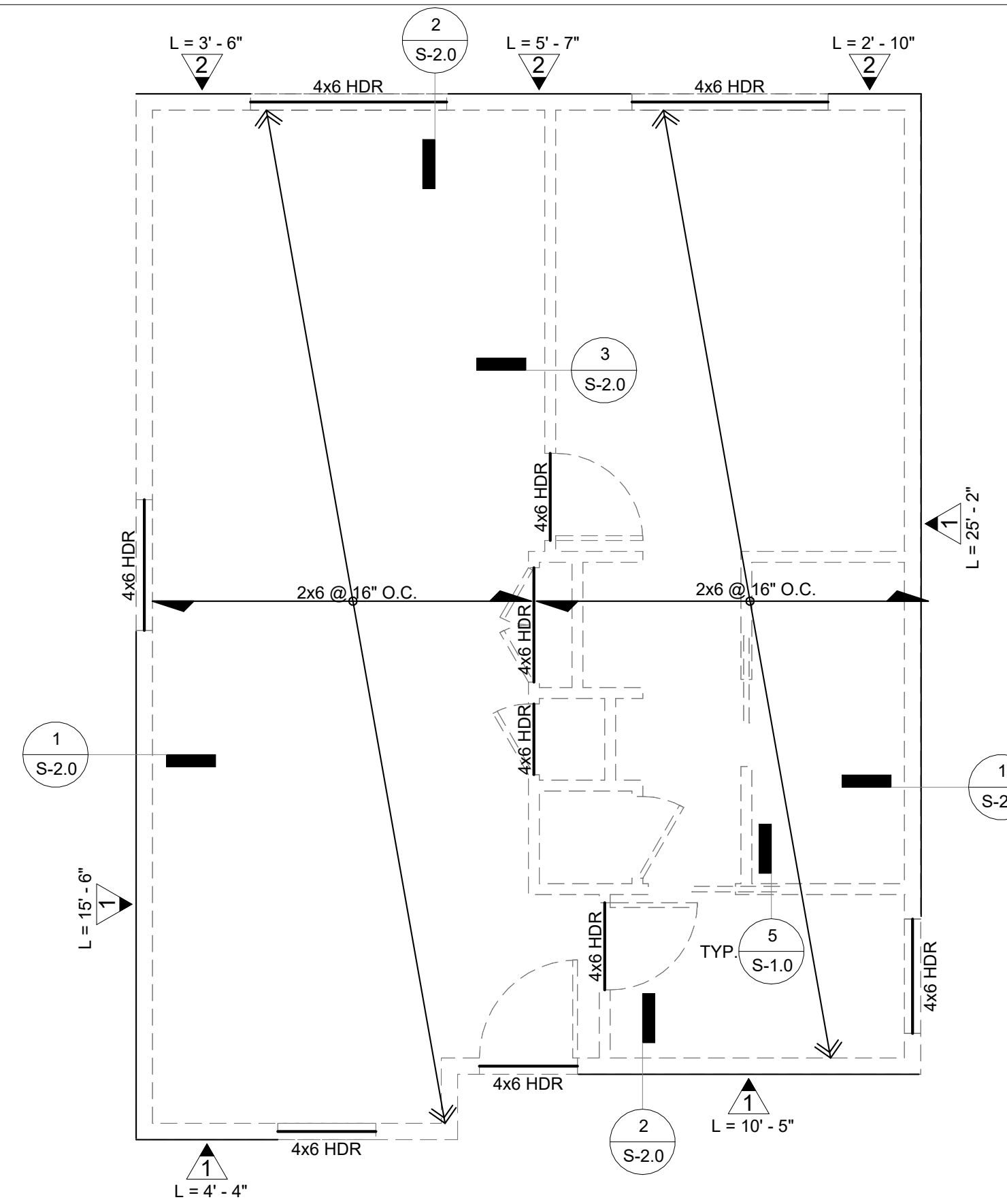
5 Typ. Non-Bearing Partition Wall Detail
1" = 1'-0"



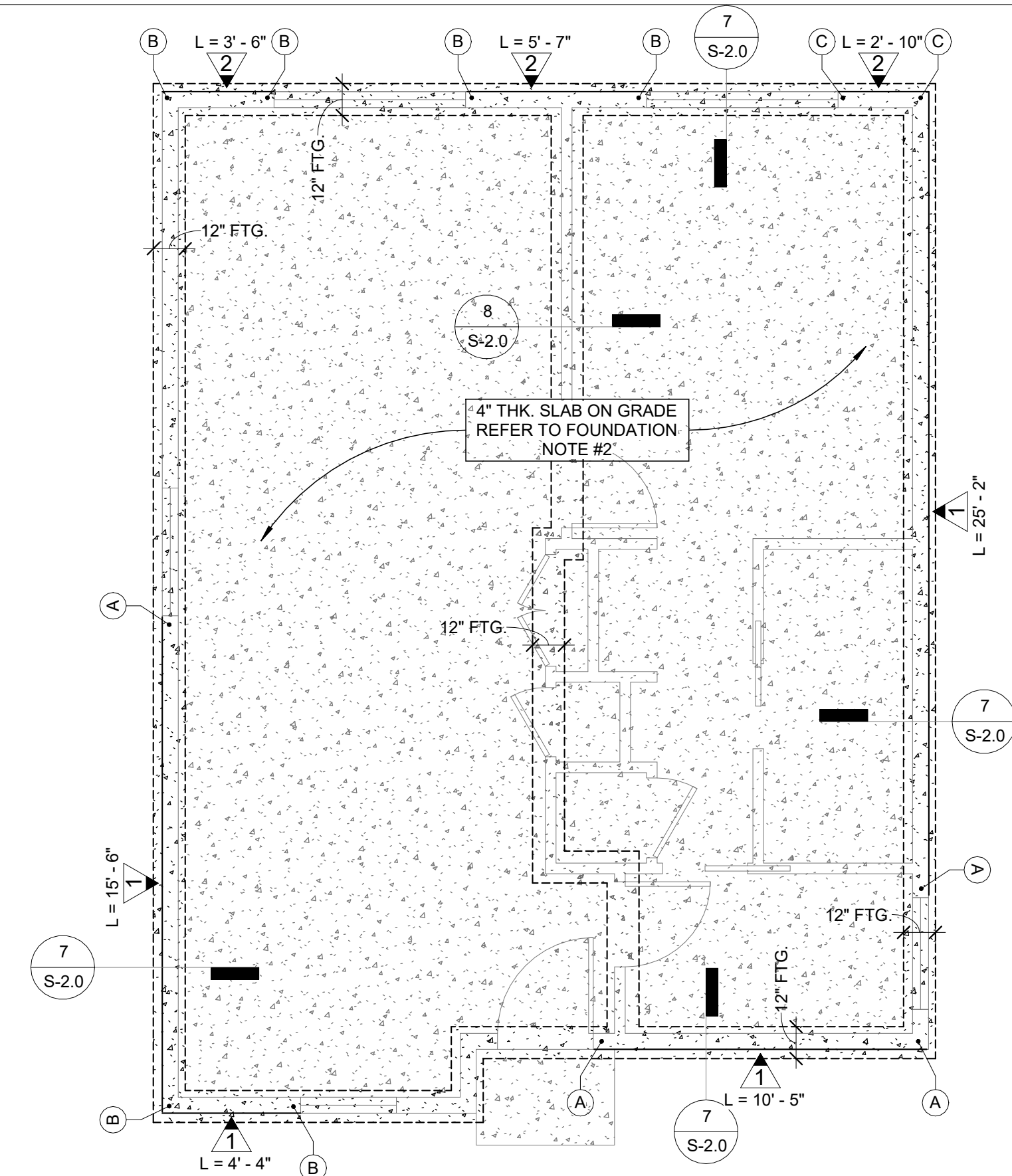
8 Typical Interior Wall Footing Detail
3/4" = 1'-0"



7 Typical Exterior Wall Footing Detail
3/4" = 1'-0"



B Ceiling Framing Plan
1/4" = 1'-0"

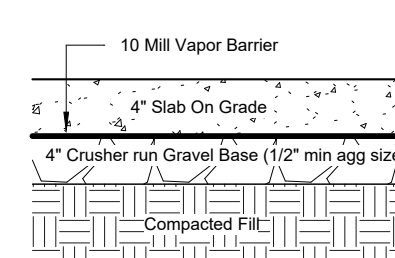


A Foundation Plan
1/4" = 1'-0"

Foundation Plan Notes

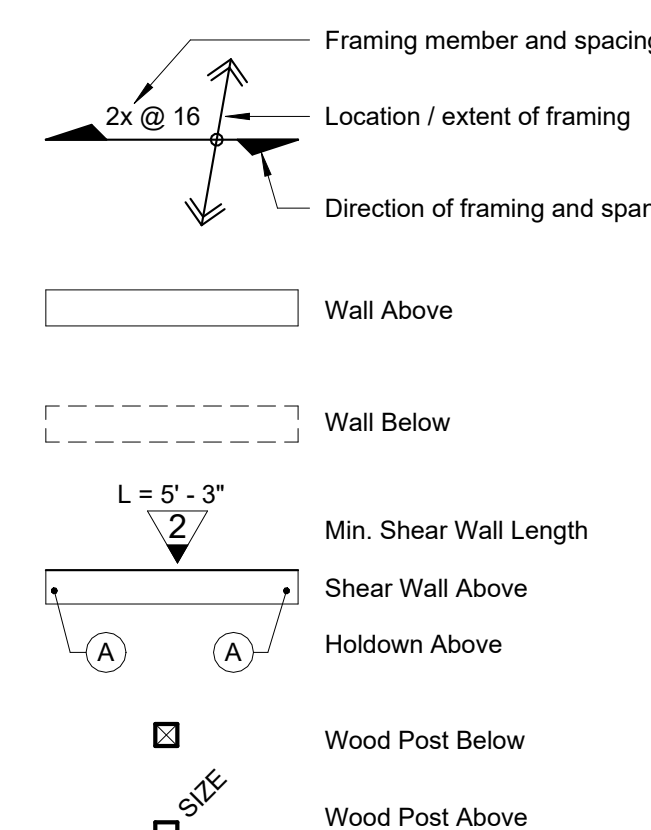
- Footings are to be founded a minimum of 2'-0" below adjacent grade.
- Slab on grade to be minimum 4" thick with #4@16" o.c. each way chaired at mid thickness. Slab to be underlain by 10 mil vapor barrier/4" crusher-run base compacted by mechanical means. Vapor barrier to be in conformance with ASTM E1643 and installed per manufacturer's recommendations with care taken to seal seams, penetrations and perimeter edges. See slab detail below.
- Control joints are required for the slab on grade at a maximum spacing of 15' on centers each way. The contractor is required to submit a plan of proposed control joints to the Architect and SAA prior to placing concrete. See Typical Details for additional information.
- Concrete curbs required along some exterior walls. Coordinate with Arch for extent and configuration of curbs. See structural detail sheets for relevant construction information where curbs required.
- Foundation sills shall be naturally durable or preservative-treated wood.
- If adverse soil conditions are encountered, a soils investigation report may be required.

Shear Wall Schedule						
Sill Attachment						
ID	Sheathing	Nailing	Concrete	Wood	Top Attachment	Capacity (ASD)
1	1/2" CDX	10d@6,12	5/8"@32	SDS@16	A35@24	310 pif
2	1/2" Struct 1	10d@3,12	5/8"@24	SDS@8	A35@16	665 pif



Holdown Schedule					
ID	HD	Post	Fasteners	Comments	
A	HDU2	4x4	(6) SDS	LARR 25720	
B	HDU4	4x4	(10) SDS	LARR 25720	
C	HDU5	4x4	(14) SDS	LARR 25720	

Legend:



Shear Wall Notes

- All exterior walls not otherwise designated as shear wall to be sheathed per item 1 in the Shear Wall Schedule.
- Sill attachment to concrete to be A307 anchor rods with 7" embedment in foundation. If multiple pours used, specified embedment must be contained within top pour. If not, full embedment must be achieved in lower pour level. All sill anchors to have 2-1/2" square x 1/4" plate washers under nuts. Install sill anchors in centerline of sill plate.
- Control joints are required for the slab on grade at a maximum spacing of 15' on centers each way. The contractor is required to submit a plan of proposed control joints to the Architect and SAA prior to placing concrete. See Typical Details for additional information.
- Concrete curbs required along some exterior walls. Coordinate with Arch for extent and configuration of curbs. See structural detail sheets for relevant construction information where curbs required.
- Foundation sills shall be naturally durable or preservative-treated wood.
- If adverse soil conditions are encountered, a soils investigation report may be required.

Holdown Notes

- Post sizes are minimums. Coordinate with wall framing and post sizes indicated on plans.
- SDS = Simpson SDS25xxx (provide 1-1/2" min embed).
- Hold-down connector bolts into wood framing require approved plate washers. Hold-downs shall be finger tight and 1/2 french turn just prior to covering the wall framing. Connector bolts into wood framing require steel plate washers on the post on the opposite side of the anchorage device. Plate size shall be a minimum of 0.299 inch by 3 inches by 3 inches.
- Where double holdowns are specified at shearwall use 6x post and vertically stagger devices if necessary to avoid fasteners from fouling each other.
- Provide Simpson SB anchor bolts [LARR 25827] at all holdowns. Coordinate anchor bolt diameter with holdown hardware.
- Hold-down hardware must be secured in place prior to foundation inspection.
- Bolts, fasteners and framing hardware in contact with preservative treated lumber to be hot dipped galvanized.

Framing Plan Notes

- Roof sheathing to be 1/2" CD-X (Span Rating 32/16) with face grain perpendicular to framing direction with panel joints staggered. Nail to framing with 10d @ 6, 6, 12.
- Wall framing to be as follows unless noted otherwise:
Exterior walls = 2x4 @ 16
Interior non-bearing walls = 2x4 @ 16
Plumbing walls = 2x6 @ 16 (or 2x4 @ 16 with furring to avoid cutting structural framing)
- All diaphragm to utilize common nails or galvanized box nails.
- All shearwall nailing shall utilize hot dipped galvanized box nails.
- All bolt holes shall be drilled 1/32" to 1/6" oversized. For lag bolts provide lead hole 40% to 70% of threaded shank diameter and full diameter at smooth shank portion.
- Contractor responsible for maintaining copies of referenced Los Angeles Research Report and/or conditions of Listing at the job site.
- Roof diaphragm nailing to be inspected before covering. Face grain of plywood shall be perpendicular to supports. Floor shall have tongue and groove or blocked panel edges. Plywood spans shall conform with 2304.7

