

VICINITY MAP

APPROVED

CITY OF RIVERSIDE

REVIEWED FOR PERMITS

DATE: 10/14/22

GENERAL NOTES

1. CONSTRUCTION SHALL CONFORM WITH ALL APPLICABLE BUILDING CODES CBC 2019 AND OTHER APPLICABLE LOCAL ORDINANCES & STATES AMENDMENTS, REGULATIONS, DRAWINGS AND GENERAL NOTES CONTAINED HEREIN.

2. THE CONTRACTOR SHALL VERIFY ALL THE DIMENSIONS AND CONDITIONS OF SITE AND SHALL NOTIFY TO ARCHITECT, DESIGNER OR OWNER OF ANY OMISSIONS, CONFLICTS OR DISCREPANCIES BEFORE PROCEEDING WITH THE START OF WORK.

3. THE CONTRACTOR SHALL FURNISH AND BE FULLY RESPONSIBLE FOR ALL BARRICADES SHALL NOTIFY TO ARCHITECT, DESIGNER OR OWNER OF ANY OMISSIONS, CONFLICTS OR ADEQUATE SHORING, BRACING AND PROTECTIVE MEASURES TO SAFELY EXECUTE THE WORK.

4. THE CONTRACTOR SHALL VERIFY SIZES AND LOCATION OF WATER VENT AND DRAIN INSTALLATIONS, AND OTHER REQUIRED SERVICES WITH EQUIPMENT MANUFACTURE WHENEVER APPLICABLE IN THE SITE.

5. UNLESS OTHERWISE SHOWN OR NOTED, TYPICAL DETAILS AND GENERAL NOTES SHALL BE USED WHENEVER APPLICABLE.

6. PATCH, REPAIR AND REFINISH ALL EXISTING SURFACES DAMAGED BY THIS WORK TO MATCH ADJACENT SURFACES AND FINISHES.

7. WHERE NEW ROOF OPENINGS AND PENETRATIONS OCCUR THROUGH EXISTING ROOF, PATCH AND REPAIR ROOF AS REQUIRED TO PROVIDE A WATER TIGHT CONDITION IN ACCORDANCE WITH THE ROOF MANUFACTURER'S GUARANTEE.

8. THE DISCHARGE OF POLLUTANTS TO ANY STORM DRAINAGE SYSTEM IS PROHIBITED. NO SOLID WASTE, PETROLEUM BY PRODUCTS, SOIL, PARTICULATE, CONSTRUCTION WASTE MATERIAL OR WASTE WATER GENERATED ON CONSTRUCTION SITE OR BY CONSTRUCTION, SHALL BE PLACED, CONVEYED OR DISCHARGED INTO THE STREET, GUTTER OR STORM DRAIN SYSTEM.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS IN ACCORDANCE WITH ALL DRAWINGS.

10. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT ALL APPLICABLE PROJECT LAWS ARE STRICTLY ENFORCED AND TO MAINTAIN A SAFE CONSTRUCTION PROJECT SITE.

11. COMPLETION OF ALL THE WORK DONE, CONSTRUCTION AREAS SHALL BE LEFT VACUUM CLEAN AND FREE FROM DEBRIS.

PROJECT DATA

OWNER:

LEGAL DESCRIPTION

IVAN NAVARRO
11371 ENCINAS CT.
RIVERSIDE, CA 92505
TEL. (951) 354-1999
EMAIL: ivan@riversideoreo.com

APN 168110008
TRACT NO.
LOT NO.
LOT SIZE 331927.2 SF
ZONING

PROJECT ADDRESS

SCOPE OF WORK

11375 ENCINAS CT
RIVERSIDE, CA 92505
RIVERSIDE COUNTY, CALIFORNIA

THIS WORK CONSISTS OF DESIGN AN ACCESSORY DWELLING UNIT (APPROX. AREA 1200 SQ. FT.) AND 2-CAR GARAGE (APPROX. AREA 350 SQ. FT.)

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CORONA DESIGN, LLC

DESIGN SERVICES

11375 ENCINAS CT, SUITE 100
RIVERSIDE, CA 92501
TEL: (714) 371-1116
EMAIL: ivan@riversideoreo.com

DESIGNED BY

BC

BUILDING ANALYSIS

BUILDING	OCCUPANCY TYPE	CONSTRUCTION TYPE	FIRE SPRINKLERED	BUILDING AREA (APPROX.)	NUMBER OF FLOORS
SFD	R3/U	TYPE V-B	YES	2180 SF-EXIST. FLOOR	1
SFD	R3/U	TYPE V-B	YES	1200 SF-NEW ADU 550 sf-new- 2-car garage	1
				550 SF-NEW 2- CAR GARAGE	

APPLICABLE CODES

SYMBOLS

I. ALL CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWINGS:
-(IBC) INTERNATIONAL BUILDING CODE EDITION 2018
-(CBC) CALIFORNIA BUILDING CODE 2019
-(CRC) CALIFORNIA RESIDENTIAL CODE EDITION 2019
-(CMC) CALIFORNIA MECHANICAL CODE EDITION 2019
-(CEFC) CALIFORNIA ELECTRICAL CODE EDITION 2019
-(CEES) CALIFORNIA ENERGY EFFICIENCY STANDARDS 2019
-(NFPA) FIRE SPRINKLERS 19
-(OFC) CALIFORNIA FIRE CODE 2019
-(CGESC) CALIFORNIA GREEN BUILDING STANDARDS CODE 2019
AND AS AMENDED BY CITY ORDINANCE

THESE DRAWINGS DO NOT HAVE EVERY CONSTRUCTION DETAIL OR SPECIFICATION THAT COULD BE DRAWN AND DESCRIBED ON THIS PROJECT. THE DRAWINGS ARE DRAWN FOR THE EXCLUSIVE USE BY EXPERIENCED WELL SEASONED CONTRACTORS AND THEIR TRADES PEOPLE. ANY DISCREPANCY SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE DESIGNER, ARCHITECT OR ENGINEER. CONTRACTORS SHALL HAVE THEIR OWN CONTRACTS WITH THE OWNER/CLIENTS FOR THE WORK TO EXECUTE THIS PROJECT.

WINDOW REFERENCE

SECTION REFERENCE

DETAIL NUMBER

REVISION

DOOR REFERENCE

KEY NOTE DESCRIPTION

KEY NOTE FOR COLOR/MATERIAL

DIRECTION OF PICTURE TAKEN REFER TO PHOTO SHEET LAYOUT

PROPOSED NEW AN A.D.U. & 2- CAR GARAGE FOR NAVARRO RESIDENCE

11375 ENCINAS DR
RIVERSIDE, CA 92505

SITE/DEMO & PROPOSED FLOOR PLANS

DATE: 12/21/20

JOB NO.: 2023TIN

DRAWN: Y.A.

CHECKED: BC

SHEET 01 OF 12

A - 1

GENERAL PLAN NOTES

1. ALL INTERIOR DOORS SHALL BE HOLLOW CORE WITH 1 3/8" THICK UNO. AT DOUBLE INTERIOR DOOR CONDITIONS PROVIDE DEADBOLT AT TOP OF INACTIVE DOOR.

2. ALL EXTERIOR FRENCH DOORS SHALL BE SOLID CORE WITH 1 3/8" THICK. AT DOUBLE FRENCH DOOR PROVIDE DEADBOLT AT TOP AND BOTTOM OF INACTIVE DOOR.

3. ALL GARAGE DOORS SHALL BE HOLLOW CORE WITH 1 3/8" THICK EXTERIOR GRADE.

4. ALL ENTRY DOORS SHALL BE SOLID CORE WITH 1 3/8" THICK AT DOUBLE ENTRY DOOR PROVIDE DEADBOLT AT TOP & BOTTOM OF INACTIVE DOOR.

5. ALL DOORS ACCESS FROM THE GARAGE TO THE HOUSE SHALL BE ONE-HOUR RATED, SOLID CORE WITH 1 3/8" THICK AND SHALL BE SELF CLOSING & TIGHT FITTING.

6. ESCAPE OR RESCUE WINDOW SHALL HAVE A MIN. NET CLEAR OPENABLE AREA OF 5.7 SQ. FT. TO BE VERIFIED WITH WINDOW MANUFACTURER. THE MIN. NET CLEAR OPENABLE DIMENSIONS:

5 SQ. FT. MIN. FOR GRADE-FLOOR OPENINGS.

20 INCHES MIN. FOR WIDTH WITH A WINDOW FINISHED 24 INCHES MIN. FOR HEIGHT.

SILL HEIGHT NOT MORE THAN 44 INCHES ABOVE FIN. FLOOR.

ABBREVIATIONS FOR DOORS & WINDOWS:

SL. DR. = SLIDING DOOR (1/2" THICK GLASS)

SC = SOLID CORE (1 3/8" THICK) - MATERIAL = HARDBOARD OR WOOD

HC = HOLLOW CORE (1 3/8" THICK) - MATERIAL = HARDBOARD

FX = FIXED

SL = SLIDING

SH = SINGLE HUNG

WIND-WINDOW - TO BE VINYL MATERIAL.

1. SHOWER COMPARTMENTS AND WALLS ABOVE BATHTUBS WITH SHOWER HEADS INSTALLED SHALL BE FINISHED WITH A SMOOTH, NONABSORBENT SURFACE TO A HEIGHT OF NOT LESS THAN 12" ABOVE FLOOR.

ELECTRICAL LEGEND

1. SINGLE POLE SWITCH @ 14"-6" UNO. AFF.

2. THREE-WAY SWITCH @ 14"-6" UNO. AFF.

3. DIMMER SWITCH @ 14"-6" UNO. AFF.

4. 120 V. CONVENIENCE OUTLET @ 14" AFF.

5. SMOKE DETECTOR-TO BE PERMANENTLY WIRED (UL 217) INTERCONNECTED.

6. 120V (AFCI) OUTLET UNDER OR ABOVE COUNTER.

7. RECESSED LIGHT (AFCI) FIXTURE (ICAT RATED).

8. WALL MOUNTED LIGHT (AFCI) FIXTURE.

9. WALL MOUNTED LIGHT (AFCI) FIXTURE PER CEC 1800(K)(3).

10. SURFACE MOUNTED LIGHT (AFCI) FIXTURE.

11. HANGING LIGHT (AFCI) FIXTURE.

12. EYEBALL LIGHT FIXTURE.

13. DUPLEX (AFCI) W/ GROUND FAULT INTERRUPTER.

14. HOT DUPLEX CONVENIENCE OUTLET (AFCI).

15. FOUR-PRONG CONVENIENCE OUTLET (AFCI).

16. 120V / 120V OUTLET (AFCI).

17. WEATHER-PROOF CONVENIENCE DUPLEX OUTLET (AFCI).

18. CARBON MONOXIDE SMOKE DETECTOR (UL 2034/2075).

19. CABLE TELEVISION OUTLET.

20. SUPPLY REGISTER MECH. CONTRACTOR TO FIT WHERE MORE PRACTICAL.

21. RETURN REGISTER MECH. CONTRACTOR TO FIT WHERE MORE PRACTICAL.

22. CEILING FAN (AFCI).

23. 20 CFM EXHAUST FAN TO OUTSIDE W/ MAX. SOUND RATING OF 3 SONES W/ HUMIDISTAT ENERGY STAR (MODEL FV-05VX3) BY WHISPERGREEN OR EQUAL.

24. 110 CFM MIN. EXHAUST FAN W/ MAX. SOUND RATING OF 3 SONES & 110 CFM TO MEET ASHRAE 62.2. FAN TO OUTSIDE W/ HUMIDISTAT ENERGY STAR.

25. VACANCY SENSOR TO COMPLY PER SECTION 1800(K)(1) OF CALIFORNIA ENERGY CODE.

26. 15" DIA. RIGID VENT CELLULOSIC FIBERGLASS PROVIDE DRYER VENT BOOSTER FAN FANTECH DBF10 IN THE CEILING.

27. 20 AMP CIRCUIT PER CEC 210(1) (C)(3).

28. LIGHT BAR.

29. PHOTOCONTROL/ MOTION SENSOR.

30. HIGH EFFICACY LUMINAIRES MUST BE PIN BASED.

31. LOW EFFICACY LUMINAIRES.

32. OCCUPANT SENSOR.

33. ALL THESE ITEMS/FIXTURES SHOWN BELOW ON PLANS TO BE AFCI.

34. ASBESTOS EXPOSURE ASSESSMENT.

35. IN ACCORDANCE WITH CCR TITLE 8, 1529(F) (2)(A), EACH EMPLOYER WHO HAS A WORKPLACE OR WORK OPERATION COVERED BY CCR TITLE 8, 1529 IS REQUIRED TO HAVE AN EXPOSURE ASSESSMENT CONDUCTED BY A COMPETENT INDIVIDUAL.

36. WHERE REQUIRED BY THE CITY OF RIVERSIDE, PROVIDE COPY OF THE EXPOSURE ASSESSMENT PRIOR TO PERMIT ISSUANCE AND IF ASBESTOS WORK IS REQUIRED, A COPY OF THE SCAQMD NOTIFICATION RELATED TO THE ASBESTOS WORK.

37. EXHAUST FANS:

38. SOUND LIMITS FOR CEILING MOUNTED FANS:

39. A) CEILING MOUNTED EXHAUST FANS SHALL HAVE A MAX. SOUND RATING OF ONE-SONE IF THE FAN IS INSTALLED TO OPERATE CONTINUOUSLY OR THREE (3) SONES IF THE FAN IS TO OPERATE INTERMITTENTLY.

40. MAIN SERVICE:

41. CU200, 240V, 3W TYPE: C280D 307A 10KH RECESSED CANS -FIRE RATED (Per Fire Related Work Notes) OUTLETS ARE BETWEEN 6" - 12" MAXIMUM SPACING.

42. NOTE: 1

43. APPLIANCES IN ATTICS SHALL BE ACCESSIBLE THRU AT LEAST A 22"x30" ACCESS OPENING. THE OPENING SHALL NOT BE MORE THAN 30" FROM THE OPENING ALONG THE PATHWAY. PATHWAY SHALL HAVE A SOLID FLOOR NOT LESS THAN 24" WIDE FORM OPENING TO APPLIANCE, PROVIDE 30"x30" WORKING PLATFORM IN FRONT OF THE APPLIANCE AND PROVIDE A 120 VOLT OUTLET WITH A LIGHT FIXTURE NEAR THE APPLIANCE WITH THE LIGHT SWITCH LOCATED NEAR THE OPENING. (508.4 CPC)

44. NOTE: 2

45. A DOMESTIC CLOTHES DRYER DUCT SHALL BE OF METAL AND A MINIMUM OF 4" IN DIAMETER. THE EXHAUST DUCT SHALL NOT EXCEED A TOTAL COMBINED HORIZONTAL AND VERTICAL LENGTH OF 14' INCLUDING TWO 90 DEGREE ELBOWS. TWO FEET SHALL BE DEDUCTED FOR EACH 90 DEGREE ELBOW IN EXCESS OF TWO (504.4.2) CM).

46. NOTE: 3

47. DRIVE GROUNDING ELECTRODES SHALL BE STAINLESS STEEL, A MINIMUM OF 3/8" DIAMETER, AND A MINIMUM OF 8' DRIVEN INTO THE SOIL. THE GROUNDING ELECTRODE CONDUCTOR CONNECTOR TO A DRIVEN ELECTRODE SHALL BE LISTED FOR THIS PURPOSE. (250.10 CEC).

48. NOTE: 4

49. WATER CLOSET OR BIDET BE SET NO CLOSER THAN 15" FROM ITS CENTER TO ANY SIDE WALL OR OBSTRUCTION OR NO CLOSER THAN 30" CENTER TO CENTER TO ANY SIMILAR FIXTURE AND THE CLEAR SPACE IN FRONT OF WATER CLOSET, LAVATORY, OR A BIDET SHALL BE AT LEAST 24" (CPC 402.5)

50. NOTE: 5

51. SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEAD SHALL BE FINISHED WITH NONABSORBENT SURFACE TO A HEIGHT NOT LESS THAN 6 FT ABOVE THE FLOOR (CRC R307.2, CEC102.1).

RECEPTACLE NOTES:

1. ALL BRANCH THAT SUPPLY 125V, SINGLE PHASE, 15A & 20A ELECTRICAL OUTLETS INSTALLED IN DUELLING UNITS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTER(S). THIS REQUIREMENT IS FOR ENTIRE CIRCUIT, NOT JUST OUTLETS.

2. SMOKE DETECTOR & CARBON MONOXIDE SHALL BE INTERCONNECTED SUCH THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL ALARMS.

3. SMOKE DETECTORS & CARBON MONOXIDE SHALL BE HARD WIRED AND SHALL BE SEALED W/ 10 YEARS LIFE BATTERY BACKUP.

4. SMOKE DETECTORS OLDER THAN 10 YEARS SHALL BE REPLACED.

5. ALL NEW SMOKE AND CARBON MONOXIDE DETECTORS SHALL HAVE 10 YEAR LIFE BATTERIES IN A SEALED UNIT.

6. SMOKE ALARMS WITHIN 20 FEET FROM COOKING APPLIANCE SHALL COMPLY WITH EXCEPTIONS PER CEC 907.2.08 EXTRACT OF NFPA 72 SECTION 28.3.3.4(4) AS AMENDED. DEVICE IN COMMON AREA GREATER THAN 10 FEET IS REQUIRED TO BE PHOTOELECTRIC TYPE, IONIZATION SMOKE ALARM WITH SILENCING FEATURE, OR LISTED FOR USE IN PROXIMITY TO A PERMANENTLY INSTALLED COOKING APPLIANCE.

RECEPTACLE NOTES:

1. ALL COUNTERS UNDER 12 INCHES SHALL HAVE AN OUTLET PER 2019 CEC 210.52(C)(1).

2. AT LEAST ONE GFCI PROTECTED RECEPTACLE OUTLET IS TO BE INSTALLED AT EACH ISLAND COUNTERTOP WITH A LONG DIMENSION OF 2 FEET OR GREATER AND A SHORT DIMENSION OF 12 INCHES OR GREATER PER 2019 CEC210.52(C)(2).

3. AT LEAST ONE GFCI PROTECTED RECEPTACLE OUTLET IS TO BE INSTALLED AT EACH PENINSULAR COUNTERTOP WITH A LONG DIMENSION OF 2 FEET OR GREATER AND A SHORT DIMENSION OF 12 INCHES OR GREATER PER 2019 CEC210.52(C)(3).

4. THE OUTLETS FOR THE KITCHEN COUNTERS SHALL BE SPACED SO THAT NO POINT ALONG THE WALL LINE OF THE COUNTER IS MORE THAN 2 FEET FROM AN ELECTRICAL OUTLET PER 2019 CEC 210.52(C)(1).

5. ELECTRICAL OUTLETS THAT SERVE THE COUNTERTOPS IN THE KITCHEN SHALL HAVE GFCI PROTECTION PER 2019 CEC 210.8(1)(6).

6. RECEPTACLE OUTLETS SHALL BE LOCATED ABOVE, BUT NO MORE THAN 20 INCHES ABOVE THE COUNTERTOP PER 2019 CEC 210.52(C)(5).

KITCHEN ELECTRICAL OUTLETS:

1. ALL COUNTERS UNDER 12 INCHES SHALL HAVE AN OUTLET PER 2019 CEC 210.52(C)(1).

2. AT LEAST ONE GFCI PROTECTED RECEPTACLE OUTLET IS TO BE INSTALLED AT EACH ISLAND COUNTERTOP WITH A LONG DIMENSION OF 2 FEET OR GREATER AND A SHORT DIMENSION OF 12 INCHES OR GREATER PER 2019 CEC210.52(C)(2).

3. AT LEAST ONE GFCI PROTECTED RECEPTACLE OUTLET IS TO BE INSTALLED AT EACH PENINSULAR COUNTERTOP WITH A LONG DIMENSION OF 2 FEET OR GREATER AND A SHORT DIMENSION OF 12 INCHES OR GREATER PER 2019 CEC210.52(C)(3).

4. THE OUTLETS FOR THE KITCHEN COUNTERS SHALL BE SPACED SO THAT NO POINT ALONG THE WALL LINE OF THE COUNTER IS MORE THAN 2 FEET FROM AN ELECTRICAL OUTLET PER 2019 CEC 210.52(C)(1).

5. ELECTRICAL OUTLETS THAT SERVE THE COUNTERTOPS IN THE KITCHEN SHALL HAVE GFCI PROTECTION PER 2019 CEC 210.8(1)(6).

6. RECEPTACLE OUTLETS SHALL BE LOCATED ABOVE, BUT NO MORE THAN 20 INCHES ABOVE THE COUNTERTOP PER 2019 CEC 210.52(C)(5).

TABLE 5-1

NUMBER OF BATHROOMS

NUMBER OF BEDROOMS

FIRST HOUR RATING, GALLONS

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2 TO 25

3 TO 35

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PROPOSED / ELECT. FLOOR PLAN-(A.D.U.)

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

WALL LEGEND

INDICATES: (N/2)4 WOOD WALL

INDICATES: (N/2)6 WOOD WALL

GLAZING NOTE:

ALL GLAZING LESS THAN 60" ABOVE A SHOWER OR TUB FLOOR SHALL BE SAFETY GLAZING. (2019 CBC 2406.4.5)

WINDOW NOTES:

ALL WINDOWS & SLIDING DOORS FRAMES TO BE VINYL & SHALL HAVE U-FACTOR OF 0.30 MAX. AND SHGC OF 0.23 MAX.

PLUMBING NOTE:

MIN. SIZE WASTE LINE AND T-TRAP FOR SHOWER SHALL BE 2". (2019 CPC 408.4)

ALL LUMINAIRES INSTALLED IN RESIDENTIAL CONSTRUCTION MUST QUALIFY AS "HIGH EFFICACY LUMINAIRES".

KEYED NOTES

(1) 2x WOOD WALL PER LEGEND TO MATCH EXISTING FINISH (MAIN HOUSE) TYP.

(2) 2x WOOD INT. WALL PER LEGEND TYP.

(3) VINYL SLIDING WINDOW BY 'MILGARD' OR EQUAL TO BE INSTALLED, PROVIDE U-VALUE OF WINDOWS ON PLAN PER CALIFORNIA ENERGY CODE 1802.4 CHOSEN BY THE OWNER PER DET. (1)

(4) VINYL EGRESS SLIDING WINDOW BY 'MILGARD' OR EQUAL TO BE INSTALLED, PROVIDE U-VALUE OF WINDOWS ON PLAN PER CALIFORNIA ENERGY CODE 1802.4 CHOSEN BY THE OWNER PER DET. (1)

(5) EXTERIOR DOOR TO BE INSTALLED & REQUIRED TO BE 1 3/8" SOLID CORE. MATERIAL AND COLOR TO BE EITHER CHOSEN BY GENERAL CONTRACTOR OR OWNER.

(6) DOOR TO BE INSTALLED MATERIAL AND COLOR TO BE EITHER CHOSEN BY GENERAL CONTRACTOR OR OWNER.

(7) SLIDING GLASS DOOR TO BE INSTALLED MATERIAL AND COLOR TO BE EITHER CHOSEN BY GENERAL CONTRACTOR OR OWNER.

(8) SLIDING CLOSET DOOR TO BE INSTALLED MATERIAL AND COLOR TO BE EITHER CHOSEN BY GENERAL CONTRACTOR OR OWNER.

(9) WATER CLOSET LOW FLOOR, 3" MIN. COMPARTMENT.

(10) SHOWER WITH CHROME FINISH FRAME, 1/2" TEMPERED CLEAR GLASS ENCLOSURE (C.B.C. SEC. 2912.4 U.P.C. 412.1) TILE FINISH OVER CEMENT, FIBER-CEMENT, FIBER-MAT REINFORCED CEMENT, GLASS MAT GYPSUM OR FIBER-REINFORCED GYPSUM BACKERS SHALL BE USED AS A BASE FOR WALL, TILE & WALL PANELS. SHOWER HEADS (18 GPM) MAX. TEMPERATURE OF 120 DEG. BY USE OF PRESSURE-BALANCE THERM. MIXING VALVES (U.P.C. 4107). SH

ENERGY NOTES:
1- ROOF SHEATHING WITH RADIANT BARRIER
PER T24 REQUIREMENTS.
2- ROOF FINISH SHALL MEET COOL ROOF
REQUIREMENTS PER T24 REQUIREMENTS.

ALL MATERIALS, DETAILS FINISHES, COLORS
ROOF MATERIAL/PITCH, FASCIA TREATMENT,
OVERHANG, WINDOW/DOOR PROPORTIONS,
TRIM, ETC. TO MATCH THE ORIGINAL
ARCHITECTURE OF THE MAIN HOUSE.

WINDOW NOTES:
ALL WINDOWS & SLIDING DOORS
FRAMES TO BE VINYL & SHALL
HAVE U-FACTOR OF 0.30 MAX.
AND SHGC OF 0.23 MAX.

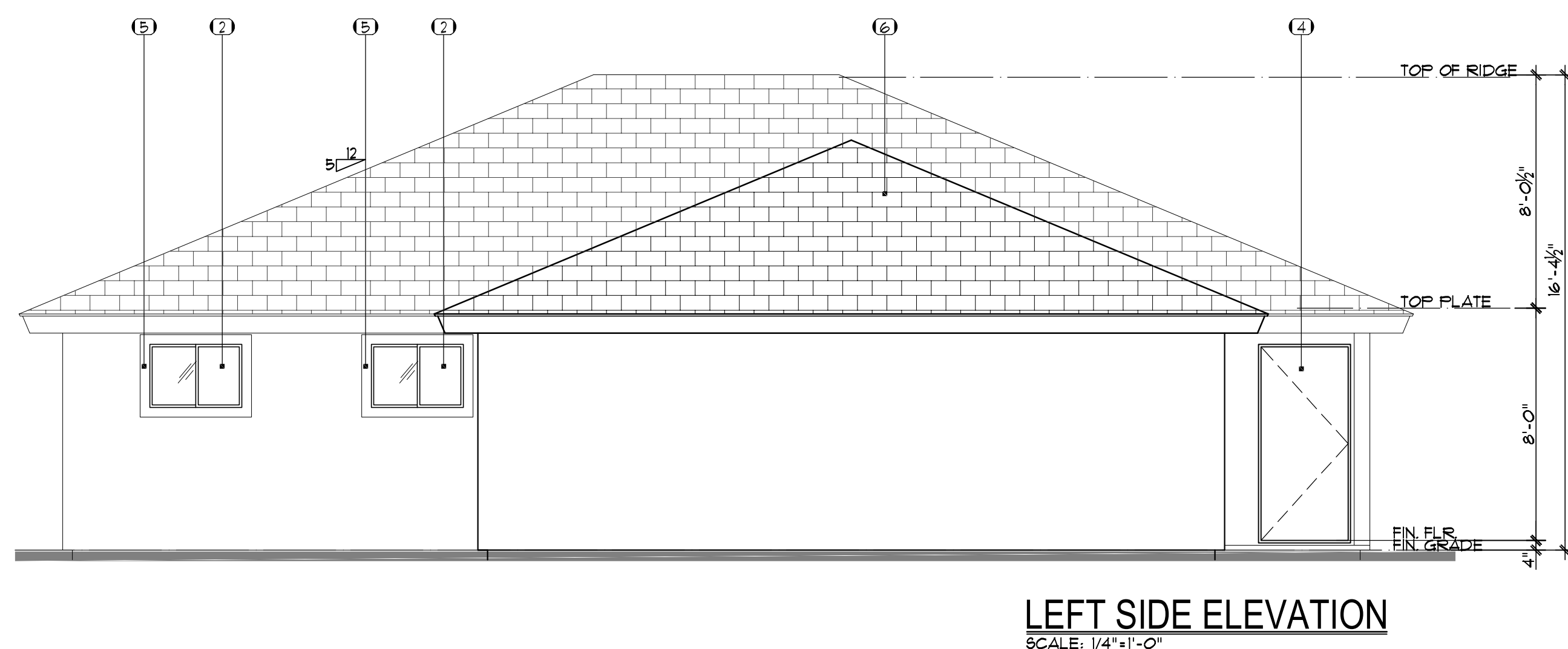
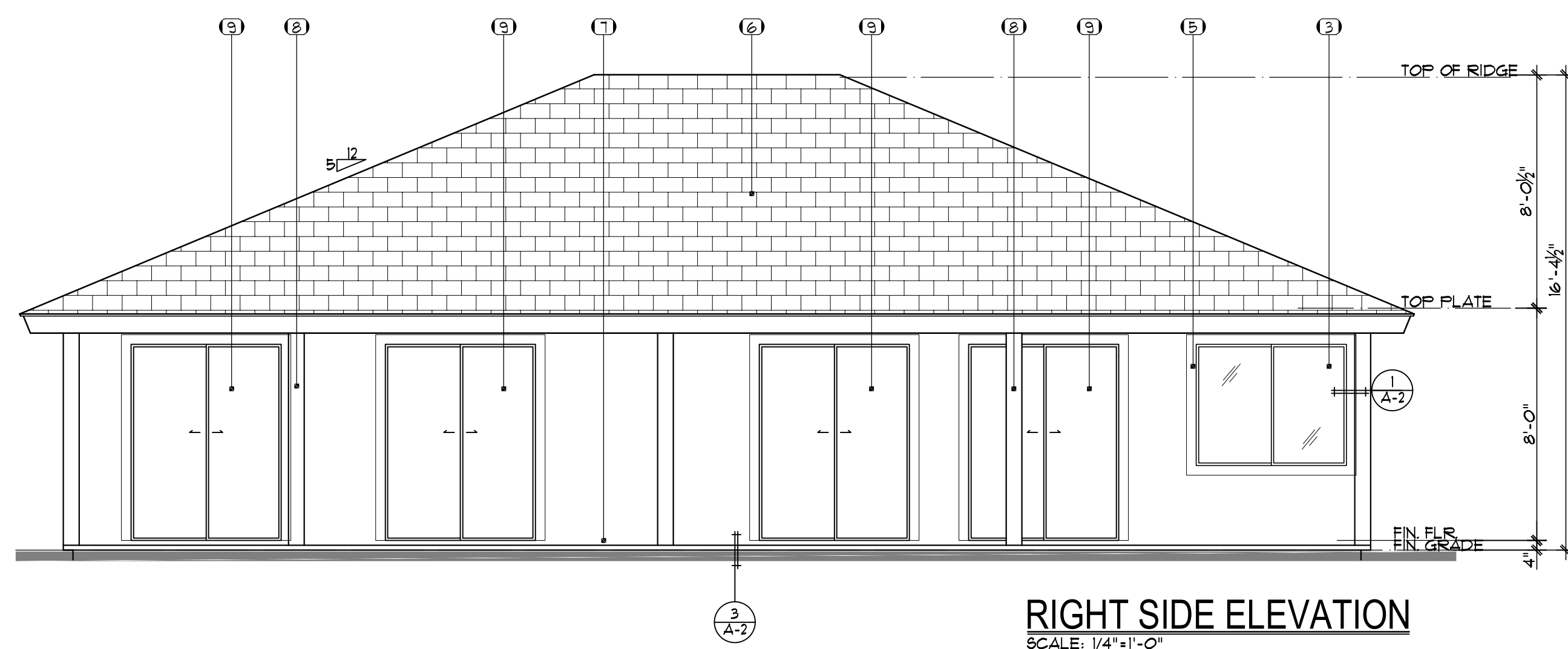
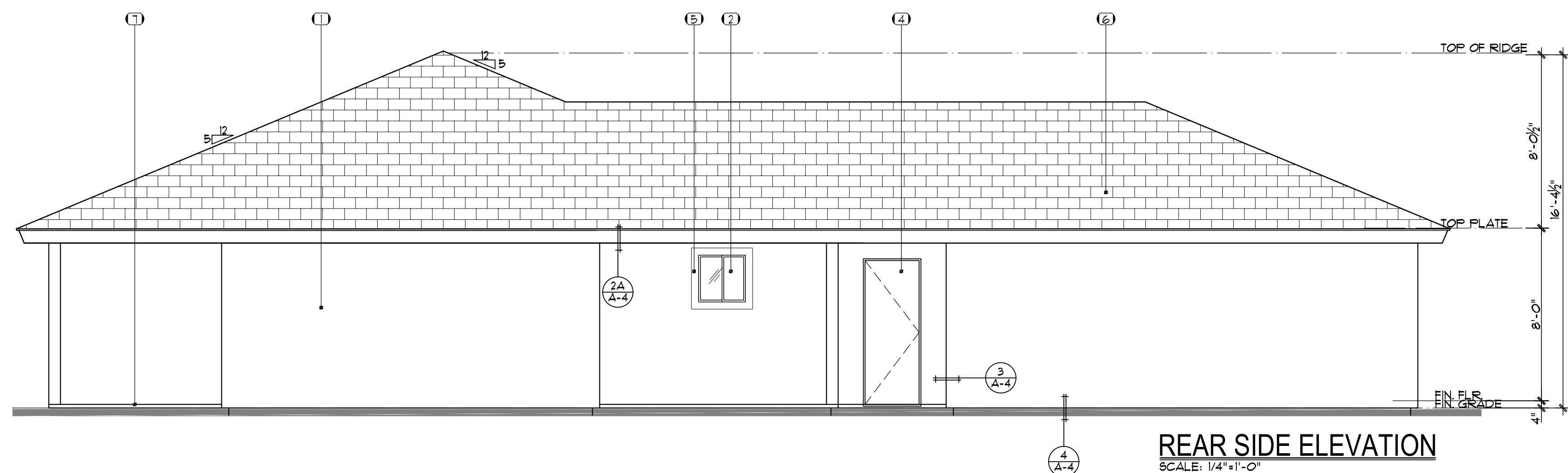
ROOF NOTE:
INSTALLATION OF THE ROOFING
SHALL BE IN ACCORDANCE
WITH MANUFACTURE'S
SPECIFICATIONS.

T-24 NOTES:

- 1) REFER TO T-24 SHEETS FOR INSULATIONS @ ROOF & WALL
- 2) REFER TO T-24 SHEETS FOR TANKLESS WATER HEATER FURNACE
- 3) REFER TO T-24 FOR WINDOW U-FACTOR OF 0.30 MAX. & SHGC FACTOR OF 0.21 MAX

- (1) 2x WOOD PLANK PER LEGEND TO MATCH EXISTING FINISH (MAIN HOUSE). TYP. WATER RESISTANT FINISH AS REQ'D.
- (2) VINYL SLIDING WINDOW BY 'MILGARD' OR EQUAL TO BE INSTALLED. PROVIDE U-VALUE OF WINDOWS ON PLAN PER CALIFORNIA ENERGY CODE 1502.4 CHOSEN BY THE OWNER PER DET. A-7
- (3) VINYL EGRESS SINGLE-HUNG WINDOW BY 'MILGARD' OR EQUAL TO BE INSTALLED. PROVIDE U-VALUE OF WINDOWS ON PLAN PER CALIFORNIA ENERGY CODE 1502.4 CHOSEN BY THE OWNER PER DET. A-7
- (4) EXTERIOR DOOR TO BE INSTALLED & REQUIRED TO BE 1 1/2" SOLID CORE MATERIAL AND COLOR TO BE EITHER CHOSEN BY GENERAL CONTRACTOR OR OWNER
- (5) FOAM TRIM TO BE INSTALLED ON ALL WINDOWS
- (6) ROOF RER SHALL PLAN & STRUCTURE DRAWINGS
- (7) LANDING SHALL HAVE A LENGTH MEASURED IN DIRECTION OF TRAVEL OF NOT LESS THAN 36". THE SLOPE AT EXTERIOR LANDING SHALL NOT EXCEED 1/4 INCH VERTICAL TO 12 INCH HORIZONTAL (%). DISTANCES BELOW TOP OF THRESHOLD- NON-EGRESS DOORS -175 IN. MAX. AND EGRESS DOORS 15" MAX.
- (8) POST PER STRUCT. DUGS.
- (9) SLIDING TEMP. GLASS DOOR TO BE INSTALLED MATERIAL AND COLOR TO BE EITHER CHOSEN BY GENERAL CONTRACTOR OR OWNER
- (10) AUTOMATIC ROLL UP SECTIONAL GARAGE DOOR TO BE CHOSEN BY EITHER GENERAL CONTRACTOR OR OWNER & INSTALLED PER MANUF. SPECS. THE DOOR SHALL BE LISTED & LABELED IN ACCORDANCE WITH UL325, (CRC 309.4) AND BATTERY BACKED UP 9B NO.969.

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REVIEWED FOR CODE COMPLIANCE. THIS APPROVAL SHALL NOT BE CONSIDERED TO PERMIT VIOLATIONS OF ANY LOCAL BUILDING OR PLANNING OR STATE LAW AND SHALL NOT PREVENT THE REQUIRED CORRECTIONS OF ANY ERROR SUBSEQUENT TO IDENTIFIED THEREAFTER. APPROVED PLANS SHALL BE KEPT ON THE JOB AT ALL TIMES AND SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.

PERMIT: 8P-2021-01920 DATE: 10/14/22

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11/11/2016 11:11 AM

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ENERGY NOTES:
1- ROOF SHEATHING WITH RADIANT BARRIER
PER T24 REQUIREMENTS.
2- ROOF FINISH SHALL MEET COOL ROOF
REQUIREMENTS PER T24 REQUIREMENTS.

ELEVATION NOTES:
ANY ADDITION OR CHANGE MADE TO THE
APPROVED EXTERIOR ELEVATION DESIGN
EITHER ON THE DRAWINGS OR DURING
CONSTRUCTION WILL REQUIRE PLANNING
DIVISION AND BUILDING DIVISION REVIEW
AND APPROVAL AND MAY RESULT IN A
DELAY OF THE PROJECT OR THE REMOVAL
OF NON-APPROVED WORK.

ALL MATERIALS, DETAILS FINISHES, COLORS
ROOF MATERIAL/PITCH, FASCIA TREATMENT,
OVERHANG, WINDOW/DOOR PROPORTIONS,
TRIM, ETC. TO MATCH THE ORIGINAL
ARCHITECTURE OF THE MAIN HOUSE.

WINDOW NOTES:
ALL WINDOWS & SLIDING DOORS
FRAMES TO BE VINYL & SHALL
HAVE U-FACTOR OF 0.30 MAX.
AND SHGC OF 0.23 MAX.

ROOF NOTE:
INSTALLATION OF THE ROOFING
SHALL BE IN ACCORDANCE
WITH MANUFACTURE'S
SPECIFICATIONS.

T-24 NOTES:	
1)	REFER TO T-24 SHEETS FOR INSULATIONS @ ROOF & WALL
2)	REFER TO T-24 SHEETS FOR TANKLESS WATER HEATER FURNACE
3)	REFER TO T-24 FOR WINDOW U-FACTOR OF 0.30 MAX. & SHGC FACTOR OF 0.23 MAX

KEYED NOTES

- (1) 2x WOOD WALL PER LEGEND TO MATCH EXISTING FINISH (MAIN HOUSE). TYP. WATER CHANG
- (2) VINYL SLIDING WINDOW BY 'MILGARD' OR EQUAL TO BE INSTALLED, PROVIDE U-VALUE OF WINDOW UNITS PER CALIFORNIA ENERGY CODE 1902.4 CHOSEN BY THE OWNER PER DET. (1)
A-2
- (3) VINYL EGRESS SINGLE-HUNG WINDOW BY 'MILGARD' OR EQUAL TO BE INSTALLED, PROVIDE U-VALUE OF WINDOW UNITS PER CALIFORNIA ENERGY CODE 1902.4 CHOSEN BY THE OWNER PER DET. (1)
A-2
- (4) EXTERIOR DOOR TO BE INSTALLED 4 REQUIRED TO BE 1 3/4" SOLID CORE MATERIAL AND COLOR TO BE EITHER CHOSEN BY GENERAL CONTRACTOR OR OWNER
- (5) FOAM TRIM TO BE INSTALLED ON ALL WINDOWS
- (6) ROOF PER ROOF PLAN & STRUCTURE DRAWINGS
- (1) LANDING: SHALL HAVE A LENGTH MEASURED IN DIRECTION OF TRAVEL OF NOT LESS THAN 36". THE SLOPE AT EXTERIOR LANDING SHALL NOT EXCEED 1 UNIT V. 12 HORIZONTAL (2%) DISTANCES BELOW TOP OF THRESHOLD
- (2) NON-EGRESS DOORS - 17B IN. MAX. AND EGRESS DOOR 15" MAX.
- (6) POST PER STRUCT. DUGS.
- (3) SLIDING GLASS DOOR TO BE INSTALLED MATERIAL AND COLOR TO BE EITHER CHOSEN BY GENERAL CONTRACTOR OR OWNER
- (10) SLAB FOUNDATION PER STRUCTURE DRAWINGS
- (11) CEILING JOISTS PER STRUCTURAL PLANS
- (12) PROVIDE R50 INSULATION, TYP.
- (13) PROVIDE R15 INSULATION, TYP.
- (14) 2x WATERS PER STRUCT. DUGS.
- (15) 2x FASCIA TO MATCH EXISTING
- (16) COLLAR TIES PER STRUCT. DUGS.
- (17) BEAM PER STRUCT. DUGS.
- (18)

Architectural cross-section drawing of a building. The drawing shows the structural details of the roof, walls, and floor. A red callout indicates "5/8 INCH TYPE-X DRY WALL CEILING AT GARAGE". The drawing includes various dimension lines and labels for structural elements and heights.

Labels and dimensions on the right side of the drawing:

- TOP OF RIDGE
- 8'-0 3/4"
- TOP PLATE
- 8'-0" 16'-4 1/2"
- FIN. FLR
- FIN. GRADE
- 4"

Labels and dimensions on the left side of the drawing:

- 15
- 13
- 14
- 17
- 14
- 16
- 18
- 11
- 12
- 13

GENERAL ROOF NOTES

1. PAINT ALL VENT STACK PIPES & FLASHING TO MATCH ROOF.
2. CONTRACTOR SHALL MINIMIZE ALL ROOF PENETRATIONS, ANY PENETRATION THAT IS REQUIRED SHALL BE DONE ON THE BACK SIDE OF THE ROOF, NO TIE INS TO BE INSTALLED FROM THE FRONT OR SIDE OF THE BUILDING.
3. CONTRACTOR SHALL FURNISH AND INSTALL ALL FLASHING, COUNTER FLASHING, WATER DIVERSION AND SEALING OF ROOF FOR A WATER TIGHT INSTALLATION.
4. FIELD PROTECTION MUST BE PROVIDED BY THE GENERAL CONTRACTOR AT JOB SITE SO MATERIALS ARE NOT EXPOSED TO WEATHER AND MOISTURE.
5. FINISHES (FACTORY FABRICATED OR LOCALLY FABRICATED) UNLESS OTHERWISE SPECIFIED, ALL EXPOSED ADJACENT FLASHING SHALL BE OF THE SAME MATERIAL AND FINISH AS PANEL SYSTEM.

ROOF LEGEND

☐ INDICATES: NEW ROOF AREA

NOTE:
ANY NEW ROOFS SHOULD
MATCH THE EXISTING MAIN
HOUSE ROOF.

NOTE:
PROVIDE (N) COMPOSITE SHINGLE ROOF
BY GAF (ICC ESR-1415) OR EQUAL, FIRE
RETARDANT CLASS "A" OVER (2) LAYER
1/8" FELT PAPER OVER 1/2" CDX PLY. WD
OVER 2x RAFTERS TO MATCH (E) MAIN
HOUSE ROOF. CEILING/ROOF R-30 W/
PAPER BARRIER, INF. UL. APPROVED.
PROVIDE RADIANT BARRIER

ATTIC VENT CALCULATION:

RATIO OF VENTILATION REQUIRED: 1/150 SQ. FT.
CONVERSION TO SQUARE INCHES: 144 SQ. IN.

VENT (DM24) = HALF RADIUS = 99 SQ. IN. (FREE AREA)

ADU AREA= 1200 SQ. FT. VENTS REQ'D VENTS PROVID

GARAGE AREA= 550 SQ. FT. $\frac{12.12}{5.55}$ $\frac{13}{6}$
VENTS REQ'D VENTS PROV'D

WEEP SCREED DETAILS

EAVE DETAILS

PROVIDE FIRE BLOCKING IN CONCEALED SPACES VERTICALLY & HORIZONTALLY IN ACCORDANCE WITH CRC R302.11

WOOD STUD WALL FRAMING

SOLID SHEATHING APPLIED TO THE STUD WALL FRAMING

TWO LAYERS OF GRADE 'D' B' PAPER - LAP BOTH LAYERS HORIZONTALLY A MINIMUM 2' VERTICALLY A MINIMUM 6"

THREE COAT EXTERIOR PORTLAND CEMENT PLASTER (SCRATCH, BROWN, FINISH)

WOVEN WIRE FABRIC LATH SECURED TO SHEATHING AND STUDS

PLASTER WEEP SREED

A CASEMENT

41" CLR.

5.7 SQ. FT. MIN.

MIN. SIZE WINDOW FOR 20" CLR. WIDTH

44" MAX. SILL HEIGHT

B SINGLE HUNG

24" CLR. MIN.

5.7 SQ. FT. MIN.

MIN. SIZE WINDOW FOR 24" CLR. HEIGHT

44" MAX. SILL HEIGHT

C SLIDING

48" CLR.

41" MIN. CLR.

MIN. SIZE WINDOW FOR 24" CLR. HEIGHT

44" MAX. SILL HEIGHT

FIN. FLOOR

EXCEPTION: GRADE FLOOR OPENINGS SHALL HAVE A MIN. NET CLEAR OPENING OF 5 SQ. FT.

FIN. STUCCO @ SHEARWALL DET

EGRESS/SCAPE WINDOW DET.	1
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Y	N/A	RESPON- PARTY
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TABLE 4.504.2 - SEALANT VOC LIMIT	
(Less Water and Less Exempt Compounds in Grams per Liter)	
SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS: ^{1,3}	
GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS	
COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS ¹	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

- GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS
- THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE
- VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

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

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

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

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

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:

- 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:

Notes:

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

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

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.

PROPOSED NEW AN A.D.U. & 2- CAR GARAGE FOR
NAVARRO RESIDENCE
11375 ENCINAS DR
RIVERSIDE, CA 92505

GREEN BUILDING NOTES

GRN - 2

[illegible]

NO.	DATE	REVISIONS
1	5/28/22	BLDG. 4 PLANS DEPT.
2		
3		
4		
5		

PROPOSED NEW AN A.D.U. & 2-CAR GARAGE FOR
NAVARRO RESIDENCE
11375 ENCINAS DR
RIVERSIDE, CA 92505

FOUNDATION PLAN

WALL LABEL	SHEAR VALUE	DESCRIPTION OF SHEAR PANEL (EN. W/ COMMON NAILS ONLY)	SILL CONNECTION	TOP PLATE CONNECTION
1	260 PLF	1/2" OSB STRUCT. 1 BLOCKED W/ 2d NAILS @ 6" O.C.	3/4" A.B. @ 40" O.C. W/ 2x16d @ 6" O.C.	A35 @ 24" O.C. OR LTP4 @ 24" O.C.
2	390 PLF	1/2" OSB STRUCT. 1 BLOCKED W/ 2d NAILS @ 4" O.C.	3/4" A.B. @ 16" O.C. W/ 3x16d @ 4" O.C. SEE NOTE 17)	A35 @ 16" O.C. OR LTP4 @ 16" O.C.
3	560 PLF	1/2" OSB STRUCT. 1 BLOCKED W/ 2d NAILS @ 3" O.C.	3/4" A.B. @ 12" O.C. W/ 3x16d @ 4" O.C. SEE NOTE 17)	A35 @ 12" O.C. OR LTP4 @ 12" O.C.
4	680 PLF	1/2" OSB STRUCT. 1 BLOCKED W/ 2d NAILS @ 2" O.C.	3/4" A.B. @ 16" O.C. W/ 3x16d @ 4" O.C. SEE NOTE 17)	A35 @ 12" O.C. OR LTP4 @ 12" O.C.
5	1100 PLF	1/2" OSB STRUCT. 1 BLOCKED W/ 2d NAILS @ 3" O.C.	3/4" A.B. @ 12" O.C. W/ 3x16d @ 4" O.C. SEE NOTE 17)	A35 @ 6" O.C. OR LTP4 @ 6" O.C.

SHEARWALL NOTES:

- FRAMING AT EDGE NAILING SHALL BE 3x OR WIDER AND NAILS SHALL BE STAGGERED.
- ALL PLYWOOD EDGES TO BE BLOCKED. USE 3x BLOCKING AND EDGE NAIL PLYWOOD TO BLOCK.
- WHERE PANELS ARE APPLIED TO BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6" ON CENTER, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT MEMBERS OR FRAMING SHALL BE 3x AND NAILS ON EACH SIDE STAGGERED.
- PROVIDE MINIMUM 1" EMBEDMENT OF ANCHOR BOLTS INTO CONCRETE.
- PANELS SHALL BE INSTALLED WITH THE LONG DIMENSION ACROSS THE STUDS OR STUDS SHALL BE SPACED AT 16" O.C.
- 5/8" DIA. SIMPSON TITEN HD MODEL* THD62000H CAN BE USED IN LIEU OF J BOLT. FOR NEW WALLS, 3x SILL PLATE AND STUD BETWEEN ADJACENT PANELS REQUIRED. STAGGERED PLYWOOD EN. FOR EXISTING WALL, USE 2x SILL PLATE W/ 3x SOLID BLKS. AND DOUBLE STUDS 1/2" EDGE DISTANCE FOR PLYWOOD EN. ALL PANEL JOINT & SILL PLATE NAILING SHALL BE STAGGERED.
- WHEN SHEAR PANEL APPLIED TO BOTH SIDES OF WALL FRAMING, SPACING SHALL BE HALF OF ABOVE VALUES.

FOR ANCHOR BOLT SIZE: USE PLATE WASHERS SIZE:

1"x3"x3"
1"x3"x3"
1"x3"x3"
1"x3"x3"

3) ALL NAILS SHALL BE COMMON NAILS OR GALVANIZED BOX.

10) WOOD STRUCTURAL PANELS: DOC PSI OR DOC P83.

11) 1/8" GAP AT ALL PLYWOOD PANEL EDGES REQUIRED.

PAD NO.	DESCRIPTION	REMARKS
1	21" SQ. x 18" THICK W/ (4) 5/8" EA. WAY	
2	24" SQ. x 18" THICK W/ (4) 5/8" EA. WAY	
3	42" LONG x 33" WIDE x 18" THICK W/ (2) 5/8" LONGIT. & (3) 5/8" TRANSVERSE	

PAD FOOTING SCHEDULE

NOTE-1: PROVIDE SHORING AS NEEDED TO SECURE ALL EXISTING MEMBERS IN PLACE.

NOTE-2: NOTIFY THE DESIGN ENGINEER FOR CONDITIONS MET BEFORE INSTALLING ANY MEMBER.

NOTE-3: REFER TO ARCH'L DRAWINGS FOR DIMENSIONS & ADD'L INFO. NOT SHOWN HERE.

SIMPSON STRONG WALLS
SCALE: NTS

STANDARD STRONG-WALL MODELS

MODEL NO.	W (in)	H (in)	T (in)	HOLDOWN ANCHOR BOLTS
OPT-1	N/A	12	±85.5	3-1/2 SEE DET. X
OPT-2	N/A	12	±85.5	3-1/2 SEE DET. X

USE (ESR-12611) USUW12x15

CONCRETE

SCHEDULE OF STRUCTURAL CONCRETE 28 DAY MIN. STRENGTHS ARE AS FOLLOWS:

FOOTINGS: 2,500 FSI

SLAB ON GRADE: 2,500 FSI

CEMENT TYPE: V

WATER-RATIO: 0.45

REINFORCING STEEL

1. REINFORCING BARS SHALL CONFORM TO ASTM A-615 GRADE 60 FOR #5 AND LARGER AND GRADE 40 FOR #4 AND SMALLER UNLESS NOTED OTHERWISE. REINFORCING BARS THAT NEED TO BE WELDED SHALL CONFORM TO ASTM A-706, GRADE 60.

2. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS AND/OR TESTING IS REQUIRED FOR THIS CONSTRUCTION.

1. EPOXY INSTALLATION

2. WOOD SHEARWALLS W/ NAILING <4" O.C.

3. STRONG WALLS

HARDWARE NOTES

1) ALL HARDWARE SHOWN ON PLANS SHALL BE SIMPSON STRONG-TIE, USF STRUCTURAL CONNECTORS OR EQUIVALENT.

2) ALL WOOD FASTENERS AND HARDWARE SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE, USF STRUCTURAL CONNECTORS OR EQUIVALENT. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW.

3) IF STRUCTURAL HARDWARE CALL OUTS REFER TO SIMPSON STRONG-TIE, USF STRUCTURAL CONNECTORS ARE ACCEPTABLE FOR USE BASED ON THE REFERENCE NUMBER IDENTIFIED ON THEIR PRODUCTS. THE LOWER OF THE TWO MANUFACTURERS DESIGN LOADS WERE CONSIDERED DURING ENGINEERING DESIGN.

4) TITEN BOLTS REQUIRE SPECIAL INSPECTION.

ROOF & FLOOR

ROOF DIAPHRAGM NAILING TO BE INSTALLED 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 W/ TABLE 2304.101.

WOOD FRAME

1. PLYWOOD FOR ROOF SHEATHING SHALL BE CDX. USE EXTERIOR TYPE, MIN. C-C GRADE WHERE PLYWOOD IS EXPOSED TO WEATHER. PLYWOOD FOR FLOOR SHEATHING SHALL BE UNDERLAYMENT GRADE PLYWOOD. ALL PLYWOOD SHALL BE GLUED WITH EXTERIOR TYPE GLUE.

2. LUMBER SHALL BE GRADED IN ACCORDANCE WITH THE STANDARD GRADING RULES SEC. 2303.1. MOISTURE CONTENT SHALL BE AS FOLLOWS: SOLID-SAWN LUMBER 2" IN THICKNESS OR LESS TO 19% PLYWOOD TO 15%.

3. TOP PLATES OF ALL STUD WALLS SHALL BE 2 PIECES THE SAME SIZE AS STUDS. SPLICES TO LAP 4'-0" MIN.

4. ALL WOOD MEMBERS SHALL BE DOC P820 (DPL GRADE) & SHALL BEAR THE UCLB OR WUPA GRADE STAMP UNLESS NOTED ON PLANS. GRADE STAMP WOOD GRADES SHALL BE SELECTED AS SHOWN BELOW UNLESS NOTED ON PLANS:

A) FOR HORIZONTAL MEMBERS:

JOISTS & RAFTERS: 1

FURLINS: 1

SUBFURLINS: 1

2x4: 1

2x6: 1

BEAMS: 1

LEDGERS & NAILERS: 2

HEADERS: 1

TOP PLATES: 1

B) FOR VERTICAL MEMBERS:

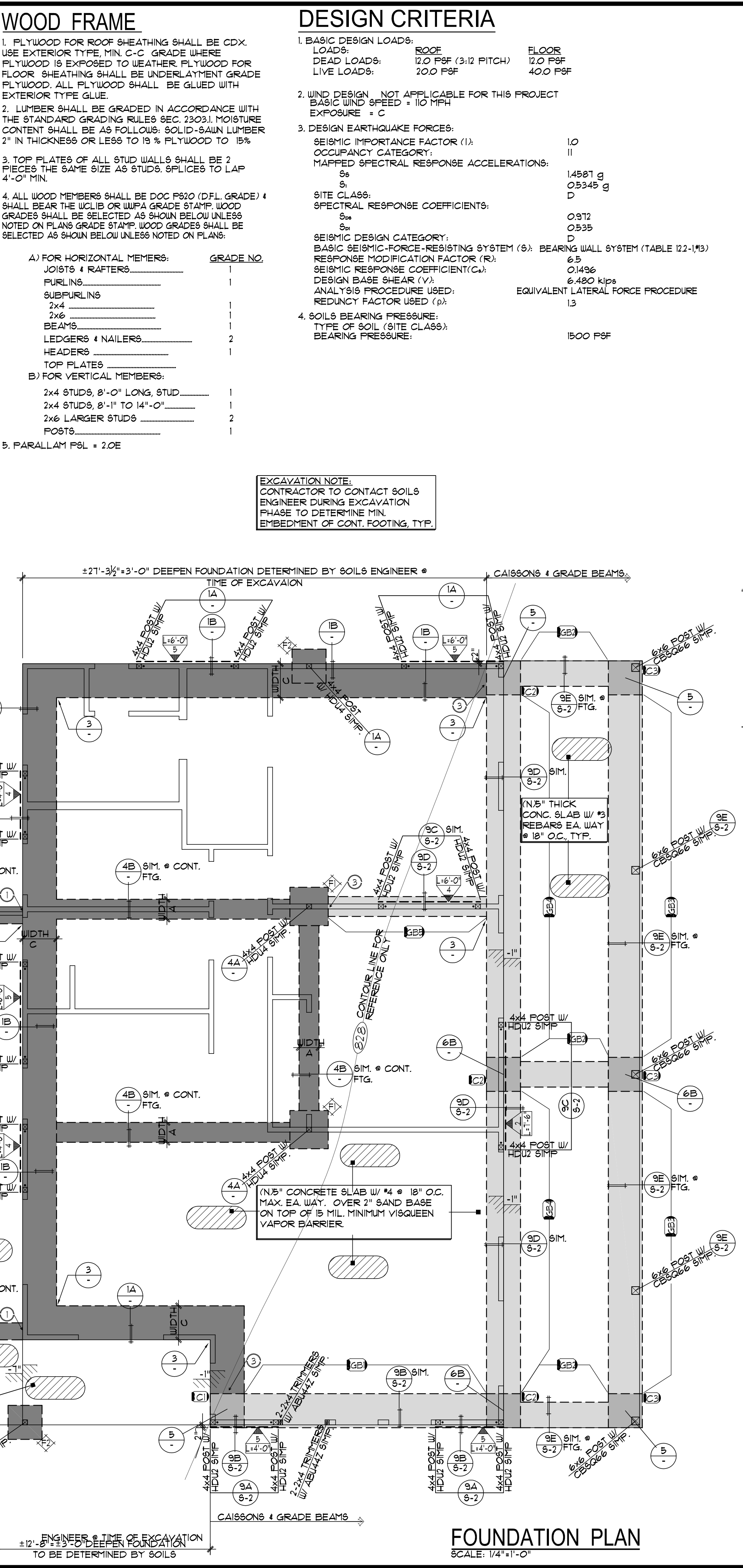
2x4 STUDS, 8'-0" LONG, STUD: 1

2x4 STUDS, 8'-1" TO 14'-0": 1

2x6 LARGER STUDS: 2

POSTS: 1

5. PARALLAM FSL = 2.0E



LEGEND

INDICATES: SLAB ON GRADE CONC.

INDICATES: NEW CONT. 4 PAD FOOTING

INDICATES: GRADE BEAM PER SCHED.

INDICATES: CAL. FRAMING

INDICATES: CAISSONS PER SCHED.

INDICATES: SHEAR WALL

INDICATES: LENGTH OF SHEAR WALL

INDICATES: LOCATION OF HOLDOWN

INDICATES: SPAN OF JOISTS

INDICATES: EXTENT OF JOISTS

INDICATES: STEEL BEAM

INDICATES: WOOD BEAM

INDICATES: 2x SOLID LUMBER

INDICATES: WOOD HEADER

INDICATES: CONT. BLKG.

INDICATES: NO. OF BEAMS REFER TO CALCULATIONS

INDICATES: 2-2x4 OR 2x6 TRIMMERS

CAISSON SCHEDULE

CAISSON	DIA.	VERT. SQ.	TIES/SHEAR STEEL	EMBED. BEDROCK	NOTES
1	24"	4'6"	#3 @ 12" O.C.	5'-0"	12
2	24"	4'6"	#3 @ 12" O.C.	5'-0"	12
3	24"	4'6"	#3 @ 12" O.C.	6'-0"	12

GRADE BEAM SCHEDULE

GRADE BEAM	WIDTH	DEPTH	HORIZ. STEEL	STIRRUPS STEEL	NOTES
1	24"	24"	(2) #6 T4B	#4 @ 10" O.C.	
2	24"	24"	(2) #6 T4B	#4 @ 10" O.C.	
3	24"	24"	(2) #6 T4B	#4 @ 10" O.C.	
4	24"	24"	(2) #6 T4B	#4 @ 10" O.C.	
5	24"	24"	(2) #6 T4B	#4 @ 10" O.C.	
6	24"	24"	(2) #6 T4B	#4 @ 10" O.C.	

NOTES:

1) CAISSON TO BE SQUARED

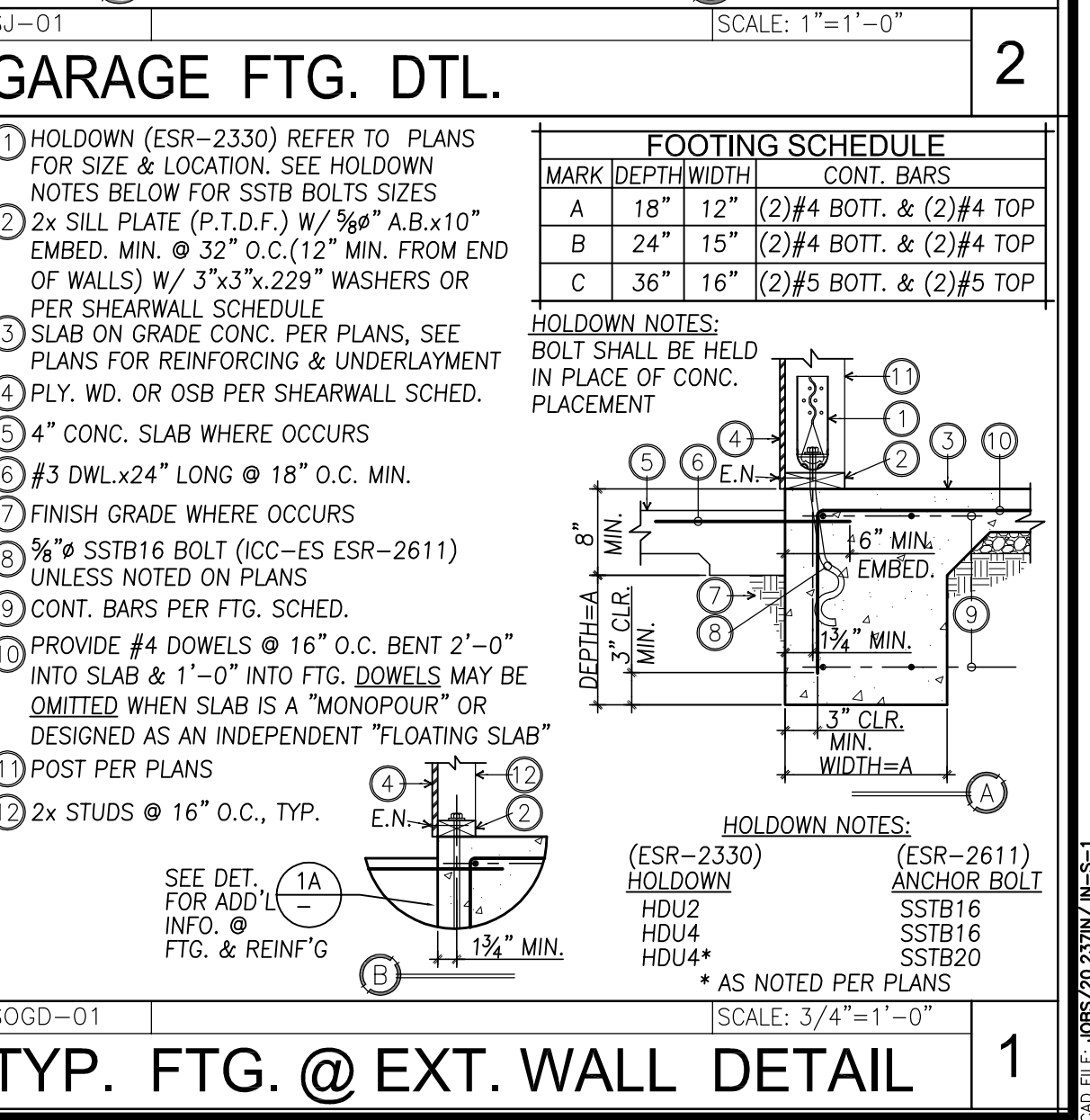
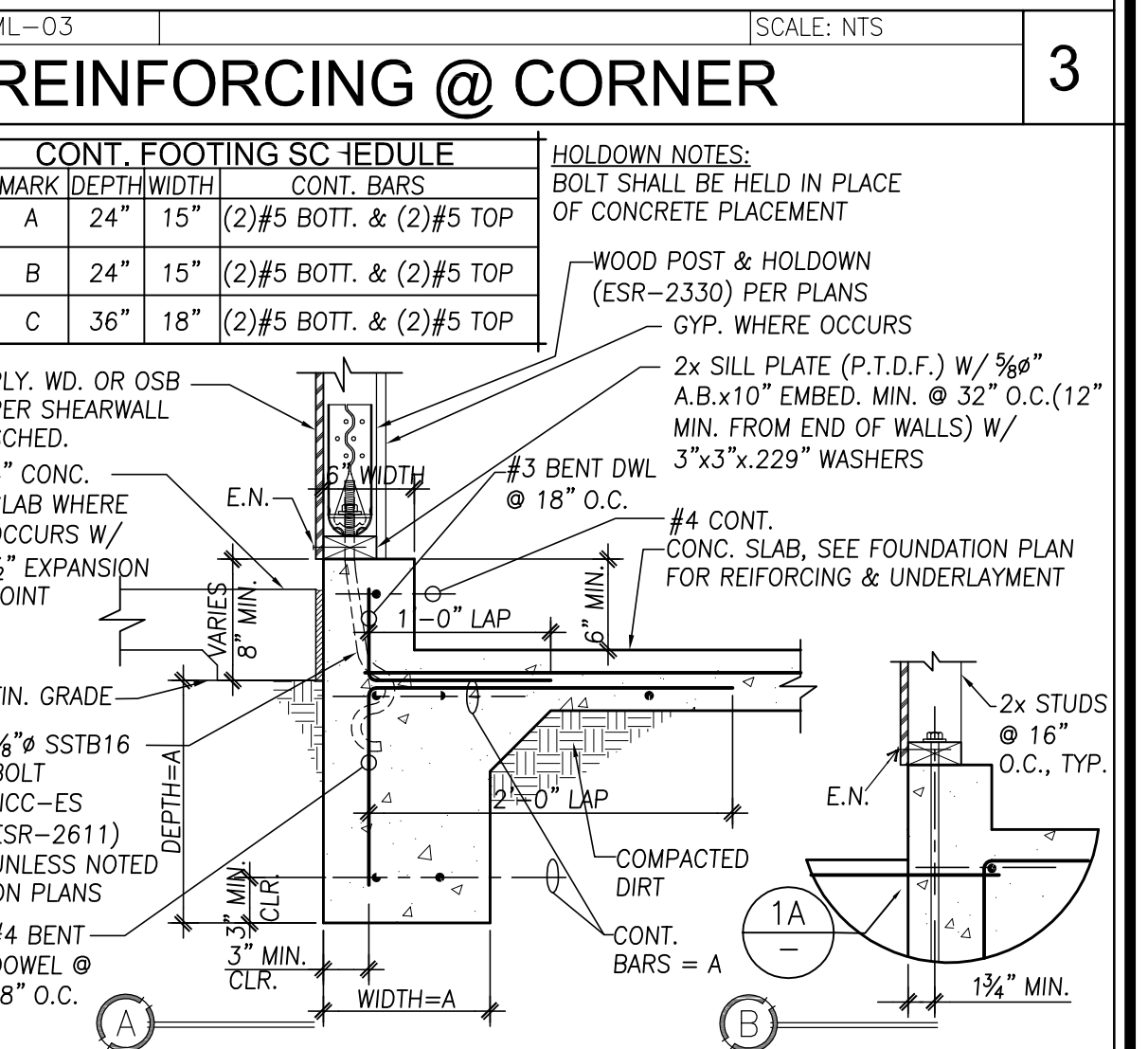
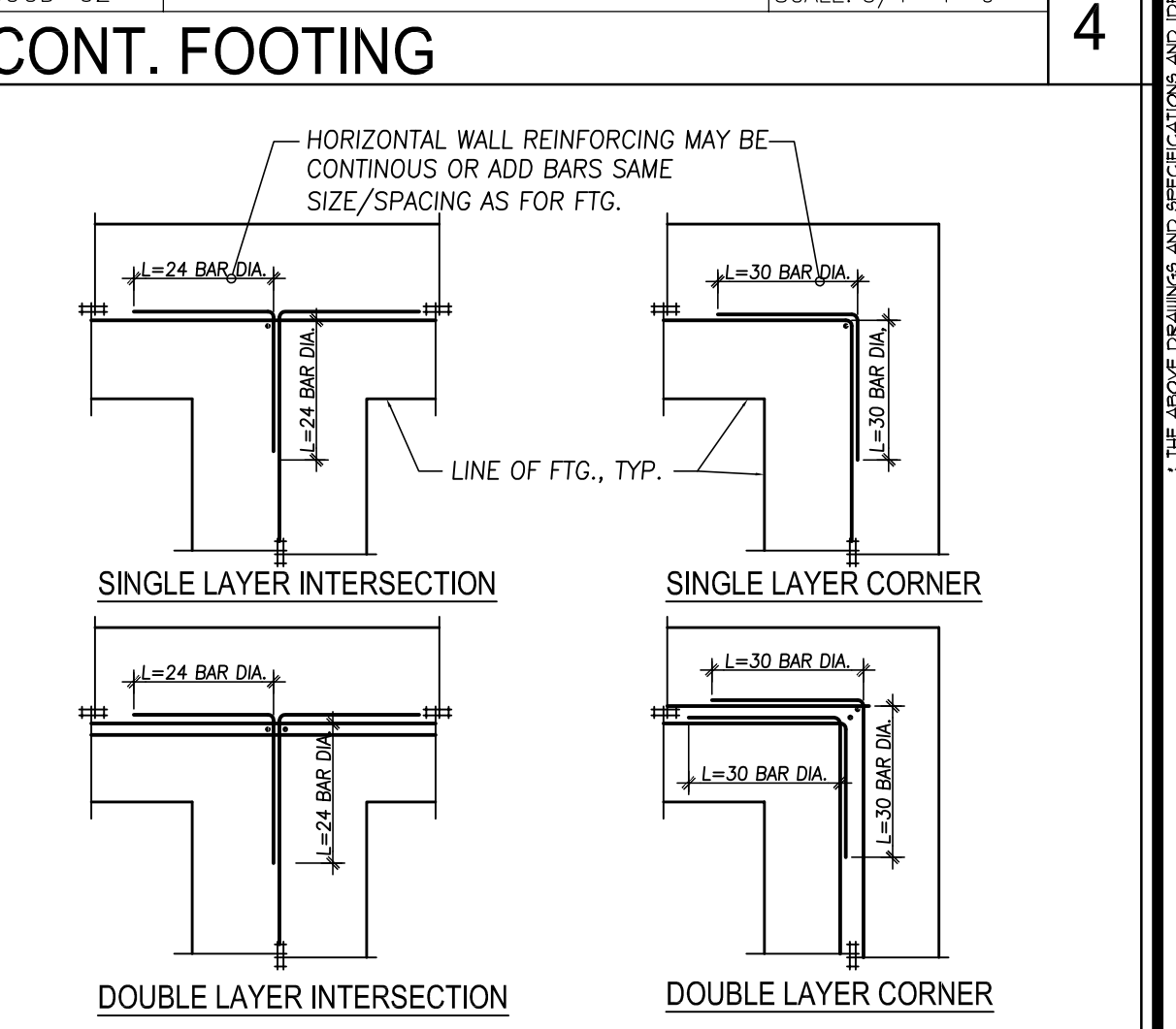
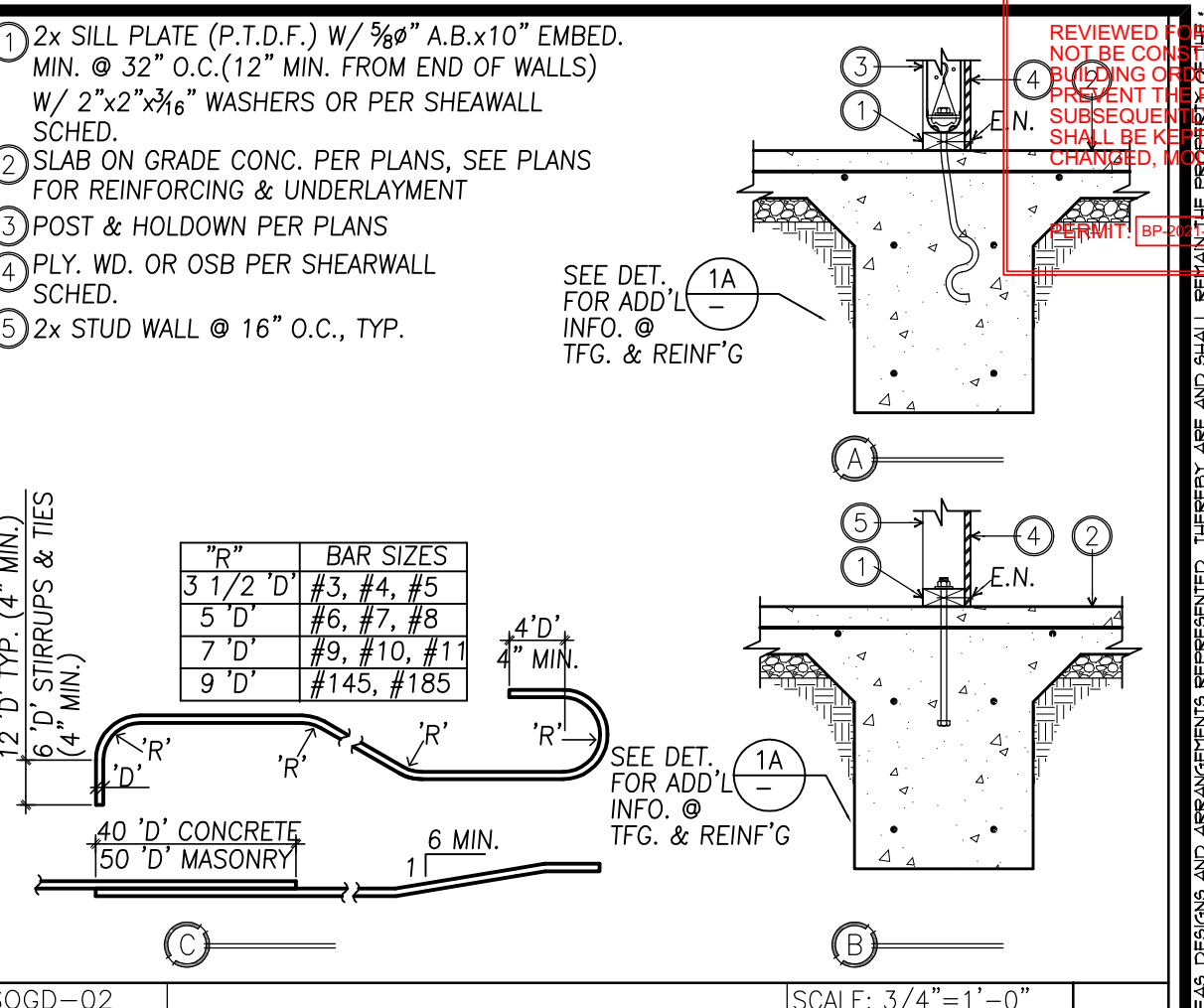
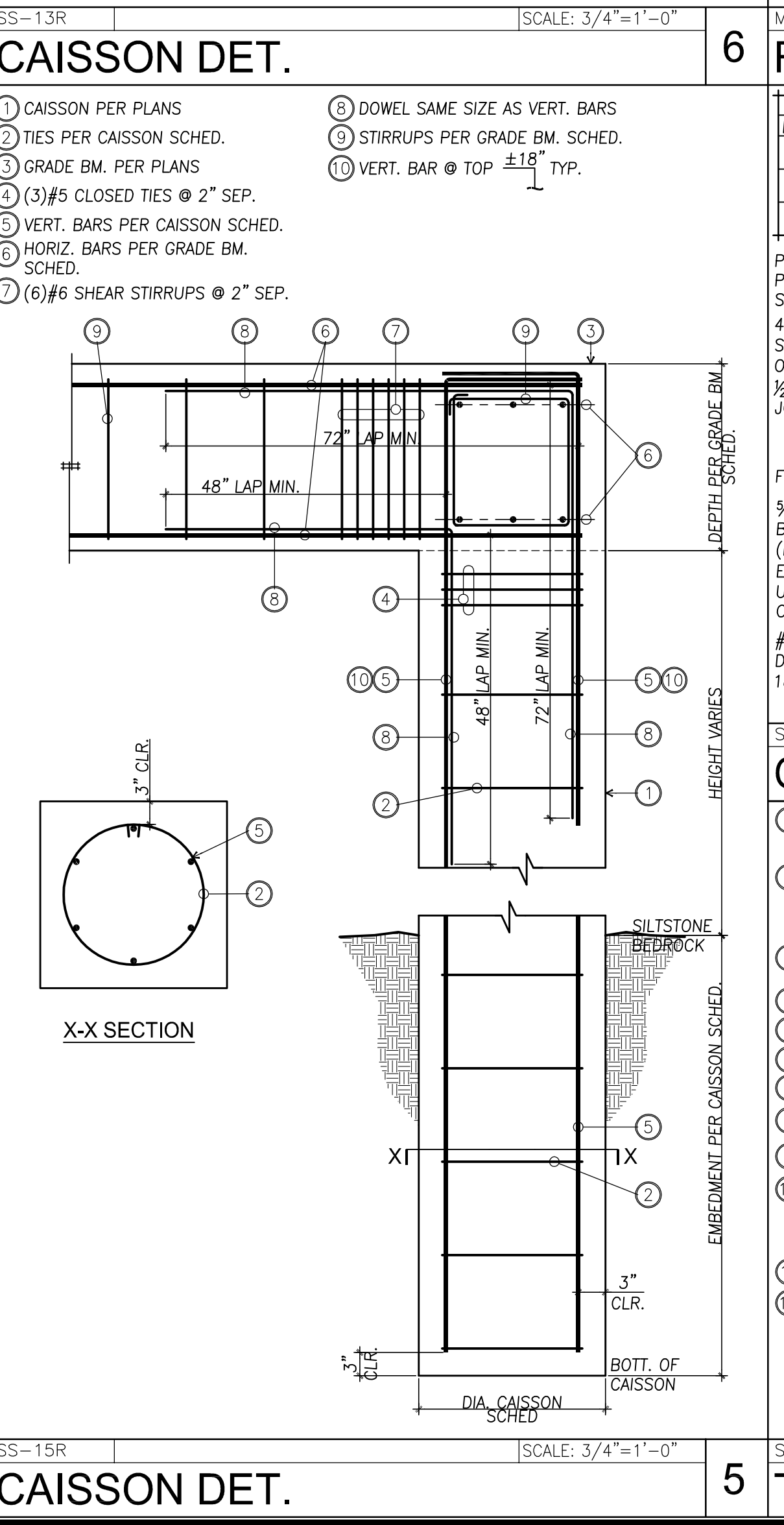
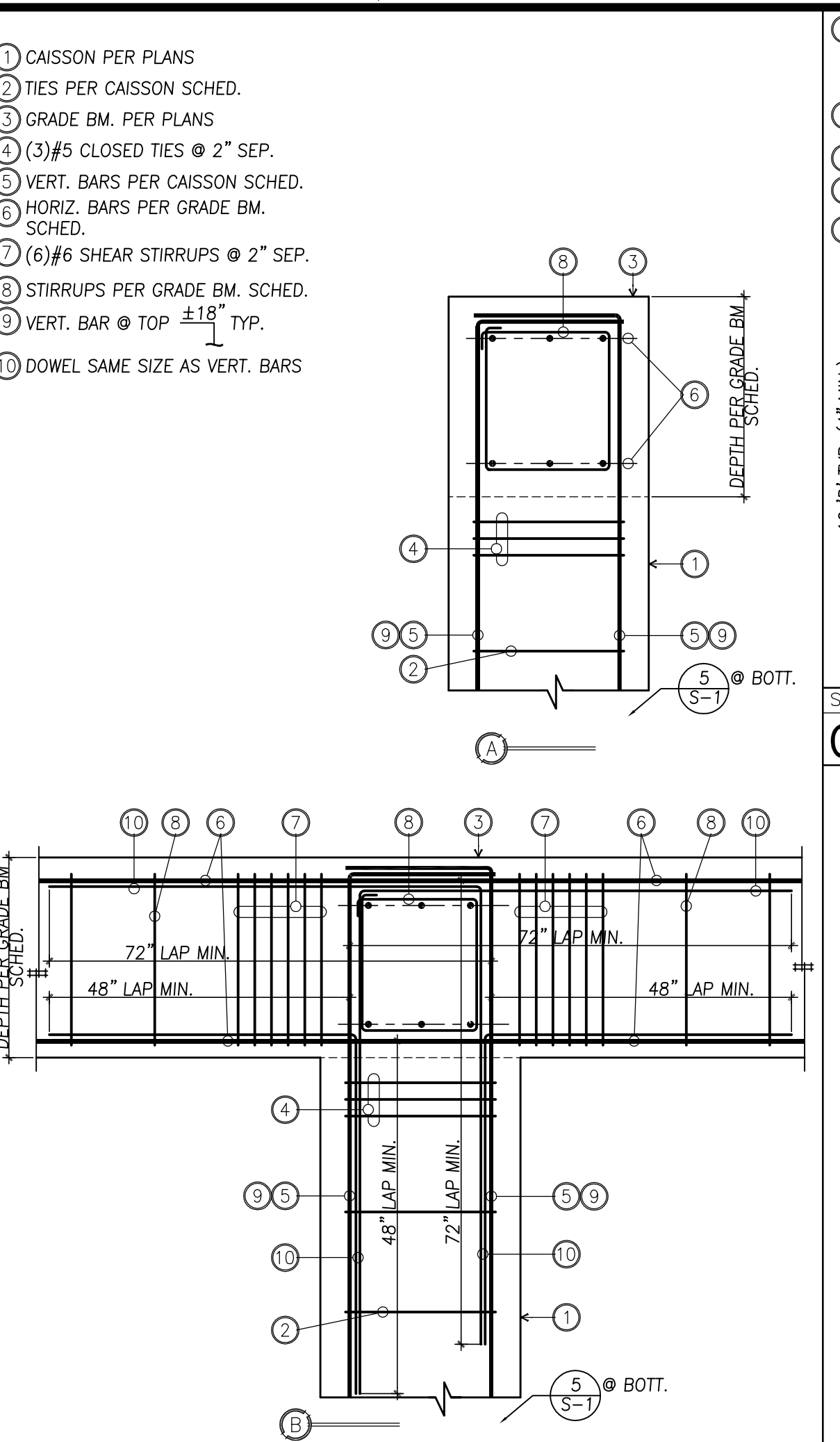
2) 20'-0" TO DAY LIGHT

STRUCTURAL KEYED NOTES

1. USE (2) #4 BENT DOUELS 24" LONG @ TOP & BOTT. 20'-0" EMBED.

2. USE (2) #4 STRAIGHT DOUELS 48" LONG @ TOP & BOTT. W/ 24" EMBED.

3. USE (2) #4 BENT DOUELS 24" LONG @ TOP & BOTT. 24"



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FASTENING SCHEDULE

2019 CALIFORNIA BUILDING CODE TABLE 2304.10.1

ELEMENT/CONNECTI ON		FASTENER	LOCATION
		ROOF	
1.	Blocking between ceiling joists, rafters or trusses to top plate or other framing below	3 - 8d common (2 1/2" x 0.131") 3-10d box (3"x0.128") 3 - 3" x 0.131" nails 3 - 3" 14 gage staples, 7/16" crown	Toenail each end
	Blocking between rafters or truss not at the wall top plate, to rafter or truss	2 - 8d common (2 1/2" x 0.131") 2 - 3" x 0.131" nails 2 - 3" 14 gage staples	toenail each end
		2-16d common (3 1/2"x0.162") 3-3"x0.131" nails 3-3" 14 gage staples	end nail
	Flat blocking to truss and web filler	16d common (3 1/2"x0.162") @6" o.c. 3-3"x0.131" nails @ 6" o.c. 3-3" 14 gage staples @ 6" o.c.	Face nail
2.	Ceiling joists to top plate	3-8d common 3-10d box 3-3"x0.131" nails 3-3" 14 gage staples, 7/16" crown	Toenail each joist
3.	Ceiling joist not attached to parallel rafter, laps over partitions (no thrust) (Table and Section2308.7.3.1)	3-16d common 4-10d box 4-3"x0.131" nails 4-3" 14 gage staples, 7/16" crown	Face nail
4.	Ceiling joists attached to parallel rafter (heel joint) (Table and Section2308.7.3.1)	Table 2308.7.3.1	Face nail
5.	Collar tie to rafter	3-10d common 4-10d box 4-3"x0.131" nails 4-3" 14 gage staples, 7/16" crown	Face nail
6.	Rafter or roof truss to top plate (Table and section 2308.7.5)	3-10d common 3-16d box 4-10d box 4-3"x0.131" nails 4-3" 14 gage staples, 7/16" crown	Toenail (6)
7.	Roof rafters to ridge valley or hip rafters; or roof rafter to 2" ridge beam	2-16d common 3-10d box 3-3"x0.131" nails 3-3" 14 gage staples, 7/16" crown 3-10d common 3-16d box 4-10d box 4-3"x0.131" nails 4-3" 14 gage staples, 7/16" crown	End nail Toenail

TABLE 2304.10.1—continued FASTENING SCHEDULE			
DESCRIPTION OF BUILDING ELEMENTS		NUMBER AND TYPE OF FASTENER	
Wood structural panels (WSP), subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing ^a		SPACING AND LOCATION	
		Edges (inches)	Intermediate supports (inches)
Interior paneling			
41. 1/4"	4d casing (1 1/2" x 0.080"); or 4d finish (1 1/2" x 0.072")	6	12
42. 1/2"	6d casing (2" x 0.099"); or 6d finish (Panel supports at 24 inches)	6	12

For SI: 1 inch = 25.4 mm.

a. Nails spaced at 6 inches at intermediate supports where spans are 48 inches or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing.

b. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).

c. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule and the ceiling joist is fastened to the top plate in accordance with this schedule, the number of toenails in the rafter shall be permitted to be reduced by one nail.

2304.10.5.2 Fastenings for wood foundations. Fastenings, including nuts and washers, for wood foundations shall be as required in AWC PWF.

2304.10.5.3 Fasteners for fire-retardant-treated wood used in exterior applications or wet or damp locations. Fasteners, including nuts and washers, for fire-retardant-treated wood used in exterior applications or wet or damp locations shall be of hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper. Fasteners other than nails, timber rivets, wood screws and lag screws shall be permitted to be of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B695, Class 55 minimum.

2304.10.5.4 Fasteners for fire-retardant-treated wood used in interior applications. Fasteners, including nuts and washers, for fire-retardant-treated wood used in interior locations shall be in accordance with the manufacturer's recommendations. In the absence of manufacturer's recommendations, Section 2304.10.5.3 shall apply.

2304.10.6 Load path. Where wall framing members are not continuous from the foundation sill to the roof, the members shall be secured to ensure a continuous load path. Where required, sheet metal clamps, ties or clips shall be formed of galvanized steel or other approved corrosion-resistant material not less than 0.0329-inch (0.836 mm) base metal thickness.

2304.10.7 Framing requirements. Wood columns and posts shall be framed to provide full end bearing. Alternatively, column-and-post end connections shall be designed to resist the full compressive loads, neglecting end-bearing capacity. Column-and-post end connections shall be fastened to resist lateral and net induced uplift forces.

2304.11 Heavy timber construction. Where a structure or portion thereof is required to be of Type IV construction by other provisions of this code, the building elements therein shall comply with the applicable provisions of Sections 2304.11.1 through 2304.11.5.

WOOD

WOOD

TABLE 2304.10.1—continued FASTENING SCHEDULE			
DESCRIPTION OF BUILDING ELEMENTS		NUMBER AND TYPE OF FASTENER	
Wood structural panels (WSP), subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing ^a		SPACING AND LOCATION	
		Edges (inches)	Intermediate supports (inches)
Interior paneling			
31. 1/4" - 1/2"	6d common or deformed (2" x 0.113") (subfloor and wall); 8d box or deformed (2 1/2" x 0.113") (roof) 2 1/2" x 0.113" nail (subfloor and wall) 1 1/2" 16 gage staple, 7/16" crown (subfloor and wall) 2 1/4" x 0.113" nail (roof) 1 1/2" 16 gage staple, 7/16" crown (roof)	6 6 6 4 4 3	12 12 12 8 8 6
32. 3/4" - 1 1/4"	8d common (2 1/2" x 0.131"); or 6d deformed (2" x 0.113")	6	12
33. 1/4" - 1 1/4"	2 1/2" x 0.113" nail; or 2" 16 gage staple, 7/16" crown 10d common (3" x 0.148"); or 8d deformed (2 1/2" x 0.131")	4 6	8 12
Other exterior wall sheathing			
34. 1/2" fiberboard sheathing ^b	1 1/2" galvanized roofing nail (1/4" head diameter); or 1 1/2" 16 gage staple with 7/16" or 1" crown	3	6
35. 2 1/2" fiberboard sheathing ^b	1 1/2" galvanized roofing nail (1/4" diameter head); or 1 1/2" 16 gage staple with 7/16" or 1" crown	3	6
Wood structural panels, combination subfloor underlayment to framing			
36. 1/4" and less	8d common (2 1/2" x 0.131"); or 6d deformed (2" x 0.113")	6	12
37. 1/2" - 1"	8d common (2 1/2" x 0.131"); or 6d deformed (2 1/2" x 0.131")	6	12
38. 1 1/4" - 1 1/2"	10d common (3" x 0.148"); or 8d deformed (2 1/2" x 0.131")	6	12
Panel siding to framing			
39. 1/2" or less	6d corrosion-resistant siding (1 1/4" x 0.106"); or 6d corrosion-resistant casing (2" x 0.099")	6	12
40. 1/2"	8d corrosion-resistant siding (2 1/4" x 0.128"); or 8d corrosion-resistant casing (2 1/2" x 0.113")	6	12

(continued)

2304.11.2 Roof framing. Every roof girder and at least every alternate roof beam shall be anchored to its supporting member; and every monitor and every sawtooth construction shall be anchored to the main roof construction. Such anchors shall consist of steel or iron bolts of sufficient strength to resist vertical uplift of the roof.

2304.11.4 Floor decks. Floor decks and covering shall not extend closer than 1/2 inch (12.7 mm) to walls. Such 1/2-inch (12.7 mm) spaces shall be covered by a molding fastened to the wall either above or below the floor and arranged such that the molding will not obstruct the expansion or contraction movements of the floor. Corbeling of masonry walls under floors is permitted in place of such molding.

2304.11.5 Roof decks. Where supported by a wall, roof decks shall be anchored to walls to resist uplift forces determined in accordance with Chapter 16. Such anchors shall consist of steel or iron bolts of sufficient strength to resist vertical uplift of the roof.

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WRITTEN DIMENSIONS ON THESE DRAWING SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTOR SHALL VERIFY, AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN ON THE DRAWINGS.

20.	1"x6" sheathing to each bearing	2-8d common 2-10d box	Face nail
21.	1"8" and wider sheathing to each bearing	3-8d common 3-10d box	Face nail
FLOOR			
22.	Joist to sill, top plate, or girder	3-8d common 3-10d box 3-3"x0.131" nails 3-3" 14 gage staples, 7/16" crown	Toenail
23.	Rim joist, band joist, or blocking to top plate, sill or other framing below	8d common 10d box 3"x0.131" nails 3" 14 gage staples, 7/16" crown	6" o.c., toenail
24.	1"x6" subfloor or less to each joist	2-8d common 2-10d box	Face nail
25.	2" subfloor to joist or girder	2-16d common	Face nail
26.	2" plank	2-16d common	Each bearing, face nail
27.	Built up girders and beams, 2" lumber layers	20d common	32" o.c. face nail at top and bottom staggered on opposite sides
		10d box 3"x0.131" nails 3" 14 gage staples, 7/16" crown	24" o.c. face nail at top and bottom staggered on opposite sides
		And 2-20d common 3-10dbox 3-3"x0.131" nails 3-3" 14 gage staples, 7/16" crown	Ends and at each splice, face nail
28.	Ledger strip supporting joists or rafters	3-16d common 4-10d box 4-3"x0.131" nails 4-3" 14 gage staples, 7/16" crown	Each joist or rafter, face nail
29.	Joist to band joist or rim joist	4-10d box 4-3"x0.131" nails 4-3" 14 gage staples, 7/16" crown	End nail
30.	Bridging or blocking to joist, rafter or truss	2-8d common 2-10d box 2-3"x0.131" nails 2-3" 14 gage staples, 7/16" crown	Each end, toenail

WOOD STRUCTURAL PANS, SUB FLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING (6)			
31.	3/8"-1/2"	6d common or deformed (2"x0.113") (subfloor and wall) 8d box or deformed (roof) 2 3/8"x0.113" nail (subfloor and wall) 1 1/4" 16 gage staple, 7/16" crown 2 3/8"x0.113" nail (roof) 1 1/4" 16 gage staple, 7/16" crown (roof)	6" edge 12" intermediate supports 4" edge 8" intermediate supports 3" edge 6" intermediate supports
32.	19/32" - 3/4"	8d common 6d deformed 2 3/8"x0.113 nail 2" 16" gage staple, 7/16" crown	6" edge 12" intermediate supports 8" intermediate supports
33.	7/8" - 1/4"	10d common 8d deformed	6" edge 12" intermediate supports
OTHER EXTERIOR WALL SHEATHING			
34.	1/2" fiberboard sheathing ^b	1 1/2" galvanized roof nail 1 1/2" 16 gage staple with 7/16" or 1" crown	3" edge 6" intermediate supports
35.	25/32" fiberboard sheathing ^b	1 1/2" galvanized roof nail 1 1/2" 16 gage staple with 7/16" or 1" crown	3" edge 6" intermediate supports
WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING			
36.	1/4" and less	8d common 6d deformed	6" edge 12" intermediate supports
37.	7/8"-1"	8d common 8d deformed	6" edge 12" intermediate supports
38.	1 1/8"-1 1/4"	10d common 8d deformed	6" edge 12" intermediate supports
PANEL SIDING TO FRAMING			
39.	1/2" or less	6d corrosion-resistant siding 6d corrosion-resistant casing	6" edge 12" intermediate supports
40.	5/8"	8d corrosion-resistant siding 8d corrosion-resistant casing	6" edge 12" intermediate supports
INTERIOR PANELING			
41.	1/4"	4d casing 4d finish	6" edge 12" intermediate supports
42.	3/8"	6d casing 6d finish	6" edge 12" intermediate supports

- For SI: 1 inch = 25.4 mm.
- a. Nails spaced at 6 inches at intermediate supports where spans are 48" or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing.
- b. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).
- c. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule and the ceiling joist is fastened to the top plate in accordance with this schedule, the number of toenails in the rafters shall be permitted to be reduced by one nail.

APPROVED FOR THE CITY OF RIVERSIDE BUILDING & SAFETY DIVISION

REVIEWED FOR COMPLIANCE. THIS APPROVAL SHALL NOT BE CONSIDERED A GUARANTEE OF THE BUILDING OR THE STATE LAW AND SHALL NOT PREVENT THE BUILDING DEPARTMENT FROM SUBSEQUENTLY ISSUING CORRECTIONS OF ANY ERROR OR OMISSION. THE JOB AT ALL TIMES AND SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.

PERMIT: 09-20 DATE: 10/4/22

CORONA DESIGN, LLC
DESIGN & ENGINEERING SERVICES
11000 WILSON AVENUE, SUITE 200
JANUARY, CA 92501
PH: (714) 371-1168
EMAIL: BOB@CORONA-DESIGN.COM
DESIGNED BY: BC

NO.	DATE	REVISIONS
1	11/05/21	BLDG. & PLANNING DEPT.
2		
3		
4		
5		

PROPOSED NEW AN AD.U. & 2- CAR GARAGE FOR
NAVARRO RESIDENCE
11375 ENCINAS DR
RIVERSIDE, CA 92505
NAILING SCHEDULE

DATE:	12.21.20
JOB NO.:	2023TIN
DRAWN:	YA
CHECKED:	BC

SHEET 08 OF 12

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10. **Administrative Requirements:** The following notes (items) represent the administrative requirements for all buildings and shall appear as notes on the plans.

A) The person in charge of the construction or installation, who is eligible under Division 3 of the Business and Professions Code to accept responsibility for the construction or installation of regulated manufactured devices shall post, or make available with the building permit(s) issued for the building, the Certificate of Installation documentation for manufactured devices regulated by the Appliance Efficiency Regulations or Part 6. Such Certificate of Installation documentation shall be made available to the enforcement agency for all applicable inspections. These certificates shall:

- i) Identify features, materials, components, manufactured devices, and system diagnostic results required to verify compliance with the Appliance Efficiency Regulations and Part 6.
- ii) State the number of the building permit under which the construction or installation was performed. Sections of the certificate(s), for which submittal to a HERS provider data registry is required, shall display the unique registration number assigned by the HERS data registry.

iii) Include a declaration statement indicating that the constructed or installed features, materials, components, or manufactured devices conform to all applicable codes and regulations, and to the requirements for such devices given in the plans and specifications approved by the local enforcement agency.

iv) Be signed by the documentation author to certify the documentation is accurate and complete.

v) Be signed by the individual eligible under Division 3 of the Business and Professions Code to accept responsibility for construction, or installation in the applicable classification for the scope of work specified on the Certificate of Installation document(s). Sec. 10-103 (a) 3 A

B) The builder shall provide the building owner or the person(s) responsible for operation and maintenance of the feature, material, component or mechanical device installed (in case of multi-tenant or centrally operated buildings) with the following at the time of occupancy:

i) Compliance information. The appropriate completed and signed Certificate(s) of Compliance, Certificate(s) of Installation, and if applicable Certificate(s) of Verification documentation submitted.

ii) Operating information. The appropriate Certificate(s) of Compliance and a list of the features, materials, components, and mechanical devices installed in the building and instructions on how to operate them correctly and efficiently.

iii) Maintenance information. Required routine maintenance actions shall be clearly stated and incorporated on a readily accessible label. The label may be limited to identifying the operation and maintenance manual.

iv) Ventilation Information. A description of the quantity of outdoor air that the ventilation system is designed to provide to the building conditioned space, and instructions for proper operation and maintenance. Sec. 10-103 (b)

C) The Enforcement agency shall not issue a Certificate of Occupancy until all required Certificates of Verification are posted and made available to the building department for all applicable inspections, and that all Certificates of Verification conform to the specifications of Section 10-103(a)5. Sec. 10-103 (d)-2

11. **Mandatory Measures:** The following circled items represent the Mandatory Measures for all buildings and **shall appear as notes on the plans**.

A) Manufactured fenestration products and exterior doors shall:

1) Have a clearly visible temporary label meeting the requirements of Sec. 10-111 (a) 1, not to be removed before inspection by the enforcement agency, listing the certified U-factor, the solar heat gains coefficient (SHGC), and Visible Transmittance (VT) certifying that the air leakage requirements of Sec. 110.6 (a) 1 are met for each product line; and

2) Have a permanent label meeting the requirements of Sec. 10-111 (a) 2 if the product is rated using NFRC procedures.

Sec. 110.6 (a)

B) Field-fabricated fenestration and field-fabricated exterior doors shall be caulked between the fenestration products or exterior door and the building, and shall be weather stripped. EXCEPTION: Unframed glass doors and fire doors.

Sec. 110.6 (b)

C) 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.

Sec. 110.7

D) All insulating material shall be installed in compliance with the flamespread rating and smoke density requirements of the CBC.

Sec. 110.8 (c)

E) No mechanical equipment nor plumbing vents shall be located within the designated "Solar Zone" areas.

Sec 110.10 (b) 1-B

F) Any roofing product used as a cool roof shall be certified and labeled in accordance with the requirements of Sec. 10-113 by the Cool Roof Rating Council (CRRC) and meet conditions set in Sec. 110.8 (i)

G) New space conditioning equipment shall meet the applicable efficiency requirements of Tables 110.2-(A-K).

Sec. 110.2 (a)

H) All unitary systems not controlled by EMCS shall have setback thermostats; capable to program temperature setpoints for at least four periods within a 24 hr. period.

Sec. 110.2 (2) (c)

I) Heat pumps with supplementary electric resistance heaters shall have controls:

1) That prevent supplementary heater operation when the heating load can be met by the heat pump alone; and

2) Cut-on temperature for compression heating is higher than cut-on temperature for supplementary heating, cut-off temperature for compression heating is higher than the cut-off temperature for supplemental heating.

Sec. 110.2 (b)

J) Unfired water tanks (storage tanks or backup storage tanks for solar water heating) shall be externally wrapped with an insulation of R-12 or greater or have internal insulation of R-16 or greater with a label showing the insulation R-value.

Sec. 150.0 (j)

K) All factory fabricated duct systems shall comply with UL 181. This includes all ducts, and closure systems such as collars, connections and splices. Labeled, complying to UL 181.

Sec. 150.0 (m)2

L) For single family dwellings and townhouses with the ducts connected directly to the air handler, the total leakage of the duct system shall not exceed 5 percent of the nominal system air handler airflow as determined utilizing the procedures in Reference Residential Appendix Section RA3.1.4.3.1. If the single-family dwellings and townhouses are in the "rough-in stage of construction" prior to installation and the air-handling unit is not yet installed the leakage shall not exceed 4 percent of the air-handler systems manufactured listed airflow.

Sec. 150.0 (m)11-A

M) All air distribution system ducts and plenums, including, but not limited to, building cavities, mechanical closets, air-handler boxes and support platforms used as ducts or plenums, shall be installed, sealed and insulated to meet the requirements of the 2019 California Mechanical Code and ANSI/SMACNA - 006.2006 HVAC Duct Construction Standards Metal and Flexible. Supply-air ducts conveying heated or cooled air shall be insulated to a minimum installed level of R-4.2 (R-6.0 in unconditioned space), unless ducts are in conditioned space.

Sec. 150.0 (m)

N) All dwelling buildings shall meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings

Sec. 150.0 (o)

O) The piping for all space conditioning and service water heating systems shall be insulated in accordance with TABLE 120.3-A.

P) Service water heating systems and equipment shall meet the applicable requirements of the Appliance Efficiency Regulations as required by Sec. 110.1.

Sec. 110.3 (b)

Q) Service hot water systems with circulating pumps or with electrical heat trace systems shall be capable of automatically turning off the system.

Sec. 110.3 (c) 2

R) Instantaneous water heaters with an input rating greater than 6.8 kBtu/hr. (2 kW) shall have isolation valves on both the cold water supply and the hot water pipe leaving the water heater. Hose bibs or other fittings shall be installed on each valve for flushing the water heater when the valves are closed. Provide detail.

Section 110.3 (c) 6

CERTIFICATE OF COMPLIANCE

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GENERAL INFORMATION

01	Project Name	ADU
02	Run Title	Title 24 Analysis
03	Project Location	11371 ENCINAS CT.
04	City	RIVERSIDE
05	Standards Version	2019
06	Zip code	92505
07	Software Version	EnergyPro 8.2
08	Climate Zone	1D
09	Front Orientation (deg/ Cardinal)	270
10	Building Type	Single family
11	Number of Dwelling Units	1
12	Project Scope	NewConstruction
13	Number of Bedrooms	2
14	Addition Cond. Floor Area (ft ²)	0
15	Number of Stories	1
16	Existing Cond. Floor Area (ft ²)	n/a
17	Fenestration Average U-factor	0.3
18	Total Cond. Floor Area (ft ²)	1200
19	Glazing Percentage (%)	21.79%
20	ADU Bedroom Count	3
21	ADU Conditioned Floor Area	1200
22	Is Natural Gas Available?	Yes

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: 421-P010014582A-000-000-0000000-0000

Registration Date/Time: 02/01/2021 13:30

HERS Provider: CHEERS

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ENERGY DESIGN RATING

	Energy Design Ratings		Compliance Margins	
	Efficiency ¹ (EDR)	Total ² (EDR)	Efficiency ¹ (EDR)	Total ² (EDR)
Standard Design	48	24.4		
Proposed Design	47.9	24.3	0.1	0.1

RESULT: ³ COMPLIES

1: Efficiency EDR includes improvements to the building envelope and more efficient equipment
2: Total EDR includes efficiency and demand response measures such as photovoltaic (PV) systems and batteries
3: Building complies when efficiency and total compliance margins are greater than or equal to zero

- Standard Design PV Capacity: 2.06 kWdc
- PV System resized to 2.06 kWdc (a factor of 2.061) to achieve 'Standard Design PV' PV scaling

ENERGY USE SUMMARY

Energy Use (KTDV/H ² -yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	6.1	7.26	-1.16	-19
Space Cooling	28.22	29.89	-1.67	-5.9
IAQ Ventilation	2.8	2.8	0	0
Water Heating	17.14	14.08	3.06	17.9
Self Utilization/Flexibility Credit	n/a	0	0	n/a
Compliance Energy Total	54.26	54.03	0.23	0.4

REQUIRED PV SYSTEMS - SIMPLIFIED

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
2.06	NA	Standard	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	100

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CITY OF RIVERSIDE
BUILDING & SAFETY DIVISION

REVIEWED FOR CODE COMPLIANCE
NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY LOCAL BUILDING ORDINANCE OR STATE LAW AND SHALL NOT PREVENT THE REQUIRED CORRECTIONS OF ANY ERROR SUBSEQUENTLY IDENTIFIED THEREAFTER. APPROVED PLANS SHALL BE KEPT ON THE JOB AT ALL TIMES AND SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.

PERMIT: [BP-2021-017-5] DATE: 10/19/22

PERFECT DESIGN & INVESTMENT, INC.

Design & Consulting
Air-Conditioning, Plumbing, Fire Sprinkler System,
Electrical, Title 24 Energy Calculation.
2416 W. Valley Blvd.
Alhambra, CA 91803
Tel: (626) 289-8808
E-Mail: PERFECTDESIGN@aol.com
F-Mail: perfectdesign@aol.com

ADU
11371 ENCINAS CT.
RIVERSIDE, CA 92505

Date 2/1/2021

Scale

Drawn

Job # G21-1289

Sheet 1

RESIDENTIAL
T24 SHEET

Of 3 Sheets

CERTIFICATE OF COMPLIANCE

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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

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 tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

Building-level Verifications:

- Quality insulation installation (QII)

Cooling System Verifications:

- Minimum Airflow
- Verified EER
- Verified Refrigerant Charge
- Fan Efficacy Watts/CFM

Heating System Verifications:

- None

HVAC Distribution System Verifications:

- Duct leakage testing
- Verified Duct Design

Domestic Hot Water System Verifications:

- None

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
ADU	1200	1	2	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	Water Heating System 2
FLOOR PLAN	Conditioned	ADU1	1200	8	DHW Sys 1	N/A

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OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (R2)	Tilt (deg)
WEST WALL	FLOOR PLAN	R-15 Wall	270	Front	358.4	41	90
EAST WALL	FLOOR PLAN	R-15 Wall	90	Back	358.4	154	90
NORTH WALL	FLOOR PLAN	R-15 Wall	0	Left	226.4	4	90
SOUTH WALL	FLOOR PLAN	R-15 Wall	180	Right	226.4	62.5	90
R-30 Roof	FLOOR PLAN	R-30 Roof Attic	n/a	n/a	1200	n/a	n/a

ATTIC

01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic FLOOR PLAN	Attic RoofFLOOR PLAN	Ventilated	5	0.25	0.75	Yes	Yes

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
WINDOWS	Window	WEST WALL	Front	270			1	41	0.3	NFRC	0.21	NFRC	Bug Screen
WINDOWS 2	Window	EAST WALL	Back	90			1	154	0.3	NFRC	0.21	NFRC	Bug Screen
WINDOWS 3	Window	NORTH WALL	Left	0			1	4	0.3	NFRC	0.21	NFRC	Bug Screen
WINDOWS 4	Window	SOUTH WALL	Right	180			1	62.5	0.3	NFRC	0.21	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
Covered Slab	FLOOR PLAN	1200	146.2	none	0	80%	No

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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-15 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	None / None	0.095	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco
Attic RoofFLOOR PLAN	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.043	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-13.0 / 2x4 Around Roof Joists: R-17.0 Insul.
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 Insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

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

WATER HEATING SYSTEMS

01	02	03	04	05	06	07
Name	System Type	Distribution Type	Water Heater Name (#)	Solar Heating System	Compact Distribution	HERS Verification
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a

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WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gall)	Energy Factor or Efficiency	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	NEEA Heat Pump Brand or Model	Tank Location or Ambient Condition
DHW Heater 1	Gas	Consumer Instantaneous	1	0	0.97-UEF	200000-Btu/Hr	0	n/a	n/a	n/a	n/a

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07	08
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Central DHW Distribution	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count
ADU1	Heating and cooling system other	Heating Component 1	Cooling Component 1	HVAC Fan 1	Air Distribution System 1	Setback	New	NA	1	1

HVAC - HEATING UNIT TYPES

01	02	03	04
Name	System Type	Number of Units	Heating Efficiency
Heating Component 1	Central gas furnace	1	AFUE:94.7

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HVAC - COOLING UNIT TYPES

01	02	03	04	05	06	07	08
Name	System Type	Number of Units	Efficiency EER/CEER	Efficiency SEER	Zonally Controlled	Multi-speed Compressor	HERS Verification
Cooling Component 1	Central split AC	1	12.2	14	Not Zonal	Single Speed	Cooling Component 1-hers-cool

HVAC COOLING - HERS VERIFICATION

01	02	03	04	05	06
Name	Verified Airflow	Airflow Target	Verified EER	Verified SEER	Verified Refrigerant Charge
Cooling Component 1-hers-cool	Required	350	Required	Not Required	Required

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
Name	Type	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification
Air Distribution System 1	Unconditioned attic	Verified Design	See duct design	See duct design	Attic	Attic	24.64	0	No Bypass Duct	Sealed and Tested	Air Distribution System 1-hers-dist

HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Air Distribution System 1-hers-dist	Yes	5.0	Not Required	Required	Not Required	Credit not taken	Not Required	No

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HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.45	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.45

IAQ (INDOOR AIR QUALITY) FANS

01	02	03	04	05	06
Dwelling Unit	IAQ CFM	IAQ Watts/CFM	IAQ Fan Type	IAQ Recovery Effectiveness (%)	IAQ Recovery Effectiveness - SREIAQ Recovery Effectiveness
Sfam IAQVentRpt	58	0.25	Default	0	n/a

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PERFECT DESIGN & INVESTMENT, INC.
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2416 W. Valley Blvd.
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ADU
11371 ENCINAS CT.
RIVERSIDE, CA 92505

CERTIFICATE OF COMPLIANCE

Project Name: ADU
Calculation Description: Title 24 Analysis

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:
Raymond Zhong
Company:
Perfect Design
Address:
2416 W. Valley Boulevard
City/State/Zip:
Alhambra, CA 91803

Documentation Author Signature:
Raymond Zhong
Signature Date:
02/01/2021
CEA/HERS Certification Identification (if applicable):
Phone:
626-289-8808



RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for this Certificate of Compliance.
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name:
Address:
City/State/Zip:

Responsible Designer Signature:

Date Signed:
License:
Phone:

Registration Number: 421-PD10146824-000-000-0000000-0000
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2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(h)3A.	Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(h)3B.	Storage Tank Insulation. Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have a minimum of R-12 external insulation or R-16 internal insulation if the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(j)1.	Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in Section 603.11 of the California Plumbing Code. In addition, the following piping conditions must have a minimum insulation wall thickness of one inch or a minimum insulation R-value of 7.7: the first five feet of cold water pipes from the storage tank; all hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than one inch; all hot water piping with a nominal diameter less than 3/4 inch that is associated with a domestic hot water recirculation system, from the heating source to storage tank or between tanks, buried below grade; and from the heating source to kitchen fixtures.*
§ 150.0(j)2A.	Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by Section 120.3(b). Insulation exposed to weather must be water resistant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(j)3.	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwellings units must include all of the following: A dedicated 125 volt, 20 amp electrical receptacle connected to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit, within three feet of the water heater without obstruction. Both ends of the unused conductor must be labeled with the word "spare" and be electrically isolated. Have a reserved single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use"; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than two inches higher than the base of the water heater; and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 20,000 Btu per hour.
§ 150.0(m)1.	Recirculating Loops. Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 150.0(m)2.	Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the Executive Director.
§ 150.0(n)3.	Ducts and Fans Measures:
§ 110.8(d)3.	Ducts: Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1.	CMC Compliance. All air-distribution system ducts and plenums must meet the requirements of the CMC §§ 601.2, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6.0 or a minimum installed level of R-4.2 when ducts are entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1, 4.3.B). Portions of the duct system completely exposed and surrounded by directly conditioned space are not required to be insulated. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than 1/4 inch, the combination of mastic and other mesh or tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause reductions in the cross-sectional area.
§ 150.0(m)2.	Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures, joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3.	Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7.	Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8.	Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9.	Protection of Insulation. Insulation must be protected from damage, sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water resistant and provides shielding from solar radiation.
§ 150.0(m)10.	Porous Inner Core Flex Duct. Porous inner core flex ducts must have a non-porous layer between the inner core and outer vapor barrier.
§ 150.0(m)11.	Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)11 and Reference Residential Appendix RA3.
§ 150.0(m)12.	Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have two inch depth or can be one inch if sized per Equation 150.0.A. Pressure drops and labeling must meet the requirements in § 150.0(m)12. Filters must be accessible for regular service.*
§ 150.0(m)13.	Space Conditioning System Airflow Rate and Fan Efficiency. Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficiency ≤ 0.45 watts per CFM for gas turbine air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficiency ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3.*



2019 Low-Rise Residential Mandatory Measures Summary

Requirements for Ventilation and Indoor Air Quality:	
§ 150.0(o)1.	Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1.
§ 150.0(o)1C.	Single Family Detached Dwelling Units. Single family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow provided at rates determined by ASHRAE 62.2 Sections 4.1.1 and 4.1.2 and as specified in § 150.0(o)1C.
§ 150.0(o)1E.	Multifamily Attached Dwelling Units. Multifamily attached dwelling units must have mechanical ventilation airflow provided at rates in accordance with ASHRAE 62.2 Sections 4.1.1 and 4.1.2 and as specified in § 150.0(o)1E.
§ 150.0(o)1F.	Multifamily Building Central Ventilation Systems. Central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow for each dwelling unit served at a rate equal to or greater than that specified by Equation 150.0.A. All unit airflows must be within 20 percent of the unit with the lowest airflow rate as it relates to the individual unit's minimum required airflow rate needed for compliance.
§ 150.0(o)2.	Kitchen Range Hoods. Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE 62.2.
§ 150.0(o)2.	Field Verification and Diagnostic Testing. Dwelling unit ventilation airflow must be verified in accordance with Reference Residential Appendix RA3.7. A kitchen range hood must be verified in accordance with Reference Residential Appendix RA3.7.4.3 to confirm it is rated by HVAC to comply with the airflow rates and sound requirements as specified in Section 5 and 7.2 of ASHRAE 62.2.
Pool and Spa Systems and Equipment Measures:	
§ 110.4(a).	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating.*
§ 110.4(b)1.	Piping. Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2.	Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3.	Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5.	Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p).	Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.
Lighting Measures:	
§ 110.9.	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*
§ 150.0(k)1A.	Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.
§ 150.0(k)1B.	Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.*
§ 150.0(k)1C.	Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for insulation contact (IC) labeling, air leakage, sealing, maintenance, and socket and light source as described in § 150.0(k)1C.
§ 150.0(k)1D.	Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 30 kHz.*
§ 150.0(k)1E.	Night Lights, Step Lights, and Path Lights. Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.
§ 150.0(k)1F.	Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k)1F.
§ 150.0(k)1G.	Screw Based Luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8.*
§ 150.0(k)1H.	Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.*
§ 150.0(k)1I.	Light Sources in Drawers, Cabinets, and Linen Closets. Light sources installed in drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A.	Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B.	Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems.*
§ 150.0(k)2C.	Interior Switches and Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned ON and OFF.*
§ 150.0(k)2D.	Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)2E.	Interior Switches and Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the control is installed to comply with § 150.0(k)2E.
§ 150.0(k)2F.	Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.9.



2019 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Energy Standards must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. *Exceptions may apply. (01/2020)

Building Envelope Measures:

§ 110.6(a)1.	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283 or AIAA/WMA/CSA 1011 (S.2/A449-2011).
§ 110.6(a)6.	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 110.11(a).
§ 110.6(b)1.	Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped.*
§ 110.7.	Air Leakage. All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather-stripped.*
§ 110.8(a).	Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g).	Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(h).	Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(h) and be labeled per §10.1.13 when the installation of a cool roof is specified on the CP-18.
§ 110.8(i).	Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a).	Ceiling and Rafter Roof Insulation. Minimum R-22 insulation in wood-frame ceiling, or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.*
§ 150.0(b).	Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c).	Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B.*
§ 150.0(d).	Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(i).	Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1.	Vapor Retarder. In climate zones 1 through 16, the earth floor or unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2.	Vapor Retarder. In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q).	Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58, or the weighted average U-factor of fenestration must not exceed 0.58.*
Fireplaces, Decorative Gas Appliances, and Gas Log Measures:	
§ 110.5(e).	Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1.	Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2.	Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and light-fitting damper or combustion-air control device.*
§ 150.0(e)3.	Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*
Space Conditioning, Water Heating, and Plumbing System Measures:	
§ 110.9-§ 110.3.	Certification. Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission.*
§ 110.2(a).	HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-K.*
§ 110.2(b).	Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for supplementary heating is higher than the cut-off temperature for supplementary heating.*
§ 110.2(c).	Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*
§ 110.2(c)4.	Water Heating Recirculation Loops Serving Multiple Dwelling Units. Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)4.
§ 110.3(c)6.	Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kWb per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.
§ 110.5.	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas, fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters.*
§ 150.0(h)1.	Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.



2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(k)2G.	Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with control requirements if it provides functionality of § 110.9, meets the requirements of § 110.5, meets the EMC3 requirements of § 130.0(e), and meets all other requirements in § 150.0(k)2.
§ 150.0(k)2H.	Interior Switches and Controls. A multi-sensor programmable controller may be used to comply with dimmer requirements in § 150.0(k)1 if it provides the functionality of § 110.9, and complies with all other applicable requirements in § 150.0(k)2.
§ 150.0(k)2I.	Interior Switches and Controls. In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic off functionality. If an occupant sensor is installed, it must be initially configured to manual-on operation using the manual control required under Section 150.0(k)2.
§ 150.0(k)2J.	Interior Switches and Controls. Luminaires that are or contain light sources that meet Reference Joint Appendix JA8 requirements for dimming, and that are not controlled by occupancy or vacancy sensors, must have dimming controls.*
§ 150.0(k)2K.	Interior Switches and Controls. Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 150.0(k)3A.	Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirements of § 150.0(k)3A (ON and OFF switch) and the requirements in either § 150.0(k)3A (photocell) and either a motion sensor or automatic time switch control or § 150.0(k)3A (astronomical time clock), or an EMCS.
§ 150.0(k)3B.	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, outdoor lighting for private patios, entrances, balconies, and porches, and residential parking lots and carports with less than eight vehicles per site must comply with either § 150.0(k)3A or with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3C.	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, any outdoor lighting for residential parking lots or carports with a total of eight or more vehicles per site and any outdoor lighting not regulated by § 150.0(k)3B or § 150.0(k)3D must comply with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)4.	Internally Illuminated address signs. Internally illuminated address signs must comply with § 140.8, or must consume no more than 5 watts of power as determined according to § 130.0(c).
§ 150.0(k)4.	Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for residential garages in Sections 110.9, 130.0, 130.1, 130.4, 140.8, and 141.0.
§ 150.0(k)6A.	Interior Common Areas of Low-rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be comply with Table 150.0-A and be controlled by an occupant sensor.
§ 150.0(k)6B.	Interior Common Areas of Low-rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must: i. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.8 and 141.0; and ii. Lighting installed in corridors and stairwells must be controlled by occupancy sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all designated paths of ingress and egress.
Solar Ready Buildings:	
§ 110.10(a)1.	Single Family Residences. Single family residences located in subdivisions with 10 or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b) through § 110.10(e).
§ 110.10(a)2.	Low-rise Multifamily Buildings. Low-rise multi-family buildings that do not have a photovoltaic system installed must comply with the requirements of § 110.10(b) through § 110.10(e).
§ 110.10(b)1.	Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 200 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.*
§ 110.10(b)2.	Azimuth. All sections of the solar zone located on steep-sloped roofs must be oriented between 90 degrees and 300 degrees of true north.
§ 110.10(b)3A.	Shading. The solar zone must not contain any obstructions, including but not limited to vents, chimneys, architectural features, and roof equipment.*
§ 110.10(b)3B.	Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.*
§ 110.10(b)4.	Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c).	Interconnection Pathways. The construction documents must indicate a location reserved for inverters and metering equipment and a pathway reserved for routing of conductors from the solar zone to the point of interconnection with the electrical service; and for the family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d).	Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.*
§ 110.10(e)1.	Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2.	Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric".

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name ADU	Date 2/1/2021
System Name ADU	Floor Area 1,200
ENGINEERING CHECKS	
Number of Systems	1
Heating System	
Output per System	49,000
Total Output (Btu/h)	49,000
Output (Btu/h/sqft)	40.8
Cooling System	
Output per System	33,400
Total Output (Btu/h)	33,400
Total Output (Tons)	2.8
Total Output (Btu/h/sqft)	27.8
Total Output (sqft/Ton)	431.1
Air System	
CFM per System	1,200
Airflow (cfm)	1,200
Airflow (cfm/sqft)	1.00
Airflow (cfm/Ton)	431.1
Outside Air (%)	0.0%
Outside Air (cfm/sqft)	0.00
COIL COOLING PEAK	
CFM	581
Sensible	13,574
Latent	553
COIL HTG. PEAK	370
CFM	14,018
Return Ventilation Lighting	
Return Air Ducts	779
Return Fan Ventilation	0
Supply Fan	0
Supply Air Ducts	779
TOTAL SYSTEM LOAD	
CFM	15,002
Sensible	553
Latent	15,575
HVAC EQUIPMENT SELECTION	
CARRIER 24AB336/58MVC-80-14 (3 TON)	25,860
4,517	49,000
Total Adjusted System Output	
(Adjusted for Peak Design conditions)	25,860
4,517	49,000
TIME OF SYSTEM PEAK	
Aug 3 PM	Jan 1 AM

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