



CITY OF CAMPBELL
Community Development Department

COURTESY NOTICE OF NEW PLANNING APPLICATION

March 15, 2022

Dear Campbell Resident,

The following provides a brief description of a proposed project in your neighborhood. As a courtesy notice, this letter is intended to provide members of the public an early opportunity to become engaged in the planning process. If you should have any questions about the project, the contact information of the Project Planner has been provided below. Alternatively, you may visit the Planning Division to view the project plans. Before a decision is reached you will receive a formal notice providing another opportunity for public comment.

Project Address: 1361 Olympia Ave.

Zoning | Area Plan: R-1-8 | CVNP

Neighborhood Association(s): Campbell Village Neighborhood Assoc.

File No.: PLN-2022-22

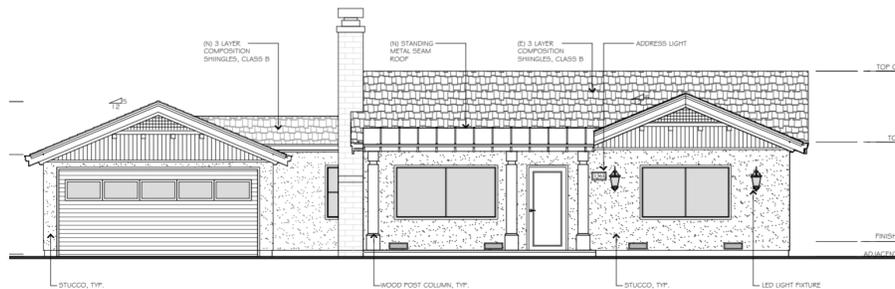
APN: 414-04-021

Applicant: TDDG LLC

Property Owner: Ss Realty LLC

Application Type: Administrative Site and Architectural Review Permit

Project Description: To allow an approximately 800 sq. ft. addition to a single-family residence, including demolition of approximately 400 sq. ft. of existing floor area.



PROPOSED FRONT ELEVATION
SCALE: 1/8"=1'-0"

Project Planner: Daniel Fama, Senior Planner

Email Contact: danielf@campbellca.gov

Phone Contact: (408) 866-2193

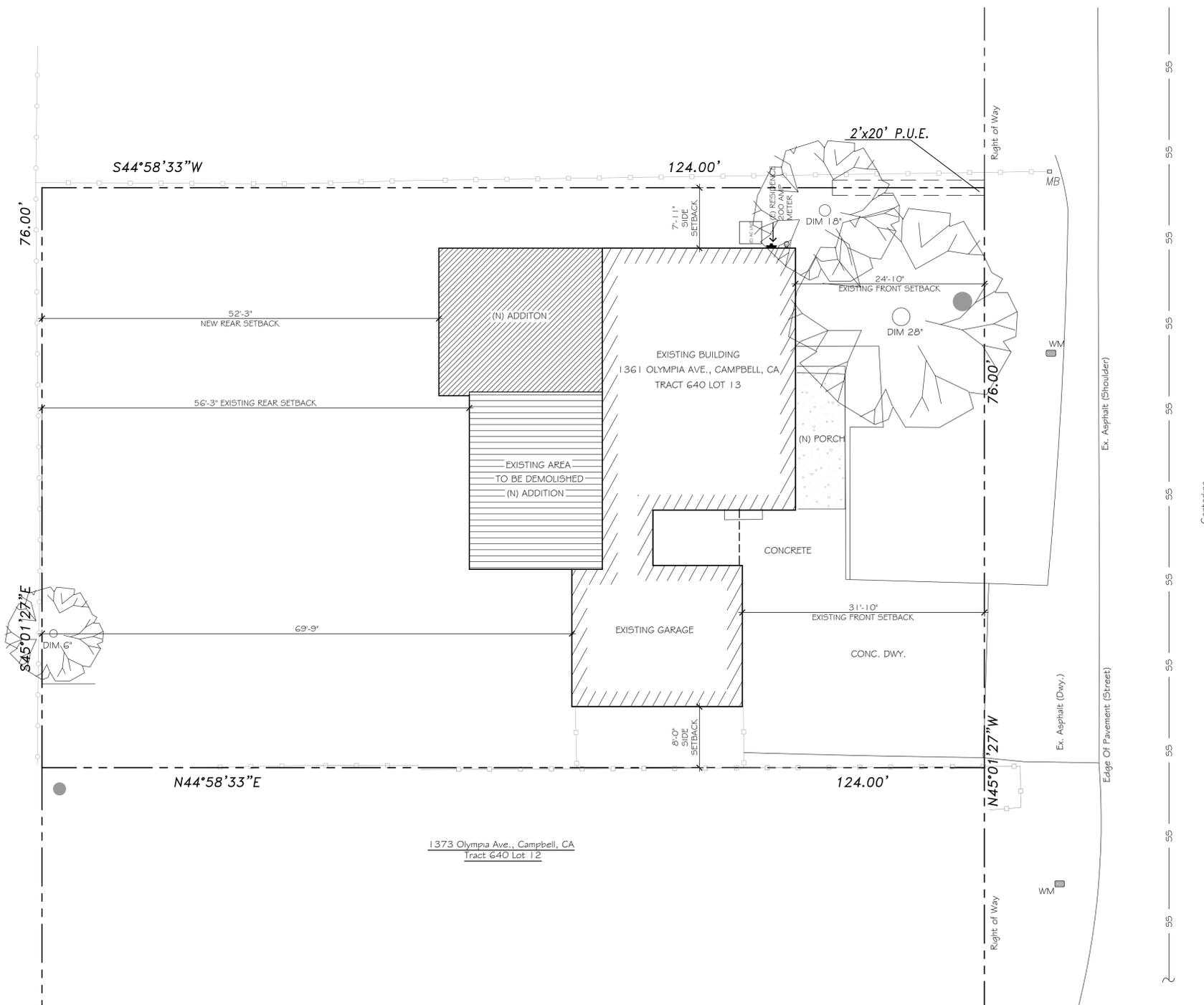
Note: This is a courtesy notice to all property owners within 300-feet of the project address. Applications may change after initial application submittal. To view the project plans, please scan the QR code:



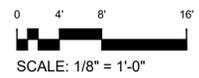


THE DESIGN & DEVELOPMENT GROUP

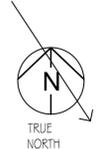
97 BOSTON AVE
SAN JOSE, CA 95126
T 650.483.9454
www.tddgus.com



OLYMPIA AVE.



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



PROJECT DESIGNER:
DE NGUYEN

THE DESIGN AND DEVELOPMENT GROUP EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS ARE NOT TO BE REPRODUCED, CHANGED, OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO A THIRD PARTY WITHOUT FIRST OBTAINING THE WRITTEN PERMISSION AND CONSENT OF TDDG, INC. IN THE EVENT OF UNAUTHORIZED REUSE OF THESE PLANS BY A THIRD PARTY, THE THIRD PARTY SHALL HOLD THE DESIGN AND DEVELOPMENT GROUP HARMLESS.

NO.	DATE	REVISION

Project Name:
Remodel & Addition
1361 OLYMPIA AVE.
CAMPBELL, CA 95008

DATE:	10/17/21	Sheet Number:
JOB NO.:	2021-35	A1
SCALE:	AS SHOWN	
DRAWN BY:	DN	
Project No.: 2021		

EXISTING HABITABLE AREA TO KEEP:

- A 34'-4" x 25'-5" = 832.68 SF
- B 7'-3" x 11'-3" = 48.33 SF

EXISTING HABITABLE AREA
 TO DEMOLISH AND REBUILD

- C 22'-3" x 4'-0" = 89.00 SF
- D 22'-9" x 13'-6" = 307.13 SF

TOTAL EXISTING HABITABLE AREA:

= 1,277.14 SF

ADDED HABITABLE AREA:

- E 19'-4" x 21'-6" = 415.89 SF

TOTAL PROPOSED HABITABLE AREA:

= 1,693.03 SF

GARAGE:

- F 18'-6" x 22'-5" = 414.71 SF

TOTAL EXISTING FLOOR AREA:

= 1,691.85 SF

TOTAL PROPOSED FLOOR AREA:

= 2,107.74 SF

(E)PORCH:

22.17 SF

(N)PORCH:

- G 7'-3" x 8'-10" = 64.01 SF
- H 18'-9" x 6'-2" = 115.49 SF

TOTAL PORCH AREA:

= 179.50 SF

LOT AREA:

= 9,424.00 SF

EXISTING F.A.R.:

$1,691.85/9,424.00 = 18.0\%$

PROPOSED F.A.R.:

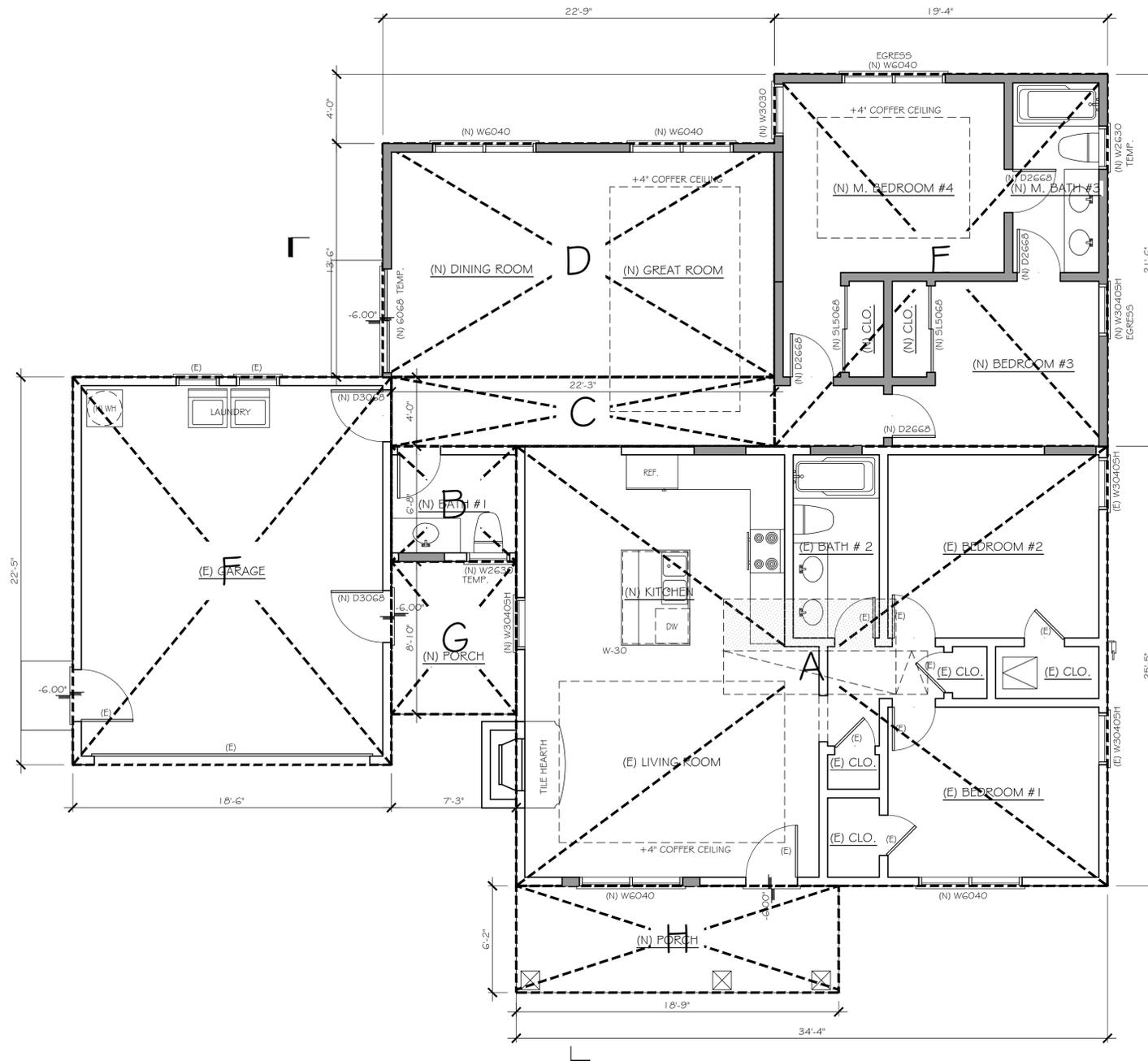
$2,107.74/9,424.00 = 22.4\%$

EXISTING LOT COVERAGE:

$(1,691.85+22.17)/9,424.00 = 18.2\%$

PROPOSED LOT COVERAGE

$(2,107.74+179.50)/9,424.00 = 24.3\%$



F.A.R.

PROJECT DESIGNER:
 DE NGUYEN

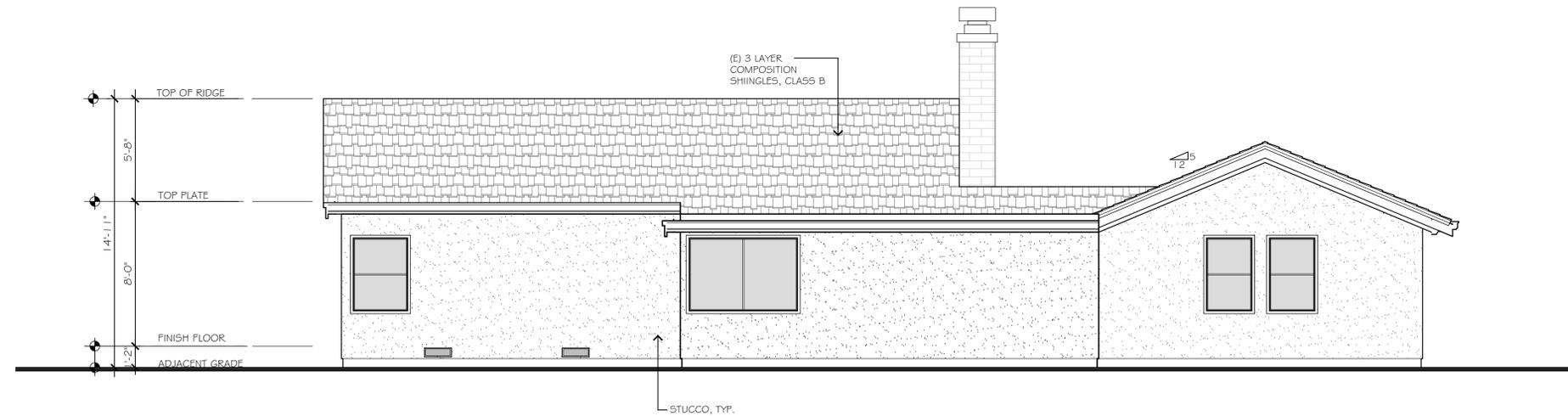
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NO.	DATE	REVISION

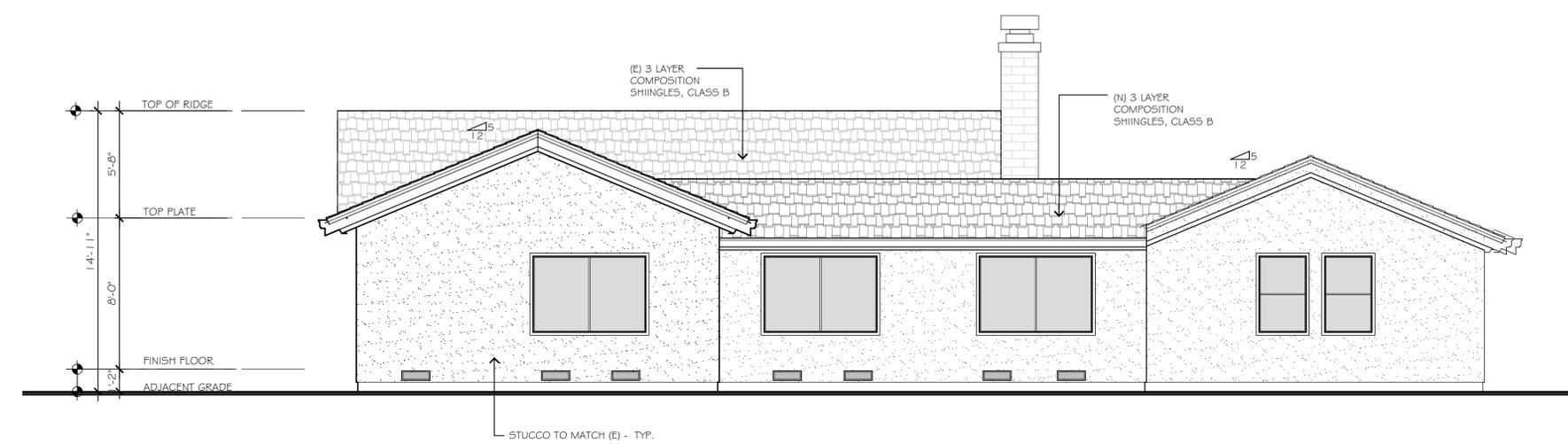
Project Name:

Remodel & Addition
1361 OLYMPIA AVE.
CAMPBELL, CA 95008

DATE:	10/17/21	Sheet Number:
JOB NO.:	2021-35	FAR
SCALE:	AS SHOWN	
DRAWN BY:	DN	
Project No.:		2021



EXISTING REAR ELEVATION
SCALE: 1/4"=1'-0"



PROPOSED REAR ELEVATION
SCALE: 1/4"=1'-0"

NOTES:

1. A MINIMUM 1/2" PER FT OF SLOPE AROUND THE BUILDING FOR DISTANCE OF AT LEAST 30 INCHES AWAY EXTERIOR WALLS.
2. BUILDING ADDRESS NUMBERS AND ADDRESSES SHALL BE PLACED ON ALL NEW AND EXISTING BUILDING IN SUCH A POSITION AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. SAID NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND, AND BE A MINIMUM 4" HIGH, WITH A MINIMUM OF ONE-HALF INCH STROKE AND SHALL BE EITHER INTERNALLY OR EXTERNALLY ILLUMINATED IN ALL NEW CONSTRUCTION, ALTERATIONS OR REPAIR OF EXISTING CONSTRUCTION. THE POWER OF SUCH ILLUMINATION SHALL NOT BE NORMALLY SWITCHABLE.
3. ALL MATERIALS APPLIED AS ROOF COVERING ON ANY STRUCTURE REGULATED BY THIS CODE SHALL HAVE A FIRE RETARDANT RATING OF CLASS A OR B. ALL WOOD STRUCTURES ARE REQUIRED TO HAVE A MINIMUM OF CLASS 'C' ROOF COVERING.
4. FLASHING AND COUNTERFLASHING. PER 2016 C.R.C., EXTERIOR OPENING EXPOSED TO THE WEATHER SHALL BE FLASHED IN SUCH A MANNER AS TO MAKE THEM WEATHERPROOF.
5. EXTERIOR STUCCO: 3-COATS, 7/8" MINIMUM THICK W/ TWO LAYERS OF GRADE D PAPER UNDER STUCCO WHERE OCCURS OVER PLYWOOD SHEATHING W/ 26 GA GALV. WEEP SCREED AT FOUNDATION PLATE LINE AT LEAST 4" ABOVE GRADE (OR 2 INCHES ABOVE CONCRETE OR PAVING).

PROJECT DESIGNER:
DE NGUYEN

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NO.	DATE	REVISION

Project Name:

Remodel & Addition
1361 OLYMPIA AVE.
CAMPBELL, CA 95008

DATE: 10/17/21
JOB NO.: 2021-35
SCALE: AS SHOWN
DRAWN BY: DN

Sheet Number:
A3.3

Project No.: 2021

FOUNDATION NOTES

- THE SPECIFICATIONS, GENERAL NOTES ON SHEET SD-0 AND THE FOLLOWING APPLY TO THE WORK OF THE FOUNDATION.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL FLOOR PLAN AND NOTIFY THE ARCHITECT/DESIGNER AND ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING WORK.
- ALL FOUNDATION HARDWARE SHALL BE SECURELY TIED IN PLACE PRIOR TO FOUNDATION INSPECTION AND POURING OF CONCRETE.
- SLOPE GARAGE SLAB TO DRAIN.
- INSTALL SAWCUT JOINTS IN GARAGE AT 10' O.C. MAX EACH DIRECTION.
- BUILDING FOUNDATIONS SHALL BE SETBACK FROM ADJACENT SLOPES PER CBC

FOUNDATION LEGEND

- SHEAR WALL CALLOUT INDICATES SHEAR WALL TYPE, LOCATION AND LENGTH OF PANEL. REFER TO SHEAR WALL SCHEDULE AND ANCHOR BOLT SCHEDULE FOR MORE INFORMATION.
- INDICATES SHEAR PANEL APPLIED TO ENTIRE WALL, INCLUDING ABOVE AND BELOW WALL OPENING. INSTALL AB PER SCHEDULE ALONG FULL LENGTH OF WALL.
- INDICATES POST AND SIMPSON HOLDOWN ANCHOR. REFER TO MANUFACTURER'S MANUAL FOR ADDITIONAL REQUIREMENTS.
- INDICATES POST WITH COLUMN BASE TO FOUNDATION.
- TOTAL NUMBER OF ANCHOR BOLTS.
- INDICATES 2X FLOOR JOISTS @ 16" O.C. U.N.O. WITH 3/4" THICK FLOOR SHEATHING AS SPECIFIED ON SHEET SD0.

FOOTING & SLAB SCHEDULE

LOCATION	W X D (in.)	REINF.
EXT. CONT.	12 X 12	1-#4 T & B
INT. CONT.	12 X 12	1-#4 T & B
ISOLATED PAD	18" D MIN.	#4 @ 8" O.C. E. W.
GRADE BM.	MATCH PERIMETER FTG.	MATCH PERIMETER FTG.
SLAB ON GRADE	4" MIN. (NET) OVER 15MIL POLYETHYLENE (MIN 6" JOINTS LAPPED) OVER 4" 1/2" DRAIN ROCK	#4 @ 16" O.C.E.W.

SEE DETAILS ON SHEET SD-1 FOR DEFINITION OF W & D

ANCHOR BOLT SCHEDULE

Anchor Bolt Sch. No.	Construction	Sill Plate
	5/8" A.B. @ 32" OC.	2X
	5/8" A.B. @ 24" OC.	2X
	5/8" A.B. @ 16" OC.	2X
	5/8" A.B. @ 16" OC.	3X

NOTES

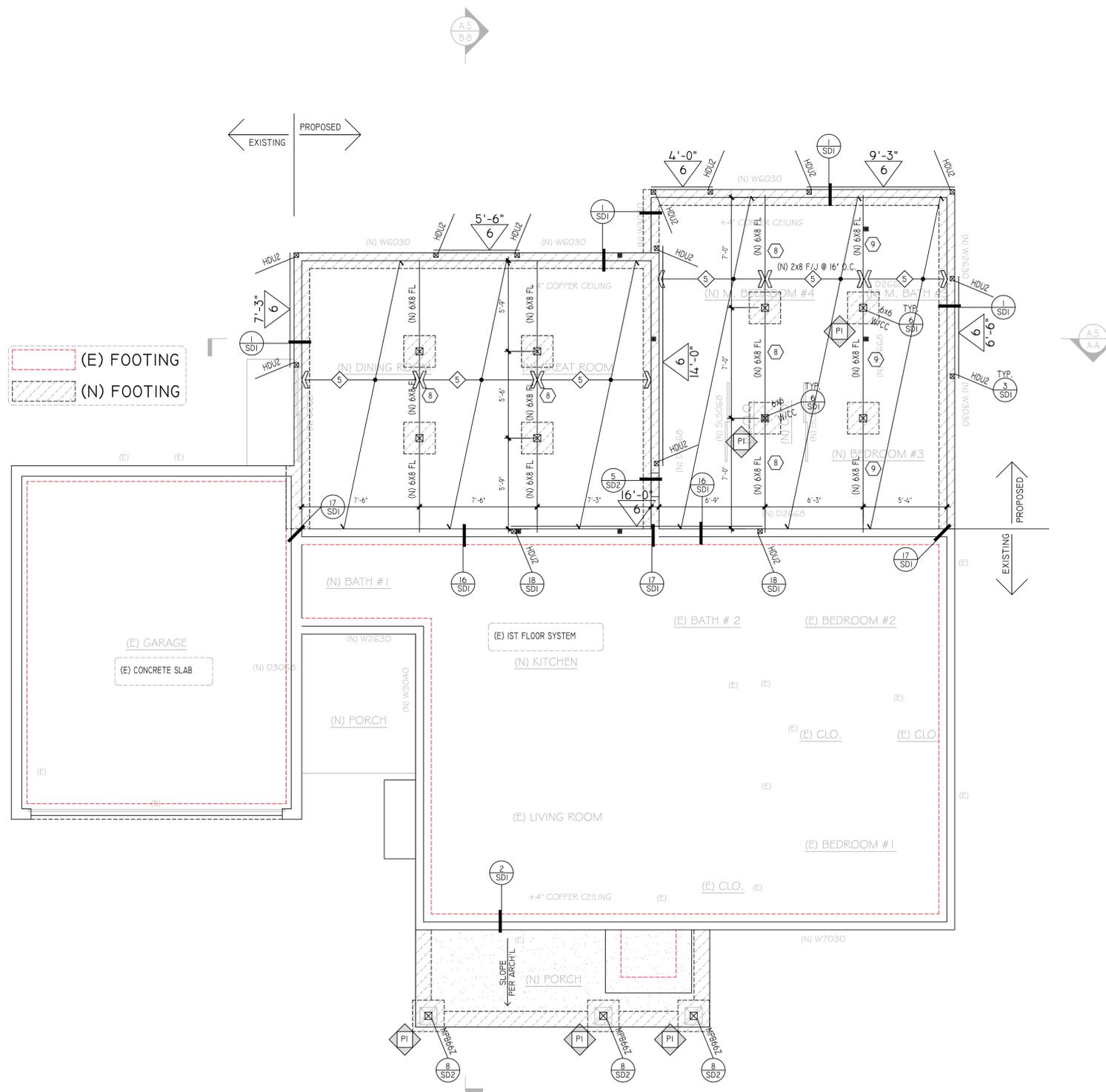
- FOR NON-SHEAR WALL USE 5/8" A.B. @ 48" O.C. MIN.
- FOR INTERIOR NON-SHEAR WALL USE 0.145" SHOT PINS @ 24" O.C. MIN. (SEE SD0 FOR SPEC.)
- ALL ANCHOR BOLTS REQUIRE SQUARE PLATE WASHERS 3"x3"x.225"
- HOT DIPPED GALVANIZE CONNECTORS REQUIRED WHEN IN CONTACT WITH PRESSURE TREATED LUMBER
- SEE SD-0 FOR REQUIRED SPECIAL INSPECTIONS.
- 3"x3"x 0.225" PLATE WASHERS SHALL BE PROVIDED AT ANCHOR BOLTS BETWEEN THE SILL PLATE AND THE NUT PER CBC SECTION 2308.12.8
- THE ANCHOR BOLT PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) WITH SHEATHING OR OTHER MATERIAL WITH NOMINAL UNIT SHEAR CAPACITY GREATER THAN 400 PLF FOR WIND OR SEISMIC PER 2015 SDPWS SECTION 4.3.6.4.3.
- LATERAL DESIGN VALUE FOR 5/8" Ø BOLT, Z_{max} = 930 LB FOR 2x D.F. / 1180 LBS FOR 3x D.F. PER 2015 NDS TABLE 12E FOR SAWN LUMBER TO CONCRETE

PAD SCHEDULE

- 1'-6" SQ. X 18" DEEP PAD W/ (3) #4 E.W. @ BOTT.
- 2'-0" SQ. X 18" DEEP PAD W/ (4) #4 E.W. @ BOTT.
- 2'-6" SQ. X 18" DEEP PAD W/ (5) #4 E.W. @ BOTT.
- EXISTING PAD FOOTING TO STAY

FRAMING SCHEDULE

- 2X10 ROOF RAFTERS @ 16" O.C.
- 2X8 ROOF RAFTERS @ 16" O.C.
- 2X10 CEILING JOISTS @ 16" O.C.
- 2X8 CEILING JOISTS @ 16" O.C.
- 2X8 FLOOR JOISTS @ 16" O.C.
- 2-2X8 FLOOR JOISTS @ 16" O.C.
- EXISTING STRUCTURE SYSTEM.



PROPOSED 1ST FLOOR & FOUNDATION PLAN

SCALE 1/4"=1'-0"

TRANVU, LLC

SURVEYING - ENGINEERING - DESIGNING

526 Calero Ave, San Jose, CA 95123
Tel: (408) 425-4523
Fax: (888) 226-8603
Email: info@tranvu.com

SEAL:



DATE: 01-04-2021

DRAWN BY: T.K. CHECKED BY: T. T.

REVISION	DATE	DESCRIPTION

1361 OLYMPIA AVE ADDITION & REMODELING

1361 OLYMPIA
CAMPBELL, CA 95008

OWNER

1361 OLYMPIA AVE
CAMPBELL, CA 95008

SCALE: AS SHOWN

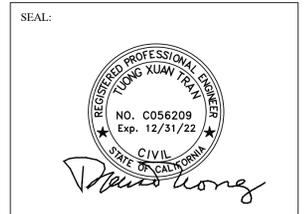
PROPOSED FOUNDATION & FOUNDATION NOTES

PROJECT NO:

SHEET:

S1

526 Calero Ave, San Jose, CA 95123
Tel: (408) 425-4523
Fax: (888) 226-8603
Email: info@tranvu.com



DATE: 01-04-2021

DRAWN BY: T.K. CHECKED BY: T. T.

REVISION	DATE	DESCRIPTION

**1361 OLYMPIA AVE
ADDITION & REMODELING**

1361 OLYMPIA
CAMPBELL, CA 95008

OWNER

1361 OLYMPIA AVE
CAMPBELL, CA 95008

SCALE: AS SHOWN

**PROPOSED FRAMING PLAN
FRAMING NOTES**

PROJECT NO: SHEET:
S1

FRAMING SCHEDULE

1	2X10 ROOF RAFTERS @ 16" O.C.
2	2X8 ROOF RAFTERS @ 16" O.C.
3	2X10 CEILING JOISTS @ 16" O.C.
4	2X8 CEILING JOISTS @ 16" O.C.
5	2X8 FLOOR JOISTS @ 16" O.C.
6	2-2X8 FLOOR JOISTS @ 16" O.C.
E	EXISTING STRUCTURE SYSTEM.

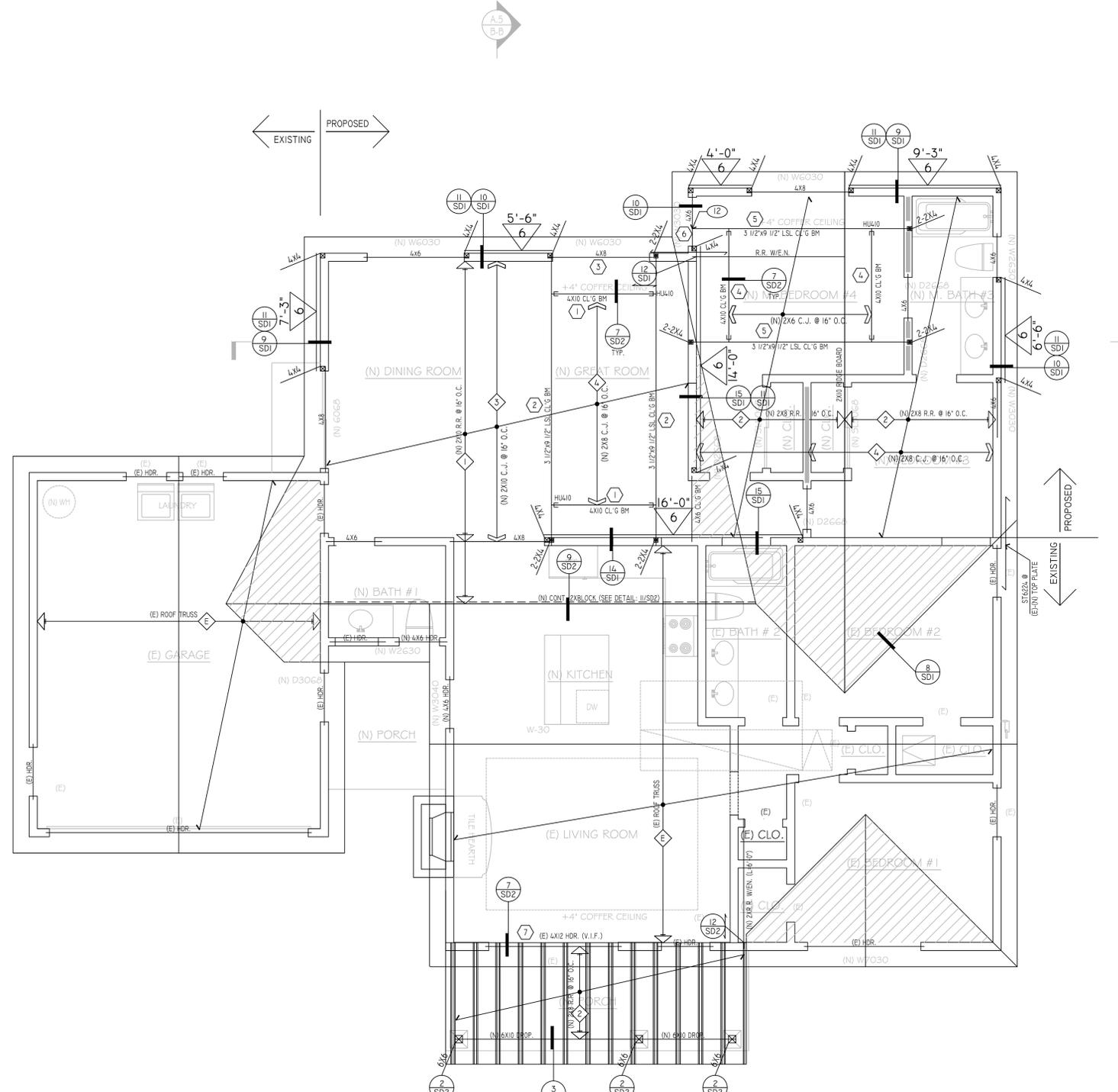
- FRAMING NOTES**
- THE SPECIFICATIONS, GENERAL NOTES ON SHEET SD-0, GENERAL STRUCTURAL DETAILS ON STRUCTURAL DETAIL SHEETS AND THE FOLLOWING APPLY TO THE WORK OF THE ROOF FRAMING
 - CONTRACTOR SHALL CHECK ROOF FRAMING DIMENSIONS AGAINST THE ARCHITECTURAL PLAN AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY OMISSIONS AND/OR DISCREPANCIES BEFORE STARTING WORK.
 - ALL WALLS ARE TO BE 2x4 STUDS @ 16" O.C. UNLESS OTHERWISE NOTED.
 - SEE ARCHITECTURAL PLANS FOR LOCATIONS OF 2x6 PLUMBING WALLS.
 - BEARING HEADERS SPANNING 8'-0" OR MORE SHALL HAVE AT LEAST 2x2 TRIMMER CONTINUOUS TO THE SOLE PLATE AND 2-2X KING STUDS, U.O.N.
 - ALL SHEAR CONNECTORS AND BLOCKING AT PLATE LEVEL MUST BE INSTALLED PRIOR TO THE INSTALLATION OF ROOF SHEATHING.
 - ROOF SHEATHING SHALL BE AS SPECIFIED ON SHEET SD-0.
 - INTERIOR NON-BEARING WALL TOP PLATE SHALL BE 1x4 OVER 2x4.
 - NOT USED
 - BALLOON FRAME INDICATES WALL CONT. FROM SILL PLATE TO TOP PLATE DIRECTLY BELOW ROOF SHTG.
 - FOR ALL CS COILED STRAPS USE 8d NAILS ON EVERY OTHER NAIL HOLE.
 - INSTALL MIN. ST22 AT TOP PLATES, UNO ON PLANS, AT ALL 2X4 TO 2X6 WALL TRANSITIONS AND AT ALL PLATE BREAKS.
 - USE SIMPSON LUS HANGER FOR FLOOR JOIST TO FLUSH BEAM CONNECTION U.O.N.
 - USE SIMPSON FULL DEPTH HU-HANGER (MAX. - FILL ALL HOLES INCLUDING TRIANGLE HOLES) FOR BEAM TO BEAM CONNECTIONS, U.O.N.

- FRAMING LEGEND**
- RR INDICATES 2X ROOF RAFTER OR MANUFACTURED TRUSS @ 24" O.C.
 - CJ INDICATES 2X CEILING JOIST
 - FJ INDICATES 2X FLOOR JOISTS @ 16" O.C. U.O.N. WITH 3/4" THICK FLOOR SHEATHING AS SPECIFIED ON SHEET SD0.
 - FJ CANT. INDICATES CANTILEVERED FLOOR JOISTS @ 16" O.C. U.O.N.
 - 8'-0" # SHEAR WALL CALLOUT INDICATES SHEAR WALL TYPE, LOCATION AND LENGTH OF PANEL. REFER TO SHEAR WALL SCHEDULE AND ANCHOR BOLT SCHEDULE FOR MORE INFORMATION.
 - 4'-6"/5'-0"/ETC. # INDICATES MINIMUM SHEAR PANEL LENGTHS BETWEEN OPENINGS
 - INDICATES SHEAR PANEL APPLIED TO ENTIRE WALL, INCLUDING ABOVE AND BELOW WALL OPENING PER DETAIL 6/SD-3. INSTALL ANCHOR BOLTS ALONG FULL LENGTH OF WALL IF IT IS AT FIRST FLOOR.
 - INDICATES CONTINUOUS POST FROM SILL PLATE TO TOP PLATE
 - # TOTAL NUMBER OF EQUALLY SPACED A35s REQUIRED ON THE ENTIRE WALL LENGTH. AS ALTERNATE TO A35, USE (3) LS50 OR (3) LTP4 IN LIEU OF EACH SET OF (4) A35s.
 - NOT USED
 - 12 PROVIDE SOLID BLOCKING
 - BEARING WALL
 - 2 ALIGN STUD(S) / POST(S) WITH UPPER FLOOR STUD(S) / POST(S) AND PROVIDE SOLID BLOCKING BETWEEN FLOOR (PROVIDE E.N. WHEN POST IS LOCATED WITHIN S.W.)
 - # BEAM NUMBER "R" PER CALCULATIONS

SHEAR WALL SCHEDULE

SHEAR WALL No.	CONSTRUCTION			SILL PLATE	SOLE PLATE	ADJOINING PANEL EDGE	SHEAR TRANSFER CENTER TO CENTER SPACING		SHR WALL CAPACITY (k#)	
	OSB OR 3PLY PLYWD	EDGE NAILING (COMMON)	FIELD NAILING (COMMON)				16d	1/4" x 6" SDS SCREWS		
6	15/32" APA RATED	8d @6" O.C.	8d @12" O.C.	2X	2X	2X	6"	16"	24"	260
	10d @6" O.C.	10d @12" O.C.	2X	2X	2X (3)	4"	12"	16"	310	
4	15/32" APA RATED	8d @4" O.C.	8d @12" O.C.	2X	2X	2X (3)	4"	12"	16"	380
	10d @4" O.C.	10d @12" O.C.	2X	2X	2X (3)	4"	8"	12"	460	
3	15/32" APA RATED	8d @3" O.C.	8d @12" O.C.	2X	2X	2X (3)	3"	8"	12"	490
	10d @3" O.C.	10d @12" O.C.	2X	2X	2X (3)	2"	6"	8"	600	
2 (4)	15/32" APA RATED	8d @2" O.C.	8d @12" O.C.	3X	3X	3X	2"	6"	8"	640
	10d @2" O.C.	10d @12" O.C.	3X	3X	3X	2 ROW STAGG	5"	6"	770	

- NOTES:**
- SHEATHING PANEL JOINT AND SILL PLATE NAILING SHALL BE STAGGERED IN ALL CASES.
 - WHERE PANELS ARE APPLIED ON BOTH FACES OF A SHEAR WALL AND NAIL SPACING IS LESS THAN 6" ON CENTER ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS. ALTERNATIVELY, THE WIDTH OF THE NAILED FACE OF FRAMING MEMBERS SHALL BE 3" NOMINAL OR GREATER AT ADJOINING PANEL EDGES AND NAILS AT ALL PANEL EDGES SHALL BE STAGGERED.
 - IN SEISMIC DESIGN CATEGORY D, E OR F, WHERE SHEAR DESIGN VALUES EXCEED 350 PLF, ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3x MEMBER, OR TWO 2x MEMBERS FASTENED TOGETHER IN ACCORDANCE WITH CBC SECTION 2306.1 TO TRANSFER THE DESIGN SHEAR VALUE BETWEEN FRAMING MEMBERS. WOOD STRUCTURAL PANEL JOINT AND SILL PLATE NAILING SHALL BE STAGGERED AT ALL PANEL EDGES.
 - FRAMING AT ADJOINING PANEL EDGES SHALL BE 3X OR THICKER, AND NAILS SHALL BE STAGGERED WHERE NAILS ARE SPACE 2" O.C.
 - NOMINAL UNIT SHEAR CAPACITIES ARE BASED ON TABLE 4.3A 2015 SDPWS NOMINAL UNIT SHEAR CAPACITIES WITH ASD ALLOWABLE UNIT SHEAR CAPACITY FACTOR OF 0.5.



PROPOSED FRAMING PLAN

SCALE 1/4"=1'-0"

SIMPSON STRONG WALLS

SIMPSON STRONG WALLS ARE SPECIFIED ON THE PLANS BY THE MODEL SET UP. ALL INSTALLATION AND MATERIAL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ICB0 REPORT #PFC-5485.

2. SIMPSON STRONG-WALL CONCRETE TEMPLATES MUST BE USED FOR ALL SIMPSON STRONG-WALL INSTALLATIONS AND MUST BE INSTALLED PRIOR TO FOUNDATION INSPECTIONS.

ABBREVIATIONS

DL	DEAD LOAD	SW	SHEAR WALL / STRONG WALL
GLB	GLU-LAM BEAM	TS	TIMBERSTRAND
LL	LIVE LOAD	TYP	TYPICAL
ML	MICROLAM	CBC	CALIFORNIA BUILDING CODE
OD	OUTSIDE DIAMETER	UNO	UNLESS NOTED OTHERWISE
PL	PARALLAM	OC	ON CENTER
ES	EACH SIDE	MB	MACHINE BOLT
CA	GAZE	AB	ANCHOR BOLT
NG	NATURAL GRADE	FF	FINISH FLOOR
FG	FINISH GRADE	BN	BOUNDARY NAILING

WASHER SCHEDULE

BOLT SIZE	WASHER SIZE
5/8"	3" SQ. X 1/4"
3/4"	3 1/4" SQ. X 5/16"
7/8"	3 1/2" SQ. X 5/16"
1"	3 3/4" SQ. X 3/8"

NAILING SCHEDULE

DESCRIPTION OF BUILDING ELEMENTS	NUMBER & TYPE OF FASTENER	SPACING & LOCATION
ROOF		
1. Blocking between ceiling joists, rafters or trusses to top plate or other framing below	3-8d common (2 1/2"x0.131"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails;	Each end, toenail
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	Each end, toenail
Flat blocking to truss and web filler	2-16 d common (3 1/2" x 0.162") 3-3" x 0.131" nails	Each end
2. Ceiling joists to top plate	16d common (3 1/2"x0.162") @ 6" o.c. 3" x 0.131" nails @ 8" o.c.	Face nail
3. Ceiling joist not attached to parallel rafter, lag over partitions (no thrust) (see Section 2308.7.3.1, Table 2308.7.3.1)	3-8d common (2 1/2"x0.131"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails;	Each joist, toenail
4. Ceiling joist attached to parallel rafter (heel joint) (see Section 2308.7.3.1, Table 2308.7.3.1)	Per Table 2308.7.3.1	Face nail
5. Collar tie to rafter	3-10d common (3" x 0.148"); or 3-10d box (3" x 0.128"); or 4-3" x 0.131" nails;	Face nail
6. Rafter or roof truss to top plate (See Section 2308.7.5, Table 2308.7.5)	3-10d common (3" x 0.148"); or 3-16d box (3 1/2"x0.135"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails;	Toenail °
7. Roof rafters to ridge valley or hip rafters; or roof rafter to 2-inch ridge beam	2-16d common (3 1/2"x0.162"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails;	End nail
	3-10d common (3 1/2"x0.148"); or 3-16d box (3 1/2"x0.135"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails;	Toenail
WALL		
8. Stud to stud (not at braced wall panels)	16d common (3 1/2" x 0.162"); 10d box (3" x 0.128"); or 3" x 0.131" nails;	24" o.c. face nail
9. Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d common (3 1/2"x0.162"); 16d box (3 1/2"x0.135"); 3" x 0.131" nails;	16" o.c. face nail
10. Built-up header (2" to 2" header)	16d common (3 1/2"x0.162"); 16d box (3 1/2"x0.135"); 12" o.c. ea. edge, face nail	16" o.c. ea. edge, face nail
11. Continuous header to stud	4-8d common (2 1/2"x0.131"); or 4-10d box (3" x 0.128");	Toenail
12. Top plate to top plate	10d box (3" x 0.128"); or 3" x 0.131" nails;	12" o.c. face nail
13. Top plate to top plate, at end joints	8-16d common (3 1/2"x0.162"); or 12-3" x 0.131" nails;	Each side of end joint, face nail (min. 24" lap splice length each side of end joint)
14. Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d common (3 1/2" x 0.162"); 16d box (3 1/2" x 0.135"); or 3" x 0.131" nails;	16" o.c. face nail
15. Bottom plate to joist, rim joist, band joist or blocking at braced wall panels	2-16d common (3 1/2" x 0.162"); or 3-16d box (3 1/2" x 0.135"); or 4-3" x 0.131" nails;	16" o.c. face nail
16. Stud to top or bottom plate	4-8d common (2 1/2" x 0.131"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails;	Toenail
	2-16d common (3 1/2" x 0.162"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails;	End nail
17. Top or bottom plate to stud	2-16d common (3 1/2" x 0.162"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails;	End nail
18. Top plates, laps at corners and intersections	2-16d common (3 1/2" x 0.162"); or 3-10d box (3" x 0.128"); or 2-3" x 0.131" nails;	Face nail
19. 1" brace to each stud and plate	2-8d common (2 1/2" x 0.131"); or 2-10d box (3" x 0.128"); or 2-3" x 0.131" nails;	Face nail
20. 1" x 6" sheathing to each bearing	2-8d common (2 1/2" x 0.131"); or 2-10d box (3" x 0.128");	Face nail
21. 1" x 8" and wider sheathing to each bearing	3-8d common (2 1/2" x 0.131"); or 3-10d box (3" x 0.128");	Face nail

DESCRIPTION OF BUILDING ELEMENTS	NUMBER & TYPE OF FASTENER	SPACING & LOCATION
FLOOR		
22. Joist to sill, top plate, or girder	3-8d common (2 1/2" x 0.131"); or 3-3" x 0.131" nails;	Toenail
23. Rim joist, band joist, or blocking to top plate, sill or other framing below	8d common (2 1/2" x 0.131"); or 10d box (3" x 0.128"); or 3" x 0.131" nails;	6" o.c., toenail
25. 2" subfloor to joist or girder	2-16d common (3 1/2" x 0.162")	Face nail
26. 2" planks (plank & beam-floor & roof)	2-16d common (3 1/2" x 0.162")	Each bearing, face nail
	20d common (4" x 0.192")	32" o.c., face nail at top and bottom staggered on opposite sides
	10d box (3" x 0.128"); or 3" x 0.131" nails;	24" o.c., face nail at top and bottom staggered on opposite sides
27. Built-up girders and beams, 2" lumber layers	And: 2-20d common (4" x 0.192"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails;	Ends and at each splice, face nail
28. Ledger strip supporting joists or rafters	3-16d common (3 1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails;	Each joist or rafter, face nail
29. Joist to band joist or rim joist	3-16d common (3 1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails;	End nail
30. Bridging or blocking to joist, rafter or truss	2-8d common (2 1/2" x 0.131"); or 2-10d box (3" x 0.128"); or 2-3" x 0.131" nails;	Each end, toenail

WOOD STRUCTURAL PANELS (WSP), SUBFLOOR, ROOF AND INTERIOR WALL SHEATING TO FRAMING AND PARTICLEBOARD WALL SHEATING TO FRAMING	Edges (inches)	Intermediate supports (inches)
6d common or deformed (2"x0.113") (subfloor and wall)	6	12
8d box or deformed (2 1/2"x0.113") (roof)	6	12
2 3/8"x0.113" nail (subfloor and wall)	6	12
2 3/8" x 0.113" nail (roof)	4	8
32. 19/32"-3/4"	8d common (2 1/2" x 0.131"); or 8d deformed (2" x 0.113") 2 3/8" x 0.113" nail;	6 12
33. 7/8" - 1 1/4"	10d common (3" x 0.148"); or 8d deformed (2 1/2" x 0.131")	6 12
OTHER EXTERIOR WALL SHEATING		
34. 1/2" fiberboard sheathing ^b	1 1/2" galvanized roofing nail (7/16" head diameter);	3 6
35. 25/32" fiberboard sheathing ^b	1 3/4" galvanized roofing nail (7/16" diameter head);	3 6

WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING	Edges (inches)	Intermediate supports (inches)
8d common (2 1/2" x 0.131"); or 8d deformed (2" x 0.113")	6	12
37. 7/8" - 1 1/4"	8d common (2 1/2" x 0.131"); or 8d deformed (2 1/2" x 0.131")	6 12
38. 1 1/8" - 1 1/4"	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	8d corrosion-resistant siding (1 7/8" x 0.106"); or 8d corrosion-resistant casing (2" x 0.097)	6 12
40. 5/8"	8d corrosion-resistant siding (2 3/8" x 0.128"); or 8d corrosion-resistant casing (2 1/2" x 0.115")	6 12
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. 3/8"	8d casing (2" x 0.099"); or 6d finish (panel supports at 24")	6 12

For St. 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 inch(12) inches if strength is required in the panel, unless otherwise marked.

c. Where a rafter 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.

N: HARDWARE

- ALL WOOD FRAMING CONNECTORS SHALL BE SIMPSON STRONG-WALL OR APPROVED EQUAL. INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH SIMPSON'S PRODUCT AND INSTRUCTION MANUAL/CATALOG - LATEST EDITION. SUBSTITUTIONS MUST BE APPROVED IN WRITING PRIOR TO CONSTRUCTION.
- FOR BEAM TO BEAM CONNECTIONS, USE HU (MAX) HANGERS U.N.O.. FILL ALL HOLES INCLUDING TRIANGLE HOLES.
- THE FOLLOWING ARE SPECIFIC REQUIREMENTS AND/OR CLARIFICATIONS TO THE SIMPSON MANUAL:

HARDWARE	FASTENER	ANCHOR BOLT (FOR DBL. POUR)	ANCHOR BOLT (FOR MONO POUR)
HPA	16d COMMON	SS16	SS16
ST/MST	16d COMMON	SS16	SS16
PE/PC	16d SINKER	SS16	SS16
OS/OC	MACHINE BOLT	SS16	SS16
LS1HD	16d SINKER	SS16	SS16

O: SPECIAL INSPECTION

- ALL INSPECTION AND TESTS SHALL BE PERFORMED BY A QUALIFIED TESTING AGENCY RETAINED BY THE OWNER. THE SPECIAL DEPUTY INSPECTOR SHALL BE QUALIFIED AND APPROVED BY THE BUILDING DEPARTMENT, AND ACCEPTABLE TO THE ARCHITECT.
- COPIES OF ALL TEST RESULTS SHALL BE FURNISHED TO THE ENGINEER, ARCHITECT, BUILDING DEPARTMENT, AND BE AVAILABLE AT THE JOB SITE.
- FINAL REPORTS FOR ALL INSPECTIONS AND TESTING MUST BE PROVIDED. FINAL REPORTS SHALL DOCUMENT COMPLETION OF ALL INSPECTIONS AND CORRECTION OF ALL NOTED DISCREPANCIES.

O: SPECIAL INSPECTION (CONT.)

- THE DUTIES OF THE SPECIAL INSPECTOR SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF SECTION 1704 OF CBC 2019.
- FAILURE OF NOTIFICATION BY THE CONTRACTOR FOR INSPECTION ON A TIMELY BASIS MAY RESULT IN COMPLETE REMOVAL AND REPLACEMENT OF ALL WORK PERFORMED AT CONTRACTORS EXPENSE.
- SPECIAL INSPECTION IS REQUIRED FOR:
 - CONCRETE OVER 2500 PSI AT 28 DAYS
 - SAMPLING AND TESTING OF STEEL
 - VERIFICATION OF MILL REPORT AND IDENTIFICATION OF STEEL AT JOB SITE.
 - ALL FIELD WELDING
 - HIGH STRENGTH BOLTING
 - EPOXY BOLTS IN EXISTING CONCRETE OR MASONRY
 - SHEAR WALL NAILING <= 4" O.C.
- FIELD SITE VISITS BY THE ENGINEER MAY BE REQUIRED BY THE BUILDING OFFICIAL. THESE OBSERVATIONS DO NOT CONSTITUTE AN INSPECTION.

M: WOOD FRAMING

- ALL FRAMING SHALL CONFORM TO THE GRADES AS SET BY THE W.C.L.L.B. OR W.P.A. AND THE CBC AND NATIONWIDE DESIGN SPECIFICATION (N.D.S.). ALL LUMBER SHALL BEAR THE GRADE STAMP OF AN APPROVED TESTING AGENCY, EXCEPT EXPOSED LUMBER AT VISIBLE AREAS.
- ALL LUMBER USED FOR STRUCTURAL PURPOSES SHALL BE DOUGLAS FIR, COAST REGION, GRADED IN ACCORDANCE WITH THE WEST COAST LUMBER INSPECTION BUREAU. ALL LUMBER SHALL HAVE LESS THAN 19% MOISTURE CONTENT.
- UNLESS NOTED OTHERWISE, THE MINIMUM GRADE SHALL BE AS FOLLOWS:

HORIZONTAL FRAMING MEMBERS (JOISTS AND BEAMS)	D.F. #2
2X	D.F. #1
4X10 OR SMALLER	D.F. #1
4X12 OR LARGER	D.F. #1
6X	D.F. #1
8X	D.F. #1

- VERTICAL FRAMING MEMBERS (STUDS AND POSTS)

2X4	STANDARD OR STUD GRADE
2X6	D.F. STANDARD GRADE
4X4, 4X6	D.F. #2
6X6 OR LARGER	D.F. #1
- MISCELLANEOUS

SILL PLATE	P.T.D.F. STANDARD GRADE
2X TOP PLATE/SOLE PLATE	D.F. STANDARD GRADE
SHEAR BLOCKING	D.F. STANDARD GRADE
NON-STRUCTURAL BLOCKING AND BRIDGING	UTILITY

- ALL SILL PLATES BEARING ON MASONRY OR CONCRETE FOUNDATION WALL OR SLAB ON GRADE SHALL BE PRESSURE TREATED IN ACCORDANCE WITH CBC 2019 2303.1.8. MINIMUM TWO BOLTS PER PLATE WITH AT LEAST ONE BOLT BETWEEN 5-12 INCHES OF PLATE ENDS.
- BOLTS SHALL CONFORM TO ASTM A-307. ALL BOLTS THROUGH WOOD SHALL HAVE SQUARE PLATE PER WASHER SCHEDULE. BOLTS THROUGH NUTS AND WOOD BEARING SURFACE SHALL BE BORED 1/32" TO 1/16" LARGER THAN THE BOLT DIAMETER. ALL BOLTS SHALL BE RE-TIGHTENED PRIOR TO BUILDING WRAP AND DRYWALL INSTALLATION.
- LAG SCREWS SHALL CONFORM TO A.N.S.I. B.18
- PROVIDE 0.058" x 1.1/2" WIDE STEEL TIE STRAPS WITH 6-16d NAILS AT EACH SIDE WHERE PLATES ARE INTERRUPTED BY UTILITY PENETRATIONS AT NON-SHEAR WALLS. IF PENETRATION OCCURS AT SHEAR WALLS, NOTIFY THE ENGINEER PRIOR TO STARTING WORK.
- WALL FRAMING TO BE 2X STUDS AT 16" O.C. ON EXTERIOR WALLS AND 2X STUDS AT 16" O.C. ON INTERIOR WALLS. PROVIDE DOUBLE TOP PLATE ON ALL WALLS. THE MAXIMUM STUD HEIGHT FOR 2X4 EXTERIOR WALL IS 10'. THE MAXIMUM 2X4 INTERIOR WALL HEIGHT IS 14'. THE MAXIMUM NON-BEARING STUD HEIGHT FOR 2X6 STUDS IS 20' U.N.O. ON PLANS.
- FOR PORTIONS OF BUILDING FRAMED PER CONVENTIONAL FRAMING PROVISIONS IN THE CBC PROVIDE PLYWOOD/OSB PANELS WALL SHEATHING WITH 10d NAIL 6" O.C. AT EDGES AND 12" O.C. AT FIELD
- PROVIDE SINGLE JOIST UNDER NON-BEARING PARTITION PARALLEL TO JOIST. PROVIDE MINIMUM OF TWO FLOOR JOISTS BELOW BEARING WALLS U.N.O. ON PLAN.
- ROOF SHEATHING SHALL BE INSPECTED PRIOR TO PLACING INSULATION AND ROOFING.
- ALL STRUCTURAL SHEATHING SHALL BE IDENTIFIED WITH THE GRADE TRADEMARK OF THE APA - THE ENGINEERED WOOD ASSOCIATION AND SHALL MEET THE REQUIREMENTS OF PRODUCTS STANDARD PS 1-95, PS2-9, OR PMP-108. ALL SHEATHING WHICH HAS ANY EDGE OR SURFACE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE OF THE EXTERIOR TYPE. SHEATHING LESS THAN 24 INCHES IN ANY DIMENSION SHALL NOT BE USED IN SHEAR WALLS, FLOOR, OR ROOF DIAPHRAGM.

ROOF SHEATHING:
15/32 INCH A.P.A. RATED SHEATHING (EXP. 1, 3/2 / 16) WITH 8d COMMON AT 6" O.C. AT SHEATHING EDGES AND 12" O.C. AT INTERMEDIATE SUPPORT. LAY SHEATHING WITH FACE GRAIN OR STRENGTH AXIS PERPENDICULAR TO SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS

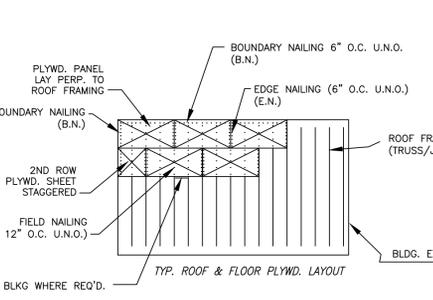
15/32 INCH OSB PANEL, PANEL EDGE CLIP, 32/16 SPAN RATING WITH 8d COMMON AT 6" O.C. AT SHEATHING EDGES AND 12" O.C. AT INTERMEDIATE SUPPORT.

FLOOR SHEATHING:
23/32 INCH APA RATED STURD-I-FLOOR, EXP. 1, T & G OR PANEL EDGE CLIP, 24" O.C. SPAN RATING WITH 10d COMMON (OR 10d RING SHANK/SCREW SHANK) AT 6" O.C. AT EDGES AND 12" O.C. AT INTERMEDIATE SUPPORT. IF (40/20). LAY SHEATHING WITH FACE GRAIN OR STRENGTH AXIS PERPENDICULAR TO SUPPORTS AND WITH SHEATHING CONTINUOUS OVER TWO OR MORE SUPPORTS.

15/32 INCH APA RATED STURD-I-FLOOR, EXP. 1, T & G OR PANEL EDGE CLIP, 20" O.C. SPAN RATING MAY BE USED IF ALL FLOOR JOISTS ARE SPACED AT 16" O.C. OR LESS

23/32 INCH OSB WITH PANEL EDGE CLIP, 40/20 SPAN RATING WITH 10d COMMON (OR 10d RING SHANK/SCREW SHANK) AT 6" O.C. AT EDGES AND 12" O.C. AT INTERMEDIATE SUPPORT.

15/32 INCH OSB WITH PANEL EDGE CLIP, 32/16 SPAN RATING MAY BE USED IF ALL FLOOR JOISTS ARE SPACED AT 16" O.C. OR LESS



- 6" AND FLOOR SHEATHING, AND SHEAR WALL PANELS, NAILING AND INSTALLATION SHALL BE INSPECTED AND APPROVED BY THE BUILDING DEPARTMENT PRIOR TO COVERING.
- STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, CONDUITS, ETC. UNLESS SPECIFICALLY DETAILED ON DRAWINGS.
- UNLESS NOTED OTHERWISE ON THE PLANS, COMPLY WITH CBC TABLE 2304.9.1 FOR NAILING SCHEDULE.
- ALL NAILS SHALL BE COMMON NAILS IN COMPLIANCE WITH FEDERAL SPECIFICATIONS FF-N-105B. SINKERS SHALL NOT BE USED UNLESS SPECIFIED OR APPROVED BY THE ENGINEER. ALL NAILS EXPOSED TO WEATHER, HEAT AND/OR MOISTURE SHALL BE GALVANIZED.
- ALL WOOD IN CONTACT WITH THE GROUND, MASONRY, OR CONCRETE WITHIN 18" OF THE GROUND SHALL BE PRESURE TREATED, OR HEAT REDWOOD/CEDAR WITH APPROVED RESISTANCE TO DECAY AND ATTACK FROM INSECTS.
- MINIMUM DIMENSION OF ROOF SHEATHING TO BE 24" PER 2008 SDPW SECTION 4.2.7

F: CONCRETE

- ALL CONCRETE MATERIALS, CONSTRUCTION AND WORKMANSHIP SHALL CONFORM TO THE LATEST ADOPTED EDITION OF THE ACI 318-11 CODE AND SPECIFICATION AND APPLICABLE CALIFORNIA BUILDING CODES.
- CONCRETE MIXES SHALL BE DESIGNED BY A RECOGNIZED TESTING LABORATORY AND SHALL BE STAMPED AND SIGNED BY A LICENSED CIVIL OR STRUCTURAL ENGINEER.
- THE CONCRETE SUPPLIER SHALL BEAR THE RESPONSIBILITY THAT THE MIX DESIGN WILL ATTAIN THE REQUIRED SPECIFIED STRENGTH AND SHRINKAGE CHARACTERISTICS.
- UNLESS NOTED OTHERWISE, CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150 TYPE I. SEE SOILS REPORT FOR SULFATE CONTENT. WHERE SULFATE EXPOSURE EXISTS, CONCRETE MIX SHALL CONFORM TO REQUIREMENTS OF CBC SECTION 1905.B.
- AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C-33. THE NOMINAL MAXIMUM SIZE OF THE AGGREGATES SHALL NOT EXCEED 1/3 SLAB THICKNESS, NOR 3/4 OF THE MINIMUM CLEAR SPACING BETWEEN REINFORCING BARS. LIGHTWEIGHT AGGREGATE SHALL CONFORM TO ASTM C-330.
- THE MAXIMUM SLUMP AT PLACEMENT SHALL NOT EXCEED 4 INCHES FOR ALL CONCRETE, U.N.O.
- NOT USED
- MINIMUM 28-DAY ULTIMATE COMPRESSIVE STRENGTH 2,500 PSI (4,000 PSI FOR DRYPACK/GROUT FOR BASE PLATES)
- CONCRETE CURING SHALL COMPLY WITH ACI 308. FORMS AND SHORING SHALL REMAIN UNDISTURBED FOR 24 HOURS FOR VERTICAL SURFACES AND 10 DAYS FOR STRUCTURAL SLABS.
- ALL REINFORCING BARS, WIRE MESH, ANCHOR BOLTS, HOLD DOWN ANCHORS, DOWELS, EMBEDDED HARDWARE, STRAPS, POST BAYS, AND OTHER CONCRETE INSERTS MUST BE WELL SECURED IN THE PROPER LOCATION, AND APPROVED BY THE BUILDING INSPECTOR PRIOR TO PLACING CONCRETE.
- NOT USED
- NOT USED
- PIPES, DUCTS, CONDUITS, ETC. SHALL NOT BE PLACED IN SLABS UNLESS APPROVED BY THE ENGR. REFER TO ARCHITECTURAL DRAWINGS FOR MOLDS, GROOVES, ACCESSORIES, LOCATION OF SLAB DEPRESSIONS, SIDEWALKS AND EXTERIOR STEPS.
- CONCRETE COVERAGE OF REINFORCING STEEL SHALL CONFORM TO THE FOLLOWING:

UNFORMED SURFACES CAST DIRECTLY AGAINST THE EARTH	AT CENTER OF SLAB
FORMED AND FINISHED SURFACES EXPOSED TO WEATHER	ALL OTHER CONCRETE: 3 INCHES
5 BAR AND SMALLER	1-1/2 INCHES
6 BAR AND LARGER	2 INCHES
- NOT USED
- A QUALIFIED GEOTECHNICAL ENGINEER SHALL CERTIFY THE PAD PRIOR TO SLAB POUR.

G: REINFORCING STEEL

- ALL REINFORCING STEEL #4 OR LARGER SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615, GRADE 60. NO. 3 REBAR MAY BE GRADE 40. ALL REINFORCING SHALL BEAR MILL STOCK IDENTIFICATION.
- WELDED WIRE MESH SHALL CONFORM TO ASTM A185 GRADE 65 FOR PLAIN WIRE AND ASTM A497 GRADE 75 FOR DEFORMED BAR.
- GRADE 60 REINFORCING BARS SHALL NOT BE RE-BENT WITHOUT THE APPROVAL OF THE ENGINEER. ALL REINFORCEMENT MUST BE CONTINUOUS TYPICALLY EXCEPT AS DETAILED.
- ALL WELDING REINFORCING STEEL SHALL CONFORM TO ASTM A-706, GRADE 60. REINFORCING STEEL WELDING SHALL CONFORM TO AWS D1.4. WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER USING LOW HYDROGEN TIG ELECTRODES. ALL FIELD WELDING SHALL BE CONTINUOUSLY INSPECTED BY A REGISTERED DEPUTY INSPECTOR. NO WELDING SHALL BE DONE AT THE BEND IN A BAR.

J: ENGINEERED BEAMS

- GLUE LAMINATED LUMBER SHALL BE OF A COMBINATION AS ESTABLISHED BY THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC), AND FABRICATED BY A LICENSED FABRICATOR IN ACCORDANCE WITH AITC 117, AND PRODUCT STANDARDS P556.
- SIMPLE SPAN BEAMS SHALL BE COMBINATION 24F-V4, DF, DF.
- CANTILEVER AND OR CONTINUOUS BEAMS SHALL BE COMBINATION 24F-V8, DF, DF.
- APPROVED INSPECTION CERTIFICATES SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO ERECTION. THE INSPECTION CERTIFICATES SHALL INCLUDE THE QUALITY CONTROL INSPECTION DATA.
- GLU-LAM BEAMS SHALL CONFORM TO AND BE MARKED ANSI/AITC STANDARD A190.1 AND FIELD INSPECTOR SHALL BE PROVIDED WITH AN APPROVED CERTIFICATION OF INSPECTION.
- PROVIDE STANDARD CAMBER UNLESS NOTED OTHERWISE ON PLAN.
- HEEL CUTS NOT ALLOWED UNLESS DETAILED ON DRAWINGS.
- INDIVIDUAL LAMINATIONS SHALL NOT EXCEED 2 INCHES IN NET THICKNESS
- MOISTURE CONTENT SHALL BE FROM 7% TO 12%.
- MINIMUM BEAMS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:

FLEXURAL STRESS	Fb = 2,400 PSI
TENSION PARALLEL TO GRAIN	Ft = 1,300 PSI
COMPRESSION PARALLEL TO GRAIN	Fc = 1,250 PSI
HORIZONTAL SHEAR PERPENDICULAR TO WIDE FACE	Fv = 240 PSI
MODULUS OF ELASTICITY	E = 1.8*6
COMPRESSION PERPENDICULAR TO GRAIN	Fc = 650 PSI
TENSION FACE	Ft = 650 PSI
COMPRESSION FACE	Fc = 650 PSI
- PARALAM BEAM

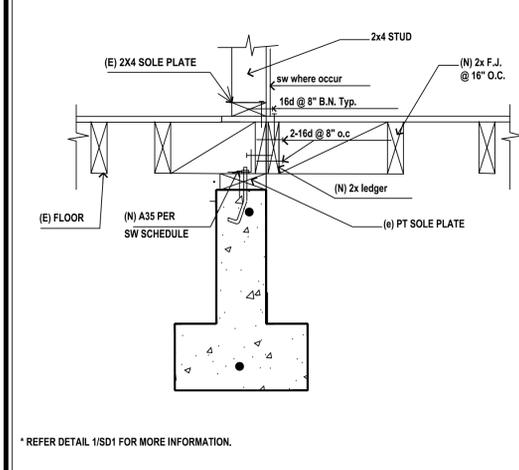
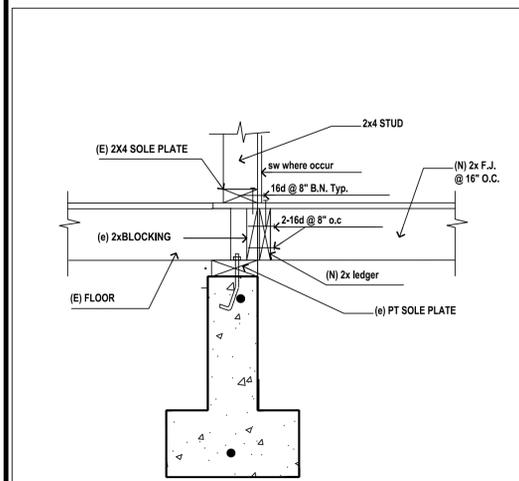
SHEAR MODULUS OF ELASTICITY	G = 137,500PSI
MODULUS OF ELASTICITY	E = 2,2X106 PSI
ADJUSTED MODULUS OF ELASTICITY	EMW = 1,118,190 PSI
DESIGNED STRESS	Fd = 2,900 PSI
COMPRESSION PERP. TO GRAIN	Fv = 750 PSI
COMPRESSION PARALLEL TO GRAIN	Fc = 2,900 PSI
HORIZONTAL SHEAR PARALLEL TO GRAIN	Fv = 290 PSI
EQUIVALENT SPECIFIC GRAVITY	SG = 0.50
DENSITY	= 45 LBS/FT ³

A: GENERAL

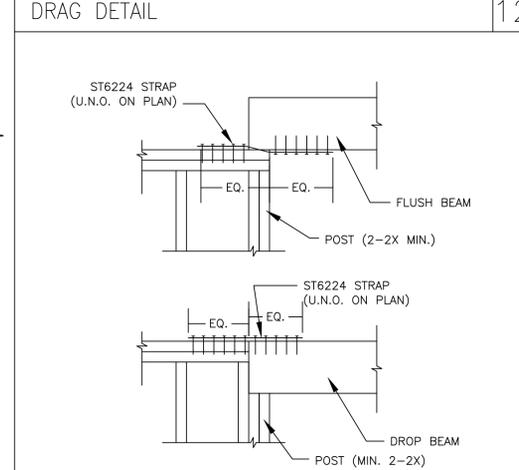
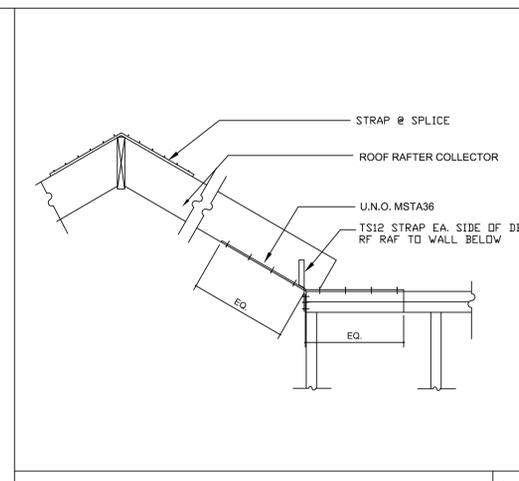
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL GRADES, DIMENSIONS, ELEVATIONS AND CONDITIONS AT THE JOB SITE PRIOR TO BIDDING AND COMMENCING CONSTRUCTION. CROSS CHECK ALL DETAILS AND DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS WITH RELATED REQUIREMENTS ON THE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND CIVIL DRAWINGS AND NOTIFY THE ENGINEER AND THE ARCHITECT/DESIGNER OF ANY DISCREPANCIES PRIOR TO STARTING WORK.
- EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE NOTED OR SHOWN IN THE PLANS OR SPECIFICATIONS, ALL PHASES OF WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE CBC 2019 (2018 IBC WITH CALIFORNIA AMENDMENTS), AS WELL AS ALL APPLICABLE STATE AND LOCAL ORDINANCES AS ADOPTED BY THE CONTROLLING JURISDICTION.
- THE CONTRACT DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE STRUCTURE SHOWN ON THESE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKMEN, AND OTHER PERSONS DURING CONSTRUCTION, SUCH AS MEASURES INCLUDE, BUT ARE NOT LIMITED TO; BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, AND SHORING FOR THE STRUCTURE.
-

TRANVU, LLC
 SURVEYING - ENGINEERING - DESIGNING

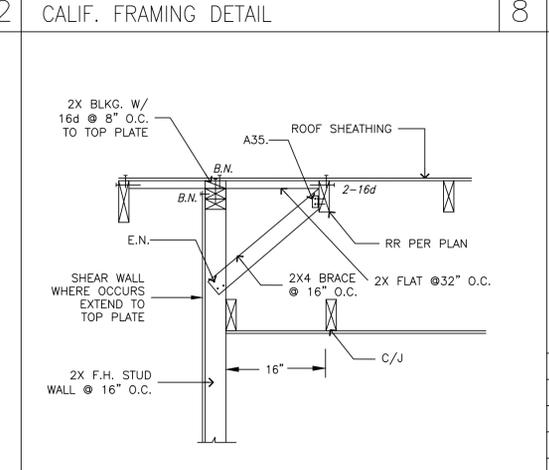
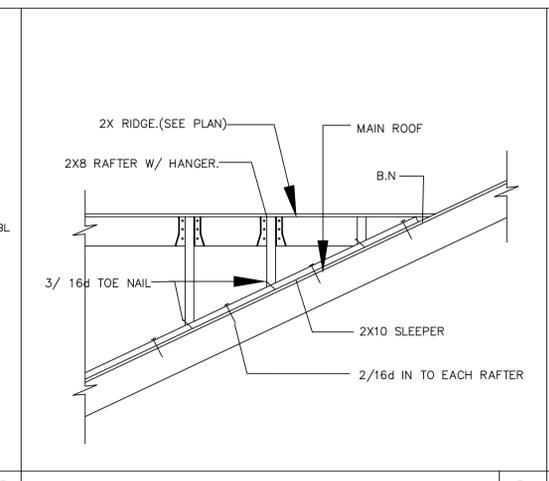
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 Email: info@tranvu.com



(N) FLOOR JOIST @ (E) FLOOR JOIST 16



TYPICAL STRAP DETAIL AT BEAMS 13



RAFTERS PARALLEL TO EXT. WALL 9

1. USE MINIMUM 10" LONG ANCHOR BOLTS WHERE 2X SILL PLATES OCCUR. USE MINIMUM 12" LONG ANCHOR BOLTS WHERE 3X SILL PLATES OCCUR. ALL ANCHOR BOLTS SHALL HAVE SUFFICIENT HEIGHT OVER TOP OF SILL PLATE TO PROPERLY INSTALL REQUIRED PLATE WASHERS AND SECURE NUTS.

2. REFER TO FOUNDATION/SLAB PLAN AND ANCHOR BOLT SCHEDULE FOR LOCATIONS OF 3X SILL PLATES.

3. THE MAXIMUM HOLE THROUGH THE SILL PLATE FOR ANCHOR BOLTS SHALL BE 1/16" LARGER THAN THE A.B. DIAMETER.

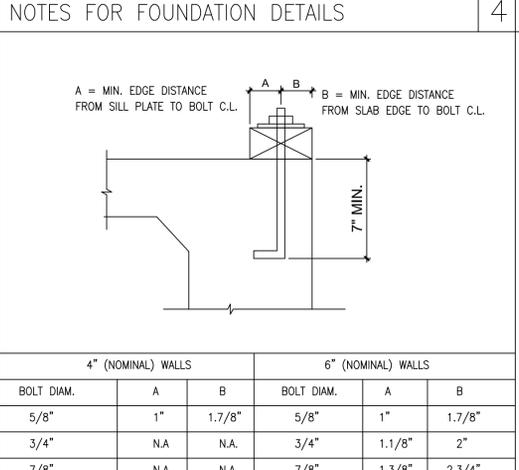
4. CRACKED OR SPLITTING SILL PLATES ARE NOT PERMITTED. REPLACE SILL PLATES WHERE SPLIT BY SHOT PINS, PLUMBING, OVER-TIGHTENED NUTS, FAULTY/PROTRUDING CONCRETE SLAB, ETC.

5. REFER TO DETAIL 5/SD-1 FOR INSTALLATION REQUIREMENTS FOR ANCHOR BOLTS.

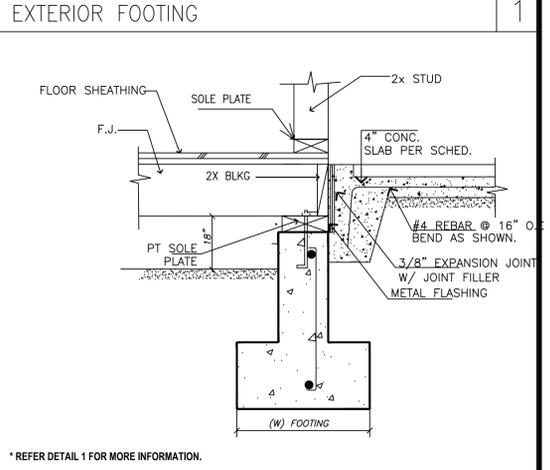
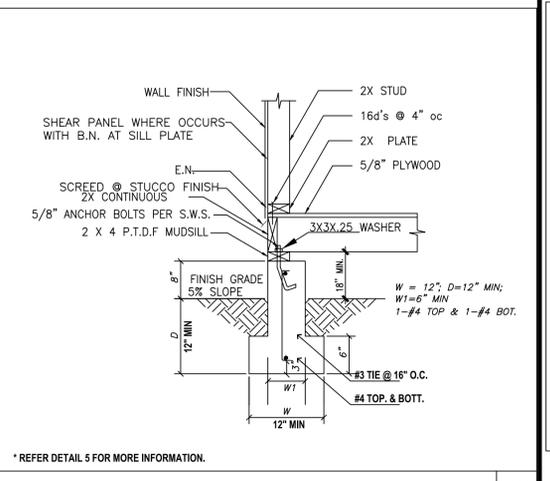
6. EXTEND FOOTING AT VENEER (BRICK, ROCK, ETC.) UNLESS VENEER MANUFACTURER RECOMMENDS OTHERWISE. ALSO, EXTEND FOOTING AT FIR-OUT ARCHITECTURAL ELEMENTS U.N.O. ON PLAN.

7. SQUARE PLATE WASHERS PER THE SCHEDULE ON SHEET SD-0 ARE REQ'D AT ALL AB'S.

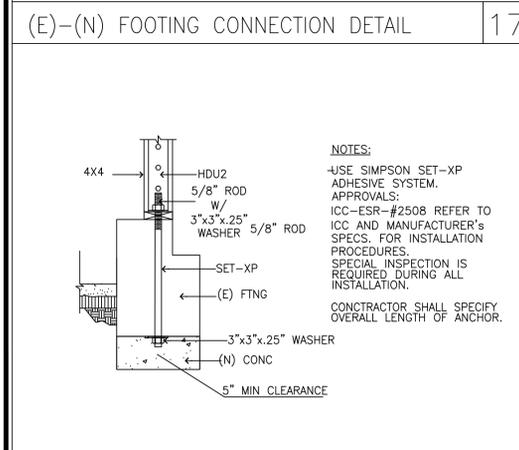
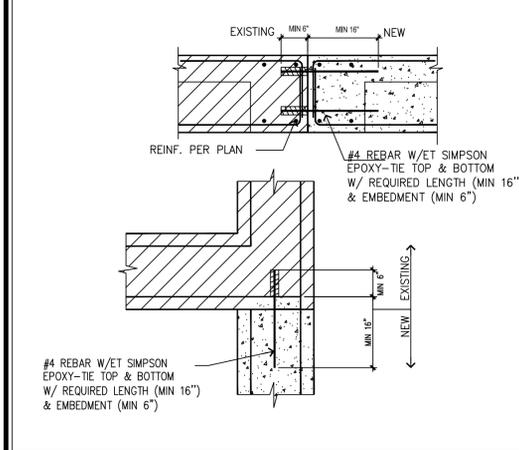
8. FOR HDU (OR SIMILAR) WITH SCREWS INTO WOOD EDGE POST. USED SDS 1/4"x2 1/2".



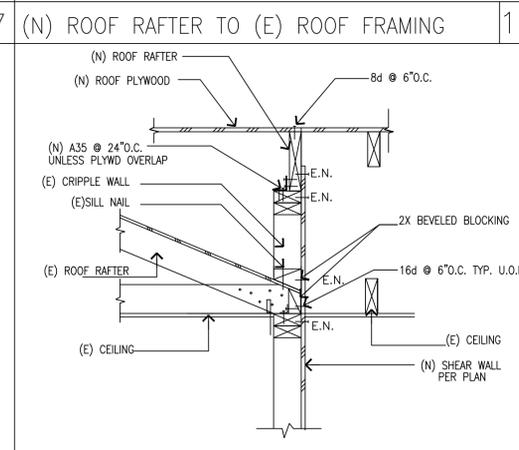
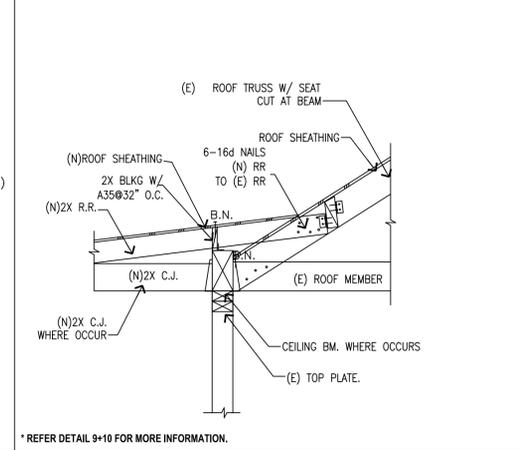
TYPICAL ANCHOR BOLT DETAIL 5



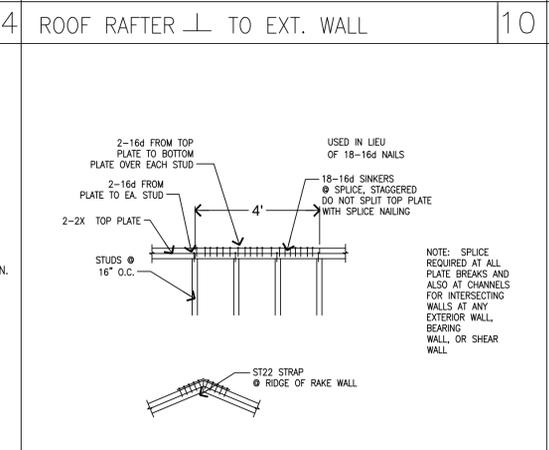
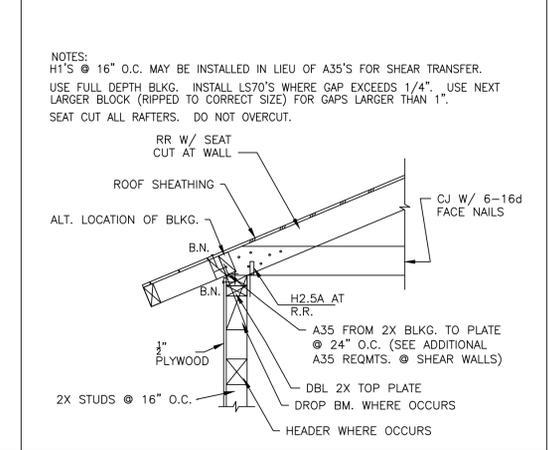
CONNECTION PORCH TO HOUSE 2



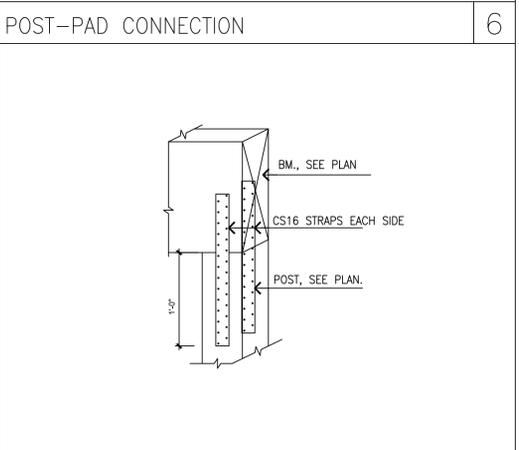
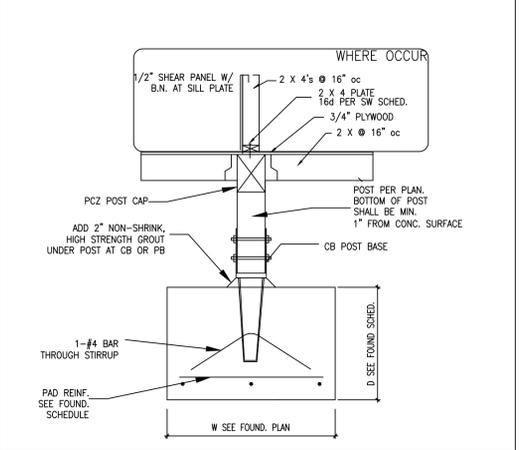
HD AT (E) FOOTING/OR MISSING HD 18



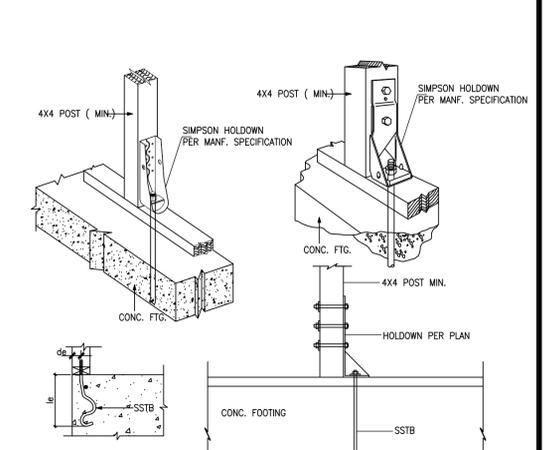
SHEAR TRANSFER DETAIL 15



CONNECTION DETAIL 11



CONNECTION DETAIL 7



SCHEDULE :

TYPE	BOLTS TO POST	ANCHOR BOLT 'SSTB'	le	de
HIT4, HTS	32-16d SINKERS	5/8" SSB24	20-5/8"	1 3/4"
HDU2	6-SDS 1/4"x2 1/2"	5/8" SSB16	12-5/8"	1 3/4"
HDU4	10-SDS 1/4"x2 1/2"	5/8" SSB20	16-5/8"	1 3/4"
HDU5	14-SDS 1/4"x2 1/2"	5/8" SSB24	20-5/8"	1 3/4"
HDU8	20-SDS 1/4"x2 1/2"	7/8" SSB28	24-7/8"	1 3/4"
HDQ8	20-SDS 1/4"x3"	7/8" SSB28	24-7/8"	1 3/4"

HOLDOWN DETAIL 3

SEAL:

DATE: 01-04-2021

DRAWN BY: T.K. CHECKED BY: T. T.

REVISION	DATE	DESCRIPTION

**1361 OLYMPIA AVE
 ADDITION & REMODELING**

1361 OLYMPIA
 CAMPBELL, CA 95008

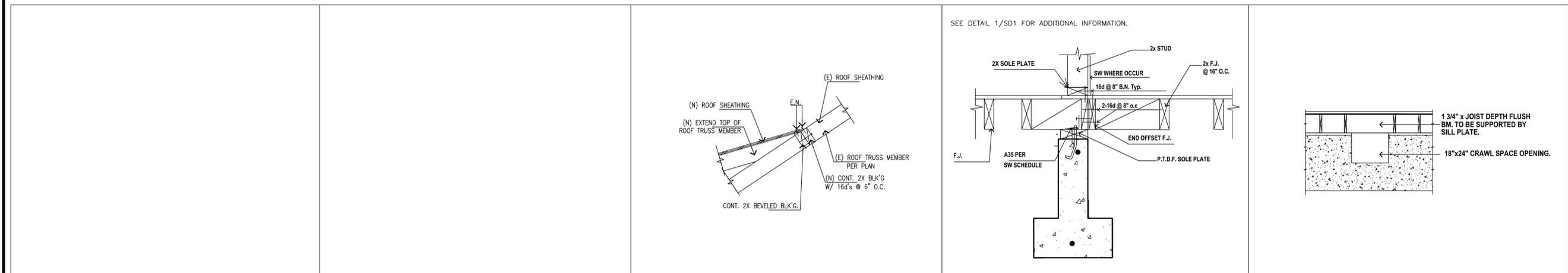
OWNER

1361 OLYMPIA AVE
 CAMPBELL, CA 95008

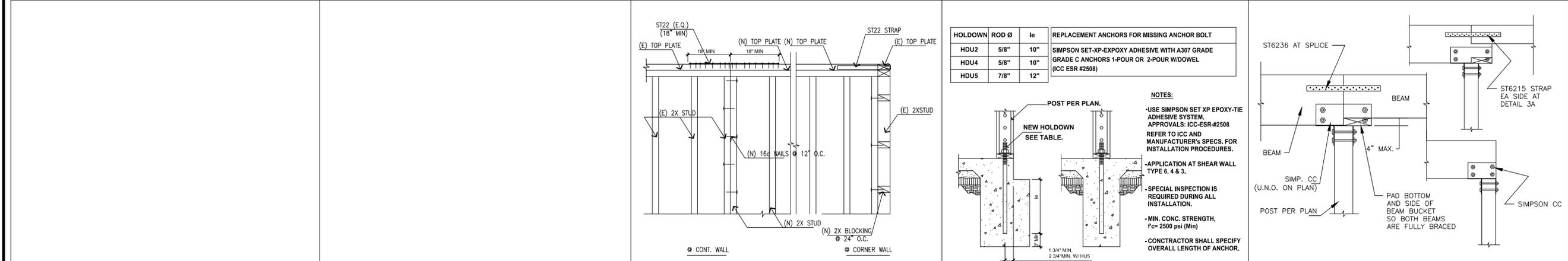
SCALE: AS SHOWN

STRUCTURAL DETAILS

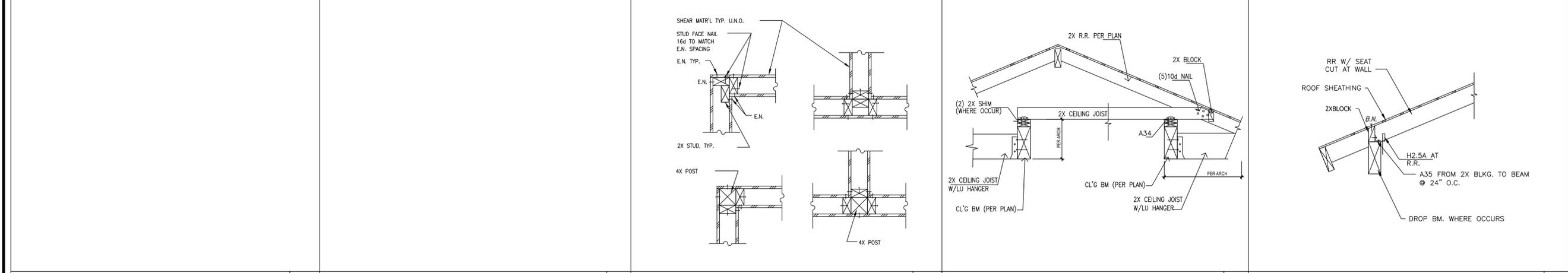
PROJECT NO: SHEET: **SD1**



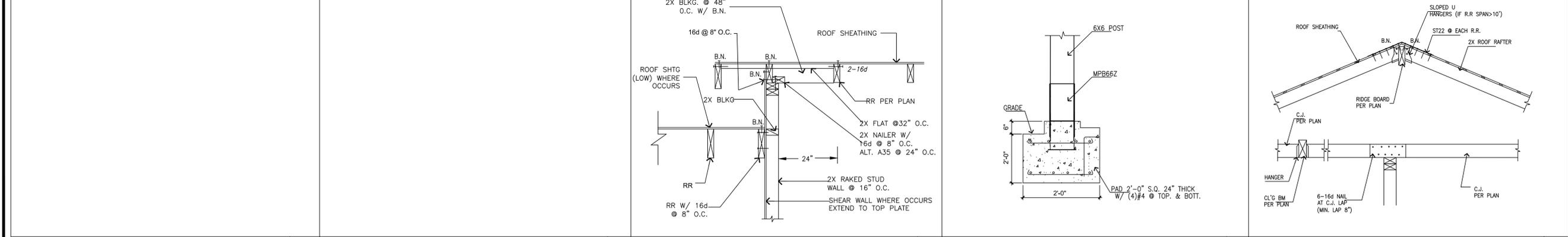
— — EXTEND (N) TO (E) ROOF FRAMING. 9 INTERIOR FOOTING 5 CRAWL SPACE OPENING AT (E) FOOTING 1



— — CONNECTION @ (N)-(E) STUD WALL 10 HD AT (E) FOOTING/OR MISSING HD 6 POST TO BEAM DETAIL 2



— — TYP. CORNER SHEAR 11 COFFERED CEILING DETAIL 7 ROOF RAFTER ⊥ TO BEAM. 3



— — RAFTERS PARALLEL TO EXT. WALL — CONNECTION DETAIL 8 CONNECTION DETAIL 4

SEAL:

DATE: 01-04-2021

DRAWN BY: T.K. CHECKED BY: T.T.

REVISION	DATE	DESCRIPTION

**1361 OLYMPIA AVE
 ADDITION & REMODELING**

1361 OLYMPIA
 CAMPBELL, CA 95008

OWNER

1361 OLYMPIA AVE
 CAMPBELL, CA 95008

SCALE: AS SHOWN

STRUCTURAL DETAILS

PROJECT NO: SHEET:
SD2

CERTIFICATE OF COMPLIANCE
Project Name: Addition and Remodel
Calculation Date/Time: 2021-11-11T01:50:17-08:00
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GENERAL INFORMATION	
01	Project Name: Addition and Remodel
02	Run Title: Title 24 Analysis
03	Project Location: 1361 OLYMPIA AVE
04	City: CAMPBELL
05	Standards Version: 2019
06	Zip code: 95008
07	Software Version: EnergyPro 8.2
08	Climate Zone: 4
09	Front Orientation (deg/ Cardinal): S0
10	Building Type: Single family
11	Number of Dwelling Units: 1
12	Project Scope: Addition/Alteration
13	Number of Bedrooms: 4
14	Addition Cond. Floor Area (ft²): 415.89
15	Number of Stories: 1
16	Existing Cond. Floor Area (ft²): 881.01
17	Fenestration Average U-Factor: 0.35
18	Total Cond. Floor Area (ft²): 1296.9
19	Glazing Percentage (%): 17.50%
20	ADU Bedroom Count: n/a
21	ADU Conditioned Floor Area: n/a
22	Is Natural Gas Available?: Yes

COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	Building does not require field testing or HERS verification
03	This building incorporates one or more Special Features shown below

ENERGY USE SUMMARY				
Energy Use (kWh/ft²-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	25.18	22.13	3.05	12.1
Space Cooling	36.01	-2.64	-2.64	-7.3
IAQ Ventilation	0	0	0	0
Water Heating	27.72	27.72	0	0
Self Utilization/Flexibility Credit	n/a	0	0	n/a
Compliance Energy Total	88.91	88.5	0.41	0.5

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CA Building Energy Efficiency Standards - 2019 Residential Compliance

Registration Date/Time: 2021-11-11 12:02:18
Report Version: 2019.1.300
Schema Version: rev 20200901

HERS Provider: CalCERTS Inc.
Report Generated: 2021-11-11 01:50:48

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Project Name: Addition and Remodel
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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:
• None --
Cooling System Verifications:
• None --
Heating System Verifications:
• None --
HVAC Distribution System Verifications:
• None --
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
Addition and Remodel	1296.9	1	4	2	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
current	Conditioned	ex hvac1	881.01	10	DHW Sys 1	N/A
new space	Conditioned	ex hvac1	415.89	9.5	DHW Sys 1	N/A

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OPAQUE SURFACES										
01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)	Wall Exceptions	Status	Verified Existing Condition
L	current	Wall	140	Left	220	12	90	none	Existing	No
F	current	Wall	50	Front	260	81	90	none	Existing	No
R	current	Wall	320	Right	220	24	90	none	Existing	No
B Wall	new space	2x4	230	Back	310	54	90	none	New	n/a
L Wall	new space	R-15 Wall	140	Left	170	49	90	Extension	New	n/a
R Wall	new space	R-15 Wall	320	Right	170	19.5	90	Extension	New	n/a
F Wall	new space	2x4	50	Front	65	7.5	90	none	New	n/a
Interior Surface	current/new space	Wall1	n/a	n/a	130	0	n/a	n/a	New	n/a
Roof	current	R-38 Roof Attic	n/a	n/a	881.01	n/a	n/a	n/a	Altered	No
Roof 2	new space	Roof Attic	n/a	n/a	415.89	n/a	n/a	n/a	New	n/a
Raised Floor	current	Floor 0	n/a	n/a	881.01	n/a	n/a	n/a	Existing	No
Raised Floor 2	new space	Floor 19	n/a	n/a	415.89	n/a	n/a	n/a	New	n/a

ATTIC										
01	02	03	04	05	06	07	08	09	10	
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition	
Attic current	Attic Roof/Current	Ventilated	0	0.1	0.85	No	No	Existing	No	
Attic new space	Attic Roof/new space	Ventilated	4	0.3	0.75	Yes	Yes	New	n/a	

FENESTRATION / GLAZING															
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition
Window n	Window	L	Left	140			1	12	0.28	NFRC	0.23	NFRC	Bug Screen	Altered	No

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FENESTRATION / GLAZING															
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition
Window n 2	Window	F	Front	50			1	21	0.28	NFRC	0.23	NFRC	Bug Screen	Altered	No
Window e	Window	F	Front	50			1	40	0.55	Table 110.6-A	0.67	Table 110.6-B	Bug Screen	Existing	No
Window e 2	Window	R	Right	320			1	12	0.55	Table 110.6-A	0.67	Table 110.6-B	Bug Screen	Existing	No
Window e 3	Window	R	Right	320			1	12	0.55	Table 110.6-A	0.67	Table 110.6-B	Bug Screen	Existing	No
Window	Window	B Wall	Back	230			1	18	0.28	NFRC	0.23	NFRC	Bug Screen	New	n/a
Window 2	Window	B Wall	Back	230			1	18	0.28	NFRC	0.23	NFRC	Bug Screen	New	n/a
Window 3	Window	B Wall	Back	230			1	18	0.28	NFRC	0.23	NFRC	Bug Screen	New	n/a
door	Window	L Wall	Left	140			1	40	0.55	Table 110.6-A	0.67	Table 110.6-B	Bug Screen	New	n/a
Window 4	Window	L Wall	Left	140			1	9	0.28	NFRC	0.23	NFRC	Bug Screen	New	n/a
Window 5	Window	R Wall	Right	320			1	17.5	0.28	NFRC	0.23	NFRC	Bug Screen	New	n/a
Window 6	Window	R Wall	Right	320			1	12	0.28	NFRC	0.23	NFRC	Bug Screen	New	n/a
Window 7	Window	F Wall	Front	50			1	7.5	0.28	NFRC	0.23	NFRC	Bug Screen	New	n/a

OPAQUE DOORS					
01	02	03	04	05	06
Name	Side of Building	Area (ft²)	U-factor	Status	Verified Existing Condition
Door 2	F	20	0.2	Existing	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
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
2x4	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	R-6 / R-5	0.043	Inside Finish: Gypsum Board Sheathing / Insulation: R-6 Sheathing Cavity / Frame: R-15 / 2x4 Sheathing / Insulation: R-5 Sheathing Exterior Finish: 3 Coat Stucco
R-15 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	None / None	0.089	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: Wood Siding/sheathing/decking
Wall1	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Attic Roof/Current	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.633	Roofing: 5 PSF (Normal Gravel) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
Attic Roof/new space	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-19	None / None	0.059	Roofing: 5 PSF (Normal Gravel) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-13.0 / 2x4 Around Roof Joists: R-6.0 insul.
floor 0	Floors Over Crawlspace	Wood Framed Floor	2x12 @ 16 in. O. C.	R-0	None / None	0.216	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x12

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

WATER HEATING SYSTEMS									
01	02	03	04	05	06	07	08	09	10
Name	System Type	Distribution Type	Water Heater Name (#)	Solar Heating System	Compact Distribution	HERS Verification	Status	Verified Existing Condition	Existing Water Heating System
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a	Existing	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
floor 19	Floors Over Crawlspace	Wood Framed Floor	2x6 @ 24 in. O. C.	R-19	None / None	0.049	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 in S-1/2 in. (R-18) / 2x6
R-38 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 16 in. O. C.	R-38	None / None	0.025	Over Ceiling Joists: R-28.9 insul. Cavity / Frame: R-9 / 2x4 Inside Finish: Gypsum Board
Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 16 in. O. C.	R-38	None / None	0.026	Over Ceiling Joists: R-27.9 insul. Cavity / Frame: R-38 in 11-1/4 in. (R-37) / 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
Not Required	Not Required	Not Required	n/a

WATER HEATING SYSTEMS									
01	02	03	04	05	06	07	08	09	10
Name	System Type	Distribution Type	Water Heater Name (#)	Solar Heating System	Compact Distribution	HERS Verification	Status	Verified Existing Condition	Existing Water Heating System
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a	Existing	No	

Registration Number: 221-PO10236527A-000-000-000000-0000
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WATER HEATERS													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	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	Status	Verified Existing Condition
DHW Heater 1	Gas	Small Storage	1	40	0.57-EF	<= 75 kBtu/hr	0	78	n/a	n/a	n/a	Existing	No

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 Drains Water 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
ex hvac1	Heating and cooling system other	Heating Component 1	Cooling Component 1	HVAC Fan 1	Air Distribution System 1	n/a	Existing	No	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-80

Registration Number: 221-PO10236527A-000-000-

RESIDENTIAL MEASURES SUMMARY						RMS-1
Project Name Addition and Remodel		Building Type Single Family <input checked="" type="checkbox"/> Multi Family <input type="checkbox"/>	Addition Alone <input type="checkbox"/> Existing <input checked="" type="checkbox"/> Addition/Alteration <input type="checkbox"/>		Date 11/11/2021	
Project Address 1361 OLYMPIA AVE CAMPBELL		California Energy Climate Zone CA Climate Zone 04	Total Cond. Floor Area 1,297	Addition 416	# of Units 1	
INSULATION						
Construction Type	Area	Cavity (ft ²)	Special Features	Status		
Wall Wood Framed	R 15	208	Existing	Existing		
Wall Wood Framed	R 15	179	Existing	Existing		
Door Opaque Door	R-5	20	Existing	Existing		
Wall Wood Framed	R 15	196	Existing	Existing		
Roof Wood Framed Attic	R 38	881	Existing	Altered		
Demising Wood Framed	-no insulation	130	Existing	New		
Floor Wood Framed w/Crawl Space	-no insulation	881	Existing	Existing		
Floor Wood Framed w/Crawl Space	R 49	416	Add-R-19.0 Cool Roof	New		
FENESTRATION						
Orientation Area(ft ²)		Total Area: 2271	Glazing Percentage: 17.5%	New/Altered Average U-Factor: 0.35		
U-Fac	SHGC	Overhang	Sidelines	Exterior Shades	Status	
Left (SE)	2.0	0.280	0.23	none	N/A	Altered
Front (NE)	21.0	0.280	0.23	none	N/A	Altered
Front (NE)	40.0	0.550	0.67	none	N/A	Existing
Right (NW)	24.0	0.550	0.67	none	N/A	Existing
Rear (SW)	54.0	0.280	0.23	none	N/A	New
Left (SE)	40.0	0.550	0.67	none	N/A	New
Left (SE)	9.0	0.280	0.23	none	N/A	New
Right (NW)	19.5	0.280	0.23	none	N/A	New
Front (NE)	7.5	0.280	0.23	none	N/A	New
HVAC SYSTEMS						
Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	Central Furnace	80% AFUE	Split Air Conditioner	13.0 SEER	Setback	Existing
HVAC DISTRIBUTION						
Location	Heating	Cooling	Duct Location	Duct R-Value	Status	
ex hvac	Ducted	Ducted	Attic	4.2	Existing	
WATER HEATING						
Qty.	Type	Gallons	Min. Eff	Distribution	Status	
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RESIDENTIAL MEASURES SUMMARY						RMS-1
Project Name Addition and Remodel		Building Type Single Family <input checked="" type="checkbox"/> Multi Family <input type="checkbox"/>	Addition Alone <input type="checkbox"/> Existing <input checked="" type="checkbox"/> Addition/Alteration <input type="checkbox"/>		Date 11/11/2021	
Project Address 1361 OLYMPIA AVE CAMPBELL		California Energy Climate Zone CA Climate Zone 04	Total Cond. Floor Area 1,297	Addition 416	# of Units 1	
INSULATION						
Construction Type	Area	Cavity (ft ²)	Special Features	Status		
Wall Wood Framed	R 15	208	Existing	Existing		
Wall Wood Framed	R 15	179	Existing	Existing		
Door Opaque Door	R-5	20	Existing	Existing		
Wall Wood Framed	R 15	196	Existing	Existing		
Roof Wood Framed Attic	R 38	881	Existing	Altered		
Demising Wood Framed	-no insulation	130	Existing	New		
Floor Wood Framed w/Crawl Space	-no insulation	881	Existing	Existing		
Floor Wood Framed w/Crawl Space	R 49	416	Add-R-19.0 Cool Roof	New		
FENESTRATION						
Orientation Area(ft ²)		Total Area: 2271	Glazing Percentage: 17.5%	New/Altered Average U-Factor: 0.35		
U-Fac	SHGC	Overhang	Sidelines	Exterior Shades	Status	
Left (SE)	2.0	0.280	0.23	none	N/A	Altered
Front (NE)	21.0	0.280	0.23	none	N/A	Altered
Front (NE)	40.0	0.550	0.67	none	N/A	Existing
Right (NW)	24.0	0.550	0.67	none	N/A	Existing
Rear (SW)	54.0	0.280	0.23	none	N/A	New
Left (SE)	40.0	0.550	0.67	none	N/A	New
Left (SE)	9.0	0.280	0.23	none	N/A	New
Right (NW)	19.5	0.280	0.23	none	N/A	New
Front (NE)	7.5	0.280	0.23	none	N/A	New
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Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
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Location	Heating	Cooling	Duct Location	Duct R-Value	Status	
ex hvac	Ducted	Ducted	Attic	4.2	Existing	
WATER HEATING						
Qty.	Type	Gallons	Min. Eff	Distribution	Status	
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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.

Section	Measure
§ 110.8(a):	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283 or AAMA/WDMA/CSA 1011.5.2/A440-2011.*
§ 110.8(a)(5):	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 110-11(a).
§ 110.8(b):	Fat fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.8-A, 110.8-B, or J4.5 for exterior doors. They must be caulked and/or weather-strippesided.*
§ 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-strippesided.*
§ 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(i):	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(i) and be labeled per § 110-13 when the installation of a cool roof is specified on the CPIS.
§ 110.8(j):	Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 110.8(k):	Ceiling and Rafter Insulation. Minimum R-22 insulation in wood-frame ceiling, or the weighted average U-factor must not exceed 0.043.
§ 150.0(a):	Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Also 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 piping insulation either above or below the roof deck or on top of a drywall ceiling.
§ 150.0(b):	Loose-fill insulation. Loose-fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B.*
§ 150.0(d):	Raised-Floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(f):	Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)(1):	Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. The requirement for vapor retarder for buildings complying with the exception to § 150.0(g) is not applicable.
§ 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(i):	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 all 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-tighting 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:	
§ 110.5(f):	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.*
§ 110.0-§ 110.3:	HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-K.*
§ 110.2(a):	Controls for Heat Pumps with Supplemental Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.
§ 110.2(b):	Thermostat. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*
§ 110.2(c):	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, isolation valve, and recirculation connection requirements of § 110.3(c)(4).
§ 110.3(c)(6):	Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.
§ 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, Appliance Volume, and Fundamentals Volume, and the SMACNA Residential and Commercial 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(h)(3A):	Clearance. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.
§ 150.0(h)(3B):	Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(i):	Storage Tank Insulation. Unlined hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have a minimum of R-2 of external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(i)(2A):	Water Piping, Solar Water-heating System Piping, and Space Conditioning System Piping 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 few feet of cold water pipes from the water 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, and from the heating source to kitchen fixtures.*
§ 150.0(j):	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 retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned spaces must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a water-proof and non-combustible casing or sleeve.
§ 150.0(k):	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling 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 200,000 Btu per hour.
§ 150.0(l):	Recirculating Loops. Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)(5).
§ 150.0(m):	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 RAIT), or by a listing agency that is approved by the Executive Director.
Ducts and Fans Measures:	
§ 110.8(d):	Ducts. Installation installed on an existing space-conditioning duct must comply with § 604 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 §§ 601.0, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-2005 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-4.0 or a minimum installed level of R-4.2 when ducts are entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). 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 either 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 disassembly and assembly of ducts and their components must be sealed with dieh 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 materials specified for duct construction.
§ 150.0(m)(4):	Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)(5):	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)(6):	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 retardant and provides shielding from solar radiation.
§ 150.0(m)(7):	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)(8):	Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupied 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)(9):	Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Pressure drops and labeling must meet the requirements of § 150.0(m)(7). Filters must be accessible for regular service.
§ 150.0(m)(10):	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 furnace air handlers and ≥ 0.38 watts per CFM for all other. 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 R2.2, 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 R2.2 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 Equation 150.0-B and must be either a balanced system or continuous supply or continuous exhaust system. If a balanced system is not used, all units in the building must use the same system type and the dwelling unit envelope leakage must be ≤ 0.3 CFM at 50 Pa (0.2 inch water) per square foot of dwelling unit envelope surface area and verified in accordance with Reference Residential Appendix RA3.8.
§ 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 the rate specified by Equation 150.0-B. 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)(1G):	Kitchen Range Hoods. Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE R2.2.
§ 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 IMV to comply with the airflow rates and sound requirements as specified in Sections 5 and 7.2 of ASHRAE R2.2.
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 built-up connections to allow for future solar panel installation.
§ 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 rates, 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(q)(1A):	Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.
§ 150.0(q)(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(q)(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(q)(1C).
§ 150.0(q)(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 20 kHz.
§ 150.0(q)(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(q)(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(q).
§ 150.0(q)(1G):	Screen based luminaires. Screen based luminaires must contain lamps that comply with Reference Joint Appendix JA.*
§ 150.0(q)(1H):	Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JAB elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(q)(1I):	Light Sources in Drawers, Cabinets, and Linen Closets. Light sources internal to 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 enclosed with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(q)(2A):	Interior Switches and Controls. At forward phase out dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(q)(2B):	Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems.*
§ 150.0(q)(2C):	Interior Switches and Controls. Lighting must have readily accessible separately controlled controls that allow the lighting to be manually turned ON and OFF.*
§ 150.0(q)(2D):	Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(q)(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(q).
§ 150.0(q)(2F):	Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.9.

2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(q)(2G):	Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with control requirements if it: provides functionality of the specified control according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.0(a); and meets all other requirements in § 150.0(q)(2).
§ 150.0(q)(2H):	Interior Switches and Controls. A multi-state programmable controller may be used to comply with dimmer requirements in § 150.0(q)(1) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(q)(2).
§ 150.0(q)(2I):	Interior Switches and Controls. In bedrooms, 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 operate using the manual control required under Section 150.0(q)(2).
§ 150.0(q)(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 be controlled by a dimmer, occupant sensor, or vacancy sensor.
§ 150.0(q)(2K):	Interior Switches and Controls. Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 150.0(q)(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 in item § 150.0(q)(3