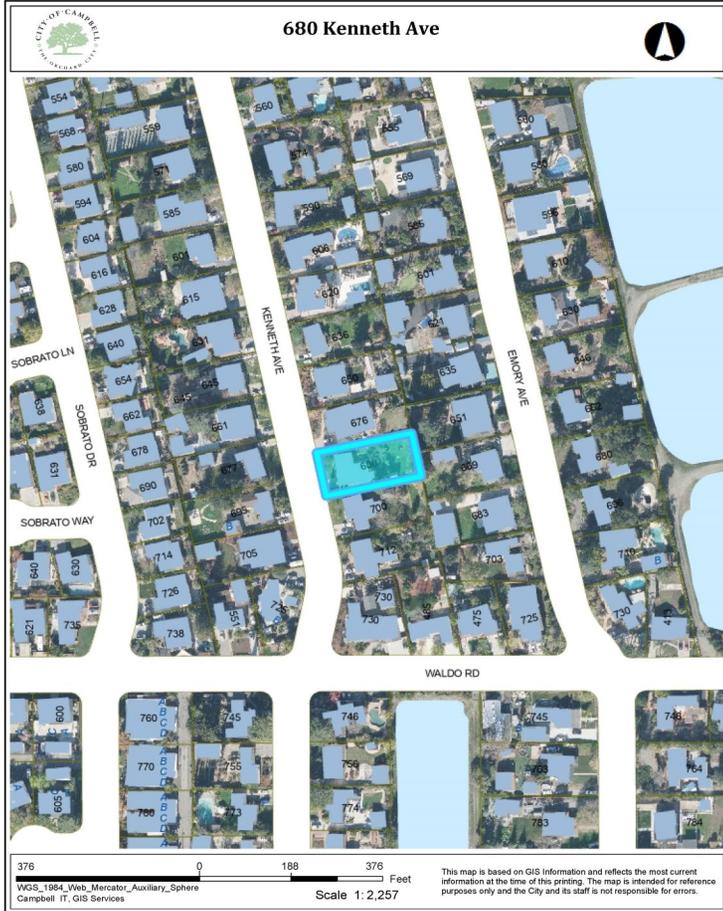
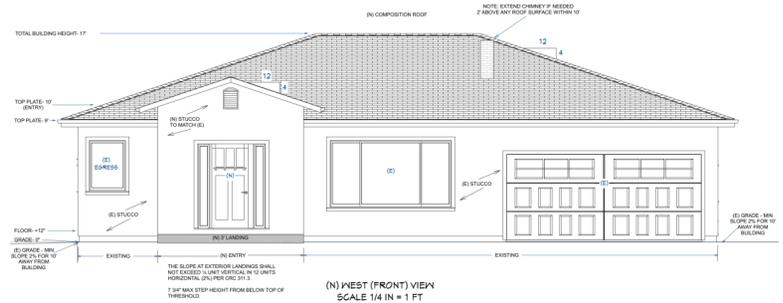


## Location of Proposed Project




 City of Campbell  
 70 North First Street  
 Campbell, CA 95008 -1423

## Project Image



# Courtesy Notice

Dear Campbell Resident,

September 11, 2024

We are notifying you that the Planning Division of the Community Development Department of the City of Campbell has received an application for the following project:

**Project Address:** 680 Kenneth Ave  
**Zoning | Area Plan:** R-1-10 | San Tomas Area Neighborhood Plan  
**Neighborhood Association(s):** N/A  
**Council District:** 4  
**File No.:** PLN-2024-121  
**APN:** 404-26-053  
**Applicant:** Summit Remodeling Co. Inc.  
**Property Owner:** Luan Jing  
**Application Type:** Administrative Site and Architectural Review Permit  
**Project Planner:** Larissa Lomen, Assistant Planner  
**Email Contact:** larissal@campbellca.gov  
**Phone Contact:** (408) 866-2144

**Project Description:**

To allow the addition of 835 square feet to an existing 2,019 square foot single-story, single-family dwelling.

If you would like to find out more information regarding the proposed project, please view the project plans using the QR code below or contact the Project Planner. The City will send you another notice before the City makes a decision regarding approval of the project.

Before a decision is reached you will receive a formal notice providing another opportunity for public comment.



- City of Campbell -  
Community Development Department  
70 N. First Street, Campbell CA 95008  
(408)866-2140 | [planning@campbellca.gov](mailto:planning@campbellca.gov)

**Note:** Applications may change after initial application submittal. To view the project plans, please scan the QR code.

\*\*Asistencia en Español disponible,  
Simplemente marque (408) 866-2140 y pida traducción en Español



Revisions	By
JUNE 12, 2024	TM
AUG 15, 2024	TM
PLANNING APP	



ADD ENTRY, MASTER BEDROOM/BATH AND EXTEND FAMILY ROOM  
 JING LUAN AND BRIAN LEATH  
 680 KENNETH AVE  
 CAMPBELL, CA 95008

<i>Tim Murray</i>	
DRAWN BY	TIM MURRAY
	DONNA SENESHEN
DATE	4/16/2024
SCALE	AS NOTED
JOB NO.	23305
SHEET	P1

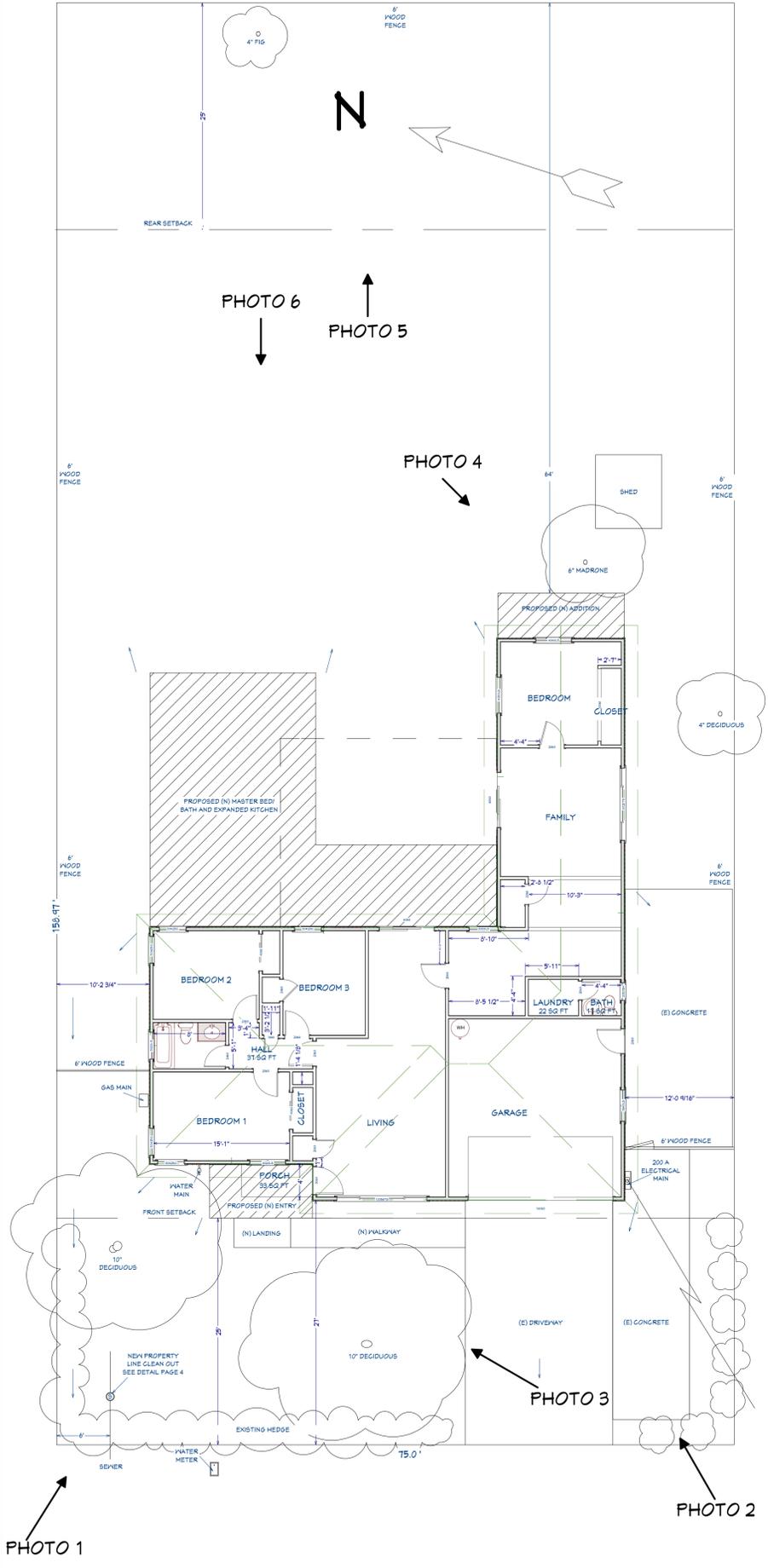


PHOTO 1: FRONT VIEW FROM STREET



PHOTO 2: FRONT VIEW FROM STREET



PHOTO 3: FRONT TREES



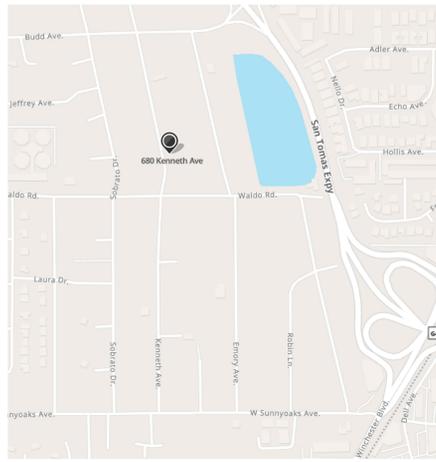
PHOTO 4: TREE BEHIND (E) FAMILY ROOM



PHOTO 5: BACK FENCE



PHOTO 6: REAR VIEW OF HOUSE



VICINITY MAP  
680 Kenneth Ave., Campbell, CA 95008

A.P.N. # 404-26-053

BUILDING TYPE: VB  
ZONE: R-1-10  
SPRINKLERS: None

LOT SIZE: 11,423 SQ FT

(E) LIVING AREA: 1,597 SQ FT  
(E) GARAGE 389 SQ FT  
(E) PORCH 33 SQ FT

(E) LOT COVERAGE 2,019 SQ FT  
(E) % LOT COVERAGE 16.9 %  
(E) FAR 13.4 %

(N) ENTRY ADDITION 69 SQ FT  
(N) MASTER ADDITION 696 SQ FT  
(N) REAR ADDITION 70 SQ FT  
TOTAL (N) ADDITIONS: 835 SQ FT

(N) PROPOSED LIVING AREA: 2,432 SQ FT  
(E) GARAGE 389 SQ FT

(N) LOT COVERAGE 2,821 SQ FT  
(N) % LOT COVERAGE 23.7 %  
(N) FAR 20.4 %

OWNER:  
JING LUAN & BRIAN LEATH  
680 KENNETH AVENUE  
CAMPBELL, CA 95008  
408-420-2564

ENGINEER:  
SILICON VALLEY CIVIL & STRUCTURAL ENGINEERS  
MICHAEL KOONTZ  
30 UNION AVENUE SUITE 200  
CAMPBELL, CA 95008  
408-583-0323  
mkoontz@svcse.com

CONTRACTOR:  
SUMMIT REMODELING COMPANY INC.  
381 E MCGILINCY LANE  
CAMPBELL, CA 95008  
408-377-5252  
summitremodel@sbcglobal.net

SCOPE OF WORK:

1. REMOVE THE (E) PORCH AND ADD A 69 SQ FT ENTRY AT THE FRONT OF THE HOME.
2. ADD A 696 SQ FT ADDITION AT THE REAR OF THE HOME INCLUDING A MASTER BEDROOM, MASTER BATH AND EXPANDED LIVING/KITCHEN AREA.
3. REMOVE ONE (E) BEDROOM TO EXPAND THE LIVING AREA.
4. RELOCATE THE KITCHEN TO THE (E) LIVING ROOM AND NEW ADDITION.
5. REMOVE THE LAUNDRY AND POWDER ROOM TO ALLOW FOR A LARGER LAUNDRY ROOM AND PANTRY.
6. ADD A 70 SQ FT ADDITION TO THE EXISTING FAMILY ROOM.
7. RECONFIGURE THE (E) 4TH BEDROOM AND ADD A FULL BATH.

GENERAL NOTES

1. Contractor shall be responsible for verification of all field conditions prior to construction.
2. Contractor shall shore up all load bearing walls, beams, flooring, ceilings as required to assure adequate support of structure prior to start of demolition and will maintain during construction.
3. Contractor shall be responsible for demolition and removal of all materials required in this project unless specified in original contract. Contractor shall match all new modifications to the existing residence as closely as possible to assure conformity throughout project.
4. All written dimensions shall take precedence over scaled dimensions. Any discrepancies or missing dimensions shall be brought to the attention of the supervisor of Summit Remodeling Co., Inc..
5. Verify location of utilities and existing conditions at site prior to start of new construction.
6. All work to be done in conformance with 2022 CBC, CRC, CFC, GMC, CCBSC, CA energy code, latest edition CEC and all pertinent state and local building codes and ordinances.
7. Contractor assumes responsibility for the method and manner of construction and for all job site safety during construction.
8. Openings for plumbing, electricity, and gas lines in walls, ceilings, and floors shall be caulked or otherwise sealed to limit infiltration. Project shall comply with the submitted Waste Management Plan.
9. No product may be used that exceeds California's maximum limits on Volatile Organic Compounds (VOC).
10. Construction hours are limited to 8AM to 5PM Monday to Friday, 9AM to 4PM Saturday, No work Sunday and Holidays

GENERAL NOTE: SEALING & CAULKING

The following openings in the building envelope shall be caulked or otherwise sealed to limit infiltration:

1. Exterior joints around window and door frames between walls, sole plates and floors and between exterior wall panels.
2. Openings for plumbing, electricity, and gas lines in walls, ceilings, and floors.
3. All other such openings in the building envelope.

DOORS & WINDOWS

Window and door sizes shown are for design purposes only. Actual window and door size, make & model numbers shall be specified per suppliers and, or, contractor's contract specification sheets.

All glass doors or windows, within 24" of doors and, or, within 18" of floors, glass subject to human impact, etc. shall be safety tempered per 2022 C.B.C. (sec. 2406.3)

GLAZING REQUIREMENTS

Glazing in any door, and glazing within 24" of any door, and within 60" of the floor must be tempered, see R308.4.2 for exceptions.  
Glazing within 18" of the floor, and over 4 sq. ft. in area, must be tempered.  
Glazing over showers and tubs, or within 60" of showers and tubs, must be tempered or safety glass.

SMOKE DETECTORS AND CO DETECTORS

Provide smoke detectors as follows:

1. One smoke detector in each sleeping room.
2. One smoke/CO detector in each room in the immediate vicinity of sleeping rooms.
3. One smoke/CO detector on each floor level of the residence including basements.
4. All detectors in new areas shall be hardwired and interconnected.
5. Detectors shall be located at or near the highest point of the ceiling, or within 24" of the top of a skylight well.

Electrical Notes

All lighting fixtures shall be controlled by either a dimmer switch or by a vacancy sensor switch that requires a manual on activation (does not automatically turn on) and automatically turns off within 30 minutes after the room is vacated. Except that bathrooms, laundry room, garages, and utility rooms shall have one light fixture controlled by a occupancy sensor. All other lighting in these rooms shall be controlled by a vacancy sensor or a dimmer switch. California Energy Efficiency Standards 150.0(k)

All installed luminaires to be high-efficacy in accordance with CEnergyC Table 150.0-A CEnergyC 150(k)(1)(A).

High efficacy luminaires to be separated switched from the low-efficacy luminaires per CEC 150(k)(2)(A).

All light fixtures shall contain bulbs that are labeled as JA8-2016 (JA8-2016-E for sealed lens or recessed fixture). Screw base bulbs are permitted, except in recessed lighting fixtures.

Recessed lighting shall be listed for zero clearance insulation contact (IC) by UL, or other nationally recognized testing/rating laboratory, airtight (AT); sealed/caulked between the fixture housing and ceiling; shall not contain a screw base socket; and contain bulbs marked with JA8-2019-E or JA8-2022-E efficiency label. CEC 150(k)(1)(C).

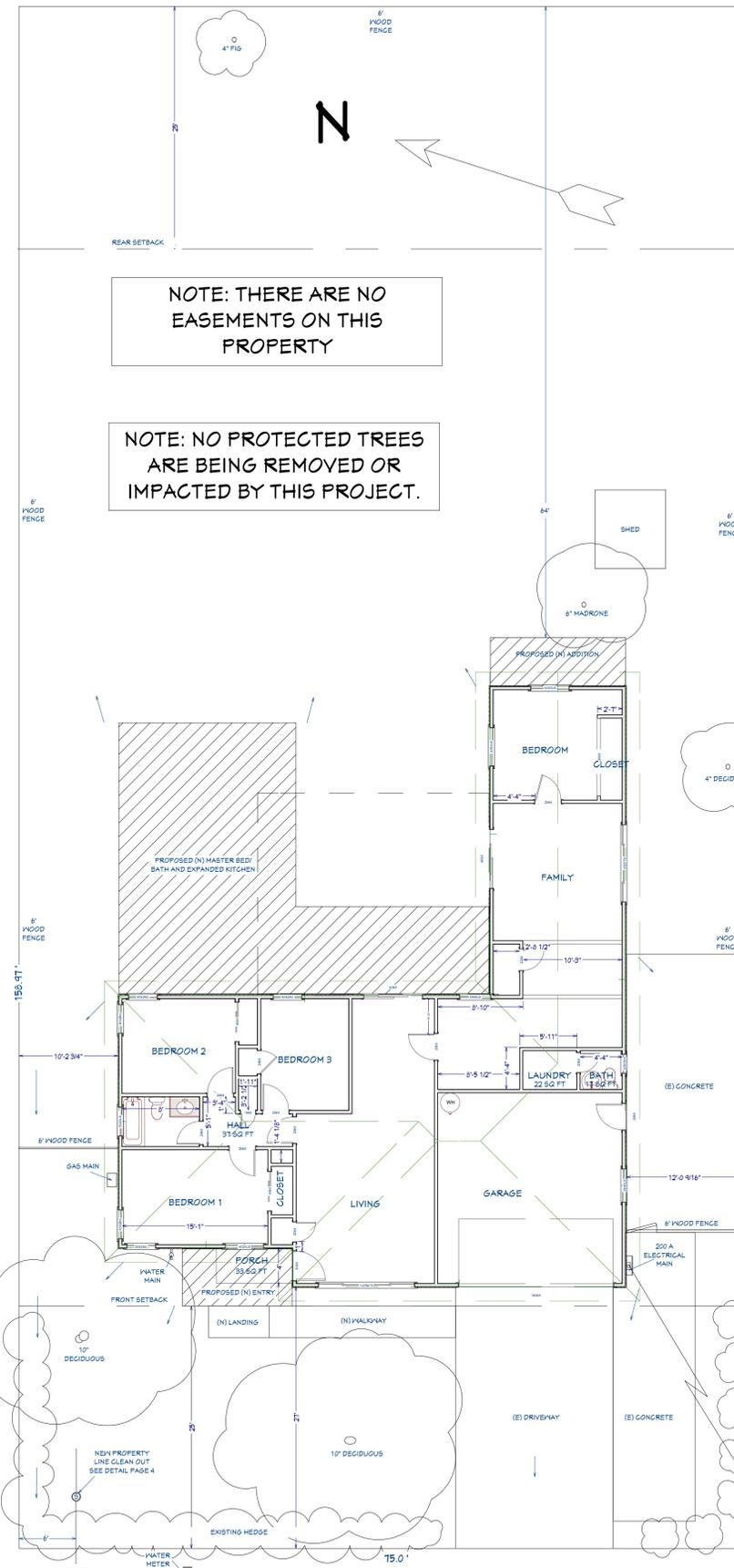
Add AT or MS/PC for astronomical time clock/photo cell to all new exterior lights as per 2022 CA Energy Code 150.0(k)(3).

RES BATHRM REMODELS

- Mixing valve in a shower shall be pressure balancing, thermostatic or combination set at a max. 120°F. Water-filler valve in bathtubs shall have a temp. limiting device set at 120°F max.
- Shower stalls shall be a min. finished interior of 1,024 sq. inches, clear center dimension of a 30", & doors shall swing out with openings 22" min.
- The water closet shall have min. clearances of 30" width (15" on center) and 24" in the front.
- All receptacles shall be GFCI & tamper-resistant (TR). New/relocated outlets shall have a dedicated 20-amp circuit.
- Hydro-massage tubs shall have motor access, a dedicated circuit protected by GFCI and be UL listed. All metal cables, fittings, piping, etc. within 5' of the inside wall of the tub shall be properly bonded with an access panel.
- Lighting fixtures located within 3' horizontally and 8' vertically of the tub/shower shall be listed for a damp location, or wet locations if subject to shower spray.
- Min. 50 CFM exhaust fan shall be provided and installed and have a separate switch.
- Glazing in tub/shower enclosures shall be safety glazing when > 60" above the standing surface.
- Glazing within 60" of a tub/shower and less than 60" above the finished floor shall be safety glazing.
- All lighting shall be high efficiency. One lighting fixture shall be controlled by a vacancy sensor that requires manual on activation and automatically turns off within 30 minutes after room is vacated. All other lighting shall be controlled by a vacancy sensor or dimmer.

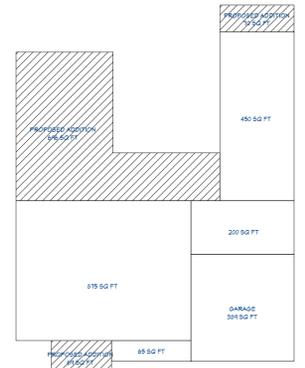
SETBACKS	WALL HEIGHT	REQUIRED SETBACK	PROPOSED SETBACK
Front of Structure/Dwelling	13 ft	25 ft	25 ft
Front of Garage	9 ft	25 ft	27 ft
Left Side	9 ft	Greater of 8 ft or 60% of adjacent wall height	10 ft 3 in
Right Side	9 ft	Greater of 10 ft or 60% of adjacent wall height	12 ft
Rear of structure	12 ft 3 in	25 ft	64 ft

BUILDING AREA	EXISTING	PROPOSED	TOTAL SF	%
First Floor	1597 sq ft	835 sq ft	2432 sq ft	FAR 20.4%
Garage	389 sq ft	0 sq ft	389 sq ft	
Porch	33 sq ft	-33 sq ft	0 sq ft	
Total	2019 sq ft	802 sq ft	2821 sq ft	LOT 23.7 %



(E) PLOT PLAN  
SCALE 1/8" = 1'

CALL 811 BEFORE YOU DIG.



BLOCK DIAGRAM  
NO SCALE

Table of Contents

- A1 Plot Plan, General Notes
- A2 (E) and (N) Floor Plans, Electrical Plan
- A3 Cross Sections
- A4 (E) Elevations
- A5 (N) Elevations and Roof Plan

- S0.1 Engineering-Cover page
- S1.1 Foundation and 1st Floor Framing
- S1.2 Wall Bracing and Roof Framing
- S2.1 Foundation Details
- S2.2 Foundation Details
- S3.1 Framing Details
- S3-2 Framing Details
- WSWH1 Strong-Wall Details
- WSWH2 Strong-Wall Details

- G1 CalGreen Mandatory Requirements
- T24-1 Title 24 Energy Report
- T24-2 Title 24 Energy Report
- BC-1 Blueprint for a Clean Bay

Revisions	By
JUNE 12, 2024	TM
AUG 15, 2024	TM
PLANNING APP	

**SUMMIT**  
 REMODELING CO., INC.  
 381 MCGILINCY LANE, CAMPBELL, CA 95008  
 Lic. # B-1-361551

ADD ENTRY, MASTER BEDROOM/BATH AND EXTEND FAMILY ROOM  
 JING LUAN AND BRIAN LEATH  
 680 KENNETH AVE  
 CAMPBELL, CA 95008

DRAWN BY TIM MURRAY DONNA SENESHEN
DATE 4/16/2024
SCALE 1/4" = 1'
JOB NO. 23305
SHEET A1

**ELECTRICAL NOTES:**  
 a. All 120 volt, 15- and 20-amp receptacles shall be listed tamper-resistant per CEC 406.12.  
 b. AFCI protection is required in hallways, living rooms, dining rooms, closets, laundry areas, or similar rooms or areas. (CEC 210.12(A)).  
 c. For continuous bath fan operation, provide min. ventilation airflow of 20 cfm with max. rating of 1.0 sone. For intermittent bath fan operation, provide min. of 50 cfm with max. rating of 3.0 sones per CMC Table 403.7 & CRC 303.3.  
 d. Fixtures installed in wet or damp locations shall be marked, "Suitable for Wet Locations". (CEC Section 410.10(A)).

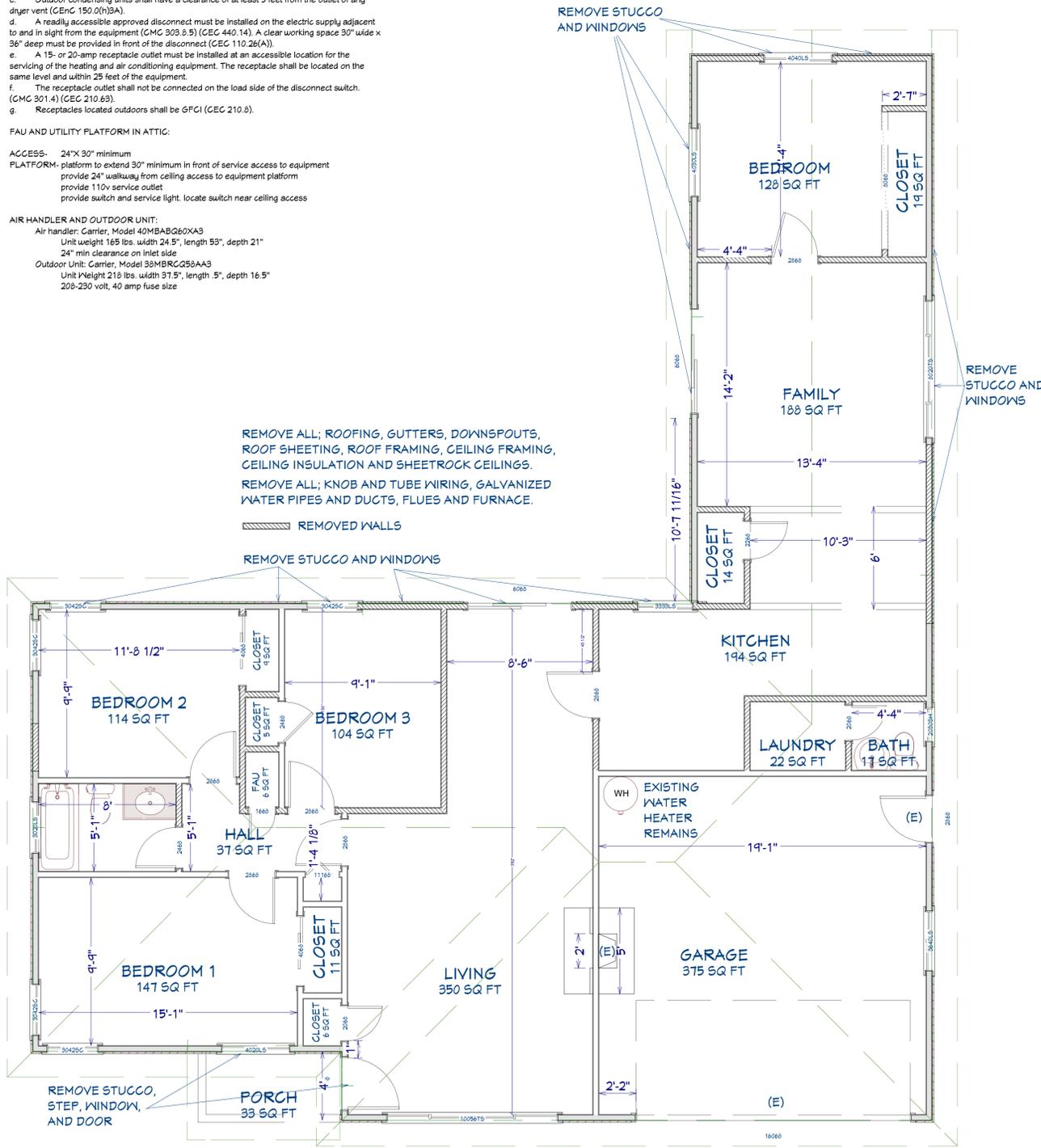
**PLUMBING NOTES:**  
 a. Water closets shall not exceed 1.28 gpf. (CFC 411.2).  
 b. Lavatory faucets shall not exceed 1.2 gpm @ 60 psi. (CFC 417.1.1).  
 c. Shower head maximum flow rate of 1.8 gpm @ 80 psi. (CFC 408.2, ICGBC 4.303.1.3.1 & 2).

**BATHROOM NOTES:**  
 a. Bathtub and shower floors and walls above bathtubs with installed shower heads and in shower compartments shall be finished with a nonabsorbent surface. Such wall surfaces shall extend to a height of not less than 6 feet above the floor.  
 b. Tile backer board materials within the shower compartment shall comply with Table RT02.4.2 and installed per manufacturers installation recommendations as per RT02.4.2.

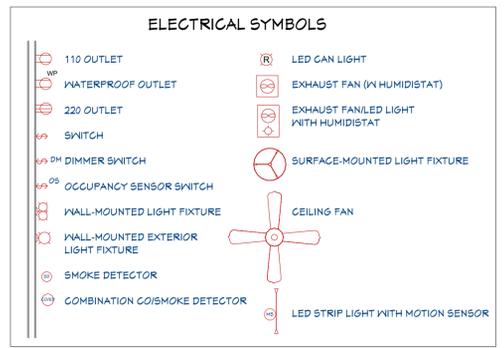
**A/C CONDENSER NOTES:**  
 a. The outdoor unit must be installed a minimum 3 feet from the property line.  
 b. Provide a minimum 3" slab underneath condenser and attach unit to the slab.  
 c. Outdoor condensing units shall have a clearance of at least 5 feet from the outlet of any dryer vent (CEC 150.0(h)(5A)).  
 d. A readily accessible approved disconnect must be installed on the electric supply adjacent to and in sight from the equipment (CMC 303.8.5) (CEC 440.14). A clear working space 30" wide x 36" deep must be provided in front of the disconnect (CEC 110.26(A)).  
 e. A 15- or 20-amp receptacle outlet must be installed at an accessible location for the servicing of the heating and air conditioning equipment. The receptacle shall be located on the same level and within 25 feet of the equipment.  
 f. The receptacle outlet shall not be connected on the load side of the disconnect switch. (CMC 301.4) (CEC 210.63).  
 g. Receptacles located outdoors shall be GFCI (CEC 210.8).

**FAU AND UTILITY PLATFORM IN ATTIC:**  
**ACCESS:** 24" x 30" minimum  
**PLATFORM:** platform to extend 90" minimum in front of service access to equipment provide 24" walkway from ceiling access to equipment platform provide 110v service outlet provide switch and service light. locate switch near ceiling access

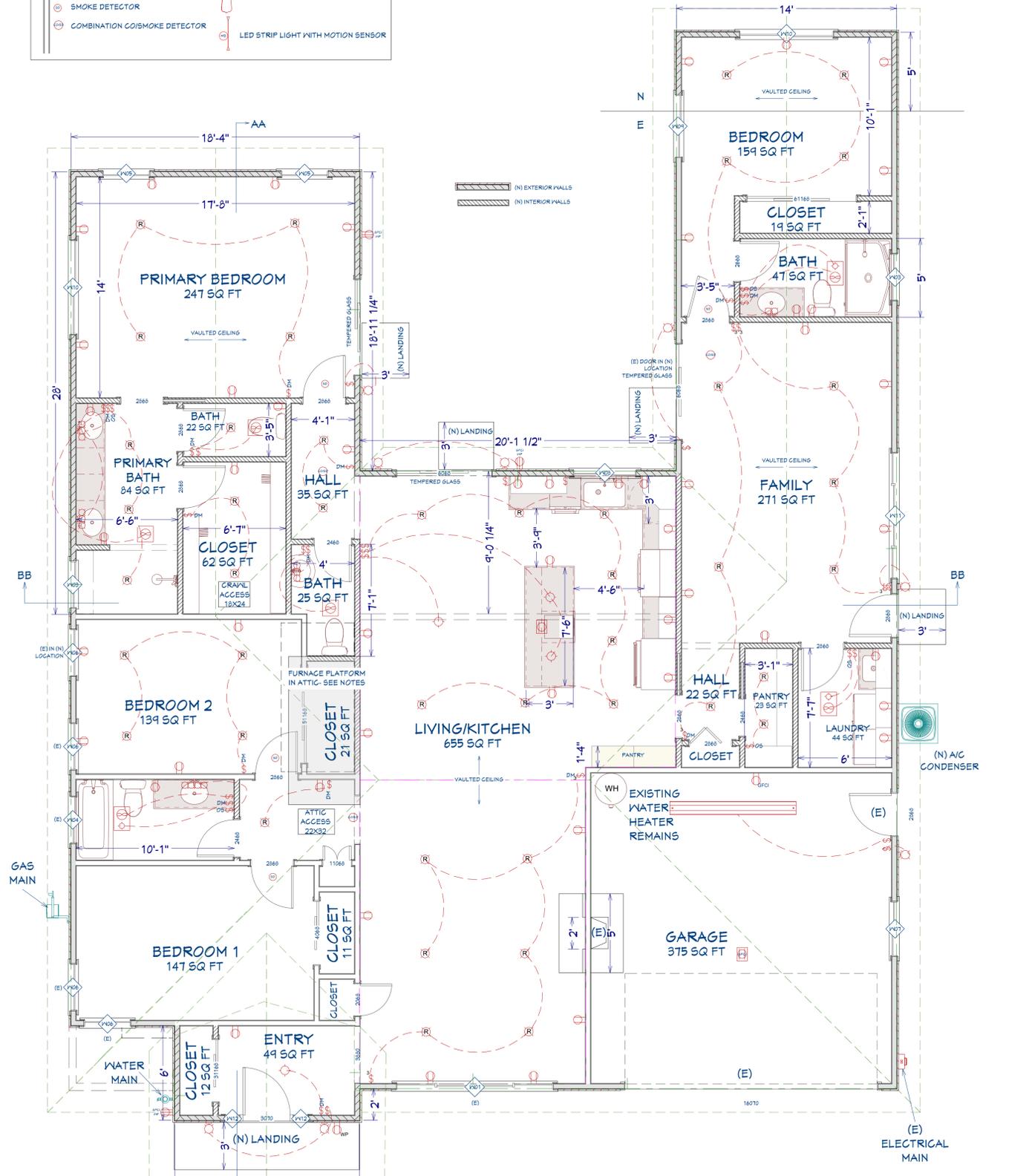
**AIR HANDLER AND OUTDOOR UNIT:**  
 Air handler: Carrier, Model 40MBAG60XA3  
 Unit weight 165 lbs. width 24.5", length 53", depth 21"  
 24" min clearance on inlet side  
 Outdoor Unit: Carrier, Model 38MBRC059AA3  
 Unit Weight 218 lbs. width 37.5", length 5", depth 16.5"  
 209-230 volt, 40 amp fuse size



(E) FLOOR PLAN  
 SCALE 1/4 IN = 1 FT



WINDOW SCHEDULE									
NUMBER	LABEL	QTY	SIZE	R/O	EGRESS	TEMPERED	DESCRIPTION	COMMENTS	
WN01	10056TS	1	10056TS	121"X67"			TRIPLE SLIDING		
WN03	3016LS	2	3016LS	37"X14"		YES	LEFT SLIDING		
WN04	3020LS	1	3020LS	37"X25"		YES	LEFT SLIDING		
WN05	3040DH	2	3040DH	37"X49"	YES		DOUBLE HUNG		
WN06	30425C	4	30425C	37"X51"	YES		SINGLE CASEMENT-HL		
WN07	3640LS	1	3640LS	43"X49"			LEFT SLIDING		
WN08	4039LS	1	4039LS	44"X46"			LEFT SLIDING		
WN09	4040LS	1	4040LS	44"X49"	YES		LEFT SLIDING		
WN10	6020LS	2	6020LS	73"X25"			LEFT SLIDING		
WN11	8020TS	1	8020TS	97"X25"		YES	TRIPLE SLIDING		
WN12	1070FX	2	1070FX	13"X85"		YES	FIXED GLASS		



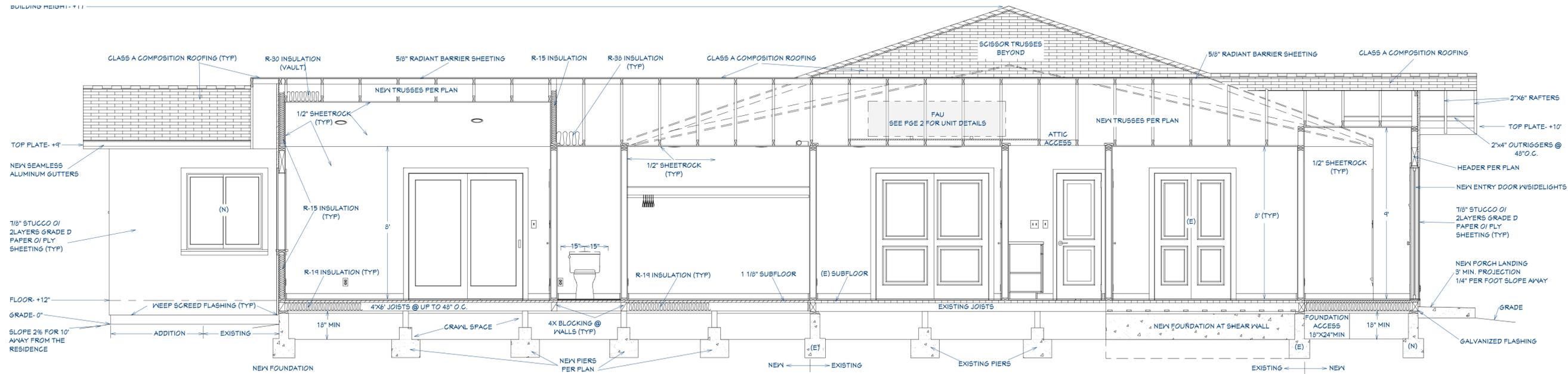
(N) FLOOR PLAN  
 SCALE 1/4 IN = 1 FT

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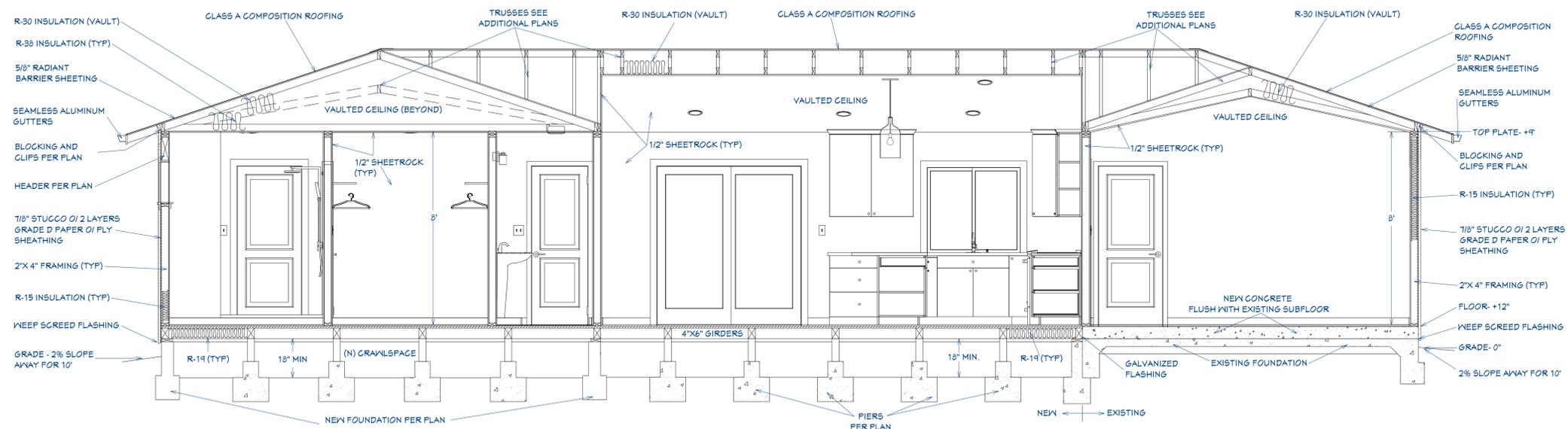
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 680 KENNETH AVE  
 CAMPBELL, CA 95008

Tim Murray  
 DRAWN BY  
 TIM MURRAY  
 DONNA SENESHEN  
 DATE  
 4/16/2024  
 SCALE  
 1/4" = 1'  
 JOB NO.  
 23305  
 SHEET  
 A2



SECTION AA  
SCALE 3/8 IN = 1 FT



SECTION BB  
SCALE 3/8 IN = 1 FT

Revisions	By



ADD ENTRY, MASTER BEDROOM/BATH AND EXTEND FAMILY ROOM  
JING LUAN AND BRIAN LEATH  
680 KENNETH AVE  
CAMPBELL, CA 95008

Tim Murray

<b>DRAWN BY</b>	TIM MURRAY
<b>DATE</b>	4/16/2024
<b>SCALE</b>	1/4"=1'
<b>JOB NO.</b>	23305
<b>SHEET</b>	A3

Revisions	By



ADD ENTRY, MASTER BEDROOM/BATH AND EXTEND FAMILY ROOM  
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*Tim Murray*

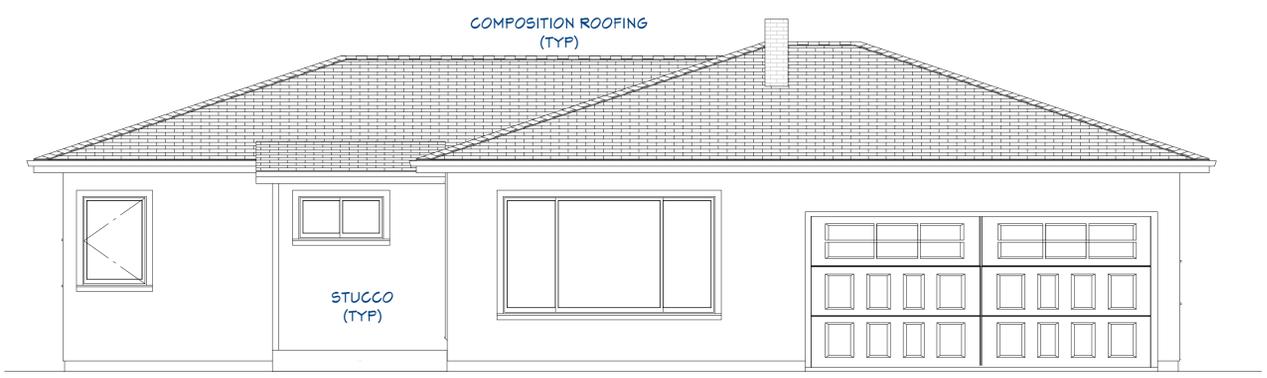
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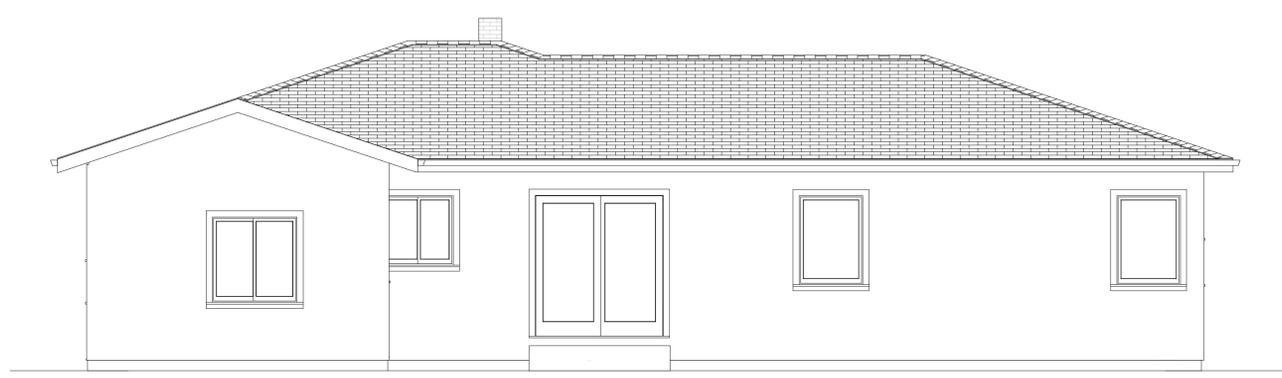
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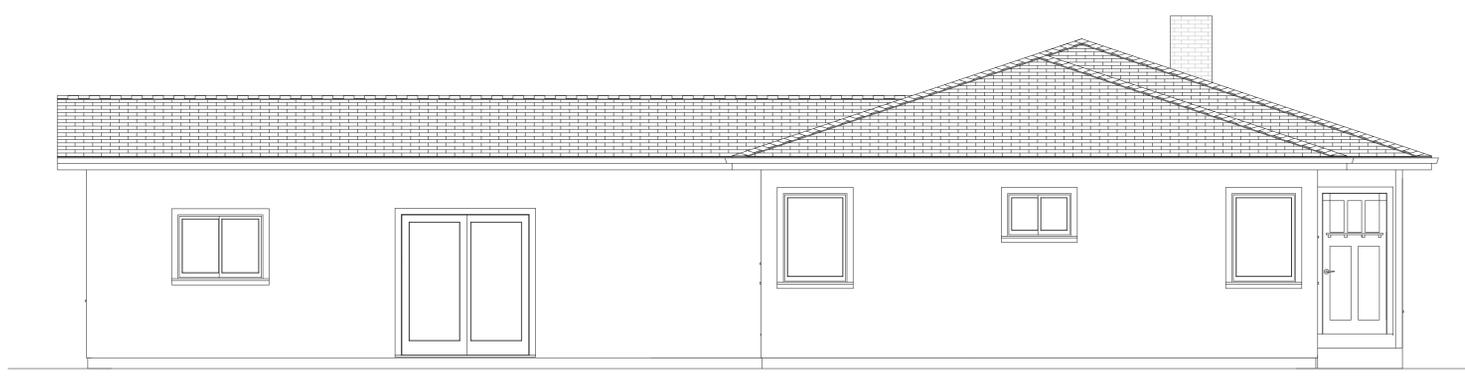
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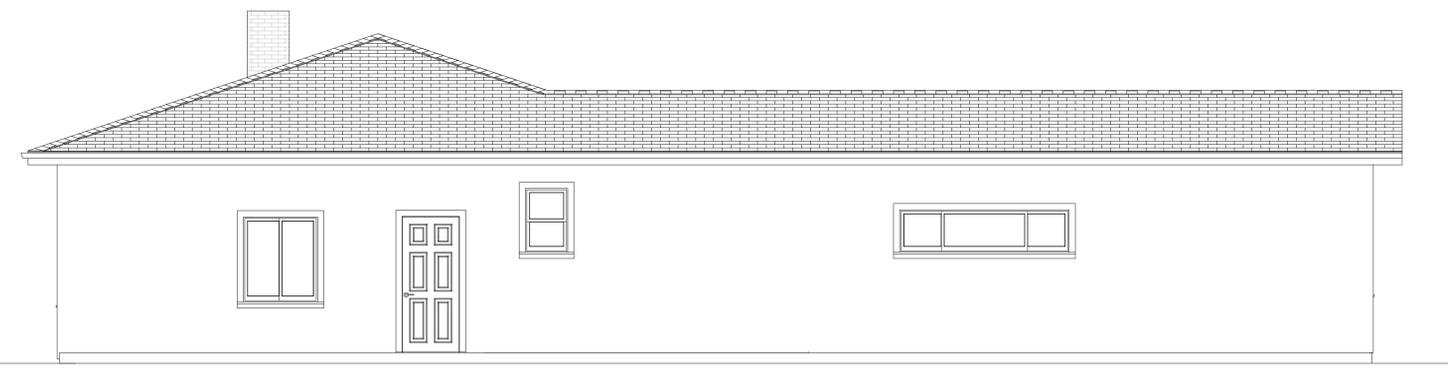
(E) WEST (FRONT) VIEW  
SCALE 1/4 IN = 1 FT



(E) EAST (REAR) VIEW  
SCALE 1/4 IN = 1 FT



(E) NORTH (LEFT SIDE) VIEW  
SCALE 1/4 IN = 1 FT



(E) SOUTH (RIGHT SIDE) VIEW  
SCALE 1/4 IN = 1 FT

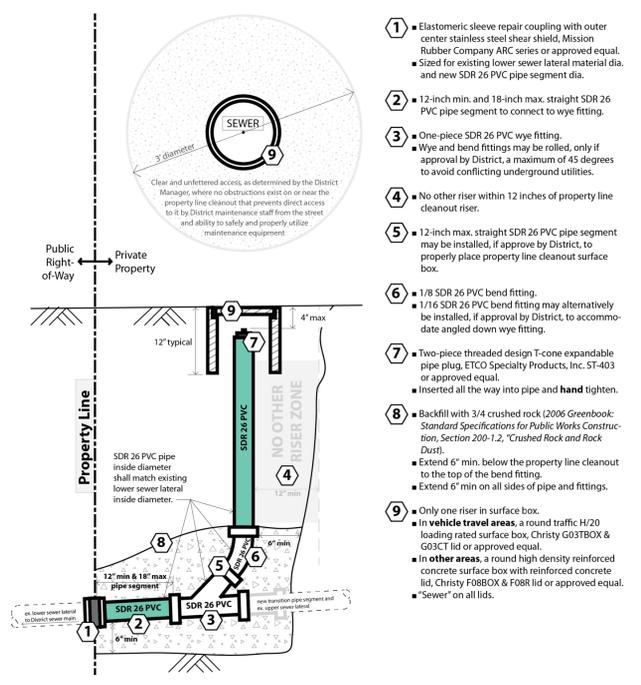


FIGURE 1. Installing property line cleanout to existing sewer lateral.





GENERAL

These plans are intended for use by only knowledgeable licensed contractors familiar with all applicable building codes and other governmental requirements, and able and willing to provide workmanship and materials of high quality. They shall be interpreted so as to incorporate all applicable building codes and other governmental requirements. All ambiguities and doubts shall be resolved, unless the Engineer Of Record specifies otherwise in writing, in favor of the construction or material of the highest quality.

Written information and dimensions shall take precedence over graphic information. Do not scale drawings.

All dimensions are to take precedence over scale shown on plans, elevations, sections and details.

Any discrepancies on the plans or any deviations from the plans which are necessitated by field conditions or any condition different from those indicated on the plans, shall be called to the attention of the Engineer Of Record prior to continuing construction. All work is to be coordinated so that cooperation between the trades, where required, is accomplished.

The Builder shall take full and final responsibility for constructing a final product of appropriate quality and serviceability consistent with the information and requirements contained in the construction documents or reasonably inferable therefrom, and/or contained in the requirements of any governmental entity with jurisdiction over the project; and in this regard the Builder shall take full responsibility for all construction means, methods, techniques, sequences or procedures including without limitation demolition, excavation and erection procedures; for safety precautions and programs in connection with the project; and for the timeliness or quality of all the work performed pursuant to this agreement. In this regard, the Builder shall indemnify to the fullest extent allowed by law the project's design team, and their respective officers, directors, principals and employees, of and from any and all claims, liability and/or losses which are caused or contributed to by the failure of the builder to honor these obligations, including even liability claims and/or losses involving any indemnities' actual or alleged active negligence or design defects, and excluding only any indemnity's sole negligence or willful misconduct.

REFERENCE TO OTHER DRAWINGS

See Architectural Drawings for additional information.

DISCREPANCIES

The Contractor shall compare the structural drawings with the existing site configurations. All discrepancies shall be reported to the Engineer Of Record and the Owner for proper adjustment before proceeding with the work.

OMISSIONS

In the event that certain features of the construction are not fully shown on the drawings or called for in the general notes, then their construction shall be of the same character as for similar conditions that are shown or called for.

CODES

All materials and workmanship shall conform to the California Building Code 2022 Edition and all applicable local codes and ordinances.

FOUNDATIONS

All grading and foundation work shall be accomplished in accordance with the recommendations contained in Chapter 18 of the 2022 California Building Code

CONCRETE

All concrete shall be regular weight (145 PCF) and shall develop a minimum 28 day compressive strength of 2500 psi. Concrete mix shall be such that all strength and exposure requirements are met. All construction joints shall be cleaned and roughened by sandblasting the entire surface exposing the clean aggregate solidly embedded in the mortar matrix. All reinforcing steel, bolts, anchors, sleeves, etc., shall be securely anchored in place before concrete is placed. All reinforcing details, fabrication, and installation shall conform to ACI Standard 315, latest edition, except as noted. Stagger all splices where practicable and not otherwise detailed. Notify the Testing Agency 48 hours in advance of concrete pours so that reinforcement, hardware, and concrete will be inspected.

Minimum concrete protection for reinforcement shall be unless otherwise noted as follows:

- a. 3" where concrete is placed against earth.
b. 2" where concrete is exposed to earth but placed in forms.
c. 1-1/2" from exterior face of walls.
d. 3/4" from interior face of walls and face of structural slabs.

CURING

Apply curing compound and cure concrete per current industry standards to minimize surface and shrinkage cracking.

REINFORCEMENT

All steel reinforcement shall be deformed bars conforming to A.S.T.M. designation A615 Grade 60 except #3 and #4 bars may be grade 40. Wire mesh shall conform to ASTM A-185. Lap all #4 bars and smaller 24" minimum. Lap #5 & #6 bars 48" minimum. Lap mesh 6" minimum. All reinforcing shall be inspected and approved by the City Inspector prior to placement of concrete.

BONDING AGENT - Larson Weldcrete or Equal.

EXPANSION ANCHORS

At non-shear walls, a 5/8" diameter x 8-1/2" long ITW Red-Head Wedge Anchor, Catalog No. WS-5884, installed with 7" minimum embedment may be used as a direct substitute for each missing or misplaced 5/8" diameter anchor bolt.

NON-SHRINK GROUT

Non-shrink grout shall be flowable, with a minimum compressive strength of 5000 psi. Non-shrink grout shall be Embeco as manufactured by Master Builders or approved equal.

EXPANSION JOINTS - Expansion joints shall be Burke Asphalt impregnated felt or approved equal.

POWDER DRIVEN FASTENERS

Powder driven fasteners shall be Hilti Low-Velocity Drive Fasteners Catalog Number DS-72 or approved equal.

LAG SCREWS

Lag screws are ASTM A307. Lag screws shall be screwed into predrilled holes of the same diameter as the root of the thread. Enlarge hole to shank diameter for the length of the shank.

EPOXY

The threaded rods and rebar should be epoxied into a 1/8" oversized hole with Simpson "Epoxy Set-XP" system per ESR-2508. The holes should be nylon brushed and blown clean. Periodic Special inspection per the California Building Code should be provided for the installation of the epoxied threaded rods.

FASTENER TREATMENT

Fasteners in preservative-treated wood shall be approved by the Preservative Treatment Manufacturer including silicon bronze or copper, stainless steel or hot-dipped zinc-coated steel. Silicon bronze, copper and stainless steel fasteners are acceptable for all ground contact and moisture situations. Hot-dipped zinc-coated nails are used for basement and crawl space wall construction where polyethylene sheathing polyethylene sheathing is applied to the below-grade portion of the exterior wall and for wood basement floor construction, provided the polyethylene sheathing is placed in accordance with Section 1812.4 of the CBC. Other types of steel or metal fasteners shall be permitted only if adequate comparative tests for corrosion resistance, including the effects associated with the wood treating chemicals, indicate an equal or better performance. Zinc-coated fasteners shall be coated after manufacture to their final form, including pointing, heating, threading or twisting as applicable. Electrogalvanized nails or staples and hot-dipped zinc-coated staples shall not be used. Framing anchors shall be of hot-dipped zinc-coated A-446 Grade A steel conforming to CBC Standard 22-1. Exception: Where approved, fasteners used in contact with preservative-treated wood products when not below grade or exposed to weather.

NAILS

Minimum connection of wood members shall be in conformance with 2022 CBC. All nails to be common wire round head nails. U.O.N. Nails in exterior applications shall be corrosion resistant. See below for minimum nails sizes. Where nails tend to split wood, predrill holes 7/8 nail diameter. Nailing not shown in the drawings or noted in the above reference shall be at least two nails at all contact points using 8d thru 1x minimum and 16d thru 2x material.

MACHINE APPLIED NAILING

Use of machine nailing is subject to a satisfactory job site demonstration for each project and the approval by the Engineer Of Record. The approval is subject to continued satisfactory performance. Machine nailing will not be approved in 5/16" plywood. If nail-heads penetrate the outer ply more than would be normal for a hand hammer or if minimum allowable edge distances are not maintained the performance will be deemed unsatisfactory. The pneumatic nailing equipment shall be OSHA approved.

FRAMING NAILS

Table with 6 columns: Size, Diameter, Length, Gauge, Head Size, Comments. Rows include 8d, 10d, 12d, 20d.

SHEATHING NAILS

Table with 6 columns: Size, Diameter, Length, Gauge, Head Size, Comments. Rows include 8d, 10d.

METAL STRAP NAILS

Table with 6 columns: Size, Diameter, Length, Gauge, Head Size, Comments. Rows include N6, N10, N16.

Bolts in wood are 3/4" diameter machine bolts A.S.T.M. A307 unless otherwise noted. Bolt holes in wood shall be 1/16" diameter oversize. Unless otherwise noted, provide 2" o.d. x 9 GA, standard cut washer under head and nut where bolt is bearing against wood. Bolt threads shall not bear against wood. Tighten all nuts when installed and re-tighten prior to covering.

HARDWARE

Metal framing and premanufactured strong-wall devices shall be as manufactured by Simpson Company, or ICC equivalent. Metal framing and premanufactured strong-wall devices as shown on the drawings are as indicated in the Simpson Company catalog. All devices shall be installed per manufacturer's recommendations. Submit any proposed substitutions to the Engineer Of Record for review prior to construction. All fasteners shall be properly installed in all hardware. All fasteners used for Simpson products shall be as specified by the manufacturer, U.O.N. Use Simpson WB126 or construction bracing prior to installation of shearwall sheathing. Do Not use left-in bracing.

LUMBER

Lumber Grades: Standard Grading Rules No. 16, West Coast Lumber Inspection Bureau. Light Framing, Studs, Blocking, and Misc. D.F.-L <9' Standard & Better - 550f-b >9' No.2 & Better - 875f-b. Structural Joists & Rafters D.F.-L No.2 & Better - 875f-b. Structural Beams, Stringers, & Garage Headers D.F.-L No.1 - 1000f-b. 5" thick, 5" and wider D.F.-L No.1 - 1350f-b. Exterior & Bearing Headers D.F.-L No.2 - 875f-b. Wall Plates D.F.-L Standard & Better - 550f-b. Posts < 5 X 5 Standard & Better - 550f-b > 5 X 5 No.1 - 1200f-b. Sills P.T.D.F.-L Standard & Better - 550f-b & AWPAs Stds C1 & C2

All framing lumber 6" nominal and larger in the least dimension shall be F.O.H.C. All joists, rafters or beams shall not be notched or cut U.O.N. on the plans. Holes may be drilled through joists and rafters only if the hole size and location is approved by the Engineer.

ENGINEERED LUMBER BEAMS AND HEADERS

Engineered lumber beams and headers shall be manufactured per I.C.C. report ESR-1387 or approved equal. Laminated veneer lumber shall be installed per the manufacturer's recommendations and the I.C.C. report.

LAMINATED STRAND LUMBER (LSL) ALL VALUES MINIMUM

E=1.55x10^6 psi, Fc = 2170 psi, Fb = 2325 psi, Fv = 310 psi, Fc1 = 900 psi

LAMINATED VENEER LUMBER (LVL) ALL VALUES MINIMUM

E=2.0x10^6 psi, Fc = 2510 psi, Fb = 2600 psi, Fv = 285 psi, Fc1 = 750 psi

PARALLEL STRAND LUMBER (PSL) ALL VALUES MINIMUM

E=2.2x10^6 psi, Fc = 2900 psi, Fb = 2900 psi, Fv = 290 psi, Fc1 = 625 psi

SHEATHING

Roof sheathing shall be 15/32", APA rated, Identification Index 32/16, (Oriented strand board, a suitable product) Exposure I, per PRP-108, unless otherwise noted.

Wall sheathing shall be per PS1-83 and as follows. (Oriented strand board, a suitable product)

3/8" thick shall be interior type, APA rated, Identification Index 24/0, Exposure I, Species Group 2 or better Exposure I, Species Group 2 or better

Floor sheathing shall be 1-1/8", APA rated, Identification Index 60/48, Exposure I, T & G, Sturdy-I-Floor. (Oriented Strand Board Louisiana Pacific top notch plus 350 is a suitable product)

All sheathing shall be 2"-0" in the least dimension unless all edges are blocked and nailed.

PREFABRICATED WOOD TRUSSES

Submit manufacturer's literature describing products. Manufacturer is to engineer trusses in accordance with the applicable requirements of the 2022 CBC. All calculations and shop drawings to be signed by a registered Civil Engineer of the state of California. Manufacturer to supply shop drawings and calculations for engineer's review for general conformance. Drawings shall contain the following information for each type and size of truss assembly to be provided.

All truss lumber shall be Douglas Fir-Larch. Detail of truss, specie, size and grade of lumber used, and connector plates sizes and orientation. Drawings shall be of sufficient detail to pass the municipal plan check. Submit descriptive data to illustrate wood truss erection procedure including sequence of erection and any temporary staging and bracing. Submit proofs of compliance of materials. Certify that materials meet requirements specified. Submit specifications and loads used for design.

The truss manufacturer shall submit design details and calculations to the owner for approval prior to fabrication.

Roof loads shall be: Dead Load 15 psf, Live Loads 20 psf, Ceiling Dead Load 10 psf, \*Attic Live Load 10 psf. Lateral loads as shown on the plans.

\* (Attic live load need not be considered in conjunction with other live loads.) (Attic live load shall be 20 psf where required at uninhabitable attics with storage per CBC Table 1607.1 footnote j.)

Truss calculations for the following load combinations shall be submitted:

- Dead load plus roof live load
Dead load plus attic live load
Dead load plus lateral load in both directions
Dead load plus floor live load plus lateral load in both directions

Before submitting truss shop drawings to the Engineer, Framing Contractor shall: review truss shop drawings for conformance with the means, methods, techniques, sequences and operations of construction, and safety precautions and programs incidental thereto, all of which are the sole responsibility of the Contractor and Framing Contractor; approve truss shop drawings before submitting them; and so stamp the truss shop drawings before submitting them. Engineer shall assume that no truss shop drawing comprises a variation unless the Contractor advises Engineer otherwise in writing. Engineer shall return the truss shop drawings with comments provided that each truss shop drawing is stamped by the General Contractor and Framing Contractor. Engineer shall return without comment truss shop drawings not approved by the General Contractor and Framing Contractor.

CONSTRUCTION LIABILITY

Construction contractor agrees that in accordance with generally accepted construction practices, construction contractor will be required to assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all persons and property; that this requirement shall be made to apply continuously and not be limited to normal working hours, and construction contractor further agrees to defend, indemnify and hold design professional harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting liability arising from the sole negligence of design professional.

REQUESTS FOR INFORMATION

All questions, comments, alternate details, and requests for information, etc. are most expeditiously processed by submittal to the Engineer of Record in writing or via facsimile. Meeting, verbal, or telephone requests will be given lowest priority, as they require the most administration and time to properly document. Upon receipt of written requests for information, the Engineer of Record shall process the requests in writing and copy the response to the design team. Alternate details requiring the Engineer of Record's review and acceptance, supplemental calculations, drawing revisions, construction bulletins, or other approvals may result in time delay as the owner's authorization for additional engineering services will be required.

DRAWING INDEX

Table with 2 columns: Drawing ID, Description. Rows include S0.1 PROJECT INFO, MAPS & NOTES; S1.1 FOUNDATION & 1ST FLOOR FRAMING PLAN; S1.2 WALL BRACING & ROOF FRAMING PLAN; S2.1 FOUNDATION DETAILS; S2.2 FOUNDATION DETAILS; S3.1 FRAMING DETAILS; S3.2 FRAMING DETAILS

Main table with 3 columns: ELEMENT/CONNECTION, FASTENER, LOCATION. Contains detailed nailing schedules for various structural elements like blocking, joists, rafters, studs, headers, etc.

SCOPE OF WORK

THE OWNER HAS VOLUNTARILY CHOSEN TO PERFORM A REMODEL & ADDITION PROJECT AT THE EXISTING SUBJECT 680 KENNETH AVE., CAMPBELL, CA 95008 ADDRESS SINGLE-FAMILY RESIDENCE STRUCTURE.

SHORING SHOULD BE INSTALLED BY THE CONTRACTOR PRIOR TO THE START OF WORK. ALL SHORING SHOULD REMAIN IN PLACE FOR THE DURATION OF THE PROJECT CONSTRUCTION UNTIL THE PROJECT HAS PASSED FINAL INSPECTION.

THE PURPOSE OF THESE DRAWINGS IS TO DEPICT REMEDIAL CONSTRUCTION THAT WILL INCREASE THE PERFORMANCE OF THE REMAINING STRUCTURE & ELEMENTS ONLY. MOISTURE PROOFING, FLASHING, VENTILATION, & DECAY PROTECTION AS WELL AS ELECTRICAL, MECHANICAL, HVAC, ETC. ARE NOT A PART OF THESE DRAWINGS & ARE THE RESPONSIBILITY OF OTHERS.

DESIGN LOADS

ROOF LOADS: DEAD LOAD = 15 PSF, LIVE LOAD = 20 PSF. FLOOR LOADS: DEAD LOAD = 15 PSF, LIVE LOAD = 40 PSF.

SEISMIC DESIGN CATEGORY: D WIND SPEED: 14.2 PSF

Sds = 1.579, Ss = 1.974, S1 = 0.704

SOIL BEARING CAPACITY: 1500 PSF

Table with 3 columns: ELEMENT/CONNECTION, FASTENER, LOCATION. Contains detailed nailing schedules for floor joists, rim joists, ledger strips, bridging, wood structural panels, and sheathing.

Professional Engineer seal for MICHAEL J. KOONIN, CIVIL ENGINEER, STATE OF CALIFORNIA, No. 078932. Includes address: 30 Union Avenue, Suite 200, Campbell, Ca 95008 and contact info: T(408)563-0323, WWW.SVCSSE.COM.

Professional Engineer seal for MICHAEL J. KOONIN, CIVIL ENGINEER, STATE OF CALIFORNIA, No. 078932.

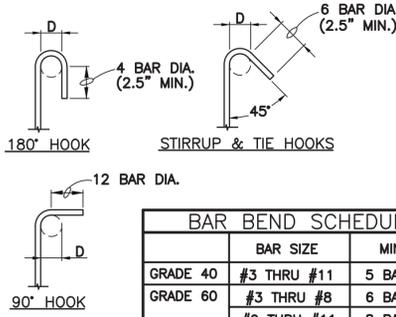
General Notes Remodeling Co., Inc. 381 MCGILVER LANE, CAMPBELL, CA 95008

Scale 1/4" = 1'-0", Date 7/11/24, Project No. 240201, Sheet No. S0.1 of 7 sheets.

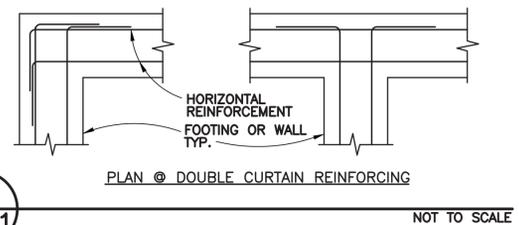
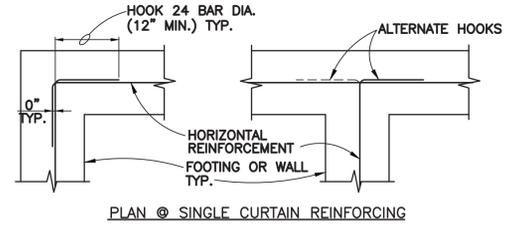
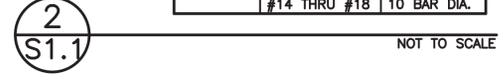
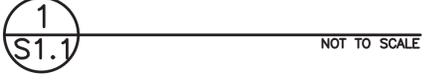
1 GENERAL NAILING SCHEDULE

LAP SPLICE SCHEDULE	
BAR SIZE	L
#3	24"
#4	32"
#5	60"
#6	72"

NOTE:  
SPLICE LOCATIONS NOT SHOWN ON PLANS SHALL BE APPROVED BY ENGINEER.



BAR BEND SCHEDULE		
GRADE	BAR SIZE	MIN. D
GRADE 40	#3 THRU #11	5 BAR DIA.
GRADE 60	#3 THRU #8	6 BAR DIA.
	#9 THRU #11	8 BAR DIA.
	#14 THRU #18	10 BAR DIA.

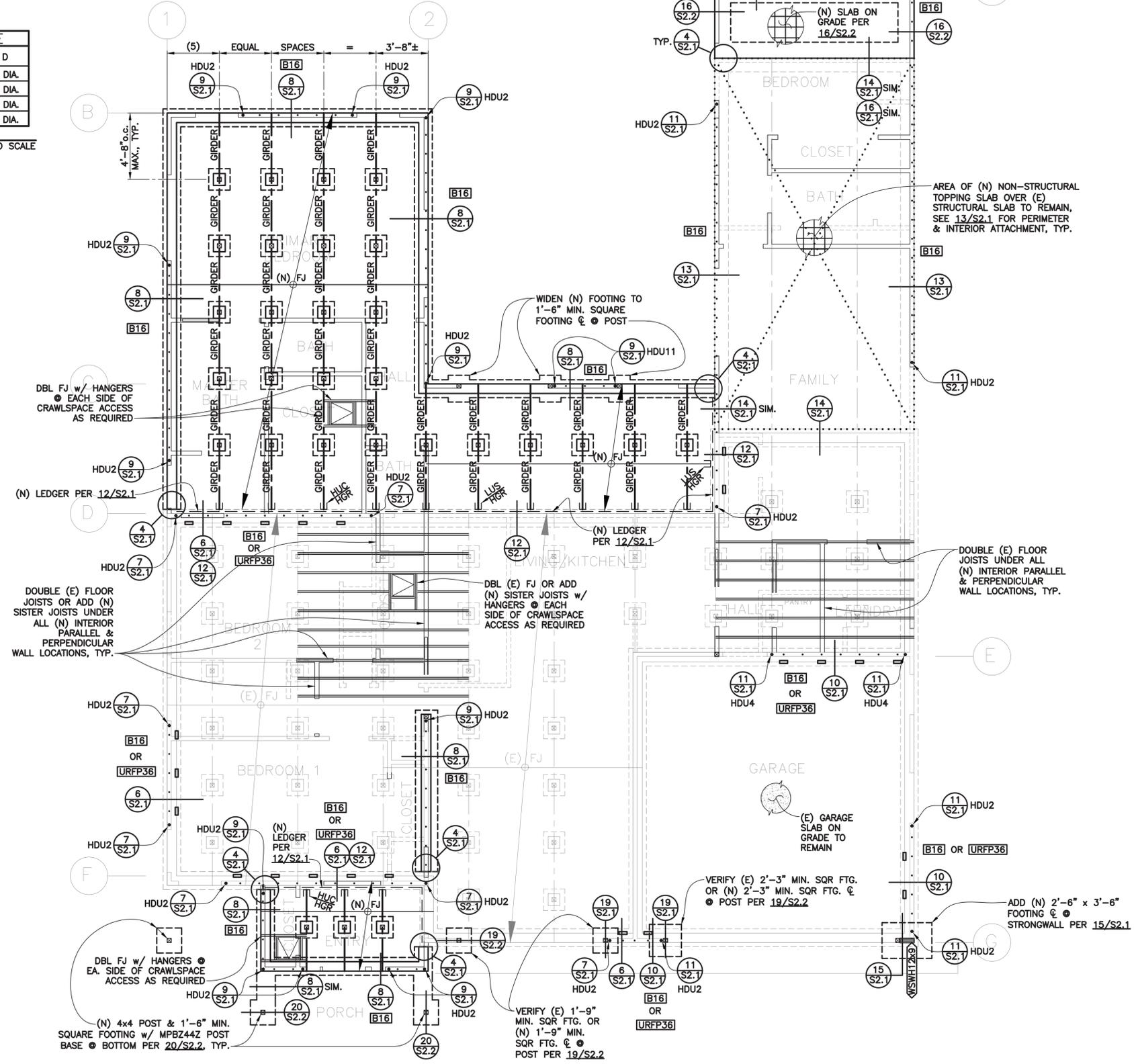


**FOUNDATION LEGEND**

- INDICATES EXISTING WALL TO REMAIN.
- INDICATES EXISTING WALL TO BE REMOVED.
- INDICATES NEW NON-BEARING PARTITION WALL.
- INDICATES (E) WALL ABOVE (E) FOUNDATION STEMWALL & FOUNDATION SPREAD FOOTING TO REMAIN, V.I.F.
- INDICATES ALTERNATE 5/8" DIAMETER SHEAR WALL ANCHOR BOLTS SPACED @ ---"o.c. PER PLAN. SEE DETAIL 5/S2.1
- INDICATES SIMPSON UNIVERSAL RETROFIT FOUNDATION PLATE (URFP-SDS3) SPACED @ ---"o.c. PER PLAN. SEE DETAIL 6/S2.1
- INDICATES (E) 4x6 GIRDERS @ 8'-0"± w/ (E) 4x4 GIRDER SUPPORT POSTS & SQUARE FOOTING FOUNDATIONS @ 6'-0"± TO REMAIN, V.I.F.
- INDICATES (N) 4x4 MIN. GIRDER SUPPORT POST & SQUARE FOOTING CENTERED UNDER GIRDER BEAM PER DETAIL 18/S2.2
- INDICATES (E) 2x6 MIN. FLOOR JOISTS @ 16"o.c. TO REMAIN, V.I.F.
- INDICATES (N) 2x6 MIN. FLOOR JOISTS @ 16"o.c.
- INDICATES PREMANUFACTURED SIMPSON STRONG-WALL FOUNDATION TEMPLATE. SEE SHEETS WSW1 & WSW2. INSTALL STANDARD WSW-AB1 ANCHOR BOLTS W/ 10" MINIMUM EMBEDMENT DEPTH,  $t_d$

**FOUNDATION NOTES**

- THE CONTRACTOR SHALL COMPARE THE STRUCTURAL DRAWINGS TO THE EXISTING FIELD CONDITIONS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER FOR PROPER ADJUSTMENT BEFORE PROCEEDING WITH WORK.
- SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL SLOPES, DRAINS, ACCESS, AND MOISTURE PROOFING, AND DIMENSIONS.
- COORDINATE ALL TIEDOWNS AND ANCHOR BOLT LOCATIONS WITH THE EXISTING CONDITIONS. LAYOUT FRAMING SO AS NOT TO CONFLICT WITH FOUNDATION HARDWARE.
- REFER TO THE FOLLOWING DETAILS AS REQUIRED:
  - REINFORCEMENT HOOK 1/S1.1
  - REINFORCEMENT LAP SPLICE 2/S1.1
  - REINFORCEMENT AT CONCRETE FOOTING CORNERS 3/S1.1



**FOUNDATION & 1ST FLOOR FRAMING PLAN**

1/4" = 1'-0"

DATE: 7/11/24  
 FOR APPROVAL: [Signature]  
 INC. REVISION: [Table]  
 30 Union Avenue, Suite 200  
 Campbell, Ca 95008  
 T(408)583-0323  
 WWW.SVCSG.COM  
**SILICON VALLEY**  
 CIVIL & STRUCTURAL ENGINEERS

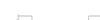


**TIM MURRAY / SUMMIT**  
**REMODELING CO., INC.**  
 381 MCGILVERY LANE  
 CAMPBELL, CA 95008

**FOUNDATION & 1ST**  
**FLOOR FRAMING PLAN**  
 680 KENNETH AVE.  
 CAMPBELL, CA 95008

SCALE 1/4" = 1'-0"  
 DATE 7/11/24  
 PROJECT NO. 240201  
 SHEET NO. **S1.1**  
 2 OF 7 SHEETS

**FRAMING LEGEND**

-  INDICATES EXISTING WALL TO REMAIN.
-  INDICATES EXISTING HEADER.
-  INDICATES EXISTING NON-BEARING WALL TO BE REMOVED
-  INDICATES NEW NON-BEARING PARTITION WALL.
-  INDICATES NEW BEARING WALL.
-  INDICATES NEW HEADER.
-  INDICATES SHEAR WALL PER SCHEDULE 2/S3.1
-  INDICATES MINIMUM LENGTH OF DISCONTINUOUS SHEATHING. SHEATHING IS CONTINUOUS FROM CROSS WALL TO CROSS WALL. U.O.N. SHEETS MAY BE HORIZONTAL OR VERTICAL. BLOCK ALL UNSUPPORTED EDGES. NO PLYWOOD SHALL BE LESS THAN 2'-0" IN ITS LEAST DIMENSION.
-  INDICATES ROOF TRUSS DESIGNED FOR IN-PLANE SEISMIC SHEAR LOAD DEMAND (KIPS) TO BE UNIFORMLY DISTRIBUTED ALONG THE TOP CHORD AND UNIFORMLY RESISTED ALONG THE BOTTOM CHORD.

**FRAMING NOTES**

- THE CONTRACTOR SHALL COMPARE THE STRUCTURAL DRAWINGS TO THE EXISTING FIELD CONDITIONS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER FOR PROPER ADJUSTMENT BEFORE PROCEEDING WITH WORK.
- SEE ARCHITECTURAL DRAWINGS FOR ROOF OVERHANG DIMENSIONS AND CONFIGURATIONS, FRAMING ELEVATIONS, SLOPES, AND ADDITIONAL INFORMATION.
- ALL SUPPORTS FOR BEAMS SHALL BE INSTALLED BETWEEN WALL PLATES U.O.N. PROVIDE FULL BEARING TO FOUNDATION FOR ROOF, CEILING, AND FLOOR CONCENTRATED LOADS.
- INTERNAL ALL MULTIPLE FRAMING STUDS TOGETHER w/ 12d @ 8" O.C. STAGGERED EACH SIDE U.O.N.
- SEE SHEET S3.1 & S3.2 FOR TYPICAL FRAMING DETAILS.
- PSL BEAM OF EQUIVALENT DIMENSIONS MAY BE INSTALLED AS A DIRECT ALTERNATE FOR LVL BEAMS SPECIFIED ON PLANS.

2x4 @ 24" O.C. w/  
(2) 12d EACH END AT  
TRUSS TOP & BOTTOM  
CHORDS SPREAD FOR ACCESS

(N) 4x8  
D.F. MIN.  
DROP BEAM

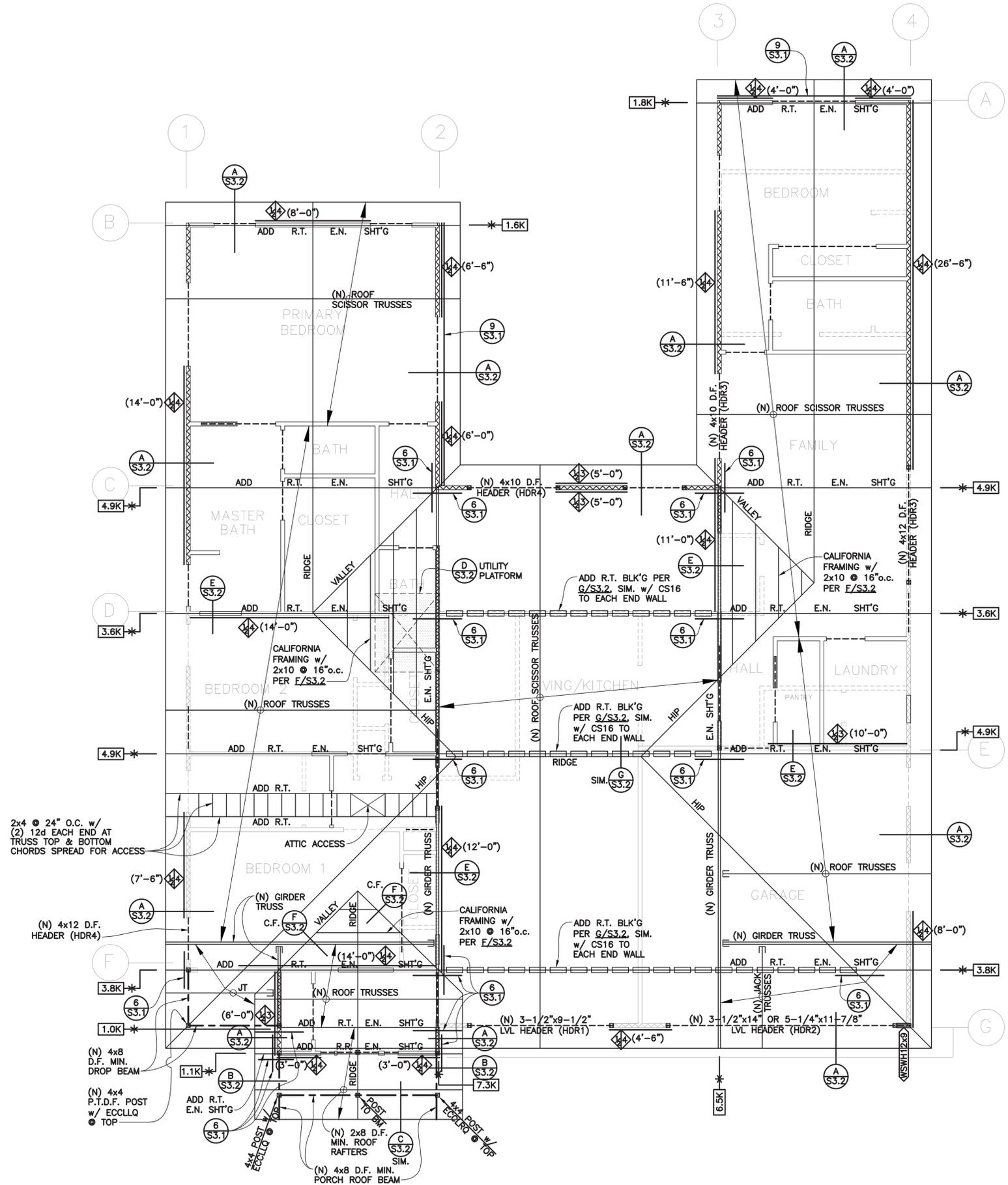
(N) 4x4  
P.T.D.F. POST  
w/ ECCLLQ  
@ TOP

(N) 2x8 D.F. MIN.  
ROOF  
RAFTERS

(N) 4x8 D.F. MIN.  
PORCH ROOF BEAM

**WALL BRACING & ROOF FRAMING PLAN**

NOTE: S.A.D. FOR VAULTED CEILING AREAS & ADDITIONAL INFORMATION.



1/4" = 1'-0"

NO.	REVISION	DATE
1	FOR APPROVAL	7/11/24

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CAMPBELL, CA 95008

**WALL BRACING & ROOF  
FRAMING PLAN**  
680 KENNETH AVE.  
CAMPBELL, CA 95008

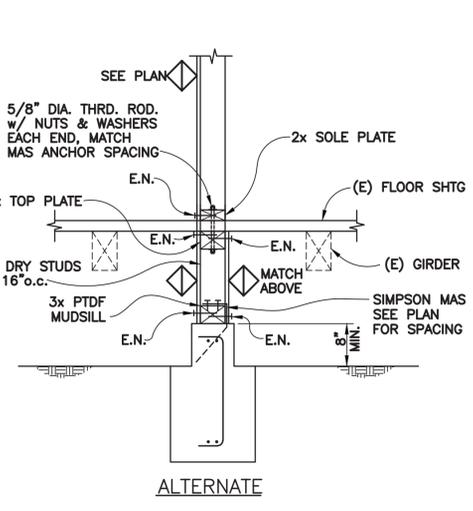
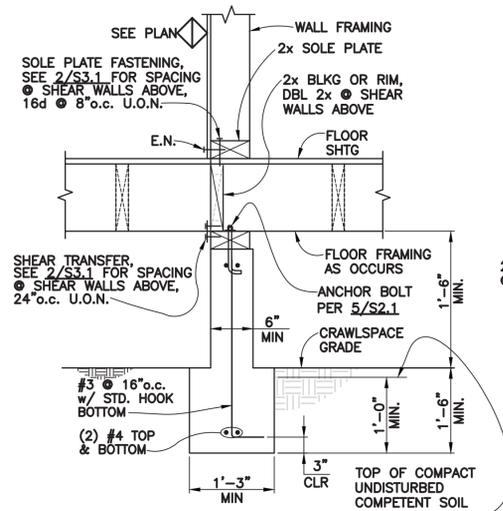
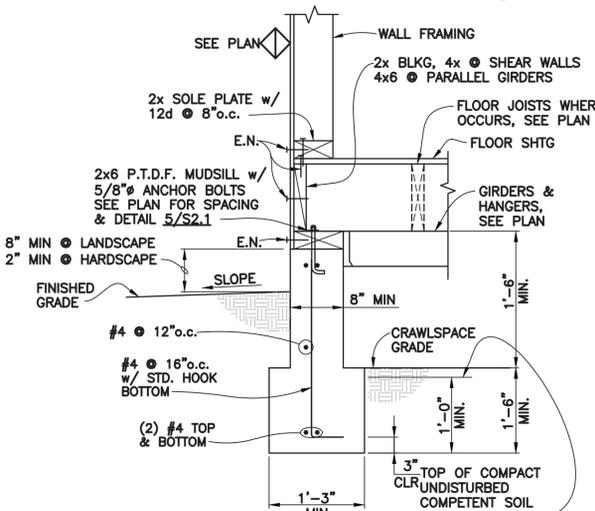
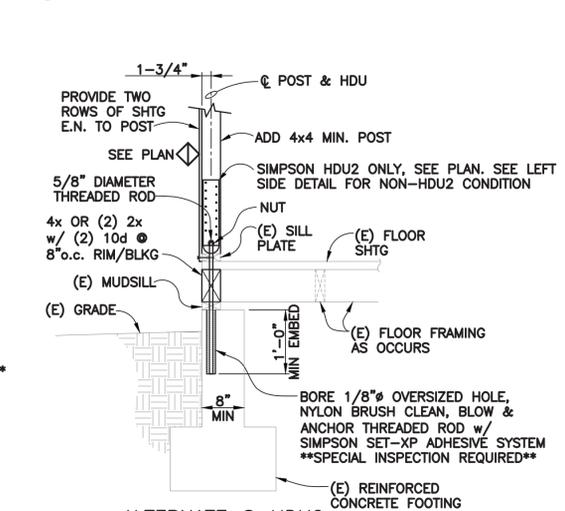
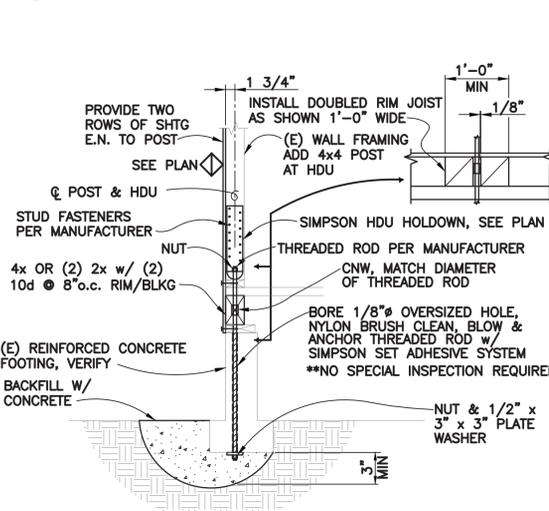
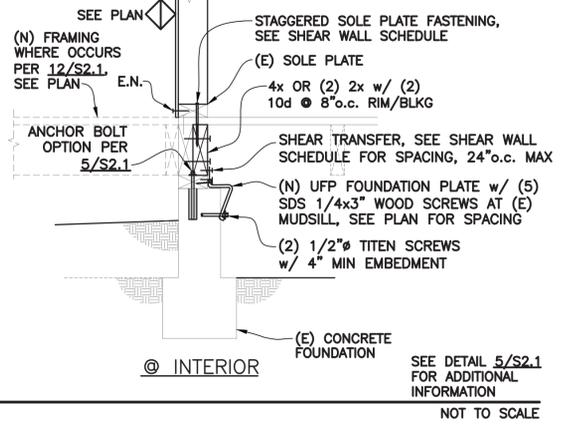
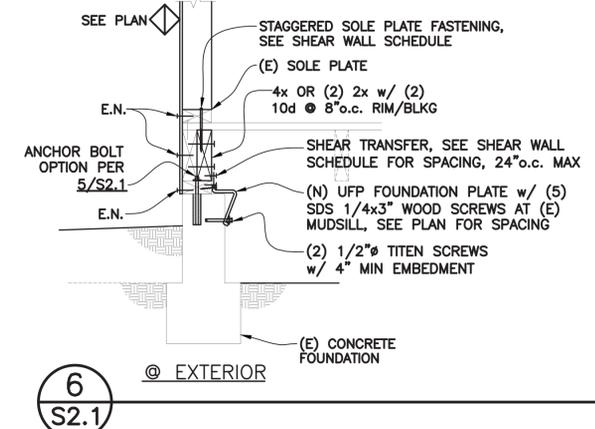
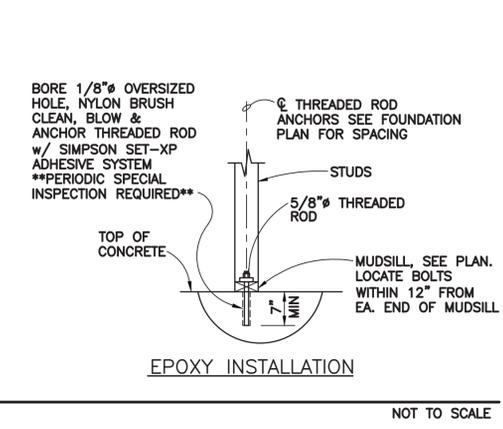
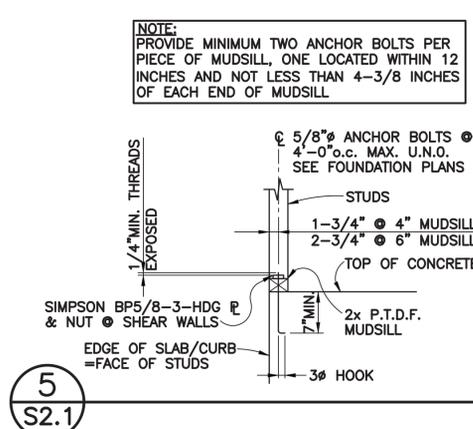
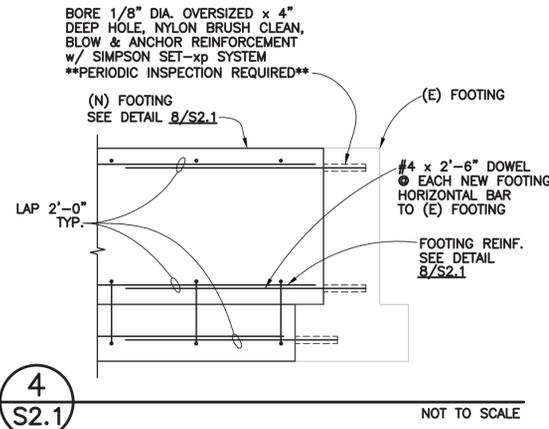
SCALE 1/4" = 1'-0"

DATE 7/11/24

PROJECT NO. 240201

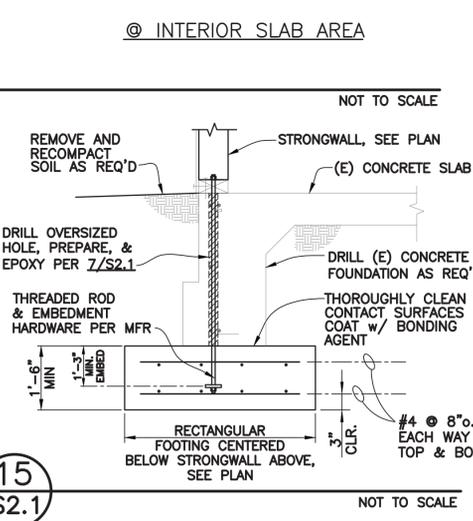
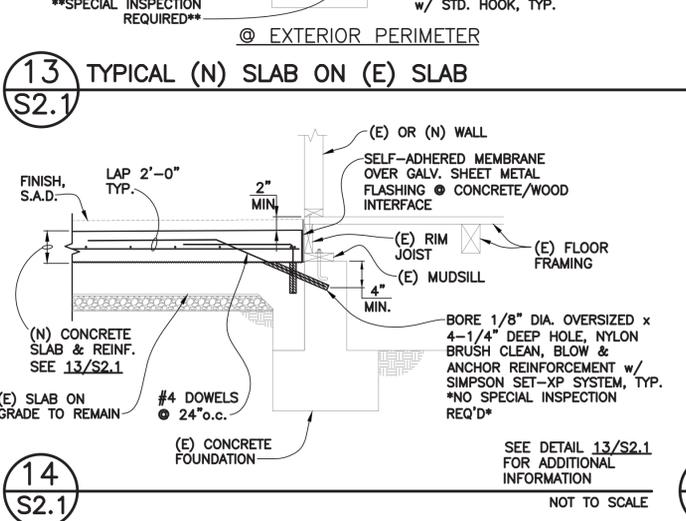
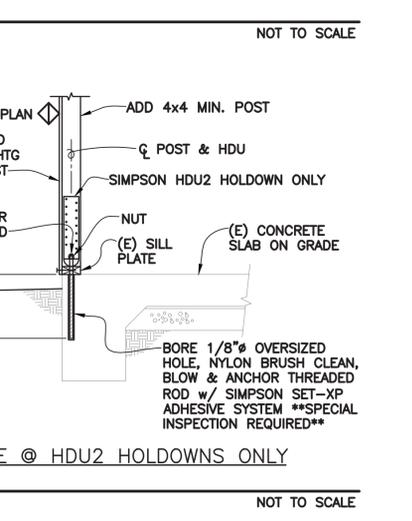
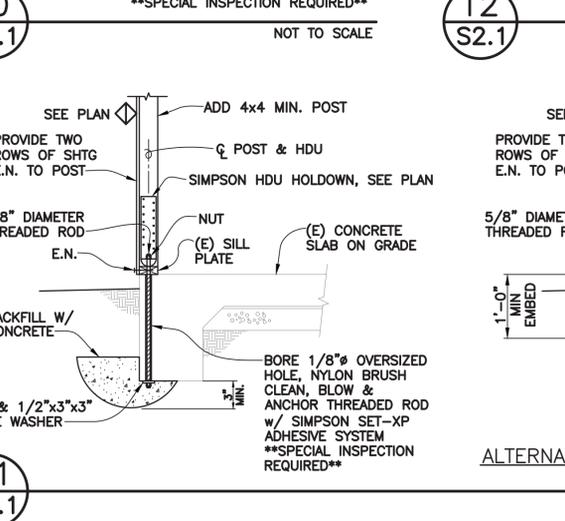
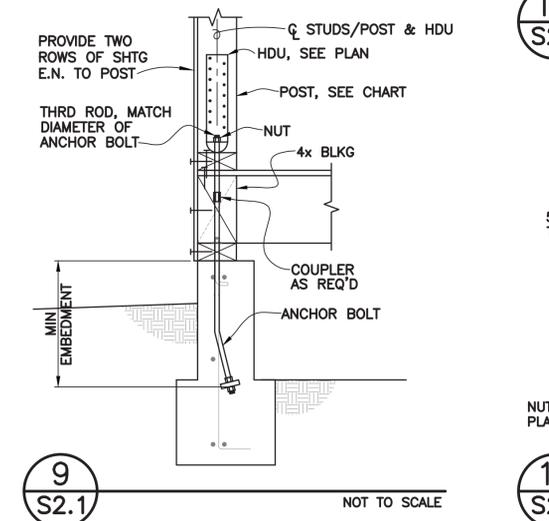
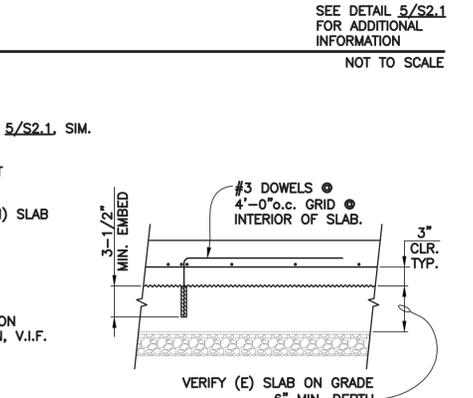
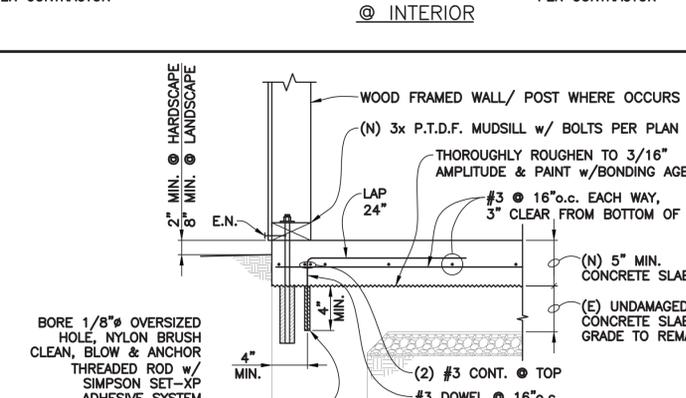
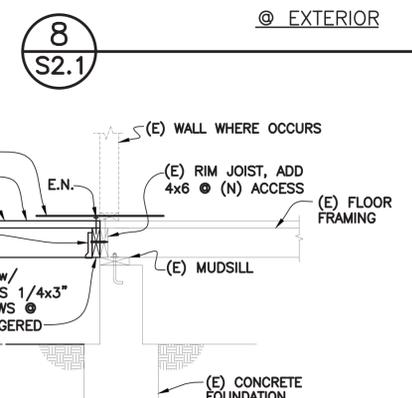
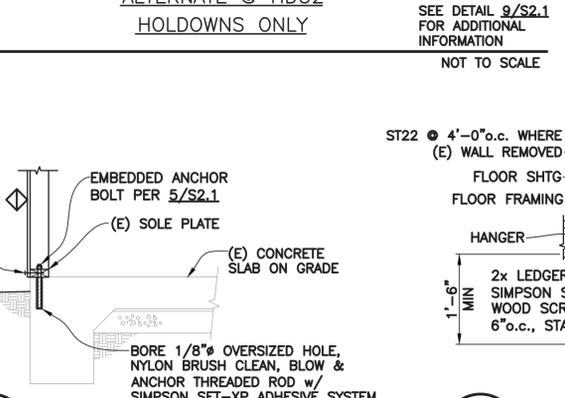
SHEET NO. S1.2

3 OF 7 SHEETS



**HOLDOWN SCHEDULE**

HOLDOWN TYPE	ANCHOR BOLT	MIN. EMBEDMENT	# OF SDS 1/4x2-1/2 SCREWS	MIN. POST
HDU2	SB5/8x24	18"	6	4 x 4
HDU4	SB5/8x24	18"	12	4 x 4
HDU11	SB1x30	24"	30	4 x 6



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Campbell, Ca 95008

**SILICON VALLEY**  
CIVIL & STRUCTURAL ENGINEERS

7/11/24  
DATE

FOR APPROVAL  
NO. REVISION

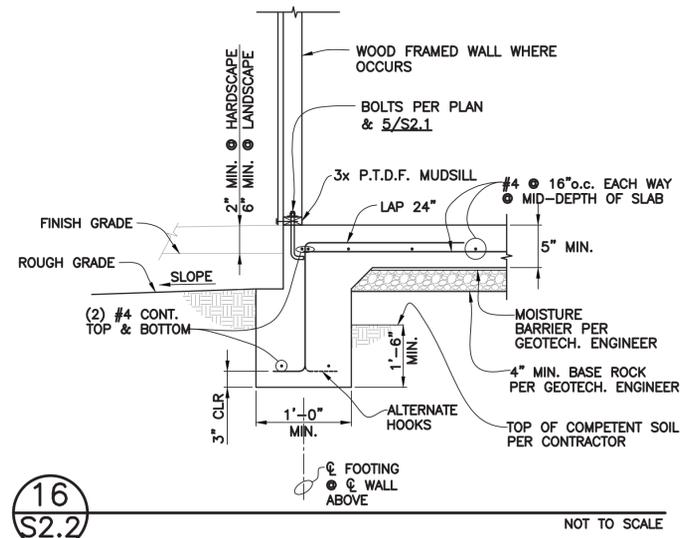
1 (408) 563-0323  
WWW.SVCSG.COM



**TIM MURRAY / SUMMIT**  
REMODELING CO., INC.  
381 MCGILGAY LANE  
CAMPBELL, CA 95008

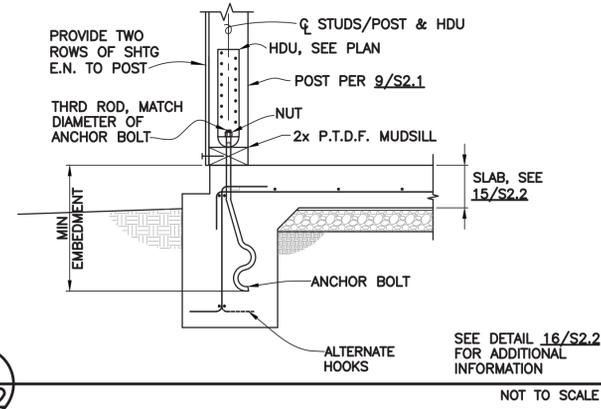
**FOUNDATION DETAILS**  
680 KENNETH AVE.  
CAMPBELL, CA 95008

SCALE 3/4" = 1'-0"  
DATE 7/11/24  
PROJECT NO. 240201  
SHEET NO. **S2.1**  
4 OF 7 SHEETS



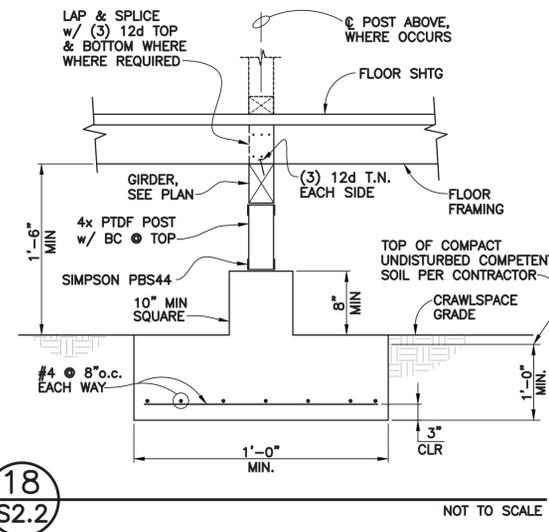
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S2.2

NOT TO SCALE



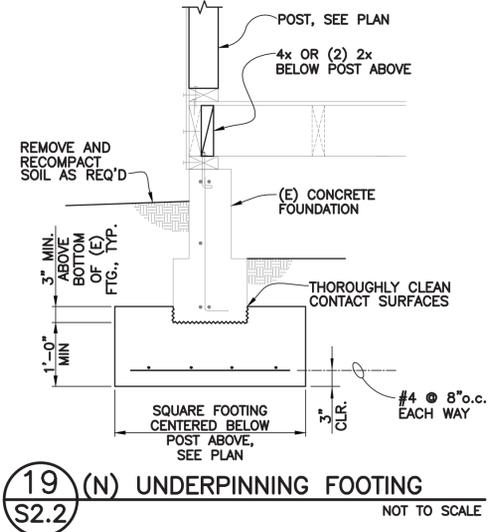
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NOT TO SCALE



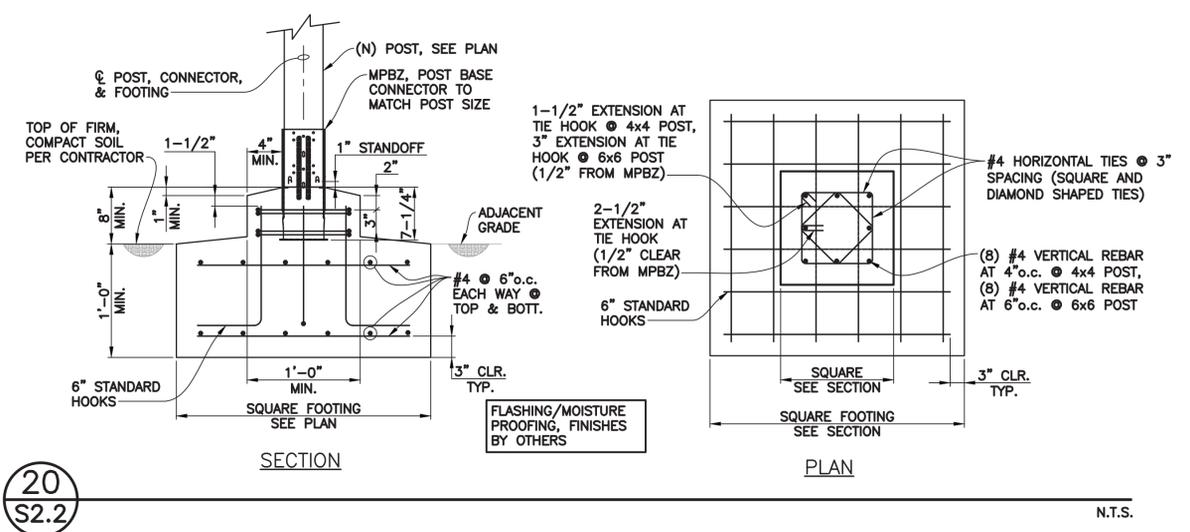
18  
S2.2

NOT TO SCALE



19  
S2.2

(N) UNDERPINNING FOOTING  
NOT TO SCALE



20  
S2.2

N.T.S.

NO.	REVISION	DATE
1	FOR APPROVAL	7/11/24

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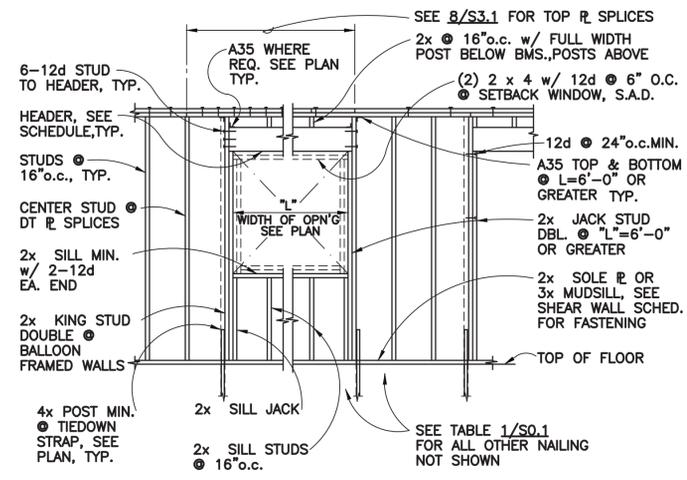
30 Union Avenue, Suite 200  
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TIM MURRAY / SUMMIT  
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FOUNDATION DETAILS  
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CAMPBELL, CA 95008

SCALE 3/4" = 1'-0"  
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5 OF 7 SHEETS

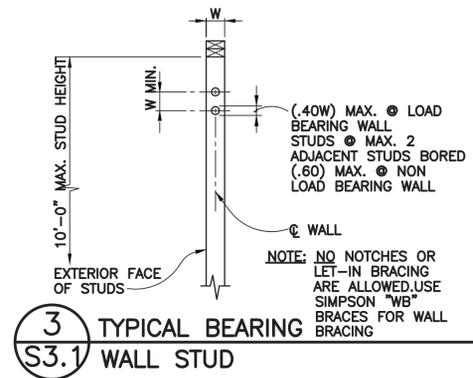


HEADER SCHEDULE		
OPENING SIZE "L"	HEADER SIZE-U.N.O.	
	@ 4" WALLS	@ 6" WALLS
0+ - 2 FT.	4 x 6	6 x 4
2+ - 4 FT.	4 x 8	6 x 6
4+ - 6 FT.	4 x 10	6 x 8
6+ - 8 FT.	4 x 12	6 x 10

INTERIOR NON-BEARING PARTITION HEADER SCHEDULE		
OPENING SIZE "L"	HEADER SIZE-U.N.O.	
	@ 4" WALLS	@ 6" WALLS
0+ - 2 FT.	4 x 4	6 x 4
2+ - 4 FT.	4 x 4	6 x 4
4+ - 6 FT.	4 x 4	6 x 4
6+ - 8 FT.	4 x 6	6 x 6

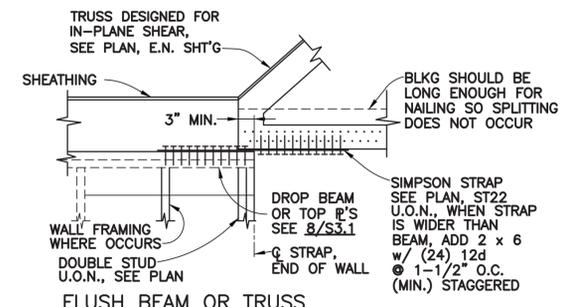
SHEAR WALL SCHEDULE (A, B, C, D, E)					
SHEAR WALL SYMBOL	MATERIAL	EDGE FASTENING	FIELD FASTENING	SOLE PLATE FASTENING INTO SOLID FRAMING	SHEAR TRANSFER SEE DETAILS
◆	15/32" APA RATED SHTG	10d NAILS @ 4" o.c.	10d NAILS @ 12" o.c.	SDS 1/4 x 6 @ 8" o.c.	A35 OR LTP4 OR LS50 @ 12" o.c.
◆	15/32" APA RATED SHTG	10d NAILS @ 3" o.c.	10d NAILS @ 12" o.c.	SDS 1/4 x 6 @ 8" o.c.	A35 OR LTP4 OR LS50 @ 12" o.c.

- NOTE:**
- ALL STUDS, PLATES, AND BLOCKING SHALL BE 2 x U.O.N. STUD SPACING SHALL BE 16" o.c. U.O.N. ALL SHEATHING EDGES SHALL BE BLOCKED.
  - WHERE SHEATHING IS APPLIED TO BOTH FACES OF A WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS. SHEAR TRANSFER, ANCHOR BOLT AND SOLE PLATE FASTENING SHALL BE HALF THE SPACING SHOWN.
  - INSTALL 3x STUDS AT VERTICAL AND HORIZONTAL SHEAR WALL PANEL JOINTS AND STAGGER NAILS AT EDGES TO AVOID SPLITTING.
  - FOR STUDWALL SOLE PLATE FASTENING SPACING NOT REFERENCED IN THIS SCHEDULE, USE 12d @ 8" o.c. FOR UPPER SOLE PLATES & 5/8" @ A.B.'S @ 48" o.c. FOR SILL PLATES.
  - STRUCTURAL SHEATHING MAY BE INSTALLED CONTINUOUS ON OPPOSITE FACE OF WALL TO THE SAME EXTENT AS IS SHOWN AT THE BUILDER'S OPTION.

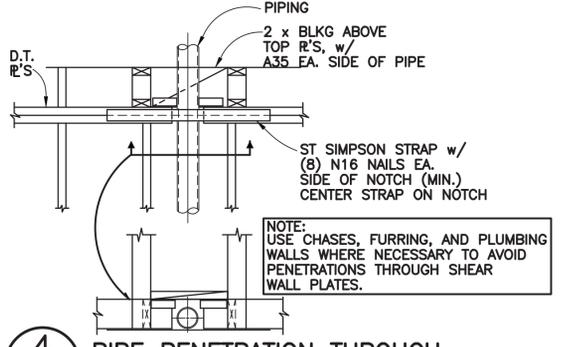


1 TYPICAL WALL FRAMING S3.1 NOT TO SCALE

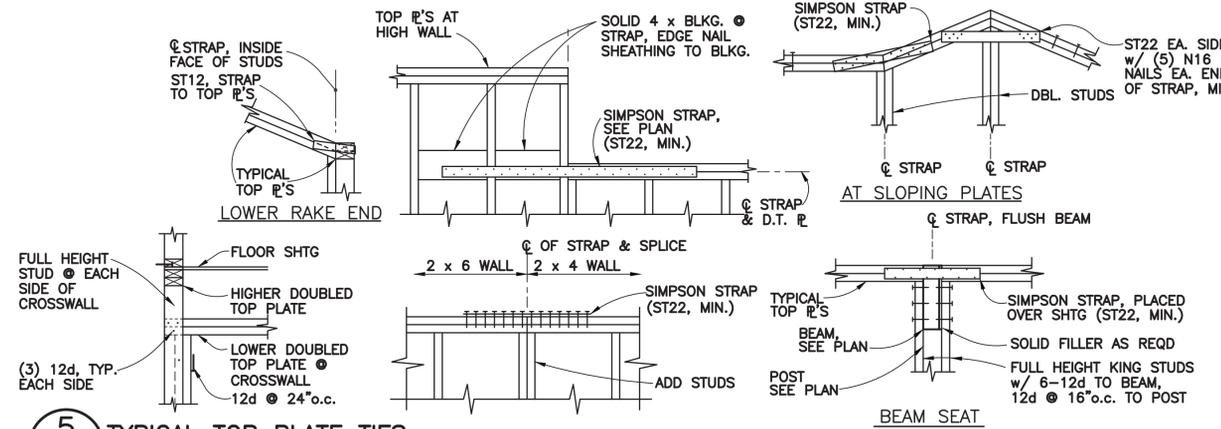
2 TYPICAL TOP PLATE TIES S3.1 NOT TO SCALE



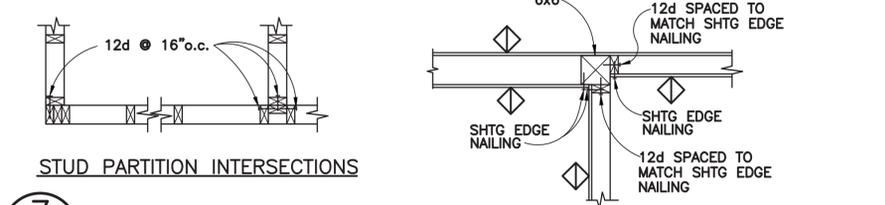
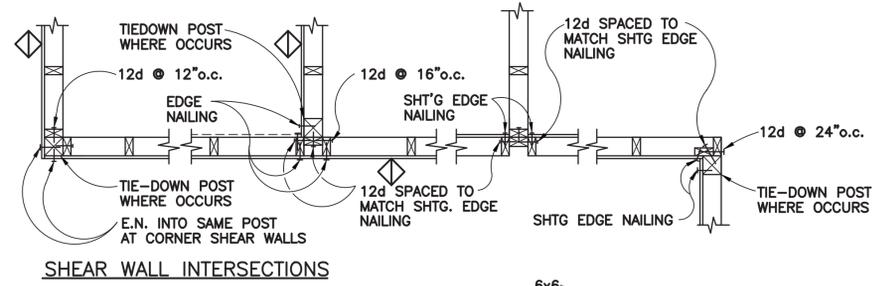
6 FLUSH BEAM OR TRUSS S3.1 NOT TO SCALE



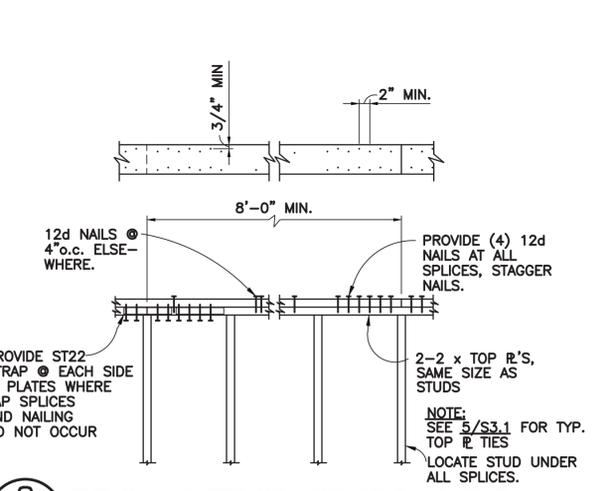
4 PIPE PENETRATION THROUGH TOP PLATES AT NON-SHEARWALLS S3.1 N.T.S.



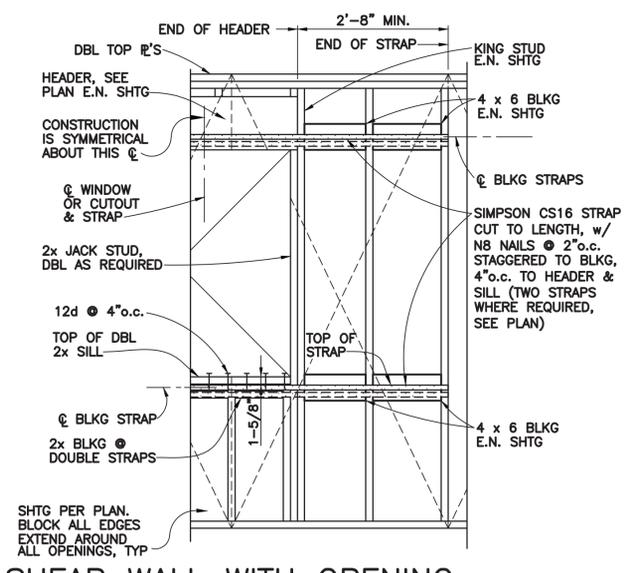
5 TYPICAL TOP PLATE TIES S3.1 NOT TO SCALE



7 SHEAR WALL INTERSECTIONS AND STUD PARTITION INTERSECTIONS S3.1 NOT TO SCALE



8 TYPICAL EXTERIOR, BEARING, SHEAR AND STRUCTURAL WALL TOP PLATES S3.1 N.T.S.



9 SHEAR WALL WITH OPENING S3.1 NOT TO SCALE

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 381 MCCLINCY LANE  
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FRAMING DETAILS  
 680 KENNETH AVE  
 CAMPBELL, CA 95008

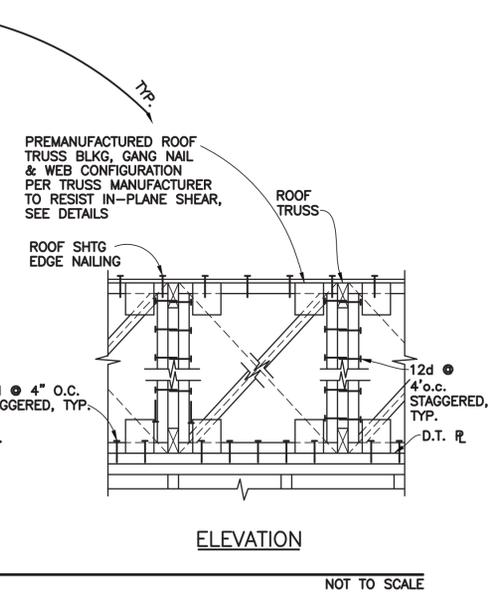
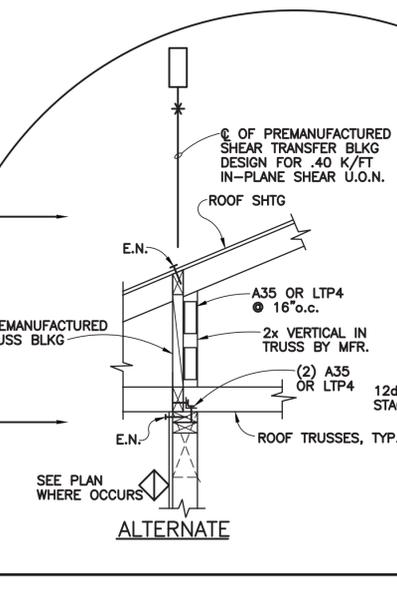
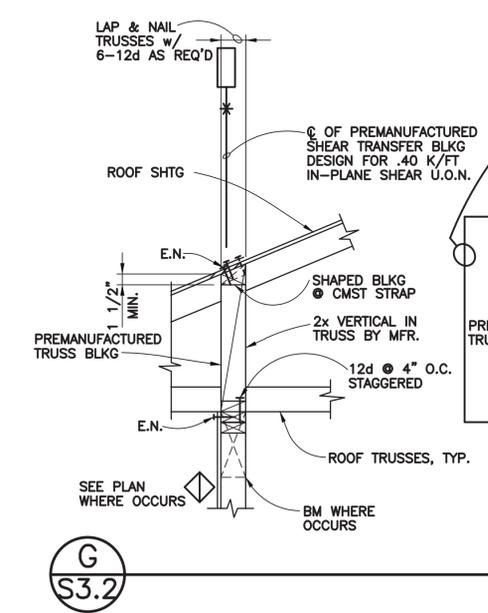
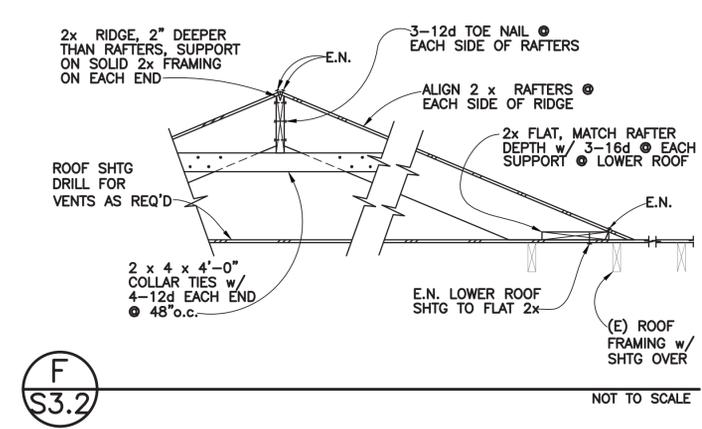
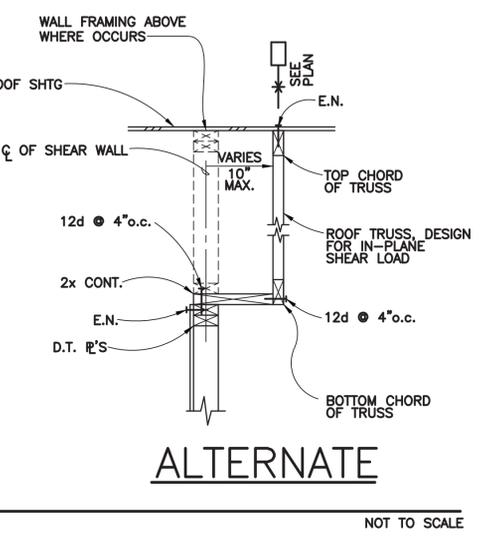
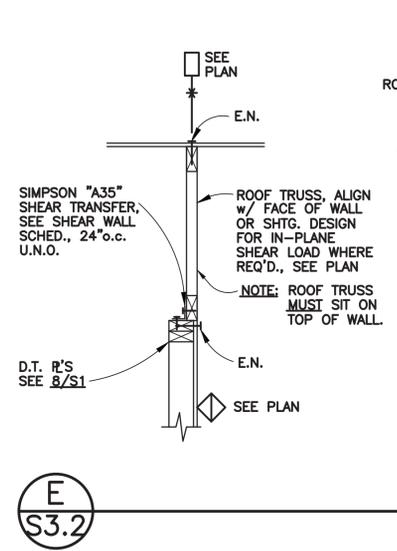
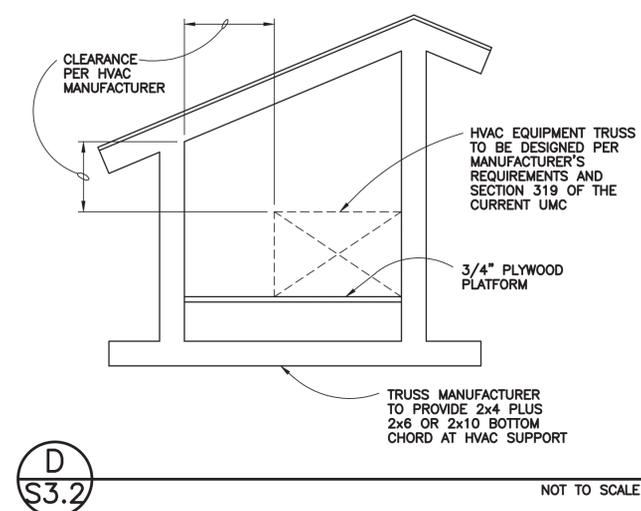
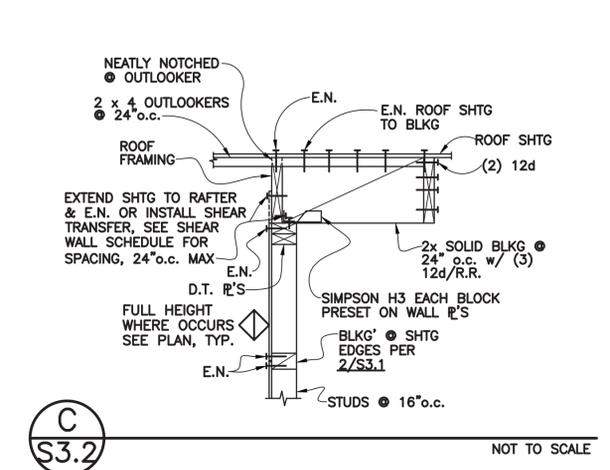
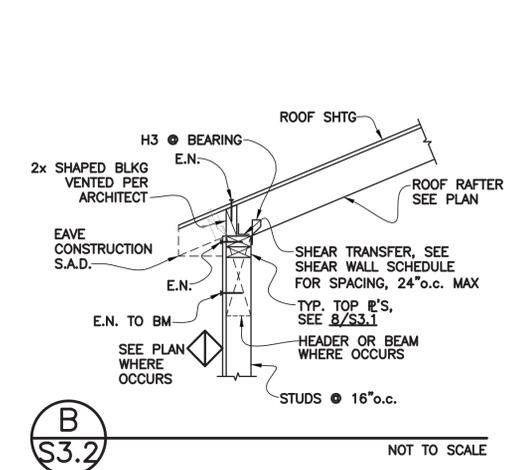
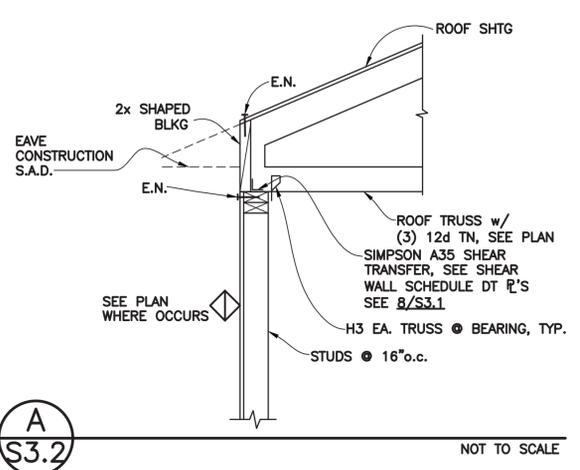
DATE	7/11/24
NO. REVISION	
FOR APPROVAL	

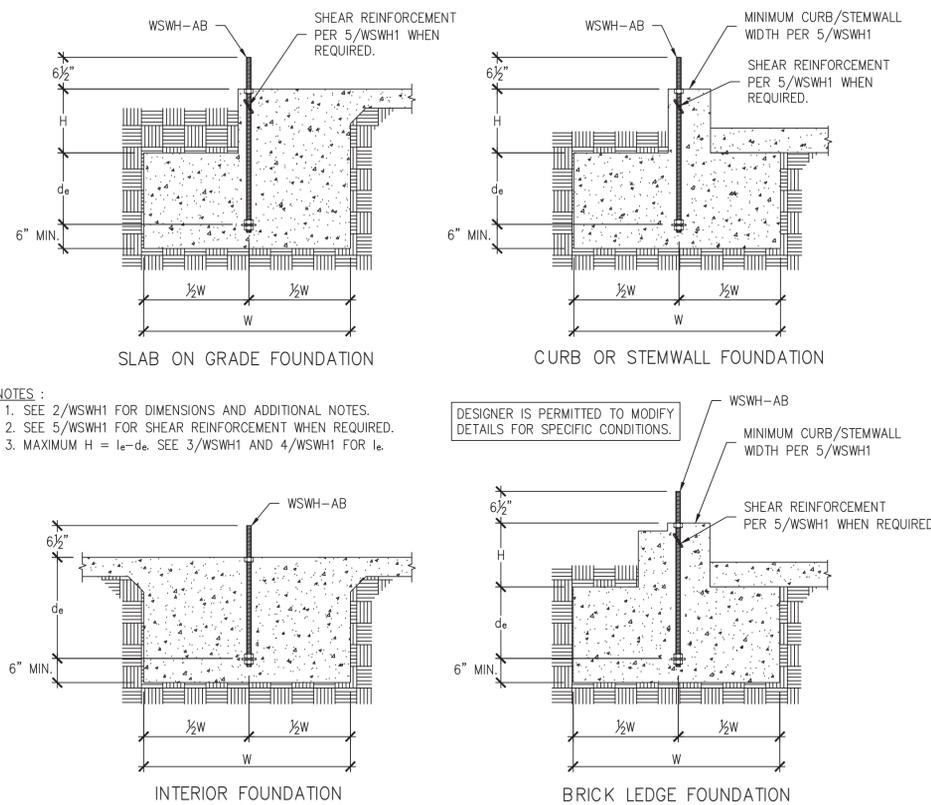


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 381 MCGILVER LANE  
 CAMPBELL, CA 95008

**FRAMING DETAILS**  
 680 KENNETH AVE  
 CAMPBELL, CA 95008

SCALE	3/4" = 1'-0"
DATE	7/11/24
PROJECT NO.	240201
SHEET NO.	S3.2
7 OF	7 SHEETS





NOTES:  
 1. SEE 2/WSWH FOR DIMENSIONS AND ADDITIONAL NOTES.  
 2. SEE 5/WSWH FOR SHEAR REINFORCEMENT WHEN REQUIRED.  
 3. MAXIMUM H =  $l_e - d_e$ . SEE 3/WSWH AND 4/WSWH FOR  $l_e$ .

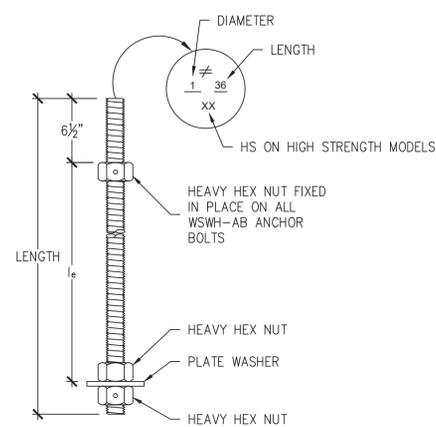
DESIGNER IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

STRONG-WALL® WSWH ANCHORAGE – TYPICAL SECTIONS

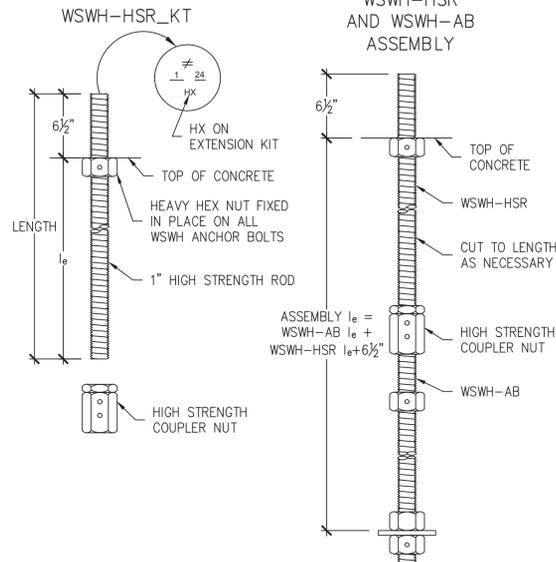
1

WSWH ANCHOR BOLTS

3



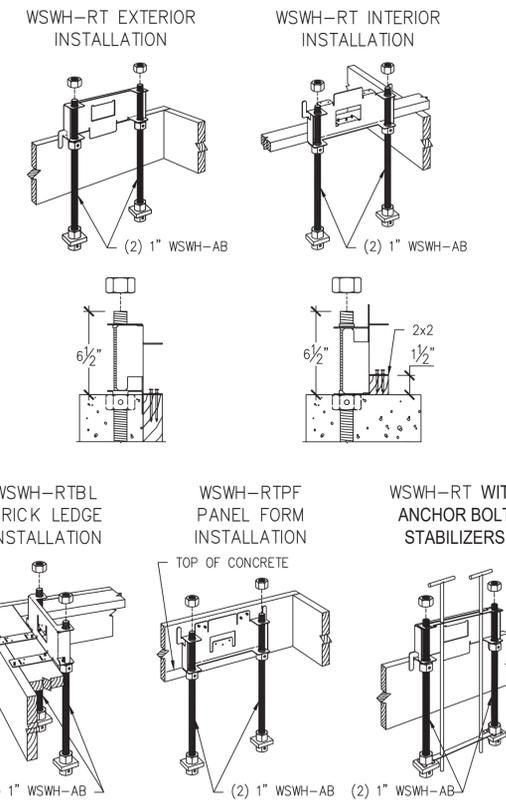
WSWH PANEL MODEL	MODEL NO.	DIAMETER	LENGTH	$l_e$
WSWH12, WSWH18 AND WSWH24	WSWH-AB1x24	1"	24"	15 1/2"
	WSWH-AB1x24HS	1"	24"	15 1/2"
	WSWH-AB1x30	1"	30"	21 1/2"
	WSWH-AB1x30HS	1"	30"	21 1/2"
	WSWH-AB1x36	1"	36"	27 1/2"
	WSWH-AB1x36HS	1"	36"	27 1/2"



WSWH PANEL MODEL	MODEL NO.	DIAMETER	LENGTH	$l_e$
WSWH12, WSWH18 AND WSWH24	WSWH-HSR1x24KT	1"	24"	17 1/2"
	WSWH-HSR1x36KT	1"	36"	29 1/2"

WSWH ANCHOR BOLT EXTENSION

4



WSWH ANCHOR BOLT TEMPLATES

6

NO.	DATE	REVISIONS
0	02-26-2021	FIRST RELEASE - 2018 IBC
1	03-16-2021	2021 IBC REVISIONS

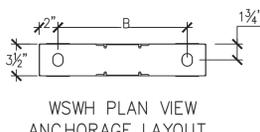
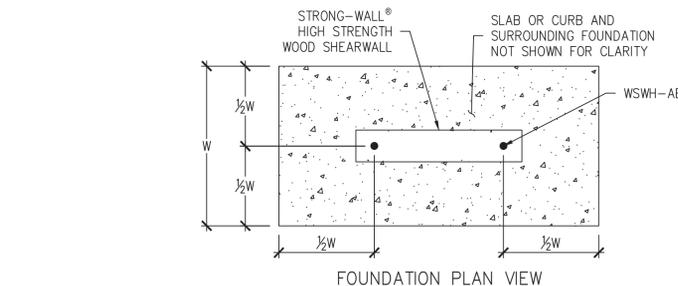
**SIMPSON Strong-Tie Co. Inc.**  
 5956 W. Lee Positas Blvd.  
 Pleasanton, CA 94588  
 Tel: (800) 999-5099  
 Website: www.strongtie.com



**STRONG-WALL® WSWH ANCHORAGE DETAILS**  
 ENGINEERED DESIGNS



NAME	
DATE	03-26-2021
SCALE	N.T.S.
CHECKED	
SHEET	WSWH1
OF SHEETS	
JOB NO.	



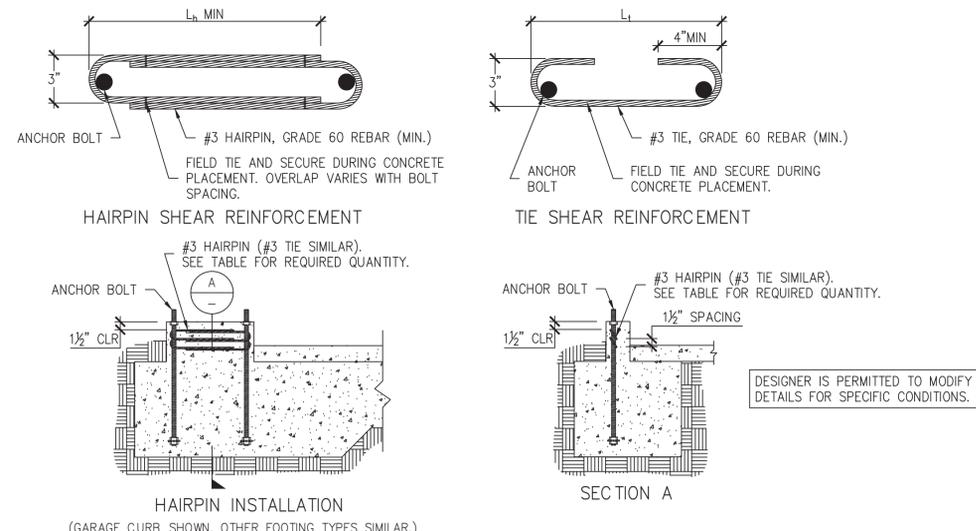
STRONG-WALL® HIGH STRENGTH WOOD SHEARWALL MODEL NO.	DISTANCE FROM CENTER-TO-CENTER OF WSWH-AB, B (in)
WSWH12	8 3/8
WSWH18	14
WSWH24	20

NOTES:  
 1. ANCHORAGE DESIGNS CONFORM TO ACI 318-11 APPENDIX D, ACI 318-14 CHAPTER 17 AND ACI 318-19 CHAPTER 17 WITH NO SUPPLEMENTARY REINFORCEMENT FOR CRACKED OR UNCRACKED CONCRETE AS NOTED.  
 2. ANCHOR STRENGTH INDICATES REQUIRED GRADE OF WSWH-AB ANCHOR BOLT. STANDARD (ASTM F1554 GRADE 36) OR HIGH STRENGTH (HS) (ASTM A193 GRADE B7).  
 3. SEISMIC INDICATES SEISMIC DESIGN CATEGORY C-F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS. SEISMIC ANCHORAGE DESIGNS CONFORM TO ACI 318-11 SECTION D.3.3.4.3, ACI 318-14 SECTION 17.2.3.4.3 AND ACI 318-19 SECTION 17.10.5.3.  
 4. WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C.  
 5. FOUNDATION DIMENSIONS ARE FOR ANCHORAGE ONLY. FOUNDATION DESIGN (SIZE AND REINFORCEMENT) BY OTHERS. THE DESIGNER MAY SPECIFY ALTERNATE EMBEDMENT, FOOTING SIZE OR ANCHOR BOLT.  
 6. REFER TO 1/WSWH FOR  $d_e$ .

DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH	WSWH-AB1 ANCHOR BOLT		
			ASD ALLOWABLE UPLIFT (lbs)	W (in)	$d_e$ (in)
SEISMIC	CRACKED	STANDARD	16,000	33	11
		HIGH STRENGTH	17,100	35	12
		HIGH STRENGTH	34,100	52	18
	UNCRACKED	STANDARD	36,800	55	19
		STANDARD	15,700	28	10
		HIGH STRENGTH	17,100	30	10
WIND	CRACKED	STANDARD	33,500	45	15
		HIGH STRENGTH	36,800	48	16
		STANDARD	6,200	16	6
		HIGH STRENGTH	11,400	24	8
		HIGH STRENGTH	17,100	32	11
		HIGH STRENGTH	21,100	36	12
	UNCRACKED	STANDARD	27,300	42	14
		HIGH STRENGTH	34,100	48	16
		STANDARD	36,800	51	17
		HIGH STRENGTH	6,400	14	6
		HIGH STRENGTH	12,500	22	8
		HIGH STRENGTH	17,100	28	10

DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH	WSWH-AB1 ANCHOR BOLT		
			ASD ALLOWABLE UPLIFT (lbs)	W (in)	$d_e$ (in)
SEISMIC	CRACKED	STANDARD	16,000	31	11
		HIGH STRENGTH	17,100	33	11
		HIGH STRENGTH	33,900	49	17
	UNCRACKED	STANDARD	36,800	52	18
		STANDARD	16,300	27	9
		HIGH STRENGTH	17,100	28	10
WIND	CRACKED	STANDARD	34,000	43	15
		HIGH STRENGTH	36,800	46	16
		STANDARD	5,600	14	6
		HIGH STRENGTH	10,200	21	7
		HIGH STRENGTH	17,100	30	10
		HIGH STRENGTH	20,000	33	11
	UNCRACKED	STANDARD	26,500	39	13
		HIGH STRENGTH	33,600	45	15
		STANDARD	36,800	48	16
		HIGH STRENGTH	6,200	13	6
		HIGH STRENGTH	12,800	21	7
		HIGH STRENGTH	17,100	26	9

DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH	WSWH-AB1 ANCHOR BOLT		
			ASD ALLOWABLE UPLIFT (lbs)	W (in)	$d_e$ (in)
SEISMIC	CRACKED	STANDARD	16,000	27	9
		HIGH STRENGTH	17,100	29	10
		HIGH STRENGTH	34,700	44	15
	UNCRACKED	STANDARD	36,800	46	16
		STANDARD	15,700	23	8
		HIGH STRENGTH	17,100	25	9
WIND	CRACKED	STANDARD	33,900	38	13
		HIGH STRENGTH	36,800	40	14
		STANDARD	6,800	14	6
		HIGH STRENGTH	11,800	20	7
		HIGH STRENGTH	17,100	26	9
		HIGH STRENGTH	21,400	30	10
	UNCRACKED	STANDARD	28,400	36	12
		HIGH STRENGTH	32,400	39	13
		STANDARD	36,800	43	15
		HIGH STRENGTH	6,800	12	6
		HIGH STRENGTH	12,400	18	6
		HIGH STRENGTH	17,100	23	8



MODEL	STRONG-WALL® HIGH STRENGTH WOOD SHEARWALL SHEAR ANCHORAGE				
	SEISMIC <sup>3</sup>		WIND <sup>4</sup>		
	$l_e$ OR $l_b$ (in.)	SHEAR REINFORCEMENT	MIN. CURB/STEMWALL WIDTH (in.)	SHEAR REINFORCEMENT	MIN. CURB/STEMWALL WIDTH (in.)
WSWH12	10 1/4	(1) #3 TIE	6	SEE NOTE 7	6
WSWH18	15	(2) #3 HAIRPINS <sup>5,6</sup>	6	(1) #3 HAIRPIN	6
WSWH24	19	(2) #3 HAIRPINS <sup>5</sup>	6	(2) #3 HAIRPINS <sup>5</sup>	6

NOTES:  
 1. SHEAR ANCHORAGE DESIGNS CONFORM TO ACI 318-19, ACI 318-11 AND ACI 318-14 AND ASSUME MINIMUM 2,500 PSI CONCRETE.  
 2. SHEAR REINFORCEMENT IS NOT REQUIRED FOR INTERIOR FOUNDATION APPLICATIONS (PANEL INSTALLED AWAY FROM EDGE OF CONCRETE), OR BRACED WALL PANEL APPLICATIONS.  
 3. SEISMIC INDICATES SEISMIC DESIGN CATEGORY C THROUGH F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS. SEISMIC SHEAR REINFORCEMENT DESIGNS CONFORM TO ACI 318-19, SECTION 17.10.6.3, ACI 318-14, SECTION 17.2.3.5.3.  
 4. WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B.  
 5. ADDITIONAL TIES MAY BE REQUIRED AT GARAGE CURB OR STEMWALL INSTALLATIONS BELOW ANCHOR REINFORCEMENT PER DESIGNER.  
 6. USE (1) #3 HAIRPIN FOR WSWH18 WHEN STANDARD STRENGTH ANCHOR IS USED.  
 7. USE (1) #3 TIE FOR WSWH12 WHEN PANEL DESIGN SHEAR FORCE EXCEEDS TABULATED ANCHORAGE ALLOWABLE SHEAR LOAD.  
 8. #4 GRADE 40 SHEAR REINFORCEMENT MAY BE SUBSTITUTED FOR WSWH SHEAR ANCHORAGE SOLUTIONS.  
 9. CONCRETE EDGE DISTANCE FOR ANCHORS MUST COMPLY WITH ACI 318-19 SECTION 17.9.2, ACI 318-14 SECTION 17.7.2 AND ACI 318-11 SECTION D.8.2.  
 10. THE DESIGNER MAY SPECIFY ALTERNATE SHEAR ANCHORAGE.

STRONG-WALL® HIGH STRENGTH WOOD SHEARWALL TENSION ANCHORAGE SCHEDULE 2,500, 3,000 AND 4,500 PSI

2

STRONG-WALL® WSWH SHEAR ANCHORAGE SCHEDULE AND DETAILS

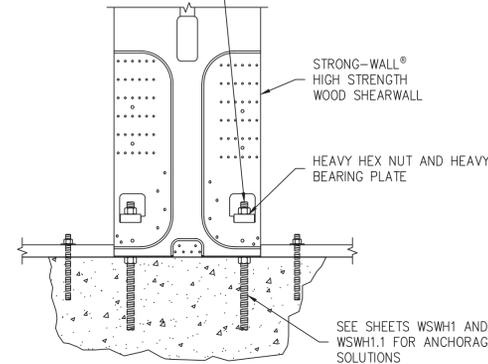
5

**STRONG-WALL® HIGH STRENGTH WOOD SHEARWALL MODELS**

MODEL NO.	W (in.)	H (in.)	ANCHOR BOLTS		TOTAL WALL WEIGHT (lb.)
			QUANTITY	DIA. (in.)	
WSWH12x7	12	84	2	1	105
WSWH18x7	18	84	2	1	155
WSWH12x8	12	96	2	1	120
WSWH18x8	18	96	2	1	175
WSWH24x8	24	96	2	1	225
WSWH12x9	12	108	2	1	130
WSWH18x9	18	108	2	1	195
WSWH24x9	24	108	2	1	250
WSWH12x10	12	120	2	1	145
WSWH18x10	18	120	2	1	210
WSWH24x10	24	120	2	1	275
WSWH12x12	12	144	2	1	165
WSWH18x12	18	144	2	1	245
WSWH24x12	24	144	2	1	325
WSWH18x14	18	168	2	1	285
WSWH24x14	24	168	2	1	370
WSWH24x16	24	192	2	1	420
WSWH18x20	18	240	2	1	390
WSWH24x20	24	240	2	1	520

- NOTES :**
- FOR HEIGHTS NOT LISTED, ORDER THE NEXT TALLEST PANEL AND TRIM TO FIT. MINIMUM TRIMMED HEIGHT FOR ALL PANELS IS 74 1/2".
  - ALL PANELS COME WITH PRE-ATTACHED HOLD-DOWNS, TWO HEAVY HEX NUTS, TWO HEAVY BEARING PLATES, ONE WSWH-TP TOP CONNECTION PLATE WITH REQUIRED FASTENERS AND INSTALLATION INSTRUCTIONS.
  - ALL PANELS ARE 3/8" THICK.

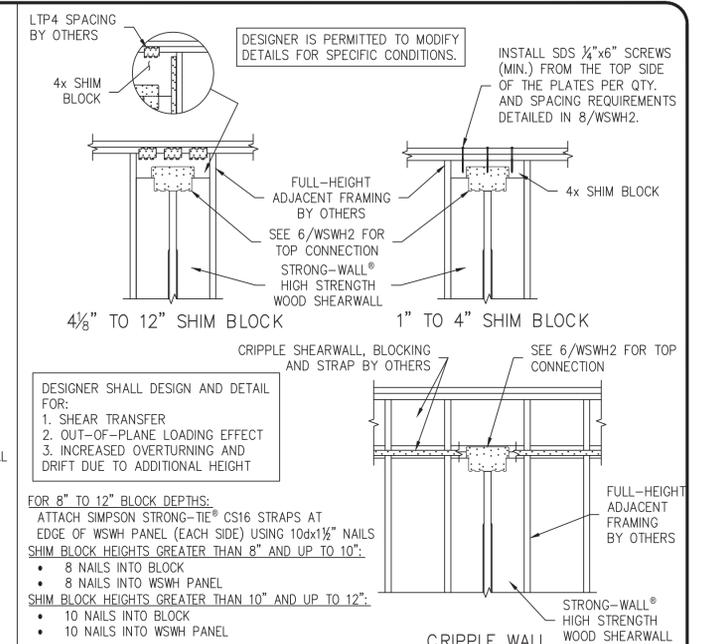
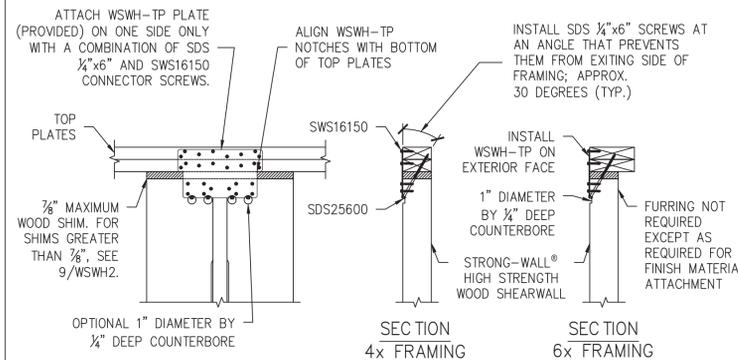
PLACE STRONG-WALL® HIGH STRENGTH WOOD SHEARWALL OVER THE ANCHOR BOLTS AND SECURE WITH HEAVY BEARING PLATES AND HEAVY HEX NUTS (PROVIDED). DO NOT USE AN IMPACT WRENCH. USE 1 3/8" WRENCH FOR 1" NUT. TIGHTEN ANCHOR NUTS FINGER TIGHT + 1/2" TURN.



DESIGNER IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

MODEL NO.	FASTENER QUANTITY	
	SWS16150	SDS25600
WSWH-TP12	14	2
WSWH-TP18	26	4
WSWH-TP24	46	8

DESIGNER IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

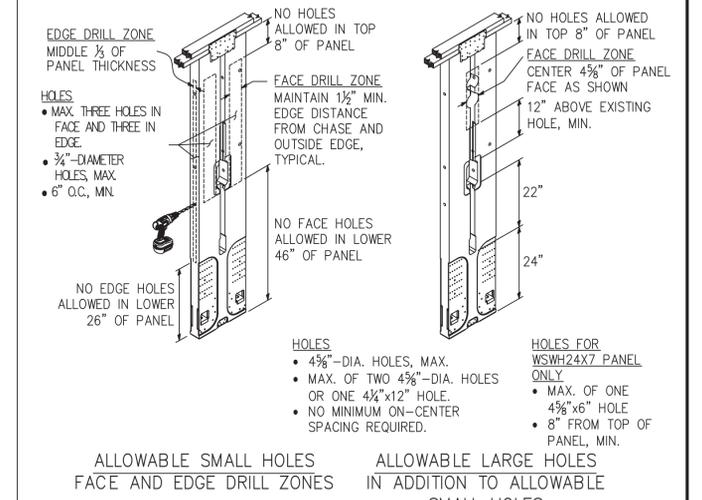
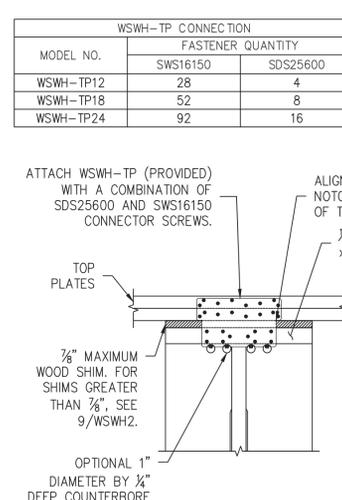
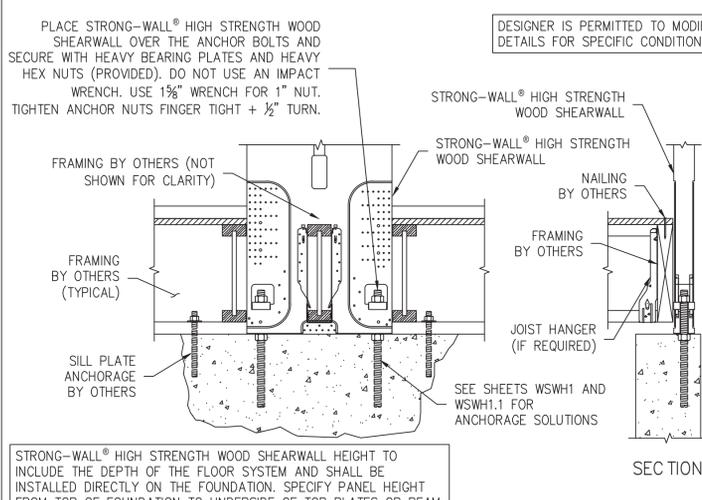
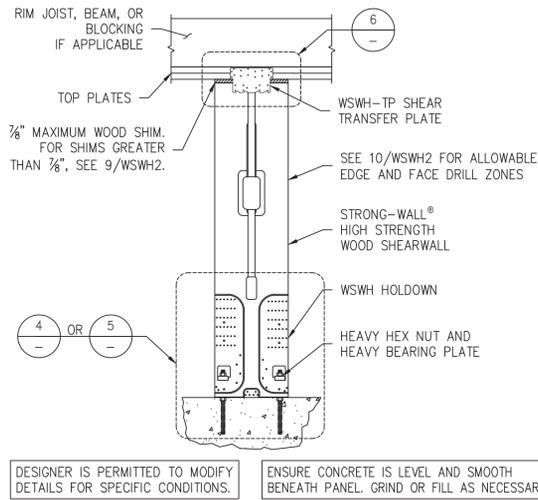


**STRONG-WALL® WSWH MODELS**

**STANDARD INSTALLATION BASE CONNECTION**

**TOP CONNECTION**

**TOP OF WALL HEIGHT ADJUSTMENTS**

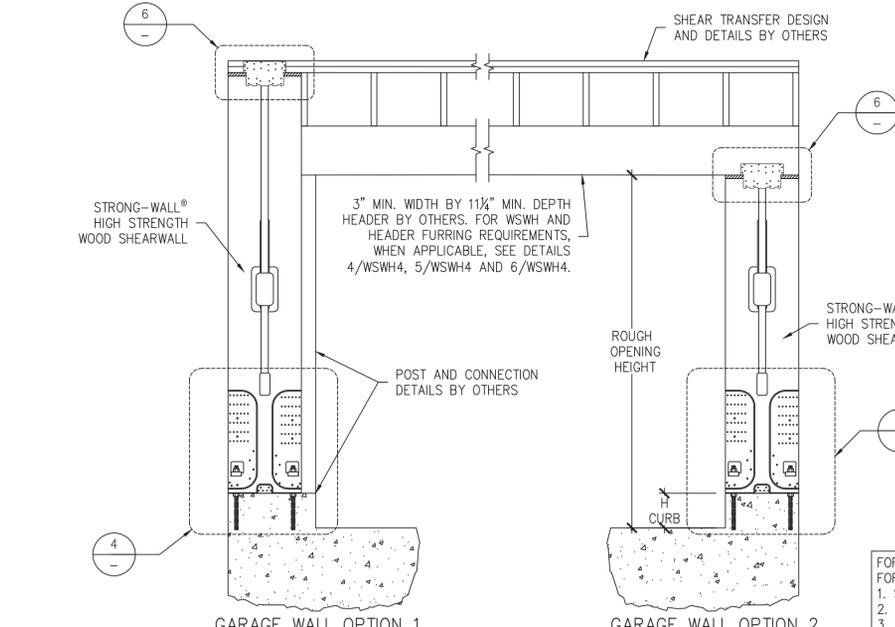


**SINGLE STORY WSWH ON CONCRETE**

**WOOD FLOOR SYSTEM BASE CONNECTION**

**BACK-TO-BACK TOP CONNECTION**

**TRIM ZONE AND ALLOWABLE HOLES**



DESIGNER IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

WHEN WSWH-PS STRAPS OMITTED, ALLOWABLE SHEAR VALUES FOR STANDARD PANEL APPLY.

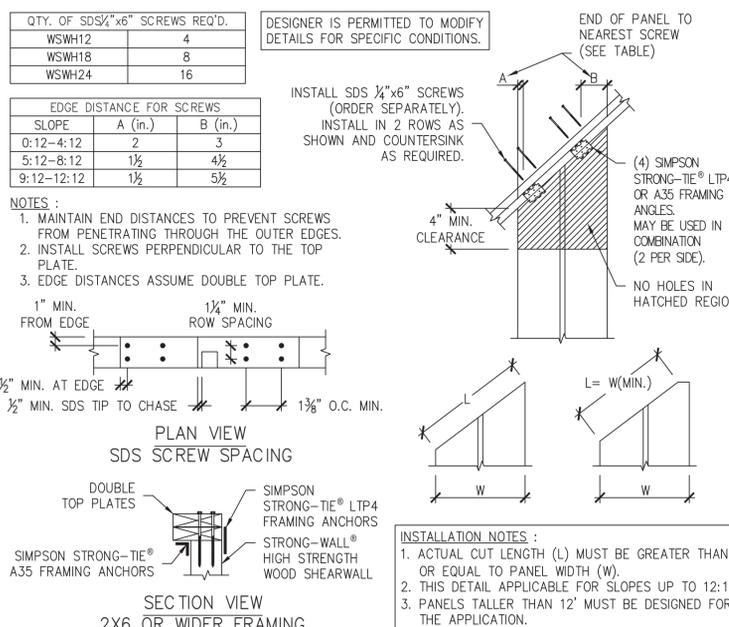
GARAGE HEADER ROUGH OPENING HEIGHT			
MODEL NO.	TRIMMED PANEL HEIGHT	H CURB	ROUGH OPENING HEIGHT
WSWH12x7	78"	5 1/2"	6'-11 1/2"
WSWH18x7		6"	7'-0"
WSWH24x7		6"	7'-0"
WSWH12x8	85 1/2"	0"	7'-1 1/2"
WSWH18x8		5 1/2"	8'-2 3/4"
WSWH24x8	93 3/4"	6"	8'-3 3/4"

**NOTES :**

- IF REQUIRED ROUGH OPENING HEIGHT EXCEEDS TABLE VALUE, SPECIFY NEXT TALLER PANEL AND TRIM AS NECESSARY. THE STRONG-WALL® HIGH STRENGTH WOOD SHEARWALL MAY BE TRIMMED TO A MINIMUM HEIGHT OF 74 1/2".
- FURRING DOWN GARAGE HEADER MAY BE REQUIRED FOR CORRECT ROUGH OPENING HEIGHT.

FOR GARAGE WALL OPTION 2, DESIGNER SHALL DESIGN AND DETAIL FOR:

- SHEAR TRANSFER
- OUT-OF-PLANE LOADING EFFECT
- INCREASED OVERTURNING AND DRIFT DUE TO ADDITIONAL HEIGHT



- STRONG-WALL® HIGH STRENGTH WOOD SHEARWALL IS MANUFACTURED AND TRADEMARKED BY "SIMPSON STRONG-TIE COMPANY INC." HOME OFFICE: 5956 W. LAS POSITAS BLVD., PLEASANTON, CA 94588 TEL: (800) 999-5099, FAX: (925) 847-1597. "SIMPSON STRONG-TIE COMPANY INC." IS AN ISO 9001-2008 REGISTERED COMPANY.
- USE OF THIS PRODUCT IS SUBJECT TO THE APPROVAL OF THE LOCAL BUILDING DEPARTMENT. DESIGN OF THE BUILDING'S LATERAL FORCE RESISTING SYSTEM, INCLUDING THE LOAD PATH TO TRANSFER LATERAL FORCES FROM THE STRUCTURE TO THE GROUND, IS THE RESPONSIBILITY OF THE DESIGNER.
- ENGINEER OF RECORD IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONDITIONS, ELEVATIONS, ETC. PRIOR TO INSTALLATION OF ANY COMPONENTS FOR THE STRONG-WALL SB SYSTEM. IF ANY DISCREPANCIES ARE FOUND, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER FOR CLARIFICATION PRIOR TO CONSTRUCTION.
- INSTALLATION OF PRODUCT SHALL BE DONE IN CONFORMANCE TO THESE DRAWINGS. THE PERFORMANCE OF MODIFIED PRODUCTS OR ALTERED INSTALLATION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE DESIGNER.
- SIMPSON STRONG-TIE COMPANY INC. RESERVES THE RIGHT TO CHANGE SPECIFICATIONS, DESIGNS, AND MODELS WITHOUT NOTICE OR LIABILITY FOR SUCH CHANGES.
- ALL HARDWARE CALLED OUT IS SIMPSON STRONG-TIE.
- SEE ICC-ES ESR-2652 OR CITY OF LOS ANGELES RR25730 AS APPLICABLE FOR ADDITIONAL INFORMATION.

**ALTERNATE WSWH GARAGE FRONT OPTIONS**

**RAKE WALL**

**NOTES**

NO.	DATE	REVISIONS
0	11-20-2020	FIRST RELEASE - 2018 IBC
1	03-16-2021	2021 IBC REVISIONS

**SIMPSON Strong-Tie Co. Inc.**  
 5956 W. Las Positas Blvd.  
 Pleasanton, CA 94588  
 Tel: (800) 999-5099  
 Website: www.strongtie.com

THIS IS NO EQUAL

**STRONG-WALL® WSWH**  
 FRAMING DETAILS  
 ENGINEERED DESIGNS

THIS IS NO EQUAL

NAME	
DATE	03-16-2021
SCALE	N.T.S.
CHECKED	
SHEET	
WSWH2	
OF SHEETS	
JOB NO.	

**CALGREEN 2022 NOTES – MANDATORY REQUIREMENTS:**

1. PROJECTS WHICH DISTURB LESS THAN ONE ACRE OF SOIL AND ARE NOT PART OF A LARGER COMMON PLAN OF DEVELOPMENT WHICH IN TOTAL DISTURBS ONE ACRE OR MORE, SHALL MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION. SEE CALGREEN 4.106.2 FOR FURTHER DETAILS.

2. CONSTRUCTION PLANS SHALL INDICATE HOW THE SITE GRADING OR DRAINAGE SYSTEM WILL MANAGE ALL SURFACE WATER FLOWS TO KEEP WATER FROM ENTERING BUILDINGS, SWALES, WATER COLLECTION AND DISPOSAL SYSTEMS, FRENCH DRAINS, WATER RETENTION GARDENS, AND OTHER MEASURES CAN BE USED. EXCEPTION: ADDITIONS AND ALTERATIONS NOT ALTERING THE DRAINAGE PATH.

3. FOR ANY NEW DWELLING UNITS WITH ATTACHED GARAGES AND FOR REBUILDS OF EXISTING DWELLING UNITS THAT INCLUDE A PANEL UPGRADE OR CONSTRUCTION BETWEEN THE PANEL AND PARKING AREA, INSTALL A LEVEL 2 EV READY SPACE AND LEVEL 1 EV READY SPACE. THE RACEWAY TERMINATION LOCATION SHALL BE PERMANENTLY AND VISIBLY MARKED AS "LEVEL 2 EV-READY." EXCEPTION: FOR EACH DWELLING UNIT WITH ONLY ONE PARKING SPACE, INSTALL A LEVEL 2 EV READY SPACE.  
LEVEL 1 EV READY SPACE IS A PARKING SPACE SERVED BY A COMPLETE ELECTRIC CIRCUIT WITH A MINIMUM OF 110/120 VOLT, 20-AMPERE CAPACITY, INCLUDING ELECTRICAL PANEL CAPACITY; AN OVERPROTECTION DEVICE; A MINIMUM 1" DIAMETER RACEWAY THAT MAY INCLUDE MULTIPLE CIRCUITS AS ALLOWED BY THE COUNTY ELECTRICAL CODE; PROPERLY SIZED CONDUCTORS; GROUNDING AND BONDING; AND EITHER (A) A RECEPTACLE LABELLED "ELECTRIC VEHICLE OUTLET" WITH AT LEAST A 1/2" FONT ADJACENT TO THE PARKING SPACE, OR (B) LABELLED ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE).

LEVEL 2 EV READY SPACE IS A PARKING SPACE SERVED BY A COMPLETE ELECTRIC CIRCUIT WITH A MINIMUM OF 200/240 VOLT, 40-AMPERE CAPACITY, INCLUDING THE REQUIRED ELECTRICAL PANEL CAPACITY; AN OVERCURRENT PROTECTION DEVICE; A MINIMUM 1" DIAMETER RACEWAY THAT MAY INCLUDE MULTIPLE CIRCUITS AS ALLOWED BY THE COUNTY ELECTRICAL CODE; PROPERLY SIZED CONDUCTORS; GROUNDING AND BONDING; AND EITHER (A) A RECEPTACLE LABELLED "ELECTRIC VEHICLE OUTLET" WITH A MINIMUM 1/2" FONT ADJACENT TO THE PARKING SPACE, OR (B) A BLANK LABELLED ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) WITH A MINIMUM OUTPUT OF 40 AMPERES.

4. ACCESSORY DWELLING UNITS (ADU) AND JUNIOR ACCESSORY DWELLING UNITS (JADU) WITHOUT ADDITIONAL PARKING SPACES AND WITHOUT ELECTRICAL PANEL UPGRADE OR NEW PANEL INSTALLATION ARE EXEMPT FROM REQUIREMENTS ON NOTE 3. ADUS AND JADUS WITHOUT ADDITIONAL PARKING BUT WITH ELECTRICAL PANEL UPGRADES OR NEW PANELS MUST HAVE RESERVED BREAKERS AND ELECTRICAL CAPACITY ACCORDING TO THE REQUIREMENTS OF NOTE 3.

5. ALL NONCOMPLIANT PLUMBING FIXTURES SHALL BE REPLACED WITH WATERCONSERVING PLUMBING FIXTURES. PLUMBING FIXTURE REPLACEMENT IS REQUIRED PRIOR TO ISSUANCE OF A CERTIFICATE OF FINAL COMPLETION, CERTIFICATE OF OCCUPANCY, OR FINAL PERMIT APPROVAL BY BUILDING AND INSPECTION DIVISION. SEE CIVIL CODE SECTION 1101.1, ET SEQ., FOR THE DEFINITION OF A NONCOMPLIANT PLUMBING FIXTURE, TYPES OF RESIDENTIAL BUILDINGS AFFECTED AND OTHER IMPORTANT ENACTMENT DATES.

A. THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH. TANK-TYPE WATER CLOSETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR TANK-TYPE TOILETS.

B. SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 80 PSI. SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR SHOWERHEADS.

C. WHEN A SHOWER IS SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL SHOWERHEADS AND/OR OTHER SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ALLOW ONLY ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME. A HAND-HELD SHOWER SHALL BE CONSIDERED A SHOWERHEAD.

D. THE MAXIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GALLONS PER MINUTE AT 80 PSI. THE MINIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT BE LESS THAN 0.5 GALLONS PER MINUTE AT 20 PSI.

E. THE MAXIMUM FLOW RATE OF KITCHEN FAUCETS SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 80 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 80 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 80 PSI.

6. PLUMBING FIXTURES AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET THE APPLICABLE STANDARDS REFERENCED IN TABLE 1101.1 OF THE CALIFORNIA PLUMBING CODE.

7. RESIDENTIAL DEVELOPMENTS SHALL COMPLY WITH COUNTY OF SANTA CLARA WATER EFFICIENT LANDSCAPE ORDINANCE OR THE CURRENT CALIFORNIA DEPARTMENT OF WATER RESOURCES' MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO), WHICHEVER IS MORE STRINGENT.

8. Not used.

9. ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OTHER OPENINGS IN SOLE BOTTOM PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR A SIMILAR METHOD ACCEPTABLE TO THE COUNTY OF SANTA CLARA.

10. RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 65 PERCENT OF THE NONHAZARDOUS CONSTRUCTION AND DEMOLITION WASTE IN ACCORDANCE WITH CALGREEN SECTION 4.408.2 OR 4.409.3.

A. A CONSTRUCTION WASTE MANAGEMENT PLAN IS PROVIDED. THE CONSTRUCTION WASTE MANAGEMENT PLAN SHALL BE UPDATED AS NECESSARY AND SHALL BE AVAILABLE DURING CONSTRUCTION FOR EXAMINATION BY THE COUNTY OF SANTA CLARA.

1. IDENTIFY THE CONSTRUCTION AND DEMOLITION WASTE MATERIALS TO BE DIVERTED FROM DISPOSAL BY RECYCLING, REUSE ON THE PROJECT OR SALVAGE FOR FUTURE USE OR SALE.

2. SPECIFY IF CONSTRUCTION AND DEMOLITION WASTE MATERIALS WILL BE SORTED ON-SITE (SOURCE-SEPARATED) OR BULK MIXED (SINGLE STREAM).

3. IDENTIFY DIVERSION FACILITIES WHERE THE CONSTRUCTION AND DEMOLITION WASTE MATERIAL WILL BE TAKEN.

4. IDENTIFY CONSTRUCTION METHODS EMPLOYED TO REDUCE THE AMOUNT OF CONSTRUCTION AND DEMOLITION WASTE GENERATED.

5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

B. A WASTE MANAGEMENT COMPANY CAN BE UTILIZED IF APPROVED BY THE COUNTY OF SANTA CLARA. SEE CALGREEN 4.408.3 FOR FURTHER DETAILS.

11. DOCUMENTATION SHALL BE PROVIDED TO THE COUNTY OF SANTA CLARA WHICH DEMONSTRATES COMPLIANCE WITH NOTE 10.

12. AT THE TIME OF FINAL INSPECTION, A MANUAL, COMPACT DISC, WEB-BASED REFERENCE, OR OTHER MEDIA ACCEPTABLE TO THE COUNTY OF SANTA CLARA INCLUDES ALL OF THE REQUIRED INFORMATION, SHALL BE PLACED IN THE BUILDING. SEE CALGREEN 4.410.1 FOR DETAILS OF REQUIRED INFORMATION.

13. ANY INSTALLED GAS FIREPLACE SHALL BE A DIRECT-VENT SEALED-COMBUSTION TYPE. ANY INSTALLED WOODSTOVE OR PELLET STOVE SHALL COMPLY WITH U.S. EPA NEW SOURCE PERFORMANCE STANDARDS (NSPS) EMISSION LIMITS AS APPLICABLE, AND SHALL HAVE A PERMANENT LABEL INDICATING THEY ARE CERTIFIED TO MEET THE EMISSION LIMITS. WOODSTOVES, PELLET STOVES AND FIREPLACES SHALL ALSO COMPLY WITH APPLICABLE SANTA CLARA COUNTY ORDINANCES AND BAY AREA AIR QUALITY MANAGEMENT DISTRICT REGULATION 6, RULE 3.

14. AT THE TIME OF ROUGH INSTALLATION, DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE COUNTY OF SANTA CLARA TO REDUCE THE AMOUNT OF WATER, DUST AND DEBRIS, WHICH MAY ENTER THE SYSTEM.

15. ADHESIVES, SEALANTS AND CAULKS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF CALGREEN TABLES 4.504.1 OR 4.504.2 AS REPRODUCED ON SHEET CG-1. SUCH PRODUCTS ALSO SHALL COMPLY WITH THE RULE 1168 PROHIBITION ON THE USE OF CERTAIN TOXIC COMPOUNDS (CHLOROFORM, ETHYLENE DICHLORIDE, METHYLENE CHLORIDE, PERCHLOROETHYLENE AND TRICHLOROETHYLENE), EXCEPT FOR AEROSOL PRODUCTS, AS SPECIFIED BELOW.  
AEROSOL ADHESIVES, AND SMALLER UNIT SIZES OF ADHESIVES, AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT, LESS PACKAGING, WHICH DO NOT WEIGH MORE THAN 1 POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94501.

16. ARCHITECTURAL PAINTS AND COATINGS SHALL COMPLY WITH VOC LIMITS AS SHOWN IN TABLE 4.504.3 SHEET CG-1. THE VOC CONTENT LIMIT FOR COATINGS THAT DO NOT MEET THE DEFINITIONS FOR THE SPECIALTY COATINGS CATEGORIES LISTED IN TABLE 4.504.3 SHALL BE DETERMINED BY CLASSIFYING THE COATING AS A FLAT, NONFLAT OR NONFLAT-HIGH GLOSS COATING, BASED ON ITS GLOSS, AS DEFINED IN SUBSECTIONS 4.21, 4.36, AND 4.37 OF THE 2001 CALIFORNIA AIR RESOURCES BOARD, SUGGESTED CONTROL MEASURE, AND THE CORRESPONDING FLAT, NONFLAT OR NONFLAT-HIGH GLOSS VOC LIMIT IN TABLE 4.504.3, SHEET CG-1 SHALL APPLY.

17. AEROSOL PAINTS AND COATINGS SHALL MEET THE PRODUCT-WEIGHTED MIX LIMITS FOR VOC IN SECTION 94522(A)(2) AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS AND OZONE DEPLETING SUBSTANCES, IN SECTIONS 94522(EX)1 AND (F)(1) OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94520; AND IN AREAS UNDER THE JURISDICTION OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT ADDITIONALLY COMPLY WITH THE PERCENT VOC BY WEIGHT OF PRODUCT LIMITS OF REGULATION 8, RULE 49.

18. VERIFICATION OF COMPLIANCE WITH NOTES 15, 16, AND 17 SHALL BE PROVIDED AT THE REQUEST OF THE COUNTY OF SANTA CLARA.

19. ALL CARPET AND CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.2, JANUARY 2011 (EMISSION TESTING METHOD FOR CALIFORNIA SPECIFICATION 01350). ALL CARPET ADHESIVE SHALL MEET THE REQUIREMENTS OF TABLE 4.504.1, SHEET CG-1.

20. WHERE RESILIENT FLOORING IS INSTALLED, AT LEAST 80 PERCENT OF FLOOR AREA RECEIVING RESILIENT FLOORING SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.2, JANUARY 2011 (EMISSION TESTING METHOD FOR CALIFORNIA SPECIFICATION 01350).

21. HARDWOOD PLYWOOD, PARTICLEBOARD AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED ON THE INTERIOR OR EXTERIOR OF THE BUILDING SHALL MEET THE REQUIREMENTS FOR FORMALDEHYDE AS SPECIFIED IN TABLE 4.504.5 SHEET CG-1.

22. VERIFICATION OF COMPLIANCE WITH NOTE 21 SHALL BE PROVIDED AT THE REQUEST OF THE COUNTY OF SANTA CLARA.

23. CONCRETE SLAB FOUNDATIONS REQUIRED TO HAVE A VAPOR RETARDER BY CBC, CHAPTER 14 OR CONCRETE FLOOR ON GROUND FLOORS REQUIRED TO HAVE A VAPOR RETARDER BY CRC CHAPTER 8, SHALL COMPLY WITH FOLLOWING REQUIREMENT: A CAPILLARY BREAK SHALL BE INSTALLED IN COMPLIANCE WITH AT LEAST ONE OF THE FOLLOWING:

A. A 4-INCH-THICK BASE OF 1/2 INCH OR LARGER CLEAN AGGREGATE SHALL BE PROVIDED WITH A VAPOR RETARDER IN DIRECT CONTACT WITH CONCRETE AND A CONCRETE MIX DESIGN, WHICH WILL ADDRESS BLEEDING, SHRINKAGE, AND CURLING, SHALL BE USED.  
B. A SLAB DESIGN SPECIFIED BY THE LICENSED DESIGN PROFESSIONAL.

24. BUILDING MATERIALS WITH VISIBLE SIGNS OF WATER DAMAGE SHALL NOT BE INSTALLED. WALL AND FLOOR FRAMING SHALL NOT BE ENCLOSED WHEN THE FRAMING MEMBERS EXCEED 14 PERCENT MOISTURE CONTENT. INSULATION PRODUCTS WHICH ARE VISIBLY WET OR HAVE A HIGH MOISTURE CONTENT SHALL BE REPLACED OR ALLOWED TO DRY PRIOR TO ENCLOSURE IN WALL OR FLOOR CAVITIES. NET-APPLIED INSULATION PRODUCTS SHALL FOLLOW THE MANUFACTURERS' DRYING RECOMMENDATIONS PRIOR TO ENCLOSURE.

25. EACH BATHROOM SHALL BE MECHANICALLY VENTILATED AND SHALL COMPLY WITH THE FOLLOWING:

A. FANS SHALL BE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE OUTSIDE THE BUILDING.  
B. UNLESS FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM, FANS MUST BE CONTROLLED BY A HUMIDITY CONTROL.

1. HUMIDITY CONTROLS SHALL BE CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF ≤ 50 PERCENT TO A MAXIMUM OF 80 PERCENT. A HUMIDITY CONTROL MAY UTILIZE MANUAL OR AUTOMATIC MEANS OF ADJUSTMENT.

2. A HUMIDITY CONTROL MAY BE A SEPARATE COMPONENT TO THE EXHAUST FAN AND IS NOT REQUIRED TO BE INTEGRAL.

26. HEATING AND AIR-CONDITIONING SYSTEMS SHALL BE SIZED, DESIGNED AND HAVE THEIR EQUIPMENT SELECTED USING THE FOLLOWING METHODS:

A. THE HEAT LOSS AND HEAT GAIN IS ESTABLISHED ACCORDING TO ANSIAACCA 2 MANUAL J—2016 (RESIDENTIAL LOAD CALCULATION), ASHRAE HANDBOOKS OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.

B. DUCT SYSTEMS ARE SIZED ACCORDING TO ANSIAACCA 1 MANUAL D—2016 (RESIDENTIAL DUCT SYSTEMS), ASHRAE HANDBOOKS OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.

C. SELECT HEATING AND COOLING EQUIPMENT ACCORDING TO ANSIAACCA 3 MANUAL S—2014 (RESIDENTIAL EQUIPMENT SELECTION) OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.

27. 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.

28. IF REQUIRED BY THE COUNTY OF SANTA CLARA, 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 COUNTY OF SANTA CLARA FOR THE PARTICULAR TYPE OF INSPECTION OR TASK TO BE PERFORMED. SPECIAL INSPECTORS SHALL BE INDEPENDENT ENTITIES WITH NO FINANCIAL INTEREST IN THE MATERIALS OR THE PROJECT THEY ARE INSPECTING FOR COMPLIANCE WITH THIS CODE.

29. DOCUMENTATION USED TO SHOW COMPLIANCE WITH THIS CODE SHALL INCLUDE BUT IS NOT LIMITED TO, CONSTRUCTION DOCUMENTS, PLANS, SPECIFICATIONS, BUILDER OR INSTALLER CERTIFICATION, INSPECTION REPORTS, OR OTHER METHODS ACCEPTABLE TO THE COUNTY OF SANTA CLARA 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 IN THE APPLICATION CHECKLIST.

Revisions	By



381 E. McClintock Ln., Campbell, CA 95008

**ADD ENTRY, MASTER BEDROOM/BATH AND EXTEND FAMILY ROOM**

**JING LUAN AND BRIAN LEATH**  
**680 KENNETH AVE**  
**CAMPBELL, CA 95008**

<b>DRAWN BY</b>
<b>TIM MURRAY</b>
<b>DATE</b>
<b>02/21/2024</b>
<b>SCALE</b>
<b>AS NOTED</b>
<b>JOB NO.</b>
<b>N/A</b>
<b>SHEET</b>
<b>G1</b>

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: Kenneth Ave Residence  
Calculation Date/Time: 2024-08-07T13:34:33-07:00  
Calculation Description: Title 24 Analysis  
Input File Name: 0240602 Kenneth Ave Residence.rbd22x

CF1R-PRF-01-E  
(Page 1 of 12)

GENERAL INFORMATION			
01	Project Name	Kenneth Ave Residence	
02	City	Campbell	
03	Project Location	680 Kenneth Avenue	
04	City	Campbell	
05	Zip code	95008	
06	Software Version	EnergyPro 9.3	
07	Climate Zone	4	
08	Front Orientation (deg/ Cardinal)	225	
09	Number of Dwelling Units	1	
10	Project Scope	Addition and/or Alteration	
11	Building Type	Single Family	
12	Number of Bedrooms	4	
13	Number of Stories	1	
14	Addition Cond. Floor Area (ft²)	1597	
15	Existing Cond. Floor Area (ft²)	2432	
16	Penetration Average U-Factor	0.29	
17	Glazing Percentage (%)	15.95%	
18	Total Cond. Floor Area (ft²)	4029	
19	ADU Conditioned Floor Area	n/a	
20	ADU Conditioned Floor Area	n/a	
21	ADU Conditioned Floor Area	n/a	
22	Fuel Type	Natural Gas	
23	No Dwelling Units	No	

COMPLIANCE RESULTS		
01	Building Complies with Computer Performance	Yes
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.	Yes
03	Building does not incorporate Special Features	Yes

Registration Number: 424-P010162816A-000-000-000000-0000  
Registration Date/Time: 08/07/2024 15:19  
HERS Provider: CHEERS  
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Report Version: 2022.0.000  
Schema Version: rev 20220901  
Report Generated: 2024-08-07 13:34:58

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: Kenneth Ave Residence  
Calculation Date/Time: 2024-08-07T13:34:33-07:00  
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ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDS1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDS2) (kBtu/ft²-yr)	Proposed Design Source Energy (EDS1) (kBtu/ft²-yr)	Proposed Design TDV Energy (EDS2) (kBtu/ft²-yr)	Compliance Margin (EDS1)	Compliance Margin (EDS2)
Space Heating	0	24.26	0	20.33	0	3.93
Space Cooling	0	-83.43	0	-88.52	0	-5.09
MD Ventilation	0	0	0	0	0	0
Water Heating	0	18.79	0	16.78	0	2.01
Self Utilization/Feasibility Credit	0	0	0	0	0	0
Efficiency Compliance Total	0	86.46	0	85.63	0	0.85
Photovoltaics	0	0	0	0	0	0
Battery	0	0	0	0	0	0
Flexibility	0	0	0	0	0	0
Indoor Lighting	0	6.64	0	6.64	0	0
Appl. & Cooling	0	21.73	0	21.72	0	0
Plug Loads	0	27.27	0	27.27	0	0
Outdoor Lighting	0	1.67	0	1.67	0	0
TOTAL COMPLIANCE	0	148.79	0	142.93	0	5.86

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ENERGY USE INTENSITY				
	Standard Design (kBtu/ft²-yr)	Proposed Design (kBtu/ft²-yr)	Compliance Margin (kBtu/ft²-yr)	Margin Percentage
Gross EUI¹	16.6	15.53	1.07	6.45
Net EUI²	16.6	15.53	1.07	6.45

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

REQUIRED SPECIAL FEATURES  
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.  
\* NO SPECIAL FEATURES REQUIRED

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 CPDs and CPDs are required to be completed in the HERS Register.  
\* Kitchen range hood  
\* Minimum Air Flow Verified (SER/SEER2)  
\* Fan Efficacy Wats/CFM  
\* Verified HSP  
\* Verified heat pump rated heating capacity  
\* Duct leakage testing

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
Kenneth Ave Residence	2432	1	4	2	0	1

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ZONE INFORMATION						
Zone	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Status
2nd Floor	Conditioned	HVAC System1	1597	8.5	DHW Sys 1	Existing/Unchanged
1st Floor Addition	Conditioned	HVAC System1	835	8.5	DHW Sys 1	New

OPaque SURFACES

01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Area (ft²)	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)	Wall Exceptions	Status	Verified Existing Condition
Front Wall	1st Floor	R-0 Wall	225	Front	170	67.5	90	none	Existing	No
Left Wall	1st Floor	R-0 Wall	315	Left	300	104	90	none	Existing	No
Right Wall	1st Floor	R-0 Wall	315	Right	334	38.3	90	none	Existing	No
Front Wall 2	1st Floor Addition	R-15 Wall	225	Front	94	35	90	none	New	n/a
Left Wall 2	1st Floor Addition	R-15 Wall	315	Left	312	12	90	Extension	New	n/a
Rear Wall	1st Floor Addition	R-15 Wall	45	Back	300	91	90	none	New	n/a
Right Wall 2	1st Floor Addition	R-15 Wall	315	Right	208	40	90	Extension	New	n/a
Roof	1st Floor	R-38 Roof Attic	n/a	n/a	581	n/a	n/a	n/a	Altered	No
Roof 2	1st Floor Addition	R-38 Roof Attic	n/a	n/a	335	n/a	n/a	n/a	New	n/a
Raised Floor	1st Floor	R-0 Floor Crawlspace	n/a	n/a	1126	n/a	n/a	n/a	Existing	No
Raised Floor 2	1st Floor Addition	R-0 Floor Crawlspace	n/a	n/a	785	n/a	n/a	n/a	New	n/a

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OPaque SURFACES - CATHEDRAL CEILING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Zone	Construction	Area (ft²)	Orientation	Area (ft²)	Skylight Area (ft²)	Roof Rise (ft)	Roof Reflectance	Roof Emittance	Cool Roof	Status	Verified Existing Condition	Existing Construction
Vault	1st Floor	R-30 Roof No Attic	270	n/a	1026	0	4	0.85	0	0.85	No	Altered	No
Vault 2	1st Floor Addition	R-30 Roof No Attic	180	n/a	510	0	4	0.1	0.85	No	New	n/a	

ATTIC									
01	02	03	04	05	06	07	08	09	10
Name	Construction	Type	Roof Rise (ft)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition
Attic 1st Floor Addition	Attic Roof/1st Floor Addition	Ventilated	4	0.1	0.85	Yes	No	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	Area (ft²)	Width (ft)	Height (ft)	U-Factor	U-Factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition	Existing Construction	
Window	Window	Front Wall	Front	225	1	55	0.58	Table 110.6-A	0.65	Table 110.6-B	Bug Screen	Existing	No		
Window 2	Window	Front Wall	Front	225	1	22.5	0.58	Table 110.6-A	0.65	Table 110.6-B	Bug Screen	Existing	No		
Window 3	Window	Left Wall	Left	315	1	12.5	0.58	Table 110.6-A	0.65	Table 110.6-B	Bug Screen	Existing	No		
Window 4	Window	Left Wall	Left	315	1	6	0.58	Table 110.6-A	0.65	Table 110.6-B	Bug Screen	Existing	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	Area (ft²)	Width (ft)	Height (ft)	U-Factor	U-Factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition	Existing Construction	
Window 5	Window	Left Wall	Left	315	1	12.5	0.29	NFRC	0.2	NFRC	Bug Screen	Altered	No		
Window 6	Window	Left Wall	Left	315	1	12.5	0.58	Table 110.6-A	0.65	Table 110.6-B	Bug Screen	Existing	No		
Window 7	Window	Left Wall	Left	315	1	6.5	0.29	NFRC	0.2	NFRC	Bug Screen	Altered	No		
SGD	Window	Left Wall	Left	315	1	40	0.58	Table 110.6-A	0.65	Table 110.6-B	Bug Screen	Existing	No		
Window 8	Window	Left Wall	Left	315	1	36	0.29	NFRC	0.2	NFRC	Bug Screen	Altered	No		
Window 9	Window	Right Wall	Right	315	1	6.5	0.29	NFRC	0.2	NFRC	Bug Screen	Altered	No		
Window 10	Window	Right Wall	Right	315	1	36	0.58	Table 110.6-A	0.65	Table 110.6-B	Bug Screen	Existing	No		
Door	Window	Right Wall	Right	315	1	17.6	0.29	NFRC	0.2	NFRC	Bug Screen	Altered	No		
Entry Door	Window	Front Wall 2	Front	225	1	35	0.29	NFRC	0.2	NFRC	Bug Screen	New	NA		
Window 11	Window	Left Wall 2	Left	315	1	12	0.29	NFRC	0.2	NFRC	Bug Screen	New	NA		
Window 12	Window	Rear Wall	Back	45	1	12	0.29	NFRC	0.2	NFRC	Bug Screen	New	NA		
Window 13	Window	Rear Wall	Back	45	1	12	0.29	NFRC	0.2	NFRC	Bug Screen	New	NA		
SGD 2	Window	Rear Wall	Back	45	1	40	0.29	NFRC	0.2	NFRC	Bug Screen	New	NA		
Window 14	Window	Rear Wall	Back	45	1	35	0.29	NFRC	0.2	NFRC	Bug Screen	New	NA		
Window 15	Window	Rear Wall	Back	45	1	12	0.29	NFRC	0.2	NFRC	Bug Screen	New	NA		
SGD 3	Window	Right Wall 2	Right	315	1	40	0.29	NFRC	0.2	NFRC	Bug Screen	New	NA		

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SLAB FLOORS									
01	02	03	04	05	06	07	08	09	10
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated	Status	Verified Existing Condition
Slab	1st Floor	481	56.5	none	0	80%	No	Existing	No
Slab 2	1st Floor Addition	70	24	none	0	80%	No	New	n/a

OPaque SURFACE CONSTRUCTIONS							
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-0 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R-0	None / None	0.361	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Exterior Finish: 3 Coat Stucco
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
R-38 Roof No Attic	Cathedral Ceilings	Wood Framed Ceiling	2x12 @ 16 in. O.C.	R-30	None / None	0.036	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/Sheathing/Decking Cavity / Frame: R-30 / 2x12 Inside Finish: Gypsum Board
Attic Roof/1st Floor Addition	Attic Roof	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/Sheathing/Decking Cavity / Frame: no insul. / 2x4

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OPaque SURFACE CONSTRUCTIONS							
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
Attic Roof/1st Floor Addition	Attic Roof	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/Sheathing/Decking Cavity / Frame: no insul. / 2x4
R-0 Floor Crawlspace	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
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x10 @ 16 in. O.C.	R-19	None / None	0.046	Floor Surface: Carpeted Floor Deck: Wood Siding/Sheathing/Decking Cavity / Frame: R-19 / 2x10
R-38 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-38	None / None	0.025	Over Ceiling Joist: R-28.9 insul. Cavity / Frame: R-38 / 2x4 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

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

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2022 Single-Family Residential Mandatory Requirements Summary	
NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. (04/02/22)	
<b>Building Envelope:</b>	
§ 110.6(a)1:	<b>Air Leakage.</b> 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 S 2/A440-2011.*
§ 110.6(a)5:	<b>Labeling.</b> Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	<b>Field-fabricated exterior doors and fenestration products</b> must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or 110.6-C for exterior doors. They must be caulked and/or weather-stripped.
§ 110.7:	<b>Air Leakage.</b> 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):	<b>Insulation Certification by Manufacturers.</b> Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHSG).
§ 110.8(b):	<b>Insulation Requirements for Heated Slab Floors.</b> Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(c):	<b>Roofing Products Solar Reflectance and Thermal Emittance.</b> The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(d) and be labeled per § 110-113 when the installation of a cool roof is specified on the CFI.
§ 110.8(d):	<b>Radiant Barrier.</b> When required, radiant barrier must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	<b>Roof Deck, Ceiling and Rafter R-Value.</b> Roof decks in newly constructed attics in climate zones 4 and 6-16 area-weighted average U-factor not exceeding U-1.94. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling, or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration, as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.
§ 150.0(b):	<b>Loose-fill Insulation.</b> Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	<b>Wall Insulation.</b> 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):	<b>Raised-floor Insulation.</b> Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(f):	<b>Slab Edge Insulation.</b> 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:	<b>Vapor Retarder.</b> 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(g).
§ 150.0(g)2:	<b>Vapor Retarder.</b> 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(h):	<b>Fenestration Products.</b> Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45.*
<b>Fireplaces, Decorative Gas Appliances, and Gas Log:</b>	
§ 110.5(f):	<b>Pilot Light.</b> Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	<b>Closable Doors.</b> Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	<b>Combustion Intake.</b> Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.
§ 150.0(e)3:	<b>Flue Damper.</b> Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*
<b>Space Conditioning, Water Heating, and Plumbing System:</b>	
§ 110.4-§ 110.3:	<b>Certification.</b> Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showers/paets, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission.
§ 110.2(a):	<b>HVAC Efficiency.</b> Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N.*
§ 110.2(b):	<b>Controls for Heat Pumps with Supplementary Electric Resistance Heaters.</b> 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-off temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.
§ 110.2(c):	<b>Thermostats.</b> All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.
§ 110.3(c)3:	<b>Insulation.</b> Unvented service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.
§ 110.3(c)6:	<b>Isolation Valves.</b> 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.

5/6/22

2022 Single-Family Residential Mandatory Requirements Summary	
§ 110.5:	<b>Pilot Lights.</b> Continuously burning pilot lights are prohibited for natural gas fan-type central furnaces, household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour), and pool and spa heaters.*
§ 150.0(f)1:	<b>Building Cooling and Heating Loads.</b> 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.
§ 150.0(f)3A:	<b>Clearances.</b> 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(f)3B:	<b>Liquid Line Drier.</b> 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(f)1:	<b>Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.</b> All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code.*
§ 150.0(f)2:	<b>Insulation Protection.</b> Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by § 120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(f)1:	<b>Gas or Propane Water Heating Systems.</b> Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2'5" x 2'5" x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between the designated space and the water heater location, and a condensate drain no more than 2' higher than the base of the water heater.
§ 150.0(f)3:	<b>Solar Water-heating Systems.</b> 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/RAT), or by a listing agency that is approved by the executive director.
<b>Ducts and Fans:</b>	
§ 110.8(d)3:	<b>Ducts.</b> 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:	<b>CMC Compliance.</b> All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSIS/MACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition Portions of supply-air and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1, 4.3.3) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of mastic and other mesh or tapes must be used to seal openings greater than 1/4". If mastic or tape is used, Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in these spaces must not be compressed.*
§ 150.0(m)2:	<b>Factory-Fabricated Duct Systems.</b> Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures, joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tapes are used in combination with mastic and draw bands.
§ 150.0(m)3:	<b>Field-Fabricated Duct Systems.</b> 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:	<b>Backdraft Damper.</b> Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	<b>Gravity Ventilation Dampers.</b> 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:	<b>Protection of Insulation.</b> Insulation must be protected from damage due to sunlight, moisture, equipment maintenance, and wind. Insulation covering chilled water piping must be protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.
§ 150.0(m)10:	<b>Porous Inner Core Flex Duct.</b> Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and outer vapor barrier.
§ 150.0(m)11:	<b>Duct System Sealing and Leakage Test.</b> 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 Reference Residential Appendix RA.3.
§ 150.0(m)12:	<b>Air Filtration.</b> 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 6000 ppi. Equations 150.0-A, Clean-filter pressure drop and labeling must meet the requirements in § 150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the filter.*

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2022 Single-Family Residential Mandatory Requirements Summary	
§ 150.0(m)13:	<b>Space Conditioning System Airflow Rate and Fan Efficiency.</b> 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 ≤ 0.58 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 ≥ 0.2 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA.3.
<b>Ventilation and Indoor Air Quality:</b>	
§ 150.0(o)1:	<b>Requirements for Ventilation and Indoor Air Quality.</b> 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)1B:	<b>Central Fan Integrated (CFI) Ventilation Systems.</b> Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling unit ventilation airflow required per § 150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed and controlled per § 150.0(o)1Bii. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with § 150.0(o)1C.
§ 150.0(o)1C:	<b>Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and Townhouses.</b> 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 specified in § 150.0(o)1C-iii.
§ 150.0(o)1G:	<b>Local Mechanical Exhaust.</b> Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-controlled exhaust system meeting requirements of § 150.0(o)1Gii. Exhaust fans must be measured by the installer per § 150.0(o)1Giv, and rated for sound per § 150.0(o)1Gvi.*
§ 150.0(o)1H8:	<b>Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems.</b> The airflow required per § 150.0(o)1C must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 § 7.2 at no less than the minimum airflow rates required by § 150.0(o)1C.
§ 150.0(o)2:	<b>Field Verification and Diagnostic Testing.</b> Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficiency must be verified in accordance with Reference Residential Appendix RA.3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per § 150.0(o)2.
<b>Pool and Spa Systems and Equipment:</b>	
§ 110.4(a):	<b>Certification by Manufacturers.</b> Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MACDS; 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:	<b>Piping.</b> Any pool or spa heating system or equipment must be installed with at least 3/8 inch of pipe between the filler and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future scalle heating.
§ 110.4(b)2:	<b>Covers.</b> Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	<b>Directional Inlets and Time Switches for Pools.</b> 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:	<b>Pilot Light.</b> Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	<b>Pool Systems and Equipment Installation.</b> Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.
<b>Lighting:</b>	
§ 110.9:	<b>Lighting Controls and Components.</b> All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*
§ 150.0(k)1A:	<b>Luminaire Efficacy.</b> All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting integral to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt.
§ 150.0(k)1B:	<b>Screw based luminaires.</b> Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8.*
§ 150.0(k)1C:	<b>Recessed Downlight Luminaires in Ceilings.</b> Luminaires recessed into ceilings must not contain screw based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.
§ 150.0(k)1D:	<b>Light Sources in Enclosed or Recessed Luminaires.</b> 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)1E:	<b>Blank Electrical Boxes.</b> The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control.
§ 150.0(k)1F:	<b>Lighting Integral to Exhaust Fans.</b> Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).

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2022 Single-Family Residential Mandatory Requirements Summary	
§ 150.0(k)1G:	<b>Screw based luminaires.</b> Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8.*
§ 150.0(k)1H:	<b>Light Sources in Enclosed or Recessed Luminaires.</b> 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:	<b>Light Sources in Drawers, Cabinets, and Linen Closets.</b> Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or to 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:	<b>Interior Switches and Controls.</b> All forward phase out dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	<b>Interior Switches and Controls.</b> Exhaust fans must be controlled separately from lighting systems.*
§ 150.0(k)2C:	<b>Accessible Controls.</b> Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off.*
§ 150.0(k)2D:	<b>Multiple Controls.</b> Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k).
§ 150.0(k)2E:	<b>Mandatory Requirements.</b> Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.0(k)2D:	<b>Energy Management Control Systems.</b> An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(k)2A.
§ 150.0(k)2E:	<b>Automatic Shutoff Controls.</b> In bedrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.
§ 150.0(k)2F:	<b>Dimmers.</b> Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase out dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A.
§ 150.0(k)2G:	<b>Independent controls.</b> Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.
§ 150.0(k)3A:	<b>Residential Outdoor Lighting.</b> For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must have a manual on/off switch and either a photocell and motion sensor or automatic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements.
§ 150.0(k)4:	<b>Internally illuminated address signs.</b> Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 watts of power.
§ 150.0(k)5:	<b>Residential Garages for Eight or More Vehicles.</b> Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
<b>Solar Readiness:</b>	
§ 110.10(a)1:	<b>Single-family Residences.</b> 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(a)1e.
§ 110.10(a)2:	<b>Minimum Solar Zone Area.</b> 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 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet.*
§ 110.10(a)2:	<b>Azimuth.</b> All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.
§ 110.10(a)3:	<b>Shading.</b> The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.
§ 110.10(a)3B:	<b>Shading.</b> Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.
§ 110.10(a)4:	<b>Structural Design Loads on Construction Documents.</b> 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(a)5:	<b>Interconnection Pathways.</b> The construction documents must indicate a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(a)6:	<b>Documentation.</b> A copy of the construction documents or comparable document indicating the information from § 110.10(a)1-c) must be provided to the occupant.
§ 110.10(a)6:	<b>Main Electrical Service Panel.</b> The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(a)6:	<b>Main Electrical Service Panel.</b> 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."
<b>Electric and Energy Storage Ready:</b>	

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2022 Single-Family Residential Mandatory Requirements Summary	
§ 150.0(i)6:	<b>Energy Storage System (ESS) Ready.</b> All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(i), at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS; with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps, sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.
§ 150.0(i):	<b>Heat Pump Space Heater Ready.</b> Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(i):	<b>Electric Cooktop Ready.</b> Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(i):	<b>Electric Clothes Dryer Ready.</b> Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
*Exceptions may apply.	

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HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY						
Project Name Kenneth Ave Residence		Date 8/7/2024		Floor Area 2,432		
System Name HVAC System						
<b>ENGINEERING CHECKS</b>		<b>SYSTEM LOAD</b>				
Number of Systems	1	<b>COIL COOLING PEAK</b>		<b>COIL HTG. PEAK</b>		
<b>Heating System</b>		CFM	Sensible	Latent	CFM	Sensible
Output per System	60,000	<b>Total Room Loads</b>				
Total Output (Btuh)	60,000	1,292	26,604	968	1,027	39,185
Output (Btuh/sqft)	24.7	<b>Return Vented Lighting</b>				
<b>Cooling System</b>		CFM	Sensible	Latent	CFM	Sensible
Output per System	48,000	<b>Return Air Ducts</b>				
Total Output (Btuh)	48,000	0	1,038	0	1,857	0
Total Output (Tons)	4.0	<b>Return Fan</b>				
Total Output (Btuh/sqft)	19.7	0	0	0	0	0
Total Output (sqft/Ton)	608.0	<b>Supply Air Ducts</b>				
<b>Air System</b>		CFM	Sensible	Latent	CFM	Sensible
CFM per System	0	<b>HVAC EQUIPMENT SELECTION</b>				
Airflow (cfm)	0.00	Ducted Heat Pump		45,710	0	39,541
Airflow (cfm/sqft)	0.0					
Airflow (cfm/Ton)	0.0					
Outside Air (%)	0.0%	<b>Total Adjusted System Output</b>				
Outside Air (cfm/sqft)	0.00	45,710	0	0	39,541	
Note: values above given at ARI conditions		<b>TIME OF SYSTEM PEAK</b>				
		Aug 3 PM		Jan 1 AM		
<b>HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)</b>						
<b>COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)</b>						

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 5770 Winfield Blvd #15  
 San Jose, CA 95123  
 Phone: 408-866-1620

KENNETH AVE RESIDENCE  
 680 KENNETH AVENUE  
 CAMPBELL, CA 95008

## Fresh Concrete and Mortar Application

Who should use this information?

- Masons and Bricklayers
- Sidewalk Construction Crews
- Patio Construction Workers
- Construction Inspectors
- General Contractors
- Home Builders
- Developers
- Concrete Delivery/Pumping Workers



### Doing the Job Right General Business Practices

- Wash out concrete mixers only in designated wash-out areas in your yard, away from storm drains and waterways, where the water will flow into a temporary waste pit in a dirt area. Let water percolate through soil and dispose of settled, hardened concrete as garbage. Whenever possible, recycle washout by pumping back into mixers for reuse.
- Wash out chutes onto dirt areas at site that do not flow to streets or drains.
- Always store both dry and wet materials under cover, protected from rainfall and runoff and away from storm drains or waterways. Protect dry materials from wind.
- Secure bags of cement after they are open. Be sure to keep wind-blown cement powder away from streets, gutters, storm drains, rainfall, and runoff.
- Do not use diesel fuel as a lubricant on concrete forms, tools, or trailers.

### During Construction

- Don't mix up more fresh concrete or cement than you will use in a two-hour period.
- Set up and operate small mixers on tarps or heavy plastic drop cloths.
- When cleaning up after driveway or sidewalk construction, wash fines onto dirt areas, not down the driveway or into the street or storm drain.
- Protect applications of fresh concrete and mortar from rainfall and runoff until the material has dried.
- Wash down exposed aggregate concrete only when the wash water can (1) flow onto a dirt area; (2) drain onto a bermed surface from which it can be pumped and disposed of properly; or (3) be vacuumed from a catchment created by blocking a storm drain inlet. If necessary, divert runoff with temporary berms. Make sure runoff does not reach gutters or storm drains.
- When breaking up pavement, be sure to pick up all the pieces and dispose of properly. Recycle large chunks of broken concrete at a local recycling facility.
- Never bury waste material. Dispose of small amounts of excess dry concrete, grout, and mortar in the trash.
- Never dispose of washout into the street, storm drains, drainage ditches, or streams.

## Heavy Equipment Operation

Who should use this information?

- Vehicle and Equipment Operators
- Site Supervisors
- General Contractors
- Home Builders
- Developers



### Doing the Job Right Site Planning and Preventive Vehicle Maintenance

- Designate one area of the construction site, well away from streams or storm drain inlets, for auto and equipment parking, refueling, and routine vehicle and equipment maintenance. Contain the area with berms, sand bags, or other barriers.
- Maintain all vehicles and heavy equipment. Inspect frequently for and repair leaks.
- Perform major maintenance, repair jobs, and vehicle and equipment washing off site where cleanup is easier.
- If you must drain and replace motor oil, radiator coolant, or other fluids on site, use drip pans or drop cloth to catch drips and spills. Collect all spent fluids, store in separate containers. Recycle them wherever possible, otherwise, dispose of them as hazardous wastes.
- Do not use diesel oil to lubricate equipment parts, or clean equipment. Use only water for any onsite cleaning.
- Cover exposed fifth wheel hitches and other oily or greasy equipment during rain events.
- Use as little water as possible for dust control. Ensure water used doesn't leave silt or discharge to storm drains.

### Spill Cleanup

- Clean up spills immediately when they happen.
- Never hose down "dirty" pavement or impermeable surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags) whenever possible and properly dispose of absorbent materials.
- Sweep up spilled dry materials immediately. Never attempt to "wash them away" with water, or bury them.
- Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- Report significant spills to the appropriate local spill response agencies immediately. In Milpitas, dial 91-1 if hazardous materials might enter the storm drain.

## Earth-Moving and Dewatering Activities

Who should use this information?



- Bulldozer, Back Hoe, and Grading Machine Operators
- Dump Truck Drivers
- Site Supervisors
- General Contractors
- Home Builders
- Developers

### Storm Drain Pollution from Earth-Moving Activities

Soil excavation and grading operations loosen large amounts of soil that can flow or blow into storm drains when handled improperly. Sediments in runoff can clog storm drains, smother aquatic life, and destroy habitats in creeks and the Bay. Effective erosion control practices reduce the amount of runoff crossing a site and slow the flow with check dams or roughened ground surfaces.

Contaminated groundwater is a common problem in the Santa Clara Valley. Depending on soil types and site history, groundwater pumped from construction sites may be contaminated with toxics (such as oil or solvents) or laden with sediments. Any of these pollutants can harm wildlife in creeks or the Bay, or interfere with wastewater treatment plant operation. Discharging sediment-laden water from a dewatering site into any water of the state without treatment is prohibited.

### Doing the Job Right General Business Practices

- Schedule excavation and grading work during dry weather.
- Perform major equipment repairs away from the job site.
- When refueling or vehicle/equipment maintenance must be done on site, designate a location away from storm drains.
- Do not use diesel oil to lubricate equipment parts, or clean equipment.

### Practices During Construction

- Remove existing vegetation only when absolutely necessary. Plant temporary vegetation for erosion control on slopes or where construction is not immediately planned.
- Protect downslope drainage courses, streams, and storm drains with wattles, or temporary drainage swales. Use check dams or ditches to divert runoff around excavations. Refer to the Regional Water Quality Control Board's Erosion and Sediment Control

Field Manual for proper erosion and sediment control measures, and California Stormwater Quality Association Stormwater Best Management Practice Handbook (construction, 2003)

### Dewatering Operations Check for Toxic Pollutants

- Check for odors, discoloration, or an oily sheen on groundwater.
- Call your local wastewater treatment agency and ask whether the groundwater must be tested.
- If contamination is suspected, have the water tested by a certified laboratory.
- Depending on the test results, you may be allowed to discharge pumped groundwater to the storm drain (if no sediments present) or sanitary sewer. OR, you may be required to collect and haul pumped groundwater offsite for treatment and disposal at an appropriate treatment facility.

### Detecting Contaminated Soil or Groundwater

Contaminated groundwater is a common problem in the Santa Clara Valley. It is essential that all contractors and subcontractors involved know what to look for in detecting contaminated soil or groundwater, and testing ponded groundwater before pumping. Watch for any of these conditions:

1. Unusual soil conditions, discoloration or odor.
2. Abandoned underground tanks.
3. Abandoned wells.
4. Buried barrels, debris or trash.

If any of these are found follow the procedures below.

## Roadwork and Paving

Who should use this information?

- Road Crews
- Driveway/Sidewalk/Parking Lot Construction Crews
- Seal Coat Contractors
- Operators of Grading Equipment, Paving Machines, Dump Trucks, Concrete Mixers
- Construction Inspectors
- General Contractors
- Developers
- Home Builders



### Doing the Job Right General Business Practices

- Develop and implement erosion/sediment control plans for roadway embankments.
- Schedule excavation and grading work during dry weather.
- Check for and repair leaking equipment.
- Perform major equipment repairs at designated areas in your maintenance yard, where cleanup is easier. Avoid performing equipment repairs at construction sites.
- When refueling or when vehicle/equipment maintenance must be done on site, designate a location away from storm drains and creeks.
- Do not use diesel oil to lubricate equipment parts or clean equipment.
- Recycle used oil, concrete, broken asphalt, etc. whenever possible, or dispose of properly.

### During Construction

- Avoid paving and seal coating in wet weather, or when rain is forecast, to prevent fresh materials from contacting stormwater runoff.
- Cover and seal catch basins and manholes when applying seal coat, slurry seal, fog seal, or similar materials.
- Protect drainage ways by using earth dikes, sand bags, or other controls to divert or trap and filter runoff.
- Never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain. Collect and recycle, or dispose to dirt area.
- Cover stockpiles (asphalt, sand, etc.) and other construction materials with plastic tarps. Protect from rainfall and prevent runoff with temporary roofs or plastic sheets and berms.
- Park paving machines over drip pans or absorbent material (cloth, rags, etc.) to catch drips when not in use.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags). Dig up, remove, and properly dispose of contaminated soil.

- Collect and recycle or appropriately dispose of excess abrasive gravel or sand.
- Avoid over-application by water trucks for dust control.

### Asphalt/Concrete Removal

- Avoid creating excess dust when breaking asphalt or concrete.
- After breaking up old pavement, be sure to remove all chunks and pieces. Make sure broken pavement does not come in contact with rainfall or runoff.
- When making saw cuts, use as little water as possible. Shovel or vacuum saw-cut slurry and remove from the site. Cover or protect storm drain inlets during saw-cutting. Sweep up, and properly dispose of, all residues.
- Sweep, never hose down streets to clean up tracked dirt. Use a street sweeper or vacuum truck. Do not dump vacuumed liquor in storm drains.

## Painting and Application of Solvents and Adhesives

Who should use this information?

- Painters
- Paperhangers
- Plasterers
- Graphic Artists
- Dry Wall Crews
- Floor Covering Installers
- General Contractors
- Home Builders
- Developers
- Homeowners



### Doing the Job Right Handling Paint Products

- Keep all liquid paint products and wastes away from the gutter, street, and storm drains. Liquid residues from paints, thinners, solvents, glues, and cleaning fluids are hazardous wastes and must be disposed of as hazardous.
- Wash water from painted buildings constructed before 1978 can contain high amounts of lead, even if paint chips are not present. Before you begin stripping paint or cleaning pre-1978 building exteriors with water under high pressure, test paint for lead by taking paint scrapings to a local laboratory. See Yellow Pages for a state-certified laboratory.
- If there is loose paint on the building, or if the paint tests positive for lead, block storm drains. Check with the wastewater treatment plant to determine whether you may discharge water to the sanitary sewer, or if you must send it offsite for disposal as hazardous waste.

### Paint Removal

- Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury or tributyl tin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.
- When stripping or cleaning building exteriors with high-pressure water, block storm drains. Direct wash water onto a dirt area to find out if you can collect (mop or vacuum) building cleaning water and dispose to the sanitary sewer. Sampling of the water may be required to assist the wastewater treatment authority in making its decision.

- Never pour paint down a storm drain. Dispose of excess liquids and residue as hazardous waste.
- For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids and residue as hazardous waste.
- When thoroughly dry, empty paint cans, used brushes, rags, and drop cloths may be disposed of as garbage in a sanitary landfill. Leave lids off paint cans so the refuse collector can see that they are empty. Empty, dry paint cans also may be recycled as metal.
- Dispose of empty aerosol paint cans as hazardous waste or at household hazardous waste collection events.

### Recycle/Reuse Leftover Paints Whenever Possible

- Donate excess water-based (latex) paint for reuse.
- Reuse leftover oil-based paint. Dispose of non-recyclable thinners, sludge and unwanted paint, as hazardous waste.
- Unopened cans of paint may be able to be returned to the paint vendor. Check with the vendor regarding its "buy-back" policy.



# BLUEPRINT FOR A CLEAN BAY

## Best Management Practices for the Construction Industry

Remember: The property owner and the contractor share ultimate responsibility for the activities that occur on a construction site. You may be held responsible for any environmental damage caused by your subcontractors or employees.

### Preventing Pollution: It's Up to Us

In the Santa Clara Valley, storm drains transport water directly to local creeks and San Francisco Bay without treatment. Stormwater pollution is a serious problem for wildlife dependent on our creeks and bays and for the people who live near polluted streams or bayslands. Common sources of this pollution include spilled oil, fuel, and fluids from vehicles and heavy equipment; construction debris; sediment created by erosion; landscaping runoff containing pesticides or weed killers; and materials such as used motor oil, antifreeze, and paint products that people pour or spill into a street or storm drain.



Santa Clara Valley Urban Runoff Pollution Prevention Program

Thirteen valley municipalities have joined together with Santa Clara County and the Santa Clara Valley Water District to educate local residents and businesses and fight stormwater pollution. This "blueprint" summarizes "Best Management Practices" (BMPs) for stormwater pollution prevention.

## General Construction and Site Supervision

Who should use this information?

- General Contractors
- Site Supervisors
- Inspectors
- Home Builders
- Developers
- Homeowners



### Storm Drain Pollution from Construction Activities

Construction sites are common sources of storm water pollution. Materials and wastes that blow or wash into a storm drain, gutter, or street have a direct impact on local creeks and the Bay.

As a contractor, or site supervisor, owner or operator of a site, you may be responsible for any environmental damage caused by your subcontractors or employees.

### Doing the Job Right General Principles

- Keep an orderly site and ensure good housekeeping practices are used.
- Maintain equipment properly.
- Cover materials when they are not in use.
- Keep materials away from streets, storm drains and drainage channels.
- Ensure dust control water doesn't leave site or discharge to storm drains.

### Advance Planning To Prevent Pollution

- Schedule excavation and grading activities for dry weather periods. To reduce soil erosion, plant temporary vegetation or place other erosion controls before rain begins. Use the Erosion and Sediment Control Field Manual, available from the Regional Water Quality Control Board San Francisco Bay Region, as a reference.
- Control the amount of runoff crossing your site (especially during excavation) by using berms or temporary or permanent drainage ditches to divert water flow around the site. Reduce stormwater runoff velocities by constructing temporary check dams or berms where appropriate.
- Train your employees and subcontractors. Make these brochures available to everyone who works on the construction site. Inform subcontractors about the stormwater requirements and their own responsibilities.

### Good Housekeeping Practices

- Designate one area of the site for auto parking, vehicle refueling, and routine equipment maintenance. The designated area should be well away from streams or storm drain inlets, bermed if necessary. Make major repairs off site.
- Keep materials out of the rain - prevent runoff contamination at the source. Cover exposed piles of soil or construction materials with plastic sheeting or temporary roofs. Before it rains, sweep and remove materials from surfaces that drain to storm drains, creeks, or channels.
- Keep pollutants off exposed surfaces. Place trash cans and recycling receptacles around the site to minimize litter.
- Clean up leaks, drips and other spills immediately so they do not contaminate soil or groundwater or leave residue on paved surfaces.
- Never hose down "dirty" pavement or surfaces where materials have spilled.
- Use dry cleanup methods whenever possible. If you must use water, use just enough to keep the dust down.
- Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under roofs or cover with tarps or plastic sheeting secured around the outside of the dumpster. Never clean out a dumpster by hosing it down on the construction site.

- Place portable toilets away from storm drains. Make sure portable toilets are in good working order. Check frequently for leaks.

### Materials/Waste Handling

- Practice Source Reduction - minimize waste when you order materials. Order only the amount you need to finish the job.
- Use recyclable materials whenever possible. Arrange for pick-up of recyclable materials such as concrete, asphalt, scrap metal, solvents, degreasers, cleared vegetation, paper, rock, and vehicle maintenance materials such as used oil, antifreeze, batteries, and tires.
- Dispose of all wastes properly. Many construction materials and wastes, including solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and cleared vegetation can be recycled. Materials that cannot be recycled must be taken to an appropriate landfill or disposed of as hazardous waste. Never bury waste materials or leave them in the street or near a creek or stream bed.

### Permits

- In addition to local grading and building permits, you will need to obtain coverage under the State's General Construction Activity Stormwater Permit if your construction site's disturbed area totals 1 acre or more. Information on the General Permit can be obtained from the Regional Water Quality Control Board.

## Landscaping, Gardening, And Pool Maintenance

Who should use this information?

- Landscapers
- Gardeners
- Swimming Pool/Spa Service and Repair Workers
- General Contractors
- Home Builders
- Developers
- Homeowners



### Storm Drain Pollution from Landscaping and Swimming Pool Maintenance

Many landscaping activities expose soils and increase the likelihood that earth and garden chemicals will run off into the storm drains during irrigation or when it rains. Swimming pool water containing chlorine and copper-based algaecides should never be discharged to storm drains. These chemicals are toxic to aquatic life.

### Doing the Job Right General Business Practices

- Protect stockpiles (e.g. asphalt, sand, or soil) and landscaping materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Store pesticides, fertilizers, and other chemicals indoors or in a shed or storage cabinet.
- Schedule grading and excavation projects during dry weather.
- Use temporary check dams or ditches to divert runoff away from storm drains.
- Protect storm drains with sandbags or other sediment controls.
- Revegetation is an excellent form of erosion control for any site. Replant as soon as possible with temporary vegetation such as grass seed.
- Consider using Integrated Pest Management Techniques. Use pesticides sparingly, according to instructions on the label. Rinse empty containers, and use rinsewater as product. Dispose of rinsed, empty containers in the trash.
- Dispose of unused pesticides as hazardous waste.

### Landscaping/Garden Maintenance

- Collect lawn and garden clippings, pruning waste, and tree trimmings. Chip if necessary, and compost if possible.
- Do not blow or rake leaves, etc. into the street, or place yard waste in gutters or on dirt shoulders. Sweep up any leaves, litter or residue in gutters or on street.

### Pool/Fountain/Spa Maintenance

#### Draining pools or spas

- When it's time to drain a pool, spa, or fountain, please be sure to call your local wastewater treatment plant before you start for further guidance on flow rate restrictions, backflow prevention, and handling special cleaning waste (such as acid wash). Discharge flows should be kept to the low levels typically possible through a garden hose. Higher flow rates may be prohibited by local ordinance.
- Never discharge pool or spa water to a street or storm drain; discharge to a sanitary sewer cleanout.
- If possible, when emptying a pool or spa, let chlorine dissipate for a few days and then recycle/reuse water by draining it gradually onto a landscaped area. OR

- San Jose/Santa Clara Water Pollution Control Plant (408) 945-5300. You may be able to discharge to the sanitary sewer by running the hose to a utility sink or sewer pipe clean-out.
- Do not use copper-based algaecides. Control algae with chlorine or other alternatives, such as sodium bromide.

#### Filter Cleaning

- Never clean a filter in the street or near a storm drain. Rinse cartridge and diatomaceous earth filters onto a dirt area, and spade filter residue into soil. Dispose of spent diatomaceous earth in the garbage.
- If there is no suitable dirt call San Jose/Santa Clara Water Pollution Control Plant (408) 945-5300 for instructions on discharging filter backwash or rinse water to the sanitary sewer.

## Milpitas Municipal Code (MMC) 2017

### XI-16-11 Accidental Discharge - Notification of Discharge

(a) All persons shall notify the City by telephone immediately by dialing 911 upon accidentally discharging any material other than an acceptable discharge into a storm drain or watercourse to enable countermeasures to be taken by the City to minimize damage to storm drains and the receiving waters. Prohibited discharges include but are not limited to:

- (1) Sewage;
- (2) Discharges of wash water resulting from the cleaning of exterior surfaces and pavement, or the equipment and other facilities of any commercial business, or any other public or private facility;
- (3) Discharges of runoff from material storage areas, including containing chemicals, fuels, or other potentially polluting or hazardous materials;
- (4) Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
- (5) Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
- (6) Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).

The City, at its sole option, may direct the person or persons responsible for the discharge to perform cleanup activities when it is deemed by the City that the person or persons have the capability to perform such activities. All violations shall be corrected in a timely manner before the next rain event, but no longer than ten (10) business days after the violations are discovered.

(b) The person deemed by the City responsible for the discharge shall, within five (5) days of the date of occurrence, provide a detailed written statement to the City Manager or his or her designee describing the causes of the accidental discharge and the measures being taken to prevent future occurrences. Such notification will not relieve persons of liability for violations of this Chapter or for any fines imposed on the City on account thereof under Section 13390 of the California Water Code, or for violation of Section 5650 of the California Fish and Wildlife Code, or any other applicable provisions of State or federal law.

(c) Persons deemed by the City responsible for the discharge are responsible for all expenses resulting from the discharge, including, but not limited to, damages, fines, and costs of clean-up, whether performed by their own efforts, City efforts, or the efforts of a third party. Reimbursement of City efforts shall be determined by the number of personnel required and amount of time necessary for the coordination of City efforts and actual clean-up. All personnel costs shall be charged at their current fully-burdened rate, including overtime, plus any and all other direct costs.

### XI-16-14 Enforcement and Penalties

(a) Criminal Penalties. Violations of the provisions of this Chapter shall be subject to criminal penalties as provided in Section 11-4.09-1 of this Code.

(b) Judicial Civil Penalties. Any person who intentionally or negligently violates any provision of this Chapter or any provision of any permit or certificate issued pursuant to this Chapter shall be civilly liable to the city in a sum not to exceed twenty-five thousand dollars per day for each day in which such violation occurs.

(c) Administrative Citations. When the City Manager and/or his or her designee determines that one or more violations of this Chapter have occurred an administrative citation may be issued pursuant to the procedures set forth in Sections V-500-8.00 through V-500-8.06. The schedule of fines for administrative citations issued for violations of this Chapter shall be set forth in the schedule of fines established by resolution of the City Council.

(d) Notice of Noncompliance. If the severity of the violation warrants immediate action, a Notice of Noncompliance or Stop Work Notice shall be issued, permits may be suspended or revoked. Stormwater Pollution Prevention Plans may be found in noncompliance, and corrective actions may be implemented in accordance with Section 11 of this Chapter. For all other cases, including those sites or projects where a stormwater pollution prevention plan is not required, the City Manager or his or her designee shall issue a Notice of Noncompliance that shall enumerate the violations found. The City Manager or his or her designee shall order compliance by a date or hour certain at his or her discretion. If the violations are not abated in the time period identified in the Notice of Noncompliance, the site shall be deemed to be in noncompliance with federal, State and local laws and the City Manager or his or her designee shall have the authority to issue a Stop Work Notice and/or deem the Stormwater Pollution Prevention Plan inadequate. If a Stop Work Notice is issued, corrective actions must be performed until the site has achieved compliance. Corrective actions may include revision and resubmission of any Plan, including, but not limited to, Stormwater Pollution Prevention Plan, Erosion Control Plan or Grading Plan. The City Manager or his or her designee may also require a discharger that has violated any discharge limits contained in this Chapter to install a temporary system for the capture, testing, and release of stormwater.

(e) Suspension of Utility Service. The City may, without prior notice, suspend water service, sanitary sewer service, and/or storm drain discharge access to a person discharging to the storm drain system when such suspension is necessary to stop an actual or threatened discharge which presents, or may present, imminent and substantial danger to the environment or to the health or welfare of persons; or presents, or may present, imminent and substantial danger to the storm drain system.

### Spill Response Agencies:

1. Dial 911
2. Santa Clara County Environmental Health Services (408) 299-6930
3. Governor's Office of Emergency Services Warning Center (800) 852-7550 (24 hours).

### Small Business Hazardous Waste Disposal Program

Santa Clara County businesses that generate less than 27 gallons or 220 pounds of hazardous waste per month are eligible to use Santa Clara County's Small Business Hazardous Waste Disposal Program. Call (408) 299-7300 for a quote, more information or guidance on disposal.

### Local Pollution Control Agencies

- Santa Clara County Office of Toxics and Solid Waste Management (408) 441-1195
- Santa Clara Valley Water District (408) 265-2600
- San Jose/Santa Clara Water Pollution Control Plant (408) 945-5300
- Serving Milpitas, Cupertino, Los Gatos, Milpitas, Monte Sereno, San Jose, Santa Clara and Saratoga

PROJECT ADDRESS:

PROJECT NAME:

BLUEPRINT FOR A CLEAN BAY  
BUILDING & SAFETY DEPARTMENT

SHEET

CB-1