

1 SITE PLAN
 A0 SCALE: 1" = 20'
 NORTH

SITE PLAN NOTES:

- EXISTING FENCES ARE EXISTING STANDARD 6' HT. RESIDENTIAL FENCES TO REMAIN.
- ALL EXISTING TREES TO REMAIN. NO TREE WILL BE REMOVED.
- NO NEW PAVEMENT OR OTHER HARD SURFACE WILL BE INSTALLED, EXCEPT THE NEW CONCRETE LANDINGS IN FRONT OF EXTERIOR DOORS.
- LOT SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM THE FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6" WITHIN THE FIRST 10 FT (5% SLOPE), WHERE LOT LINES, WALLS, SLOPES OR OTHER PHYSICAL BARRIER PROHIBIT 6" OF FALL WITHIN 10 FT, DRAINS OR SWALES SHALL BE CONSTRUCTED TO ENSURE DRAINAGE AWAY FROM THE STRUCTURE. (CRC R401.3)
- IMPERVIOUS SURFACES WITHIN 10 FT OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 2% AWAY FROM THE BUILDING. (CRC R401.3 EXCEPTION)
- ALL NEW ROOF DRAINAGE WILL BE DIRECTED TO LANDSCAPED AREAS TO THE EXTENT FEASIBLE.
- MINIMUM 65% OF CONSTRUCTION WASTE TO BE RECYCLED OR SALVAGED PER CALGREEN 4.408.1.
- CONTRACTOR SHALL MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION. REFER TO SITE PLAN FOR SITE GRADING/WATER FLOW DIRECTIONS TO KEEP WATER FROM ENTERING BUILDINGS (CGBC 4.106.2). ADDITION AND ALTERATION IN THIS PROJECT DOES NOT ALTER THE DRAINAGE PATH.
- CONTRACTOR SHALL MANAGE ALL SURFACE WATER FLOWS DURING CONSTRUCTION. REFER TO SITE PLAN FOR SITE GRADING/WATER FLOW DIRECTIONS TO KEEP WATER FROM ENTERING BUILDINGS (CGBC 4.106.3). ADDITION AND ALTERATION IN THIS PROJECT DOES NOT ALTER THE DRAINAGE PATH SINCE NO NEW PAVEMENT IS CONSTRUCTED (BESIDES TWO SMALL CONCRETE LANDINGS AT EXTERIOR DOORS) AND ALL LANDSCAPE/LAWN IS EXISTING TO REMAIN. (CGBC 4.106.3 EXCEPTION)
- AS ALL IMPROVEMENTS ARE INTERIOR TO THE EXISTING STRUCTURE AND NO LANDSCAPE AREA IS PROPOSED, NO LANDSCAPE PERMIT IS NECESSARY.

EROSION CONTROL PLAN:

- ALL EROSION CONTROL MEASURES SHALL BE ONSIDE AND READILY ACCESSIBLE PRIOR TO CONSTRUCTION.
- SWEEP OR SCRAPER UP SOILS TRACKED ONTO THE ROAD AT THE END OF EACH DAY. DO NOT HOSE INTO STREET, GUTTER, OR STORM DRAIN.
- RE-VEGETATE DISTURBED AREAS. EXPOSED BARE DIRT SHALL BE COVERED WITH MULCH, JUT NETTING OR OTHER EROSION CONTROL BLANKET.
- ALL TEMPORARY STOCKPILES SHALL BE COVERED WITH 6 MIL PLASTIC SHEETS, SUITABLY ANCHORED.
- THE SITE SHALL BE MONITORED BY THE CONTRACTOR/OWNER AFTER RAIN EVENT TO VERIFY EROSION CONTROL MEASURES ARE FUNCTIONING.

PROJECT CONTACT INFO:

PROPERTY OWNER	DESIGNER
LARRY LIU 408-838-2891 4005 HIGUERA ROAD, SAN JOSE, CA 95148	LINDA LIN 408-627-1299 6525 CROWN BLVD. #41068 SAN JOSE, CA 95160
CONTRACTOR	STRUCTURAL ENGINEER
T.B.D.	GUANGSHENG (KEVIN) WANG G.S. ENGINEERING 510-304-9812 2594 PEBBLE BEACH DRIVE, SANTA CLARA, CA 95051

VICINITY MAP:



PROJECT DATA:

LIU RESIDENCE
 4005 HIGUERA ROAD,
 SAN JOSE, CA 95148
 (TWO STORY) SINGLE FAMILY RESIDENCE
 EXISTING: 3 BEDROOMS, 5 BATHROOMS
 PROPOSED: 5 BEDROOMS, 5 BATHROOMS
 CONSTRUCTION TYPE: V-B (NOT SPRINKLERED)
 OCCUPANCY GROUPS: R-3/U
 ZONE: R1
 APN: 654-14-019
 LOT SIZE: 2.40 ACRES (104,544 SQ.FT.)
 TOTAL EXISTING LIVING AREA: 3,073 SQ.FT.
 TOTAL PROPOSED LIVING AREA: 3,928 SQ.FT.
 TOTAL LIVING AREA ADDED: 855 SQ.FT.
 (E) 3-CAR ATTACHED GARAGE AREA: 1,128 SQ.FT. (NO CHANGE)
 EXISTING FLOOR AREA: 4,201 SQ.FT.
 PROPOSED FLOOR AREA: 5,056 SQ.FT.
 TOTAL FLOOR AREA ADDED: 1,128 SQ.FT.
 EXISTING FLOOR AREA RATIO: 4%
 PROPOSED FLOOR AREA RATIO: 5%
 HOUSE ADDITION PERCENTAGE TO EXISTING HOUSE: 20%

APPLICABLE CODES:

PROJECT SHALL COMPLY WITH THE
 CBC CALIFORNIA BUILDING CODE 2019
 CRC CALIFORNIA RESIDENTIAL CODE 2019
 CEC CALIFORNIA ELECTRICAL CODE 2019
 CPC CALIFORNIA PLUMBING CODE 2019
 CMC CALIFORNIA MECHANICAL CODE 2019
 CENC CALIFORNIA ENERGY CODE 2019
 CALGREEN CALIFORNIA GREEN BUILDING STANDARDS CODE 2019
 ASCE 7 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS 2016
 SDPWS SPECIAL DESIGN PROVISIONS FOR WIND & SEISMIC 2015

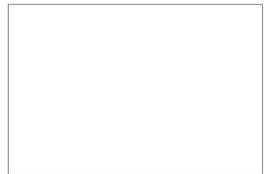
DRAWING INDEX:

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- A2 DEMOLITION LOWER FLOOR PLAN
- A3 PROPOSED LOWER FLOOR PLAN
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- A5 EXISTING AND PROPOSED ELEVATIONS
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- A7 EXISTING AND PROPOSED ELEVATIONS
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- S3.0 DETAILS
- STRUCTURAL CALCULATIONS

SCOPE OF WORK:

LOWER FLOOR HAS BEEN CONVERTED TO A LIVING SPACE WITHOUT A BUILDING PERMIT. CURRENT SCOPE OF WORK INCLUDES DEMOLITION OF ILLEGALLY CONVERTED SPACE, ADDING 855 SQ.FT OF LOWER FLOOR TO LIVING SPACE AND COMPLETE INTERIOR REMODEL OF THE LOWER FLOOR AT LOWER FLOOR -
 1) REMOVE EXISTING KITCHEN, BATHROOMS AND 3 BEDROOMS;
 2) CONSTRUCT TWO NEW BATHROOMS: INSTALL NEW BATHROOM VANITIES, PLUMBING FIXTURES AND WALL/FLOOR TILES AT NEW MASTER BATHROOM.
 3) CONSTRUCT TWO NEW BEDROOMS AND ONE STUDY ROOM;
 4) CONVERT ONE EXISTING BATHROOM INTO A LAUNDRY ROOM;
 5) INSTALL A WET BAR;
 6) MECHANICAL, ELECTRICAL AND PLUMBING MODIFICATIONS WITHIN SCOPE OF WORK, INCLUDING NEW LIGHT FIXTURE LAYOUT.
 NOTE: FOR ALL NEW EXTERIOR GLAZING: MAX. U-FACTOR REQUIRED IS 0.3; MAX. SHGC REQUIRED IS 0.23. REFER TO SHEET A2 FOR NEW EXTERIOR GLAZING SIZE AND TYPE.

COUNTY APPROVAL STAMP



Designer

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Project Name
**HOUSE ADDITION
 LIU RESIDENCE**
 4005 HIGUERA ROAD
 SAN JOSE, CA 95148

Revisions	By
11/21/21	L.L.

Drawn	L.L.
Check	
Date	11/06/21
Scale	Noted

Drawing Name
**TITLE SHEET /
 SITE PLAN**

Sheet
A0

Santa Clara County REBUILD Determination and Points Allocation ¹

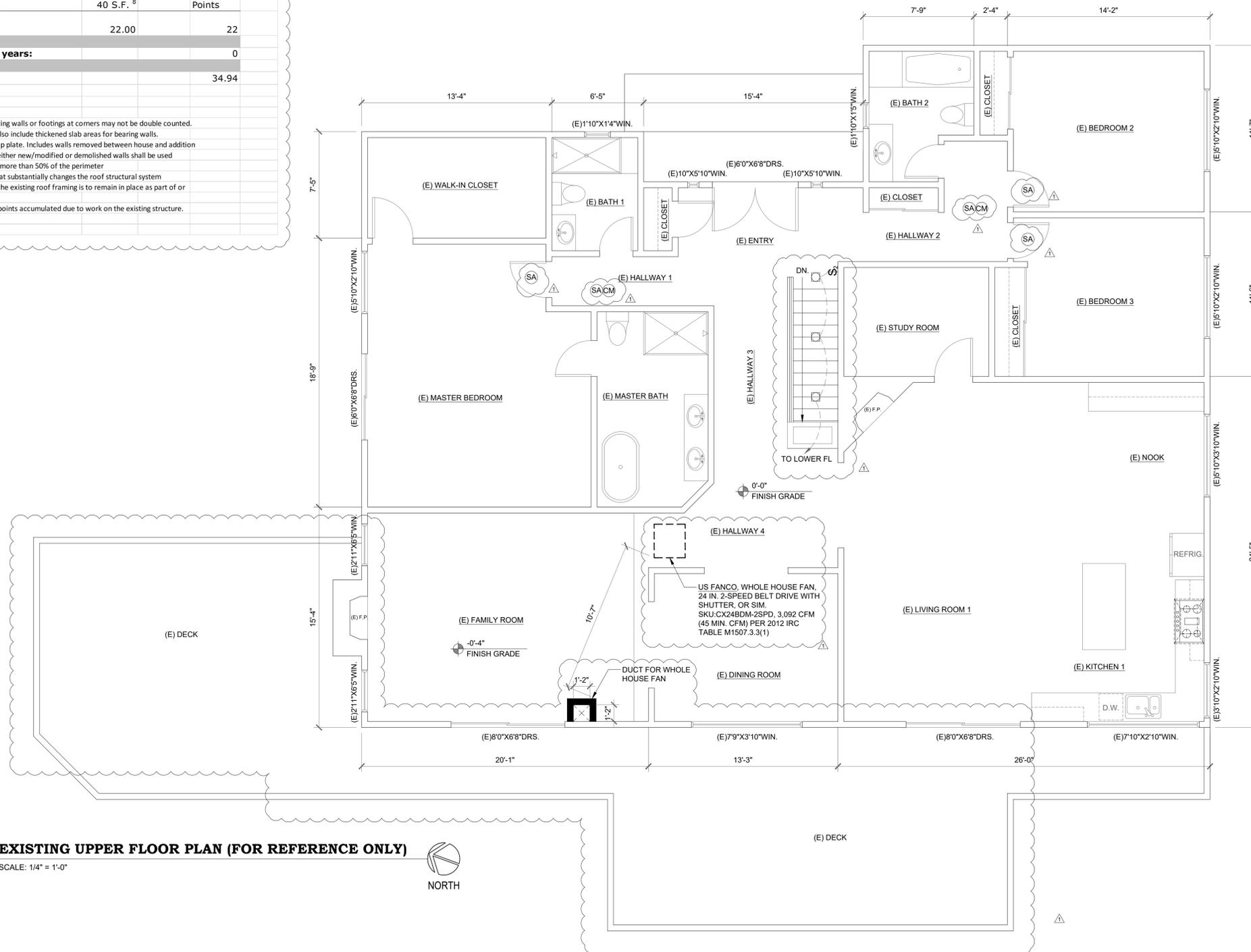
A. Existing Residence					
	Existing L.F. ²	New/modified or Removed L.F.	Ratio	Maximum Points	Resulting Points
1a Footings ³		0	0.00		
1b Slab - structural slabs and basement areas	Existing Area	Replaced/ Modified Area	Ratio		
	2510	715	0.28		
Subtotal				25	7.12
2 Walls - interior and exterior in linear feet ⁴	Existing L.F. ²	New/modified or Removed L.F.	Ratio	Maximum Points	Resulting Points
	920	107	0.12	50	5.82
3 Roof ⁵	Existing S.F.	new, replaced, altered or removed Roof S.F.	Ratio	Maximum Points	Resulting Points
	3047	0	0.00	25	0.00
Existing Residence Subtotal					12.94
B. Proposed Additions					
	Area in S.F.		Ratio 1 pt/ 40 S.F. ⁸		Sub-Total Points
First floor and upper story additions ^{6,7}	855		22.00		22
C. Cumulative rebuild points from permits issued within last 2 years:					0
TOTAL POINT ALLOCATION⁹					34.94

Footnotes

- See County Ordinance # NS-1100.113
- L.F. = Lineal Feet measured to outside face or end of wall or footing. Lengths of intersecting walls or footings at corners may not be double counted.
- Lineal feet of rectangular footings shall be taken on the longest length. Lineal feet shall also include thickened slab areas for bearing walls.
- All non-bearing & bearing walls (including framed openings) measured along the double top plate. Includes walls removed between house and addition. Modified walls are walls where the double top plates are altered; the greatest length of either new/modified or demolished walls shall be used.
- Includes all California framing, eaves, rakes, attached outdoor covered areas enclosed by more than 50% of the perimeter and substantial changes to roof framing (i.e. going from a flat ceiling to vaulted ceiling) that substantially changes the roof structural system.
- Points for additions and points for removal of existing roof structures both count, unless the existing roof framing is to remain in place as part of or under the second story addition.
- Additions greater than 2000 sq. ft are automatically considered a rebuild, regardless of the points accumulated due to work on the existing structure.
- Any remaining fraction of points shall be considered one (1) whole point.
- The project will be classified as a "REBUILD" if the total points exceed 55.

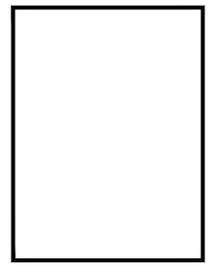
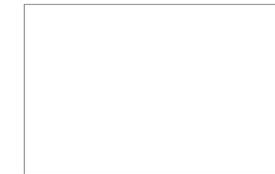
GENERAL NOTES:

- THESE PLANS AND DESCRIPTION OF MATERIALS SHALL GOVERN THE EXTENT OF THE WORK TO BE DONE. ANY DISCREPANCY BETWEEN THESE DOCUMENTS AND FIELD CONDITIONS MUST BE CALLED TO THE ATTENTION OF THE DESIGNERS AND STRUCTURAL ENGINEER. ANY DISCREPANCY NOT REPORTED TO THE DESIGNER AND ENGINEERS WILL ABSOLVE THEM OF ANY RESPONSIBILITY.
- IT IS HOUSE OWNER'S FULL RESPONSIBILITY FOR ANY SITE DIMENSION DISCREPANCIES DUE TO OWNER'S DECISION TO OMIT OFFICIAL LAND SURVEY BY CERTIFIED SURVEYORS. HOUSE OWNER SHALL BE RESPONSIBLE FOR ANY LOSS/COST CAUSED BY THIS DECISION.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR DESIGN AND INSTALLATION OF ALL TEMPORARY BRACING AND SHORING PRIOR TO THE REMOVAL OF ANY SUPPORTING STRUCTURE.
- THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS MUST FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO THE SUBMITTAL OF BID PROPOSALS AND CONSTRUCTION.
- THE GENERAL CONTRACTOR IS FULLY RESPONSIBLE FOR THE SATISFACTORY COMPLETION OF ALL WORK IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
- NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALE DIMENSIONS. ANY DISCREPANCY SHALL BE BROUGHT TO THE DESIGNER'S ATTENTION IMMEDIATELY.
- DIMENSIONS SHOWN ARE TO FACE OF FRAMING OR FACE OF CONCRETE UNLESS OTHERWISE NOTED.
- TYPICAL DETAILS APPLY WHERE NO DETAILS OR SECTIONS ARE PROVIDED.
- ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE MOST CURRENT ISSUES OF THE C.B.C., U.M.C., N.E.C., AND C.B.C., AND ALL GOVERNING LOCAL CODES AND ORDINANCES. ALL THOSE WORKING ON THE PROJECT MUST HAVE THE REQUIRED LICENSE AND EXPERIENCE.
- ALL ITEMS INDICATED ON PLANS ARE NEW AND INCLUDED IN THIS SCOPE OF WORK UNLESS OTHERWISE INDICATED AS (E) - EXISTING.



1
A1 **EXISTING UPPER FLOOR PLAN (FOR REFERENCE ONLY)**
SCALE: 1/4" = 1'-0"
NORTH

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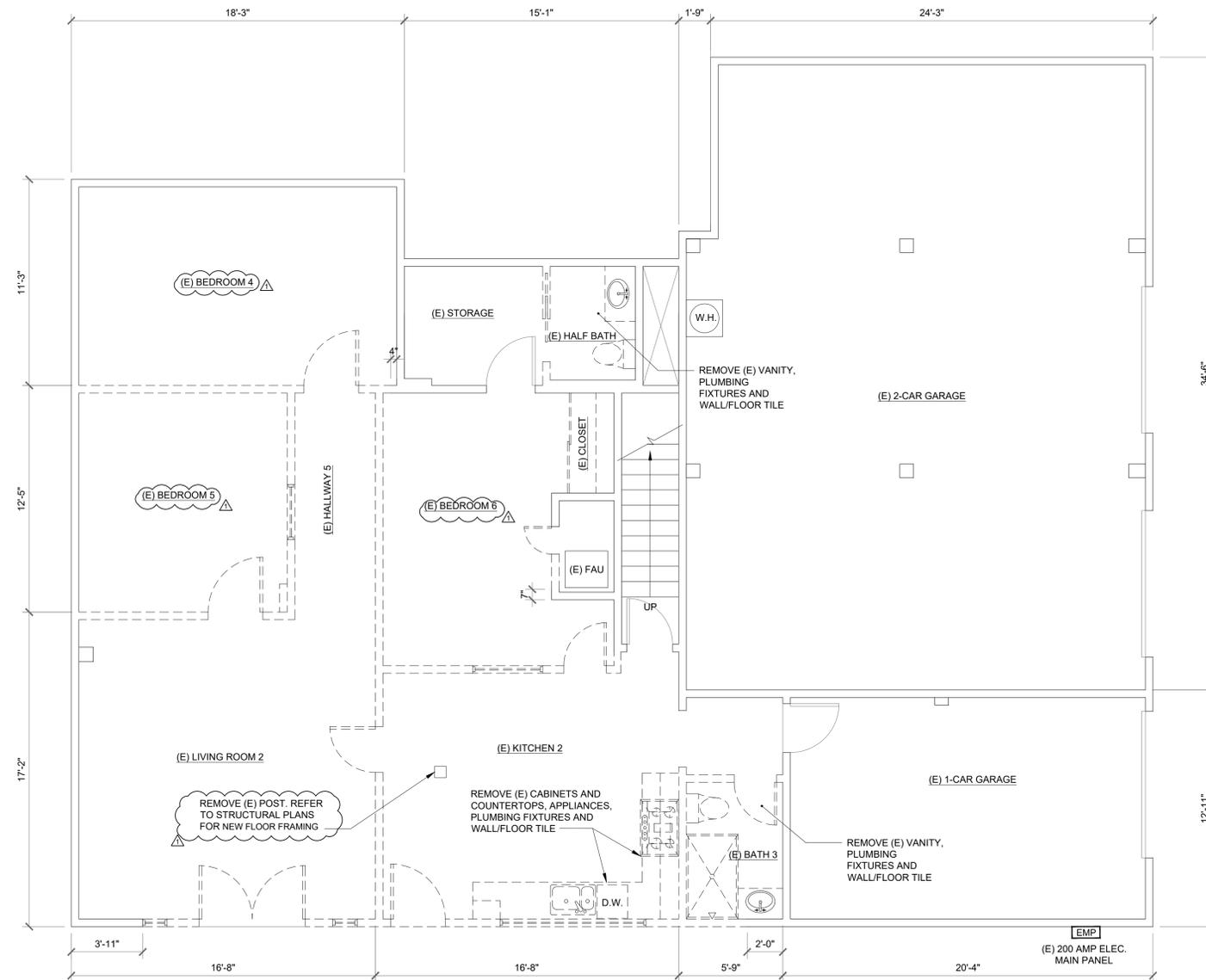
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SAN JOSE, CA 95148

Revisions	By
△ 11/21/21	L.L.

Drawn	L.L.
Check	
Date	06/25/21
Scale	Noted

Drawing Name
EXISTING
UPPER FLOOR
PLAN

Sheet
A1



1 **DEMOLITION LOWER FLOOR PLAN**
 A2 SCALE: 1/4" = 1'-0" 
 NORTH

SHEET NOTES:
 LOWER FLOOR HAS BEEN CONVERTED TO LIVING SPACE WITHOUT A BUILDING PERMIT. ALL MODIFICATIONS AND ADDITIONS TO THE LOWER FLOOR SHALL BE REMOVED AND REPLACED AS SHOWN ON PROPOSED LOWER FLOOR PLAN SHEET A3

LEGEND

	(E) CONSTRUCTION
	(E) CONSTRUCTION TO BE DEMOLISHED

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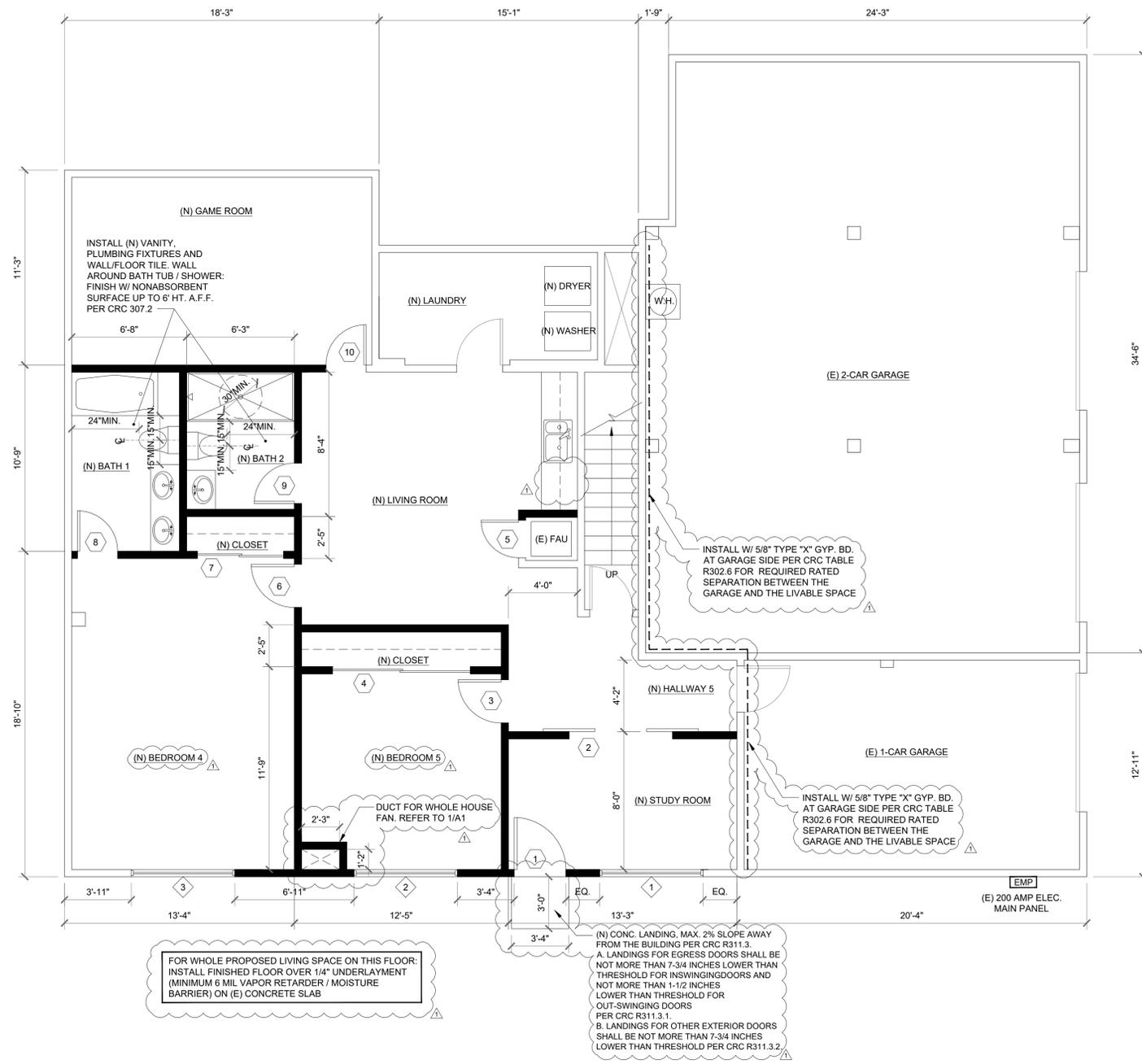
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Drawing Name
DEMOLITION
LOWER FLOOR
PLAN

Sheet
A2



FOR WHOLE PROPOSED LIVING SPACE ON THIS FLOOR, INSTALL FINISHED FLOOR OVER 1/4" UNDERLAYMENT (MINIMUM 6 MIL VAPOR RETARDER / MOISTURE BARRIER) ON (E) CONCRETE SLAB

(N) CONC. LANDING, MAX. 2% SLOPE AWAY FROM THE BUILDING PER CRC R311.3.
 A. LANDINGS FOR EGRESS DOORS SHALL BE NOT MORE THAN 7-3/4 INCHES LOWER THAN THRESHOLD FOR INSWINGING DOORS AND NOT MORE THAN 1-1/2 INCHES LOWER THAN THRESHOLD FOR OUT-SWINGING DOORS PER CRC R311.3.1.
 B. LANDINGS FOR OTHER EXTERIOR DOORS SHALL BE NOT MORE THAN 7-3/4 INCHES LOWER THAN THRESHOLD PER CRC R311.3.2.

BATHROOM NOTES:

- BATHROOM EXHAUST DUCT SHALL TERMINATE OUTSIDE THE BUILDING AND SHALL BE EQUIPPED WITH BACKDRAFT DAMPER. (CMG 504.1)
- SHOWER STALLS SHALL BE A MINIMUM FINISHED INTERIOR OF 1,024 SQUARE INCHES, BE CAPABLE OF ENCOMPASSING A 30 INCH DIAMETER CIRCLE. ANY DOORS SHALL SWING OUT OF THE ENCLOSURE HAVE A CLEAR OPENING OF 22 INCHES MINIMUM. (CPC 408.5, 408.6)
- SHOWER STALLS AND BATHTUBS WITH SHOWER HEADS INSTALLED, SHALL HAVE WALLS FINISHED WITH A NON-ABSORBENT SURFACE FOR A MINIMUM OF 6 FEET ABOVE THE FLOOR.
- THE MAXIMUM WATER TEMPERATURE TO A SHOWER OR TUB/SHOWER COMBINATION IS 120°F. THE WATER HEATER THERMOSTAT CANNOT BE USED AS THE CONTROL FOR THIS TEMPERATURE. VALVES SHALL PROVIDE SCALD AND THERMAL SHOCK PROTECTION, AND BE PRESSURE-BALANCED, THERMOSTATIC, OR COMBINATION PRESSURE-BALANCED/THERMOSTATIC MIXING IN ACCORDANCE WITH ASSE 1016 OR ASME A112.18.1/CSA B125.1. (CPC 408.3).
- ALL NEW SHOWERS AND TUB/SHOWER COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE THERMOSTATIC MIXING, PRESSURE BALANCE OR COMBINATION VALVE TYPE PER CPC SEC. 408.3.
- SAFETY GLASS (TEMPERED OR LAMINATED) IS REQUIRED FOR ALL GLASS SHOWER DOORS AND PARTITIONS AND FOR WINDOWS IN WALLS FACING THE TUB OR SHOWER AND LOCATED LESS THAN 60 INCHES ABOVE THE STANDING SURFACE OF THE TUB/SHOWER AND WITHIN 60 INCHES HORIZONTALLY (CRC R308.4.1&5).
- CONCRETE BOARD REQUIRES A VAPOR BARRIER TO BE INSTALLED BETWEEN IT AND THE DRYWALL AND OR FRAMING. CORROSION RESISTANT FASTENERS MUST BE USED.
- THE WATER CLOSET SHALL HAVE A CLEARANCE OF 30 INCHES WIDE (15 INCHES ON CENTER) AND 24 INCHES IN FRONT. (CPC 402.5)
- WHERE THE WATER CLOSET (OR OTHER PLUMBING FIXTURE) COMES INTO CONTACT WITH THE WALL OR FLOOR, THE JOINT SHALL BE CAULKED AND SEALED TO BE WATERTIGHT. (CPC 402.2)
- AT LEAST ONE FIXTURE IN EACH BATHROOM CONTROLLED BY A VACANCY SENSOR. CEC L50.0(K) 2J.
- SEE TABLE FOR PLUMBING FIXTURE REQUIREMENTS ON SHEET A3.

NEW WINDOW SCHEDULE							
MARK	W.	HT.	SILL. HT.	STYLE	TYPE	GLAZING	NOTE
1	6'-0"	4'-0"	3'-0"	SLIDING	-	TEMPERED	-
2	6'-0"	4'-0"	3'-0"	SLIDING	EGRESS	-	-
3	6'-0"	4'-0"	3'-0"	SLIDING	EGRESS	-	-

NEW DOOR SCHEDULE						
MARK	WIDTH	HT.	MATERIAL	INTERIOR/ EXTERIOR	TYPE	NOTE
1	3'-0"	6'-8"	S.C.	EXTERIOR	SWING	-
2	PR. 6'-0"	6'-8"	S.C.	INTERIOR	BARN	-
3	2'-6"	6'-8"	S.C.	INTERIOR	SWING	-
4	PR. 8'-0"	6'-8"	S.C.	INTERIOR	SLIDING	-
5	2'-2"	6'-8"	S.C.	INTERIOR	SWING	-
6	2'-6"	6'-8"	S.C.	INTERIOR	SWING	-
7	PR. 5'-0"	6'-8"	S.C.	INTERIOR	SLIDING	-
8	2'-4"	6'-8"	S.C.	INTERIOR	SWING	-
9	2'-4"	6'-8"	S.C.	INTERIOR	SWING	-
10	2'-6"	6'-8"	S.C.	INTERIOR	SWING	-

1 PROPOSED LOWER FLOOR PLAN
 A3 SCALE: 1/4" = 1'-0"
 NORTH

LEGEND	
	(E) CONSTRUCTION
	(N) CONSTRUCTION
	(N) OVERHEAD CONSTRUCTION
	(N) DOOR
	(N) WINDOW

REFER TO SHEET A4 FOR CALGREEN NOTES, AND MECHANICAL, ELECTRICAL AND PLUMBING NOTES

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Drawing Name
PROPOSED LOWER FLOOR PLAN

Sheet
A3

ELECTRICAL NOTES:

1. PROVIDE A MINIMUM OF (1) 20 AMP DEDICATED BRANCH CIRCUIT TO SUPPLY BATHROOM RECEPTACLE OUTLET(S) AND SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS PER CEC ARTICLE 210.11(C)(3)
2. PROVIDE (1) 20 AMP DEDICATED BRANCH CIRCUIT TO SUPPLY THE LAUNDRY RECEPTACLE OUTLET(S). THIS CIRCUIT SHALL HAVE NO OTHER OUTLETS CEC ART. 210.11(C)(2).
3. ALL RECEPTACLES SHALL BE GFCI PROTECTED AND TAMPER-RESISTANT (TR) AT KITCHEN AND BATHROOM. NEW/ADDITIONAL OUTLETS SHALL HAVE A DEDICATED 20-AMP CIRCUIT. (2016 CEC, ART. 406.12)
4. ARC-FAULT CIRCUIT-INTERRUPTER PROTECTION MUST BE PROVIDED IN ACCORDANCE WITH 210.12(A), (B) AND (C). AFCI DEVICES MUST BE INSTALLED IN READILY ACCESSIBLE LOCATIONS. (A) WHERE REQUIRED, ALL 15A OR 20A, 120V BRANCH CIRCUITS IN DWELLING UNITS SUPPLYING OUTLETS OR DEVICES IN KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS CEC210.12.
5. RECEPTACLES ARE TO BE LOCATED WITHIN 36" OF THE SINK EDGE.(210.52 (D))
6. BATHROOM EXHAUST FANS. EACH BATHROOM SHALL BE MECHANICALLY VENTILATED AND SHALL COMPLY WITH THE FOLLOWING: (CAL GREEN 4.506.1)
 1. FANS SHALL BE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE OUTSIDE THE BUILDING.
 2. UNLESS FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM, FANS MUST BE CONTROLLED BY A HUMIDITY CONTROL.
 - a) HUMIDITY CONTROLS SHALL BE CAPABLE OF MANUAL OR AUTOMATIC ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF LESS THAN 50% TO A MAXIMUM OF 80%.
 - b) A HUMIDITY CONTROL MAY BE A SEPARATE COMPONENT TO THE EXHAUST FAN AND IS NOT REQUIRED TO BE INTEGRAL OR BUILT-IN.
- NOTE: FOR CAL GREEN A "BATHROOM" IS A ROOM WHICH CONTAINS A BATHTUB, SHOWER, OR TUB/SHOWER COMBINATION. FANS ARE REQUIRED IN EACH BATHROOM.
7. ALL RECESSED LIGHT FIXTURES WILL BE IC AND AT RATED.
8. LIGHTING FIXTURES LOCATED WITHIN 3 FEET HORIZONTALLY AND 8 FEET VERTICALLY OF THE BATHTUB RIM OR SHOWER STALL THRESHOLD SHALL BE LISTED FOR A DAMP LOCATION, OR LISTED FOR WET LOCATIONS WHERE SUBJECT TO SHOWER SPRAY. (CEC 410.10)
9. LIGHTING TO COMPLIANT WITH 2019 CA ENERGY CODE SECTION L50(K) FOR LIGHTING:
 - A. ALL LIGHTING AS HIGH EFFICACY (I.E. PIN-BASED CFL; PULSE-START MH, HPS, GU-24 SOC KETS OTHER THAN LEADS, LED LUMINAIRES WITH INTEGRAL SOURCE, ETC.). CEC TABLE 1 50.0-A SCREW-BASED PERMANENTLY INSTALLED LIGHT FIXTURES MUST CONTAIN SCREWBASSED JA8 (JOINT APPENDIX B) COMPLIANT LAMPS. JA8 COMPLIANT LIGHT SOURCES MUST BE MARKED AS "JA8-201 6" OR "JA8-2016-E" ("JA8-2016-E" LUMINAIRES ARE DEEMED APPROPRIATE FOR USE IN ENCLOSED LUMINAIRES). CEC 150.0(K) G
 - C. ALL JA8 COMPLIANT LIGHT SOURCES IN THE FOLLOWING LOCATIONS ARE CONTROLLED BY VACANCY SENSORS OR DIMMERS (EXCEPTION CLOSETS LESS THAN 70 SF AND HALLWAYS). CEC 150.0(K)(2K):
 - I. CEILING RECESSED DOWNLIGHT LUMINAIRES
 - II. LED LUMINAIRES WITH INTEGRAL SOURCES
 - III. PIN-BASED LED LAMPS (I.E. MR 16, AR-1 1 1, ETC.)
 - IV. GU-24 BASED LED LIGHT SOURCES.
 - D. LIMIT THE NUMBER OF BLANK ELECTRICAL BOXES MORE THAN 5 FEET ABOVE THE FINISHED FLOOR TO NOT GREATER THAN THE NUMBER OF BEDROOMS. SHOW THESE ELECTRICAL BOXES CONTROLLED BY A DIMMER, VACANCY SENSOR, OR FAN SPEED CONTROL. CEC 150.0(K) B
 - E. AT LEAST ONE FIXTURE IN EACH BATHROOM CONTROLLED BY A VACANCY SENSOR. CEC L50.0(K) 2J
 - F. AT LEAST ONE FIXTURE IN THE GARAGE CONTROLLED BY A VACANCY SENSOR. CEC L50.0(K) 2J
 - G. AT LEAST ONE FIXTURE IN EACH LAUNDRY ROOM CONTROLLED BY A VACANCY SENSOR. CEC L50.0(K) 2J
 - H. AT LEAST ONE FIXTURE IN EACH UTILITY ROOM CONTROLLED BY A VACANCY SENSOR. CEC L50.0(K) 2J
 - I. EXHAUST FANS (EXCLUDES KITCHEN EXHAUST HOOD) SWITCHED SEPARATE FROM LIGHTING (OR UTILIZE A DEVICE WHERE LIGHTING CAN BE TURNED OFF WHILE THE FAN IS RUNNING). SEPARATE SWITCHING FOR ANY UNDER CABINET LIGHTING (INCLUDING KITCHEN LIGHTING) FROM OTHER LIGHTING SYSTEMS. CEC L50.0(K) 2L
 - K. ALL OUTDOOR LIGHTING AS HIGH EFFICACY WITH MANUAL ON/OFF SWITCH AND ONE OF THE FOLLOWING IN ACCORDANCE WITH CEC L50.0(K) 3:
 - I. PHOTOCONTROL AND MOTION SENSOR
 - II. PHOTOCONTROL AND AUTOMATIC TIME SWITCH CONTROL
 - III. ASTRONOMICAL TIME SWITCH CONTROL
 - IV. ENERGY MANAGEMENT CONTROL SYSTEMS.
10. COMPLETED CF2R-LTG-0 1-E FORM MUST BE PROVIDED TO THE CITY BUILDING INSPECTOR, PRIOR TO FINAL INSPECTION.

HIGH EFFICACY LIGHTING REQUIREMENTS	
LAMP POWER RATING	MINIMUM LAMP EFFICIENCY
15 WATTS OR LESS	40 LUMENS PER WATT
OVER 15 WATTS TO 40 WATTS	50 LUMENS PER WATT
OVER 40 WATTS	60 LUMENS PER WATT

MECHANICAL AND PLUMBING NOTES:

1. ALL WASTE VENTS SHALL TERMINATE A MINIMUM OF 6" OR MORE ABOVE THE ROOF SURFACE, 10' AWAY FROM OR 3' ABOVE ANY WINDOW, DOOR, OPEN-ABLE SKYLIGHT, AIR INTAKE, OR VENT SHAFT AND 1' AWAY FROM ANY VERTICAL WALL SURFACE.
2. HOT WATER PIPE FROM THE WATER HEATER TO THE KITCHEN WILL BE INSULATED.
4. A UFER GROUND WILL BE INSTALLED.
5. THE HEATING UNIT SHALL BE CAPABLE OF MAINTAINING A MINIMUM ROOM TEMPERATURE OF 68 DEGREES AT A POINT 3 FEET ABOVE THE FLOOR AND 2 FEET FROM EXTERIOR WALLS PER CRC SEC. R303.9.
6. PLUMBING FIXTURES AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET APPLICABLE STANDARDS REFERENCED IN TABLE 1701.1 OF THE CALIFORNIA PLUMBING CODE.

WATER EFFICIENT PLUMBING FIXTURES (CALIFORNIA CIVIL CODE 1101.4(A))

THE CALIFORNIA CIVIL CODE REQUIRES THAT ALL EXISTING NON-COMPLIANT PLUMBING FIXTURES (BASED ON WATER EFFICIENCY) THROUGHOUT THE HOUSE BE UPGRADED WHENEVER A BUILDING PERMIT IS ISSUED FOR REMODELING IMPROVEMENTS. RESIDENTIAL BUILDING CONSTRUCTED AFTER JANUARY 1, 1994 ARE EXEMPT FROM THIS REQUIREMENT. THE FOLLOWING TABLE SHOWS THE FIXTURES THAT ARE CONSIDERED TO BE NONCOMPLIANT AND THE TYPE OF WATER-CONSERVING PLUMBING FIXTURE THAT SHOULD BE INSTALLED:

TYPE OF FIXTURE	NON-COMPLIANT PLUMBING FIXTURE	REQUIRED WATER-CONSERVING PLUMBING FIXTURE (MAXIMUM FLOW RATES)
WATER CLOSET (TOILET)	GREATER THAN 1.6 GALLONS/FLUSH	1.28 GALLONS/FLUSH
SHOWERHEAD	GREATER THAN 2.5 GALLONS/MINUTE	1.8 GALLONS/MINUTE AT 80psi
FAUCET - BATHROOM	GREATER THAN 2.2 GALLONS/MINUTE	1.2 GALLONS/MINUTE AT 60psi
FAUCET - KITCHEN	GREATER THAN 2.2 GALLONS/MINUTE	1.8 GALLONS/MINUTE AT 60psi

CALGREEN NOTES

1. 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 SIMILAR ACCEPTABLE METHODS PER CGBSC SECTION 4.406.1
2. ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL, OR OTHER ACCEPTABLE METHODS AT THE TIME OR ROUGH INSTALLATION OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT. CGBSC SECTION 4.504.1
3. CGBSC SECTION 4.504.2, FINISH MATERIAL POLLUTANT CONTROL.
 - 4.504.2.1 ADHESIVES, SEALANTS AND CAULKS. ADHESIVES, SEALANTS AND CAULKS SHALL BE COMPLIANT WITH VOC AND OTHER TOXIC COMPOUND LIMITS.
 - 4.504.2.2 PAINTS AND COATINGS. PAINTS, STAINS AND OTHER COATINGS SHALL BE COMPLIANT WITH VOC LIMITS.
 - 4.504.2.3 AEROSOL PAINTS AND COATINGS. AEROSOL PAINTS AND COATINGS SHALL BE COMPLIANT WITH PRODUCT WEIGHTED MIR LIMITS FOR ROC AND OTHER TOXIC COMPOUNDS.
 - 4.504.2.4 VERIFICATION. DOCUMENTATION SHALL BE PROVIDED TO VERIFY THAT COMPLIANT VOC LIMIT FINISH MATERIALS HAVE BEEN USED.
4. NO CARPET SYSTEM WILL BE INSTALLED.
5. NO RESILIENT FLOORING SYSTEMS WILL BE INSTALLED.
6. COMPOSITE WOOD PRODUCTS. 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 ARB'S AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD (17 CCR 93120 ET SEQ.), BY OR BEFORE THE DATES SPECIFIED IN THOSE SECTIONS, AS SHOWN IN CGBSC TABLE 4.504.5.
7. BATHROOM EXHAUST FANS MUST BE ENERGY STAR COMPLIANT, MUST BE DUCTED TO TERMINATE OUTSIDE THE BUILDING, AND MUST BE CONTROLLED BY A HUMIDISTAT WHICH SHALL BE READILY ACCESSIBLE. CGBSC SECTION 4.506.
8. FOR WHOLE PROPOSED LIVING SPACE ON THIS FLOOR: INSTALL FINISHED FLOOR OVER 1/4" UNDERLAYMENT (MINIMUM 6 MIL VAPOR RETARDER / MOISTURE BARRIER) ON (E) CONCRETE SLAB. RETARDER SHALL BE PLACED BETWEEN THE GARAGE CONCRETE FLOOR SLAB (DIRECT CONTACT WITH CONCRETE) AND THE BASE COURSE OR THE PREPARED SUBGRADE PER CRC R506.2.3 AND CALGREEN 4.505.2
9. MOISTURE CONTENT OF BUILDING MATERIALS (4.505.3): BUILDING MATERIALS WITH VISIBLE SIGNS OF WATER DAMAGE SHALL NOT BE INSTALLED. WALL AND FLOOR FRAMING SHALL NOT BE ENCLOSED WHEN THE FRAMING MEMBERS EXCEED 19% MOISTURE CONTENT. MOISTURE CONTENT SHALL BE VERIFIED IN COMPLIANCE WITH THE FOLLOWING: 1. MOISTURE CONTENT SHALL BE DETERMINED WITH EITHER A PROBE-TYPE OR A CONTACT-TYPE MOISTURE METER. EQUIVALENT MOISTURE VERIFICATION METHODS MAY BE APPROVED BY THE ENFORCING AGENCY AND SHALL SATISFY REQUIREMENTS IN SECTION 101.8. 2. MOISTURE READINGS SHALL BE TAKEN AT A POINT 2 FEET TO 4 FEET FROM THE GRADE-STAMPED END OF EACH PIECE TO BE VERIFIED. 3. AT LEAST 3 RANDOM MOISTURE READINGS SHALL BE PERFORMED ON WALL AND FLOOR FRAMING WITH DOCUMENTATION ACCEPTABLE TO THE ENFORCING AGENCY PROVIDED AT THE TIME OF APPROVAL TO ENCLOSE THE WALL AND FLOOR FRAMING. INSULATION PRODUCTS WHICH ARE VISIBLY WET OR HAVE A HIGH MOISTURE CONTENT SHALL BE REPLACED OR ALLOWED TO DRY PRIOR TO ENCLOSURE IN WALL OR FLOOR CAVITIES. MANUFACTURERS' DRYING RECOMMENDATIONS SHALL BE FOLLOWED FOR WET-APPLIED INSULATION PRODUCTS PRIOR TO ENCLOSURE.
10. ALL PLUMBING FIXTURES AND FITTINGS SHALL MEET THE STANDARDS REFERENCED IN TABLE 1701.1 OF THE 2019 CALIFORNIA PLUMBING CODE. CGBSC SECTION 4.303.2.
11. HEATING AND AIR-CONDITIONING SYSTEMS SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF CGBSC SECTION 4.507.2
12. DUCT SYSTEMS ARE SIZED, DESIGNED, AND EQUIPMENT IS SELECTED USING THE FOLLOWING METHODS:
 - a) ESTABLISH HEAT LOSS AND HEAT GAIN VALUES ACCORDING TO ANSIACCA 2 MANUAL J-2011 OR EQUIVALENT;
 - b) SIZE DUCT SYSTEMS ACCORDING TO ANSIACCA 1 MANUAL D-2014 OR EQUIVALENT;
 - c) SELECT HEATING AND COOLING EQUIPMENT ACCORDING TO ANSIACCA 3 MANUAL S-2014 OR EQUIVALENT.
13. HVAC INSTALLERS SHALL BE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS. SPECIAL INSPECTORS EMPLOYED BY THE ENFORCING AGENCY MUST BE QUALIFIED AND ABLE TO DEMONSTRATE COMPETENCE IN THE DISCIPLINE THEY ARE INSPECTING. VERIFICATION OF COMPLIANCE WITH THIS CODE MAY INCLUDE CONSTRUCTION DOCUMENTS, PLANS, SPECIFICATIONS BUILDER OR INSTALLER CERTIFICATION, INSPECTION REPORTS, OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY WHICH SHOW SUBSTANTIAL CONFORMANCE.
14. DOCUMENTATION OF COMPLIANCE SHALL INCLUDE, BUT IS NOT LIMITED TO, CONSTRUCTION DOCUMENTS, PLANS, SPECIFICATIONS, BUILDER OR INSTALLER CERTIFICATION, INSPECTION REPORTS, OR OTHER METHODS ACCEPTABLE TO THE LOCAL ENFORCING AGENCY. OTHER SPECIFIC DOCUMENTATION OR SPECIAL INSPECTIONS NECESSARY TO VERIFY COMPLIANCE ARE SPECIFIED IN APPROPRIATE SECTIONS OF CALGREEN.

SMOKE AND CARBON MONOXIDE ALARMS

THE STATE OF CALIFORNIA REQUIRES SMOKE AND CARBON MONOXIDE ALARMS TO BE INSTALLED IN ALL RESIDENTIAL BUILDINGS. (CALIFORNIA RESIDENTIAL CODE) SECTIONS R314.3.2 AND R314.3.3 REQUIRE A 10-YEAR LIFESPAN FOR SMOKE ALARMS/DETECTORS:

1. UNITS THAT ARE OLDER THAN 10-YEARS NEED TO BE REPLACED.
2. ALL SMOKE DETECTORS AND CARBON MONOXIDE ALARMS SHALL BE HARD WIRED.

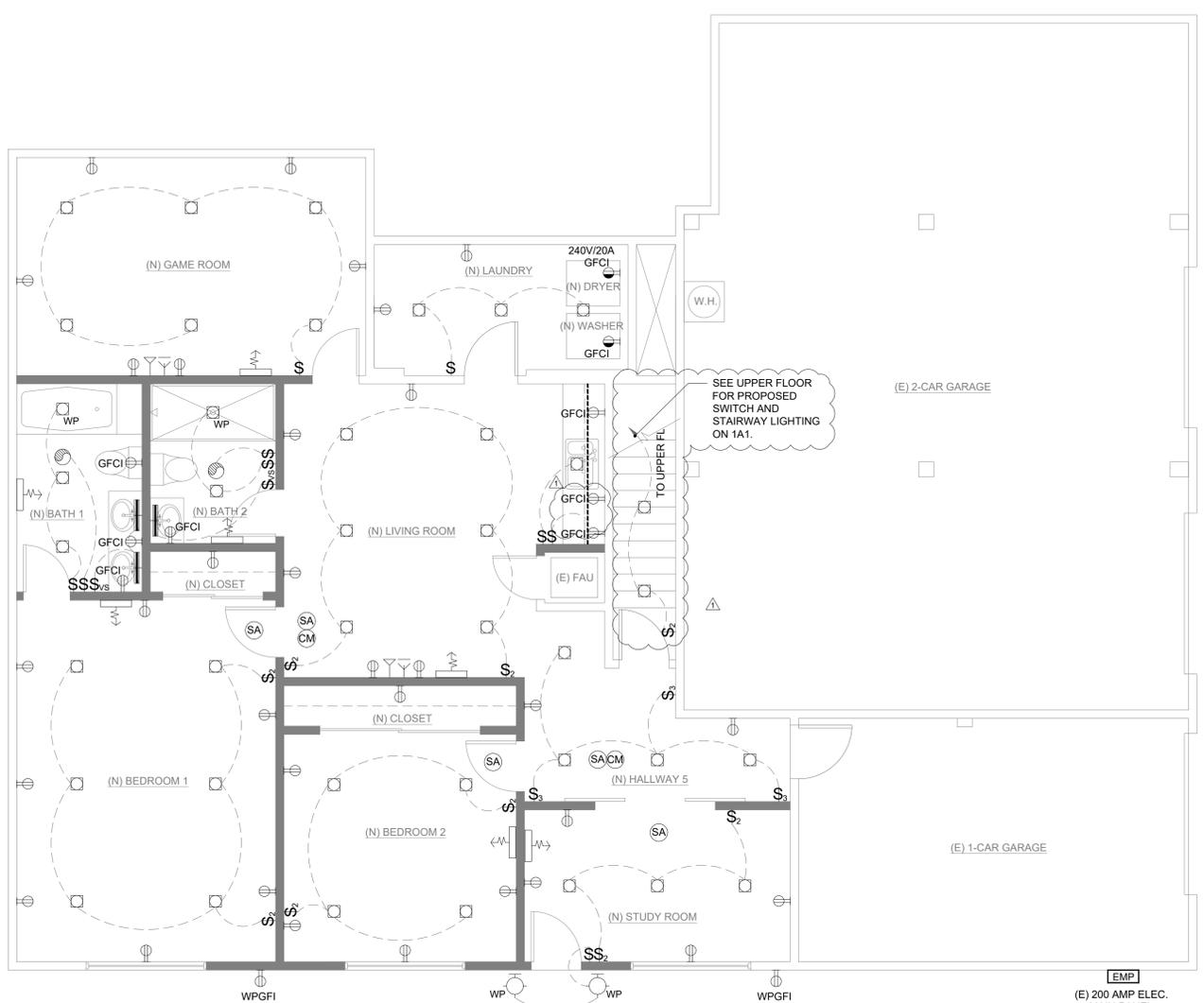
SMOKE, CARBON MONOXIDE OR MULTIPLE-PURPOSE ALARMS (CARBON MONOXIDE AND SMOKE ALARMS) MUST BE APPROVED AND LISTED BY THE STATE FIRE MARSHAL. THE DEVICES MUST BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.

ALARM LOCATION REQUIREMENTS

- SMOKE ALARMS MUST BE INSTALLED:
- A) IN EACH ROOM USED FOR SLEEPING PURPOSES;
 - B) IN EACH HALLWAY OUTSIDE OF THE SLEEPING ROOM(S);
 - C) ON EACH LEVEL OF THE DWELLING, INCLUDING BASEMENTS

CARBON MONOXIDE ALARMS MUST BE INSTALLED:

- A) OUTSIDE OF EACH SLEEPING ROOM IN THE IMMEDIATE VICINITY OF THE BEDROOM(S);
- B) ON EACH LEVEL OF THE DWELLING, INCLUDING BASEMENTS



MEP SYMBOL LEGEND

- (N) LED FLUSH MOUNTED CAN LIGHT FIXTURE
- (N) WATER PROOF LED FLUSH MOUNTED CAN LIGHT FIXTURE
- (N) HIGH EFFICACY EXTERIOR WATER PROOF WALL MOUNTED LIGHT FIXTURE
- (N) HIGH EFFICACY WALL MOUNTED VANITY LIGHT FIXTURE
- (N) UNDER CABINET LED LIGHT FIXTURE
- (N) WALL SWITCH, MTD @ +48", U.O.N.
- (N) TWO-WAY WALL SWITCH, MTD @ +48", U.O.N.
- (N) THREE-WAY WALL SWITCH, MTD @ +48", U.O.N.
- (N) ARC FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE, MTD @ +12", U.O.N.
- (N) GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE. HT.: ABOVE COUNTER WHEN INSTALLED AT CABINET AREA.
- (N) GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE. HT.: ABOVE COUNTER WHEN INSTALLED AT CABINET AREA.
- (N) EXTERIOR WATER PROOF GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE.
- (N) APPROVED EXHAUST FAN, (100 CFM MIN. AT KITCHEN, 80 CFM MIN. AT BATHROOM), 5 AIR CHANGES/HOUR, MIN. DUCT TO EXTERIOR PER U.M.C.
- (N) WALL MOUNTED AIR REGISTER
- (N) SMOKE ALARM - HARD WIRED, INTERCONNECTED W/ BATTERY BACK-UP
- (N) CARBON MONOXIDE DETECTOR
- (E) ELECTRICAL MAIN PANEL

1 PROPOSED MEP PLAN

A4 SCALE: 1/4" = 1'-0"



SHEET NOTE:

1. ALL NEWLY INSTALLED INTERIOR LIGHTING TO BE HIGH EFFICACY PER CENC 150.0(K)(1)(A).
2. ALL NEWLY INSTALLED EXTERIOR LIGHTING TO BE HIGH EFFICACY AND BE CONTROLLED BY A MANUAL ON AND OFF SWITCH THAT DOES NOT OVERRIDE THE AUTOMATIC ACTIONS OF ITEMS SHOWN ON CENC 150(K)(3)(II) OR CENC 150.0(K)(3)(III).
3. ALL RECESSED FIXTURES WILL BE IC AND AT RATED.
4. CONTRACTOR TO VERIFY WITH HOUSE OWNER BEFORE PURCHASING AND INSTALLATION OF ALL ELECTRICAL OUTLETS AND COMPONENTS.
5. ALL WALL PENETRATIONS BETWEEN LIVING SPACES AND GARAGE SHOULD NOT IMPACT WALL FIRE RATING.
6. UNIT SHALL BE EQUIPPED WITH SMOKE ALARMS LOCATED AS REQUIRED FOR NEW DWELLINGS, PER CRC R314.2.2. CONTRACTOR MUST INSTALL OR VERIFY THE EXISTENCE OF SMOKE ALARMS IN UPPER FLOOR. ALARMS IN EXISTING AREAS WHERE ACCESS TO THE AREA ABOVE THE CEILING IS NOT POSSIBLE MAY BE POWERED BY A DIC BATTERY SOURCE. FILL OUT THE AFFIDAVIT FORM LOCATED AT: [HTTPS://WWW.SCCGOV.ORG/SITES/DP/D/DOCS/FORMS/DOCUMENTS/AFFIDAVIT_SMOKE_CO_ALARM.PDF](https://www.sccgov.org/sites/dp/d/docs/forms/documents/affidavit_smoke_co_alarm.pdf) BEFORE YOU REQUEST AN INSPECTOR TO SIGN OFF ON YOUR PROJECT. COMPLETE AND SIGN THIS AFFIDAVIT AND PLACE IT IN THE PERMIT JACKET OR WITH THE PERMIT RECORD CARD.

COUNTY APPROVAL STAMP

Designer

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 San Jose, CA 95160
 lindal.designstudio@gmail.com

Project Name

**HOUSE ADDITION
 LIU RESIDENCE**
 4005 HIGUERA ROAD
 SAN JOSE, CA 95148

Revisions	By
11/12/21	L.L.

Drawn	L.L.
Check	
Date	06/25/21
Scale	Noted

Drawing Name

**PROPOSED
 LOWER FLOOR
 MEP PLAN**

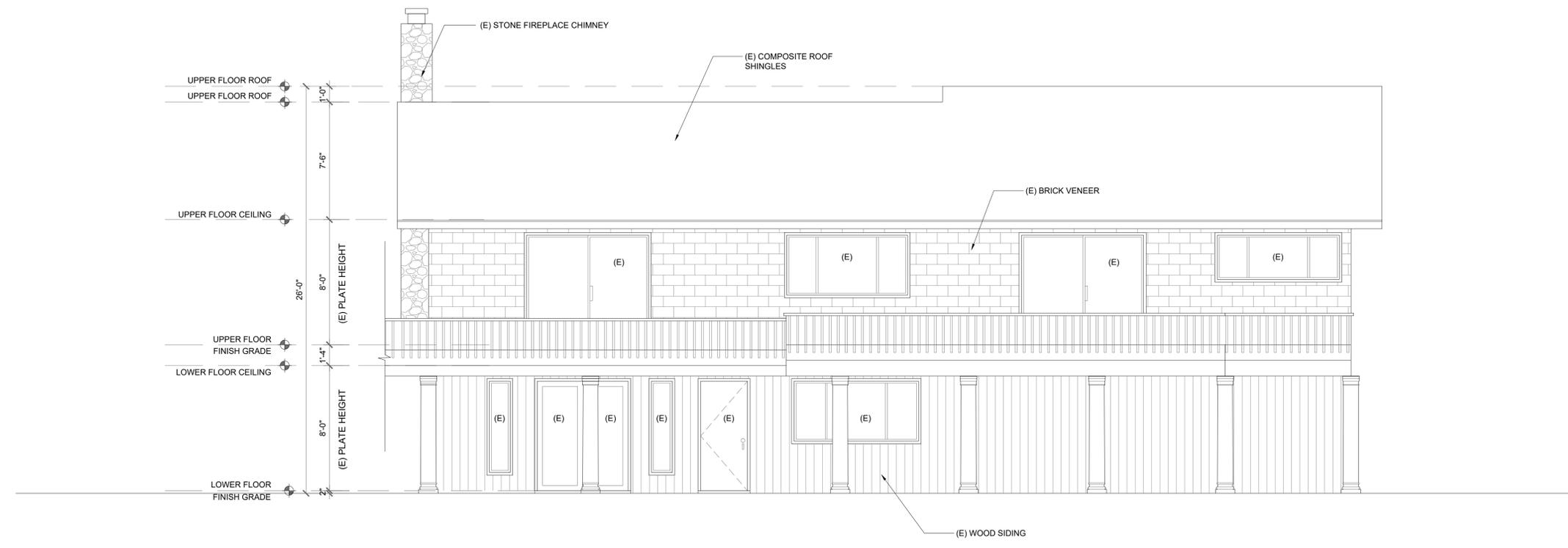
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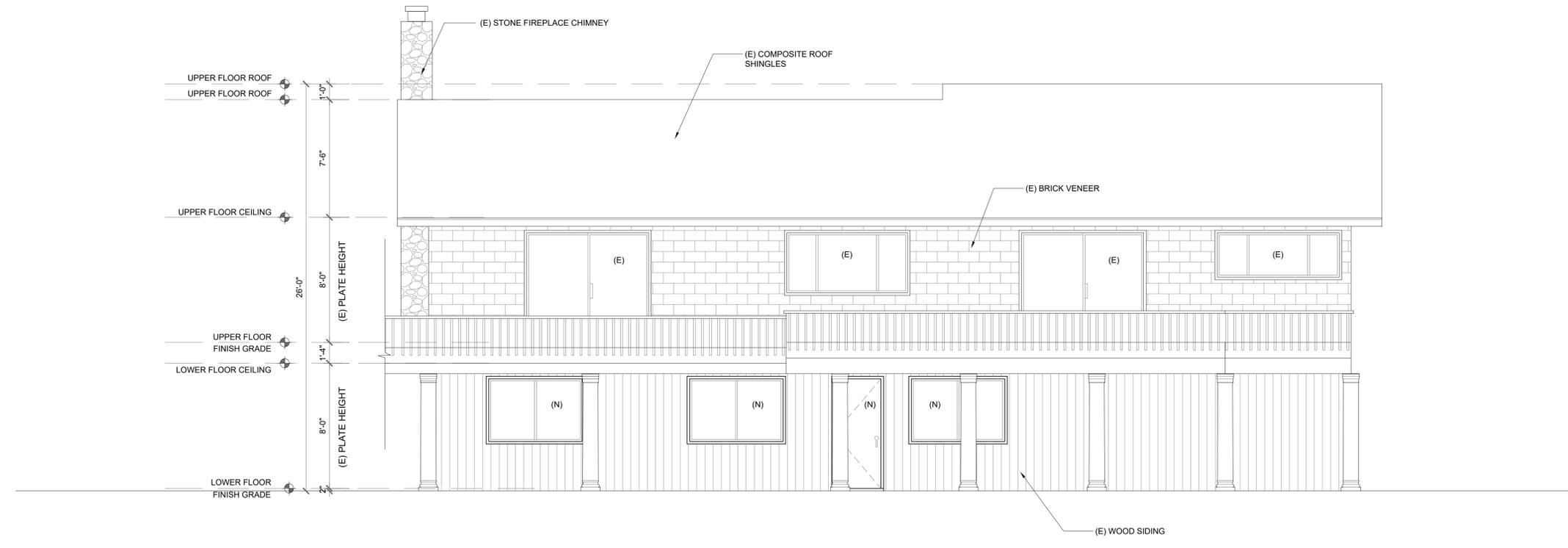
SHEET NOTES

1. EXTERIOR PLASTER/STUCCO NOTES:

- A) WEATHER RESISTIVE BARRIERS SHALL BE INSTALLED AS REQUIRED IN SECTION R703.2 AND, WHERE APPLIED OVER WOOD-BASED SHEATHING, SHALL INCLUDE A WATER-RESISTIVE VAPOR-PERMEABLE BARRIER WITH A PERFORMANCE AT LEAST EQUIVALENT TO TWO LAYERS OF GRADE D PAPER (R703.6.3)
- B) PLASTERING WITH PORTLAND CEMENT PLASTER SHALL NOT BE LESS THAN THREE COATS WHEN APPLIED OVER METAL LATH OR WIRE LATH AND SHALL BE NOT LESS THAN TWO COATS WHEN APPLIED OVER MASONRY, CONCRETE, PRESSURE-PRESERVATIVE TREATED WOOD OR DECAY-RESISTANT WOOD AS SPECIFIED IN SECTION R317.1 OR GYPSUM BACKING (R703.6.2)
- C) A MINIMUM 26 GA. GALVANIZED CORROSION-RESISTANT WEEP SCREED WITH: (R703.6.2.1)
 - 1) A MINIMUM VERTICAL ATTACHMENT FLANGE OF 3-1/2 INCHES PROVIDED AT OR BELOW THE FOUNDATION PLATE LINE AT ALL EXTERIOR WALLS.
 - 2) THE SCREED SHALL BE PLACED A MINIMUM OF 4 INCHES ABOVE EARTH OR 2 INCHES ABOVE PAVED AREA.

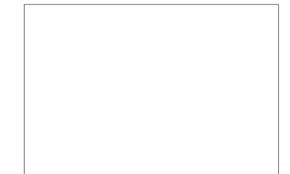


1 EXISTING REAR (WEST) ELEVATION
SCALE: 1/4" = 1'-0"



2 PROPOSED REAR (WEST) ELEVATION
SCALE: 1/4" = 1'-0"

COUNTY APPROVAL STAMP



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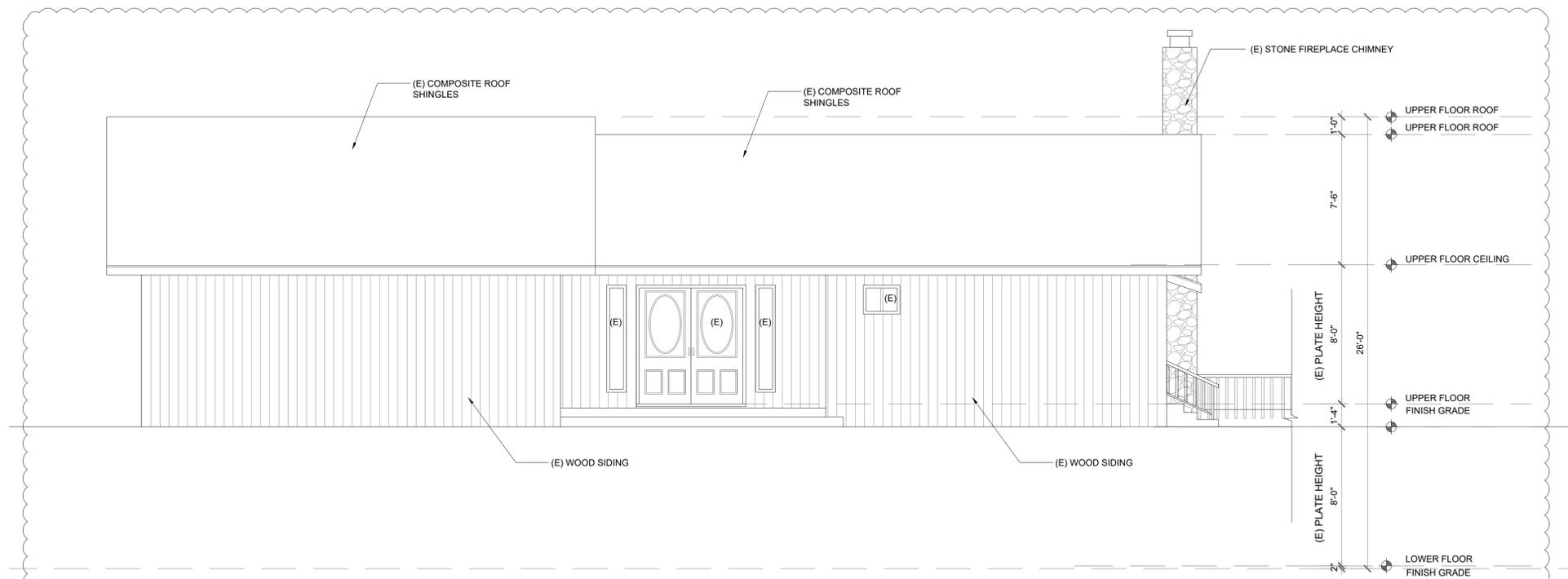
Project Name
**HOUSE ADDITION
LIU RESIDENCE**
4005 HIGUERA ROAD
SAN JOSE, CA 95148

Revisions	By
△ 11/21/21	L.L.

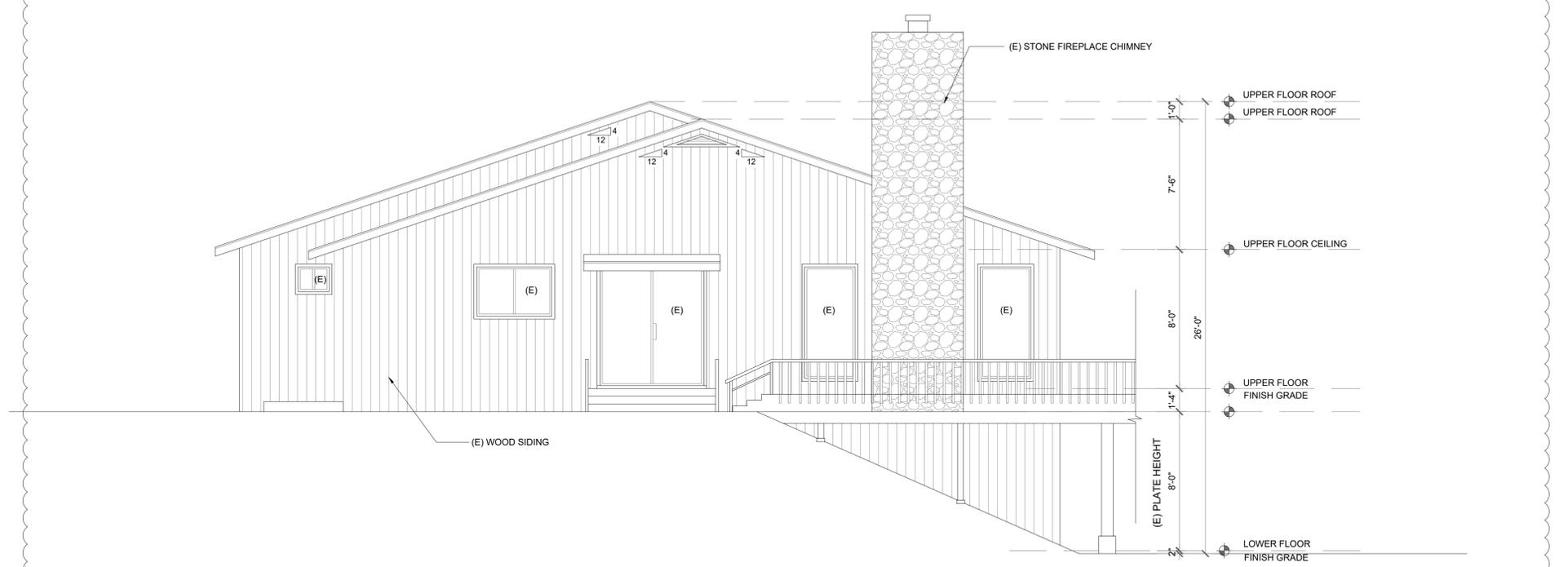
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Date	06/25/21
Scale	Noted

Drawing Name
**EXISTING AND
PROPOSED
ELEVATIONS**

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A5

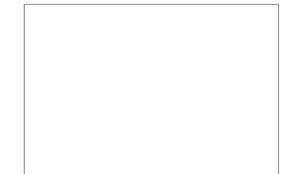


1 **EXISTING FRONT (EAST) ELEVATION (NO CHANGE)**
 A6 SCALE: 1/4" = 1'-0"



2 **EXISTING RIGHT SIDE (NORTH) ELEVATION (NO CHANGE)**
 A6 SCALE: 1/4" = 1'-0"

COUNTY APPROVAL STAMP



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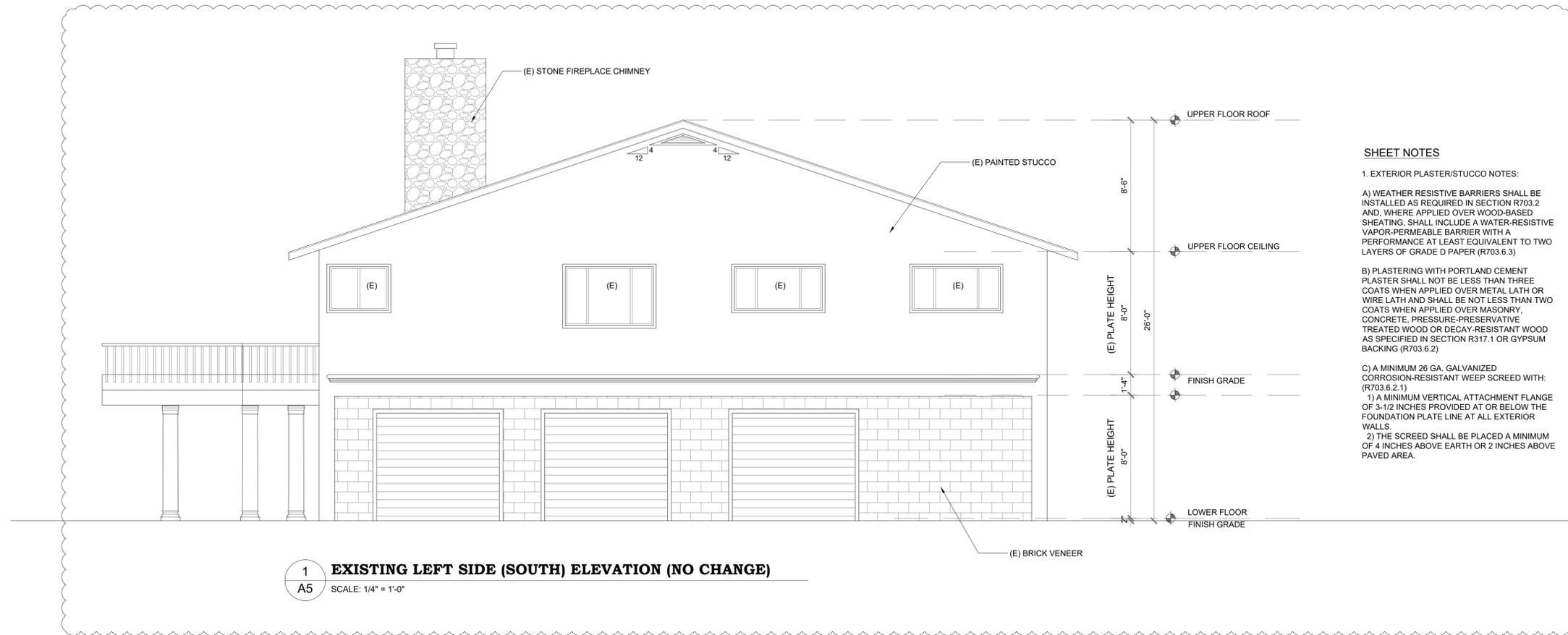
Project Name
HOUSE ADDITION
LIU RESIDENCE
 4005 HIGUERA ROAD
 SAN JOSE, CA 95148

Revisions	By
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Drawn	L.L.
Check	
Date	11/21/21
Scale	Noted

Drawing Name
EXISTING AND PROPOSED ELEVATIONS

Sheet
A6



SHEET NOTES

1. EXTERIOR PLASTER/STUCCO NOTES:

A) WEATHER RESISTIVE BARRIERS SHALL BE INSTALLED AS REQUIRED IN SECTION R703.2 AND, WHERE APPLIED OVER WOOD-BASED SHEATING, SHALL INCLUDE A WATER-RESISTIVE VAPOR-PERMEABLE BARRIER WITH A PERFORMANCE AT LEAST EQUIVALENT TO TWO LAYERS OF GRADE D PAPER (R703.6.3)

B) PLASTERING WITH PORTLAND CEMENT PLASTER SHALL NOT BE LESS THAN THREE COATS WHEN APPLIED OVER METAL LATH OR WIRE LATH AND SHALL BE NOT LESS THAN TWO COATS WHEN APPLIED OVER MASONRY, CONCRETE, PRESSURE-PRESERVATIVE TREATED WOOD OR DECAY-RESISTANT WOOD AS SPECIFIED IN SECTION R317.1 OR GYPSUM BACKING (R703.6.2)

C) A MINIMUM 26 GA. GALVANIZED CORROSION-RESISTANT WEEP SCREED WITH: (R703.6.2.1)

1) A MINIMUM VERTICAL ATTACHMENT FLANGE OF 3-1/2 INCHES PROVIDED AT OR BELOW THE FOUNDATION PLATE LINE AT ALL EXTERIOR WALLS.

2) THE SCREED SHALL BE PLACED A MINIMUM OF 4 INCHES ABOVE EARTH OR 2 INCHES ABOVE PAVED AREA.

Designer

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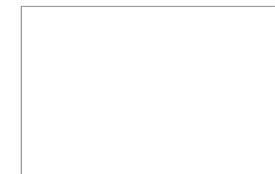
Project Name

**HOUSE ADDITION
 LIU RESIDENCE
 4005 HIGUERA ROAD
 SAN JOSE, CA 95148**

Revisions	By
△ 11/21/21	L.L.

Drawn	L.L.
Check	
Date	11/21/21
Scale	Noted

COUNTY APPROVAL STAMP



Drawing Name

**EXISTING AND
 PROPOSED
 ELEVATIONS**

Sheet

A7



COUNTY OF SANTA CLARA
2019 CALGREEN RESIDENTIAL CHECKLIST (MANDATORY)

County Amendments to CALGreen are in Italics.
- Designer to cross out items that are not applicable to the project.
- Installer or designer shall verify all applicable requirements have been satisfied and sign and date each row. County Inspectors will verify completion signatures and supporting documentation DURING CONSTRUCTION.

Table with columns: ITEM #, CALGreen CODE SECTION, REQUIREMENT, REFERENCE SHEET, Note or Detail No., Date, Installer or Designer Signature. Includes sections for Planning and Design, Energy Efficiency, Water Efficiency, and Environmental Quality.

Table with columns: ITEM #, CALGreen CODE SECTION, REQUIREMENT, REFERENCE SHEET, Note or Detail No., Date, Installer or Designer Signature. Includes sections for Material Conservation & Resource Efficiency, Water Efficiency, and Environmental Quality.

Table with columns: ITEM #, CALGreen CODE SECTION, REQUIREMENT, REFERENCE SHEET, Note or Detail No., Date, Installer or Designer Signature. Includes sections for Environmental Quality, Water Efficiency, and Environmental Quality.

TABLE 4.304.1 ADHESIVE VOC LIMITS

Table listing VOC limits for various adhesive applications including architectural, construction, and sealant types.

TABLE 4.304.3 VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS

Table listing VOC content limits for architectural coatings, categorized by drying category and VOC content.

TABLE 4.304.2 SEALANT VOC LIMIT

Table listing VOC limits for sealant applications, including architectural and other types.

Construction Waste Management (CWM) Plan

Fill out the form including diversion rate and facility names and addresses

Form fields for Project Name, Job #, Project Manager, Waste Handling Company, and Contact Name.

All Subcontractors shall comply with the project's Construction Waste Management Plan. All Subcontractor foremen shall sign the CWM Plan Acknowledgment Sheet.

Subcontractors who fail to comply with the Waste Management Plan will be subject to backcharges or withholding of payment, as deemed appropriate.

- 1. The project's overall rate of waste diversion will be %
2. This project shall generate the least amount of waste possible by planning and ordering carefully...
3. Spreadsheets 1, enclosed, identify the waste materials that will be generated on this project...
4. Waste prevention and recycling activities will be discussed at the beginning of weekly subcontractor meetings...
5. Salvage: Items that cannot be used in the project, nor returned to the vendor, will be offered to site workers...
6. drop boxes will be taken to...
7. In the event that the waste diversion rate achievable via the strategy described in (5) above, is projected to be lower than what is required...
8. The project will track and calculate the quantity (in tons) of all waste leaving the project...
9. In the event that Subcontractors furnish their own debris boxes as part of their scope of work...
10. In the event that site use containers (such as limited space) restrict the number of debris boxes that can be used...
11. Debris from jobsite office and meeting rooms will be collected by...

Construction Waste Management (CWM) Worksheet

Form fields for Project Name, Job Number, Project Manager, and Waste Handling Company.

Construction Waste Management (CWM) Plan

Table with columns: WASTE MATERIAL TYPE, COMBINGLED AND SORTED OFF SITE, SOURCE SEPARATED ON SITE, PROJECTED DIVERSION RATE. Lists materials like Asphalt, Concrete, Brick, etc.

Construction Waste Management (CWM) Acknowledgment

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

Form fields for Project Name, Job Number, Project Manager, and Waste Handling Company.

CWM Plan Acknowledgment

The Foreman for each new Subcontractor that comes on site to receive a copy of the Construction Waste Management Plan and complete this Acknowledgment Form.

Table with columns: DATE, SUBCONTRACTOR COMPANY NAME, FOREMAN NAME, SIGNATURE. Includes a signature line at the bottom.

HOUSE ADDITION
LIU RESIDENCE
4005 HIGUERA ROAD,
SAN JOSE, CA 95148

Project Information



CALGREEN 2019 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. NEW CONSTRUCTION SHALL COMPLY WITH CALGREEN SECTION 4.106.4.1 TO FACILITATE FUTURE INSTALLATION AND USE OF EV CHARGERS. ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE, ARTICLE 625.
EXCEPTIONS:
 - A. WHERE COUNTY OF SANTA CLARA HAS DETERMINED EV CHARGING AND INFRASTRUCTURE ARE NOT FEASIBLE.
 - B. ACCESSORY DWELLING UNITS (ADU) AND JUNIOR ACCESSORY DWELLING UNITS (JADU) WITHOUT ADDITIONAL PARKING FACILITIES.
4. FOR EACH DWELLING UNIT, INSTALL A LISTED RACEWAY TO ACCOMMODATE A DEDICATED 208/240-VOLT BRANCH CIRCUIT. THE RACEWAY SHALL NOT BE LESS THAN TRADE SIZE 1 (NOMINAL 1-INCH INSIDE DIAMETER). THE RACEWAY SHALL ORIGINATE AT THE MAIN SERVICE OR SUBPANEL AND SHALL TERMINATE INTO A LISTED CABINET, BOX OR OTHER ENCLOSURE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF AN EV CHARGER. RACEWAYS ARE REQUIRED TO BE CONTINUOUS AT ENCLOSED, INACCESSIBLE OR CONCEALED AREAS AND SPACES. THE SERVICE PANEL AND/OR SUBPANEL SHALL PROVIDE CAPACITY TO INSTALL A 40-AMPERE MINIMUM DEDICATED BRANCH CIRCUIT AND SPACE(S) RESERVED TO PERMIT INSTALLATION OF A BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE. THE RACEWAY TERMINATION LOCATION SHALL BE PERMANENTLY AND VISIBLY MARKED AS "EV CAPABLE".
THE SERVICE PANEL OR SUB-PANEL CIRCUIT DIRECTORY SHALL IDENTIFY THE OVER CURRENT PROTECTIVE DEVICE SPACE(S) RESERVED FOR FUTURE EV CHARGING AS "EV CAPABLE". THE RACEWAY TERMINATION LOCATION SHALL BE PERMANENTLY AND VISIBLY MARKED AS "EV CAPABLE".
5. ALL NONCOMPLIANT PLUMBING FIXTURES SHALL BE REPLACED WITH WATER-CONSERVING PLUMBING FIXTURES. PLUMBING FIXTURE REPLACEMENT IS REQUIRED PRIOR TO ISSUANCE OF A CERTIFICATE OF FINAL COMPLETION, CERTIFICATE OF OCCUPANCY, OR FINAL PERMIT APPROVAL BY BUILDING AND INSPECTION DIVISION. SEE CIVIL CODE SECTION 1.101.1, 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 SHOWER-HEADS 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 60 PSI. THE MINIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT BE LESS THAN 0.8 GALLONS PER MINUTE AT 20 PSI.
 - E. THE MAXIMUM FLOW RATE OF KITCHEN FAUCETS SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI.
6. PLUMBING FIXTURES AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET THE APPLICABLE STANDARDS REFERENCED IN TABLE 1701.1 OF THE CALIFORNIA PLUMBING CODE.
7. RESIDENTIAL DEVELOPMENTS SHALL COMPLY WITH A LOCAL WATER EFFICIENT LANDSCAPE ORDINANCE OR THE CURRENT CALIFORNIA DEPARTMENT OF WATER RESOURCES' MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO), WHICHEVER IS MORE STRINGENT.
8. NEWLY CONSTRUCTED RESIDENTIAL DEVELOPMENTS, WHERE DISINFECTED TERTIARY RECYCLED WATER IS AVAILABLE FROM A MUNICIPAL SOURCE TO A CONSTRUCTION SITE, MAY BE REQUIRED TO HAVE RECYCLED WATER SUPPLY SYSTEMS INSTALLED, ALLOWING THE USE OF RECYCLED WATER FOR RESIDENTIAL LANDSCAPE IRRIGATION SYSTEMS. SEE CHAPTER 15 OF THE CALIFORNIA PLUMBING CODE.
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 4.408.3.

- 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 94507.
 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 2007 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 MIR LIMITS FOR ROC IN SECTION 94522(A)(2) AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS AND OZONE DEPLETING SUBSTANCES, IN SECTIONS 94522(E)(1) AND (F)(1) OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94520; AND IN AREAS UNDER THE JURISDICTION OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT ADDITIONALLY COMPLY WITH THE PERCENT VOC BY WEIGHT OF PRODUCT LIMITS OF REGULATION 8, RULE 49.
 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 INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE TESTING AND PRODUCT REQUIREMENTS OF ONE OF THE FOLLOWING:
 - A. CARPET AND RUG INSTITUTE'S GREEN LABEL PLUS PROGRAM.
 - B. CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.1, FEBRUARY 2010 (ALSO KNOWN AS SPECIFICATION 01350.)
 - C. NSF/ANSI 140 AT THE GOLD LEVEL.
 - D. SCIENTIFIC CERTIFICATIONS SYSTEMS INDOOR ADVANTAGE GOLD.ALL CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CARPET AND RUG INSTITUTE'S GREEN LABEL PROGRAM. 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 COMPLY WITH ONE OR MORE OF THE FOLLOWING:

- A. PRODUCTS COMPLIANT WITH 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 1.1, FEBRUARY 2010 (ALSO KNOWN AS SPECIFICATION 01350), CERTIFIED AS A CHPS LOW-EMITTING MATERIAL IN THE COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS (CHPS) HIGH PERFORMANCE PRODUCTS DATABASE.
 - B. PRODUCTS CERTIFIED UNDER UL GREENGUARD GOLD (FORMERLY THE GREENGUARD CHILDREN & SCHOOLS PROGRAM).
 - C. CERTIFICATION UNDER THE RESILIENT FLOOR COVERING INSTITUTE (RFCI) FLOORSCORE PROGRAM.
 - D. MEET 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 1.1, FEBRUARY 2010 (ALSO KNOWN AS 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 19 OR CONCRETE SLAB-ON-GROUND FLOORS REQUIRED TO HAVE A VAPOR RETARDER BY CRC CHAPTER 5, 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 19 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. WET-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 ANSI/ACCA 2 MANUAL J—2016 (RESIDENTIAL LOAD CALCULATION), ASHRAE HANDBOOKS OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.
 - B. DUCT SYSTEMS ARE SIZED ACCORDING TO ANSI/ACCA 1 MANUAL D—2016 (RESIDENTIAL DUCT SYSTEMS), ASHRAE HANDBOOKS OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.
 - C. SELECT HEATING AND COOLING EQUIPMENT ACCORDING TO ANSI/ACCA 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.

HOUSE ADDITION
LIU RESIDENCE
4005 HIGUERA ROAD,
SAN JOSE, CA 95148

Project Information



GENERAL INFORMATION									
01	Project Name	Higuera Road Addition							
02	Run Title	Title 24 Analysis							
03	Project Location	4005 Higuera Road							
04	City	05	Standards Version	2019					
06	Zip code	07	Software Version	EnergyPro 8.2					
08	Climate Zone	09	Front Orientation (deg/ Cardinal)	30					
10	Building Type	11	Number of Dwelling Units	1					
12	Project Scope	13	Number of Bedrooms	5					
14	Addition Cond. Floor Area (ft²)	15	Number of Stories	2					
16	Existing Cond. Floor Area (ft²)	17	Fenestration Average U-factor	0.3					
18	Total Cond. Floor Area (ft²)	19	Glazing Percentage (%)	10.27%					
20	ADU Bedroom Count	21	ADU Conditioned Floor Area	n/a					
22	Is Natural Gas Available?	Yes							

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

ENERGY USE SUMMARY				
Energy Use (kTDV/ft²-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	58.22	55.11	3.11	5.3
Space Cooling	48.02	44.58	3.44	7.2
IAQ Ventilation	0	0	0	
Water Heating	10.44	10.44	0	0
Self Utilization/Flexibility Credit	n/a	0	0	n/a
Compliance Energy Total	116.68	110.13	6.55	5.6

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OPAQUE SURFACES - CATHEDRAL CEILINGS													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Zone	Construction	Area (ft²)	Orientation	Area (ft²)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Roof Reflectance	Cool Roof	Status	Verified Existing Condition	Existing Construction
Roof - Garage	R-0 Roof No Attic	0	Right	1128	0	4	0.1	0.85	No	Existing	No		

ATTIC									
01	02	03	04	05	06	07	08	09	10
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition
Attic Existing Living Area	Attic Roof/Existing Living Area	Ventilated	4	0.1	0.85	No	No	Existing	No

FENESTRATION / GLAZING															
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Area (ft²)	U-factor	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition					
Window	Window	Front Wall	Front	90	1	2.4	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window 4	Window	Front Wall	Front	90	1	4.9	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window 5	Window	Front Wall	Front	90	1	4.9	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window 6	Window	Left Wall	Left	180	1	16.5	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window 7	Window	Left Wall	Left	180	1	16.5	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window 8	Window	Left Wall	Left	180	1	22.4	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window 9	Window	Left Wall	Left	180	1	10.8	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		

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OPAQUE SURFACE CONSTRUCTIONS							
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-11 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-11	None / None	0.081	Over Ceiling Joists: R-19 Insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board
R-0 Floor No Crawspace	Exterior Floors	Wood Framed Floor	2x12 @ 16 in. O.C.	R-0	None / None	0.24	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x12
R-19 Roof No Attic	Interior Ceiling	Wood Framed Ceiling	2x8 @ 16 in. O.C.	R-19	None / None	0.046	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x8 Ceiling Below Finish: Gypsum Board

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

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

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REQUIRED SPECIAL FEATURES	
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.	
<ul style="list-style-type: none"> New ductwork added is less than 40 ft. in length Non-standard duct location (any location other than attic) 	

HERS FEATURE SUMMARY	
The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry	
Building-level Verifications: <ul style="list-style-type: none"> None 	
Cooling System Verifications: <ul style="list-style-type: none"> Minimum Airflow Fan Efficiency Watts/CFM 	
Heating System Verifications: <ul style="list-style-type: none"> None 	
HVAC Distribution System Verifications: <ul style="list-style-type: none"> Duct leakage testing Duct Sealing required if a duct system component, plenum, or air handling unit is altered Ducts located entirely in conditioned space confirmed by duct leakage testing 	
Domestic Hot Water System Verifications: <ul style="list-style-type: none"> None 	

BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Higuera Road Addition	3928	1	5	2	0	1

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
Existing Living Area	Conditioned	EX HVAC System1	3073	8	DHW Sys 1	N/A
New Living Area	Conditioned	New HVAC System2	855	8	DHW Sys 1	N/A

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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)	U-factor	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition					
Window 10	Window	Rear Wall	Back	270	1	22.2	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window - SGD	Window	Rear Wall	Back	270	1	53.3	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window - SGD 2	Window	Rear Wall	Back	270	1	53.3	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window 11	Window	Rear Wall	Back	270	1	29.7	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window 12	Window	Right Wall	Right	0	1	19	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window 13	Window	Right Wall	Right	0	1	39	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window - SGD 3	Window	Right Wall	Right	0	1	40	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window 14	Window	Right Wall	Right	0	1	16.5	1.19	Table 110.6-A	0.83	Table 110.6-B	Bug Screen	Existing	No		
Window 1	Window	Rear Wall 2	Back	270	1	24	0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a		
Window 2	Window	Rear Wall 2	Back	270	1	24	0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a		
Window 3	Window	Rear Wall 2	Back	270	1	24	0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a		

OPAQUE DOORS					
01	02	03	04	05	06
Name	Side of Building	Area (ft²)	U-factor	Status	Verified Existing Condition
Door	Front Wall	40	0.5	Existing	No
Door 1	Rear Wall 2	20	0.5	New	n/a
Door 2	Interior Surface	18	0.5	Existing	No

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WATER HEATERS													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Energy Factor or Efficiency	Input Rating or Pilot (Int/Ext)	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	NEEA Heat Pump Brand or Model	Tank Location or Ambient Condition	Status	Verified Existing Condition
DHW Heater 1	Gas	Small Storage	1	50	0.57-EF	<= 75 kBtu/hr	0	78	n/a	n/a	n/a	Existing	No

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

SPACE CONDITIONING SYSTEMS										
01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count
EX HVAC System1	Heating and cooling system other	Heating Component 1	Cooling Component 1	HVAC Fan 1	Air Distribution System 1	n/a	Existing	No	1	1
New HVAC System2	Heating and cooling system other	Heating Component 3	Cooling Component 2	HVAC Fan 2	Air Distribution System 2	Setback	New	No	1	1

Registration Number: 221-P010240428-000-000-0000000-0000
 CA Building Energy Efficiency Standards - 2019 Residential Compliance
 Registration Date/Time: 2021-11-30 13:21:34
 Report Version: 2019.1.300
 Schema Version: rev 20200901
 HERS Provider: CalCERTS, Inc.
 Report Generated: 2021-11-30 10:51:54

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	Existing Living Area	R-0 Wall	90	Front	472	52.2	90	none	Existing	No
Left Wall	Existing Living Area	R-0 Wall	180	Left	376	66.2	90	none	Existing	No
Rear Wall	Existing Living Area	R-0 Wall	270	Back	472	158.5	90	none	Existing	No
Right Wall	Existing Living Area	R-0 Wall	0	Right	376	94.5	90	none	Existing	No
Front Wall 2	New Living Area	R-15 Wall	90	Front	272	0	90	Ex. w/ Siding	New	n/a
Rear Wall 2	New Living Area	R-15 Wall	270	Back	312	92	90	Ex. w/ Siding	New	



2019 Low-Rise Residential Mandatory Measures Summary

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

Building Envelope Measures:	
§ 110.6(a)1:	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283 or AAMA/WDMA/CSA 1011.1.2/440-2011.
§ 110.6(a)5:	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6A, 110.6B, or J44.3 for exterior doors. They must be caulked and/or weather-stopped.
§ 110.7:	Air Leakage. All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stopped.
§ 110.8(a):	Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(b):	Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(c):	Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 10-113 when the installation of a cool roof is specified on the CP-18.
§ 110.8(d):	Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified by the Department of Consumer Affairs.
§ 110.8(e):	Ceiling and Rafter Roof Insulation. Minimum R-22 insulation in wood-frame ceiling, or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.
§ 150.0(b):	Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Oppose non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B.
§ 150.0(d):	Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.
§ 150.0(f):	Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2:	Vapor Retarder. In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(h):	Fenestration Products. Fenestration including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58, or the weighted average U-factor of all fenestration must not exceed 0.58.
Fixtures, Decorative Gas Appliances, and Gas Log Measures:	
§ 110.5(e):	Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(i)1:	Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(i)2:	Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and light-filled damper or combustion air control device.
§ 150.0(i)3:	Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.
Space Conditioning, Water Heating, and Plumbing System Measures:	
§ 110.5-§ 110.3:	Certification. Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission.
§ 110.2(a):	HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-K.
§ 110.2(b):	Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone, and in which the out-on temperature for compression heating is higher than the out-on temperature for supplementary heating, and the out-off temperature for compression heating is higher than the out-off temperature for supplementary heating.
§ 110.2(c):	Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.
§ 110.3(a):	Water Heating Recirculation Loops Serving Multiple Dwelling Units. Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)4.
§ 110.3(a)6:	Isolation Valves. Instantaneous water heaters with an input rating greater than 6.6 MBtu per hour (2.4 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.
§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces, household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour), and pool and spa heaters.
§ 150.0(h)1:	Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.



2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(h)3A:	Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.
§ 150.0(h)3B:	Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(i)1:	Storage Tank Insulation. Unlined hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have a minimum of R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(i)2A:	Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in Section 609.11 of the California Plumbing Code. In addition, the following piping conditions must have a minimum insulation wall thickness of one inch or a minimum insulation R-value of 7.7: the first foot of cold water pipes from the storage tank; all hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than one inch; all hot water piping with a nominal diameter less than 3/4 inch that is associated with a domestic hot water recirculation system, from the heating source to storage tank or between tanks, and from the heating source to kitchen fixtures; and all water heaters.
§ 150.0(i)3:	Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by Section 120.3(b). Insulation exposed to weather must be water resistant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-erodable casing or sleeve.
§ 150.0(i)4:	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: A dedicated 120 volt, 20 amp electrical receptacle connected to the electric panel with a 20/240 volt 3 conductor, 10 AWG copper branch circuit, within three feet of the water heater without obstruction. Both ends of the unvented conductor must be labeled with the word "spare" and be electrically isolated. Have a reserved single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use," a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than two inches higher than the base of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu per hour.
§ 150.0(i)5:	Recirculating Loops. Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 150.0(i)6:	Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the Executive Director.
Ducts and Fans Measures:	
§ 110.8(d)3:	Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	CMC Compliance. All air-distribution system ducts and plenums must meet the requirements of the CMC §§ 601.0, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6.0 or a minimum installed level of R-4.2 when ducts are entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.9). Portions of duct system completely exposed and surrounded by directly conditioned space are not required to be insulated. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, UL181B, or an access sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than 1/4 inch, the combination of mastic and either mesh or tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause reductions in the cross-sectional area.
§ 150.0(m)2:	Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures, joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	Protection of Insulation. Insulation must be protected from damage, sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water resistant and provides shielding from solar radiation.
§ 150.0(m)10:	Porous Inner Core Flex Duct. Porous inner core flex ducts must have a non-porous layer between the inner core and outer vapor barrier.
§ 150.0(m)11:	Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)11 and Reference Residential Appendix RA3.
§ 150.0(m)12:	Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two-inch depth or can be one inch if rated per Equation 150.0-A. Pressure drops and labeling must meet the requirements in § 150.0(m)12. Filters must be accessible for regular service.
§ 150.0(m)13:	Space Conditioning System Airflow Rate and Fan Efficiency. Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficiency ≥ 0.45 watts per CFM for gas furnace air handlers and ≥ 0.38 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficiency ≥ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3.



2019 Low-Rise Residential Mandatory Measures Summary

Requirements for Ventilation and Indoor Air Quality:	
§ 150.0(i)1:	Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2. Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(i)1.
§ 150.0(i)1C:	Single Family Detached Dwelling Units. Single family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow provided at rates determined by ASHRAE 62.2 Sections 4.1.1 and 4.1.2 and as specified in § 150.0(i)1C.
§ 150.0(i)1E:	Multifamily Attached Dwelling Units. Multifamily attached dwelling units must have mechanical ventilation airflow provided at rates in accordance with Equation 150.0-B and must be either a balanced system or continuous supply or continuous exhaust system. If a balanced system is not used, all units in the building must use the same system type and the dwelling-unit envelope leakage must be ≤ 0.3 CFM at 50 Pa (0.2 inH ₂ O) per square foot of dwelling unit envelope surface area and verified in accordance with Reference Residential Appendix RA3.6.
§ 150.0(i)1F:	Multifamily Building Central Ventilation Systems. Central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow for each dwelling unit served at a rate equal to or greater than the rate specified by Equation 150.0-B. All unit airflows must be within 20 percent of the unit with the lowest airflow rate and it relates to the individual unit's minimum required airflow rate needed for compliance.
§ 150.0(i)1G:	Kitchen Range Hoods. Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE 62.2.
§ 150.0(i)2:	Field Verification and Diagnostic Testing. Dwelling unit ventilation airflow must be verified in accordance with Reference Residential Appendix RA3.7. A kitchen range hood must be verified in accordance with Reference Residential Appendix RA3.7.3 to confirm it is rated by AHJ to comply with the airflow rates and sound requirements as specified in Sections 5 and 7.2 of ASHRAE 62.2.
Pool and Spa Systems and Equipment Measures:	
§ 110.4(a):	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating.
§ 110.4(b)1:	Piping. Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.
Lighting Measures:	
§ 110.9:	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.
§ 150.0(k)1A:	Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.
§ 150.0(k)1B:	Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
§ 150.0(k)1C:	Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for insulation contact (IC) labeling, air leakage, sealing, maintenance, and socket and light source as described in § 150.0(k)1C.
§ 150.0(k)1D:	Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 Hz.
§ 150.0(k)1E:	Night Lights, Step Lights, and Path Lights. Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.
§ 150.0(k)1F:	Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k)1.
§ 150.0(k)1G:	Screw-based luminaires. Screw-based luminaires must contain lamps that comply with Reference Joint Appendix JAB.
§ 150.0(k)1H:	Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JAB elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	Light Sources in Drawers, Cabinets, and Linen Closets. Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	Interior Switches and Controls. All forward phase out dimmers used with LED lighting systems must comply with NEMA SSL TA.
§ 150.0(k)2B:	Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems.
§ 150.0(k)2C:	Interior Switches and Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned ON and OFF.
§ 150.0(k)2D:	Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)2E:	Interior Switches and Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the control is installed to comply with § 150.0(k).
§ 150.0(k)2F:	Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.9.



2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(k)2G:	Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with control requirements if it provides functionality of the specified control according to § 110.9, meets the Insulation Certificate requirements of § 130.4, meets the EMCS requirements of § 130.0(e), and meets all other requirements in § 150.0(k)2.
§ 150.0(k)2H:	Interior Switches and Controls. A multistage programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2.
§ 150.0(k)2I:	Interior Switches and Controls. Bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic off functionality. If an occupant sensor is installed, it must be initially configured to maintain on operation using the manual control required under Sections 150.0(k)2C.
§ 150.0(k)2J:	Interior Switches and Controls. Luminaires that are or contain light sources that meet Reference Joint Appendix JAB requirements for dimming, and that are not controlled by occupancy or vacancy sensors, must have dimming controls.
§ 150.0(k)2K:	Interior Switches and Controls. Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 150.0(k)3A:	Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirements in § 150.0(k)3A (ON and OFF switch) and the requirements in other sections of this code.
§ 150.0(k)3B:	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, outdoor lighting for private patios, entrances, balconies, and porches, and residential parking lots and carports with four or more vehicles per site must comply with either § 150.0(k)3A or with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3C:	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, any outdoor lighting for residential parking lots or carports with a total of eight or more vehicles per site and any outdoor lighting not regulated by § 150.0(k)3B or § 150.0(k)3D must comply with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)4:	Internally Illuminated Address Signs. Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).
§ 150.0(k)5A:	Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in Sections 110.9, 130.0, 130.1, 130.4, 140.6 and 141.0.
§ 150.0(k)5B:	Interior Common Areas of Low-Rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must: I. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6 and 141.0; and II. Lighting installed in corridors and stairwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all designated paths of ingress and egress.
Solar Ready Buildings:	
§ 110.10(a)1:	Single Family Residences. Single family residences located in subdivisions with 10 or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(a) through § 110.10(d).
§ 110.10(a)2:	Low-rise Multifamily Buildings. Low-rise multifamily buildings that do not have a photovoltaic system installed must comply with the requirements of § 110.10(b) through § 110.10(d).
§ 110.10(b)1:	Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be composed of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multifamily buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building, excluding any skylight area. The solar zone requirement is applicable to the entire building, including roof overhang.
§ 110.10(b)2:	Azimuth. All sections of the solar zone located on steep-sloped roofs must be oriented between 90 degrees and 300 degrees of true north.
§ 110.10(b)3A:	Shading. The solar zone must not contain any obstructions, including but not limited to vents, chimneys, architectural features, and roof mounted equipment.
§ 110.10(b)3B:	Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.
§ 110.10(b)4:	Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	Interconnection Pathways. The construction documents must indicate a location reserved for inverters and metering equipment and a pathway reserved for routing of 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. Documentation: A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.
§ 110.10(d)1:	Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(d)2:	Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric".

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21-111618
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SCALE: N/A
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T24.3

STRUCTURAL GENERAL NOTES

GENERAL

THESE NOTES APPLY TO THE "S" SERIES OF STRUCTURAL DRAWINGS LISTED ON THIS SHEET.
 ALL WORK SHALL COMPLY WITH THE DRAWINGS AND AS WELL AS, THE MINIMUM REQUIREMENTS OF THE 2019 CALIFORNIA BUILDING CODE (CBC).
 NOTES, TYPICAL DETAILS AND SCHEDULES APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN, NOTED OR SPECIFIED.

WHERE DIMENSIONS ARE NOT INDICATED FROM THE FRAMING PLAN AND FRAME ELEVATION DRAWINGS, CONTRACTOR MAY SCALE THE DRAWINGS ONLY TO ESTIMATE THE LENGTH OF MEMBERS. DRAWINGS SHALL NOT BE SCALED FOR THE PURPOSE OF PREPARING SHOP DRAWINGS OR CONSTRUCTION.
 DETAILS OF THE CONSTRUCTION NOT FULLY SHOWN OR NOTED ON THE DRAWINGS SHALL BE OF THE SAME SIZE AND CHARACTER AS FOR SIMILAR CONDITIONS WHICH ARE SHOWN AND NOTED, SUBJECT TO REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE.

THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT JOB SITE. THE CONTRACTOR SHALL COMPARE STRUCTURAL DRAWINGS WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL, CIVIL, LANDSCAPE, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS BEFORE COMMENCING WITH THE WORK, AND SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES REQUIRING CLARIFICATION OR REVISION. DO NOT SCALE STRUCTURAL DRAWINGS. CONTACT OWNER'S REPRESENTATIVE FOR CLARIFICATION.

WHERE A SPECIAL SEQUENCE OF CONSTRUCTION IS REQUIRED FOR STRUCTURAL STABILITY AND SAFETY, THE CONTRACTOR SHALL OBSERVE THE SEQUENCE CALLED FOR IN THE DRAWINGS AND/OR SPECIFICATIONS, AND THE INSTRUCTIONS OF THE OWNER'S REPRESENTATIVE.
 NOTES, TYPICAL DETAILS AND SCHEDULES APPLY TO ALL DRAWINGS AND GOVERN UNLESS OTHERWISE SHOWN, NOTED OR SPECIFIED.

FOR PROPER FIELD OBSERVATION BY THE STRUCTURAL ENGINEER, THE STRUCTURAL ENGINEER SHALL BE NOTIFIED OF THE VARIOUS CONSTRUCTION PHASES.

OBSERVATION VISITS TO THE JOB SITE BY THE ENGINEER'S FIELD REPRESENTATIVE SHALL BE CONSIDERED AS NEITHER INSPECTION NOR APPROVAL OF CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR BRACING AND SHORING THE PARTIALLY COMPLETED PORTIONS OF WORK.

NO OPENINGS, CHASES, NOTCHES, ETC. SHALL BE PLACED IN COLUMNS, JOISTS, BEAMS, BEARING WALLS AND SHEARWALLS UNLESS SPECIFICALLY NOTED ON THESE DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER WHEN DRAWINGS BY OTHERS SHOW SUCH OPENINGS.

EXCAVATION NOTES

PROVIDE EXCAVATION AND TEMPORARY SHORING AS REQUIRED.

ALL EXCAVATIONS SHALL BE RETAINED BY A SOIL RETENTION SYSTEM AS REQ'D. THE DESIGN, INSTALLATION, MAINTENANCE, MONITORING AND REMOVAL SHALL BE THE COMPLETE AND SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE ALL ELEMENTS OF THE SOIL RETENTION SYSTEM WITH ALL ELEMENTS OF THE PERMANENT BUILDING, EXISTING UTILITIES/CONDITIONS, ADJACENT STRUCTURES ETC.

THE CONTRACTOR SHALL PROVIDE POSITIVE PROTECTION (MAY SHEET COVERINGS) FOR ALL EXCAVATION SLOPES TO PROTECT SLOPES FROM INSTABILITY AND DETERIORATION DUE TO RAIN, WIND, ETC.

THE CONTRACTOR SHALL PROVIDE DEWATERING SYSTEMS INCLUDING SURFACE DRAINAGE CHANNELS, SUMPS, SUMPS PUMPS, ETC., TO PROTECT ALL EXCAVATIONS FROM FLOODING.

CONSTRUCTION NOTES

PRIOR TO PROCEEDING WITH CONSTRUCTION, VERIFY EXISTING CONDITIONS OF AREAS TO RECEIVE THE WORK.

IN SLABS, SPLICES OF REINFORCING SHALL NOT BE MADE AT POINTS OF MAXIMUM STRESS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER. SPLICES SHALL PROVIDE SUFFICIENT LAP TO TRANSFER THE STRESSES BETWEEN BARS THROUGH BOND AND/OR SHEAR. SEE DETAIL AND SCHEDULE FOR SPLICE LENGTHS.

NO FOUNDATION OR SLABS ON GRADE SHALL BE PLACED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER. SHOULD WATER HOWEVER SLIGHT, ENTER A FOUNDATION EXCAVATION AFTER SUBGRADE APPROVAL, THE SUBGRADE SHALL BE RE-INSPECTED AND APPROVED BY THE OWNER'S GEOTECHNICAL CONSULTANT AFTER A REMOVAL OF WATER.

PROVIDE TEMPORARY REMOVAL OF WATER FROM ANY SOURCE DURING CONSTRUCTION. DEWATERING SHALL BE CAREFULLY AND PROPERLY PERFORMED TO AVOID DISTURBING THE FOUNDATIONS.

PRIOR TO PLACING CONCRETE, CLEAN THE AREA ALL DEBRIS. ALL REINFORCING SHALL BE CLEANED THOROUGHLY IMMEDIATELY PRIOR TO PLACING CONCRETE. TEMPLATES SHALL BE USED TO SET ANCHOR BOLTS.

ALL FOUNDATIONS, BASEMENT WALLS AND MAT FOUNDATION CONCRETE SHALL USE ASTM C150, TYPE I CEMENT AND HAVE MINIMUM 28-DAY STRENGTH SHOWN.

FOOTINGS AND GRADE BEAMS SHALL BE CAST IN NEAT TRENCHED EXCAVATIONS (1" WIDER THAN DIMENSIONS SHOWN). IF FOOTINGS CANNOT BE CAST IN TRENCHES, FORM FOOTINGS TO DIMENSIONS SHOWN.

THE SPECIAL INSPECTION REQUIREMENTS OF 2019 CBC APPLY TO FILL AND BACKFILL OPERATIONS. FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO PLACING REINFORCING STEEL.

SEE ARCHITECTURAL DRAWINGS FOR WATERPROOFING AND DAMPROOFING DETAILS.

PLYWOOD

WALL AND ROOF SHEATHING SHALL BE PS1, APA STRUCTURAL 1, EXTERIOR TYPE DOUGLAS FIR, GRADE C-C. ALL EXTERIOR WALLS SHALL BE PLYWOOD SHEATHED. FLOOR SHEATHING SHALL BE PS1, APA STURD-I-FLOOR, EXTERIOR TYPE, DOUGLAS FIR GRADE C-C PLUGGED.

PLYWOOD FACE GRAIN SHALL BE PERPENDICULAR TO JOISTS. BLOCK ALL UNSUPPORTED PLYWOOD SHEET EDGES WITH 2x BLOCKING, STAGGER FLOOR AND ROOF SHEET LAISTS. MINIMUM SHEATH WIDTH SHALL NOT BE LESS THAN 24 INCHES.

PLYWOOD SHEETS SHALL ABUT ALONG THE CENTERLINE OF FRAMING MEMBERS WITH NAILING NOT LESS THAN 3/8" FROM EDGE OF SHEETS AT THE FOLLOWING SPACINGS:

PLYWOOD NAILING SCHEDULE:	PLYWOOD LOCATION	PLYWOOD THICKNESS SIZE	NAIL TYPE	NAIL SPACING
ROOF	FLOOR	5/8"	8d COMM.	6"
FLOOR	NON-SHEAR WALL	3/4"	10d COMM.	4" (10.0L)
		1/2"	8d COMM.	6"

FIELD NAIL INTERIOR OF WOOD SHEATHED SHEARWALL WITH 8d (10d) AT 12" O.C.

ALL SHEATHING SHALL BE APPLIED DIRECTLY TO THE STUD WITH SPACING NO GREATER THAN 16" O.C. BLOCK ALL EDGES OF WOOD SHEATHED SHEARWALL.

PROVIDE 3x (OR 4x) MEMBERS (OR DOUBLE 2x TOP PLATE) AT ALL PLYWOOD EDGES FOR SHEARWALL WHERE NAILING IS EQUAL OR LESS THAN 4" O.C.

SHEARWALLS SHALL RUN AND BE CONNECTED TO UNDERSIDE OF ROOF OR FLOOR SHEATHING WITH APPROVED BLOCKING AS REQUIRED AND SHALL CONNECT WITH FLOOR OR FOUNDATION BELOW.

PLATES AND STUDS IN SHEARWALLS SHALL NOT HAVE ANY HOLES LARGER THAN 1" IN DIAMETER OR ANY NOTCHES WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.

SPAN-RATING OF THE PLYWOOD SHEATHING FOR ROOF 24' o.c., FOR WALL 16' o.c., FOR FLOOR 16' o.c.

ENGINEERED TIMBER

PARALLAM PSL BEAMS:
 USE TRUSS JOIST MACMILLAN 2.0E PARALLAM PSL OR EQUAL WITH THE FOLLOWING MINIMUM ALLOWABLE DESIGN STRESSES:

FLEXURAL STRESS $F_b = 2900$ psi MODULUS OF ELASTICITY $E = 2.0 \times 10^6$ psi SHEAR STRESS $F_v = 290$ psi MICROLAM LVL BEAMS:

CONCRETE

ALL CONCRETE CONSTRUCTION SHALL BE PER CBC CHAPTER 19 AND IN ACCORDANCE WITH ACI 318 STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE.

CONCRETE MIX SHALL MEET REQUIREMENTS OF CBC SECTION 1905, BUT SHALL MEET THESE MINIMUM CONCRETE MIX REQUIREMENTS: MAXIMUM OF 4" SLUMP - MAXIMUM WATER-CEMENT RATIO OF 0.45 FOR SLABS. CEMENT SHALL CONFORM TO ASTM C150, TYPE I (OR ENGINEERED MAXIMUM DESIGN TO STRENGTH). TYPE V CEMENT WHERE SOIL CONTAINS MORE THAN 0.2 % SULFATE CONCENTRATIONS. ALL ALTERNATE CONCRETE MIX DESIGN AND TEST STRENGTHS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

HARD ROCK AGGREGATES SHALL CONFORM TO ASTM C33. MAXIMUM NORMAL SIZE OF AGGREGATE SHALL NOT EXCEED 1/2 INCHES FOR FOUNDATION CONCRETE AND 1 INCH FOR STRUCTURAL CONCRETE ABOVE THE FOUNDATION. SEE ALSO THE REQUIREMENTS IN ACI STANDARD SPECIFICATIONS. MAXIMUM NORMAL SIZE SHALL ALSO BE SELECTED SUCH THAT WORKABILITY AND PLACEABILITY OF CONCRETE ARE FACILITATED.

REINFORCEMENT SUPPORTS IN CONTACT WITH EXPOSED SURFACES SHALL BE PLASTIC TIPPED.

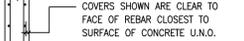
UNLESS NOTED OTHERWISE, MINIMUM CONCRETE CLEAR COVER TO BARS SHALL COMPLY WITH THE FOLLOWING, BUT SHALL IN NO CASE BE LESS THAN ONE BAR DIAMETER:

FOUNDATION AND THE BEAMS (FORMED):
 3" - BOTTOM
 2" - TOP BARS & SIDE STIRRUPS

WALLS (WITH WATERPROOFING):
 2" - FROM EXTERIOR FORMED SURFACE
 1 1/2" - FROM INTERIOR FORMED SURFACE
 CENTERED - BARS IN SINGLE CURTAIN

CONCRETE CAST AGAINST SOIL:
 3" - NOT FORMED
 2" - FORMED.

SLAB-ON-GRADE:
 3" - BOTTOM BARS
 1" - TOP BARS.



ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318 AND THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", 2019 CBC AND THE LOCAL BUILDING CODES.

ALL REINFORCING SPLICES SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF THE 2016 CBC, UNLESS NOTED OTHERWISE. NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE. CONSTITUENT OR ADMIXTURE.

ALL CONSTRUCTION JOINTS SHALL BE WIRE BRUSHED AND CLEANED, PRIOR TO POURING ADJACENT SECTIONS OF CONCRETE. CONSTRUCTION JOINTS SHALL BE LOCATED WHERE SHOWN, AND IF NOT SHOWN, WHERE DIRECTED BY THE OWNER REPRESENTATION. THEY SHALL BE LOCATED SO AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND TO MINIMIZE THE SHRINKAGE. PROVIDED DOWELS AND KEYS AS DETAILED AND DIRECTED.

ANCHOR BOLTS, STRAP ANCHORS, DOWELS, REINFORCING BARS, AND OTHER INSERTS SHALL BE SET AND SECURELY FASTENED PRIOR TO POURING CONCRETE.

USE THE FOLLOWING MATERIAL PROPERTIES U.N.O.
 NORMAL WEIGHT CONCRETE: FOOTINGS; 2,500 PSI
 CONCRETE SLABS; 2,500 PSI
 WELLS; 2,500 PSI
 LEAN CONCRETE; 2,000 PSI

ALL REINFORCEMENT BAR LAPS, ANCHORAGES, SPLICES, BENDS, AND OTHER DETAILS SHALL BE IN CONFORMANCE WITH ACI 318, BUT IN NO CASE SHALL LAPS AND SPLICES BE LESS THAN 36 BAR DIAMETERS. UNLESS OTHERWISE NOTED, LOCATIONS OF LAPS AND SPLICES SHALL BE IN ACCORDANCE WITH CONSTRUCTION JOINT LOCATIONS, DETAILS AND SHALL BE SHOWN ON THE REINFORCING SHOP DRAWINGS.

ALL HORIZONTAL WALL AND WALL FOOTING REINFORCEMENTS SHALL BEND AROUND ALL CORNERS AND EXTEND 36 BAR DIAMETERS UNLESS NOTED OTHERWISE.

THE CONCRETE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POUR SEQUENCES AND CONSTRUCTION PROCEDURES FOR ALL CONCRETE WORK TO ACCOUNT FOR TEMPERATURE DIFFERENTIALS AND SHRINKAGE OCCURRING DURING THE CONSTRUCTION PHASE UNTIL THE BUILDING IS PERMANENTLY IN A MECHANICALLY CONTROLLED ENVIRONMENT.

THE CONCRETE SHALL CONTAIN AN ACCEPTABLE WATER REDUCING, PLASTICIZING ADMIXTURE. NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE WITHOUT PRIOR APPROVAL.

ALL REINFORCING STEEL SHALL BE NEW BILLET, HOT ROLLED, DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60 (MINIMUM YIELD STRENGTH OF 60 KSI).

REINFORCING BARS SHALL BE IN AS LONG LENGTHS AS PRACTICABLE AND AS DETAILED, AND SHALL BE LAPPED AT SPLICES AND CORNERS NOT LESS THAN THE LAP SPLICE LENGTH SHOWN IN THE "MINIMUM REINFORCING LAP SCHEDULE" ON THE DRAWING, UNLESS OTHERWISE SHOWN. STAGGER HORIZONTAL WALL BAR SPLICES. VERTICAL REINFORCING AT COLUMNS, PILASTERS AND WALLS SHALL BE DOWELED TO SUPPORTING FOOTINGS WITH BARS OF SAME SIZE AND SPACING AS VERTICAL REINFORCING UNLESS OTHERWISE SHOWN ON DRAWINGS. IN GENERAL, BAR SPLICES SHALL BE MADE AT POINTS OF MINIMUM STRESS. STAGGER SPLICES IN ADJACENT BARS. SPLICE NO MORE THAN 50% OF BARS AT ANY SECTION. SPLICES SHALL BE MADE AT POINTS OF MINIMUM STRESS. STAGGER SPLICES IN ADJACENT BARS.

DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING.

LAP SPLICE LENGTHS

	BAR SIZE (No.)	YIELD STRENGTH OF STEEL, f_y - psi (Mpa)	
		40,000	60,000
LAP SPLICE LENGTH-TENSION	4	20	30
	5	25	38

SEE ARCHITECTURAL DRAWINGS FOR TYPE AND LOCATION OF ALL FLOOR AND WALL FINISHES, AND FLOOR DEPRESSIONS. DO NOT BACKFILL AGAINST BASEMENT WALLS UNTIL THE GROUND FLOOR FRAMING AND LOWER LEVEL SLAB HAVE BEEN PLACED AND THE CONCRETE HAS ATTAINED FULL DESIGN STRENGTH. BACKFILL SHALL BE CARRIED OUT IN UNIFORM MANNER AROUND THE PERIMETER OF THE STRUCTURE TO MINIMIZE UNBALANCED LATERAL LOADING.

NOTES FOR FORMED SURFACES:
 A. SEE ARCHITECTURAL DRAWINGS FOR FINISHES FOR FORMED SURFACES.
 B. EXPOSED FORMED SURFACES, PAINTED OR UNPAINTED:
 REMOVE FIN. PATCH THE HOLES, AND STONE THE JOINT MARKS AND OUT-OF-PLANE SURFACES TO WITHIN 1/16" (1.5 MM) OF FLUSH. RUB WITH CARBORUNDUM STONE USING ONLY ENOUGH WATER TO DEVELOP A CEMENT PASTE FROM THE CONCRETE MORTAR AND TO PRODUCE UNIFORMLY DENSE AND SMOOTH CONCRETE.
 C. EXPOSED FORMED SURFACES, SMOOTH AS-CAST FINISH:
 MAINTAIN CONCRETE FREE FROM LANTAGE CAUSED BY SPILLAGE, LEAKING FORMS OR OTHER CONTAMINANTS. DO NOT ALLOW LANTAGE TO PENETRATE, STAIN OR HARDEN ON FINISHED SURFACES. DO NOT ATTEMPT SURFACE PATCHING OR CLEANING, IF REQUIRED, UNLESS ACCEPTABLE TO ARCHITECT.
 D. BASEMENT AND PLANTER WALLS TO RECEIVE WATERPROOFING:
 PREPARE SURFACES OF THE HOLES AND FILL WITH NON-METALLIC, NON-SHRINK GROUT OF EQUAL OR GREATER COMPRESSIVE STRENGTH PER MANUFACTURER'S RECOMMENDATIONS.

SEE MECHANICAL, PLUMBING, ELECTRICAL DRAWINGS FOR ALL CONDUIT SLABS. CONDUITS SHALL BE RUN GENERALLY AT MIDSPAN AND PARALLEL CONDUITS SHALL BE SPACED AT THREE DIAMETERS ON CENTER MINIMUM. CONDUIT SIZES SHALL NOT EXCEED 1/4TH OF THE SLAB THICKNESS AND SHALL BE LOCATED AT MID-THICKNESS OF THE SLAB. PREPARE AND SUBMIT TO THE ARCHITECT FOR REVIEW. LOCATION OF CONDUITS, PULL BOXES AND OTHER ITEMS EMBEDDED IN STRUCTURAL CONCRETE.

ANCHOR BOLTS

1. All new or retrofit anchor bolts shall be ASTM A-307 or A-36 all thread, and shall be embedded into sound concrete 8" min. Minimum bolt diameter shall be 3/8". At existing concrete locations, all new anchor bolts shall be epoxied in place, see epoxy anchor notes. At new concrete locations, new anchor bolts may be cast in place. New anchor bolts shall include a standard nut and flat washer.

2. All new shearwall segments shall have new anchor bolts.

3. A minimum of two anchor bolts must be contained within the boundary of each shearwall element and one at each end of pressure treated sill plate.

EPOXY ANCHORS

1. Drill holes in existing concrete 1/8" larger than dia. of dowels to a depth of 7" min. Do not drill through existing rebar.

2. Clean hole of dust with brush AND oil-free compressed air.

3. Use Simpson Strong-Tie "SET-XP Anchoring Epoxy" anchoring adhesive for high strength anchoring application in Masonry and concrete. PER ICC-ES ESR-2508

SHEARWALL SCHEDULE

TYPE	PLYWOOD	EDGE NAILING	SILL FASTENING		JOISTS OR BLUG TO TOP PLATES OF WALL
			TO CONCRETE	TO WOOD FLOOR	
6	1/2" PLYWOOD ONE SIDE	10d @6" O.C.	5/8" @32" O.C.	16d @4" O.C. STAGGER	LTP4 OR A35 @16" O.C.
4	1/2" PLYWOOD ONE SIDE	10d @4" O.C.	5/8" @24" O.C.	16d @3" O.C. STAGGER	LTP4 OR A35 @12" O.C.
3	1/2" PLYWOOD ONE SIDE	10d @3" O.C.	5/8" @16" O.C. OR 3/4" @ 24" O.C.	SIMPSON SDS1/4 SCREW @6" O.C. EMB 3" MIN.	LTP4 OR A35 @8" O.C.
2	1/2" PLYWOOD ONE SIDE	10d @2" O.C.	3/4" @ 16" O.C.	SIMPSON SDS1/4 SCREW @4" O.C. EMB 3" MIN.	LTP4 OR A35 @6" O.C.

6 DENOTES DOUBLE SIDED SHEAR WALL. APPLY THE ABOVE SCHEDULED REQUIREMENTS TO EACH SIDE AND DOUBLE SILL FASTENING AND JOISTS/BLOCKING TO TOP PLATES CONNECTORS.

NOTES:

- THIS SCHEDULE IS BASED ON CBC SECTION 2306
- USE COMMON NAILS FOR ALL NAILING.
- THIS SCHEDULE SHALL APPLY TO NAILING AT ALL STUDS, AT PLYWOOD JOINTS, TOP AND BOTTOM PLATES AND BLOCKING.
- NAILING AT INTERMEDIATE MEMBERS SHALL BE SPACED AT 12" O.C.
- PLYWOOD SHALL BE APPLIED OVER STUDS SPACED AT 16" O.C.
- ALL EXTERIOR FOOTING SHALL HAVE AS 5/8" ANCHOR BOLTS MINIMUM 7" EMBEDMENT FOR THE SILL PLATE AT 48" O.C. U.N.O. IN THE TABLE ABOVE.
- ANCHOR BOLTS SHALL BE EMBEDDED 7" MIN. IN CONCRETE
- SHEAR WALLS MORE THAN ONE VERTICAL PANEL IN HEIGHT SHALL HAVE VERTICALLY OR HORIZONTALLY STAGGERED SPLICED JOINTS AT CONTIGUOUS HORIZONTAL JOINTS. THE BLOCKING SHALL BE 3x MEMBER OR THICKER.
- FOUNDATION SILL PLATES SHALL NOT BE LESS THAN 3x MEMBER.
- USE DOUBLE 2x RIM BOARD OR BLOCKING AT SHEAR WALLS WITH EDGE NAIL OF 4" OR LESS.
- PLATE WASHER AT SILL PLATES SHALL EXTEND TO WITHIN 1" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDES WITH SHEATHING.

CARPENTRY

ALL WOOD CONSTRUCTION SHALL BE PER CBC, CHAPTER 23.
 ALL FRAMING SHALL BE DOUGLAS FIR, NO. 2 GRADE OR BETTER, EXCEPT BEAMS, POSTS AND TRUSS SHALL BE NO. 1 OR BETTER GRADE.

ALL STRUCTURAL LUMBER SHALL BE HAVE THE FOLLOWING MAXIMUM MOISTURE CONTENT: MC < 19%.

ALL LUMBER IN CONTACT WITH CONCRETE TO BE PRESERVATIVE TREATED.

ALL FASTENERS, ALL CONNECTORS, AND HARDWARES IN CONTACT WITH PRESERVATIVE TREATED WOOD SHALL BE GALVANIZED WITH G185. BOLTS SHALL BE ASOT UNFINISHED MACHINE BOLTS OF SIZES SHOWN ON THE DRAWINGS. NUTS SHALL BE TIGHTENED WHEN PLACED AND REIGHTENED BEFORE CLOSING JOB WITH FINAL CONSTRUCTION. WHERE BOLTS BEAR AGAINST WOOD, PROVIDE SQUARE PLATE WASHERS. ALL HEADS AND NUTS IN THE FOLLOWING SIZES:

BOLT SIZE: 1/2" DIAM AND 5/8" DIAM. STEEL PLATE WASHERS AGAINST WOOD (EXCEPT AT SILL PLATE)
 3/4" DIAM. AND 7/8" DIAM. 3" x 3" x 1/4"
 1" DIAM. AND 1 1/4" DIAM. 3" x 3" x 1/4"

MANUFACTURED TIMBER FASTENERS ARE INDICATED ON THE DRAWINGS USING THE SIMPSON COMPANY CATALOG DESIGNATIONS. THESE SYMBOLS ARE USED ONLY FOR IDENTIFICATION. NAILING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS, WITH A NAIL PROVIDED FOR EACH PUNCHED HOLE.

NAILS SHALL BE GALVANIZED COMMON WIRE NAILS. USE STAINLESS STEEL COMMON NAILS WHERE EXPOSED TO WEATHER. MINIMUM NAILING SHALL BE IN ACCORDANCE WITH THE 2019 CBC, SECTION 2304

ALL MEMBERS NOTED D.S., DRAG STRUT, SHALL RECEIVE EDGE NAILING.

PROVIDE THE FOLLOWING BLOCKING AND BRIDGING AS A MINIMUM, UNLESS OTHERWISE SHOWN:
 2" x FULL DEPTH SOLID BLOCKING BETWEEN JOISTS OVER SUPPORTS.
 2" x FULL DEPTH SOLID BLOCKING BETWEEN JOISTS OVER AND BELOW PARTITION WALLS.
 2 x 3 CROSS BRIDGING AT MID-SPAN OF ALL JOISTS WHERE SPAN EXCEEDS 8'-0".
 2 x 4 MIN. FLAT BLOCKING FOR PLYWOOD EDGE JOISTS. CONTINUOUS 2x STUD WIDTH HORIZONTAL BLOCKING AT STUD WALLS; PROVIDE AT MID-HEIGHT AND AT SPACING NOT TO EXCEED 8'-0", WHICHEVER IS LESS.

LAG SCREWS PER ANSI/ASME STANDARD B18.2.1. PROVIDE LEAD HOLE SAME DIAMETER AND DEPTH AS SHANK AND THEN DRILL HOLE 50% - 70% OF SHANK DIAMETER FOR THREADED PORTIONS.

ALL SHEATHING TO BE PROVIDED BY THE AMERICAN PLYWOOD ASSOCIATION (APA) AND SHALL CONFORM TO THE U.S. PRODUCT STANDARD (PS 1) WITH EXTERIOR GLUE. COMPOSITE OR NON-VENEERED PANELS SHALL COMPLY WITH NATIONAL RESEARCH BOARD REPORT NER-108, SUBFLOOR ADHESIVE; APA SPECIFICATION AFG-01. INSTALL PLYWOOD AND NON-VENEERED PANELS PER APA CONSTRUCTION GUIDE, LATEST EDITION. SEE ARCHITECTURAL FRAMING PLANS FOR THICKNESS AND TYPE OF FLOOR AND ROOF SHEATHING. (MINIMUM SHEET SIZE 24'). ALL FLOOR AND SHEARWALL PLYWOOD SHALL BE STRUCTURAL I.

UNLESS NOTED OTHERWISE, ALL SILL PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE BOLTED TO THE CONCRETE WITH 5/8" DIAMETER ANCHOR BOLTS AT 4'-0" O.C WITH 0.229"x3"x3" SQUARE PLATE WASHER.

ALL BOLT HEADS AND NUTS WHICH BEAR AGAINST THE FACE OF WOOD MEMBERS SHALL BE PROVIDED WITH WASHERS. NO UPSET THREADS ARE ALLOWED.

PROVIDE MULTIPLE STUDS FOR SOLID BEARING AT THE ENDS OF MISCELLANEOUS BEAMS OR GIRDER WHERE POSTS ARE NOT SHOWN.

PROVIDE DOUBLE FLOOR JOISTS UNDER PARALLEL PARTITIONS.

PROVIDE SOLID BLOCK AT BEARING WALLS, UNDER PERPENDICULAR PARTITIONS AND ELSEWHERE AS REQUIRED PER CBC 2304.11. PROVIDE FULL DEPTH BLOCKING AT ENDS AND AT 10' O.C. MAXIMUM SPACING.

MINIMUM SPLICE NAILING OF DOUBLE PLATES TO BE AS FOLLOWS UNLESS NOTED OTHERWISE: TWELVE (12) 16d EACH SIDE OF SPLICE WITH NO ADJACENT SPLICE WITHIN 4'-0". SEE TYPICAL DETAIL ON GENERAL DETAIL SHEET.

PROVIDE 2X3 CROSS BRIDGING OR 2x SOLID BLOCKING AT A MINIMUM OF 8'-0" O.C. FOR JOISTS. (CONTACT METAL BRIDGING OR EQUAL MAY BE USED) WHERE SHEATHING OR GYPSUM BOARD IS NOT APPLIED TO TOP AND BOTTOM OF JOISTS FOR ENTIRE LENGTH OF JOIST.

REIGHTEN ALL BOLTS BEFORE CLOSING IN.

ALL BOLTS, SCREWS, NAILS AND HARDWARE EXPOSED TO THE WEATHER SHALL BE GALVANIZED WITH G185 GALVANIZATION.

STRUCTURAL STEEL

STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING:

HSS SECTIONS ASTM A500, GRADE B ANCHOR BOLTS ASTM A36
 ELECTRODES ASTM E70X MACHINE BOLTS ASTM A352-X

BASE PLATES ASTM A36

SHAPES AND PLATES FOR NON-MOMENT FRAME ASTM A992

SHAPES AND PLATES FOR MOMENT AND BRACE FRAME ASTM A572 GRADE 50

ALL STRUCTURAL STEEL SHALL CONFORM TO AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS. BOLT HOLES SHALL BE 1/16" OVERSIZED, EXCEPT AT BASE PLATES WHERE THEY CAN BE 5/16" OVERSIZED.

ALL SHOP AND FIELD WELDING SHALL BE INSPECTED BY AN APPROVED TESTING LABORATORY. SPECIAL INSPECTION REQUIREMENTS OF SECTION 1701, 2010 CBC, APPLY TO ALL WELDING.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW BY OWNER'S REPRESENTATIVE PRIOR TO FABRICATION.

FABRICATE FROM REVISED DRAWINGS ONLY.

ALL WELDING TO CONFORM TO THE REQUIREMENTS OF AWS STRUCTURAL WELDING CODE AND SHALL BE PERFORMED BY CERTIFIED WELDERS.

ALL WELDS NOT SPECIFIED SHALL BE CONTINUOUS FILLET WELDS, USING NOT LESS THAN THE MINIMUM SIZES BASED ON THICKNESS OF THICKER PART JOINED PER AWS/AISC, AND IN NO CASE LESS THAN 1/4 INCH U.N.O.

THE STRUCTURAL STEEL CONNECTIONS CONSIST OF THE FOLLOWING:

A. ALL MAJOR STRUCTURAL STEEL CONNECTIONS ARE DETAILED ON THE DRAWINGS. THE DETAILS INDICATE THE REQUIRED MINIMUM PLATE THICKNESSES, ANGLES, WELDS, BOLTS AND GENERAL CONNECTION CONFIGURATION. THE FINAL DIMENSIONAL CONFIGURATION INCLUDING ADJUSTMENTS FOR CAMBER SHALL BE DETERMINED BY THE FABRICATOR ON SHOP DRAWINGS.

B. ANY PROPOSED REVISIONS OR MODIFICATIONS TO THE CONNECTIONS AS SHOWN ON THE DRAWINGS SHALL BE FULLY ENGINEERED BY THE FABRICATOR. SHOP DRAWINGS AND CALCULATIONS PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA SHALL BE SUBMITTED FOR REVIEW. THE CAPACITY OF CONNECTIONS SHALL NOT BE REDUCED FROM THAT PROVIDED BY THE DETAIL AS SHOWN WHERE NOT SHOWN OR INFERRED FROM DRAWINGS. THE CONNECTION SHALL BE CAPABLE OF NOT LESS THAN 120% OF THE MEMBER CAPACITY IN TENSION ANY PROPOSED REVISIONS SHALL BE AT NO ADDITIONAL COST TO THE OWNER.

ALL PRINCIPAL NON-FRAME STRUCTURAL BOLTED CONNECTIONS (BEAM TO BEAM, BEAM TO GIRDER, GIRDER/BEAM TO COLUMN) SHALL BE MADE WITH ASTM A325-X HIGH STRENGTH BOLTS WITH THREADS EXCLUDED FROM THE SHEAR PLANE. USE ONE INCH DIAMETER MINIMUM BOLTS UNLESS NOTED OTHERWISE. THE MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE TWO.

ALL ADDITIONAL STEEL REQUIRED FOR ERECTION PURPOSES SHALL BE PROVIDED AT NO ADDITIONAL COST AND SHALL BE REMOVED UNLESS APPROVED BY THE CONSTRUCTION MANAGER IN WRITING.

STRUCTURAL OBSERVATIONS

THE FOLLOWING WORK REQUIRE STRUCTURAL OBSERVATION:

FOUNDATION REINFORCING STRUCTURAL STEEL SHEARWALL NAILING
 REINFORCED CONCRETE ANCHOR BOLT AND HOLDOWN INSTALLATION

SPECIAL INSPECTION

THE FOLLOWING WORK REQUIRE SPECIAL INSPECTION:

EPOXY APPLICATIONS PER CBC 1704.15(3) EARTHWORK PER CBC 1704.7 SEISMIC RESISTANCE PER CBC 1707 CONCRETE MASONRY CONSTRUCTION PER CBC 1704.5

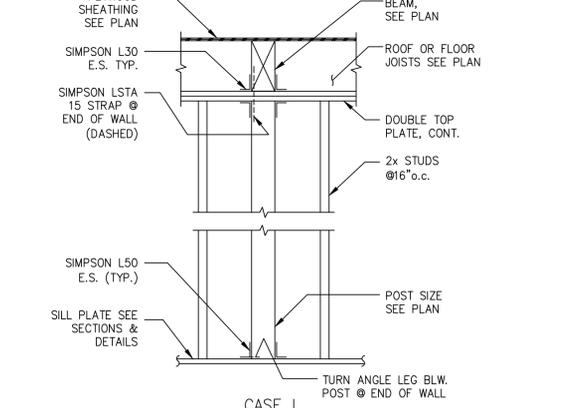
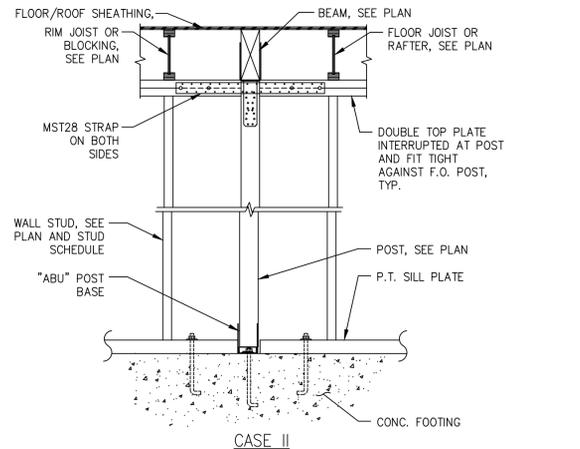
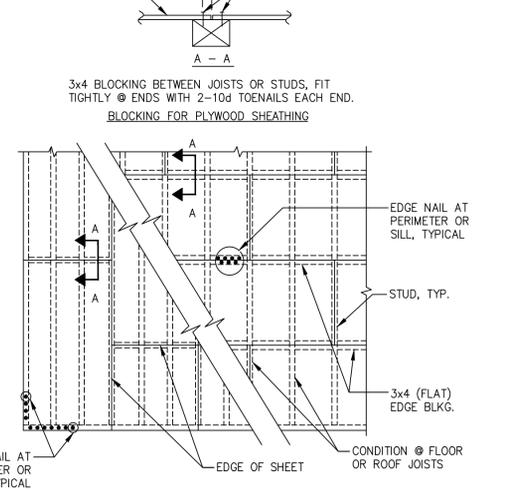
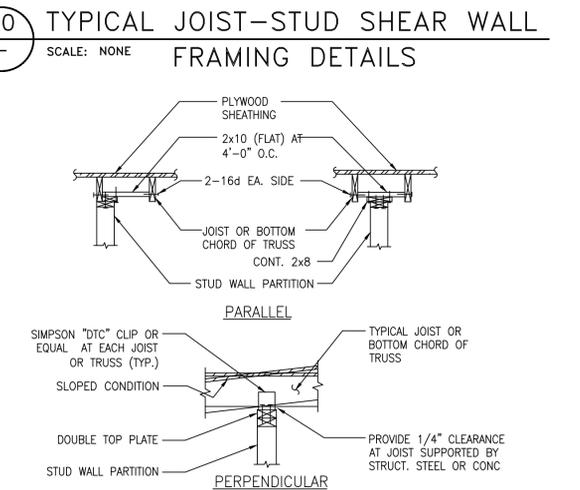
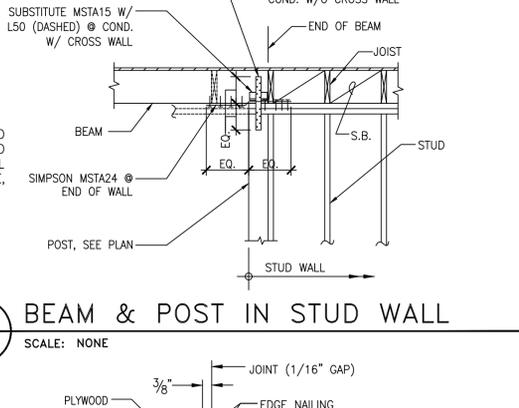
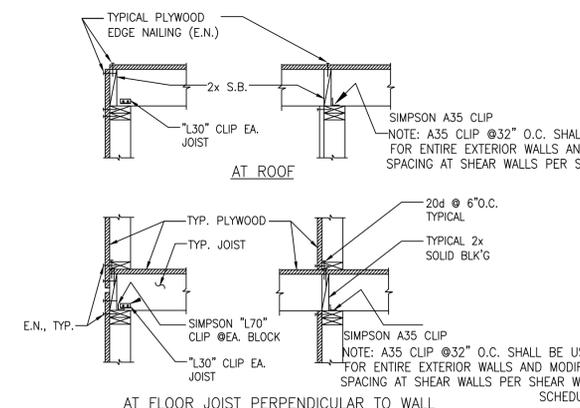
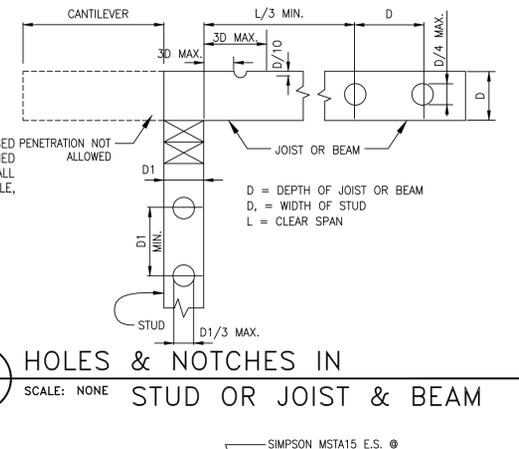
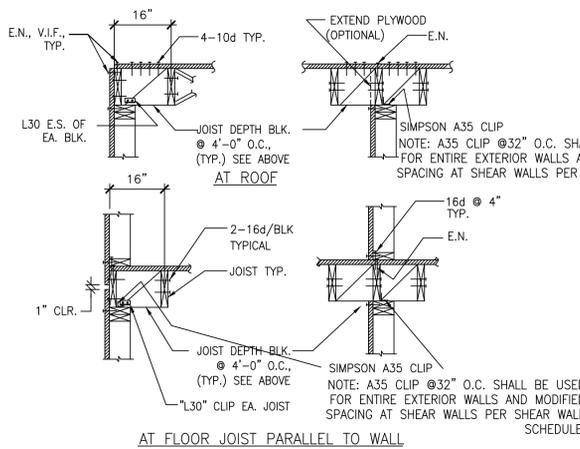
DESIGN CRITERIA:

DEAD LOADS FLOOR (HARDWOOD) = 12 psf

ROOF = 18 psf

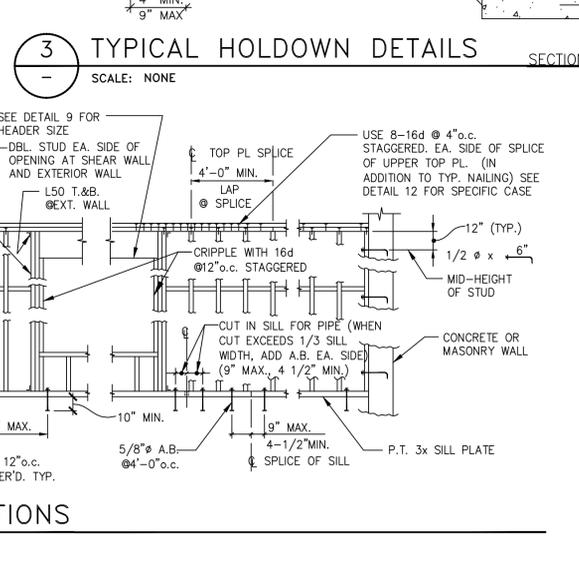
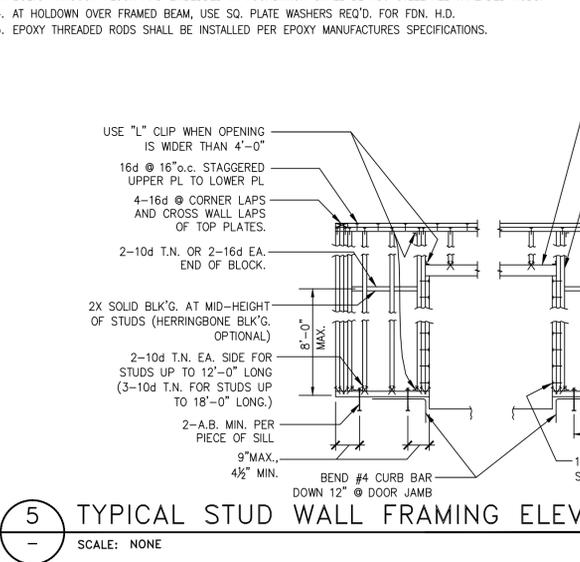
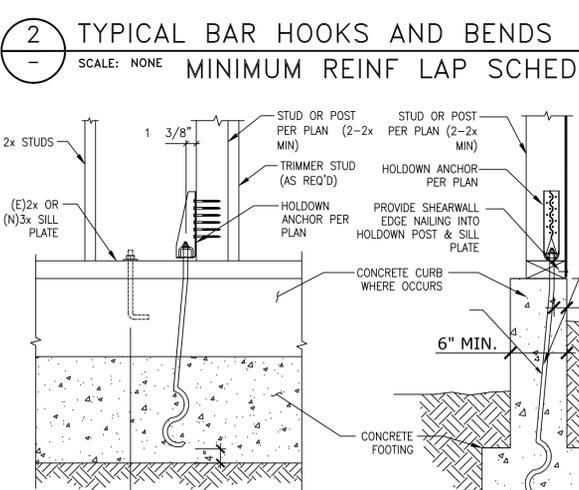
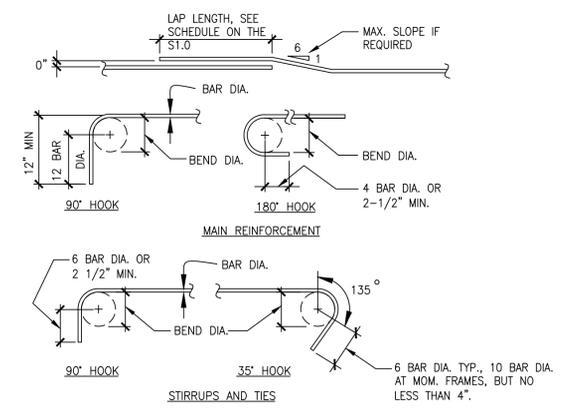
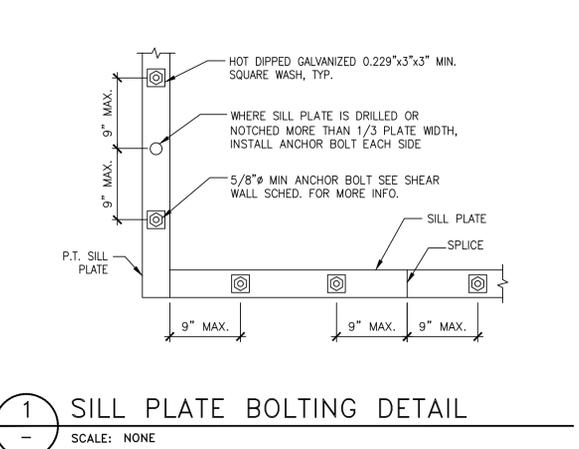
WALL (EXTERIOR) = 20 psf (VERTICAL SURFACE)

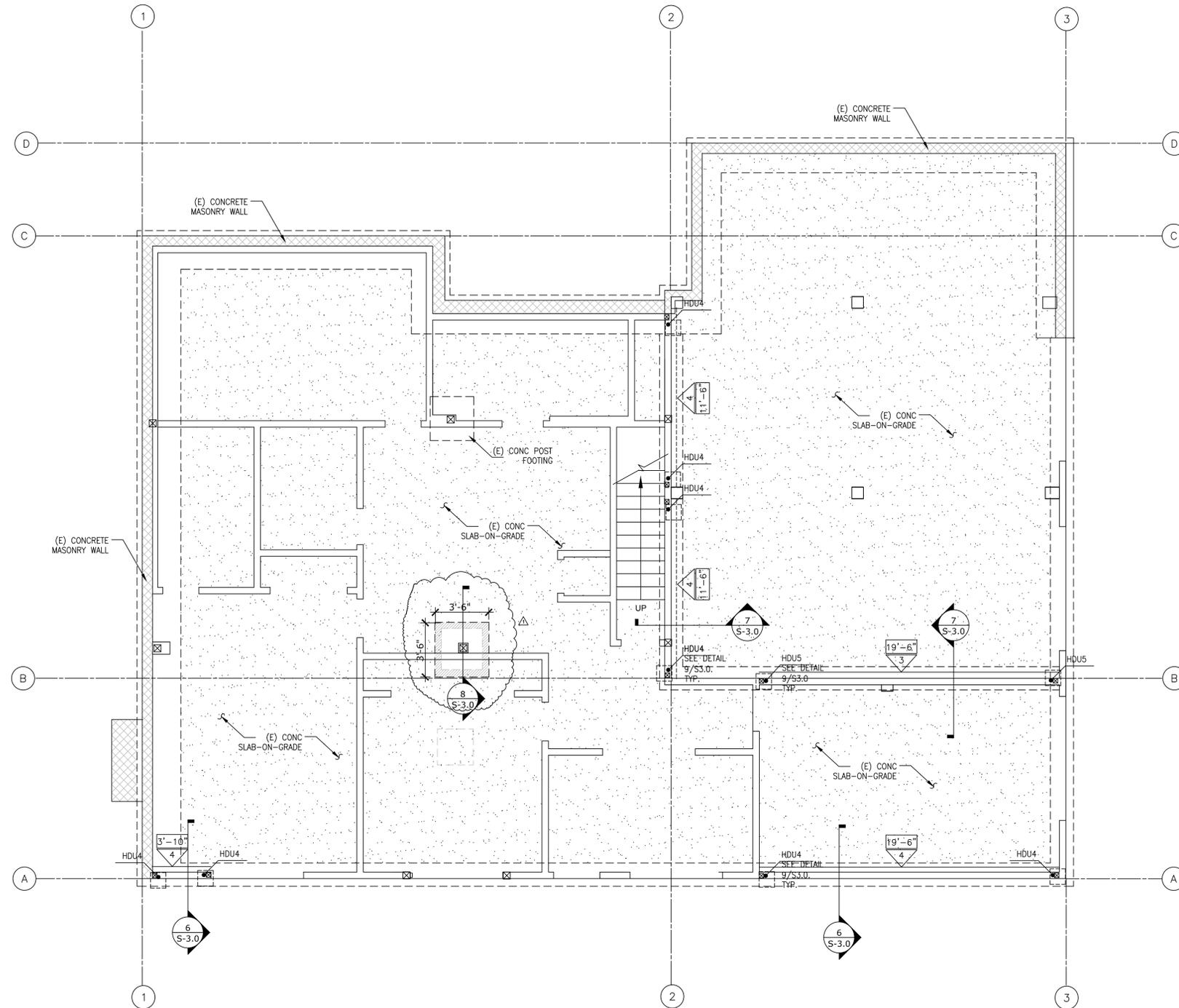
WALL (INTERIOR) = 8 psf (VERTICAL SURFACE)



HOLD DOWN TYPE (2)	MIN. END POST SIZE	SCREWS / BOLTS TO POST	BOLTS THRU FLOOR (3) (4)	BOLT TO FDN. (3) (4) THREADED ROD W/PL WASHER	SIMPSON ANCHOR BOLT TYPE	EMBEDMENT LENGTH
HDU2	2-2x4	6-SDS $\frac{3}{16}$ x2 $\frac{1}{2}$	5/8" ϕ	5/8" ϕ W/13" MIN. EMB. $\frac{1}{4}$ "x3"x3" PLATE WASHER	SSTB16	13"
HDU4	2-2x4	10-SDS $\frac{3}{16}$ x2 $\frac{1}{2}$	5/8" ϕ	5/8" ϕ W/17" MIN. EMB. $\frac{1}{4}$ "x3"x3" PLATE WASHER	SSTB20	17"
HDU5	2-2x6	14-SDS $\frac{3}{16}$ x2 $\frac{1}{2}$	5/8" ϕ	5/8" ϕ W/16" MIN. EMB. $\frac{1}{4}$ "x3"x3" PLATE WASHER	SSTB24	21"
HDU8	3-2x6 OR 4x6	20-SDS $\frac{3}{16}$ x2 $\frac{1}{2}$	7/8" ϕ	7/8" ϕ W/18" MIN. EMB. $\frac{1}{4}$ "x3"x3" PLATE WASHER	SSTB28	25"
SIMPSON STRONG-WALL PER MANUFACTURE SPECIFICATION						

1. REFER TO THE PLANS FOR HOLD DOWN ASSEMBLY MARKS AND HOLD DOWN POST SIZES.
2. FOR HOLD DOWN ASSEMBLIES, USE SIMPSON CATALOG "HDU" SERIES HOLD DOWNS, OR APPROVED EQUAL.
3. BOLTS THROUGH FLOOR AND EMBEDDED IN FOUNDATION SHALL BE A36 STEEL ALL THREADED RODS.
4. AT HOLDDOWN OVER FRAMED BEAM, USE SQ. PLATE WASHERS REQ'D. FOR FDN. H.D.
5. EPOXY THREADED RODS SHALL BE INSTALLED PER EPOXY MANUFACTURES SPECIFICATIONS.





KEY:

	WALLS ABOVE
	WALLS BELOW
	HEADER (HDR) AND BEAM BELOW
	SHEAR WALL (SEE SCHEDULE & TYP DETAIL)
	POST
	POST BELOW
	HANGERS: USE ITT AT I-JOIST, B AT DBL I-JOIST, AND USE FACE MOUNT HANGERS AT THE BEAMS. FOLLOW MANUFACTURER RECOMMENDATIONS FOR SPECIFIED HANGER U.O.N.
	HOLDOWN FASTENED TO EXISTING OR NEW 4x, 3x, OR 2-2x END POST (SEE TYP. DETAILS)

(N)12"x12"x10" CONCRETE BLOCK FOR HOLDOWN ANCHOR BOLT
SEE DETAIL 8/S3.0

1. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT JOB SITE. THE CONTRACTOR SHALL COMPARE STRUCTURAL DRAWINGS WITH EXISTING CONDITIONS BEFORE COMMENCING WITH THE WORK, AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES REQUIRING CLARIFICATION OR REVISION.

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

CIVIL ENGINEER

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2594 PEBBLE BEACH DRIVE
SANTA CLARA, CA 95051
Tel: (510)304-9812
Email: gsengineering2000@gmail.com

PROJECT

LIU RESIDENCE
HOUSE INTERIOR REMODEL
4005 HIGUERA ROAD
SAN JOSE, CA 95148

PROJECT NO

21-29



11/18/2021 REVISION-1

07/04/2021

PLANS SUBMITTAL

SHEET CONTENTS

FOUNDATION PLAN

SHEET NUMBER

S2.0

NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT JOB SITE. THE CONTRACTOR SHALL COMPARE STRUCTURAL DRAWINGS WITH EXISTING CONDITIONS BEFORE COMMENCING WITH THE WORK, AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES REQUIRING CLARIFICATION OR REVISION.

NAILING SCHEDULE

ELEMENT/CONNECTION	FASTENER	LOCATION
ROOF		
1. BLOCKING BETWEEN CEILING JOISTS, RAFTERS TO TOP PLATE OR OTHER FRAMING BELOW	3-8d COMMON (2 1/2"X0.131)	TOENAIL EACH END
BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS	2-8d COMMON (2 1/2"X0.128)	TOENAIL EACH END
2. CEILING JOISTS TO TOP PLATE	3-8d COMMON OR 3-10d BOX	TOENAIL EACH JOIST
3. CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS	3-16d COMMON OR 4-10d BOX	FACE NAIL
4. CEILING JOISTS ATTACHED TO PARALLEL RAFTER(HEEL JOIST)	TABLE 2308.7.1	FACE NAIL
5. COLLAR TIE TO RAFTER	3-10d COMMON OR 4-10d BOX	FACE NAIL
6. RAFTER OR ROOF TRUSS TO TOP PLATE	3-10d COMMON; OR 3-16d BOX; OR 4-10d BOX	TOENAIL
7. ROOF RAFTERS TO RIDGE VALLEY; OR HIP RAFTER; OR ROOF RAFTER TO 2" RIDGE BEAM	2-16d COMMON	END NAIL
WALL		
8. STUD TO STUD(NOT AT BRACED WALL PANELS)	16d COMMON@24"O.C. OR 10d BOX@16" o.c.	FACE NAIL
9. STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS(AT BRACED WALL PANELS)	16dCOMMON@16"o.c.; OR 16d BOX@12" o.c.	FACE NAIL
10. BUILT-UP HEADER	16d COMMON 16"o.c. EACH EDGE, FACE NAIL	FACE NAIL
11. CONTINUOUS HEADER TO STUD	4-8d COMMON or 4-10d BOX	TOENAIL
12. TOP PLATE TO TOP PLATE, AT END JOISTS	8-16d COMMON, 12-10d BOX	EACH SIDE OF END JOIST,FACE NAIL
13. TOP PLATE TO TOP PLATE,	16d COMMON 16"O.C./10d BOX@12" O.C.	FACE NAIL
14. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING	16d COMMON 16" O.C.	FACE NAIL
15. 1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8d COMMON,	FACE NAIL
FLOOR		
16. JOIST TO SILL OR GIRDER, TOE NAIL	3-8d COMMON	TOENAIL
17. 1"X6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2-8d COMMON@6"O.C.	TOENAIL
18. RIM JOIST TO TOP PLATE, TOE NAIL	8d@6"o.c.	
19. LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	3-16d AT EACH BEARING	
WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING		
20. 3/4" AND LESS, 8d COMMON NAIL, 6d DEFORMED	EDGE NAIL@6"o.c., INTERMEDIATE NAIL@12"o.c.	
21. 3/4"- 1" 8d COMMON NAIL(SUBFLOOR, WALL), 8d DEFORMED NAIL (ROOF)	EDGE NAIL@6"o.c., INTERMEDIATE NAIL@12"o.c.	
OTHER WALL SHEATHING		
22. 1/2" FIBERBOARD SHEATHING, 1/2" GALV. ROOF NAIL/ 1 1/4" 16 GAGE STAPLE WITH 1/8" OR 1" CROWN	EDGE NAIL@3"o.c., INTERMEDIATE NAIL@6"o.c.	
23. 5/8" FIBERBOARD SHEATHING, 1 3/4" GALV. ROOFING NAIL/ 1 1/2" 16 GAGE STAPLE WITH 1/8" OR 1" CROWN	EDGE NAIL@3"o.c., INTERMEDIATE NAIL@6"o.c.	
24. 1/2" GYPSUM SHEATHING, 1 1/2" GALV. ROOFING NAIL	EDGE NAIL@6"o.c., INTERMEDIATE NAIL@12"o.c.	
25. 5/8" GYPSUM SHEATHING, 1 3/4" GALV. ROOFING NAIL	EDGE NAIL@6"o.c., INTERMEDIATE NAIL@12"o.c.	
WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING		
26. 3/4" AND LESS, 6d DEFORMED NAIL OR 8d COMMON NAIL	EDGE NAIL@6"o.c., INTERMEDIATE NAIL@12"o.c.	

FOOTNOTES:

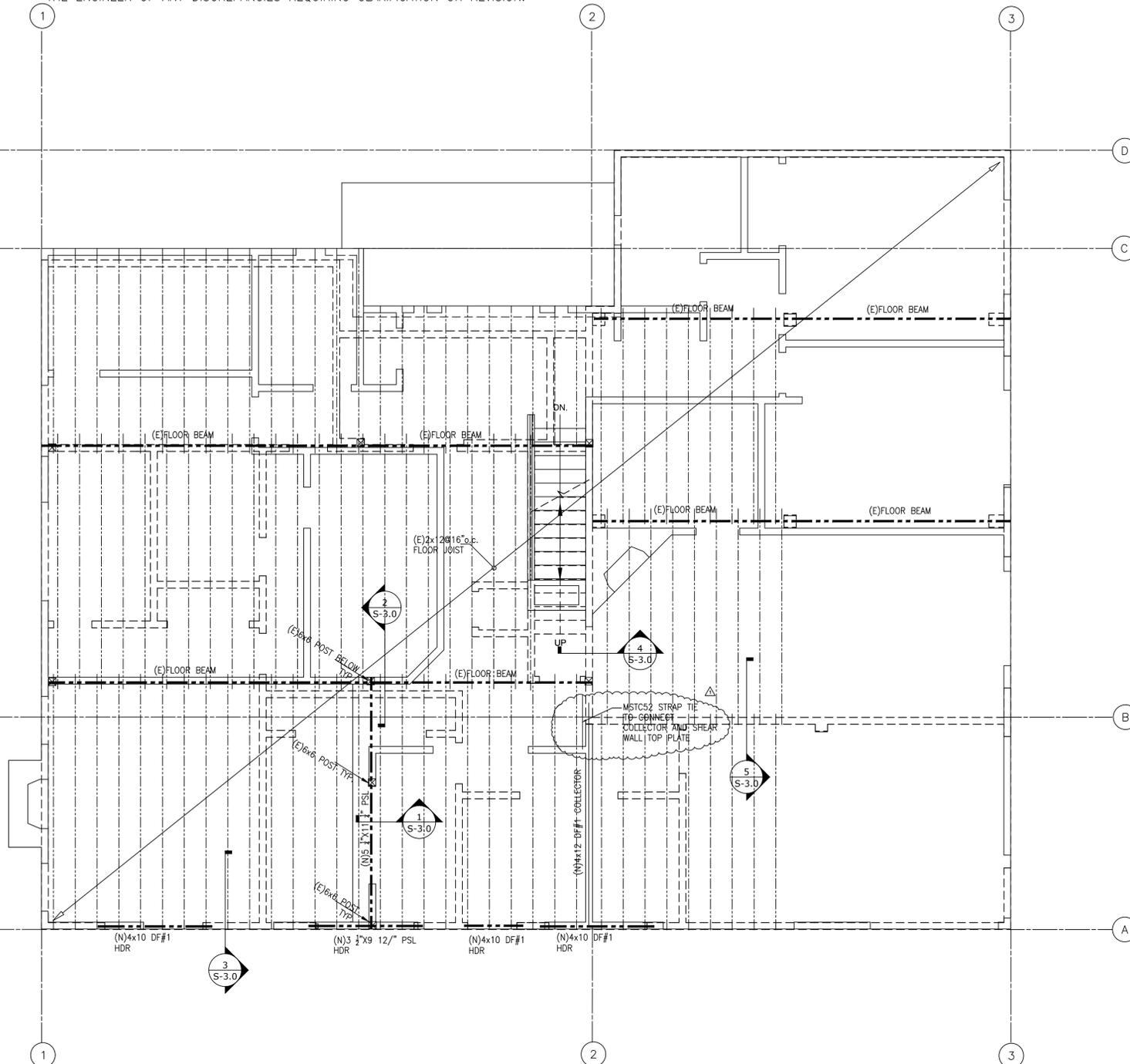
1. COMMON OR BOX NAILS MAY BE USED UNLESS OTHERWISE NOTED.

NOTES:

1. NAILING PER SCHEDULE ABOVE IS TO BE USED WHERE NAILING IS NOT SPECIFIED ON PLANS OR DETAILS. NAILING PER PLANS AND DETAILS SUPERSEDE NAILING SCHEDULE UNLESS APPROVED BY ENGINEER

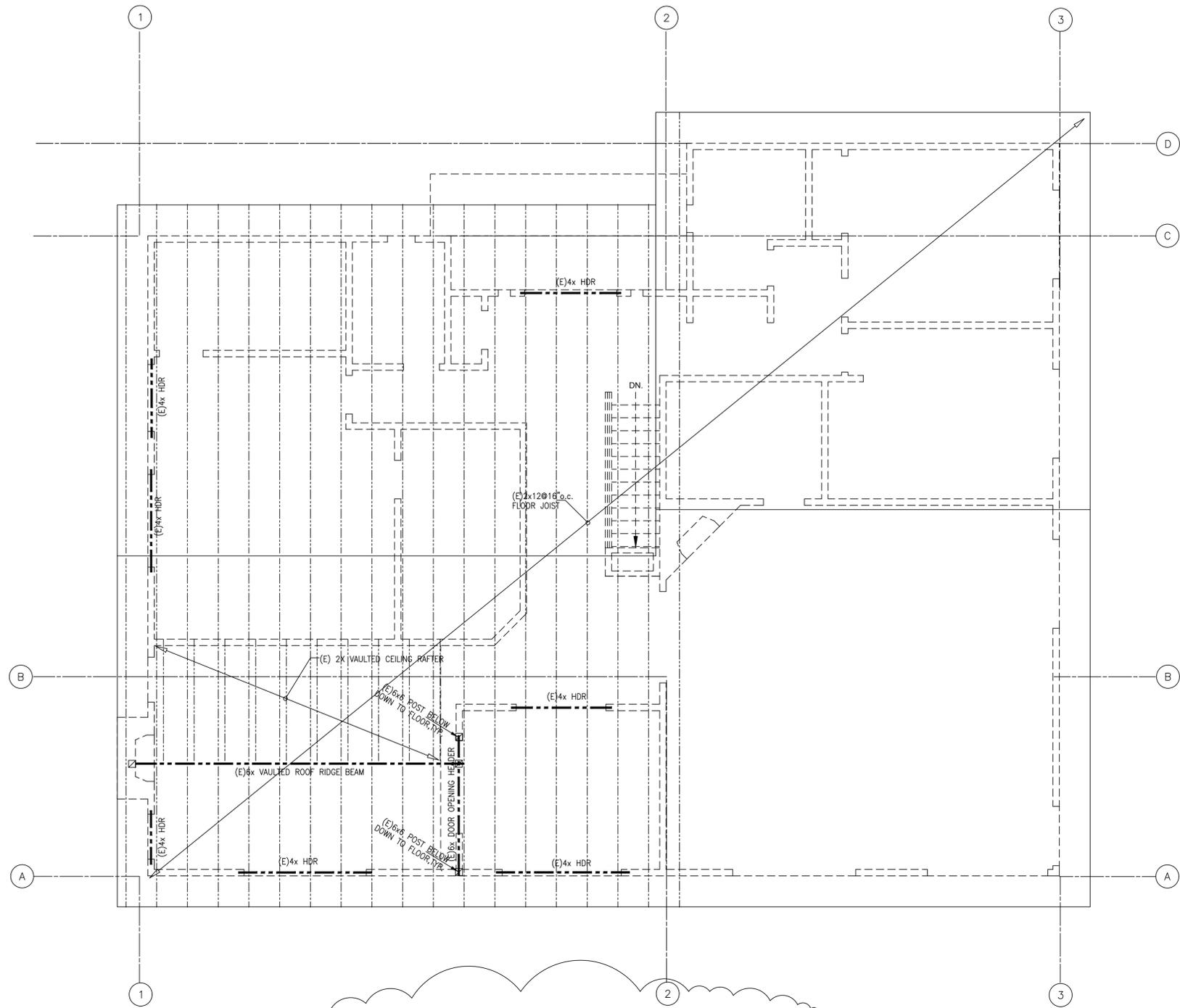
KEY:

	WALLS ABOVE
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	POST BELOW
	HANGERS: USE IIT AT I-JOIST, B AT DBL I-JOIST, AND USE FACE MOUNT HANGERS AT THE BEAMS. FOLLOW MANUFACTURER RECOMMENDATIONS FOR SPECIFIED HANGER U.O.N.
	HOLDOWN FASTENED TO EXISTING OR NEW 4x, 3x, OR 2-2x END POST (SEE TYP. DETAILS)



1 UPPER FLOOR FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"





1
-
ROOF PARTIAL FRAMING PLAN
 SCALE: 1/4" = 1'-0"

KEY:

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	WALLS BELOW
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	SHEAR WALL (SEE SCHEDULE & TYP DETAIL)
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	POST BELOW
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CIVIL ENGINEER

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PROJECT

**LIU RESIDENCE
 HOUSE INTERIOR REMODEL**
 4005 HIGUERA ROAD
 SAN JOSE, CA 95148

PROJECT NO
 21-29



11/18/2021 REVISION-1

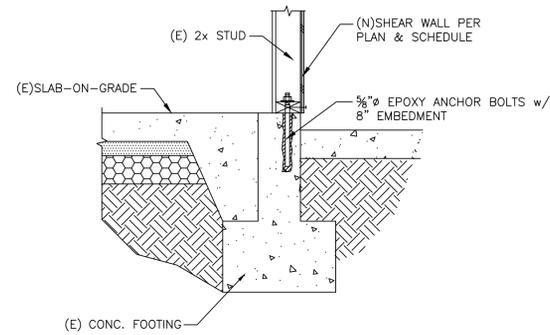
07/04/2021

PLANS SUBMITTAL
 SHEET CONTENTS

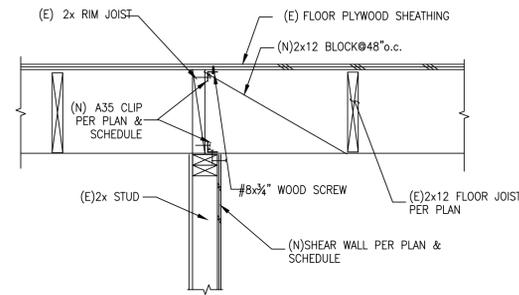
ROOF FRAMING PLAN

SHEET NUMBER

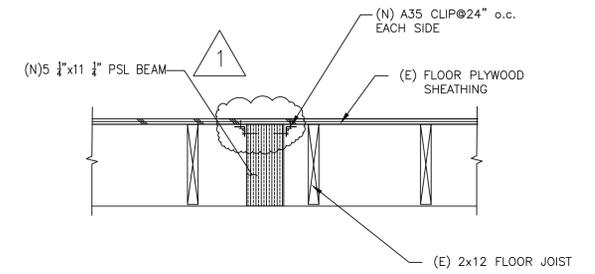
S2.2



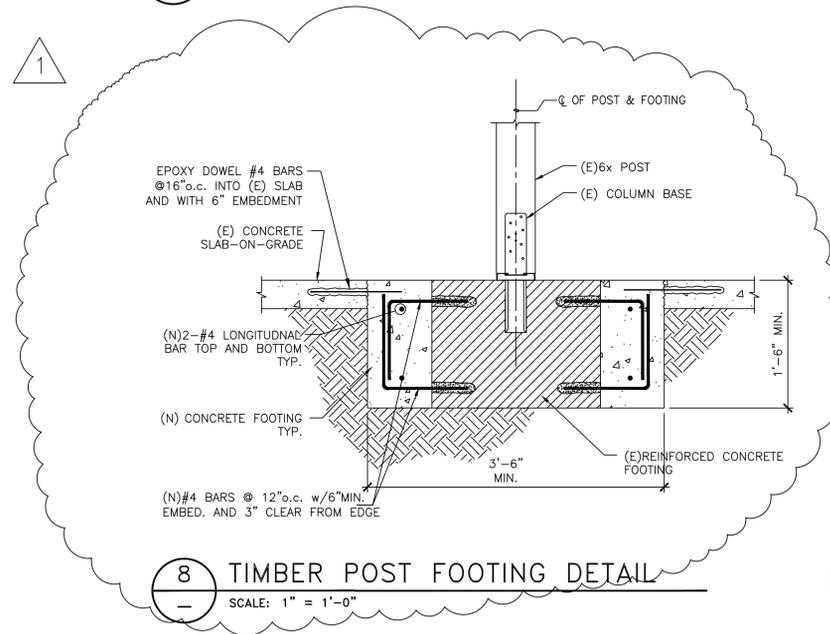
7 INTERIOR WALL FOOTING DETAIL
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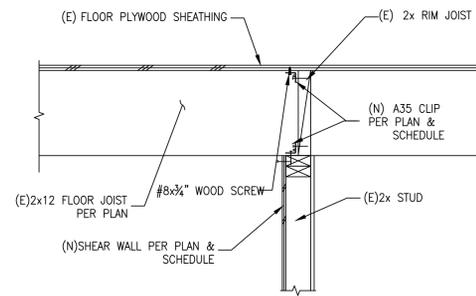
4 DETAIL
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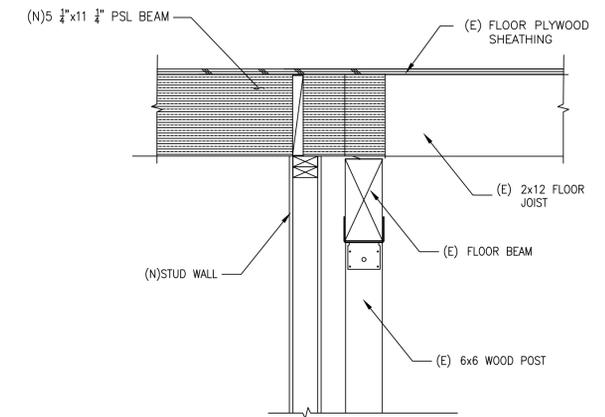
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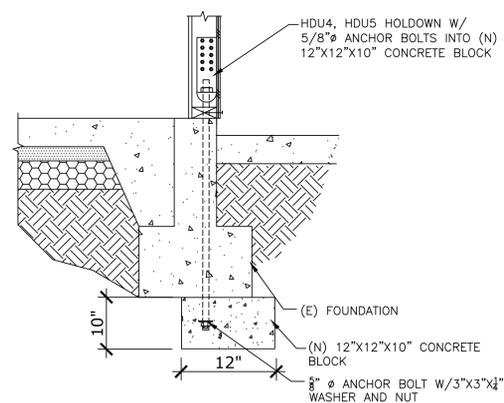
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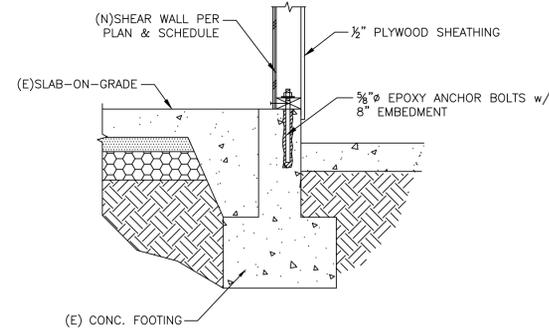
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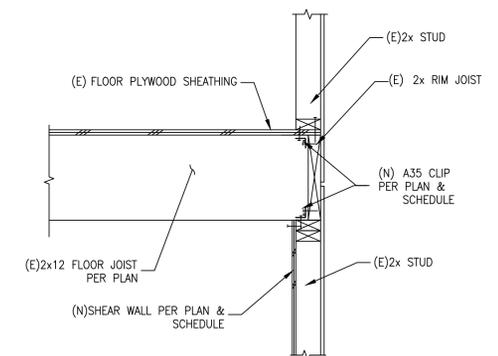
2 DETAIL
SCALE: 1"=1'-0"



3 TYPICAL SHEAR WALL EPOXY HOLDOWN
SCALE: NONE



6 EXTERIOR WALL FOOTING DETAIL
SCALE: 1"=1'-0"



3 WALL SECTION DETAIL
SCALE: 1" = 1'-0"