



CITY OF CAMPBELL
Community Development Department

November 5, 2021

NOTICE OF ADMINISTRATIVE ACTION

Notice is hereby given that the Planning Division of the Community Development Department of the City of Campbell has received an application for the following project proposal:

Project Address: 1525 Elwood Dr.

Zoning/Area Plan: R-1-6 / STANP

Neighborhood Association(s): STACC

File No.: PLN-2021-146

APN: 403-48-006

Applicant: Baron Construction & Remodeling

Property Owner: Jaspal & Ravi Singh

Application Type: Admin. Site and Architectural Review Permit

Project Description: Approximately 330 square foot single-story addition to an existing single-family dwelling.

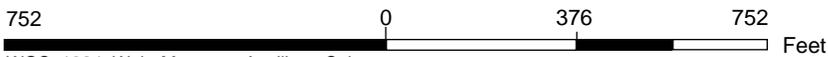
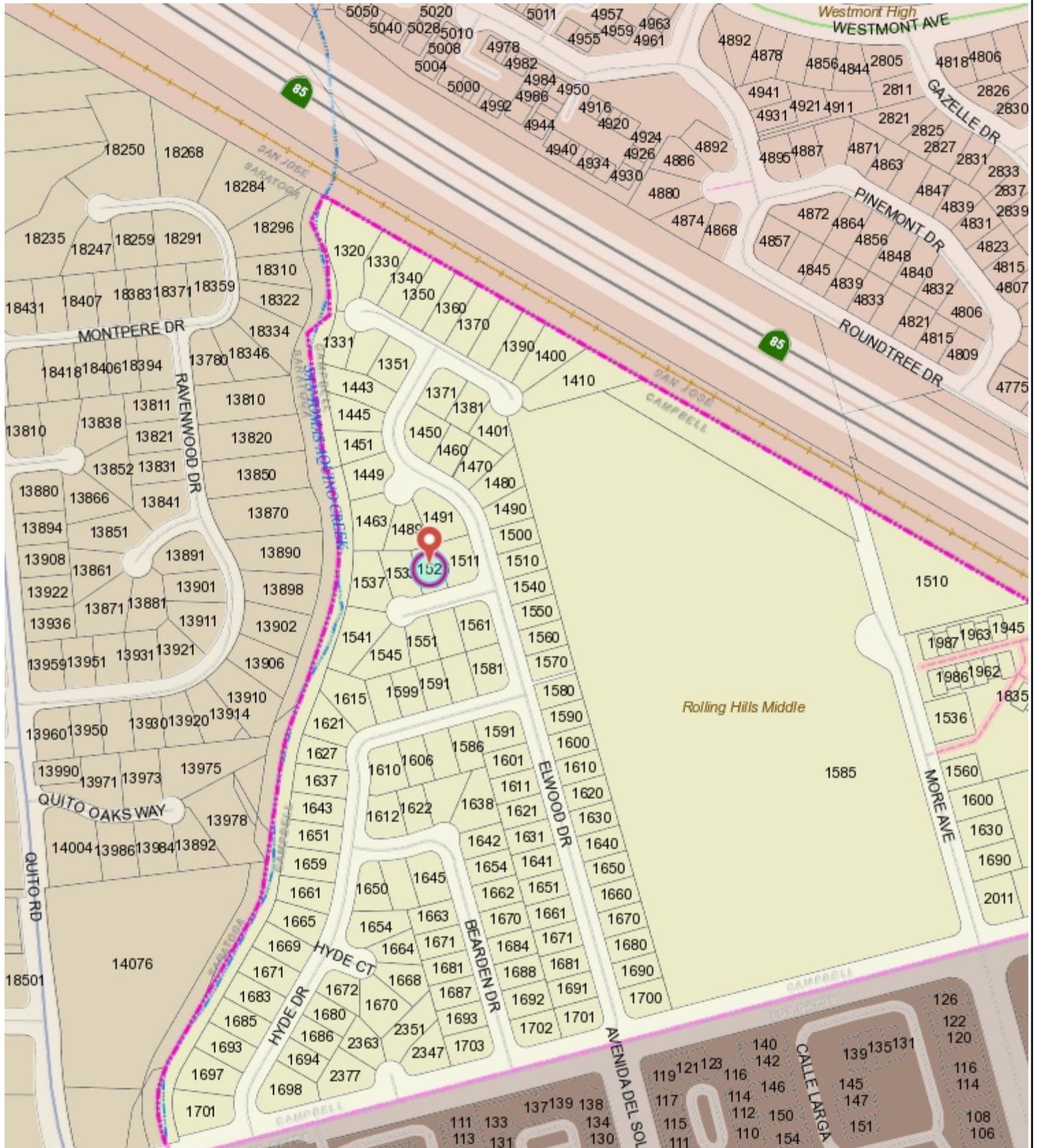


This application will be decided by the Community Development Director and you have the opportunity to provide comment prior to the Director's decision. The ten-day comment period for this application begins on November 5, 2021 and ends on November 16, 2021. Any comments regarding this application must be submitted in writing (including email) to the Planning Division before 5:00 p.m. on **November 16, 2021**. The Director will then consider all comments submitted within this time period prior to a decision. No additional notice will be provided. Please contact the project planner in a timely manner to determine what decision was reached.

Decisions by the Community Development Director are final in 10 calendar days following the date of approval, unless an appeal is received in writing at the City of Campbell Community Development Department, 70 N. First Street, Campbell, prior to the end of the appeal period. A written appeal must be accompanied with the required \$200 appeal filing fee. Plans and architectural drawings may be viewed at the Planning Division office during normal business hours (8:00 AM – 5:00 PM) and on the City's 'Public Notices' web page (<http://www.cityofcampbell.com/501/Public-Notices>) under 'Administrative Decisions' or by contacting the project planner. Questions or comments regarding this application may be addressed to Daniel Fama, Senior Planner, in the Community Development Department, at (408) 866-2193 or by email at danielf@campbellca.gov.



Location Map - 1525 Elwood Dr.



WGS_1984_Web_Mercator_Auxiliary_Sphere
 Campbell IT, GIS Services

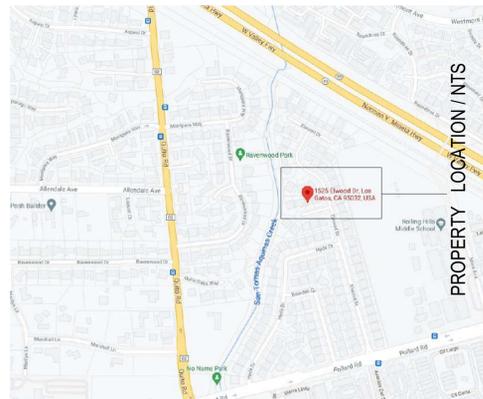
Scale 1:4,514

This map is based on GIS Information and reflects the most current information at the time of this printing. The map is intended for reference purposes only and the City and its staff is not responsible for errors.

ELWOOD DR. RESIDENCE

LOS GATOS, CA

VICINITY MAP:



PROJECT DATA:

ASSESSOR'S PARCEL NUMBER: 403-48-006
 PROJECT TYPE: ADDITION & REMODEL
 PROJECT LOCATION: 1525 ELWOOD DR, LOS GATOS, CA
 ZONING: R-1-6
 OCCUPANCY GROUP: R - 3 / U
 CONSTRUCTION TYPE: V - B
 NUMBER OF FLOORS: 1
 FIRE PROTECTION: NON SPRINKLERED
 BEDROOM NUMBER: 5
 BATHROOM NUMBER: 3
 LOT AREA: 6000 SQ.FT
 TRACT NO: 3535 CAMEO PARK WEST

CODE EDITIONS:

A. CALIFORNIA RESIDENTIAL 2019 EDITION
 B. CALIFORNIA BUILDING 2019 EDITION
 C. CALIFORNIA GREEN BUILDING 2019 EDITION
 D. CALIFORNIA MECHANICAL 2019 EDITION
 E. CALIFORNIA PLUMBING 2019 EDITION
 F. CALIFORNIA ELECTRICAL 2019 EDITION
 G. CALIFORNIA ENERGY: 2019 EDITION
 H. CALIFORNIA FIRE: 2019 EDITION
 ANY OTHER APPLICABLE LOCAL AND STATE LAWS AND REGULATIONS. 2019 EDITION

SCOPE OF WORK:

- ADDITION OF 330 SQ.FT - TO THE FRONT OF THE HOUSE.
- NEW FRONT PORCH AT 28 SQ.FT.
- ADDITION TO INCLUDE NEW BEDROOMS, BATHROOM SPACE. STORAGE SPACE.
- NEW WASHER AND DRYER INSIDE GARAGE.
- NEW FRONT ENTRY LOOK.
- KITCHEN REMODEL. SAME FOR SAME WITH NEW FIXTURES, AND APPLIANCES.
- CONVERTING PORTION OF THE GARAGE AT 33 SQ.FT TO BE PART OF THE MAIN HOUSE TO CREATE NEW POWDER ROOM WHILE KEEPING THE MIN 20 FEET CLEARANCE INSIDE THE GARAGE.
- NO CHANGE TO GAS METER.
- EXISTING ELECTRICAL PANEL UPGRADE TO 200 AMP.
- NO CHANGE TO EXISTING WATER HEATER INSIDE GARAGE.
- NO CHANGE TO EXISTING FURNACE INSIDE GARAGE.

PROJECT CONTACT:

OWNER: RAVI SINGH
 1525 ELWOOD DR,
 LOS GATOS, CA
 EMAIL: rsinghsf1098@gmail.com
 TELL: ---
 DESIGNER: RAMIN ZOHOOR
 BARON CONSTRUCTION
 14510 BIG BASIN WAY B, SARATOGA, CA
 RAMIN@BARONCNR.COM
 408-497-5071
 LIC. 991076
 WWW.BARONCNR.COM
 STRUCTURAL: AQX ENGINEERING INC.
 6525 CROWN BLVD #41068
 SAN JOSE, CA 95160
 TELL: 408-229-3517
 EMAIL: WWW.AQXENG.COM
 BUILDER: BARON CONSTRUCTION
 14510 BIG BASIN WAY B, SARATOGA, CA
 BARON.CNR@GMAIL.COM
 1-800-965-2028
 LIC. 991076
 WWW.BARONCNR.COM
 ENERGY: CARSTAIRS ENERGY INC.
 2238 BAYVIEW HEIGHTS DRIVE, SUITE E
 LOS OSOS, CA 93402
 TELL: 805-904-9048

DRAWING INDEX:

A-00.01: COVER SHEET
 A-01: EXISTING & PROPOSED SITE PLAN
 A-02: EXISTING FLOOR PLAN
 A-03: PROPOSED FLOOR PLAN (MEP)
 A-03A: ROOF PLAN
 A-04: EXISTING ELEVATIONS
 A-05: PROPOSED ELEVATIONS
 A-06: SITE PLAN
 A-07: ELECTRICAL PLAN (MEP)
 A-08A: FLOOR AREA DIAGRAM
 A-08: ARCHITECTURAL NOTES #1 (MEP NOTES)
 A-09: ARCHITECTURAL NOTES #2 (MEP NOTES)
 CG-1: CAL GREEN LIST #1
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 S-1: STRUCTURAL NOTES
 S-2: STRUCTURAL DETAILS
 S-3: STRUCTURAL PLAN
 S-4: STRUCTURAL PLAN
 S-5: STRUCTURAL PLAN
 T24.1: ENERGY REPORT SHEET 1
 T24.2: ENERGY REPORT SHEET 2
 BMP

AREA CALCULATION:

EXISTING CONDITION:
 "E" LIVING SPACE: 1568 SQF
 "E" GARAGE: 472 SQF
 "E" PORCH: 160 SQF (DEMO)
 "N" GARAGE TO HABITABLE: 33 SQF
 "N" ADDITION: 330 SQF HABITABLE SPACE
 "N" PORCH: 28 SQF UNHABITABLE
 PROPOSED CONDITION:
 "N" LIVING SPACE: 1931 SQF
 "N" GARAGE: 439 SQF
 "N" PORCH: 28
 LOT AREA: 6000 SQF

LOT COVERAGE: (LIVING AREA + GARAGE+PORCH)

(E) LOT COVERAGE AREA:
 (1568+472+160) = 2200/6000 = 0.366= 36.6 PERCENT
 (N) LOT COVERAGE AREA:
 (1931+439+28) = 2398/6000=0.3996 = 39.96 PERCENT

FLOOR AREA : (LIVING AREA + GARAGE)

"E" FLOOR BLDG AREA (1568+472) SQF
 "N" FLOOR BLDG AREA (1931+439) SQF
 "E" TOTAL % 2040/6000 = 0.34 = 34.0%
 "N" TOTAL % 2370/6000 = 0.395= 39.5%

BLDG NOTES:

UNDER FLOOR POST, SILLS ON CONCRETE, AND EXTERIOR DECK AND STAIR SUPERSTRUCTURE SHALL BE OF PRESSURE TREATED LUMBER; COATINGS FOR FASTENER, POST BASES, HANGERS, AND CONNECTORS IN CONTACT WITH PT SHALL BE H.D. GALVANIZED, Z-MAX, OR STAINLESS STEEL, OR RATED FOR PT CONTACT. THE END NAILS OF THE SHEAR WALL INTO THE PT PLATE NEED TO BE H.D. GALVANIZED.

GENERAL NOTES:

ALL WORK DESCRIBED IN THE DRAWINGS SHALL BE VERIFIED FOR DIMENSION, GRADE, EXTENT AND COMPATIBILITY TO THE EXISTING SITE. ANY DISCREPANCIES AND UNEXPECTED CONDITIONS THAT AFFECT OR CHANGE THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE DESIGNER ATTENTION IMMEDIATELY. DO NOT PROCEED WITH THE WORK IN THE AREA OF DISCREPANCIES UNTIL ALL SUCH DISCREPANCIES ARE RESOLVED. IF THE CONTRACTOR CHOOSES TO DO SO HE SHALL BE PRECEDING AT HIS OWN RISK.

OMISSIONS FROM THE DRAWINGS AND SPECIFICATIONS OR THE MIS-DESCRIPTION OF THE WORK WHICH IS MANIFESTLY NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OR WHICH IS CUSTOMARILY REFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED OR MIS-DESCRIBED DETAILS OF THE WORK AS IF FULLY AND COMPLETELY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.

SITE CONDITIONS: ALL CONTRACTORS AND SUB-CONTRACTORS SHALL VERIFY DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO COMMENCEMENT OF THEIR WORK. FAILURE TO DO SO SHALL NOT RELEASE THEM FROM THE RESPONSIBILITY OF ESTIMATING THE WORK. IF ANY VARIATION, DISCREPANCY OR OMISSION (BETWEEN THE INTENT OF THESE CONTRACT DOCUMENTS AND THE EXISTING CONDITIONS ARE FOUND, THE CONTRACTOR OR SUB-CONTRACTOR SHALL NOTIFY DESIGNER IN WRITING AND OBTAIN WRITTEN RESOLUTION FROM DESIGNER PRIOR TO PROCEEDING WITH ANY RELATED WORK.

BUILDER NOTES:

BATHROOMS & KITCHEN WATER CONSERVATION REQUIREMENT 2019

CAL GREEN BUILDING CODE:

- A) MAXIMUM 1.8 GALLONS PER MINUTE FOR ASHOWER HEAD CONTROLLED BY A SINGLE VALVE. IF A SINGLE VALVE CONTROLS MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL THE SHOWER HEADS CONTROLLED BY THAT VALVE SHALL NOT EXCEED 2.0 GALLONS PER MINUTE.
 B) MAXIMUM 1.2 GALLONS PER MINUTE FOR BATHROOM FAUCETS (LAVATORY).
 C) MAXIMUM 1.8 GALLONS PER MINUTE FOR KITCHEN FAUCETS; FAUCET MAY TEMPORARILY DISCHARGE 2.2 GALLONS PER MINUTE USING PUSH BUTTON -- REVERT BACK TO 1.8 GPM AFTER SHUT-OFF.
 D) MAXIMUM 1.28 GALLONS PER FLUSH FOR NEW TOILETS.
 E) MAXIMUM WATER FACTOR EQUAL TO OR LESS THAN 6.0 FOR CLOTHES WASHERS (DCMC 15.20.080)
 F) MAXIMUM 6.5 GALLONS PER CYCLE OR BE ENERGY STAR QUALIFIED FOR NEW DISHWASHERS (DCMC 15.20.080)

WATER MANAGEMENT STATEMENT AND WORKING HOURS:

1- CONSTRUCTION HOURS SHALL BE 8-5 M-F, 9-4 SATURDAYS, NO WORK SUNDAY OR HOLIDAYS) AND A NOTATION FOR THE SIZE AND PLACEMENT OF ADDRESS MARKINGS. ALSO BE SURE TO LEAVE AN AREA FOR AGENCY APPROVAL STAMPS.

2- CAL GREEN REQUIRES EVERY PROJECT TO HAVE A WASTE MANAGEMENT PLAN AND THAT NORMAL TRASH CREATION IS REDUCE 65% THROUGH BETTER EFFICIENCIES, YIELD, AND RECYCLING POLICIES.

CONSTRUCTION WASH-OUT WATER FROM CONCRETE, MORTAR, TILE, TAPING, AND PAINTING SHALL BE DONE IN A PORTABLE CONTAINMENT POOL OR IN A LINED EVAPORATIVE PIT. WASH-OUT SHALL NOT ENTER THE STORM WATER SYSTEM.

TRASH PILES SHALL NOT BE LOCATED IN THE FRONT YARD OR VISIBLE FROM THE STREET. TRASH PILES SHALL NOT CONTAIN: PAINTS, SOLVENTS, GLUES, TAPING COUMPUND, FOOD PRODUCTS, OR EASILY RECYCLE-ABLE DISCARDS SUCH AS BOTTLES, CANS, PLASTICS, OR PAPER. REMAINING TRASH SHALL BE LIMITED TO CONCRETE, WOOD, DRYWALL, ROOFING, AND ASSORTED METALS AND SHALL BE COVERED WITH A WATERPROOF TRAP. TRASH SHALL BE SEPARATED AT AN APPROVED BAY AREA DISPOSAL SITE SUCH AS GUADALUPE RECYCLING. ALL TRASH IS TO BE QUICKLY HAULED OFF SITE. RETAIN THE RECEIPT AND KEEP WITH THE PERMIT DOCUMENTS, PROOF OF RECYCLE AND DISPOSAL OF THE JOB SITE TRASH WILL BE CHECKED PERIODICALLY AND PRIOR TO FINAL INSPECTION. OR CALL

WEST VALLEY COLLECTION AND RECYCLING (408)283-9250 WILL DELIVER A ROLL-OFF DEBRIS BOX AND SORT THE TRASH OFF SITE.

ADDITION and REMODELING FOR:

ELWOOD DR., RESIDENCE

1525 ELWOOD DR,
 LOS GATOS, CA 95032

REVISION TABLE:

6/01 BUILDING RESPONSE ROUND 01
 6/01 PLANNING RESPONSE ROUND 01

SHEET TITLE:

COVER SHEET

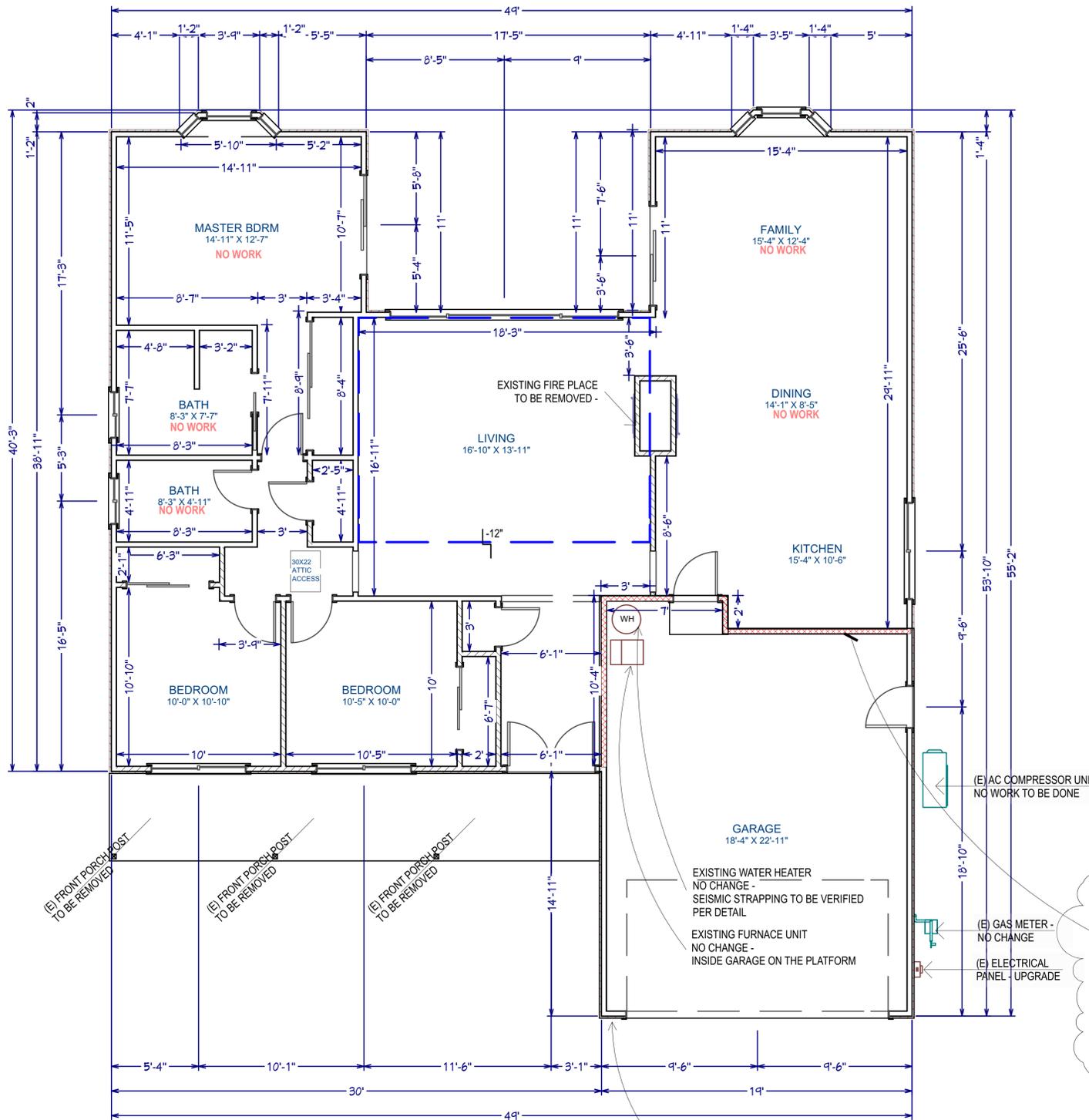
PROJECT ID :
 DATE : MAY , 2021
 SCALE :
 DRAWN BY : RZ (BARON CONSTRUCTION)

SHEET NUMBER:

A-00.01

OWNERSHIP:

R. Johnson



FULL WALL 1 HR RATE WALL
 GARAGE WALL ADJOINING THE HOME SHALL BE 1/2" TAPED SHEETROCK, CONCRETE-TO-RAFTERS; METAL ELECTRIC BOXES (16 SQ IN MAX) SHALL NOT TOTAL MORE THAN 100 SQ IN WITHIN A 100 SQ.FT AREA. BOXES ON OPPOSITE WALLS SHALL HAVE 24 INCHES SEPARATION. CEILING BELOW LIVING SPACE SHALL BE 5/8 TYPE X SHEETROCK. PER 302.5.1 THE DOOR SHALL BE 1.375 SOLID AND SELF CLOSING.

HOUSE NUMBER NOTES:

- 1- EXISTING HOUSE NUMBER : APPROVED ADDRESS NUMBER SHALL BE LEGIBLE AND PLACED IN A POSITION THAT IS VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. THE CONTRASTING ADDRESS NUMBERS SHALL BE ARABIC NUMBERS OR ALPHABETICAL LETTERS. EACH CHARACTERS SHALL BE NOT LESS THAN 4 INCHES IN HEIGHT WITH A STROKE WIDTH OF NOT LESS THAN 0.5 INCH. (CRC 319.1)

1 EXISTING FLOOR PLAN
 SC : 1/4" = 1'-0"

LEGEND:

- EXISTING WALL TO STAY
- ▨ 1-HR FIRE RATED WALL
- ▤ EXISTING WALL TO BE REMOVED



ADDITION and REMODELING FOR:
ELWOOD DR., RESIDENCE
 1525 ELWOOD DR,
 LOS GATOS, CA 95032

REVISION TABLE:

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| 601 | PLANNING RESPONSE ROUND 01 |
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SHEET TITLE:
FLOOR PLAN EXISTING

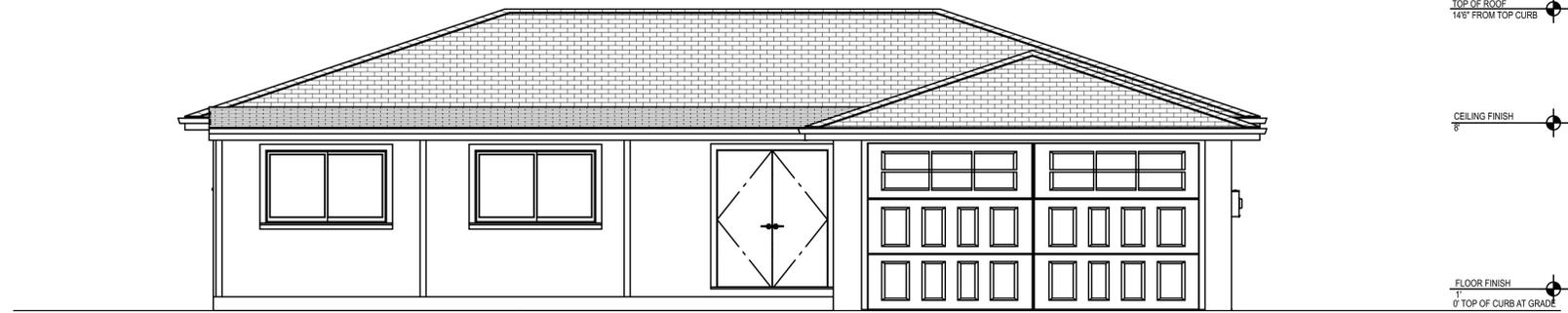
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 DATE : MAY , 2021
 SCALE :
 DRAWN BY : RZ (BARON CONSTRUCTION)

SHEET NUMBER:
A-02

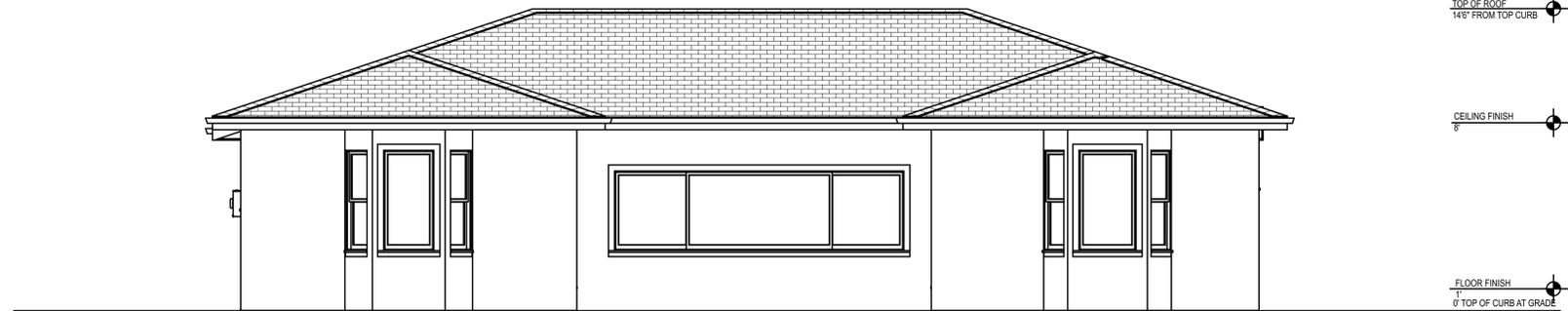
OWNERSHIP:



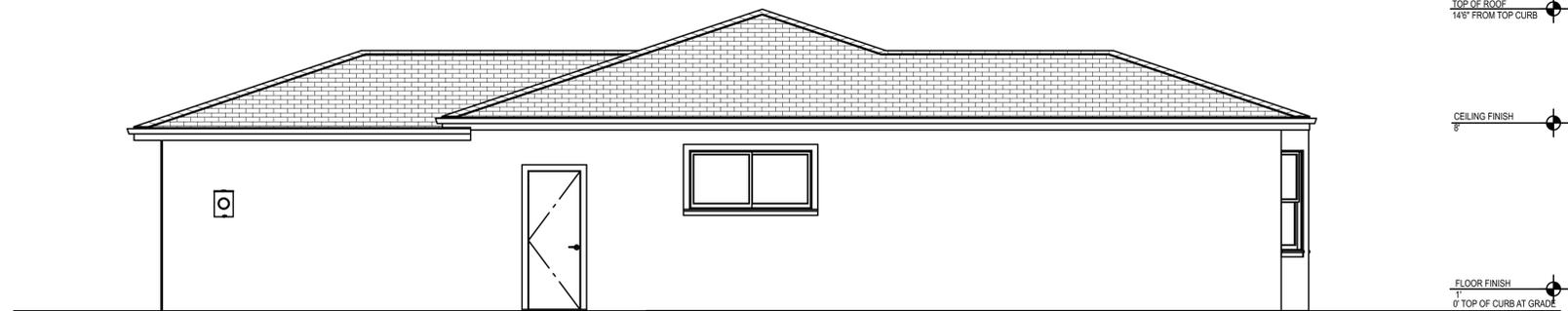
EXISTING FRONT ELEVATION
SCALE 1/4" = 1'



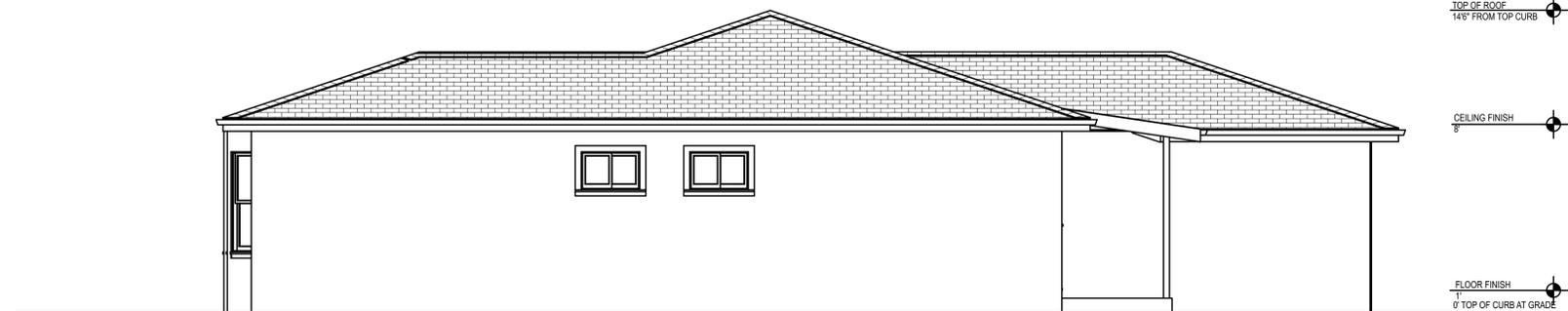
EXISTING REAR ELEVATION
SCALE 1/4" = 1'



EXISTING RIGHT ELEVATION
SCALE 1/4" = 1'



EXISTING LEFT ELEVATION
SCALE 1/4" = 1'



ADDITION and REMODELING FOR:

**ELWOOD DR.,
RESIDENCE**

1525 ELWOOD DR,
LOS GATOS, CA 95032

REVISION TABLE:

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| | BUILDING RESPONSE ROUND 01 |
| | PLANNING RESPONSE ROUND 01 |
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SHEET TITLE:

**EXISTING
ELEVATIONS**

PROJECT ID : _____
DATE : _____ MAY , 2021
SCALE : _____
DRAWN BY : RZ (BARON CONSTRUCTION)

SHEET NUMBER:

A-04

OWNERSHIP:

HOUSE NUMBER NOTES:

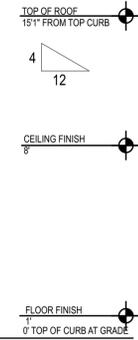
1- EXISTING HOUSE NUMBER : APPROVED ADDRESS NUMBER SHALL BE LEGIBLE AND PLACED IN A POSITION THAT IS VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. THE CONTRASTING ADDRESS NUMBERS SHALL BE ARABIC NUMBERS OR ALPHABETICAL LETTERS. EACH CHARACTERS SHALL BE NOT LESS THAN 4 INCHES IN HEIGHT WITH A STROKE WIDTH OF NOT LESS THAN 0.5 INCH. (CRC 319.1)

PROPOSED FRONT ELEVATION
SCALE 1/4" = 1'

ALL AROUND ROOF NOTE :
ROOF SHINGLES MIN CLASS 'B' FIRE RATED ROOF MATERIAL PER SMC TO MATCH W/ EXISTING HOUSE IN COLOR
W/ MIN TWO LAYERS OF #15 UNDERLAYMENT

SOLID REDLINE INDICATION OF ADDITION AREA

ALL AROUND STUCCO PER STUCCO NOTE: COLOR TO MATCH (E)

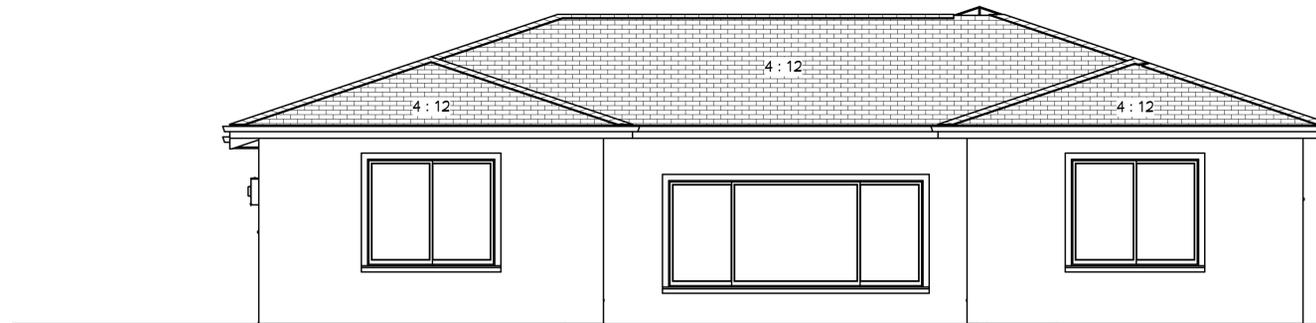
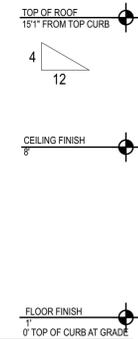


PROPOSED REAR ELEVATION
SCALE 1/4" = 1'

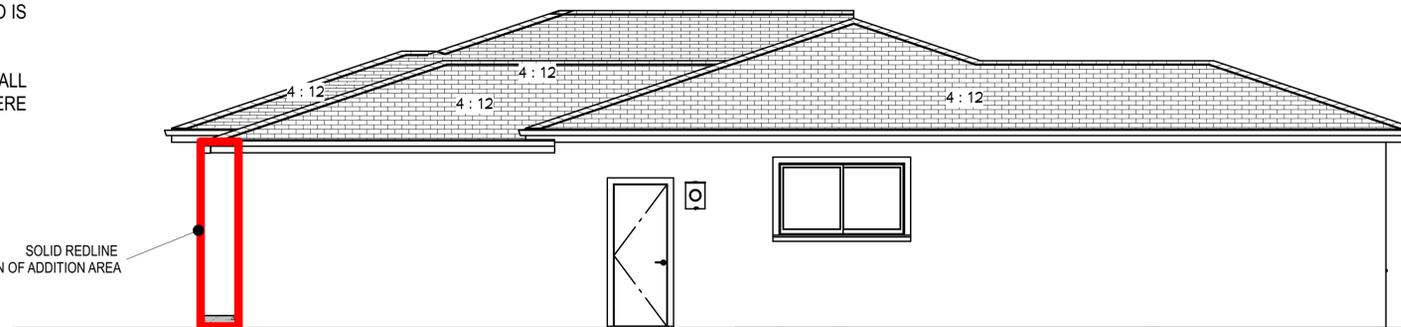
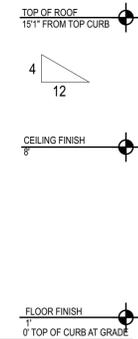
ELEVATIONS NOTES:

1. STUCCO 7/8" THICK IS TO BE APPLIED WITH A 3 COAT APPLICATION WHEN APPLIED **OVER CORROSION RESISTANT METAL LATH** OR WIRE LATH PER CRC R703.6.2.
2. PROVIDE WEEP SCREED AT THE BOTTOM OF STUCCO WALLS AT A LOCATION A MINIMUM OF 4" ABOVE EARTH OR 2" ABOVE PAVED AREAS PER CRC R703.6.2.1.
3. PROVIDE TWO LAYERS OF TYPE "D" UNDERLAYMENT AT STUCCO WALLS WHERE THE STUCCO IS APPLIED OVER WOOD SHEATHING PER CRC R703.6.3.
4. NO EAVE VENTS ARE ALLOWED WHERE SHEAR TRANSFER IS REQUIRED AT FRIEZE BLOCK.
5. PROVIDE GALVANIZED STEEL METAL FLASHING AND COUNTER FLASHING AT ALL ROOF TO WALL AND CHIMNEY INTERSECTIONS AS PER CBC 1503.2. ALSO PROVIDE STEPPED FLASHING WHERE THE SLOPED ROOF ABUTS THE WALL.
6. PROVIDE HIGH RIBBED METAL LATH AT ALL HORIZONTAL STUCCO SURFACES.
7. **WATER RESISTIVE BARRIER VAPOR PERMEABLE BARRIER WITH A PERFORMANCE AT LEAST EQUIVALENT TO TWO LAYERS OF GRADE d PAPER." (2019 CRC R703.7.3)**

SOLID REDLINE INDICATION OF ADDITION AREA

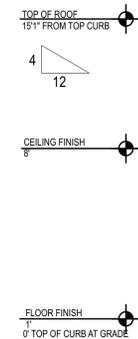


PROPOSED RIGHT ELEVATION
SCALE 1/4" = 1'



PROPOSED LEFT ELEVATION
SCALE 1/4" = 1'

SOLID REDLINE INDICATION OF ADDITION AREA



ADDITION and REMODELING FOR:

**ELWOOD DR.,
RESIDENCE**

1525 ELWOOD DR,
LOS GATOS, CA 95032

REVISION TABLE:

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| 6/01 | BUILDING RESPONSE ROUND 01 |
| 6/01 | PLANNING RESPONSE ROUND 01 |
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**PROPOSED
ELEVATIONS**

PROJECT ID :
DATE : MAY , 2021
SCALE :
DRAWN BY : RZ (BARON CONSTRUCTION)

SHEET NUMBER:
A-05

OWNERSHIP:
R. Johnson

NEW R-30 ATTIC INSULATION
AT THE ADDITION PER ENERGY REPORT

NEW R-15 WALL INSULATION
PER ENERGY REPORT



NEW CRAWLSPACE INSULATION
MIN R-19 PER ENERGY REPORT

1 PROPOSED CROSS SECTION A-A
SC : 1/2" = 1'-0"

ADDITION and REMODELING FOR:

ELWOOD DR., RESIDENCE

1525 ELWOOD DR,
LOS GATOS, CA 95032

REVISION TABLE:

-  BUILDING RESPONSE ROUND 01
-  PLANNING RESPONSE ROUND 01
- 

SHEET TITLE:

PROPOSED SECTIONS

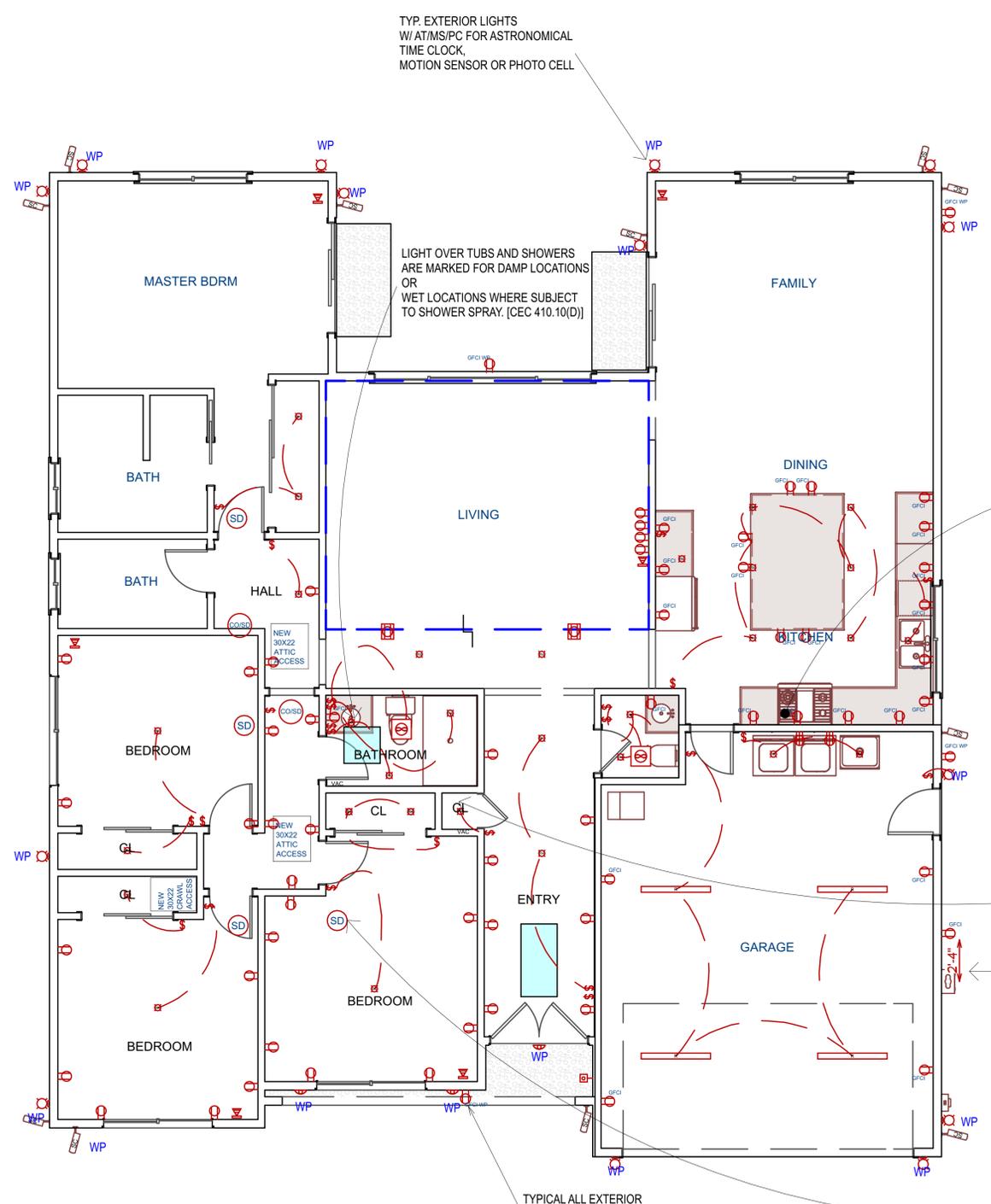
PROJECT ID : _____
DATE : _____ MAY , 2021
SCALE : _____
DRAWN BY : RZ (BARON CONSTRUCTION)

SHEET NUMBER:

A-06

OWNERSHIP:





- REQUIRED LIGHTING NOTES:**
- A) ALL LIGHTING TO BE HIGH EFFICACY (I.E. PIN BASED CFL; PULSE -START MH, HPS, GU24 SOCKETS OTHER THAN LEDS, LED LUMINAIRES WITH INTEGRAL SOURCE, ETC) CEC TABLE 150.0A.
 - B) PER CEnC 150.0(k)(1)(H) ALL LIGHT SOURCES IN ENCLOSED OR RECESSED LUMINAIRES SHALL BE MARKED "JA8-2019-E" FOR ELEVATED TEMPERATURE.
 - PER CEnC 150.0(k)(1)(C) ALL LIGHT SOURCES INSTALLED IN CEILING RECESSED DOWNLIGHT LUMINAIRES SHALL BE MARKED AS "JA8-2019".
 - C) ALL JA8 COMPLIANT LIGHT SOURCES IN THE FOLLOWING LOCATIONS ARE CONTROLLED BY VACANCY SENSORS OR DIMMERS.
 - I) CEILING RECESSED DAM LIGHT LUMINAIRES.
 - II) LED LUMINAIRES WITH INTEGRAL SOURCES.
 - III) PIN-BASED. LED LAMPS (MR16, AR-III, ETC..)
 - IV) G0-24 BASED LED LIGHT SOURCES.
 - D) AT LEAST ONE FIXTURE IN EACH BATHROOM CONTROLLED BY A VACANCY SENSOR. CEC 150(K)2J.
 - E) AT LEAST ONE FIXTURE IN EACH LAUNDRY ROOM CONTROLLED BY VACANCY SENSOR. 150(K)2J.
 - F) ALL OUTDOOR LIGHTING AS HIGH EFFICACY WITH MANUAL ON/OFF SWITCH AND ONE OF THE FOLLOWING IN ACCORDANCE WITH CEC 150.0(K)3:
 - I) PHOTO CONTROL AND MOTION SENSOR.
 - II) PHOTO CONTROL AND AUTOMATIC TIME SWITCH CONTROL.
 - III) ASTRONOMICAL TIME SWITCH CONTROL.
 - IV) ENERGY MANAGEMENT CONTROL SYSTEMS.
 - G) LUMINAIRES RECESSED IN INSULATED CEILINGS SHALL COMPLY WITH THE FOLLOWING: 150(K) 1C
 - 1. SHALL BE ZERO CLEARANCE IC LISTED AND CERTIFIED AIR TIGHT.
 - 2. BE SEALED WITH GASKET OR CAULK BETWEEN LUMINAIRES HOUSING AND CEILING AND AT ALL AIR LEAK PATHS BETWEEN CONDITIONED AND UNCONDITIONED SPACES.
 - 3. SHALL NOT CONTAIN SCREW BASE SOCKETS.

- 2019 GENERAL ELECTRICAL REQUIREMENTS:**
- 1) PROVIDE ARC-FAULT CIRCUIT INTERRUPTER AT ALL BRANCH CIRCUITS THAT SUPPLY 125 VOLT, SINGLE-PHASE, 15 AND 20 AMPERE RECEPTACLE OUTLETS INSTALLED IN DWELLING HABITABLE AND NON-HABITABLE ROOMS. (AFCI) (CEC 210.12(A))
 - 2) ALL 15-AN 20-AMPERE RECEPTACLE INSTALLED WITHIN NEW THE NEW CONSTRUCTION AND ALTERATION SHALL BE LISTED TAMPER RESISTANT RECEPTACLES (CEC 406.12)
 - 3) PROVIDE AT LEAST ONE WEATHER-RESISTANT TYPE RECEPTACLE IN A WEATHERPROOF ENCLOSURE AT THE FRONT AND BACK OF THE DWELLING. (CEC 210.52 (E)(1) & 406.8(B)(1))
 - 4) ALL 15 AND 20 AMPERE RECEPTACLES INSTALLED IN "BATHROOMS, GARAGE AND ACCESSORY BUILDING, CRAWLSPACE, UNFINISHED BASEMENTS, KITCHENS, SINKS, OUTLETS INSTALLED WITHIN 6 FEET OF A BATHTUBS OR SHOWER STALL, LAUNDRY AREAS & IN EXTERIOR LOCATION ON THE BUILDING, SHALL BE PROTECTED BY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) (CEC 210.8)
 - 5) COUNTERTOP RECEPTACLES SHALL BE SUPPLIED BY A MINIMUM OF TWO 20-AMP BRANCH CIRCUITS. CEC 210.52
 - 6) A DEDICATED CIRCUIT IS REQUIRED FOR CORD AND PLUG CONNECTED RANGE EXHAUST HOODS. SEPARATE CIRCUITS MAY BE REQUIRED FOR THE GARBAGE DISPOSAL, DISHWASHER, AND BUILT-IN MICROWAVE BASE ON THE MANUFACTURER'S REQUIREMENTS AND THE MOTOR-RATING. CEC 210.52
 - 7) COMBINATION AFCI/GFCI IS REQUIRED IN KITCHENS, AND LAUNDRY AREAS.

KITCHEN HOOD:
MINIMUM 100 CFM INTERMITTENT AIRFLOW FOR THE KITCHEN RANGE HOOD/ MICROWAVE HOOD COMBINATION RANGE HOOD TO BE VENTED TO THE OUTSIDE THRU LOCAL EXHAUST SYSTEM. CEC SECTION 150(c)

BATHROOMS REQUIRE 50 CFM MINIMUM HUMIDITY CONTROLLED EXHAUST FANS (BY FAN OR SWITCH) PER R405.6. AND BE SWITCHED SEPARATELY FROM LIGHTING SYSTEMS.

TYP. BATHROOM FAN: SHALL HAVE MINIMUM 50 CFM EXHAUST RATE, AND FAN TO HAVE BACKDRAFT DAMPER. IF FAN IS PART OF INTERMITTENT WHOLE HOUSE FAN VENTILATION SYSTEM PER ASHRAE 62.2, MAXIMUM SOUND RATING OF 3-SONES IS ALLOWED AT 100 CFM.

FAN NOTE:
BATHROOM FANS SHALL BE SWITCHED SEPARATELY FROM ANY LIGHTING SYSTEM, OR AN APPROVED EXHAUST FAN WITH AN INTEGRAL "HIGH EFFICACY" LIGHTING CAN BE ON THE SAME SWITCH BE MANUALLY TURNED ON AND OFF WHILE ALLOWING THE FAN TO BE CONTINUE TO OPERATE FOR AN EXTENDED PERIOD OF TIME (CENC 150(K)(2)(B)) _ ENERGY STAR

CONTRACTOR READ NOTE:
EACH BATHROOM SHALL BE MECHANICALLY VENTILATED WITH AN EXHAUST FAN CONTROLLED BY A HUMIDITY CONTROL.

| ELECTRICAL - DATA - AUDIO LEGEND | |
|----------------------------------|--|
| SYMBOL | DESCRIPTION |
| | Ceiling Fan |
| | Ventilation Fans: Ceiling Mounted, Wall Mounted 50 CFM MIN. HUMIDITY CONTROLLED |
| | Ceiling Mounted Light Fixtures: Surface/Pendant, Recessed, Heat Lamp, Low Voltage |
| | Wall Mounted Light Fixtures: Flush Mounted, Wall Sconce |
| | EXTERIOR SECURITY CAMERA |
| | 240V Receptacle |
| | 110V Receptacles: Duplex, Weather Proof, GFCI |
| | Switches: Single Pole, Weather Proof, 3-Way, 4-Way |
| | SMOKE DETECTORS |
| | CARBON MONOXIDE /SMOKE DETECTORS |
| | Switches: VACANCY SENSOR |

A 120V RECEPTACLE SHALL BE PLACED WITHIN 3 FT OF A WATER HEATER AND WITHIN 25 FEET OF AN A/C CONDENSER.

TYPICAL NOTE:
BATTERY OPERATED SMOKE AND CARBON MONOXIDE ALARMS TO EXISTING BEDROOMS AND ADJACENT SPACES FROM BEDROOM AND AT EACH LEVEL (CRC 315.5 EXCEPTION 4)

TYPICAL NOTE:
HARDWIRED AND INTERCONNECTED 110 VOLT WITH BATTERY BACKUP SMOKE AND CARBON MONOXIDE ALARMS FOR NEW CONSTRUCTION (CRC 315.5)

SMOKE AND CARBON MONOXIDE ALARM DETECTOR REQUIREMENTS

SMOKE ALARMS AT THE FOLLOWING LOCATIONS PER (CRC 314.3)

- INSIDE EACH SLEEPING ROOM;
- OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS; ON EACH ADDITIONAL STORY OF THE SWELLING INCLUDING BASEMENTS AND HABITABLE ATTICS.
- SMOKE ALARMS SHALL BE INSTALLED A MINIMUM OF 3 FEET FROM A DOOR OR OPENING OF A BATHROOM THAT CONTAIN A TUB OR SHOWER UNLESS IT WOULD PREVENT PLACEMENT OF THE REQUIRED SMOKE ALARM.

CARBON MONOXIDE ALARMS LOCATED AT THE FOLLOWING LOCATION PER (CRC 315.3)

- OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
- ON EVERY LEVEL OF THE BUILDING INCLUDING BASEMENTS.
- WHERE A FUEL BURNING APPLIANCE IS LOCATED IN A BEDROOM OR IN AN ATTACHED BATHROOM THEN A CARBON MONOXIDE ALARM SHALL BE INSTALLED DIN THE BEDROOM.

CONTRACTOR READ NOTE:
**** SMOKE ALARM WITHIN 20 FEET OF THE KITCHEN COOKING APPLIANCE SHALL BE AN IONIZATION SMOKE ALARMS WITH AN ALARM SILENCING SWITCH OR PHOTOELECTRIC SMOKE ALARMS SHALL BE INSTALLED A MINIMUM OF 10 FEET FROM A PERMANENTLY INSTALLED COOKING APPLIANCE. CRC R314.**

PER CEC Art. 406.12 : ALL NEW AND REPLACED DUPLEX RECEPTACLES SHALL BE LISTED "TAMPER-RESISTANT RECEPTACLES.

PROPOSED ELECTRICAL PLAN

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

ADDITION and REMODELING FOR:

ELWOOD DR., RESIDENCE

1525 ELWOOD DR,
LOS GATOS, CA 95032

REVISION TABLE:

| | |
|------|----------------------------|
| 6/01 | BUILDING RESPONSE ROUND 01 |
| 6/01 | PLANNING RESPONSE ROUND 01 |

SHEET TITLE:

ARCHITECTURAL ELECTRICAL

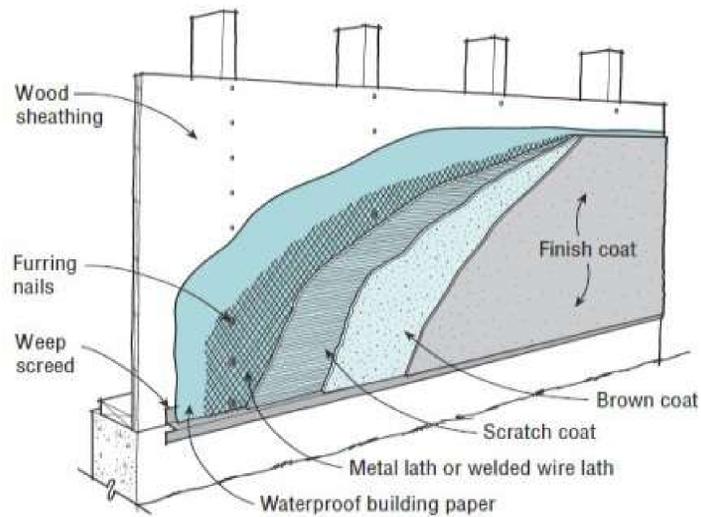
PROJECT ID :
DATE : MAY , 2021
SCALE : 1/4" = 1'
DRAWN BY : RZ (BARON CONSTRUCTION)

SHEET NUMBER:

A-07

OWNERSHIP:

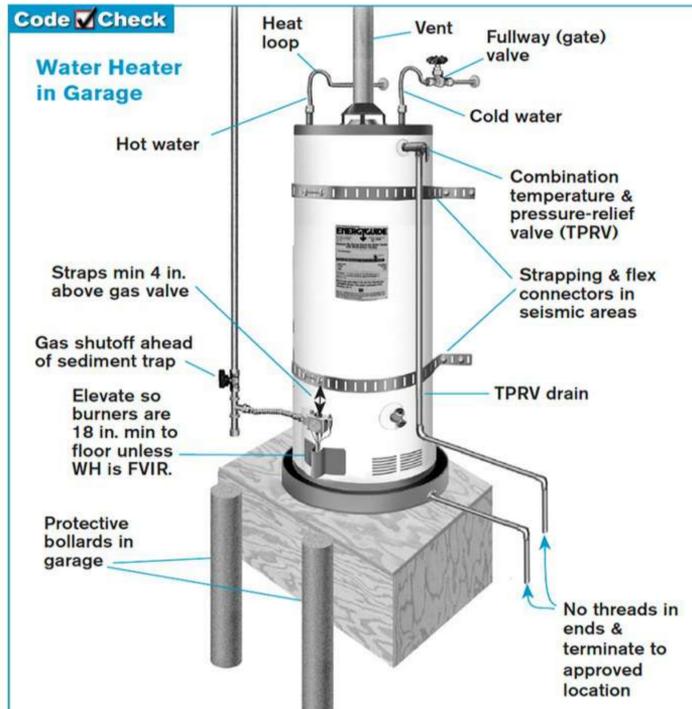
R. Johnson



Traditional three-coat stucco is applied about $\frac{7}{8}$ inch thick over metal lath, which creates a space for water to drain out through the weep screed along the foundation. The drainage plane is essential since stucco itself is relatively porous.

STUCCO NOTES:

1. STUCCO 7/8" THICK IS TO BE APPLIED WITH A 3 COAT APPLICATION WHEN APPLIED **OVER CORROSION RESISTANT METAL LATH** OR WIRE LATH PER CRC R703.6.2.
2. PROVIDE WEEP SCREED AT THE BOTTOM OF STUCCO WALLS AT A LOCATION A MINIMUM OF 4" ABOVE EARTH OR 2" ABOVE PAVED AREAS PER CRC R703.6.2.1.
3. PROVIDE TWO LAYERS OF TYPE "D" UNDERLAYMENT AT STUCCO WALLS WHERE THE STUCCO IS APPLIED OVER WOOD SHEATHING PER CRC R703.6.3.
4. NO EAVE VENTS ARE ALLOWED WHERE SHEAR TRANSFER IS REQUIRED AT FRIEZE BLOCK.
5. PROVIDE GALVANIZED STEEL METAL FLASHING AND COUNTER FLASHING AT ALL ROOF TO WALL AND CHIMNEY INTERSECTIONS AS PER CBC 1503.2. ALSO PROVIDE STEPPED FLASHING WHERE THE SLOPED ROOF ABUTS THE WALL.
6. PROVIDE HIGH RIBBED METAL LATH AT ALL HORIZONTAL STUCCO SURFACES.
7. **WATER RESISTIVE BARRIER VAPOR PERMEABLE BARRIER WITH A PERFORMANCE AT LEAST EQUIVALENT TO TWO LAYERS OF GRADE 4 PAPER.** (2019 CRC R703.7.3)
8. **STUCCO EXTERIOR WALL FINISH SHALL COMPLY TO ASTM C926 AND ASTM C1063.**



D1 EXISTING WATER HEATER STRAPPING

GN GENERAL BUILDING NOTES

1. BASEMENTS (EXCEPT THOSE ONLY FOR MECHANICAL EQUIPMENT AND NOT OVER 200 SQFT IN FLOOR AREA), HABITABLE ATTICS AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING. R310.1
 - a. MIN. NET CLEAR OPENABLE DIMENSION OF 24 INCHES IN HEIGHT. R310.1.2
 - b. MIN. NET CLEAR OPENABLE DIMENSION 20 INCHES IN WIDTH. R310.1.3
 - c. MIN. NET CLEAR OPENABLE DIMENSION OF 5.7 SQFT IN AREA. GRADE FLOOR OPENINGS SHALL HAVE A MIN. NET CLEAR OPENING OF 5 SQFT. 310.1.1
 - d. OPENING SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES MEASURED FROM THE FLOOR. 310.1
2. FOR KITCHEN, A CLEAR PASSAGEWAY OF NOT LESS THAN 3-FEET BETWEEN THE COUNTER FRONTS AND APPLIANCES OR COUNTER FRONTS AND WALLS. CBC 1208.1
4. THE DOOR BETWEEN GARAGE AND ENTRY REQUIRED TO BE SELF LATCHING AND SELF CLOSING. SOLID CORE DOOR NOT LESS THAN 1-3/8 INCH THICK.
5. THE MAXIMUM RISER HEIGHT CAN BE 7.75-INCHES. MINIMUM TREAD DEPTH CAN BE 10-INCHES. FOR ANY TREAD DEPTH LESS THAN 11-INCHES, A NOSING OF NOT LESS THAN 0.75-INCHES, BUT NOT MORE THAN 1.25-INCHES SHALL BE PROVIDED.
6. DOORS AND PANELS OF SHOWER AND BATHTUB ENCLOSURES SHALL BE FULLY TEMPERED, LAMINATED SAFETY GLASS OR APPROVED PLASTIC. CBC 2406.3. GLAZING IN SHOWERS OR BATHTUB ADJACENT WALL OPENINGS WITHIN 60 INCHES ABOVE A STANDING SURFACE AND DRAIN INLET SHALL BE FULLY TEMPERED, LAMINATED SAFETY GLASS OR APPROVED PLASTIC. CBC 2406.3, #5
7. GLAZING IN AN INDIVIDUAL FIXED OR PORTABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 24-INCH ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF GLAZING IS LESS THAN 60-INCHES ABOVE THE WALKING SURFACE SHALL BE FULLY TEMPERED, LAMINATED SAFETY GLASS OR APPROVED PLASTIC (I.E. SIDE LIGHT AT NEW MAIN ENTRY DOOR) . CBC 2406.3, #6
8. MINIMUM 36" DEEP LANDING IN THE DIRECTION OF TRAVEL AT NEW EXTERIOR DOORS SHALL BE PROVIDED. LANDING TO BE NOT MORE THAN 7-3/4 INCHES LOWER THAN THE DOOR'S THRESHOLD FOR IN-SWINGING AND SLIDING GLASS DOORS AND NOT MORE THAN 7" FOR IN-SWINGING AND MAIN ENTRY DOOR.
9. NEW ENTRY DOOR SHALL BE OPENABLE FROM THE INSIDE OF THE DWELLING WITHOUT USE OF KEY, SPECIAL KNOWLEDGE OR EFFORT. CRC SEC. R311.2
- 10- 5/8" TYPE "X" GYPSUM BOARD FROM FOUNDATION TO ROOF SHEATHING TO BE INSTALLED ON THE GARAGE SIDE AT SEPARATION WALL BETWEEN GARAGE AND RESIDENCE. (GARAGE MUST BE SEPARATED FROM THE DWELLING AND ITS ATTIC AREA) CRC SEC. R302.6 AND TABLE R302.6 ALSO 5/8" TYPE "X" GYP. BOARD FINISH ON THE GARAGE SIDE OF THE WALL IS REQUIRED.

ADDITION and REMODELING FOR:

ELWOOD DR., RESIDENCE

1525 ELWOOD DR,
LOS GATOS, CA 95032

REVISION TABLE:

601 BUILDING RESPONSE ROUND 01

601 PLANNING RESPONSE ROUND 01

SHEET TITLE:

ARCHITECTURAL NOTES #1

PROJECT ID :
DATE : MAY , 2021
SCALE :
DRAWN BY : RZ (BARON CONSTRUCTION)

SHEET NUMBER:

A-08

OWNERSHIP:

R. Johnson

|  2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 <small>HCD SHL 615 (New 01/20)</small> | |
|---|---|
| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Chapter 1 – ADMINISTRATION | |
| Scope | |
| 101.3.1 | Applies to ALL newly constructed residential buildings: low-rise, high-rise, and hotels/motels. |
| 102.3 | Requires a completed Residential Occupancies Application Checklist or alternate method acceptable to the enforcing agency to be used for documentation of conformance. |
| Chapter 3 – GREEN BUILDING | |
| Additions and alterations | |
| 301.1.1 | <ul style="list-style-type: none"> Applies to additions or alterations of residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. Requirements only apply within the specific area of the addition or alteration. |
| Low-rise and high-rise residential buildings | |
| 301.2 | Banners identify provisions applying to low-rise only [LR] or high-rise only [HR]. |
| Mixed occupancy buildings | |
| 302.1 | <p>Requires each portion of mixed occupancy buildings to comply with CALGreen measures applicable for the specific occupancy.</p> <p>Exceptions:</p> <ul style="list-style-type: none"> Accessory structures and accessory occupancies serving residential buildings to comply with Chapter 4 and Appendix A4, as applicable. Live/work units complying with the California Building Code Section 419 shall not be considered a mixed occupancy. Live/work units are required to comply with Chapter 4 and Appendix A4, as applicable. |

|  2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 <small>HCD SHL 615 (New 01/20)</small> | |
|---|--|
| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Chapter 4 – RESIDENTIAL MANDATORY MEASURES | |
| Division 4.1 – PLANNING AND DESIGN | |
| Storm water drainage and retention during construction | |
| 4.106.2 | Projects which disturb less than 1 acre of soil and are not part of a larger common plan of development shall manage storm water drainage during construction. |
| Grading and paving | |
| 4.106.3 | Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Exception: Additions and alterations which do not alter the existing drainage path. |
| Electric vehicle (EV) charging for new construction | |
| 4.106.4 | <ul style="list-style-type: none"> Comply with Section 4.106.4.1, 4.106.4.2 or 4.106.4.3 for future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625. <p>Exceptions:</p> <ol style="list-style-type: none"> On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon 1 of the following: <ol style="list-style-type: none"> Where there is no commercial power supply. Verification that meeting requirements will alter the local utility infrastructure design requirements on the utility side of the meter increasing costs to the homeowner/developer by more than \$400.00 per dwelling unit. Accessory Dwelling Units and Junior Accessory Dwelling Units without additional parking facilities. <p>Note: For definitions of Accessory Dwelling Units and Junior Accessory Units, see CALGreen Chapter 2.</p> |

|  2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 <small>HCD SHL 615 (New 01/20)</small> | |
|---|---|
| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| EV charging: 1- & 2-family dwellings/townhouses with attached private garages | |
| 4.106.4.1 | <ul style="list-style-type: none"> Install a listed raceway to accommodate a dedicated 208/240-volt branch circuit for each dwelling unit. Raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). Raceway shall originate at the main service or subpanel and 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. 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. |
| Identification | |
| 4.106.4.1.1 | Service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE." |
| EV charging for multifamily dwellings | |
| 4.106.4.2 | <ul style="list-style-type: none"> Applies to all multifamily dwelling units with parking facilities on the site. 10% of the total number of parking spaces provided for all types of parking facilities, but in no case less than 1, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE. Calculations for the number of EV spaces shall be rounded up to the nearest whole number. <p>Note: Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.</p> |

|  2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 <small>HCD SHL 615 (New 01/20)</small> | |
|---|---|
| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| EV charging space (EV space) locations | |
| 4.106.4.2.1 | Construction documents shall indicate the location of proposed EV spaces. Where common use parking is provided at least 1 EV space shall be located in the common use parking areas and shall be available for use by all residents. |
| EV charging stations (EVCS) | |
| 4.106.4.2.1.1 | <p>When EV chargers are installed, EV spaces (required by Section 4.106.4.2.2, Item 3,) shall comply with at least 1 of the following options:</p> <ol style="list-style-type: none"> The EV space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space. The EV space shall be located on an accessible route to the building, as defined in the California Building Code, Chapter 2. <p>Exception: EVCS designed and constructed in compliance with the California Building Code Chapter 11B are not required to comply with Section 4.106.4.2.1.1 and Section 4.106.4.2.2, Item 3.</p> |
| EV charging space (EV space) dimensions | |
| 4.106.4.2.2 | <p>EV spaces shall be designed to comply with the following:</p> <ol style="list-style-type: none"> The minimum length of each EV space shall be 18 feet. The minimum width of each EV space shall be 9 feet. 1 in every 25 EV spaces, but not less than 1, shall also have an 8-foot wide minimum aisle. A 5-foot wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet. <ol style="list-style-type: none"> Surface slope for this EV space and aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083% slope) in any direction. |

|  2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 <small>HCD SHL 615 (New 01/20)</small> | |
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| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Single EV space required | |
| 4.106.4.2.3 | <ul style="list-style-type: none"> Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. Raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). Raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. Construction documents shall identify the raceway termination point. 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. |
| Multiple EV spaces required | |
| 4.106.4.2.4 | <ul style="list-style-type: none"> Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics, and electrical load calculations to verify electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction. |
| Identification | |
| 4.106.4.2.5 | Service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code. |

|  2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 <small>HCD SHL 615 (New 01/20)</small> | |
|--|---|
| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| EV charging for hotels and motels | |
| 4.106.4.3 | <ul style="list-style-type: none"> Applies to all newly constructed hotels and motels. Construction documents shall identify the location of EV spaces. <p>Note: Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.</p> |
| Number of required EV spaces | |
| 4.106.4.3.1 | Table 4.106.4.3.1 shows the number of required EV spaces based on the total number of parking spaces provided for all types of parking facilities. |
| EV charging space (EV space) dimensions | |
| 4.106.4.3.2 | <p>EV spaces shall be designed to comply with the following:</p> <ul style="list-style-type: none"> Minimum length of each EV space shall be 18 feet. Minimum width of each EV space shall be 9 feet. |
| Single EV space required (similar to 4.106.4.2.3) | |
| 4.106.4.3.3 | <ul style="list-style-type: none"> Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. Raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). Raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. Construction documents shall identify the raceway termination point. 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. |

|  2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 <small>HCD SHL 615 (New 01/20)</small> | |
|--|--|
| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Multiple EV spaces required (similar to 4.106.4.2.4) | |
| 4.106.4.3.4 | <ul style="list-style-type: none"> Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics and electrical load calculations to verify electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components planned to be installed underground, enclosed, inaccessible or, in concealed areas and spaces shall be installed at the time of original construction. |
| Identification (similar to 4.106.4.2.5) | |
| 4.106.4.3.5 | Service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code. |
| 4.106.4.3.6 | In addition to the requirements in Section 4.106.4.3, EV spaces for hotels/motels and all EVSE, when installed, shall comply with the accessibility provisions for EV charging stations in the California Building Code, Chapter 11B. |
| Division 4.2 – ENERGY EFFICIENCY | |
| Scope | |
| 4.201.1 & 5.201.1 | <ul style="list-style-type: none"> Energy efficiency requirements for low-rise residential (Section 4.201.1) and high-rise residential/hotels/motels (Section 5.201.1) are now in both residential and nonresidential chapters of CALGreen. Standards for residential buildings do not require compliance with levels of minimum energy efficiency beyond those required by the 2019 California Energy Code. |

|  2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 <small>HCD SHL 615 (New 01/20)</small> | |
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| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Division 4.3 – WATER EFFICIENCY AND CONSERVATION | |
| Water conserving plumbing fixtures and fittings | |
| 4.303.1 | <p>Plumbing fixtures and fittings shall comply with the following:</p> <ul style="list-style-type: none"> 4.303.1.1 – Water closets: ≤ 1.28 gal/flush. 4.303.1.2 – Wall mounted urinals: ≤ 0.125 gal/flush; all other urinals ≤ 0.5 gal/flush. 4.303.1.3.1 – Single showerheads: ≤ 1.8 gpm @ 80 psi. 4.303.1.3.2 – Multiple showerheads: combined flow rate of all showerheads controlled by a single valve shall not exceed 1.8 gpm @ 80 psi, or only 1 shower outlet is to be in operation at a time. 4.303.1.4.1 – Residential lavatory faucets: maximum flow rate ≤ 1.2 gpm @ 60 psi; minimum flow rate ≥ 0.8 gpm @ 20 psi. 4.303.1.4.2 – Lavatory faucets in common and public use areas of residential buildings: ≤ 0.5 gpm @ 60 psi. 4.303.1.4.3 – Metering faucets: ≤ 0.2 gallons per cycle. 4.303.1.4.4 – Kitchen faucets: ≤ 1.8 gpm @ 60 psi; temporary increase to 2.2 gpm allowed but shall default to 1.8 gpm. |
| Standards for plumbing fixtures and fittings | |
| 4.303.2 | 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. |
| Outdoor potable water use in landscape areas | |
| 4.304.1 | New 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. |
| Division 4.4 – MATERIAL CONSERVATION & RESOURCE EFFICIENCY | |
| Rodent proofing | |
| 4.406.1 | Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be closed with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency to prevent passage of rodents. |

| 2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20) | |
|--|---|
| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Construction waste management | |
| 4.408.1 | <ul style="list-style-type: none"> Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance. Provide documentation to the enforcing agency per Section 4.408.5. <p>Exceptions:</p> <ol style="list-style-type: none"> Excavated soil and land-clearing debris. Alternative waste reduction methods developed by working with local enforcing agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility. |
| Construction waste management plan | |
| 4.408.2 | Submit a construction waste management plan meeting Items 1 through 5 in Section 4.408.2. Plans shall be updated as necessary and shall be available for examination during construction. |
| Waste management company | |
| 4.408.3 | Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that diverted construction and demolition waste materials meet the requirements in Section 4.408.1. |

| 2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20) | |
|--|--|
| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Waste stream reduction alternative [LR] | |
| 4.408.4 & 4.408.4.1 | <ul style="list-style-type: none"> Projects that generate a total combined weight of construction and demolition waste disposed in landfills, which do not exceed 3.4 pounds per square foot of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1. Projects that generate a total combined weight of construction and demolition waste disposed in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1. |
| Operation and maintenance manual | |
| 4.410.1 | At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which covers 10 specific subject areas shall be placed in the building. |
| Recycling by occupants | |
| 4.410.2 | Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and is identified for the depositing, storage and collection of nonhazardous materials for recycling, including (at minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive. Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are not required to comply with the organic waste portion of this section. |
| Division 4.5 – ENVIRONMENTAL QUALITY | |
| Fireplaces - General | |
| 4.503.1 | 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 all applicable local ordinances. |

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| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Protection of mechanical equipment during construction | |
| 4.504.1 | 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 intake and distribution component openings shall be covered. Tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris entering the system may be used. |
| Adhesives, sealants and caulks | |
| 4.504.2.1 | Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply: <ol style="list-style-type: none"> Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products shall also comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2. 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 (CCR), Title 17, commencing with Section 94507. |
| Paints and coatings | |
| 4.504.2.2 | Architectural paints and coatings shall comply with VOC limits in Table 1 of the Air Resources Board Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-high Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply. |

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| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Aerosol paints and coatings | |
| 4.504.2.3 & 4.504.2.4 | <ul style="list-style-type: none"> 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 shall additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49. Documentation is required per Section 4.504.2.4. |
| Carpet systems | |
| 4.504.3 | Carpet installed in the building interior shall meet the testing and product requirements of 1 of the following: <ol style="list-style-type: none"> Carpet and Rug Institute's Green Label Plus Program. 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). NSF/ANSI 140 at the Gold level. Scientific Certifications Systems Indoor Advantage™ Gold. |
| Carpet cushion | |
| 4.504.3.1 | Carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program. |
| Carpet adhesive | |
| 4.504.3.2 | Carpet adhesives shall meet the requirements of Table 4.504.1. |

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| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Resilient flooring systems | |
| 4.504.4 | Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall comply with 1 or more of the following: <ol style="list-style-type: none"> 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. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children & Schools program). Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program. 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). |
| Composite wood products | |
| 4.504.5 & 4.504.5.1 | <ul style="list-style-type: none"> 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 the Air Resources Board's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), as shown in Table 4.504.5. Documentation is required per Section 4.504.5.1. Definition of Composite Wood Products: Composite wood products include hardwood plywood, particleboard, and medium density fiberboard. "Composite wood products" do not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists, or finger-joined lumber, all as specified in CCR, Title 17, Section 93120.1(a). |

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| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Concrete slab foundations | |
| 4.505.2 | Concrete slab foundations or concrete slab-on-ground floors required to have a vapor retarder by the California Building Code, Chapter 19, or the California Residential Code, Chapter 5, respectively, shall also comply with this section. |
| Capillary break | |
| 4.505.2.1 | A capillary break shall be installed in compliance with at least 1 of the following: <ol style="list-style-type: none"> A 4-inch thick base of ½ 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. For additional information, see American Concrete Institute, ACI 302.2R-06. Other equivalent methods approved by the enforcing agency. A slab design specified by a licensed design professional. |
| 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: <ol style="list-style-type: none"> 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. Moisture readings shall be taken at a point 2 feet to 4 feet from the grade stamped end of each piece to be verified. 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. <p>Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Manufacturers' drying recommendations shall be followed for wet-applied insulation products prior to enclosure.</p> |

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| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| Bathroom exhaust fans | |
| 4.506.1 | Each bathroom shall be mechanically ventilated and shall comply with the following: <ol style="list-style-type: none"> Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control. <ol style="list-style-type: none"> Humidity controls shall be capable of manual or automatic adjustment between a relative humidity range of ≤ 50% to a maximum of 80%. A humidity control may be a separate component to the exhaust fan and is not required to be integral or built-in. <p>Note: For CALGreen, a bathroom is a room which contains a bathtub, shower, or tub/shower combination. Fans or mechanical ventilation is required in each bathroom.</p> |
| Heating and air-conditioning system design | |
| 4.507.2 | Heating and air-conditioning systems shall be sized, designed and equipment selected using the following methods: <ol style="list-style-type: none"> 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. Duct systems are sized according to ANSI/ACCA 1 Manual D – 2016 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S – 2014 (Residential Equipment Selection) or other equivalent design software or methods. <p>Exception: Use of alternate design temperatures necessary to ensure the systems function are acceptable.</p> |

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| See specific referenced sections for complete details on CALGreen mandatory requirements. | |
| 2019 CALGREEN CODE | |
| SECTION | REQUIREMENTS |
| CHAPTER 7 – INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS | |
| Installer training | |
| 702.1 | HVAC system installers shall be trained and certified in the proper installation of HVAC systems and equipment by a recognized training or certification program. Examples of acceptable HVAC training and certification programs include, but are not limited to, the following: <ol style="list-style-type: none"> State certified apprenticeship programs. Public utility training programs. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. Programs sponsored by manufacturing organizations. Other programs acceptable to the enforcing agency. |
| Special inspection | |
| 702.2 | When required by the enforcing agency, special inspectors must be qualified and able to demonstrate competence to the enforcing agency in the discipline in which they are inspecting. |
| Documentation | |
| 703.1 | 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. |

GENERAL NOTES

GENERAL NOTES:

- ALL WORK PERFORMED IN THIS PROJECT SHALL COMPLY WITH ALL PERTINENT STATE AND LOCAL CODE REQUIREMENTS, LAWS AND ORDINANCES.
- ALL WORK PERFORMED SHALL COMPLY WITH THESE GENERAL REQUIREMENTS UNLESS OTHERWISE NOTED ON PLANS OR SPECIFICATIONS.
- CONTRACTOR SHALL COORDINATE ALL DRAWINGS, VERIFY ALL DIMENSIONS, ELEVATIONS AND CONNECTIONS BEFORE CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ON SITE VERIFICATION OF CONDITIONS.
- DRAWINGS ARE NOT TO BE SCALED. DIMENSIONS NOT SPECIFIED, WHEN REQUIRED BY FIELD CONDITION, SHALL BE DETERMINED BY ENGINEER.
- ENGINEER SHALL BE NOTIFIED FOR ANY FIELD CONDITIONS DIFFERENT FROM THOSE INDICATED ON DRAWINGS.
- ENGINEER SHALL BE NOTIFIED FOR ANY QUESTION WHICH MAY ARISE PERTAINING TO THE DRAWINGS AND SPECIFICATIONS.
- GENERAL CONTRACTOR AND HIS/HER SUBCONTRACTORS ARE RESPONSIBLE FOR ORDER AND MEANS OF CONSTRUCTION AND ALL TEMPORARY BRACING & ERECTION DURING CONSTRUCTION.
- CONTRACTOR AND HIS/HER SUBCONTRACTORS ARE RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND THE PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREET AND UTILITIES.
- TYPICAL DETAILS ON THESE SHEETS SHALL APPLY WHERE NO SPECIFIC DETAILS OR SECTIONS ARE GIVEN.
- MATERIAL NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER THE STRUCTURAL NOTES CONTAINED HEREIN.
- ALL DRAWINGS AND SUBSEQUENT REVISIONS IF ANY SHALL BE APPROVED BY BUILDING OFFICIAL PRIOR TO STARTING CONSTRUCTION.
- ALL DRAWINGS AND SUBSEQUENT REVISIONS IF ANY SHALL BE MADE WITH THE WRITTEN APPROVAL OF ENGINEER.
- CONTRACTOR SHALL VERIFY ALL HEATING, VENTILATING, PLUMBING AND ELECTRICAL OPENINGS AND NOTIFY THE ENGINEER FOR ANY DEVIATIONS FROM THE DRAWINGS.
- THE STRUCTURAL DRAWINGS SHOW STRUCTURAL FEATURES ONLY. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND OTHER DRAWINGS FOR NON-STRUCTURAL ITEMS.
- EXCEPT AS NOTED HEREIN, NO STRUCTURAL MEMBERS SHALL BE OMITTED, NOTICED, CUT, BLOCKED OUT, OR RELOCATED WITHOUT PRIOR APPROVAL BY THIS ENGINEER.
- THE STRUCTURAL DRAWINGS FOR THIS PROJECT DESCRIBE THE BUILDING STRUCTURE ONLY, AND ARE NOT INTENDED TO SHOW NON-STRUCTURAL ITEMS, COORDINATION FOR AND INSTALLATION OF MECHANICAL, ELECTRICAL, ARCHITECTURAL AND MISCELLANEOUS NON-STRUCTURAL ITEMS SHOWN ELSEWHERE IN THE PROJECT PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- SUBCONTRACTORS FOR STRUCTURAL PORTIONS OF THE BUILDING, INCLUDING BUT NOT LIMITED TO FOUNDATIONS AND STRUCTURAL FRAME, ARE ADVISED TO REVIEW ALL DIVISIONS OF THE PLANS AND SPECIFICATIONS FOR NON-STRUCTURAL ITEMS WHICH MAY BE EMBEDDED IN, ATTACHED TO OR OTHERWISE CONNECTED TO THE STRUCTURAL ELEMENTS OF THE BUILDING BEFORE SUBMITTING THEIR BIDS.
- IN CASE OF CONFLICT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
- MATERIAL NOTES AND SPECIFICATIONS ON DRAWINGS SHALL TAKE PRECEDENCE OVER THE PROJECT SPECIFICATIONS.

LUMBER NOTES:

- ALL LUMBER SHALL BE AT A MOISTURE CONTENT OF 19% OR LESS BEFORE BEING COVERED WITH INSULATION, INTERIOR WALL FINISH, FLOOR COVERING OR OTHER MATERIAL.
- SILL PLATES, WOOD GASKETS AND OTHER MEMBERS LOCATED WITHIN 8" OF FINISH GRADE SHALL BE PRESSURE TREATED DOUGLAS FIR LARCH.
- 2X STUDS SHALL BE DOUGLAS FIR LARCH STANDARD GRADE OR BETTER.
- 2X6 STUDS SHALL BE DOUGLAS FIR LARCH #2 OR BETTER.
- TOP & SOLE PLATES SHALL BE DOUGLAS FIR LARCH #2 OR BETTER.
- 3X & 4X POSTS SHALL BE DOUGLAS FIR LARCH #2 OR BETTER.
- 2X & 4X JOISTS AND BOARD EXCESS DOUGLAS FIR LARCH #2 OR BETTER.
- 6X & 8X FRAMING MEMBERS SHALL BE DOUGLAS FIR LARCH #1 OR BETTER.
- SIMPLY SUPPORTED GLEUED-LAM BEAMS SHALL BE 24F-V4 DFL/DPL PER CBC.
- GLEUED-LAM BEAMS CANTILEVERED AT ENDS OR CONTINUOUSLY ACROSS SUPPORTS SHALL BE 24F-V8 DFL/DPL PER CBC.
- GLEUED-LAM BEAMS SHALL BEAR AITC CERTIFICATES AND SUBMITTED TO THE BUILDING OFFICIAL.
- SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW BEFORE FABRICATION.
- PSL SHALL BE 2.2E LVL SHALL BE 1.9E AND LSL BEAMS SHALL BE 1.5E.

FRAMING NOTES:

- CONTRACTOR SHALL REVIEW ALL TYPICAL FRAMING DETAILS (EXAMPLE TOP PLATE SPLICE, WALL CORNER CONNECTIONS, SHEAR PANEL NAILING, DRIF ETC.) SILL NAILING AND BLOCK NAILING REQUIREMENTS PER FOOTNOTES IN S-EAR WALL SCHEDULE PRIOR TO STARTING ANY FRAMING WORK.
- POSTS (ISOLATED) CONNECTIONS SHALL BE PROPERLY ALIGNED AND CONNECTED WITH BC BRACKETS UNON.
- WHERE PARTITION WALLS PARALLEL TO THE FRAMING BELOW, DOUBLE JOISTS SHALL BE PROVIDED BELOW THE WALL, WHERE PERPENDICULAR, 2X BLOCKING SHALL BE PROVIDED BETWEEN THE FLOOR JOISTS AT THE ENDS AND AT EACH SUPPORT OF THE FLOOR JOISTS, SUCH AS BEARING WALL, STRUCTURAL BEAM, ETC. BLOCKING SHALL BE OMITTED ONLY AS SPECIFIED ON PLAN, OR AT THE ENDS OF THE FLOOR JOISTS WHERE THEY ARE NAILED TO A HEADER, BEAM OR RIM JOIST.
- BOTTOM OF POSTS SHALL HAVE FULL BEARING IN A TIGHT-FIT CONDITION WITH THE SUPPORTING STRUCTURAL MEMBER LARGER THAN POST.
- WHERE POSTS TERMINATED ON FLOOR WITH STUD WALLS OR BEAMS BELOW, THE SPACE BETWEEN THE BOTTOM OF THE POST AND THE TOP OF THE PLATE OR THE BEAM SHALL BE SOLIDLY FILLED WITH 2X BLOCKING AND THE STUD WALL BELOW SHALL HAVE MATCHING POST AT SAME LOCATION.
- WHERE BOTTOM OF ISOLATED POSTS WHEN TERMINATED ON FLOOR SHALL BE FIXED TO THE FLOOR DIAPHRAGM BY 2X35 FRAMING ANCHORS.
- UNON ALL EXTERIOR HEADERS SHALL BE 4X6 @ 12" GRADE.
- PROVIDE 3/8" CDX(OSB) AT FIREPLACE FRAMING.
- 2X30X10.42 NOTCHES AND HOLES NOTCHING AT THE ENDS OF RAFTERS OR CEILING JOISTS SHALL NOT EXCEED 1/4" DEPTH. UNLESS OTHERWISE NOTED, NOTCHES SHALL NOT EXCEED ONE-SIXTH THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE ONE-THIRD OF THE SPAN, EXCEPT THAT A NOTCH NOT EXCEEDING ONE-THIRD OF THE DEPTH IS PERMITTED IN THE TOP OF THE RAFTER OR CEILING JOIST NOT FURTHER FROM THE FACE OF THE SUPPORT THAN THE DEPTH OF THE MEMBER. HOLES BORED IN RAFTERS OR CEILING JOISTS SHALL NOT BE WITHIN 2 INCHES (1/4" MIN) OF THE TOP AND BOTTOM AND THEIR DIAMETER SHALL NOT EXCEED ONE-THIRD THE DEPTH OF THE MEMBER.
- ALL FRAMING, BRACING, NAILING, NOTCHING, DRILLING, OR BORING SHALL BE IN ACCORDANCE WITH CBC 2019 UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED.
- UNON ALL WINDOW AND DOOR OPENINGS 8 FT AND WIDER SHALL HAVE DOUBLE KING STUDS & TRIMMERS.
- UNON ALL FLUSH MOUNTED SAWN LUMBER BEAMS OR MULTIPLE JOISTS SHALL HAVE "HUS" HANGERS WHERE FLUSH MOUNTED, FLUSH MOUNTED GULLAM BEAMS SHALL BE AS INDICATED ON PLAN.
- UNON ALL FLUSH MOUNTED SINGLE FLOOR JOISTS SHALL HAVE "LUSIO" HANGERS AND ALL FLUSH MOUNTED SINGLE ROOF RAFTERS SHALL HAVE "LSL" HANGERS.
- ALL EXTERIOR WALL CORNERS SHALL BE TIED WITH ST225S @ SLOPING PLATES CONDITION.
- POSTS OR MULTI-STUDS SHALL BE PROVIDED AT FLOOR LEVEL UNDER POSTS OR MULTI-STUDS ABOVE.
- UNON ALL BEARING AND/OR S-EAR WALLS WHICH ARE PLUMBING WALLS SHALL BE 2X6.
- ALL CALIFORNIA FRAMING SHALL BE 2X6 RAFTERS AT 24" O.C. WITH CORNICE WALLS SUPPORT AT 8" O.C. AT HIGH ROOF.
- PROVIDE A35 CLIP ON EACH SIDE OF GIRDER TRUSS AT BEARING WALLS. ALSO A35 CLIP ON EACH SIDE AT FLUSH BEAM TO TOP PLATE.

SHEATHING NOTES:

- ALL PLYWOOD SHEATHING PANELS USED ON ROOF, FLOOR AND SHEAR WALLS SHALL NOT BE LESS THAN 4 FT BY 8 FT, EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING WHERE MINIMUM SHEET DIMENSION SHALL BE 24 INCHES UNLESS ALL EDGES OF THE EXISTING SHEETS ARE SUPPORTED BY FRAMING MEMBER OR BLOCKING.
- ROOF PLYWOOD SHALL BE 1/2" CDX (OSB) APA 2440, FACE GRAIN PERPENDICULAR TO FRAMING MEMBERS BELOW, STAGGER ADJACENT PANELS BY 4 FEET, NAILED WITH 8D COMMON NAILS AT 6" O.C. ALL PLYWOOD PANEL EDGES AND AT 12" O.C. ALL INTERMEDIATE SUPPORTS.
- FLOOR PLYWOOD SHALL BE 1/2" CDX (OSB) APA 2440, TONGUE AND GROOVE, FACE GRAIN PERPENDICULAR TO FRAMING MEMBER BELOW STAGGER ADJACENT PANELS BY 4 FEET, NAILED WITH 10D COMMON NAILS AT 6" O.C. ALL PLYWOOD PANEL EDGES AND AT 12" O.C. ALL INTERMEDIATE SUPPORTS, FLOOR TRUSS SPACED @ 19" O.C. (USE RING SHANK NAIL AND GLUE).
- FLOOR PLYWOOD SHALL BE 3/4" TONGUE AND GROOVE AT FLOOR WHEN JOISTS ARE 12" O.C. OR LESS AND 1 1/8" TONGUE AND GROOVE AT FLOOR WHEN TRUSSES ARE GREATER THAN 12" O.C.
- ALL FLOOR PLYWOOD SHALL BE GLEUED TO THE JOISTS. THE FIELD-GLEUED FLOOR SYSTEM SHALL BE INSTALLED ACCORDING TO THE RECOMMENDATION OF THE APA. GLUE SHALL BE APPLIED TO JOISTS AND TO THE GROOVE IN THE EDGE OF THE T&G PANEL. GLUE SHALL MEET THE REQUIREMENTS OF THE APA ADHESIVE SPEC. APG-D1 AND SHALL BE APPLIED AS DIRECTED BY THE GLUE MANUFACTURER. GLUE MAY BE APPLIED MANUALLY OR WITH PNEUMATIC OR ELECTRIC.
- S-EAR WALL PLYWOOD SHALL BE 3/8" (1/2" CDX(OSB) APA 2440, ALL PLYWOOD PANEL EDGES BLOCKED AND NAILING SCHEDULE SHALL BE NAILED WITH 8D (10D COMMON OR GALVANIZED BOX NAILS AT 12" O.C.
- S-EAR WALL CDX(OSB) SHALL BE PLACED ON THE DESIGNATED SIDE OF STUDS AS SHOWN ON PLANS. THE CDX MAY BE PLACED ON THE OPPOSITE SIDE PROVIDED, IF THERE ARE NO PERPENDICULAR WALLS INTERSECTING FULL LENGTH OF S-EAR WALL, 2X S-EAR WALL CDX (OSB) IS CONTINUOUSLY PLACED ACROSS PERPENDICULAR WALL FRAMING, OR 3X S-EAR WALL CORNER DETAIL ON SHT S2 IS PROVIDED AND FOLLOWED.
- WHEN GYPSUM WALLBOARD IS CALLED FOR SHEAR WALL SHEATHING, THE CONTRACTOR SHALL USE COOLER NAILS AND IS NOT TO CRUSH THE GYPSUM MATERIAL BY OVER-DRIVING THE NAILS.
- ALL CALIFORNIA ROOF FRAMING SHALL HAVE ROOF CDX(OSB) AT BOTH UPPER AND LOWER ROOFS.
- ALL ROOF AND FLOOR BEAMS AND COLLECTORS(COLL) SHALL RECEIVE CDX(OSB) EDGE NAILING ALONG ITS FULL LENGTH.

INSPECTION NOTES:

- EPOXY HOLD-DOWNS & ANCHORS BOLTS
- WOOD SHEARWALL, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, SHEAR PANELS AND HOLD-DOWN WHERE WALL EDGE NAILS 4" AND LESS.
- STRUCTURAL OBSERVATION FOR ROOF COLLECTORS, CONNECTION & COLLECTOR, BEAVE BLOCK TO TOP PLATES, S-EAR WALL NAILINGS INCLUDES EDGE NAILS 14" AND LESS, FIELD NAILS & SILL NAILS. ALSO FLOOR COLLECTOR AND CONNECTION. FOUNDATION REBAR SIZE, SPACING, HOLD-DOWNS AND ANCHOR BOLT & S-EAR WALL.

NAILING SCHEDULE (MINIMUM):

- THIS NAILING SCHEDULE TO BE USED ONLY IF NOT SPECIFIED ELSEWHERE IN THESE STRUCTURAL DRAWINGS.
- ALL NAILING SPECIFIED ON DRAWINGS AND THIS SCHEDULE SHALL BE IN ACCORDANCE WITH 2019 CBC TABLE 2304.01.
- A. JOISTS TO SILL OR GIRDER, TOENAIL
 B. BRIDGING TO JOIST, TOENAIL, EACH END
 C. SOLE PLATE TO JOIST OR BLOCKING, TYPICAL FACE NAIL
 (ALSO SEE S-EAR WALL SCHEDULE)
- 16D AT 16" O.C.
 3-6D PER 16"
 2-16D
 4-8D, TOENAIL OR 2-16D, END NAIL
 16D AT 12" O.C.
 16D AT 16" O.C.
 8-16D
- F. MULTIPLE STUDS, FACE NAIL
 G. DOUBLE TOP PLATES, TYPICAL FACE NAIL
 H. DOUBLE TOP PLATES, LAP SPLICE
 I. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOENAIL
 J. RIM JOIST TO TOP PLATE, TOENAIL
 K. JOIST TO TOP PLATE, TOENAIL
 L. JOIST PLATES, LAPS AND INTERSECTIONS, FACE NAIL
 M. CONTINUOUS HEADER, TWO PIECES
 N. CEILING JOISTS TO PLATE, TOENAIL
 O. CEILING JOISTS TO STUD, TOENAIL
 P. RAFTER TO PLATE, TOENAIL
 Q. BRACE TO EACH STUD AND PLATE, FACE NAIL
 R. BUILT-UP CORNER STUDS
 S. BUILT-UP GIRDER AND BEAMS, FOR USING MULTIPLE MEMBERS AND INTERCONNECT ADJACENT PIECES AS FOLLOWS
 2X MEMBERS TO 1/4" DEPTH
 2X MEMBERS OVER 1/4" DEPTH
 T. STUDS, POSTS OR OR MULLIONS TO BEARING
 U. TOP PLATES SPLICE, NON-S-EAR WALLS ONLY
 V. PLATES OVERLAPPED NOT LESS THAN 4B1
 W. FACIA TO END OF RAFTER
 X. COLLAR TIE TO RAFTER
 Y. JACK RAFTER TO HIP
 Z. ROOF RAFTER TO 2-BY RIDGE BEAM
 1. JOIST TO BAND JOIST
 2. LEDGER STRIP
- 3-6D
 2-8D
 16D AT 16" O.C.
 3-6D PER 16"
 2-16D
 4-8D, TOENAIL OR 2-16D, END NAIL
 16D AT 12" O.C.
 16D AT 16" O.C.
 8-16D
 3-6D
 2-8D
 8D AT 6" O.C.
 2-16D
 16D AT 16" O.C.
 16D AT 16" O.C.
 3-6D
 4-8D
 3-16D
 3-6D
 2-8D
 16D AT 24" O.C.
 2 MEMBERS TO 1/2" MB. & 24" O.C. STAGGERED, 3" MIN. FROM EDGES
 1/2" MB. & 24" O.C. STAGGERED, 3" MIN. FROM EDGES
 2-8D TOE NAILS EACH SIDE, EACH END INTO PLATES.
 6-16D EACH SIDE OF SPLICE.
 16D AT 16" O.C. STAGGERED ALONG FULL LENGTH
 2-16D, GALVANIZED
 3-10D FACE NAIL
 3-10D TOE NAIL
 2-16D TOE NAIL
 2-16D TOE NAIL
 3-16D FACE NAIL
 3-16D FACE NAIL

ADDITION AND REMODELING:

- EXISTING CONSTRUCTION SHOWN ON DRAWINGS WAS OBTAINED FROM EXISTING DRAWINGS AND/OR BY FIELD MEASUREMENTS.
- CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS AND DIMENSIONS PRIOR TO STARTING CONSTRUCTION.
- CUTTING, DRILLING, REMOVAL, ETC. OF THE EXISTING CONSTRUCTION SHALL BE PERFORMED IN A GREAT CARE NOT TO DAMAGE THE INTEGRITY OF THE BUILDING.
- NO EXISTING MEMBERS MAY BE REMOVED UNLESS THE STRUCTURAL PLANS INDICATED OTHERWISE.
- IF STRUCTURAL MEMBERS NOT INDICATE FOR REMOVAL ARE INTERFERING WITH THE NEW WORK, THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED.
- CONTRACTOR SHALL SAFELY SHORE THE EXISTING CONSTRUCTION WHEREVER THE EXISTING SUPPORTS ARE REMOVED TO ALLOW THE INSTALLATION OF THE NEW WORK.
- ALL LOCATIONS WHERE NEW STRUCTURE IS ATTACHED TO EXISTING STRUCTURE SHALL BE WATERPROOF AND DAMPPROOF.
- OWNER OR HIS CONTRACTOR TO ENSURE THAT THE NEW ALTERATION WORKS SHALL NOT CAUSE ANY EXISTING MECHANICAL, ELECTRICAL, PLUMBING ETC. SYSTEMS TO BECOME UNOPERATIONAL.

MISCELLANEOUS NOTES:

- MINIMUM FLOOR LIVE LOAD IS 40 PSF.
- MINIMUM ROOF LIVE LOAD IS 20 PSF.
- ALL FRAMING ANCHORS, STRAPS, HANGERS, POST CAPS, COLUMN BASES, HOLD-DOWNS, HINGE CONNECTORS, ANGLES AND CLIPS SHALL BE MANUFACTURED BY SIMPSON OR EQUAL, NAILING SCHEDULE SHALL BE IN ACCORDANCE WITH PRODUCT REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING THE APPROPRIATE SIZE AND CONFIGURATION OF CONNECTORS FROM THE SERIES DESIGNATED ON DRAWINGS, UNLESS NOTED OTHERWISE.
- UNLESS NOTED OTHERWISE, ALL NAILING SHALL BE COMMON NAIL.
- ALL TOE NAILING SHALL BE 8D NAILS.
- ALL NAILS EXPOSED TO THE WEATHER SHALL BE HOT-DIPPED GALVANIZED NAILS.
- CONVENTIONAL LET-IN BRACING ARE NOT REQUIRED IN THIS PROJECT.
- NELSON STUDS SHALL BE MANUFACTURED AND FABRICATED PER TRW NELSON REQUIREMENTS.
- ALL ITEMS (SPRINKLER PIPES, MECHANICAL EQUIPMENTS, ETC.) INTENDED TO BE SUPPORTED ON OR FROM THE STRUCTURE, UNLESS WITHIN THE STRUCTURAL DRAWINGS, SHALL BE SUBMITTED TO THIS ENGINEER PRIOR TO INSTALLING.
- UNLESS NOTES OTHERWISE, SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, WALKS, RAMPS, PATIOS, ELEVATIONS, ROOF PITCHES, ETC.
- UNON PROVIDE ST6236 AT PLATES AT PLUMBING PENETRATIONS.
- ALL SIMPSON CS STRAPS SHALL BE ATTACHED TO FRAMING 8D NAILS IN A BUSY OTHER NAIL HOLE IN BLOCKS, FILL EVERY NAIL HOLE AT TOP PLATE AND COLLECTOR BEAM.

FOUNDATION NOTES:

- FOUNDATION DESIGN IS IN ACCORDANCE WITH CBC 2019/ IBC 2018 TABLE 1806.2 & 1809.7 SHALL BE REFERENCED FOR THIS PROJECT.
- FOUNDATION PLANS AND PERTINENT DETAILS SHALL BE REVIEWED AND APPROVED BY THE ABOVE SOILS ENGINEER PRIOR TO ANY FOUNDATION CONSTRUCTION.
- FINISH GRADE SHALL BE SLOPED AWAY FROM THE FOUNDATION AND MINIMUM 8" BELOW THE SILL.
- SITE DRAINAGE REQUIREMENTS INCLUDING FINAL PAD GRADES, ROOF DRAINAGE DOWNSPOUTS SHALL BE REFERRED TO GRADING & PLOT PLANS.
- THE LOCATION AND DIMENSION OF UNDER-FLOOR VENTILATION, CONCRETE DRIVEWAY, WALKWAY, DOOR PADS AND OTHER SIMILAR ITEMS PER ARCHITECTURAL PLANS.
- OWNER OF ADJACENT PROPERTY SHALL BE NOTIFIED IN WRITING IN NO LESS THAN 10 DAYS BEFORE THE FOUNDATION EXCAVATION ALONG THE PROPERTY LINE.

CONCRETE NOTES:

- FOUNDATION CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- RE-BARS, DOVELES AND OTHER EMBEDDED ELEMENTS SHALL BE SECURED IN PLACE AND APPROVED BY THE BUILDING OFFICIAL BEFORE POURING CONCRETE.
- COLD JOINTS MAY BE USED WHERE SHOWN JOINING SURFACE SHALL BE CLEAN, FREE OF FOREIGN MATERIAL AND INTENTIONALLY ROUGHENED.
- SPECIAL INSPECTIONS REQUIRED WHERE CONCRETE STRENGTH GREATER THAN 2500 PSI IS SPECIFIED.

REINFORCEMENT NOTES:

- REINFORCING STEEL SHALL BE DEFORMED BARS OF BULLET OR AXLE STEEL BAR ASTM A615 GRADE 40.
- REINFORCEMENT SHALL BE CLEAN AND FREE OF EXTRANEOUS MATERIAL.
- INTERLOCKMENT SHALL BE PLACED AND SUPPORTED IN A TRUE LINE AS SHOWN.
- CLEARANCE SHALL BE PROVIDED WHERE CONCRETE IS CASTED AGAINST EARTH. 2" CLEARANCE FOR CONCRETE EXPOSED TO EARTH OR WEATHER BUT DEPOSITED AGAINST FORMS AND 3/4" CLEARANCE FOR SLABS AND WALLS WHERE CONCRETE IS NOT EXPOSED TO EARTH OR WEATHER.
- LAP ALL REINFORCING SPLICES A MINIMUM 30 BAR DIAMETERS BUT IN NO CASE LESS THAN 24".
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
- CONTRACTOR SHALL INFORM ENGINEER 48 HOURS PRIOR TO POURING STRUCTURAL CONCRETE FOR REVIEWING THE WORK.

ANCHORAGE NOTES:

- UNON ON FOUNDATION PLAN, SILL PLATES FOR ALL EXTERIOR INTERIOR BEARING AND SHEAR WALLS SHALL BE ANCHORED TO CONCRETE FOUNDATION WITH 5/8" ANCHOR BOLTS AT MAXIMUM 4 FEET ON CENTER. ANCHOR BOLTS SHALL BE INSTALLED WITH SIMPSON BP 5/8-3 PER CBC 2019 2305.3.11 BEARING PLATES.
- BEARING-SHEAR WALL AND/OR EXTERIOR WALL SILLS RECEIVING FASTENERS SHALL HAVE THE FIRST FASTENER AT 4" MINIMUM AND 12" MAXIMUM (PER CBC 2019 2308.6) FROM EACH CUT END OF THE SILL (TWO FASTENERS MINIMUM PER MUDDILL PIECE).
- INTERIOR NON-BEARING WALL SILLS TO RECEIVE THE FIRST FASTENER AT 4" MINIMUM AND 12" MINIMUM FROM EACH CUT END OF THE SILL.
- ANCHOR BOLTS MATERIAL SHALL BE ASTM A307.
- POWDER DRIVEN ANCHOR PINS SHALL BE DR72536, ICC EROF 12001 MAY BE USED ON INTERIOR NON-BEARING WALL ONLY.
- POWDER DRIVEN ANCHOR PINS SHALL BE SPACED AT MAXIMUM 6" O.C.
- UNLESS HELD IN PLACE WHEN POURING CONCRETE, FASTENERS TO BE INSTALLED AFTER THE CONCRETE HAS SET FOR 7 DAYS MINIMUM.
- ANCHOR BOLTS SHALL BE IMBEDDED 7" MINIMUM INTO CONCRETE OR REINFORCED MASONRY, AND 15" MINIMUM INTO UNREINFORCED GROUTED MASONRY.
- UNON, HPAD, HTT, PHD, HDA AND HD HOLD-DOWNS SHALL BE ATTACHED TO 4X4 POST IN WITH SHEAR EDGE NAILING ALONG FULL HEIGHT.
- UNON, CONTRACTOR IS TO VERIFY LOCATION OF HOLD-DOWNS AND ANCHOR BOLTS WITH ROUGH FRAMING TO ASSURE PROPER AND ACCURATE INSTALLATION.
- UNON, INDIVIDUAL ISOLATED POSTS SHALL BE ANCHORED BY SIMPSON PS CONNECTORS.
- HOLD-DOWNS SHALL BE TIED IN PLACE PRIOR TO INSPECTION.
- FASTENERS FOR PRESSURE-PRESERVATIVE TREATED AND FIRE-RETARDANT TREATED WOOD SHALL BE OF HOT-DIPPED ZINC COATED GALVANIZED, STAINLESS STEEL, SILICON BRONZE OR COPPER.
- FASTENERS FOR PRESSURE-PRESERVATIVE TREATED AND FIRE-RETARDANT TREATED WOOD SHALL BE OF HOT-DIPPED ZINC COATED GALVANIZED, STAINLESS STEEL, SILICON BRONZE OR COPPER.

DESIGN CRITERIA FOR SEISMIC & WIND PER ASCE7-16 AND 2019 CBC

| EARTHQUAKE DESIGN DATA | |
|---|---|
| ANALYSIS PROCEDURE USED | EQUIVALENT LATERAL PROCEDURE |
| RESPONSE MODIFICATION FACTOR (R) | 6.5 |
| OVER STRENGTH FACTOR | 2.5 |
| IMPORTANT FACTOR | 1 |
| OCCUPANCY CATEGORY | II, STANDARD |
| SPECTRAL RESPONSE ACCELERATIONS SS & S1 | 2.298 0.827 |
| SPECTRAL RESPONSE COEFFICIENTS SDS, SD1 | 1.838 0.937 |
| SEISMIC DESIGN CATEGORY (SDC) | E |
| BASIC SEISMIC FORCE RESISTING SYSTEMS | BEARING WALL SYSTEM LIGHT-FRAMED WALLS SHEATHED W/ WOOD STRUCTURAL PANELS |
| Cs - SD (R/Ip) | 0.283 |
| DESIGN BASE SHEAR 0.7Va | 0.198 W (ASD) |

| WIND DESIGN DATA | |
|---|---------------------|
| BASIC DESIGN WIND SPEED Vt | 104MPH |
| ALLOWABLE STRESS DESIGN WIND SPEED Vasd | 85MPH |
| WIND EXPOSURE | C |
| DESIGN METHOD | ENVELOPED PROCEDURE |
| TOPOGRAPHIC FACTOR Kzt | 1 |
| WIND DIRECTIONALITY FACTOR Kd | 0.85 |

| VERTICAL DESIGN LOADS | |
|-----------------------|------------------------|
| ROOF | DL (PSF) 9 LL (PSF) 20 |
| CEILING | 8 10 |
| FLOOR | 15 40 |

| SOIL DATA | |
|----------------------------|---|
| ALLOWABLE BEARING PRESSURE | 1500 PSF (CBC 2019/ IBC 2018 TABLE 1806.2 & 1809.7) |

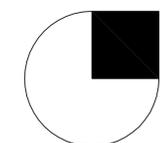
SHEAR WALL SCHEDULE

| ID. | PLF S-SEIS W-WIND | S-SHEAR MATERIAL | EDGE NAILING | FIELD NAILING (INTERMEDIATE) | SILL NAILING * EA 16" O.C. (FOOTNOTE 2) | BLOCK NAILING * EA 16" O.C. (FOOTNOTE 3) | ANCHOR BOLTS SCHEDULE (FOOTNOTE 7) |
|-----|-------------------|-------------------------------------|--|------------------------------|--|--|---|
| P1 | 340 | 1/2" CDX (OSB) (5/32" NOMINAL) | 10D COMMON OR GALV BOX * 6" O.C. BLOCK ALL EDGES 2X (M.D. & SOLE) | 10D COMMON OR GALV BOX * 12" | 4-16D | 2-8D TN * (13A35 PER RF BLK (13A35 PER FLR BLK | 5/8" BOLTS * 3" O.C. OR PER PLAN, CD-BOLTS MIN. |
| P2 | 510 | 1/2" CDX (OSB) (5/32" NOMINAL) | 10D COMMON OR GALV BOX * 4" O.C. STAGGERED, 3X AT ALL ADJOINING PANEL EDGES & 2X SOLE, 3X M.D. | 10D COMMON OR GALV BOX * 12" | 6-16D IN 2 ROWS W/ 4X MEMBER BELOW DIAPHRAGM | 2-8D TN * (12A35 PER RF BLK (12A35 PER FLR BLK | 5/8" BOLTS * 2" O.C. OR PER PLAN, CD-BOLTS MIN. |
| P4 | 665 | 1/2" CDX (OSB) (5/32" NOMINAL) | 10D COMMON OR GALV BOX * 4" O.C. STAGGERED, 3X AT ALL ADJOINING PANEL EDGES & 2X SOLE, 3X M.D. | 10D COMMON OR GALV BOX * 12" | 7-16D IN 2 ROWS W/ 4X MEMBER BELOW DIAPHRAGM | 2-8D TN * (13A35 PER RF BLK (12A35 PER FLR BLK | 5/8" BOLTS * 1-6" O.C. OR PER PLAN, CD-BOLTS MIN. |
| P8 | 870 | 5/8" CDX (OSB) OR 1/2" STRUCTURAL I | 10D COMMON OR GALV BOX * 2" STAGGERED, 3X AT ALL ADJOINING PANEL EDGES & 3X (M.D. & SOLE) | 10D COMMON OR GALV BOX * 12" | (4) 3/8" X 6" LAG BOLTS W/ 4X MEMBER BELOW DIAPHRAGM | 2-8D TN * (13A35 PER RF BLK (13A35 PER FLR BLK | 5/8" BOLTS * 1-3" O.C. OR PER PLAN, CD-BOLTS MIN. |

- CONTRACTOR SHALL REVIEW ALL TYPICAL SHEAR WALL CONNECTION DETAILS & NOTES BEFORE CONSTRUCTION.
- UNON, CONTRACTOR SHALL ENSURE THAT ALL S-EAR MATERIAL SHALL EXTEND FROM HORIZONTAL DIAPHRAGM PLYWOOD CDX OR EQUAL TO HORIZONTAL DIAPHRAGM.
- SILL NAILING IS THE FASTENING OF THE SILL (SOLE) PLATE LOCATED AT THE BOTTOM OF SHEAR WALLS TO THE BLOCKINGS, RIM JOISTS, OR BEAMS BENEATH THE HORIZONTAL DIAPHRAGM FLOOR SHEATHING CDX. CARE MUST BE TAKEN TO ENSURE THE PENETRATION OF THESE FASTENERS INTO THE BLOCKING, RIM JOISTS OR BEAM BELOW.
- SILL NAILING DOES NOT APPLY WHEN THE ABOVE MENTIONED SILL PLATE IS RESTING DIRECTLY ON CONCRETE SURFACE. IN THIS CASE THE SILL ANCHOR REQUIREMENTS AS INDICATED ON THE FOUNDATION PLAN AND DISCUSSED IN THE ANCHORAGE NOTES ON THIS SHEET SHALL BE FOLLOWED.
- SILL NAILING INDICATED ON SHEAR WALL SCHEDULE MAY BE OMITTED AND REPLACED WITH A MINIMUM OF 2-16D AT 16" O.C. FOR THE FOLLOWING CONDITIONS:
 - ALL NON-SHEAR WALLS
 - AT PERIMETER SHEAR WALLS WITH THE SHEAR MATERIAL (OF UPPER SHEAR WALL) OCCURRING AT THE EXTERIOR FACE OF BUILDING AND EXTENDING PAST THE M.D. SILL FOUNDATION CONDITION OR TOP PLATES UPPER FLOOR CONDITION. EDGE NAILING MUST BE PROVIDED AT BLOCKING OR RIM JOIST OCCURRING AT FLOOR THICKNESS IN ADDITION TO THE EDGE NAILING AT THE M.D. SILL/TOP PLATES.
- BLOCK NAILING IS THE FASTENING OF BLOCKINGS, RIM JOISTS OR BEAM DIRECTLY BELOW THE SHEAR WALL TO THE TOP PLATE OR BEAMS IMMEDIATELY BELOW.
- ALL THE BLOCKING OTHER THAN THOSE LOCATED UNDERNEATH THE SHEAR WALL SHALL BE HELD IN PLACE BY A35 PER BLOCK OR A35 AT 16" ON CENTER.
- BLOCK NAILING INDICATED ON SHEAR SCHEDULE MAY BE OMITTED AND REPLACED WITH 6D TOE NAILS AT 6 INCHES ON CENTER WHERE SHEAR MATERIAL OF LOWER SHEAR WALL IS EXTENDED ABOVE THE TOP PLATES OR BEAM AND NAILED INTO BLOCKING OR RIM JOIST. IN ADDITION TO THIS NAILING, EDGE NAILING SHOULD ALSO BE PROVIDED AT THE TOP PLATES OF LOWER SHEAR WALL. IT SHOULD BE NOTED THAT BLOCK NAILING CAN BE OMITTED FOR STACKED SHEAR WALLS ONLY LOWER SHEAR WALL IMMEDIATELY BELOW UPPER SHEAR WALL.
- 1/4" CLIPS MAY DIRECTLY SUBSTITUTE A35 CLIPS AS INDICATED IN THE TABLE.
- WHERE PLYWOOD IS APPLIED ON BOTH FACED OF A WALL AND NAIL SPACING IS LESS THAN 6 INCHES ON CENTER ON EITHER SIDE, PANEL JOISTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3-INCH NOMINAL OR THICKER AND NAILING ON EACH SIDE SHALL BE AS STAGGERED.
- WHERE PLYWOOD IS APPLIED ON BOTH FACED OF A WALL AND NAIL SPACING IS LESS THAN 6 INCHES ON CENTER ON EITHER SIDE, 3X SILL IS REQUIRED.
- PLYWOOD EDGE AND FIELD NAILING SHALL BE WITH COMMON NAILS OR GALVANIZED BOX NAILS AS INDICATED IN S-EAR WALL SCHEDULE.
- FASTENERS FOR PRESSURE-PRESERVATIVE TREATED AND FIRE-RETARDANT TREATED WOOD SHALL BE OF HOT-DIPPED ZINC COATED GALVANIZED, STAINLESS STEEL, SILICON BRONZE OR COPPER.
- 5/8" ANCHOR BOLTS SHALL BE 7" MINIMUM EMBEDMENT WITH 3"x3" MIN. 0.229 THICK STEEL PLATE WASHERS.

ABBREVIATIONS

| | | | | | |
|--------|------------------------|--------|----------------|----------|------------------------|
| A & B | ABOVE AND BELOW | F.P. | FIREPLACE | SIM | SIMILAR |
| A.B. | ANCHOR BOLTS | FRAMG | FRAMING | SH-T | SHEET |
| ABV | ABOVE | SH-T | SHEATHING | SH-TB | SHEATHING |
| ADJ | ADJACENT | FTG | FOOTING | SIMP | SIMPSON COMPANY |
| A.F.F. | ABOVE FINISH FLOOR | GALV | GALVANIZED | SPCG | SPACING |
| APA | AMERICAN PLYWOOD ASSO. | GAR | GARAGE | SPECS | SPECIFICATIONS |
| ARCH | ARCHITECTURAL | GEN | GENERAL | SG | SQUARE |
| BLDG | BUILDING | GLB | GLUED-LAM BEAM | S.S. | SEE STR. DRWGS |
| BLK'G | BLOCKING | GR | GRADE | STL | STEEL |
| BR | BEARING | HDR | HEADER | STR | STRUCTURAL |
| BOTT | BOTTOM | HT | HEIGHT | SWS | SHEAR WALL SCHEDULE |
| BRG | BEARING | INFO | INFORMATION | S.W.T. | S-EAR WALL TYPE |
| C | CAMBER | INT | INTERIOR | T & B | TOP AND BOTTOM |
| CANTL | CANTILEVER | J4 | JOIST HANGER | T & G | TONGUE AND GROOVE |
| C.J. | CEILING JOIST | JNT | JOINT | T.B.V. | TO BE FIELD VERIFIED |
| C.L.G. | CELLING | JST | JOIST | T.N. | TIED OR HOLD-DOWN |
| CTR | CENTER | KP | KING POST | TN | TOE NAIL |
| CLP | CLEARANCE | KS | KING STUD | T.O. | TOP OF |
| CONC | CONCRETE | LAT | LATERAL LOAD | T.O.C. | TOP OF CONCRETE |
| CMLL | CONC. MASONRY UNIT | LOC. | LOCATION | T.O.S.F. | TOP OF SUB-FLOOR |
| CONN | CONNECTION | MANUF | MANUFACTURER | T.O.W. | TOP OF WALL |
| CONST | CONSTRUCTION | MATL | MATERIAL | TOT | TOTAL |
| CONT | CONTINUOUS | MAX | MAXIMUM | TR | TRIMMER |
| CSK | COUNTERSINK | MB | MACHINE BOLT | TYP | TYPICAL |
| CUT | CUT | MANUF | MANUFACTURER | UNQ. | UNLESS NOTED OTHERWISE |
| DBL | DOUBLE | MIN | MINIMUM | UNON | UNLESS OTHERWISE NOTED |
| DET | DETAIL | MTD. | MOUNTED | WDF | WEDGED |
| ENB | ENGLAND FIR | NEW | NEW | WFL | WELDED WIRE FABRIC |
| DIAG | DIAGONAL | NA | NOT APPLICABLE | WWF | WITH |
| DIAPH | DIAPHRAGM | NAIL'G | NAILING | W | WITH |
| DM | DIMENSION | N.T.S. | NOT TO | | |



AQX ENGINEERING INC.
 6525 CROWN BLVD #41068
 SAN JOSE, CA. 95160
 TEL: (408)229-3517
 www.aqxeng.com



10/04/2021

SHEET TITLE

PREPARED FOR:
ADDITION/ REMODEL
 1525 ELWOOD DR.,
 LOS GATOS, CA

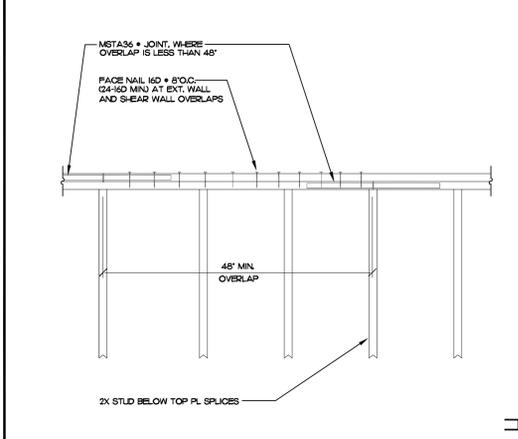
SHEET TITLE

STRUCTURAL
 DETAILS

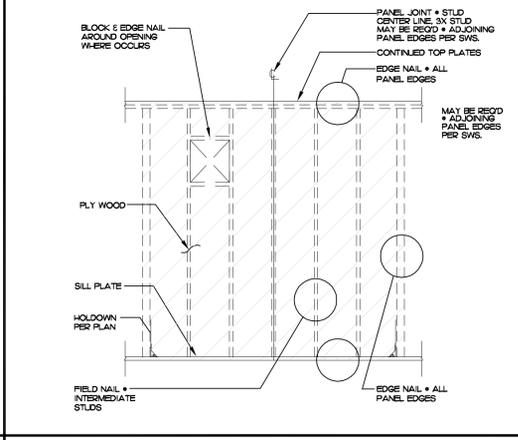
REVISIONS
 ARCH REV (PLANNING)
 10-04-2021

JOB NO. 2021-380
 DATE 06.30.21
 DRAWN: Joe
 SHEET NUMBER

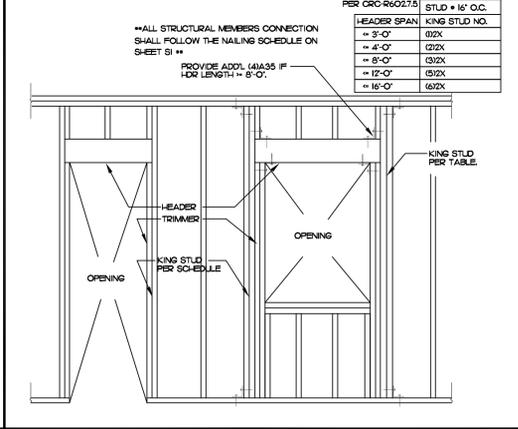
S2



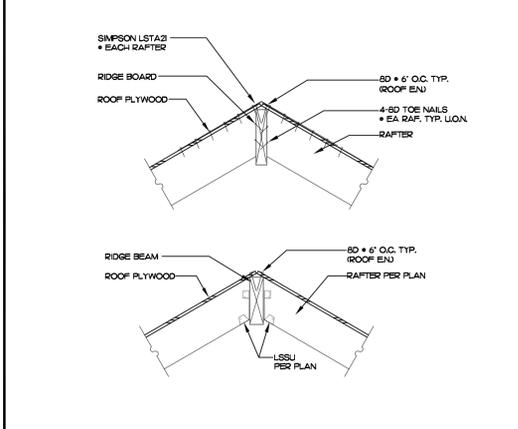
1. TYP. CONTINUOUS TOP PL



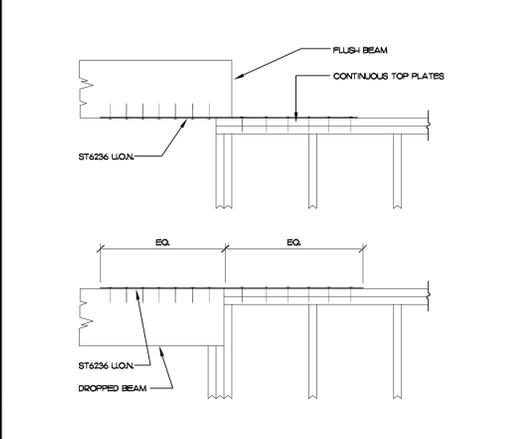
2. TYP. SHEAR WALL



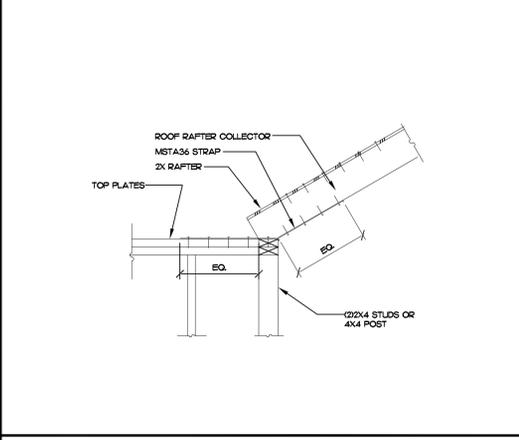
3. TYP. WINDOW & DOOR OPENING



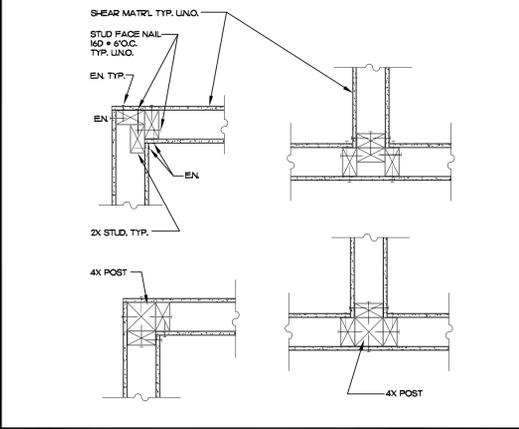
4 TYP. RIDGE



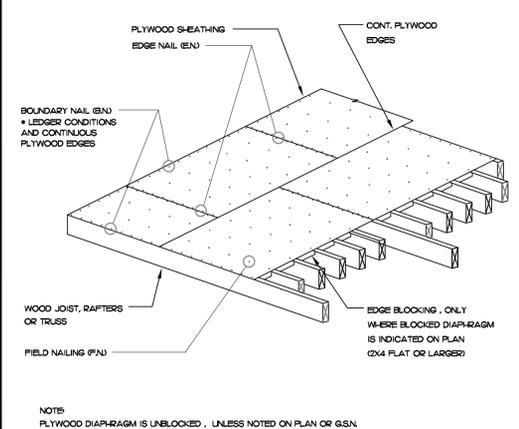
5. BEAM-TOP PL STRAP



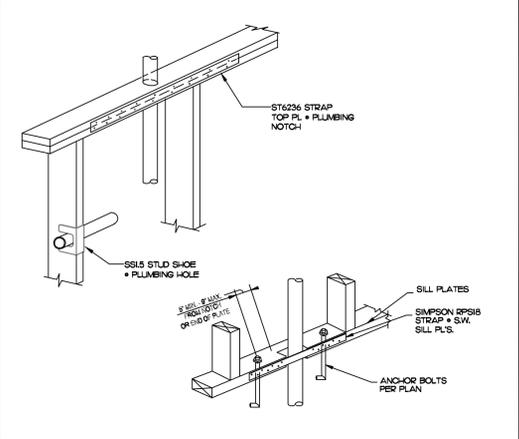
6. RAFTER TO TOP PL



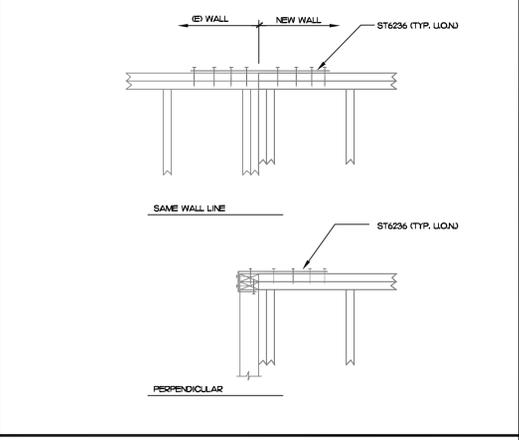
7. TYP CONER SHEAR



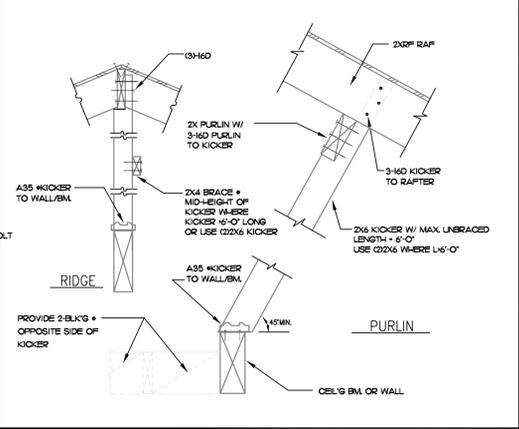
8. TYPICAL PLYWD LAYOUT



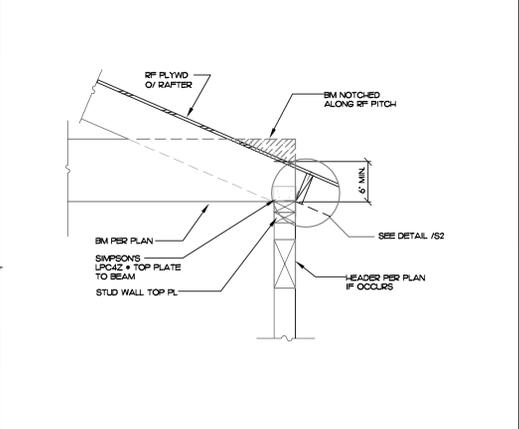
9. STRAP AT PLUMBING NOTCH



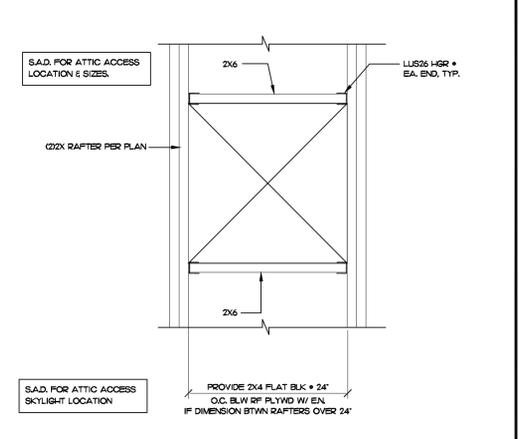
10. (N) WALL TO (E) WALL



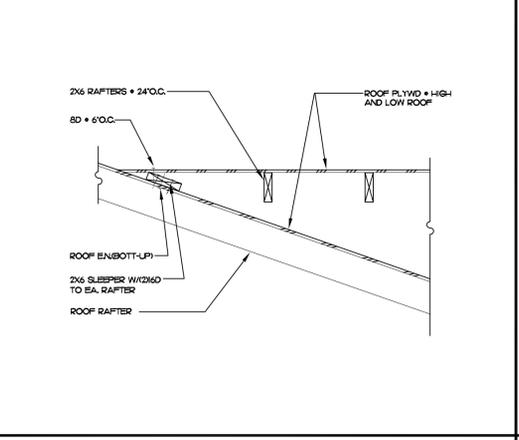
11. RIDGE/ PURLIN KICKER



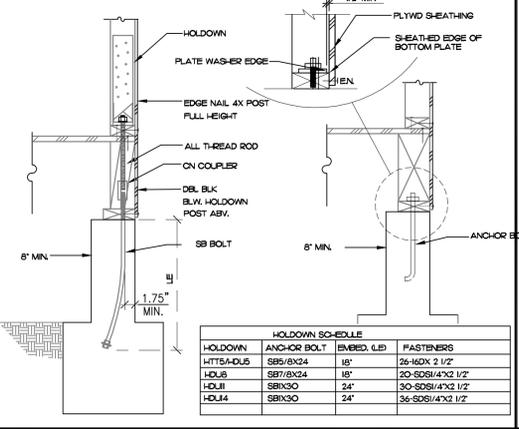
12. TAPER NOTCHED BM



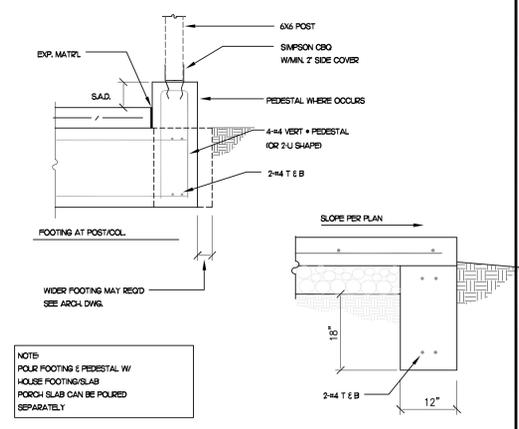
13. OPEN'G OF ATTIC/ SKYLIGHT



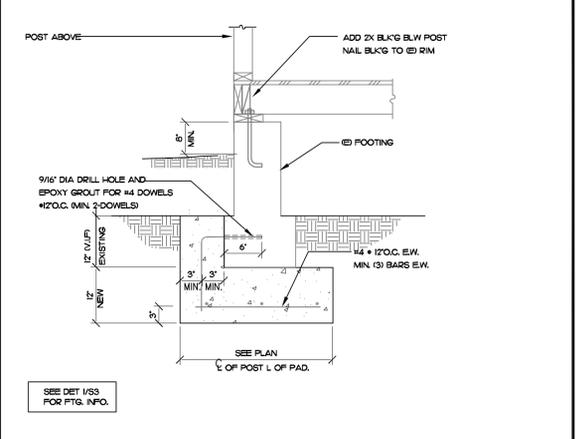
14. CA FRAME VALLEY



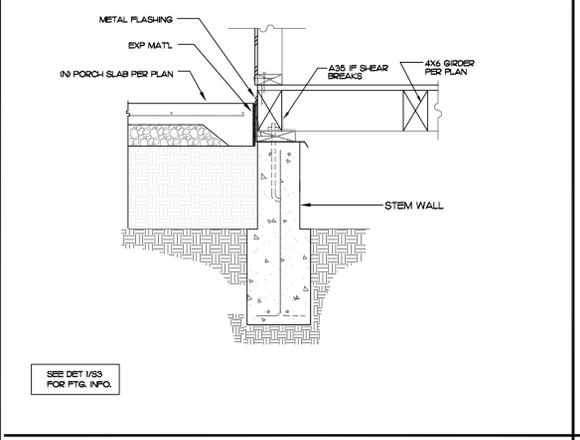
13. TYP SB HOLDOWN



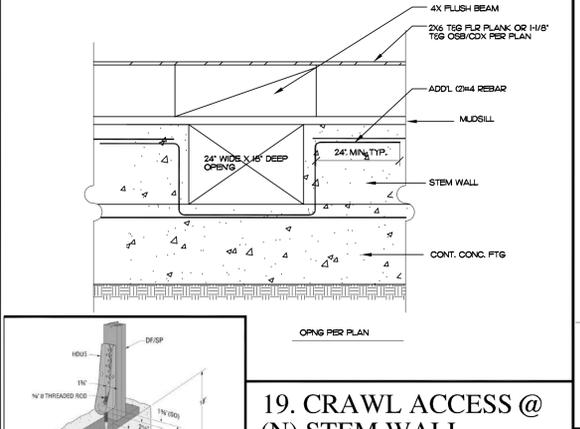
14. PORCH FOOTING



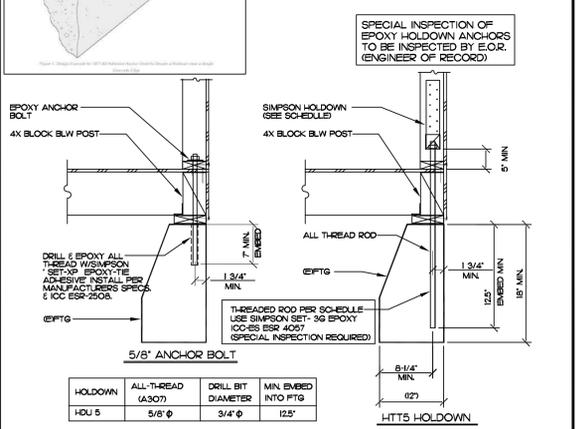
17. NEW PAD FOOTING UNDER EXISTING



18. FLOOR TO CONCRETE SLAB



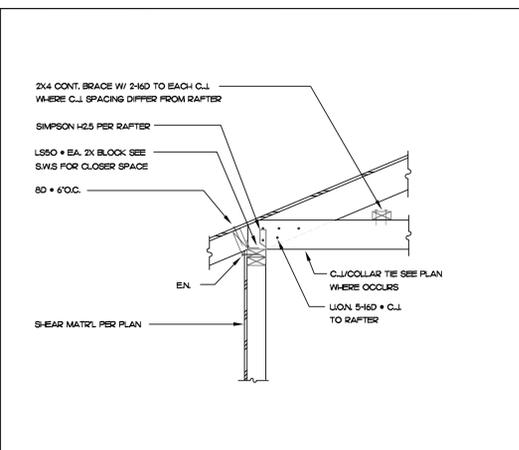
19. CRAWL ACCESS @ (N) STEM WALL



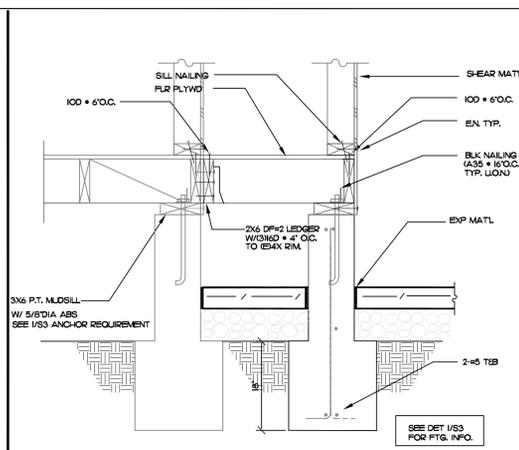
20. EPOXY HOLDOWN & BOLT

| HOLDOWN | ANCHOR BOLT | EMBED. L/D | FASTENERS |
|-----------|-------------|------------|-----------------|
| HTTS-HOUS | SB5/6X24 | 18" | 2#-16X 2 1/2" |
| HOU-S | SB7/6X24 | 18" | 2#-SDS/4X3 1/2" |
| HOU-L | SBX30 | 24" | 3#-SDS/4X3 1/2" |
| HOU-4 | SBX30 | 24" | 3#-SDS/4X3 1/2" |

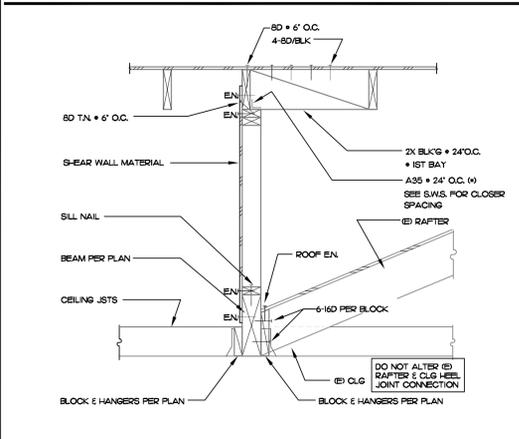
| HOLDOWN | ALL-THREAD | DRILL BIT | MIN. EMBED |
|---------|------------|-----------|------------|
| HOU 5 | 5/8" φ | 3/4" φ | 12 1/2" |



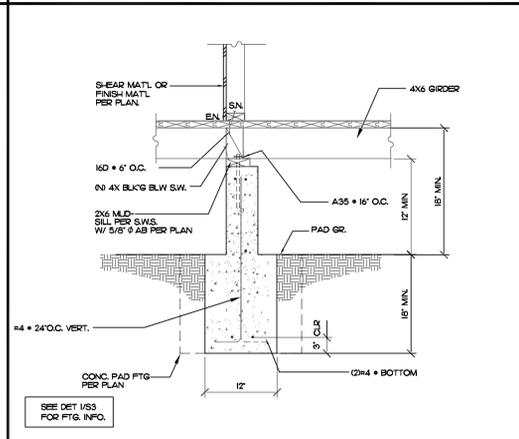
1. RAFTER EAVE



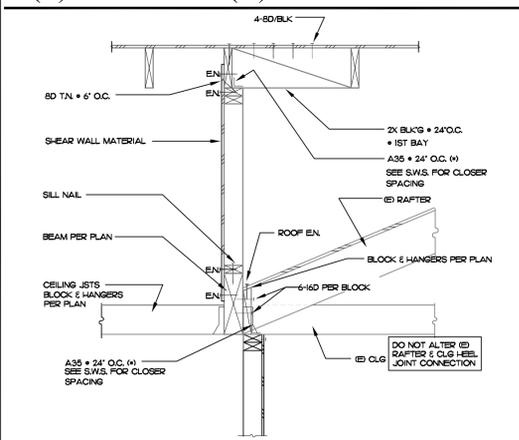
5. NEW FLOOR AT GARAGE



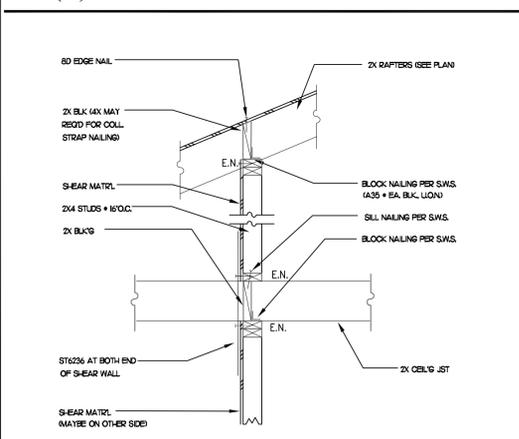
2.(E) RAFTER TO (N) BEAM



6. INTERIOR FOOTING

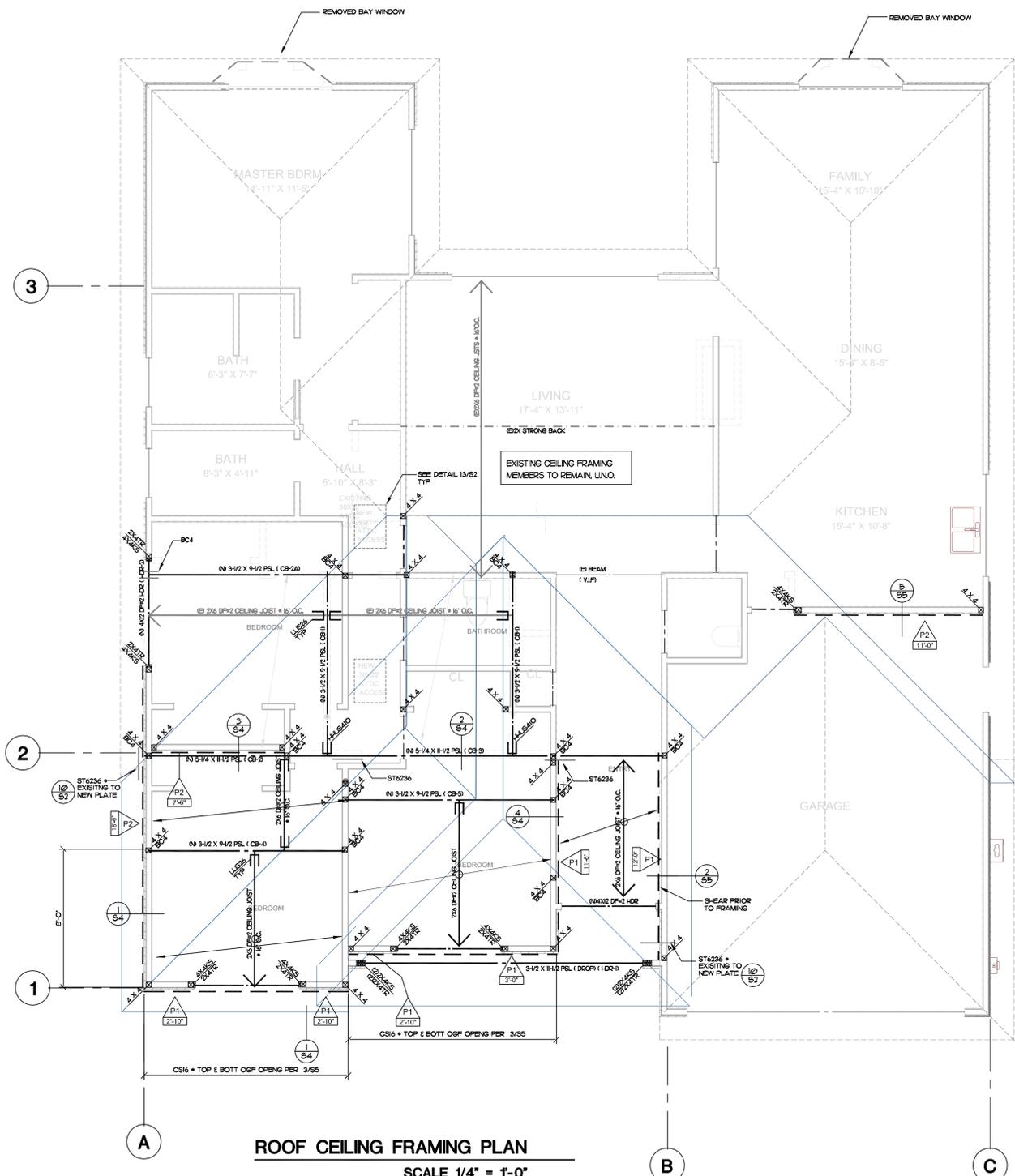
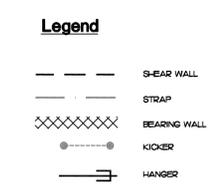


3. (E) RAFTER TO WALL

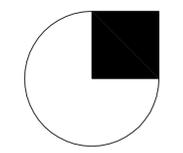


4. INTERIOR SHEAR WALL

- ROOF FRAMING NOTES:**
- SHINGLES ROOF SHEATHING TO BE 1/2" CDX/OSB NAILED & PLACED PER STRUCTURAL NOTES ON SHEET S1.
 - UNO. (N) ROOF RAFTER SHALL BE 2x6 DF#2 AT 24" O.C. CEILING JOIST SHALL BE 2x6 DF#2 AT 16" O.C. OR PER PLAN.
 - ALL EXTERIOR WALLS AND STRUCTURAL WALLS SHALL REFER TO DETAIL 1/52 FOR TOP PLATES CONTINUITY.
 - UNO. ALL HEADERS SHALL BE 4x12 DF-L #2 AT 2x4 WALLS OR 6x12 DF-L #1 AT 2x6 WALLS.
 - UNO. ALL EXTERIOR WALLS, ALL STRUCTURAL WALLS & ALL STRUCTURAL BEARING WALLS SHALL BE 2x4 OR 2x6 STUD AT 16" O.C. FOR WALL HEIGHT UP TO 10 FEET FOR NON-BEARING WALL, 2x4 STUD AT 16" O.C. CAN BE UP TO 14 FEET HEIGHT AND 2x6 STUD AT 16" O.C. CAN BE UP TO 20 FEET HEIGHT.
 - UNO. SEE FLOOR PLAN FOR ADDITIONAL POSTS AND MULTIPLE STUDS.
 - SEE ALL PERTINENT INFORMATION IN STRUCTURAL NOTES ON SHEET S1.
 - ALL CALIFORNIA ROOF FRAMING SHALL HAVE ROOF CDX AT BOTH UPPER AND LOW ROOFS.
 - SEE SHEET S1 FOR SHEAR WALL SCHEDULE AND DETAIL 2/52 SHEARWALL CONSTRUCTION.
 - UNO. SHEAR WALL MATL. (CDX) SHALL BE APPLIED FROM PLATE TO PLATE.



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



AQX ENGINEERING INC.
6525 CROWN BLVD #41068
SAN JOSE, CA. 95160
TEL: (408)229-3517
www.aqxeng.com



1/0/04/2021
SHEET TITLE

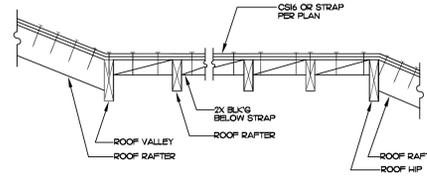
PREPARED FOR:
ADDITION/ REMODEL
1525 ELWOOD DR.
LOS GATOS, CA

SHEET TITLE
CEILING FRAMING PLAN

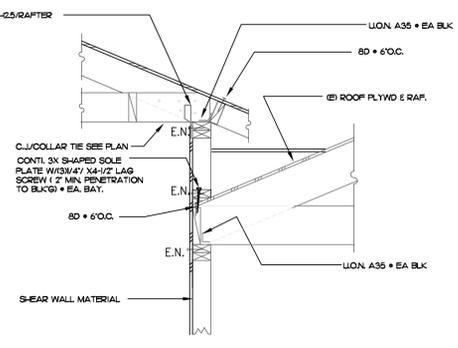
REVISIONS
ARCH REV. (PLANNING)
10-04-2021

JOB NO. 2021-380
DATE 06.30.21
DRAWN: Joe
SHEET NUMBER

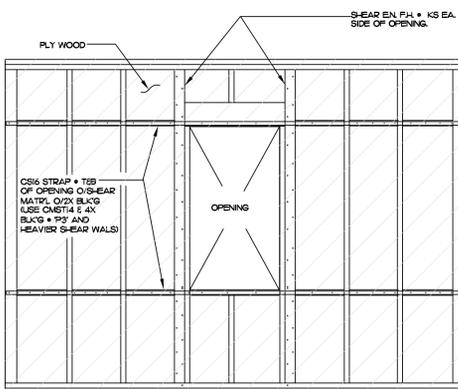
S4



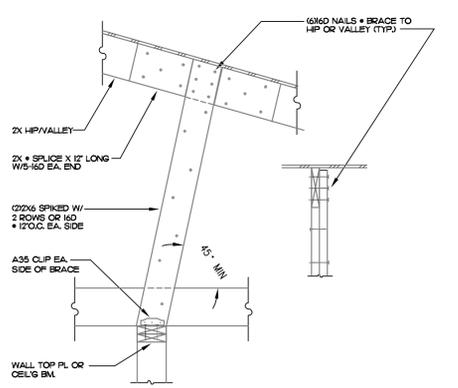
1. CS16 STRAP O/ ROOF



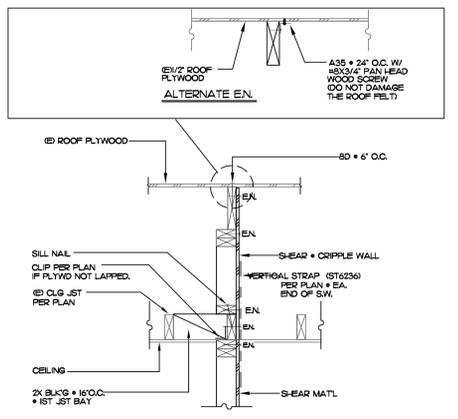
2. NEW ROOF TO (E) GARAGE



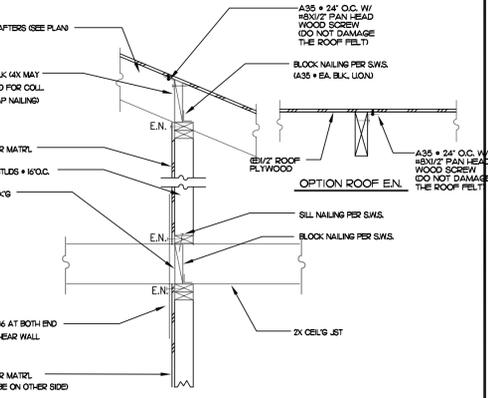
3. TYP. SHEAR WALL OPENING



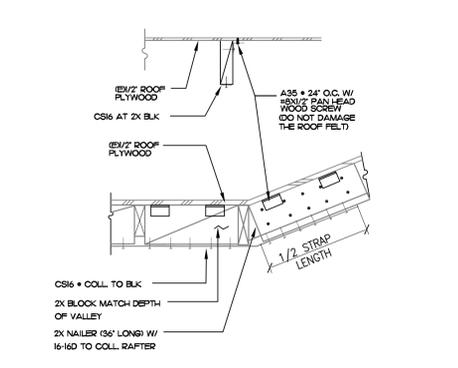
4. HIP/ VALLEY/RIDGE KICKER



5. RF RAFTER // INT. SHEAR WALL

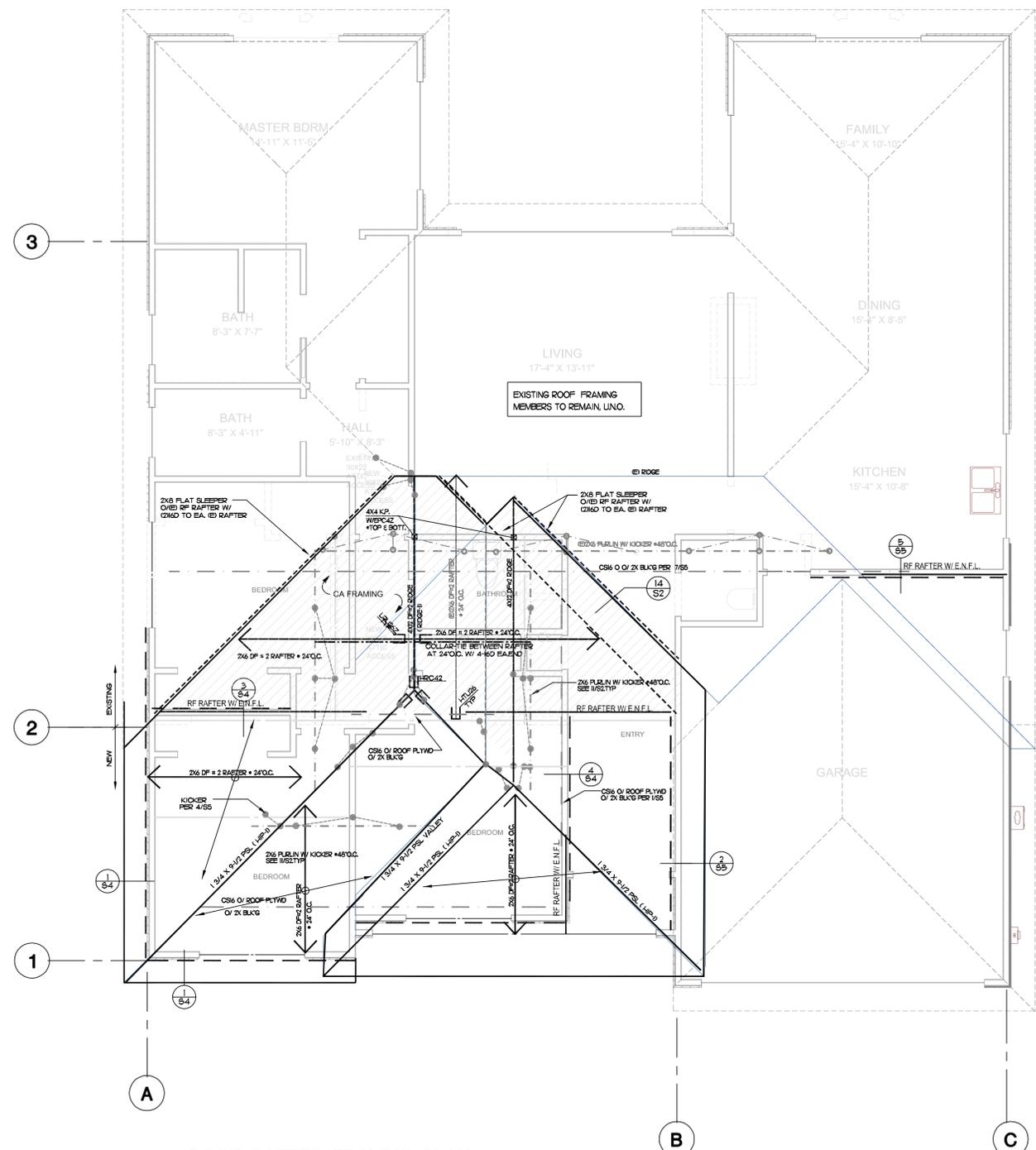
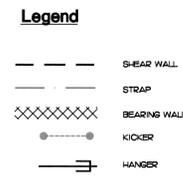


6. INTERIOR SHEAR WALL

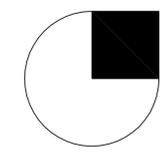


7. CS16 STRAP O/ ROOF

- ROOF FRAMING NOTES:**
1. SHINGLES ROOF SHEATHING TO BE 1/2" CDX/OSB NAILED & PLACED PER STRUCTURAL NOTES ON SHEET S1.
 2. UNO. IN ROOF RAFTER SHALL BE 2X6 DP#2 AT 24" O.C. CEILING JOIST SHALL BE 2X6 DP#2 AT 16" O.C. OR PER PLAN.
 3. ALL EXTERIOR WALLS AND STRUCTURAL WALLS SHALL REFER TO DETAIL V/S2 FOR TOP PLATES CONTINUITY.
 4. UNO. ALL HEADERS SHALL BE 4X2 DP#1 #2 AT 2X4 WALLS OR 4X2 DP#1 #1 AT 2X6 WALLS.
 5. UNO. ALL EXTERIOR WALLS, ALL STRUCTURAL WALLS & ALL STRUCTURAL BEARING WALLS SHALL BE 2X4 OR 2X6 STUD AT 16" O.C. FOR WALL HEIGHT UP TO 10 FEET FOR NON-BEARING WALL, 2X4 STUD AT 16" O.C. CAN BE UP TO 14 FEET HEIGHT AND 2X6 STUD AT 16" O.C. CAN BE UP TO 20 FEET HEIGHT.
 6. UNO. SEE FLOOR PLAN FOR ADDITIONAL POSTS AND MULTIPLE STUDS.
 7. SEE ALL PERTINENT INFORMATION IN STRUCTURAL NOTES ON SHEET S1.
 8. ALL CALIFORNIA ROOF FRAMING SHALL HAVE ROOF CDX AT BOTH UPPER AND LOW ROOFS.
 9. SEE SHEET S1 FOR SHEAR WALL SCHEDULE AND DETAIL, 2/52 SHEARWALL CONSTRUCTION.
 10. UNO. SHEAR WALL MATL. (CDX) SHALL BE APPLIED FROM PLATE TO PLATE.



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



AQX ENGINEERING INC.
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SAN JOSE, CA. 95160
TEL: (408)229-3517
www.aqxeng.com



10/04/2021

SHEET TITLE

PREPARED FOR:
ADDITION/ REMODEL
1525 ELWOOD DR.
LOS GATOS, CA

SHEET TITLE
ROOF FRAMING PLANS

REVISIONS
ARCH REV (PLANNING)
10-04-2021

JOB NO. 2021-380
DATE 06.30.21
DRAWN: Joe
SHEET NUMBER

| GENERAL INFORMATION | | | | | | | | | |
|---------------------|--|-----------------------|-----------------------------------|---------------|--|--|--|--|--|
| 01 | Project Name | Elwood Drive Addition | | | | | | | |
| 02 | Run Title | Title 24 Analysis | | | | | | | |
| 03 | Project Location | 1525 Elwood Drive | | | | | | | |
| 04 | City | Los Gatos | Standards Version | 2019 | | | | | |
| 06 | Zip code | 95032 | Software Version | EnergyPro 8.2 | | | | | |
| 08 | Climate Zone | 4 | Front Orientation (deg/ Cardinal) | 135 | | | | | |
| 10 | Building Type | Single family | | | | | | | |
| 12 | Project Scope | Addition/Alteration | | | | | | | |
| 14 | Addition Cond. Floor Area (ft ²) | 363 | Number of Bedrooms | 4 | | | | | |
| 16 | Existing Cond. Floor Area (ft ²) | 1568 | Number of Stories | 1 | | | | | |
| 18 | Total Cond. Floor Area (ft ²) | 1931 | Penetration Average U-factor | 0.3 | | | | | |
| 20 | ADU Bedroom Count | n/a | Glazing Percentage (%) | 14.55% | | | | | |
| 22 | Is Natural Gas Available? | Yes | | | | | | | |

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

| ENERGY USE SUMMARY | | | | |
|---------------------------------------|-----------------|-----------------|-------------------|---------------------|
| Energy Use (kBtu/ft ² -yr) | Standard Design | Proposed Design | Compliance Margin | Percent Improvement |
| Space Heating | 56.34 | 53.33 | 3.01 | 5.3 |
| Space Cooling | 41.95 | 37.04 | 4.91 | 11.7 |
| IAQ Ventilation | 0 | 0 | 0 | 0 |
| Water Heating | 19.22 | 19.22 | 0 | 0 |
| Self Utilization/Flexibility Credit | n/a | 0 | 0 | n/a |
| Compliance Energy Total | 117.51 | 109.59 | 7.92 | 6.7 |

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HERS Provider: HERS Provider

| 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 |
| Attic New Living Area | Attic Roof/New Living Area | Ventilated | 4 | 0.1 | 0.85 | No | No | New | n/a |

| FENESTRATION / GLAZING | | | | | | | | | | | | | | | |
|------------------------|--------|------------|-------------|---------|------------|-------------|------|-------------------------|----------|---------------|-------------|------------------|------------|-----------------------------|-----|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Name | Type | Surface | Orientation | Adimuth | Width (ft) | Height (ft) | Mult | Area (ft ²) | U-factor | SHGC | SHGC Source | Exterior Shading | Status | Verified Existing Condition | |
| Window 04 | Window | Left Wall | Left | 225 | | | 1 | 30 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | Altered | No |
| Window | Window | Left Wall | Left | 225 | | | 1 | 5 | 1.28 | Table 110.6-A | 0.8 | Table 110.6-B | Bug Screen | Existing | No |
| Window 2 | Window | Left Wall | Left | 225 | | | 1 | 5 | 1.28 | Table 110.6-A | 0.8 | Table 110.6-B | Bug Screen | Existing | No |
| Window 04 2 | Window | Rear Wall | Back | 315 | | | 1 | 30 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | Altered | No |
| Window 01 | Window | Rear Wall | Back | 315 | | | 1 | 60 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | Altered | No |
| Window 03 | Window | Rear Wall | Back | 315 | | | 1 | 30 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | Altered | No |
| Window 02 | Window | Right Wall | Right | 45 | | | 1 | 21 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | Altered | No |
| Sliding Glass Door | Window | Right Wall | Right | 45 | | | 1 | 40 | 1.28 | Table 110.6-A | 0.8 | Table 110.6-B | Bug Screen | Existing | No |
| Window 04 3 | Window | Front Wall | Front | 135 | | | 1 | 30 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | New | n/a |
| Window 04 4 | Window | Front Wall | Front | 135 | | | 1 | 30 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen | New | n/a |

| OPAQUE DOORS | | | | | |
|--------------|------------------|-------------------------|----------|---------|-----------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 |
| Name | Side of Building | Area (ft ²) | U-factor | Status | Verified Existing Condition |
| Door 06 | Front Wall | 36 | 0.5 | New | n/a |
| Door 02 | Interior Surface | 15 | 0.5 | Altered | No |

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

| WATER HEATERS | | | | | | | | | | | | | |
|---------------|----------------------|---------------|------------|-----------------|-----------------------------|-----------------------|---------------------------------|------------------------------|-----------------------------|-------------------------------|------------------------------------|----------|-----------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 |
| Name | Heating Element Type | Tank Type | # of Units | Tank Vol. (gal) | Energy Factor or Efficiency | Input Rating or Pilot | Tank Insulation R-value (in/Ex) | Standby Loss or Recovery Eff | 1st Hc. 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 kWh/yr | 0 | 78 | n/a | n/a | n/a | Existing | No |

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

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HERS Provider: HERS Provider

| REQUIRED SPECIAL FEATURES |
|---|
| The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis. |
| New ductwork added is less than 40 ft. in length |

| HERS FEATURE SUMMARY |
|---|
| The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry |
| Building-level Verifications: |
| None |
| Cooling System Verifications: |
| None |
| Heating System Verifications: |
| None |
| HVAC Distribution System Verifications: |
| None |
| Domestic Hot Water System Verifications: |
| None |

| BUILDING - FEATURES INFORMATION | | | | | | |
|---------------------------------|---|--------------------------|--------------------|-----------------|---------------------------------------|---------------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Project Name | Conditioned Floor Area (ft ²) | Number of Dwelling Units | Number of Bedrooms | Number of Zones | Number of Ventilation Cooling Systems | Number of Water Heating Systems |
| Elwood Drive Addition | 1931 | 1 | 4 | 2 | 0 | 1 |

| ZONE INFORMATION | | | | | | |
|----------------------|-------------|------------------|------------------------------------|---------------------|------------------------|------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Zone Name | Zone Type | HVAC System Name | Zone Floor Area (ft ²) | Avg. Ceiling Height | Water Heating System 1 | Water Heating System 2 |
| Existing Living Area | Conditioned | HVAC System1 | 1568 | 8 | DHW Sys 1 | N/A |
| New Living Area | Conditioned | HVAC System1 | 363 | 8 | DHW Sys 1 | N/A |

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HERS Provider: HERS Provider

| SLAB FLOORS | | | | | | | | | |
|-------------|--------|-------------------------|----------------|-------------------------------|-------------------------------|-------------------|--------|----------|-----------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| Name | Zone | Area (ft ²) | Perimeter (ft) | Edge Insul. R-value and Depth | Edge Insul. R-value and Depth | Carpeted Fraction | Heated | Status | Verified Existing Condition |
| Slab | Garage | 461 | 88 | none | 0 | 0% | No | Existing | No |

| OPAQUE SURFACE CONSTRUCTIONS | | | | | | | |
|---------------------------------|----------------|---------------------|--------------------|----------------------|--|----------|--|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
| Construction Name | Surface Type | Construction Type | Framing | Total Cavity R-value | Interior / Exterior Continuous R-value | U-factor | Assembly Layers |
| R-0 Wall | Exterior Walls | Wood Framed Wall | 2x4 @ 16 in. O. C. | R-0 | None / None | 0.361 | Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Exterior Finish: 3 Coat Stucco |
| R-15 Wall | Exterior Walls | Wood Framed Wall | 2x4 @ 16 in. O. C. | R-15 | None / None | 0.085 | Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco |
| R-0 Wall1 | Interior Walls | Wood Framed Wall | 2x4 @ 16 in. O. C. | R-0 | None / None | 0.277 | Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board |
| Attic Roof/Existing Living Area | Attic Roofs | Wood Framed Ceiling | 2x4 @ 24 in. O. C. | R-0 | None / None | 0.644 | Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4 |
| Attic Roof/New Living Area | Attic Roofs | Wood Framed Ceiling | 2x4 @ 24 in. O. C. | R-0 | None / None | 0.644 | Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4 |

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HERS Provider: HERS Provider

| 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 |
| 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 |

| HVAC - HEATING UNIT TYPES | | | |
|---------------------------|---------------------|-----------------|--------------------|
| 01 | 02 | 03 | 04 |
| Name | System Type | Number of Units | Heating Efficiency |
| Heating Component 1 | Central gas furnace | 1 | AJH-80 |

| HVAC - COOLING UNIT TYPES | | | | | | | |
|---------------------------|------------------|-----------------|---------------------|-----------------|--------------------|------------------------|-------------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
| Name | System Type | Number of Units | Efficiency EER/CEER | Efficiency SEER | Zonally Controlled | Multi-speed Compressor | HERS Verification |
| Cooling Component 1 | Central split AC | 1 | 11.7 | 14 | Not Zonal | Single Speed | Cooling Component 1-herc-cool |

| HVAC - DISTRIBUTION SYSTEMS | | | | | | | | | | | | | | | |
|-----------------------------|---------------------|--------------|--------|--------|--------|--------|--------|--------|----------------|--------------------------|----------------------------|----------------|-----------------------------|------------------------------|-----------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Name | Type | Design Type | Supply | Return | Supply | Return | Supply | Return | Bypass Duct | Duct Leakage | HERS Verification | Status | Verified Existing Condition | Existing Distribution System | New Ducts 40 ft |
| Air Distribution System 1 | Unconditioned attic | Non-Verified | R-6 | R-6 | Attic | Attic | n/a | n/a | No Bypass Duct | Existing (not specified) | Air Distribution on System | Existing + New | No | n/a | n/a |

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HERS Provider: HERS Provider

| OPAQUE SURFACES | | | | | | | | | | |
|--------------------|---------------------------------------|-----------------------|---------|-------------|-------------------------------|---|-----------|-----------------|----------|-----------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 |
| Name | Zone | Construction | Adimuth | Orientation | Gross Area (ft ²) | Window and Door Area (ft ²) | TIR (deg) | Wall Exceptions | Status | Verified Existing Condition |
| Left Wall | Existing Living Area | R-0 Wall | 225 | Left | 400 | 40 | 90 | none | Existing | No |
| Rear Wall | Existing Living Area | R-0 Wall | 315 | Back | 392 | 120 | 90 | none | Existing | No |
| Right Wall | Existing Living Area | R-0 Wall | 45 | Right | 336 | 61 | 90 | none | Existing | No |
| Front Wall | New Living Area | R-15 Wall | 135 | Front | 240 | 96 | 90 | Extension | New | n/a |
| Left Wall 2 | New Living Area | R-15 Wall | 225 | Left | 120 | 0 | 90 | Extension | New | n/a |
| Right Wall 2 | New Living Area | R-15 Wall | 45 | Right | 32 | 0 | 90 | Extension | New | n/a |
| Interior Surface | Existing Living Area->Garage | R-0 Wall1 | n/a | n/a | 200 | 15 | n/a | | Existing | No |
| Interior Surface 2 | New Living Area->Existing Living Area | R-0 Wall1 | n/a | n/a | 200 | 0 | n/a | | New | n/a |
| Roof 1 | Existing Living Area | R-11 Roof Attic | n/a | n/a | 1568 | n/a | n/a | | Existing | No |
| Roof 2 | New Living Area | R-30 Roof Attic | n/a | n/a | 363 | n/a | n/a | | New | n/a |
| Raised Floor | Existing Living Area | R-0 Floor Crawlspace | n/a | n/a | 1568 | n/a | n/a | | Existing | No |
| Raised Floor 2 | New Living Area | R-19 Floor Crawlspace | n/a | n/a | 363 | n/a | n/a | | New | n/a |
| Front Wall 2 | Garage | R-0 Wall | 135 | Front | 152 | 0 | 90 | none | Existing | No |
| Left Wall 3 | Garage | R-0 Wall | 225 | Left | 200 | 0 | 90 | none | Existing | No |
| Rear Wall 2 | Garage | R-0 Wall | 315 | Back | 152 | 0 | 90 | none | Existing | No |
| Right Wall 3 | Garage | R-0 Wall | 45 | Right | 200 | 0 | 90 | none | Existing | No |

Registration Number: CA Building Energy Efficiency Standards - 2019 Residential Compliance
 Report Version: 2019.1.300
 Schema Version: rev 20200901

Registration Date/Time: 2021-09-30T08:44:3

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Timothy Carstairs, CEA, HERS, GPR
Signature Date: 9/30/2021
Address: 2238 Bayview Heights Drive, Suite E
City/State/Zip: Los Osos, CA 93402
Phone: (805) 904-9048



RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

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

Responsible Designer Name: RAMIN Z.
Signature Date: 09.30.2021
Address: 14510 Big Basin Way B
City/State/Zip: Saratoga, CA
Phone: 408-497-5071

Registration Number: CA Building Energy Efficiency Standards - 2019 Residential Compliance
Report Version: 2019.1.300
Schema Version: rev.20200901

RESIDENTIAL MEASURES SUMMARY

| Construction Type | Area (ft²) | Special Features | Status |
|-----------------------------------|-----------------|------------------|----------|
| Wall - Wood Framed | - no insulation | 360 | Existing |
| Wall - Wood Framed | - no insulation | 272 | Existing |
| Wall - Wood Framed | - no insulation | 273 | Existing |
| Roof - Wood Framed Attic | R 11 | 1,568 | Existing |
| Dorming - Wood Framed | - no insulation | 185 | Existing |
| Floor - Wood Framed w/Crawl Space | - no insulation | 1,568 | Existing |
| Floor - Wood Framed | R 15 | 144 | New |
| Door - Operable Door | - no insulation | 36 | New |

| Orientation | Area (ft²) | U-Fac | SHGC | Overhang | Sidelines | Exterior Shades | Status |
|-------------|------------|-------|------|----------|-----------|-----------------|----------|
| Left (SW) | 30.0 | 0.300 | 0.23 | none | none | N/A | Atered |
| Left (SW) | 10.0 | 1.280 | 0.80 | none | none | N/A | Existing |
| Rear (NW) | 120.0 | 0.300 | 0.23 | none | none | N/A | Atered |
| Right (NE) | 21.0 | 0.300 | 0.23 | none | none | N/A | Atered |
| Right (NE) | 40.0 | 1.280 | 0.80 | none | none | N/A | Existing |
| Front (SE) | 60.0 | 0.300 | 0.23 | none | none | N/A | New |

| Location | Heating | Cooling | Duct Location | Duct R-Value | Status |
|-------------|---------|---------|---------------|--------------|---------|
| HVAC System | Ducted | Ducted | Attic | 6.0 | Allowed |

| Qty. | Heating | Min. Eff | Cooling | Min. Eff | Thermostat | Status |
|------|-----------------|----------|-----------------------|-----------|------------|----------|
| 1 | Central Furnace | 80% AFUE | Split Air Conditioner | 14.0 SEER | Setback | Existing |

| Qty. | Type | Gallons | Min. Eff | Distribution | Status |
|-----------------------------|-------------------|---------------|---------------|--------------|--------|
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RESIDENTIAL MEASURES SUMMARY

| Construction Type | Area (ft²) | Special Features | Status |
|-----------------------------------|-----------------|------------------|----------|
| Wall - Wood Framed | R 15 | 120 | New |
| Wall - Wood Framed | R 15 | 32 | New |
| Roof - Wood Framed Attic | R 30 | 363 | Existing |
| Dorming - Wood Framed | - no insulation | 200 | New |
| Floor - Wood Framed w/Crawl Space | R 19 | 363 | New |

| Orientation | Area (ft²) | U-Fac | SHGC | Overhang | Sidelines | Exterior Shades | Status |
|-------------|------------|-------|------|----------|-----------|-----------------|----------|
| Left (SW) | 30.0 | 0.300 | 0.23 | none | none | N/A | Atered |
| Left (SW) | 10.0 | 1.280 | 0.80 | none | none | N/A | Existing |
| Rear (NW) | 120.0 | 0.300 | 0.23 | none | none | N/A | Atered |
| Right (NE) | 21.0 | 0.300 | 0.23 | none | none | N/A | Atered |
| Right (NE) | 40.0 | 1.280 | 0.80 | none | none | N/A | Existing |
| Front (SE) | 60.0 | 0.300 | 0.23 | none | none | N/A | New |

| Location | Heating | Cooling | Duct Location | Duct R-Value | Status |
|-------------|---------|---------|---------------|--------------|---------|
| HVAC System | Ducted | Ducted | Attic | 6.0 | Allowed |

| Qty. | Heating | Min. Eff | Cooling | Min. Eff | Thermostat | Status |
|------|-----------------|----------|-----------------------|-----------|------------|----------|
| 1 | Central Furnace | 80% AFUE | Split Air Conditioner | 14.0 SEER | Setback | Existing |

| Qty. | Type | Gallons | Min. Eff | Distribution | Status |
|-----------------------------|-------------------|---------------|---------------|--------------|--------|
| EnergyPro 8.2 by EnergySoft | User Number: 6249 | ID: 21-060310 | Page 14 of 19 | | |

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:**
- § 110.0(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-600, ASTM E283 or ANSI/MINORCSA 100.5 (SI) and 2011.
 - § 110.0(a)(2): Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 10.111(A).
 - § 110.0(a)(3): Field Fabricated exterior doors and exterior products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.0(A), 110.0(B), or JAA.5 for exterior doors. They must be caulked and/or weather striped.
 - § 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 striped.
 - § 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 § 110.8(i) and be labeled per §110-113 when the installation of a cool roof is specified on the CFR.
 - § 110.8(d): Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
 - § 110.8(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 0.04 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 0.02 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 150.1A or B.
 - § 150.0(d): Raised-Floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.337 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(g).
 - § 150.0(g)(2): Vapor Retarder. In climate zones 14 and 16, a Class II or Class III vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
 - § 150.0(i): Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.28, or the regulated average U-factor of all fenestration must not exceed 0.28.
- Fireplaces, Decorative Gas Appliances, and Gas Log Measures:**
- § 110.5(a): Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
 - § 110.5(a)(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(a)(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-tight damper or combustion-air control device.
 - § 150.0(a)(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:**
- § 110.0(a) 110.3: Certification. Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showheats, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission.
 - § 110.2(a): HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2(A) through Table 110.2(K).
 - § 110.2(b): Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone, and in which the cut-out temperature for compression heating is higher than the cut-out 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 thermostat.
 - § 110.2(d): 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 connector requirements of § 110.2(d)(1) through § 110.2(d)(4).
 - § 110.2(e): Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kWh per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both hot and cold 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 gas cooktops without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour), and pool and spa heaters.
 - § 150.0(a)(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(a)(2).

2019 Low-Rise Residential Mandatory Measures Summary

- § 150.0(a)(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(a)(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(a)(1): Storage Tank Insulation. Unvented 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 with R-18 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
 - § 150.0(a)(2): 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 R-value of 7: the first feet of cold water pipes from the water heater tank, all hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than one inch, all hot water piping with a nominal diameter less than 3/4 inch that is associated with a domestic hot water recirculation system, from the heating source to storage tank or between tanks, and from the heating source to kitchen fixtures.
 - § 150.0(a)(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(c). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crackable casing or sleeve.
 - § 150.0(a)(1): Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: A dedicated 125 volt, 20 amp electrical circuit dedicated to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit, within three feet of the water heater without obstruction. Both ends of the unshielded conductor must be labeled with the word "gas" 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 "240V Line" or "3-Phase" or "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(a)(2): Recirculating Loops. Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c).
 - § 150.0(a)(3): Solar Water-heating Systems. Solar water-heating systems and accessories must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Innovation (IAFPO R&I), or by a listing agency that is approved by the Executive Director.
- Ducts and Fans Measures:**
- § 110.0(a)(3): Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
 - § 150.0(a)(1): CMV Compliance. All air-distribution systems must meet the requirements of the CMV §§ 601.0, 602.0, 602.0, 604.0, 606.0 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 the duct system completely exposed and surrounded by directly conditioned space are not required to be insulated. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 161, UL 181A, or UL 181C or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than 1/4 inch, the combination of mastic and other mesh or tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must be constructed to cause reductions in the cross-sectional area.
 - § 150.0(a)(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 drain brims.
 - § 150.0(a)(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(a)(7): Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
 - § 150.0(a)(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 condenser inlet and outlet air openings and elevator shaft vents.
 - § 150.0(a)(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 retardant and provides shielding from solar radiation.
 - § 150.0(a)(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(a)(11): Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupied space, the ducts must meet the requirements for duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(a)(1) and Reference Residential Appendix RA3.
 - § 150.0(a)(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 at least 4 inch if sized per Equation 150.0-A. Pressure drops and labeling must meet the requirements of § 150.0(a)(12). Filters must be accessible for regular service.
 - § 150.0(a)(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 >= 0.58 watts per CFM for electric air handlers. 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(a)(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(a)(1).
 - § 150.0(a)(2): Single Family Detached Dwelling Units. Single family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupying 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(a)(1).
 - § 150.0(a)(3): 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 <= 4.3 CFM at 50 Pa (0.2 inch water) per square foot of dwelling unit envelope surface area and verified in accordance with Reference Residential Appendix RA3.6.
 - § 150.0(a)(4): 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-D. All unit airflows must be within 20 percent of the unit with the lowest airflow rate as it relates to the individual unit's minimum required airflow rate needed for compliance.
 - § 150.0(a)(5): Kitchen Range Hoods. Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE 62.2.
 - § 150.0(a)(6): Field Verification and Diagnostic Testing. Dwelling unit ventilation airflow must be verified in accordance with Reference Residential Appendix RA3.7. A kitchen range hood must be verified in accordance with Reference Residential Appendix RA3.7.4.3 to confirm it is rated by HVI to comply with the airflow rates and sound requirements as specified in Section 5 and 7.2 of ASHRAE 62.2.
- Pool and Spa Systems and Equipment Measures:**
- § 110.4(a): Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations, an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting, a permanent waterproof 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 3/8 inch 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 full pumps to set or program on 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(a): 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:**
- § 110.8: Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.5.
 - § 150.0(a)(1A): Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.
 - § 150.0(a)(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. Those electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
 - § 150.0(a)(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(a)(1C).
 - § 150.0(a)(1D): Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.
 - § 150.0(a)(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(a)(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(A).
 - § 150.0(a)(1G): Screen Based Luminaires. Screen based luminaires must contain lamps that comply with Reference Joint Appendix JAB.
 - § 110.0(a)(2): 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, shall not be installed in enclosed or recessed luminaires.
 - § 150.0(a)(3): Light Sources in Drawers, Cabinets, and Linen Closets. Light sources installed in drawers, cabinets 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(a)(4): Interior Switches and Controls. All forward phase out dimmers used with LED light sources must comply with NEMA SS1.7A.
 - § 150.0(a)(5): Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems.
 - § 150.0(a)(6): Interior Switches and Controls. Luminaires must have readily accessible wall-mounted controls that allow the lighting to be manually turned ON and OFF.
 - § 150.0(a)(7): Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions.
 - § 150.0(a)(8): 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(A).
 - § 150.0(a)(9): Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.9.

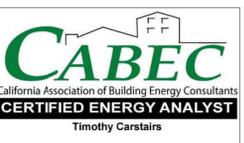
2019 Low-Rise Residential Mandatory Measures Summary

- § 150.0(a)(20): Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with control requirements if it provides functionality of the specified control according to § 110.9, meets the installation Certificate requirements of § 130.0, meets the EMCS requirements of § 130.0(a), and meets all other applicable requirements in § 150.0(a)(2).
 - § 150.0(a)(21): Interior Switches and Controls. A multifunction programmable controller may be used to comply with dimmer requirements in § 150.0(a)(2) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(a)(2).
 - § 150.0(a)(22): Interior Switches and Controls. In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic off functionality. If an occupant sensor is installed, it must be initially configured to manual-on operation using the manual control required under Section 150.0(a)(2).
 - § 150.0(a)(23): 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(a)(24): Interior Switches and Controls. Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
 - § 150.0(a)(25): Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirements in Item § 150.0(a)(24) (ON and OFF switch) and the requirements in either § 150.0(a)(24)(a) (photocell) and either a motion sensor or automatic time switch control) or § 150.0(a)(24)(b) (photocell time clock), or an EMCS.
 - § 150.0(a)(26): Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, outdoor lighting for private pools, entrances, balconies, and porches, and residential parking lots and carports with less than eight vehicles per site must comply with either § 150.0(a)(24) or with the applicable requirements in Sections 110.9, 130.0, 130.1, 130.2, 140.2, 140.7, and 141.0.
 - § 150.0(a)(27): 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(a)(24) or § 150.0(a)(26) must comply with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.1, 140.6 and 141.0.
 - § 150.0(a)(28): 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(f).
 - § 150.0(a)(29): Lighting 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, 140.6, 140.7, and 141.0.
 - § 150.0(a)(30): Interior Common Areas of Low-Rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must comply with Table 150.0-A and be controlled by an occupant sensor.
 - § 150.0(a)(31): 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: 1. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6 and 141.0; and 2. 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 designed paths of ingress and egress.
- Solar Ready Buildings:**
- § 110.10(a)(1): Single Family Residences. Single family residences located in subdivisions with 10 or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b) through § 110.10(c).
 - § 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(c).
 - § 110.10(a)(3): 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 comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise 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 net occupancy.
 - § 110.10(b)(2): Azimuth. All sections of the solar zone located on steep-sloped roofs must be oriented between 90 degrees and 300 degrees of true north.
 - § 110.10(b)(3A): Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof overhangs.
 - § 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 include: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
 - § 110.10(d): Documentation. A copy of the construction documents or a comparable document that includes the information from § 110.10(a) through § 110.10(c) must be provided to the occupant.
 - § 110.10(e)(1): Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps.
 - § 110.10(e)(2): Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric".

Carstairs Energy Inc.
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805-904-9048
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FRESH CONCRETE AND MORTAR APPLICATION
BEST MANAGEMENT PRACTICES FOR

- Masons and bricklayers
- Sidewalk construction crews
- Patio construction workers
- Construction inspectors
- General contractors
- Home builders
- Developers

- When cleaning up after driveway or sidewalk construction, wash fines onto dirt areas, not down the driveway or into the street or storm drain.
- Place hay bales or other erosion controls down-slope to capture runoff carrying mortar or cement before it reaches the storm drain.

GENERAL BUSINESS PRACTICES

- Both at your yard and the construction site, always store both dry and wet materials under cover, protected from rainfall and runoff. Protect dry materials from wind.
- Secure bags of cement after they are open. Be sure to keep wind-blown cement powder away from gutters, storm drains, rainfall, and runoff.
- Wash out concrete mixers only in designated wash-out areas in your yard, where the water will flow into containment ponds or onto dirt. Whenever possible, recycle washout by pumping back into mixers for reuse. Never dispose of washout into the street, storm drains, drainage ditches, or streams.

- When breaking up paving, be sure to pick up all the pieces and dispose properly.
- Recycle large chunks of broken concrete at a landfill.
- Dispose of small amounts of excess dry concrete, grout, and mortar in the trash.
- Never bury waste material.

STORM DRAIN POLLUTION FROM MASONRY AND PAVING

Fresh concrete and cement-related mortars that wash into lakes, streams, or estuaries are toxic to fish and the aquatic environment. Disposing of these materials to the storm drains or creeks causes serious problems and is prohibited by law.

DURING CONSTRUCTION

- Don't mix up more fresh concrete or cement than you will use in a day.
- Set up and operate small mixers on tarps or heavy plastic drop cloths.

LANDSCAPING, GARDENING, AND POOL MAINTENANCE

BEST MANAGEMENT PRACTICES FOR THE:

- Landscapers
- Gardeners
- Swimming pool/spa service and repair workers
- General contractors
- Home builders
- Developers

GENERAL BUSINESS PRACTICES

- Protect stockpiles and landscaping materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Store pesticides, fertilizers, and other chemicals indoors or in a shed or storage cabinet.
- Schedule grading and excavation projects for dry weather.
- Use temporary check dams or ditches to divert runoff away from storm drains.
- Protect storm drains with hay bales or other erosion controls.
- Revegetation is an excellent form of erosion control for any site.

POOL/FOUNTAIN/SPA MAINTENANCE

- Never discharge pool or spa water to a street or storm drain.
- OR
- When emptying a pool or spa, let chlorine dissipate for a few days, and then recycle/reuse water by draining it gradually onto a landscaped area.
- Contact the local sewage treatment authority. You may be able to discharge to the sanitary sewer by running a hose to a utility sink or sewer pipe cleanout junction.
- Do not use copper-based algacides unless absolutely necessary. Control algae with chlorine or other alternatives to copper-based pool chemicals. Copper is a powerful herbicide. Sewage treatment technology cannot remove all of the metals that enter a treatment plant.

LANDSCAPING/GARDEN MAINTENANCE

- Use up pesticides. Rinse containers, and use rinse water as product. Dispose of rinsed containers in the trash.
- Dispose of unused pesticide as hazardous waste.
- Collect lawn and garden clippings, pruning waste, and tree trimmings. Chip if necessary, and compost.
- In communities with curbside yard waste recycling, leave clippings and pruning waste for pickup in approved bags or containers. Or, take to a landfill that composts yard waste.
- Do not place yard waste in gutters.
- Do not blow or rake leaves, etc. into the street.

STORM DRAIN POLLUTION FROM LANDSCAPING AND SWIMMING POOL MAINTENANCE

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

HEAVY EQUIPMENT OPERATION

BEST MANAGEMENT PRACTICES FOR THE:

- Vehicle and equipment operators
- Site supervisors
- General contractors
- Home builders
- Developers

SITE PLANNING AND PREVENTIVE VEHICLE MAINTENANCE

- Designate one area of the construction site, well away from streams or storm drain inlets, for auto and equipment parking, refueling, and routine vehicle and equipment maintenance.
- Maintain all vehicles and heavy equipment. Inspect frequently for leaks.
- Perform major maintenance, repair jobs, vehicle and equipment washing off site.
- If you must drain and replace motor oil, radiator coolant, or other fluids on site, use drip pans or drop cloths to catch drips and spills. Collect all spent fluids, store in separate containers, and recycle whenever possible.
- Do not use diesel oil to lubricate equipment or parts.
- Clean up spills immediately when they happen.

- Never hose down dirty pavement or impermeable surfaces where fluids have spilled. Use dry cleanup method (absorbent materials, cat litter, and/or rags) whenever possible. If you must use water, use just enough to keep the dust down.
- Sweep up spilled dry materials immediately. Never attempt to wash them away with water or bury them. Use as little water as possible for dust control.
- Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- Report significant spills to the appropriate spill response agencies immediately.

STORM DRAIN POLLUTION FROM HEAVY EQUIPMENT ON THE CONSTRUCTION SITE

Poorly maintained vehicles and heavy equipment leaking fuel, oil, antifreeze or other fluids on the construction site are common sources of storm water pollution. Prevent spills and leaks by isolating equipment from runoff channels, and by watching for leaks and other maintenance problems. Remove construction equipment from the site as soon as possible.

PAINTING AND APPLICATION OF SOLVENTS AND ADHESIVES

BEST MANAGEMENT PRACTICES FOR THE: PAINTING CLEANUP

- Painters
- Paperhangers
- Plasterers
- Graphic artists
- Dry wall crews
- Floor covering installers
- General contractors
- Home builders
- Developers

- Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- For water based paints, paint out brushes to the extent possible, and rinse to the sanitary sewer.
- For oil based paints, paint out brushes to the extent possible, filter and reuse thinners and solvents. Dispose of excess liquids and residue as hazardous waste.

Keep all liquid paint products and wastes away from the gutter, street, and storm drains. Liquid residues from paints, thinners, solvents, glues and cleaning fluids are hazardous wastes. When they are thoroughly dry, empty paint cans, spent brushes, rags, and drop cloths may be disposed of as trash.

PAINT REMOVAL

- Chemical paint stripping residue is a hazardous waste.
- Chips and dust from marine paints or paints containing lead or tributyl tin are hazardous wastes. Dry sweep and dispose of appropriately.
- Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up and disposed as trash.
- When stripping or cleaning building exteriors with high-pressure water, block storm drains. Wash water onto a dirt area and spade into soil. Or, check with the local wastewater treatment authority to find out if you can collect (mop or vacuum) building cleaning water and dispose to the sanitary sewer.

WHAT CAN YOU DO?

- Recycle/reuse leftover paints whenever possible.
- Recycle excess water-based paint, or use up. Dispose of excess liquid, including sludges, as hazardous waste.
- Reuse leftover oil-based paint. Dispose of excess liquid, including sludges, as hazardous waste.

STORM DRAIN POLLUTION FROM PAINTS, SOLVENTS, AND ADHESIVES

All paints, solvents, and adhesives contain chemicals that are harmful to the wildlife in our creeks and Bay. Toxic chemicals may come from liquid or solid products or from cleaning residues or rags. It is especially important not to clean brushes in an area where paint residue can flow to a gutter, street, or storm drain.

Blueprint for a Clean Bay

BEST MANAGEMENT PRACTICES FOR THE CONSTRUCTION INDUSTRY.

SANTA CLARA VALLEY NONPOINT SOURCE POLLUTION CONTROL PROGRAM

EARTH MOVING ACTIVITIES

BEST MANAGEMENT PRACTICES FOR THE:

- Bulldozers, backhoe, and grading machine operators
- Dump truck drivers
- Site supervisors
- General contractors
- Home builders
- Developers

DURING CONSTRUCTION

- Remove existing vegetation only when absolutely necessary.
- Consider planting temporary vegetation for erosion control on slopes or where construction is not immediately planned.
- Protect downslope drainage courses, streams, and storm drains with hay bales or temporary drainage swales.
- Use check dams or ditches to divert runoff around excavations.
- Cover stockpiles and excavated soil with secured tarps or plastic sheeting.

GENERAL BUSINESS PRACTICES

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

DETECTING CONTAMINATED SOIL OR GROUNDWATER

As you know, contaminated groundwater is a common problem in the Santa Clara Valley. It is essential that all contractors and subcontractors involved in excavation and grading know what to look for in detecting contaminated soil or groundwater, and test ponded groundwater before pumping. See Blueprint for a Clean Bay, a construction best management practices guide available from the Santa Clara Valley Nonpoint Source Pollution Control Program, for details.

WATCH FOR ANY OF THESE CONDITIONS:

- Unusual soil conditions, discoloration, or odor
- Abandoned underground tanks
- Abandoned wells
- Buried barrels, debris, or trash

STORM DRAIN POLLUTION FROM EARTH-MOVING ACTIVITIES

Soil excavation and grading operations loosen large amounts of soil that can flow or blow into storm drains if handled improperly. Soil erodes due to a combination of decreased soil stability, increased runoff, and increased flow velocity. Some of the most effective erosion control practices reduce the amount of runoff crossing a site and slow the flow with check dams or roughened ground surfaces.

ROADWORK AND PAVING

BEST MANAGEMENT PRACTICES FOR THE:

- Road Crews
- Driveway/sidewalk/parking lot construction crews
- Seal coat contractors
- Operators of: grading equipment paving machines dump trucks concrete mixers
- Construction inspectors
- General contractors
- Developers

WHAT CAN YOU DO?

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

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

DURING CONSTRUCTION

- Avoid paving and seal coating in wet weather, or when rain is forecast before fresh pavement will have time to cure.
- Cover and seal catch basins and manholes when applying seal coat, slurry seal, fog seal, etc.
- Use check dams, ditches, or berms to divert runoff around excavations.

ASPHALT/CONCRETE REMOVAL

- Avoid creating excess dust when breaking asphalt or concrete.
- After breaking old pavement, be sure to remove all chunks and pieces.
- Make sure broken pavement does not come in contact with rainfall or runoff.
- Shovel or vacuum saw-cut slurry and remove from the site. Cover or barricade storm drain during saw-cutting if necessary.
- Never hose down streets to clean up tracked dirt.

STORM DRAIN POLLUTION FROM ROADWORK

Road paving, surfacing, and pavement removal happen right in the street, where there are numerous opportunities for storm drain contamination by asphalt, saw-cut slurry, or excavated material. Extra planning is required to store and dispose of materials properly and guard against pollution of storm drains and creeks.

GENERAL CONSTRUCTION AND SITE SUPERVISION

BEST MANAGEMENT PRACTICES FOR THE: MATERIALS/WASTE/HANDLING

- Construction industry

WHAT CAN YOU DO?

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

STORM DRAIN POLLUTION FROM CONSTRUCTION ACTIVITIES

Construction sites are common sources of storm water pollution. Materials and wastes that blow or wash into a storm drain, gutter or street have a direct impact on local creeks and the Bay. As a contractor, site supervisor, owner or operator of a site, you may be responsible for any environmental damage caused by your subcontractors or employees.

BEST MANAGEMENT PRACTICES FOR STORM WATER POLLUTION PREVENTION

Spill Response Agencies

- Dial 911
- Santa Clara Valley Water District Environmental Compliance Division (408) 927-0710.
- Governor's Office of Emergency Services Warning Center (800) 852-7550 (24 hours).

Local Pollution Control Agencies

- Santa Clara County Office of Toxics and Solid Waste Management (408) 441-1195
- Santa Clara Valley Water District (408) 927-0710
- San Jose/Santa Clara Water Pollution Control Plant (408) 945-5300
- Serving Campbell, Cupertino, Los Gatos, Milpitas, Monte Sereno, San Jose, Santa Clara and Saratoga
- Sunnyvale Water Pollution Control Plant (408) 730-7270
- Palo Alto Regional Water Quality Control Plant (415) 329-2598
- Serving East Palo Alto, Los Altos, Los Altos Hills, Mountain View, Palo Alto, and Stanford

Thirteen valley cities have joined together with Santa Clara County and the Santa Clara Valley Water District to educate local residents and businesses and fight storm drain pollution.

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

ORDINANCE OF THE CITY OF CAMPBELL ESTABLISHING REQUIREMENTS FOR STORM WATER POLLUTION CONTROL

- Criminal Penalties.** Any person who violates any provision of this article shall be guilty of a misdemeanor and upon conviction thereof shall be punishable by imprisonment for a term not to exceed six (6) months or by a fine not to exceed \$1000 or by both. Each and every violation of this chapter shall constitute a separate offense. Every day each such violation continues shall be an additional offense.
- Civil Penalties.** Any person who violates any provision of this chapter shall be civilly liable to the City of Campbell in a sum not to exceed \$1000 per day for each day in which the violation occurs. Each and every violation of this chapter shall constitute a separate offense. Every day each such violation continues shall be an additional offense.
- Civil Liability.** Any person who violates any provision of this chapter shall be civilly liable to the City of Campbell for all costs, including attorneys fees, associated with the investigation and remediation of environmental conditions caused by the discharge of pollutants into the Municipal Storm Drain System or a Watercourse in violation of this chapter.
- Remedies Cumulative.** The remedies provided for in this chapter are cumulative and not exclusive and shall be in addition to any and all other remedies available to the City of Campbell under State and Federal Law.

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| Chgd | By | Date | Revision | No. | Date: 07/01/03 | Drawn By: | Designed By: |
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| PLAN FOR THE IMPROVEMENT OF BLUEPRINT FOR A CLEAN BAY ENCROACHMENT PERMIT NO. | | | | | | | |
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| SCALE: N.T.S. | | | | | | | |
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R. Johnson