GENERAL NOTES

1. PRIOR TO SUBMITTING COST PROPOSAL, THE CONTRACTOR/OWNER SHALL VERIFY EXISTING CONDITIONS ON SITE & REVIEW MODIFICATIONS AND DIMENSIONS REQUIRED TO SUIT THE CONTRACT DOCUMENTS.

2. CONTRACT DOCUMENTS ARE COMPLEMENTARY. WHAT IS CALLED FOR ON ANY DOCUMENT WILL BE BINDING AS IF CALLED FOR ON ALL DOCUMENTS. ALL WORK SHOWN OR REFERENCED ON ANY CONSTRUCTION DOCUMENT SHALL BE PROVIDED AS THOUGH SHOWN ON ALL RELATED DOCUMENTS.

3. SHOULD CONFLICT OCCUR IN OR BETWEEN DRAWINGS AND SPECIFICATION OR WHERE DETAIL REFERENCES ON CONTRACT DRAWINGS HAVE BEEN OMITTED, CONTRACTOR/OWNER IS DEEMED TO HAVE ESTIMATED THE MOST EXPENSIVE MATERIALS AND CONTRACTOR INVOLVED .

4.. ALL WORK SHALL MEET FEDERAL, STATE AND LOCAL BUILDING CODES AND ORDINANCES IN EFFECT AT THE TIME OF CONSTRUCTION.

5.. THE CONTRACTOR SHALL REMOVE ALL RUBBISH AND WASTE MATERIALS ON A REGULAR BASIS, AND SHALL EXERCISE STRICT CONTROL OVER JOB CLEANING TO PREVENT ANY DIRT, DEBRIS OR DUST FROM AFFECTING FINISHED AREAS IN OR OUTSIDE OF THE JOB SITE. THE BUILDING REFUSE FACILITIES SHALL NOT BE USED FOR THIS PURPOSE WITHOUT PERMISSION FROM BUILDING OWNER.

6.. THE CONTRACTOR SHALL CONFINE OPERATIONS AT THE SITE TO AREAS PERMITTED BY LAW, ORDINANCES, PERMITS AND CONTRACT DOCUMENTS, AND SHALL NOT UNREASONABLY ENCUMBER THE SITE WITH ANY MATERIALS OR EQUIPMENT.

7. THE CONTRACTOR SHALL LEAVE THE PREMISES AND ALL AREAS CLEAN AND IN AN ORDERLY MANNER READY FOR OCCUPANCY AT THE END OF THE PROJECT.

8. THE CONTRACTOR/OWNER SHALL SUBMIT TO THE OWNER FOR APPROVAL, A DETAILED CONSTRUCTION SCHEDULE SHOWING PHASING AND TIME ALLOTMENT OF WORK.

9. THE CONTRACTOR/OWNER, OR SUBCONTRACTORS, SHALL SECURE AND PAY FOR ALL PERMITS, GOVERNMENTAL FEES AND LICENSES REQUIRED FOR PROPER COMPLETION OF THE WORK. THE CONTRACTOR SHALL REQUEST ALL INSPECTIONS REQUIRED BY LOCAL GOVERNMENTAL AGENCIES AND COORDINATE THE WORK ACCORDINGLY.

10. CONSTRUCTION LIABILITY: CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS AGREE THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS FURTHER AGREE TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL

11. CONTRACTOR/OWNER SHALL BE RESPONSIBLE FOR ACCURATE LOCATION OF PLOT LINES, BOUNDARIES, AND FOR MAINTAINING PROPER RELATIONSHIPS TO SUCH AS INDICATED ON CIVIL DRAWINGS IF APPLICABLE.

12. THE CONTRACTOR/OWNER SHALL PROVIDE POSITIVE DRAINAGE OF SURFACE WATER WITHOUT PONDING OF WATER ADJACENT TO BUILDING OR ON PAVEMENTS. DRAINAGE OF PAVED AREAS TO BE AS SHOWN ON CIVIL ENGINEER'S DRAWINGS.

13. ALL PATCHING, REPAIRING AND REPLACING OF MATERIALS AND SURFACES CUT OR DAMAGED IN EXECUTION OF WORK SHALL BE DONE WITH APPLICABLE MATERIALS SO THAT SURFACES REPLACED WILL, UPON COMPLETION, MATCH SURROUNDING SIMILAR SURFACES.

14. ALL VENTS THROUGH ROOF SHALL BE KEPT AT A MINIMUM HEIGHT CONSISTENT WITH APPLICABLE CODES.

15. ALL OPEN JOINTS, PENETRATIONS AND OTHER OPENINGS IN THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED OR WEATHERSTRIPPED TO LIMIT AIR LEAKAGE.

16. ELECTRICAL, MECHANICAL, AND PLUMBING SYSTEMS ARE "DESIGN/BUILD." PERFORMANCE SPECIFICATIONS AS WELL AS EQUIPMENT SIZES ARE TO BE REVIEWED BY THE DESIGNER AND OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK.

17. ALL MECHANICAL, ELECTRICAL AND PLUMBING LOCATIONS SHOWN ON DESIGNERS PLANS ARE FOR DESIGN INTENT ONLY. ALL ELECTRICAL, MECHANICAL AND PLUMBING WORK ARE TO BE PROVIDED AS PART OF THIS PACKAGE PER THE LOCAL JURISDICTION.

18. PLUMBING AND EQUIPMENT VENTING: WHERE FEASIBLE, VENT ALL PLUMBING FIXTURES, EXHAUST VENTS, FURNACE, AND WATER HEATER TO ROOF. VERIFY ALL LOCATIONS OF VENTS WITH DESIGNER AND OWNER PRIOR TO INSTALLATION.

19. PROVIDE WATER-RESISTANT GYPSUM BOARD AT ALL BATH, TOILET, AND LAUNDRY ROOM WALLS THAT WILL BE PAINTED.

20. CONTRACTOR/OWNER TO COORDINATE WITH OWNER FOR OWNER-PROVIDED MATERIALS AND PRODUCTS.

21. ANY AND ALL MATERIALS SUPPLIED BY OWNER SHALL BE INSTALLED BY CONTRACTOR/OWNER (I.B.C.), UNLESS OTHERWISE NOTED. CONTRACTOR/OWNER SHALL COORDINATE WITH OWNER FOR REQUIRED SCHEDULING AND ORDERING INFORMATION. CONTRACTOR/OWNER SHALL ASSIST IN DETERMINING QUANTITIES WHEN REQUIRED.

22. ADEQUATE PREPARATION OF THE SUBSTRATE IS IMPERATIVE TO PROPER BONDING OF THE PAINT. PREP EACH SUBSTRATE AS RECOMMENDED BY MANUFACTURER. THOROUGHLY CLEAN ALL SURFACES. REMOVE ANY PAINT WHERE BONDING FAILURE IS EVIDENT AND ROUGHEN SURFACES AS REQUIRED FOR ADHESION OF NEW PAINT.

23. ALL WOOD SHALL BE PAINTED AS FOLLOWS: EXTERIOR - THREE COAT (STAIN AND SEAL WHERE INDICATED), INTERIOR: TWO COAT (STAIN AND SEAL WHERE INDICATED)

24. COLORS WILL BE PROVIDED AND SELECTED BY OWNER. FINAL ACCEPTANCE OF COLORS WILL BE FROM JOB-APPLIED SAMPLES. PROVIDE FULL-COAT FINISH SAMPLES ON SURFACE WITH A MINIMUM SIZE OF 25 S.F. FOR APPROVAL BY OWNER.

25. INSTALLATION INSTRUCTIONS FOR ALL LISTED EQUIPMENT SHALL BE PROVIDED TO THE FIELD INSPECTOR AT TIME OF INSPECTION. CMC 303.1.

26. ROOFING ASSEMBLIES
    1) ROOFING ASSEMBLIES SHALL BE DESIGNED TO PREVENT THE INTRUSION OF FLAMES AND EMBERS BETWEEN THE ROOF COVERING AND THE ROOF DECKING.
    2) ROOF VALLEY FLASHING SHALL BE MADE OF NOT LESS THAN 26-GAUGE GALVANIZED SHEET METAL INSTALLED OVER A MINIMUM 36" WIDE UNDER-LAYMENT OF ONE LAYER OF 72" CAP SHEET RUNNING THE FULL LENGTH OF THE VALLEY.

BUILDING INFORMATION

APPLICABLE CODES

RESIDENTIAL CODE	CRC, 2016
BUILDING CODE	CBC, 2016
MECHANICAL CODE	CMC, 2016
PLUMBING CODE	CPC, 2016
ELECTRICAL CODE	CEC, 2016
FIRE CODE	CFC, 2016
STATE AMENDMENTS	CBC 2016
CALIFORNIA GREEN BUILDING CODE	2016
CA TITLE 24 BUILDING CODES	2016
ENERGY CODE	CEC 2016

BUILDING.PLANNING

ZONE	R1-S-17
OCCUPANCY	R3 (RESIDENTIAL) / U (GARAGE)
REQ'D FIRE SEPARATION	NONE
CONSTRUCTION TYPE	V. B
SPRINKLERED	YES
FRONT SETBACK	20'-0"
REAR SETBACK	20'-0"
SIDE SETBACK	8'-0"
SIDE SETBACK	7'-0"
WILDLAND URBAN INTERFACE	NO
FLOOD ZONE	NO

BUILDING INFORMATION

PROJECT NAME	NEW RESIDENCE
PROJECT ADDRESS	463 THE ALAMEDA
APN NUMBER	047212150
PROPOSED USE	PRIVATE RESIDENCE

GEOTECHNICAL REQUIREMENTS

1. THE GEOTECHNICAL REPORT, NAMED "STEADMAN PROPERTY APN 047-212-150", DATED NOVEMBER 2019 BY SIGMA PRIME GEOSCIENCES SHALL BE RETAINED ON THE CONSTRUCTION SITE.
2. THE GEOTECHNICAL ENGINEER OF RECORD IS CHARLES M. KISSICK WITH THE CONTACT NUMBER 650-728-3590 AND THE EMAIL ADDRESS SIGMAPRM@GMAIL.COM. THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER OF RECORD AT LEAST 48 HOURS BEFORE CONSTRUCTION OF GEOTECHNICAL RELATED WORK.
3. THE GEOTECHNICAL PART OF CONSTRUCTION WORK, INCLUDING BUT NOT LIMITED TO, ALL THE EARTHWORK AND FOUNDATION CONSTRUCTIONS, MUST SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER OF RECORD.

DEFFERED SUBMITTALS

1. RESIDENTIAL AUTOMATIC FIRE SPRINKLER SYSTEM PER NFPA 13D REQUIREMENTS. FOR RESIDENCE AND ITS ATTACHED GARAGE WILL BE UNDER A SEPARATE PERMIT APPLICATION TO BE SUBMITTED TO THE COUNTY FOR FIRE PLAN REVIEW.

CALGREEN REQUIREMENTS

1. SECTION 4.406.1 - PROTECT ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS AT EXTERIOR WALLS AGAINST THE PASSAGE OF RODENTS.
2. SECTION 4.504.2.1 - ADHESIVES, SEALANTS AND CAULKS SHALL BE COMPLIANT WITH VOC AND OTHER TOXIC COMPOUND LIMITS
3. SECTION 4.504.2.2 - PAINTS, STAINS AND OTHER COATINGS SHALL BE COMPLIANT WITH VOC LIMITS
4. SECTION 4.504.5 - PARTICLEBOARD, MEDIUM DENSITY FIBERBOARD (MDF) AND HARDWOOD PLYWOOD USED IN INTERIOR FINISH SYSTEMS SHALL COMPLY WITH LOW FORMALDEHYDE EMISSION STANDARDS.
5. SECTION 4.505.3 - CHECK MOISTURE CONTENT OF BUILDING MATERIALS USED IN WALL AND FLOOR FRAMING BEFORE ENCLOSURE

PROJECT DESCRIPTION

1. NEW 2-STORY CUSTOM HOME TOTAL 2,558 SQFT.

VICINITY MAP

SHEET INDEX

CONTACT LIST

OWNER	JOHN STEADMAN EL GRANADA, CA 94019 [CONTACT] JOHN STEADMAN 650.743.2275
DESIGNER DESIGN EVEREST STRUCTURAL DESIGN	425 1ST ST #4904 SAN FRANCISCO, CA, 94105 [T] 650.793.4151 [CONTACT] JOSH KRUMM
STRUCTURAL ENGINEER VELLENO ENGINEERING	1690 WOODSIDE ROAD REDWOOD CITY, CA, 94061 [T] 650.556.1137 [CONTACT] HARRY VELLENO
CIVIL ENGINEER GEOTECHNICAL ENGINEER SIGMA PRIME GEOSCIENCES	332 PRINCETON AVENUE HALF MOON BAY, CA, 94019 [T] 650.728.3590 [CONTACT] CHARLES M. KISSICK
TITLE 24 BAY AREA ENERGY COMPLIANCE	7408 POTRERO AVE. EL CERRITO, CA. 94530 [T] 510.932.5858 [CONTACT] FRNK CUTHBERT [E] TITLE24ANDGREENPOINT@GMAIL.COM

SYMBOL LEGEND

KEY NOTE	00
ELEVATION TAG	X/AX.X
SECTION TAG	X/AX.X
RENDERING/PHOTO TAGS	1 / AX.X
DETAIL TAG	1 / AX.X
DOOR TAG	X
WINDOW TAG	A

365 FLOWER LANE
MOUNTAIN VIEW, CA 94043
PHONE: (888) 311-3015 FAX: (650) 695-1801

COVER SHEET, INDEX, GENERAL NOTES

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

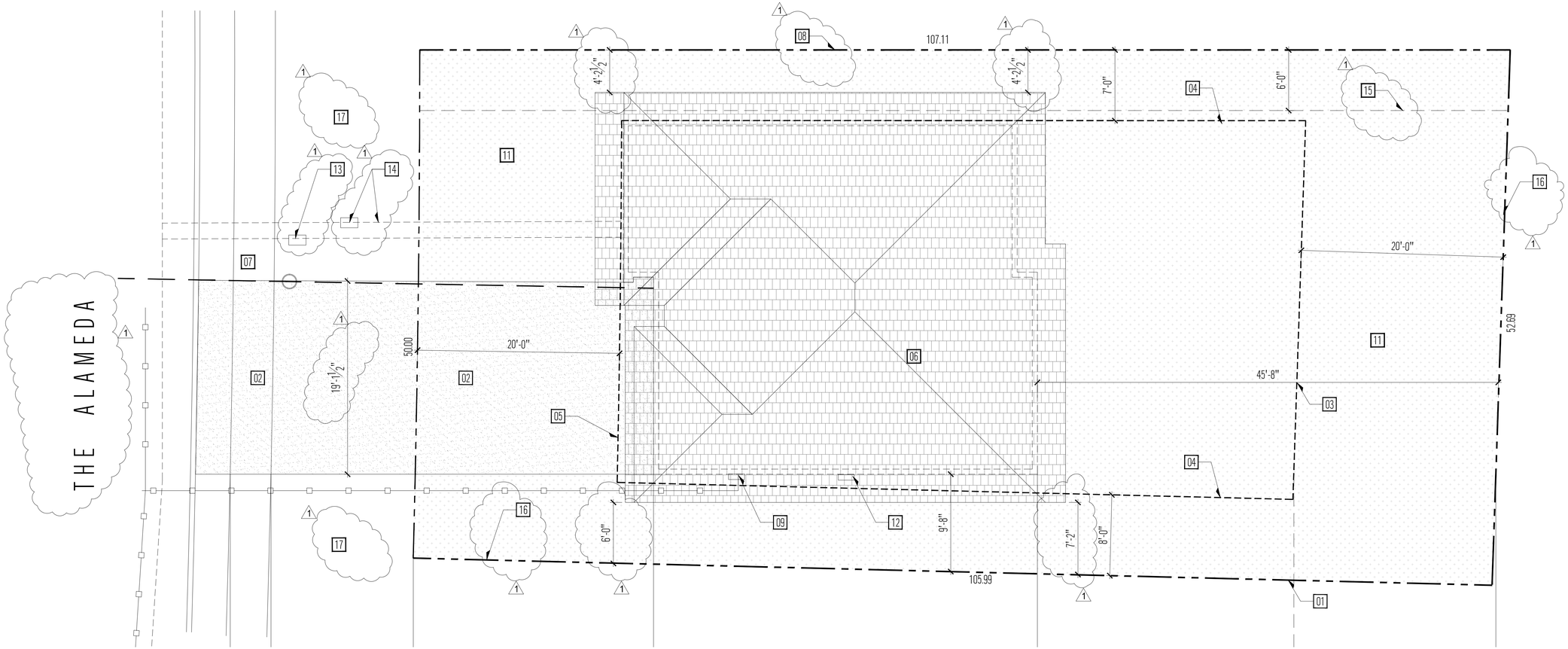
REV	DATE	DESCRIPTION
1	06/10/20	RESPONSE TO CITY COMMENTS
2	'	'
3	'	'
4	'	'
5	'	'

SIGN DATE: 12-02-2019
DATE: AS NOTED
SCALE: AS NOTED
DRAWN BY: JM
CKD BY: AP
PROJECT #: 201908085

A0.0

SITE PLAN

3/16"=1'-0" 01



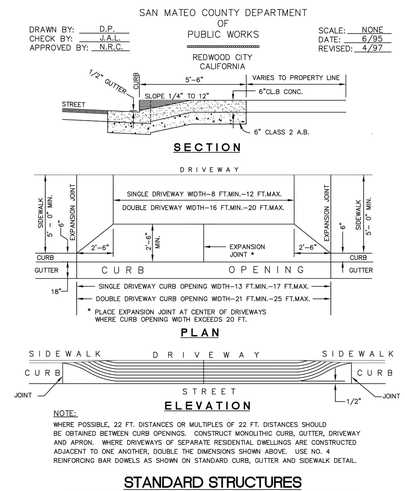
SITE INFORMATION / CALCULATIONS

FIRST FLOOR LIVING (INCLUDING STAIRS)	881 SQ FT.
SECOND FLOOR LIVING	1,211 SQ FT.
GARAGE	430 SQ FT.
PORCH	36 SQ FT.
TOTAL LIVING	2,092 SQ FT.
TOTAL (INCLUDING GARAGE & PORCH)	2,558 SQ FT.
MAXIMUM FLOOR AREA RATIO	5,545 x .53 = 2,940 SQFT=53%
PROPOSED FLOOR AREA RATIO	2,558 /5,549 = 46%
MAXIMUM LOT COVERAGE	5,549 x .35 = 1,942 SQFT=35%
PROPOSED LOT COVERAGE	1,311 / 5,549 = 24%
SIDE SETBACK CALCULATION	
SIDE SETBACK	8'-0" TOTAL
SIDE SETBACK	7'-0" TOTAL
SIDE SETBACK DETERMINATION TOTAL	15'-0" TOTAL

SYMBOL LEGEND

PROPERTY LINE	100.00
NEW CONCRETE PAVING	
NEW LANDSCAPING	
SETBACK LINE	
NEW GAS LINE	
NEW SANITARY SEWER LINE	

DRIVEWAY DETAILS



SITE PLAN GENERAL NOTES

1. ANY CONSTRUCTION WITHIN THE CITY'S PUBLIC ROAD RIGHT-OF-WAY SHALL HAVE AN APPROVED PERMIT FOR CONSTRUCTION IN THE PUBLIC STREET PRIOR TO COMMENCEMENT OF THIS WORK. THE PERFORMANCE OF THIS WORK IS NOT AUTHORIZED BY THE BUILDING PERMIT ISSUANCE BUT SHOWN ON THE BUILDING PERMIT FOR INFORMATION ONLY."
2. CONTRACTOR SHALL NOT STAGE, STORE, OR STOCKPILE ANY MATERIAL OR EQUIPMENT WITHIN THE PUBLIC ROAD RIGHT-OF-WAY." CONSTRUCTION PHASING SHALL BE COORDINATE TO KEEP MATERIALS AND EQUIPMENT ONSITE.
3. THE CONTRACTOR MAY BE REQUIRED TO SUBMIT A LOGISTICS PLAN TO THE PUBLIC WORKS DEPARTMENT PRIOR TO COMMENCING WORK THAT ADDRESSES ALL IMPACTS TO THE CITY'S RIGHT-OF-WAY, INCLUDING, BUT NOT LIMITED TO: PEDESTRIAN CONTROL, TRAFFIC CONTROL, TRUCK ROUTES, MATERIAL DELIVERIES, CONTRACTOR'S PARKING, CONCRETE POURS, CRANE LIFTS, WORK HOURS, NOISE CONTROL, DUST CONTROL, STORM WATER POLLUTION PREVENTION, CONTRACTOR'S CONTACT, NOTICING OF AFFECTED SURROUNDING PROPERTIES , AND SCHEDULE OF WORK. THE REQUIREMENT TO SUBMIT A LOGISTICS PLAN WILL BE DEPENDENT ON THE NUMBER OF APPLICATIONS PUBLIC WORKS ENGINEERING RECEIVES WITHIN CLOSE PROXIMITY TO HELP MITIGATE AND CONTROL THE IMPACT TO THE PUBLIC-RIGHT-OF-WAY. IF NECESSARY, PUBLIC WORKS MAY REQUIRE A LOGISTICS PLAN DURING CONSTRUCTION.

SITE PLAN KEYNOTES

01	PROPERTY LINE	11	NEW LANDSCAPE AREAS
02	NEW CONCRETE DRIVEWAY	12	NEW 200AMP ELEC. PANEL
03	REAR SETBACK	13	NEW 1" WATER METER WITH 1 1/2" WATER LINE TO FIRE SPRINKLERS
04	SIDE SETBACK	14	NEW 1" WATER LINE TO NEW 5/8" WATER METER
05	FRONT SETBACK	15	EXISTING SANITARY SEWER EASEMENT
06	NEW ROOF AREA	16	EXISTING FENCE
07	EXISTING SIDEWALK	17	NO LANDSCAPING IN RIGHT OF WAY
08	NEW 6'-0" FENCE		
09	NEW GAS METER LOCATION		
10	NEW CONCRETE PATIO & WALKWAY		

365 FLOWER LANE
MOUNTAIN VIEW, CA 94043
PHONE: (888) 311-3015 FAX: (650) 695-1801

SITE PLAN

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

REV	DATE	DESCRIPTION
1	06/10/20	RESPONSE TO CITY COMMENTS
2	-	-
3	-	-
4	-	-
5	-	-

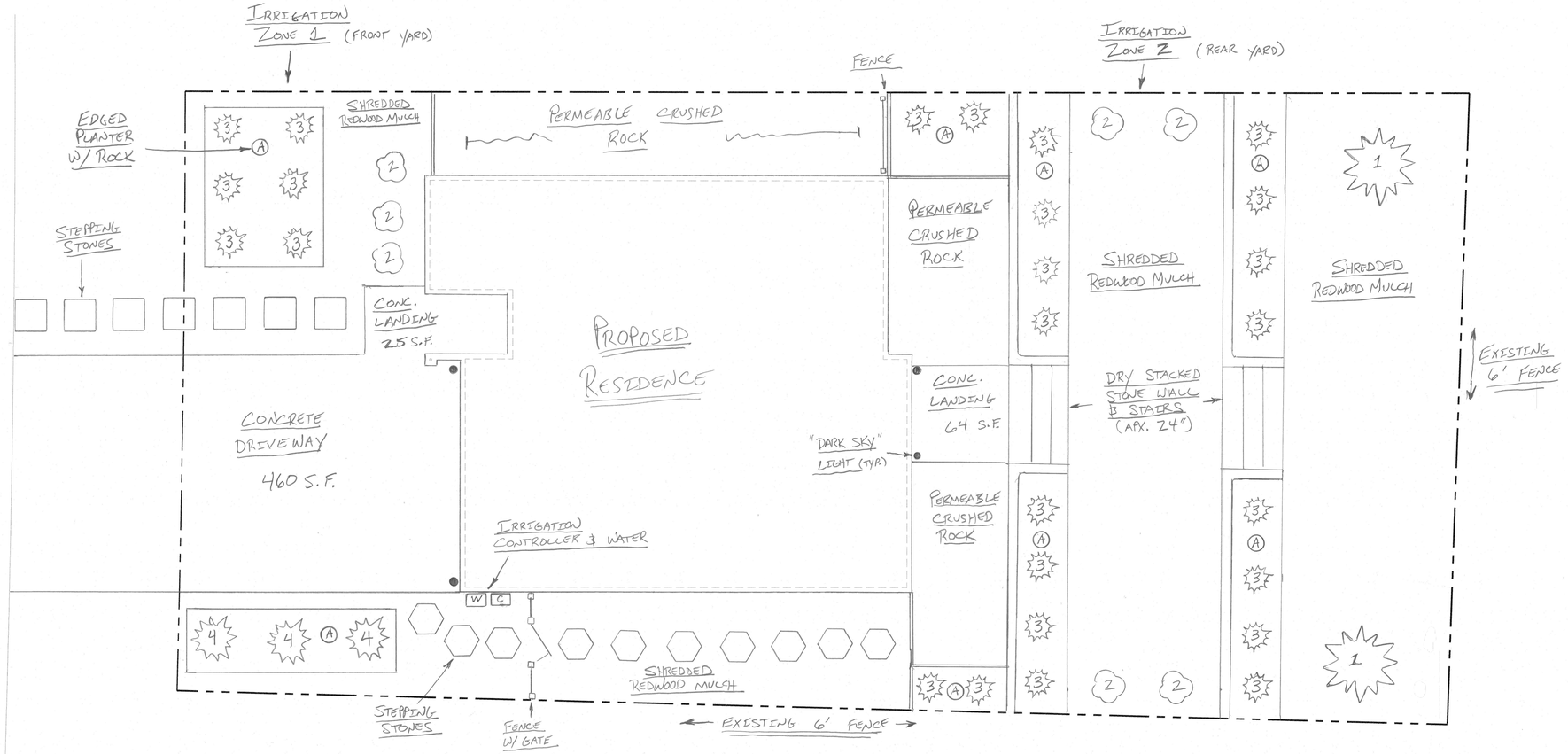
SIGN DATE: 12-02-2019
DATE: AS NOTED
SCALE: AS NOTED
DRAWN BY: JM
CKD BY: AP
PROJECT #: 201908085

A1.0

Project Data

Parcel Size: 5549 SF
Non-Landscape Area: 4195 SF
Total Irrigated
Landscape Area: 1354 SF

The Alameda



Irrigation Notes

- Water main supply to be 3/4" tee off domestic supply (location noted on plan)
- Separate shutoff to be provided
- Programmable electronic controller to be installed (location noted on plan)
- Each zone will have a back flow preventer and be supplied by a 1/2" lateral supply line
- All plants will be irrigated with drip systems. No sprinklers to be installed.

Plant Legend & WUCOLS Calculation

# 1	Taxus baccata 'Fastigiata'	Irish yew	Moderate/ Medium	0.5	2 Total
# 3	Stipa tenuissima (Nassella tenuissima)	Mexican feather grass	Low	0.2	26 Total
# 4	Pennisetum orientale	Chinese fountain grass	Moderate/ Medium	0.5	3 Total
# 2	Euonymus japonicus	evergreen euonymus	Low	0.2	7 Total
	Average WUCOLS Factor			0.239	

Plan Notes

- An average WUCOLS plant factor 0.3 3-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas except turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated
- Automatic weather-based or soil-moisture based irrigation controllers shall be installed on the irrigation system
- Pressure regulators shall be installed on the irrigation system to ensure dynamic pressure of the system is within the manufacturer's recommended pressure range
- Manual-shut-off valves shall be installed as close as possible to the point of connection of the water supply
- Areas less than 10-feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray
- At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule of landscape and irrigation maintenance
- Unless contradicted by a soils test, compost at a rate of a minimum of four cubic yards per 1,000 sq. ft. of permeable area shall be incorporated to a depth of six inches into the soil

Preparer

John Steadman
P.O Box 2033
El Granada, CA 94018
650-743-2275

DESIGN EVEREST
CONSULTING ENGINEERS
365 FLOWER LANE
MOUNTAIN VIEW, CA 94043
PHONE: (888) 311-3015 FAX: (650) 695-1801

LANDSCAPE PLAN

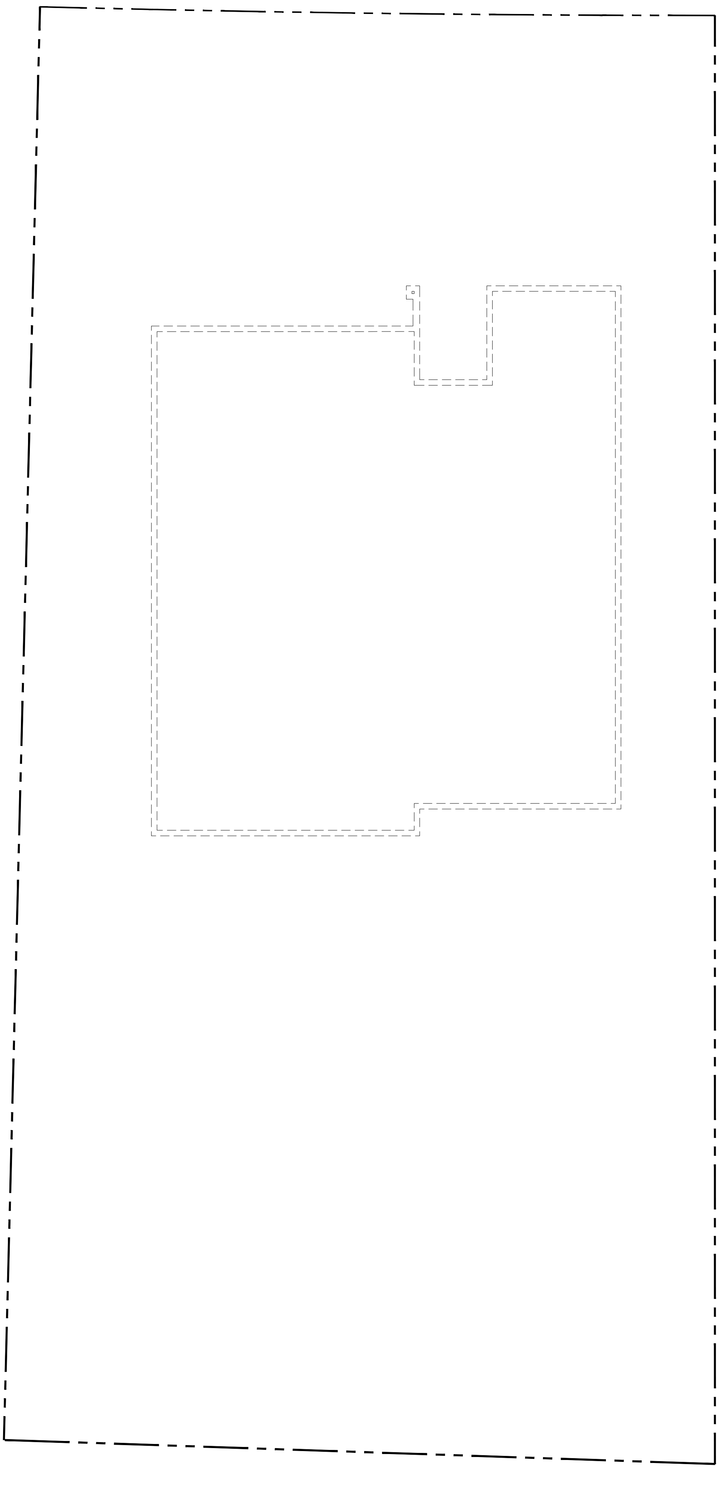
NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94019

REV	DATE	DESCRIPTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

SIGN DATE: 12-02-2019
DATE: AS NOTED
SCALE: AS NOTED
DRAWN BY: JM
CKD BY: AP
PROJECT #: 201908085

A1.1

CABRILLO AVENUE



3/16"=1'-0"

01

A1.1

PROJECT #: 20190805
CKD BY: AP
DRAWN BY: JM
SCALE: AS NOTED
DATE: AS NOTED
SIGN DATE: 12-02-2019

REV	DATE	DESCRIPTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

LANDSCAPE PLAN

NEW RESIDENCE

APN # 047212150
EL GRANADA, CA 94019

DESIGN EVEREST
CONSULTING ENGINEERS
365 FLOWER LANE
MOUNTAIN VIEW, CA 94043
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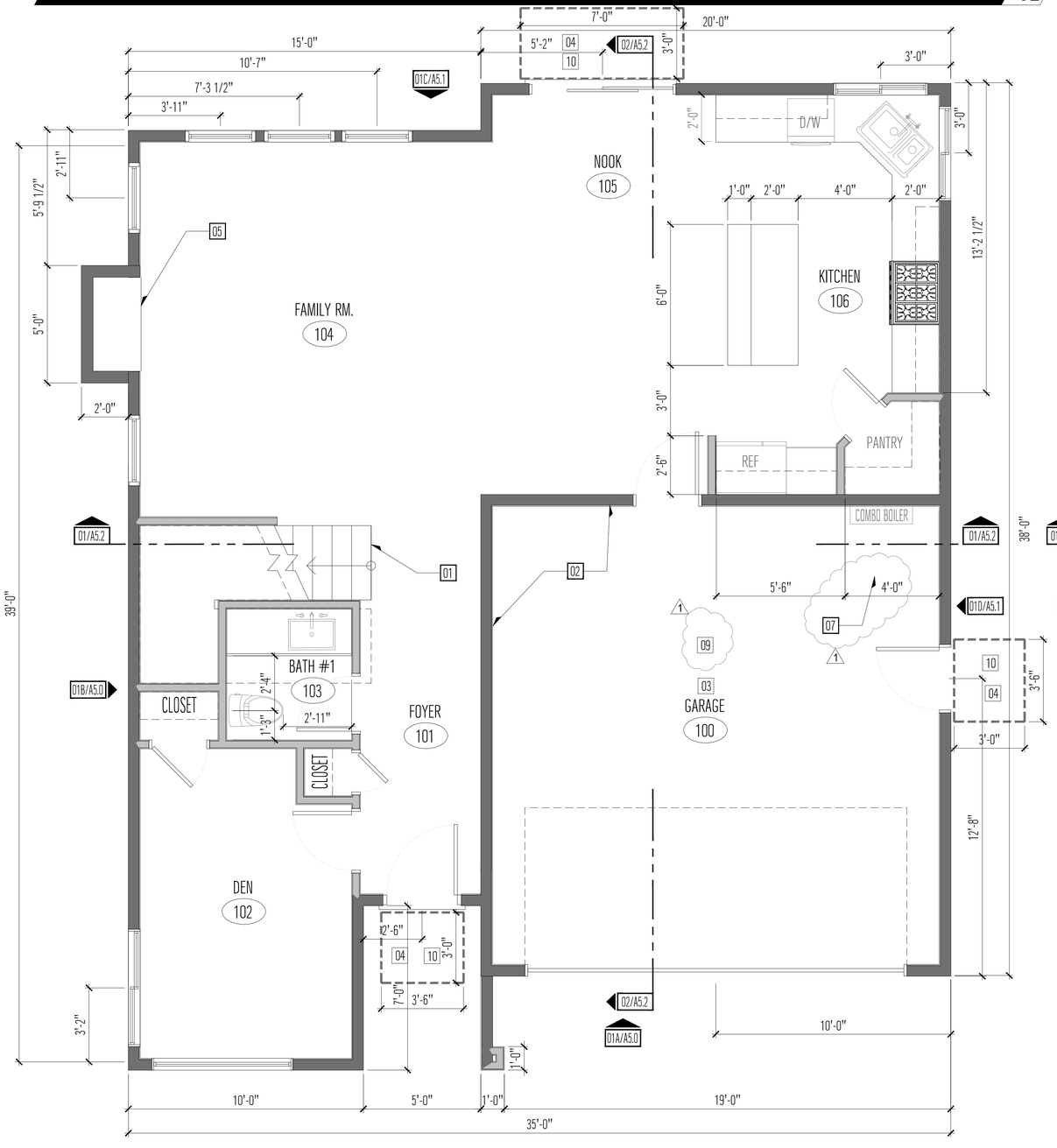
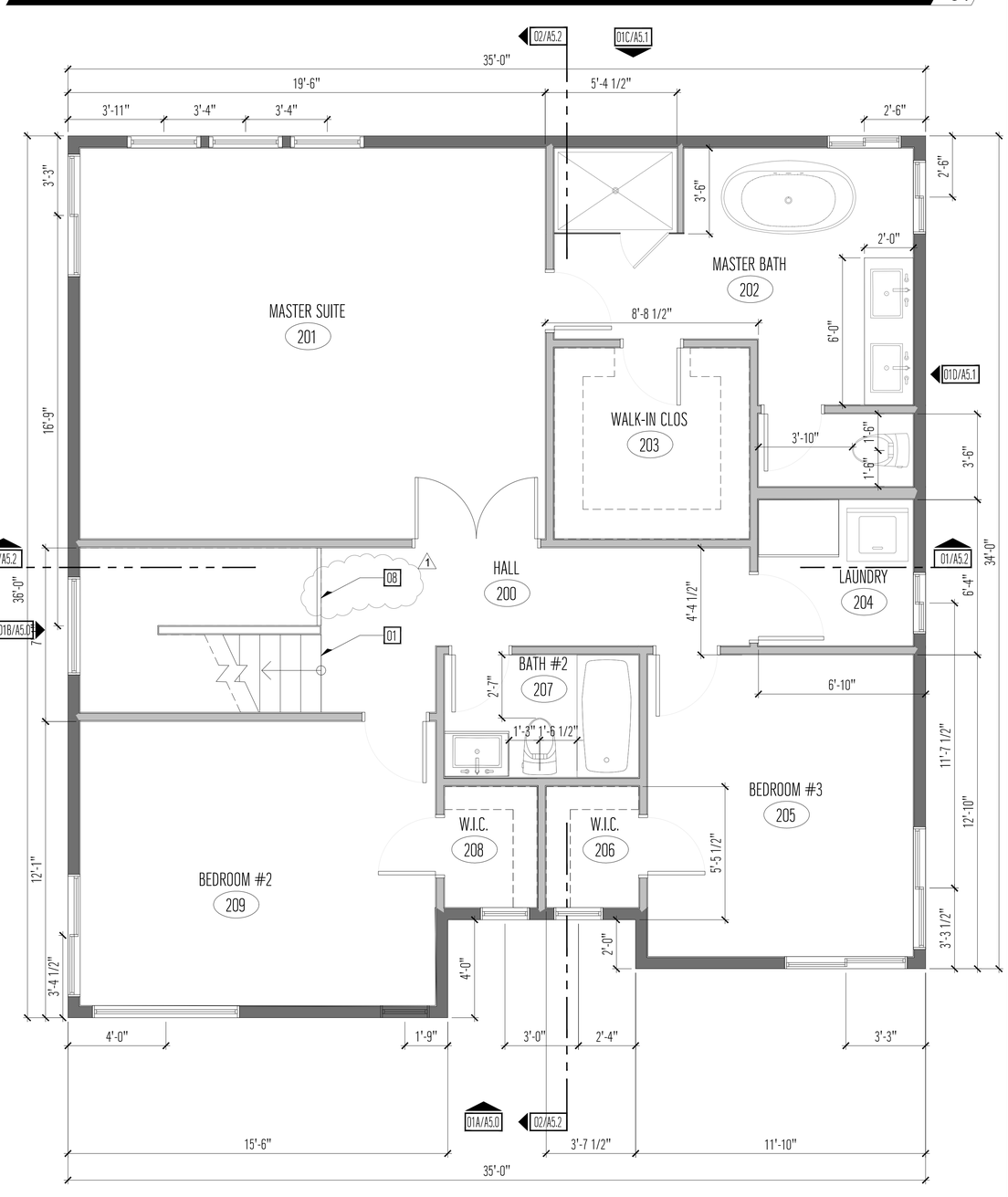
FIRST FLOOR PLAN

3/8"=1'-0" 02



SECOND FLOOR PLAN

3/8"=1'-0" 01



WATER CONSERVATION REQUIREMENTS CBGSC 2016

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

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

4.303.1.1 FAUCETS, RESIDENTIAL LAVATORY FAUCETS. THE MAXIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GALLONS PER MINUTE AT 60 PSI. THE MAXIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT BE LESS THAN 0.8 GALLONS PER MINUTE AT 20 PSI.

4.303.1.4.4 KITCHEN FAUCETS LESS THAN OR EQUAL TO 1.8 GPM @60 PSI; TEMPORARY INCREASE TO 2.2 GPM ALLOWED BUT SHALL DEFAULT TO 1.8 GPM.

* ALL EXISTING AND NEW FIXTURES TO COMPLY WITH THE REQUIRED FLOW RATES PER THE CALIFORNIA GREEN BUILDING STANDARDS CODE 2016.

FLOOR PLAN GENERAL NOTES

1. ALL DIMENSIONS ARE GIVEN TO FACE OF STUD, U.O.N
2. ALL WORK SHALL BE ERECTED AND INSTALLED PLUMB, LEVEL, SQUARE, TRUE AND IN PROPER ALIGNMENT
3. SEE SHEET A2.2 FOR LIGHTING 7 SWITCH LOCATIONS AND INFORMATION
4. ALL DOORS TO MAINTAIN A 4" JAMB CLOSES TO THE HINGE SIDE U.O.N
5. FOR ALL DOOR AND WINDOW INFORMATION SEE DOOR AND WINDOW SCHEDULE ON SHEET A2.3
6. ALL DIMENSIONS FOR WINDOWS AND DOORS ARE TO THE CENTERLINE
7. TANKLESS WATER HEATER TO BE GAS TYPE CONDENSING TANKLESS WATER HEATER INSTALLED AND VENTED PER MANUFACTURER'S SPECIFICATIONS. T&P VALVE DRAIN LINE FOR WATER HEATER TO DISCHARGE TO THE EXTERIOR PER CPC 608.5. WATER HEATER MUST BE INSTALLED SO THAT BURNERS AND BURNER-IGNITION DEVICES ARE LOCATED NOT LESS THAN 18" ABOVE THE GARAGE FLOOR UNLESS LISTED AS FLAMMABLE VAPOR IGNITION RESISTANT PER 2016 CPC 507.13.

FLOOR PLAN KEYNOTES

01 NEW STAIR, RISER (7.75" MAXIMUM), RUN (10" MINIMUM) AND WIDTH PER CRC R 311.7.4

02 APPLY 5/8" GYP. BD. TO THE INTERIOR SIDE OF GARAGE WALL & CEILING. THE GYPSUM BOARD ON THE GARAGE SIDE ADJACENT TO THE LIVING SPACE OR HABITABLE ROOMS LOCATED ABOVE.SHALL EXTEND UP TO ROOF SHEATHING PER CRC R302.6. SEE DETAIL 08 & 10/A6.0

1 03 SLOPE GARAGE FLOOR MAX 2% TOWARDS GARAGE DOOR OPENING PER CRC R309.1

04 PROVIDE MINIMUM 36" DEEP LANDING AT ALL EXTERIOR DOORS PER CRC R311.3. LANDING TO BE NOT MORE THAN 7.75" LOWER THAN DOOR THRESHOLD PER CRC R311.3.1. SEE DETAIL 03/A6.0

05 NEW FIREPLACE. SEE ATTACHED SPECIFICATIONS

06 NOT USED

1 07 NEW 4" DIA. 3'-0" HIGH CONCRETE BOLLARD

1 08 NEW GUARDRAIL, 42" MIN HIGH FROM FINISH FLOOR AND OPENING SPACING MUST BE INDICATED TO NOT ALLOW PASSAGE OF A 4" SPHERE. PER CRC R312.1.3. SEE DTL. 06/A6.0.

1 09 NEW GARAGE OPENER WITH BATTERY BACKUP, PER CA SENATE BILL SB-969

1 10 EXTERIOR LANDING TO SLOPE NO MORE THAN 2% IN ANY DIRECTION

FLOOR PLAN LEGEND

SYMBOL	DESCRIPTION
	DENOTES NEW WALL

365 FLOWER LANE
MOUNTAIN VIEW, CA 94043
PHONE: (888) 311-3015 FAX: (650) 695-1801

FIRST & SECOND FLOOR PLAN

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

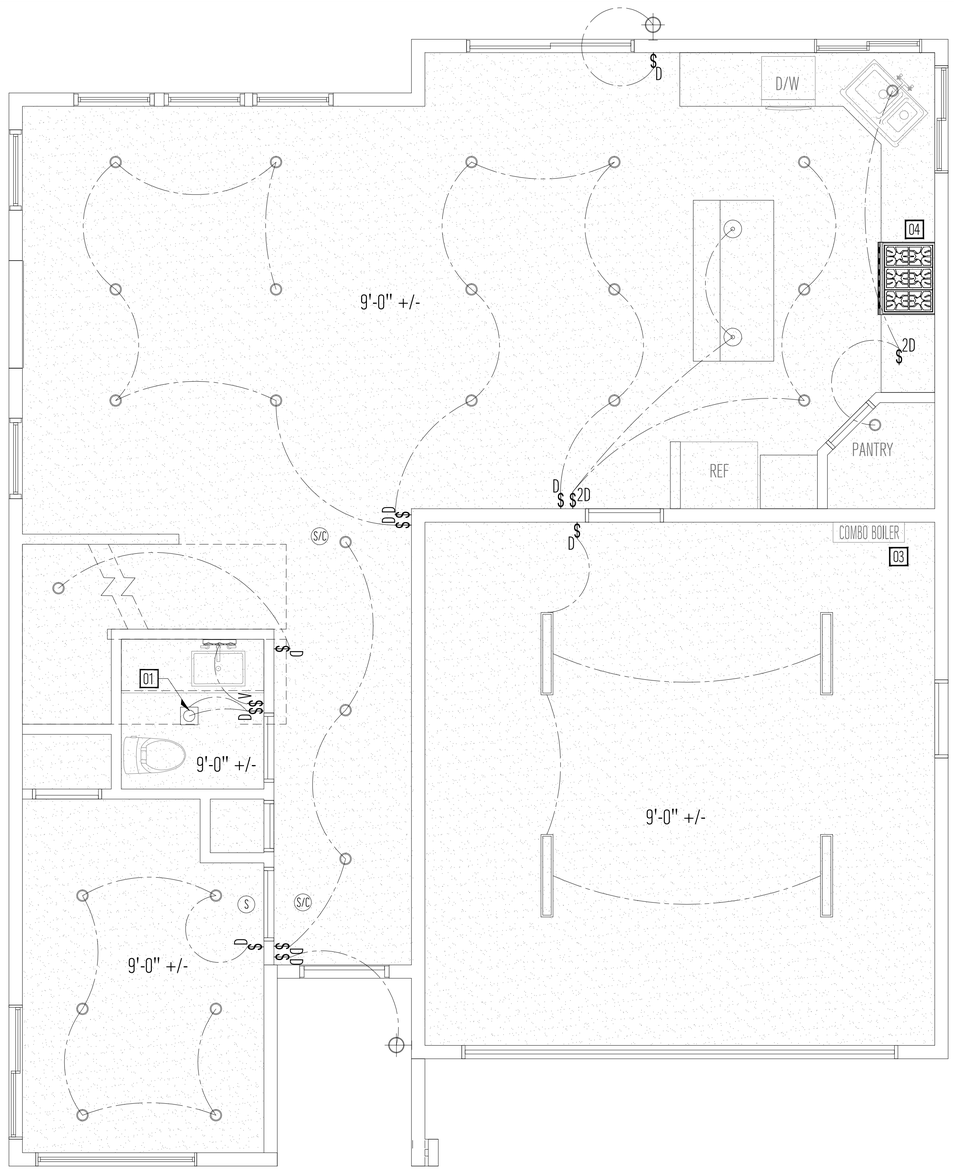
REV	DATE	DESCRIPTION
1	06/10/20	RESPONSE TO CITY COMMENTS
2	-	-
3	-	-
4	-	-
5	-	-

SIGN DATE: 12-02-2019
DATE: AS NOTED
SCALE: AS NOTED
DRAWN BY: JM
CKD BY: AP
PROJECT #: 201908085

A2.0

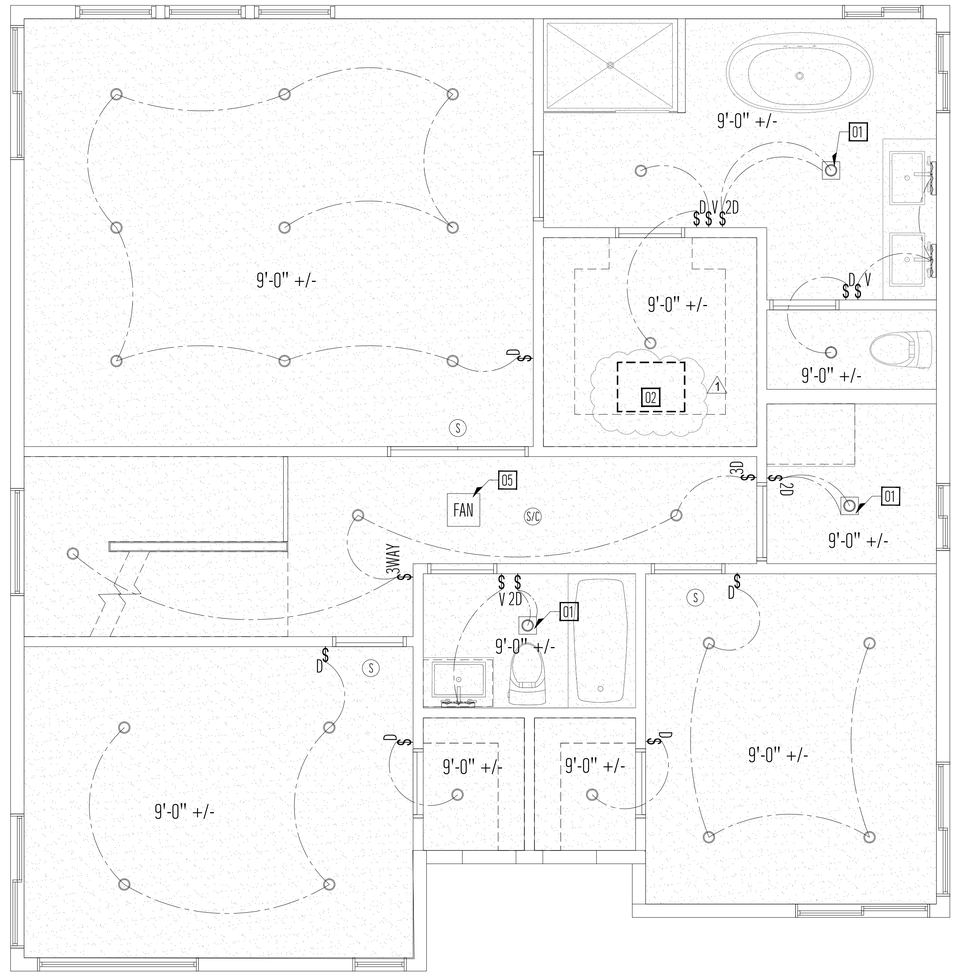
FIRST FLOOR REFLECTED CEILING & LIGHTING PLAN

3/8"=1'-0" 02



SECOND FLOOR REFLECTED CEILING & LIGHTING PLAN

3/8"=1'-0" 01



SYMBOL LEGEND

SYMBOL	DESCRIPTION
	DENOTES NEW GYP. BD CEILING
	DENOTES NEW 6" DIA. RECESSED CAN LIGHT
X'-X" +/-	DENOTES CEILING HEIGHT
$D	SWITCH (D) - DIMMER SWITCH (X) - MULTI-WAY SWITCH
WP	DENOTES EXHAUST FAN / LIGHT WP = WATER PROOF
	DENOTES WALL MOUNTED LIGHT FIXTURE

SYMBOL	DESCRIPTION
S	SMOKE ALARM
C	CARBON MONOXIDE ALARM
	DENOTES SWITCHING
S/C	SMOKE & CARBON MONOXIDE ALARM
	EXTERIOR LED LIGHT FIXTURE WITH MOTION & PHOTO SENSOR

REFLECTED CEILING & LIGHTING PLAN GENERAL NOTES

1. BATHROOM LIGHTING SHALL BE HIGH EFFICACY LUMINARIES (40 LUMENS PER WATT) OR CONTROLLED BY VACANCY (OCCUPANCY) SENSOR CERTIFIED TO COMPLY WITH SEC 119(D) CEES. THIS IS A MANUAL ON, AUTO OFF DEVICE. AUTOMATIC ON OR DEVICES WITH AN OVERRIDE SWITCH POSITION ARE NOT APPROVED. AT LEAST ONE HIGH EFFICACY LIGHTING SHALL BE INSTALLED IN EACH BATHROOM. CENC SECTION 150.0(K)5A
2. LED LIGHTING ASSEMBLIES SHALL BE LISTED AND CEC APPROVED. LED LIGHT COMPONENTS ARE NOT ALLOWED TO BE USED WITH HALO OR OTHER HOUSING/CANS.
3. ALL NEW HALLWAY AND BATHROOM LIGHTS TO BE INSTALLED SHALL BE HIGH EFFICIENCY.
4. RECESSED LUMINARIES IN INSULATED CEILINGS SHALL BE RATED FOR ZERO CLEARANCE INSULATION COVER (IC), AND SHALL INCLUDE A LABEL CERTIFYING AIR TIGHT (AT) DESIGNATION.
5. OUTDOOR LIGHTING SHALL BE HIGH-EFFICACY OR CONTROLLED BY A MOTION SENSOR AND PHOTO-CONTROL CERTIFIED.
6. NO LIGHTING SHALL BE ON THE REQUIRED 20 AMP SMALL APPLIANCE BRANCH CIRCUITS.
7. ALL RECEPTACLES AND SWITCHES TO BE GROUNDED AND OR THE GROUNDING TYPE.
8. DUAL SENSOR PHOTOELECTRIC/IONIZATION SMOKE ALARMS ARE REQUIRED IN ALL AREAS/ROOMS USED FOR SLEEPING, IN THE IMMEDIATE VICINITY OUTSIDE THESE AREAS/ROOMS AND AT BOTH THE TOP AND BOTTOM LANDING OF THE INTERIOR STAIRCASE. SMOKE ALARMS INSTALLED WITHIN 20 FT. OF A KITCHEN, BATHROOM, OR ROOM CONTAINING A FIREPLACE OR WOOD BURNING STOVE SHALL BE OF THE PHOTOELECTRIC TYPE.
9. DUAL SENSOR PHOTOELECTRIC/IONIZATION SMOKE ALARMS SHALL BE INSTALLED ON CEILING OR WALL AT EACH FLOOR LEVEL, IN EACH SLEEPING ROOM AND OUTSIDE EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
10. SMOKE ALARMS SHALL BE TESTED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. SMOKE ALARMS THAT NO LONGER FUNCTION SHALL BE REPLACED. SMOKE ALARMS INSTALLED IN ONE-AND TWO-FAMILY DWELLINGS SHALL BE REPLACED AFTER 10 YEARS FROM THE DATE OF MANUFACTURE MARKED ON THE UNIT, OR IF THE DATE OF MANUFACTURE CANNOT BE DETERMINED.
11. ALL NEWLY INSTALLED EXTERIOR LIGHTING SHALL BE HIGH EFFICACY AND BE CONTROLLED BY A MANUAL ON AND OFF SWITCH THAT DOES NOT OVERRIDE THE AUTOMATIC ACTIONS OF ITEMS SHOWN ON CENC 150(K)(3)(II)
12. AN APPROVED CARBON MONOXIDE ALARM SHALL BE INSTALLED IN DWELLING UNITS AND IN SLEEPING UNITS WITHIN WHICH FUEL-BURNING APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT HAVE ATTACHED GARAGES.
13. POWER SUPPLY FOR SMOKE ALARMS/DETECTORS AND CARBON MONOXIDE ALARMS SHALL BE HARDWIRED AND AC-DC INTERCONNECTED.
14. ALL LIGHT FIXTURES TO BE HIGH EFFICACY LED CEnC 150(k)(1)(A).
15. WALL SWITCHES SHALL BE AT 48", RECEPTACLES SHALL BE AT 12" (WALL) AND 42" (COUNTER) U.O.N.
16. PER 2016 CA ENERGY CODE, AT LEAST ONE FIXTURE IN GARAGE AND LAUNDRY ROOM MUST BE CONTROLLED BY A VACANCY SENSOR PER CENC 150.0(K)2). REVISE LIGHT CONTROL SWITCH SYMBOLS/LEGEND TO COMPLY WITH THIS CODE REQUIREMENT.

RESIDENTIAL INDOOR AIR QUALITY AND MECH. VENT.

TOTAL SQUAREFOOTAGE/100+7.5 CFM x (NO. OF BEDROOMS +1) =
2,092 / 100 +7.5 CFM x (4+1)
21 +38 = 59 CFM

DOWNSTAIRS BATHROOM- PANASONIC WHISPER GREEN - FV-08VKS3, 80 CFM
UPSTAIRS MASTER BATH - PANASONIC WHISPER GREEN - FV-08VKS3, 80 CFM
UPSTAIRS LAUNDRY RM. - PANASONIC WHISPER GREEN - FV-08VKS3, 80 CFM
BATHROOM FANS ALLOW FAN TO RUN CONTINUOUSLY AT A PRE-SET OWER LEVEL 30-70 CFM

1 NOTE:
PROVIDE A LABEL OR SIGN AT THE CONTROLLER OF SWITCH TO INFORM THE OCCUPANT THAT THE FRESH AIR VENTILATOR IS AN INDOOR AIR QUALITY FAN THAT SHOULD OPERATE WHENEVER THE BUILDING IS OCCUPIED

REFLECTED CEILING PLAN KEYNOTES

01 FAN/LIGHT FLUSH MOUNTED FIXTURE. CENTER IN SPACE.
02 ATTIC ACCESS HATCH 22"x30" CLEAR OPENING PER CRC R807.
1 03 NEW HVAC LOCATE IN GARAGE. SEE TITLE 24 CALCS FOR MORE INFORMATION
04 INSTALL A 100-CFM VENTED RANGE HOOD FAN (FOR ENCLOSED OR NON-ENCLOSED) KITCHEN. AS A MEANS OF LOCAL AREA EXHAUST FOR LOCAL VENTILATION OF INDOOR AIR QUALITY. PER 2016 CA ENERGY CODE SECTION 150.0(O) AND ASHRAE 62.2-2016 SECTION 5.1 AND TABLE 5.1
1 05 WHOLE HOUSE INDOOR AIR QUALITY VENTILATION FAN. 110 CFM ON PLAN PER 2016 CALIFORNIA ENERGY CODE SECTION 150(O) AND ASHRAE 62.2.

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FIRST & SECOND FLOOR RCP AND LIGHTING PLAN

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

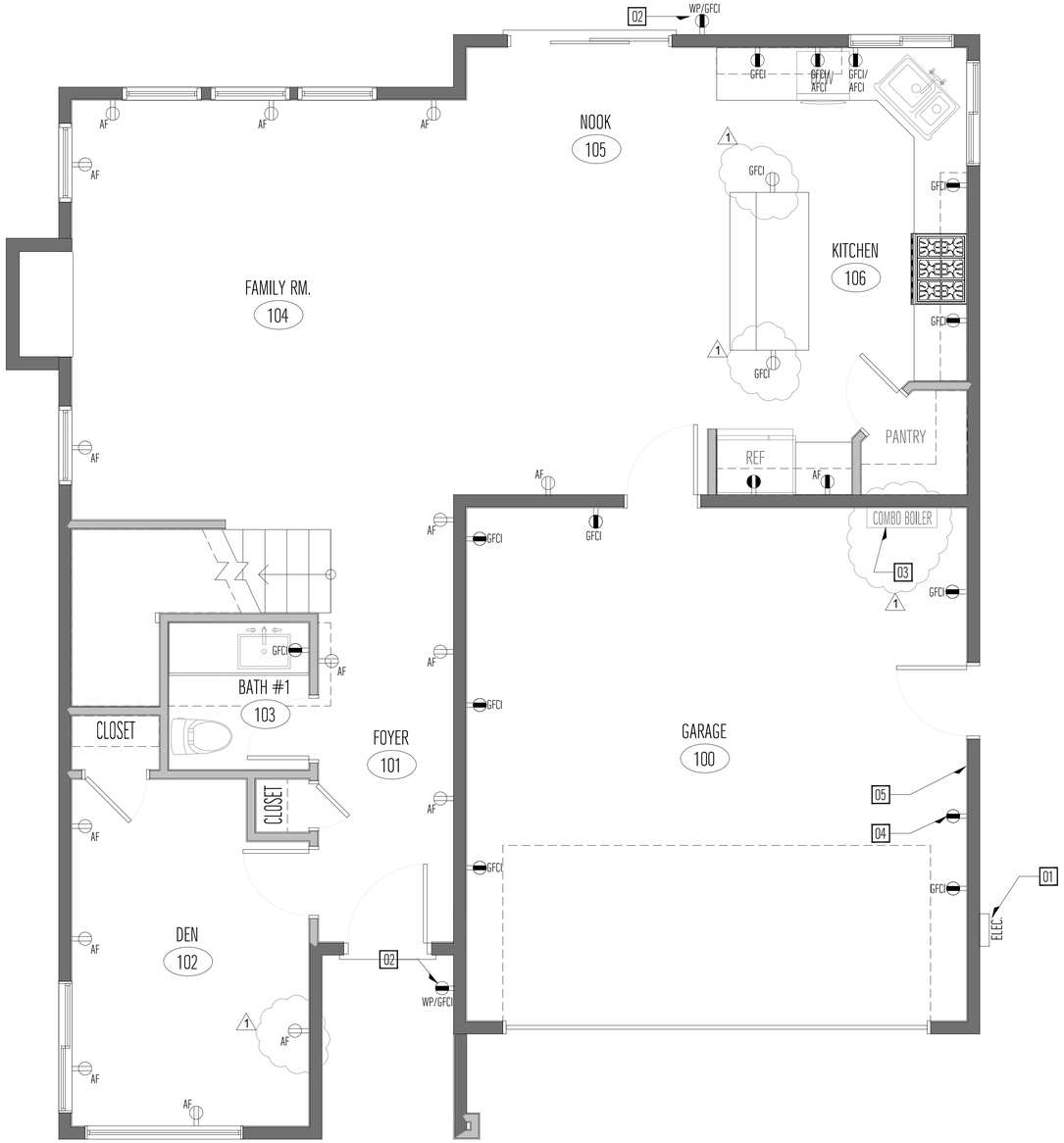
REV	DATE	DESCRIPTION
1	06/10/20	RESPONSE TO CITY COMMENTS
2	-	-
3	-	-
4	-	-
5	-	-

SIGN DATE: 12-02-2019
DATE: AS NOTED
SCALE: AS NOTED
DRAWN BY: JM
CKD BY: AP
PROJECT #: 201908085

A2.1

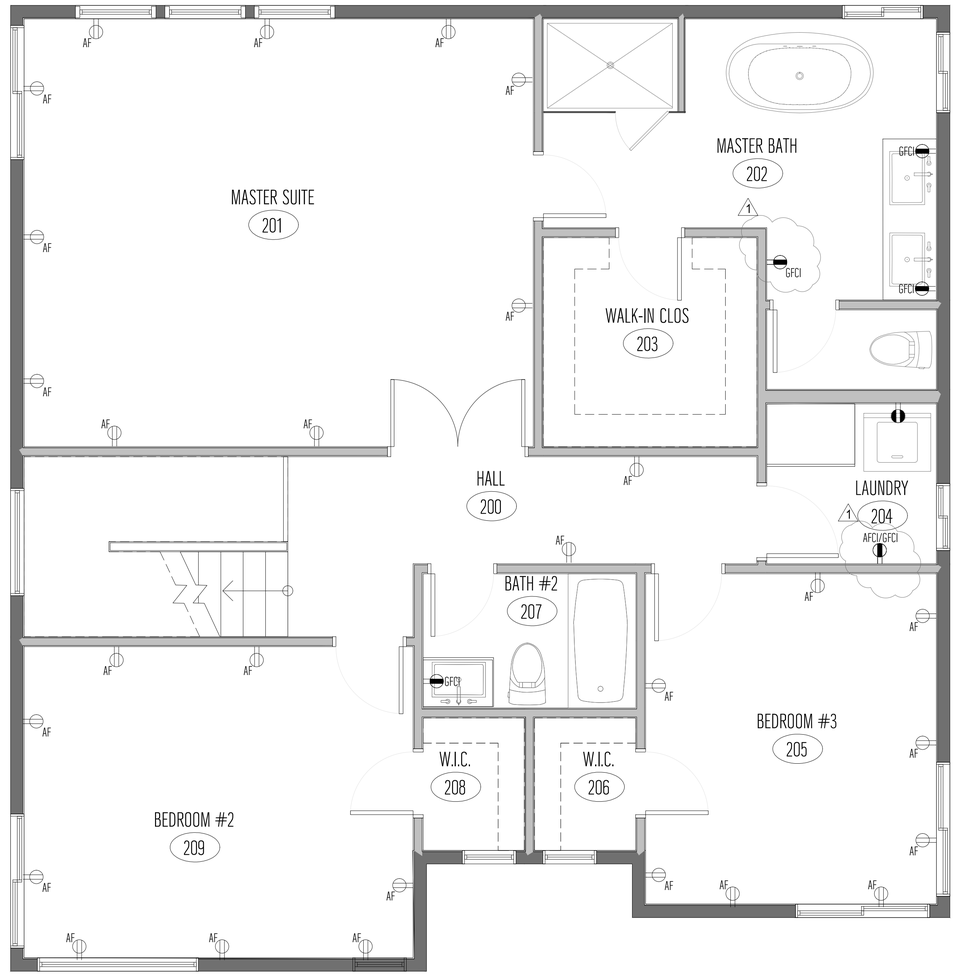
FIRST FLOOR FLOOR ELECTRICAL PLAN

3/8"=1'-0" 02



SECOND FLOOR ELECTRICAL PLAN

3/8"=1'-0" 01



SYMBOL LEGEND

SYMBOL	DESCRIPTION
ELEC.	DENOTES NEW 200 AMP ELECTRICAL PANEL
XX	DENOTES NEW DUPLEX OUTLET. INSTALL 18" A.F.F TO CENTER OF COVER PLATE, PER 2016 CBC AF = ARC FAULT CIRCUIT BREAKER
	DENOTES NEW 220 V OUTLET TYP.
XXXX	DENOTES NEW G.F.C.I. DUPLEX OUTLET 42" A.F.F. PROVIDE WHEN OUTLET IS LOCATED WITHIN 3'-0" OF WATER SOURCE, TYP. WP - WATERPROOF WITH BUBBLE COVER

ELECTRICAL/MECHANICAL PLAN GENERAL NOTES

1. WALL SWITCHES SHALL BE AT 48", RECEPTACLES SHALL BE AT 12" (WALL) AND 42" (COUNTER) UNLESS OTHERWISE NOTED.
2. ALL RECEPTACLES AND SWITCHES TO BE GROUNDED AND OR THE GROUNDING TYPE.
3. PROVIDE OUTLETS ALONG THE WALLS IN NEW ROOMS NOT TO EXCEED 12 FEET APART HORIZONTALLY.
4. PROVIDE AT LEAST ONE RECEPTACLE OUTLET ACCESSIBLE AT GRADE LEVEL AND NOT MORE THAN SIX FEET SIX INCHES ABOVE GRADE SHALL BE INSTALLED AT THE FRONT AND BACK OF THE HOUSE. THE ENCLOSURE FOR SUCH RECEPTACLES SHALL BE WEATHERPROOF WHETHER OR NOT THE ATTACHMENT PLUG CAP IS INSERTED (TYPICALLY REFERRED TO AS A BUBBLE COVER).
5. ALL REQUIRED 15/20 AMPERE RECEPTACLES LISTED IN SECTION 210.52 FOR DWELLING UNITS SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.
6. EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, PARLOR, LIBRARY, DEN, SUNROOM, BEDROOM, RECREATION ROOM, BATHROOM, GARAGE, BASEMENT, LAUNDRY AND OUTDOOR AREA, ALL 125-VOLT, 15- AND 20-AMPERE RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES PER CEC 406.11. CEC 210.52.
7. AT LEAST ONE 20 AMP CIRCUIT IS REQUIRED FOR BATHROOMS. SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS. THIS CIRCUIT MAY SERVE MORE THAN ONE BATHROOM.
8. (1) ALL 120-VOLTS, SINGLE PHASE, 15-AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LAUNDRY RM. KITCHENS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROVIDED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT.
9. PROVIDE GFCI PROTECTED ELECTRICAL OUTLET WITHIN 36" OF THE OUTSIDE EDGE OF EACH BATHROOM SINK BASIN. OUTLET SHALL BE LOCATED ON A WALL OR PARTITION THAT IS ADJACENT TO THE BASIN OR INSTALLED ON THE SIDE OR FACE OF THE BASIN CABINET NOT MORE THAN 12" BELOW THE COUNTERTOP.
10. BOND ALL METAL GAS AND WATER PIPES TO GROUND. ALL GROUND CLAMPS MUST BE ACCESSIBLE AND OF AN APPROVED TYPE.
11. NAIL PLATE PROTECTION IS REQUIRED WHEN WIRING IS CLOSER THAN 1 1/4" TO THE EDGE OF THE STUD.
12. ALL SWITCHES, OUTLETS AND JUNCTION BOXES SHALL BE FLUSH WITH THE FINISHED SURFACE. INSTALL GOOF RINGS AS REQUIRED.
13. ALL RECEPTACLE OUTLETS MUST BE INSTALLED IN EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, SUNROOM, PARLOR, LIBRARY, DEN, BEDROOM, RECREATION ROOM, AND SIMILAR ROOM OR AREA SO THAT NO POINT ALONG THE WALL SPACE IS MORE THAN 6 FEET, MEASURED HORIZONTALLY ALONG THE FLOOR LINE, FROM A RECEPTACLE OUTLET. PER 2016 CBC 210.52
14. RECEPTACLE HEIGHTS. ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48 INCHES (1219 MM) MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX NOR LESS THAN 15 INCHES (381 MM) MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM. IF THE REACH IS OVER A PHYSICAL BARRIER ORAN OBSTRUCTION (FOR EXAMPLE. A KITCHEN BASE CABINET), RECEPTA-CLES SHALL BE LOCATED WITHIN THE REACH RANGES SPECIFIED IN SEC-TION 1138A.3. PHYSICAL BARRIERS AND OBSTRUCTIONS SHALL NOT EXTEND MORE THAN 25 INCHES (635 MM) FROM THE WALL BENEATH THE RECEPTACLE. PER 1136A.1 2016 CBC

ELECTRICAL PLAN KEYNOTES

01 NEW 200 AMP ELECTRICAL-PANEL. INSTALL 48" MIN. TO CENTER OF PANEL ON EXTERIOR WALL SURFACE. USE COPPER CONDUCTOR #2/0 AWG ,THHN20BK500.

(1) 02 NEW EXTERIOR GFCI OUTLET WITH WEATHER-PROOFING COVER.

03 NORITZ RESIDENTIAL CONDENSING GAS COMBINATION BOILER : MODEL NRCB199DV (GHO-C3201WX-FF US), 199,900 BTU. OR SIM.

04 INSTALL A LISTED RACEWAY TO ACCOMMODATE A DEDICATED 208/240 VOLT BRANCH CIRCUIT, PER CGBS SEC. 4.106.4.1

05 SERVICE PANEL SHALL PROVIDE CAPACITY TO INSTALL A 40-AMP MIN. DEDICATED BRANCH CIRCUIT FUTURE EV CHARGER LOCATION LISTED CABINET MUST BE LABELED "EV CAPABLE" INSTALL RACEWAY 1" INSIDE DIAMETER, IT SHALL TERMINATE INTO THE LISTED CABINET IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF AN EV CHARGER. PER CGBS SEC. 4.106.4.1.

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FIRST & SECOND FLOOR ELECTRICAL PLAN

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

REV	DATE	DESCRIPTION
1	06/10/20	RESPONSE TO CITY COMMENTS
2	-	-
3	-	-
4	-	-
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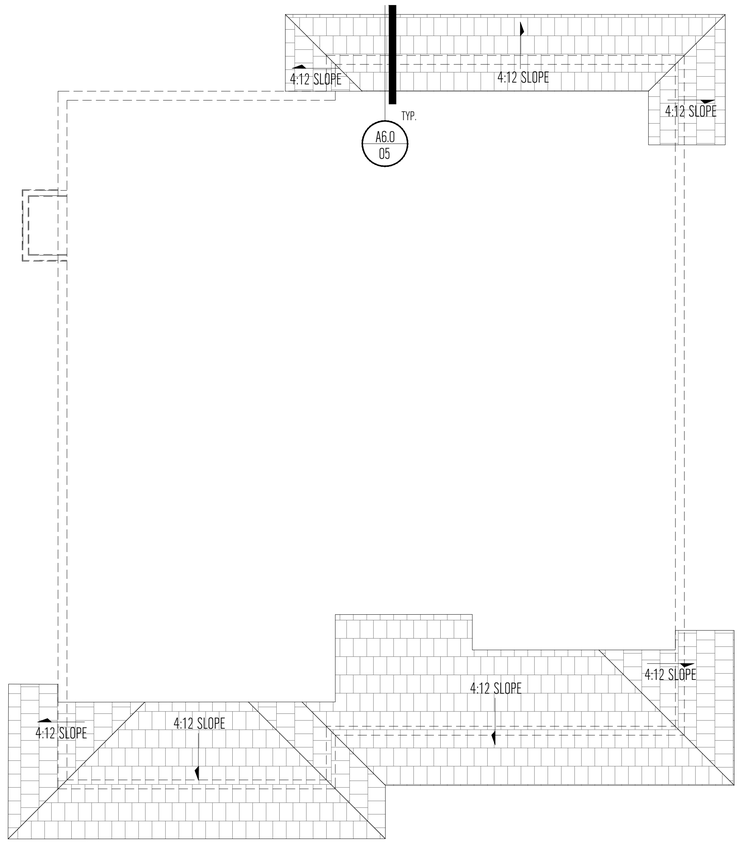
CKD BY: AP
PROJECT #: 201908085

A2.2

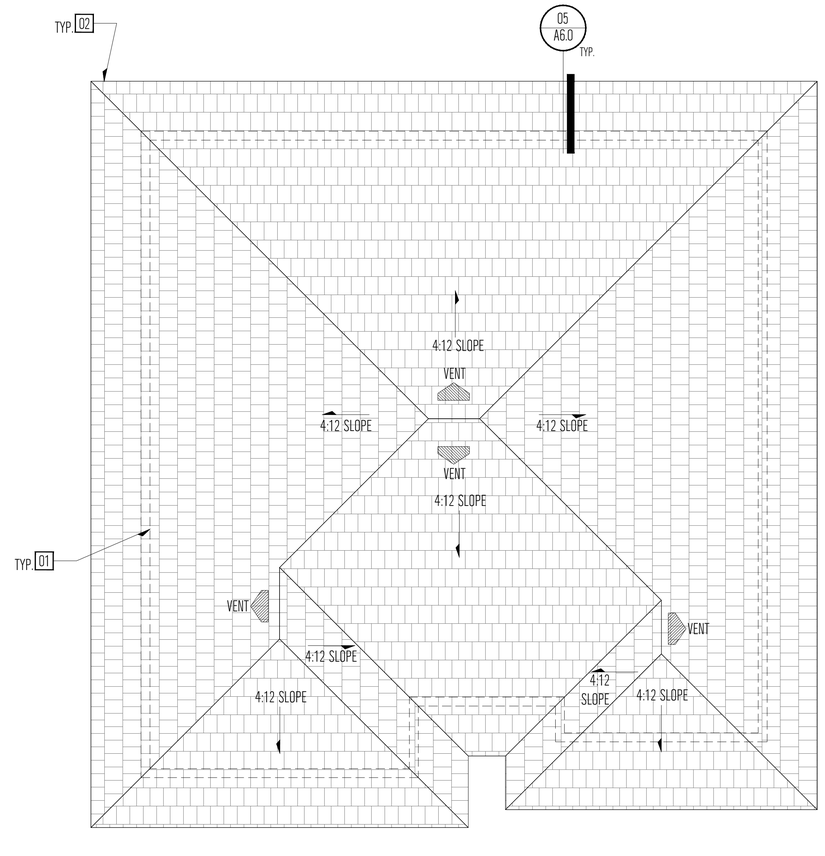
LOWER ROOF PLAN

1/4"=1'-0" 02



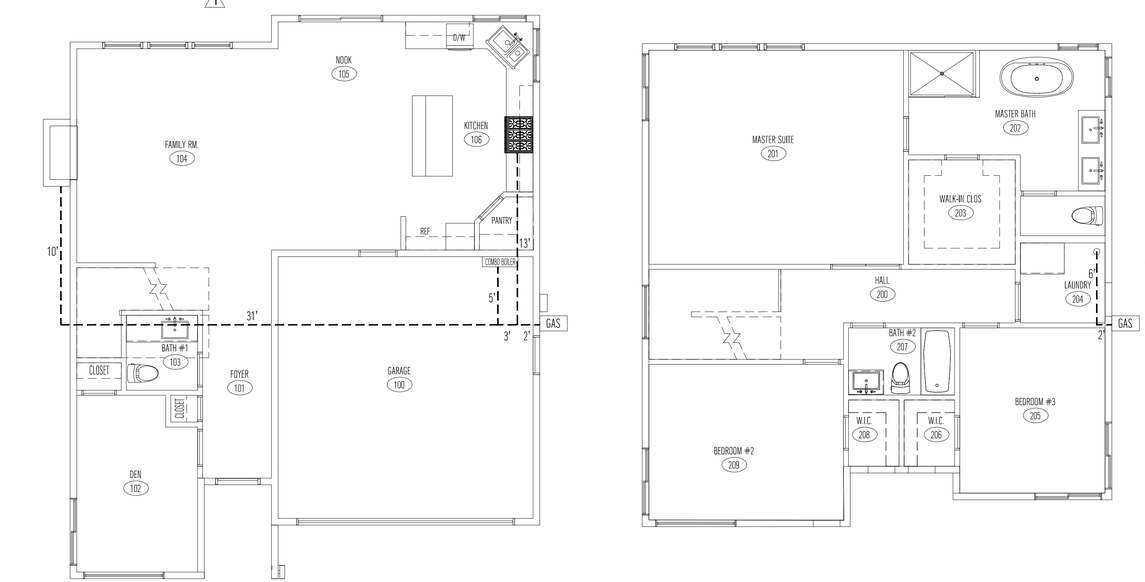
UPPER ROOF PLAN

1/4"=1'-0" 01



GAS LINE PIPING DIAGRAM

3/16"=1'-0" 03



ROOF PLAN GENERAL NOTES

1. PROVIDE WEATHERPROOFING FOR ALL ROOF VENTS PER MANUFACTURERS SPECIFICATIONS
2. FOR ALL FOUNDATION & SLAB DETAILS REFER TO STRUCTURAL DRAWINGS
3. COORDINATE ALL PLUMBING VENTS ACCORDING TO NEW LAYOUT SEE SHEET A2.0
4. ROOFING TO BE LAMINATED FIBERGLASS WITH ASPHALT COATED SHINGLES, MINIMUM FIRE RATING F CLASS 'B', PER SAN MATED COUNTY ORDINANCE SEC. 9113.1a
5. PROVIDE ATTIC VENTILATION FOR ENCLOSED ATTIC SPACE PER CBC 1203.2. NET FREE VENTILATING AREA TO BE NOT LESS THAN 1/300 OF THE AREA OF THE SPACE VENTILATED WITH 50% OF THE REQUIRED VENTILATING AREA PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED. SEE CALCULATION

SERVICE LOAD CALCULATIONS

APPLIANCES	BTU/HR	CUBIC FEET/HR	SIZE (PIPE)	LENGTH (PIPE)
WATER HEATER / FURNACE	199,990	182	1"	15 FEET
FIREPLACE	46	42	1"	46 FEET
CLOTHES DRYER	35	32	1/2"	21 FEET
STOVE/RANGE	65	60	3/4"	20 FEET

NOTE: USE SCHEDULE 40 METTALIC PIPE OR CORRUGATED STAINLESS STEEL TUBING LISTED IN ACCORDANCE WITH CSA LC-1. [NFPA 54:5.6.3.4] FOR ALL GAS LINES

ATTIC VENTILATION CALCULATION

TOTAL SQ. FT.	1,211 SQ. FT.
AREA OF ATTIC SPACE	1,211/ 300 = 4.03 SQ. FT.
LOWER PORTION	EAVE VENTS - 2-2 9/16" DIA. DRILLED HOLES PER BLOCK = 2 X 5.14 = 10.29 SI = .07SF USE MIN. 29 VENT BLOCKS = .07x29 = 2.03 SF
1	EAVE VENTS - 2-2 9/16" DIA. DRILLED HOLES PER BLOCK = 2 X 5.14 = 10.29 SI = .07SF USE MIN. 11 VENT BLOCKS = .07x11 = 0.77 SF
UPPER PORTION	LOW PROFILE VENTS: O'HAGIN MOD. NO 517000823 = 0.5 SF EA. USE MIN. 4 VENTS = 4 x 0.5 = 2.0 SF

1 LOWER ROOF : 229/ 300 = 0.76 SQ. FT.

ROOF PLAN KEYNOTES

01 EYEBROW VENT, MAKE AND MODEL TBD. FOR REQ. VENTING SEE CALCULATION BELOW; (4@72" TOTAL).

02 NEW 3" DIA. PAINTED MTL. DOWNSPOUT LOCATION

ROOF PLAN LEGEND

SYMBOL	DESCRIPTION
	DENOTES NEW ROOF
X:XX SLOPE	DENOTES ROOF SLOPE
VENT	DENOTES NEW EYEBROW VENTS

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ROOF PLAN

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

REV	DATE	DESCRIPTION
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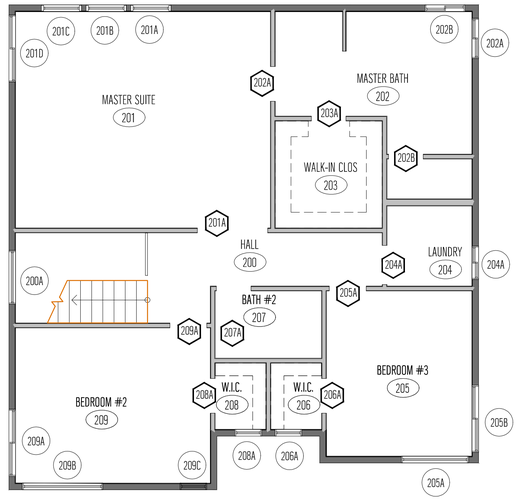
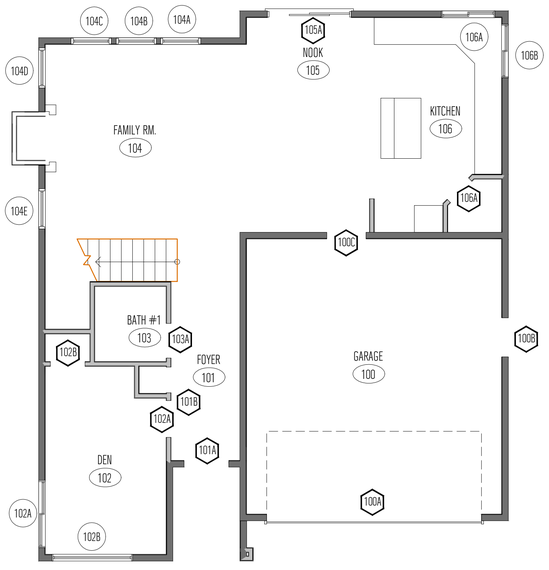
SECOND FLOOR WINDOW /DOOR TAG PLAN

3/16"=1'-0" 01



SECOND FLOOR WINDOW /DOOR TAG PLAN

3/16"=1'-0" 02



WINDOW TAG PLAN GENERAL NOTES

1. WINDOW SIZE IS FOR SCHEMATIC PURPOSES. CONTRACTOR/OWNER SHALL COORDINATE APPLICABLE SIZES AVAILABLE BY MANUFACTURER OF CHOICE WITH OWNER PRIOR TO PURCHASE. WHILE MAINTAINING ALL REQUIRED CLEARANCES AND CODES.
2. ALL GLAZING MEETING ALL OF THE FOLLOWING CONDITIONS SHALL BE TEMPERED:
   A. EXPOSED AREA OF AN INDIVIDUAL PANE IS GREATER THAN 9 SQUARE FEET
   B. EXPOSED BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR
   C. EXPOSED TOP EDGE IS GREATER THAN 36" ABOVE THE FLOOR
3. ALL GLAZING MEETING ANY OF THE FOLLOWING CONDITIONS SHALL BE TEMPERED **T**:
   A. GLAZING IN INGRESS AND EGRESS DOORS EXCEPT JALOUSIES
   D. GLAZING IN DOORS AND ENCLOSURES FOR BATHTUBS, WHIRLPOOLS, SHOWERS, ETC.
4. VERIFY HARDWARE REQUIREMENTS AND FINISHES WITH OWNER AND WINDOW MANUFACTURER PRIOR TO PURCHASE AND INSTALLATION.

* NEXT TO WINDOW SYMBOL ON PLANS AND ELEVATIONS DENOTES WINDOW TO MEET EGRESS REQUIREMENTS PER CBC SECTION 310.4. WINDOW DIMENSIONS (LISTED IN ELEVATION) SHALL HAVE A MINIMUM NET CLEAR AREA OF 5.7 SQUARE FEET. SILL HEIGHT SHALL NOT BE MORE THAN 44 INCHES ABOVE FINISH FLOOR. WHEN WINDOW IS IN OPEN POSITION, THE NET CLEAR WIDTH SHALL NOT BE LESS THAN 20", AND THE NET CLEAR HEIGHT SHALL NOT BE LESS THAN 24".

WINDOW/DOOR TAG PLAN LEGEND

SYMBOL	DESCRIPTION
	DENOTES NEW WALL

DOOR TAG PLAN KEYNOTES

01 NONE

DOOR NOTES

1. DOOR MATERIALS:
   SC = SOLID CORE WOOD
2. FRAME MATERIALS:
   WD = WOOD WITH PAINT FINISH
3. ALL DOOR HARDWARE FINISHES TO BE VERIFIED WITH JM3DESIGN PRIOR TO PURCHASE.
4. THRESHOLDS SHALL NOT HAVE A RISE GREATER THAN 1/2 INCH (SECTION 1004.9, 2016 CBC).
5. ALL DOORS SHALL BE EQUIPPED WITH HARDWARE CENTERED BETWEEN 30" AND 44" AFF.
6. PROVIDE A MINIMUM 36-INCH DEEP LANDING OUTSIDE ALL EXTERIOR DOORS (NOT MORE THAN 8 INCHES LOWER THAN THRESHOLD FOR IN-SWINGING DOORS, AND CONFIRM AND SPECIFY NOT MORE THAN 1 INCH LOWER THAN THRESHOLD FOR OUT-SWINGING DOORS) 2016 CBC 1003.3.1.7
7. SHOWER ENCLOSURES TO HAVE SAFETY GLAZING PER CBC 2016
8. EXTERIOR DOORS TO BE FULLY WEATHERSTRIPPED. INTERIOR DOORS AS SPECIFIED BY OWNER.
9. GLAZING IN SLIDING PATIO DOORS TO BE STANDARD TEMPERED SAFETY DOUBLE GLAZING. FINISH, SCREEN AND OPTIONS AS SPECIFIED BY OWNER.
10. OUTSIDE LANDING TO BE MINIMUM 36" DEEP BY WIDTH OF DOOR PER CRC SEC. R311.3. FLOOR LEVEL AT DOORS TO BE MAX. 7 3/4" STEP DOWN.
11. DOOR HARDWARE AS SPECIFIED BY OWNER

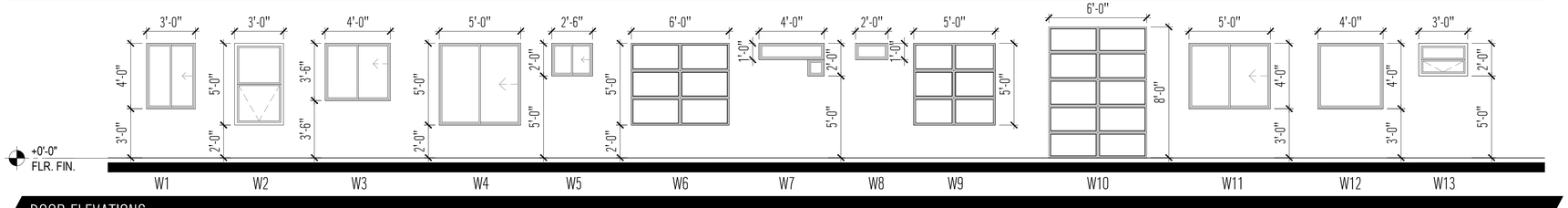
WINDOW SCHEDULE & NOTES

WINDOW #	SIZE	ELEV	TYPE	FINISH	U-FACT.	SHGC	NOTES
102A	5'-0" x 4'-0"	W11	SLIDER	PRE-FINISHED	0.32	0.25	1
102B	6'-0" x 8'-0"	W10	FIXED	PRE-FINISHED	0.32	0.25	TEMPERED GLASS
104A	3'-0" x 5'-0"	W2	DOUBLE HUNG	PRE-FINISHED	0.32	0.25	
104B	3'-0" x 5'-0"	W2	DOUBLE HUNG	PRE-FINISHED	0.32	0.25	
104C	3'-0" x 5'-0"	W13	DOUBLE HUNG	PRE-FINISHED	0.32	0.25	
104D	3'-0" x 2'-0"	W13	DOUBLE HUNG	PRE-FINISHED	0.32	0.25	
104E	3'-0" x 2'-0"	W13	DOUBLE HUNG	PRE-FINISHED	0.32	0.25	
106A	4'-0" x 3'-6"	W3	SLIDER	PRE-FINISHED	0.32	0.25	
106B	4'-0" x 3'-6"	W3	SLIDER	PRE-FINISHED	0.32	0.25	
200A	4'-0" x 4'-0"	W12	FIXED	PRE-FINISHED	0.32	0.25	
201A	3'-0" x 5'-0"	W2	DOUBLE HUNG	PRE-FINISHED	0.32	0.25	
201B	3'-0" x 5'-0"	W2	DOUBLE HUNG	PRE-FINISHED	0.32	0.25	
201C	3'-0" x 5'-0"	W2	DOUBLE HUNG	PRE-FINISHED	0.32	0.25	
201D	5'-0" x 5'-0"	W4	SLIDER	PRE-FINISHED	0.32	0.25	1
202A	3'-0" x 4'-0"	W1	SLIDER	PRE-FINISHED	0.32	0.25	TEMPERED GLASS
202B	3'-0" x 4'-0"	W1	SLIDER	PRE-FINISHED	0.32	0.25	TEMPERED GLASS 1
204A	2'-6" x 2'-0"	W5	SLIDER	PRE-FINISHED	0.32	0.25	
205A	5'-0" x 5'-0"	W9	FIXED	PRE-FINISHED	0.32	0.25	
205B	5'-0" x 4'-0"	W11	SLIDER	PRE-FINISHED	0.32	0.25	
206A	2'-0" x 1'-0"	W8	FIXED	PRE-FINISHED	0.32	0.25	
208A	2'-0" x 1'-0"	W8	FIXED	PRE-FINISHED	0.32	0.25	
209A	5'-0" x 4'-0"	W11	SLIDER	PRE-FINISHED	0.32	0.25	
209B	6'-0" x 5'-0"	W6	FIXED	PRE-FINISHED	0.32	0.25	
209C	4'-0" x 2'-0"	W7	FIXED	PRE-FINISHED	0.32	0.25	

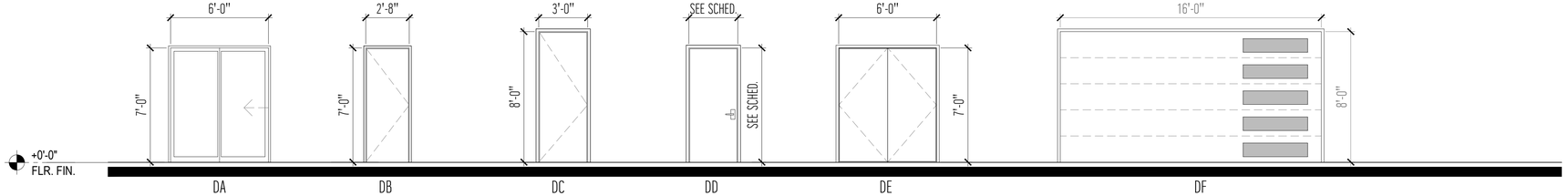
DOOR SCHEDULE & NOTES

DOOR #	SIZE	ELEV	TYPE	FINISH	NOTES
100A	16'-0" x 8'-0"	DF	OVERHEAD	PAINT	CARRIAGE STYLE WD ROLL-UP DOOR
100B	2'-8" x 7'-0"	DB	SINGLE	PAINT	SOLID WOOD MIN. 2"
100C	2'-8" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 2 1/4" / SELF CLOSING, SELF LATCHING AND WEATHER-STRIPPED
101A	3'-0" x 8'-0"	DC	SINGLE	PAINT	SOLID WOOD MIN. 2"
101B	1'-8" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"
102A	2'-6" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"
102B	2'-4" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"
103A	2'-4" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"
105A	6'-0" x 7'-0"	DA	DOUBLE/ GLAZING	PRE-FIN.	COMPOSITION FRAME/ DOUBLE PANE
106A	2'-0" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"
201A	5'-0" x 7'-0"	DE	DOUBLE	PAINT	SOLID WOOD MIN. 1 3/4"
202A	2'-6" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"
202B	2'-4" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"
203A	2'-4" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"
204A	2'-8" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4", W/ OPENING OF 100 SQIN. FOR MAKE-UP AIR
205A	2'-6" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"
206A	2'-4" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"
207A	2'-4" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"
209A	2'-6" x 7'-0"	DD	SINGLE	PAINT	SOLID WOOD MIN. 1 3/4"

WINDOW ELEVATIONS



DOOR ELEVATIONS



365 FLOWER LANE
MOUNTAIN VIEW, CA 94043
PHONE: (888) 311-3015 FAX: (650) 695-1801

WINDOW / DOOR SCHEDULE & ELEVATIONS

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

REV	DATE	DESCRIPTION
1	06/10/20	RESPONSE TO CITY COMMENTS
2	-	-
3	-	-
4	-	-
5	-	-

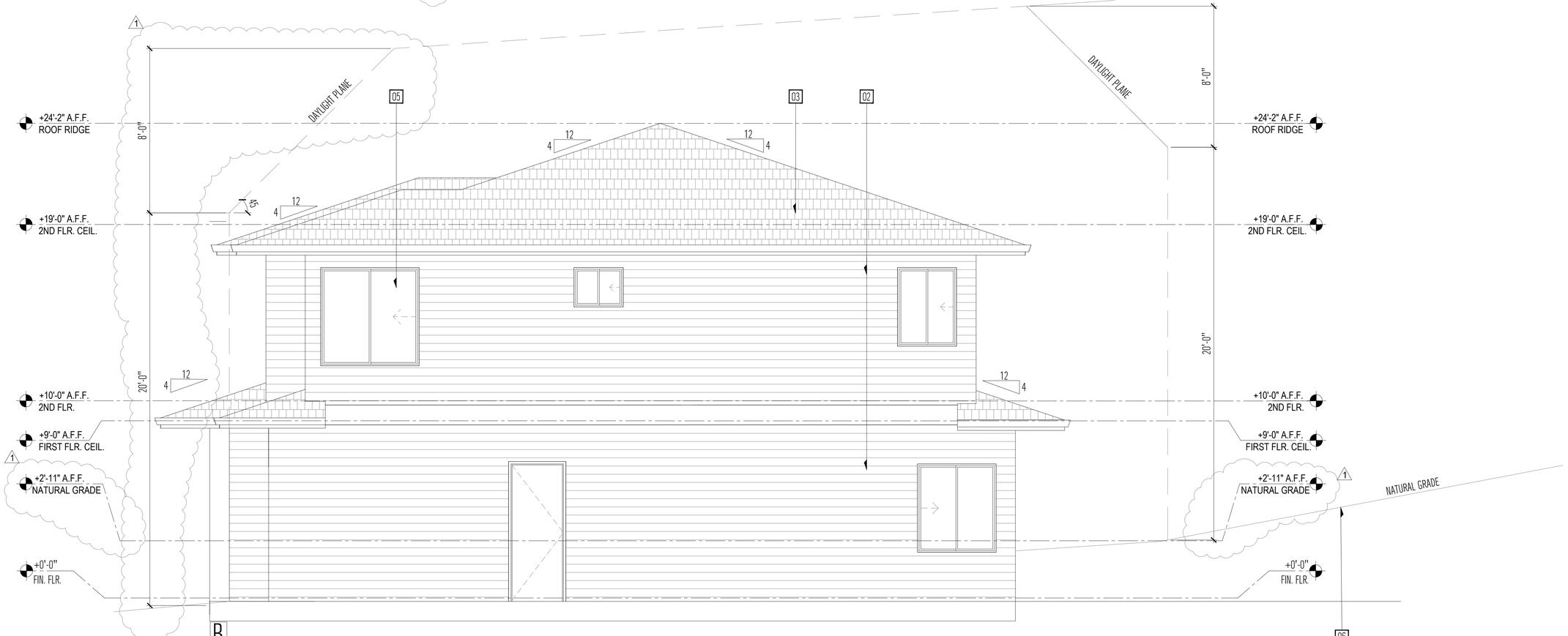
SIGN DATE: 12-02-2019
DATE: AS NOTED
SCALE: AS NOTED
DRAWN BY: JM
CKD BY: AP
PROJECT #: 201908085

A3.1

EXTERIOR ELEVATIONS

3/8"=1'-0" 01

A SOUTH ELEVATION



B EAST ELEVATION

EXTERIOR ELEVATION KEYNOTES

01	NEW GREY SMOOTH TROWELLED STUCCO 3-COAT FINISH
02	NEW HORIZONTAL CLR. FINISH WOOD SIDING
03	NEW DARK COMPOSITION ROOFING
04	NEW VERTICAL CLR. FINISH WOOD SIDING
05	NEW WINDOW, SEE WINDOW SCHEDULE ON SHEET A3.1
06	NATURAL GRADE LEVEL
1 07	BUILDING ADDRESS NUMBER SHALL BE ILLUMINATED AND PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY (CRC R319.1). INDICATE THAT NUMBERS SHALL BE A MINIMUM OF 4 INCHES HIGH WITH A MINIMUM STROKE WIDTH OF ½ INCH

BUILDING SECTION GENERAL NOTES

1. DATUM POINT BENCHMARK +70.00'. TOP OF F/H AS SHOWN ON SURVEY

DESIGN EVEREST
CONSULTING ENGINEERS
365 FLOWER LANE
MOUNTAIN VIEW, CA 94043
PHONE: (888) 311-3015 FAX: (650) 695-1801

EXTERIOR ELEVATIONS

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

REV	DATE	DESCRIPTION
1	03/31/20	RESPONSE TO CITY COMMENTS
2	-	-
3	-	-
4	-	-
5	-	-

SIGN DATE: 12-02-2019
DATE: AS NOTED
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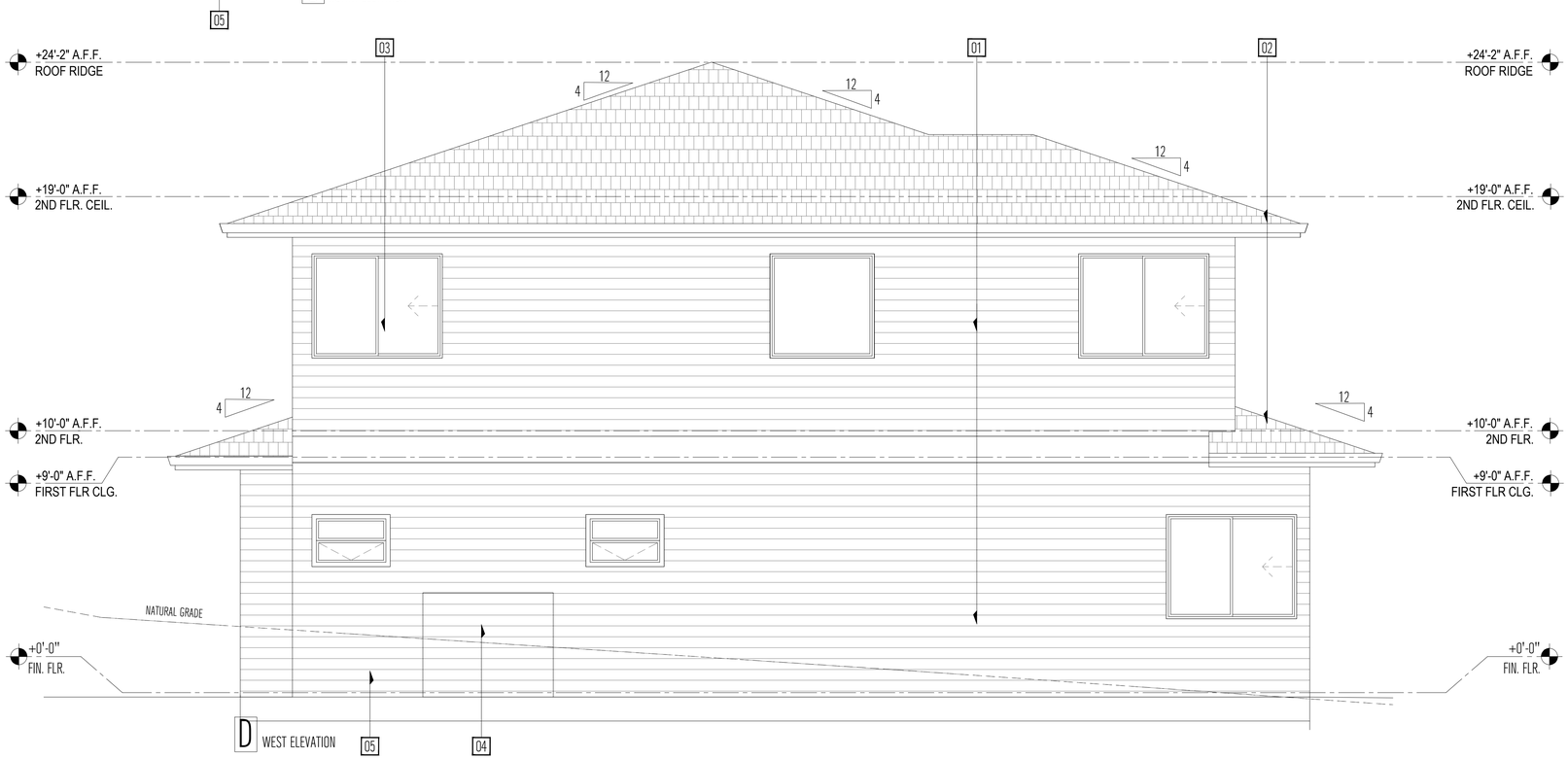
CKD BY: AP
PROJECT #: 201908085

A5.0

EXTERIOR ELEVATIONS

3/8"=1'-0" 01

C NORTH ELEVATION



D WEST ELEVATION

EXTERIOR ELEVATION KEYNOTES

01	NEW HORIZONTAL CLR. FINISH WOOD SIDING
02	NEW COMPOSITION ROOF
03	NEW WINDOW, SEE WINDOW SCHEDULE ON SHEET A3.1
04	NEW GAS FIREPLACE
05	NATURAL GRADE LEVEL

BUILDING SECTION GENERAL NOTES

1. DATUM POINT BENCHMARK +70.00'. TOP OF F/H AS SHOWN ON SURVEY

EXTERIOR LIGHT CUTSHEET

Cylinder 3000K LED 12" Wall Light Textured Architectural Bronze
11251AZT30 (Textured Architectural Bronze)

Project Name:
Location:
Type:
Qty:
Comments:

Certifications/Qualifications

Class 2	Yes
Location Rating	Wet
Title 24 Compliant	Yes
	www.kichler.com/warranty

Dimensions

Base Backplate	5.00 X 5.00
Extension	6.50"
Weight	4.70 LBS
Height From center of Wall opening (Spec Sheet)	6.25"
Height	12.00"
Width	5.00"

Electrical

Input Voltage	Dual (120/140)V

Mounting/Installation

Interior/Exterior	Exterior
Mounting Style	Wall Mount

Photometrics

Color Rendering Index	90
Color Temperature Range	3000
Delivered Efficacy (Lumens/Watt)	37
Delivered Lumens	550
Kelvin Temperature	3000K

Primary Lamping

Expected Life Span	40000
Lamp Included	Integrated
Light Source	LED
Max or Nominal Watt	15W
# of Bulbs/LED Modules	1

Product/Ordering Information

SKU	11251AZT30
Finish	Bronze
Style	Contemporary
UPC	783927453097

Specifications

Material	ALUMINUM

Additional Finishes

- Textured Architectural Bronze
- Textured Black

Kichler
7711 East Pleasant Valley Road Cleveland, Ohio 44131-8010
Toll Free: 866.558.3706 or kichler.com

Notes:
1) Information provided is subject to change without notice. All values are design or typical values when measured under laboratory conditions.
2) Incandescent Equivalent: The incandescent equivalent as presented is an approximate number and is for reference only.

KICHLER

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EXTERIOR ELEVATIONS

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

REV	DATE	DESCRIPTION
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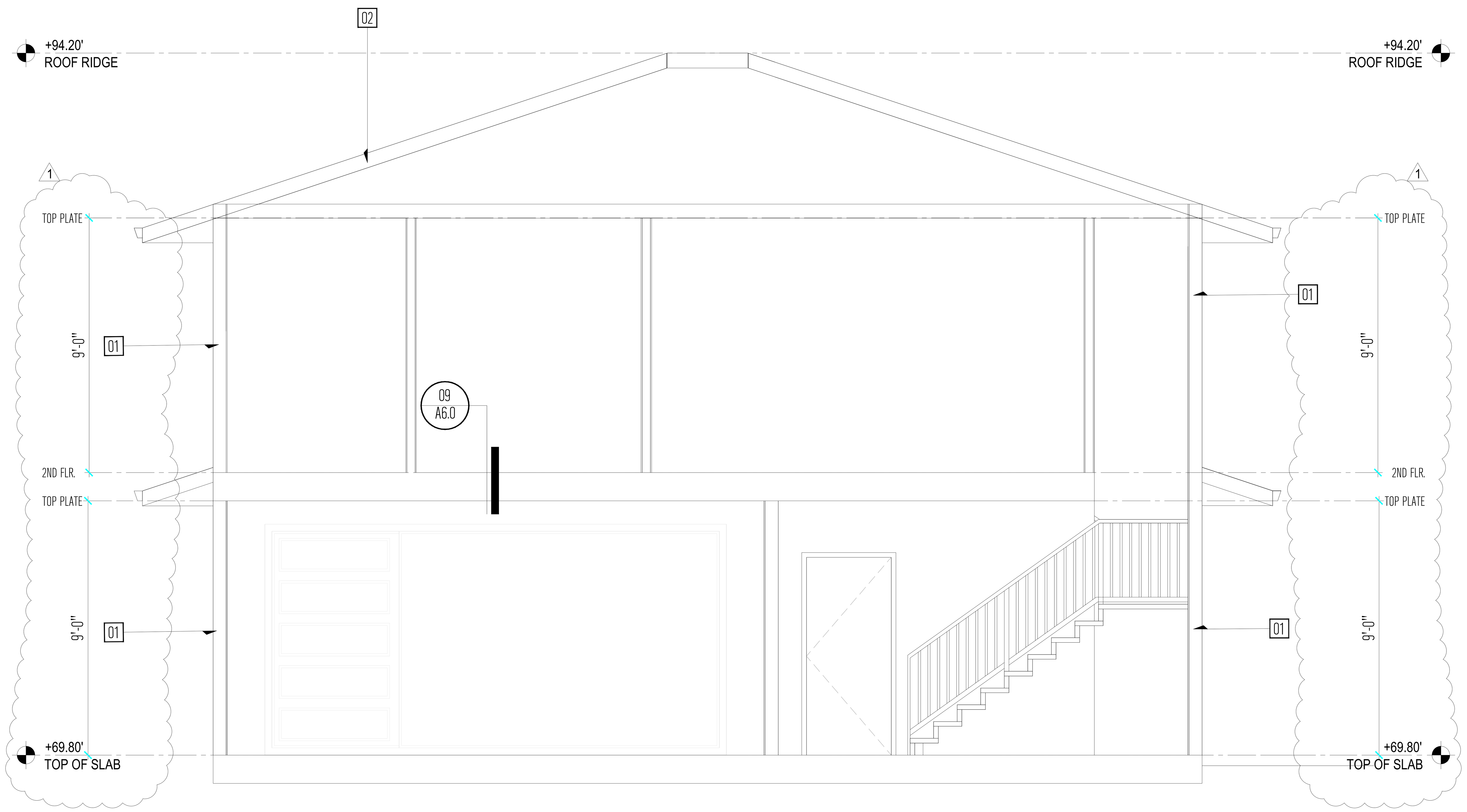
SCALE: AS NOTED
DRAWN BY: JM
CKD BY: AP
PROJECT #: 201908085

A5.1

BUILDING SECTION

3/8"=1'-0" 01



NEWEL POST ATTACHMENT FOR GUARDRAIL DETAIL

N.T.S. 03

1

CERNY & IVEY ENGINEERS, INC.
5650 PEACHTREE PARKWAY, NORCROSS, GA 30092 ❖ TEL 770-449-6936 ❖ FAX 770-368-1148 ❖ WWW.CERNYANDIVEY.COM

Figure 3: Top Rail Attachment (1 side only)

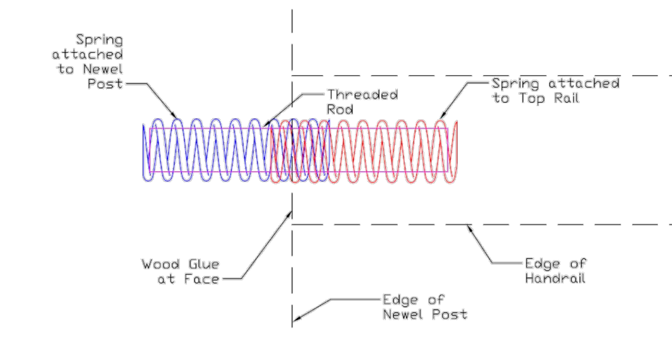
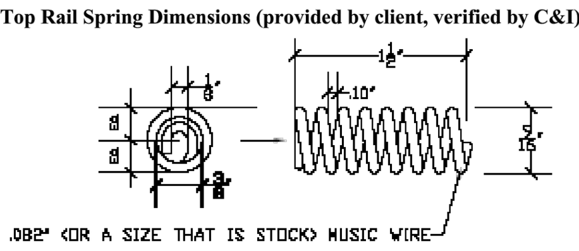


Figure 4: Top Rail Spring Dimensions (provided by client, verified by C&I)



The total length of the specimen was 75in, with 3in wide newel posts. The height of the of the top rail was 36 in.

Application Of The Load

Three (3) separate loads were placed on the test specimen to simulate the conditions set forth in the 2006 International Building Code with a minimum factor of safety of 2.5.

The initial load applied to the railing assembly was an in-fill load to the perceived weakest 12in. x 12in. section of the test specimen. The weakest area was determined to be the center of the balustrades near the center of the assembly. The infill load was set so that only three (3) balustrades were loaded. A 125lb. load was applied, in accordance with ASTM D7032.

The second load was applied uniformly to the top rail of the assembly. The top rail was determined to be the weakest component of the assembly. Pneumatic cylinders were placed approximately every 12in., as allowed by the spacing of the balustrades. A load of 235plf was applied at an angle of 58 degrees to provide a minimum of a 125plf horizontal and vertical component, in accordance with ASTM D7032.

The third load was a concentrated load applied horizontally to the top rail at the center of the assembly. The top rail was determined to be the weakest component of the assembly. A 500lb. load was applied, in accordance with ASTM D7032.

TEST REPORT – 28205 – PAGE 3 – SEPTEMBER 4, 2008

CERNY & IVEY ENGINEERS, INC.
5650 PEACHTREE PARKWAY, NORCROSS, GA 30092 ❖ TEL 770-449-6936 ❖ FAX 770-368-1148 ❖ WWW.CERNYANDIVEY.COM

Figure 1: Newel Post Attachment

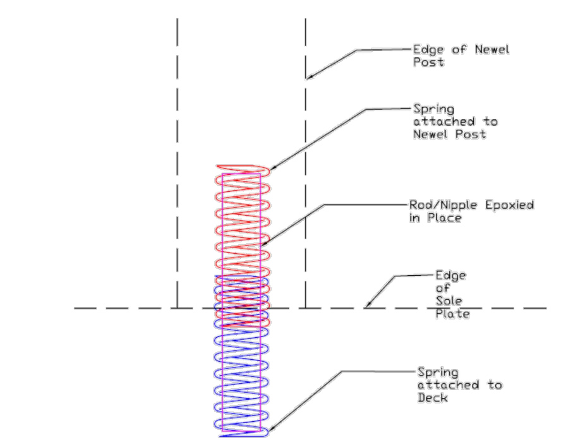
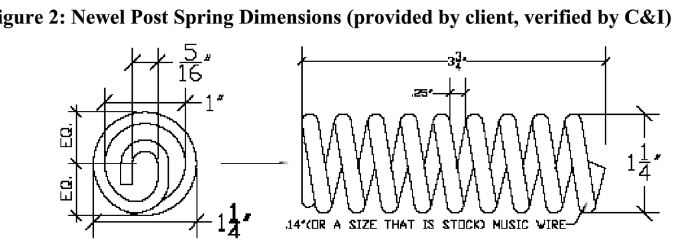


Figure 2: Newel Post Spring Dimensions (provided by client, verified by C&I)



Holes were drilled for the balustrades in the sole plate and the top rail for installation. The balustrades were placed every 4in in between the newel posts. Wood Glue was used at the sole plate only to secure the balustrades.

The top rail was secured to the newel post using the Spring Bolt system on one side and a #10 x 3in. wood screw on the other side. The Spring Bolt system used 9/16in. outside diameter springs and a 5/16in. threaded rod. The Spring Bolt system was epoxied in place, while the face of the top rail end received a coat of wood glue.

TEST REPORT – 28205 – PAGE 2 – SEPTEMBER 4, 2008

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5650 PEACHTREE PARKWAY, NORCROSS, GA 30092 ❖ TEL 770-449-6936 ❖ FAX 770-368-1148 ❖ WWW.CERNYANDIVEY.COM

All loads were applied in the same general direction, which is outward from where the deck would exist. All handrail testing was done in accordance with ASTM D7032.

All pressures were measured using pressure gauge CI-PG-05. Pressures were converted to force using the appropriate conversion table for the pneumatic cylinder.

RESULTS

Handrails passed all standardized loading tests without any visible signs of failure.

Rock Lock Handrail with Spring Bolt Connections (Tested 8/28/2008)

	2006 IBC	Passed (Y/N)	ASTM D7032 (F.S. 2.5)	Passed (Y/N)
In-Fill Load	50 lbs/ft^2	Y	125 lbs/ft^2	Y
Uniform Load	50 plf	Y	125 plf	Y
Concentrated Load	200lbs	Y	500lbs	Y

CONCLUSIONS

The complete handrail assemblies are in accordance with the strength requirements of the 2006 International Building Code and ASTM D7032, when installed as detailed above.

If you have any questions please don't hesitate to contact us.

Respectfully submitted,

Charles G. Lester IV
Laboratory Manager

Christopher B. Shiver, PE
Vice President – Principal Engineer

TEST REPORT – 28205 – PAGE 4 – SEPTEMBER 4, 2008

Specialty Engineering Services & Solutions, LLC
18540 126th Terrace North, Jupiter, FL 33478
M: 561-412-8287
Jeffrey.friant@specialtyengineeringservices.com
www.sess-inc.com
Certificate of Authorization #32371

August 14, 2019

For: Roger Rock, Owner
Rock Lock Fastening Systems, Inc.

Regarding: Test Report 28205-01 (copy not signed)
Cerny & Ivey Engineers, Inc.
Railing – Spring Bolt Connection System

To whom this may concern,

This office has compared the load test requirements of the IBC 2006 codes that were used in the test report #28205-1 prepared and certified by Cerny & Ivey Engineers, Inc. to the load test requirements in the 2017 FBC (6th Ed.). This office has found that the testing performed and reported as passed still meets the current code requirements as specified in the 2017 FBC (6th Ed.) and ASCE section 4.5.1 which are referenced below.

In Fill Load = 50 psf
Uniform Load = 50 plf
Concentrated Load = 200 lbs

These specified values have not been changed since the commissioning of the load tests and are still required as defined previously under the current code.

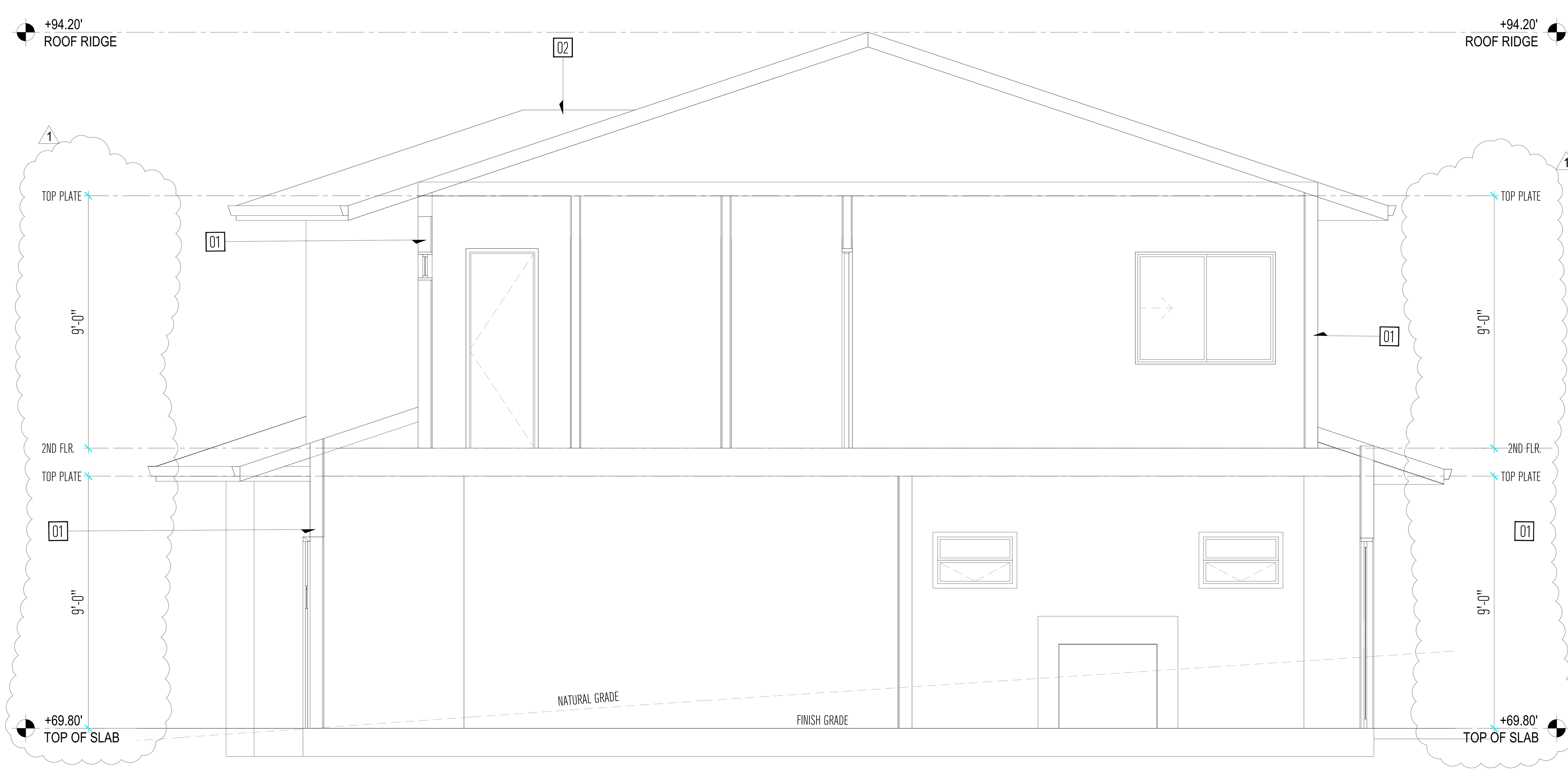
Respectfully,

Jeffrey C. Friant, P.E.
Digitally signed by Jeffrey C. Friant, P.E.
Date: 2019.08.14 08:31:20 -04'00'
A valid PE seal is required for certification

Except as explicitly expressed within this document, no other affirmations or certifications are intended.

BUILDING SECTION

3/8"=1'-0" 02



BUILDING SECTION GENERAL NOTES

01. DATUM POINT BENCHMARK +70.00'. TOP OF F/H AS SHOWN ON SURVEY

BUILDING SECTION KEYNOTES

1

01	R-19 WALL INSULATION. REFER TO TITLE 24 ENERGY CALCULATIONS SHEETS FOR MORE INFORMATION
02	R-38 ROOF INSULATION. REFER TO TITLE 24 ENERGY CALCULATIONS SHEETS FOR MORE INFORMATION

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BUILDING SECTIONS

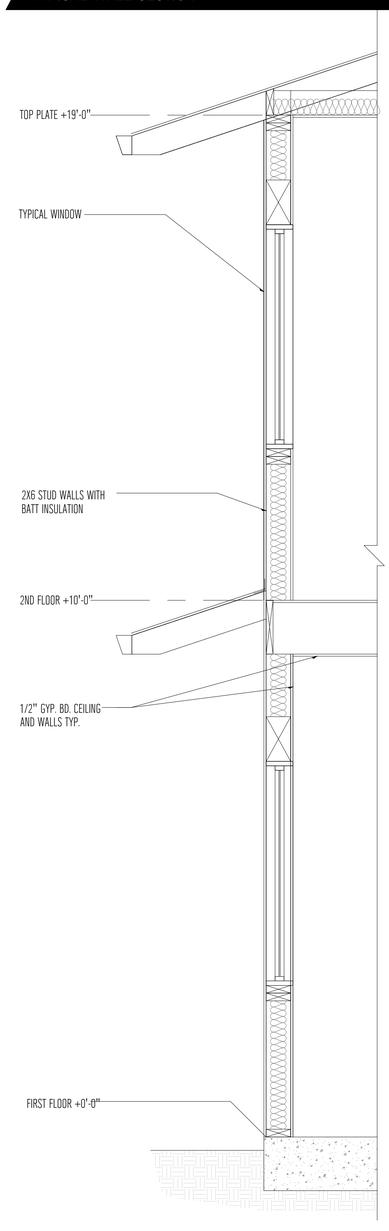
NEW RESIDENCE
APN # 04721215 0
EL GRANADA, CA 94018

REV	DATE	DESCRIPTION
1	06/10/20	RESPONSE TO CITY COMMENTS
2	-	-
3	-	-
4	-	-
5	-	-

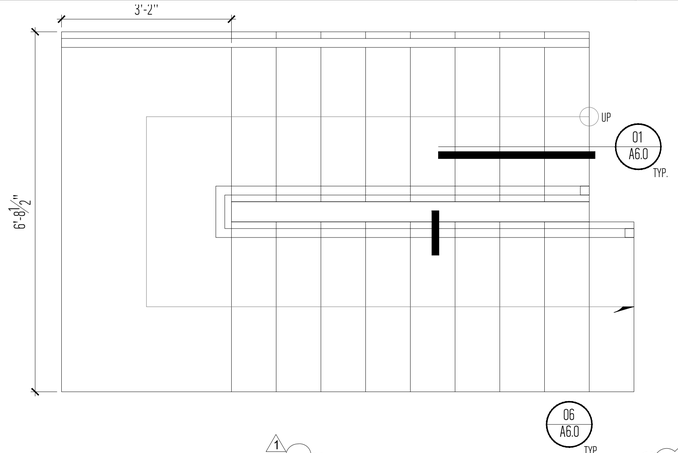
SIGN DATE: 12-02-2019
DATE: AS NOTED
SCALE: AS NOTED
DRAWN BY: JM
CKD BY: AP
PROJECT #: 201908085

A5.2

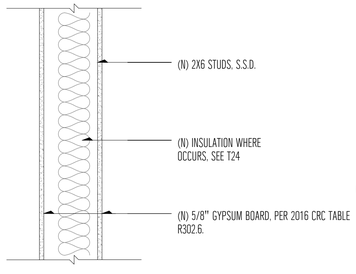
TYPICAL WALL SECTION 3/4"=1'-0" 11



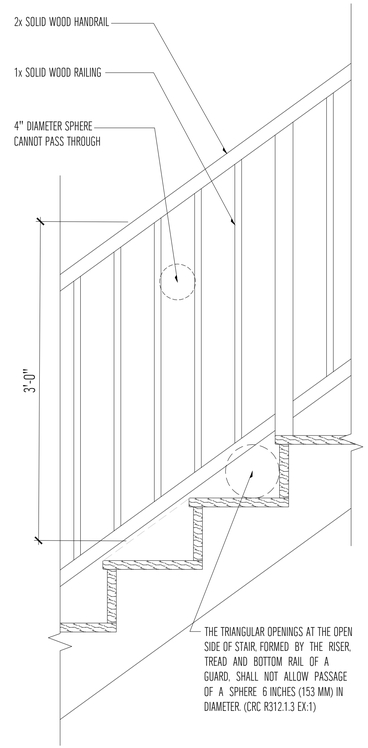
TYP. STAIR TREAD & RISER DETAIL 3/4"=1'-0" 07



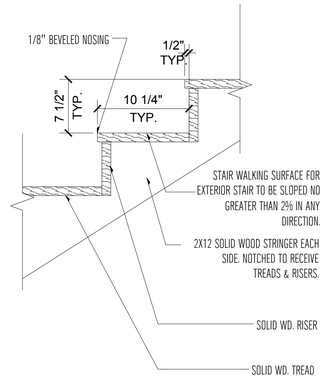
WALL @ GARAGE DTL. 1 1/2"=1'-0" 10



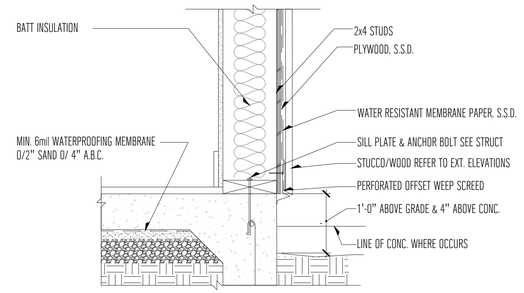
TYP. STAIR GUARDRAIL DETAIL 1 1/2"=1'-0" 04



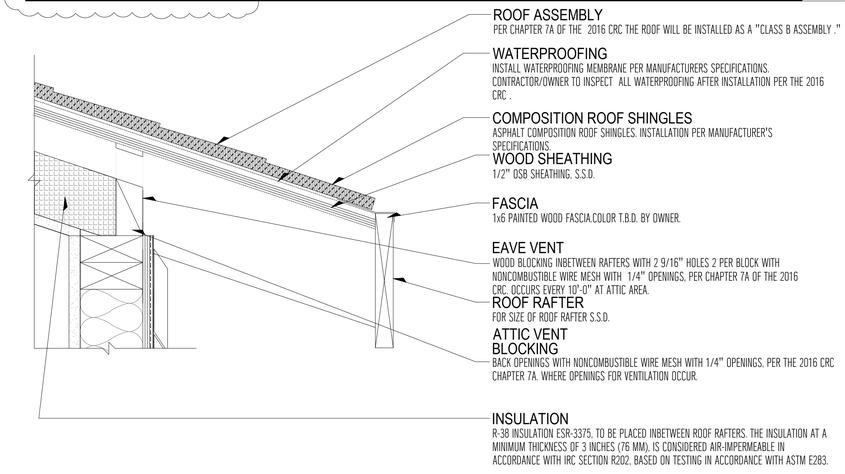
TYP. STAIR TREAD & RISER DETAIL 1 1/2"=1'-0" 01



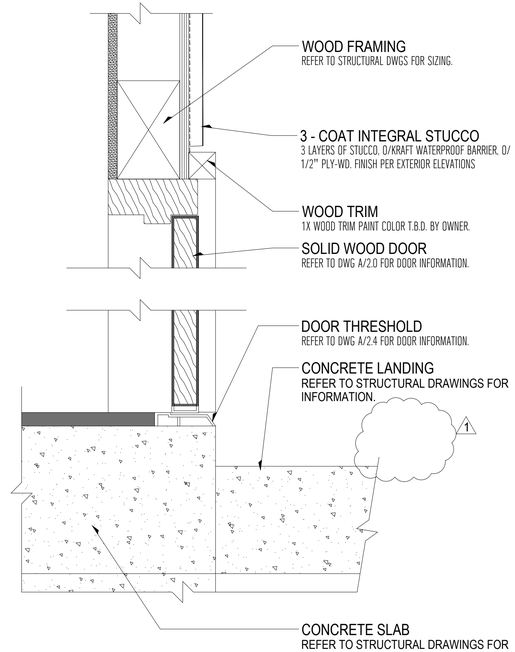
NEW WALL @ PERIMETER FOOTING & TYP. SLAB 1 1/2"=1'-0" 02



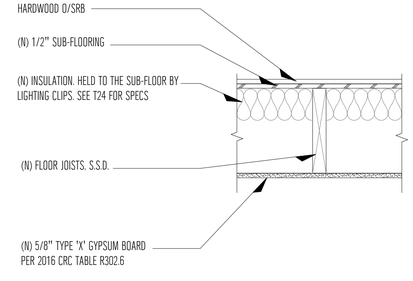
TYPICAL ROOF EAVE DETAIL 3"=1'-0" 05



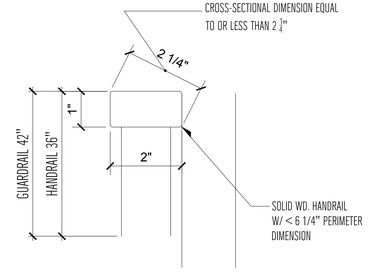
DR. THRESHOLD @ NEW EXTERIOR LANDING, TYP. 3"=1'-0" 03



FLOOR ABOVE GARAGE DTL. 1 1/2"=1'-0" 08



HANDRAIL DETAIL 6"=1'-0" 06



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MOUNTAIN VIEW, CA 94043
PHONE: (888) 311-3015 FAX: (650) 695-1801

MISC. DETAILS

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

REV	DATE	DESCRIPTION
1	06/10/20	RESPONSE TO CITY COMMENTS
2	-	-
3	-	-
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SIGN DATE: 12-02-2019
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PROJECT #: 201908085

A6.0

ROOFING- GAF TIMBERLINE CHARCOAL

WINDOW FRAMES - MILGARD DARK BRONZE

VERTICAL WOOD SIDING- BENJAMIN MOORE - GREYSTONE 1475

NATURAL WOOD SIDING

SMOOTH TROWELLED STUCCO - BENJAMIN MOORE SILVER CHAIN 1472

EXTERIOR WALL SCONCE-DARK SKY-DARK BRONZE

365 FLOWER LANE
MOUNTAIN VIEW, CA 94043
PHONE: (888) 311-3015 FAX: (650) 695-1801

RENDERING & MATERIALS

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

REV	DATE	DESCRIPTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

SIGN DATE: 12-02-2019
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DRAWN BY: JM
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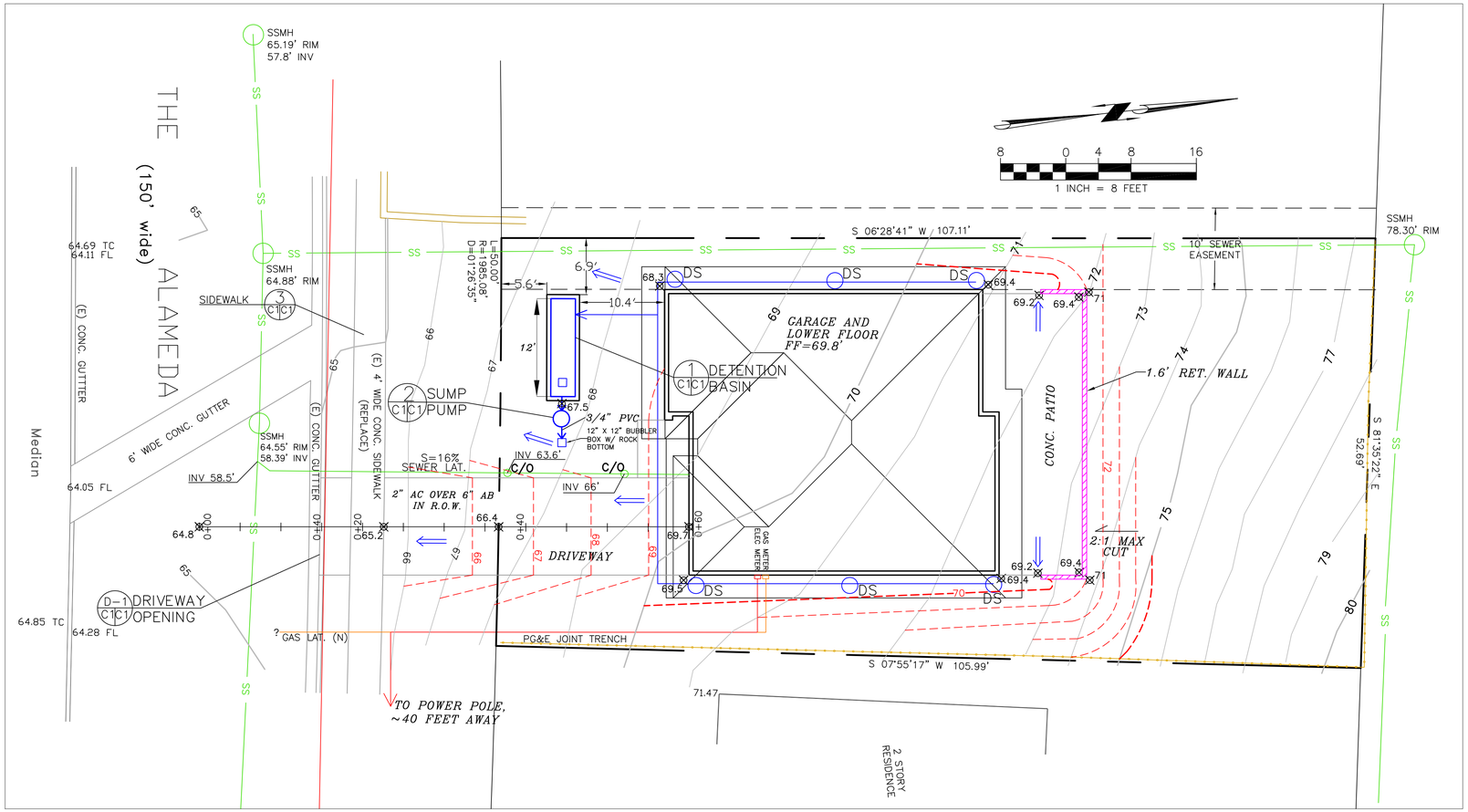
PROJECT #: 201908085

A6.1



8 0 4 8 16

1 INCH = 8 FEET

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- 71 PROPOSED SPOT ELEVATION
- DS DOWNSPOUT
- 4" SOLID DRAIN PIPE
- PROPOSED RETAINING WALL

GENERAL NOTES

1. PLANS PREPARED AT THE REQUEST OF:
   JOHN STEADMAN, OWNER
2. TOPOGRAPHY BY S. MICALLEF, SURVEYED 12-20-19.
3. THIS IS NOT A BOUNDARY SURVEY.
4. ELEVATION DATUM ASSUMED.
5. THE GEOTECHNICAL REPORT:
GEOTECHNICAL STUDY: STEADMAN PROPERTY, THE ALAMEDA, EL GRANADA, APN 047-212-140; DATE: 11-20-19, BY SIGMA PRIME GEOSCIENCES, PROJECT NO. 10-128 SHALL BE RETAINED ON THE CONSTRUCTION SITE. THE GEOTECHNICAL ENGINEER OF RECORD IS SIGMA PRIME GEOSCIENCES, WITH THE CONTACT NUMBER (650)-728-3590. THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER OF RECORD AT LEAST 48 HOURS BEFORE CONSTRUCTION OF GEOTECHNICAL RELATED WORK. THE GEOTECHNICAL PART OF CONSTRUCTION WORK, INCLUDING BUT NOT LIMITED TO, ALL THE EARTHWORK AND FOUNDATIONCONSTRUCTIONS, MUST SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER OF RECORD.
6. STORMWATER MANAGEMENT CONSTRUCTION INSPECTIONS SHALL BE SCHEDULED FOR APPLICABLE DRAINAGE INSPECTIONS, WHICH INCLUDE SITE CLEARANCE AND EROSION CONTROL MEASURES INSTALLATION AS WELL AS INSPECTION OF MAJOR DRAINAGE CONTAINMENT, TREATMENT, AND CONVEYANCE DEVICES BEFORE BEING BURIED (INCLUDING REQUIRED MATERIAL LABELS, E.G. PIPES, SUG-BGRADE MATERIALS, ETC.). PLEASE FOLLOW THE INSPECTION CARD INSTRUCTIONS AND PHONE NUMBER (650-306-8405 EXT 181) TO SCHEDULE COUNTY DRAINAGE INSPECTIONS ACCORDINGLY. THERE SHALL BE THREE INSPECTIONS: ONE FOR EROSION CONTROL INSTALLATION, ONE BEFORE DRAINAGE FACILITIES ARE BURIED, AND ONE FOR FINAL WALK AROUND.

DRAINAGE NOTES

1. DRAINAGE INTENT: IT IS THE INTENT OF THE DRAINAGE SYSTEM TO CONVEY ROOF RUNOFF TO A SAFE LOCATION, AND TO MINIMIZE EXCESSIVE MOISTURE AROUND FOUNDATIONS. DIRECT SLOPES SUCH THAT STORMWATER WILL NOT BE DIVERTED ONTO ADJACENT PROPERTIES.

2. ALL DOWNSPOUT DRAIN LINES SHALL LEAD TO DETENTION BASIN, AS SHOWN.

3. ALL ROOF DRAINAGE PIPES SHALL BE 4" DIAMETER MINIMUM SOLID PIPE, SLOPED AT 1% MINIMUM.

4. IT IS THE PROPERTY OWNER'S RESPONSIBILITY TO CHECK ON ALL STORMWATER FACILITIES SUCH AS ROOF GUTTERS, DOWNSPOUT LINES, AND THE DETENTION BASIN/ENERGY DISSIPATER TO BE SURE THAT THEY ARE CLEAR OF EXCESSIVE DEBRIS AND OPERATING EFFICIENTLY. THE FACILITIES SHALL BE CHECKED EVERY FALL AND PERIODICALLY DURING THE RAINY SEASON.

GRADING NOTES

CUT VOLUME : 180 CY
FILL VOLUME: 0 CY

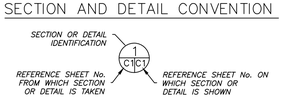
VOLUMES ABOVE ARE APPROXIMATE.

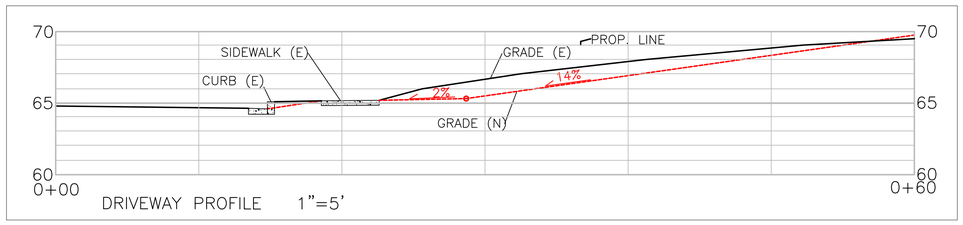
THE SUBGRADE BELOW ALL PAVED AREAS SHALL BE BASEROCK COMPACTED TO 95%.

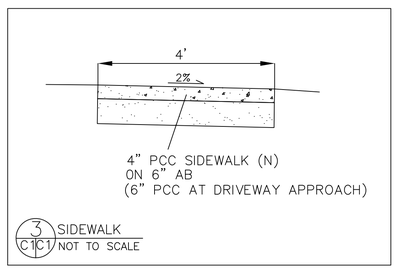
ALL GRADING SHALL CONFORM TO LOCAL CODES AND ORDINANCES.

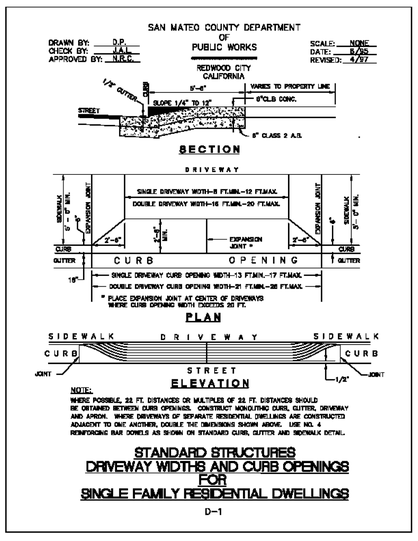
ALL TRENCHES UNDER PROPOSED PAVED AREAS OR CONCRETE SHALL BE BACKFILLED TO SUBGRADE ELEVATION WITH COMPACTED APPROVED GRANULAR MATERIALS. IF TRENCHES ARE IN PROPOSED LANDSCAPE AREAS, THEY SHALL BE BACKFILLED WITH COMPACTED APPROVED GRANULAR MATERIAL TO WITHIN ONE FOOT OF FINISHED GRADE, AND THEN FILLED WITH HAND TAMPED SOILS.

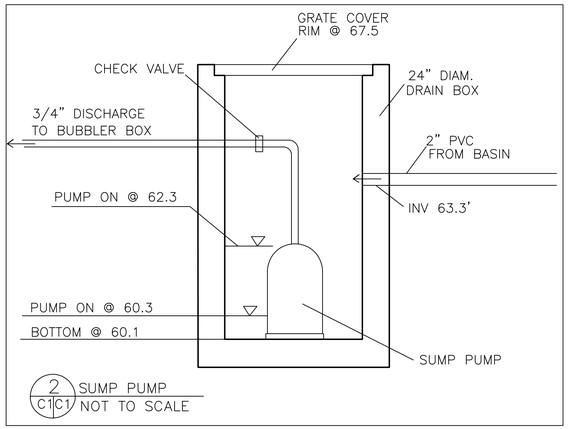
SECTION AND DETAIL CONVENTION

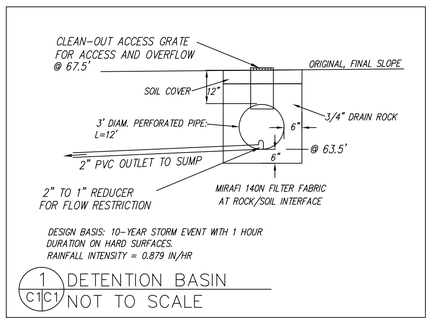












REGISTERED PROFESSIONAL ENGINEER
CHARLES M. RISSON
No. 62264
9-30-21
EXPIRES
CIVIL
STATE OF CALIFORNIA

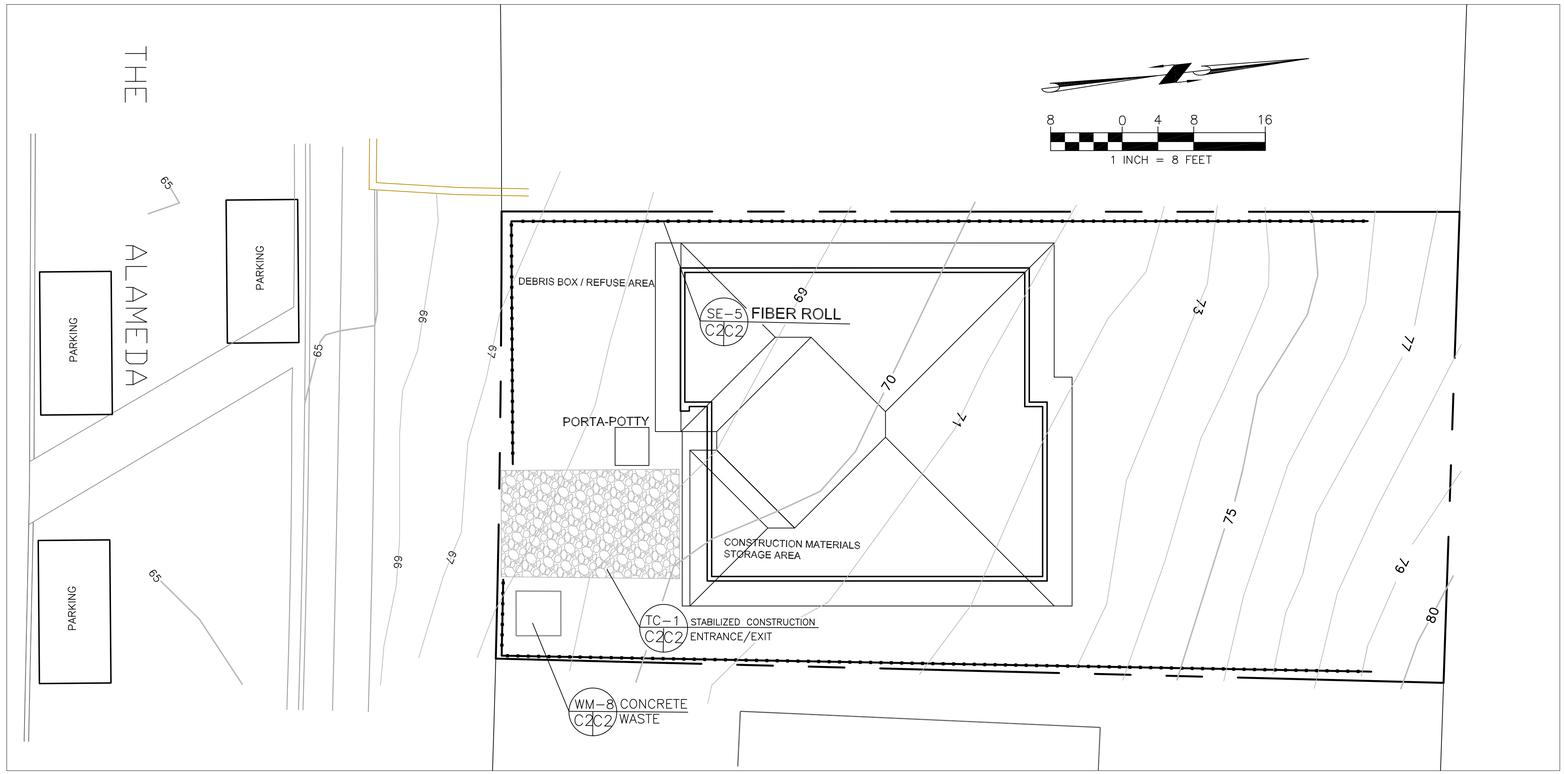
Sigma Prime Geosciences, Inc.
SIGMA PRIME GEOSCIENCES, INC.
332 PRINCETON AVENUE
HALF MOON BAY, CA 94019
(650) 728-3590
FAX 728-3593

DATE: 12-23-19
DRAWN BY: CMK
CHECKED BY: AZG
REV. DATE:
REV. DATE:
REV. DATE:

GRADING AND DRAINAGE PLAN

STEADMAN PROPERTY
AVENUE CABRILLO
EL GRANADA
APN 047-212-150

SHEET
C—1



GENERAL EROSION AND SEDIMENT CONTROL NOTES

FIBER ROLE
INSTALL AT LOCATIONS SHOWN.
AFIX AS SHOWN IN DETAIL SE-5

- There will be no stockpiling of soil. All excavated soil will be hauled off-site as it is excavated.
- Perform clearing and earth-moving activities only during dry weather. Measures to ensure adequate erosion and sediment control shall be installed prior to earth-moving activities and construction.
- Erosion control materials to be on-site during off-season.
- Measures to ensure adequate erosion and sediment control are required year-round. Stabilize all denuded areas and maintain erosion control measures continuously between October 1 and April 30.
- Store, handle, and dispose of construction materials and wastes properly, so as to prevent their contact with stormwater.
- Control and prevent the discharge of all potential pollutants, including pavement cutting wastes, paints, concrete, petroleum products, chemicals, wash water or sediments, and non-stormwater discharges to storm drains and watercourses.
- Avoid cleaning, fueling, or maintaining vehicles on-site, except in a designated area where wash water is contained and treated.
- Limit and time applications of pesticides and fertilizers to prevent polluted runoff.
- Limit construction access routes to stabilized, designated access points
- Avoid tracking dirt or other materials off-site; clean off-site paved areas and sidewalks using dry sweeping methods.
- Train and provide instruction to all employees and subcontractors regarding the Watershed Protection Maintenance Standards and construction Best Management Practices.
- Placement of erosion materials is required on weekends and during rain events.
- The areas delineated on the plans for parking, grubbing, storage etc., shall not be enlarged or "run over."
- Dust control is required year-round.
- Erosion control materials shall be stored on-site.
- There are no trees or driplines on the site.

EROSION CONTROL POINT OF CONTACT

THIS PERSON WILL BE RESPONSIBLE FOR EROSION CONTROL AT THE SITE AND WILL BE THE COUNTY'S MAIN POINT OF CONTACT IF CORRECTIONS ARE REQUIRED.

NAME: JOHN STEADMAN

TITLE/QUALIFICATION: OWNER

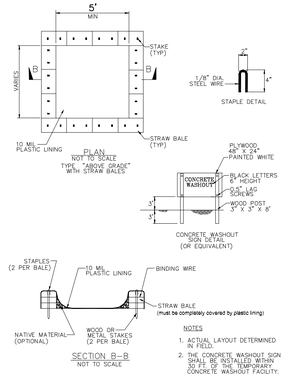
PHONE: 650-743-2275

PHONE:

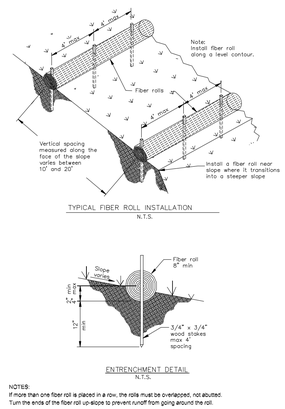
E-MAIL: KSDEVELOPMENT99@GMAIL.COM

REGISTERED PROFESSIONAL ENGINEER
CHARLES M. KISSICK
No. 62264
9-30-21
EXPIRES
CIVIL
STATE OF CALIFORNIA

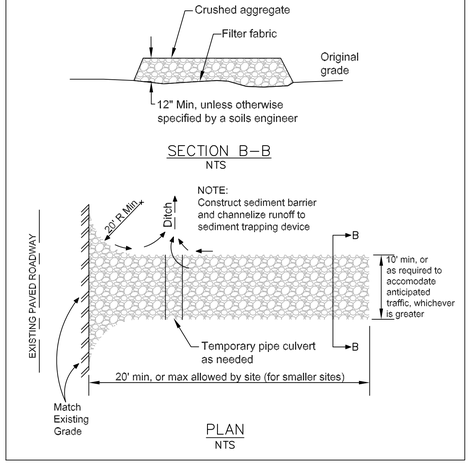
CONCRETE WASTE MANAGEMENT WM-8



FIBER ROLLS SE-5



STABILIZED CONSTRUCTION ENTRANCE/EXIT TC-1



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(650) 728-3590
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DATE: 12-23-19	CHECKED BY: AZG	REV. DATE:	REV. DATE:	REV. DATE:
DRAWN BY: CMK				

EROSION AND SEDIMENT CONTROL PLAN

STEADMAN PROPERTY
AVENUE CABRILLO
EL GRANADA
APN 047-212-150

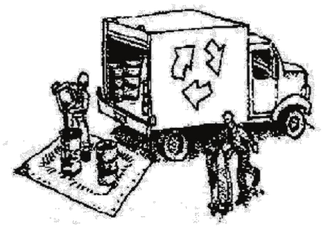
SHEET
C-2

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Materials & Waste Management



Non-Hazardous Materials

- ❑ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- ❑ Use (but don't overuse) reclaimed water for dust control.

Hazardous Materials

- ❑ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- ❑ Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- ❑ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ❑ Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- ❑ Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- ❑ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- ❑ Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- ❑ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- ❑ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

Construction Entrances and Perimeter

- ❑ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- ❑ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

Equipment Management & Spill Control

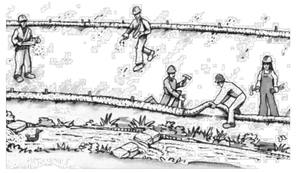
Maintenance and Parking

- ❑ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- ❑ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ❑ If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- ❑ If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- ❑ Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment.

Spill Prevention and Control

- ❑ Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- ❑ Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- ❑ Clean up spills or leaks immediately and dispose of cleanup materials properly.
- ❑ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- ❑ Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- ❑ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ❑ Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

Earthmoving



- ❑ Schedule grading and excavation work during dry weather.
- ❑ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ❑ Remove existing vegetation only when absolutely necessary, and seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.
- ❑ Prevent sediment from migrating offsite and protect storm drain inlets, gutters, ditches, and drainage courses by installing and maintaining appropriate BMPs, such as fiber rolls, silt fences, sediment basins, gravel bags, berms, etc.
- ❑ Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

Contaminated Soils

- ❑ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
  - Unusual soil conditions, discoloration, or odor.
  - Abandoned underground tanks.
  - Abandoned wells
  - Buried barrels, debris, or trash.

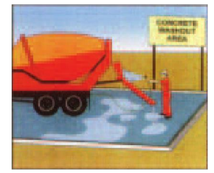
Paving/Asphalt Work

- ❑ Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- ❑ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- ❑ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- ❑ Do not use water to wash down fresh asphalt concrete pavement.

Sawcutting & Asphalt/Concrete Removal

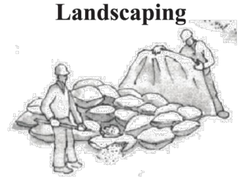
- ❑ Protect nearby storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- ❑ Shovel, abosorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ❑ If sawcut slurry enters a catch basin, clean it up immediately.

Concrete, Grout & Mortar Application



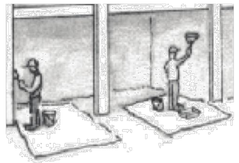
- ❑ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- ❑ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- ❑ When washing exposed aggregate, prevent washwater from entering storm drains. Block any inlets and vacuum gutters, hose washwater onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.

Landscaping



- ❑ Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- ❑ Stack bagged material on pallets and under cover.
- ❑ Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

Painting & Paint Removal



Painting Cleanup and Removal

- ❑ 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 into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- ❑ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- ❑ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- ❑ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.

Dewatering

- ❑ Discharges of groundwater or captured runoff from dewatering operations must be properly managed and disposed. When possible send dewatering discharge to landscaped area or sanitary sewer. If discharging to the sanitary sewer call your local wastewater treatment plant.
- ❑ Divert run-on water from offsite away from all disturbed areas.
- ❑ When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ❑ In areas of known or suspected contamination, call your local agency to determine whether the ground water must be tested. Pumped groundwater may need to be collected and hauled off-site for treatment and proper disposal.

Storm drain polluters may be liable for fines of up to $10,000 per day!

DESIGN EVEREST
CONSULTING ENGINEERS
365 FLOWER LANE
MOUNTAIN VIEW, CA 94043
PHONE: (888) 311-3015 FAX: (650) 695-1801

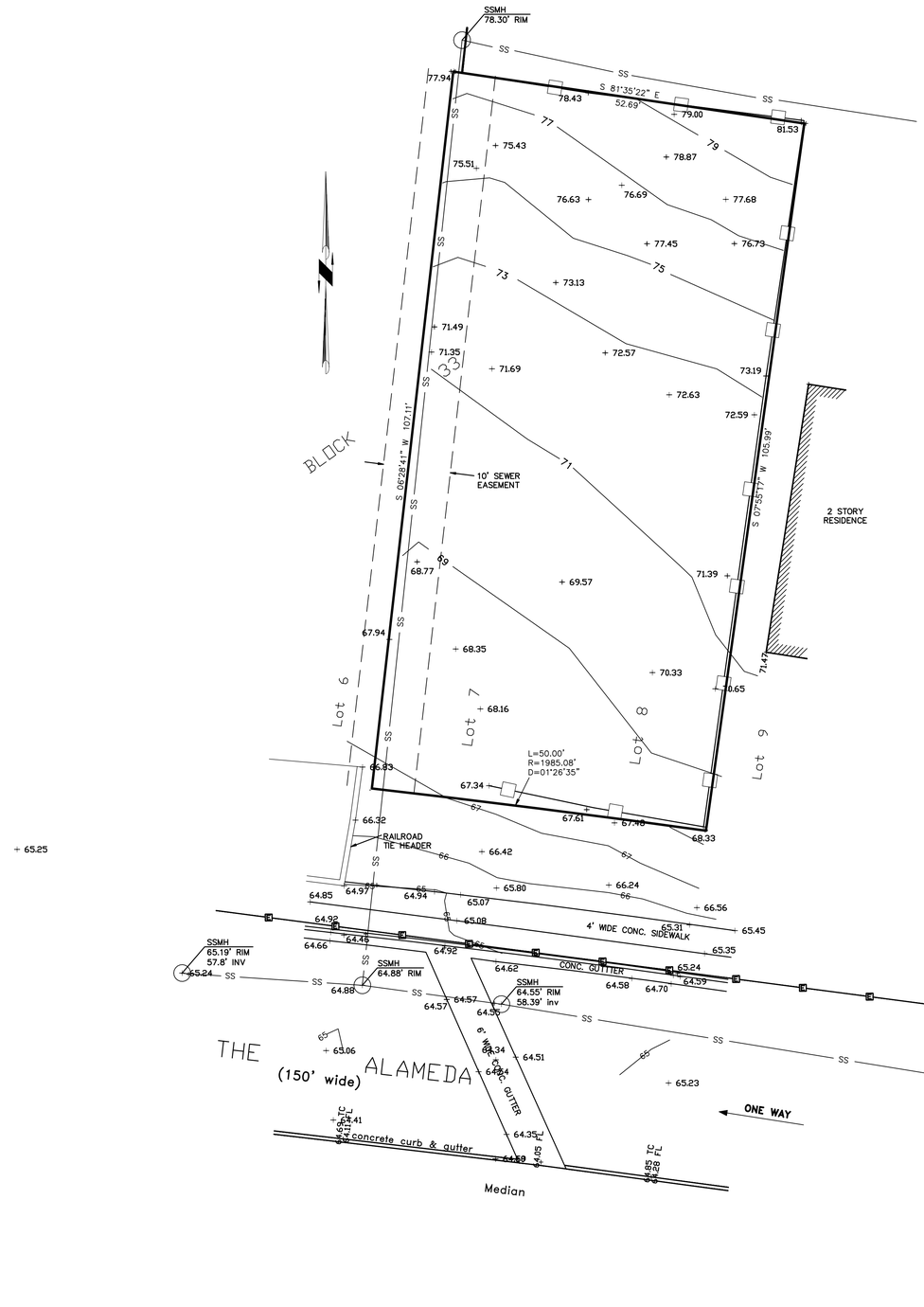
BEST MANAGEMENT PRACTICES

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94018

REV	DATE	DESCRIPTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

SIGN DATE: 12-02-2019
DATE: AS NOTED
SCALE: AS NOTED
DRAWN BY: JM
CKD BY: AP
PROJECT #: 201908085

BMP-1



BENCHMARK STATEMENT:
TOP OF FIRE HYDRANT
ELEVATION = 70.00
(THE ELEVATIONS SHOWN ARE ON AN ASSUMED DATUM.)

SURVEYOR'S STATEMENT:
THIS TOPOGRAPHIC SURVEY WAS MADE BY ME OR UNDER MY DIRECTION ON THE GROUND AND REPRESENTS MEASUREMENTS MADE DECEMBER 2019. THE BOUNDARY SHOWN IS A RECORD BOUNDARY ONLY. A TITLE REPORT WAS NOT PROVIDED TO THE SURVEYOR BY THE CLIENT. EASEMENTS SHOWN IS FROM RECORD DATA GIVEN TO ME.

LICENSED LAND SURVEYOR
SAVIOR MICALLEF
No. 8289
STATE OF CALIFORNIA

SAVIOR P. MICALLEF
LAND SURVEYOR, LS 8289
(805) 709-2423

12-23-19
DATE

SAVIOR P. MICALLEF LAND SURVEYING
421 WILDWOOD DRIVE
SOUTH SAN FRANCISCO, CA 94080
805/709-2423

TOPOGRAPHIC SURVEY OF THE ALAMEDA (APN 047-212-150)

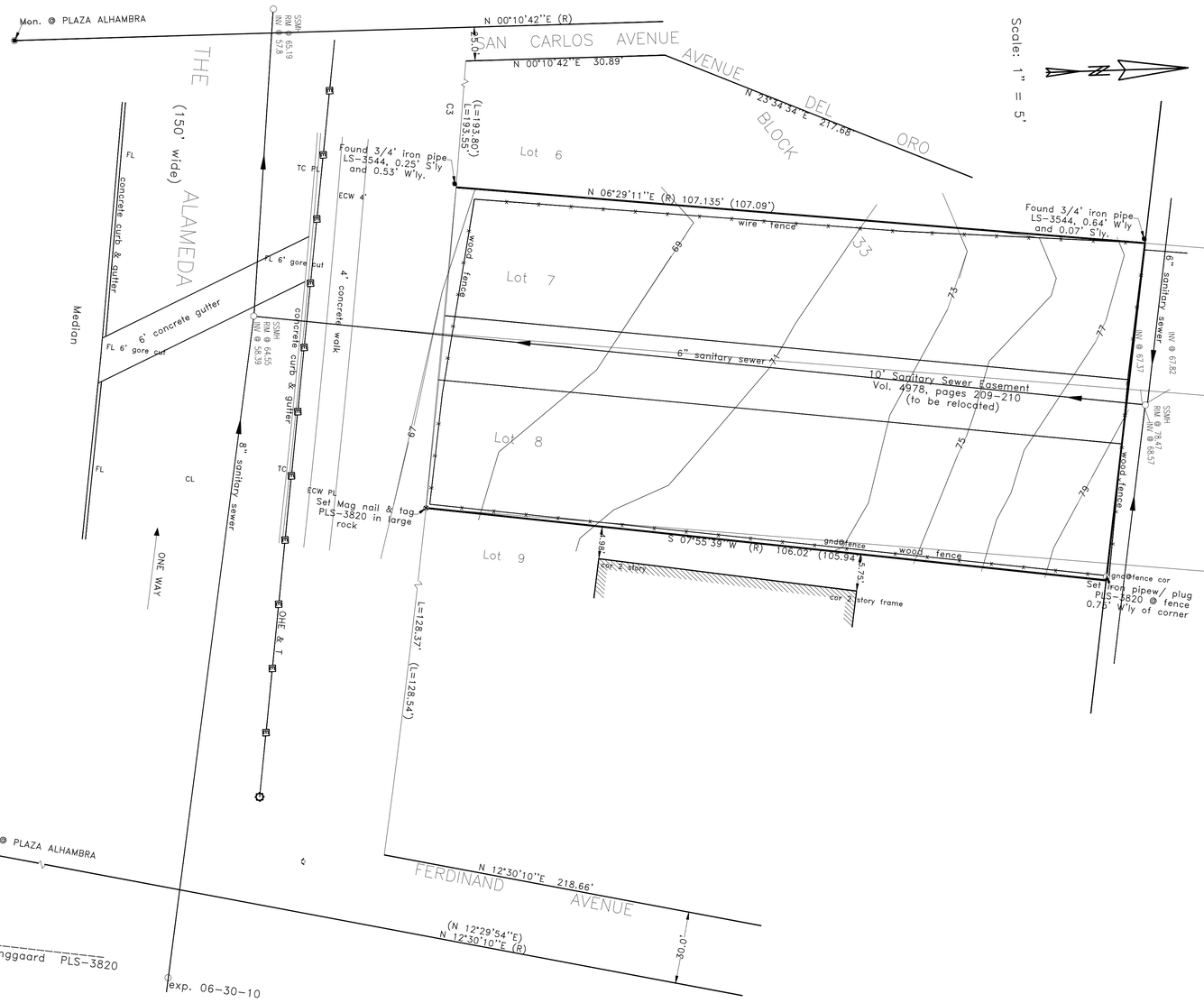
UNINCORPORATED SAN MATEO COUNTY CALIFORNIA

No.	Revisions

Date 12-23-19
Scale 1"=10'
Design
Drawn SPM
Approved SPM
Job No

Drawing Number

1 OF 1



BENCHMARK:
Top of fire hydrant at the intersection of Ferdinand Avenue and The Alameda
Elevation= 70.00' (assumed)

PLAT OF SURVEY

of Lot 7 & Lot 8, Block 33, shown on the map, "RE-SUBDIVISION OF SUBDIVISIONS NOS 2 AND 3 OF GRANADA, SAN MATEO COUNTY, CALIFORNIA", filed in Bk. 6 of maps, page 29 San Mateo County records, and consisting of three pages.

APN: 047-212-150

Date

Raymond B. Thinggaard PLS-3820

exp. 06-30-10

for: John Steadman

Thinggaard Land Consulting
3524 Breakwater Avenue, Suite B
Hayward, California 94545
(510) 732-6608

Job No. R-98

SAVIOR P. MICALLEF LAND SURVEYING
421 WILDWOOD DRIVE
SOUTH SAN FRANCISCO, CA 94080
805/709-2423

TOPOGRAPHIC SURVEY OF
THE ALAMEDA
EL GRANADA, CA (APN 047-212-150)
SAN MATEO COUNTY CALIFORNIA

Revisions

No.

Date 05-18-18
Scale 1"=10'
Design
Drawn RBT
Approved RBT
Job No

Drawing Number:
TS-1
1 OF 1

SECTION A4.602
RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and electives[1]		Enforcing Agency	Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
WATER EFFICIENCY AND CONSERVATION						
Indoor Water Use						
4.303.1 Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) installed in residential buildings shall comply with the prescriptive requirements of Sections 4.303.1.1 through 4.303.1.4.4.	☒			☐	☐	☐
4.303.2 Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable referenced standards.	☒			☐	☐	☐
4.303.1 Kitchen faucets. The maximum flow rate of kitchen faucets shall not exceed 1.5 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.5 gallons per minute at 60 psi. **Note:** Where complying faucets are available, aerators or other means may be used to achieve reduction.		☐	☐	☐	☐	☐
4.303.2 Alternate water source for nonpotable applications. Alternate nonpotable water sources are used for indoor potable water reduction. Alternate nonpotable water sources shall be installed in accordance with the *California Plumbing Code*.		☐	☐	☐	☐	☐
4.303.3 Install at least one qualified ENERGY STAR dishwasher or clothes washer.		☐	☐	☐	☐	☐
4.303.4 Nonwater supplied urinals or waterless toilets are installed.		☐	☐	☐	☐	☐
4.303.5 Hot water recirculation systems. One- and two-family dwellings shall be equipped with a demand hot water recirculation system, as defined in Chapter 2. The demand hot water recirculation system shall be installed in accordance with the *California Plumbing Code*, *California Energy Code,* and the manufacturer's installation instructions.						
Outdoor Water Use						
SEE SHT. CG-2 **4.304.1** After December 1, 2015, new residential developments with an aggregate landscape area equal to or greater than 500 square feet shall comply with one of the following options: 1. A local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent; or 2. Projects with aggregate landscape areas less than 2,500 square feet may comply with the MWELO's Appendix D Prescriptive Compliance Option.	☒			☐ ☐	☐ ☐	☐
4.304.1 Rainwater catchment systems. An approved rainwater catchment system is designed and installed to use rainwater generated by at least 65 percent of the available roof area. Rainwater catchment systems shall be designed and installed in accordance with the *California Plumbing Code*.		☐	☐	☐	☐	☐
4.304.2 Potable water elimination. When landscaping is provided and as allowed by local ordinance, a water efficient landscape irrigation design that eliminates the use of potable water beyond the initial requirements for plant installation and establishment should be provided. Methods used to accomplish the requirements of this section must be designed to the requirements of the *California Building Standards Code* and shall include, but not be limited to, the following: 1. Use of captured rainwater. 2. Use of recycled water. 3. Water treated for irrigation purposes and conveyed by a water district or public entity. 4. Use of graywater.		☐	☐	☐	☐	☐
4.304.3 For new water service connections, landscaped irrigated areas less than 5,000 square feet shall be provided with separate submeters or metering devices for outdoor potable water use.		☐	☐	☐	☐	☐

continued

SECTION A4.602
RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and electives[1]		Enforcing Agency	Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
A4.106.6 Install a vegetated roof for at least 50 percent of the roof area. Vegetated roofs shall comply with requirements for roof gardens and landscaped roofs in the *California Building Code*, Chapters 15 and 16.		☐	☐	☐	☐	☐
A4.106.7 Reduce nonroof heat islands for 50 percent of sidewalks, patios, driveways or other paved areas by using one or more of the methods listed.		☐	☐	☐	☐	☐
A4.106.8.1 Tier 1 and Tier 2 for one- and two-family dwellings and townhouses with attached private garages. Install a dedicated 208/240-volt branch circuit, including an overcurrent protective device rated at 40 amperes minimum per dwelling unit.	☐	☒[1]	☒[2]	☐	☐	☐
A4.106.8.2 Tier 1 and Tier 2 for multifamily dwellings. Provide capability for future electric vehicle charging in 5 percent of total parking spaces, as specified.	☐	☒[1]	☒[2]	☐	☐	☐
4.106.9 Provide bicycle parking facilities as noted below or meet a local ordinance, whichever is more stringent. Number of bicycle parking spaces may be reduced, as approved by the enforcing agency, due to building site characteristics, including but not limited to, isolation from other development. 1. Provide short-term bicycle parking, per Section A4.106.9.1. 2. Provide long-term bicycle parking for multifamily buildings, per Section A4.106.9.2. 3. Provide long-term bicycle parking for hotel and motel buildings, per Section A4.106.9.3.				☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
A4.106.10 [HR] Outdoor lighting systems shall be designed and installed to comply with: 1. The minimum requirements in the *California Energy Code* for Lighting Zones 1-4; and 2. Backlight, Uplight and Glare (BUG) ratings as defined in IES TM-15-11; and 3. Allowable BUG ratings not exceeding those shown in Table A4.106.10; or Comply with a lawfully enacted local ordinance, whichever is more stringent.		☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐

continued

DIVISION A4.6 – TIER 1 AND TIER 2—continued

SECTION A4.602
RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST
Effective July 1, 2015

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and electives[1]		Enforcing Agency	Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
PLANNING AND DESIGN						
Site Selection						
A4.103.1 A site which complies with at least one of the following characteristics is selected: 1. An infill site is selected. 2. A greyfield site is selected. 3. An EPA-recognized Brownfield site is selected.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
A4.103.2 Facilitate community connectivity by one of the following methods: 1. Locate project within a $^1/_2$-mile true walking distance of at least 4 basic services; 2. Locate project within $^1/_2$-mile true walking distance of at least 7 basic services; 3. Other methods increasing access to additional resources.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Site Preservation						
A4.104.1 An individual with oversight responsibility for the project has participated in an educational program promoting environmentally friendly design or development and has provided training or instruction to appropriate entities.		☐	☐	☐	☐	☐
Deconstruction and Reuse of Existing Materials						
A4.105.2 Existing buildings are disassembled for reuse or recycling of building materials. The proposed structure utilizes at least one of the following materials which can be easily reused: 1. Light fixtures 2. Plumbing fixtures 3. Doors and trim 4. Masonry 5. Electrical devices 6. Appliances 7. Foundations or portions of foundations		☐	☐	☐	☐	☐
Site Development						
SEE SHT. CG-2 **4.106.2** A plan is developed and implemented to manage storm water drainage during construction.	☒					
SEE SHT. CG-2 **4.106.3** Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.	☒					
SEE SHT. CG-2 **4.106.4** Provide capability for electric vehicle charging in one- and two-family dwellings and in townhouses with attached private garages; and 3 percent of total parking spaces, as specified, for multifamily dwellings.	☒	☐	☐	☐	☐	
A4.106.1 Reserved		☐	☐	☐	☐	☐

continued

SECTION A4.602
RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and electives[1]		Enforcing Agency	Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
WATER REUSE SYSTEMS						
A4.305.1 Piping is installed to permit future use of a graywater irrigation system served by the clothes washer or other fixtures.		☐	☐	☐	☐	☐
A4.305.2 Recycled water piping is installed.		☐	☐	☐	☐	☐
A4.305.3 Recycled water is used for landscape irrigation.		☐	☐	☐	☐	☐
Innovative Concepts and Local Environmental Conditions						
A4.306.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1	☐	☐	☐	☐	☐	☐
Item 2	☐	☐	☐	☐	☐	☐
Item 3	☐	☐	☐	☐	☐	☐
MATERIAL CONSERVATION AND RESOURCE EFFICIENCY						
Foundation Systems						
A4.403.1 A Frost-protected Shallow Foundation (FPSF) is designed and constructed.		☐	☐	☐	☐	☐
A4.403.2 Cement use in foundation mix design is reduced. Tier 1. Not less than a 20 percent reduction in cement use. Tier 2. Not less than a 25 percent reduction in cement use.		☒[2]	☒[3]			
Efficient Framing Techniques						
A4.404.1 Beams and headers and trimmers are the minimum size to adequately support the load.		☐	☐	☐	☐	☐
A4.404.2 Building dimensions and layouts are designed to minimize waste.		☐	☐	☐	☐	☐
A4.404.3 Use premanufactured building systems to eliminate solid sawn lumber whenever possible.		☐	☐	☐	☐	☐
A4.404.4 Material lists are included in the plans which specify material quantity and provide direction for on-site cuts.		☐	☐	☐	☐	☐

continued

SECTION A4.602
RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and electives[1]		Enforcing Agency	Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
Innovative Concepts and Local Environmental Conditions						
A4.108.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1	☐	☐	☐	☐	☐	☐
Item 2	☐	☐	☐	☐	☐	☐
Item 3	☐	☐	☐	☐	☐	☐
ENERGY EFFICIENCY						
General						
SEE SHT T24.1& T24.2 **4.201.1** Building meets or exceeds the requirements of the *California Building Energy Efficiency Standards*[1].	☒	☒[2]	☒[3]	☐	☐	☐
Performance Approach for Newly Constructed Buildings						
A4.203.1.1.1 An Energy Design Rating for the Proposed Design Building is included in the Certificate of Compliance documentation.		☒[2]	☒[3]	☐	☐	☐
A4.203.1.1.2 QII procedures specified in the Building Energy Efficiency Standards Reference Residential Appendix RA3.5 are completed.		☒[2]	☒[3]	☐	☐	☐
> **A4.203.1.2.1 Tier 1:** Buildings complying with the first level of advanced energy efficiency shall have either an Energy Budget that is no greater than 85 percent of the Title 24, Part 6 Energy Budget for the Standard Design Building, or an Energy Design Rating showing a 15% or greater reduction in its Energy Budget component compared to the Standard Design Building, as calculated by Title 24, Part 6 Compliance Software approved by the Energy Commission.		☒[2]		☐	☐	☐
> **A4.203.1.2.2 Tier 2:** Buildings complying with the second level of advanced energy efficiency shall have either an Energy Budget that is no greater than 70 percent of the Title 24, Part 6 Energy Budget for the Standard Design Building, or an Energy Design Rating showing a 30% or greater reduction in its Energy Budget component compared to the Standard Design Building, as calculated by Title 24, Part 6 Compliance Software approved by the Energy Commission.			☒[3]	☐	☐	☐
> **A4.203.1.2.3 Zero Net Energy Design (elective):** Shall comply with all of the following: 1. Section A4.203.1.1 (Prerequisite) and 2. Section A4.203.1.2.1 • for single-family buildings in Climate Zones 6 and 7, and low-rise multifamily buildings in Climate Zones 3, 5, 6, and 7 or Section A4.203.1.2.2 • for single-family buildings in Climate Zones 1-5 and 8-16, and low-rise multifamily buildings in Climate Zones 1, 2, 4, and 8-16 3. Energy Design Rating of zero (0) or less		☐	☐	☐	☐	☐
Performance Approach for Additions						
A4.204.1.1 Tier 1. If only one mechanical system is added or modified, the Energy Budget is no greater than 95 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building. If two or more mechanical systems are added or modified, the Energy Budget is no greater than 90 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building.		☒[2]		☐	☐	☐
A4.204.1.2 Tier 2. If only one mechanical system is added or modified, the Energy Budget is no greater than 90 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building. If two or more mechanical systems are added or modified, the Energy Budget is no greater than 85 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building.			☒[3]	☐	☐	☐

continued

SECTION A4.602
RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and electives[1]		Enforcing Agency	Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
A4.106.2.1 Soil analysis is performed by a licensed design professional and the findings utilized in the structural design of the building.		☐	☐	☐	☐	☐
A4.106.2.2 Soil disturbance and erosion are minimized by at least one of the following: 1. Natural drainage patterns are evaluated and erosion controls are implemented to minimize erosion during construction and after occupancy. 2. Site access is accomplished by minimizing the amount of cut and fill needed to install access roads and driveways. 3. Underground construction activities are coordinated to utilize the same trench, minimize the amount of time the disturbed soil is exposed and the soil is replaced using accepted compaction methods.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
A4.106.2.3 Topsoil shall be protected or saved for reuse as specified in this section. Tier 1. Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion. Tier 2. The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area.		☒[2]	☒[2] ☒[3]	☐	☐	☐
A4.106.3 Postconstruction landscape designs accomplish one or more of the following: 1. Areas disrupted during construction are restored to be consistent with native vegetation species and patterns. 2. Utilize at least 75 percent native California or drought tolerant plant and tree species appropriate for the climate zone region.		☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐
> **A4.106.4** Permeable paving is utilized for the parking, walking or patio surfaces in compliance with the following: Tier 1. Not less than 20 percent of the total parking, walking or patio surfaces shall be permeable. Tier 2. Not less than 30 percent of the total parking, walking or patio surfaces shall be permeable.		☒[2]	☒[3]	☐ ☐	☐ ☐	☐ ☐
> **A4.106.5** Roofing materials shall have a minimum 3-year aged solar reflectance and thermal emittance or a minimum Solar Reflectance Index (SRI) equal to or greater than the values specified in Tables A4.106.5.1(1) and A4.106.5.1(2) for low-rise residential buildings and Tables A4.106.5.1(3) and A4.106.5.1(4) for high rise residential buildings. **Low-rise Residential** Tier 1 roof covering shall meet or exceed the values contained in Table A4.106.5.1(1). Tier 2 roof covering shall meet or exceed the values contained in Table A4.106.5.1(2). **High-rise Residential, Hotels and Motels** Tier 1 roof covering shall meet or exceed the values contained in Table A4.106.5.1(3). Tier 2 roof covering shall meet or exceed the values contained in Table A4.106.5.1(4).		☒[2] ☒[2] ☒[2]	☒[3] ☒[3]			

continued

REVISIONS

BAY AREA ENERGY COMPLIANCE
7408 POTRERO AVE. EL CERRITO, CA. 94530
510/932-5858
title24andgreenpoint@gmail.com

CALGREEN CHECKLIST

NEW RESIDENCE
APN - 047212150
EL GRANADA

DATE: 12/17/19

DRAWN BY:

SHEET NO.

CG-1

IAQ (Indoor Air Quality) FANS

01	02	03	04	05	06
Dwelling Unit	IAQ CFM	IAQ Watts/CFM	IAQ Fan Type	IAQ Recovery Effectiveness(%)	HERS Verification
SFam IAQVentRpt	51	0.25	Default	0	Required

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Frank Cuthbert	Documentation Author Signature: Frank Cuthbert
Company: Bay Area Energy Compliance	Signature Date: 2019-12-17 10:56:49
Address: 7408 Potrero Ave.	CEA/HERS Certification Identification (If applicable): N/A
City/State/Zip: El Cerrito, CA 94530	Phone: 510-932-5858

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

Responsible Designer Name: Amarendra Prasad	Responsible Designer Signature: Amarendra Prasad
Company: Design Everest	Date Signed: 2019-12-17 13:54:19
Address: 365 Flower Lane	License: C68517
City/State/Zip: Mountain View, CA 94043	Phone: 650-793-4151

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

Easy to Verify at CalCERTS.com

ATTIC

01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic First Floor	Attic Roof/First Floor	Ventilated	4	0.1	0.85	No	No
Attic Second Floor	Attic Roof/Second Floor	Ventilated	4	0.1	0.85	No	No
Attic __Garage__	Attic Garage Roof Cons	Ventilated	4	0.1	0.85	No	No

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10
Name	Type	Surface (Orientation-Azimuth)	Width (ft)	Height (ft)	Multiplier	Area (ft^2)	U-factor	SHGC	Exterior Shading
Window	Window	Front (Front-155)	----	----	1	48.0	0.40	0.55	Insect Screen (default)
Window 2	Window	Left (Left-245)	----	----	1	32.0	0.40	0.55	Insect Screen (default)
Window 3	Window	Rear (Back-335)	----	----	1	101.0	0.40	0.55	Insect Screen (default)
Window 4	Window	Right (Right-65)	----	----	1	14.0	0.40	0.55	Insect Screen (default)
Window 5	Window	Front 2 (Front-155)	----	----	1	67.0	0.40	0.55	Insect Screen (default)
Window 6	Window	Left 2 (Left-245)	----	----	1	61.0	0.40	0.55	Insect Screen (default)
Window 7	Window	Rear 2 (Back-335)	----	----	1	57.0	0.40	0.55	Insect Screen (default)
Window 8	Window	Right 2 (Right-65)	----	----	1	37.0	0.40	0.55	Insect Screen (default)

OPAQUE DOORS

01	02	03	04
Name	Side of Building	Area (ft^2)	U-factor
Wood Door	Front	24.0	0.50

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Winter Design U-factor	Assembly Layers
Garage Ext Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	none	0.361	• *Inside Finish: Gypsum Board* • *Cavity / Frame: no insul. / 2x4* • *Exterior Finish: 3 Coat Stucco*
R-0 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	none	0.481	• *Inside Finish: Gypsum Board* • *Cavity / Frame: no insul. / 2x4*
Attic Garage Roof Cons	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.	none	0.644	• *Cavity / Frame: no insul. / 2x4 Top Chrd* • *Roof Deck: Wood Siding/sheathing/decking* • *Roofing: Light Roof (Asphalt Shingle)*
Attic RoofFirst Floor	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.	none	0.644	• *Cavity / Frame: no insul. / 2x4 Top Chrd* • *Roof Deck: Wood Siding/sheathing/decking* • *Roofing: Light Roof (Asphalt Shingle)*
R-19 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O.C.	R 19 in 5-1/2 in. cavity (R-18)	0.074	• *Inside Finish: Gypsum Board* • *Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6* • *Exterior Finish: 3 Coat Stucco*
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x6 @ 16 in. O.C.	R 30	0.032	• *Inside Finish: Gypsum Board* • *Cavity / Frame: R-14.3 / 2x6* • *Over Ceiling Joists: R-15.7 insul.*
R-15 Wall	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R 15	0.086	• *Inside Finish: Gypsum Board* • *Cavity / Frame: R-15 / 2x4* • *Other Side Finish: Gypsum Board*
Attic RoofSecond Floor	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.	none	0.644	• *Cavity / Frame: no insul. / 2x4 Top Chrd* • *Roof Deck: Wood Siding/sheathing/decking* • *Roofing: Light Roof (Asphalt Shingle)*
R-19 Floor No Crawlspace	Interior Floors	Wood Framed Floor	2x12 @ 16 in. O.C.	R 19	0.044	• *Floor Surface: Carpeted* • *Floor Deck: Wood Siding/sheathing/decking* • *Cavity / Frame: R-19 / 2x12* • *Ceiling Below Finish: Gypsum Board*
R-0 Floor No Crawlspace	Interior Floors	Wood Framed Floor	2x12 @ 16 in. O.C.	none	0.196	• *Floor Surface: Carpeted* • *Floor Deck: Wood Siding/sheathing/decking* • *Cavity / Frame: no insul. / 2x12* • *Ceiling Below Finish: Gypsum Board*
R-19 Floor No Crawlspace1	Exterior Floors	Wood Framed Floor	2x12 @ 16 in. O.C.	R 19	0.046	• *Floor Surface: Carpeted* • *Floor Deck: Wood Siding/sheathing/decking* • *Cavity / Frame: R-19 / 2x12*

SLAB FLOORS

01	02	03	04	05	06	07
Name	Zone	Area (ft^2)	Perimeter (ft)	Edge Insul. R-value & Depth	Carpeted Fraction	Heated
Slab-on-Grade	First Floor	881	114	None	0.8	No
GarageSlab	__Garage__	430	46	None	0	No

BUILDING ENVELOPE - HERS VERIFICATION

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

WATER HEATING SYSTEMS

01	02	03	04	05	06
Name	System Type	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
DHW Sys 1	Combined Hydronic	Standard	DHW Heater 1 (1)	1	.0%

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12
Name	Heater Element Type	Tank Type	Number of Units	Tank Volume (gal)	Uniform Energy Factor / Energy Factor / Efficiency	Input Rating / Pilot / Thermal Efficiency	Tank Insulation R-value (Int/Ext)	Standby Loss / Recovery Eff	First Hour Rating / Flow Rate	NEEA Heat Pump Brand / Model / Other	Tank Location or Ambient Condition
DHW Heater 1	Gas	Small Instantaneous	1	0	0.95 EF	<= 200 kBtu/hr	R-0/R-0	0	n/a	n/a	n/a

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06
SC Sys Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name
Radiant Floor Heat1	Other Heating and Cooling System	Heating Component 1	Cooling Component 1	HVAC Fan 1	- none -

HVAC - HEATING UNIT TYPES

01	02	03	04
Name	System Type	Number of Units	Efficiency
Heating Component 1	CombHydro	1	95 AFUE

GENERAL INFORMATION

01	Project Name	NEW RESIDENCE			
02	Calculation Description	Title 24 Analysis			
03	Project Location	APN: 047212150			
04	City	El Granada	05	Standards Version	Compliance 2017
06	Zip Code	94019	07	Compliance Manager Version	BEMCmpMgr 2016.3.1 (1149)
08	Climate Zone	CZ3	09	Software Version	EnergyPro 7.2
10	Building Type	Single Family	11	Front Orientation (deg/Cardinal)	155
12	Project Scope	Newly Constructed	13	Number of Dwelling Units	1
14	Total Cond. Floor Area (ft^2)	2092	15	Number of Zones	2
16	Slab Area (ft^2)	881	17	Number of Stories	2
18	Addition Cond. Floor Area(ft^2)	n/a	19	Natural Gas Available	Yes
20	Addition Slab Area (ft^2)	n/a	21	Glazing Percentage (%)	19.9%

COMPLIANCE RESULTS

01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.

ENERGY USE SUMMARY

04	05	06	07	08
Energy Use (kTDV/ft^2-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	12.39	12.37	0.02	0.2%
Space Cooling	1.63	2.70	-1.07	-65.6%
IAQ Ventilation	1.17	1.17	0.00	0.0%
Water Heating	9.20	7.94	1.26	13.7%
Photovoltaic Offset	----	0.00	0.00	----
Compliance Energy Total	**24.39**	**24.18**	**0.21**	**0.9%**

ENERGY DESIGN RATING

Energy Design Rating (EDR) is an alternate way to express the energy performance of a building using a scoring system where 100 represents the energy performance of the Residential Energy Services (RESNET) reference home characterization of the 2006 International Energy Conservation Code (IECC) with California modeling assumptions. A score of zero represents the energy performance of a building that combines high levels of energy efficiency with renewable generation to"zero out" its TDV energy. Because EDR includes consideration of components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics), it is not used to show compliance with Part 6 but may instead be used by local jurisdictions pursuing local ordinances under Title 24, Part 11 (CALGreen).
As a Standard Design building under the 2016 Building Energy Efficiency Standards is significantly more efficient than the baseline EDR building, the EDR of the Standard Design building is provided for Information. Similarly, the EDR score of the Proposed Design is provided separately from the EDR value of installed PV so that the effects of efficiency and renewable energy can both be seen

EDR of Standard Efficiency	EDR of Proposed Efficiency	EDR Value of Proposed PV + Battery	Final Proposed EDR
49.3	**49.2**	**0.0**	**49.2**

☐ **Design meets Tier 1 requirement of 15% or greater code compliance margin (CALGreen A4.203.1.2.1) and QII verification prerequisite.**
☐ **Design meets Tier 2 requirement of 30% or greater code compliance margin (CALGreen A4.203.1.2.2) and QII verification prerequisite.**
☐ **Design meets Zero Net Energy (ZNE) Design Designation requirement for Single Family in climate zone CZ3 (CALGreen A4.203.1.2.3) including on-site photovoltaic (PV) renewable energy generation sufficient to achieve a Final Energy Design Rating (EDR) of zero or less. The PV System and QII must be verified.**

Notes:
- **Excess PV Generation EDR Credit: Bypassing PV size limit may violate Net Energy Metering (NEM) rules**

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

NO SPECIAL FEATURES REQUIRED

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building components tables below.

Building-level Verifications:
- **IAQ mechanical ventilation**

Cooling 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
NEW RESIDENCE	2092	1	3	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
First Floor	Conditioned	Radiant Floor Heat1	881	9	DHW Sys 1	n/a
Second Floor	Conditioned	Radiant Floor Heat1	1211	9	DHW Sys 1	n/a

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window & Door Area (ft^2)	Tilt (deg)
Front	First Floor	R-19 Wall	155	Front	135	72	90
Left	First Floor	R-19 Wall	245	Left	369	32	90
Rear	First Floor	R-19 Wall	335	Back	315	101	90
Right	First Floor	R-19 Wall	65	Right	207	14	90
Wall to garage	First Floor>>__Garage__	R-15 Wall	n/a	n/a	333	0	n/a
Attic Roof	First Floor	R-30 Roof Attic	n/a	n/a	16	n/a	n/a
Front 2	Second Floor	R-19 Wall	155	Front	315	67	90
Left 2	Second Floor	R-19 Wall	245	Left	342	61	90
Rear 2	Second Floor	R-19 Wall	335	Back	315	57	90
Right 2	Second Floor	R-19 Wall	65	Right	342	37	90
Attic Roof 2	Second Floor	R-30 Roof Attic	n/a	n/a	1211	n/a	n/a
Raised Floor No Crawl	Second Floor	R-19 Floor No Crawlspace1	n/a	n/a	55	n/a	n/a
Floor over garage	Second Floor>>__Garage__	R-19 Floor No Crawlspace	n/a	n/a	264	n/a	n/a
Floor over first floor	Second Floor>>First Floor	R-0 Floor No Crawlspace	n/a	n/a	881	n/a	n/a
GarageWallFront	__Garage__	Garage Ext Wall	155	Front	100	0	90
GarageWallFront2	__Garage__	Garage Ext Wall	155	Front	80	0	90
GarageWallLeft	__Garage__	Garage Ext Wall	245	Left	36	0	90
GarageWallRight	__Garage__	Garage Ext Wall	65	Right	198	0	90
GarageRoof	__Garage__	R-0 Roof Attic	n/a	n/a	166	n/a	n/a

REVISIONS

BAY AREA ENERGY COMPLIANCE
7408 POTRERO AVE. EL CERRITO, CA. 94530
510/932-5858
title24andgreenpoint@gmail.com

TITLE-24 ENERGY COMPLIANCE

NEW RESIDENCE
APN - 047212150
EL GRANADA

DATE: 12/17/19

DRAWN BY:

SHEET NO.

T24.1

2016 Low-Rise Residential Mandatory Measures Summary

§ 150.0(m)13:	**Duct System Sizing and Air Filter Grille Sizing.** Space conditioning systems that use forced air ducts to supply cooling to an occupiable space must have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum. The space conditioning system must also demonstrate airflow ≥ 350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy ≤ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.3. This applies to both single zone central forced air systems and every zone for zonally controlled central forced air systems.'
§150.0(o):	**Ventilation for Indoor Air Quality.** All dwelling units must meet the requirements of ASHRAE Standard 62.2. Neither window operation nor continuous operation of central forced air system air handlers used in central fan integrated ventilation systems are permissible methods of providing whole-building ventilation.
§ 150.0(o)1A:	**Field Verification and Diagnostic Testing.** Whole-building ventilation airflow must be confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.7.
Pool and Spa Systems and Equipment Measures:	
§ 110.4(a):	**Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating.'
§ 110.4(b)1:	**Piping.** Any pool or spa heating equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	**Covers.** Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	**Directional inlets and time switches for pools.** Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	**Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	**Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.'
Lighting Measures:	
§ 110.9:	**Lighting Controls and Components.** All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.'
§ 110.9(e):	**JA8 High Efficacy Light Sources.** To qualify as a JA8 high efficacy light source for compliance with § 150.0(k), a residential light source must be certified to the Energy Commission according to Reference Joint Appendix JA8.
§ 150.0(k)1A:	**Luminaire Efficacy.** All installed luminaires must be high efficacy in accordance with TABLE 150.0-A.
§ 150.0(k)1B:	**Blank Electrical Boxes.** The number of electrical boxes that are more than 5 feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C. A JA8-2016-E light source rated for elevated temperature must be installed by final inspection in all recessed downlight luminaires in ceilings.
§ 150.0(k)1D:	**Electronic Ballasts.** 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(k)1E:	**Night Lights.** Permanently installed night lights and night lights integral to installed luminaires or exhaust fans must be rated to consume no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with § 130.0(c). Night lights do not need to be controlled by vacancy sensors.
§ 150.0(k)1F:	**Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).'
§ 150.0(k)1G:	**Screw based luminaires.** Screw based luminaires must not be recessed downlight luminaires in ceilings and must contain lamps that comply with Reference Joint Appendix JA8. Installed lamps must be marked with "JA8-2016" or "JA8-2016-E" as specified in Reference Joint Appendix JA8.'
§ 150.0(k)1H:	**Enclosed Luminaires.** Light sources installed in enclosed luminaires must be JA8 compliant and must be marked with "JA8-2016-E."
§ 150.0(k)2A:	**Interior Switches and Controls.** All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	**Interior Switches and Controls.** Exhaust fans must be switched separately from lighting systems.'
§ 150.0(k)2C:	**Interior Switches and Controls.** Luminaires must be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF.
§ 150.0(k)2D:	**Interior Switches and Controls.** Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)2E:	**Interior Switches and Controls.** No control must bypass a dimmer or vacancy sensor function if the control is installed to comply with § 150.0(k).
§ 150.0(k)2F:	**Interior Switches and Controls.** Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.0(k)2G:	**Interior Switches and Controls.** An energy management control system (EMCS) may be used to comply with dimmer requirements if it: functions as a dimmer according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.5(f); and meets all other requirements in § 150.0(k)2.
§ 150.0(k)2H:	**Interior Switches and Controls.** An EMCS may be used to comply with vacancy sensor requirements in § 150.0(k) if it meets all of the following: it functions as a vacancy sensor according to § 110.9; the Installation Certificate requirements of § 130.4; the EMCS requirements of § 130.5(f); and all other requirements in § 150.0(k)2.
§ 150.0(k)2I:	**Interior Switches and Controls.** A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2.

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§ 150.0(k)2J:	**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 a vacancy sensor..
§ 150.0(k)2K:	**Interior Switches and Controls.** Dimmers or vacancy sensors must control all luminaires required to have light sources compliant with Reference Joint Appendix JA8, except luminaires in closets less than 70 square feet and luminaires in hallways.'
§ 150.0(k)2L:	**Interior Switches and Controls.** Undercabinet lighting must be switched separately from other lighting systems.
§ 150.0(k)3A:	**Residential Outdoor Lighting.** For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirement in item § 150.0(k)3Ai (ON and OFF switch) and the requirements in either item § 150.0(k)3Aii (photocell and motion sensor) or item § 150.0(k)3Aiii (photo control and automatic time switch control, astronomical time clock, or EMCS).
§ 150.0(k)3B:	**Residential Outdoor Lighting.** For low-rise multifamily residential buildings, outdoor lighting for private patios, entrances, balconies, and porches; and outdoor lighting for residential parking lots and residential carports with less than eight vehicles per site must comply with either § 150.0(k)3A or with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3C:	**Residential Outdoor Lighting.** For low-rise residential buildings with four or more dwelling units, outdoor lighting not regulated by § 150.0(k)3B or § 150.0(k)3D must comply with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3D:	**Residential Outdoor Lighting.** Outdoor lighting for residential parking lots and residential carports with a total of eight or more vehicles per site must comply with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0.
§ 150.0(k)4:	**Internally illuminated address signs.** Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).
§ 150.0(k)5:	**Residential Garages for Eight or More Vehicles.** Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
§ 150.0(k)6A:	**Interior Common Areas of Low-rise Multi-Family Residential Buildings.** In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be high efficacy luminaires and controlled by an occupant sensor..
§ 150.0(k)6B:	**Interior Common Areas of Low-rise Multi-Family 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 in that building must: i. Comply with the applicable requirements in §§ 110.9, 130.0, 130.1, 140.6 and 141.0; and ii. Lighting installed in corridors and stairwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all designed paths of ingress and egress.
Solar Ready Buildings:	
§ 110.10(a)1:	**Single Family Residences.** Single family residences located in subdivisions with ten or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete by the enforcement agency must comply with the requirements of § 110.10(b) through § 110.10(e).
§ 110.10(a)2:	**Low-rise Multi-family Buildings.** Low-rise multi-family buildings must comply with the requirements of § 110.10(b) through § 110.10(d).
§ 110.10(b)1:	**Minimum 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 multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 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.'
§ 110.10(b)2:	**Orientation.** All sections of the solar zone located on steep-sloped roofs must be oriented between 110 degrees and 270 degrees of true north.
§ 110.10(b)3A:	**Shading.** The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.'
§ 110.10(b)3B:	**Shading.** Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.'
§ 110.10(b)4:	**Structural Design Loads on Construction Documents.** For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	**Interconnection Pathways.** The construction documents must indicate: a location for inverters and metering equipment and a pathway for routing of conduit from the solar zone to the point of interconnection with the electrical service (for single family residences the point of interconnection will be the main service panel); and a pathway for routing of plumbing from the solar zone to the water-heating system.
§ 110.10(d):	**Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.
§ 110.10(e)1:	**Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	**Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be: positioned at the opposite (load) end from the input feeder location or main circuit location; and permanently marked as "For Future Solar Electric".

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*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.*
(Revised 04/2017)

Building Envelope Measures:	
§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 cfm/ft² or less when tested per NFRC-400 or ASTM E283 or AAMA/WDMA/CSA 101/I.S.2/A440-2011.'
§ 110.6(a)5:	**Labeling.** Fenestration products must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from TABLES 110.6-A and 110.6-B for compliance and must be caulked and/or weatherstripped. '
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation specified or installed must meet Standards for Insulating Material.
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** A radiant barrier must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Ceiling and Rafter Roof Insulation.** Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.'
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Above Grade Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or U-factor of 0.074 or less). Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102, equivalent to an installed value of R-13 in a wood framed assembly.'
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.'
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3%; have a water vapor permeance no greater than 2.0 perm/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 1-16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In Climate Zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.'
Fireplaces, Decorative Gas Appliances, and Gas Log Measures:	
§ 150.0(e)1A:	**Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)1B:	**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 tight-fitting damper or combustion-air control device.'
§ 150.0(e)1C:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.'
§ 150.0(e)2:	**Pilot Light.** Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited.
Space Conditioning, Water Heating, and Plumbing System Measures:	
§ 110.0-§ 110.3:	**Certification.** Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the Energy Commission.'
§ 110.2(a):	**HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in TABLE 110.2-A through TABLE 110.2-K.'
§ 110.2(b):	**Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.'
§ 110.2(c):	**Thermostats.** All unitary heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.'
§ 110.3(c)5:	**Water Heating Recirculation Loops Serving Multiple Dwelling Units.** Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)5.
§ 110.3(c)7:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBTU/hr (2 kW) must have isolation valves with hose bibbs or other fittings on both cold water and hot water lines of water heating systems to allow for water tank flushing 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 (appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt); and pool and spa heaters.'
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; SMACNA Residential Comfort System Installation Standards Manual; or ACCA Manual J using design conditions specified in § 150.0(h)2.

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§ 150.0(h)3A:	**Clearances.** Installed air conditioner and heat pump outdoor condensing units must have a clearance of at least 5 feet from the outlet of any dryer vent.
§ 150.0(h)3B:	**Liquid Line Drier.** Installed air conditioner and heat pump systems must be equipped with liquid line filter driers if required, as specified by manufacturer's instructions.
§ 150.0(j)1:	**Storage Tank Insulation.** Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(j)2A:	**Water piping and cooling system line insulation.** For domestic hot water system piping, whether buried or unburied, all of the following must be insulated according to the requirements of TABLE 120.3-A: the first 5 feet of hot and cold water pipes from the storage tank; all piping with a nominal diameter of 3/4 inch or larger; all piping associated with a domestic hot water recirculation system regardless of the pipe diameter; piping from the heating source to storage tank or between tanks; piping buried below grade; and all hot water pipes from the heating source to kitchen fixtures.'
§ 150.0(j)2B:	**Water piping and cooling system line insulation.** All domestic hot water pipes that are buried below grade must be installed in a water proof and non-crushable casing or sleeve.'
§ 150.0(j)2C:	**Water piping and cooling system line insulation.** Pipe for cooling system lines must be insulated as specified in § 150.0(j)2A. Distribution piping for steam and hydronic heating systems or hot water systems must meet the requirements in TABLE 120.3-A.'
§ 150.0(j)3:	**Insulation Protection.** Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.
§ 150.0(j)3A:	**Insulation Protection.** Insulation exposed to weather must be installed with a cover suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. The cover must be water retardant and provide shielding from solar radiation that can cause degradation of the material.
§ 150.0(j)3B:	**Insulation Protection.** Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must have a Class I or Class II vapor retarder.
§ 150.0(n)1:	**Gas or Propane Systems.** Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: a 120V electrical receptacle within 3 feet of the water heater; a Category II or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than 2 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/hr.
§ 150.0(n)2:	**Recirculating Loops.** Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 150.0(n)3:	**Solar Water-heating Systems.** Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a listing agency that is approved by the Executive Director.
Ducts and Fans Measures:	
§ 110.8(d)3:	**Ducts.** Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	**CMC Compliance.** All air-distribution system ducts and plenums must be installed, sealed, and insulated to meet the requirements of CMC §§ 601.0, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6.0 (or higher if required by CMC § 605.0) or a minimum installed level of R-4.2 when entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh or tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause reductions in the cross-sectional area of the ducts.'
§ 150.0(m)2:	**Factory-Fabricated Duct Systems.** Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	**Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	**Backdraft Dampers.** All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers.
§ 150.0(m)8:	**Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	**Protection of Insulation.** Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner core flex duct must have a non-porous layer between the inner core and outer vapor barrier.
§ 150.0(m)11:	**Duct System Sealing and Leakage Test.** When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)11and Reference Residential Appendix RA3.
§ 150.0(m)12:	**Air Filtration.** Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporative coolers, must be provided with air filter devices that meet the design, installation, efficiency, pressure drop, and labeling requirements of § 150.0(m)12.

REVISIONS

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TITLE-24 ENERGY COMPLIANCE

NEW RESIDENCE
APN - 047212150
EL GRANADA

DATE: 12/17/19

DRAWN BY:

SHEET NO.

T24.2

TIER 1 RESIDENTIAL MEASURES
EFFECTIVE JANUARY 1, 2017

This checklist focuses on TIER 1 measures only.
See specific referenced sections for complete details on CALGreen mandatory requirements.

2016 CALGREEN CODE

SECTION	REQUIREMENTS
A5.203.1.1 continued	The Allowed Outdoor Lighting Power calculation is specified in the 2016 CEC, Section 140.7 "Requirements For Outdoor Light.
	Performance standards
A5.203.1.2	Buildings complying with the first level of advanced energy efficiency shall have an Energy Budget no greater than indicated below, depending on the type of energy systems included in the building project. If the newly constructed building or addition does not include indoor lighting or mechanical systems, no additional performance requirements above the Energy Code are required. 1. Building projects that include indoor lighting or mechanical systems, but not both: No greater than 95% of the CEC Energy Budget for the Standard Design Building as calculated by Compliance Software certified by the Energy Commission. 2. Building projects that include indoor lighting and mechanical systems: No greater than 90% of the CEC Energy Budget for the Standard Design Building as calculated by Compliance Software certified by the Energy Commission.
DIVISION A4.3 - WATER EFFICIENCY AND CONSERVATION	
	Required elective measures
A4.601.4.2	Comply with at least 2 elective measures selected from Division A4.3.
DIVISION A4.4- MATERIAL CONSERVATION AND RESOURCE EFFICIENCY	
	Reduction in cement use
A4.403.2	As allowed by the enforcing agency, cement used in foundation mix design shall be reduced to not less than 20%. Examples of products commonly used to replace cement in concrete mix designs: fly ash, slag, silica fume, rice hull ash.
	Recycled content
A4.405.3 A4.405.3.1	Use materials, equivalent in performance to virgin materials, with a total (combined) recycled content value (RCV) of not less than 10% per Section A4.405.3.1. **Note:** Interactive forms for calculation of RCV are available at http://www.hcd.ca.gov/calgreen.html
	Enhanced construction waste reduction 65%
A4.408.1	Nonhazardous construction and demolition debris generated at the site is diverted to recycle or salvage in compliance with the following: • At least a 65% reduction. • Any mixed recyclables sent to mixed-waste recycling facilities shall include a qualified third party verified facility average diversion rate. Verification of diversion rates shall meet minimum certification eligibility guidelines, acceptable to the local enforcing agency. **Exceptions:** 1. Equivalent or alternative waste reduction methods are developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist. 2. The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.

TIER 1 RESIDENTIAL MEASURES
EFFECTIVE JANUARY 1, 2017

This checklist focuses on TIER 1 measures only.
See specific referenced sections for complete details on CALGreen mandatory requirements.

2016 CALGREEN CODE

SECTION	REQUIREMENTS
DIVISION A4.1- PLANNING AND DESIGN (SITE DEVELOPMENT)	
	Topsoil protection
A4.106.2.3	Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion. **Note:** Protection from erosion includes covering with tarps, straw, mulch, chipped wood, vegetative cover, or other means acceptable to the enforcing agency to protect the topsoil for later use.
	Water permeable surfaces
A4.106.4	Not less than 20% of the total parking, walking, or patio surfaces shall be permeable.
	Cool roof for reduction of heat island effect
A4.106.5	Roofing materials for Tier 1 buildings shall comply with this section. **Exceptions:** 1. Roof constructions that have a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25 lbs/sf. 2. Roof areas covered by building integrated solar photovoltaic panels and solar thermal panels.
	Solar reflectance
A4.106.5.1	Roofing materals shall have a minimum 3-year aged solar reflectance equal to or greater than the values specified in Tables A4.106.5.1(1) and A4.106.5.1(3). If Cool Roof Rating Council (CRRC) testing for aged solar reflectance is not available for any roofing products, the aged value shall be determined using the CRRC certified intitial value in Section A4.106.5.1.
	Thermal emittance
A4.106.5.2	Roofing materials shall have a CRRC initial or aged thermal emittance equal to or greater than those specified in Tables A4.106.5.1(1) & A4.106.5.1(3). Thermal emittance may also be certified by other entities approved by the Energy Commission pursuant to the California Administrative Code.
	Solar reflectance index alternative
A4.106.5.3	Solar Reflectance Index (SRI) equal to or greater than the values specified in Tables A4.106.5.1(1) & A4.106.5.1(3) may be used as an alternative to compliance with the 3-year aged solar reflectance values and thermal emittance. SRI values shall be calculated using the SRI Calculation Worksheet (SRI-WS) or in compliance with ASTM E1980-01 as specified in the 2016 California Energy Code. Solar reflectance values used in the SRI-WS shall be based on the aged reflectance value of the roofing product or the equation in Section A4.106.5.1 if the CRRC certified aged solar reflectance are not available. Certified thermal emittance used in the SRI-WS may be either the initial value or the aged value listed by the CRRC. Solar reflectance and thermal emittance may also be certified by other entities approved by the Commission pursuant to the California Administrative Code. **Note:** SRI-WS is available by contacting the Energy Standards Hotline at 1-800-772-3300, website at www.energy.ca.gov or by e-mail at Title24@energy.ca.us

TIER 1 RESIDENTIAL MEASURES
EFFECTIVE JANUARY 1, 2017

This checklist focuses on TIER 1 measures only.
See specific referenced sections for complete details on CALGreen mandatory requirements.

2016 CALGREEN CODE

SECTION	REQUIREMENTS
	Required elective measures
A4.601.4.2	Comply with at least 2 elective measures selected from Division A4.4.
DIVISION A4.5 - ENVIRONMENTAL QUALITY	
	Resilient flooring systems
A4.504.2	At least 90% of the total area of resilient flooring systems installed in the building shall comply with the VOC emission limits defined in at least 1 of the following: 1. 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. 2. Products certified UL GREENGUARD GOLD (formerly the Greenguard Children & Schools program). 3. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program. 4. 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). **Note:** Documentation must be provided that verifies that finish materials are certified to meet the pollutant emission limits in this section.
	Thermal insulation
A4.504.3	Install thermal insulation in compliance 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 the UL GREENGUARD Gold (formerly Greenguard Children & Schools program); or meet 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). **Note:** Documentation must be provided that verifies the materials are certified to meet the pollutant emission limits in this section.
	Required elective measures
A4.601.4.2	Comply with at least 1 elective measures selected from Division A4.5.

TIER 1 RESIDENTIAL MEASURES
EFFECTIVE JANUARY 1, 2017

This checklist focuses on TIER 1 measures only.
See specific referenced sections for complete details on CALGreen mandatory requirements.

2016 CALGREEN CODE

SECTION	REQUIREMENTS
	Verification
A4.106.5.4	Inspection shall be conducted to ensure roofing materials meet cool roof aged solar reflectance and thermal emittance or SRI values.
	Electric vehicle (EV) charging for new construction
A4.106.8	New construction shall comply with Sections A4.106.8.1 and A4.106.8.2 to facilitate future installation and use of electric vehicle chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.
	1 & 2-family dwellings and townhouses with attached private garages
A4.106.8.1	For each dwelling unit, a dedicated 208/240-volt branch circuit shall be installed in the raceway required by Section 4.106.4.1. The branch circuit and associated overcurrent protective device shall be rated at 40 amperes minimum. Other electrical components, including a receptacle or blank cover, related to this section shall be installed in accordance with the California Electrical Code.
	New multifamily dwellings
A4.106.8.2	• Applies to sites with 17 or more multifamily dwelling units constructed on the site. • 5% 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 EV spaces shall be rounded up to the nearest whole number. • See Section 4.106.4.2 for additional requirements related to EVCS for multifamily dwellings. **Notes:** See CALGreen Section A4.106.8.2, Notes, for referenced documents.
	Required elective measures
A4.601.4.2	Comply with at least 2 elective measures selected from Division A4.1.
DIVISION A4.2- ENERGY EFFICIENCY	
	Prerequisites
A4.203.1.1	Each of the following efficiency measures is required for all applicable components of the project. • A4.203.1.1.1 An energy design rating for the Proposed Design Building shall be computed by Compliance Software certified by the Commission and this rating shall be included in the Certificate of Compliance documentation. • A4.203.1.1.2 Complete Quality Insulation Installation procedures specified in the Building Energy Efficiency Standards Reference Residential Appendix RA3.5.
	Performance standards
A4.203.1.2.1	Requires Energy Budget no greater than 85% of the 2016 California Energy Code (CEC) Energy Budget for the Standard Design Building, or an Energy Design Rating showing a 15% or greater reduction in its Energy Budget Component compared to the Standard Design Building, as calculated by the CEC Compliance Software.
	Prerequisites
A5.203.1.1	Newly installed outdoor lighting power shall be no greater than 90% Allowed Outdoor Lighting Power.

DESIGN EVEREST
CONSULTING ENGINEERS
365 FLOWER LANE
MOUNTAIN VIEW, CA 94043
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CALGREEN MANDATORY MEASURES

NEW RESIDENCE
APN # 047212150
EL GRANADA, CA 94019

REV	DATE	DESCRIPTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

SIGN DATE: 12-02-2019
DATE: AS NOTED
SCALE: AS NOTED
DRAWN BY: JM
CKD BY: AP
PROJECT #: 201908085

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