APPLICABLE CODES

CBC CALIFORNIA BUILDING CODE 2022
CRC CALIFORNIA RESIDENTIAL CODE 2022
CEC CALIFORNIA ELECTRICAL CODE 2022
CPC CALIFORNIA PLUMBING CODE 2022
CMC CALIFORNIA MECHANICAL CODE 2022
CENC CALIFORNIA ENERGY CODE 2022
CALGREEN CALIFORNIA GREEN BUILDING STANDARDS CODE 2022
ASCE 7 MINIMUM DESIGN LOADS FOR BUILDINGS AND 2022
SDPWS SPECIAL DESIGN PROVISIONS FOR WIND & SEISMIC 2022

DEFERRED SUBMITTALS

PROJECT INFO

PROJECT DATA:

APN:	835-15-050
ADDRESS:	800 LAS ANIMAS AVE. GILROY, CA 95020
FLOOD ZONE:	NO
BUILDING OCCUPANCY :	R3/U
CONSTRUCTION TYPE:	VB
STORIES:	2
HISTORIC:	NO
ZONING:	A-40A

FLOOR AREA SUMMARY:

LOT AREA:	4.8 ACRES
E. STORAGE:	493 S.F.
HOME OFFICE REMODEL1ST FLOOR:	506 S.F.
HOME OFFICE REMODEL 2ND FLOOR:	235 S.F.
TOTAL HOME OFFICE REMODEL:	741 S.F.
EXISTING HOME:	669 S.F. (TO BE CONVERTED TO ADU ON SEPARATE PERMIT)

**SEE SITE PLAN FOR GRADING QUANTITIES

SHEET INDEX

PROJECT DIRECTORY

OWNER:
GURPREET SANGHA
800 LAS ANIMAS AVE.
GILROY, CA 95020
GURPREETI.MANN@GMAIL.COM

DESIGNER:
ALEX VALLES
SOUTH BAY DESIGN
P.O. BOX 27
HOLLISTER, CA 95024

GENERAL PROJECT NOTES

1. PROJECT TO BE SUPERVISED BY A LICENSED GENERAL CONTRACTOR.

2. IN CASE OF CONFLICT OR DISCREPANCIES IN THE DRAWINGS. CONTRACTOR SHALL NOTIFY THE DESIGNER PRIOR TO PROCEEDING

3. PRIOR TO START OF WORK CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ENSURE ALL WORK IS BUILDABLE AS SHOWN.

4. HOUSE SHALL MEET ASHRAE 62.2-2007 STD FOR CONTINUOUS SUPPLY, EXHAUST & BALANCED VENTILATION, WITH OR WITHOUT HEAT RECOVERY.

5. REDUCE FORMALDEHYDE IN INTERIOR FINISH TO MEET CURRENT CARB AIRBORNE TOXIC CONTROL MEASURE (ATCM) FOR COMPOSITE WOOD.

6. FOR PLACEMENT OF SMOKE ALARMS AND CARBON MONOXIDE ALARMS IN ROOMS WITH VARIATIONS IN CEILING HEIGHT (SLOPED, PITCHED, ETC.) REFER TO THE MANUFACTURERS' GUIDELINES FOR PROPER PLACEMENT.

PROJECT CONST. NOTES

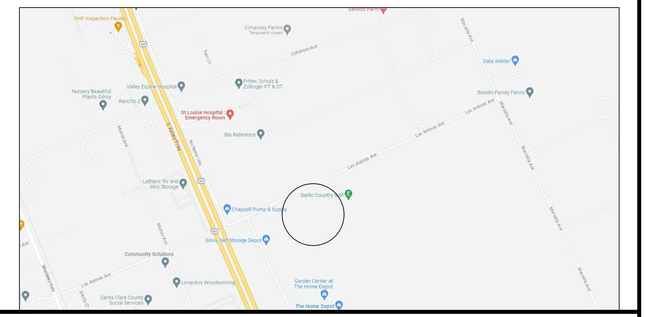
*IF APPLICABLE, ALL FILL MUST REACH 90% COMPACTION MINIMUM
*VERIFY LAYOUT OF BUILDING PAD W/OWNER OR DESIGNER PRIOR TO TRENCHING/DRILLING
*CONTRACTOR/OWNER ASSUMES RESPONSIBILITY OF LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION
*VERIFY LAYOUT OF SIDEWALKS, PATIOS, & STEPS W/OWNER/CONTRACTOR PRIOR TO SETTING UP & POURING
*ADDRESS NUMBERS SHALL BE ARABIC NUMBERS OR ALPHABETICAL LETTERS
ADDRESS SHALL BE PLAINLY VISIBLE & LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.
ADDRESS NUMBERS SHALL BE MINIMUM FOUR OF 4", 1/2 INCH MIN STROKE WIDTH, AND MOUNTED ON A
CONTRASTING BACKGROUND CLEARLY VISIBLE FROM THE STREET. WHERE ADDRESS CANNOT BE VIEWED FROM
A PUBLIC WAY, A MONUMENT OR POLE SHALL BE USED
* CHECK WITH PG&E FOR GAS SERVICE LOCATION
* ON AND AFTER JANUARY 1, 2014, RESIDENTIAL BUILDINGS UNDERGOING PERMITTED ALTERATIONS, ADDITIONS, OR IMPROVEMENTS SHALL REPLACE NON-COMPLIANT PLUMBING FIXTURES WITH WATER CONSERVING PLUMBING FIXTURES. PLUMBING FIXTURE REPLACEMENT IS REQUIRED PRIOR TO ISSUANCE OF A CERTIFICATE OF FINAL COMPLETION, CERTIFICATE OF OCCUPANCY OR FINAL PERMIT APPROVAL BY THE LOCAL BUILDING DEPARTMENT, SEE CIVIL CODE SECTION 1101.1 ET SEQ. FOR THE DEFINITION OF NON COMPLIANT PLUMBING FIXTURE, TYPES OF OTHER RESIDENTIAL BUILDINGS AFFECTED AND OTHER IMPORTANT ENACTMENT DATES SEE 2022 CALIFORNIA GREEN BUILDING CODE 301.1.1 & CIVIL CODE SECTION 1101.3 IN THE SUPPLEMENTAL BOOK

SCOPE OF WORK

- GRADING APPROVAL APPLICATION FOR A 4,493 S.F. SFD, 669 S.F. HOME BEING CONVERTED TO ADU & 741 S.F. PUMP HOUSE BEING CONVERTED TO HOME OFFICE

- TO ABATE PORTION OF VIOLATION # VIO23-0216:
**REMODEL PERMIT FOR AN EXISTING DETACHED ACCESSORY STRUCTURE WITH A CHANGE OF OCCUPANCY FROM A PUMP HOUSE TO A DETACHED OFFICE. IMPROVEMENTS INCLUDE 1/2 BATHROOM, RE-ROOF, NEW SIDING, WINDOWS, DOORS, ELECTRICAL, MECHANICAL, PLUMBING AND SANITATION. NEW 200 AMP PANEL UPGRADE
** NO SIGNAGE PROPOSED
** ALL EXISTING STRUCTURES (SPECIFICALLY STRUCTURES #2 & 3 IN QUESTION) ARE LEGAL NON-CONFORMING

VICINITY MAP



PROPOSED PROJECT:
800 LAS ANIMAS AVE. GILROY, CA 95020

PROJECT INFO

STAMP SPACE

REVISIONS

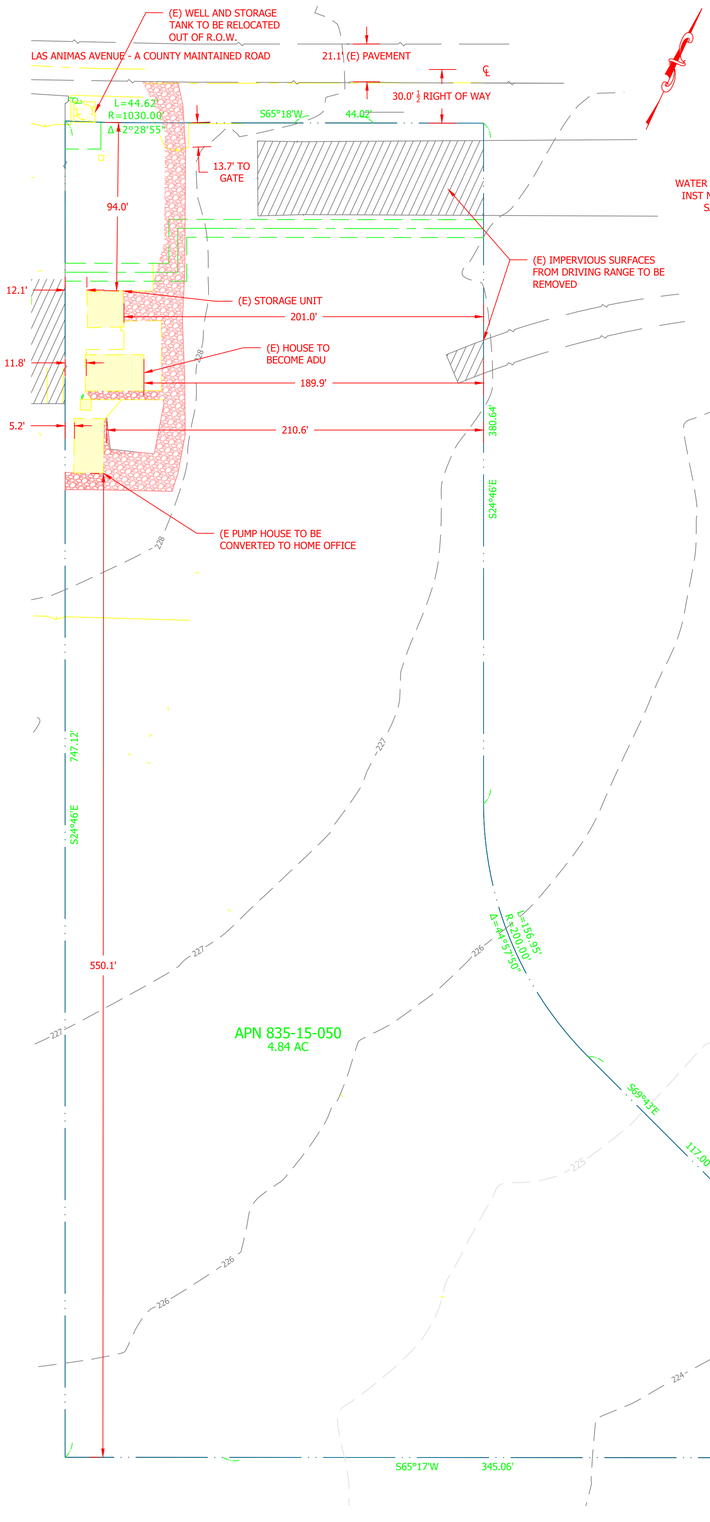
1	
2	
3	
4	
5	
6	
7	
8	

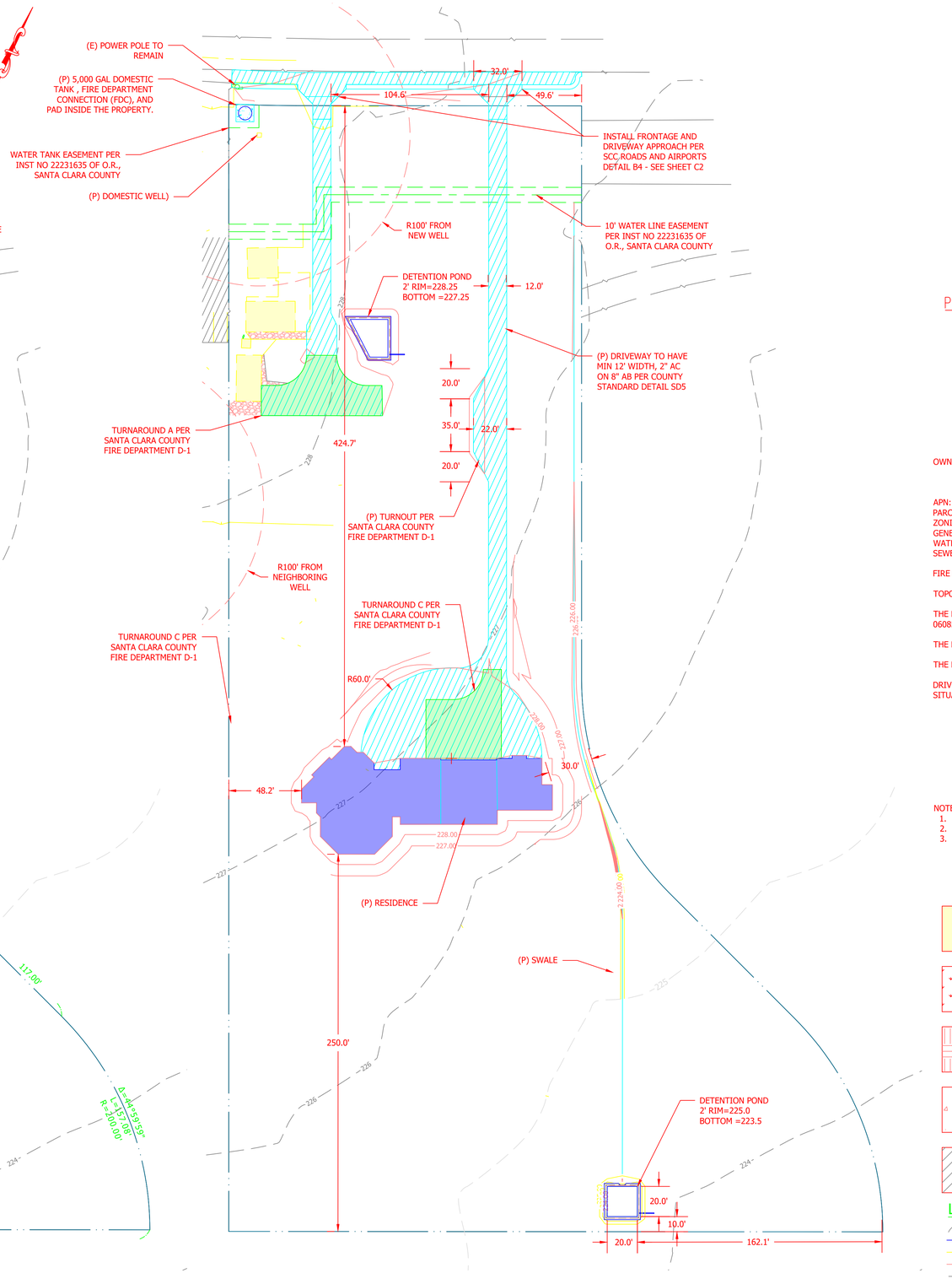
SOUTH BAY DESIGN
DBA
ALEX VALLES
PRINCIPAL/OWNER
P.O. BOX 27
HOLLISTER, CA 95024
831.207.9677
sbdesign27@yahoo.com

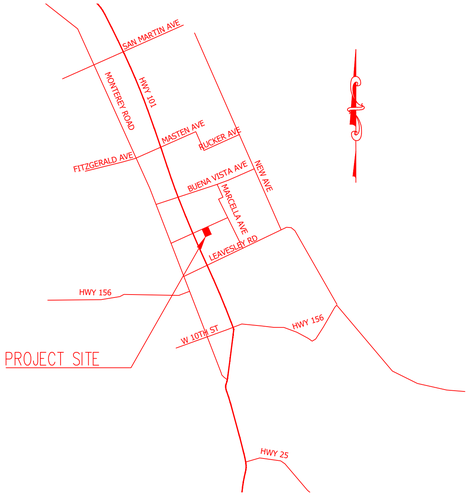
REMODEL OF HOME & DETACHED HOME OFFICE &GRADING PLAN
GURPREET SANGHA
800 LAS ANIMAS AVE.
GILROY, CA 95020

COVER SHEET

DRAWN BY	A.V.
CHECKED	
DATE	6.12.24
SCALE	
JOB NO.	
SHEET	A0







OWNER: NAVJIT SINGH SANGHA
770 LAS ANIMAS
GILROY, CA 95020

APN: 835-15-050
PARCEL SIZE: 4.8 ACRES
ZONING: A-40Ac
GENERAL PLAN: AGRICULTURE LARGE SCALE
WATER: WELL
SEWER: SEPTIC

FIRE RESPONSE AREA: LRA

TOPOGRAPHIC INFORMATION FROM A SURVEY BY SAN BENITO ENGINEERING DATED OCT, 2023.

THE PROJECT IS NOT WITHIN A FLOOD ZONE, ACCORDING TO THE FLOOD INSURANCE MAP 06085C0637H DATED MAY 18, 2009.

THE PROJECT SITE IS NOT WITHIN A FAULT ZONE.

THE PROJECT PROPOSES TO BUILD A NEW MAIN RESIDENCE - SEE FLOOR PLANS.

DRIVEWAY TO BE MIN 2" ASPHALT ON 8" AGGREGATE BASE, WITH 2' SHOULDER WHEN IN A FILL SITUATION

NOTES:
1. DRIVEWAY TO BE CAPABLE OF HOLDING 75,000 LBS
2. THIS PARCEL IS LOCATED IN THE LOCAL RESPONSE AREA.
3. ALL DRIVEWAYS TO PROVIDE A MINIMUM 10' WIDE TRAFFIC LANE, AND 14' UNOBSTRUCTED HORIZONTAL CLEARANCE AND 15' UNOBSTRUCTED VERTICAL CLEARANCE.

(E) ROOF
(P) ROOF
(E) LANDSCAPING
(P) LANDSCAPING
(E) COMPACTED SOIL
(P) COMPACTED SOIL
(E) CONCRETE
(P) CONCRETE
(E) ASPHALT
(P) ASPHALT

LEGEND

	EXISTING CONTOUR	AC	ASPHALT CONCRETE
	BOUNDARY	AB	AGGREGATE BASE
	CENTERLINE	(E)	EXISTING
	EDGE OF PAVEMENT	(P)	PROPOSED
(OH)	EXISTING OVERHEAD	PCC	PORTLAND CEMENT CONCRETE
(SS)	EXISTING SEPTIC SYSTEM	SSCO	SANITARY SEWER CLEANOUT
x	EXISTING FENCE	TBR	TO BE REMOVED
###.##	EXISTING GRADE	FG	FINISH GRADE
###.##	PROPOSED GRADE		

SAN BENITO ENGINEERING & SURVEYING, INC.
502 Monterey Street Hollister, California 95023
(831) 637-2763 email: info@sanbenitoeng.com

PRELIMINARY NOT FOR CONSTRUCTION

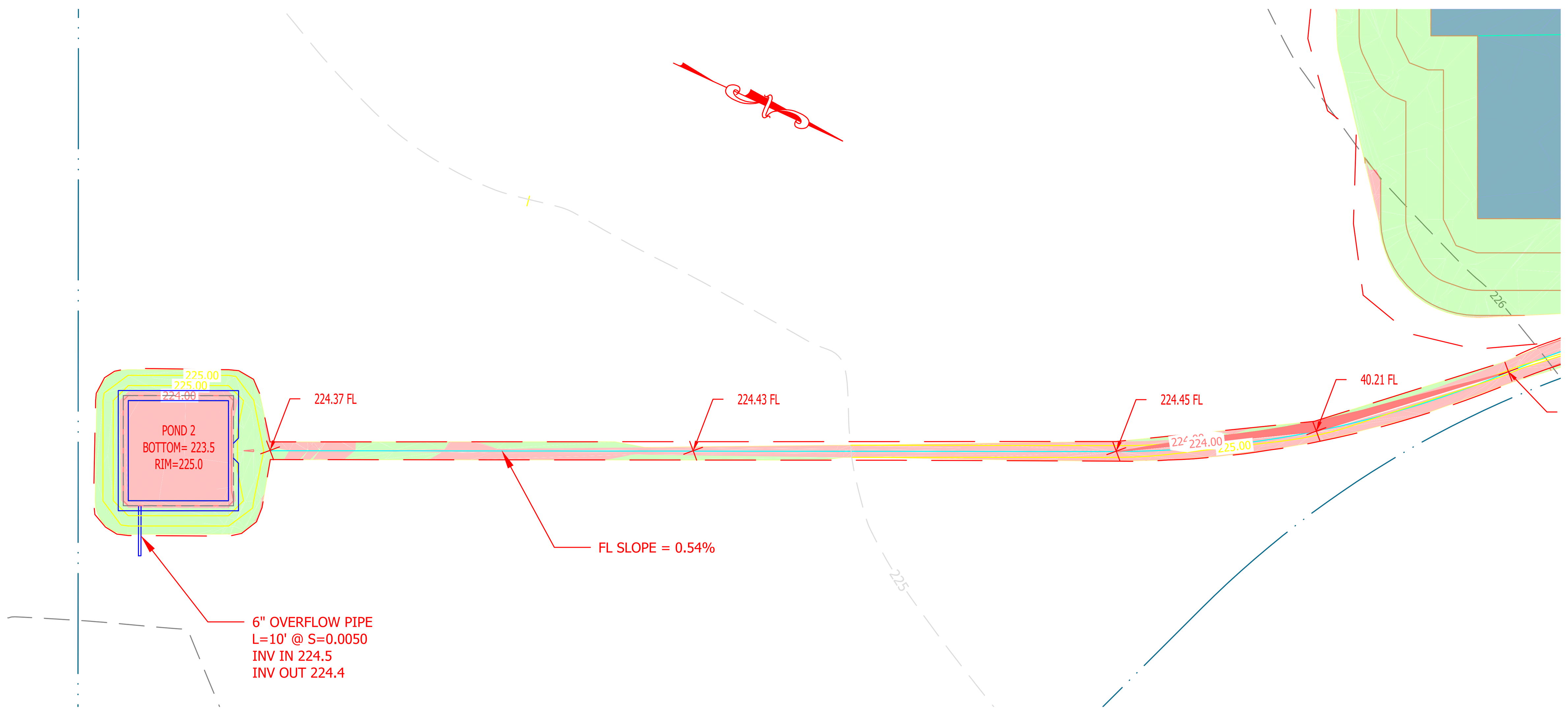
NO.	REVISIONS	DATE

COUNTY OF SANTA CLARA
APN 835-15-050
800 LAS ANIMAS
STATE OF CALIFORNIA

SITE PLAN
PROPOSED RESIDENCE & PUMP HOUSE REMODEL

SCALE: 1" = 20'
DATE: 13 June 2024
JOB #: 123036
DWG: 123036 800combined.dwg
SHEET: C1
OF SHEETS

* FILE NAME: X:\AutoCAD Projects\2023\123036\123036 800combined.dwg * Plotted on: Thursday, 13 June 2024 at 3:49pm by AHALL *



OWNER: NAVJIT SINGH SANGHA
770 LAS ANIMAS
GILROY, CA 95020

APN: 835-15-050
PARCEL SIZE: 4.8 ACRES
ZONING: A-40Ac
GENERAL PLAN: AGRICULTURE LARGE SCALE
WATER: WELL
SEWER: SEPTIC

FIRE RESPONSE AREA: LRA

TOPOGRAPHIC INFORMATION FROM A SURVEY BY SAN BENITO ENGINEERING DATED OCT, 2023.

THE PROJECT IS NOT WITHIN A FLOOD ZONE, ACCORDING TO THE FLOOD INSURANCE MAP 06085C0637H DATED MAY 18, 2009.

THE PROJECT SITE IS NOT WITHIN A FAULT ZONE.

THE PROJECT PROPOSES TO BUILD A NEW MAIN RESIDENCE- SEE FLOOR PLANS.

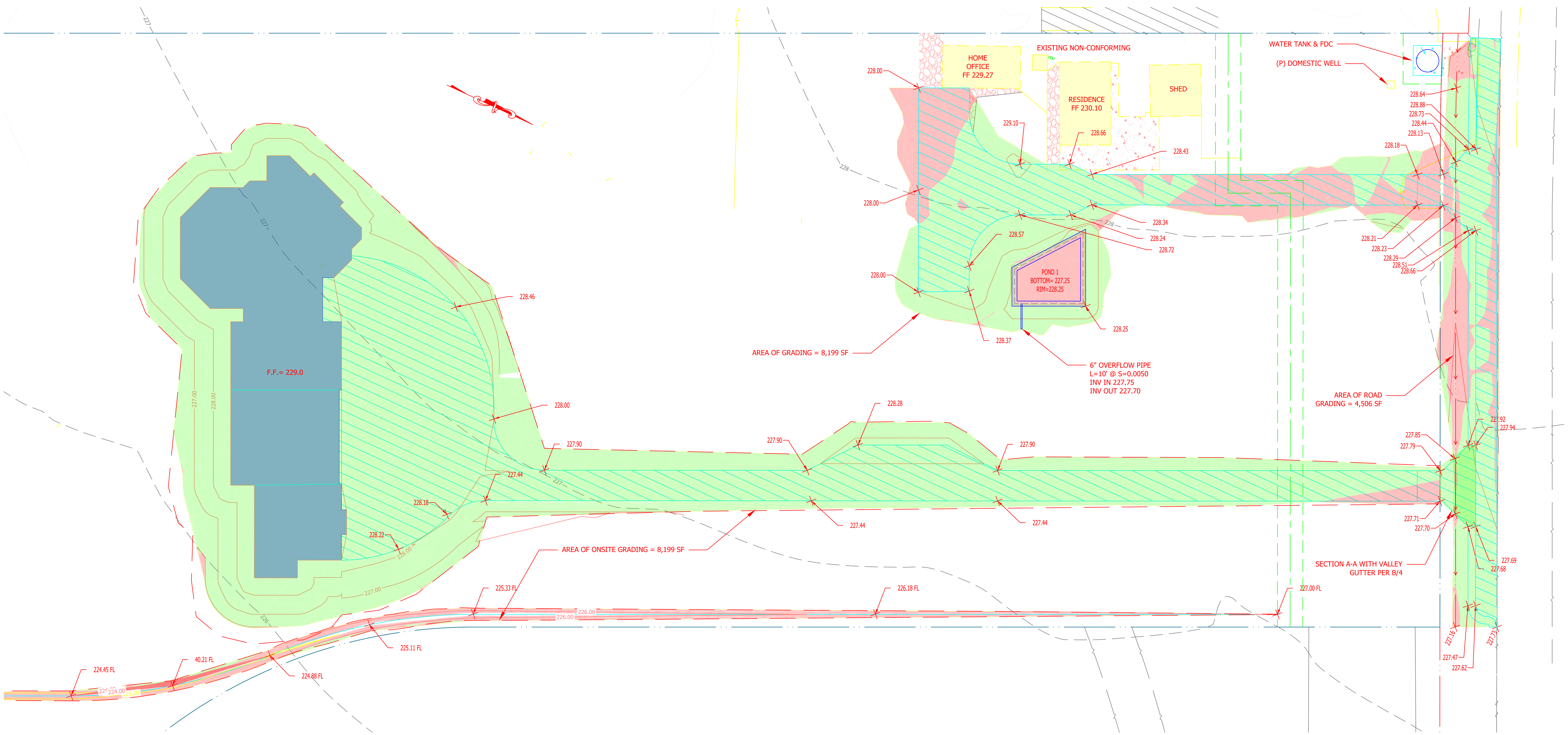
DRIVEWAY TO BE MIN 2" ASPHALT ON 8" AGGREGATE BASE, WITH 2' SHOULDER WHEN IN A FILL SITUATION. ALL GRADES AND CUT/FILL NUMBERS ARE TO FINISH GRADE.

CUT

FILL

GRADING			
Use	Cut (CY)	Fill (CY)	Max Vert Depth (ft)
Driveway (Pmp House)	29.7	55.6	1.2'
County Road	41.4	19.2	0.6'
Residence Pad	0	830	2.9'
Driveway (Main House)	0	579	1.2'
Pond & Swale	52	11	1.6'

Impervious Surfaces				
	Existing	Replaced	New	Total After
Driveway PH	0	0	5874	5874
County Road	0	0	2939	2939
Driveway MH	0	0	10858	10858
Roof Main House	0	0	7215	7215
Driving Range	5544	516	0	516



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SAN BENITO ENGINEERING & SURVEYING, INC.
502 Monterey Street Hollister, California 95023
(831) 637-2763 email: info@sanbenitoeng.com

PRELIMINARY NOT FOR CONSTRUCTION

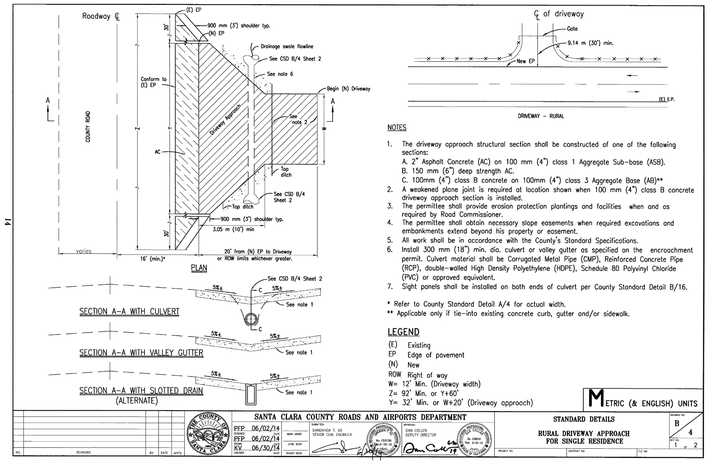
NO.	REVISIONS	DATE

COUNTY OF SANTA CLARA
APN 835-15-050
800 LAS ANIMAS
STATE OF CALIFORNIA

GRADING PLAN
PROPOSED RESIDENCE & PUMP HOUSE REMODEL

SCALE: 1" = 20'
DATE: 13 June 2024
JOB #: 123036
DWG: 123036 800combined.dwg

SHEET: C2
OF SHEETS



NOTES

1. The driveway approach structural section shall be constructed of one of the following sections:
   A. 2" Asphalt Concrete (AC) on 100 mm (4") class 1 Aggregate Sub-base (ASB).
   B. 150 mm (6") deep strength AC.
   C. 100mm (4") class B concrete on 100mm (4") class 3 Aggregate Base (AB)**
2. A weakened plane joint is required at location shown when 100 mm (4") class B concrete driveway approach section is installed.
3. The permittee shall provide erosion protection plantings and facilities when and as required by Road Commissioner.
4. The permittee shall obtain necessary slope easements when required excavations and embankments extend beyond his property or easement.
5. All work shall be in accordance with the County's Standard Specifications.
6. Install 300 mm (18") min. dia. culvert or valley gutter as specified on the encroachment permit. Culvert material shall be Corrugated Metal Pipe (CMP), Reinforced Concrete Pipe (RCP), double-walled High Density Polyethylene (HDPE), Schedule 80 Polyvinyl Chloride (PVC) or approved equivalent.
7. Sight panels shall be installed on both ends of culvert per County Standard Detail B/16.

* Refer to County Standard Detail A/4 for actual width.
** Applicable only if tie-into existing concrete curb, gutter and/or sidewalk.

LEGEND

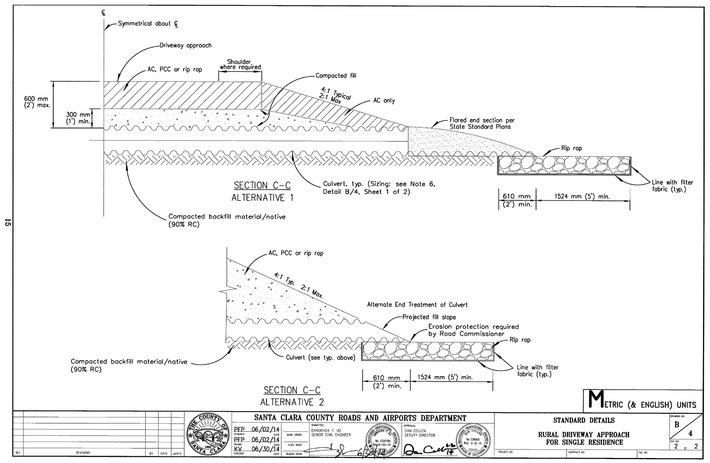
(E) Existing
EP Edge of pavement
(N) New
ROW Right of way
W= 12' Min. (Driveway width)
Z= 92° Min. or Y+60°
Y= 32° Min. or W+20° (Driveway approach)

METRIC (& ENGLISH) UNITS

SANTA CLARA COUNTY ROADS AND AIRPORTS DEPARTMENT

STANDARD DETAILS
RURAL DRIVEWAY APPROACH
FOR SINGLE RESIDENCE

B 4 1 of 2



METRIC (& ENGLISH) UNITS

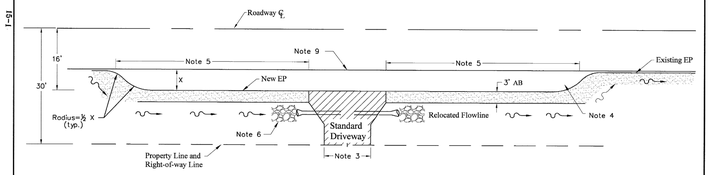
SANTA CLARA COUNTY ROADS AND AIRPORTS DEPARTMENT

STANDARD DETAILS
RURAL DRIVEWAY APPROACH
FOR SINGLE RESIDENCE

B 4 2 of 2

NOTES:

1. Single residence (County Standard Detail B/4) and/or Multiple Residence (County Standard Detail B/5).
2. New or existing retrofit driveway/driveway approach.
3. Driveway approach pavement section and dimensions per County Standard Detail B/4 or B/5.
4. Minimum roadway structural section per County Standard Details A/1 through A/9 or match in kind, the more restrictive shall apply.
5. Minimum 50 linear feet or to property corner limits, whichever is greater shall apply.
6. Rip rap rock energy dissipaters, owner's engineer to determine/calculate size, type and dimensions in conformance with most current County Drainage Manual, as appropriate.
7. Provide positive drainage flow across frontage.
8. 3-ft aggregate base (AB) shoulder shall be compacted to 90%. Refer to County Standard Detail A/4 for minimum structural section.
9. Replace existing shoulder stripe/fog line in kind (e.g., thermoplastic or white reflective paint (2 coats min) etc).



SANTA CLARA COUNTY ROADS AND AIRPORTS DEPARTMENT

STANDARD DETAILS
RURAL DRIVEWAY APPROACH & FRONTAGE
INTERIM CONDITION

B 4A 1 of 1

NO.	REVISIONS	DATE
MA	7/10/13	
RS	7/10/13	
KV	6/30/14	

PRELIMINARY NOT FOR CONSTRUCTION

SAN BENITO ENGINEERING & SURVEYING, INC.
502 Monterey Street Hollister, California 95023
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COUNTY OF SANTA CLARA
APN 835-15-050
800 LAS ANIMAS
STATE OF CALIFORNIA

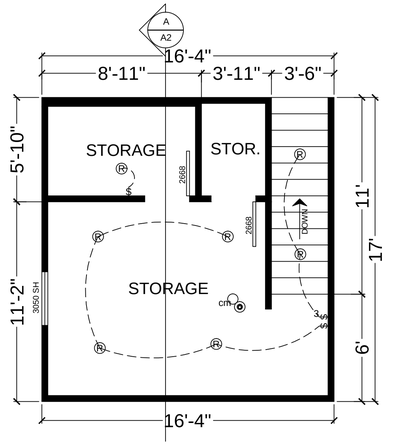
DETAILS
PROPOSED RESIDENCE & PUMP HOUSE REMODEL

SCALE: AS MARKED
DATE: 13 June 2024
JOB #: 123036
DWG: 123036 800combined.dwg

SHEET: C3
OF SHEETS

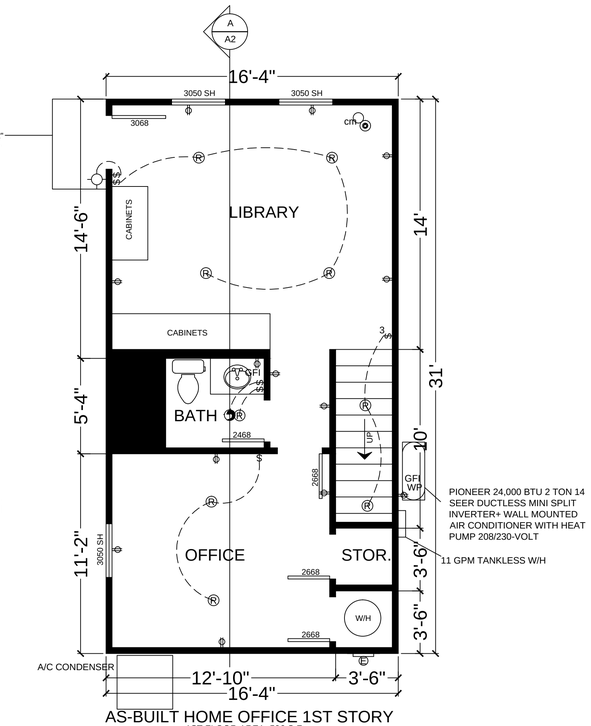
ELECTRICAL/PLUMBING

	DUPLEX RECEPTACLE (all outlets AFCI unless noted as GFCI)
R	RECESSED FIXTURE
	OUTDOOR LIGHTING FIXTURE
CM	CARBON MONOXIDE DETECTOR
	SMOKE DETECTOR
$	SWITCH
	EXHAUST FAN ENERGY STAR RATED
E	NEW 200 AMP PANEL UPGRADE FROM 100 AMP
GFI	GROUND FAULT INTERRUPTOR
WP	WATER PROOF: BUBBLE COVER FOR OUTDOOR RECEPTACLES



AS-BUILT HOME OFFICE 2ND STORY

1ST FLOOR AREA: 506 S.F.
2ND FLOOR AREA: 235 S.F.
TOTAL AREA: 741 S.F.



AS-BUILT HOME OFFICE 1ST STORY

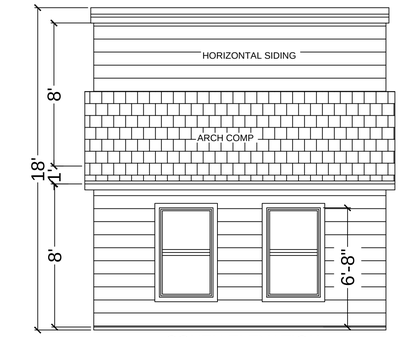
1ST FLOOR AREA: 506 S.F.
2ND FLOOR AREA: 235 S.F.
TOTAL AREA: 741 S.F.

ATTIC VENT CALCS

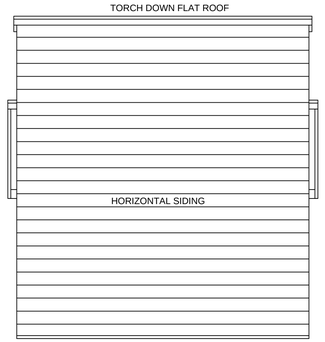
506 SQ. FT. / 150 = 3.37

4.46 x 144 = 486 SQ INCHES OF NET FREE VENTILATION AREA

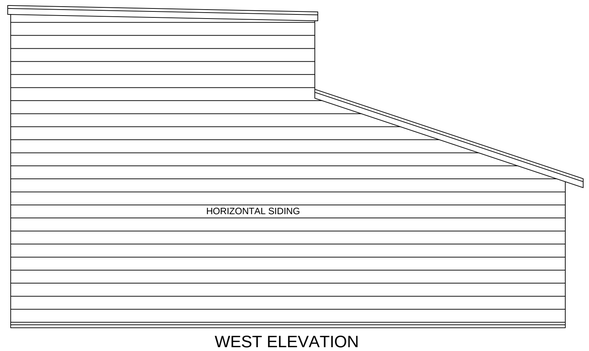
PROVIDE A TOTAL OF (18) 3.5"X22"
WUI APPROVED SCREENED EAVE VENTS w/ 54 SQ FT NFVA
(provides 2 vents added for attic fau)
(maximum of every second rafter/truss bay)
net free area of proposed vents shall be used
adjust calculations as necessary if another wui approved vent is used
provide min 1" airspace @ roof eave vents



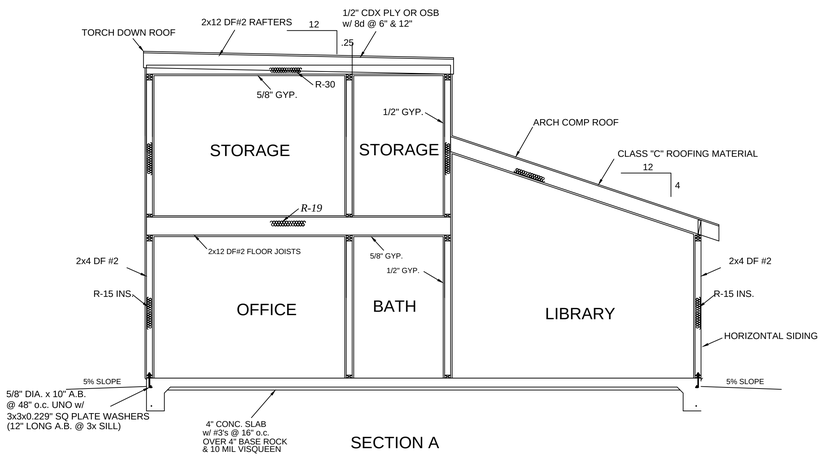
SOUTH ELEVATION



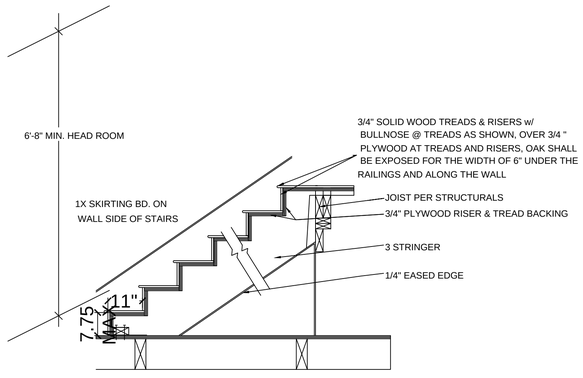
NORTH ELEVATION



WEST ELEVATION

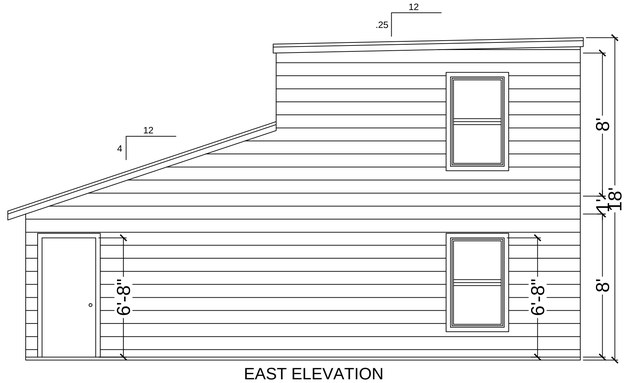


SECTION A



TYPICAL STAIRS @ SLAB

NOT TO SCALE



EAST ELEVATION

STAMP SPACE

REVISIONS

1	
2	
3	
4	
5	
6	
7	
8	

SOUTH BAY DESIGN

DBA

ALEX VALLES
PRINCIPAL/OWNER
P.O. BOX 27
HOLLISTER, CA 95024
831.207.9677
sbdesign27@yahoo.com

REMODEL DETACHED HOME OFFICE
GURPREET SANGHA
800 LAS ANIMAS AVE.
GILROY, CA 95020

EXISTING HOME
OFFICE PLAN

DRAWN BY
A.V.
CHECKED

DATE
6.12.24
SCALE
1/4" = 1'-0"
JOB NO.

SHEET
A2

LARGEST ADJACENT OPENING HEIGHT[E] (INCHES)	MINIMUM LENGTH (INCHES)		
	8-ft Wall	9-ft Wall	10-ft Wall
102	N/A	N/A	40
99	N/A	N/A	38
96	N/A	N/A	37
93	N/A	36	36
90	N/A	34	34
87	N/A	33	33
84	32	32	32
81	30	30	30
78	29	29	30
75	28	28	30
72	27	27	30
69	26	27	30
66	25	27	30
≤63	24	27	30

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm

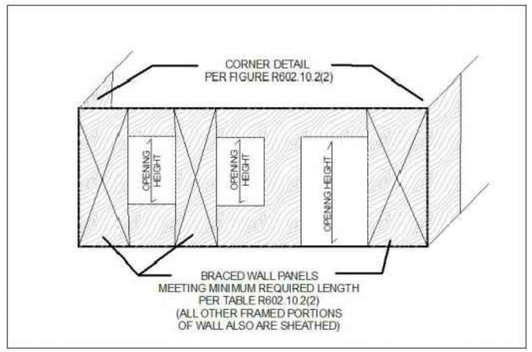


TABLE R602.10.2(1)
MINIMUM LENGTH REQUIREMENTS FOR BRACED WALL PANELS

BRACING METHOD	HEIGHT OF BRACED WALL PANEL		
	8 ft.	9 ft.	10 ft.
2,3A,4,5,6,7,8 and Method 5 when double sided	4'-0"	4'-0"	4'-0"
Method 5, single sided	8'-0"	8'-0"	8'-0"

For SI: 1 inch = 25.4mm, 1 foot = 305 mm

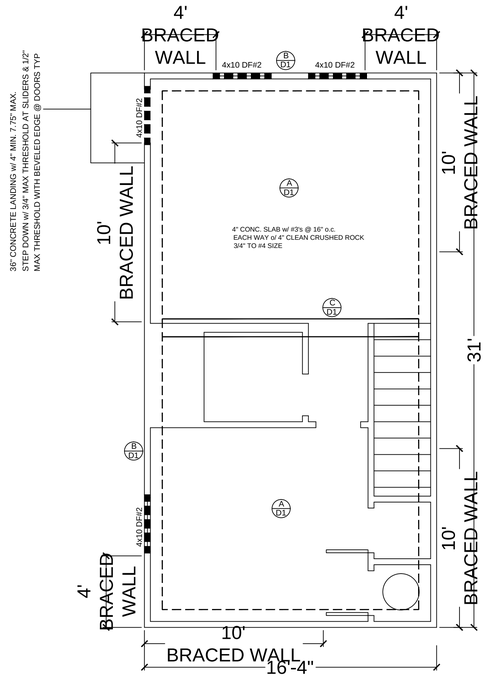
TABLE R602.10.2(2)
MINIMUM LENGTH REQUIREMENTS FOR METHOD 3B BRACED WALL PANELS IN A CONTINUOUSLY-SHEATHED BRACED WALL LINE[A,B,C, G]

LARGEST ADJACENT OPENING HEIGHT[E] (INCHES)	MINIMUM LENGTH (INCHES)		
	8-ft Wall	9-ft Wall	10-ft Wall
102	N/A	N/A	40
99	N/A	N/A	38
96	N/A	N/A	37
93	N/A	36	36
90	N/A	34	34
87	N/A	33	33
84	32	32	32
81	30	30	30
78	29	29	30
75	28	28	30
72	27	27	30
69	26	27	30
66	25	27	30
≤63	24	27	30

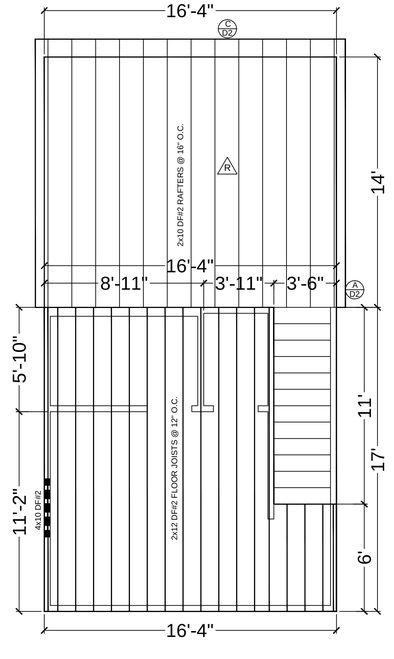
For SI: 1 inch = 25.4 mm, 1 foot = 305 mm

BRACED WALL REQUIREMENTS PER SECTION R602.10
i. FOR BUILDINGS IN SEISMIC DESIGN CATEGORY D2, THERE MUST BE A MINIMUM OF 2.5 FEET OF BRACED WALL FOR EVERY 10 FEET OF THE BRACED WALL LINE (A MINIMUM OF 25% OF THE WALL LINE MUST BE SHEATHED WITH PLYWOOD). SEE TABLE R602.10.3(3).
ii. FOR EACH BRACED WALL LINE, A BRACED WALL MUST BEGIN WITHIN 10 FEET OF THE BEGINNING OF THE BRACED WALL LINE PER SECTION R602.10.2.2.
iii. BRACED WALL LINE SPACING IS NOT TO EXCEED 25 FEET ON CENTER IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTION PER TABLE R602.10.1.3. NOTE: AN EXCEPTION ALLOWS A SINGLE ROOM IN THE BUILDING TO HAVE WALL SPACING OF UP TO 35 FEET.
iv. PER SECTION R602.10, BRACED WALLS ARE TO BE A MINIMUM WIDTH OF 4 FEET, WITH MINIMUM 3/8" THICK PLYWOOD ATTACHED WITH 8D NAILS WITH 6 INCH EDGE NAILING AND 12 INCH FIELD NAILING.
v. THE CRC ALSO ALLOWS A MINIMUM 2'-8" WIDE ALTERNATIVE BRACED WALL WHICH CONFORMS TO THE DESIGN SHOWN IN FIGURE R602.10.6.1 OF THE 2013 CALIFORNIA RESIDENTIAL CODE. THE ALTERNATIVE PANEL WILL REQUIRE MINIMUM 3/8" THICK PLYWOOD WITH 8D NAILS WITH 6 INCH EDGE NAILING AND 12 INCH FIELD NAILING. IN ADDITION THE PANEL WILL REQUIRE HOLDOWNS AT EACH END CAPABLE OF RESISTING AN UPLIFT FORCE OF 1800 LBS., AND TWO ½" DIAMETER ANCHOR BOLTS CONNECTING THE SILL PLATE TO THE FOUNDATION.

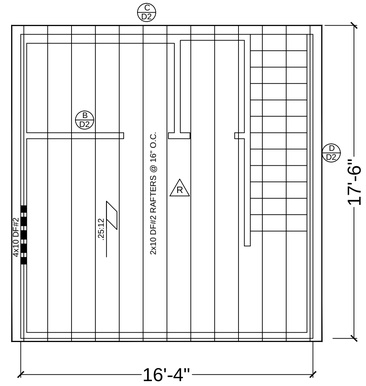
SLOPE OF ALL EXTERIOR LANDINGS SHALL BE 2% (MAXIMUM) AWAY FROM THE BUILDING PER CRC R311.3 TO DRAIN AWAY WATER FROM INSIDE OF DWELLING.



EXISTING FOUNDATION PLAN



EXISTING 2ND STORY FLOOR FRAMING



EXISTING 2ND STORY ROOF FRAMING

CDX MAYBE SUBSTITUTED FOR OSB STRUCTURAL GRADE

SHEAR SHEATHING SCHEDULE CALIFORNIA BUILDING CODE 2022

MARK	THICKNESS	GRADE	NAIL SIZE	TYPICAL EDGE NAILING	TYPICAL BOUNDARY NAILING	FIELD NAILING	SILL PLATE NAILING	SILL PLATE BOLTING	PLATE CLIPS A35 OR LTP4	PLATES TO FLOOR 1/2" LAG	EDGE BLOCKING	PLATES AND EDGES	REMARKS		SHEAR LOAD PLF
R	1/2"	CDX	8d	6"	6"	12"	—	—	—	—	NO	—	ROOF PLYWOOD		—

STAMP SPACE

REVISIONS	
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SOUTH BAY DESIGN
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REMODEL DETACHED HOME OFFICE
GURPREET SANGHA
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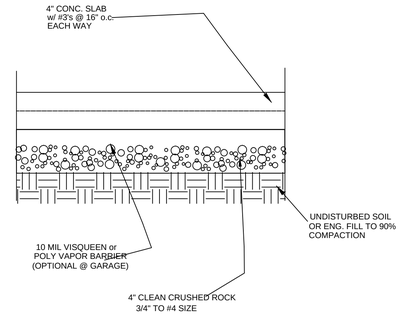
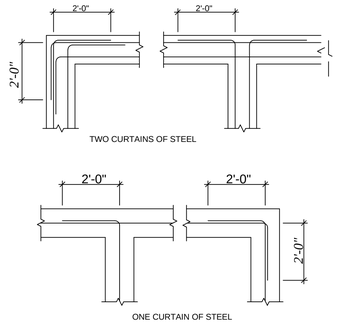
GILROY, CA 95020

EXISTING HOME
OFFICE STRUCTURAL PLAN

DRAWN BY	A.V.
CHECKED	
DATE	6.12.24
SCALE	1/4" = 1'-0"
JOB NO.	
SHEET	S1

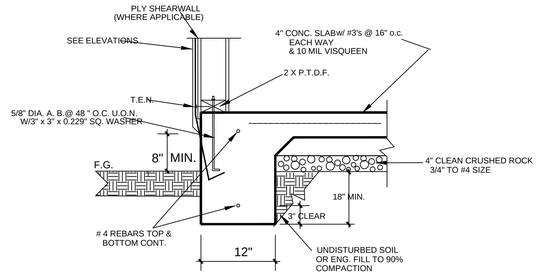


TYP. CONCRETE SLAB A

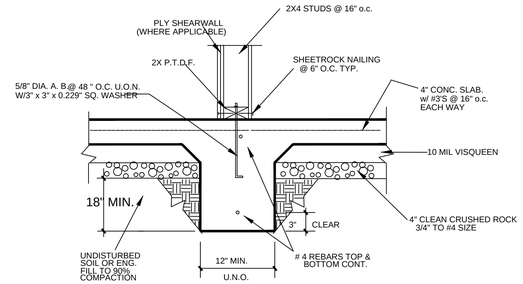


FOOTING INTERSECTION

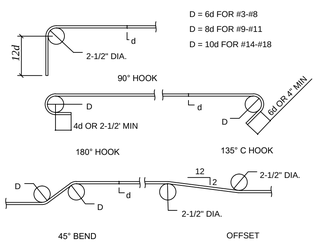
PLAN VIEW



CONT. PERIMETER FOOTING B

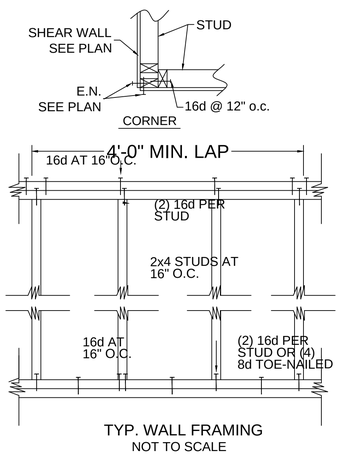


INT. FOOTING CONT. C



LAP SPLICES TO BE 60d FOR #3 #5

REINF, BENDS, HOOKS & OFFSET TYP



TYP. WALL FRAMING
NOT TO SCALE

STAMP SPACE

REVISIONS

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FOUNDATION DETAILS

DRAWN BY
A.V.
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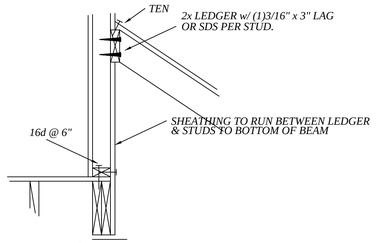
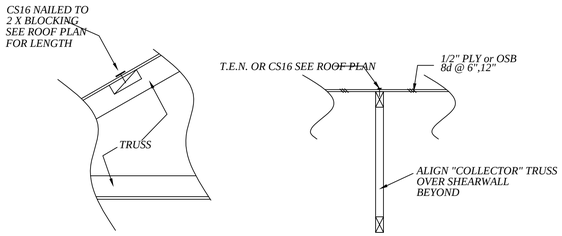
1/4" = 1'-0"
JOB NO.

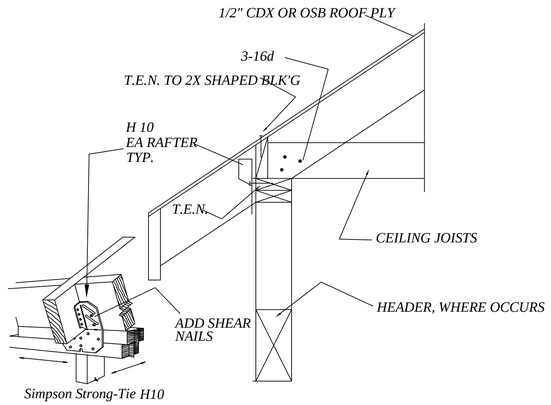
SHEET
D1



TIE IN DETAIL A

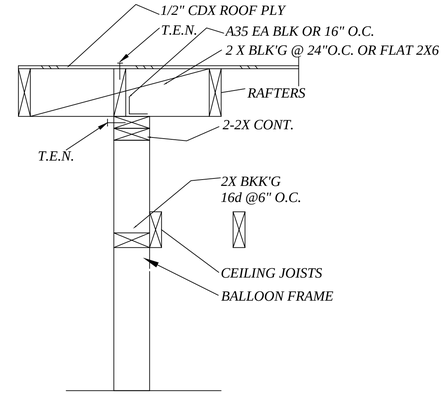


ROOF COLLECTOR B

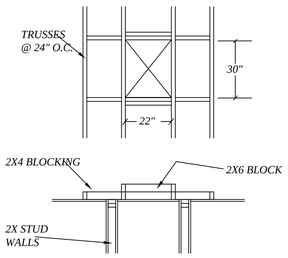


Simpson Strong-Tie H10

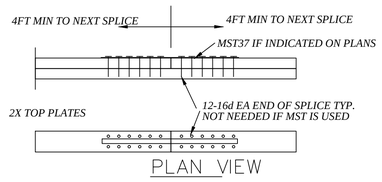
ROOF EXT. TRANSFER C



GABLE END D



TYPICAL ATTIC ACCESS



TYPICAL TOP PLATE SPLICE

*MINIMUM 5/8" O x 10" A.B. EMBEDDED AT LEAST 7" INTO CONCRETE AND SPACED NOT MORE THAN 48" APART
W/2 BOLTS PER PIECE - ONE NOT MORE THAN 12" OR LESS THAN 7 BOLT DIAMETERS (4 -3/8") FROM END.
PROVIDE 3"X3"X0.229" SQ PLATE WASHERS PER CBC ANCHOR BOLTS TO BE A307 GRADE 2
*USE 3/4" T&G PLY GLUED AND NAILED W/10d @ 6" & 10"
*MIN. 12" CLEARANCE FROM GIRDER TO INSIDE GRADE/18" FROM FLOOR JOIST TO INSIDE GRADE
*PATIOS/PORCHES TO BE 1"-2" BELOW FINISH FLOOR OF HOUSE MINIMUM
*PROVIDE 18"X24" CRAWL HOLE WITHIN 20' MAXIMUM OF UNDERFLOOR CLEANOUTS PER CBC
*PROVIDE 6"X14" FOUNDATION VENTS 1 SQ. FOOT PER 150 SQ. FOOT UNDERFLOOR AREA PER CBC
*ALL FILL (IF APPLICABLE) TO BE COMPACTED ENGINEERED FILL (90% COMPACTION MIN.)
*ALL LANDINGS SHALL HAVE A LENGTH IN THE DIRECTION OF TRAVEL OF AT LEAST 36" PER CBC
*COPPER TUBING USED FOR WATER PIPING SHALL BE A MINIMUM OF TYPE "L"
2X *DOUBLE JOIST UNDER ALL INTERIOR WALLS
*REINFORCING STEEL SHALL CONFORM W/ASTM A-615, GRADE 40 or GRADE 60
*ALL PONY WALLS (IF APPLICABLE) TO BE SHEARED ON EXTERIOR SIDE W/3/8" PLY 8d @ 4" & 12"
*ANY INTERIOR POSTS (IF APPLICABLE) OVER 30" TO BE BRACED WITH 2X6 @ 48" o.c. W/ 3-16d @ EACH SIDE
*DO NOT SCALE HOLDOWNS @ FOUNDATION PAGE - VERIFY EXACT LOCATION WITH HOLDOWN & SHEAR PLAN
*PROVIDE ONE VENT PER CAR @ GARAGE AREA
*ALL PLUMBING WALLS TO BE 2X6
* ALL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE CONFORMING TO ASTM C-150
AND ASTM C-33 MINIMUM COMPRESSIVE STRENGHT SHALL BE 2500 PSI @ 28 DAYS
* CONCRETE FOUNDATION , DESIGN AND PLACEMENT SHALL BE IN ACCORDANCE WITH CBC
*REINFORCING STEEL TO BE 40 or 60 KSI DEFORMED BARS.
MIN. SPLICE LAP SHALL BE 40 or 60 BAR DIAMETERS.
*IF CRIPPLE WALLS OCCUR OVER HOLDOWNS THEN ADD MST37 STRAP OR FTA5 ACROSS
FLOOR VERTICAL (OVERLAP 12" MIN.) SEE HOLDDOWN OR FOUNDATION PLAN FOR HOLDOWN LOCATIONS
UNLESS NOTED OTHERWISE ON PLANS
*FRAMING SHALL BE IN ACCORDANCE WITH CBC
*ALL METAL CONNECTORS SHALL BE SIMPSON OR EQUIVALENT
*ALL FRAMING LUMBER SHALL BE DOUGLAS FIR #2, UNO
*GIRDER HANGERS SHALL BE TYPE 'GH' U.N.O.

*CRIPPLE WALLS TO BE BRACED IN ACCORDANCE W/ CBC MIN. 4" WIDE BRACING PER 25 LIN. FT. OF WALL, OR PER CBC CRIPPLE
WALLS 14" TALL AND UNDER SHALL BE SOLID BLOCKED. CRIPPLE WALLS 4' TALL AND OVER SHALL BE FRAMED WITH STUDS AS
REQIRED FOR AN ADDITIONAL STORY. FIRST FLOOR PLYWOOD SHEARWALLS SHALL RUN CONTINUOUS TO THE FOUNDATION.
*FLOOR JOISTS SHALL BE SELECTED IN ACCORDANCE WITH CBC, UNO
*VERIFY ALL FOOTING DEPTHS & WIDTHS WITH SOILS REPORT (IF APPLICABLE)
*ALL LUMBER COMING INTO CONTACT w/ CONCRETE TO BE PRESSURE TREATED
*ALL HOLDOWNS TO BE ATTACHED TO A 4x POST or (2) STUDS NAILED TOGETHER w/ 16d @ 12" o.c.
*SEE SIMPSON SPECIFICATION BOOKLET FOR INSTALLATION OF ALL HOLDOWNS
*UFER GROUNDING, CONCRETE-ENCASED ELECTRODE IS REQUIRED NEC
*PROVIDE 5/8" DIA. x 12" ANCHOR BOLTS @ ALL 3x SILLS

STAMP SPACE

REVISIONS

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FRAMING DETAILS

DRAWN BY
A.V.
CHECKED
DATE
6.12.24
SCALE
JOB NO.
SHEET
D2

2022 Single-Family Residential Mandatory Requirements Summary

NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information.
(04/2022)

Building Envelope:

§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011. *
§ 110.6(a)5:	**Labeling.** Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped. *
§ 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 must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Roof Deck, Ceiling and Rafter Roof Insulation.** Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average U-factor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration, as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling. *
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B. *
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. *
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. 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 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45. *

Fireplaces, Decorative Gas Appliances, and Gas Log:

§ 110.5(e)	**Pilot Light.** Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	**Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	**Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device. *
§ 150.0(e)3:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. *

Space Conditioning, Water Heating, and Plumbing System:

§ 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 California Energy Commission.
§ 110.2(a):	**HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in Table 110.2-N through Table 110.2-N. *
§ 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 heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat. *
§ 110.3(c)3:	**Insulation.** Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.
§ 110.3(c)6:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

5/6/22

2022 Single-Family Residential Mandatory Requirements Summary

§ 110.5:	**Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters. *
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.
§ 150.0(h)3A:	**Clearances.** Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.
§ 150.0(h)3B:	**Liquid Line Drier.** Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	**Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code. *
§ 150.0(j)2:	**Insulation Protection.** Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	**Gas or Propane Water Heating Systems.** Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain no more than 2" higher than the base of the water heater.
§ 150.0(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), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director.

Ducts and Fans:

§ 110.8(d)3:	**Ducts.** Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	**CMC Compliance.** All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 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 R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of mastic and either mesh or tape must be used to seal openings greater than ¼". If mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in these spaces must not be compressed. *
§ 150.0(m)2:	**Factory-Fabricated Duct Systems.** Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	**Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	**Backdraft Damper.** Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	**Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	**Protection of Insulation.** Insulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and outer vapor barrier.
§ 150.0(m)11:	**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 Reference Residential Appendix RA3.1.
§ 150.0(m)12:	**Air Filtration.** Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the filter. *

5/6/22

STAMP SPACE

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(m)13:	**Space Conditioning System Airflow Rate and Fan Efficacy.** Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3. *

Ventilation and Indoor Air Quality:

§ 150.0(o)1:	**Requirements for Ventilation and Indoor Air Quality.** All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1. *
§ 150.0(o)1B:	**Central Fan Integrated (CFI) Ventilation Systems.** Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling unit ventilation airflow required per §150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed andcontrolled per §150.0(o)1Biii&iv. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with §150.0(o)1C.
§ 150.0(o)1C:	**Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses .** Single-family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow specified in § 150.0(o)1Ci-iii.
§ 150.0(o)1G:	**Local Mechanical Exhaust.** Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-controlled exhaust system meeting requirements of §150.0(o)1Giii,enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound per §150.0(o)1Gvi. *
§ 150.0(o)1H&I:	**Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems.** The airflow required per § 150.0(o)1C must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the minimum airflow rate required by §150.0(o)1C.
§ 150.0(o)2:	**Field Verification and Diagnostic Testing.** Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per §150.0(o)1G

Pool and Spa Systems and Equipment:

§ 110.4(a):	**Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating. *
§ 110.4(b)1:	**Piping.** Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	**Covers.** Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	**Directional Inlets and Time Switches for Pools.** Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	**Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	**Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves. *

Lighting:

§ 110.9:	**Lighting Controls and Components.** All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9. *
§ 150.0(k)1A:	**Luminaire Efficacy.** All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt.
§ 150.0(k)1B:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must not contain screw based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.
§ 150.0(k)1D:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1E:	**Blank Electrical Boxes.** The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control.
§ 150.0(k)1F:	**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). *

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§ 150.0(k)1G:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1H:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	**Light Sources in Drawers, Cabinets, and Linen Closets.** Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	**Interior Switches and Controls.** All forward phase 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 controlled separately from lighting systems. *
§ 150.0(k)2A:	**Accessible Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off. *
§ 150.0(k)2B:	**Multiple Controls.** Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k).
§ 150.0(k)2C:	**Mandatory Requirements.** Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.0(k)2D:	**Energy Management Control Systems.** An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(k)2A.
§ 150.0(k)2E:	**Automatic Shutoff Controls.** In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.
§ 150.0(k)2F:	**Dimmers.** Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A.
§ 150.0(k)2K:	**Independent controls.** Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.
§ 150.0(k)3A:	**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 have a manual on/off switch and either a photocell and motion sensor or automatic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements.
§ 150.0(k)4:	**Internally illuminated address signs.** Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 watts of power.
§ 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.

Solar Readiness:

§ 110.10(a)1:	**Single-family Residences.** Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e).
§110.10(b)1A:	**Minimum Solar Zone Area.** The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. *
§ 110.10(b)2:	**Azimuth.** All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° 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 horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane. *
§ 110.10(b)4:	**Structural Design Loads on Construction Documents.** For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	**Interconnection Pathways.** The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d):	**Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be provided to the occupant.
§ 110.10(e)1:	**Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	**Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

Electric and Energy Storage Ready:

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§ 150.0(s)	**Energy Storage System (ESS) Ready.** All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.
§ 150.0(t)	**Heat Pump Space Heater Ready.** Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(u)	**Electric Cooktop Ready.** Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(v)	**Electric Clothes Dryer Ready.** Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

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REVISIONS

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MANDATORY MEASURES

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