217 SOUTH MILPAS DUPLEX & ACCESSORY DWELLING UNIT

CITY STAMPS

NOISE MITIGATION

UNITS B & C

EXTERIOR WALL ASSEMBLY

- 5/16" fiber cement lap siding and ½" plywood on 2" x6" wood or steel framing, 16" o.c. (minimum), 6" fiber or mineral wool batt insulation, and one (1) layer of gypsum wallboard, AND

- Glazing (for windows and deck doors) with STC 30 / OITC 25, or better (we assume laboratory-tested assemblies with specifications)

INTERIOR DEMISING WALLS

- Two layers of gypsum wallboard on one side of wood framing with RC-Deluxe resilient channel or rubber isolation clips, batt insulation, single layer of gypsum wallboard on second side (STC 54+) Note: We recommend avoiding the use of resilient channels for sound transmission reduction. Resilient channels (RC) are proven to be unreliable in the field. The resiliency of available RC varies greatly between brands and can be 'shorted out' by misplaced or wrong-sized screws. If resilient channels must be used, we only recommend ClarkDietrich brand RC Deluxe.

REQUIRED BMP MAINTENANCE STATEMENT

THE PROPOSED STORMWATER BMPS, WHICH INCLUDE;
1) RAINSTORE SYSTEM
2) PERMEABLE CONCRETE WALKWAYS & PARKING AREA
SHALL BE MAINTAINED AS DESCRIBED IN SANTA BARBARA MUNICIPAL CODE 22.87.030 IN ACCORDANCE WITH THEIR APPROVED SPECIFICATIONS.

OWNER (NAME & TITLE): COLE CERVANTES, MANAGER

SIGNATURE: DATE:

BMP INSPECTIONS
1) RAINSTORE SYSTEM, PERMEABLE CONCRETE
- PRE-CONSTRUCTION MEETING
- EXCAVATION, SUBGRADE, AND BOX CONSTRUCTION
- SUBBASE, BASE, AND BEDDING INSTALLATION
- RAINSTORE3 STORAGE CHAMBER INSTALLATION
- PERMEABLE CONCRETE INSTALLATION
- FINAL INSPECTION ONCE COMPLETE

2)INSPECTIONS SHALL BE CALLED IN BY CONTRACTOR FOR INSPECTION 72 HOURS PRIOR TO NEEDED INSPECTION. THE CITY WILL THEN ROUTE THE REQUEST TO THE QSP INSPECTOR OR THIRD PARTY COMPANY

- **A SEPARATE PUBLIC WORKS PERMIT IS REQUIRED FOR ALL PROPOSED WORK IN THE PUBLIC RIGHT OF WAY (PROW).**

CITY WASTE CALCULATION

City of Santa Barbara Waste Generation Calculator Updated 1/31/2020

Step 1: List each business type in the enclosure. Input business size based on the units that appear when you choose a business type. See Business Type Definitions tab to ensure you choose the correct business type.

Enclosure 1

Business Type	Business Size		Food (yd3/week)	Green (yd3/week)	Recycle (yd3/week)	Trash (yd3/week)
Residential with Dining	10	bedrooms	0.23	0.23	0.70	1.17

Step 2: Propose container sizes and quantities appropriate for the total generation of each material.

		Food	Green	Recycle	Trash
Total Generation	(yd3/week)	0.2	0.2	0.7	1.2
	(gallons)	46	46	141	226
Container Size		SEE GREEN	65 gallon cart	65 gallon cart	65 gallon cart
Quantity		SEE GREEN	1	1	2
Frequency (pickups per week)			2	2	2

CODE REQUIREMENTS

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. 2022 CALIFORNIA RESIDENTIAL CODE (CRC)
2. 2022 CALIFORNIA BUILDING CODE (CBC)
3. 2022 CALIFORNIA ADMINISTRATIVE CODE (TITLES 24&25)
4. 2022 CALIFORNIA MECHANICAL CODE
5. 2022 CALIFORNIA PLUMBING CODE
6. 2022 CALIFORNIA ELECTRICAL CODE
7. 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
8. CITY ORDINANCES
9. FEDERAL OSHA
10. FEDERAL - AMERICANS WITH DISABILITIES ACT
11. COUNTY AIR POLLUTION CONTROL DISTRICT REQUIREMENTS
12. 2022 CALIFORNIA ENERGY CODE
13. 2022 CALIFORNIA ADMINISTRATIVE CODE
14. 2022 CALIFORNIA FIRE CODE
15. 2022 CALIFORNIA REFERENCED STANDARDS CODE

ALL CONSTRUCTION SHALL COMPLY WITH ALL AMENDMENTS AS ADOPTED IN SANTA BARBARA CITY ORDINANCE 5919

UNIT STATISTICS

EXISTING FLOOR AREA	**NET**	**GROSS**
EXISTING SINGLE FAMILY HOME (PRIMARY DWELLING UNIT)		
1ST FLOOR LIVING AREA:	±820 SF	±880 SF
1ST FLOOR PORCH:	±0 SF	±81 SF
2ND FLOOR LIVING AREA:	±585 SF	±740 SF
SUBTOTAL:	±1,405 SF	±1,701 SF
EXISTING GARAGE - TO BE CONVERTED TO AN ADU		
1ST FLOOR:	±785 SF	±825 SF
SUBTOTAL:	±785 SF	±825 SF
TOTAL EXISTING:	±2,190 SF	±2,526 SF
DEMO FLOOR AREA		
EXISTING GARAGE - TO BE DEMOLISHED & RECONSTRUCTED		
1ST FLOOR :	785 SF	825 SF
REMAINING FLOOR AREA:	±1,405SF	±1,701 SF
PROPOSED FLOOR AREA		
PROPOSED DEPLEX		
CARPORT/MECH:	1,225 SF	1,305 SF
(PROPOSED UNIT B, 2 BDRM)		
(REPLACEMENT UNIT FOR RES 20-017)		
1ST FLOOR ENTRY:	50 SF	60 SF
2ND FLOOR LIVING AREA:	830 SF	885 SF
2ND FLOOR BALCONY:		93 SF
UNIT 2 SUBTOTAL:	880 SF	1,038 SF
(PROPOSED UNIT C, STUDIO)		
1ST FLOOR LIVING AREA:	50 SF	60 SF
2ND FLOOR LIVING AREA:	420 SF	450 SF
2ND FLOOR BALCONY:		73 SF
UNIT 3 SUBTOTAL:	470 SF	583 SF
TOTAL DUPLEX	2,575 SF	2,926 SF
PROPOSED ADU:		
UNIT D		
1ST FLOOR	515 SF	570 SF
2ND FLOOR	460 SF	530 SF
UNIT D SUBTOTAL:	975 SF	1,100 SF
TOTAL PROPOSED:	3,550 SF	4,026 SF
TOTAL EXISTING PLUS PROPOSED:	4,955 SF	5,727 SF

DENSITY

GENERAL PLAN DENSITY (27 DU/AC)	ZONING CODE DENSITY	PROPOSED DENSITY
5 UNITS ALLOWED	3 UNITS	3 UNITS + AN ADU

UNIT SUMMARY

(E) UNIT A	4 BEDROOM /2 BATHROOM / 1,405 SF (NET)
PROPOSED UNIT B	2 BEDROOM /2 BATHROOM / 880 SF (NET)
PROPOSED UNIT C	0 BEDROOM /1 BATHROOM / 470 SF (NET)
PROPOSED UNIT D (ADU)	3 BEDROOM /3 BATHROOM / 975 SF (NET)

OPEN SPACE

REQUIRED:	PROVIDED:
10% NET LOT AREA	900 SF
8,350 SF x 0.10 = 835 SF REQUIRED	(NOT INCLUDING UNIT A PRIVATE YARD)

PARKING

	REQUIRED COVERED/UNCOVERED		EXISTING COVERED/UNCOVERED		PROPOSED COVERED/UNCOVERED	
(E) 3 BEDROOM UNIT A	0	2	4	0	2	0
(P) 2-BEDROOM (UNIT B)	0	2	N/A	N/A	2	0
(P) 1 BEDROOM (UNIT C)	0	1	N/A	N/A	1	0
(P) ADU (UNIT D)	0	1	N/A	N/A	1	0

BIKE PARKING

	REQUIRED SHORT TERM/LONG TERM	EXISTING SHORT TERM/LONG TERM	PROPOSED SHORT TERM/LONG TERM
(E) UNIT A	0/0	0/0	0/0
(P) 2-BEDROOM (UNIT B)	0/0	N/A	0/0
(P) 1 BEDROOM (UNIT C)	0/0	N/A	0/0
(P) ADU (UNIT D)	0/0	N/A	0/0

CONTACT INFORMATION

OWNER:
SBMR, LLC
831 CLIFF DRIVE #100
SANTA BARBARA, CA. 93109
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ARCHITECT:
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210 E COTA STREET
SANTA BARBARA, CA 93101
ATT PAUL BELMONT
PHONE: (805) 962-9966

CIVIL ENGINEER:
LEWIS ENGINEERING
1143 EAST MAIN STREET
VENTURA, CALIFORNIA 93001
PHONE: 805-648-1353

GEOTECHNICAL ENGINEER:
BEACON GEOTECHNICAL INC.
P.O. BOX 4814
PASO ROBLES, CA 93447
ATT: GREG MACKAY
PHONE:(805) 538-5115

LANDSCAPE ARCHITECT:
ON DESIGN LLC
PO BOX 598
SANTA BARBARA, CA 93102
ATT LONNIE ROY
PHONE 805-896-78896

PROJECT INFORMATION

APN:	017-251-007
PROJECT ADDRESS:	217 SOUTH MILPAS STREET SANTA BARBARA, CA
LOT SIZE:	9,000 SF (GROSS)/ 8,350 SF (NET)
GP LAND USE:	COMMERCIAL/MEDIUM DENSITY RESIDENTIAL (MAX 27 DU/AC)
ZONING:	C-2/S-D-3
EXISTING USE:	RESIDENTIAL
PROPOSED USE:	RESIDENTIAL
OCCUPANCY:	R-3
CONSTRUCTION TYPE:	V-B
PROJECT VALUATION:	$1,300,000
NEW SQUARE FEET:	4,026 SF (GROSS)
EXISTING SQ.FT.:	1,701 SF (GROSS)
ACCESSORY STRUC. SF:	825 SF (GROSS)
DEMO SF:	825 SF (GROSS)
NUMBER OF STORIES:	2
GRADING C.Y.:	100 CY CUT/ 100 CY FILL
FLOOD ZONE:	ZONE X (MAP 06083C1391J)
SWMP REQUIREMENTS:	TIER 3
AVERAGE PARCEL SLOPE:	5% PER ACCELA
HIGH FIRE:	NO

OPEN YARD

	REQUIRED	PROVIDED
(E) UNIT A	160 SF (GROUND FLOOR)	250 SF
(P) UNIT B	84 SF (2ND FLOOR)	86 SF
(P) UNIT C	60 SF (2ND FLOOR)	67 SF
(P) UNIT D	0 SF (2ND FLOOR)	0 SF

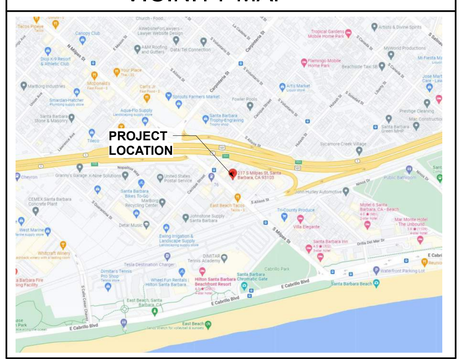
GRADING

CUT: 100 CU YDS
FILL: 100 CU YDS

SPRINKLERS

FIRE SPRINKLERS ARE REQUIRED FOR THE PROPOSED DUPLEX AND WILL BE UNDER SEPERATE PERMIT. FIRE SPRINKLERS ARE PROPOSED FOR THE ADU AND WILL BE UNDER SEPARATE PERMIT

VICINITY MAP



SHEET INDEX

PROJECT DESCRIPTION

THE EXISTING PROPERTY IS DEVELOPED WITH A 2-STORY SINGLE-FAMILY DETACHED HOME ALONG SOUTH MILPAS STREET. A FOUR-CAR GARAGE IS LOCATED AT THE REAR OF THE PROPERTY. THE PROPERTY IS DEVELOPED WITH A CONCRETE DRIVEWAY, GRAVEL, AND DIRT.

THE PROJECT PROPOSES TO DEMO THE SOUTHERLY DRIVEWAY APPROACH, AND THE ONSITE CONCRETE DRIVEWAY.

THE PROJECT PROPOSES TO CONSTRUCT A NEW 2-STORY DUPLEX WITH (1) 2-BEDROOM, 2 BATH UNIT AND (1) STUDIO, 1 BATH UNIT OVER A 6-CAR CARPORT. THE REMAINDER OF THE SITE IS PROPOSED TO BE IMPROVED WITH NEW PERMEABLE CONCRETE AND MISC. LANDSCAPE IMPROVEMENTS.

THE PROJECT PROPOSED TO DEMOLISH THE EXISTING FOUR CAR GARAGE AND REPLACE WITH A 3-BEDROOM, 3 BATH ADU. DEMO OF THE GARAGE TO AN ADU WILL ABATE THE GARAGE VIOLATION PORTION OF ENF2016-00756

THIS PROJECT IS PROVIDING 1 REPLACEMENT HOUSING UNIT FOR THE PROPOSED HOTEL PROJECT AT 302 WEST MONTECITO STREET (PERMIT #MST2016-00426 & RESOLUTION 20-017). THE OTHER 5 REPLACEMENT HOUSING UNITS ARE PROPOSED AT 528 WEST FIGUEROA STREET (PERMIT PLN2022-00148)

VIOLATIONS NOTED UNDER ENF2016-00756 ARE TO BE ABATED UNDER BLD2017-01552 FOR THE SINGLE FAMILY HOME.

DISCRETIONARY REVIEWS REQUIRED INCLUDE DESIGN REVIEW AND COASTAL DEVELOPMENT PERMIT.

ON DESIGN,LLC
Architecture
Planning
Interior Design
Keith Nolan
C -22541

ON designLLC
• P.O. BOX 598 • Santa Barbara • California • 93102 •

217 SOUTH MIPLAS DUPLEX & ADU
217 S. MILPAS ST. , SANTA BARBARA, CA

TITLE SHEET

KEITH SAMUEL NOLAN C-22451 REGISTERED ARCHITECT STATE OF CALIFORNIA

Revision Schedule

Project Manager	Designer
Scale	12" = 1'-0"
PrintDate	4/22/2024 10:44:10 AM

T-1.1

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01-E (Page 1 of 10)

Project Name: 217 Milpas Unit B — **Calculation Date/Time:** 2024-04-18T13:40:40-05:00
Calculation Description: Title 24 Analysis — **Input File Name:** 217 Milpas Unit B.ribd22x

GENERAL INFORMATION					
01	Project Name	217 Milpas Unit B			
02	Run Title	Title 24 Analysis			
03	Project Location	217 S Milpas			
04	City	Santa Barbara	05	Standards Version	2022
06	Zip code	93103	07	Software Version	EnergyPro 9.2
08	Climate Zone	6	09	Front Orientation (deg/ Cardinal)	132
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed	13	Number of Bedrooms	2
14	Addition Cond. Floor Area (ft²)	0	15	Number of Stories	1
16	Existing Cond. Floor Area (ft²)	n/a	17	Fenestration Average U-factor	0.3
18	Total Cond. Floor Area (ft²)	885	19	Glazing Percentage (%)	15.67%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Fuel Type	All electric	23	No Dwelling Units	No

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.
03	This building incorporates one or more Special Features shown below

Registration Number: 224-P010049405A-000-000-0000000-0000 — Registration Date/Time: 2024-04-18 17:12:14 — HERS Provider: CalCERTS inc.
CA Building Energy Efficiency Standards - 2022 Residential Compliance — Report Version: 2022.0.000 Schema Version: rev 20220901 — Report Generated: 2024-04-18 11:41:13

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01-E (Page 2 of 10)

Project Name: 217 Milpas Unit B — **Calculation Date/Time:** 2024-04-18T13:40:40-05:00
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ENERGY DESIGN RATINGS	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)
Standard Design	33.7	48.1	38.6			
Proposed Design	33.3	42.8	36.3	0.4	5.3	2.3

RESULT[3]: PASS

[1]Efficiency EDR includes improvements like a better building envelope and more efficient equipment
[2]Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries
[3]Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 1.95 kWdc
- PV System resized to 1.95 kWdc (a factor of 1.951) to achieve "Standard Design PV" PV scaling

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01-E (Page 3 of 10)

Project Name: 217 Milpas Unit B — **Calculation Date/Time:** 2024-04-18T13:40:40-05:00
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ENERGY USE SUMMARY	Standard Design Source Energy (EDR1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDR2) (kTDV/ft²-yr)	Proposed Design Source Energy (EDR1) (kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft²-yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.75	3.45	1.08	8.16	-0.33	-4.71
Space Cooling	0.74	23.78	0.38	12.94	0.36	10.84
IAQ Ventilation	0.43	4.53	0.43	4.53	0	0
Water Heating	2.16	23.52	2.1	23.64	0.06	-0.12
Self Utilization/Flexibility Credit				0		0
Efficiency Compliance Total	4.08	55.28	3.99	49.27	0.09	6.01
Photovoltaics	-2.5	-20.17	-2.5	-69.76		
Battery			0	0		
Flexibility						
Indoor Lighting	0.9	9.04	0.9	9.04		
Appl. & Cooking	4.24	50.91	4.2	50.49		
Plug Loads	5.13	53.66	5.13	53.66		
Outdoor Lighting	0.2	1.89	0.2	1.89		
TOTAL COMPLIANCE	12.05	100.61	11.92	94.59		

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Project Name: 217 Milpas Unit B — **Calculation Date/Time:** 2024-04-18T13:40:40-05:00
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ENERGY USE INTENSITY	Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Compliance Margin (kBtu/ft² - yr)	Margin Percentage
Gross EUI[1]	20.25	19.47	0.78	3.85
Net EUI[2]	7.56	6.77	0.79	10.45

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

REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
1.95	NA	Standard (14.17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

REQUIRED SPECIAL FEATURES

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

- Variable capacity heat pump compliance option (verification details from VLHP Staff report, Appendix B, and RA3)

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HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

- Indoor air quality ventilation
- Kitchen range hood
- Verified EER/EER2
- Verified SEER/SEER2
- Verified Refrigerant Charge
- Airflow in habitable rooms (SC3.1.4.1.7)
- Verified HSPF2
- Verified heat pump rated heating capacity
- Wall-mounted thermostat in zones greater than 150 ft2 (SC3.4.5)
- Ductless indoor units located entirely in conditioned space (SC3.1.4.1.8)

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
217 Milpas Unit B	885	1	2	1	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Status
Unit B	Conditioned	Mini Split1	885	9	DHW Sys 1	New

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)
Front Wall	Unit B	R-21 Wall	132	Front	435.24	20	90
Left Wall	Unit B	R-21 Wall	222	Left	195.29	0	90
Back Wall	Unit B	R-21 Wall	312	Back	435.24	138.66	90
Interior Wall	Unit B	R-21 Wall1	n/a	n/a	181.66	0	n/a

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OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)
Roof	Unit B	R-30 Roof Attic	n/a	n/a	885	n/a	n/a
Raised Floor	Unit B	R-19 Floor No Crawlspace	n/a	n/a	885	n/a	n/a

ATTIC

01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic Unit B	Attic RoofUnit B	Ventilated	4	0.1	0.85	No	No

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window H	Window	Back Wall	Back	312			1	53.33	0.3	NFRC	0.22	NFRC	Bug Screen
Window J	Window	Back Wall	Back	312			1	53.33	0.3	NFRC	0.22	NFRC	Bug Screen
Window 2	Window	Back Wall	Back	312			1	32	0.28	NFRC	0.23	NFRC	Bug Screen

OPAQUE DOORS

01	02	03	04
Name	Side of Building	Area (ft²)	U-factor
Door E	Front Wall	20	0.2

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Calculation Description: Title 24 Analysis — **Input File Name:** 217 Milpas Unit B.ribd22x

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.066	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Exterior Finish: Wood Siding/sheathing/decking
R-21 Wall1	Interior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.064	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Other Side Finish: Gypsum Board
Attic RoofUnit B	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board
R-19 Floor No Crawlspace	Exterior Floors	Wood Framed Floor	2x10 @ 16 in. O. C.	R-19	None / None	0.047	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x10

BUILDING ENVELOPE - HERS VERIFICATION

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

Registration Number: 224-P010049405A-000-000-0000000-0000 — Registration Date/Time: 2024-04-18 17:12:14 — HERS Provider: CalCERTS inc.
CA Building Energy Efficiency Standards - 2022 Residential Compliance — Report Version: 2022.0.000 Schema Version: rev 20220901 — Report Generated: 2024-04-18 11:41:13

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01-E (Page 8 of 10)

Project Name: 217 Milpas Unit B — **Calculation Date/Time:** 2024-04-18T13:40:40-05:00
Calculation Description: Title 24 Analysis — **Input File Name:** 217 Milpas Unit B.ribd22x

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12	13
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Heating Efficiency Type	Efficiency	Rated Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	Tank Location
DHW Heater 1	Heat Pump	Small Storage	1	50	UEF	3.75	n/a	<= 12 kW	n/a	n/a	67	Outside

WATER HEATING - HERS VERIFICATION

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

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
Mini Split1	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	n/a	n/a	Setback

Registration Number: 224-P010049405A-000-000-0000000-0000 — Registration Date/Time: 2024-04-18 17:12:14 — HERS Provider: CalCERTS inc.
CA Building Energy Efficiency Standards - 2022 Residential Compliance — Report Version: 2022.0.000 Schema Version: rev 20220901 — Report Generated: 2024-04-18 11:41:13

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01-E (Page 9 of 10)

Project Name: 217 Milpas Unit B — **Calculation Date/Time:** 2024-04-18T13:40:40-05:00
Calculation Description: Title 24 Analysis — **Input File Name:** 217 Milpas Unit B.ribd22x

HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10	11	12	13
Name	System Type	Number of Units	Heating			Cooling					Compressor Type	HERS Verification
			Heating Efficiency Type	HSPF/IVS PF2/COP	Cap 47	Cap 17	Cooling Efficiency Type	SEER/SEER2	EER/EER 2/CEER	Zonally Controlled		
Heat Pump System 1	VCHP-ductless	1	HSPF2	8.9	19000	11500	EER2SEER2	17	12	Not Zonal	Single Speed	Heat Pump System 1-hers-hpump

HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-hpump	Not Required	0	Required	Required	Yes	Yes	Yes	Yes

VARIABLE CAPACITY HEAT PUMP COMPLIANCE OPTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09	10
Name	Certified Low-Static VCHP System	Airflow to Habitable Rooms	Ductless Units in Conditioned Space	Wall Mount Thermostat	Air Filter Sizing & Pressure Drop Rating	Low Leakage Ducts in Conditioned Space	Minimum Airflow per RA3.3 and 5C3.3.3.4.1	Certified non-continuous Fan	Indoor Fan not Running Continuously
Heat Pump System 1	Not required	Required	Required	Required	Not required	Not required	Not required	Not required	Not required

INDOOR AIR QUALITY (IAQ) FANS

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE/ASRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	49	0.35	Exhaust	No	n/a / n/a	No	Yes	

Registration Number: 224-P010049405A-000-000-0000000-0000 — Registration Date/Time: 2024-04-18 17:12:14 — HERS Provider: CalCERTS inc.
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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01-E (Page 10 of 10)

Project Name: 217 Milpas Unit B — **Calculation Date/Time:** 2024-04-18T13:40:40-05:00
Calculation Description: Title 24 Analysis — **Input File Name:** 217 Milpas Unit B.ribd22x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Seth McBeath	Documentation Author Signature:
Company: ON Design, LLC	Signature Date: 2024-04-18 17:08:56
Address: P.O. Box 598	CEA/ HERS Certification Identification (If applicable):
City/State/Zip: Santa Barbara, CA 93102	Phone: 805-844-8674

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: Keith Nolan	Responsible Designer Signature:
Company: ON Design, LLC	Date Signed: 2024-04-18 17:12:14
Address: P.O. Box 489	License: C-22451
City/State/Zip: Santa Barbara, CA 93102	Phone: 805-896-8374

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.

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Registration Number: 224-P010049405A-000-000-0000000-0000 — Registration Date/Time: 2024-04-18 17:12:14 — HERS Provider: CalCERTS inc.
CA Building Energy Efficiency Standards - 2022 Residential Compliance — Report Version: 2022.0.000 Schema Version: rev 20220901 — Report Generated: 2024-04-18 11:41:13

RESIDENTIAL MEASURES SUMMARY — RMS-1

Project Name	Building Type	Date
217 Milpas Unit B	☑ Single Family ☐ Multi Family ☐ Addition Alone ☐ Existing+ Addition/Alteration	4/18/2024

Project Address	California Energy Climate Zone	Total Cond. Floor Area	Addition	# of Units
217 S Milpas Santa Barbara	CA Climate Zone 06	885	n/a	1

INSULATION

Construction	Type	Cavity	Area (ft²)	Special Features	Status
Wall	Wood Framed	R 20	1,089		New
Door	Opaque Door	R-5	20		New
Floor	Wood Framed w/o Crawl Space	R 19	885		New
Roof	Wood Framed Attic	R 30	885		New

FENESTRATION — Total Area: 139 — Glazing Percentage: 15.7% — New/Altered Average U-Factor: 0.30

Orientation	Area(ft²)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades	Status
Rear (NW)	106.7	0.300	0.22	none	none	N/A	New
Rear (NW)	32.0	0.280	0.23	none	none	N/A	New

HVAC SYSTEMS

Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	Electric Heat Pump	8.90 HSPF2	Split Heat Pump	17.0 SEER2	Setback	New

HVAC DISTRIBUTION

Location	Heating	Cooling	Duct Location	Duct R-Value	Status
Mini Split	Ductless / with Fan	Ductless	n/a	n/a	New

WATER HEATING

Qty.	Type	Gallons	Min. Eff	Distribution	Status
1	Heat Pump	50	3.75	Standard	New

EnergyPro 9.2 by EnergySoft — User Number: 8020 — ID: — Page 11 of 16

ON DESIGN,LLC
Architecture
Planning
Interior Design
Keith Nolan
C -22541

ON designLLC
• P.O. BOX 598 • Santa Barbara • California • 93102 •

217 SOUTH MIPLAS DUPLEX & ADU
217 S. MILPAS ST. , SANTA BARBARA, CA

TITLE 24 CALCULATIONS - UNIT B

LICENSED ARCHITECT KEITH SAMUEL NOLAN 22451 REGISTERED PROFESSIONAL OF CALIFORNIA

Revision Schedule

Project Manager: Designer
Scale:
PrintDate: 4/19/2024 10:08:21 AM

T-1.2.1

GENERAL INFORMATION					
01	Project Name	217 Milpas Unit C			
02	Run Title	Title 24 Analysis			
03	Project Location	217 S Milpas			
04	City	Santa Barbara	05	Standards Version	2022
06	Zip code	93103	07	Software Version	EnergyPro 9.2
08	Climate Zone	6	09	Front Orientation (deg/ Cardinal)	42
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed	13	Number of Bedrooms	1
14	Addition Cond. Floor Area (ft^2)	0	15	Number of Stories	2
16	Existing Cond. Floor Area (ft^2)	n/a	17	Fenestration Average U-factor	0.29
18	Total Cond. Floor Area (ft^2)	510	19	Glazing Percentage (%)	21.00%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Fuel Type	All electric	23	No Dwelling Unit:	No

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.
03	This building incorporates one or more Special Features shown below

ENERGY DESIGN RATINGS

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)
Standard Design	40	45.9	67.6			
Proposed Design	40	43.5	66.2	0	2.4	1.4

RESULT[3]: PASS

[1]Efficiency EDR includes improvements like a better building envelope and more efficient equipment
[2]Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries
[3]Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 0.00 kWdc
- PV System(s) removed due to Reduced PV Requirement of 0 kWdc

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	1.11	5.07	1.77	13.08	-0.66	-8.01
Space Cooling	0.99	30.43	0.57	19.52	0.42	10.91
IAQ Ventilation	0.45	4.83	0.45	4.83	0	0
Water Heating	3.22	36.22	3.04	35.13	0.18	1.09
Self Utilization/Flexibility Credit				0		0
Efficiency Compliance Total	**5.77**	**76.55**	**5.83**	**72.56**	**-0.06**	**3.99**
Photovoltaics	0	0	0	0		
Battery			0	0		
Flexibility						
Indoor Lighting	1.16	11.63	1.16	11.63		
Appl. & Cooking	6.83	83.97	6.73	83		
Plug Loads	7.08	74.04	7.08	74.04		
Outdoor Lighting	0.23	2.09	0.23	2.09		
TOTAL COMPLIANCE	**21.07**	**248.28**	**21.03**	**243.32**		

ENERGY USE INTENSITY

	Standard Design (kBtu/ft^2 - yr)	Proposed Design (kBtu/ft^2 - yr)	Compliance Margin (kBtu/ft^2 - yr)	Margin Percentage
Gross EUI[1]	29.56	28.55	1.01	3.42
Net EUI[2]	29.56	28.55	1.01	3.42

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

REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
0		Standard (14-17%)	Fixed	none	true	n/a	n/a	n/a	n/a	n/a	

REQUIRED SPECIAL FEATURES

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

- PV exception 2: No PV required when minimum PV size (Section 150.1(c)14) < 1.8 kWdc (0 kW)
- Floor has high level of insulation

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

- Indoor air quality ventilation
- Kitchen range hood
- Verified heat pump rated heating capacity

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
217 Milpas Unit C	510	1	1	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	Status
Unit C - 1st Floor	Conditioned	Mini Split1	60	8	DHW Sys 1	New
Unit C - 2nd Floor	Conditioned	Mini Split1	450	9	DHW Sys 1	New

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window and Door Area (ft2)	Tilt (deg)
Front Wall	Unit C - 1st Floor	R-21 Wall	42	Front	99.69	20	90
Left Wall	Unit C - 1st Floor	R-21 Wall	132	Left	47.15	0	90
Back Wall	Unit C - 1st Floor	R-21 Wall	222	Back	99.69	0	90
Right Wall	Unit C - 1st Floor	R-21 Wall	312	Right	47.15	0	90
Front Wall 2	Unit C - 2nd Floor	R-21 Wall	42	Front	241.45	12	90
Left Wall 2	Unit C - 2nd Floor	R-21 Wall	132	Left	241.08	29.77	90
Back Wall 2	Unit C - 2nd Floor	R-21 Wall	222	Back	59.79	0	90
Right Wall 2	Unit C - 2nd Floor	R-21 Wall	312	Right	241.08	65.33	90
Interior Wall	Unit C - 2nd Floor	R-21 Wall1	n/a	n/a	181.66	0	n/a
Roof	Unit C - 2nd Floor	R-30 Roof Attic	n/a	n/a	450	n/a	n/a
Raised Floor	Unit C - 2nd Floor	R-30 Floor No Crawlspace	n/a	n/a	377	n/a	n/a
Interior Floor	Unit C - 2nd Floor	R-0 Floor No Crawlspace	n/a	n/a	38.75	n/a	n/a

ATTIC

01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic Unit C - 2nd Floor	Attic RoofUnit C - 2nd Floor	Ventilated	4	0.1	0.85	No	No

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window 4	Window	Front Wall 2	Front	42			1	12	0.28	NFRC	0.23	NFRC	Bug Screen
Window 5	Window	Left Wall 2	Left	132			1	12	0.28	NFRC	0.23	NFRC	Bug Screen
Window O	Window	Left Wall 2	Left	132			1	17.77	0.3	NFRC	0.22	NFRC	Bug Screen
Window I	Window	Right Wall 2	Right	312			1	53.33	0.3	NFRC	0.22	NFRC	Bug Screen
Window 3	Window	Right Wall 2	Right	312			1	12	0.28	NFRC	0.23	NFRC	Bug Screen

OPAQUE DOORS

01	02	03	04
Name	Side of Building	Area (ft^2)	U-factor
Door A	Front Wall	20	0.2

SLAB FLOORS

01	02	03	04	05	06	07	08
Name	Zone	Area (ft^2)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Slab-on-Grade	Unit C - 1st Floor	60	20.16	none	0	80%	No

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.066	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Exterior Finish: Wood Siding/sheathing/decking
R-21 Wall1	Interior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.064	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Other Side Finish: Gypsum Board
Attic RoofUnit C - 2nd Floor	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board
R-30 Floor No Crawlspace	Exterior Floors	Wood Framed Floor	2x10 @ 16 in. O. C.	R-30	None / None	0.034	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10
R-0 Floor No Crawlspace	Interior Floors	Wood Framed Floor	2x12 @ 16 in. O. C.	R-0	None / None	0.196	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x12 Ceiling Below Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

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

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12	13
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Heating Efficiency Type	Efficiency	Rated Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	Tank Location
DHW Heater 1	Heat Pump	Small Storage	1	50	UEF	3.75	n/a	<= 12 kW	n/a	n/a	67	Outside

WATER HEATING - HERS VERIFICATION

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

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
Mini Split1	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	n/a	n/a	Setback

HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10	11	12	13
			Heating				Cooling					
Name	System Type	Number of Units	Heating Efficiency Type	HSPF/HSPF2/COP	Cap 47	Cap 17	Cooling Efficiency Type	SEER/SEER2	EER/EER2/CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	Ductless MiniSplit HP	1	HSPF2	8.9	19000	11500	EER2SEER2	17	12	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump

HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Not Required	0	Not Required	Not Required	No	No	Yes	Yes

INDOOR AIR QUALITY (IAQ) FANS

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE/ASRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	30	0.35	Exhaust	No	n/a / n/a	No	Yes	

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Seth McBeath	Documentation Author Signature:
Company: ON Design, LLC	Signature Date: 2024-04-18 17:09:25
Address: P.O. Box 598	CEA/ HERS Certification Identification (If applicable):
City/State/Zip: Santa Barbara, CA 93102	Phone: 805-844-8674

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: Keith Nolan	Responsible Designer Signature:
Company: ON Design, LLC	Date Signed: 2024-04-18 17:12:14
Address: P.O. Box 489	License: C-22451
City/State/Zip: Santa Barbara, CA 93102	Phone: 805-896-8374

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RESIDENTIAL MEASURES SUMMARY RMS-1

Project Name: 217 Milpas Unit C	Building Type: ☑ Single Family ☐ Addition Alone ☐ Multi Family ☐ Existing+ Addition/Alteration		Date: 4/18/2024
Project Address: 217 S Milpas Santa Barbara	California Energy Climate Zone: CA Climate Zone 06	Total Cond. Floor Area: 510; Addition: n/a	# of Units: 1

INSULATION

Construction	Type	Cavity	Area (ft^2)	Special Features	Status
Wall	Wood Framed	R 20	1,132		New
Door	Opaque Door	R-5	20		New
Slab	Unheated Slab-on-Grade	- no insulation	60	Perim = 20'	New
Demising	Wood Framed w/o Crawl Space	- no insulation	39		New
Floor	Wood Framed w/o Crawl Space	R 30	377		New
Roof	Wood Framed Attic	R 30	450		New

FENESTRATION — Total Area: 107 — Glazing Percentage: 21.0% — New/Altered Average U-Factor: 0.29

Orientation	Area(ft^2)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades	Status
Front (NE)	12.0	0.280	0.23	none	none	N/A	New
Left (SE)	12.0	0.280	0.23	none	none	N/A	New
Left (SE)	17.8	0.300	0.22	none	none	N/A	New
Right (NW)	53.3	0.300	0.22	none	none	N/A	New
Right (NW)	12.0	0.280	0.23	none	none	N/A	New

HVAC SYSTEMS

Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	Electric Heat Pump	8.90 HSPF2	Split Heat Pump	17.0 SEER2	Setback	New

HVAC DISTRIBUTION

Location	Heating	Cooling	Duct Location	Duct R-Value	Status
Mini Split	Ductless / with Fan	Ductless	n/a	n/a	New

WATER HEATING

Qty.	Type	Gallons	Min. Eff	Distribution	Status
1	Heat Pump	50	3.75	Standard	New

ON DESIGN, LLC
Architecture
Planning
Interior Design
Keith Nolan
C -22541
ON design LLC
P.O. BOX 598 • Santa Barbara • California • 93102 •

217 SOUTH MIPLAS DUPLEX & ADU
217 S. MILPAS ST. , SANTA BARBARA, CA
TITLE 24 CALCULATIONS - UNIT C

Revision Schedule

Project Manager
Designer
Scale
PrintDate
4/19/2024 10:08:23 AM

T-1.2.2

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: 217 Milpas Unit D **Calculation Date/Time:** 2024-04-18T19:01:07-05:00 **(Page 1 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 217 Milpas Unit D.ribd22x

GENERAL INFORMATION					
01	Project Name	217 Milpas Unit D			
02	Run Title	Title 24 Analysis			
03	Project Location	217 S Milpas			
04	City	Santa Barbara	05	Standards Version	2022
06	Zip code	93103	07	Software Version	EnergyPro 9.2
08	Climate Zone	6	09	Front Orientation (deg/ Cardinal)	312
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed	13	Number of Bedrooms	1
14	Addition Cond. Floor Area (ft²)	0	15	Number of Stories	2
16	Existing Cond. Floor Area (ft²)	n/a	17	Fenestration Average U-factor	0.28
18	Total Cond. Floor Area (ft²)	1100	19	Glazing Percentage (%)	14.55%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Fuel Type	All electric	23	No Dwelling Unit:	No

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.
03	This building incorporates one or more Special Features shown below

Registration Number: 224-P010049402A-000-000-0000000-0000 Registration Date/Time: 2024-04-18 17:12:14 HERS Provider: CalCERTS inc.

CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Schema Version: rev 20220901 Report Generated: 2024-04-18 17:02:03

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: 217 Milpas Unit D **Calculation Date/Time:** 2024-04-18T19:01:07-05:00 **(Page 2 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 217 Milpas Unit D.ribd22x

ENERGY DESIGN RATINGS						
	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)
Standard Design	34.1	46.1	38.9			
Proposed Design	34.1	45.6	38.7	0	0.5	0.2
RESULT[3]: PASS						

[1]Efficiency EDR includes improvements like a better building envelope and more efficient equipment

[2]Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries

[3]Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 2.19 kWdc
- PV System resized to 2.19 kWdc (a factor of 2.187) to achieve "Standard Design PV" PV scaling

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: 217 Milpas Unit D **Calculation Date/Time:** 2024-04-18T19:01:07-05:00 **(Page 3 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 217 Milpas Unit D.ribd22x

ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDR2) (kTDV/ft²-yr)	Proposed Design Source Energy (EDR1) (kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft²-yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.93	4.23	1.16	8.61	-0.23	-4.38
Space Cooling	0.48	16.19	0.28	10.9	0.2	5.29
IAQ Ventilation	0.44	4.65	0.44	4.65	0	0
Water Heating	1.99	21.64	1.98	22.08	0.01	-0.44
Self Utilization/Flexibility Credit				0		0
Efficiency Compliance Total	**3.84**	**46.71**	**3.86**	**46.24**	**-0.02**	**0.47**
Photovoltaics	-2.25	-63.16	-2.25	-63.04		
Battery			0	0		
Flexibility						
Indoor Lighting	0.83	8.36	0.83	8.36		
Appl. & Cooking	3.64	45.64	3.62	45.34		
Plug Loads	4.98	52.01	4.98	52.01		
Outdoor Lighting	0.2	1.83	0.2	1.83		
TOTAL COMPLIANCE	**11.24**	**91.39**	**11.24**	**90.74**		

Registration Number: 224-P010049402A-000-000-0000000-0000 Registration Date/Time: 2024-04-18 17:12:14 HERS Provider: CalCERTS inc.

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: 217 Milpas Unit D **Calculation Date/Time:** 2024-04-18T19:01:07-05:00 **(Page 4 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 217 Milpas Unit D.ribd22x

ENERGY USE INTENSITY				
	Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Compliance Margin (kBtu/ft² - yr)	Margin Percentage
Gross EUI[1]	18.45	18.08	0.37	2.01
Net EUI[2]	7	6.63	0.37	5.29

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

REQUIRED PV SYSTEMS											
01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
2.19	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

REQUIRED SPECIAL FEATURES
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.
• Cool roof

HERS FEATURE SUMMARY
The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry
• Indoor air quality ventilation • Kitchen range hood • Verified heat pump rated heating capacity

Registration Number: 224-P010049402A-000-000-0000000-0000 Registration Date/Time: 2024-04-18 17:12:14 HERS Provider: CalCERTS inc.

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: 217 Milpas Unit D **Calculation Date/Time:** 2024-04-18T19:01:07-05:00 **(Page 5 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 217 Milpas Unit D.ribd22x

BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
217 Milpas Unit D	1100	1	3	2	0	1

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Status
Unit D - 1st Floor	Conditioned	Mini Split1	570	9	DHW Sys 1	New
Unit D - 2nd Floor	Conditioned	Mini Split1	530	9	DHW Sys 1	New

OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)
Front Wall	Unit D - 1st Floor	R-21 Wall	312	Front	368.04	35	90
Left Wall	Unit D - 1st Floor	R-21 Wall	42	Left	308.83	10	90
Back Wall	Unit D - 1st Floor	R-21 Wall	132	Back	368.04	15	90
Right Wall	Unit D - 1st Floor	R-21 Wall	222	Right	308.83	60	90
Front Wall 2	Unit D - 2nd Floor	R-21 Wall	312	Front	149.87	15	90
Left Wall 2	Unit D - 2nd Floor	R-21 Wall	42	Left	290.66	0	90
Back Wall 2	Unit D - 2nd Floor	R-21 Wall	132	Back	149.87	15	90
Right Wall 2	Unit D - 2nd Floor	R-21 Wall	222	Right	290.66	30	90
Roof	Unit D - 2nd Floor	R-30 Roof Attic	n/a	n/a	530	n/a	n/a
Interior Floor	Unit D - 2nd Floor	R-0 Floor No Crawlspace	n/a	n/a	492.14	n/a	n/a

Registration Number: 224-P010049402A-000-000-0000000-0000 Registration Date/Time: 2024-04-18 17:12:14 HERS Provider: CalCERTS inc.

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: 217 Milpas Unit D **Calculation Date/Time:** 2024-04-18T19:01:07-05:00 **(Page 6 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 217 Milpas Unit D.ribd22x

ATTIC					
01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic Unit D - 2nd Floor	Attic RoofUnit D - 2nd Floor	Ventilated	4	0.39	0.86	No	Yes

FENESTRATION / GLAZING														
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window F	Window	Front Wall	Front	312			1	15	0.28	NFRC	0.23	NFRC	Bug Screen
Window A	Window	Left Wall	Left	42			1	10	0.28	NFRC	0.23	NFRC	Bug Screen
Window B	Window	Back Wall	Back	132			1	15	0.28	NFRC	0.23	NFRC	Bug Screen
Window C	Window	Right Wall	Right	222			1	15	0.28	NFRC	0.23	NFRC	Bug Screen
Window D	Window	Right Wall	Right	222			1	15	0.28	NFRC	0.23	NFRC	Bug Screen
Window E	Window	Right Wall	Right	222			1	30	0.28	NFRC	0.23	NFRC	Bug Screen
Window G	Window	Front Wall 2	Front	312			1	15	0.28	NFRC	0.23	NFRC	Bug Screen
Window H	Window	Back Wall 2	Back	132			1	15	0.28	NFRC	0.23	NFRC	Bug Screen
Window I	Window	Right Wall 2	Right	222			1	15	0.28	NFRC	0.23	NFRC	Bug Screen
Window J	Window	Right Wall 2	Right	222			1	15	0.28	NFRC	0.23	NFRC	Bug Screen

OPAQUE DOORS			
01	02	03	04
Name	Side of Building	Area (ft²)	U-factor
Door 1	Front Wall	20	0.2

Registration Number: 224-P010049402A-000-000-0000000-0000 Registration Date/Time: 2024-04-18 17:12:14 HERS Provider: CalCERTS inc.

CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Schema Version: rev 20220901 Report Generated: 2024-04-18 17:02:03

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: 217 Milpas Unit D **Calculation Date/Time:** 2024-04-18T19:01:07-05:00 **(Page 7 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 217 Milpas Unit D.ribd22x

SLAB FLOORS							
01	02	03	04	05	06	07	08
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Slab-on-Grade	Unit D - 1st Floor	570	105	none	0	80%	No

OPAQUE SURFACE CONSTRUCTIONS							
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.066	Inside Finish: Gypsum Board Cavity / Framer: R-21 / 2x6 Exterior Finish: Wood Siding/sheathing/decking
Attic RoofUnit D - 2nd Floor	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Framer: no insul. / 2x4
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 insul. Cavity / Framer: R-9.1 / 2x4 Inside Finish: Gypsum Board
R-0 Floor No Crawlspace	Interior Floors	Wood Framed Floor	2x12 @ 16 in. O. C.	R-0	None / None	0.196	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Framer: no insul. / 2x12 Ceiling Below Finish: Gypsum Board

Registration Number: 224-P010049402A-000-000-0000000-0000 Registration Date/Time: 2024-04-18 17:12:14 HERS Provider: CalCERTS inc.

CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Schema Version: rev 20220901 Report Generated: 2024-04-18 17:02:03

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: 217 Milpas Unit D **Calculation Date/Time:** 2024-04-18T19:01:07-05:00 **(Page 8 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 217 Milpas Unit D.ribd22x

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

WATER HEATING SYSTEMS								
01	02	03	04	05	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

WATER HEATERS												
01	02	03	04	05	06	07	08	09	10	11	12	13
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Heating Efficiency Type	Efficiency	Rated Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	Tank Location
DHW Heater 1	Heat Pump	Small Storage	1	50	UEF	3.75	n/a	<= 12 kW	n/a	n/a	67	Outside

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

Registration Number: 224-P010049402A-000-000-0000000-0000 Registration Date/Time: 2024-04-18 17:12:14 HERS Provider: CalCERTS inc.

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: 217 Milpas Unit D **Calculation Date/Time:** 2024-04-18T19:01:07-05:00 **(Page 9 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 217 Milpas Unit D.ribd22x

SPACE CONDITIONING SYSTEMS								
01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
Mini-Split1	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	n/a	n/a	Setback

HVAC - HEAT PUMPS												
01	02	03	04	05	06	07	08	09	10	11	12	13
			Heating			Cooling						
Name	System Type	Number of Units	Heating Efficiency Type	HSPF/IHS PF2/COP	Cap 47	Cap 17	Cooling Efficiency Type	SEER/SEER2	EER/EER2/CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	Ductless MiniSplit HP	1	HSPF2	8.9	19000	11500	EER2SEER2	17	12	Not Zonal	Single Speed	Heat Pump System 1 hers ttpump

HVAC HEAT PUMPS - HERS VERIFICATION								
01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1 hers ttpump	Not Required	0	Not Required	Not Required	No	No	Yes	Yes

INDOOR AIR QUALITY (IAQ) FANS								
01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE/ASRE	Includes Fault Indicator Display?	HERS Verification	Status
Sfam IAQVentRpt	62	0.35	Exhaust	No	n/a / n/a	No	Yes	

Registration Number: 224-P010049402A-000-000-0000000-0000 Registration Date/Time: 2024-04-18 17:12:14 HERS Provider: CalCERTS inc.

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: 217 Milpas Unit D **Calculation Date/Time:** 2024-04-18T19:01:07-05:00 **(Page 10 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 217 Milpas Unit D.ribd22x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I, I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Seth McBeath	Documentation Author Signature:
Company: ON Design, LLC	Signature Date: 2024-04-18 17:10:20
Address: P.O. Box 598	CEA/ HERS Certification Identification (If applicable):
City/State/Zip: Santa Barbara, CA 93102	Phone: 805-844-8674

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: Keith Nolan	Responsible Designer Signature:
Company: ON Design, LLC	Date Signed: 2024-04-18 17:12:14
Address: P.O. Box 489	License: C-22451
City/State/Zip: Santa Barbara, CA 93102	Phone: 805-896-8374

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.

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RESIDENTIAL MEASURES SUMMARY RMS-1

Project Name	Building Type			Date
217 Milpas Unit D	☑ Single Family ☐ Multi Family	☐ Addition Alone ☐ Existing+ Addition/Alteration		*4/18/2024*
Project Address	California Energy Climate Zone	Total Cond. Floor Area	Addition	# of Units
217 S Milpas Santa Barbara	*CA Climate Zone 06*	*1,100*	*n/a*	*1*

INSULATION				
Construction	Type	Cavity	Area (ft²)	Special Features	Status
Wall	*Wood Framed*	*R 20*	*1,655*		*New*
Door	*Opaque Door*	*R-5*	*20*		*New*
Slab	*Unheated Slab-on-Grade*	*- no insulation*	*570*	*Perim = 105'*	*New*
Demising	*Wood Framed w/o Crawl Space*	*- no insulation*	*492*		*New*
Roof	*Wood Framed Attic*	*R 30*	*530*	*Cool Roof*	*New*

FENESTRATION	Total Area: 160	Glazing Percentage: 14.5%	New/Altered Average U-Factor: 0.28			
Orientation	Area(ft²)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades	Status
Front (NW)	*30.0*	*0.280*	*0.23*	*none*	*none*	*N/A*	*New*
Left (NE)	*10.0*	*0.280*	*0.23*	*none*	*none*	*N/A*	*New*
Rear (SE)	*30.0*	*0.280*	*0.23*	*none*	*none*	*N/A*	*New*
Right (SW)	*90.0*	*0.280*	*0.23*	*none*	*none*	*N/A*	*New*

HVAC SYSTEMS						
Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	*Electric Heat Pump*	*8.90 HSPF2*	*Split Heat Pump*	*17.0 SEER2*	*Setback*	*New*

HVAC DISTRIBUTION					
Location	Heating	Cooling	Duct Location	Duct R-Value	Status
Mini Split	*Ductless / with Fan*	*Ductless*	*n/a*	*n/a*	*New*

WATER HEATING					
Qty.	Type	Gallons	Min. Eff	Distribution	Status
1	*Heat Pump*	*50*	*3.75*	*Standard*	*New*

EnergyPro 9.2 by EnergySoft User Number: 8020 ID: Page 11 of 11

ON designLLC
Architecture
Planning
Interior Design
Keith Nolan
C -22541

ON designLLC
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217 SOUTH MIPLAS DUPLEX & ADU
217 S. MILPAS ST. , SANTA BARBARA, CA
TITLE 24 CALCULATIONS - UNIT D

Revision Schedule

Project Manager
Designer

Scale

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T-1.2.3

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-A 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.

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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 occupable 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. *

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§ 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)1Bii&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, occupable spaces, public garages, or commercial spaces must have mechanical ventilation airflow specified in § 150.0(o)1Cii-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:

2022 Single-Family Residential Mandatory Requirements Summary

§ 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.

5/6/22

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TITLE 24 MANDATORY MEASURES

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BEACON
GEOTECHNICAL, INC

January 25, 2024 F-101974

SBMR, LLC
831 Cliff Drive #100
Santa Barbara, CA 93109

Project: 217 South Milpas Street
Santa Barbara, California

Subject: Geotechnical Engineering Report Addendum and Update

Reference: 1) Geotechnical Engineering Report dated December 6, 2018

This letter has been provided to update the above referenced geotechnical engineering report to the new 2022 California Building Code and to address the updated geotechnical recommendations for the revised project scope which currently includes a proposed duplex and accessory dwelling unit. It should be noted that all references in the original geotechnical engineering report to Chapter 18 of the 2016 California Building Code should now reference Chapter 18 of the 2022 California Building Code.

The following estimated ground motion parameters have been established using the methods outlined in the 2022 California Building Code with reference to the acceleration contour maps provided by the U.S. Geological Survey (USGS) and the National Earthquake Hazards Reduction Program (NEHRP-2015). These ground motion parameters represent the Maximum Considered Earthquake (MCE) spectral response of seismic events experiencing 5 percent damped acceleration and having a 2 percent probability of exceedance within a 50-year period.

Table B.1a
2022 California Building Code Seismic Parameters

Parameter	Value
Seismic Design Category	E
Site Class	D
Short Period Spectral Acceleration, S_s	2.179
1-second period spectral acceleration, S_1	0.792
Short period site coefficient, F_a	1.000
1-second period site coefficient, F_v	1.700
Adjusted short period spectral acceleration, S_{ms}	2.179
Adjusted 1-second period spectral acceleration, S_{m1}	1.347
Short period design spectral acceleration, S_{ds}	1.453
1-second period design spectral acceleration, S_{d1}	0.898

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6.1.9 The above referenced site drainage conditions should be maintained over the course of the life of the structure. Proper long term performance of the foundation and building pad may be compromised if the surrounding site drainage and grading is adversely modified.

6.1.10 It is recommended that Beacon Geotechnical, Inc. be retained to provide intermittent geotechnical engineering services during site development, grading and foundation construction phases of the work to observe compliance with the design concepts, specifications and recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

6.1.11 Plans and specifications should be provided to Beacon Geotechnical, Inc. prior to grading. Plans should include the grading plans, and foundation details. Structural loads should be shown on the foundation plans.

6.1.12 **Should soils become unstable during grading due to excessive subsurface moisture, alternatives to correct instability may include aeration or the use of gravels and/or geotextiles as stabilizing measures. Recommendations for stabilization should be provided by this firm as needed during construction.**

6.1.13 All water associated with drainage and runoff should not be discharged onto slope faces. All outflow of drainage structures and drainage facilities should be designed by the project Civil Engineer to minimize erosion.

6.2 Specific Site Development, Grading Pads, and Foundation Excavations

6.2.1 Due to the presence of low density soils at shallow bearing depths, overexcavation and recompaction of soils in the building areas (including covered deck areas) will be necessary to decrease the potential for differential settlement and to provide more uniform bearing conditions. Soils should be overexcavated to a depth of three (3) feet below the bottom of the foundation, five (5) feet below existing grade, or 75% of the deepest fill thickness, whichever is greater. Where not otherwise limited by property lines or an adjacent structure, the over-excavation should extend to a distance of five (5) feet beyond the building perimeter. The resulting surface should be scarified to a depth of one (1) foot, moisture conditioned and recompacted to a minimum of 95% of maximum dry density before recompacting the remaining building pad fill in thin lifts. The intent of these recommendations is to provide a minimum of three (3) feet of compacted soils below the bottom of all footings, and recompact the loose topsoil.

Infiltration Testing

Infiltration testing was done on the site in accordance with the City of Santa Barbara standards. Four (4) infiltration borings were drilled with their locations shown on the Site Map in Appendix A. The borings were presaturated and subsequently tested. The resulting infiltration rates are as follows:

Test No.	Depth (Ft.)	Rate (Inch/Hour)
A	5.0'	2.00
B	5.0'	4.00
C	5.0'	2.25
D	5.0'	2.75

We recommend that this infiltration system be designed by a Civil Engineer with adequate experience and knowledge of infiltration system design.

Closure

Other than the current design parameters provided within this addendum and update letter, all other recommendations and specifications of the original geotechnical engineering report should be incorporated into the project.

It is recommended that Beacon Geotechnical, Inc. be retained to provide intermittent geotechnical engineering services during site development, grading, and foundation construction phases of the work to observe compliance with the design concepts, specifications, and recommendations of this report, and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

We have appreciated this opportunity to be of service to you on this project. Please call if you have any questions, or if we can be of further service.

Respectfully submitted,
Beacon Geotechnical, Inc.

Greg McKay
Project Manager

Nicholas A. McClure
Geotechnical Engineer

6.2.2 Due to the groundwater conditions discovered below the building area and in order to help stabilize against the fluctuations of sub-surface moisture changes, prior to recompacting the fill below the building area, the base of the overexcavation should be scarified to a depth of one (1) foot, moisture conditioned and recompacted to a minimum of 95% of maximum dry density before installing a layer of Propex GEOTEX 315ST stabilizer fabric, or equivalent, across the entire pad site.

6.2.3 The stabilizer fabric overlap should be a minimum of three (3) feet. The remaining soils may then be replaced in thin lifts, moisture conditioned, and recompacted to a minimum of 95% of maximum dry density. Care should be taken as not to tear or bunch stabilizer fabric during the soil recompaction process.

6.2.4 **Where the overexcavation runs immediately adjacent to property line, the overexcavation section extending a minimum of five (5) feet away from an existing building or improvement should be constructed in slots and should be recompacted with light-weight compaction equipment (jumping jack or similar). Slot widths shall not be greater than ten (10) feet in order to maintain the stability of the adjacent property.**

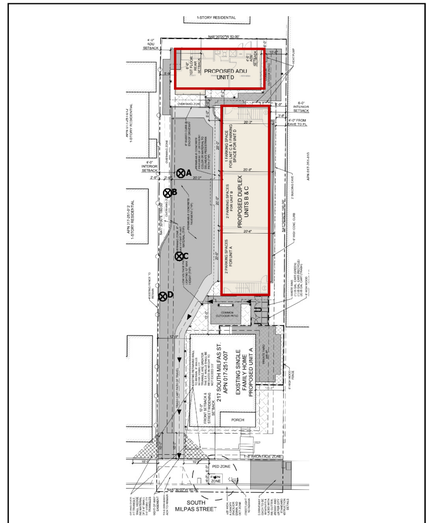
6.2.5 Any excavated material from foundation and septic or drainage systems should be properly recompacted in accordance with all the recommendations for engineered fill. Alternatively, excavated soil may be hauled off site when adequate placement area is not available at the project location.

6.2.6 Areas outside the building area to receive fill, exterior slabs-on-grade, sidewalks and paving should be overexcavated to a depth of one (1) foot below finish subgrade or existing grade whichever is deeper. The exposed surface should be scarified, moisture conditioned and recompacted.

6.2.7 On-site soils may be used for fill once they are cleaned of all organic material, rock, debris and irreducible material larger than eight (8) inches.

6.2.8 Although not encountered in our borings, should any trash, debris or subsurface structures be encountered during grading, removals will be necessary to adequate depths and horizontal limits as recommended by this firm at the time of grading.

6.2.9 Grading inspections shall be performed in accordance with the 2016 California Building Code Table 1705.6. See Appendix B for project specific grading observation requirements.



PROJECT #: F-101974	SITE MAP
BEACON GEOTECHNICAL, INC.	

6.3 Slope Construction

6.3.1 All hillside grading and construction of fill slopes should conform to the minimum standards listed in Chapter 18 of the 2016 California Building Code. It is recommended that a representative of this firm review the grading plans prior to grading and site development.

6.3.2 Fill slopes should be keyed and benched into firm natural ground when the existing slope to receive fill is 10:1, horizontal to vertical, or steeper. The keys should be tilted into the slope, should be a minimum of one equipment width wide, and should extend a minimum of three (3) feet deep at the outside edge.

6.3.3 Fill slopes should be overfilled, compacted and cut back to planned configurations. This will yield better compaction on the slope faces than other methods.

6.3.4 Lined drainage swales and down drains should be provided at the tops of all cut and fill slopes to divert drainage away from the slope faces.

6.3.5 Cut and fill slopes should not be constructed steeper than 2:1 (horizontal to vertical). Setbacks of structures from slopes should be maintained as per the 2016 California Building Code.

6.4 Utility Trenches

6.4.1 Utility trench backfill should be governed by the provisions of this report relating to minimum compaction standards. In general, service lines inside of the property lines may be backfilled with native soils and compacted to a minimum of 90% of maximum dry density. Backfill of offsite service lines will be subject to the specifications of the jurisdictional agency or this report, whichever is more stringent.

6.4.2 A representative of this firm is to monitor compliance with these recommendations.

6.5 Structural Design – Foundations

6.5.1 The proposed structure shall be supported on a mat slab foundation system with turned down perimeter footings bearing on recompacted engineered fill as specified earlier in this report.

6.5.2 The mat slab system may be designed as a beam on elastic foundation utilizing a modulus of subgrade reaction (Kv) of 200 psi per inch and maximum soil bearing pressures of 2200 psf. The structural engineer should design the foundation and reinforcement to span or cantilever over a minimum horizontal distance of three (3) feet.

BEACON
GEOTECHNICAL, INC

December 6, 2018 F-101974

St. George and Associates
831 Cliff Drive, Suite 100
Santa Barbara, CA 93109

Project: Proposed Hotel
217 South Milpas Street
Santa Barbara, California

Subject: Geotechnical Engineering Report

As authorized, we have performed a Geotechnical Study for the above referenced project. The accompanying Geotechnical Engineering Report presents the results of our subsurface exploration, laboratory-testing program and conclusions and recommendations for geotechnical engineering aspects of project design. Our services were performed using the standard of care ordinarily exercised in this locality at the time this report was prepared.

Based on our study, it is our opinion that the site is suitable for the proposed development from a geotechnical engineering standpoint provided the recommendations of this report are successfully implemented.

We have appreciated this opportunity to be of service to you on this project. Please call if you have any questions, or if we can be of further service.

Respectfully submitted,
Beacon Geotechnical, Inc.

Greg McKay
Project Manager

Copies: 3-St. George
1-File

Nicholas A. McClure
Geotechnical Engineer

P.O. Box 4814 • Paso Robles, CA 93447
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6.5.3 For planning purposes, mat foundations are expected to be a minimum of ten-to-twelve (10-12) inches thick with one (1) to two (2) layers of reinforcement as specified by the project engineer of record. The project structural engineer shall be responsible for determining actual foundation thickness as well as reinforcement size and spacing.

6.5.4 At a minimum, turned down footings should be used around the perimeter of the mat slab or within the interior of the building, as needed, to accommodate embedment depths needed for seismic hold down anchorage as well as to resist lateral sliding loads.

6.5.5 All shallow foundations should bear entirely into firm recompacted soils as described earlier in this report.

6.5.6 Turned down footings are assumed to extend a **minimum** of eighteen (18) inches below lowest adjacent grade or the base of the structural slab section, whichever is deeper. The structural engineer of record shall determine the actual footing depth needed to address anchorage conditions and sliding load resistance.

6.5.7 Allowable bearing values are net (weight of footing and soils surcharge may be neglected) and are applicable for dead plus reasonable live loads.

6.5.8 Bearing values may be increased by one-third when transient loads such as wind and/or seismicity are incorporated into designs using the alternate load combinations in 2016 California Building Code Section 1605.3.2.

6.5.9 Lateral loads may be resisted by soils friction on floor slabs and foundations and by passive resistance of the soils acting on foundation stem walls. Lateral capacity is based on the assumption that any required backfill adjacent to foundations and grade beams is properly compacted.

6.5.10 Resistance to lateral loading provided by friction acting on the base of the foundation may be calculated using a coefficient of friction of 0.33 applied to dead load forces. This value does not include a factor of safety.

6.5.11 Resistance to lateral loading provided by passive pressure acting on the sides of the foundation stems may be calculated using a passive pressure of 300 pcf. This value does not include a factor of safety.

6.5.12 Conventional continuous footings for buildings where the ground surface slopes at 10:1, horizontal to vertical, or steeper should be stepped so that both top and bottom are level.

6.5.13 Reinforcement of foundations bottomed in soils in the "Low" expansion range should be designed by the Project Structural Engineer to properly resist the effects of the expansive soil. Additionally, soils should be presaturated to 120% of optimum moisture content to a depth of twenty-one (21) inches below lowest adjacent grade.

6.5.14 Foundation excavations should be observed by a representative of Beacon Geotechnical, Inc. after excavation, but prior to placing reinforcing steel or forms.

6.6 Structural Design – Settlement Considerations

6.6.1 Maximum expected settlements of approximately 1 inch are anticipated for shallow foundations designed as recommended.

6.6.2 Differential settlement between adjacent load bearing members should be less than one-half the total settlement.

6.6.3 The majority of settlement should occur during construction. Post construction non-seismically settlement should be minimal.

6.7 Structural Design – Retaining Walls

6.7.1 Currently, due to relatively level lot conditions, retaining walls are not assumed to be present for the proposed development. Additional design parameters and construction recommendations may be provided, upon request, if retaining walls are incorporated into the project.

7 REFERENCES CITED

USGS, Online, Geologic Hazards Science Center, United States Geological Society, in Cooperation with California Geological Society (CGS), www.geohazards.usgs.gov/qfaults/ca/California.php

8 ADDITIONAL SERVICES

This report is based on the assumption that an adequate program of monitoring and testing will be performed by Beacon Geotechnical, Inc. during construction to check compliance with the recommendations given in this report. The recommended tests and observations include, but are not necessarily limited to the following:

8.1 Review of the building and grading plans during the design phase of the project.

8.2 Observation and testing during site preparation, grading, placing of engineered fill, and foundation construction.

8.3 Consultation as required during construction.

ON DESIGN LLC
Architecture
Planning
Interior Design
Keith Nolan
C -22541

ON design LLC
• P.O. BOX 598 • Santa Barbara • California • 93102 •

217 SOUTH MIPLAS DUPLEX & ADU
217 S. MILPAS ST. , SANTA BARBARA, CA
SOILS REPORT

LICENSED ARCHITECT KEITH SAMUEL NOLAN C-22451 RENEWAL 08/31/2025 STATE OF CALIFORNIA

Revision Schedule

Project Manager
Designer
Scale
PrintDate
4/22/2024 10:46:43 AM

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2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

Y	N/A	RESPON. PARTY

CHAPTER 3
GREEN BUILDING

SECTION 301 GENERAL

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant 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 a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

ABBREVIATION DEFINITIONS:

HCD	Department of Housing and Community Development
BSC	California Building Standards Commission
DSA-SS	Division of the State Architect, Structural Safety
OSHPD	Office of Statewide Health Planning and Development
LR	Low Rise
HR	High Rise
AA	Additions and Alterations
N	New

CHAPTER 4
RESIDENTIAL MANDATORY MEASURES

DIVISION 4.1 PLANNING AND DESIGN

SECTION 4.102 DEFINITIONS

4.102.1 DEFINITIONS
The following terms are defined in Chapter 2 *(and are included here for reference)*

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.

WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls.

4.106 SITE DEVELOPMENT

4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.

4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.

1. Retention basins of sufficient size shall be utilized to retain storm water on the site.
2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
3. Compliance with a lawfully enacted storm water management ordinance.

Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil.

(Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html)

4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

1. Swales
2. Water collection and disposal systems
3. French drains
4. Water retention gardens
5. Other water measures which keep surface water away from buildings and aid in groundwater recharge.

Exception: Additions and alterations not altering the drainage path.

4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.4.1, 4.106.4.2, or 4.106.4.3 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code*, Article 625.

Exceptions:
1. On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
   - 1.1 Where there is no commercial power supply.
   - 1.2 Where there is evidence substantiating that meeting the requirements will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the homeowner or the developer by more than $400.00 per dwelling unit.
2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.

4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

4.106.4.2 New multifamily dwellings. If residential parking is available, ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.

Notes:
1. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.
2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

4.106.4.2.1 Electric vehicle charging space (EV space) locations. Construction documents shall indicate the location of proposed EV spaces. Where common use parking is provided at least one EV space shall be located in the common use parking area and shall be available for use by all residents.

4.106.4.2.1.1 Electric Vehicle Charging Stations (EVCS) When EV chargers are installed, EV spaces required by Section 4.106.2.2, Item 3, shall comply with at least one of the following options:

1. The EV space shall be located adjacent to an accessible parking space meeting the requirements of the *California Building Code*, Chapter 11A, to allow use of the EV charger from the accessible parking space.
2. The EV space shall be located on an accessible route, as defined in the *California Building Code*, Chapter 2, to the building.

Exception: Electric vehicle charging stations designed and constructed in compliance with the *California Building Code*, Chapter 11B, are not required to comply with Section 4.106.4.2.1.1 and Section 4.106.4.2.2, Item 3.

Note: Electric Vehicle charging stations serving public housing are required to comply with the *California Building Code*, Chapter 11B.

4.106.4.2.2 Electric vehicle charging space (EV space) dimensions. The EV space shall be designed to comply with the following:

1. The minimum length of each EV space shall be 18 feet (5486 mm).
2. The minimum width of each EV space shall be 9 feet (2743 mm).
3. One in every 25 EV spaces, but not less than one EV space, shall have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).
   a. Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

4.106.4.2.3 Single EV space required. Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. Construction documents shall identify the raceway termination point. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

4.106.4.2.4 Multiple EV spaces required. Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics and electrical load calculations to verify that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.

4.106.4.2.5 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the *California Electrical Code.*

4.106.4.3 New hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV spaces.

Notes:

1. Construction documents are intended to demonstrate the project's capability and capacity or facilitating future EV charging.
2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

4.106.4.3.1 Number of required EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.

TABLE 4.106.4.3.1

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED EV SPACES
0-9	0
10-25	1
26-50	2
51-75	4
76-100	5
101-150	7
151-200	10
201 and over	6 percent of total

4.106.4.3.2 Electric vehicle charging space (EV space) dimensions. The EV spaces shall be designed to comply with the following:

1. The minimum length of each EV space shall be 18 feet (5486mm).
2. The minimum width of each EV space shall be 9 feet (2743mm)

4.106.4.3.3 Single EV space required. When a single EV space is required, the EV space shall be designed in accordance with Section 4.106.4.2.3.

4.106.4.3.4 Multiple EV spaces required. When multiple EV spaces are required, the EV spaces shall be designed in accordance with Section 4.106.4.2.4.

4.106.4.3.5 Identification. The service panels or sub-panels shall be identified in accordance with Section 4.106.4.2.5.

4.106.4.3.6 Accessible EV spaces. In addition to the requirements in Section 4.106.4.3, EV spaces for hotels/motels and all EVSE, when installed, shall comply with the accessibility provisions for the EV charging stations in the *California Building Code*, Chapter 11B.

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL

4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303 INDOOR WATER USE

4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.4.4.

Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

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.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.

4.303.1.3 Showerheads.

4.303.1.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only allow one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.

4.303.1.4 Faucets.

4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.

4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.

4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

4.303.2 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code*.

NOTE:
THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND
IS INCLUDED AS A CONVENIENCE FOR THE USER.

TABLE - MAXIMUM FIXTURE WATER USE

FIXTURE TYPE	FLOW RATE
SHOWER HEADS (RESIDENTIAL)	1.8 GMP @ 80 PSI
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI
METERING FAUCETS	0.2 GAL/CYCLE
WATER CLOSET	1.28 GAL/FLUSH
URINALS	0.125 GAL/FLUSH

4.304 OUTDOOR WATER USE

4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

NOTES:

1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the *California Code Regulations*, Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are available at: https://www.water.ca.gov/

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.

Exceptions:

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.
3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.

1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
3. Identify diversion facilities where the construction and demolition waste material collected will be taken.
4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.

Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

4.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4..

Notes:

1. Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section.
2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

4.410 BUILDING MAINTENANCE AND OPERATION

4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
2. Operation and maintenance instructions for the following:
   a. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.
   b. Roof and yard drainage, including gutters and downspouts.
   c. Space conditioning systems, including condensers and air filters.
   d. Landscape irrigation systems.
   e. Water reuse systems.
3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
4. Public transportation and/or carpool options available in the area.
5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
6. Information about water-conserving landscape and irrigation design and controllers which conserve water.
7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
9. Information about state solar energy and incentive programs available.
10. A copy of all special inspections verifications required by the enforcing agency or this code.

4.410.2 RECYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are note required to comply with the organic waste portion of this section.

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

4.501.1 Scope
The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors.

SECTION 4.502 DEFINITIONS

5.102.1 DEFINITIONS
The following terms are defined in Chapter 2 *(and are included here for reference)*

AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section 93120.1.

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

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GREEN BUILDING STANDARDS

REGISTERED ARCHITECT KEITH SAMUEL NOLAN C-22541 STATE OF CALIFORNIA

Revision Schedule

Project Manager
Designer
Scale
PrintDate
4/17/2024 10:54:52 AM

T-1.5

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2020, Includes August 2019 Supplement)

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O^3/g ROC).
Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94701.

MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).
Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

VOC. A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).

4.503 FIREPLACES

4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.

4.504 POLLUTANT CONTROL

4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system.

4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.

4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below.
2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with section 94507.

4.504.2.2 Paints and Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.

4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

1. Manufacturer's product specification.
2. Field verification of on-site product containers.

TABLE 4.504.1 - ADHESIVE VOC LIMIT[1,2]

(Less Water and Less Exempt Compounds in Grams per Liter)

ARCHITECTURAL APPLICATIONS	VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVE	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

TABLE 4.504.2 - SEALANT VOC LIMIT

(Less Water and Less Exempt Compounds in Grams per Liter)

SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS[1]	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

TABLE 4.504.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD[2]	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)

4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the testing and product requirements of at least one of the following:

1. Carpet and Rug Institute's Green Label Plus Program.
2. 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).
3. NSF/ANSI 140 at the Gold level.
4. Scientific Certifications Systems Indoor Advantage™ Gold.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.

4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.

4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed , at least 80% of floor area receiving resilient flooring shall comply with one or more 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 under 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).

4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5

4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

1. Product certifications and specifications.
2. Chain of custody certifications.
3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards.
5. Other methods acceptable to the enforcing agency.

4.505 INTERIOR MOISTURE CONTROL

4.505.1 General. Buildings shall meet or exceed the provisions of the *California Building Standards Code*.

4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.

4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:

1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.
2. Other equivalent methods approved by the enforcing agency.
3. A slab design specified by a licensed design professional.

4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:

1. Moisture content shall be determined with either a probe-type or contact-type moisture meter.Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.
2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified.
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.

4.506 INDOOR AIR QUALITY AND EXHAUST

4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.
   a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment.
   b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)

Notes:

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.
2. Lighting integral to bathroom exhaust fans shall comply with the *California Energy Code*.

4.507 ENVIRONMENTAL COMFORT

4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:

1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.
2. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.
3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS

702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

1. State certified apprenticeship programs.
2. Public utility training programs.
3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
4. Programs sponsored by manufacturing organizations.
5. Other programs acceptable to the enforcing agency.

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

1. Certification by a national or regional green building program or standard publisher.
2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
3. Successful completion of a third party apprentice training program in the appropriate trade.
4. Other programs acceptable to the enforcing agency.

Notes:

1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS

703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

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Revision Schedule

Project Manager
Designer
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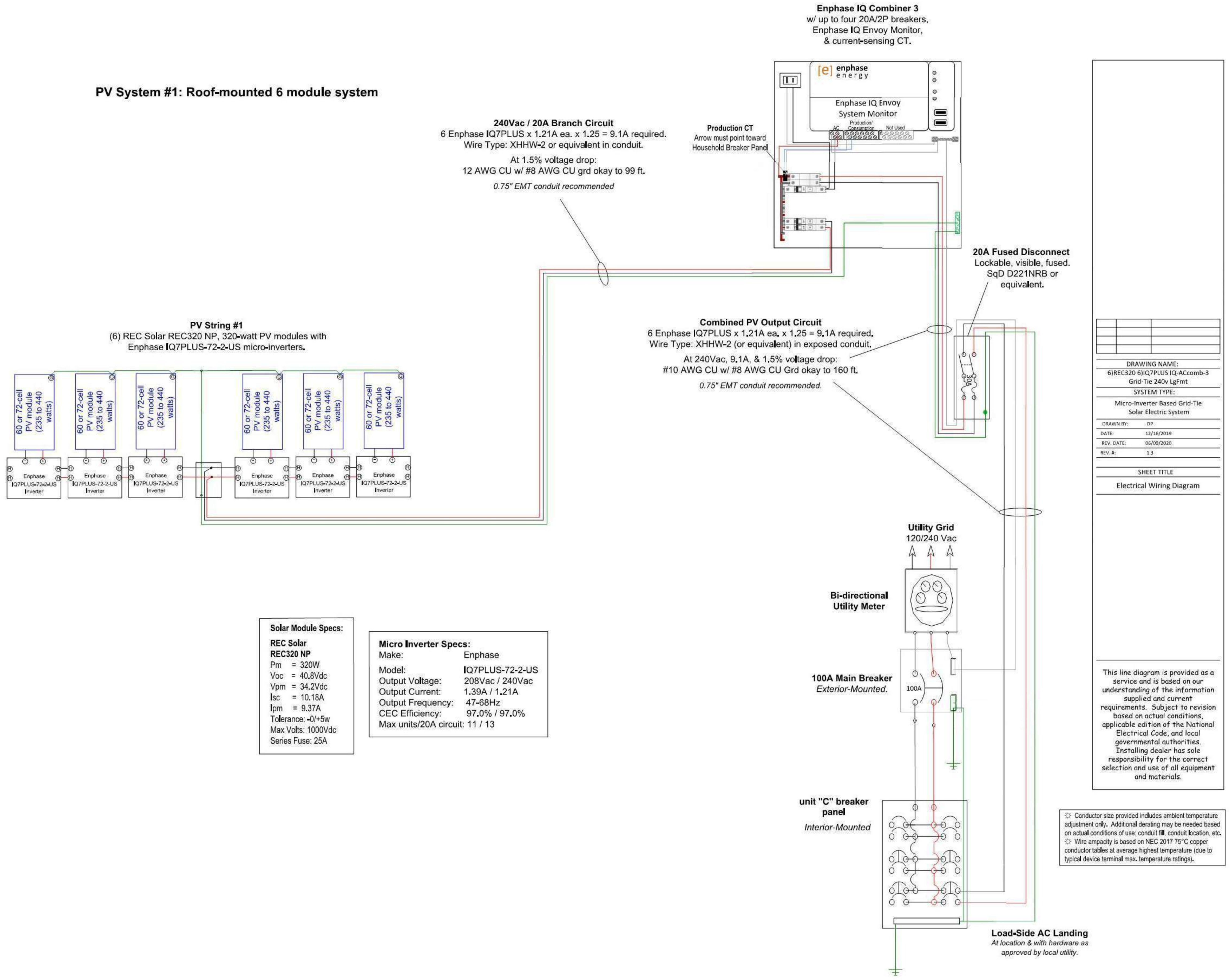
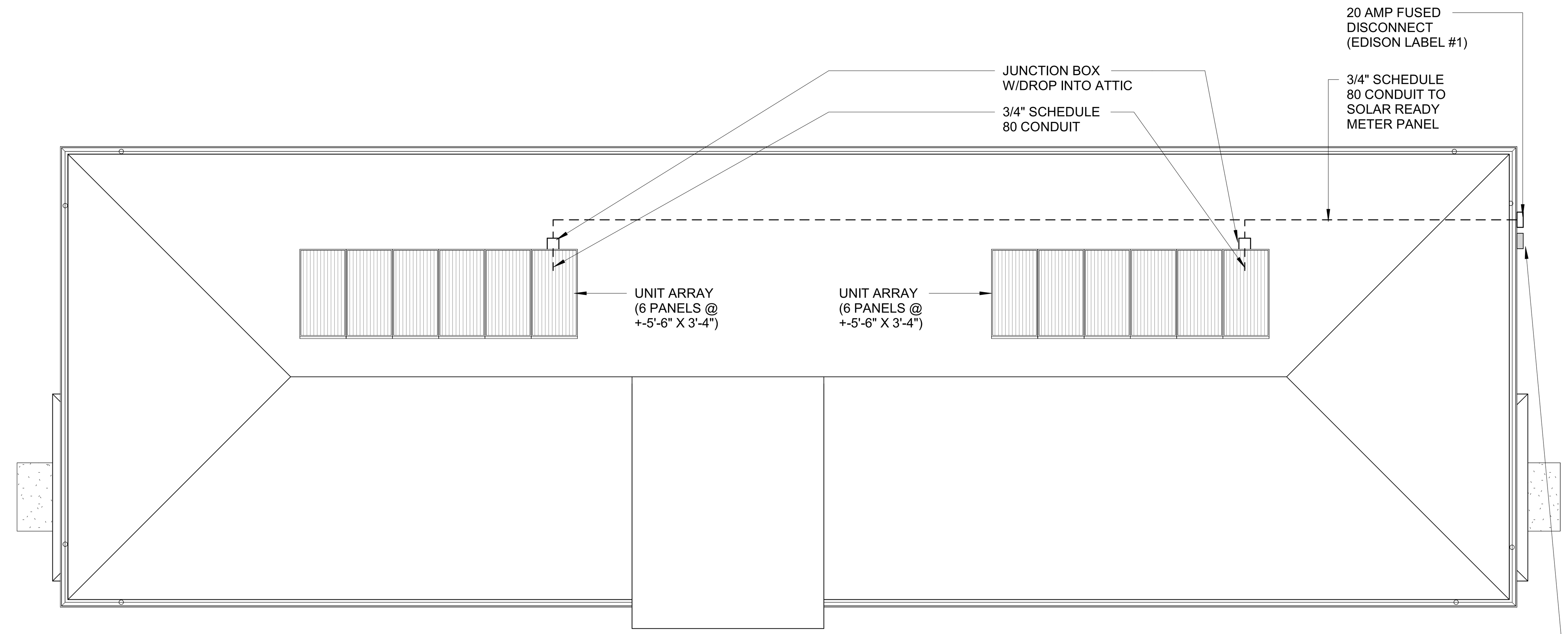
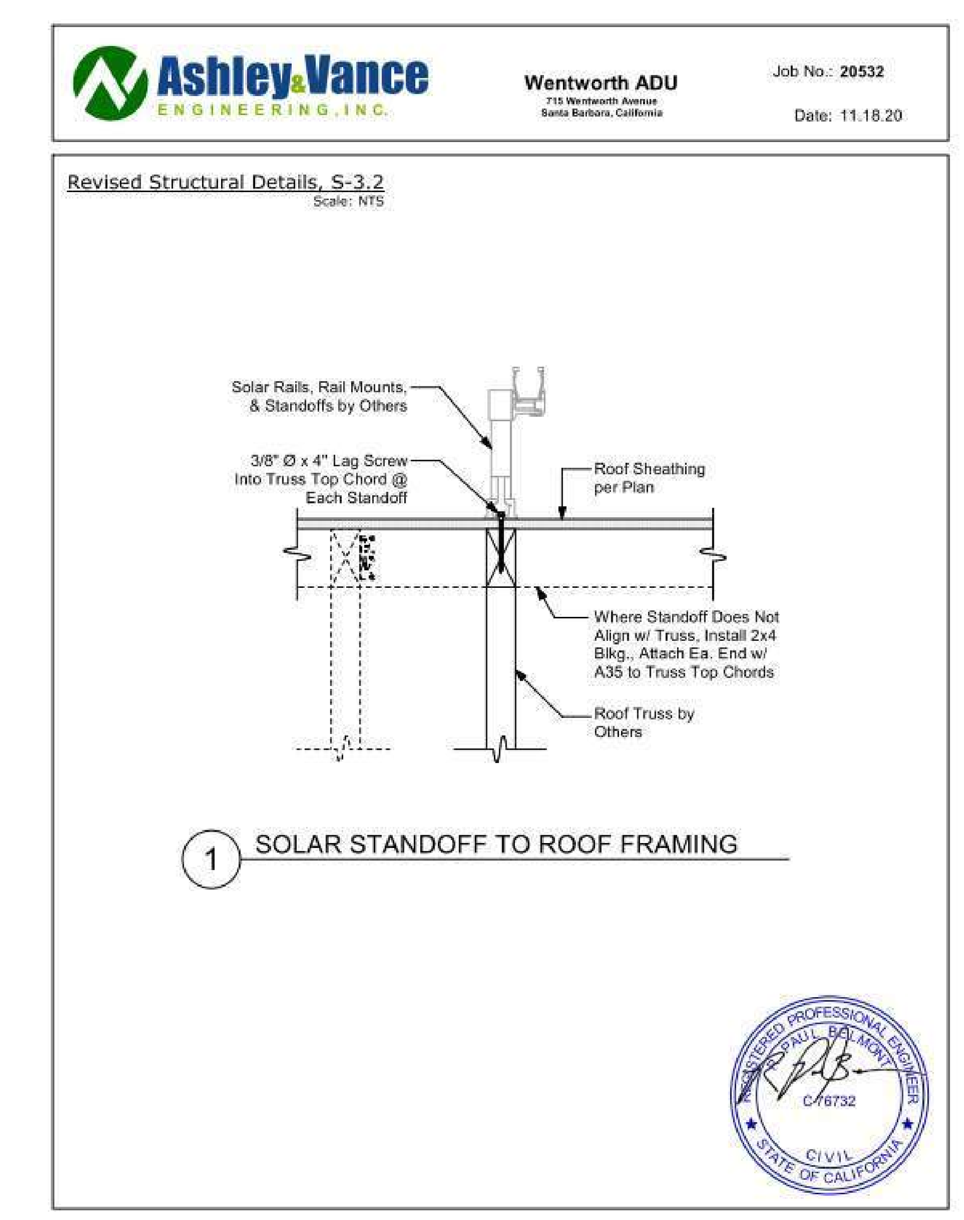
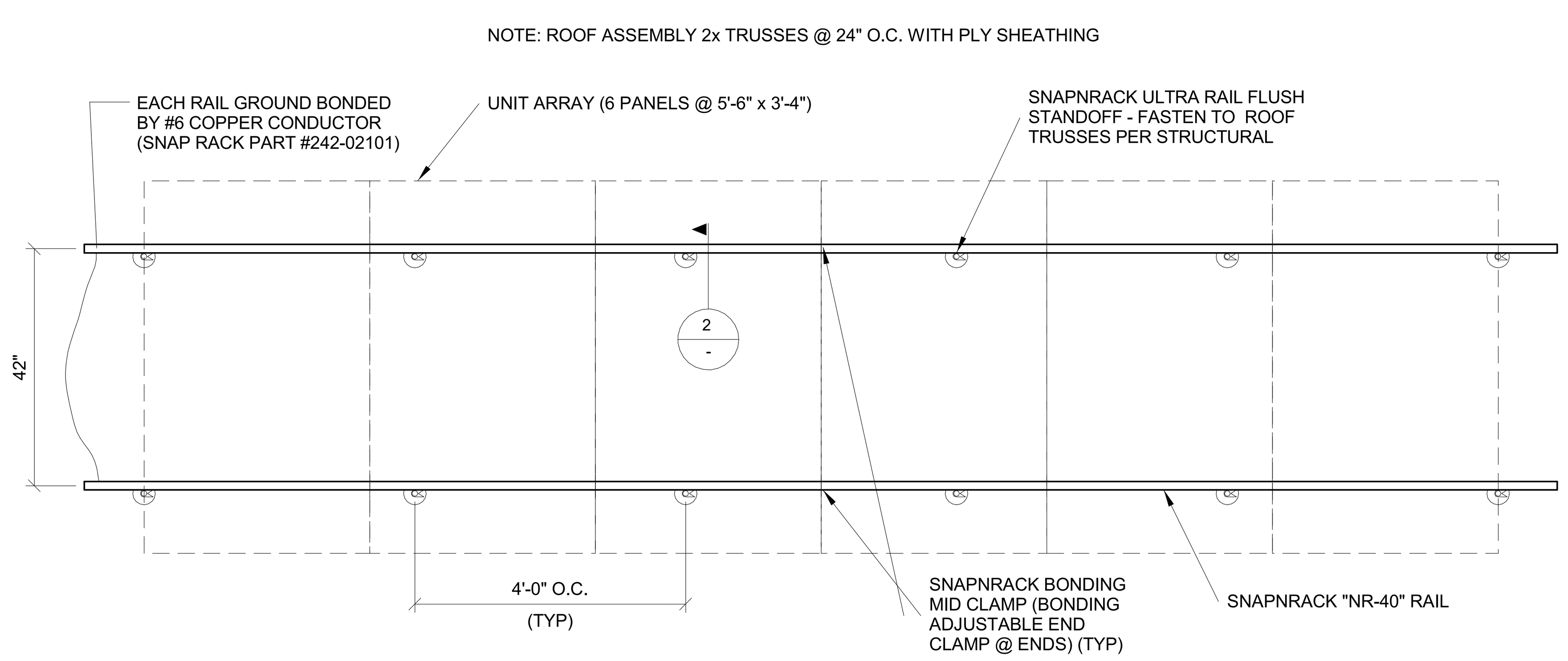

Enphase IQ Combiner 3
w/ up to four 20A/2P breakers,
Enphase IQ Envoy Monitor,
& current-sensing CT.
PV System #1: Roof-mounted 6 module system
240Vac / 20A Branch Circuit
6 Enphase IQ7PLUS x 1.21A ea. x 1.25 = 9.1A required.
Wire Type: XHHW-2 or equivalent in conduit.
At 1.5% voltage drop:
12 AWG CU w/ #8 AWG CU grd okay to 99 ft.
0.75" EMT conduit recommended
Production CT
Enphase IQ Envoy System Monitor
20A Fused Disconnect
Lockable, visible, fused.
SqD D221NRB or equivalent.
PV String #1
(6) REC Solar REC320 NP, 320-watt PV modules with
Enphase IQ7PLUS-72-2-US micro-inverters.
Combined PV Output Circuit
6 Enphase IQ7PLUS x 1.21A ea. x 1.25 = 9.1A required.
Wire Type: XHHW-2 (or equivalent) in exposed conduit.
At 240Vac, 9.1A, & 1.5% voltage drop:
#10 AWG CU w/ #8 AWG CU Grd okay to 160 ft.
0.75" EMT conduit recommended.
Utility Grid
120/240 Vac
Bi-directional
Utility Meter
100A Main Breaker
Exterior-Mounted.
unit "C" breaker
panel
Interior-Mounted
Load-Side AC Landing
At location & with hardware as
approved by local utility.
Solar Module Specs:
REC Solar
REC320 NP
Pm = 320W
Voc = 40.8Vdc
Vpm = 34.2Vdc
Isc = 10.18A
Ipm = 9.37A
Tolerance: -0/+5w
Max Volts: 1000Vdc
Series Fuse: 25A
Micro Inverter Specs:
Make: Enphase
Model: IQ7PLUS-72-2-US
Output Voltage: 208Vac / 240Vac
Output Current: 1.39A / 1.21A
Output Frequency: 47-68Hz
CEC Efficiency: 97.0% / 97.0%
Max units/20A circuit: 11 / 13
DRAWING NAME:
SYSTEM TYPE:
Micro-Inverter Based Grid-Tie Solar Electric System
SHEET TITLE
Electrical Wiring Diagram
This line diagram is provided as a service and is based on our understanding of the information supplied and current requirements. Subject to revision based on actual conditions, applicable edition of the National Electrical Code, and local governmental authorities. Installing dealer has sole responsibility for the correct selection and use of all equipment and materials.


20 AMP FUSED
DISCONNECT
(EDISON LABEL #1)
JUNCTION BOX
W/DROP INTO ATTIC
3/4" SCHEDULE
80 CONDUIT
3/4" SCHEDULE
80 CONDUIT TO
SOLAR READY
METER PANEL
UNIT ARRAY
(6 PANELS @
+-5'-6" X 3'-4")
UNIT ARRAY
(6 PANELS @
+-5'-6" X 3'-4")
EATON (OR EQUAL) SOLAR POWER CENTER
LOADCENTER (EXTERIOR SURFACE MOUNT) -
32 CIRCUIT MAX. MAIN BREAKER 100 AMP,
BUS RATING 225 AMP, MAX PV INPUT 70 AMP
(EDISON LABEL #2)

SOLAR PLAN

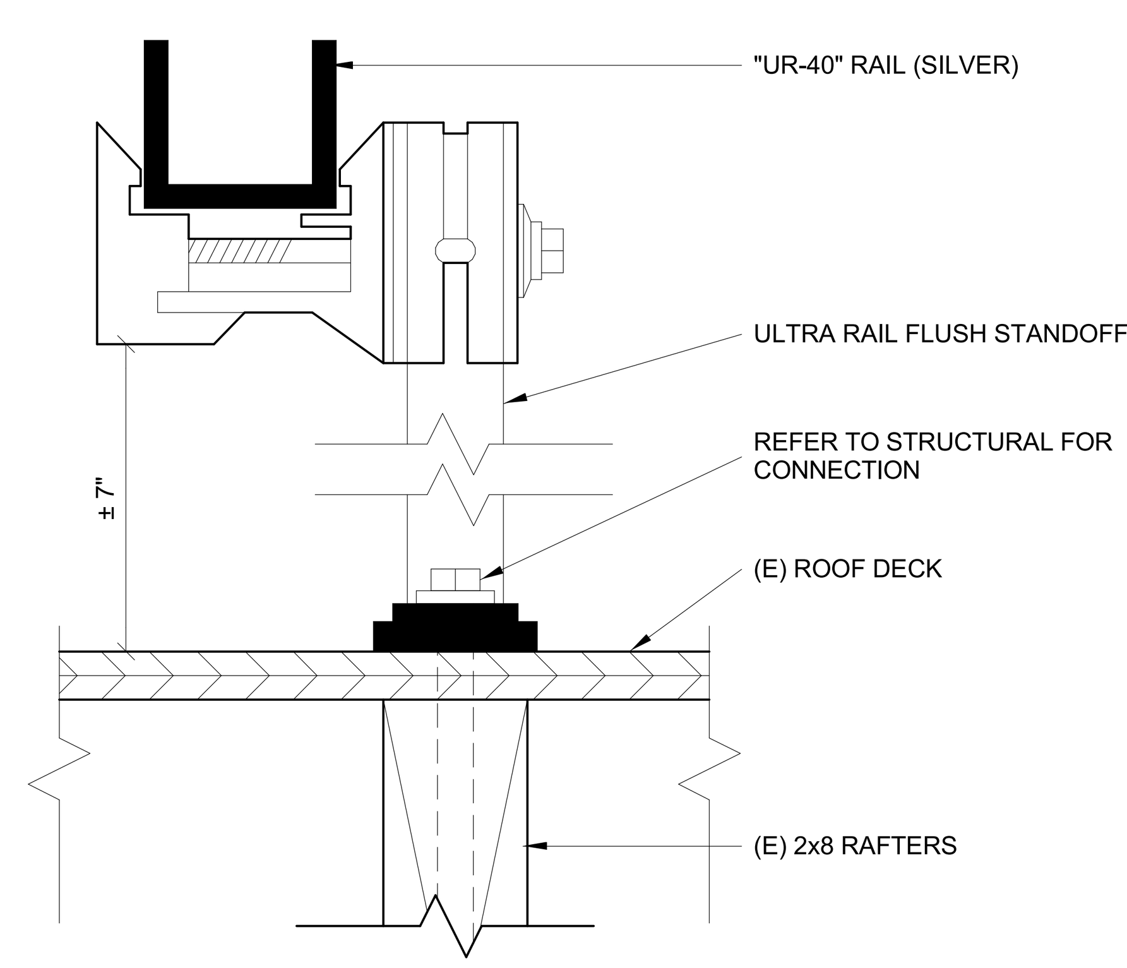
3/16" = 1'-0"




NOTE: ROOF ASSEMBLY 2x TRUSSES @ 24" O.C. WITH PLY SHEATHING
EACH RAIL GROUND BONDED
BY #6 COPPER CONDUCTOR
(SNAP RACK PART #242-02101)
UNIT ARRAY (6 PANELS @ 5'-6" x 3'-4")
SNAPNRACK ULTRA RAIL FLUSH
STANDOFF - FASTEN TO ROOF
TRUSSES PER STRUCTURAL
42"
4'-0" O.C.
(TYP)
SNAPNRACK BONDING
MID CLAMP (BONDING
ADJUSTABLE END
CLAMP @ ENDS) (TYP)
SNAPNRACK "NR-40" RAIL

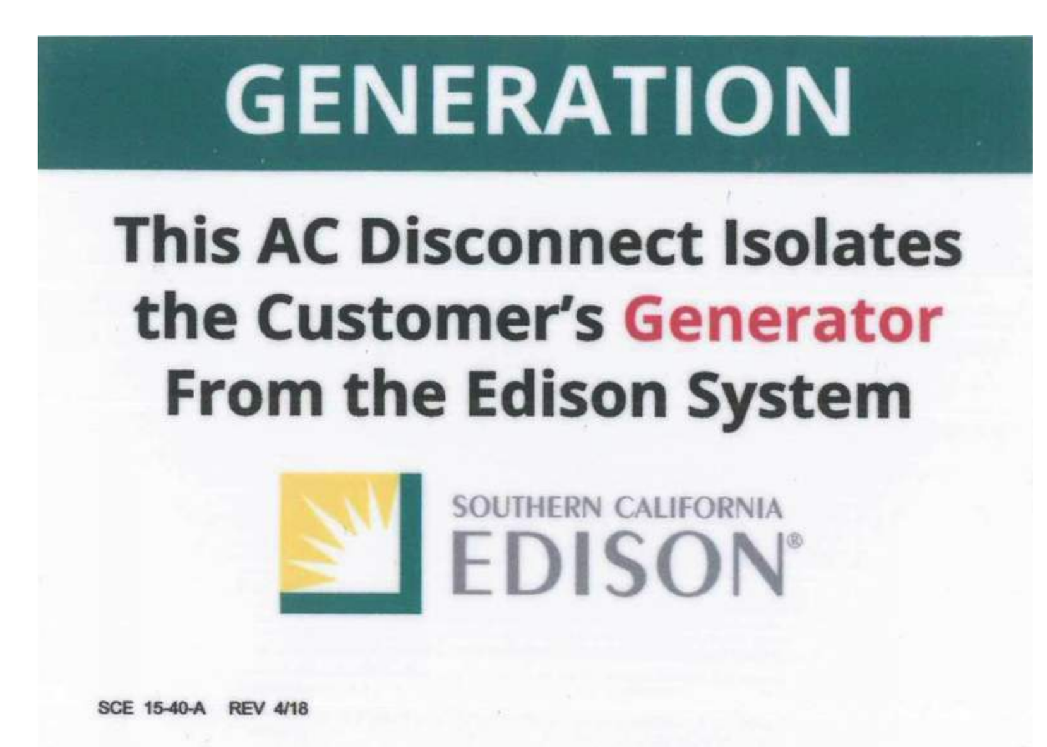
1 PANEL ATTACHMENT LAYOUT

1/2" = 1'-0"



2 RAIL ATTACHMENT

6" = 1'-0"



3 EDISON LABEL #1

1 1/2" = 1'-0"

4 EDISON LABEL #2

1 1/2" = 1'-0"

ON DESIGN, LLC
Architecture
Planning
Interior Design
Keith Nolan
C -22541

ON designLLC
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217 SOUTH MIPLAS DUPLEX & ADU
217 S. MILPAS ST. , SANTA BARBARA, CA

DUPLEX SOLAR PLAN, LINE DIAGRAM,DETAILS

Revision Schedule

Project Manager	Designer
Scale	As indicated
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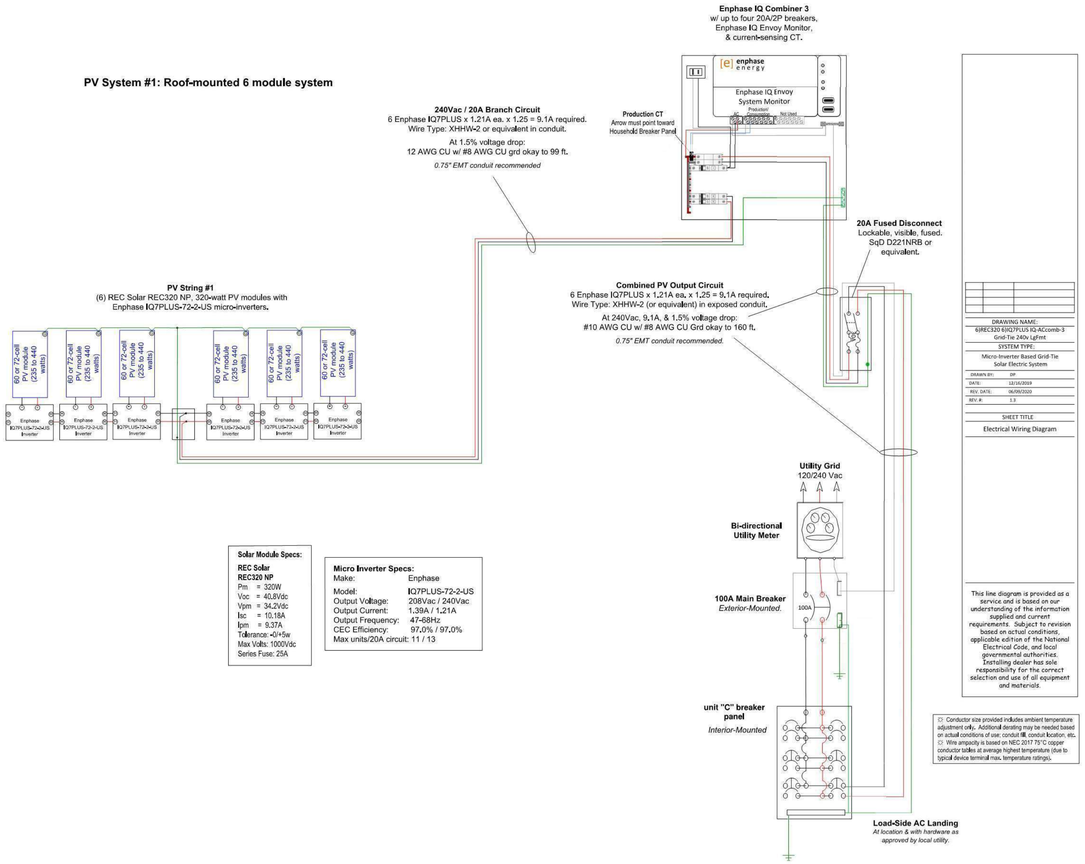
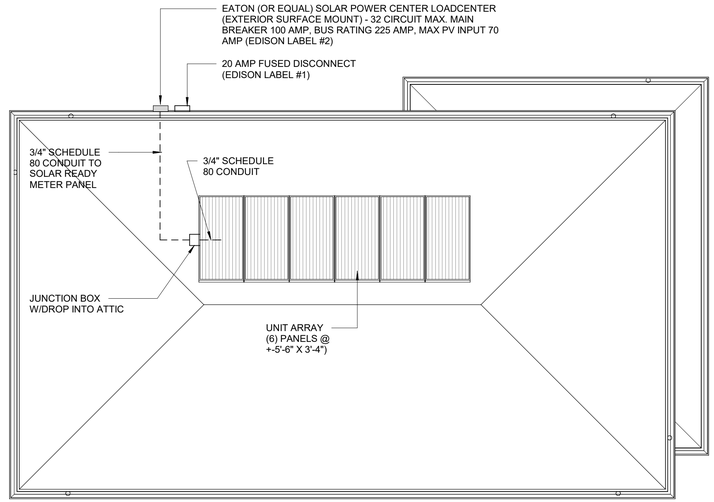
PV System #1: Roof-mounted 6 module system



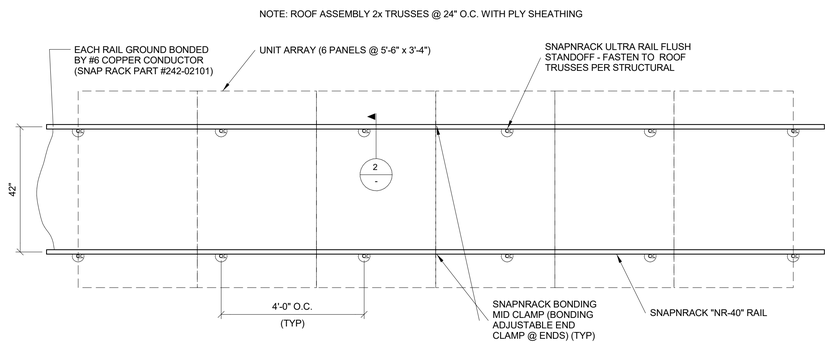
Solar Module Specs:

REC Solar
REC320 NP
Pm = 320W
Voc = 40.8Vdc
Vpm = 34.2Vdc
Isc = 10.18A
Ipm = 9.37A
Tolerance: -0/+5w
Max Volts: 1000Vdc
Series Fuse: 25A

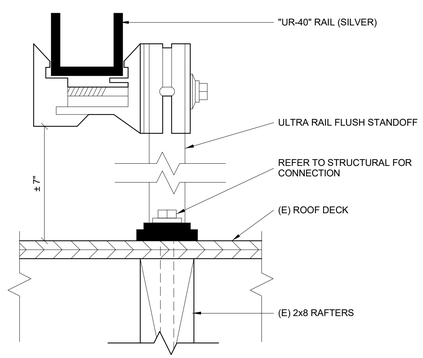
Micro Inverter Specs:
Make: Enphase
Model: IQ7PLUS-72-2-US
Output Voltage: 208Vac / 240Vac
Output Current: 1.39A / 1.21A
Output Frequency: 47-68Hz
CEC Efficiency: 97.0% / 97.0%
Max units/20A circuit: 11 / 13



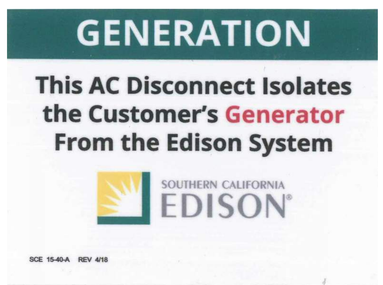
SOLAR PLAN
1/4" = 1'-0"



1 PANEL ATTACHMENT LAYOUT
1/2" = 1'-0"



2 RAIL ATTACHMENT
6" = 1'-0"

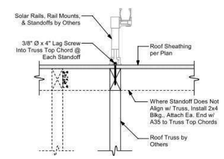


3 EDISON LABEL #1
1 1/2" = 1'-0"

4 EDISON LABEL #2
1 1/2" = 1'-0"

Ashley & Vance ENGINEERING, INC.
Wentworth ADU
116 Wentworth Avenue
Santa Barbara, California
Job No.: 20532
Date: 11.18.20

Revised Structural Details, S-3.2
Scale: N.T.S.



1 SOLAR STANDOFF TO ROOF FRAMING

ON DESIGN,LLC
Architecture
Planning
Interior Design
Keith Nolan
C -22541

ON designLLC
• P.O. BOX 598 • Santa Barbara • California • 93102 •

217 SOUTH MIPLAS ADU
217 S. MILPAS ST. , SANTA BARBARA, CA
ADU SOLAR PLAN, LINE DIAGRAM,DETAILS

Revision Schedule

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Scale
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City of Santa Barbara
California

CITY OF SANTA BARBARA STAFF HEARING OFFICER

RESOLUTION NO. 010-24
217 S. MILPAS STREET
COASTAL DEVELOPMENT PERMIT
FEBRUARY 21, 2024

217 S. MILPAS STREET

Assessor's Parcel Number: 017-251-007
Zoning Designation: C-2/S-D-3 (Commercial/Coastal Overlay)
Application Number: PLN2022-00305, Filing Date: August 12, 2022
Applicant: ON Design Architects
Owners: Ed St. George

Proposal to construct a new two-story duplex over a new six-car carport and convert the existing four-car garage into a three-bedroom Accessory Dwelling Unit (ADU). Conversion of the garage to an ADU will abate the remaining violation of ENF2016-00756. This project is providing one replacement housing unit for the proposed hotel project at 302 W Montecito Street (PLN2016-00426 and PC Resolution 20-017).

The discretionary application under the jurisdiction of the Staff Hearing Officer at this hearing is:

A. A Coastal Development Permit to allow the proposed development in the Non-Appealable Jurisdiction of the City's Coastal Zone (SBMC §28.44.060).

Staff determined that the project qualifies for an exemption from further environmental review under Section 15303 [New Construction or Conversion of Small Structures Facilities] of the California Environmental Quality Act (CEQA) Guidelines, which allows for construction of limited numbers of new structures, including multi-family residential structures designed for up to six dwelling units.

WHEREAS, the Staff Hearing Officer has held the required public hearing on the above application, and the Applicant was present.

WHEREAS, no one appeared to speak, and the following exhibits were presented for the record:

1. Staff Report with Attachments, Wednesday, February 14, 2024.
2. Site Plans

NOW, THEREFORE BE IT RESOLVED that the City Staff Hearing Officer:

I. Approved the subject application, making the following findings and determinations:

A. ENVIRONMENTAL REVIEW (CEQA GUIDELINES AND SBMC CH. 22.100)

The project is exempt from further environmental review under Section 15303 [New Construction or Conversion of Small Structures Facilities] of the California Environmental Quality Act (CEQA) Guidelines, which allows for construction of limited numbers of new structures, including multi-family residential structures designed for up to six dwelling units.

No significant project-specific or cumulative environmental impacts are expected as a result of the project. The project does not have the potential to damage scenic highways or historic resources, and the project site is not identified as a hazardous waste site. Therefore, none of the exceptions to the exemption (per Guidelines Section 15300.2) apply.

B. COASTAL DEVELOPMENT PERMIT (SBMC §28.44.150)

1. The project is consistent with the policies of the California Coastal Act, as described in Section D of the Staff Report dated February 12, 2024.
2. The project is consistent with all applicable policies of the City's Local Coastal Plan, all applicable implementing guidelines, and all applicable provisions of the Code, as described in Section D of the Staff Report dated February 12, 2024.

II. Said approval is subject to the following conditions:

In consideration of the project approval granted by the Staff Hearing Officer and for the benefit of the owners and occupants of the Real Property, the owners and occupants of adjacent real property and the public generally, the following terms and conditions are imposed on the use, possession, and enjoyment of the Real Property:

A. **Order of Development.** In order to accomplish the proposed development, the following steps shall occur in the order identified:

1. Obtain all required design review approvals.
2. Submit an application for and obtain a Building Permit (BLD) to demolish any structures / improvements and/or perform rough grading. Comply with condition E "Construction Implementation Requirements."
3. Record any required documents (see Recorded Conditions Agreement section).
4. Permits.
   a. Submit an application for and obtain a Building Permit (BLD) for construction of approved development and complete said development.
   b. Submit an application for and obtain a Public Works Permit (PBW) for all required public improvements and complete said improvements.

Details on implementation of these steps are provided throughout the conditions of approval.

B. **Recorded Conditions Agreement.** The Owner shall execute a *written instrument*, which shall be prepared by Planning staff, reviewed as to form and content by the City Attorney and Community Development Director, recorded in the Office of the County Recorder, and shall include the following:

1. **Approved Development.** The development of the Real Property approved by the Staff Hearing Officer on February 21, 2024 is limited to the construction of a 2,926 square foot two unit duplex and a 1,100 square foot Accessory Dwelling Unit and upgrades to the 1,405 square foot existing Single Family Dwelling Unit, as described in the Applicant Letter dated January 15, 2024 and as shown on the plans signed by the Staff Hearing Officer on said date and on file at the City of Santa Barbara.
2. **Uninterrupted Water Flow.** The Owner shall allow for the continuation of any historic flow of water onto the Real Property including, but not limited to, swales, natural watercourses, conduits and any access road, as appropriate.
3. **Landscape Plan Compliance.** The Owner shall comply with the Landscape Plan approved by the Architectural Board of Review. Such plan shall not be modified unless prior written approval is obtained from the ABR. The landscaping on the Real Property shall be provided and maintained in accordance with said landscape plan, including any tree protection measures. If said landscaping is removed for any reason without approval by the ABR the owner is responsible for its immediate replacement.
4. **Storm Water Pollution Control and Drainage Systems Maintenance.** Owner shall maintain the drainage system and storm water pollution control devices in a functioning state and in accordance with the Storm Water BMP Guidance Manual and Operations and Maintenance Procedure Plan approved by the Creeks Division. Should any of the project's surface or subsurface drainage structures or storm water pollution control methods fail to capture, infiltrate, and/or treat water, or result in increased erosion, the Owner shall be responsible for any necessary repairs to the system and restoration of the eroded area. Should repairs or restoration become necessary, prior to the commencement of such repair or restoration work, the Owner shall submit a repair and restoration plan to the Community Development Director to determine if an amendment or a new Building Permit and Coastal Development Permit is required to authorize such work. The Owner is responsible for the adequacy of any project-related drainage facilities and for the continued maintenance thereof in a manner that will preclude any hazard to life, health, or damage to the Real Property or any adjoining property.
5. **Accessory Dwelling Unit Restrictions**. The Accessory Dwelling Unit shall remain at all times consistent with the City's Ordinance requirements.
6. **Common Area Maintenance.** All common/shared areas shall be kept open, available and maintained in the manner in which it was designed and permitted.
7. **Areas Available for Parking.** All parking areas and access thereto shall be kept open and available in the manner in which it was designed and permitted.

C. **Design Review.** The project, including public improvements, is subject to the review and approval of the Architectural Board of Review (ABR). The ABR shall not grant project design approval until the following Staff Hearing Officer land use conditions have been satisfied.

1. **Screened Backflow Device.** The backflow devices for fire sprinklers, pools, spas and/or irrigation systems shall be provided in a location screened from public view or included in the exterior wall of the building, as approved by the ABR .
2. **Location of Dry Utilities.** Dry utilities (e.g. above-ground cabinets) shall be placed on private property unless deemed infeasible for engineering reasons. If dry utilities must be placed in the public right-of-way, they shall painted "Malaga Green," and if feasible, they shall be screened as approved by the ABR.
3. **Trash Enclosure Provision.** A trash enclosure with adequate area for recycling containers (an area that allows for a minimum of 50 percent of the total capacity for recycling containers) shall be provided on the Real Property and screened from view from surrounding properties and the street.

   Dumpsters and containers with a capacity of 1.5 cubic yards or more shall not be placed within five (5) feet of combustible walls, openings, or roofs, unless protected with fire sprinklers.

D. **Requirements Prior to Permit Issuance.** The Owner shall submit the following, or evidence of completion of the following, for review and approval by the Department listed below prior to the issuance of any permit for the project. Some of these conditions may be waived for demolition or rough grading permits, at the discretion of the department listed. Please note that these conditions are in addition to the standard submittal requirements for each department.

1. **Public Works Department.**
   a. **Approved Public Improvement Plans.** Public Improvement Plans as identified in condition D.1.d "South Milpas Street Public Improvements" shall be submitted to the Public Works Department for review and approval. Upon acceptance of completed public improvement plans, a Building permit may be issued.
   b. **Water Rights Assignment Agreement.** The Owner shall assign to the City of Santa Barbara the exclusive right to extract ground water from under the Real Property in an *Agreement Assigning Water Extraction Rights*. Engineering Division Staff prepares said agreement for the Owner's signature.
   c. **South Milpas Public Improvements.** The Owner shall submit Public Works plans for construction of improvements along the property frontage on South Milpas Street. Plans shall be submitted separately from plans submitted for a Building Permit. As determined by the Public Works Department, the improvements shall include new and/or remove and replace to City standards, the following: 16 linear feet of sidewalk, driveway apron modified to meet Title 24 requirements with a maximum width of 10 feet, 16 linear feet of curb and gutter, 16 linear feet of 3.5 foot wide Parkway Landscaping, crack seal to the centerline of the street along

entire subject property frontage and slurry seal a minimum of 20 feet beyond the limits of all trenching, connection to City water and sewer mains and utilities, public drainage improvements with supporting drainage calculations and/or hydrology report for installation of any proposed drainage pipe, preserve and/or reset survey monuments, protect and relocate existing contractor stamps to parkway, supply and install directional/regulatory traffic control signs per the CA MUTCD during construction, and provide adequate positive drainage from site. Any work in the public right-of-way requires a Public Works Permit.

   d. **Construction-Related Truck Trips.** Construction-related truck trips for trucks with a gross vehicle weight rating of three tons or more shall not be scheduled during peak hours (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) in order to help reduce truck traffic on adjacent streets and roadways.

2. **Community Development Department.**
   a. Prior to Building Permit issuance, on the plans and in the scope of work clearly identify the designated replacement residential unit associated with the conditions of approval of Off-Site Replacement of Residential units under PLN2016-00426 (302 W. Montecito Street).
   b. **Noise Attenuation.** Demonstrate on the plans that the noise attenuation materials and assemblies are consistent with those specified in the noise study prepared for the project by 45dB Acoustics, dated November 22, 2023.
   c. **Recordation of Agreements.** The Owner shall provide evidence of recordation of the written instrument that includes all of the Recorded Conditions identified in condition B "Recorded Conditions Agreement" to the Community Development Department prior to issuance of any building permits.
   d. **Drainage and Water Quality.** The project is required to comply with Tier 3 of the Storm Water BMP Guidance Manual, pursuant to Santa Barbara Municipal Code Chapter 22.87. (treatment, rate and volume). The Owner shall submit a hydrology/ storm water report (drainage calculations) (a hydrology report) (worksheets from the Storm Water BMP Guidance Manual for Post Construction Practices) prepared by a registered civil engineer or licensed architect demonstrating that the new development will comply with the City's Storm Water BMP Guidance Manual. Project plans for grading, drainage, stormwater facilities and treatment methods, and project development, shall be subject to review and approval by the City Building Division and Public Works Department. Sufficient engineered design and adequate measures shall be employed to ensure that no unpermitted construction-related or long-term effects from increased runoff, erosion and sedimentation, urban water pollutants (including, but not limited to trash, hydrocarbons, fertilizers, bacteria, etc.), or groundwater pollutants would result from the project.

For any proprietary treatment devices that are proposed as part of the project's final Storm Water Management Plan, the Owner shall provide an Operations and Maintenance Procedure Plan consistent with the manufacturer's specifications (describing schedules and estimated annual maintenance costs for pollution absorbing filter media replacement, sediment removal, etc.). The Plan shall be reviewed and approved by the Creeks Division for consistency with the Storm Water BMP Guidance Manual and the manufacturer's specifications.

After certificate of occupancy is granted, any proprietary treatment devices installed will be subject to water quality testing by City Staff to ensure they are performing as designed and are operating in compliance with the City's Storm Water MS4 Permit.

   e. **Design Review Requirements.** Plans shall show all design, landscape and tree protection elements, as approved by the appropriate design review board and as outlined in Section C "Design Review," and all elements/specifications shall be implemented on-site.
   f. **Conditions on Plans/Signatures.** The final Resolution shall be provided on a full-size drawing sheet as part of the drawing sets. The following statement shall be signed prior to issuance of and permits: The undersigned have read and understand the required conditions and agree to abide by any and all conditions which are their usual and customary responsibility to perform, and which are within their authority to perform.

   Signed:

   _____
   Property Owner Date

   _____
   Contractor Date License No.

   _____
   Architect Date License No.

   _____
   Engineer Date License No.

E. **Construction Implementation Requirements.** All of these construction requirements shall be carried out in the field by the Owner and/or Contractor for the duration of the project construction, including demolition and grading.

1. **Construction Contact Sign.** Immediately after Building permit issuance, signage shall be posted at the points of entry to the site that list the contractor(s) telephone number(s), construction work hours, site rules, and construction-related conditions, to assist Building Inspectors and Police Officers in the enforcement of the conditions of approval. Said sign shall not exceed six feet in height from the ground if it is free-standing or placed on a fence. It shall not exceed 24 square feet if in a multi-family or commercial zone or six square feet if in a single family zone.

2. **Construction Storage/Staging.** Construction vehicle/ equipment/ materials storage and staging shall be done on-site. No parking or storage shall be permitted within the public right-of-way, unless specifically permitted by the Public Works Director with a Public Works permit.
3. **Air Quality and Dust Control.** The following measures shall be shown on grading and building plans and shall be adhered to throughout grading, hauling, and construction activities:
   a. During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.
   b. Minimize the amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.
   c. If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
   d. Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.
   e. After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.
   f. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to land use clearance for map recordation and land use clearance for finish grading of the structure.
   g. All portable diesel-powered construction equipment shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.
   h. Fleet owners of mobile construction equipment are subject to the California Air Resource Board (CARB) Regulation for In-use Off-road Diesel Vehicles (Title 13 California Code of Regulations, Chapter 9, § 2449), the purpose of which is to reduce diesel particulate matter (PM) and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles. For more information, please refer to the CARB website at www.arb.ca.gov/msprog/ordiesel/ordiesel.htm.

   i. All commercial diesel vehicles are subject to Title 13, § 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.
   j. Diesel construction equipment meeting the California Air Resources Board (CARB) Tier 1 emission standards for off-road heavy-duty diesel engines shall be used. Equipment meeting CARB Tier 2 or higher emission standards should be used to the maximum extent feasible.
   k. Diesel powered equipment should be replaced by electric equipment whenever feasible.
   l. If feasible, diesel construction equipment shall be equipped with selective catalytic reduction systems, diesel oxidation catalysts and diesel particulate filters as certified and/or verified by EPA or California.
   m. Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
   n. All construction equipment shall be maintained in tune per the manufacturer's specifications.
   o. The engine size of construction equipment shall be the minimum practical size.
   p. The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time. Construction worker trips should be minimized by requiring carpooling and by providing for lunch onsite.

4. **Unanticipated Archaeological Resources Contractor Notification.** Standard discovery measures shall be implemented per the City master Environmental Assessment throughout grading and construction: Prior to the start of any vegetation or paving removal, demolition, trenching or grading, contractors and construction personnel shall be alerted to the possibility of uncovering unanticipated subsurface archaeological features or artifacts. If such archaeological resources are encountered or suspected, work shall be halted immediately, the City Environmental Analyst shall be notified and the Owner shall retain an archaeologist from the most current City Qualified Archaeologists List. The latter shall be employed to assess the nature, extent and significance of any discoveries and to develop appropriate management recommendations for archaeological resource treatment, which may include, but are not limited to, redirection of grading and/or excavation activities, consultation and/or monitoring with a Barbareño Chumash representative from the most current City qualified Barbareño Chumash Site Monitors List, etc.

If the discovery consists of possible human remains, the Santa Barbara County Coroner shall be contacted immediately. If the Coroner determines that the remains are Native American, the Coroner shall contact the California Native American Heritage Commission. A Barbareño Chumash representative from the

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217 S. MILPAS ST. , SANTA BARBARA, CA
CDP RESOLUTION (1 of 2)

LICENSED ARCHITECT KEITH SAMUEL NOLAN 23451 STATE OF CALIFORNIA

Revision Schedule

Project Manager
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most current City Qualified Barbareño Chumash Site Monitors List shall be retained to monitor all further subsurface disturbance in the area of the find. Work in the area may only proceed after the Environmental Analyst grants authorization.

If the discovery consists of possible prehistoric or Native American artifacts or materials, a Barbareño Chumash representative from the most current City Qualified Barbareño Chumash Site Monitors List shall be retained to monitor all further subsurface disturbance in the area of the find. Work in the area may only proceed after the Environmental Analyst grants authorization.

A final report on the results of the archaeological monitoring shall be submitted by the City-approved archaeologist to the Environmental Analyst within 180 days of completion of the monitoring and prior to any certificate of occupancy for the project.

F. **Prior to Certificate of Occupancy.** Prior to issuance of the Certificate of Occupancy, the Owner of the Real Property shall complete the following:

1. **Repair Damaged Public Improvements.** Repair any public improvements (curbs, gutters, sidewalks, roadways, etc.) or property damaged by construction subject to the review and approval of the Public Works Department per SBMC §22.60. Where tree roots are the cause of the damage, the roots shall be pruned under the direction of a qualified arborist.

2. **Complete Public Improvements.** Public improvements, as shown in the public improvement plans or building plans, shall be completed.

3. **Noise Measurements.** Submit a final report from a licensed acoustical engineer, verifying that interior and exterior living area noise levels are within acceptable levels as specified in the Noise Element. In the event the noise is not mitigated to acceptable levels, additional mitigation measures shall be recommended by the noise specialist and implemented subject to the review and approval of the Building and Safety Division and the Architectural Board of Review (ABR).

G. **General Conditions.**

1. **Compliance with Requirements.** All requirements of the city of Santa Barbara and any other applicable requirements of any law or agency of the State and/or any government entity or District shall be met. This includes, but is not limited to, the Endangered Species Act of 1973 [ESA] and any amendments thereto (16 U.S.C. § 1531 et seq.), the 1979 Air Quality Attainment Plan, and the California Code of Regulations.

2. **Approval Limitations.**

a. The conditions of this approval supersede all conflicting notations, specifications, dimensions, and the like which may be shown on submitted plans.

b. All buildings, roadways, parking areas and other features shall be located substantially as shown on the plans approved by the Staff Hearing Officer.

c. Any deviations from the project description, approved plans or conditions must be reviewed and approved by the City, in accordance with the Planning Commission Guidelines. Deviations may require changes to the permit and/or further environmental review. Deviations without the above-described approval will constitute a violation of permit approval.

3. **Litigation Indemnification Agreement.** In the event the Planning Commission approval of the Project is appealed to the City Council, Applicant/Owner hereby agrees to defend the City, its officers, employees, agents, consultants and independent contractors ("City's Agents") from any third party legal challenge to the City Council's denial of the appeal and approval of the Project, including, but not limited to, challenges filed pursuant to the California Environmental Quality Act (collectively "Claims"). Applicant/Owner further agrees to indemnify and hold harmless the City and the City's Agents from any award of attorney fees or court costs made in connection with any Claim.

Applicant/Owner shall execute a written agreement, in a form approved by the City Attorney, evidencing the foregoing commitments of defense and indemnification within thirty (30) days of being notified of a lawsuit regarding the Project. These commitments of defense and indemnification are material conditions of the approval of the Project. If Applicant/Owner fails to execute the required defense and indemnification agreement within the time allotted, the Project approval shall become null and void absent subsequent acceptance of the agreement by the City, which acceptance shall be within the City's sole and absolute discretion. Nothing contained in this condition shall prevent the City or the City's Agents from independently defending any Claim. If the City or the City's Agents decide to independently defend a Claim, the City and the City's Agents shall bear their own attorney fees, expenses, and costs of that independent defense.

III. Time Limits:

A. NOTICE OF COASTAL DEVELOPMENT PERMIT TIME LIMITS:

The Staff Hearing Officer action approving the Coastal Development Permit shall expire two (2) years from the date of final action upon the application, per Santa Barbara Municipal Code §28.44.230, unless:

1. Otherwise explicitly modified by conditions of approval for the coastal development permit.

2. A Building permit for the work authorized by the coastal development permit is issued prior to the expiration date of the approval.

3. The Community Development Director grants an extension of the coastal development permit approval. The Community Development Director may grant up to three (3) one-year extensions of the coastal development permit approval. Each extension may be granted upon the Director finding that: (i) the development continues to conform to the Local Coastal Program, (ii) the applicant has demonstrated due diligence in completing the development, and (iii) there are no changed circumstances that affect the consistency of the development with the General Plan or any other applicable ordinances, resolutions, or other laws.

B. NOTICE OF TIME LIMITS FOR PROJECTS WITH MULTIPLE APPROVALS (SBMC § 30.205.120):

If a project requires multiple discretionary permits or approvals, the expiration date shall be measured from date of final action of the City on the longest discretionary approval permit or approval related to the application (excluding design review approval), unless otherwise specified by State or federal law.

This motion was passed and adopted on the 21st day of February, 2024 by the Staff Hearing Officer of the City of Santa Barbara.

I hereby certify that this Resolution correctly reflects the action taken by the City of Santa Barbara Staff Hearing Officer at its meeting of the above date.

Kathleen Goo — February 26, 2024
Kathleen Goo, Commission Secretary — Date

PLEASE BE ADVISED:

1. The decision of the Staff Hearing Officer concerning an application for a Coastal Development Permit pursuant to Santa Barbara Municipal Code §28.28.44.110.C constitutes the final action of the City.

2. If the scope of work exceeds the extent described in the **COASTAL DEVELOPMENT PERMIT** request or that which was represented to the Staff Hearing Officer at the public hearing, it may render the Staff Hearing Officer approval null and void.

3. If you have any existing zoning violations on the property, other than those included in the conditions above, they must be corrected within thirty (30) days of this action.

4. Subsequent to the outcome of any appeal action, your next administrative step should be to resubmit design review materials under your PLN case for approval and then a building permit.

5. **PLEASE NOTE: A copy of this resolution shall be reproduced on the first sheet of the drawings submitted with the application for a building permit.** The location, size and design of the construction proposed in the application for the building permit shall not deviate from the location, size and design of construction approved in this modification.

6. **NOTICE OF APPROVAL TIME LIMITS:** The Staff Hearing Officer's action approving the Performance Standard Permit or Modifications shall expire two (2) years from the date of the approval, per SBMC §30.205.120, unless:

a. A building permit for the construction authorized by the approval is issued within twenty-four (24) months of the approval. (An extension may be granted by the Staff Hearing Officer if the construction authorized by the permit is being diligently pursued to completion.) or;

b. The approved use has been discontinued, abandoned or unused for a period of six months following the earlier of:

i. an Issuance of a Certificate of Occupancy for the use, or;

ii. one (1) year from granting the approval.

ON DESIGN,LLC
Architecture
Planning
Interior Design
Keith Nolan
C -22541

ON design LLC
• P.O. BOX 598 • Santa Barbara • California • 93102 •

217 SOUTH MIPLAS DUPLEX & ADU
217 S. MILPAS ST. , SANTA BARBARA, CA

CDP RESOLUTION (2 of 2)

KEITH SAMUEL NOLAN 10451 REGISTERED ARCHITECT STATE OF CALIFORNIA

Revision Schedule

Project Manager
Designer
Scale
PrintDate
4/17/2024 10:54:51 AM

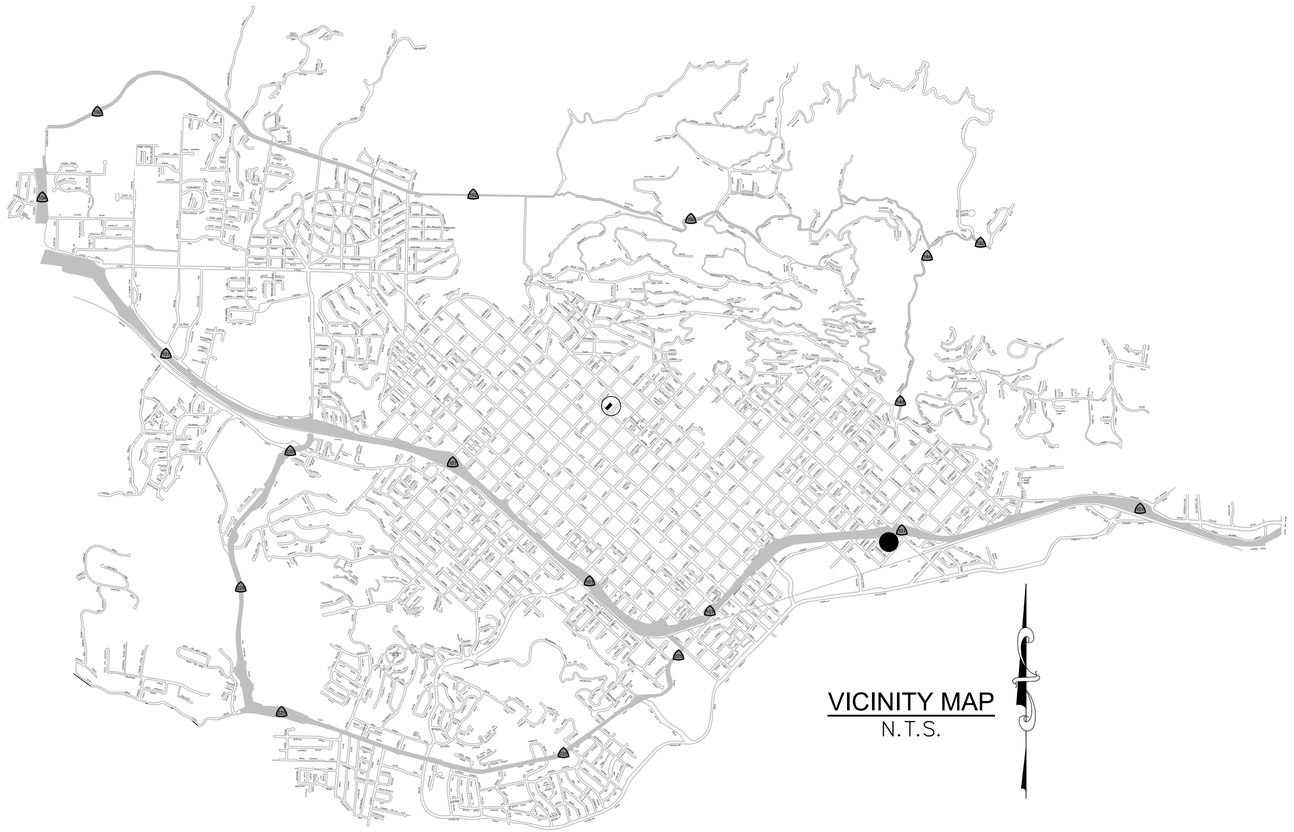
T-1.10

CITY OF SANTA BARBARA

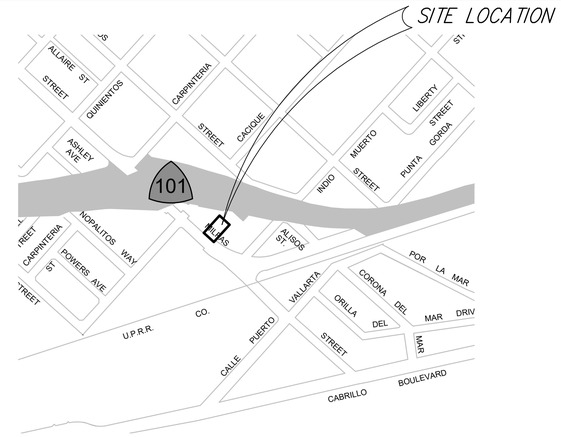
ACCESSORY DWELLING UNIT

PROJECT NO. XXXX, BID NO. XXXX

SHEET INDEX			
SHEET #	**SHEET DESIGNATOR**	**TITLE**	**DESCRIPTION**
1		TITLE SHEET	
2		STREET IMPROVEMENT PLAN	
3		DRAINAGE PLAN	
4		DRAINAGE DETAILS	
5		EROSION CONTROL PLAN	



VICINITY MAP
N.T.S.



PROJECT LOCATION MAP
N.T.S.

SYMBOL LEGEND

W	EXISTING WATER MAIN	CTV	EXISTING CABLE TV	WM	EXISTING WATER METER
G	EXISTING GAS MAIN		EXISTING EDGE OF PAVEMENT	TMH	EXISTING TELEPHONE MANHOLE
S	EXISTING SEWER MAIN		EXISTING FLOWLINE	E	EXISTING ELECTRIC PULL BOX
E	EXISTING SCE MAIN	FH	EXISTING FIRE HYDRANT		EXISTING POWER POLE
T	EXISTING TELEPHONE MAIN	WV	EXISTING WATER VALVE		EXISTING STREET SIGN
SD	EXISTING STORM DRAIN MAIN	GV	EXISTING GAS VALVE		EXISTING STREET LIGHT
O	EXISTING FENCE	GM	EXISTING GAS METER		EXISTING CITY MONUMENT
R/W	RIGHT OF WAY LINE				EXISTING IP SURVEY MARKER

811 Know what's **below.** **Call** before you dig.

ABBREVIATION LEGEND

BM	BENCHMARK	MH	MANHOLE
BOW	BACK OF WALK	NTS	NOT TO SCALE
CTV	CABLE TELEVISION	R/W	RIGHT OF WAY
E	ELECTRICAL	S	SEWER
ECONC	EDGE OF CONCRETE	SD	STORM DRAIN
FH	FIRE HYDRANT	T	TELEPHONE
FL	FLOW LINE	TC	TOP OF CURB
FOW	FRONT OF WALK	TMH	TELEPHONE MANHOLE
G	GAS	P	PAVEMENT
		W	WATER

REGISTERED PROFESSIONAL ENGINEER JANICE L. MONTAGUE No. 40877 Exp. 3-31-23 CIVIL STATE OF CALIFORNIA

PREPARED BY:
LEWIS ENGINEERING
1143 E. MAIN STREET
VENTURA, CALIFORNIA 93001
PHONE: (805)-648-1333
RCE 10877 EXP. 3-31-25

5-19-23
DATE

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

APPROVED: _____ DATE ____/____/____
CITY ENGINEER
ORIGINAL SIGNED DATE

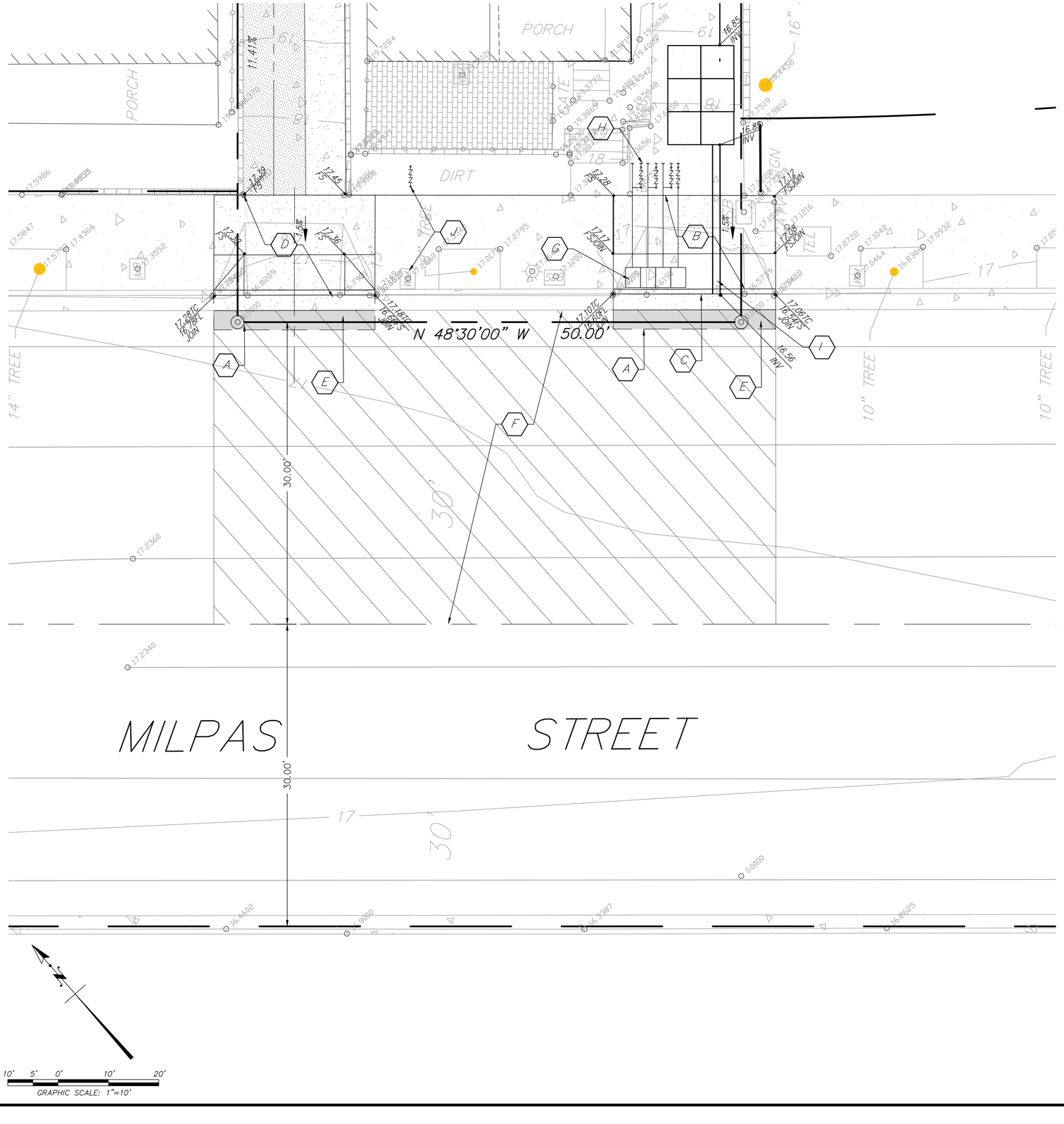
DESIGN AR
DRAWN AR
CHECKED JLM

NO.	REVISIONS	APPROVED	DATE

COVER SHEET
ACCESSORY DWELLING UNIT
217 MILPAS STREET SANTA BARBARA

PBW. NO. -
BID NO. - SHT. DES. -
DWG. NO. -
SHT. 1 OF 4

217 Milpas TS.dwg SAVED 4/2/2024 6:30 PM PLOTTED: 4/2/2024 6:30 PM



GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (S.S.P.W.C.). ADDITIONAL REFERENCE IS MADE TO THE VENTURA COUNTY BUILDING CODE WHICH ADOPTS BY REFERENCE CBC CHAPTER 33, EXCAVATION AND GRADING, THE VENTURA COUNTY STANDARD LAND DEVELOPMENT SPECIFICATIONS, AND THE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (S.P.P.W.C.)
2. AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING ANY EXCAVATION, THE CONTRACTOR SHALL CALL THE REGIONAL NOTIFICATION CENTER (UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA – U.S.A.) AT 811 OR 1–800–422–4133 TO OBTAIN INQUIRY IDENTIFICATION NUMBER AND TO REQUEST THE UTILITY OWNERS TO MARK OR OTHERWISE INDICATE THE LOCATION OF THEIR SUBSURFACE FACILITIES. THE CONTRACTOR SHALL DETERMINE THE LOCATION AND DEPTH OF ALL UTILITIES, INCLUDING SERVICE CONNECTIONS, WHICH HAVE BEEN MARKED BY THE RESPECTIVE OWNERS AND WHICH MAY AFFECT OR BE AFFECTED OPERATIONS. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ALL UTILITIES AND ALL STRUCTURES FOUND ON THE SITE.
3. THROUGHOUT ALL PHASES OF CONSTRUCTION, INCLUDING SUSPENSION OF WORK, UNTIL FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL KEEP THE SITE CLEAN AND FREE FROM RUBBISH AND DEBRIS. THE CONTRACTOR SHALL ALSO ABATE DUST NUISANCE BY CLEANING, SWEEPING AND SPRINKLING WITH WATER.
4. ALL DAMAGE CAUSED TO PUBLIC STREETS AND PRIVATE PROPERTY SHALL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR.
5. THE LOCATIONS OF EXISTING SUBSTRUCTURES HAVE BEEN TAKEN FROM RECORDS AVAILABLE AND THEIR APPROXIMATE LOCATIONS ARE SHOWN ON THE PLANS TO THE EXTENT THE INFORMATION IS KNOWN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE LOCATION OF ALL SUBSTRUCTURES WHICH MAY BE SUBJECT TO DAMAGE BY REASON OF HIS OPERATIONS. THE FACT THAT ANY UTILITY IS INCORRECTLY SHOWN, OR NOT SHOWN, SHALL NOT RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITY TO PROTECT SUCH A UTILITY FROM DAMAGE. THE CONTRACTOR'S ATTENTION IS DRAWN TO THE POSSIBLE EXISTENCE OF IRRIGATION LINES, ELECTRICAL OR COMMUNICATION CABLE OR CONDUIT, AND SEWER, WATER OR DRAINAGE PIPES IN THE WORK AREA AND WHICH IS NOT SHOWN ON THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR SUBSTRUCTURES CONCERNED BEFORE STARTING WORK.
6. A PRECONSTRUCTION CONFERENCE OF ALL INTERESTED PARTIES SHALL BE HELD PRIOR TO ANY CONSTRUCTION.
7. BITUMINOUS PAVEMENT TO BE JOINED SHALL BE SAWCUT AND TRIMMED TO CLEAN STRAIGHT EDGES.
8. ASPHALT CONCRETE SHALL BE C2–AR–4000 OR C2–AR–8000.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL SURVEY MONUMENTATION AND CONTROL POINTS DISTURBED DURING CONSTRUCTION.
11. THE CONTRACTOR SHALL PROVIDE A SMOOTH RIDING SURFACE TRANSITION AT THE ENDS OF AC OVERLAY WITH A LENGTH EQUAL TO TEN FEET FOR EVERY INCH DIFFERENCE BETWEEN SURFACES.
12. STREET NAME SIGNS AND TRAFFIC SIGNS REMOVED DURING CONSTRUCTION SHALL BE RE–INSTALLED AT LOCATIONS SPECIFIED BY ENGINEER.
13. TACK COAT SHALL BE APPLIED TO ALL SAWCUT AC SECTIONS AND COLD–MILLED AC SURFACES PRIOR TO ADJACENT AC APPLICATIONS.
14. BUILDINGS ARE SERVED BY SANITARY SEWER SYSTEM (PRIVATE).
15. A SEPARATE PUBLIC WORKS PERMIT IS REQUIRED FOR ALL PROPOSED WORK IN THE PUBLIC RIGHT–OF–WAY (PROW) REQUIRES A PUBLIC WORKS SUBMITTAL.

CONSTRUCTION NOTES:

- (A) SAWCUT AC PAVEMENT, CURB & GUTTER, AND SIDEWALK
- (B) REMOVE EXISTING CONCRETE DRIVEWAY AND REPLACE WITH NEW SIDEWALK PER CITY STANDARD DETAIL H–06.0 TYPE A.
- (C) CONSTRUCT NEW CONCRETE CURB AND GUTTER PER CITY STANDARD DETAIL H–02.0
- (D) REMOVE EX.CONCRETE DRIVEWAY AND REPLACE WITH NEW CONCRETE DRIVEWAY PER CITY STANDARD DETAIL H–0.30. W=10'
- (E) CONSTRUCT AC PATCH WITH SECTION TO MATCH EXISTING OR FULL THICKNESS AC PATCH
- (F) NEW CRACK SEAL TO CENTER LINE OF STREET AND SLURRY SEAL 20' BEYOND THE LIMITS OF TRENCHING AND CONNECTIONS TO CITY WATER, SEWER AND UTILITIES.
- (G) NEW 2" DOMESTIC WATER SERVICE WITH 3 NEW DOMESTIC WATER METERS AND 1 IRRIGATION WATER METER PER CITY OF SANTA BARBARA STANDARD DETAIL W–05.0, W–05.1 AND W–05.2
- (H) NEW BACKFLOW DOUBLE DETECTOR PER CITYOF SANTA BARBARA STANDARD DETAIL W–13.0 AND W–13.1 AND W–05.5
- (I) CONSTRUCT CURB DRAIN OUTLET TYPE A PER CITY OF SANTA BARBARA STANDARD DETAIL D–05.0 W–5.3 AND W–5.5
- (J) EXISTING WATER METER TO REMAIN INSTALL BACKFLOW DEVICE PER CITY OF SANTA BARBARA STANDARD DETAIL W–5.03

PROPERTY LINES ARE APPROXIMATE

811 Know what's below. Call before you dig.

REGISTERED PROFESSIONAL ENGINEER JANE L. MONTGOMERY No. 40877 Exp. 3–31–25 CIVIL STATE OF CALIFORNIA

PREPARED BY:
LEWIS ENGINEERING
1143 E. MAIN STREET
VENTURA, CALIFORNIA 93001
PHONE: (805)-648-1353
JANE MONTGOMERY RCE 40877 EXP. 3-31-25
4–2–24 DATE

INSERT COMPANY LOGO HERE

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
APPROVED: _____ DATE: _____
CITY ENGINEER
ORIGINAL SIGNED DATE

DESIGN AR
DRAWN AR
CHECKED JLM

NO.	REVISIONS	DATE	APPROVED

STREET IMPROVEMENTS

ACCESSORY DWELLING UNITS
217 MILPAS STREET SANTA BARBARA

PBW. NO. -
BID NO. - SHT. DES. -
DWG. NO. -
SHT. 1 OF 1

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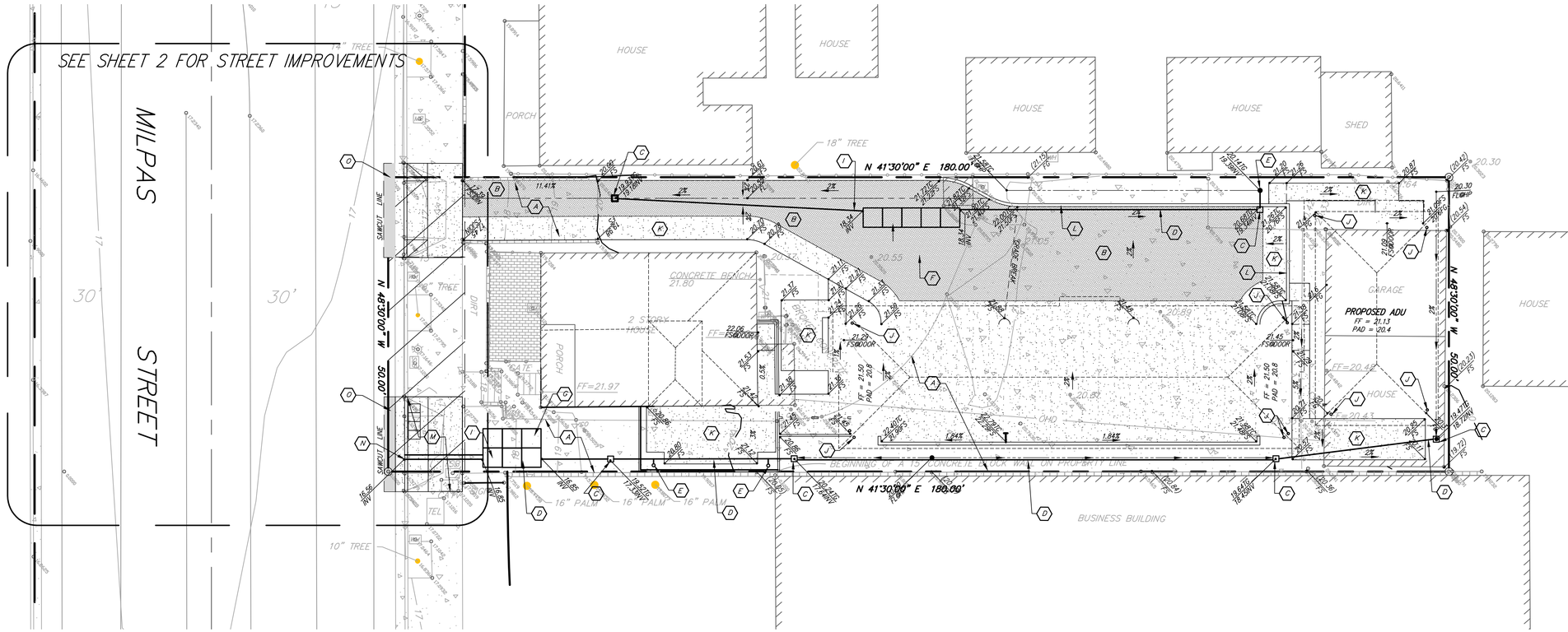

GENERAL NOTES

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6. A PRECONSTRUCTION CONFERENCE OF ALL INTERESTED PARTIES SHALL BE HELD PRIOR TO ANY CONSTRUCTION.

7. BITUMINOUS PAVEMENT TO BE JOINED SHALL BE SAWCUT AND TRIMMED TO CLEAN STRAIGHT EDGES.

8. ASPHALT CONCRETE SHALL BE C2–AR–4000 OR C2–AR–8000.

9. RECOMMENDATIONS AND CONCLUSIONS OF SOILS REPORT NO. _____, DATED _____, 20 ____, BY _____ OF _____ SHALL BE THOROUGHLY COMPLIED WITH. THE MENTIONED REPORT IS HEREBY APPENDED AND MADE A PART OF THIS GRADING PLAN.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL SURVEY MONUMENTATION AND CONTROL POINTS DISTURBED DURING CONSTRUCTION.

11. THE CONTRACTOR SHALL PROVIDE A SMOOTH RIDING SURFACE TRANSITION AT THE ENDS OF AC OVERLAY WITH A LENGTH EQUAL TO TEN FEET FOR EVERY INCH DIFFERENCE BETWEEN SURFACES.

12. STREET NAME SIGNS AND TRAFFIC SIGNS REMOVED DURING CONSTRUCTION SHALL BE RE–INSTALLED AT LOCATIONS SPECIFIED BY ENGINEER.

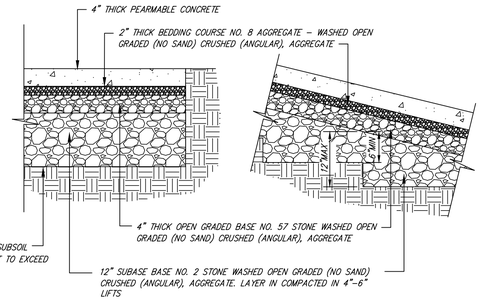
13. TACK COAT SHALL BE APPLIED TO ALL SAWCUT AC SECTIONS AND COLD–MILLED AC SURFACES PRIOR TO ADJACENT AC APPLICATIONS.

14. BUILDINGS ARE SERVED BY SANITARY SEWER SYSTEM (PRIVATE). SEE UTILITY PLANS.

15. A SEPARATE PUBLIC WORKS PERMIT IS REQUIRED FOR ALL PROPOSED WORK IN THE PUBLIC RIGHT–OF–WAY (PROW) REQUIRES A PUBLIC WORKS SUBMITTAL.

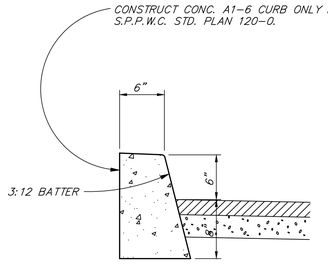
CONSTRUCTION NOTES:

- (A) EXISTING CONCRETE PAVEMENT TO BE REMOVED
- (B) CONSTRUCT PERMEABLE CONCRETE WALK AND DECK SURFACES PER ARCHITECTURAL
- (C) INSTALL NDS 1212 CATCH BASIN WITH GRATE
- (D) INSTALL 4" SDR 35 PVC DRAIN PIPE S=0.0100 MIN.
- (E) INSTALL NDS 6" SPEE–D BASIN
- (F) INSTALL RAINSTORE SYSTEM #1 3.28' X 16.4' x 4' DEEP PER MFG RECOMMENDATIONS SEE SHEET 4 TOTAL OF 5 STACKS OF 12 UNITS EA. (24.8 GAL CAPACITY PER UNIT. 24.8 x 72 = 1488 GAL TOTAL)
- (G) INSTALL RAINSTORE SYSTEM #2 6.56' X 13.12' x 4' DEEP PER MFG RECOMMENDATIONS SEE SHEET 4 TOTAL OF 6 STACKS OF 12 UNITS EA. (24.8 GAL CAPACITY PER UNIT. 24.8 x 72 = 1785.6 GAL TOTAL)
- (H) INSTALL (2) 4" SDR 35 PVC OVERFLOW DRAIN PIPE S=0.0100 MIN.
- (I) INSTALL RAINSTORE MAINTENACE PORT PER DETAIL ON SHEET 4
- (J) DOWNSPOUT DOWN TO SPLASHBLOCK
- (K) CONSTRUCT 4"THICK CONC. 2500 PSI W/ #4 @ 24" O.C. WALK AND DECK SURFACES PER ARCHITECTURAL PLANS. COMPACT THE TOP 18" OF SURFACE SOILS TO 90% RELATIVE DENSITY, AND THE TOP 9" COMPACTED TO 95% RELATIVE DENSITY, PER SOILS ENGINEER'S RECOMMENDATION.
- (L) CONSTRUCT CONC CURB PER DETAIL HERON
- (M) SAWCUT AND REMOVE EX. DRIVWAY APRON AND REPLACE WITH NEW CURB AND GUTTER AND SIDEWALK PER CITY STANDARD DETAIL H–02.0 AND H–06.0
- (N) CONSTRUCT CURB OUTLET DRAIN PER CITY STANDARD DETAIL D–05.0 TYPE A.
- (O) CONSTRUCT AC PATCH TO MATCH EX. ROAD SECTION OR FULL THICKNESS AC
- (P) INSTALL 2 SUB WATER METERS
- (Q) CONSTRUCT CLEAN OUT TO GRADE PER CITY OF SANTA BARBARA DETAIL S–MH5.
- (R) POC TO EXISTING WATER LINE
- (S) CONSTRUCT 4" PVC SEWER LATERAL @ 2% MIN GRADE TO EXISTING SEWER MAIN PER CITY OF SANTA BARBARA STANDARD DETAIL S–S2.1. TRENCH PER CITY STANDARD DETAIL S–SP1. OR CONNECT TO EX. SEWER LATERAL CONTRACTOR TO VERIFY



PERMEABLE CONCRETE SLOPING SIDEWALK DETAIL

SCALE: NOT TO SCALE



(A) 6" CONCRETE CURB ONLY

SCALE: 1" = 1'–0"

PROJECT AND STORMWATER DATA

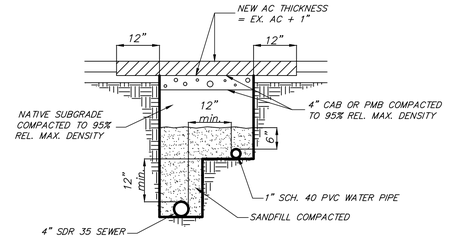
SELECT AND IMPLEMENT STORM WATER BMPS TO CAPTURE AND TREAT RUNOFF GENERATED FROM A 1" STORM FROM AT LEAST 95% OF THE PROJECT SITE'S IMPERVIOUS AREA.

LOT SIZE: 9,000 S.F.
EX. FRONT RESIDENCE: 958 S.F.
EX. REAR HOUSE/GARAGE TO BE DEMOLISHED: 819 S.F.
EX. FRONT PORCH/ENTRY WALK : 277 S.F.

NEW ADDED/REPLACED IMPERVIOUS AREAS:
NEW SIDE DUPLEX ADU BUILDING: 1927 S.F.
NEW REAR ADU BUILDING: 823 S.F.
NEW PERVIOUS CONCRETE DWY: 1642 S.F.
NEW IMPERVIOUS CONCRETE DWY/SIDEWALKS: 1117 S.F.

TOTAL NEW/EX. SITE IMPERVIOUS AREA: 5102 S.F.

SWMP: TIER 3
INFILTRATION RATE: 1.7"/HR
TREAT FOR 1" STORM (.623 GAL/S.F. IMP)
5057 SF x .623 = 3150.5 GAL REQUIRED
TOTAL REQUIRED SWQP VOLUME = 421 C.F./3150.5 GAL.
TOTAL SWQP VOLUME PROVIDED = 3273.6 GAL.
DEPTH OF SOIL DISTURBANCE = 4'



SEWER WATER TRENCH DETAIL

SCALE: NOT TO SCALE

PROPERTY LINES ARE APPROXIMATE

811 Know what's below. Call before you dig.

REGISTERED PROFESSIONAL ENGINEER JAMES L. MONTAGUE No. 40877 Exp. 3–31–25 CIVIL STATE OF CALIFORNIA

PREPARED BY:
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1143 E. MAIN STREET
VENTURA, CALIFORNIA 93001
PHONE: (803)-648-1353

RCE 40877 EXP. 3-31-25 DATE

INSERT COMPANY LOGO HERE

PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION
APPROVED: DATE
CITY ENGINEER ORIGINAL SIGNED DATE

DESIGN AR
DRAWN AR
CHECKED JLM

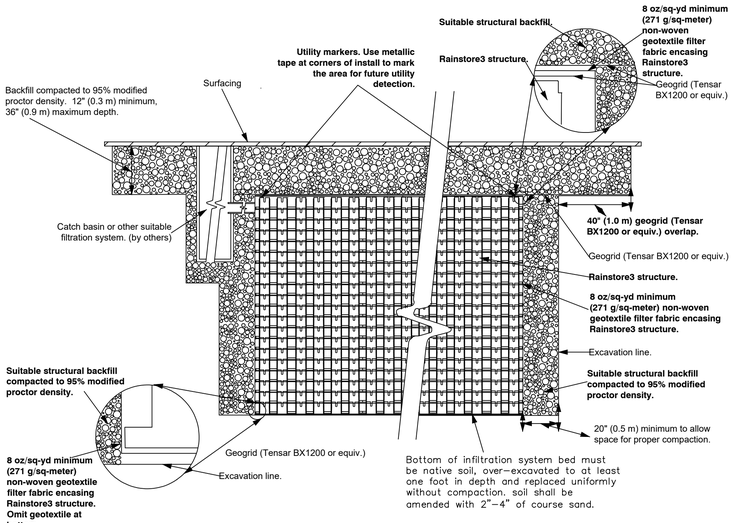
NO.	REVISIONS	DATE	APPROVED

DRAINAGE PLAN
ACCESSORY DWELLING UNITS
217 MILPAS STREET SANTA BARBARA

PBW. NO. -
BID NO. - SHT. DES. -
DWG. NO. -

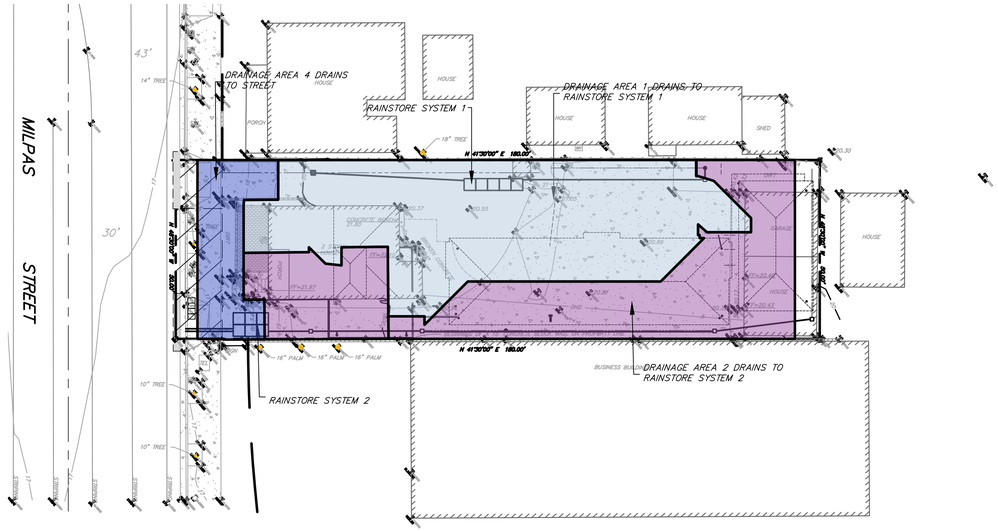
SHT. 3 OF 5

217 Milpas DP.dwg SAVED 2/15/2024 4:56 PM PLOTTED 4/2/2024 6:36 PM



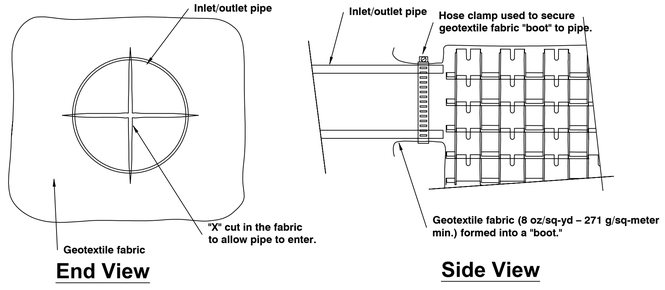
RAINSTORE3 SYSTEM

SCALE: NOT TO SCALE



DRAINAGE AREA KEY MAP

End view of pipe/fabric connection. Cut an X in the fabric slightly larger than pipe, pull the fabric around the pipe to create the "boot" and then secure with a hose-clamp.



RAINSTORE3 INLETS/OUTLETS WITH FABRIC

SCALE: NOT TO SCALE

IMPERVIOUS AREA TO RAINSTORE SYSTEMS

Top view illustrating the removal of either one Rainstore3 structure column for a 9" access or four columns for up to a 16" maintenance port

Sections of Rainstore3 structure that must be removed to allow space for PVC riser. Separate plastic connections with utility knife or heavy shears.

RAINSTORE3 MAINTENANCE PORT

SCALE: NOT TO SCALE

ARCHAEOLOGICAL NOTE

PRIOR TO THE START OF ANY VEGETATION OR PAVING REMOVAL, DEMOLITION, TRENCHING OR GRADING, CONTRACTORS AND CONSTRUCTION PERSONNEL SHALL BE ALERTED TO THE POSSIBILITY OF UNCOVERING UNANTICIPATED SUBSURFACE ARCHAEOLOGICAL FEATURES OR ARTIFACTS ASSOCIATED WITH PAST HUMAN OCCUPATION OF THE PARCEL.

IF SUCH ARCHAEOLOGICAL RESOURCES ARE ENCOUNTERED OR SUSPECTED, WORK SHALL BE HALTED IMMEDIATELY, THE CITY ENVIRONMENTAL ANALYST SHALL BE NOTIFIED AND AN ARCHAEOLOGIST FROM THE MOST CURRENT CITY QUALIFIED ARCHAEOLOGISTS LIST SHALL BE RETAINED BY THE APPLICANT. THE LATTER SHALL BE EMPLOYED TO ASSESS THE NATURE, EXTENT AND SIGNIFICANCE OF ANY DISCOVERIES AND TO DEVELOP APPROPRIATE MANAGEMENT RECOMMENDATIONS FOR ARCHAEOLOGICAL RESOURCE TREATMENT WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, REDIRECTION OF GRADING AND/OR EXCAVATION ACTIVITIES, CONSULTATION AND/OR MONITORING WITH A BARBARENO CHUMASH REPRESENTATIVE FROM THE MOST CURRENT CITY QUALIFIED BARBARENO CHUMASH SITE MONITORS LIST, ETC.

IF A DISCOVERY CONSISTS OF POSSIBLE HUMAN REMAINS, THE SANTA BARBARA COUNTY CORONER SHALL BE CONTACTED IMMEDIATELY. IF THE CORONER DETERMINES THAT THE REMAINS ARE NATIVE AMERICAN, THE CORONER SHALL CONTACT THE CALIFORNIA NATIVE AMERICAN HERITAGE COMMISSION. A BARBARENO CHUMASH REPRESENTATIVE FROM THE MOST CURRENT CITY QUALIFIED BARBARENO CHUMASH SITE MONITORS LIST SHALL BE RETAINED TO MONITOR ALL FURTHER SUBSURFACE DISTURBANCE IN THE AREA OF THE FIND.
WORK IN THE AREA MAY ONLY PROCEED AFTER THE ENVIRONMENTAL ANALYST GRANTS AUTHORIZATION.

IF A DISCOVERY CONSISTS OF POSSIBLE PREHISTORIC OR NATIVE AMERICAN ARTIFACTS OR MATERIALS, A BARBARENO CHUMASH REPRESENTATIVE FROM THE MOST CURRENT CITY QUALIFIED BARBARENO CHUMASH SITE MONITORS LIST SHALL BE RETAINED TO MONITOR ALL FURTHER SUBSURFACE DISTURBANCE IN THE AREA OF THE FIND. WORK IN THE AREA MAY ONLY PROCEED AFTER THE ENVIRONMENTAL ANALYST GRANTS AUTHORIZATION.

MAINTENANCE STATEMENT

THE PROPOSED STORM WATER BMPS, WHICH INCLUDE 1289.6 GALLON RAINSTORE SYSTEM SHALL BE MAINTAINED AS DESCRIBED IN SANTA BARBARA MUNICIPAL CODE 22.87.030 IN ACCORDANCE WITH THEIR APPROVED SPECIFICATIONS.

OWNER (NAME AND TITLE): COLE CERVANTES, HOMEOWNER

SIGNATURE DATE

PROPERTY LINES ARE APPROXIMATE

811 Know what's below. Call before you dig.

REGISTERED PROFESSIONAL ENGINEER JANE L. MONTGOMERY No. 40877 Exp. 3-31-25 CIVIL STATE OF CALIFORNIA

RCE 40877 EXP. 3-31-25 DATE

PREPARED BY:
LEWIS ENGINEERING
1140 E. MAIN STREET
VENTURA, CALIFORNIA 93001
PHONE: (805)-648-1353

INSERT COMPANY LOGO HERE

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

APPROVED: _____ DATE ____
CITY ENGINEER
ORIGINAL SIGNED DATE ____

DESIGN AR
DRAWN AR
CHECKED JLM
APPROVED
DATE

REVISIONS
NO.

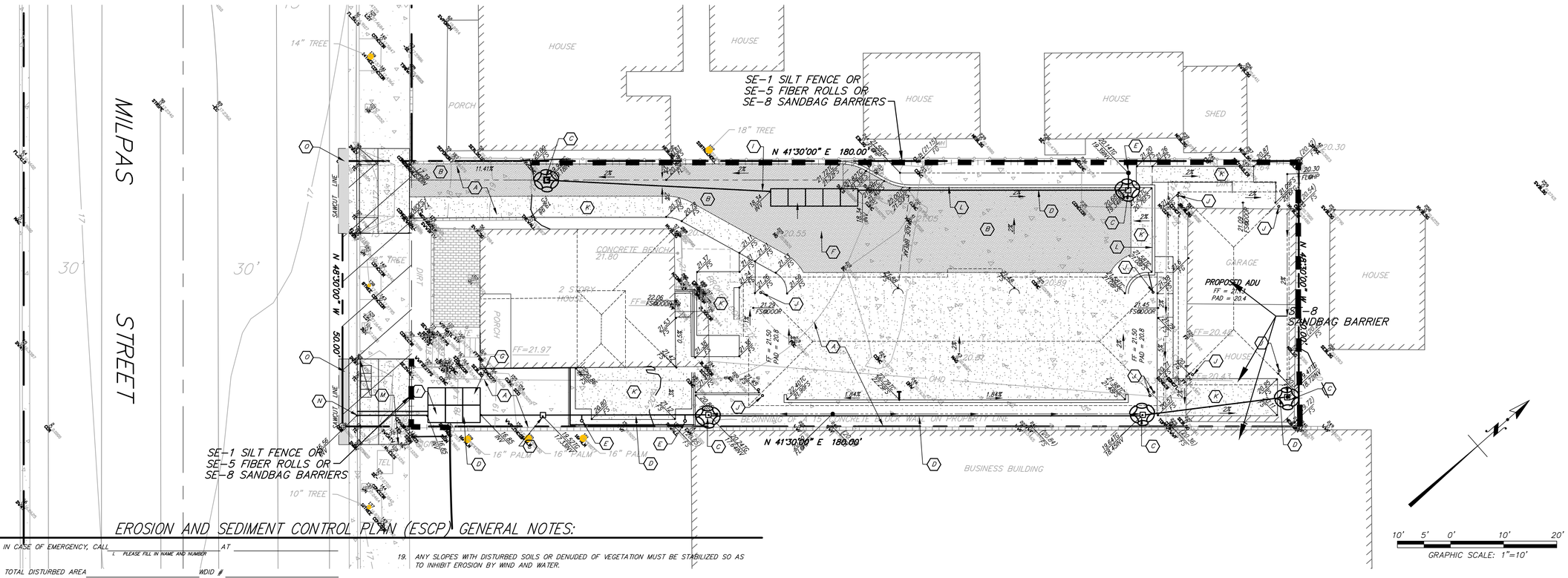
DRAINAGE DETAILS

ACCESORY DWELLING UNITS
217 MILPAS STREET SANTA BARBARA

PBW. NO. -
BID NO. - SHT. DES. -
DWG. NO. -

SHT. 4 OF 5

217 Milpas SP.dwg SAED 4/2/2024 6:26 PM PLOTTED 4/2/2024 6:28 PM



EROSION AND SEDIMENT CONTROL PLAN (ESCP) GENERAL NOTES:

1. IN CASE OF EMERGENCY, CALL _____ AT _____
   i. PLEASE FILL IN NAME AND NUMBER
2. TOTAL DISTURBED AREA _____ WDID # _____
   i. RISK LEVEL 1 2 3 (CIRCLE ONE AS DETERMINED BY STATE GENERAL PERMIT FOR SITES GREATER THAN 1 ACRE)
3. A STAND-BY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (NOVEMBER 1 TO APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF EMERGENCY DEVICES WHEN RAIN IS IMMINENT.
4. EROSION CONTROL DEVICES SHOWN ON THIS PLAN MAY BE REMOVED WHEN APPROVED BY THE BUILDING OFFICIAL IF THE GRADING OPERATION HAS PROGRESSED TO THE POINT WHERE THEY ARE NO LONGER REQUIRED.
5. GRADED AREAS ADJACENT TO FILL SLOPES LOCATED AT THE SITE PERIMETER MUST DRAIN AWAY FROM THE TOP OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY. ALL LOOSE SOILS AND DEBRIS THAT MAY CREATE A POTENTIAL HAZARD TO OFF-SITE PROPERTY SHALL BE STABILIZED OR REMOVED FROM THE SITE ON A DAILY BASIS.
6. ALL SILT AND DEBRIS SHALL BE REMOVED FROM ALL DEVICES WITHIN 24 HOURS AFTER EACH RAINSTORM AND BE DISPOSED OF PROPERLY.
7. A GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN ANY DEVICE EXCEEDS TWO FEET. THE DEVICE SHALL BE DRAINED OR PUMPED DRY WITHIN 24 HOURS AFTER EACH RAINSTORM. PUMPING AND DRAINING OF ALL BASINS AND DRAINAGE DEVICES MUST COMPLY MUST COMPLY WITH THE APPROPRIATE BMP FOR DEWATERING OPERATIONS.
8. THE PLACEMENT OF ADDITIONAL DEVICES TO REDUCE EROSION DAMAGE AND CONTAIN POLLUTANTS WITHIN THE SITE IS LEFT TO THE DISCRETION OF THE FIELD ENGINEER. ADDITIONAL DEVICES AS NEEDED SHALL BE INSTALLED TO RETAIN SEDIMENTS AND OTHER POLLUTANTS ON SITE.
9. DESILTING BASINS MAY NOT BE REMOVED OR MADE INOPERABLE BETWEEN NOVEMBER 1 AND APRIL 15 OF THE FOLLOWING YEAR WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL.
10. STORM WATER POLLUTION AND EROSION CONTROL DEVICES ARE TO BE MODIFIED, AS NEEDED, AS THE PROJECT PROGRESSES. THE DESIGN AND PLACEMENT OF THESE DEVICES IS THE RESPONSIBILITY OF THE FIELD ENGINEER. PLANS REPRESENTING CHANGES MUST BE SUBMITTED FOR APPROVAL IF REQUESTED BY THE BUILDING OFFICIAL.
11. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORM WATER FROM THE PROJECT SITES AT ALL TIMES.
12. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.
13. STOCKPILES OF EARTH AND OTHER CONSTRUCTION-RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
14. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOILS AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
15. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
16. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AND BMPS ARE INSTALLED AND FUNCTIONING PROPERLY IF THERE IS A 50% OR GREATER PROBABILITY OF PREDICTED PRECIPITATION, AND AFTER ACTUAL PRECIPITATION. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL (COPIES OF THE SELF-INSPECTION CHECK LIST AND INSPECTION LOGS ARE AVAILABLE UPON REQUEST).
17. TRASH AND CONSTRUCTION-RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
18. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
19. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
20. AS THE ENGINEER/QSD OF RECORD, I HAVE SELECTED APPROPRIATE BMPS TO EFFECTIVELY MINIMIZE THE NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORM WATER QUALITY. THE PROJECT OWNER AND CONTRACTOR ARE AWARE THAT THE SELECTED BMPS MUST BE INSTALLED, MONITORED, AND MAINTAINED TO ENSURE THEIR EFFECTIVENESS.

_____ _____
CIVIL ENGINEER/QSD SIGNATURE DATE

21. THE FOLLOWING NOTES MUST BE ON THE PLAN:
    AS THE PROJECT OWNER OR AUTHORIZED AGENT OF THE OWNER I CERTIFY THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH THE SYSTEM DESIGNED TO ENSURE THAT A QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION SUBMITTED IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT SUBMITTING FALSE AND/ OR INACCURATE INFORMATION, FAILING TO UPDATE THE ESCP TO REFLECT CURRENT CONDITIONS, OR FAILING TO PROPERLY AND/OR ADEQUATELY IMPLEMENT THE ESCP MAY RESULT IN REVOCATION OF GRADING AND/OR OTHER PERMITS OR OTHER SANCTIONS PROVIDED BY LAW.

_____ _____
OWNER OR AUTHORIZED REPRESENTATIVE (PERMITTEE) DATE

22. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AND BMPS ARE INSTALLED AND FUNCTIONING PROPERLY AS REQUIRED BY THE STATE CONSTRUCTION GENERAL PERMIT. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL.

THE FOLLOWING BMPS FROM THE "2009 CONSTRUCTION BMP HANDBOOK/PORTAL" MUST BE IMPLEMENTED FOR ALL CONSTRUCTION ACTIVITIES AS APPLICABLE. AS AN ALTERNATIVE, DETAILS FROM "CALTRANS STORMWATER QUALITY HANDBOOKS,CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (BMP) MANUAL" MAY BE USED. ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY THE BUILDING OFFICIAL.

EROSION CONTROL
- EC1 – SCHEDULING
- EC2 – PRESERVATION OF EXIST. VEGETATION
- EC3 – HYDRAULIC MULCH
- EC4 – HYDROSEEDING
- EC5 – SOIL BINDERS
- EC6 – STRAW MULCH
- EC7 – GEOTEXTILES & MATS
- EC8 – WOOD MULCHING
- EC9 – EARTH DIKES AND DRAINAGE SWALES
- EC10 – VELOCITY DISSIPATION DEVICES
- EC11 – SLOPE DRAINS
- EC12 – STREAMBANK STABILIZATION
- EC13 – POLYACRYLAMIDE

TEMPORARY SEDIMENT CONTROL
- SE1 – SILT FENCE
- SE2 – SEDIMENT BASIN
- SE3 – SEDIMENT TRAP
- SE4 – CHECK DAM
- SE5 – FIBER ROLLS
- SE6 – GRAVEL BAG BERM
- SE7 – STREET SWEEPING AND VACUUMING
- SE8 – SANDBAG BARRIER
- SE9 – STRAW BALE BARRIER
- SE10 – STORM DRAIN INLET PROTECTION

WIND EROSION CONTROL
- WE1 – WIND EROSION CONTROL

NON-STORMWATER MANGEMENT
- NS1 – WATER CONSERVATION PRACTICES
- NS2 – DEWATERING OPERATIONS
- NS3 – PAVING AND GRADING OPERATIONS
- NS4 – TEMPORARY STREAM CROSSING
- NS5 – CLEAR WATER DIVERSION
- NS6 – ILLICIT CONNECTION/DISCHARGE
- NS7 – POTABLE WATER/IRRIGATION
- NS8 – VEHICLE AND EQUIPMENT CLEANING
- NS9 – VEHICLE AND EQUIPMENT FUELING
- NS10 – VEHICLE AND EQUIP. MAINTENANCE
- NS11 – PILE DRIVING OPERATIONS
- NS12 – CONCRETE CURING
- NS13 – CONCRETE FINISHING
- NS14 – MATERIAL AND EQUIPMENT USE
- NS15 – DEMOLITION ADJACENT TO WATER
- NS16 – TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIAL POLLUTION CONTROL
- WM1 – MATERIAL DELIVERY AND STORAGE
- WM2 – MATERIAL USE
- WM3 – STOCKPILE MANAGEMENT
- WM4 – SPILL PREVENTION AND CONTROL
- WM5 – SOLID WASTE MANAGEMENT
- WM6 – HAZARDOUS WASTE MANAGEMENT
- WM7 – CONTAMINATION SOIL MANAGEMENT
- WM8 – CONCRETE WASTE MANAGEMENT
- WM9 – SANITARY/SEPTIC WASTE MANAGEMENT
- WM10 – LIQUID WASTE MANAGEMENT

EQUIPMENT TRACKING CONTROL
- TC1 – STABILIZED CONST. ENTRANCE/EXIT
- TC2 – STABILIZED CONSTRUCTION ROADWAY
- TC3 – ENTRANCE/OUTLET TIRE WASH
- SE4 – CHECK DAM
- SE5 – FIBER ROLLS

PROPERTY LINES ARE APPROXIMATE

811 Know what's below. Call before you dig.

REGISTERED PROFESSIONAL ENGINEER JANE L. MONTAGUE No. 40877 Exp. 3-31-25 CIVIL STATE OF CALIFORNIA

PREPARED BY:
LEWIS ENGINEERING
1143 E. MAIN STREET
VENTURA, CALIFORNIA 93001
PHONE: (805)-648-1353

RCE 40877 EXP. 3-31-25 DATE

INSERT COMPANY LOGO HERE

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
APPROVED: _____ DATE: _____
CITY ENGINEER
ORIGINAL SIGNED DATE

DESIGN AR
DRAWN AR
CHECKED JLM

NO.	REVISIONS	DATE	APPROVED

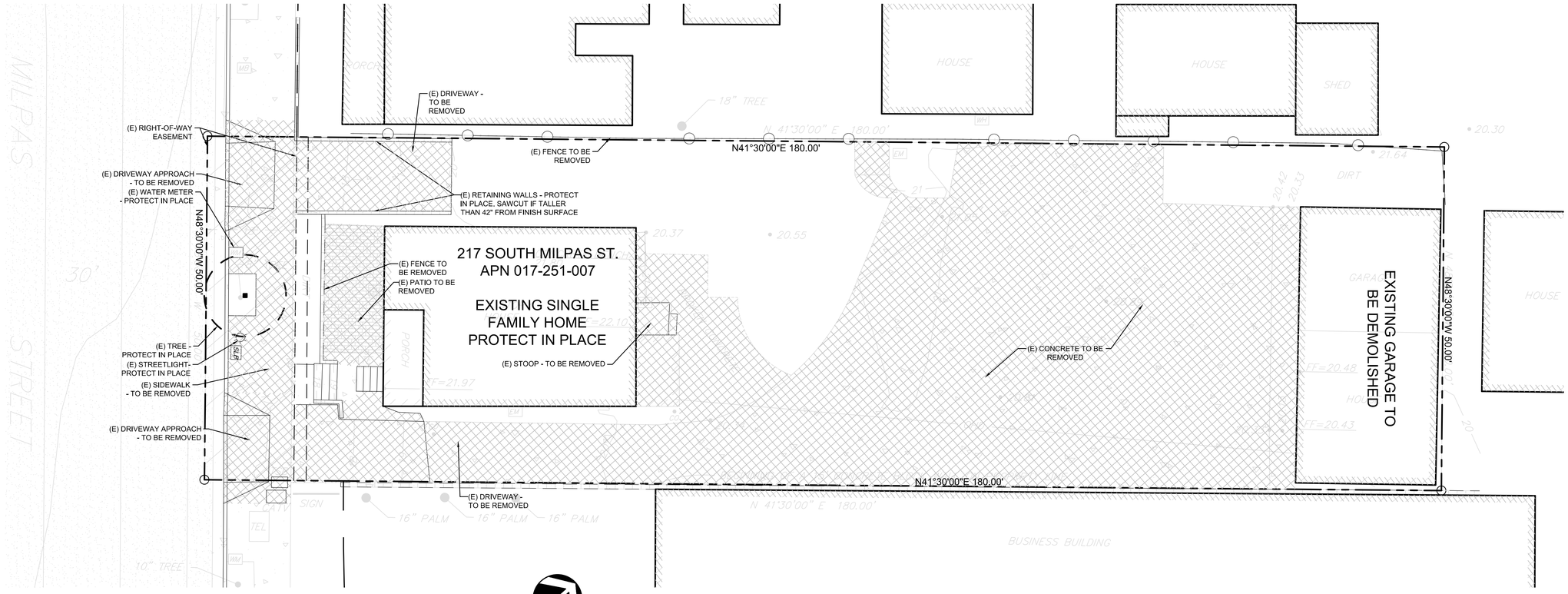
EROSION CONTROL PLAN

ACCESSORY DWELLING UNIT
217 MILPAS STREET SANTA BARBARA

PBW. NO. -
BID NO. - SHT. DES. -
DWG. NO. -

SHT. 5 OF 5

217 Milpas DP.dwg SAVED 4/2/2024 6:36 PM PLOTTED 4/2/2024 6:37 PM



DEMO PLAN

SCALE: 1/8" = 1'-0"

NORTH

ON DESIGN, LLC
Architecture
Planning
Interior Design

Keith Nolan
C-22451

•ON design LLC•
• P.O. BOX 598 • Santa Barbara • California • 93102 •

217 SOUTH MILPAS DUPLEX

217 SOUTH MILPAS ST., SANTA BARBARA, CA

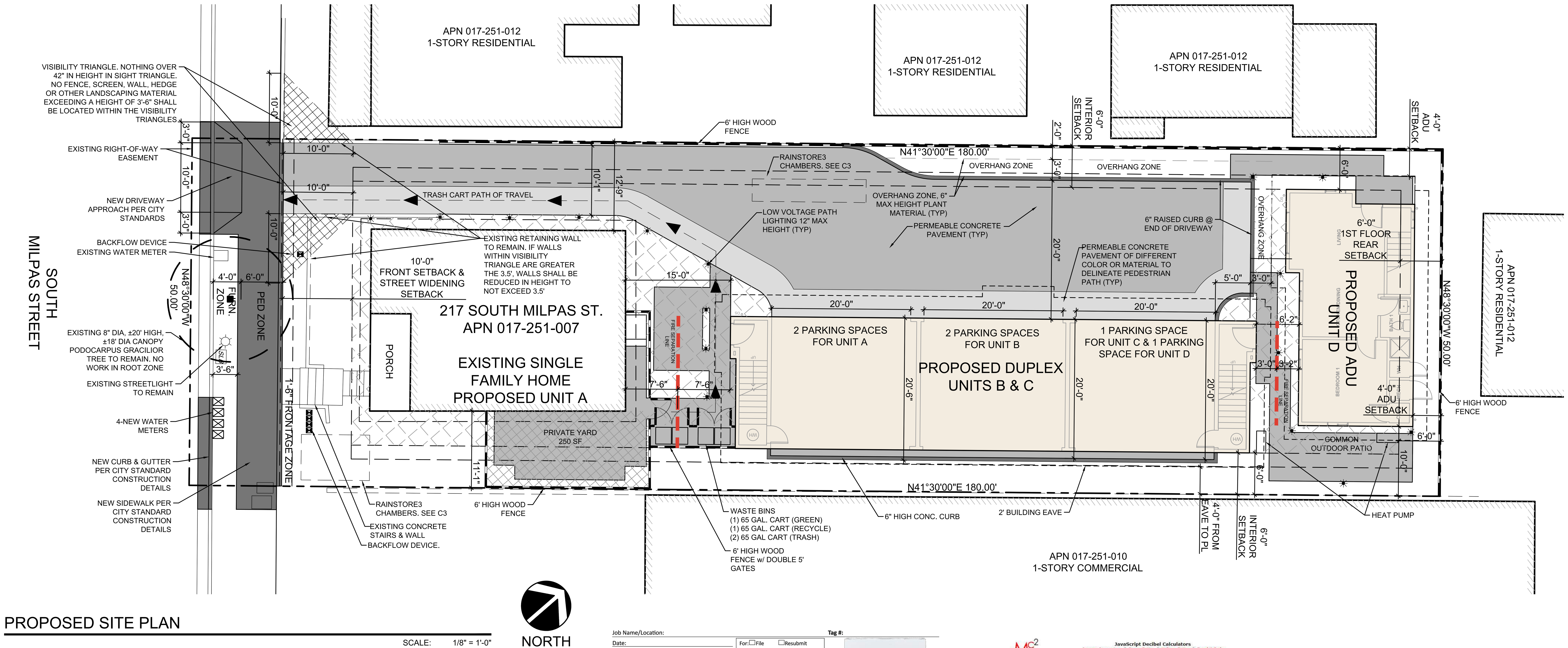
DEMOLITION PLAN

LICENSED ARCHITECT KEITH SAMUEL NOLAN C-22451 01-'24 STATE OF CALIFORNIA

Revisions

Project Manager	KN
Drawn By	
Scale	VARIES
Print Date	

A-1.0



PROPOSED SITE PLAN

SCALE: 1/8" = 1'-0"

OPEN YARD/SPACE LEGEND

- PROPOSED OPEN SPACE
- PROPOSED PRIVATE OPEN YARD

Job Name/Location:

Date: ______ For: ☐ File ☐ Resubmit ☐ Approval Other ______

PO No.:

Architect: GC:

Engr: Mech:

Rep: (Company) (Project Manager)

Tag #:

LS240HFV3
Single Zone Standard Efficiency Wall Mount
Outdoor Unit (ODU) - LSU240HFV3, Indoor Unit (IDU) - LSN240HFV3

LG Life's Good

Performance:

Cooling:

Cooling Capacity (Min~Rated~Max) (Btu/h)	3,685 ~ 22,000 ~ 24,000
SEER	17.00
EER	10.00

SEER - Seasonal Energy Efficiency Ratio EER - Energy Efficiency Ratio

Heating:

Heating Capacity (Min~Rated~Max) (Btu/h)	3,685 ~ 22,000 ~ 25,260
Max. Heating @ Indoor 70°F DB Outdoor 19°F DB / 17°F WB	17,680
HSPF	9.0

HSPF - Heating Seasonal Performance Factor
Cooling Nominal Test Conditions: Indoor: 80°F DB / 67°F WB Outdoor: 95°F DB / 75°F WB
Heating Nominal Test Conditions: Indoor: 70°F DB / 60°F WB Outdoor: 47°F DB / 43°F WB

Electrical:

Power Supply (V¹/Hz/Ø)	208-230 / 60 / 1

Outdoor Unit:

MOP (A)	20
MCA (A)	15
Cooling Rated Amps (A)	10.4
Heating Rated Amps (A)	10.4
Compressor (A)	10.0
Fan Motor (A)	0.4

MOP - Maximum Overcurrent Protection MCA - Minimum Circuit Ampacity

Total Power Input:

Cooling Power Input (kW)	2.2
Heating Power Input (kW)	2.02

Piping:

Liquid Line (in., O.D.)	1/4
Vapor Line (in., O.D.)	1/2
Additional Refrigerant (oz./ft.)	0.26
Min. / Max. Pipe Length (ft.)²	9.8 / 65.6
Piping Length (no add'l refrig., ft.)	24.6
Max. Elevation (ft.)	32.8

Features:

- 24-Hour on/off timer
- 2-Way (up / down) auto swing
- Auto changeover
- Auto restart
- Jet cool/Jet heat
- Condensate sensor connection
- Energy saving
- Inverter (variable speed compressor)
- Self-cleaning indoor coil
- Sleep mode
- Ultra quiet operation

Included Accessories:

- Wireless Remote Controller — AKB74955602

Optional Accessories:

- ☐ MultiSITE™ CRC1 — PREMTBVC0
- ☐ MultiSITE CRC1+ — PREMTBVC1
- ☐ Simple Remote Controller — PREMTC00U
- ☐ Premium Remote Controller — PREMTA000
- ☐ Dry Contact - PDRYCB100/320/400

For a complete list of available accessories, contact your LG representative.
For continual product development, LG reserves the right to change specifications without notice.
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Operating Range:

Outdoor Unit:

Cooling (°F DB)	14 to 118
Heating (°F WB)	14 to 65

Indoor Unit:

Cooling (°F WB)	53 to 75
Heating (°F DB)	60 to 86

System Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Refrigerant Charge (lbs.)	2.975
ODU Sound Pressure (Cooling / Heating) (±1 dB[A])³	55 / 55
IDU Sound Pressure	
Cooling (H/M/L/Sleep) (±1 dB[A])³	48 / 43 / 38 / 32
Heating (H/M/L) (±1 dB[A])³	48 / 43 / 38 / 32
ODU Net / Shipping Weight (lbs.)	98.1 / 108
IDU Net / Shipping Weight (lbs.)	26 / 30
Heat Exchanger Coating	GoldFin™

Fan:

ODU Type	Propeller
IDU Type	Cross Flow
Fan Speeds (Fan/Cool/Heat)	6 / 6 / 6
Quantity (ODU + IDU)	1 + 1
Motor/Drive	Brushless Digitally Controlled/Direct
ODU Max. Air Flow Rate (CFM)	1,730
IDU Air Flow	
Cooling, Max/H/M/L (CFM)	689 / 512 / 459 / 371
Heating, Max/H/M/L (CFM)	653 / 565 / 477 / 388
Dehumidification (pts./hr.)	4.86

Notes:

1. Acceptable operating voltage: 187V-253V.
2. Piping lengths are equivalent.
3. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
4. All communication / connection (power) cable from the outdoor unit to the indoor unit is field supplied and must be a minimum of four-conductor, 14 AWG, stranded, shielded or unshielded (if shielded, it must be grounded to the chassis of the outdoor unit only), and must comply with applicable local and national codes.
5. See Engineering Manual for sensible and latent capacities.
6. Power wiring cable size must comply with the applicable local and national code.
7. The indoor unit comes with a dry helium charge.
8. This data is rated 0 ft. above sea level, with 24.6 ft. of refrigerant line and a 0 ft. level difference between outdoor and indoor units.
9. Must follow installation instructions in the applicable LG installation manual.

C CSA US

AHRI CERTIFIED® www.ahridirectory.org
Unitary Small HP
AHRI Standard 210/240
Certification applies only when the complete system is listed with AHRI.

SB SZ WallMounted StandardEfficiency LS240HFV3 2021 04 23 111339
Page 1 of 3

Mc2 System Design Group

JavaScript Decibel Calculators
Inverse Square Law * Power Ratios * Voltage Ratios * T and H-Pads
Combining Decibels * Atmospheric Absorption

Decibels and Distance

This calculator requires a JavaScript capable browser

This calculation will give you the amount of attenuation, in decibels, you can expect with a change in receiver distance, in a free field (outdoors). For example if you were standing 10 feet from a noise source, and were to move 100 feet away from that noise source, you would expect to see a drop in level of 20dB. Sound that is radiated from a point source drops in level at 6dB per doubling of distance. If you start at 50 feet from the source and move to 100 feet from the source you will have a 6dB drop in level. If you move from 500 feet to 1000 feet, you will have a 6dB drop in level. For the record, the formula to calculate this level drop is: *Decibels of Change*=20xlog(distance 1/distance 2), and you can calculate it on any scientific calculator.

Reference listening distance in feet or meters, from the noise source	New receiver distance in feet or meters, from the source		This is the number of decibels of level drop/rise you would find
1	6	Calculate	-15.5628643978

HELP
JavaScript Help

This information is provided with no warranty of its accuracy, or applicability, and any use made of this information is done so at the sole risk of the user.

Mc2 System Design Group
M^c Squared System Design Group, Inc
323 - 901 West 3rd Street, North Vancouver, BC. V7P 3P9 Ph 604-986-8181
116-5100 Anderson Way, Vernon, BC V1T 0C4 Ph 604-986-8181
403 - 1240 Kensington Rd NW, Calgary, AB. T2N 3P7 Ph 403-452-2263
901 King Street West, Suite 400, Toronto, ON. M5V 3H5 Ph 647-479-8601

ON DESIGN, LLC
Architecture
Planning
Interior Design

Keith Nolan
C-22451

• O N d e s i g n LLC •
• P.O. BOX 598 • Santa Barbara • California • 93102 •

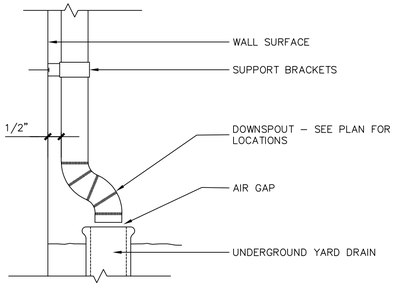
217 SOUTH MILPAS DUPLEX
217 SOUTH MILPAS ST., SANTA BARBARA, CA
PROPOSED SITE PLAN

LICENSED ARCHITECT KEITH SAMUEL NOLAN C-22451 03-25 STATE OF CALIFORNIA

Revisions

Project Manager: KN
Drawn By
Scale: VARIES
Print Date

A-1.1



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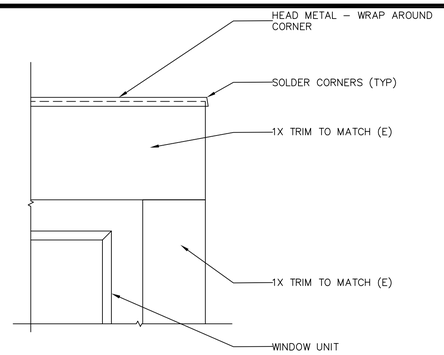
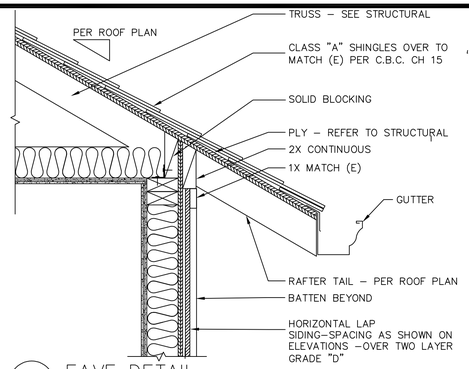
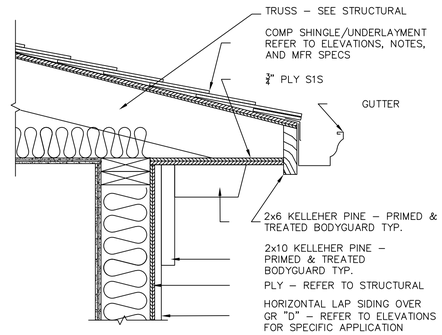
FD203X32 SCALE: 1 1/2"=1'–0"



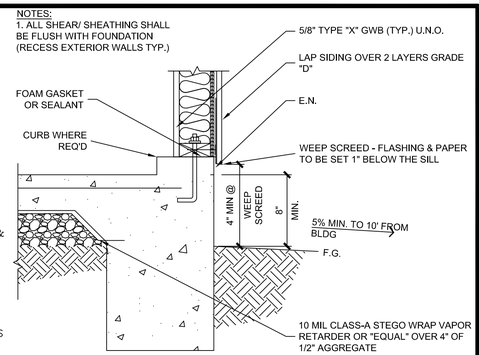
11 HEAD–JAMB ELEV
TR111X30 SCALE: 3"=1'–0"



9 EAVE DETAIL
RF400X32 SCALE: 1 1/2"=1'–0"



5 EAVE DETAIL
RF406X32 SCALE: 1 1/2"=1'–0"



1 SCREED @ FINISH GRADE
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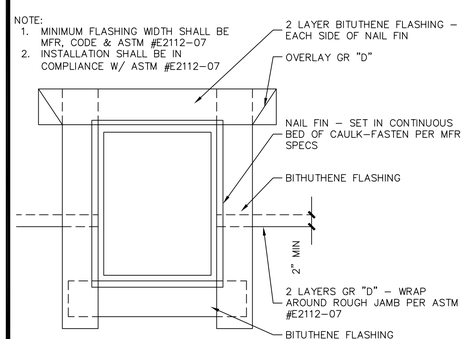
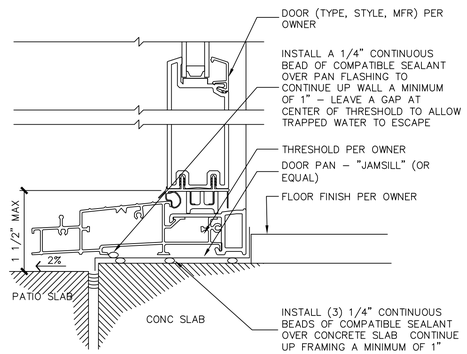
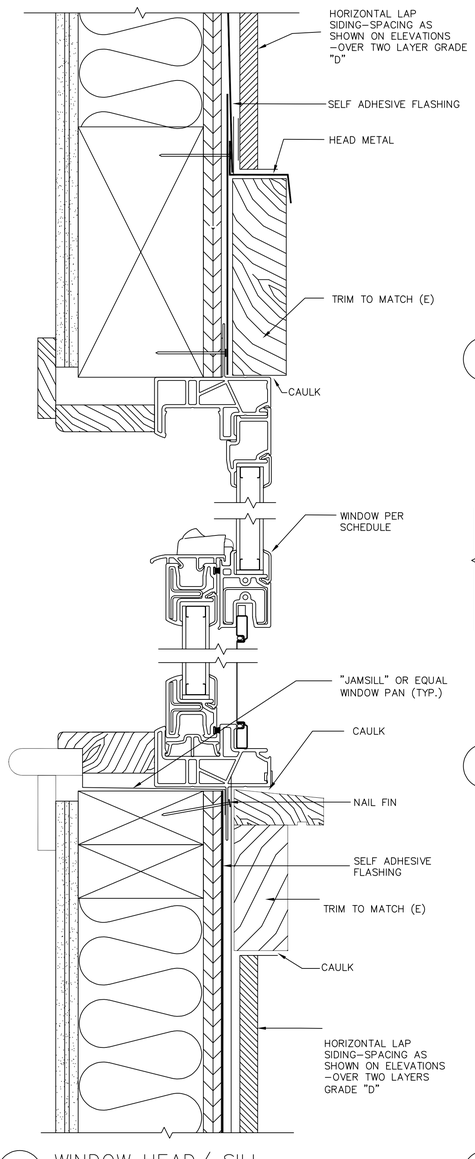


16 TYP. FLASHING ELEV. @ WINDOW
WL113X10 SCALE: N.T.S.



12 DOOR SILL
DR101X60 SCALE: 6"=1'–0"



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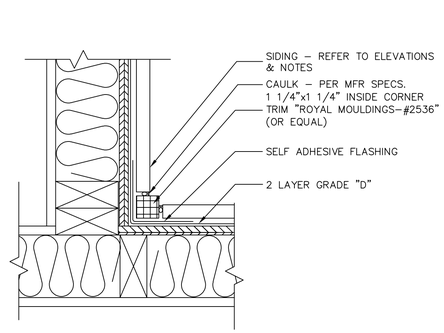
WL203X60 SCALE: 6"=1'–0"



6 CORNER
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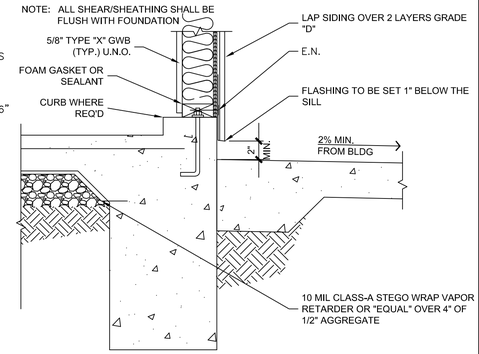
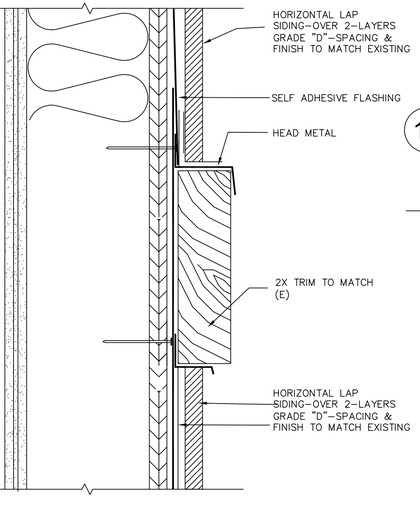
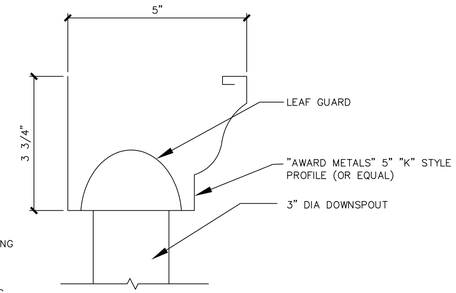


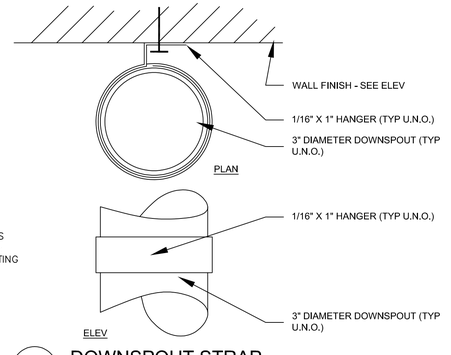
2 SCREED @ HARDSCAPE
FD102X32 SCALE: 1 1/2"=1'-0"



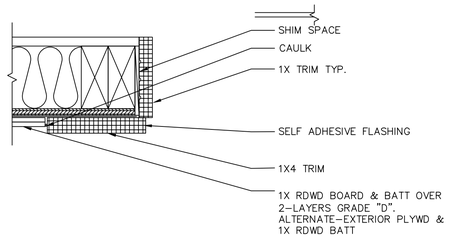
17 TRIM BOARD
WL203X60 SCALE: 6"=1'–0"



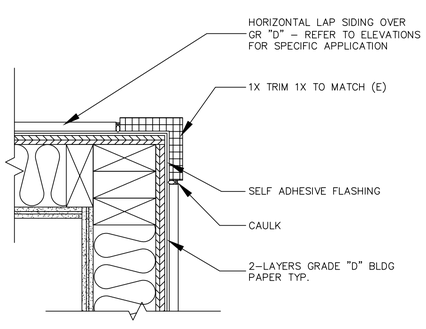
13 GUTTER PROFILE
GU103X60 SCALE: 6"=1'–0"



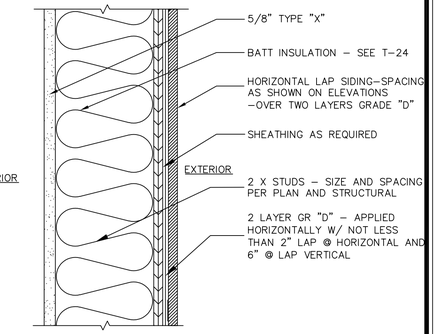
14 DOWNSPOUT STRAP
DS103X60 SCALE: 6"=1'-0"



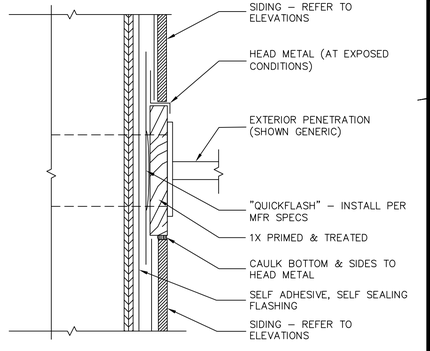
7 CARPORT JAMB
WL204X30 SCALE: 3"=1'–0"



8 CORNER TRIM
WL201X30 SCALE: 3"=1'–0"



3 EXTERIOR WALL
FP116X30 SCALE: 3"=1'–0"



4 TYP. EXTERIOR PENETRATION
FP117X30 SCALE: 3"=1'–0"

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217 S. MILPAS DUPLEX & ADU
217 S. Milpas st, Santa Barbara, Ca.
DETAILS

LICENSED ARCHITECT KEITH SAMUEL NOLAN C-22451 03-21 STATE OF CALIFORNIA

Revisions

Project Manager
KN
Drawn By
Scale
VARIES
Print Date

A-9.1

PROGRESS LIGHTING

Project:
Fixture Type:
Location:
Contact:

Medium Wall Lantern

Wall mounted · Wet location listed PROGRESS LED

P6078-3130K9

Description:

The East Haven LED Collection offers modern styling to complement a wide variety of home styles. The one-light medium LED outdoor wall lantern has a Black frame that cradles a seeded glass shade. 120V AC replaceable LED module, 623 lumens (source), 3000K color temperature and 90+ CRI.

Specifications:

- Black (-31) (powder coat paint)
- Aluminum Construction
- Clear Seeded glass shade, White acrylic Diffuser
- LED Module is replaceable (part # 93054049)
- Contemporary styling
- Features clear seeded glass.
- Powder coated finish.
- 623 lumens 69.2 lumens/watt per module (source)
- 3000K color temperature, 90+ CRI.
- Dimmable to 10% brightness (See Dimming Notes)
- Back plate covers a standard 4" octagonal recessed outlet box
- Mounting strap for outlet box included
- 6" of wire supplied
- ENERGY STAR® qualified
- Meets California Title 24 high efficacy requirements for outdoor use only

Images:

Performance:

Number of Modules	1
Input Power	9w
Input Voltage	120 V
Input Frequency	60 Hz
Lumens/LPW (Source)	623/69.2 (LM-82)
Lumens/LPW (Delivered)	326/41.3 (LM-79)
CCT	3000 K
CRI	90 CRI
Life (hours)	60,000 (L70/TM-21)
FCC	Meets FCC Title 47, Part 15 Class B
Min. Start Temp	-30 °C
Max. Operating Temp	30 °C
Warranty	5 year warranty
Labels	cCSAus Wet location listed ENERGY STAR® qualified Meets California Title 24 high efficacy requirements for outdoor use only

Dimensions:

Width: 7-1/2"
Depth: 9-1/8"
Height: 9-3/4"
H/CTR: 4-3/4"

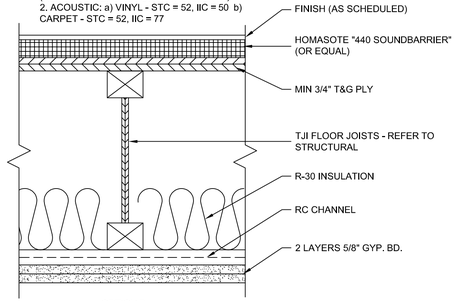
Glass
Width: 6-1/8"
Length: 6-1/8"
Height: 6-1/2"
Glass 2
Width: 2-7/8"
Length: 2-7/8"
Height: 0-13/16"

For more information visit our website: www.progresslighting.com

Progress Lighting • 701 Millennium Boulevard • Greenville, SC 29607

BUILDING ENTRY SCONCE

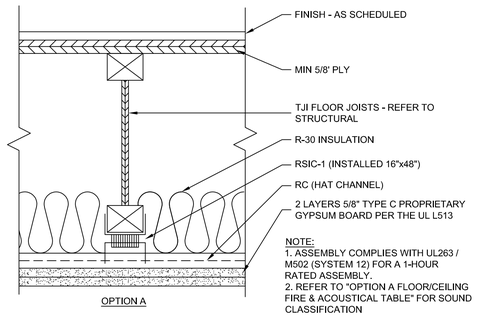
NOTE:
1. ASSEMBLY COMPLIES WITH UL263 / L570 (SYSTEM 7) FOR A 1-HOUR RATED ASSEMBLY. (REFER TO REPORT FOR ATTACHMENTS)
2. ACOUSTIC: a) VINYL - STC = 52, IIC = 50 b) CARPET - STC = 52, IIC = 77



OPTION B

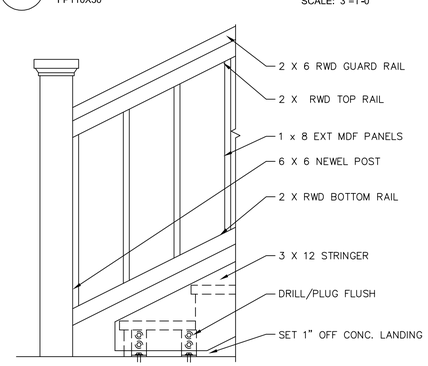
OPTION A - FLOOR/CEILING FIRE & ACOUSTIC ASSEMBLY TABLE			
FLOORING	IIC	STC	SPEC
VINYL	56	61	#FWC-ATI-E6968.08
SNAP/LOCK W/ 2 MIL MAT	50	58	#FWC-ATI-E6968.09
CERAMIC TILE	69	59	#FWC-ATI-E6968.11

NOTES
1. FLOOR/CEILING ASSEMBLY BETWEEN UNITS SHALL INCLUDE THE FOLLOWING MATERIALS; MIN 5/8" PLY SUBFLOOR, 15# FELT, MIN 5/8" PLY SUBFLOOR, I JOIST, MIN 6" BATT INSULATION, RSIC-1 CLIPS INSTALLED @ 16" x 48" O.C., FURRING (HAT CHANNELS, 2 LAYERS 5/8" TYPE "X"
2. ASSEMBLY COMPLIES WITH UL263 (DESIGN M502) FOR A 1-HOUR ASSEMBLY

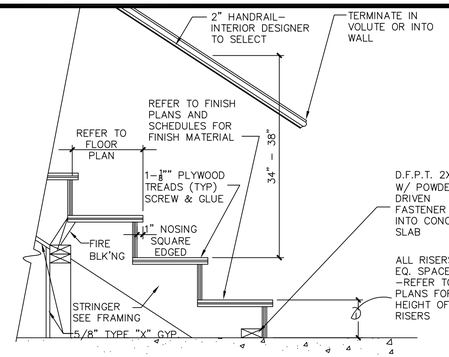


OPTION A

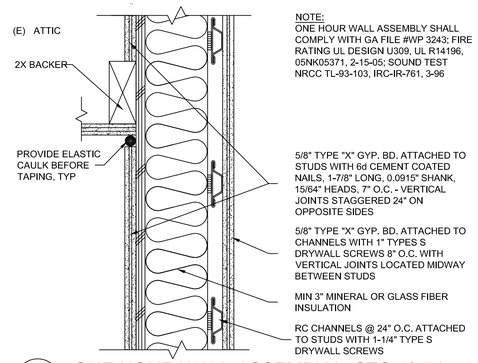
27 1-HR FLOOR/CEILING FIRE/ACOUSTIC ASSEMBLY
FP110X30 SCALE: 3"=1'-0"



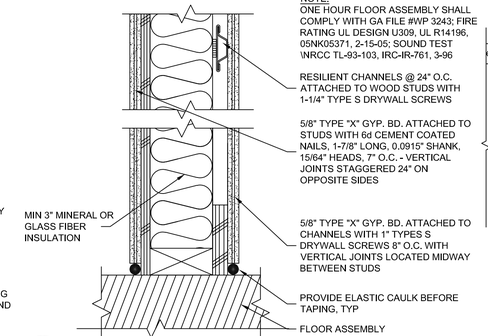
27 GUARD @ STAIRS
SR102X10 SCALE: 1" = 1'-0"



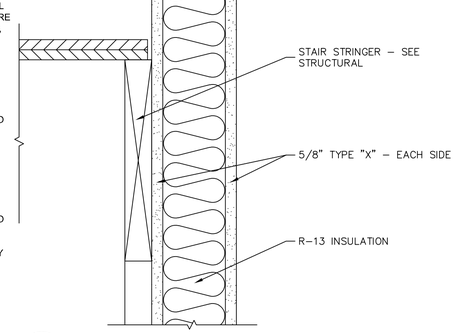
23 STAIR HANDRAIL DETAIL @ WALL
SR301X10 SCALE: 1"=1'-0"



24 ONE HOUR WALL ASSEMBLY - STC 50-54
FP113X30 SCALE: 3"=1'-0"

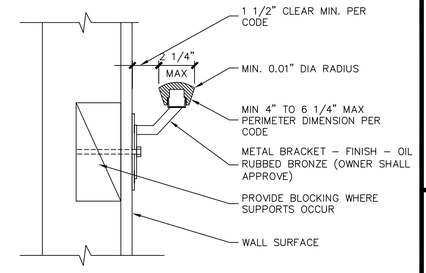


25 ONE HOUR WALL ASSEMBLY - STC 50-54
FP112X30 SCALE: 3"=1'-0"

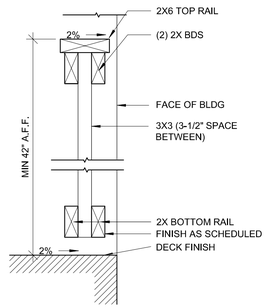


21 1 HR WALL @ STAIRS
FP101X30 SCALE: 3"=1'-0"

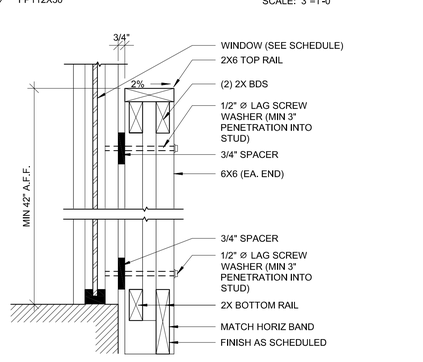
NOTE: HANDRAIL DESIGN PER OWNER



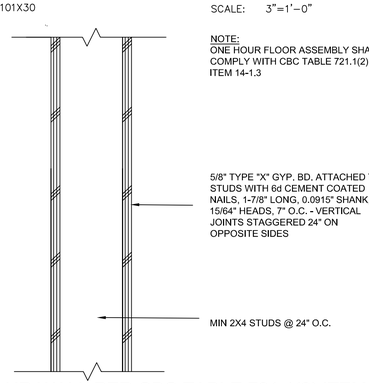
19 HANDRAIL DETAIL
SR101X30 SCALE: 3"=1'-0"



DECK GUARDRAIL



26 JULLIET BALCONY



22 1-HR WALL PER CBC TABLE 721.1(2) ITEM 14-1.3
FP113X30 SCALE: 3"=1'-0"

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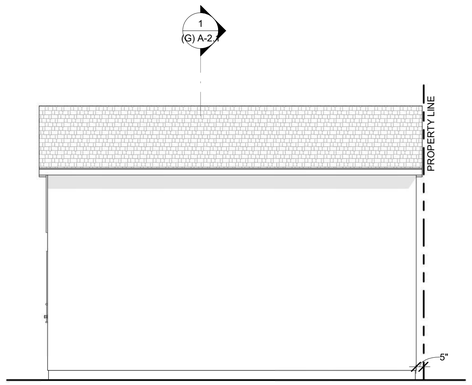
DETAILS

LICENSED ARCHITECT KEITH SAMUEL NOLAN C-22451 REG. 03-31 STATE OF CALIFORNIA

Revisions

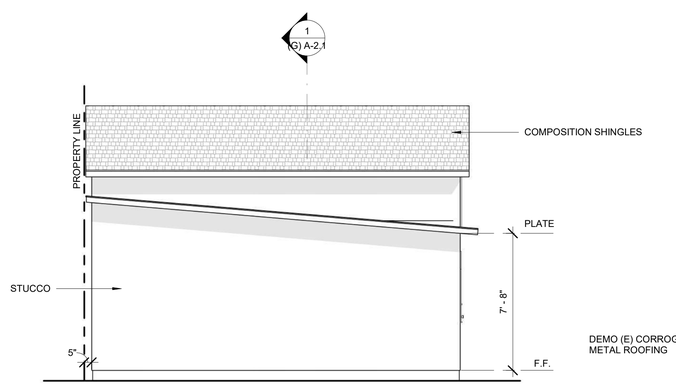
Project Manager: KN
Drawn By:
Scale: VARIES
Print Date:

A-9.2



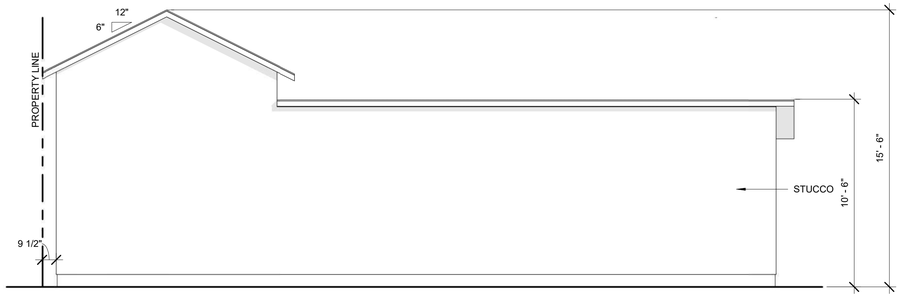
EXISTING EAST ELEVATION

1/4" = 1'-0"



EXISTING WEST ELEVATION

1/4" = 1'-0"

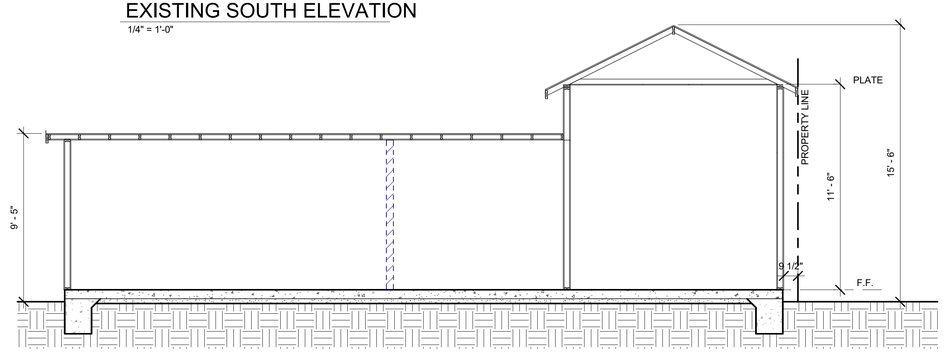


EXISTING NORTH ELEVATION

1/4" = 1'-0"

EXISTING SOUTH ELEVATION

1/4" = 1'-0"

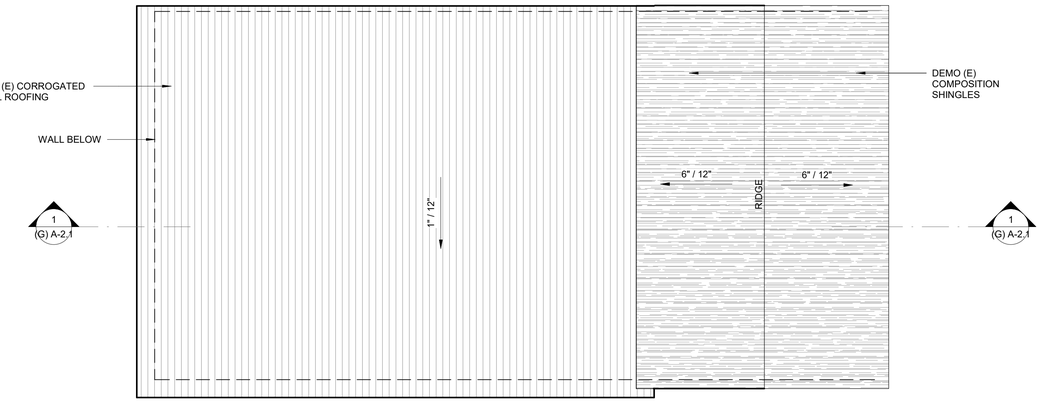


1 SECTION

1/4" = 1'-0"

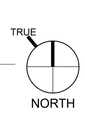
WALL LEGEND

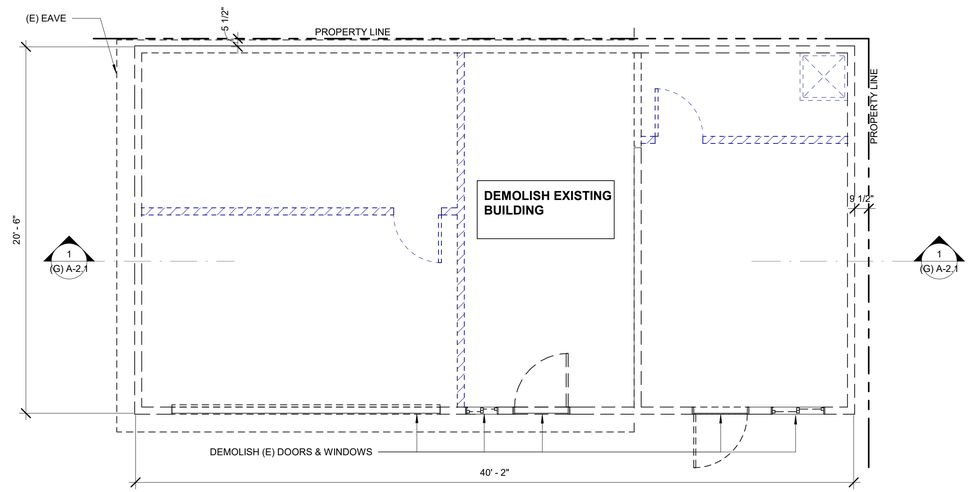
- (N) 2X STUD W/5/8" GYP BD
- (N) 2X STUD W/5/8" GYP BD
- (E) TO BE DEMOLISHED



EXISTING ROOF PLAN

1/4" = 1'-0"





F.F.

EXISTING FLOOR/DEMO PLAN

1/4" = 1'-0"

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ACCESSORY DWELLING UNIT

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EXISTING PLANS / SECTIONS / ELEVATIONS

Revision Schedule

Project Manager: Designer

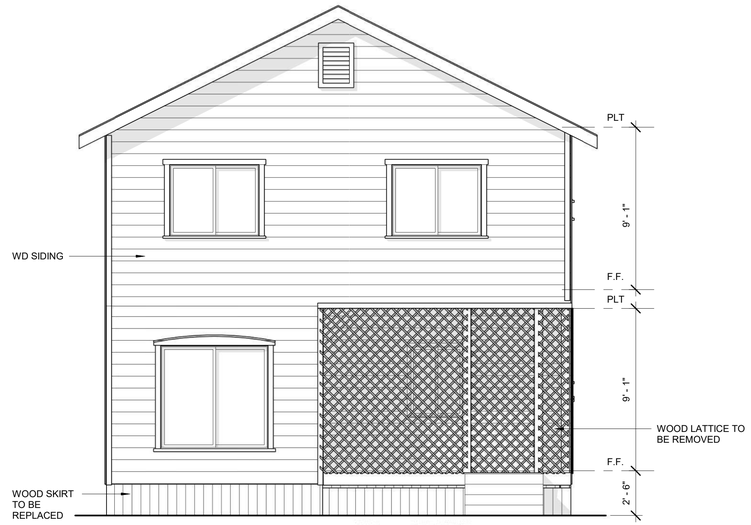
Scale: 1/4" = 1'-0"

PrintDate: 4/8/2024 12:05:35 PM

(G) A-2.1

EXISTING SOUTH ELEVATION

1/4" = 1'-0"

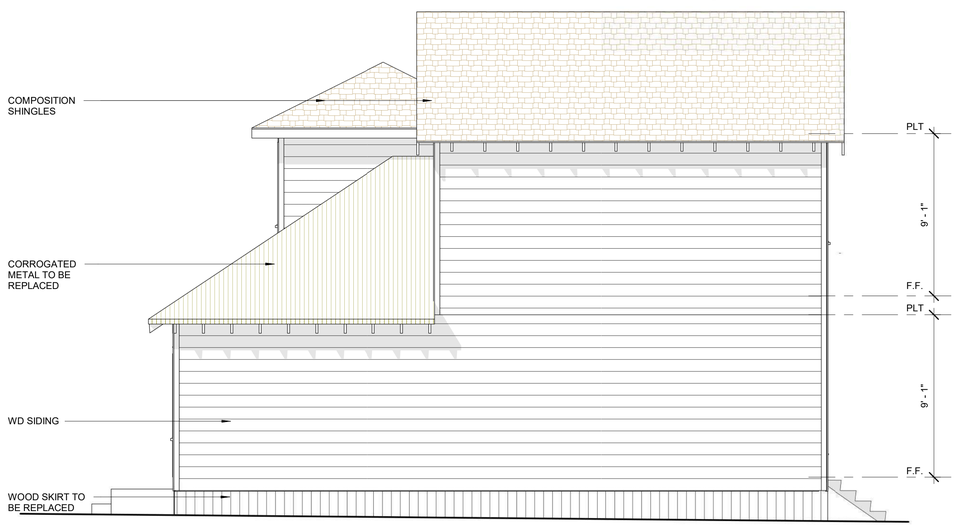


EXISTING EAST ELEVATION

1/4" = 1'-0"

EXISTING WEST ELEVATION

1/4" = 1'-0"



EXISTING NORTH ELEVATION

1/4" = 1'-0"

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217 SOUTH MIPLAS HOUSE

217 S. MILPAS ST. , SANTA BARBARA, CA

EXISTING EXTERIOR ELEVATIONS

Revision Schedule

Project Manager
Designer

Scale
1/4" = 1'-0"

PrintDate
4/12/2024 10:20:08 AM

(H) A-6.1

COLORS & MATERIALS

BODY- 1ST & 2ND FLOOR
"ARTICHOKE"

TRIM - "DIVINE WHITE"

BASE - "SECRET GREEN"

ACCENT - WINDOW & DOOR
"FIREWEED"

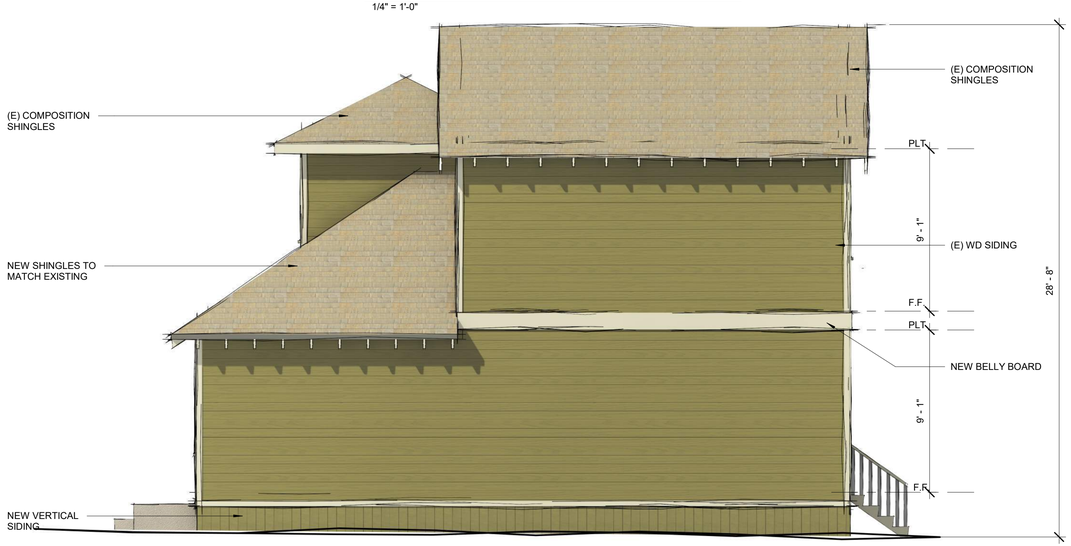
CERTAINTEED - PRESIDENTIAL
AUTUMN BLEND

PROGRESS LIGHTING
P6078 - East Haven LED -
Outdoor Light

PROPOSED SOUTH ELEVATION
1/4" = 1'-0"

PROPOSED EAST ELEVATION
1/4" = 1'-0"

PROPOSED WEST ELEVATION
1/4" = 1'-0"



PROPOSED NORTH ELEVATION
1/4" = 1'-0"

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217 SOUTH MIPLAS HOUSE

217 S. MILPAS ST. , SANTA BARBARA, CA

PROPOSED EXTERIOR ELEVATIONS

REGISTERED ARCHITECT KEITH SAMUEL NOLAN 22451 STATE OF CALIFORNIA

Revision Schedule

Project Manager
Designer
Scale
As indicated
PrintDate
4/9/2024 9:47:34 AM

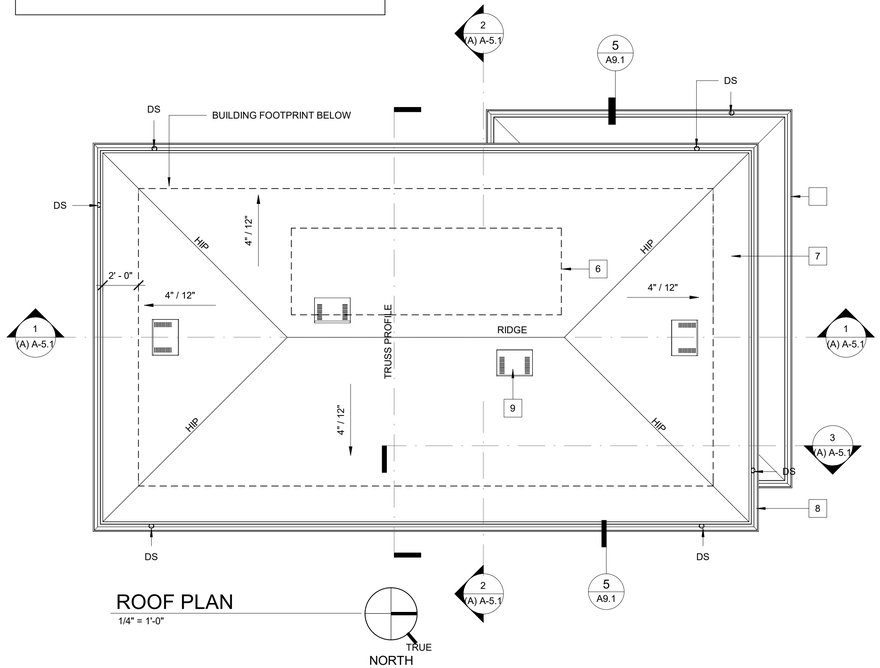
(H) A-6.2

PLAN NOTES

1. PROVIDE ACCESS PANELS AS REQUIRED BY CMC, CPC, CBC/CRC (PROVIDE SUBMITTAL TO ARCHITECT FOR REVIEW & OWNER FOR APPROVAL PRIOR TO INSTALLATION)
2. PROVIDE FIRE SAFING, FIRE BLOCKING AT RATED WALL ASSEMBLIES. FIRE BLOCKING AT ALL CODE REQUIRED CONDITIONS.
3. PENETRATIONS IN RATED WALL/CEILING ASSEMBLIES SHALL COMPLY WITH C.R.C. & C.B.C.
4. SUBCONTRACTOR(S) SHALL BE RESPONSIBLE FOR ALL TRADE RELATED ITEMS AS NOTED WITHIN FULL CONSTRUCTION DOCUMENTS AND ITEMS REQUIRED TO MEET THE INTENT OF THE C.D.'s & APPLICABLE CODES.
5. PLUMBING & FRAMING CONTRACTOR SHALL COORDINATE & AGREE UPON LOCATIONS FOR PLUMBING PENETRATIONS & LAYOUTS WITHIN FRAMED WALLS & FLOOR PRIOR TO CONSTRUCTION. IT IS THE CONTRACTORS FULL RESPONSIBILITY TO RESOLVE ANY CONFLICTS PRIOR TO CONSTRUCTION.
6. MECHANICAL & FRAMING CONTRACTOR SHALL COORDINATE & AGREE UPON SIZE & LOCATIONS FOR DUCTING PENETRATIONS & LAYOUTS WITHIN FRAMED WALLS AND FLOOR PRIOR TO CONSTRUCTION. IT IS THE CONTRACTORS FULL RESPONSIBILITY TO RESOLVE ANY CONFLICTS PRIOR TO CONSTRUCTION.
7. PRIOR TO BIDDING, SUBCONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR VERIFICATION OF AVAILABILITY AND COMPATIBILITY OF ANY SPECIFIC PRODUCT SPECIFIED. CONTRACTOR SHALL NOTIFY ARCHITECT AND OWNER IMMEDIATELY WITH REQUESTED ALTERNATIVES OR SPACE CONFLICTS.
8. ALL EXTERIOR AND (HABITABLE TO NON-HABITABLE) WALLS & CEILINGS SHALL BE INSULATED AT A MINIMUM PER T-24 SPECS (& AT ADDITIONAL LOCATIONS AS NOTED CONSTRUCTIONS DOCUMENTS).
9. PLUMBING CONTRACTOR SHALL COORDINATE WITH FRAMING CONTRACTOR TO RESOLVE ANY POTENTIAL CONFLICTS BETWEEN FRAMING AND PLUMBING PRIOR TO CONSTRUCTION.
10. IT IS SOLELY THE GENERAL CONTRACTOR & TRADE CONTRACTOR'S RESPONSIBILITY TO RESOLVE ANY POTENTIAL CONFLICTS PRIOR TO SUBMITTAL OF BID(S). ADDITIONAL POTENTIAL CONFLICTS DURING CONSTRUCTION SHALL BE ABSORBED BY THE CONTRACTOR
11. WATER FIXTURES SHALL COMPLY WITH C.P.C., CAL-GREEN & LOCAL ORDINANCES. PRIOR TO PURCHASING FIXTURES, PLUMBING CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR VERIFYING ANY SPECIFIED FIXTURE COMPLIANCE.
12.
13. ALL FIREBLOCKING AND DRAFTSTOPPING SHALL BE INSTALLED AND INSPECTED PRIOR TO ROUGH-IN OF PLUMBING AND MECHANICAL.
14. VENTING FOR GAS FIRED EQUIPMENT SHALL BE IN COMPLIANCE WITH C.P.C., C.R.C/C.B.C. AND MFR SPECS. SUBCONTRACTOR SHALL BE WHOLLY RESPONSIBLE TO VERIFY GAS FIRED EQUIPMENT LOCATIONS DO NOT CONFLICT WITH BUILDING DESIGN AND STRUCTURAL PRIOR TO SUBMITTAL OF BID.
15. THE FRAMING CONTRACTOR SHALL COORDINATE TIMING AND PLACEMENT OF INTERIOR SHEAR PANELS WITH THE GENERAL CONTRACTOR.
16. AT ACOUSTIC TREATED WALLS, CAULK & SEAL ALL PENETRATIONS & TRANSITION AREAS PER NATIONAL GYPSUM & GYPSUM ASSOCIATION SOUND ISOLATION STANDARDS.
17. OFFSET ELECTRICAL OUTLETS AT SEPARATION WALLS PER GYPSUM ASSOCIATION SOUND ISOLATION STANDARDS. OUTLETS IN DWELLING UNIT SEPARATION WALLS SHALL HAVE ACOUSTIC PADS SURROUNDING THE BOX & WIRE HOLES.
18. FIRE SPRINKLER DESIGNER SHALL COORDINATE WITH ARCHITECT RE: PLACEMENT OF SPRINKLER HEADS PRIOR TO CONSTRUCTION.
19. PROVIDE MINIMUM 2x8 BLOCKING/BACKING AT ALL TOWEL BAR LOCATIONS
20. ACOUSTIC SEALANT INSTALLED IN A FIRE-RATED ASSEMBLY SHALL BE FIRE-RATED IN ADDITION TO PACKING MATERIAL USED AT PIPE PENETRATIONS.
21. AT RATED PENETRATIONS, PROVIDE MEANS OF FIRE PROTECTION. (IE, LOWRY WRAP PADS, FIRE CAULK) INCLUDE FIRE-RATED ASSEMBLIES FOR THE FOLLOWING: GAS LINE, ELECTRICAL, CATV, TELCO, LOW VOLTAGE, WATER LINES, ACOUSTIC SEALANT INSTALLED IN A FIRE-RATED ASSEMBLY MUST BE FIRE-RATED AS WELL I.E. PACKING MATERIAL TO BE USED AT PIPE PENETRATIONS, PROVIDE U.L. LISTING.
22. TRADE CONTRACTOR SHALL PROVIDE FURRING STRIPS AT FRAMED WALLS PRIOR TO GYP BD INSTALLATION TO MEET FINISH TOLERANCES (FRAMING TOLERANCES ± 1/8" PER 8'-0" VERTICAL & HORIZONTAL).
23. PROVIDE A MINIMUM LANDING OF 3'-0" IN DEPTH AT ALL EXTERIOR OPENINGS.
24. ALL WATER CLOSETS SHALL HAVE AN EFFECTIVE FLUSH VOLUME OF NOT MORE THAN 1.28 GALLONS PER FLUSH. TANK TYPE WATER CLOSET SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATER SENSE SPECIFICATION FOR TANK TYPE TOILETS. URINALS SHALL HAVE AN EFFECTIVE FLUSH VOLUME NOT TO EXCEED 0.5 GALLONS PER FLUSH. **SINGLE SHOWER HEADS** SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 80 PSI. **MULTIPLE SHOWER HEADS** WHEN SERVED BY A SINGLE VALVE SHALL HAVE A COMBINED FLOW RATED NOT TO EXCEED 1.8 GALLONS PER MINUTE. **RESIDENTIAL LAVATORY** FAUCETS SHALL HAVE A MAXIMUM RATE OF 1.2 GALLONS PER MINUTE AT 60 PSI AND A MINIMUM FLOW RATE OF NOT LESS THAN 0.8 GALLONS PER MINUTE AT 20 PSI. **FAUCETS IN COMMON** AND PUBLIC AREAS (OUTSIDE DWELLINGS AND SLEEPING UNITS) IN RESIDENTIAL BUILDINGS MUST HAVE A MAXIMUM FLOW RATE OF 0.5 GALLONS PER MINUTE AT 60 PSI. **METERING FAUCETS** WHEN INSTALLED IN RESIDENTIAL BUILDINGS MUST NOT DELIVER MORE THAN 0.25 GALLONS PER CYCLE. **KITCHEN FAUCETS** SHALL HAVE A MAXIMUM OF FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI. **KITCHEN FAUCETS** TEMPORARILY INCREASE THE FLOW RATE TO A MAXIMUM OF 2.2 GALLONS AT 60 PSI BUT MUST DEFAULT BACK TO THE 1.8 GALLONS PER MINUTE. (SECTION 4.303)

ROOF NOTES

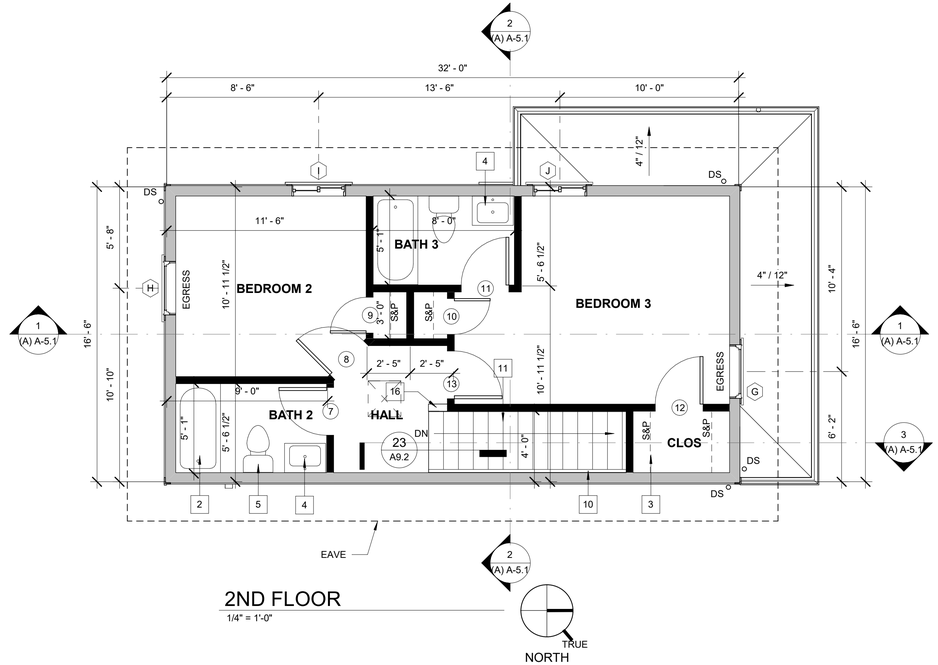
- TRUSS MANUFACTURER TO PROVIDE SOLID BLOCKING AT EAVES.
- ALL VENTING EQUIPMENT ON ROOF TO BE PRIMED & PAINTED TO MATCH ROOF COLOR, ARCHITECT TO APPROVE COLOR IN WRITING
- PROVIDE PV SYSTEM PER TITLE 24 REQUIREMENTS



ROOF PLAN
1/4" = 1'-0"

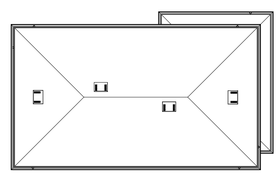
WALL LEGEND

- NEW 2X6 STUD W/5/8" GYP BD
- NEW 2X4 STUD W/5/8" GYP BD



2ND FLOOR
1/4" = 1'-0"

ROOF VENT CALCS



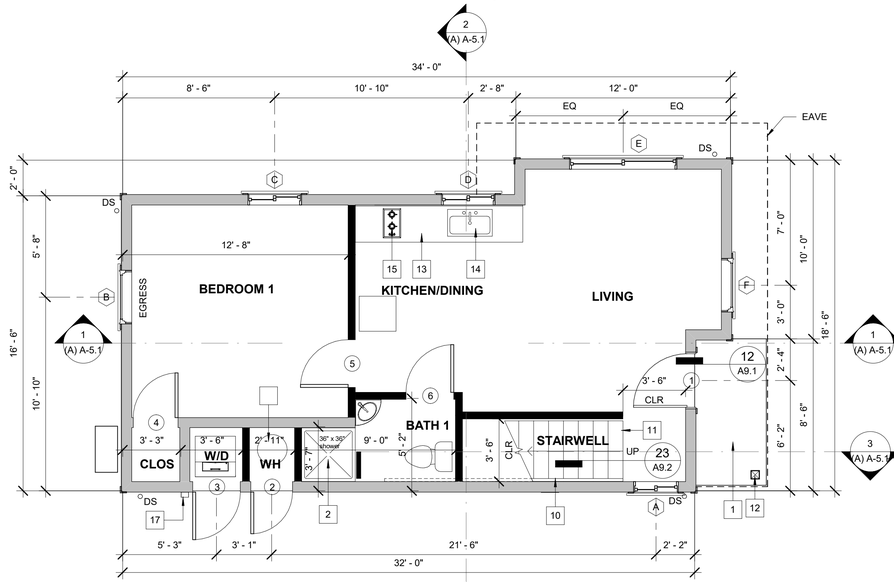
REQUIRED: 538 SF/300 SF = 1.79 SQ FT.

PROVIDED: CLOAKED VENT = 4 X 72 SQ IN. = 288 SQ IN.

TOTAL = 288 SQ IN = 2 SQFT > 1.79 SQ FT = OK

KEYNOTES

	<varies>
1	CODE REQUIRED MIN. 3'x3' CONCRETE LANDING PER C.R.C. - REFER TO LANDSCAPE/HARDSCAPE PLAN FOR SPECIFIC DESIGN
2	BATHTUB AND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE FLOOR
3	POLE & SHELF TYPICAL
4	PEDESTAL SINK
5	TOILET
6	PHOTOVOLTAIC PANELS - INSTALLED BY A STATE CERTIFIED SOLAR CONTRACTOR HOLDING A C-46 LICENSE & DESIGNED PER TITLE 24 REQUIREMENTS-REFER TO SOLAR PLAN SHEET
7	CLASS "A" SHINGLES - TYPE & COLOR TO MATCH EXISTING
8	BONDERIZED "K" STYLE GUTTER TO MATCH EXISTING
9	O'HAGIN ASPHALT SHINGLE CLOAKED ROOF VENT - NET FREE AREA = 72 SQ. IN. TYP
10	HANDRAIL 34"-38" ABOVE NOSING OF TREADS, PROVIDE SOLID 2x8 BLOCKING FOR ATTACHMENT TO WALL. FINISH PER OWNER. (SIZE, ATTACHMENT, TERMINATION PER C.R.C.)
11	STAIRS: T=10", R=7-3/4" - THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8" (CRC R311.7.5)
12	6x6 WOOD POST
13	36" HIGH COUNTER
14	SINGLE BASIN SINK
15	STOVE / OVEN / HOOD - C.F.C.I.
16	44" PONYWALL WITH 2X VG CAP - FINISH PER OWNER
17	DRYER VENT THROUGH WALL - REFER TO MECHANICAL PLAN



1ST FLOOR
1/4" = 1'-0"

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ADU FLOOR/ROOF PLANS

Revision Schedule

Project Manager: Designer
Scale: As indicated
PrintDate: 4/17/2024 11:09:18 AM

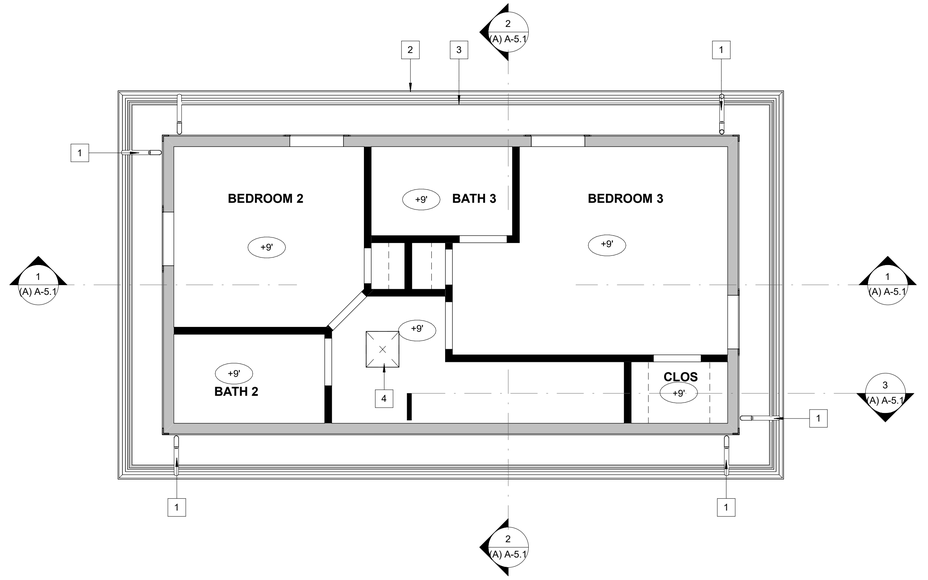
(A) A-2.1

CEILING NOTES

1. CONTRACTOR SHALL FUR CEILING AS REQUIRED TO MEET THE INTENT OF THE DRAWINGS
2. NOTED CEILING HEIGHTS ARE APPROXIMATE & WILL VARY BASED UPON SELECTED FINISHES
3. WITH THE EXCEPTION OF THE RAFTER TAILS, WOOD EXPOSED FINISH TRIM SHALL BE SQUARE EDGE

KEYNOTES

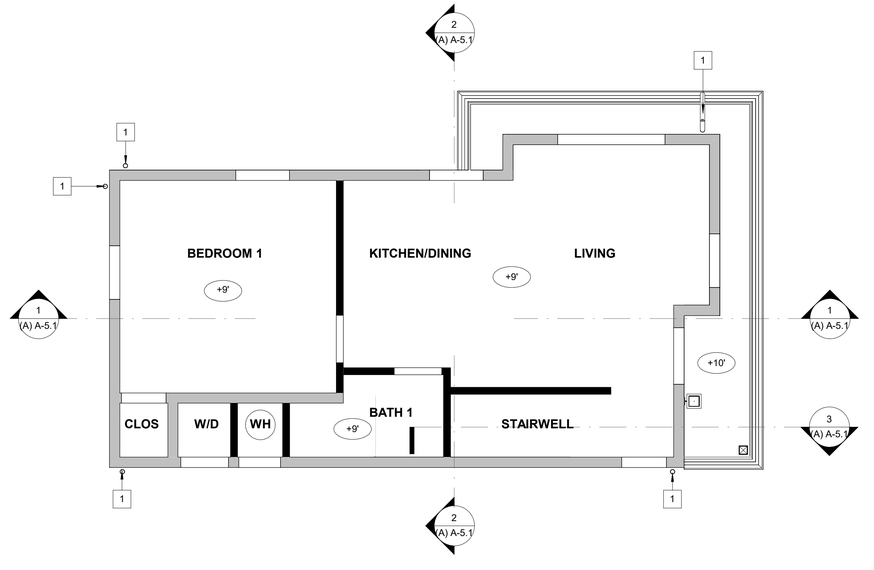
1	4" ROUND METAL DOWNSPOUT
2	K-STYLE CONTINUOUS GUTTERS TO MATCH EXISTING
3	CONTINUOUS EAVE VENT
4	22" X 30" MIN ATTIC ACCESS PANEL



2ND FLOOR 1ST FLOOR REFLECTED CEILING PLAN

1/4" = 1'-0"

NORTH TRUE



1ST FLOOR REFLECTED CEILING PLAN

1/4" = 1'-0"

NORTH TRUE

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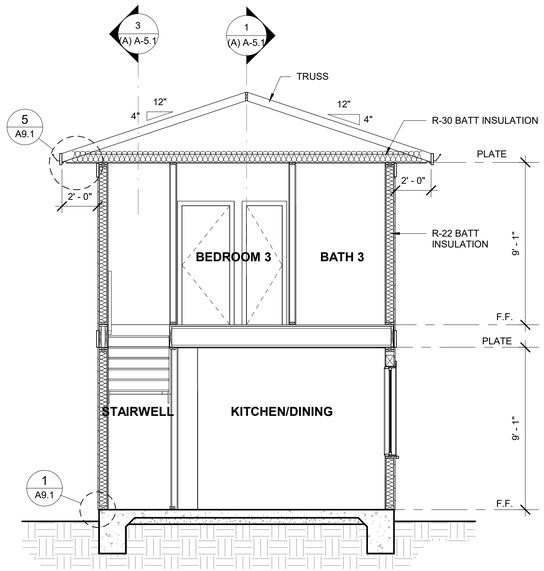
ADU REFLECTED CEILING PLANS

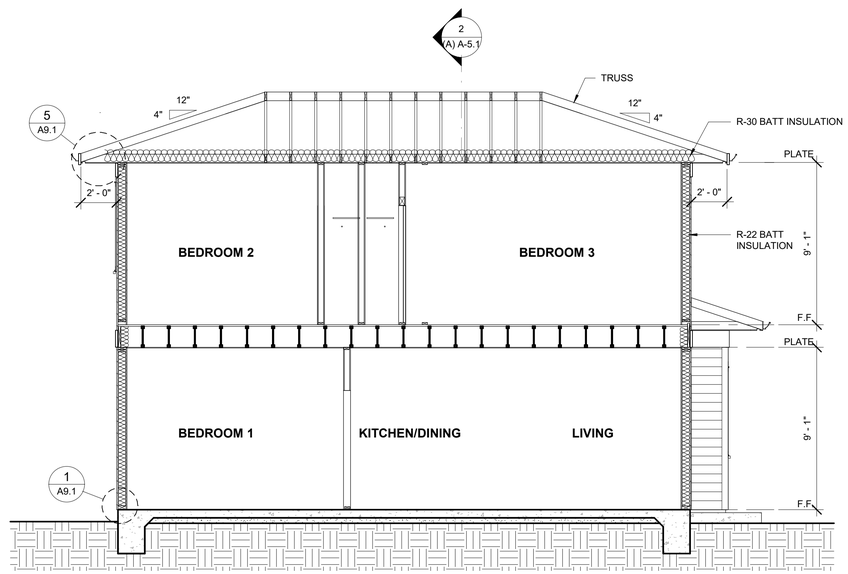
Revision Schedule

Project Manager	Designer
Scale	1/4" = 1'-0"
PrintDate	4/17/2024 11:09:19 AM



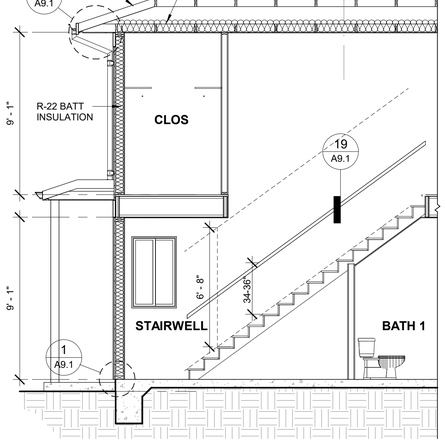
SECTION 2

1/4" = 1'-0"



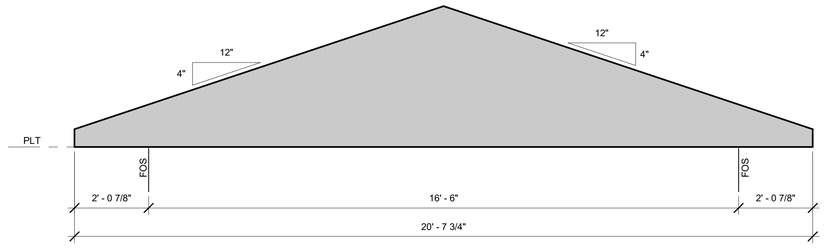
SECTION 1

1/4" = 1'-0"



SECTION 3

1/4" = 1'-0"



TRUSS PROFILE "A"

1/2" = 1'-0"

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ADU BUILDING SECTIONS

REGISTERED ARCHITECT KEITH SAMUEL NOLAN 23451 STATE OF CALIFORNIA

Revision Schedule

Project Manager
Designer
Scale
As indicated
PrintDate
4/17/2024 11:09:20 AM

(A) A-5.1

ELEVATION NOTES

1. ROOF PROTRUSIONS (ETCH/PREP, PRIME & PAINT TO MATCH ROOF)
2. FOR PENETRATIONS IN RATED WALL ASSEMBLIES, REFER TO C.B.C. 2304.12.1.2
3. SUBCONTRACTOR(S) SHALL BE RESPONSIBLE FOR ALL TRADE RELATED ITEMS AS CONTAINED WITHIN FULL CONSTRUCTION DOCUMENTS & ITEMS REQUIRED
4. ALL ELECTRICAL, GAS, PLUMBING & MECHANICAL PENETRATIONS IN EXTERIOR WALLS SHALL BE FLASHED WITH "QUICKFLASH" WATERPROOFING PRODUCTS (WWW.QUICKFLASHPRODUCTS.COM) (OR EQUAL)
5. EXTERIOR OF BUILDING, SHALL BE WRAPPED WITH MIN. GRADE "D" PRIOR TO INSTALLING FINISH MATERIAL. INSTALL PER MFR INSTRUCTIONS
6. ALL FLASHING SHALL BE CONSISTENT WITH ROOF & WALL FINISH MFRS. DISSIMILAR METALS SHALL NOT BE IN CONTACT WITH EACH OTHER
7. BACKPRIME ALL UNFINISHED TRIM EDGES PRIOR TO INSTALLATION (TYPICAL)
8. FLASH/COUNTER FLASH AT ALL ROOF-TO-WALL CONDITIONS
9. RAKED BOARDS AND TRIM BEYOND THE RAKE SHALL BE CONTINUOUS.

COLORS & MATERIALS

SW 6179
Artichoke
Interior / Exterior
Location Number: 213-C5

BODY- "ARTICHOKE"

SW 6105
Divine White
Interior / Exterior
Location Number: 266-C4

TRIM - "DIVINE WHITE"

SW 6328
Fireweed
Interior / Exterior
Location Number: 114-C7

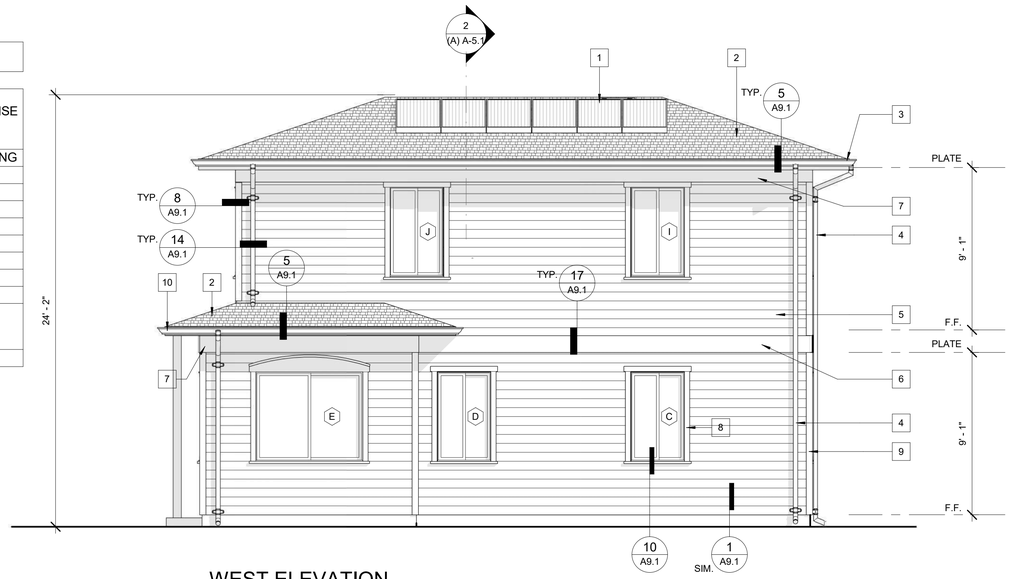
ACCENT - WINDOW & DOOR "FIREWEED"

CERTAINTEED - PRESIDENTIAL AUTUMN BLEND

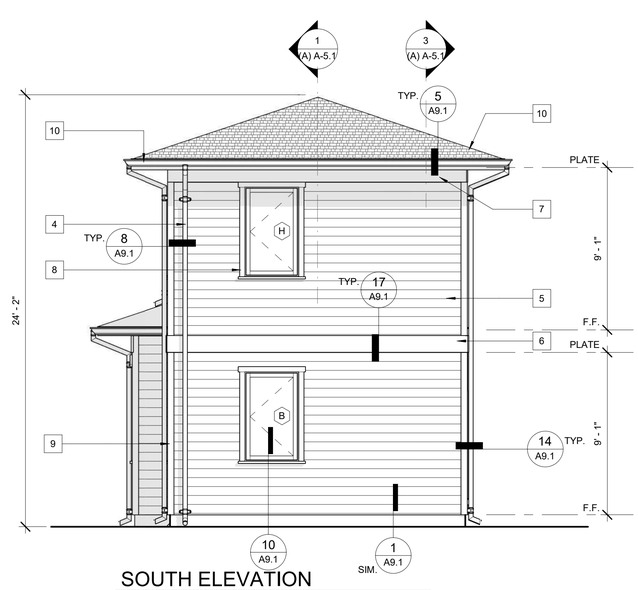
PROGRESS LIGHTING P6078 - East Haven LED - Outdoor Light

KEYNOTES

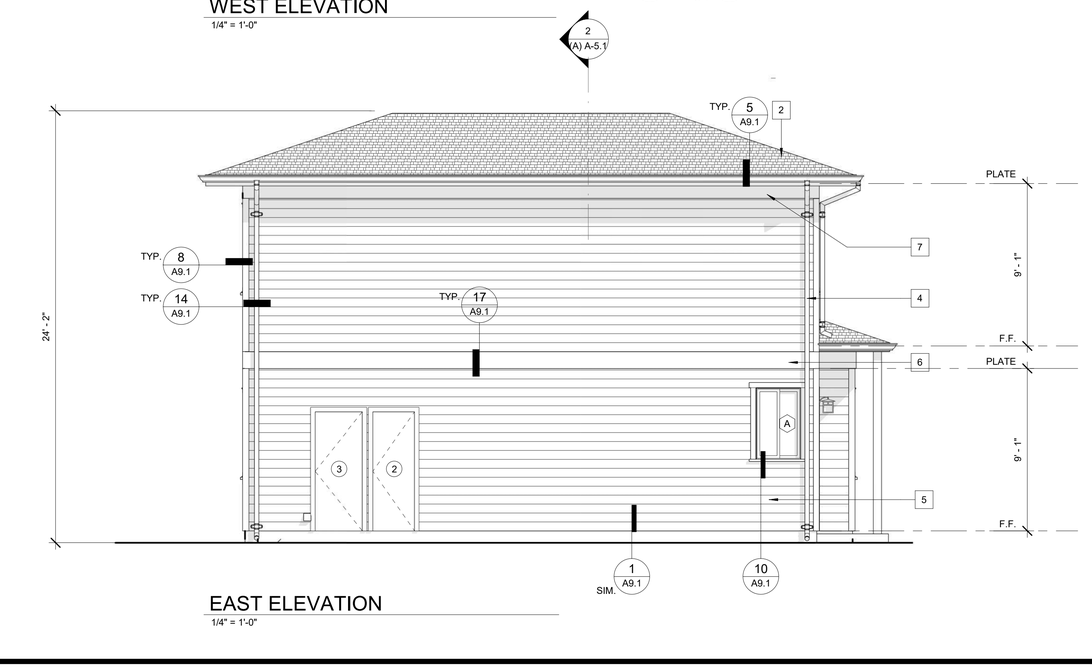
1	PHOTOVOLTAIC PANELS - INSTALLED BY A STATE CERTIFIED SOLAR CONTRACTOR HOLDING A C-46 LICENSE & DESIGNED PER TITLE 24 REQUIREMENTS-REFER TO SOLAR PLAN SHEET
2	CLASS "A" SHINGLES - TYPE & COLOR TO MATCH EXISTING
3	BONDERIZED "K" STYLE GUTTER TO MATCH EXISTING
4	4" ROUND METAL DOWNSPOUT
5	LAP SIDING
6	2X10 BELLY BAND
7	2X10 TRIM TYP
8	4" OPENING TRIM TYP.
9	4" CORNER TRIM
10	K-STYLE CONTINUOUS GUTTERS TO MATCH EXISTING
11	PROGRESSIVE LIGHTING P6078 EAST HAVEN LED EXTERIOR SCONCE - BLACK OL5700BK, CLEAR SEEDED GLASS
12	6x6 WOOD POST



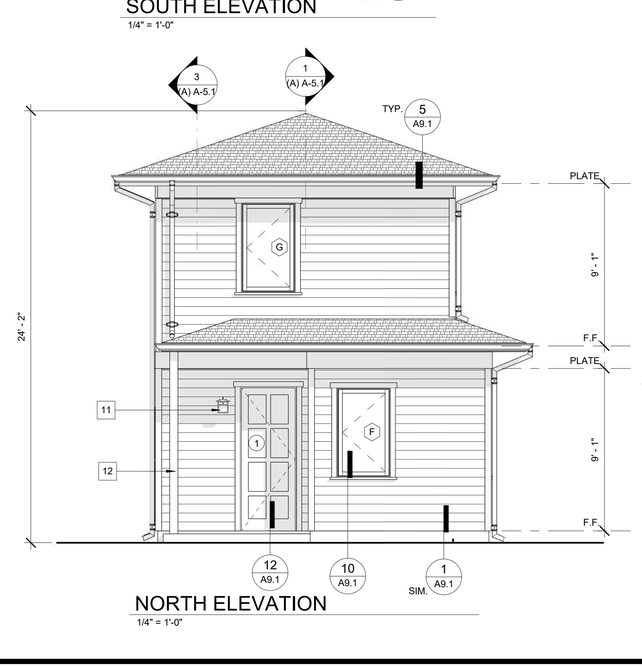
WEST ELEVATION
1/4" = 1'-0"



SOUTH ELEVATION
1/4" = 1'-0"



EAST ELEVATION
1/4" = 1'-0"



NORTH ELEVATION
1/4" = 1'-0"

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ADU EXTERIOR ELEVATIONS

LICENSED ARCHITECT KEITH SAMUEL NOLAN C-22451 REGISTERED PROFESSIONAL OF CALIFORNIA

Revision Schedule

Project Manager	Designer
Scale	As indicated
PrintDate	4/17/2024 11:09:26 AM

(A) A-6.1

DOOR NOTES

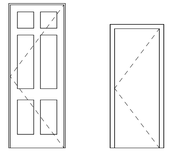
1. ALTHOUGH NOT ALL NOTES ARE SPECIFICALLY IDENTIFIED, SOME NOTES ARE NOT KEYED AND SHALL BE APPLIED TO APPLICABLE CONDITIONS
2. ALL EXTERIOR DOORS SHALL BE RATED
3. WEATHERSTRIP ALL EXTERIOR DOORS PER T-24
4. WEATHERSTRIP / THRESHOLD AT ALL EXTERIOR & OTHER NOTED DOORS
5. PROVIDE DOOR HARDWARE, LATCHING, LOCKING DEVICES CONSISTENT WITH CBC.
6. ALL GLAZING IN DOORS SHALL BE DUAL GLAZED - TEMPERED
7. ALL EXTERIOR DOORS SHALL BE PROVIDED WITH A THRESHOLD PAN ("JAMSILL" OR EQUAL)
8. USE MFR LOCKSET ASSEMBLY TO MATCH DOOR ASSEMBLY
9. UNDERCUT DOOR 1" FROM FINISH FLOOR
10. FIELD VERIFY ALL CONDITIONS FOR PLACEMENT, SIZE, DETAILS.
11. UNDERCUT DOOR FOR MINIMUM CLEARANCE ABOVE FLOOR FINISH.

WINDOW NOTES

1. ALTHOUGH NOT ALL NOTES ARE SPECIFICALLY IDENTIFIED, SOME NOTES ARE NOT KEYED AND SHALL BE APPLIED TO APPLICABLE CONDITIONS
2. SAFETY GLAZING
3. ALL WINDOWS SHALL BE LOW E, DUAL GLAZED
4. ALL WINDOWS SHALL BE IN COMPLIANCE WITH TITLE-24 ENERGY CALCS
5. WINDOWS LOCATED WITHIN 24" OF STRIKE/HINGE EDGE OF DOORS SHALL BE TEMPERED (CBC CHAPTER 24)
6. PRIOR TO ORDERING WINDOWS CONTRACTOR SHALL VERIFY THAT ALL WINDOWS ARE IN COMPLIANCE WITH CBC
7. EGRESS WINDOWS SHALL BE MIN. CLEAR WIDTH OF 20", MIN. CLEAR HEIGHT SHALL BE 24", MIN. OPENABLE AREA SHALL BE 5.7 SQFT. & MAX. SILL HEIGHT SHALL BE 44" (CONTRACTOR SHALL VERIFY ALL CONDITIONS ARE CODE COMPLIANT PRIOR TO ORDERING)
8. PRIOR TO ORDERING WINDOWS, CONTRACTOR SHALL VERIFY THAT SAFETY GLAZING IS IDENTIFIED AT ALL BATHROOM LOCATIONS WITH WINDOWS LESS THAN 60" HIGH (AT SILL) & LESS THAN 24" FROM TUB/SHOWER AREA

DOOR SCHEDULE

MARK	WIDTH	HEIGHT	ROOM NAME	HEAD HEIGHT	TYPE MARK	NOTES
1	3' - 0"	8' - 0"	LIVING	8' - 0"	1	
2	2' - 4"	6' - 8"	WH	6' - 8"	2	
3	2' - 8"	6' - 8"	W/D	6' - 8"	2	
4	2' - 6"	6' - 8"	CLOS	6' - 8"	2	
5	2' - 8"	6' - 8"	KITCHEN/DINING	6' - 8"	2	
6	2' - 8"	6' - 8"	BATH 1	6' - 8"	2	
7	2' - 8"	6' - 8"	HALL	6' - 8"	2	
8	2' - 8"	6' - 8"	HALL	6' - 8"	2	
9	2' - 0"	6' - 8"	BEDROOM 2	6' - 8"	2	
10	2' - 0"	6' - 8"	BEDROOM 3	6' - 8"	2	
11	2' - 8"	6' - 8"	BEDROOM 3	6' - 8"	2	
12	2' - 8"	6' - 8"	CLOS	6' - 8"	2	
13	2' - 8"	6' - 8"	HALL	6' - 8"	2	



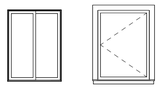
TYPE "1" **TYPE "2"**

DOOR TYPES

1/4" = 1'-0"

WINDOW SCHEDULE

MARK	WIDTH	HEIGHT	TYPE MARK	HEAD HEIGHT	SILL HEIGHT	OPERATION	U-VALUE	SHGC	NOTES
A	2' - 6"	4' - 0"	A	8' - 0"	4' - 0"	SLIDING			
B	3' - 0"	5' - 0"	B	8' - 0"	3' - 0"	CASEMENT			EGRESS
C	3' - 0"	5' - 0"	A	8' - 0"	3' - 0"	SLIDING			
D	3' - 0"	5' - 0"	A	8' - 0"	3' - 0"	SLIDING			
E	6' - 0"	5' - 0"	A	8' - 0"	3' - 0"	SLIDING			
F	3' - 0"	5' - 0"	B	8' - 0"	3' - 0"	CASEMENT			
G	3' - 0"	5' - 0"	B	8' - 0"	3' - 0"	CASEMENT			
H	3' - 0"	5' - 0"	B	8' - 0"	3' - 0"	CASEMENT			EGRESS
I	3' - 0"	5' - 0"	A	8' - 0"	3' - 0"	SLIDING			
J	3' - 0"	5' - 0"	A	8' - 0"	3' - 0"	SLIDING			



TYPE "A" **TYPE "B"**

WINDOW TYPES

1/4" = 1'-0"

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ADU SCHEDULES

Revision Schedule

Project Manager
Designer

Scale
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PrintDate
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ELECTRICAL NOTES

1. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT FIELD CONDITIONS.
2. CHECK PLANS FOR DOOR SWINGS BEFORE INSTALLING SWITCH OUTLETS
3. GROUNDING AND BONDING SHALL BE PER CODE PLUS ANY ADDITIONAL PROVISIONS SPECIFIED OR SHOWN ON DRAWINGS
4. ALL CONDUIT RUNS SHALL CONTAIN A CODE SIZED GREEN GROUND WIRE.
5. ALL CONDUCTORS SHALL BE IN CONDUIT.
6. ALL CONDUCTORS SHALL BE COPPER WITH TYPE THHN/THWN INSULATION.
7. ALL BRANCH CIRCUITS THAT SUPPLY 120-VOLT, SINGLE PHASE, 15 AND 20 AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING UNIT **KITCHENS,** FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, **LAUNDRY ROOMS** OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTER(S). 2019 CEC 21 0.12(A) & (B).
8. CABLE AND PHONE LOCATIONS TO BE DETERMINED BY OWNER
9. WHEN MORE THAN 3 SWITCHES ARE LOCATED TOGETHER, BREAK UP THE SWITCHES SO THE PRIMARY 3 ARE ON TOP & SECONDARY SWITCHES ARE BELOW
10. CONTRACTOR TO VERIFY POWER NEEDS OF ALL APPLIANCES (I.E. FAU, REFRIGERATOR, STOVE, SPA, WASHER & DRYER)
11. LUMINARIES THAT ARE RECESSED INTO INSULATED CEILINGS MUST BE APPROVED, IC LUMINARIES AND ARE CERTIFIED AND LABELED AS AIRTIGHT TO STANDARDS PRESCRIBED BY THE RESIDENTIAL ENERGY CODE
12. ALL FIREBLOCKING & DRAFTSTOPPING SHALL BE INSTALLED & INSPECTED PRIOR TO WIRING & CASING.
13. ALL INSTALLED LIGHTING MUST BE HIGH EFFICACY PER TABLE 150.0-A. 2019 CALIFORNIA ENERGY CODE TABLE 150.0
14. LIGHTING IN BATHROOMS: ALL LIGHTING SHAL L BE HIGH EFFICACY AND AT LEAST ONE FI XTURE IN EAGH BATHROOM SHALL BE CONTROLLED BY A VACANCY SENSOR. 2019 CALIFORNIA ENERGY CODE 150(K) 5
15. LIGHTING IN GARAGES, LAUNDRY ROOMS, CLOSETS AND UTIL ITY ROOMS: ALL LIGHTING SHALL BE HIGH EFFICACY AND AT LEAST ONE LIGHT FIXTURE INSTALLED IN GARAGES, CLOSETS, LAUNDRY ROOMS, & UTILITY ROOMS SHALL BE CONTROLLED BY A VACANCY SENSOR. 2019 CALIFORNIA ENERGY CODE 150(K) 2. J
16. LIGHTING IN ROOMS OTHER THAN BATHROOMS, GARAGES, LAUNDRY ROOMS, & UTILITY ROOMS: PERMANENTLY INSTALLED LIGHTS IN ROOMS OTHER THAN RESTROOMS, GARAGES, LAUNDRY ROOMS, & UTILITY ROOMS SHALL BE HIGH EFFICACY LUMINAIRES. 2019 CALIFORNIA ENERGY CODE 150(K) 7
17. RECESSED LUMINAIRES IN INSULATED CEILINGS: LUMINAIRES RECESSED INTO INSULATED CEILINGS SHALL NOT CONTAIN SCREW BASE SOCKETS AND SHALL BE APPROVED FOR ZERO CLEARANCE INSULATION COVER (IC) BY U.L. OR OTHER TESTING LAB RECOGNIZED BY BUILDING OFFICIAL, AND SHALL BE CERTIFIED AIR TIGHT TO SHOW AIR LEAKAGE LESS THAN 2.0 CFM AT .011 PSI IN ACCORDANCE WITH ASTM E283, AND SEALED WITH A GASKET OR CAULK BETWEEN HOUSING AND CEILING. CALIFORNIA ENERGY CODE 150(K)
18. SCREW BASED SOCKETS: LUMINAIRES WITH SCREW BASED SOCKETS SHALL MEET THE FOLLOWING REQUIREMENTS: i. THE LUMINAIRE SHALL NOT BE A RECESSED DOWN-LIGHT IN A CEILING; AND ii. THE LUMINAIRE SHALL CONTAIN LAMPS THAT COMPLY WITH REFERENCE JOINT APPENDIX JA8; AND iii. THE INSTALLED LAMPS SHALL BE MARKED WITH "JAS-2016" OR "JAS-2016-E" AS SPECIFIED IN REFERENCE JOINT APPENDIX JA8.
19. DIMMERS OR VACANCY SENSORS SHALL CONTROL ALL LUMINAIRES REQUIRED TO HAVE LIGHT SOURCES COMPLIANT WITH REFERENCE JOINT APPENDIX JA8.
20. OUTDOOR LIGHTING: PERMANENTLY INSTALLED OUTDOOR LIGHTS ON BUILDINGS ON THE SAME LOT SHALL BE HIGH EFFICACY AND THEY SHALL BE CONTROLLED BY A MOTION SENSOR WITH INTEGRAL PHOTOCONTROL CERTIFIED TO COMPLY WITH THE 2019 CALIFORNIA ENERGY CODE. 2019 CALIFORNIA ENERGY CODE 150(K) 9 A
21. VENT FANS MUST BE SWITCHED SEPARATELY FROM LIGHTING. 2019 CALIFORNIA ENERGY CODE 150(K) 2B
22. ALL 125-VOLT, 15 AND 20 AMPERE RECEPTACLES IN A DWELLING UNIT SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.
23. A MINIMUM OF TWO 20 AMP SMALL APPLIANCE BRANCH CIRCUITS SHALL BE PROVIDED FOR ALL RECEPTACLE OUTLETS IN THE KITCHEN, DINING ROOM, PANTRY, OR OTHER SIMILAR AREAS [CEC 210.11(C)(1)]
24. AT LEAST ONE 20 AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY LAUNDRY RECETACLE OUTLETS. SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS. [CEC 210.11(C)(2)]
25. KITCHEN COUNTERTOP RECEPTACLES SHALL BE GFCI PROTECTED AND SHALL BE LOCATED IN A WALL EVERY 48 LINEAR INCHES.

ELECTRICAL LEGEND

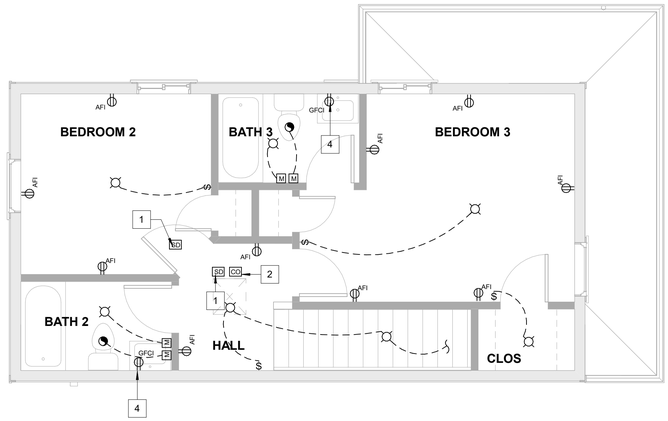
	DUPLEX CONVENIENT OUTLET
	FOURPLEX CONVENIENT OUTLET
	1/2 HOT OUTLET
	DUPLEX OUTLET - LOWER HALF SWITCHED
	220V OUTLET
GFCI	JUNCTION BOX
GFCI	GROUND FAULT CIRCUIT INTERCEPTOR DUPLEX OUTLET
AFCI	ARC FAULT INTERRUPTER DUPLEX OUTLET
WP	WATER PROOF OUTLET
	SPECIAL RECEPTACLE - SEE PLAN
D	DIMMER SWITCH
M	MANUAL-ON OCCUPANCY SENSOR
T	THERMOSTAT
$	SINGLE POLE SWITCH
$3	THREE WAY SWITCH
$4	FOUR WAY SWITCH
$DS	DOOR SWITCH
$WP	WATERPROOF SWITCH
PH	PHONE JACK
TV	CATV
SP	SPEAKER JACK
NW	CAT5
	PHONE, CATV, CAT5 - IN ONE BOX
	SURFACE MOUNTED LIGHT-HIGH EFFICACY
	RECESSED LIGHT- HIGH EFFICACY
	RECESSED DIRECTIONAL LIGHT - HIGH EFFICACY
	FLUORESCENT RECESSED LIGHT - HIGH EFFICACY
	WALL MOUNTED LIGHT - HIGH EFFICACY
	WALL SCONCE - HIGH EFFICACY
	FLUORESCENT LIGHTING - HIGH EFFICACY
	FLUORESCENT LIGHTING UNDER COUNTER LIGHT-HIGH EFFICACY
	EXHAUST FAN (MINIMUM 5 AIR CHANGES PER HOUR)
	FLUORESCENT EXHAUST FAN/LIGHT COMBO (PANASONIC) (MINIMUM 5 AIR CHANGES PER HOUR)
	CEILING FIXTURE - HIGH EFFICACY
DB	DOOR BELL
SD	120V SMOKE DETECTOR W/ BATTERY BACKUP
CO	CARBON MONOXIDE DETECTOR
	CEILING FAN/LIGHT

KEYNOTES

1	MULTI-STATION, HARDWARE SMOKE DETECTOR/ALARM ASSEMBLY, 125VAC WITH 9VDC BATTERY BACKUP ---"FIREX" ITEM #5000, MODEL "FADC". PROVIDE ALL SMOKE DETECTOR/ALARM ASSEMBLIES COMPLETE WITH BATTERIES AND INTERCONNECTION MOUNTING HARDWARE. TEST THE SMOKE DETECTOR/ALARM ASSEMBLIES (IN EACH DWELLING UNIT) IN THE PRESENCE OF THE LOCAL FIRE MARSHAL AND THE PROJECT OWNERS REPRESENTATIVE. REPLACE ALL DEFECTIVE SMOKE DETECTOR/ALARM ASSEMBLIES AT NO ADDITIONAL COST TO THE PROJECT OWNER
2	CARBON MONOXIDE DETECTOR/ALARM ASSEMBLY, SHALL RECEIVE PRIMARY POWER FROM THE BUILDING WIRING WITH BATTERY BACKUP, PROVIDE ALL CARBON MONOXIDE DETECTOR/ALARM ASSEMBLIES COMPLETE WITH BATTERIES AND INTERCONNECTION MOUNTING HARDWARE PER R315
3	EXTERIOR WALL MOUNTED LIGHT -
4	"GFCI" PROTECTED RECEPTACLE @ +6" CLEAR ABOVE COUNTERTOP. (TYPICAL FOR ALL BATHROOM(S) RECEPTACLES)
5	"GFCI" PROTECTED RECEPTACLE @ +6" ABOVE COUNTERTOP. (TYPICAL FOR ALL KITCHEN "SMALL APPLIANCE" RECEPTACLES.)

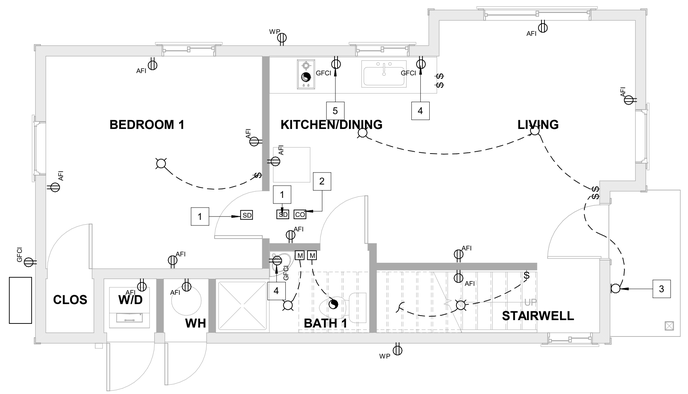
(NOTE) All electrical components shall be installed in accordance with the California Electrical Code:

a) At least one of the following shall be provided:
1. ESS ready interconnection equipment with a minimum backed-up capacity of 60 amps and a minimum of four ESS-supplied branch circuits, or
2. A dedicated raceway from the main service to a panelboard (subpanel) that supplies the branch circuits in Section 150.0(s)(2). All branch circuits are permitted to be supplied by the main service panel prior to the installation of an ESS. The trade size of the raceway shall be not less than 1 inch. The panelboard that supplies the branch circuits (subpanel) must be labeled "Subpanel shall include all backed-up load circuits."
b) A minimum of four branch circuits shall be identified and have their source of supply collocated at a single panelboard suitable to be supplied by the ESS. At least one circuit shall supply the refrigerator, one lighting circuit shall be located near the primary egress and at least one circuit shall supply a sleeping room receptacle outlet.
c) The main panelboard shall have a minimum busbar rating of 225 amps.
d) Sufficient space shall be reserved to allow future installation of a system isolation equipment/transfer switch within 3 feet of the main panelboard. Raceways shall be installed between the panelboard and the system isolation equipment/transfer switch location to allow the connection of backup power source.



2ND FLOOR ELECTRICAL/LIGHTING PLAN

1/4" = 1'-0"



1ST FLOOR ELECTRICAL/LIGHTING PLAN

1/4" = 1'-0"

ON DESIGN LLC
Architecture
Planning
Interior Design
Keith Nolan
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• P.O. BOX 598 • Santa Barbara • California • 93102 •

217 SOUTH MIPLAS ADU
217 S. MILPAS ST. , SANTA BARBARA, CA
ADU ELECTRICAL / LIGHTING PLANS

REGISTERED ARCHITECT KEITH SAMUEL NOLAN C-22541 STATE OF CALIFORNIA

Revision Schedule

Project Manager: Designer
Scale: 1/4" = 1'-0"
PrintDate: 4/19/2024 10:39:43 AM

(A) E-1.1

MECHANICAL NOTES

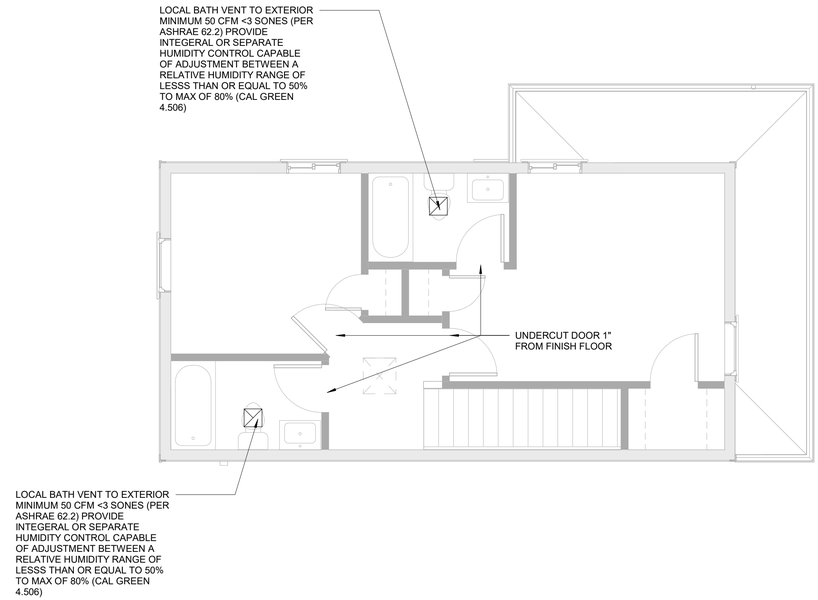
1. MECHANICAL SYSTEM SHALL MEET THE CALIFORNIA RESIDENTIAL ENERGY STANDARDS, C.M.C., AND LOCAL CODES.
2. TERMINATE EXHAUST AIR A MINIMUM OF 3'-0" AWAY FROM ANY OPERABLE WINDOW OR DOORS.
3. MECHANICAL CONTRACTOR SHALL COORDINATE WITH STRUCTURAL ENGINEER/GENERAL CONTRACTOR REGARDING ROUTING & DUCT SIZING REQUIREMENTS. ALTERNATIVE DESIGNS SHALL BE PROPOSED & APPROVED PRIOR TO SUBMITTAL FOR BID.
4. BEDROOM/BATH DUCTING SHALL BE SEPARATED FROM LIVING/DINING/KITCHEN DUCTING.
5. DUCTING THAT PENETRATES U-1/R-3 WALL/CEILING ASSEMBLY SHALL MEET C.B.C. REQUIREMENTS FOR MATERIALS & FIRE-SAFING.
6. THE CALIFORNIA RESIDENTIAL ENERGY STANDARDS MUST BE REVIEWED AND THE DESIGN DRAWINGS COMPLY SUBSTANTIALLY WITH THESE STANDARDS
7. ALL APPLIANCES (HEATING, VENTILATING AND COOLING EQUIPMENT) EQUIPMENT DESIGNED TO BE FIXED IN POSITION SHALL BE ANCHORED/STRAPPED TO RESIST HORIZONTAL DISPLACEMENT DUE TO EARTHQUAKE MOTION
8. COORDINATE ALL DIFFUSER LOCATIONS WITH LIGHTS, SMOKE DETECTORS, ETC.
9. ALL BEDROOM & BATHROOM DOORS SHALL BE UNDERCUT 1"

WHOLE HOUSE BUILDING VENTILATION NOTES

1. INTENT OF DESIGN INCLUDES TWO SPEED BATHROOM FANS TO BE UTILIZED PER "EXHAUST ONLY" OPTION OF T-24 STANDARDS. EACH RESTROOM EXHAUST FAN'S LOW SPEED IS SIZED TO MEET CODE. HIGH SPEED OPERATES PER OCCUPANCY SENSOR.
2. ALL BATHROOM DOORS SHALL HAVE A 1" UNDER CUT.
3. WHOLE BUILDING FAN CONTROLS SHALL BE LABELED WITH "TO MAINTAIN MINIMUM LEVELS OF OUTSIDE AIR VENTILATION REQUIRED FOR GOOD HEALTH, THE FAN CONTROL SHOULD BE ON AT ALL TIMES WHEN THE BUILDING IS OCCUPIED, UNLESS THERE IS SEVERE OUTDOOR AIR CONTAMINATION." THE LABEL TEXT SHALL BE BOLD TYPE, PLACED ON A WHITE BACKGROUND, AND NO SMALLER THAN THE EQUIVALENT OF ARIAL 12 POINT TYPE.

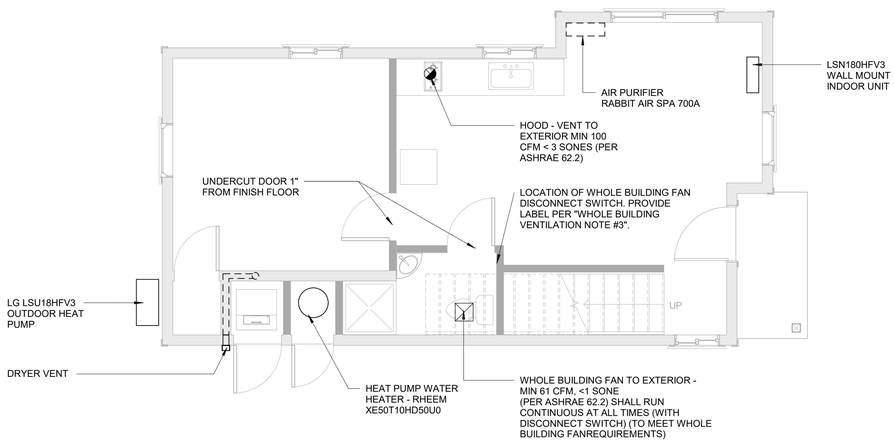
MECHANICAL KEY

- VENT HOOD EXHAUST
- EXHAUST FAN



2ND FLOOR MECHANICAL PLAN

1/4" = 1'-0"



1ST FLOOR MECHANICAL PLAN

1/4" = 1'-0"

ACOUSTIC DATA

Mega, Standard Efficiency, and Mega 115V Outdoor Units

Outdoor Unit Sound Pressure Measurement / Sound Pressure Levels

Figure 11: Outdoor Unit Sound Levels

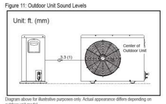


Diagram above for illustrative purposes only. Actual appearance differs depending on outdoor unit model.

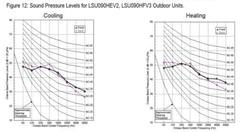
- Measurements are taken 3.3 ft away from the front of the unit.
- Sound pressure levels are measured in dB(A) with a tolerance of ±1.
- Data is valid at nominal operation conditions. Operating conditions are assumed to be standard.
- Reference acoustic pressure 0dB=20μPa
- Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745, and may be different according to the test condition or equipment.
- Sound level will vary depending on a range of factors including the construction (acoustic absorption coefficient) of a particular room in which the unit was installed.

Table 10: Outdoor Unit Acoustic Data

Model	Sound Pressure Levels (dB(A))	
	Cooling (High)	Heating (High)
Mega Standard Efficiency Models		
LSU090HEV2 / LSU090HFV3	50	50
LSU120HEV2 / LSU120HFV3	50	50
LSU180HEV2 / LSU180HFV3	55	55
LSU240HEV2 / LSU240HFV3	55	55
Mega 115V Models		
LSU060X0V2	50	50
LSU120X0V2	50	50

LSU090HEV2, LSU090HFV3 Sound Pressure Levels

Figure 12: Sound Pressure Levels for LSU090HEV2, LSU090HFV3 Outdoor Units.



Product Data

LG

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PRODUCT DATA | 23

Mc2 System Design Group

JavaScript Decibel Calculators

Inverse Square Law * Power Ratios * Voltage Ratios * T and H-Pads
Combining Decibels * Atmospheric Absorption

Decibels and Distance

This calculator requires a JavaScript capable browser

This calculation will give you the amount of attenuation, in decibels, you can expect with a change in receiver distance, in a free field (outdoors). For example if you were standing 10 feet from a noise source, and were to move 100 feet away from that noise source, you would expect to see a drop in level of 20dB. Sound that is radiated from a point source drops in level at 6dB per doubling of distance. If you start at 50 feet from the source and move to 100 feet from the source you will have a 6dB drop in level. If you move from 500 feet to 1000 feet, you will have a 6dB drop in level. For the record, the formula to calculate this level drop is: *Decibels of Change*=20xlog(distance 1/distance 2), and you can calculate it on any scientific calculator.

Reference listening distance in feet or meters, from the noise source	New receiver distance in feet or meters, from the source		This is the number of decibels of level drop/rise you would find
1	6	Calculate	-15.5628643976

HELP
JavaScript Help

This information is provided with no warranty of its accuracy, or applicability, and any use made of this information is done so at the sole risk of the user.

Mc2 System Design Group

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Revision Schedule

Project Manager: Designer
Scale: 1/4" = 1'-0"
PrintDate: 4/22/2024 10:56:17 AM

(A) M-1.1

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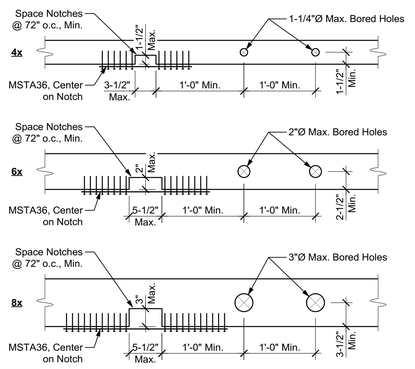
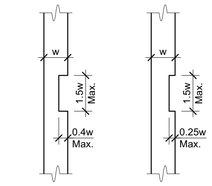
STANDARD DETAILS

9 TYPICAL NOTCHING & BORING

PENETRATIONS IN TOP PLATES & SILL PLATES

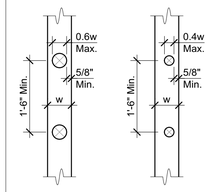


NOTCHING LIMITS FOR WOOD STUDS



Non-Bearing Interior Wall | Bearing &/or Exterior Wall

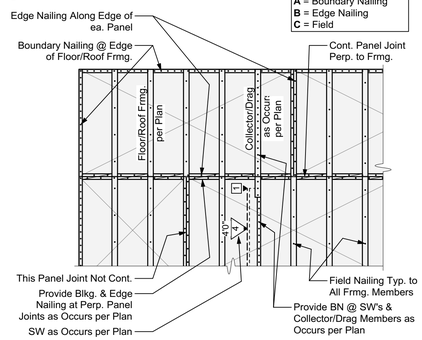
BORING LIMITS FOR WOOD STUDS



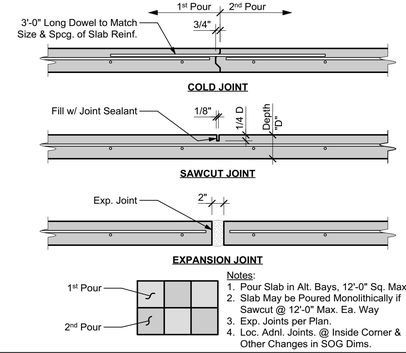
Non-Bearing Interior Wall | Bearing &/or Exterior Wall

6 TYPICAL FLOOR / ROOF NAILING

Nailing per Plan w/ Spcg. Denoted as **@ A", B", C"**
A = Boundary Nailing
B = Edge Nailing
C = Field

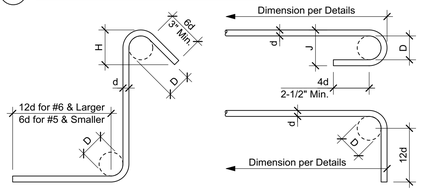


4 TYPICAL CONCRETE SLAB JOINTS



Notes:
1. Pour Slab in Alt. Bays, 12'-0" Sq. Max.
2. Slab May be Poured Monolithically if Sawcut @ 12'-0" Max. Ea. Way
3. Exp. Joints per Plan.
4. Loc. Adnl. Joints. @ Inside Corner & Other Changes in SOG Dims.

1 TYPICAL REINFORCING BAR BENDS



STANDARD TIES & STIRRUPS

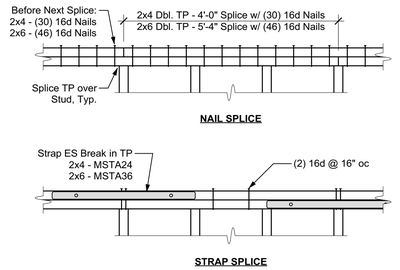
Bar Size	D	H (Approx.)
#3	1-1/2"	3"
#4	2"	3"
#5	2-1/2"	3-3/4"
#6	4-1/2"	4-1/2"
#7	5-1/4"	5-1/4"
#8	6"	6"

STANDARD END HOOKS

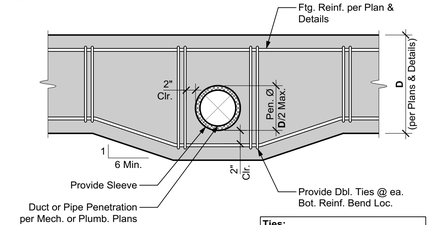
Bar Size	D	J
#3	2-1/4"	3"
#4	3"	4"
#5	3-3/4"	5"
#6	4-1/2"	6"
#7	5-1/4"	7"
#8	6"	8"

Note:
All Bar Bend Diameters & End Lengths Must Conform to the CRSI Manual of Standard Practice

7 TYPICAL 2x TOP PLATE SPLICE



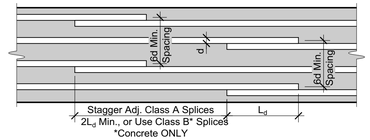
5 TYP. PENETRATION THROUGH FOUNDATION



DO NOT Locate Pen. w/n 24" of Any Holdowns

Ties:
- Ftg. Reinf. = (1) Bar T&B, Use #3 Vert. w/ 180º Hook ea. End
- Ftg. Reinf. > (1) Bar T&B, Use #3 Stirrup w/ 135º Hooks @ Top

2 STD. DEVELOPMENT LENGTHS & LAP SPLICES



CONCRETE
F'c = 2500 psi

Bar Size	Length of Lap Ld & Class A	Length of Lap Class B	Hook Embed Ldh
#3	15 "	19 "	7"
#4	19 "	25 "	10"
#5	24 "	31 "	14"
#6	29 "	37 "	18"
#7	41 "	54 "	22"
#8	47 "	61 "	27"

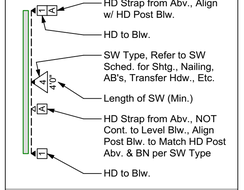
MASONRY
F'm = 2000 psi

Bar Size	Length of Lap, Ld	Hook Embed Ldh
#3	12 "	5 "
#4	18 "	7 "
#5	28 "	8 "
#6	52 "	10 "
#7	70 "	11 "
#8	105 "	13 "

TYPICAL SHEAR WALL FRAMING NOTES:

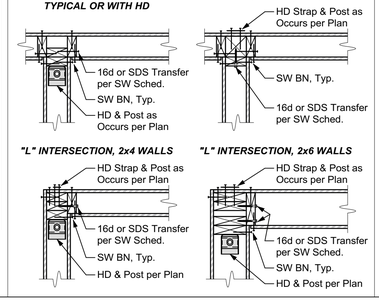
1. Single sided shear walls may be placed on EITHER side of the framed wall.
2. Sill plates on masonry or concrete to be pressure treated per Timber / Lumber specifications. Sill plate thickness per SW Sched.
3. Wall studs and blkg. are required at all adjoining panel edges. Thickness of wall studs and blkg. at panel edges per SW Sched.
4. Where plywood is applied on both faces of a wall, edge nails shall be staggered on adjacent panel edges OR panel joints shall be offset to fall on different framing members. Plywood joint and sill plate nailing shall be staggered in all cases.
5. Plywood panels shall butt along centerlines of framing members. Minimum plywood dimension for shearwall shall be 12".
6. Nails shall be located at least 3/8" from all panel edges.
7. The use of pneumatic nail guns for shear wall nailing is subject to continued satisfactory jobsite performance and subject to the review and approval by the Engineer of Record and/or Building Inspector. If the nail heads penetrate the outer ply more than would be normal for a hand held hammer, or if the minimum edge distances are not maintained, the performance will be deemed as unsatisfactory and the continued use of pneumatic nail for shear wall nailing will not be permitted.
8. At all bearing walls (both exterior and interior walls) not noted as shear walls, continuous full depth blocking shall be provided between joists and rafters with LTP4 or A35 to top plates @ 32" oc at floors and 48" oc at roofs, unless noted otherwise per plan.
9. Refer to material specifications for additional framing requirements.

SHEAR WALL LEGEND

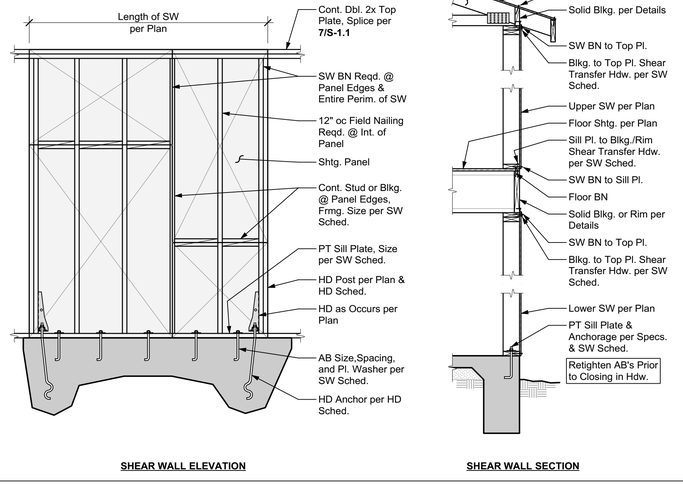


Refer to Plans for Specific Transfer & Connection Detail at each Shear Wall Location

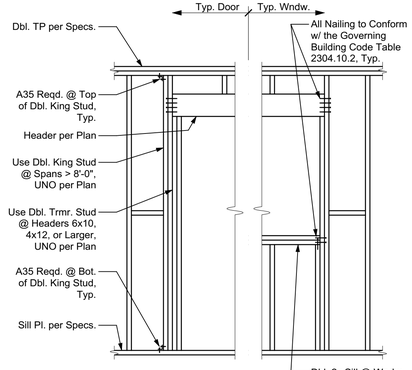
10 TYPICAL SHEAR WALL INTERSECTIONS



8 TYPICAL SHEAR WALL FRAMING



3 TYPICAL WOOD FRAMED OPENING



Recommended Non-Str. Int. Wall Hdr.

Span	2x4 Wall	2x6 Wall
< 4'-0"	Dbl. 2x4 Flat	Dbl. 2x6 Flat
< 6'-0"	4x4	4x6 Flat
< 8'-0"	4x6	6x6
> 8'-0"	Span in Feet Equals Beam Depth in Inches	

ABBREVIATIONS

AB	Anchor Bolt	Mas.	Masonry
A&B	Above and Below	Max.	Maximum
Abv.	Above	MB	Machine Bolt
Adn.	Addition (al)	MF	Moment Frame
Adj.	Adjacent,Adjustable	Mfr.	Manufacture(r)
Alt.	Alternate (ive)	Min.	Minimum, Minute
Appd.	Approved	Mod.	Modif(y), (cation)
Arch.	Architect(ural)	Mtl.	Metal
Avg.	Average	(N)	New
Bdry.	Boundary	N/A	Not Applicable
Bldg.	Building	Nat.	Natural
Blk(g).	Block (ing)	NTS	Not to Scale
Bm.	Beam	o/	Over
BN	Boundary Nailing	oc	On Center
B-O	Bottom of	OD	Outside Diameter
BO	By Others	Opng.	Opening
Bot.	Bottom	Opp.	Opposite
Brg.	Bearing	Opt.	Optional
Btwn.	Between	Para.	Parallel
BW	Both Ways	PCF	Lbs per Cubic Ft.
Cant.	Cantilever(ed)	Pen.	Penetrate, (tion)
CIP	Cast in Place	Perf.	Perforated
CJ	Ceiling Joist	Perim.	Perimeter
CJP	Complete Joint Penetration	Perp.	Perpendicular
		Pl	Panel Index
CL	Center Line	PJP	Partial Joint Pen.
Clg.	Ceiling	PL	Plate
Clr.	Clear	PLF	Lbs per Linear Ft.
CMU	Conc. Masonry Unit	Ply.	Plywood
Col.	Column	Prep.	Prepare, (ation)
Corn.	Common	Press.	Pressure
Comp.	Component	Proj.	Project
Conc.	Concrete	Prop.	Property
Conn.	Connection	PSF	Lbs per Square Ft.
Const.	Construction	PSI	Lbs per Square In.
Cont.	Continue (ous)	PT	Pressure-Treated
Ctr.	Center	PV	Photovoltaic (Solar Panels)
d	Penny		
Dbl.	Double	R	Radius
Defl.	Deflection	Rec(s).	Recommendation(s)
Deg.	Degree	Rect.	Rectangular
Demo.	Demolish(tion)	Ref.	Reference
Dep.	Depress(ed)	Reinf.	Reinforce(d), (ment),(ing)
DF	Douglas Fir		
Dia.	Diameter	Req(d).	Require(d)
Diaph.	Diaphragm	Reqs.	Requirements
Dif.	Different	Ret.	Retain(ing)
Dim.	Dimension	RJ	Roof Joist
Dist.	Distance	RR	Roof Rafter
DJ	Deck Joist	RW	Redwood
DL	Dead Load	SAD	See Arch Dwg's
Dwg.	Drawing	Sched.	Schedule
(E)	Existing	Sgl.	Single
Ea.	Each	Shtg.	Sheathing
EF	Each Face	Sim.	Similar
EFP	Equivalent Fluid Pressure	SIP	Str. Insulated Panel
		SM	Sheet Metal
Elev.	Elevator, Elevation	SMS	Sheet Metal Screw
Embed.	Embed(ed), (ment)	SOG	Slab on Grade
Engr.	Engineer	Spec.	Specif(ied),(cations)
EOR	Engineer of Record	Sq.	Square
Eq.	Equal, Equivalent	SS	Structural Steel
ES	Each Side	Std.	Standard
EW	Each Way	Stgr.	Stagger(ed)
Exp.	Expand, Expansion	Stl.	Steel
Ext.	Exterior	Struc.	Structure, (al)
F.dn.	Foundation	SW	Shear Wall
FF	Finished Floor	Sym.	Symmet(ry), (rical)
FJ	Floor Joist	T&B	Top and Bottom
Flr(g).	Floor (ing)	T&G	Tongue and Groove
FOC	Face of Concrete	Temp.	Temporary
FOM	Face of Masonry	Thk.	Thick(ness)
FOS	Face of Studs	Thru	Through
FOW	Face of Wall	TN	Toe-Nail
Frmg.	Framing	TP	Top Plate
Ft.	Foot, Feet	T-O	Top of
Ftg.	Footing	TOB	Top of Beam
Ga.	Gage, Gauge	TOC	Top of Concrete
Galv.	Galvanized	TOG	Top of Grade
GB	Grade Beam	TOM	Top of Masonry
GC	General Contractor	TOS	Top of Steel
GLB	Glulam Beam	TOW	Top of Wall
Gyp.	Gypsum	TRU	To Remain Unchanged
HD	Holdown		
Hdr.	Header	Trmr.	Trimmer Stud
Hdw.	Hardware	Typ.	Typical
Hgr.	Hanger	UNO	Unless Noted Otherwise
Hor(iz).	Horizontal		
Ht.	Height	Vert.	Vertical
ID	Inside Diameter	VIF	Verify in Field
In.	Inch(es)	VWA	Verify with Arch
Insp.	Inspect(ion)	w/	With
Int.	Interior	w/n	Within
Inv.	Invert, Inverted	w/o	Without
Jst.	Joist	WS	Wood Screw
K	Kips (1,000 pounds)	Wndw.	Window
KLF	Kips per Linear Ft.	Wt.	Weight
King	King Stud	WWF	Welded Wire Fabric
KP	King Post	Yd.	Yard
KSF	Kips per Square Ft.		
KSI	Kips per Square In.	@	At
Lb(s).	Pound(s)	º	Degrees
LL	Live Load	Ø	Diameter
Loc.	Location	>	Greater Than
LW	Light Weight	<	Less Than
		#	Number, Pound(s)
		/	Per
		%	Percent(age)
		±	Plus or Minus

PROJECT INFORMATION

CLIENT:
SBMR, LLC
831 Cliff Dr., Suite 100
Santa Barbara, CA 93109
805-456-5910

ARCHITECT:
ON Design Architects
PO Box 598
Santa Barbara, CA 93102
ATT: Keith Nolan, AIA
(805) 896-8374

SOILS/GEO. ENGINEER:
Beacon Geotechnical
P.O. Box 4814
Paso Robles, CA 93447

DESIGN PARAMETERS

GENERAL PARAMETERS

Building Code	2022 CBC *
Roof Loads	
Dead Loads** (DL)	15 psf
**Includes 3 psf PV Loads	
Live Loads (LL)	20 psf
Floor Loads - Typ.	
Dead Loads (DL)	15 psf
Live Loads (LL)	40 psf
SOILS VALUES	(per Soils Report)
Bearing Pressure	2200 psf

WIND DESIGN BASIS

Ultimate Wind Speed, V_{ULT}	95 mph
Nominal Wind Speed, V_{ASD}	74 mph
Risk Category	II
Exposure	B
Importance Factor, I_w	1.00

SEISMIC DESIGN BASIS

Seismic Design Category	E
Site Class	D
Seismic Factors	
S_S / S_1	2.179 / 0.792
S_{DS} / S_{D1}	1.453 / 0.898
Risk Category	II
Importance Factor, I_e	1.00
Resisting System:	Wood Shear Walls
Response Mod. Coefficient, R	6.5
Design Base Shear	V = 0.223W
Analysis Procedure:	Eqv. Lateral Force (ASCE 7-16, T. 12.6-1)

* The 2022 California Building Code (CBC), based on the 2021 International Building Code (IBC), is the governing code in the State of California.

SHEET INDEX

Ashley&Vance ENGINEERING, INC.
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CIVIL • STRUCTURAL

Engineer of Record:

REGISTERED PROFESSIONAL ENGINEER R. PAUL BELMONT C 76732 CIVIL STATE OF CALIFORNIA

PLAN REVIEW SET NOT FOR CONSTRUCTION

217 Milpas ADU
217 S. Milpas St.
Santa Barbara, CA 93103

Revision:

Proj. Engr.:	Katie S. Phone Ext.: 198
Proj. Mngr.:	Paul B.
Date:	3 April 2024 Scale: NTS
A&V Job No.:	240050

STRUCTURAL TITLE SHEET

S-1.1

DO NOT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimensions.

Apr 3, 2024
1:43:41 PM

STATEMENT OF SPECIAL INSPECTIONS

1. This Statement of Special Inspection is submitted in fulfillment of the requirements of the Governing Building Code, section 1704 and 1705.
2. Special Inspections and Testings will be preformed in accordance with the approved plans and specifications, this statement and the Governing Building Code, Section 1704 , 1705 , 1707 , and 1708.
3. The schedule of Special Inspections summarizes the Special Inspections and tests required. Special Inspectors will refer to the approved plans and specifications for detailed special inspection requirements. Any additional tests and inspections required by the approved plans and specifications will also be performed.
4. Interim reports will be submitted to the Building Official and the Registered Design Professional in Responsible Charge in accordance with the Governing Building Code Section 1704.2.4.
5. A Final Report of Special Inspections documenting required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy (Section 1704.2.4). The Final Report will document:
   (a) Required special inspections.
   (b) Correction of discrepancies noted in inspections.
6. The Owner recognizes his or her obligation to ensure that the construction complies with the approved permit documents and to implement this program of special inspections. In partial fulfillment of these obligations, the Owner will retain and directly pay for the Special Inspections as required in the Governing Building Code, Section 1704.2.
7. 1704.4 Contractor responsibility. Each contractor responsible for the construction of a main wind- or seismic force-resisting system, designated seismic system or a wind- or seismic force-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner or the owner's authorized agent prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the statement of special inspection.

SCHEDULE OF TESTING AGENCIES & SPECIAL INSPECTORS

The following are the testing agencies and special inspectors that will be retained to conduct tests and inspection on this project.

Responsibility	Firm	Address, Telephone, Email
1. Special Inspection (Except for Geotechnical)		
2. Materials Testing		
3. Geotechnical Inspection		
*		

* Additional inspections may be required at the discretion of the Building Official.

SEISMIC REQUIREMENTS (Section 1705.13)

Description of seismic-force-resisting system and designated seismic systems subject to special inspections per Section 1705.13:

Light-framed walls sheathed with wood structural panels rated for shear resistance or steel sheets (ASCE 7, Table 12.2-1, Line A.15)

The extent of the main seismic-force-resisting system is defined in more detail in the construction documents.

WIND REQUIREMENTS (Section 1705.12)

Description of main wind-force-resisting system and designated seismic systems subject to special inspections per Section 1705.12:

Not Applicable

The extent of the main wind-force-resisting system is defined in more detail in the construction documents.

SCHEDULE OF SPECIAL INSPECTIONS

Column Header Notation Used in Table:
- C Indicates continuous inspection is required.
- P Indicates periodic inspections are required. The notes and/or contract documents should clarify.

Box Entry Notation Used in Table:
- X Is placed in the appropriate column to denote either "C" continuous or "P" periodic inspections.
- -- Denotes a one-time activitiy or one whose frequency is defined in some other manner.

Additional details regarding inspections are provided in the project specifications or notes on the drawings.

Verification & Inspection	C	P	Notes
1705.6 - Soils			
1. Verify materials below shallow footings are adequate to achieve the desired bearing capacity		X	
2. Verify excavations are extended to proper depth and have reached proper material		X	
3. Perform classification and testing of compacted fill materials		X	
4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of compacted fill	X		
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly		X	
1705.13.2 - Seismic Resistance - Structural Wood			
2. Inspect nailing, bolting, anchoring, and other fastening of elements of the main seismic force-resisting system, including wood shear walls, wood diaphragms, collectors (drag struts), braces, shear panels, and hold-downs		X	Inspection of shear walls and diaphragms with fasteners spaced greater than 4" oc is not required

GENERAL NOTES

1. The following notes, details, schedules & specifications shall apply to all phases of this project unless specifically noted otherwise. Notes and details on the structural plans shall take precedence over general notes and typical details. Where no details are given, construction shall be as shown for similar work.
2. All drawings are considered to be part of the contract documents. The Contractor shall be responsible for the review and coordination of all drawings and specifications prior to the start of construction. Any discrepancies shall be brought to the attention of the Engineer prior to the start of construction so that a clarification can be issued. Any work performed in conflict with the contract documents or any applicable code requirements shall be corrected by the Contractor at no expense to the Owner or Engineer.
3. All information on existing conditions shown on the structural plans are based on best present knowledge available, but without guarantee of accuracy. The Contractor shall be responsible for the verifications of all dimension and conditions at the site. Any discrepancies between actual site conditions and information shown on the drawings or in the specifications shall be brought to the attention of the EOR prior to the start of construction.
4. Refer to the Architectural plans for the following:
   (a) Dimensions
   (b) Size and location of all interior and exterior wall locations.
   (c) Size and location of all floor, roof and wall openings
   (d) Size and location of all drains, slopes, depressions, steps, etc.
   (e) Specification of all finishes & waterproofing
   (f) All other non-structural elements
5. Refer to the mechanical, electrical and plumbing plans for the following:
   (a) Size and location of all equipment
   (b) Pipe runs, sleeves, hangers and trenches
   (c) All other mechanical, electrical or plumbing related elements
6. **DO NOT** scale structural plans. Contractor shall use all written dimensions on Architectural plans.
7. Construction materials shall be uniformly spread out if placed on floor or roof so as to not overload the framing. Load shall not exceed the design live load per square foot. It is the Contractor's responsibility to provide adequate shoring and/or bracing as required.
8. Specifications and detailing of all waterproofing and drainage items, while sometimes shown on the structural plans for general information purposes only, are solely the design responsibility of others.
9. The Engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction delineated by these plans. It should be understood that the Contractor or his/her agent(s) shall supervise and direct all work and shall be solely and completely responsible for all construction means, methods, techniques, sequences, procedures and conditions on the job site, including safety of all persons and property during the entire period of construction. Periodic observations by the Engineer, his staff or representatives are not intended to include verification of dimensions or review the adequacy of the Contractor's safety measures on or near the construction site.
10. Modifications of the plans, notes, details and specifications shall not be permitted without prior approval from the Engineer.
11. All workmanship shall conform to the best practice prevailing in the various trades performing the work. The Contractor shall be responsible for coordinating the work of all trades.
12. It is the Contractor's responsibility to ensure that only approved structural plans are used during the course of construction. The use of unapproved documents shall be at the contractor's own risk. Corrections of all work based on such documents shall be performed at the Contractor's expense.
13. These plans and specifications represent the structural design only. No information nor warranty is provided for the work of any other Consultant (Architect, Mechanical, Electrical, etc.). This includes, but is not limited to, waterproofing, drainage, ventilation, accessibility, or dimensions.

FOUNDATIONS

1. Refer to Structural Design Parameters section on sheet S-1.1 for all soil design values used in calculations.
2. Soils values per geologic/geotechnical report (or "soils report") by Beacon Geotechnical, Inc., Project No. F-101974, dated December 6, 2018 and Report Update dated January 25, 2024. This report and all recommendations contained therein are to be considered a part of these plans.
3. It is the Contractor's responsibility to obtain a copy of the soils report from the Owner. A copy of the soils report shall be on the job site during the course of construction.
4. Unexpected Soil Conditions: Allowable values and subsequent foundation designs are based on soil conditions which are shown by test borings. Actual soil conditions which deviate appreciably from that shown in the test borings shall be reported to the EOR and/or soils engineer immediately.
5. All compaction, fill, backfilling and site preparation shall be performed in accordance with project soils report or the Governing Building Code Chapter 18 & Appendix J. All such work shall be performed per the recommendations of the project soils engineer.
6. Excavate to required depths and dimensions (as indicated in the drawings), cut square and smooth with firm level bottoms. Care shall be taken not to over-excavate foundation at lower elevation and prevent disturbance of soils around high elevation.
7. Foundations forms and excavations shall be clean and free of debris, achieving all minimum dimesions noted. Enchroachment of soil at corners and reduced reinforcement clearances are not permitted.
8. Excavate all foundations to required depths into compacted fill or natural soil (as per plans and details) and as verified by the building official and/or soils engineer.
9. All foundations shall be inspected and approved by the appropriate building official and/or a representative of the soils engineer prior to forming and placement of reinforcing or concrete.
10. Foundations shall not be poured until all required reinforcing steel, framing hardware, sleeves, inserts, conduits, pipes, etc. and formwork is properly placed and inspected by the appropriate building official/inspector(s).
11. It is the responsibility of the contractor in charge of framing to properly position all holdown bolts, anchor bolts, column bases, and all other cast-in-place hardware. Refer to typical details. All hardware to be secured prior to foundation inspections.
12. The sides and bottoms of dry excavations must be moistened to optimum moisture content or just above, just prior to placing concrete. Conversely, de-water footings as required to remove standing water and to maintain optimum working conditions.
13. The Contractor shall be solely responsible for all excavation procedures including lagging, shoring, and the protection of adjacent property, structures, streets, and utilities in accordance with all federal, state and local safety ordinances. The Contractor shall provide for the design and installation of all cribbing, bracing and shoring required.

CONCRETE

1. All concrete shall have:
   (a) an ultimate compressive strength (f'c) of 3,000 psi at 28 days (UNO).
   (b) a maximum slump of 5" at point of placement.
   (c) a W/C ratio of 0.55 or less for all slabs, walls, and columns, and 0.60 or less for all foundations.
   (d) a normal dry-weight density (UNO).
2. Special inspection is NOT required as the foundations have been *designed* with f'c = 2,500 psi in accordance with the Governing Building Code, section 1705.3, exceptions 1, 2.1, and 2.3, unless explicitly specified herein, on the structural plans, or by the Building Department. At a minimum, special inspection is always required on:
   (a) structural slabs, flat plates
   (b) walls, columns, beams
   (c) piles, caissons
   (d) welding of reinforcement, installation of mechanical bar splice devices, epoxy application

   When required or specified, special inspection services shall conform to the Governing Building Code, Chapter 17 and shall be provided by an ICC certified inspector or Building Department approved engineer. The Building Department reserves the right to waive or require special inspections. Nothing in these plans waives the Building Department's right to require special inspection at any point and on any material.
3. Testing of materials used in concrete construction must be performed as noted on structural plans or at the request of the Building Department to determine if materials are quality specified. Tests of materials and of concrete shall be made by an approved agency; such tests shall be made in accordance with the standards listed in the Governing Building Code, Table 1705.3. When testing of concrete is required, four (4) test cylinders shall be taken from each 150 yards, or fraction thereof, poured in any one day. One (1) cylinder shall be tested at seven (7) days; two (2) at 28 days; one (1) shall be held in reserve. Where 4x8 cylinders are used, (5) test cylinders shall be taken, with (3) cylinders tested at 28 days. If Contractor elects to have additional tests performed for "early-break" results, additional test cylinders must be taken. At no time shall the Contractor instruct the testing agency to perform tests on a schedule different than above without the prior authorization of the Engineer. Contractor is responsible for complying with applicable testing requirements of theBuilding Department. Copies of all test reports shall be provided to Engineer and Building Department for review in a timely manner.
4. The Contractor shall remove and replace any concrete which fails to attain specified 28 day compressive strength if so directed by the Engineer. Any defects in the hardened concrete shall be repaired to the satisfaction of the Engineer and/or Architect or the hardened concrete shall be replaced at the Contractor's expense.
5. All concrete work shall conform with the Governing Building Code, Chapter 19.
6. All cement shall be Portland Cement Type I or II and shall conform to ASTM C150.
7. All aggregates shall conform to ASTM C33. Maximum aggregate sizes:
   (a) Footings: 1-1/2"
   (b) All other work: 3/4"
8. Where not specifically detailed, the minimum concrete cover on reinforcing steel shall be:
   (a) Permanently exposed to earth or weather
      i. Cast against earth: 3"
      ii. Cast against forms: 2"
   (b) Not exposed to earth or weather
      i. Slabs, walls, joists: 3/4"
      ii. Beams, girders, columns: 1-1/2"
9. The minimum lap splice length for all reinforcing steel shall be as noted in the typical details on sheet S-1.1. All lap splices to be staggered.
10. All reinforcing steel, anchor bolts, dowels, inserts, and any other hardware to be cast in concrete shall be well secured in position prior to foundation inspection. All hardware to be installed in accordance with respective manufacturer's specifications. Refer to architectural and structural plans for locations of embedded items.
11. Locations of all construction joints, other than specified on the structural plans, shall be approved by the Architect and Engineer prior to forming. Construction joints shall be thoroughly dry and water cleaned and so as to expose coarse aggregates. All surfaces to receive fresh concrete shall be maintained continuously wet at least three (3) hours in advance of concrete placement. Unless specifically detailed or otherwise noted, construction and control joints shall be provided in all concrete slabs-on-grade. Joints shall be located such that the area does not exceed 400 sq. feet.
12. The Architect, Engineer and appropriate inspectors shall be notified in a timely manner for a reinforcement inspection prior to the placement of any concrete.
13. The Contractor shall obtain approval from the Architect and the Engineer prior to placing sleeves, pipes, ducts, chases, coring and opening on or through structural concrete beams, walls, floors, and roof slabs unless specifically detailed or noted on the plans. All piles or conduits passing through concrete members shall be sleeved with standard steel pipe sections.
14. The Contractor is responsible for design, installation, maintenance and removal of all formwork. Forms shall be properly constructed, sufficiently tight to prevent leakage, sufficiently strong, and braced to maintain their shape and alignment until no longer needed for concrete support. Joints in formwork shall be tightly fitted and blocked, and shall produce a finished concrete surface that is true and free from blemishes. Forms for exposed concrete shall be pre-approved by the Architect to ensure conformance with design intent.
15. Remove formwork in accordance with the following schedule:
   (a) Forms at slab edge: 1 day
   (b) Side forms at footings: 2 days
   (c) All other vertical surfaces: 7 days
   (d) Beams, columns, girders: 15 days
   (e) Elevated slabs: 28 days

   Engineer reserves the right to modify removal schedule above based on field observations, concrete conditions, and/or concrete test results.
16. Retaining walls shall not be backfilled until concrete has set a minimum of 14 days. Refer to structural plans for slab and/or framing installation sequencing.
17. All concrete (except slabs-on-grade 6" or less) shall be mechanically vibrated as it is placed. Vibrator to be operated by experienced personnel. The vibrator shall be used to consolidate the concrete. The vibrator shall not be used to convey concrete, nor shall it be placed on reinforcing and/or forms.
18. Concrete shall be maintained in a moist condition for a min. of five (5) days after placement.
19. Concrete shall not be permitted to free fall more than six (6) feet. For heights greater than six (6) feet, use tremie, pump or other method consistent with applicable standards.
20. When specified ultimate compressive strength is greater than 2500 psi, Contractor shall submit mix designs to Architect and Engineer for approval seven (7) days prior to placement. Mix designs shall be prepared by an approved testing laboratory. Sufficient data must be provided for all admixtures.
21. Refer to Architectural plans for locations of all dimensions, slab depressions, slopes, drains, curbs, and control joints.
22. Provide continuous horizontal reinforcing through all wall intersections and corner. See details for additional information.

TRUSSES

1. Refer to the structural and architectural plans for additional design loads and conditions. Bottom chords shall be designed to resist a minimum ceiling live load of 10 psf.
2. Truss calculations and details shall be submitted to the Architect/Engineer and the building department for review and approval prior to fabrication.
3. All trusses shall be fabricated in the shop of a licensed fabricator approved by the governing building department.
4. Each truss shall be legibly branded, marked or otherwise have permanently affixed thereto the following information located within 2 feet of the center of the span on the face of the bottom chord:
   (a) Identity of the company manufacturing the truss
   (b) the design load, and
   (c) the spacing of the trusses.
5. Walls:
   (a) Trusses shall bear on exterior walls only unless specifically noted otherwise.
   (b) All interior walls shall be non-bearing unless specifically noted otherwise.
   (c) All approved interior bearing locations shall be specifically noted on the structural plans.
6. Bearing:
   (a) Securing of bearing walls, unless noted otherwise, trusses shall be secured at all bearing points with Simpson seismic anchors (e.g. H1) .
   (b) Interior non-bearing walls shall be isolated from the trusses with Simpson truss clips (e.g. STC, DTC, HTC4) or approved equal.
   (c) Trusses to be manufactured with necessary camber to account for dead load deflections and eliminate accidental bearing on interior non-bearing walls.
7. Blocking and bracing shall be installed per manufacturer's recommendations. As a minimum, the trusses shall be blocked at the following locations:
   (a) All bearing points
   (b) Along ridge
8. Erect trusses according to the approved shop drawings. Lift members only at designated lift points. Provide erection bracing to keep the members straight and plumb as required to assure adequate lateral support for individual members and the entire system until the sheathing is applied.

ROUGH CARPENTRY

1. Refer to latest edition of the Governing Building Code, Table 2304.10.2. for all minimum nailing requirements.
2. Refer to individual sections for applicable material specifications.
3. Fabricate, size, install, connect, fasten, bore, notch, and cut wood and plywood with joints true, tight, and well-nailed, screwed or bolted as required, all members to have solid bearing without being shimmed, unless noted otherwise. Set horizontal members subject to bending with the crown up. Install framing plumb, square, true and cut for full bearing. Splices are not permitted between bearings. Use full lengths unless otherwise specified.
4. Metal framing angles, anchor, clips, straps, ties, holdowns, etc. shall be mfg by Simpson Strong-Tie Co. No substitutions shall be permitted without prior approval of the Engineer.
5. All walls are to have continuous double 2x top plates spliced as followings unless specifically noted otherwise on the plans and details.
6. Wall Studs:
   (a) Unless specifically noted on the plan and details, use the following guidelines for wall framing:
      i. Use 2x4 studs at 16" oc for walls less than 9'-0" tall.
      ii. Walls 9'-0" to 16'-0" tall shall be constructed of 2x6 studs at 16" oc
      iii. Request specifically engineered wall details for walls greater than 16'-0" tall.
7. Blocking:
   (a) Provide min. one row of nominal 2" thick blocking of same width as stud, fitted snugly and spiked into studs at mid-height of partitions or walls over 8' high.
   (b) All foundation cripple walls (or "pony walls") less than 14" in height shall be solid blocking.
   (c) Rim blocking/rim board to be 1-1/4" minimum width x full depth at bearing walls, UNO per plans and details. Refer to shearwall section for additional rim/blocking requirements.
8. Notching:
   (a) Is not permitted of any structural member without prior approval
   (b) In exterior and bearing walls, notches shall not exceed 25% of the stud depth.
   (c) Non-bearing partition walls, notches shall not exceed 40% of the stud depth.
   (d) Successive notches in the same member shall be spaced a min of 18" apart.
9. Boring:
   (a) Is not permitted of any structural member without prior approval
   (b) In exterior and bearing walls, holes shall not exceed 40% of the stud depth.
   (c) Non-bearing partition walls, may be drilled not greater than 60% of stud depth.
   (d) Successive holes in the same member shall be spaced a minimum of 18" apart.
10. Bearing:
   (a) Provide a min. of 1-1/2" of bearing for all 2x joists and hdrs 4x10 / 6x8 & smaller.
   (b) Provide a min. of 3" of bearing for all beams and hdrs 4x12 / 6x10 & larger, UNO on plans.
   (c) Members bearing on prefabricated hangers are to have full bearing and nailing per manufacturer's specifications.
11. Posts:
   (a) Posts inside walls shall bear on sill plates and shall be continuous between top and bottom plates, unless specifically noted otherwise.
   (b) Provide posts under all beams, girders or double joists equal to the width of the supported member.
   (c) Posts on upper levels are to be stacked on posts of equal size at levels below, unless a larger post is specified on the plans.
   (d) Vertically oriented blocking ("squash blocking") shall be used to fully transfer the post area through floors to foundation. Vertical blocking shall be equal to floor thickness plus 1/16".
   (e) Provide framing into continuous posts without trimmer studs shall be supported in Simpson HUC hangers unless noted otherwise on the plans.
   (f) Posts when isolated, shall be seated in Simpson post or column bases, unless noted otherwise on the plans
12. Roof Framing:
   (a) Provide wood joists, as specified, laid with the crown up and spaced as indicated.
   (b) Provide a minimum of 1-1/2" end bearing unless otherwise shown.
   (c) Provide full depth solid 2x blkg or cross-bridging between the joists at 8' oc max.
   (d) Provide all cricket framing required to achieve positive drainage per Arch.
   (e) Install plywood panels with the face grain across the framing and close joints and nail at each support. Fully nail with common nails per the plans.
   (f) Plywood panels shall not be less than 4' x 8' except at boundaries and changes in framing direction, where the minimum panel dimension shall be no less than 24", unless all edges of undersized panels are supported by and fastened to framing members or blocking.
   (g) Provide Simpson "PSCL" clips at all plywood joints perpendicular to framing. Provide clips midway between framing members at the unsupported edges of plywood when members are spaced at 24" oc or greater. If clips are not used, provide solid blocking for joints perpendicular to framing.
13. Floor Framing:
   (a) Provide wood joists, as specified, laid with the crown up and spaced as indicated.
   (b) Provide a minimum of 1-1/2" end bearing unless otherwise shown.
   (c) Provide full depth solid 2x blkg or cross-bridging between the joists at 8' oc max. For floors framed with I joists, refer to the mfg's spec's for blkg requirements.
   (d) Provide full depth solid 2x blocking between the joists under all walls and partitions where the wall or partition is perpendicular to the floor framing (including floors framed with I joists)
   (e) Install plywood sheathing with the face grain across supports, end supports staggered, and the edges of sheets centered over supports. If T&G plywood is used, blocking need not be provided at all plywood edges (UNO per plan). If T&G plywood is not used, blocking shall be provided at all plywood edges. Glue plywood to joists and fully nail with common nails per the plans.
   (f) Plywood panels shall not be less than 4' x 8' except at boundaries and changes in framing direction, where the minimum panel dimension shall be no less than 24", unless all edges of undersized panels are supported by and fastened to framing members or blocking.
14. Shear Walls:
   (a) Refer to plans for all shearwall locations, length type and nailing.
   (b) Refer to Shearwall Schedule on title sheet for additional information.
   (c) Shear wall lengths specified on plans are minimum required.
   (d) Shear walls to be nailed with common nails. All nails to have minimum 3/8" edge distance to panel or framing member.
   (e) Where 3x framing is required per the shear wall schedule, stagger edge nailing.
   (f) Oriented Strand Board (OSB) may be used in lieu of plywood.
   (g) Typical Rim Board/Blocking at Shearwalls shall be 1-3/4" Min. LSL (refer to Engineered Lumber Section for Material Specifications). Refer to Shearwall Schedule per Plan for Min. Rim/Blkg Width Requirements per Transfer Fasteners.

TIMBER / LUMBER

1. All structural lumber shall be Douglas Fir-Larch, S4S and shall conform to the Governing Building Code, section 2303.1.1.
2. The minimum lumber grade of each member shall be as follows (unless specifically noted otherwise on plans and details) :
   (a) 2x studs, blocking, plates:Stud
   (b) 2x joists #2 or better
   (c) 4x4, 4x6, or 6x6 beams or posts #2 or better
   (d) 4x8, 6x8, or larger beams or posts #1 or better

   It is recommended (but not required) that all exposed members be Select Structural or better and free of heart center due to visual characteristics.
3. All lumber in contact with concrete or masonry shall be pressure treated Douglas Fir. Whenever it is necessary to cut, notch, bore or splice pressure treated material, all newly cut surfaces shall be thoroughly painted with the same preservative.
4. Maximum moisture content for all structural members shall not exceed 19%.
5. All plywood sheathing shall be CDX grade (or better) Douglas Fir with exterior glue. All sheathing shall conform to the Governing Building Code and grade-marked by the American Plywood Association (APA). Panel index to be 40/20 for floors and 24/0 for roofs unless specifically noted otherwise on the plans and details.

REINFORCEMENT

1. Reinforcing steel shall be deformed, clean, free of rust, grease or any other material likely to impair concrete bond.
2. All bars shall conform to ASTM A615, Grade 60 minimum (UNO on structural plans). All weld wire fabric (WWF) shall conform to ASTM A185.
3. Reinforcing steel that is to be welded shall conform to ASTM A706. All welding of reinforcement shall be subject to special inspection.
4. Contractor shall take necessary steps (standard ties, anchorage devices, etc.) to secure all reinforcing steel in their true position and prevent displacement during concrete placement.
5. Fabrication, placement and installation of reinforcing steel shall conform to:
   (a) Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice
   (b) the Governing Building Code.
6. Shop drawings for fabrication of reinforcing steel shall be approved by the Contractor and submitted to the Architect and Engineer for review and approval prior to fabrication. Shop drawings are not required for slabs-on-grade or foundations unless specifically noted on the structural plans.
7. Heating of reinforcing steel to aid in bending and shaping of bars is not permitted. All bends in reinforcing steel are to be made cold. All bend radii shall conform to CRSI Manual of Standard Practice.
8. Refer to Concrete and Masonry notes for specific minimum splice length and splice staggering requirements. Lap welded wire fabric (WWF) reinforcement two (2) modules minimum (UNO). All splices are to be staggered.

ENGINEERED LUMBER

1. Glu-laminated Beams (GLB):
   (a) shall have the following properties:

Use	EWS Combination Symbol	Species / Grade	Flexural Stress, Fb (psi)	Modulus of Elasticity, E (ksi)	Horiz. Shear Stress, Fv (psi)	Compression Fc para. (psi)	Compression Fc perp. (psi)
Simple Span Bm.	24F-V4	DF	+2,400/-1,850	1,800	265	1,650	650
Continuous or Cantilever Bm.	24F-V8	DF	+/- 2,400	1,800	265	1,650	650
Columns	2	DF / L2	+/- 1,800	1,300	265	1,600	560

   (b) shall not be notched, cut or drilled without prior approval from the Engineer
   (c) shall have exterior glue and weather-treatment prior to installation
   (d) shall be fabricated by an approved manufacturer & in accordance with ANSI A 190.1
   (e) shall have factory standard camber of 3,500-5,000 ft on beams UNO per Plan
2. Laminated Veneer Lumber (LVL) :
   (a) shall be 1-3/4" minimum thickness with the following minimum properties:
      i. E = 2000 ksi
      ii. Fb = 2600 psi
      iii. Fv = 285 psi
      iv. Fc (parallel) = 2500 psi
      v. Fc (perp.) = 750 psi
      vi. Ft (parallel) = 1500 psi
      vii. Specific Gravity = 0.50
   (b) shall be fabricated by an approved manufacturer
   (c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
   (d) shall be nailed in accordance with manufacturer's specifications. Unless otherwise approved, nailing into the top edge shall not be spaced any closer than:
      i. 16d @ 6" oc, 10d @ 4" oc, and 8d @ 3" oc
      ii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances.
   (e) shall be, when comprised of multiple members, connected with 16d nail, 1/2" bolts or 1/4" lag screws in accordance with manufacturer's specifications.
   (f) shall not be cut, notched or drilled without specific written approval of the EOR.
3. Laminated Strand Lumber (LSL) :
   (a) shall be 1-3/4" minimum thickness with the following minimum properties:
      i. E = 1550 ksi
      ii. Fb = 2325 psi
      iii. Fv = 310 psi
      iv. Fc (parallel) = 2170 psi
      v. Fc (perp.) = 900 psi
      vi. Ft (parallel) = 1070 psi
      vii. Specific Gravity = 0.50
   (b) shall be fabricated by an approved manufacturer
   (c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
   (d) shall be nailed in accordance with mfg's specifications. Unless otherwise approved, nailing into the top edge shall not be spaced any closer than:
      i. 16d @ 6" oc, 10d @ 4" oc, and 8d @ 3" oc
      ii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances.
   (e) shall be, when comprised of multiple members, connected with 16d nail, 1/2" bolts or 1/4" lag screws in accordance with manufacturer's specifications.
   (f) shall not be cut, notched or drilled without specific written approval of the EOR.
4. Parallel Strand Lumber (PSL) :
   (a) shall be 2-1/2" minimum thickness with the following minimum properties:
      i. E = 2200 ksi
      ii. Fb = 2900 psi
      iii. Fv = 290 psi
      iv. Fc (parallel) = 2900 psi
      v. Fc (perp.) = 625 psi
      vi. Ft (parallel) = 2300 psi
      vii. Specific Gravity = 0.50
   (b) shall be fabricated by an approved manufacturer
   (c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
   (d) shall be installed in accordance with manufacturer's specifications. Unless otherwise approved, nailing shall not be spaced any closer than:
      i. Narrow face: 16d @ 6" oc, 10d @ 4" oc, and 8d @ 3" oc
      ii. Wide Face: 16d @ 8" oc, and 10d & 8d @ 6" oc
      iii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances
   (e) shall not be cut, notched or drilled without specific written approval of the EOR.
5. Plywood I Joists:
   (a) type and manufacturer shall be clearly noted on the plans. Substitutions shall not be permitted without prior approval of the Engineer.
   (b) shall be installed in accordance with applicable code approvals and mfg's spec's.
   (c) shall bear a minimum of 1-3/4" at all end supports, and 3-1/2" at intermediate supports. Provide full depth solid blocking at all bearing points.
   (d) shall be installed with intermediate blocking or bridging as specified by the Mfr. Only omit intermediate blocking when specifically allowed by the Mfr.
   (e) shall not be cut, notched or drilled without specific written approval of the EOR.

FASTENERS

1. Nails:
   (a) shall be with "common" nails unless noted otherwise.
   (b) shall not be driven closer than 1/2 their length nor closer than 1/4 of their length to the edge or end of a member, except for sheathing.
   (c) shall be installed in pre-drilled lead holes if necessary to avoid splitting.
   (d) shall be hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper when in contact with preservative-treated wood.
      i. When used in exterior applications, nails shall have coating types and weights in accordance with the treated wood or bolt manufacturer's Recs. A Min. of ASTM A653, type G185 zinc-coated galvanized steel (or equiv.) shall be used.
      ii. When used in an interior, dry environment in SBX/DOT or zinc borate preservative-treated wood, plain carbon nails shall be permitted.
   (e) All nailing shall conform to the Governing Building Code, Table 2304.10.2.
2. Lag screws:
   (a) shall be installed into pre-drilled lead holes. Lubricant (or soap) shall be used to facilitate installation and prevent damage to the screws.
   (b) shall be hot-dipped zinc-coated galvanized steel or stainless steel when in contact with preservative-treated wood.
      i. When used in exterior applications, bolts shall have coating types and weights in accordance with the treated wood or bolt manufacturer's rec's. A minimum of ASTM A653, type G185 zinc-coated galvanized steel (or equal) shall be used.
      ii. When used in dry interior environments in SBX/DOT or zinc borate preservative-treated wood, plain carbon screws, nuts, and washers shall be permitted.
3. Bolts:
   (a) shall conform to ASTM A307. UNO specifically on plans and details.
   (b) shall be installed in pre-drilled holes a max of 1/16" larger than the specified bolt dia.
   (c) when installed against wood surfaces, shall have standard washers under the heads and nuts.
   (d) shall be hot-dipped zinc-coated galvanized steel or stainless steel when in contact with preservative-treated wood.
      i. When used in exterior applications, bolts shall have coating types and weights in accordance with the treated wood or bolt manufacturer's rec's. A minimum of ASTM A653, type G185 zinc-coated galvanized steel (or equal) shall be used.
      ii. When used in dry interior environments in SBX/DOT or zinc borate preservative-treated wood, plain carbon screws, nuts, and washers shall be permitted.
4. Anchor Bolts:
   (a) shall be installed at all exterior walls and all interior shear and/or bearing walls.
   (b) shall be 5/8" diameter with 3x3x0.229" steel plate washers at shearwalls.
   (c) shall be 5/8" diameter with 2x2x3/16" steel plate washers at non-shearwalls.
   (d) shall have 7" minimum embedment. (Contractor to coordinate length of bolts with sill plate thicknesses).
   (e) shall conform to ASTM F1554, Grade 36.
   (f) shall be hot-dipped zinc-coated galvanized steel or stainless steel when in contact with preservative-treated wood.
      i. When used in exterior applications, bolts shall have coating types and weights in accordance with the treated wood or bolt manufacturer's rec's. A minimum of ASTM A653, type G185 zinc-coated galvanized steel (or equal) shall be used.
      ii. When used in dry interior environments in SBX/DOT or zinc borate preservative-treated wood, plain carbon screws, nuts, and washers shall be permitted.
   (g) shall not be spaced greater than 72" oc Refer to shearwall schedule for specific anchor bolt spacing requirements.
   (h) shall be placed a maximum of 12" from wall corners, wall ends, and sill plate splices (but not less than 7 dia.) , and a min. of two bolts per piece of sill plate is required.
   (i) shall be secured in place prior to foundation inspection.
   (j) shall have a minimum edge distance of 1-3/4".
5. Powder Actuated Shot Pins:
   (a) shall be installed at all interior non-bearing, non-shearwalls.
   (b) shall be 0.145x3" with 1.5" diameter steel washers.
   (c) shall not be spaced greater than 32" o.c.

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Engineer of Record:

REGISTERED PROFESSIONAL ENGINEER R. PAUL BELMONT C 76732 CIVIL STATE OF CALIFORNIA — PLAN REVIEW SET NOT FOR CONSTRUCTION

217 Milpas ADU

217 S. Milpas St.
Santa Barbara, CA 93103

Revision:

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Proj. Engr.: Katie S. Phone Ext.: 198

Proj. Mngr.: Paul B.

Date: 3 April 2024 Scale: NTS

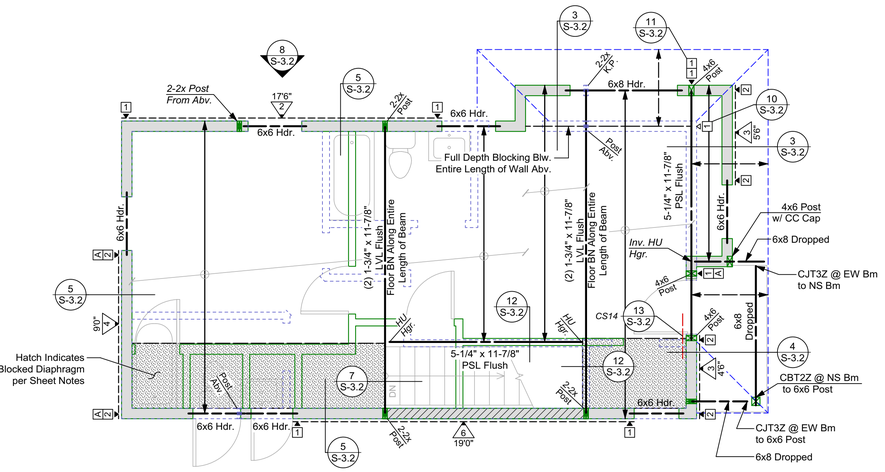
A&V Job No.: 240050

STRUCTURAL SPECIFICATIONS

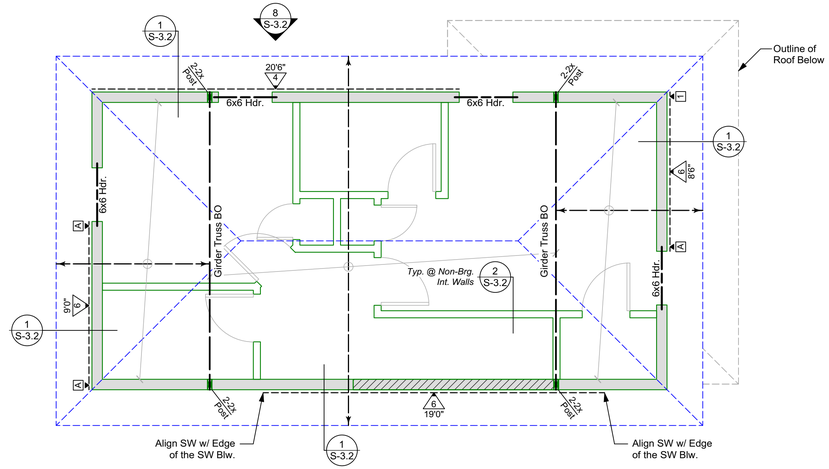
S-1.2

DO NOT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimensions.

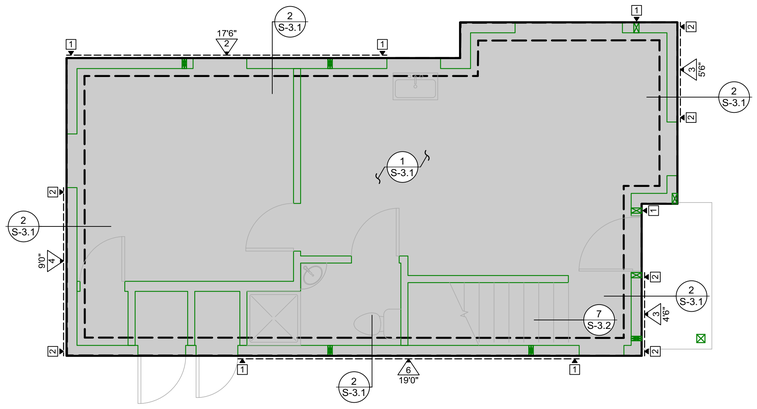
Apr 3, 2024 - 08:43 PM



FLOOR FRAMING PLAN



ROOF FRAMING PLAN



FOUNDATION FRAMING PLAN

TRUSS DRAWINGS
Manufactured truss (i.e. prefabricated truss) drawings are required. Truss drawings must be received by the Architect (or designer) in time to ensure adequate coordination with Structural Engineer. Refer to the Material Specifications for additional requirements. Truss drawings shall include (but are not limited to) the following:

1. All connections related to trusses (i.e. truss to truss, conventional framing to truss, truss to top plate, etc.
2. All related bracing for trusses.
3. Any camber needed to minimize excessive deflection.
4. Adequate design to prevent any lateral movement.
5. Adequate design to sustain any vertical load.
6. The builder agrees to hold the Architect (or Designer) & the Engineer harmless for omissions due to delayed receipt of truss drawings.

All truss engineering, drawings, truss types, and detailed shop drawings shall be approved by the project engineer prior to the installation of the trusses.

WALL SCHEDULE

Stud wall locations per Architecturals.

Non-Struc. Wood-Framed Wall, Thk. per Arch.
2x4 D.F. Stud @ 16" oc, Min.

Struc. Wood-Framed Wall, Thk. per Arch.
2x6 D.F. Stud @ 16" oc, Min.

Struc. Balloon-Framed Wall, Thk. per Arch.
2x6 D.F. #2 @ 8" oc, Min.

All Walls to have Continuous Double Top Plates, All Splices to be per Detail **7/S-1.1**

Walls above
(shown for clarity)

BLOCKED DIAPHRAGM:
Floor sheathing to be 3/4" plywood or OSB, T & G, PI 40/20, glued and nailed w/ 10d commons at 4", 4", 12". Block Diaphragm w/ 2x4 Flat Min. Blocking at All Panel Joints.

GENERAL FRAMING NOTES

Beams (per Call-out)

All Lumber 4x6, 6x6 and Smaller to be DF #2 UNO
All Lumber 4x8, 6x8 and Larger to be DF #1 UNO

All Beams to Bear on Plates w/ Indicated Post or Doubler Below UNO

All Hangers Shall be Installed w/ Max. Nailing per Mfr. & Sized for Full Width & Depth of Supported Members, UNO

Roof sheathing to be 5/8" plywood or OSB, PI 40/20, nailed w/ 10d commons at 6", 6", 12"

Floor sheathing to be 3/4" plywood or OSB, T & G, PI 40/20, glued and nailed w/ 10d commons at 6", 6", 12"

Provide wall length continuous full depth solid blocking (where floor joists perpendicular) or double floor joist (where joists parallel) for all walls above.

Pre-Fabricated Roof Trusses (by Others) @ 24" oc
All Truss to Truss Hangers per Mfr., Typ. (UNO)

Roof Rafters -- 2x6 D.F. #2 @ 24" oc
in Simpson LUS Hangers, Typ. (UNO)

(N) Floor Joists -- 11-7/8" TJI 230 @ 16" oc
in Simpson ITS Hangers, Typ. (UNO)

Waterproofing, flashing, & finish details per Architecturals.

See General Notes & Specifications for additional requirements and material specifications.

All dimensions per Architectural plans

Contractor to VERIFY all dimensions w/ Architectural plans PRIOR to commencement of construction.

HOLDOWN SCHEDULE

TYPE	HOLDOWN[1,2]	MIN. POST	ANCHOR / EMBEDMENT	DETAILS
A	CS14	(2) 2x	N/A	9/S-3.2
1	HDU4	(2) 2x	SSTB24 / 21" Min.	**HD to Mat:** 4/S-3.1
2	HDU8	4x	SSTB28L / 25" Min.	**HD to Floor:** 10,11/S-3.2

FOOTNOTES:
1. Shared holdowns to be installed per detail **10/S-1.1**, *Typical Shearwall Intersections*, (UNO)
2. All holdowns shown shall be continued down to the foundation with the same size holdowns and post, (UNO)

GENERAL FOUNDATION NOTES

Please see Soils Report for additional specifications and recommendations. It is the contractor's responsibility to obtain a copy of the soils report from the owner or owners representative.

Prior to the contractor requesting a Building Department foundation inspection, the Soils Engineer shall advise the building inspector in writing that:

a) Building pad was prepared in accordance with soils report
b) Utility trenches have been properly backfilled and compacted, and
c) Foundation excavations, the soil's expansive characteristics and bearing capacity conform to the soils report.

See General Notes & Specifications for additional requirements and material specifications.

All dimensions per Architectural plans

Contractor to VERIFY all dimensions w/ Architectural plans PRIOR to commencement of construction.

Foundation per Details

15" Wide x 18" Embedment w/ (2) #5 at Bot. (UNO)

10" Mat Slab w/ #5 @12"oc EW, T&B, per Details

Wood Framed Wall Above

SHEARWALL SCHEDULE

NO.	MATERIALS	DBL SIDED	SILL PLATE	PANEL B'DRY	NAILING[1] SIZE	NAILING[1] SPC'G	TRANSFERS[2] 5/8"Ø[3] AB	SDS[4] Screw	SDWS[5] Screw	A35, LTP4[6,8] or LTP5	RBC	16d[9]
6	15/32" CDX Plywood	N	2x	2x	10d	6"	41"	9"	11"	13"	11"	5"
4	15/32" CDX Plywood	N	2x	3x	10d	4"	27"	6"	7"	9"	8"	3"
3	15/32" CDX Plywood	N	2x	3x	10d	3"	21"	4"[10]	5"[10]	6"	6"	-
2	15/32" CDX Plywood	N	2x	3x	10d	2"	16"	3"[10]	4"[10]	5"	4"	-

FOOTNOTES:
1. All nails to be COMMONS. **DO NOT** use box type nails. All "field" nailing to be 12"oc, UNO. Penetration shall be 1-1/2" Min. in framing.
2. All transfers to be installed into min. 1-1/2" thick members, UNO. Where clips are spaced less than 6" oc, stagger clips on each side of wall.
3. All shear walls to have 5/8" anchor bolts, embaded 7" into concrete foundations, with 3"x3"x0.229" thick plate washers, minimum. Washers may be slotted (slot length not to exceed 1-3/4") w/ standard cut washer placed between nut and plate washer. Washers shall extend within 1/2" of the edge of the bottom plate on the sheathed side. At walls sheathed on 2 sides, plate washers shall be alternated to each side of plate. [Governing Bulding Code, Section 2308.3.1] [AF&PA SDPWS 4.3.6.4.3]
4. Simpson SDS 1/4"x5" Screws through 3x sill or double plates. Install into minimum 1-3/4" thick members (rim and/or blocking). [ICC ESR 2236]
5. Simpson SDWS (Exterior Grade) 0.22"x5" Screws through 2x sill, or SDWS (Exterior Grade) 0.22"x8" Screws through 3x sill or double plates. Install into minimum 1-3/4" thick members (rim and/or blocking). [ICC ES AC233]
6. See details for permitted transfer clip types and locations.
8. Where LTP4 clips are installed over shear wall sheathing, fasten with full length 8d common nails.
9. 16d common nails through the sill plate to rim member or blocking. **DO NOT** use w/ LVL or LSL Rims.
10. Install screws into 3-1/2" wide continuous member, staggered 1-1/2" apart.
11. Install screws into Glulams or solid sawn member. LSL, LVL, or PSL members are NOT acceptable, UNO.
12. Provide both A35 and LTP4 clips on opposite sides of shearwall in order to acheive net spacing requirement.

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PLAN REVIEW SET

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Proj. Engr.: Katie S. Phone Ext.: 198
Proj. Mngr.: Paul B.
Date: 3 April 2024 Scale: 1/4"=1'-0"
A&V Job No.: 240050

FOUNDATION, FLOOR & ROOF FRAMING PLAN

S-2.2

DO NOT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimensions.

Apr 3, 2024
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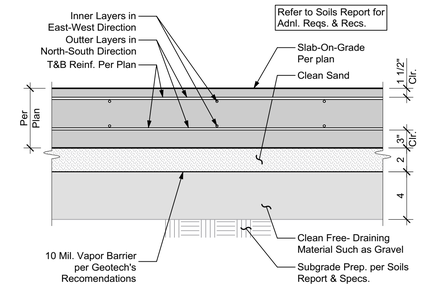
17 NOT USED

13 NOT USED

9 NOT USED

5 NOT USED

1 MAT SLAB ON GRADE



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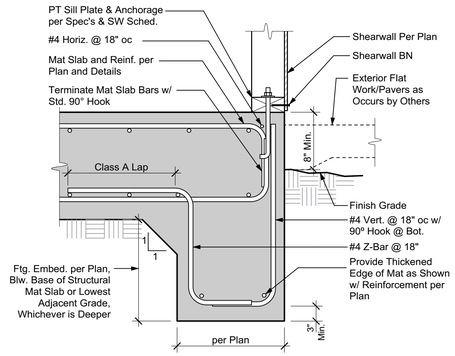
2 TYP. MAT SLAB EDGE



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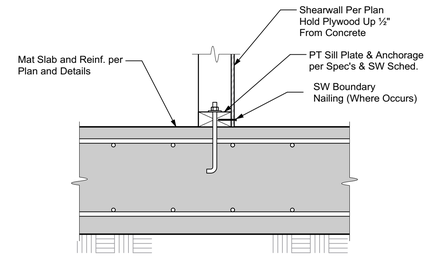
3 TYP. MAT SLAB AT INTERIOR WALL



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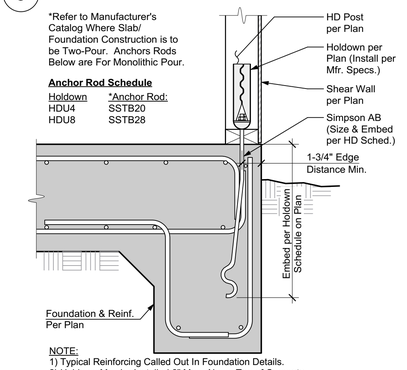
16 NOT USED

12 NOT USED

8 NOT USED

4 CURB AT MAT SLAB EDGE AT WALL



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Revision:

Proj. Engr.: Katie S.	Phone Ext.: 198
Proj. Mngr.: Paul B.	
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A&V Job No.: 240050	

STRUCTURAL DETAILS

S-3.1

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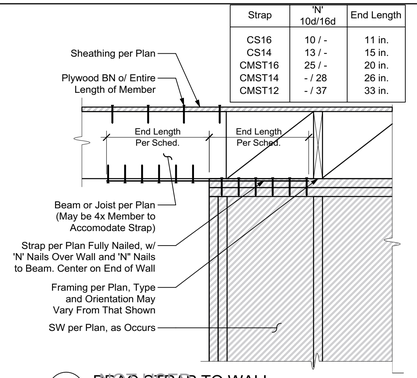
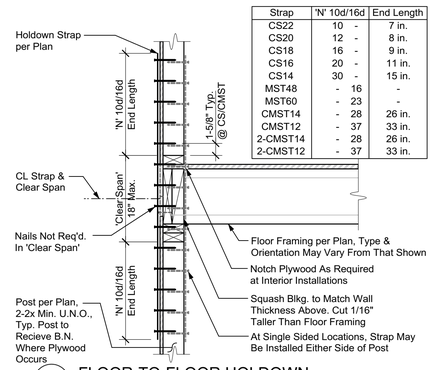
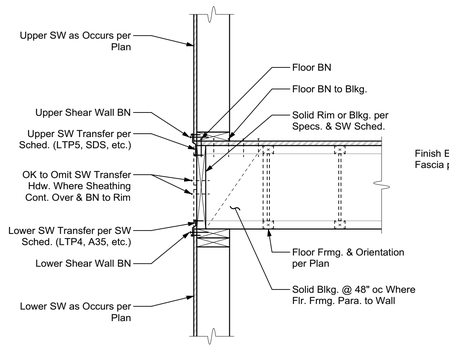


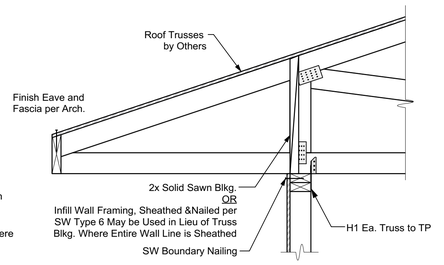
13 DRAG STRAP TO WALL



9 FLOOR-TO-FLOOR HOLDOWN



5 SHEAR TRANSFER: FLOOR AT EXT. WALL



1 SHEAR TRANSFER AT DEEP HEEL TRUSSES

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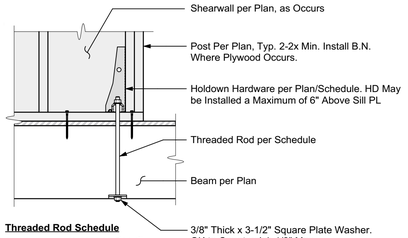
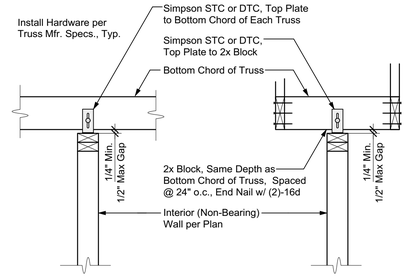


Threaded Rod Schedule

Holdown	Threaded Rod Ø
HDU2/HDU4	5/8"
HDU5/HDC5/HTT5	5/8"
HDU8/HDQ8/HDC10	7/8"
HDU11/HDU14	1"
HD19	1-1/4"

10 HOLDOWN AT WOOD BEAM

6 NOT USED



WALL PERPENDICULAR TO TRUSSES **WALL PARALLEL TO TRUSSES**

2 TYP. INTERIOR WALL TO TRUSSES

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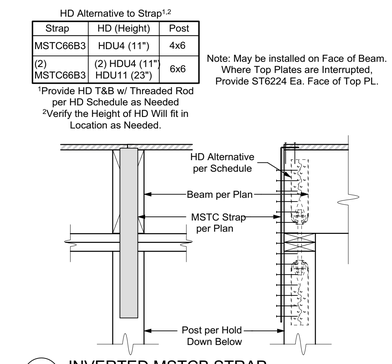
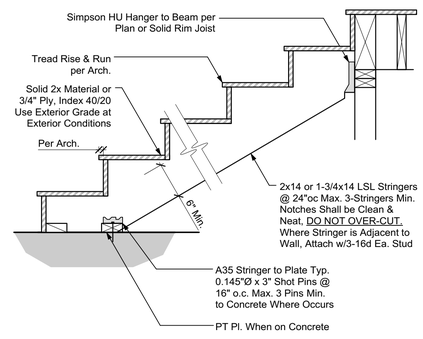
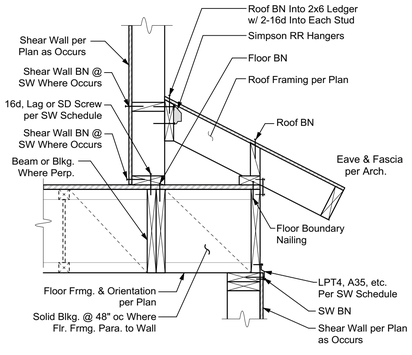


11 INVERTED MSTCB STRAP



7 TYP. LSL STAIR CONSTRUCTION



3 RAFTERS OVER FLOOR FRAMING

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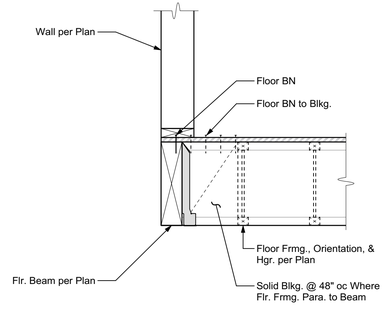
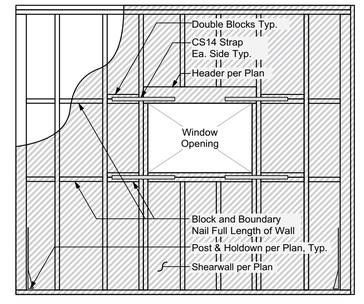
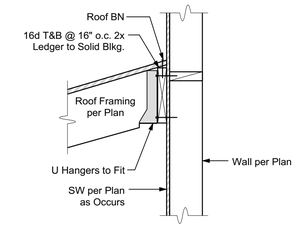
16 NOT USED



12 EDGE BEAM AT WALL



8 WINDOW IN SHEARWALL



4 SHEAR TRANSFER AT ROOF STEP

Ashley&Vance ENGINEERING, INC.
210 East Cota Street
Santa Barbara, CA 93101
(805) 962-9966
www.ashleyvance.com
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Engineer of Record:

REGISTERED PROFESSIONAL ENGINEER R. PAUL BELMONT C 76732 CIVIL STATE OF CALIFORNIA

PLAN REVIEW SET NOT FOR CONSTRUCTION

217 Milpas ADU
217 S. Milpas St.
Santa Barbara, CA 93103

Revision:

Proj. Engr.:	Katie S. Phone Ext.: 198
Proj. Mngr.:	Paul B.
Date:	3 April 2024 Scale: NTS
A&V Job No.:	240050

STRUCTURAL DETAILS

S-3.2

DO NOT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimensions.

Apr 3, 2024
1:48:47 PM

PLAN NOTES

1. PROVIDE ACCESS PANELS AS REQUIRED BY CMC, CPC, CBC/CRC (PROVIDE SUBMITTAL TO ARCHITECT FOR REVIEW & OWNER FOR APPROVAL PRIOR TO INSTALLATION)
2. PROVIDE FIRE SAFING, FIRE BLOCKING AT RATED WALL ASSEMBLIES. FIRE BLOCKING AT ALL CODE REQUIRED CONDITIONS.
3. PENETRATIONS IN RATED WALL/CEILING ASSEMBLIES SHALL COMPLY WITH C.R.C. & C.B.C.
4. SUBCONTRACTOR(S) SHALL BE RESPONSIBLE FOR ALL TRADE RELATED ITEMS AS NOTED WITHIN FULL CONSTRUCTION DOCUMENTS AND ITEMS REQUIRED TO MEET THE INTENT OF THE C.D.'s & APPLICABLE CODES.
5. PLUMBING & FRAMING CONTRACTOR SHALL COORDINATE & AGREE UPON LOCATIONS FOR PLUMBING PENETRATIONS & LAYOUTS WITHIN FRAMED WALLS & FLOOR PRIOR TO CONSTRUCTION. IT IS THE CONTRACTORS FULL RESPONSIBILITY TO RESOLVE ANY CONFLICTS PRIOR TO CONSTRUCTION.
6. MECHANICAL & FRAMING CONTRACTOR SHALL COORDINATE & AGREE UPON SIZE & LOCATIONS FOR DUCTING PENETRATIONS & LAYOUTS WITHIN FRAMED WALLS AND FLOOR PRIOR TO CONSTRUCTION. IT IS THE CONTRACTORS FULL RESPONSIBILITY TO RESOLVE ANY CONFLICTS PRIOR TO CONSTRUCTION.
7. PRIOR TO BIDDING, SUBCONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR VERIFICATION OF AVAILABILITY AND COMPATIBILITY OF ANY SPECIFIC PRODUCT SPECIFIED. CONTRACTOR SHALL NOTIFY ARCHITECT AND OWNER IMMEDIATELY WITH REQUESTED ALTERNATIVES OR SPACE CONFLICTS.
8. ALL EXTERIOR AND (HABITABLE TO NON-HABITABLE) WALLS & CEILINGS SHALL BE INSULATED AT A MINIMUM PER T-24 SPECS (& AT ADDITIONAL LOCATIONS AS NOTED CONSTRUCTIONS DOCUMENTS).
9. PLUMBING CONTRACTOR SHALL COORDINATE WITH FRAMING CONTRACTOR TO RESOLVE ANY POTENTIAL CONFLICTS BETWEEN FRAMING AND PLUMBING PRIOR TO CONSTRUCTION.
10. IT IS SOLELY THE GENERAL CONTRACTOR & TRADE CONTRACTOR'S RESPONSIBILITY TO RESOLVE ANY POTENTIAL CONFLICTS PRIOR TO SUBMITTAL OF BID(S). ADDITIONAL POTENTIAL CONFLICTS DURING CONSTRUCTION SHALL BE ABSORBED BY THE CONTRACTOR
11. WATER FIXTURES SHALL COMPLY WITH C.P.C., CAL-GREEN & LOCAL ORDINANCES. PRIOR TO PURCHASING FIXTURES, PLUMBING CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR VERIFYING ANY SPECIFIED FIXTURE COMPLIANCE.
12.
13. ALL FIREBLOCKING AND DRAFTSTOPPING SHALL BE INSTALLED AND INSPECTED PRIOR TO ROUGH-IN OF PLUMBING AND MECHANICAL.
14. VENTING FOR GAS FIRED EQUIPMENT SHALL BE IN COMPLIANCE WITH C.P.C., C.R.C/C.B.C. AND MFR SPECS. SUBCONTRACTOR SHALL BE WHOLLY RESPONSIBLE TO VERIFY GAS FIRED EQUIPMENT LOCATIONS DO NOT CONFLICT WITH BUILDING DESIGN AND STRUCTURAL PRIOR TO SUBMITTAL OF BID.
15. THE FRAMING CONTRACTOR SHALL COORDINATE TIMING AND PLACEMENT OF INTERIOR SHEAR PANELS WITH THE GENERAL CONTRACTOR.
16. AT ACOUSTIC TREATED WALLS, CAULK & SEAL ALL PENETRATIONS & TRANSITION AREAS PER NATIONAL GYPSUM & GYPSUM ASSOCIATION SOUND ISOLATION STANDARDS.
17. OFFSET ELECTRICAL OUTLETS AT SEPARATION WALLS PER GYPSUM ASSOCIATION SOUND ISOLATION STANDARDS. OUTLETS IN DWELLING UNIT SEPARATION WALLS SHALL HAVE ACOUSTIC PADS SURROUNDING THE BOX & WIRE HOLES.
18. FIRE SPRINKLER DESIGNER SHALL COORDINATE WITH ARCHITECT RE: PLACEMENT OF SPRINKLER HEADS PRIOR TO CONSTRUCTION.
19. PROVIDE MINIMUM 2x8 BLOCKING/BACKING AT ALL TOWEL BAR LOCATIONS
20. ACOUSTIC SEALANT INSTALLED IN A FIRE-RATED ASSEMBLY SHALL BE FIRE-RATED IN ADDITION TO PACKING MATERIAL USED AT PIPE PENETRATIONS.
21. AT RATED PENETRATIONS, PROVIDE MEANS OF FIRE PROTECTION. (IE, LOWRY WRAP PADS, FIRE CAULK) INCLUDE FIRE-RATED ASSEMBLIES FOR THE FOLLOWING: GAS LINE, ELECTRICAL, CATV, TELCO, LOW VOLTAGE, WATER LINES, ACOUSTIC SEALANT INSTALLED IN A FIRE-RATED ASSEMBLY MUST BE FIRE-RATED AS WELL I.E. PACKING MATERIAL TO BE USED AT PIPE PENETRATIONS, PROVIDE U.L. LISTING.
22. TRADE CONTRACTOR SHALL PROVIDE FURRING STRIPS AT FRAMED WALLS PRIOR TO GYP BD INSTALLATION TO MEET FINISH TOLERANCES (FRAMING TOLERANCES ± 1/8" PER 8'-0" VERTICAL & HORIZONTAL).
23. PROVIDE A MINIMUM LANDING OF 3'-0" IN DEPTH AT ALL EXTERIOR OPENINGS.
24. ALL WATER CLOSETS SHALL HAVE AN EFFECTIVE FLUSH VOLUME OF NOT MORE THAN 1.28 GALLONS PER FLUSH. TANK TYPE WATER CLOSET SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATER SENSE SPECIFICATION FOR TANK TYPE TOILETS. URINALS SHALL HAVE AN EFFECTIVE FLUSH VOLUME NOT TO EXCEED 0.5 GALLONS PER FLUSH. **SINGLE SHOWER HEADS** SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 80 PSI. **MULTIPLE SHOWER HEADS** WHEN SERVED BY A SINGLE VALVE SHALL HAVE A COMBINED FLOW RATED NOT TO EXCEED 1.8 GALLONS PER MINUTE. **RESIDENTIAL LAVATORY** FAUCETS SHALL HAVE A MAXIMUM RATE OF 1.2 GALLONS PER MINUTE AT 60 PSI AND A MINIMUM FLOW RATE OF NOT LESS THAN 0.8 GALLONS PER MINUTE AT 20 PSI. **FAUCETS IN COMMON** AND PUBLIC AREAS (OUTSIDE DWELLINGS AND SLEEPING UNITS) IN RESIDENTIAL BUILDINGS MUST HAVE A MAXIMUM FLOW RATE OF 0.5 GALLONS PER MINUTE AT 60 PSI. **METERING FAUCETS** WHEN INSTALLED IN RESIDENTIAL BUILDINGS MUST NOT DELIVER MORE THAN 0.25 GALLONS PER CYCLE. **KITCHEN FAUCETS** SHALL HAVE A MAXIMUM OF FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI. **KITCHEN FAUCETS** TEMPORARILY INCREASE THE FLOW RATE TO A MAXIMUM OF 2.2 GALLONS AT 60 PSI BUT MUST DEFAULT BACK TO THE 1.8 GALLONS PER MINUTE. (SECTION 4.303)

WALL LEGEND

- NEW 2X6 STUD W/5/8" GYP BD
- NEW 2X6 STUD -1-HR ASSEMBLY
- NEW 2X4 STUD W/5/8" GYP BD

KEYNOTES

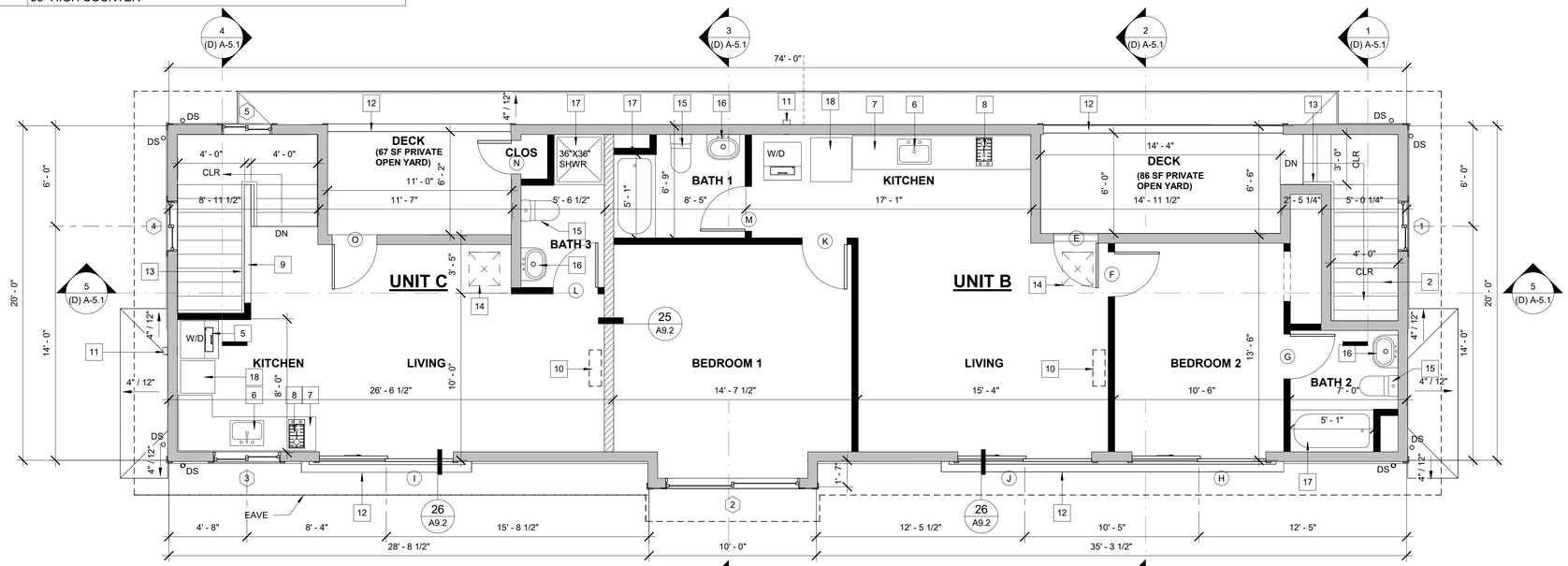
1	CODE REQUIRED MIN. 3'x3' CONCRETE LANDING PER C.R.C. - REFER TO LANDSCAPE/HARDSCAPE PLAN FOR SPECIFIC DESIGN
2	STAIRS: T=10", R=7-3/4" - THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8" (CRC R311.7.5)
3	HANDRAIL MIN. 34" A.F.F. 38" MAX. A.F.F. RETURN TO WALL
4	OUTDOOR HEAT PUMP PER MECHANICAL PLAN
5	WASHER/DRYER - O.F.C.I. - PROVIDE RECESSED "BOX WASHING MACHINE OUTLET" - PROVIDE FLOOD PAN & DRAIN
6	SINGLE BASIN SINK
7	36" HIGH COUNTER

KEYNOTES

8	STOVE / OVEN / HOOD - C.F.C.I.
9	44" PONYWALL WITH 2X VG CAP - FINISH PER OWNER
10	INDOOR HEAT PUMP FAN UNIT PER MECHANICAL PLAN
11	DRYER VENT THROUGH WALL - REFER TO MECHANICAL PLAN
12	42" HIGH GUARDRAIL SHALL NOT PERMIT PASSAGE OF A 4" DIA. SPHERE
13	HANDRAIL 34"-38" ABOVE NOSING OF TREADS, PROVIDE SOLID 2x8 BLOCKING FOR ATTACHMENT TO WALL. FINISH PER OWNER. (SIZE, ATTACHMENT, TERMINATION PER C.R.C.)
14	22" X 30" MINIMUM ATTIC ACCESS DOOR. PROVIDE 30" MINIMUM HEAD CLEARANCE PER R807.1

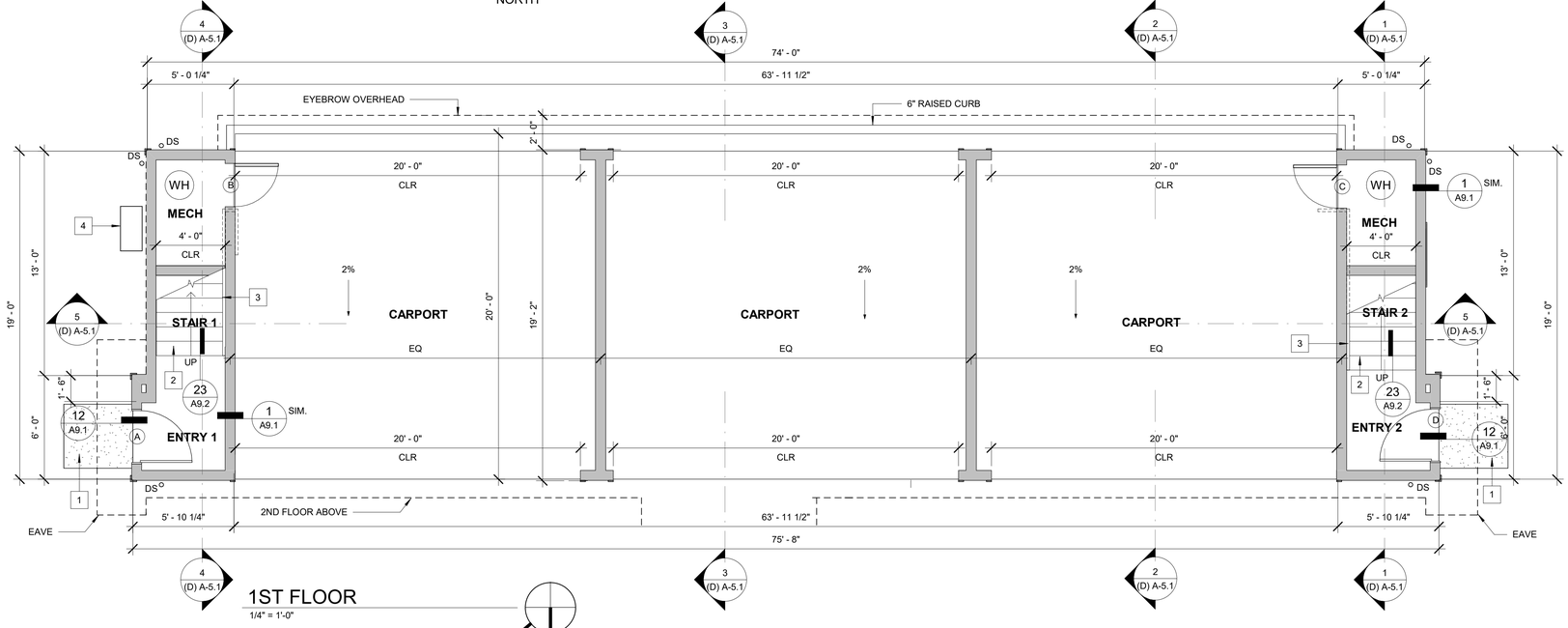
KEYNOTES

15	TOILET
16	PEDESTAL SINK
17	BATHTUB AND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE FLOOR
18	REFRIGERATOR



2ND FLOOR
1/4" = 1'-0"

TRUE NORTH



1ST FLOOR
1/4" = 1'-0"

TRUE NORTH

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DUPLEX FLOOR PLANS

Revision Schedule

Project Manager: Designer
Scale: 1/4" = 1'-0"
PrintDate: 4/19/2024 10:14:33 AM

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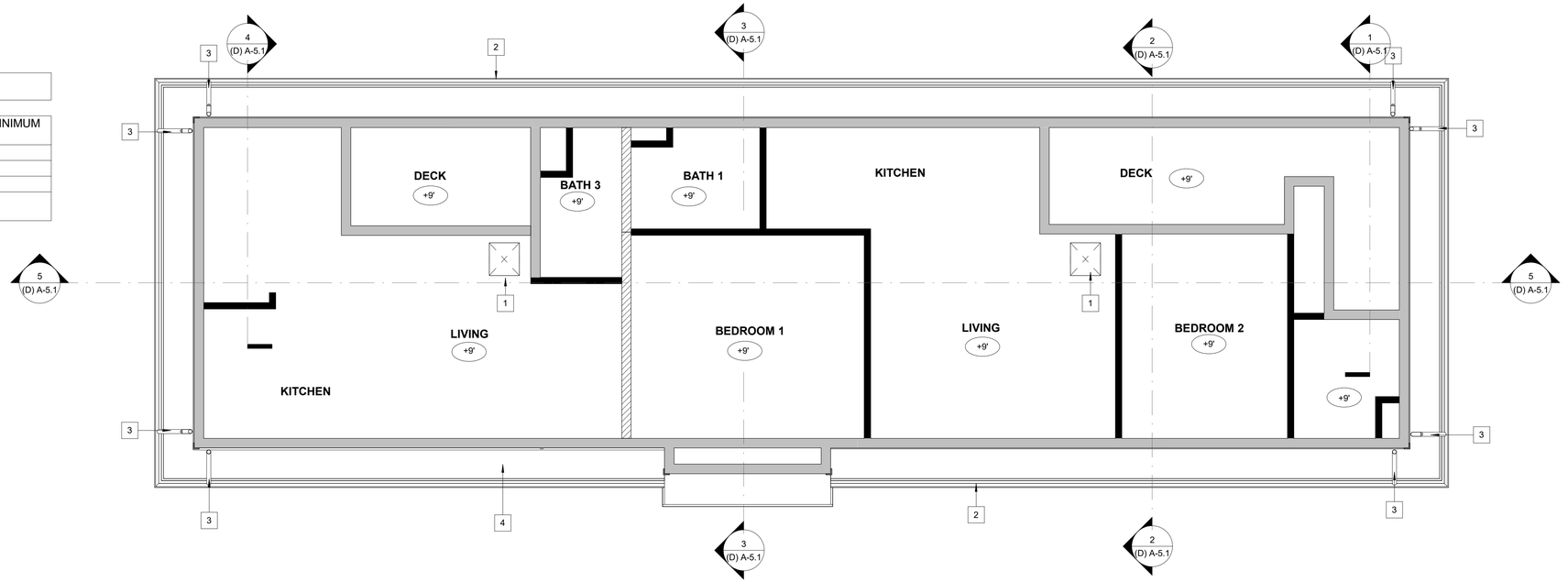
KEYNOTES

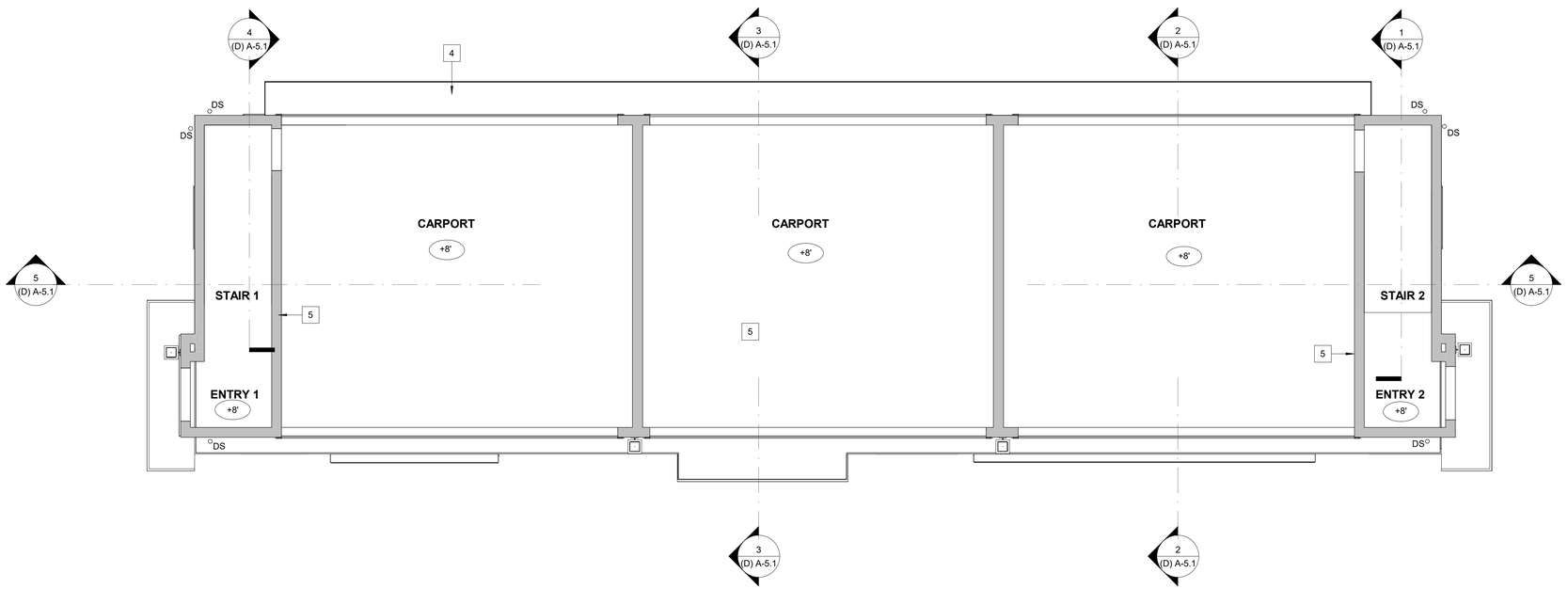
1	22" X 30" MINIMUM ATTIC ACCESS DOOR. PROVIDE 30" MINIMUM HEAD CLEARANCE PER R807.1
2	K-STYLE CONTINUOUS GUTTERS TO MATCH EXISTING
3	4" ROUND METAL DOWNSPOUT
4	SOFFIT MATCH EXISTING
5	1-HR RATED CONSTRUCTION BETWEEN PARKING & RESIDENTIAL UNITS



2ND FLOOR REFLECTED CEILING PLAN

1/4" = 1'-0"

TRUE NORTH



1ST FLOOR REFLECTED CEILING PLAN

1/4" = 1'-0"

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DUPLEX REFLECTED CEILING PLANS

Revision Schedule

Project Manager: Designer
Scale: 1/4" = 1'-0"
PrintDate: 4/17/2024 10:54:55 AM

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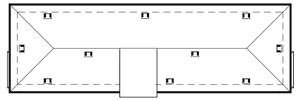
KEYNOTES

1	K-STYLE CONTINUOUS GUTTERS TO MATCH EXISTING
2	O'HAGIN ASPHALT SHINGLE CLOAKED ROOF VENT - NET FREE AREA = 72 SQ. IN. TYP
3	CLASS "A" SHINGLES - TYPE & COLOR TO MATCH EXISTING
4	4" ROUND METAL DOWNSPOUT
5	PHOTOVOLTAIC PANELS - INSTALLED BY A STATE CERTIFIED SOLAR CONTRACTOR HOLDING A C-46 LICENSE & DESIGNED PER TITLE 24 REQUIREMENTS-REFER TO SOLAR PLAN SHEET

ROOF NOTES

- TRUSS MANUFACTURER TO PROVIDE SOLID BLOCKING AT EAVES.
- ALL VENTING EQUIPMENT ON ROOF TO BE PRIMED & PAINTED TO MATCH ROOF COLOR, ARCHITECT TO APPROVE COLOR IN WRITING
- PROVIDE PV SYSTEM PER TITLE 24 REQUIREMENTS

ROOF VENT CALCS



REQUIRED: 1494 SF/300 SF = 4.98 SQ FT.

PROVIDED: CLOAKED VENT = 10 X 72 SQ IN. = 720 SQ IN.

TOTAL = 720 SQ IN = 5 SQFT > 4.98 SQ FT = OK

ROOF PLAN
1/4" = 1'-0"

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DUPLEX ROOF PLAN

Revision Schedule

Project Manager: Designer
Scale: As indicated
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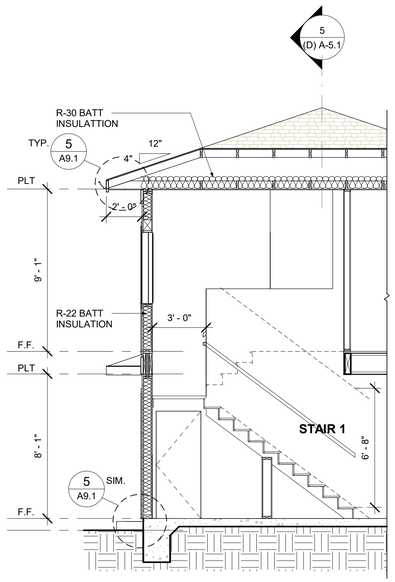
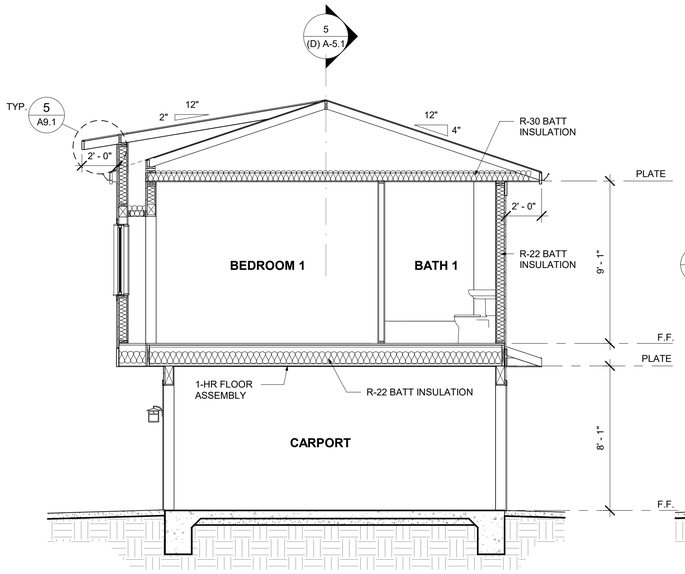


CROSS SECTION 4
1/4" = 1'-0"



CROSS SECTION 3
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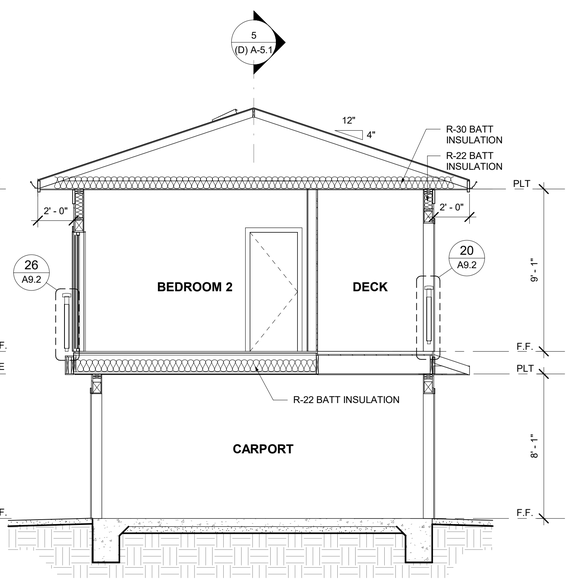

CROSS SECTION 2
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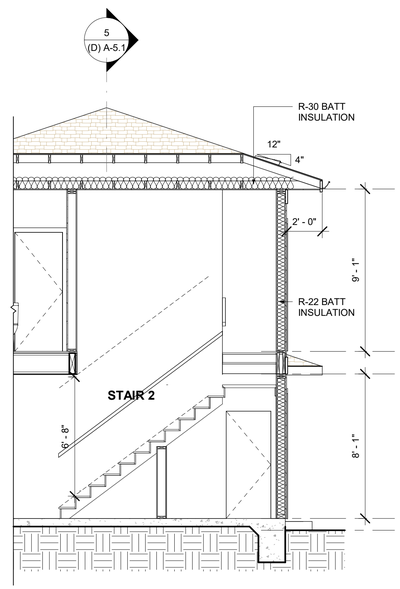
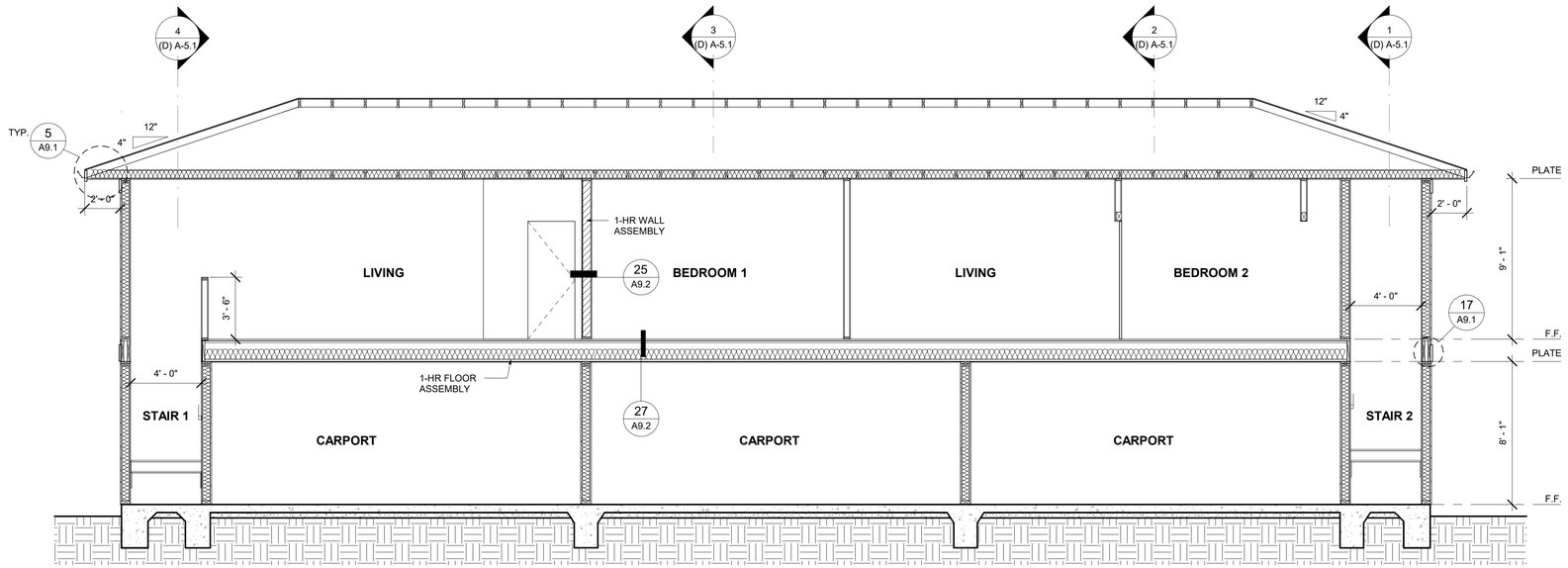


CROSS SECTION 1
1/4" = 1'-0"



LONGITUDINAL SECTION
1/4" = 1'-0"

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DUPLEX BUILDING SECTIONS

Revision Schedule

Project Manager: Designer
Scale: 1/4" = 1'-0"
PrintDate: 4/17/2024 10:54:57 AM

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ELEVATION NOTES

1. ROOF PROTRUSIONS (ETCH/PREP, PRIME & PAINT TO MATCH ROOF)
2. FOR PENETRATIONS IN RATED WALL ASSEMBLIES, REFER TO C.B.C. 2304.12.1.2
3. SUBCONTRACTOR(S) SHALL BE RESPONSIBLE FOR ALL TRADE RELATED ITEMS AS CONTAINED WITHIN FULL CONSTRUCTION DOCUMENTS & ITEMS REQUIRED
4. ALL ELECTRICAL, GAS, PLUMBING & MECHANICAL PENETRATIONS IN EXTERIOR WALLS SHALL BE FLASHED WITH "QUICKFLASH" WATERPROOFING PRODUCTS (WWW.QUICKFLASHPRODUCTS.COM) (OR EQUAL)
5. EXTERIOR OF BUILDING, SHALL BE WRAPPED WITH MIN. GRADE "D" PRIOR TO INSTALLING FINISH MATERIAL. INSTALL PER MFR INSTRUCTIONS
6. ALL FLASHING SHALL BE CONSISTENT WITH ROOF & WALL FINISH MFRS. DISSIMILAR METALS SHALL NOT BE IN CONTACT WITH EACH OTHER
7. BACKPRIME ALL UNFINISHED TRIM EDGES PRIOR TO INSTALLATION (TYPICAL)
8. FLASH/COUNTER FLASH AT ALL ROOF-TO-WALL CONDITIONS
9. RAKED BOARDS AND TRIM BEYOND THE RAKE SHALL BE CONTINUOUS.

KEYNOTES

1	PHOTOVOLTAIC PANELS - INSTALLED BY A STATE CERTIFIED SOLAR CONTRACTOR HOLDING A C-46 LICENSE & DESIGNED PER TITLE 24 REQUIREMENTS-REFER TO SOLAR PLAN SHEET
2	CLASS "A" SHINGLES - TYPE & COLOR TO MATCH EXISTING
3	K-STYLE CONTINUOUS GUTTERS TO MATCH EXISTING
4	LAP SIDING
5	4" ROUND METAL DOWNSPOUT
6	2X10 BELLY BAND
7	2X10 TRIM
8	4" TRIM
9	42" HIGH GUARDRAIL SHALL NOT PERMIT PASSAGE OF A 4" DIA. SPHERE
10	DRYER VENT
11	PROGRESSIVE LIGHTING P6078 EAST HAVEN LED EXTERIOR SCONCE - BLACK OL5700BK, CLEAR SEEDED GLASS
12	4" CORNER TRIM
13	4" OPENING TRIM TYP.
14	LAP SIDING

COLORS & MATERIALS

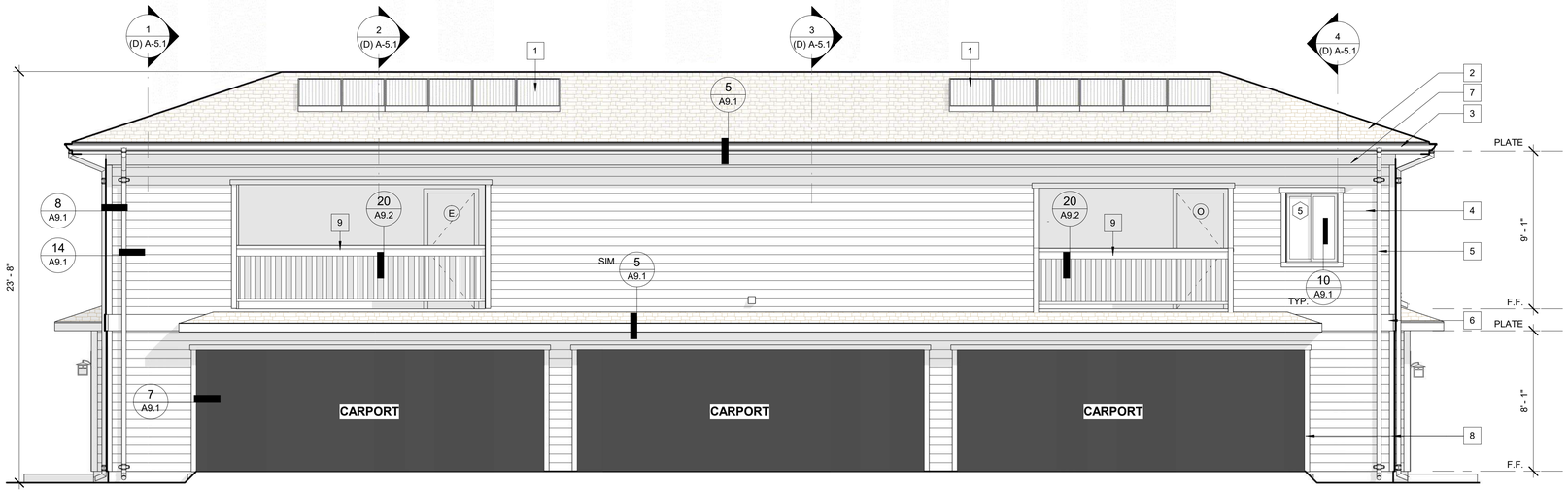
BODY - "ARTICHOKE"

TRIM - "DIVINE WHITE"

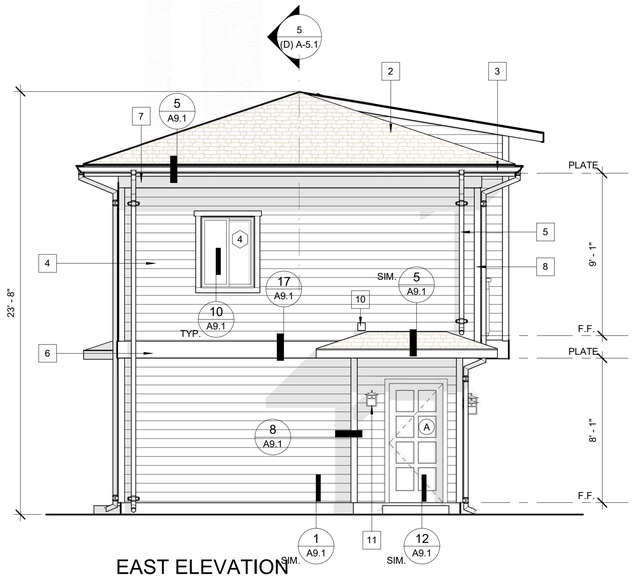
ACCENT - WINDOW & DOOR "FIREWEED"

AMERICAN SHINGLES - PRESIDENTIAL AUTUMN BLEND

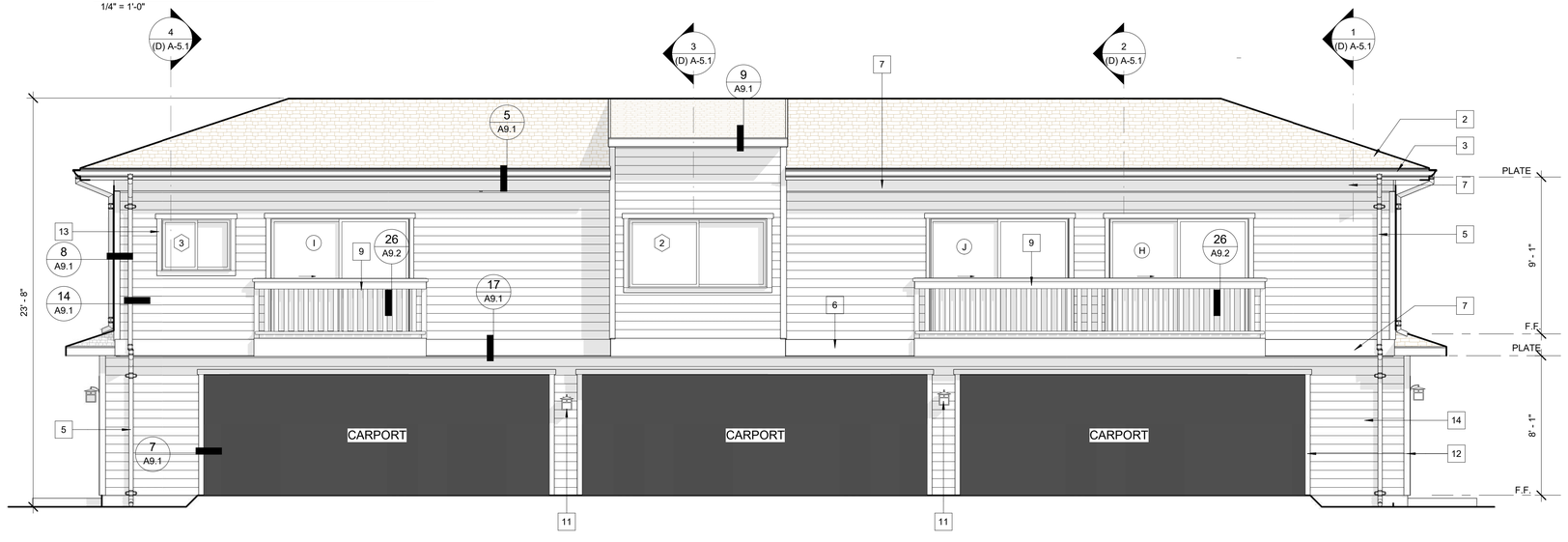
PROGRESS LIGHTING P6078 - East Haven LED - Outdoor Light



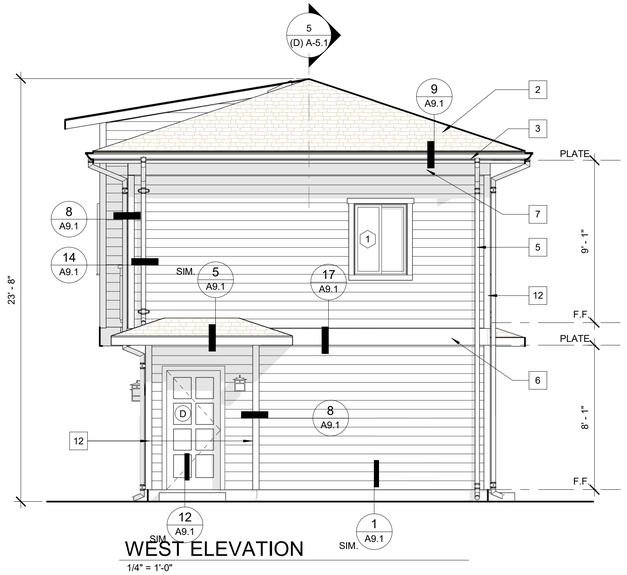
SOUTH ELEVATION
1/4" = 1'-0"



EAST ELEVATION
1/4" = 1'-0"



NORTH ELEVATION
1/4" = 1'-0"



WEST ELEVATION
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DUPLEX EXTERIOR ELEVATIONS

KEITH SAMUEL NOLAN C-22541 REGISTERED ARCHITECT STATE OF CALIFORNIA

Revision Schedule

Project Manager: Designer
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DOOR NOTES

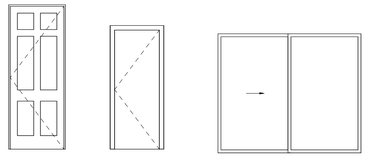
1. ALTHOUGH NOT ALL NOTES ARE SPECIFICALLY IDENTIFIED, SOME NOTES ARE NOT KEYED AND SHALL BE APPLIED TO APPLICABLE CONDITIONS
2. ALL EXTERIOR DOORS SHALL BE RATED
3. WEATHERSTRIP ALL EXTERIOR DOORS PER T-24
4. WEATHERSTRIP / THRESHOLD AT ALL EXTERIOR & OTHER NOTED DOORS
5. PROVIDE DOOR HARDWARE, LATCHING, LOCKING DEVICES CONSISTENT WITH CBC.
6. ALL GLAZING IN DOORS SHALL BE DUAL GLAZED - TEMPERED
7. ALL EXTERIOR DOORS SHALL BE PROVIDED WITH A THRESHOLD PAN ("JAMSILL" OR EQUAL)
8. USE MFR LOCKSET ASSEMBLY TO MATCH DOOR ASSEMBLY
9. UNDERCUT DOOR 1" FROM FINISH FLOOR
10. FIELD VERIFY ALL CONDITIONS FOR PLACEMENT, SIZE, DETAILS.
11. UNDERCUT DOOR FOR MINIMUM CLEARANCE ABOVE FLOOR FINISH.

WINDOW NOTES

1. ALTHOUGH NOT ALL NOTES ARE SPECIFICALLY IDENTIFIED, SOME NOTES ARE NOT KEYED AND SHALL BE APPLIED TO APPLICABLE CONDITIONS
2. SAFETY GLAZING
3. ALL WINDOWS SHALL BE LOW E, DUAL GLAZED
4. ALL WINDOWS SHALL BE IN COMPLIANCE WITH TITLE-24 ENERGY CALCS
5. WINDOWS LOCATED WITHIN 24" OF STRIKE/HINGE EDGE OF DOORS SHALL BE TEMPERED (CBC CHAPTER 24)
6. PRIOR TO ORDERING WINDOWS CONTRACTOR SHALL VERIFY THAT ALL WINDOWS ARE IN COMPLIANCE WITH CBC
7. EGRESS WINDOWS SHALL BE MIN. CLEAR WIDTH OF 20", MIN. CLEAR HEIGHT SHALL BE 24", MIN. OPENABLE AREA SHALL BE 5.7 SQFT. & MAX. SILL HEIGHT SHALL BE 44" (CONTRACTOR SHALL VERIFY ALL CONDITIONS ARE CODE COMPLIANT PRIOR TO ORDERING)
8. PRIOR TO ORDERING WINDOWS, CONTRACTOR SHALL VERIFY THAT SAFETY GLAZING IS IDENTIFIED AT ALL BATHROOM LOCATIONS WITH WINDOWS LESS THAN 60" HIGH (AT SILL) & LESS THAN 24" FROM TUB/SHOWER AREA

DOOR SCHEDULE

MARK	WIDTH	HEIGHT	ROOM NAME	HEAD HEIGHT	TYPE MARK	NOTES
A	3' - 0"	6' - 8"	ENTRY 1	6' - 8"	1	
B	2' - 6"	6' - 0"	MECH	6' - 0"	2	
C	2' - 6"	6' - 0"	MECH	6' - 0"	2	
D	3' - 0"	6' - 8"	ENTRY 2	6' - 8"	1	
E	2' - 8"	6' - 8"	DECK	6' - 8"	2	
F	2' - 8"	6' - 8"	LIVING	6' - 8"	2	
G	2' - 8"	6' - 8"	BATH 2	6' - 8"	2	
H	8' - 0"	6' - 8"	BEDROOM 2	6' - 8"	3	
I	8' - 0"	6' - 8"	LIVING	6' - 8"	3	
J	8' - 0"	6' - 8"	LIVING	6' - 8"	3	
K	2' - 8"	6' - 8"	KITCHEN	6' - 8"	2	
L	2' - 8"	6' - 8"	LIVING	6' - 8"	2	
M	2' - 8"	6' - 8"	BATH 1	6' - 8"	2	
N	2' - 0"	6' - 8"	CLOS	6' - 8"	1	
O	2' - 8"	6' - 8"	DECK	6' - 8"	2	



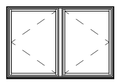
TYPE "1" **TYPE "2"** **TYPE "3"**

DOOR TYPES

1/4" = 1'-0"

WINDOW SCHEDULE

MARK	WIDTH	HEIGHT	TYPE MARK	HEAD HEIGHT	SILL HEIGHT	OPERATION	U-VALUE	SHGC	NOTES
1	3' - 0"	4' - 0"	A	6' - 8"	2' - 8"	SLIDING			
2	8' - 0"	4' - 0"	A	6' - 8"	2' - 8"	SLIDING			
3	4' - 0"	3' - 0"	A	6' - 8"	3' - 8"	SLIDING			
4	3' - 0"	4' - 0"	A	6' - 8"	2' - 8"	SLIDING			
5	3' - 0"	4' - 0"	A	6' - 8"	2' - 8"	SLIDING			



TYPE "A"

WINDOW TYPES

1/4" = 1'-0"

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217 SOUTH MIPLAS DUPLEX & ADU
217 S. MILPAS ST. , SANTA BARBARA, CA

DUPLEX SCHEDULES

Revision Schedule

Project Manager: Designer
Scale: 1/4" = 1'-0"
PrintDate: 4/17/2024 10:55:02 AM

ELECTRICAL NOTES

1. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT FIELD CONDITIONS.
2. CHECK PLANS FOR DOOR SWINGS BEFORE INSTALLING SWITCH OUTLETS
3. GROUNDING AND BONDING SHALL BE PER CODE PLUS ANY ADDITIONAL PROVISIONS SPECIFIED OR SHOWN ON DRAWINGS
4. ALL CONDUIT RUNS SHALL CONTAIN A CODE SIZED GREEN GROUND WIRE.
5. ALL CONDUCTORS SHALL BE IN CONDUIT.
6. ALL CONDUCTORS SHALL BE COPPER WITH TYPE THHN/THWN INSULATION.
7. ALL BRANCH CIRCUITS THAT SUPPLY 120-VOLT, SINGLE PHASE, 15 AND 20 AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING UNIT **KITCHENS,** FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, **LAUNDRY ROOMS** OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTER(S). 2019 CEC 21 0.12(A) & (B).
8. CABLE AND PHONE LOCATIONS TO BE DETERMINED BY OWNER
9. WHEN MORE THAN 3 SWITCHES ARE LOCATED TOGETHER, BREAK UP THE SWITCHES SO THE PRIMARY 3 ARE ON TOP & SECONDARY SWITCHES ARE BELOW
10. CONTRACTOR TO VERIFY POWER NEEDS OF ALL APPLIANCES (I.E. FAU, REFRIGERATOR, STOVE, SPA, WASHER & DRYER)
11. LUMINARIES THAT ARE RECESSED INTO INSULATED CEILINGS MUST BE APPROVED, IC LUMINARIES AND ARE CERTIFIED AND LABELED AS AIRTIGHT TO STANDARDS PRESCRIBED BY THE RESIDENTIAL ENERGY CODE
12. ALL FIREBLOCKING & DRAFTSTOPPING SHALL BE INSTALLED & INSPECTED PRIOR TO WIRING & CASING.
13. ALL INSTALLED LIGHTING MUST BE HIGH EFFICACY PER TABLE 150.0-A. 2019 CALIFORNIA ENERGY CODE TABLE 150.0
14. LIGHTING IN BATHROOMS: ALL LIGHTING SHAL L BE HIGH EFFICACY AND AT LEAST ONE F1 XTURE IN EACH BATHROOM SHALL BE CONTROLLED BY A VACANCY SENSOR. 2019 CALIFORNIA ENERGY CODE 150(K) 5
15. LIGHTING IN GARAGES, LAUNDRY ROOMS, CLOSETS AND UTIL ITY ROOMS: ALL LIGHTING SHALL BE HIGH EFFICACY AND AT LEAST ONE LIGHT FIXTURE INSTALLED IN GARAGES, CLOSETS, LAUNDRY ROOMS, & UTILITY ROOMS SHALL BE CONTROLLED BY A VACANCY SENSOR. 2019 CALIFORNIA ENERGY CODE 150(K) 2. J
16. LIGHTING IN ROOMS OTHER THAN BATHROOMS, GARAGES, LAUNDRY ROOMS, & UTILITY ROOMS: PERMANENTLY INSTALLED LIGHTS IN ROOMS OTHER THAN RESTROOMS, GARAGES, LAUNDRY ROOMS, & UTILITY ROOMS SHALL BE HIGH EFFICACY LUMINAIRES. 2019 CALIFORNIA ENERGY CODE 150(K) 7
17. RECESSED LUMINAIRES IN INSULATED CEILINGS: LUMINAIRES RECESSED INTO INSULATED CEILINGS SHALL NOT CONTAIN SCREW BASE SOCKETS AND SHALL BE APPROVED FOR ZERO CLEARANCE INSULATION COVER (IC) BY U.L. OR OTHER TESTING LAB RECOGNIZED BY BUILDING OFFICIAL, AND SHALL BE CERTIFIED AIR TIGHT TO SHOW AIR LEAKAGE LESS THAN 2.0 CFM AT .011 PSI IN ACCORDANCE WITH ASTM E283, AND SEALED WITH A GASKET OR CAULK BETWEEN HOUSING AND CEILING. CALIFORNIA ENERGY CODE 150(K)
18. SCREW BASED SOCKETS: LUMINAIRES WITH SCREW BASED SOCKETS SHALL MEET THE FOLLOWING REQUIREMENTS: i. THE LUMINAIRE SHALL NOT BE A RECESSED DOWN-LIGHT IN A CEILING; AND ii. THE LUMINAIRE SHALL CONTAIN LAMPS THAT COMPLY WITH REFERENCE JOINT APPENDIX JA8; AND iii. THE INSTALLED LAMPS SHALL BE MARKED WITH "JAS-2016" OR "JAS-2016-E" AS SPECIFIED IN REFERENCE JOINT APPENDIX JA8.
19. DIMMERS OR VACANCY SENSORS SHALL CONTROL ALL LUMINAIRES REQUIRED TO HAVE LIGHT SOURCES COMPLIANT WITH REFERENCE JOINT APPENDIX JA8.
20. OUTDOOR LIGHTING: PERMANENTLY INSTALLED OUTDOOR LIGHTS ON BUILDINGS ON THE SAME LOT SHALL BE HIGH EFFICACY AND THEY SHALL BE CONTROLLED BY A MOTION SENSOR WITH INTEGRAL PHOTOCONTROL CERTIFIED TO COMPLY WITH THE 2019 CALIFORNIA ENERGY CODE. 2019 CALIFORNIA ENERGY CODE 150(K) 9 A
21. VENT FANS MUST BE SWITCHED SEPARATELY FROM LIGHTING. 2019 CALIFORNIA ENERGY CODE 150(K) 2B
22. ALL 125-VOLT, 15 AND 20 AMPERE RECEPTACLES IN A DWELLING UNIT SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.
23. A MINIMUM OF TWO 20 AMP SMALL APPLIANCE BRANCH CIRCUITS SHALL BE PROVIDED FOR ALL RECEPTACLE OUTLETS IN THE KITCHEN, DINING ROOM, PANTRY, OR OTHER SIMILAR AREAS [CEC 210.11(C)(1)]
24. AT LEAST ONE 20 AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY LAUNDRY RECETACLE OUTLETS. SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS. [CEC 210.11(C)(2)]
25. KITCHEN COUNTERTOP RECEPTACLES SHALL BE GFCI PROTECTED AND SHALL BE LOCATED IN A WALL EVERY 48 LINEAR INCHES.

ELECTRICAL LEGEND

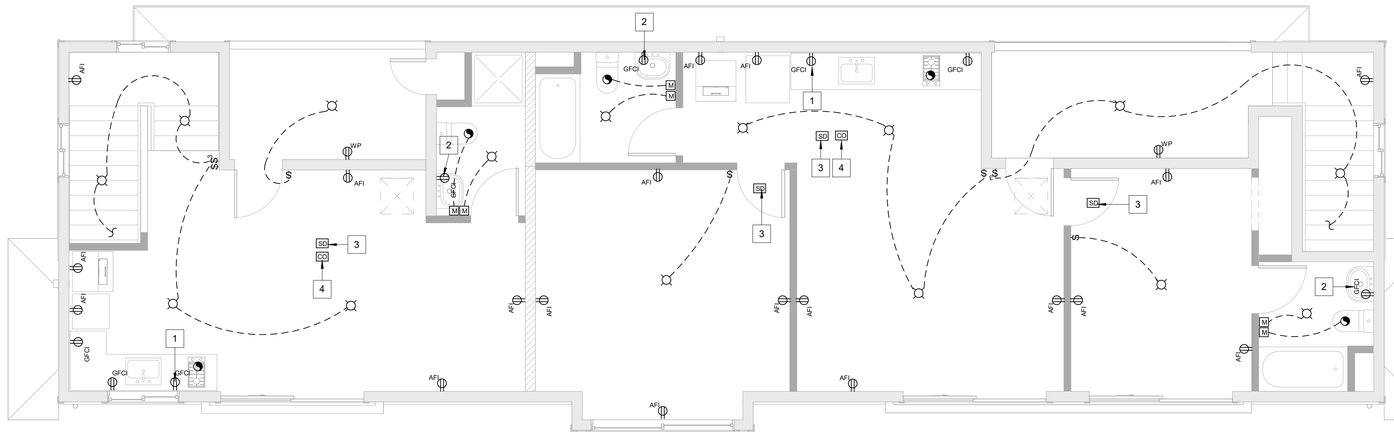
	DUPLEX CONVENIENT OUTLET
	FOURPLEX CONVENIENT OUTLET
	1/2 HOT OUTLET
	DUPLEX OUTLET - LOWER HALF SWITCHED
	220V OUTLET
GFCI	JUNCTION BOX
GFCI	GROUND FAULT CIRCUIT INTERCEPTOR DUPLEX OUTLET
AFI	ARC FAULT INTERRUPTER DUPLEX OUTLET
WP	WATER PROOF OUTLET
	SPECIAL RECEPTACLE - SEE PLAN
D	DIMMER SWITCH
M	MANUAL-ON OCCUPANCY SENSOR
T	THERMOSTAT
S	SINGLE POLE SWITCH
S_3	THREE WAY SWITCH
S_4	FOUR WAY SWITCH
S_{DS}	DOOR SWITCH
S_{WP}	WATERPROOF SWITCH
	PHONE, CATV, CAT5 - IN ONE BOX
	SURFACE MOUNTED LIGHT-HIGH EFFICACY
	RECESSED LIGHT- HIGH EFFICACY
	RECESSED DIRECTIONAL LIGHT - HIGH EFFICACY
F	FLUORESCENT RECESSED LIGHT - HIGH EFFICACY
	WALL MOUNTED LIGHT - HIGH EFFICACY
	EXHAUST FAN (MINIMUM 5 AIR CHANGES PER HOUR)
	CEILING FIXTURE - HIGH EFFICACY
DB	DOOR BELL
SD	120V SMOKE DETECTOR W/ BATTERY BACKUP
CO	CARBON MONOXIDE DETECTOR

(NOTE) All electrical components shall be installed in accordance with the California Electrical Code:

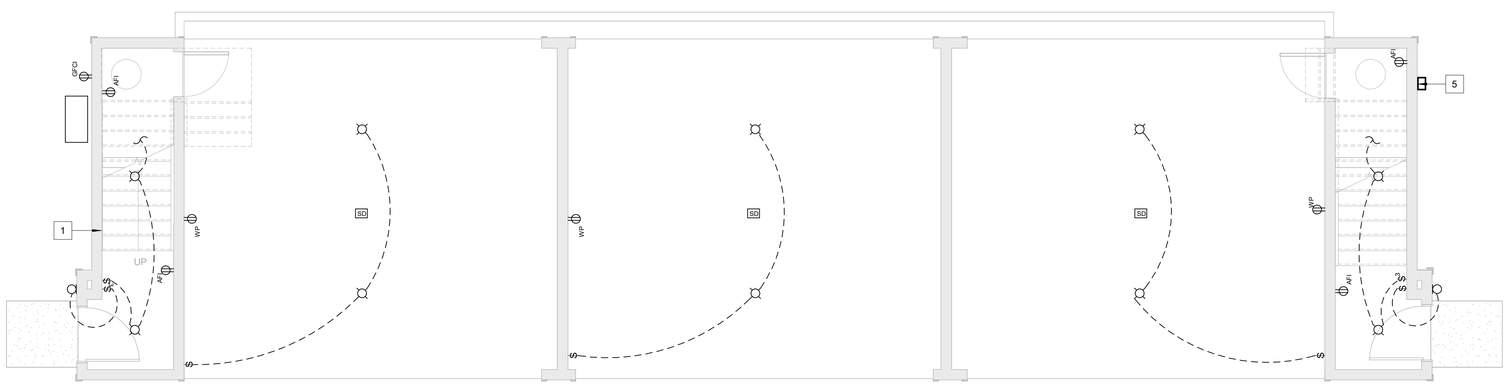
a) At least one of the following shall be provided:
1. ESS ready interconnection equipment with a minimum backed-up capacity of 60 amps and a minimum of four ESS-supplied branch circuits, or
2. A dedicated raceway from the main service to a panelboard (subpanel) that supplies the branch circuits in Section 150.0(s)(2). All branch circuits are permitted to be supplied by the main service panel prior to the installation of an ESS. The trade size of the raceway shall be not less than 1 inch. The panelboard that supplies the branch circuits (subpanel) must be labeled "Subpanel shall include all backed-up load circuits."
b) A minimum of four branch circuits shall be identified and have their source of supply collocated at a single panelboard suitable to be supplied by the ESS. At least one circuit shall supply the refrigerator, one lighting circuit shall be located near the primary egress and at least one circuit shall supply a sleeping room receptacle outlet.
c) The main panelboard shall have a minimum busbar rating of 225 amps.
d) Sufficient space shall be reserved to allow future installation of a system isolation equipment/transfer switch within 3 feet of the main panelboard. Raceways shall be installed between the panelboard and the system isolation equipment/transfer switch location to allow the connection of backup power source.

KEYNOTES

1	"GFCI" PROTECTED RECEPTACLE @ +6" ABOVE COUNTERTOP. (TYPICAL FOR ALL KITCHEN "SMALL APPLIANCE" RECEPTACLES.)
2	"GFCI" PROTECTED RECEPTACLE @ +6" CLEAR ABOVE COUNTERTOP. (TYPICAL FOR ALL BATHROOM(S) RECEPTACLES)
3	MULTI-STATION, HARDWARE SMOKE DETECTOR/ALARM ASSEMBLY, 125VAC WITH 9VDC BATTERY BACKUP ---"FIREX" ITEM #5000, MODEL "FADC". PROVIDE ALL SMOKE DETECTOR/ALARM ASSEMBLIES COMPLETE WITH BATTERIES AND INTERCONNECTION MOUNTING HARDWARE. TEST THE SMOKE DETECTOR/ALARM ASSEMBLIES (IN EACH DWELLING UNIT) IN THE PRESENCE OF THE LOCAL FIRE MARSHAL AND THE PROJECT OWNERS REPRESENTATIVE. REPLACE ALL DEFECTIVE SMOKE DETECTOR/ALARM ASSEMBLIES AT NO ADDITIONAL COST TO THE PROJECT OWNER
4	CARBON MONOXIDE DETECTOR/ALARM ASSEMBLY, SHALL RECEIVE PRIMARY POWER FROM THE BUILDING WIRING WITH BATTERY BACKUP, PROVIDE ALL CARBON MONOXIDE DETECTOR/ALARM ASSEMBLIES COMPLETE WITH BATTERIES AND INTERCONNECTION MOUNTING HARDWARE PER R315
5	EATON (OR EQUAL) SOLAR POWER CENTER LOADCENTER, 100 AMP BREAKER - SEE SOLAR SHEET



2ND FLOOR ELECTRICAL/LIGHTING PLAN
1/4" = 1'-0"



1ST FLOOR ELECTRICAL/LIGHTING PLAN
1/4" = 1'-0"

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217 SOUTH MIPLAS DUPLEX & ADU
217 S. MILPAS ST. , SANTA BARBARA, CA
DUPLEX ELECTRICAL / LIGHTING PLANS

REGISTERED ARCHITECT KEITH SAMUEL NOLAN C-22541 STATE OF CALIFORNIA

Revision Schedule

Project Manager Designer
Scale 1/4" = 1'-0"
PrintDate 4/19/2024 10:27:05 AM

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MECHANICAL NOTES

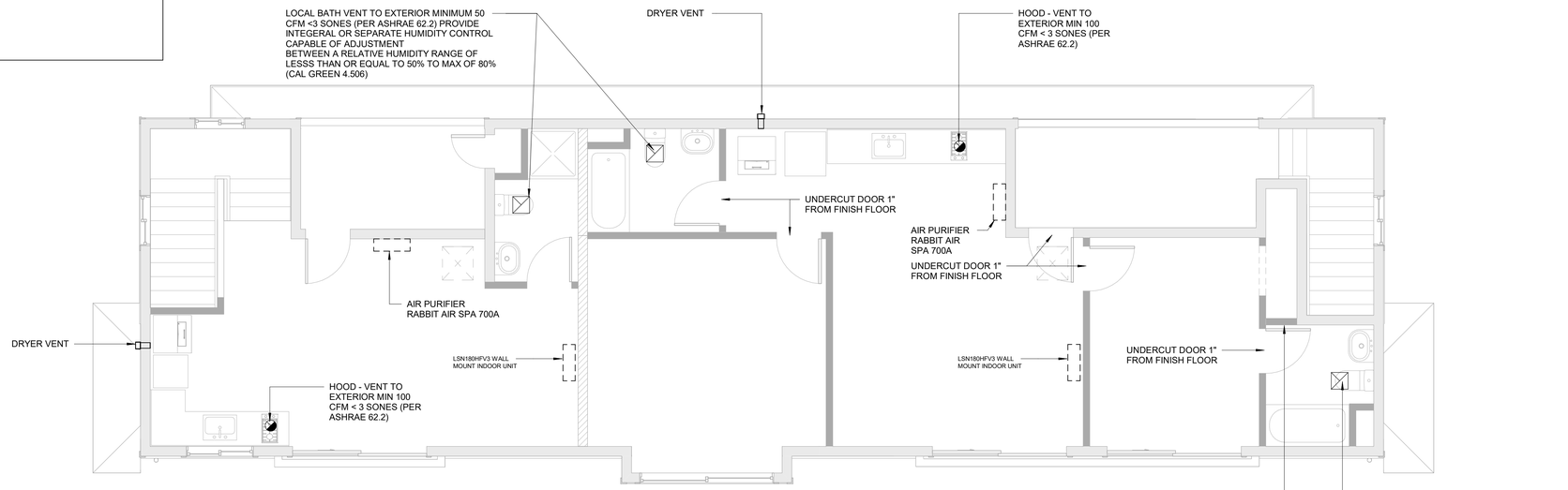
1. MECHANICAL SYSTEM SHALL MEET THE CALIFORNIA RESIDENTIAL ENERGY STANDARDS, C.M.C., AND LOCAL CODES.
2. TERMINATE EXHAUST AIR A MINIMUM OF 3'-0" AWAY FROM ANY OPERABLE WINDOW OR DOORS.
3. MECHANICAL CONTRACTOR SHALL COORDINATE WITH STRUCTURAL ENGINEER/GENERAL CONTRACTOR REGARDING ROUTING & DUCT SIZING REQUIREMENTS. ALTERNATIVE DESIGNS SHALL BE PROPOSED & APPROVED PRIOR TO SUBMITTAL FOR BID.
4. BEDROOM/BATH DUCTING SHALL BE SEPARATED FROM LIVING/DINING/KITCHEN DUCTING.
5. DUCTING THAT PENETRATES U-1/R-3 WALL/CEILING ASSEMBLY SHALL MEET C.B.C. REQUIREMENTS FOR MATERIALS & FIRE-SAFING.
6. THE CALIFORNIA RESIDENTIAL ENERGY STANDARDS MUST BE REVIEWED AND THE DESIGN DRAWINGS COMPLY SUBSTANTIALLY WITH THESE STANDARDS
7. ALL APPLIANCES (HEATING, VENTILATING AND COOLING EQUIPMENT) EQUIPMENT DESIGNED TO BE FIXED IN POSITION SHALL BE ANCHORED/STRAPPED TO RESIST HORIZONTAL DISPLACEMENT DUE TO EARTHQUAKE MOTION
8. COORDINATE ALL DIFFUSER LOCATIONS WITH LIGHTS, SMOKE DETECTORS, ETC.
9. ALL BEDROOM & BATHROOM DOORS SHALL BE UNDERCUT 1"

WHOLE HOUSE BUILDING VENTILATION NOTES

1. INTENT OF DESIGN INCLUDES TWO SPEED BATHROOM FANS TO BE UTILIZED PER "EXHAUST ONLY" OPTION OF T-24 STANDARDS. EACH RESTROOM EXHAUST FAN'S LOW SPEED IS SIZED TO MEET CODE. HIGH SPEED OPERATES PER OCCUPANCY SENSOR.
2. ALL BATHROOM DOORS SHALL HAVE A 1" UNDER CUT.
3. WHOLE BUILDING FAN CONTROLS SHALL BE LABELED WITH "TO MAINTAIN MINIMUM LEVELS OF OUTSIDE AIR VENTILATION REQUIRED FOR GOOD HEALTH, THE FAN CONTROL SHOULD BE ON AT ALL TIMES WHEN THE BUILDING IS OCCUPIED, UNLESS THERE IS SEVERE OUTDOOR AIR CONTAMINATION." THE LABEL TEXT SHALL BE BOLD TYPE, PLACED ON A WHITE BACKGROUND, AND NO SMALLER THAN THE EQUIVALENT OF ARIAL 12 POINT TYPE.

MECHANICAL KEY

- VENT HOOD EXHAUST
- EXHAUST FAN



2ND FLOOR MECHANICAL PLAN

1/4" = 1'-0"

ACOUSTIC DATA

Mega, Standard Efficiency, and Mega 115V Outdoor Units

Outdoor Unit Sound Pressure Measurement / Sound Pressure Levels

Figure 11: Outdoor Unit Sound Levels

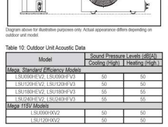


Diagram above for illustrative purposes only. Actual appearance differs depending on outdoor unit model.

- Measurements are taken 3.3 ft away from the front of the unit.
- Sound pressure levels are measured in dB(A) with a tolerance of ±1.
- Data is valid at nominal operation conditions. Operating conditions are assumed to be standard.
- Reference acoustic pressure 0dB=20μPa
- Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745, and may be different according to the test condition or equipment.
- Sound level will vary depending on a range of factors including the construction (acoustic absorption coefficient) of a particular room in which the unit was installed.

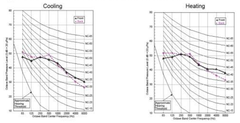
Table 10: Outdoor Unit Acoustic Data

Model	Sound Pressure Levels (dB(A))	
	Cooling (High)	Heating (High)
Mega, Standard Efficiency Models		
LSU090HEV2, LSU090HFV3	50	50
LSU120HEV2, LSU120HFV3	50	50
LSU180HEV2, LSU180HFV3	55	55
LSU240HEV2, LSU240HFV3	55	55
Mega 115V Models		
LSU090KSV2	50	50
LSU120KSV2	50	50

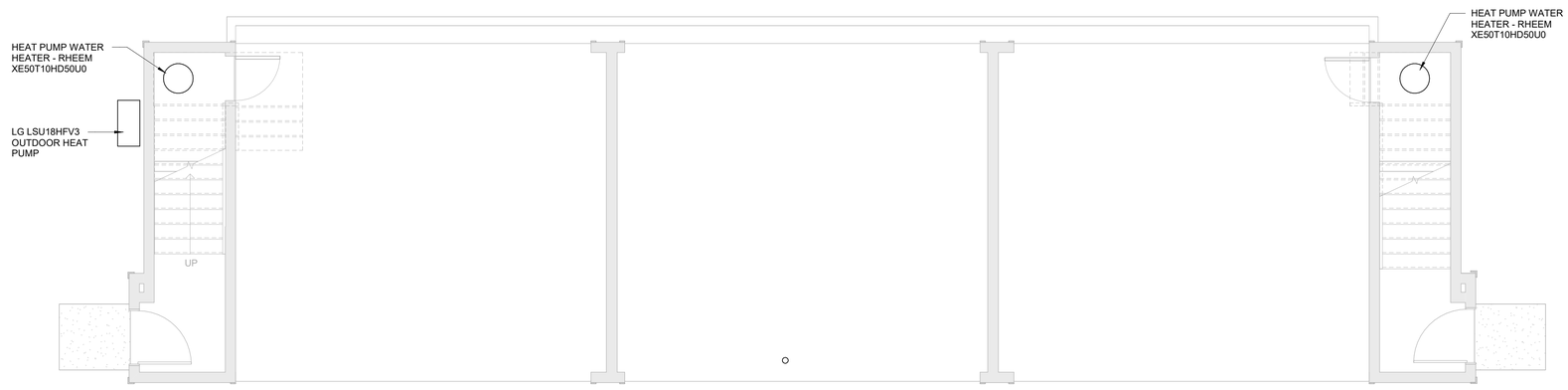
Product Data

LSU090HEV2, LSU090HFV3 Sound Pressure Levels

Figure 12: Sound Pressure Levels for LSU090HEV2, LSU090HFV3 Outdoor Units



M² Squared System Design Group, Inc.
323 - 901 West 3rd Street, North Vancouver, BC, V7P 3P9 Ph 604-986-8181
116-5100 Anderson Way, Vernon, BC V1T 0C4 Ph 604-986-8181
403 - 1240 Kensington Rd NW, Calgary, AB, T2N 3P7 Ph 403-452-2263
901 King Street West, Suite 400, Toronto, ON, M5V 3H5 Ph 647-479-8601



1ST FLOOR MECHANICAL PLAN

1/4" = 1'-0"

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DUPLEX MECHANICAL PLANS

KEITH SAMUEL NOLAN 451 REGISTERED ARCHITECT STATE OF CALIFORNIA

Revision Schedule

Project Manager: Designer
Scale: 1/4" = 1'-0"
PrintDate: 4/22/2024 10:50:50 AM

(D) M-1.1

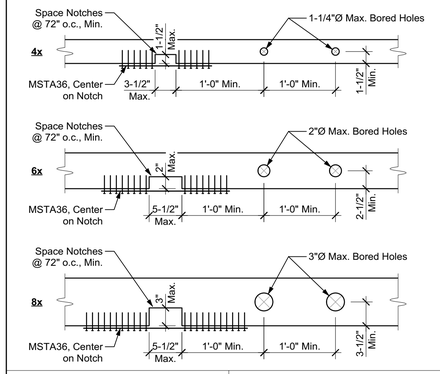
217 Milpas Duplex

217 S. Milpas St.,
Santa Barbara, CA 93103

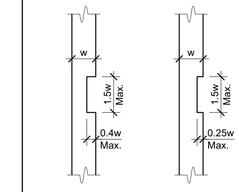
STANDARD DETAILS

9 TYPICAL NOTCHING & BORING

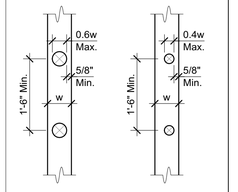
PENETRATIONS IN TOP PLATES & SILL PLATES



NOTCHING LIMITS FOR WOOD STUDS

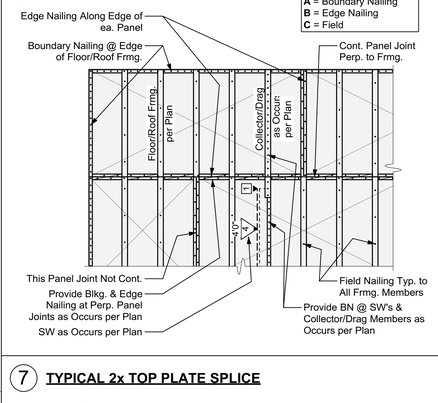


BORING LIMITS FOR WOOD STUDS

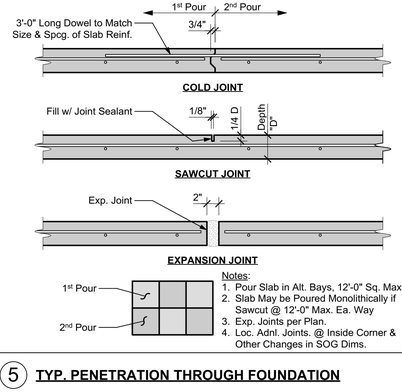


6 TYPICAL FLOOR / ROOF NAILING

Nailing per Plan w/ Spcg.
Denoted as **@ A", B", C"**
A = Boundary Nailing
B = Edge Nailing
C = Field

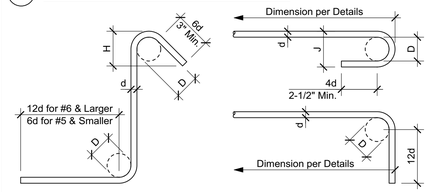


4 TYPICAL CONCRETE SLAB JOINTS



Notes:
1. Pour Slab in Alt. Bays, 12'-0" Sq. Max.
2. Slab May be Poured Monolithically if Sawcut @ 12'-0" Max. Ea. Way
3. Exp. Joints per Plan.
4. Loc. Adnl. Joints. @ Inside Corner & Other Changes in SOG Dims.

1 TYPICAL REINFORCING BAR BENDS



STANDARD TIES & STIRRUPS

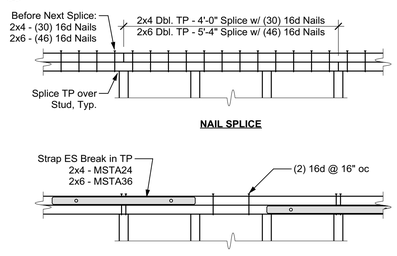
Bar Size	D	H (Approx.)
#3	1-1/2"	3"
#4	2"	3"
#5	2-1/2"	3-3/4"
#6	4-1/2"	4-1/2"
#7	5-1/4"	5-1/4"
#8	6"	6"

STANDARD END HOOKS

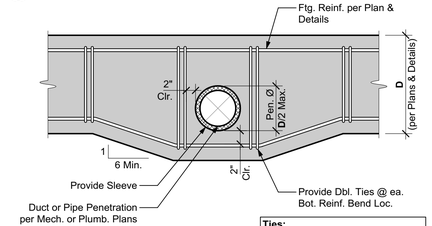
Bar Size	D	J
#3	2-1/4"	3"
#4	3"	4"
#5	3-3/4"	5"
#6	4-1/2"	6"
#7	5-1/4"	7"
#8	6"	8"

Note:
All Bar Bend Diameters & End Lengths Must Conform to the CRSI Manual of Standard Practice

7 TYPICAL 2x TOP PLATE SPLICE



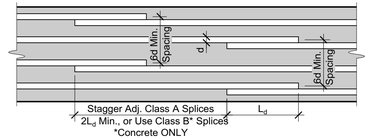
5 TYP. PENETRATION THROUGH FOUNDATION



DO NOT Locate Pen. w/n 24" of Any Holdowns

Ties:
- Ftg. Reinf. = (1) Bar T&B, Use #3 Vert. w/ 180° Hook ea. End
- Ftg. Reinf. > (1) Bar T&B, Use #3 Stirrup w/ 135° Hooks @ Top

2 STD. DEVELOPMENT LENGTHS & LAP SPLICES



CONCRETE
f'c = 2500 psi

Bar Size	Length of Lap Ld & Class A	Length of Lap Class B	Hook Embed Ldh
#3	15"	19"	7"
#4	19"	25"	10"
#5	24"	31"	14"
#6	29"	37"	18"
#7	41"	54"	22"
#8	47"	61"	27"

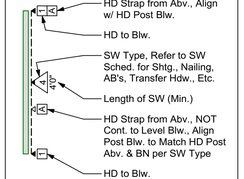
MASONRY
f'm = 2000 psi

Bar Size	Length of Lap, Ld	Hook Embed Ldh
#3	12"	5"
#4	18"	7"
#5	28"	8"
#6	52"	10"
#7	70"	11"
#8	105"	13"

TYPICAL SHEAR WALL FRAMING NOTES:

1. Single sided shear walls may be placed on EITHER side of the framed wall.
2. Sill plates on masonry or concrete to be pressure treated per Timber / Lumber specifications. Sill plate thickness per SW Sched.
3. Wall studs and blkg. are required at all adjoining panel edges. Thickness of wall studs and blkg. at panel edges per SW Sched.
4. Where plywood is applied on both faces of a wall, edge nails shall be staggered on adjacent panel edges OR panel joints shall be offset to fall on different framing members. Plywood joint and sill plate nailing shall be staggered in all cases.
5. Plywood panels shall butt along centerlines of framing members. Minimum plywood dimension for shearwall shall be 12".
6. Nails shall be located at least 3/8" from all panel edges.
7. The use of pneumatic nail guns for shear wall nailing is subject to continued satisfactory jobsite performance and subject to the review and approval by the Engineer of Record and/or Building Inspector. If the nail heads penetrate the outer ply more than would be normal for a hand held hammer, or if the minimum edge distances are not maintained, the performance will be deemed as unsatisfactory and the continued use of pneumatic nail for shear wall nailing will not be permitted.
8. At all bearing walls (both exterior and interior walls) not noted as shear walls, continuous full depth blocking shall be provided between joists and rafters with LTP4 or A35 to top plates @ 32" oc at floors and 48" oc at roofs, unless noted otherwise per plan.
9. Refer to material specifications for additional framing requirements.

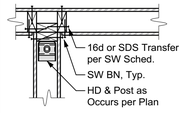
SHEAR WALL LEGEND



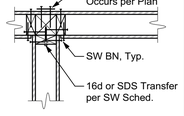
Refer to Plans for Specific Transfer & Connection Detail at each Shear Wall Location

10 TYPICAL SHEAR WALL INTERSECTIONS

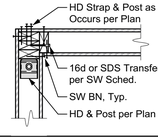
"T" INTERSECTION TYPICAL OR WITH HD



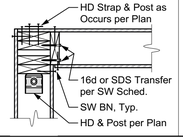
"T" INTERSECTION, HD STRAP



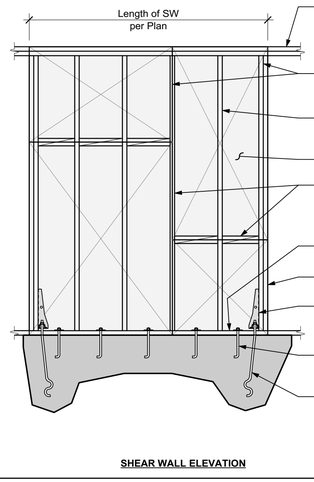
"L" INTERSECTION, 2x4 WALLS



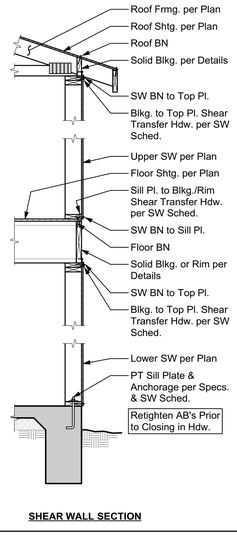
"L" INTERSECTION, 2x6 WALLS



8 TYPICAL SHEAR WALL FRAMING

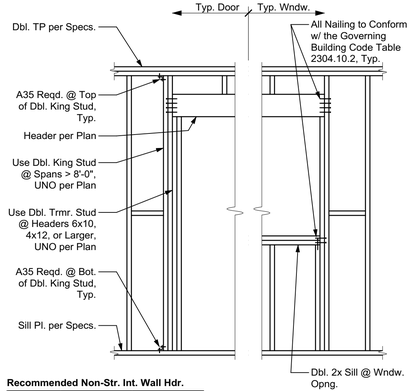


SHEAR WALL ELEVATION



SHEAR WALL SECTION

3 TYPICAL WOOD FRAMED OPENING



Recommended Non-Str. Int. Wall Hdr.

Span	2x4 Wall	2x6 Wall
< 4'-0"	Dbl. 2x4 Flat	Dbl. 2x6 Flat
< 6'-0"	4x4	4x6 Flat
< 8'-0"	4x6	6x6
> 8'-0"	Span in Feet Equals Beam Depth in Inches	

ABBREVIATIONS

AB	Anchor Bolt	Mas.	Masonry
A&B	Above and Below	Max.	Maximum
Abv.	Above	MB	Machine Bolt
Adn.	Addition (al)	MF	Moment Frame
Adj.	Adjacent,Adjustable	Mfr.	Manufacture(r)
Alt.	Alternate (ive)	Min.	Minimum, Minute
Appd.	Approved	Mod.	Modif(y), (cation)
Arch.	Architect(ural)	Mtl.	Metal
Avg.	Average	(N)	New
Bdry.	Boundary	N/A	Not Applicable
Bldg.	Building	Nat.	Natural
Blk(g).	Block (ing)	NTS	Not to Scale
Bm.	Beam	o/	Over
BN	Boundary Nailing	oc	On Center
B-O	Bottom of	OD	Outside Diameter
BO	By Others	Opng.	Opening
Bot.	Bottom	Opp.	Opposite
Brg.	Bearing	Opt.	Optional
Btwn.	Between	Para.	Parallel
BW	Both Ways	PCF	Lbs per Cubic Ft.
Cant.	Cantilever(ed)	Pen.	Penetrate, (tion)
CIP	Cast in Place	Perf.	Perforated
CJ	Ceiling Joist	Perim.	Perimeter
CJP	Complete Joint Penetration	Perp.	Perpendicular
		Pl	Panel Index
CL	Center Line	PJP	Partial Joint Pen.
Clg.	Ceiling	PL	Plate
Clr.	Clear	PLF	Lbs per Linear Ft.
CMU	Conc. Masonry Unit	Ply.	Plywood
Col.	Column	Prep.	Prepare, (ation)
Com.	Common	Press.	Pressure
Comp.	Component	Proj.	Project
Conc.	Concrete	Prop.	Property
Conn.	Connection	PSF	Lbs per Square Ft.
Const.	Construction	PSI	Lbs per Square In.
Cont.	Continue (ous)	PT	Pressure-Treated
Ctr.	Center	PV	Photovoltaic (Solar Panels)
d	Penny		
Dbl.	Double	R	Radius
Defl.	Deflection	Rec(s).	Recommendation(s)
Deg.	Degree	Rect.	Rectangular
Demo.	Demolish(tion)	Ref.	Reference
Dep.	Depress(ed)	Reinf.	Reinforce(d), (ment),(ing)
DF	Douglas Fir		
Dia.	Diameter	Req(d).	Require(d)
Diaph.	Diaphragm	Reqs.	Requirements
Dif.	Different	Ret.	Retain(ing)
Dim.	Dimension	RJ	Roof Joist
Dist.	Distance	RR	Roof Rafter
DJ	Deck Joist	RW	Redwood
DL	Dead Load	SAD	See Arch Dwg's
Dwg.	Drawing	Sched.	Schedule
(E)	Existing	Sgl.	Single
Ea.	Each	Shtg.	Sheathing
EF	Each Face	Sim.	Similar
EFP	Equivalent Fluid Pressure	SIP	Str. Insulated Panel
		SM	Sheet Metal
Elev.	Elevator, Elevation	SMS	Sheet Metal Screw
Embed.	Embed(ed), (ment)	SOG	Slab on Grade
Engr.	Engineer	Spec.	Specif(ied),(cations)
EOR	Engineer of Record	Sq.	Square
Eq.	Equal, Equivalent	SS	Structural Steel
ES	Each Side	Std.	Standard
EW	Each Way	Stgr.	Stagger(ed)
Exp.	Expand, Expansion	Stl.	Steel
Ext.	Exterior	Struc.	Structure, (al)
Fdn.	Foundation	SW	Shear Wall
FF	Finished Floor	Sym.	Symmet(ry), (rical)
FJ	Floor Joist	T&B	Top and Bottom
Flr(g).	Floor (ing)	T&G	Tongue and Groove
FOC	Face of Concrete	Temp.	Temporary
FOM	Face of Masonry	Thk.	Thick(ness)
FOS	Face of Studs	Thru	Through
FOW	Face of Wall	TN	Toe-Nail
Frmg.	Framing	TP	Top Plate
Ft.	Foot, Feet	T-O	Top of
Ftg.	Footing	TOB	Top of Beam
Ga.	Gage, Gauge	TOC	Top of Concrete
Galv.	Galvanized	TOG	Top of Grade
GB	Grade Beam	TOM	Top of Masonry
GC	General Contractor	TOS	Top of Steel
GLB	Glulam Beam	TOW	Top of Wall
Gyp.	Gypsum	TRU	To Remain Unchanged
HD	Holdown		
Hdr.	Header	Trmr.	Trimmer Stud
Hdw.	Hardware	Typ.	Typical
Hgr.	Hanger	UNO	Unless Noted Otherwise
Hor(iz).	Horizontal		
Ht.	Height	Vert.	Vertical
ID	Inside Diameter	VIF	Verify in Field
In.	Inch(es)	VWA	Verify with Arch
Insp.	Inspect(ion)	w/	With
Int.	Interior	w/n	Within
Inv.	Invert, Inverted	w/o	Without
Jst.	Joist	WS	Wood Screw
K	Kips (1,000 pounds)	Wndw.	Window
KLF	Kips per Linear Ft.	Wt.	Weight
King	King Stud	WWF	Welded Wire Fabric
KP	King Post	Yd.	Yard
KSF	Kips per Square Ft.		
KSI	Kips per Square In.	@	At
Lb(s).	Pound(s)	°	Degrees
LL	Live Load	Ø	Diameter
Loc.	Location	>	Greater Than
LW	Light Weight	<	Less Than
		#	Number, Pound(s)
		/	Per
		%	Percent(age)
		±	Plus or Minus

PROJECT INFORMATION

CLIENT:
SBMR, LLC
831 Cliff Dr., Suite 100
Santa Barbara, CA 93109
805-456-5910

ARCHITECT:
ON Design Architects
PO Box 598
Santa Barbara, CA 93102
ATT: Keith Nolan, AIA
(805) 896-8374

SOILS/GEO. ENGINEER:
Beacon Geotechnical
P.O. Box 4814
Paso Robles, CA 93447

DESIGN PARAMETERS

GENERAL PARAMETERS

Building Code	2022 CBC *
Roof Loads	
Dead Loads** (DL)	15 psf
**Includes 3 psf PV Loads	
Live Loads (LL)	20 psf
Floor Loads - Typ.	
Dead Loads (DL)	15 psf
Live Loads (LL)	40 psf

SOILS VALUES (per Soils Report)

Bearing Pressure	2200 psf

WIND DESIGN BASIS

Ultimate Wind Speed, V_{ULT}	95 mph
Nominal Wind Speed, V_{ASD}	74 mph
Risk Category	II
Exposure	B
Importance Factor, I_w	1.00

SEISMIC DESIGN BASIS

Seismic Design Category	E
Site Class	D
Seismic Factors	
S_S / S_1	2.179 / 0.792
S_{DS} / S_{D1}	1.453 / 0.898
Risk Category	II
Importance Factor, I_e	1.00
Resisting System:	Wood Shear Walls
Response Mod. Coefficient, R	6.5
Design Base Shear	V = 0.223W
Analysis Procedure:	Eqv. Lateral Force (ASCE 7-16, T. 12.6-1)

* The 2022 California Building Code (CBC), based on the 2021 International Building Code (IBC), is the governing code in the State of California.

SHEET INDEX

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CIVIL • STRUCTURAL

Engineer of Record:

REGISTERED PROFESSIONAL ENGINEER R. PAUL BELMONT C 76732 CIVIL STATE OF CALIFORNIA

PLAN REVIEW SET NOT FOR CONSTRUCTION

217 Milpas Duplex
217 S. Milpas St.,
Santa Barbara, CA 93103

Revision:

Proj. Engr.:	Katie S. Phone Ext.: 198
Proj. Mngr.:	Paul B.
Date:	3 April 2024 Scale: NTS
A&V Job No.:	240050

STRUCTURAL TITLE SHEET

S-1.1

DO NOT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimensions.

Apr 3, 2024
05:03:14 AM

STATEMENT OF SPECIAL INSPECTIONS

1. This Statement of Special Inspection is submitted in fulfillment of the requirements of the Governing Building Code, section 1704 and 1705.
2. Special Inspections and Testings will be preformed in accordance with the approved plans and specifications, this statement and the Governing Building Code, Section 1704 , 1705 , 1707 , and 1708.
3. The schedule of Special Inspections summarizes the Special Inspections and tests required. Special Inspectors will refer to the approved plans and specifications for detailed special inspection requirements. Any additional tests and inspections required by the approved plans and specifications will also be performed.
4. Interim reports will be submitted to the Building Official and the Registered Design Professional in Responsible Charge in accordance with the Governing Building Code Section 1704.2.4.
5. A Final Report of Special Inspections documenting required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy (Section 1704.2.4). The Final Report will document:
   (a) Required special inspections.
   (b) Correction of discrepancies noted in inspections.
6. The Owner recognizes his or her obligation to ensure that the construction complies with the approved permit documents and to implement this program of special inspections. In partial fulfillment of these obligations, the Owner will retain and directly pay for the Special Inspections as required in the Governing Building Code, Section 1704.2.
7. 1704.4 Contractor responsibility. Each contractor responsible for the construction of a main wind- or seismic force-resisting system, designated seismic system or a wind- or seismic force-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner or the owner's authorized agent prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the statement of special inspection.

SCHEDULE OF TESTING AGENCIES & SPECIAL INSPECTORS

The following are the testing agencies and special inspectors that will be retained to conduct tests and inspection on this project.

Responsibility	Firm	Address, Telephone, Email
1. Special Inspection (Except for Geotechnical)		
2. Materials Testing		
3. Geotechnical Inspection		
*		

* Additional inspections may be required at the discretion of the Building Official.

SEISMIC REQUIREMENTS (Section 1705.13)

Description of seismic-force-resisting system and designated seismic systems subject to special inspections per Section 1705.13:

Light-framed walls sheathed with wood structural panels rated for shear resistance or steel sheets (ASCE 7, Table 12.2-1, Line A.15)

The extent of the main seismic-force-resisting system is defined in more detail in the construction documents.

WIND REQUIREMENTS (Section 1705.12)

Description of main wind-force-resisting system and designated seismic systems subject to special inspections per Section 1705.12:

Not Applicable

The extent of the main wind-force-resisting system is defined in more detail in the construction documents.

SCHEDULE OF SPECIAL INSPECTIONS

Column Header Notation Used in Table:
- C Indicates continuous inspection is required.
- P Indicates periodic inspections are required. The notes and/or contract documents should clarify.

Box Entry Notation Used in Table:
- X Is placed in the appropriate column to denote either "C" continuous or "P" periodic inspections.
- -- Denotes a one-time activitiy or one whose frequency is defined in some other manner.

Additional details regarding inspections are provided in the project specifications or notes on the drawings.

Verification & Inspection	C	P	Notes
1705.6 - Soils			
1. Verify materials below shallow footings are adequate to achieve the desired bearing capacity		X	
2. Verify excavations are extended to proper depth and have reached proper material		X	
3. Perform classification and testing of compacted fill materials		X	
4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of compacted fill	X		
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly		X	
1705.13.2 - Seismic Resistance - Structural Wood			
2. Inspect nailing, bolting, anchoring, and other fastening of elements of the main seismic force-resisting system, including wood shear walls, wood diaphragms, collectors (drag struts), braces, shear panels, and hold-downs		X	Inspection of shear walls and diaphragms with fasteners spaced greater than 4" oc is not required

GENERAL NOTES

1. The following notes, details, schedules & specifications shall apply to all phases of this project unless specifically noted otherwise. Notes and details on the structural plans shall take precedence over general notes and typical details. Where no details are given, construction shall be as shown for similar work.
2. All drawings are considered to be part of the contract documents. The Contractor shall be responsible for the review and coordination of all drawings and specifications prior to the start of construction. Any discrepancies shall be brought to the attention of the Engineer prior to the start of construction so that a clarification can be issued. Any work performed in conflict with the contract documents or any applicable code requirements shall be corrected by the Contractor at no expense to the Owner or Engineer.
3. All information on existing conditions shown on the structural plans are based on best present knowledge available, but without guarantee of accuracy. The Contractor shall be responsible for the verifications of all dimension and conditions at the site. Any discrepancies between actual site conditions and information shown on the drawings or in the specifications shall be brought to the attention of the EOR prior to the start of construction.
4. Refer to the Architectural plans for the following:
   (a) Dimensions
   (b) Size and location of all interior and exterior wall locations.
   (c) Size and location of all floor, roof and wall openings
   (d) Size and location of all drains, slopes, depressions, steps, etc.
   (e) Specification of all finishes & waterproofing
   (f) All other non-structural elements
5. Refer to the mechanical, electrical and plumbing plans for the following:
   (a) Size and location of all equipment
   (b) Pipe runs, sleeves, hangers and trenches
   (c) All other mechanical, electrical or plumbing related elements
6. **DO NOT** scale structural plans. Contractor shall use all written dimensions on Architectural plans.
7. Construction materials shall be uniformly spread out if placed on floor or roof so as to not overload the framing. Load shall not exceed the design live load per square foot. It is the Contractor's responsibility to provide adequate shoring and/or bracing as required.
8. Specifications and detailing of all waterproofing and drainage items, while sometimes shown on the structural plans for general information purposes only, are solely the design responsibility of others.
9. The Engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction delineated by these plans. It should be understood that the Contractor or his/her agent(s) shall supervise and direct all work and shall be solely and completely responsible for all construction means, methods, techniques, sequences, procedures and conditions on the job site, including safety of all persons and property during the entire period of construction. Periodic observations by the Engineer, his staff or representatives are not intended to include verification of dimensions or review the adequacy of the Contractor's safety measures on or near the construction site.
10. Modifications of the plans, notes, details and specifications shall not be permitted without prior approval from the Engineer.
11. All workmanship shall conform to the best practice prevailing in the various trades performing the work. The Contractor shall be responsible for coordinating the work of all trades.
12. It is the Contractor's responsibility to ensure that only approved structural plans are used during the course of construction. The use of unapproved documents shall be at the contractor's own risk. Corrections of all work based on such documents shall be performed at the Contractor's expense.
13. These plans and specifications represent the structural design only. No information nor warranty is provided for the work of any other Consultant (Architect, Mechanical, Electrical, etc.). This includes, but is not limited to, waterproofing, drainage, ventilation, accessibility, or dimensions.

FOUNDATIONS

1. Refer to Structural Design Parameters section on sheet S-1.1 for all soil design values used in calculations.
2. Soils values per geologic/geotechnical report (or "soils report") by Beacon Geotechnical, Inc., Project No. F-101974, dated December 6, 2018 and Report Update dated January 25, 2024. This report and all recommendations contained therein are to be considered a part of these plans.
3. It is the Contractor's responsibility to obtain a copy of the soils report from the Owner. A copy of the soils report shall be on the job site during the course of construction.
4. Unexpected Soil Conditions: Allowable values and subsequent foundation designs are based on soil conditions which are shown by test borings. Actual soil conditions which deviate appreciably from that shown in the test borings shall be reported to the EOR and/or soils engineer immediately.
5. All compaction, fill, backfilling and site preparation shall be performed in accordance with project soils report or the Governing Building Code Chapter 18 & Appendix J. All such work shall be performed per the recommendations of the project soils engineer.
6. Excavate to required depths and dimensions (as indicated in the drawings), cut square and smooth with firm level bottoms. Care shall be taken not to over-excavate foundation at lower elevation and prevent disturbance of soils around high elevation.
7. Foundations forms and excavations shall be clean and free of debris, achieving all minimum dimesions noted. Enchroachment of soil at corners and reduced reinforcement clearances are not permitted.
8. Excavate all foundations to required depths into compacted fill or natural soil (as per plans and details) and as verified by the building official and/or soils engineer.
9. All foundations shall be inspected and approved by the appropriate building official and/or a representative of the soils engineer prior to forming and placement of reinforcing or concrete.
10. Foundations shall not be poured until all required reinforcing steel, framing hardware, sleeves, inserts, conduits, pipes, etc. and formwork is properly placed and inspected by the appropriate building official/inspector(s).
11. It is the responsibility of the contractor in charge of framing to properly position all holdown bolts, anchor bolts, column bases, and all other cast-in-place hardware. Refer to typical details. All hardware to be secured prior to foundation inspections.
12. The sides and bottoms of dry excavations must be moistened to optimum moisture content or just above, just prior to placing concrete. Conversely, de-water footings as required to remove standing water and to maintain optimum working conditions.
13. The Contractor shall be solely responsible for all excavation procedures including lagging, shoring, and the protection of adjacent property, structures, streets, and utilities in accordance with all federal, state and local safety ordinances. The Contractor shall provide for the design and installation of all cribbing, bracing and shoring required.

CONCRETE

1. All concrete shall have:
   (a) an ultimate compressive strength (f'c) of 3,000 psi at 28 days (UNO).
   (b) a maximum slump of 5" at point of placement.
   (c) a W/C ratio of 0.55 or less for all slabs, walls, and columns, and 0.60 or less for all foundations.
   (d) a normal dry-weight density (UNO).
2. Special inspection is NOT required as the foundations have been *designed* with f'c = 2,500 psi in accordance with the Governing Building Code, section 1705.3, exceptions 1, 2.1, and 2.3, unless explicitly specified herein, on the structural plans, or by the Building Department. At a minimum, special inspection is always required on:
   (a) structural slabs, flat plates
   (b) walls, columns, beams
   (c) piles, caissons
   (d) welding of reinforcement, installation of mechanical bar splice devices, epoxy application

   When required or specified, special inspection services shall conform to the Governing Building Code, Chapter 17 and shall be provided by an ICC certified inspector or Building Department approved engineer. The Building Department reserves the right to waive or require special inspections. Nothing in these plans waives the Building Department's right to require special inspection at any point and on any material.
3. Testing of materials used in concrete construction must be performed as noted on structural plans or at the request of the Building Department to determine if materials are quality specified. Tests of materials and of concrete shall be made by an approved agency; such tests shall be made in accordance with the standards listed in the Governing Building Code, Table 1705.3. When testing of concrete is required, four (4) test cylinders shall be taken from each 150 yards, or fraction thereof, poured in any one day. One (1) cylinder shall be tested at seven (7) days; two (2) at 28 days; one (1) shall be held in reserve. Where 4x8 cylinders are used, (5) test cylinders shall be taken, with (3) cylinders tested at 28 days. If Contractor elects to have additional tests performed for "early-break" results, additional test cylinders must be taken. At no time shall the Contractor instruct the testing agency to perform tests on a schedule different than above without the prior authorization of the Engineer. Contractor is responsible for complying with applicable testing requirements of theBuilding Department. Copies of all test reports shall be provided to Engineer and Building Department for review in a timely manner.
4. The Contractor shall remove and replace any concrete which fails to attain specified 28 day compressive strength if so directed by the Engineer. Any defects in the hardened concrete shall be repaired to the satisfaction of the Engineer and/or Architect or the hardened concrete shall be replaced at the Contractor's expense.
5. All concrete work shall conform with the Governing Building Code, Chapter 19.
6. All cement shall be Portland Cement Type I or II and shall conform to ASTM C150.
7. All aggregates shall conform to ASTM C33. Maximum aggregate sizes:
   (a) Footings: 1-1/2"
   (b) All other work: 3/4"
8. Where not specifically detailed, the minimum concrete cover on reinforcing steel shall be:
   (a) Permanently exposed to earth or weather
      i. Cast against earth: 3"
      ii. Cast against forms: 2"
   (b) Not exposed to earth or weather
      i. Slabs, walls, joists: 3/4"
      ii. Beams, girders, columns: 1-1/2"
9. The minimum lap splice length for all reinforcing steel shall be as noted in the typical details on sheet S-1.1. All lap splices to be staggered.
10. All reinforcing steel, anchor bolts, dowels, inserts, and any other hardware to be cast in concrete shall be well secured in position prior to foundation inspection. All hardware to be installed in accordance with respective manufacturer's specifications. Refer to architectural and structural plans for locations of embedded items.
11. Locations of all construction joints, other than specified on the structural plans, shall be approved by the Architect and Engineer prior to forming. Construction joints shall be thoroughly dry and water cleaned and so as to expose coarse aggregates. All surfaces to receive fresh concrete shall be maintained continuously wet at least three (3) hours in advance of concrete placement. Unless specifically detailed or otherwise noted, construction and control joints shall be provided in all concrete slabs-on-grade. Joints shall be located such that the area does not exceed 400 sq. feet.
12. The Architect, Engineer and appropriate inspectors shall be notified in a timely manner for a reinforcement inspection prior to the placement of any concrete.
13. The Contractor shall obtain approval from the Architect and the Engineer prior to placing sleeves, pipes, ducts, chases, coring and opening on or through structural concrete beams, walls, floors, and roof slabs unless specifically detailed or noted on the plans. All piles or conduits passing through concrete members shall be sleeved with standard steel pipe sections.
14. The Contractor is responsible for design, installation, maintenance and removal of all formwork. Forms shall be properly constructed, sufficiently tight to prevent leakage, sufficiently strong, and braced to maintain their shape and alignment until no longer needed for concrete support. Joints in formwork shall be tightly fitted and blocked, and shall produce a finished concrete surface that is true and free from blemishes. Forms for exposed concrete shall be pre-approved by the Architect to ensure conformance with design intent.
15. Remove formwork in accordance with the following schedule:
   (a) Forms at slab edge: 1 day
   (b) Side forms at footings: 2 days
   (c) All other vertical surfaces: 7 days
   (d) Beams, columns, girders: 15 days
   (e) Elevated slabs: 28 days

   Engineer reserves the right to modify removal schedule above based on field observations, concrete conditions, and/or concrete test results.
16. Retaining walls shall not be backfilled until concrete has set a minimum of 14 days. Refer to structural plans for slab and/or framing installation sequencing.
17. All concrete (except slabs-on-grade 6" or less) shall be mechanically vibrated as it is placed. Vibrator to be operated by experienced personnel. The vibrator shall be used to consolidate the concrete. The vibrator shall not be used to convey concrete, nor shall it be placed on reinforcing and/or forms.
18. Concrete shall be maintained in a moist condition for a min. of five (5) days after placement.
19. Concrete shall not be permitted to free fall more than six (6) feet. For heights greater than six (6) feet, use tremie, pump or other method consistent with applicable standards.
20. When specified ultimate compressive strength is greater than 2500 psi, Contractor shall submit mix designs to Architect and Engineer for approval seven (7) days prior to placement. Mix designs shall be prepared by an approved testing laboratory. Sufficient data must be provided for all admixtures.
21. Refer to Architectural plans for locations of all dimensions, slab depressions, slopes, drains, curbs, and control joints.
22. Provide continuous horizontal reinforcing through all wall intersections and corner. See details for additional information.

TRUSSES

1. Refer to the structural and architectural plans for additional design loads and conditions. Bottom chords shall be designed to resist a minimum ceiling live load of 10 psf.
2. Truss calculations and details shall be submitted to the Architect/Engineer and the building department for review and approval prior to fabrication.
3. All trusses shall be fabricated in the shop of a licensed fabricator approved by the governing building department.
4. Each truss shall be legibly branded, marked or otherwise have permanently affixed thereto the following information located within 2 feet of the center of the span on the face of the bottom chord:
   (a) Identity of the company manufacturing the truss
   (b) the design load, and
   (c) the spacing of the trusses.
5. Walls:
   (a) Trusses shall bear on exterior walls only unless specifically noted otherwise.
   (b) All interior walls shall be non-bearing unless specifically noted otherwise.
   (c) All approved interior bearing locations shall be specifically noted on the structural plans.
6. Bearing:
   (a) Securing of bearing walls, unless noted otherwise, trusses shall be secured at all bearing points with Simpson seismic anchors (e.g. H1) .
   (b) Interior non-bearing walls shall be isolated from the trusses with Simpson truss clips (e.g. STC, DTC, HTC4) or approved equal.
   (c) Trusses to be manufactured with necessary camber to account for dead load deflections and eliminate accidental bearing on interior non-bearing walls.
7. Blocking and bracing shall be installed per manufacturer's recommendations. As a minimum, the trusses shall be blocked at the following locations:
   (a) All bearing points
   (b) Along ridge
8. Erect trusses according to the approved shop drawings. Lift members only at designated lift points. Provide erection bracing to keep the members straight and plumb as required to assure adequate lateral support for individual members and the entire system until the sheathing is applied.

ROUGH CARPENTRY

1. Refer to latest edition of the Governing Building Code, Table 2304.10.2. for all minimum nailing requirements.
2. Refer to individual sections for applicable material specifications.
3. Fabricate, size, install, connect, fasten, bore, notch, and cut wood and plywood with joints true, tight, and well-nailed, screwed or bolted as required, all members to have solid bearing without being shimmed, unless noted otherwise. Set horizontal members subject to bending with the crown up. Install framing plumb, square, true and cut for full bearing. Splices are not permitted between bearings. Use full lengths unless otherwise specified.
4. Metal framing angles, anchor, clips, straps, ties, holdowns, etc. shall be mfg by Simpson Strong-Tie Co. No substitutions shall be permitted without prior approval of the Engineer.
5. All walls are to have continuous double 2x top plates spliced as followings unless specifically noted otherwise on the plans and details.
6. Wall Studs:
   (a) Unless specifically noted on the plan and details, use the following guidelines for wall framing:
      i. Use 2x4 studs at 16" oc for walls less than 9'-0" tall.
      ii. Walls 9'-0" to 16'-0" tall shall be constructed of 2x6 studs at 16" oc
      iii. Request specifically engineered wall details for walls greater than 16'-0" tall.
7. Blocking:
   (a) Provide min. one row of nominal 2" thick blocking of same width as stud, fitted snugly and spiked into studs at mid-height of partitions or walls over 8' high.
   (b) All foundation cripple walls (or "pony walls") less than 14" in height shall be solid blocking.
   (c) Rim blocking/rim board to be 1-1/4" minimum width x full depth at bearing walls, UNO per plans and details. Refer to shearwall section for additional rim/blocking requirements.
8. Notching:
   (a) Is not permitted of any structural member without prior approval
   (b) In exterior and bearing walls, notches shall not exceed 25% of the stud depth.
   (c) Non-bearing partition walls, notches shall not exceed 40% of the stud depth.
   (d) Successive notches in the same member shall be spaced a min of 18" apart.
9. Boring:
   (a) Is not permitted of any structural member without prior approval
   (b) In exterior and bearing walls, holes shall not exceed 40% of the stud depth.
   (c) Non-bearing partition walls, may be drilled not greater than 60% of stud depth.
   (d) Successive holes in the same member shall be spaced a minimum of 18" apart.
10. Bearing:
   (a) Provide a min. of 1-1/2" of bearing for all 2x joists and hdrs 4x10 / 6x8 & smaller.
   (b) Provide a min. of 3" of bearing for all beams and hdrs 4x12 / 6x10 & larger, UNO on plans.
   (c) Members bearing on prefabricated hangers are to have full bearing and nailing per manufacturer's specifications.
11. Posts:
   (a) Posts inside walls shall bear on sill plates and shall be continuous between top and bottom plates, unless specifically noted otherwise.
   (b) Provide posts under all beams, girders or double joists equal to the width of the supported member.
   (c) Posts on upper levels are to be stacked on posts of equal size at levels below, unless a larger post is specified on the plans.
   (d) Vertically oriented blocking ("squash blocking") shall be used to fully transfer the post area through floors to foundation. Vertical blocking shall be equal to floor thickness plus 1/16".
   (e) Provide framing into continuous posts without trimmer studs shall be supported in Simpson HUC hangers unless noted otherwise on the plans.
   (f) Posts when isolated, shall be seated in Simpson post or column bases, unless noted otherwise on the plans
12. Roof Framing:
   (a) Provide wood joists, as specified, laid with the crown up and spaced as indicated.
   (b) Provide a minimum of 1-1/2" end bearing unless otherwise shown.
   (c) Provide full depth solid 2x blkg or cross-bridging between the joists at 8' oc max.
   (d) Provide all cricket framing required to achieve positive drainage per Arch.
   (e) Install plywood panels with the face grain across the framing and close joints and nail at each support. Fully nail with common nails per the plans.
   (f) Plywood panels shall not be less than 4' x 8' except at boundaries and changes in framing direction, where the minimum panel dimension shall be no less than 24", unless all edges of undersized panels are supported by and fastened to framing members or blocking.
   (g) Provide Simpson "PSCL" clips at all plywood joints perpendicular to framing. Provide clips midway between framing members at the unsupported edges of plywood when members are spaced at 24" oc or greater. If clips are not used, provide solid blocking for joints perpendicular to framing.
13. Floor Framing:
   (a) Provide wood joists, as specified, laid with the crown up and spaced as indicated.
   (b) Provide a minimum of 1-1/2" end bearing unless otherwise shown.
   (c) Provide full depth solid 2x blkg or cross-bridging between the joists at 8' oc max. For floors framed with I joists, refer to the mfg's spec's for blkg requirements.
   (d) Provide full depth solid 2x blocking between the joists under all walls and partitions where the wall or partition is perpendicular to the floor framing (including floors framed with I joists)
   (e) Install plywood sheathing with the face grain across supports, end supports staggered, and the edges of sheets centered over supports. If T&G plywood is used, blocking need not be provided at all plywood edges (UNO per plan). If T&G plywood is not used, blocking shall be provided at all plywood edges. Glue plywood to joists and fully nail with common nails per the plans.
   (f) Plywood panels shall not be less than 4' x 8' except at boundaries and changes in framing direction, where the minimum panel dimension shall be no less than 24", unless all edges of undersized panels are supported by and fastened to framing members or blocking.
14. Shear Walls:
   (a) Refer to plans for all shearwall locations, length type and nailing.
   (b) Refer to Shearwall Schedule on title sheet for additional information.
   (c) Shear wall lengths specified on plans are minimum required.
   (d) Shear walls to be nailed with common nails. All nails to have minimum 3/8" edge distance to panel or framing member.
   (e) Where 3x framing is required per the shear wall schedule, stagger edge nailing.
   (f) Oriented Strand Board (OSB) may be used in lieu of plywood.
   (g) Typical Rim Board/Blocking at Shearwalls shall be 1-3/4" Min. LSL (refer to Engineered Lumber Section for Material Specifications). Refer to Shearwall Schedule per Plan for Min. Rim/Blkg Width Requirements per Transfer Fasteners.

TIMBER / LUMBER

1. All structural lumber shall be Douglas Fir-Larch, S4S and shall conform to the Governing Building Code, section 2303.1.1.
2. The minimum lumber grade of each member shall be as follows (unless specifically noted otherwise on plans and details) :
   (a) 2x studs, blocking, plates:Stud
   (b) 2x joists #2 or better
   (c) 4x4, 4x6, or 6x6 beams or posts #2 or better
   (d) 4x8, 6x8, or larger beams or posts #1 or better

   It is recommended (but not required) that all exposed members be Select Structural or better and free of heart center due to visual characteristics.
3. All lumber in contact with concrete or masonry shall be pressure treated Douglas Fir. Whenever it is necessary to cut, notch, bore or splice pressure treated material, all newly cut surfaces shall be thoroughly painted with the same preservative.
4. Maximum moisture content for all structural members shall not exceed 19%.
5. All plywood sheathing shall be CDX grade (or better) Douglas Fir with exterior glue. All sheathing shall conform to the Governing Building Code and grade-marked by the American Plywood Association (APA). Panel index to be 40/20 for floors and 24/0 for roofs unless specifically noted otherwise on the plans and details.

REINFORCEMENT

1. Reinforcing steel shall be deformed, clean, free of rust, grease or any other material likely to impair concrete bond.
2. All bars shall conform to ASTM A615, Grade 60 minimum (UNO on structural plans). All weld wire fabric (WWF) shall conform to ASTM A185.
3. Reinforcing steel that is to be welded shall conform to ASTM A706. All welding of reinforcement shall be subject to special inspection.
4. Contractor shall take necessary steps (standard ties, anchorage devices, etc.) to secure all reinforcing steel in their true position and prevent displacement during concrete placement.
5. Fabrication, placement and installation of reinforcing steel shall conform to:
   (a) Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice
   (b) the Governing Building Code.
6. Shop drawings for fabrication of reinforcing steel shall be approved by the Contractor and submitted to the Architect and Engineer for review and approval prior to fabrication. Shop drawings are not required for slabs-on-grade or foundations unless specifically noted on the structural plans.
7. Heating of reinforcing steel to aid in bending and shaping of bars is not permitted. All bends in reinforcing steel are to be made cold. All bend radii shall conform to CRSI Manual of Standard Practice.
8. Refer to Concrete and Masonry notes for specific minimum splice length and splice staggering requirements. Lap welded wire fabric (WWF) reinforcement two (2) modules minimum (UNO). All splices are to be staggered.

ENGINEERED LUMBER

1. Glu-laminated Beams (GLB):
   (a) shall have the following properties:

Use	EWS Combination Symbol	Species / Grade	Flexural Stress, Fb (psi)	Modulus of Elasticity, E (ksi)	Horiz. Shear Stress, Fv (psi)	Compression Fc para. (psi)	Compression Fc perp. (psi)
Simple Span Bm.	24F-V4	DF	+2,400/-1,850	1,800	265	1,650	650
Continuous or Cantilever Bm.	24F-V8	DF	+/- 2,400	1,800	265	1,650	650
Columns	2	DF / L2	+/- 1,800	1,300	265	1,600	560

   (b) shall not be notched, cut or drilled without prior approval from the Engineer
   (c) shall have exterior glue and weather-treatment prior to installation
   (d) shall be fabricated by an approved manufacturer & in accordance with ANSI A 190.1
   (e) shall have factory standard camber of 3,500-5,000 ft on beams UNO per Plan
2. Laminated Veneer Lumber (LVL) :
   (a) shall be 1-3/4" minimum thickness with the following minimum properties:
      i. E = 2000 ksi
      ii. Fb = 2600 psi
      iii. Fv = 285 psi
      iv. Fc (parallel) = 2500 psi
      v. Fc (perp.) = 750 psi
      vi. Ft (parallel) = 1500 psi
      vii. Specific Gravity = 0.50
   (b) shall be fabricated by an approved manufacturer
   (c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
   (d) shall be nailed in accordance with manufacturer's specifications. Unless otherwise approved, nailing into the top edge shall not be spaced any closer than:
      i. 16d @ 6" oc, 10d @ 4" oc, and 8d @ 3" oc
      ii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances.
   (e) shall be, when comprised of multiple members, connected with 16d nail, 1/2" bolts or 1/4" lag screws in accordance with manufacturer's specifications.
   (f) shall not be cut, notched or drilled without specific written approval of the EOR.
3. Laminated Strand Lumber (LSL) :
   (a) shall be 1-3/4" minimum thickness with the following minimum properties:
      i. E = 1550 ksi
      ii. Fb = 2325 psi
      iii. Fv = 310 psi
      iv. Fc (parallel) = 2170 psi
      v. Fc (perp.) = 900 psi
      vi. Ft (parallel) = 1070 psi
      vii. Specific Gravity = 0.50
   (b) shall be fabricated by an approved manufacturer
   (c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
   (d) shall be nailed in accordance with mfg's specifications. Unless otherwise approved, nailing into the top edge shall not be spaced any closer than:
      i. 16d @ 6" oc, 10d @ 4" oc, and 8d @ 3" oc
      ii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances.
   (e) shall be, when comprised of multiple members, connected with 16d nail, 1/2" bolts or 1/4" lag screws in accordance with manufacturer's specifications.
   (f) shall not be cut, notched or drilled without specific written approval of the EOR.
4. Parallel Strand Lumber (PSL) :
   (a) shall be 2-1/2" minimum thickness with the following minimum properties:
      i. E = 2200 ksi
      ii. Fb = 2900 psi
      iii. Fv = 290 psi
      iv. Fc (parallel) = 2900 psi
      v. Fc (perp.) = 625 psi
      vi. Ft (parallel) = 2300 psi
      vii. Specific Gravity = 0.50
   (b) shall be fabricated by an approved manufacturer
   (c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
   (d) shall be installed in accordance with manufacturer's specifications. Unless otherwise approved, nailing shall not be spaced any closer than:
      i. Narrow face: 16d @ 6" oc, 10d @ 4" oc, and 8d @ 3" oc
      ii. Wide Face: 16d @ 8" oc, and 10d & 8d @ 6" oc
      iii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances
   (e) shall not be cut, notched or drilled without specific written approval of the EOR.
5. Plywood I Joists:
   (a) type and manufacturer shall be clearly noted on the plans. Substitutions shall not be permitted without prior approval of the Engineer.
   (b) shall be installed in accordance with applicable code approvals and mfg's spec's.
   (c) shall bear a minimum of 1-3/4" at all end supports, and 3-1/2" at intermediate supports. Provide full depth solid blocking at all bearing points.
   (d) shall be installed with intermediate blocking or bridging as specified by the Mfr. Only omit intermediate blocking when specifically allowed by the Mfr.
   (e) shall not be cut, notched or drilled without specific written approval of the EOR.

FASTENERS

1. Nails:
   (a) shall be with "common" nails unless noted otherwise.
   (b) shall not be driven closer than 1/2 their length nor closer than 1/4 of their length to the edge or end of a member, except for sheathing.
   (c) shall be installed in pre-drilled lead holes if necessary to avoid splitting.
   (d) shall be hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper when in contact with preservative-treated wood.
      i. When used in exterior applications, nails shall have coating types and weights in accordance with the treated wood or bolt manufacturer's Recs. A Min. of ASTM A653, type G185 zinc-coated galvanized steel (or equiv.) shall be used.
      ii. When used in an interior, dry environment in SBX/DOT or zinc borate preservative-treated wood, plain carbon nails shall be permitted.
   (e) All nailing shall conform to the Governing Building Code, Table 2304.10.2.
2. Lag screws:
   (a) shall be installed into pre-drilled lead holes. Lubricant (or soap) shall be used to facilitate installation and prevent damage to the screws.
   (b) shall be hot-dipped zinc-coated galvanized steel or stainless steel when in contact with preservative-treated wood.
      i. When used in exterior applications, bolts shall have coating types and weights in accordance with the treated wood or bolt manufacturer's recs. A minimum of ASTM A653, type G185 zinc-coated galvanized steel (or equal) shall be used.
      ii. When used in dry interior environments in SBX/DOT or zinc borate preservative-treated wood, plain carbon screws, nuts, and washers shall be permitted.
3. Bolts:
   (a) shall conform to ASTM A307. UNO specifically on plans and details.
   (b) shall be installed in pre-drilled holes a max of 1/16" larger than the specified bolt dia.
   (c) when installed against wood surfaces, shall have standard washers under the heads and nuts.
   (d) shall be hot-dipped zinc-coated galvanized steel or stainless steel when in contact with preservative-treated wood.
      i. When used in exterior applications, bolts shall have coating types and weights in accordance with the treated wood or bolt manufacturer's rec's. A minimum of ASTM A653, type G185 zinc-coated galvanized steel (or equal) shall be used.
      ii. When used in dry interior environments in SBX/DOT or zinc borate preservative-treated wood, plain carbon screws, nuts, and washers shall be permitted.
4. Anchor Bolts:
   (a) shall be installed at all exterior walls and all interior shear and/or bearing walls.
   (b) shall be 5/8" diameter with 3x3x0.229" steel plate washers at shearwalls.
   (c) shall be 5/8" diameter with 2x2x3/16" steel plate washers at non-shearwalls.
   (d) shall have 7" minimum embedment. (Contractor to coordinate length of bolts with sill plate thicknesses).
   (e) shall conform to ASTM F1554, Grade 36.
   (f) shall be hot-dipped zinc-coated galvanized steel or stainless steel when in contact with preservative-treated wood.
      i. When used in exterior applications, bolts shall have coating types and weights in accordance with the treated wood or bolt manufacturer's rec's. A minimum of ASTM A653, type G185 zinc-coated galvanized steel (or equal) shall be used.
      ii. When used in dry interior environments in SBX/DOT or zinc borate preservative-treated wood, plain carbon screws, nuts, and washers shall be permitted.
   (g) shall not be spaced greater than 72" oc Refer to shearwall schedule for specific anchor bolt spacing requirements.
   (h) shall be placed a maximum of 12" from wall corners, wall ends, and sill plate splices (but not less than 7 dia.) , and a min. of two bolts per piece of sill plate is required.
   (i) shall be secured in place prior to foundation inspection.
   (j) shall have a minimum edge distance of 1-3/4".
5. Powder Actuated Shot Pins:
   (a) shall be installed at all interior non-bearing, non-shearwalls.
   (b) shall be 0.145x3" with 1.5" diameter steel washers.
   (c) shall not be spaced greater than 32" o.c.

Ashley&Vance ENGINEERING, INC.
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www.ashleyvance.com
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Engineer of Record:

REGISTERED PROFESSIONAL ENGINEER R. PAUL BELMONT C 76732 CIVIL STATE OF CALIFORNIA — PLAN REVIEW SET NOT FOR CONSTRUCTION

217 Milpas Duplex

217 S. Milpas St.,
Santa Barbara, CA 93103

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Proj. Engr.: Katie S. Phone Ext.: 198

Proj. Mngr.: Paul B.

Date: 3 April 2024 Scale: NTS

A&V Job No.: 240050

STRUCTURAL SPECIFICATIONS

S-1.2

DO NOT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimensions.

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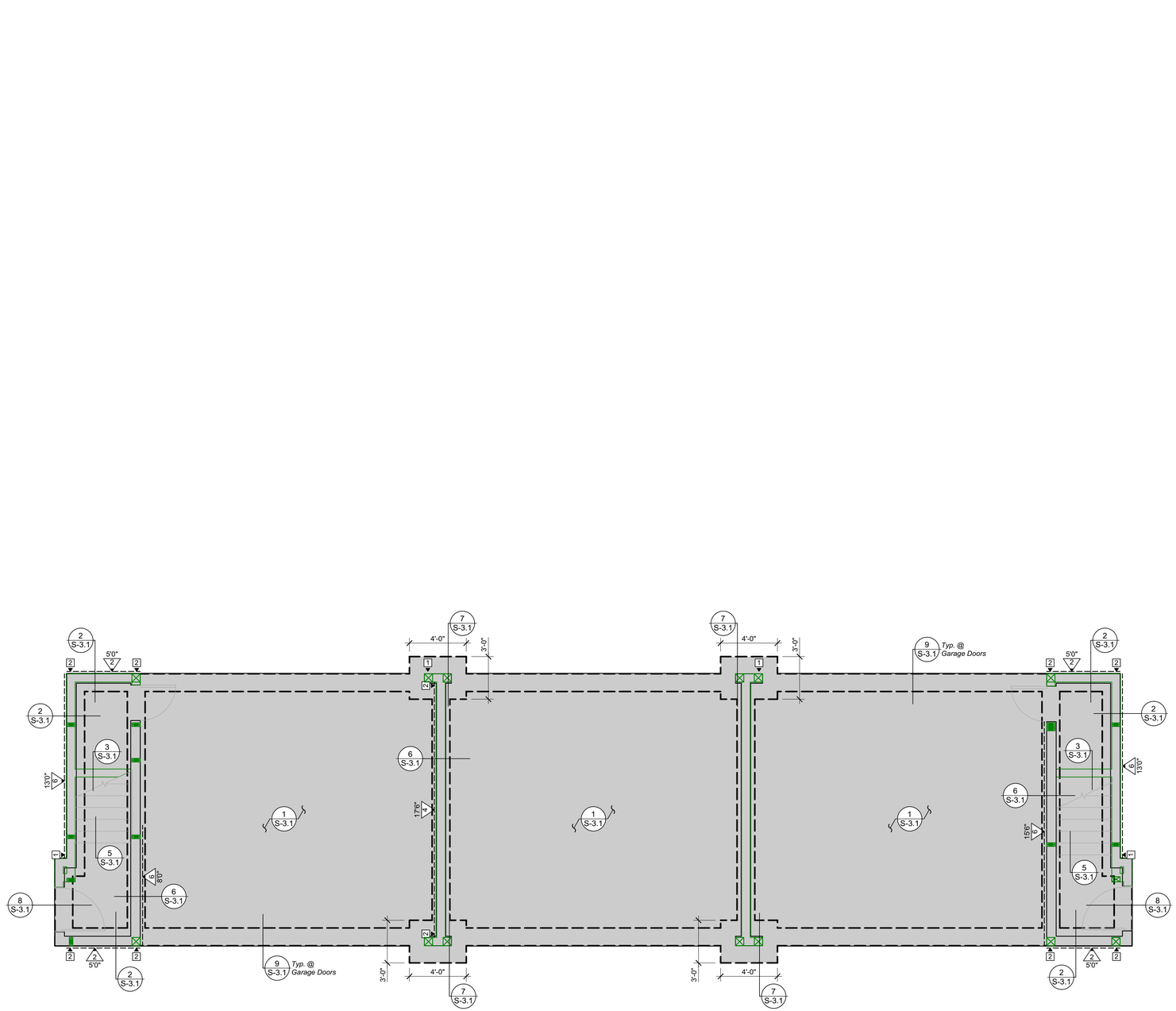

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FOUNDATION PLAN

HOLDOWN SCHEDULE

TYPE	HOLDOWN [1,2]	MIN. POST	ANCHOR / EMBEDMENT	DETAILS
A	CS14	(2) 2x	N/A	17/S-3.2
E	MSTC66B3	(2) 2x	N/A	15,16/S-3.2
1	HDU4	(2) 2x	SSTB24 / 21" Min.	4/S-3.1
2	HDU8	4x	SSTB28L / 25" Min.	

FOOTNOTES:
1. Shared holdowns to be installed per detail **10/S-1.1**, *Typical Shearwall Intersections*, (UNO)
2. All holdowns shown shall be continued down to the foundation with the same size holdowns and post, (UNO)

SHEARWALL SCHEDULE

NO.	DESCRIPTION: MATERIALS	DBL SIDED	SILL PLATE	PANEL B'DRY	NAILING[1] SIZE	NAILING[1] SPC'G	TRANSFERS[2] 5/8"ø[3] AB	SDS[4] Screw	SDWS[5] Screw	A35, LTP4,[6,7,8] or LTP5	RBC
6	15/32" Struc. 1 Ply	N	2x	2x	10d	6"	37"	8"	10"	12"	10"
4	15/32" Struc. 1 Ply	N	2x	3x	10d	4"	24"	5"[11]	6"[11]	8"	7"
3	15/32" Struc. 1 Ply	N	2x	3x	10d	3"	19"	4"[11]	5"[11]	6"	5"
2	15/32" Struc. 1 Ply	N	2x	3x	10d	2"	14"	3"[11]	3"[11]	4"[13]	4"

FOOTNOTES:
1. All nails to be COMMONS. **DO NOT** use box type nails. All "field" nailing to be 12"oc, UNO. Penetration shall be 1-1/2" Min. in framing.
2. All transfers to be installed into min. 1-1/2" thick members, UNO. Where clips are spaced less than 6" oc, stagger clips on each side of wall.
3. All shear walls to have 5/8" anchor bolts, embeded 7" into concrete foundations, with 3"x3"x0.229" thick plate washers, minimum. Washers may be slotted (slot length not to exceed 1-3/4") w/ standard cut washer placed between nut and plate washer. Washers shall extend within 1/2" of the edge of the bottom plate on the sheathed side. At walls sheathed on 2 sides, plate washers shall be alternated to each side of plate. [Governing Bulding Code, Section 2308.3.1] [AF&PA SDPWS 4.3.6.4.3]
4. Simpson SDS 1/4"x5" Screws through 2x sill, or SDS 1/4"x8" Screws through 3x sill or double plates. Install into minimum 1-3/4" thick members (rim and/or blocking). [ICC ESR 2236]
5. Simpson SDWS (Exterior Grade) 0.22"x5" Screws through 2x sill, or SDWS (Exterior Grade) 0.22"x8" Screws through 3x sill or double plates. Install into minimum 1-3/4" thick members (rim and/or blocking). [ICC ES AC233]
6. See details for permitted transfer clip types and locations.
8. Where LTP4 clips are installed over shear wall sheathing, fasten with full length 8d common nails.
9. 16d common nails through the sill plate to rim member or blocking. **DO NOT** use w/ LVL or LSL Rims.
10. Stitch 2x bearing runner below modular building to 2x sill plate, stagger 1-1/2" apart.
11. Install screws into 3-1/2" wide continuous member, staggered 1-1/2" apart.
12. Install screws into Glulams or solid sawn member. LSL, LVL, or PSL members are NOT acceptable, UNO.
13. Provide both A35 and LTP4 clips on opposite sides of shearwall in order to acheive net spacing requirement.

GENERAL FOUNDATION NOTES

Please see Soils Report for additional specifications and recommendations. It is the contractor's responsibility to obtain a copy of the soils report from the owner or owners representative.

Prior to the contractor requesting a Building Department foundation inspection, the Soils Engineer shall advise the building inspector in writing that:

a) Building pad was prepared in accordance with soils report

b) Utility trenches have been properly backfilled and compacted, and

c) Foundation excavations, the soil's expansive characteristics and bearing capacity conform to the soils report.

See General Notes & Specifications for additional requirements and material specifications.

All dimensions per Architectural plans

Contractor to VERIFY all dimensions w/ Architectural plans PRIOR to commencement of construction.

Foundation per Details

15" Wide x 18" Embedment w/ (2) #5 at Bot. (UNO)

10" Mat Slab w/ #5 @12"oc EW, T&B, per Details

Pad Foundation, Size per Plan w/ #5 @ 12" oc EW, (3) Min.

Wood Framed Wall Above

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Proj. Engr.: Katie S. Phone Ext.: 198
Proj. Mngr.: Paul B.
Date: 3 April 2024 Scale: 1/4"=1'-0"
A&V Job No.: 240050

FOUNDATION PLAN

S-2.1

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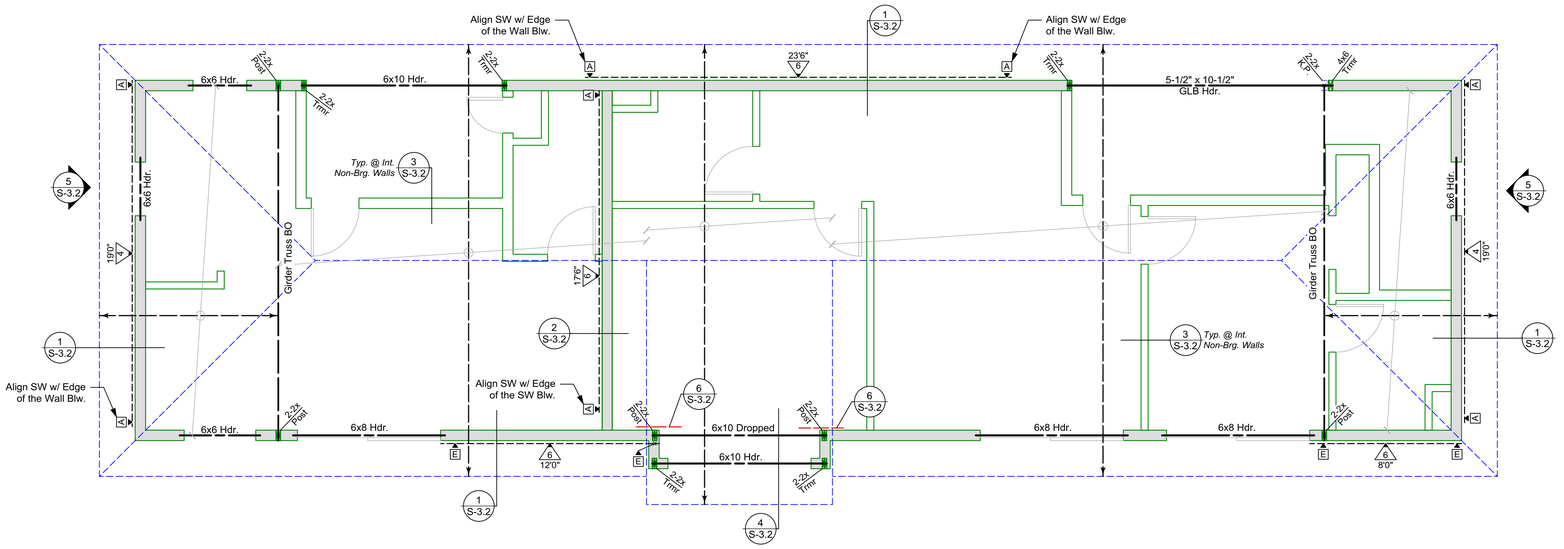

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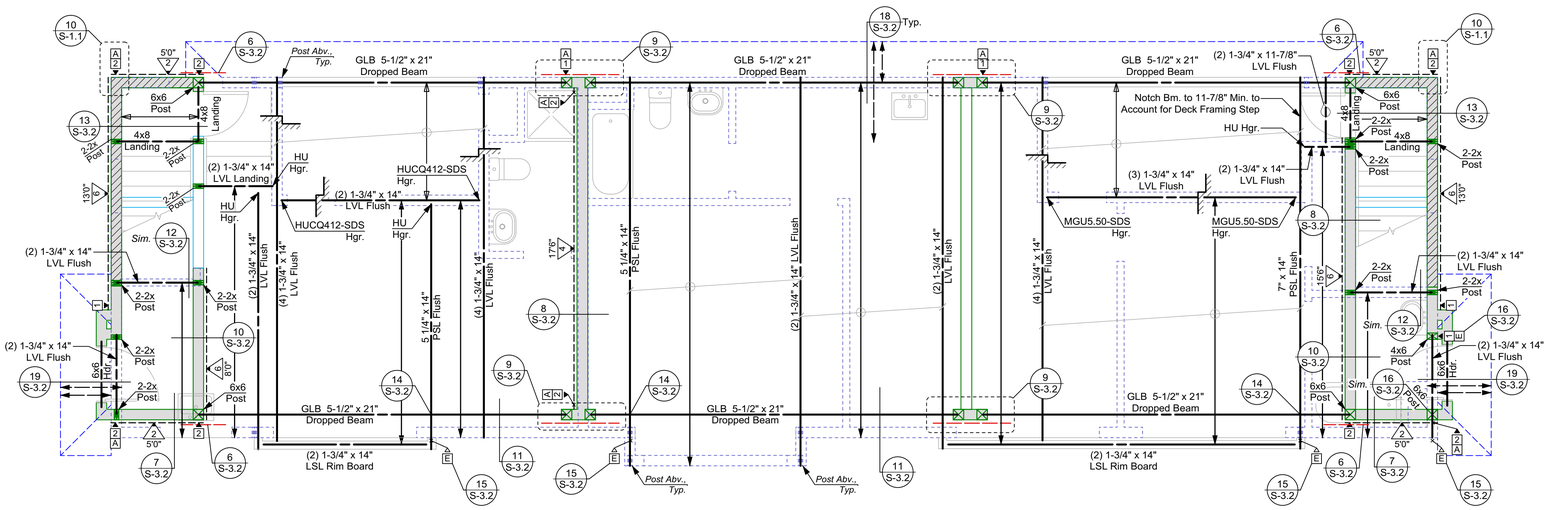
ROOF FRAMING PLAN



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FLOOR FRAMING PLAN

TRUSS DRAWINGS

Manufactured truss (i.e. prefabricated truss) drawings are required. Truss drawings must be received by the Architect (or designer) in time to ensure adequate coordination with Structural Engineer. Refer to the Material Specifications for additional requirements. Truss drawings shall include (but are not limited to) the following:

1. All connections related to trusses (i.e. truss to truss, conventional framing to truss, truss to top plate, etc.
2. All related bracing for trusses.
3. Any camber needed to minimize excessive deflection.
4. Adequate design to prevent any lateral movement.
5. Adequate design to sustain any vertical load.
6. The builder agrees to hold the Architect (or Designer) & the Engineer harmless for omissions due to delayed receipt of truss drawings.

All truss engineering, drawings, truss types, and detailed shop drawings shall be approved by the project engineer prior to the installation of the trusses.

WALL SCHEDULE

Stud wall locations per Architecturals.

Non-Struc. Wood-Framed Wall, Thk. per Arch.
2x4 D.F. Stud @ 16" oc, Min.

Struc. Wood-Framed Wall, Thk. per Arch.
2x6 D.F. Stud @ 16" oc, Min.

Struc. Balloon-Framed Wall, Thk. per Arch.
2x6 D.F. #2 @ 8" oc, Min.

Struc. Low Wood-Framed Wall, Thk. per Arch.
2x6 D.F. Stud @ 16" oc, Min.

All Walls to have Continuous Double Top Plates, All Splices to be per Detail **7/S-1.1**

Walls above
(shown for clarity)

GENERAL FRAMING NOTES

Beams (per Call-out)

All Lumber 4x6, 6x6 and Smaller to be DF #2 UNO
All Lumber 4x8, 6x8 and Larger to be DF #1 UNO

All Beams to Bear on Plates w/ Indicated Post or Doubler Below UNO

All Hangers Shall be Installed w/ Max. Nailing per Mfr. & Sized for Full Width & Depth of Supported Members, UNO

Roof sheathing to be 5/8" plywood or OSB, PI 40/20, nailed w/ 10d commons at 6", 6", 12"

Floor sheathing to be 3/4" plywood or OSB, T & G, PI 40/20, glued and nailed w/ 10d commons at 6", 6", 12"

Provide wall length continuous full depth solid blocking (where floor joists perpendicular) or double floor joist (where joists parallel) for all walls above.

Pre-Fabricated Roof Trusses (by Others) @ 24" oc
All Truss to Truss Hangers per Mfr., Typ. (UNO)

Roof Rafters -- 2x6 D.F. #2 @ 24" oc
in Simpson LUS Hangers, Typ. (UNO)

Floor Joists -- 14" TJI 360 @ 16" oc
in Simpson ITS Hangers, Typ. (UNO)

Deck Joists -- 1-3/4" x 11-7/8" LVL @ 16" oc
Ripped to Slope per Arch (9-1/2" Min. Depth)
in Simpson U Hangers. (UNO)

Denotes Step in Framing.
Step Ht. & Extent per Arch.

Waterproofing, flashing, & finish details per Architecturals.

See General Notes & Specifications for additional requirements and material specifications.

All dimensions per Architectural plans

Contractor to VERIFY all dimensions w/ Architectural plans PRIOR to commencement of construction.

SHEARWALL SCHEDULE

NO.	MATERIALS	DBL. SIDED	SILL PLATE	PANEL B'DRY	NAILING[1] SIZE	NAILING[1] SPC'G	TRANSFERS[2] 5/8"ø[3] AB	SDS[4] Screw	SDWS[5] Screw	A35, LTP4[6,7,8] or LTP5	RBC
6	15/32" Struc. 1 Ply	N	2x	2x	10d	6"	37"	8"	10"	12"	10"
4	15/32" Struc. 1 Ply	N	2x	3x	10d	4"	24"	5"[11]	6"[11]	8"	7"
3	15/32" Struc. 1 Ply	N	2x	3x	10d	3"	19"	4"[11]	5"[11]	6"	5"
2	15/32" Struc. 1 Ply	N	2x	3x	10d	2"	14"	3"[11]	3"[11]	4"[13]	4"

FOOTNOTES:
1. All nails to be COMMONS. **DO NOT** use box type nails. All "field" nailing to be 12"oc, UNO. Penetration shall be 1-1/2" Min. in framing.
2. All transfers to be installed into min. 1-1/2" thick members, UNO. Where clips are spaced less than 6" oc, stagger clips on each side of wall.
3. All shear walls to have 5/8" anchor bolts, embeded 7" into concrete foundations, with 3"x3"x0.229" thick plate washers, minimum. Washers may be slotted (slot length not to exceed 1-3/4") w/ standard cut washer placed between nut and plate washer. Washers shall extend within 1/2" of the edge of the bottom plate on the sheathed side. At walls sheathed on 2 sides, plate washers shall be alternated to each side of plate. [Governing Bulding Code, Section 2308.3.1] [AF&PA SDPWS 4.3.6.4.3]
4. Simpson SDS 1/4"x5" Screws through 2x sill, or SDS 1/4"x8" Screws through 3x sill or double plates. Install into minimum 1-3/4" thick members (rim and/or blocking). [ICC ESR 2236]
5. Simpson SDWS (Exterior Grade) 0.22"x5" Screws through 2x sill, or SDWS (Exterior Grade) 0.22"x8" Screws through 3x sill or double plates. Install into minimum 1-3/4" thick members (rim and/or blocking). [ICC ES AC233]
6. See details for permitted transfer clip types and locations.
8. Where LTP4 clips are installed over shear wall sheathing, fasten with full length 8d common nails.
9. 16d common nails through the sill plate to rim member or blocking. **DO NOT** use w/ LVL or LSL Rims.
10. Stitch 2x bearing runner below modular building to 2x sill plate, stagger 1-1/2" apart.
11. Install screws into 3-1/2" wide continuous member, staggered 1-1/2" apart.
12. Install screws into Glulams or solid sawn member. LSL, LVL, or PSL members are NOT acceptable, UNO.
13. Provide both A35 and LTP4 clips on opposite sides of shearwall in order to acheive net spacing requirement.

HOLDOWN SCHEDULE

TYPE	HOLDOWN[1,2]	MIN. POST	ANCHOR / EMBEDMENT	DETAILS
A	CS14	(2) 2x	N/A	17/S-3.2
E	MSTC66B3	(2) 2x	N/A	15,16/S-3.2
1	HDU4	(2) 2x	SSTB24 / 21" Min.	4/S-3.1
2	HDU8	4x	SSTB28L / 25" Min.	

FOOTNOTES:
1. Shared holdowns to be installed per detail **10/S-1.1**, *Typical Shearwall Intersections*, (UNO)
2. All holdowns shown shall be continued down to the foundation with the same size holdowns and post, (UNO)

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CIVIL • STRUCTURAL

Engineer of Record:

REGISTERED PROFESSIONAL ENGINEER R. PAUL BELMONT C 76732 CIVIL STATE OF CALIFORNIA

PLAN REVIEW SET NOT FOR CONSTRUCTION

217 Milpas Duplex

217 S. Milpas St.,
Santa Barbara, CA 93103

Revision:

Proj. Engr.:	Katie S. Phone Ext.: 198
Proj. Mngr.:	Paul B.
Date:	3 April 2024 Scale: 1/4"=1'-0"
A&V Job No.:	240050

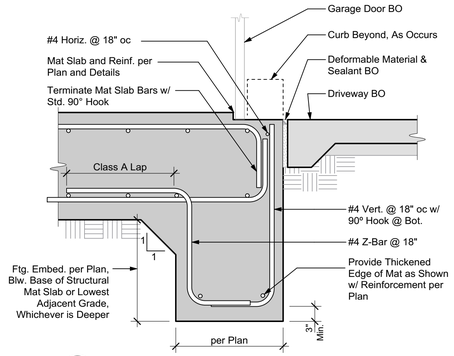
FLOOR & ROOF FRAMING PLAN

S-2.2

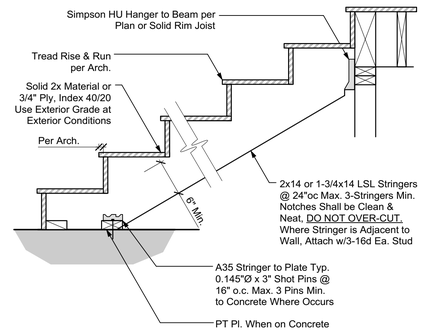
Apr 3, 2024
10:53:19 AM

17 NOT USED

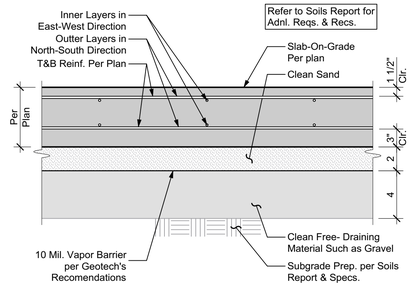
13 NOT USED



9 MAT SLAB EDGE @ GARAGE DOOR



5 TYP. LSL STAIR CONSTRUCTION

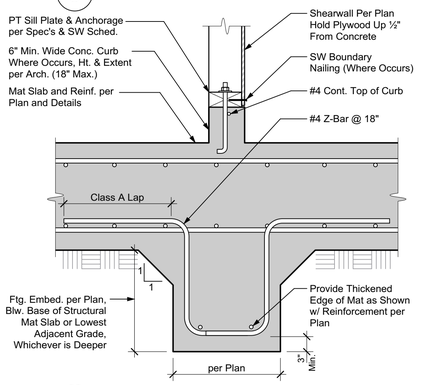


1 MAT SLAB ON GRADE

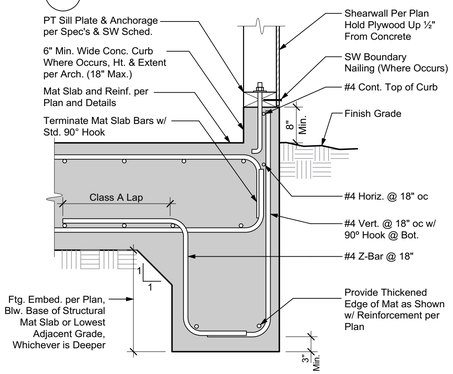
18 NOT USED

14 NOT USED

10 NOT USED



6 INT. CURB AT MAT SLAB

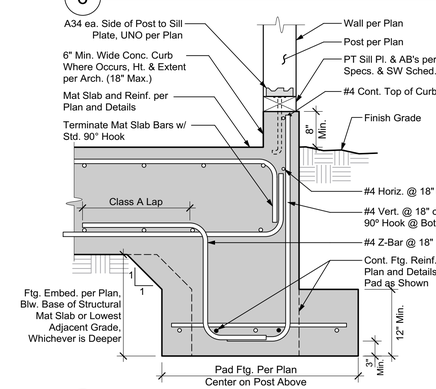


2 CURB AT MAT SLAB EDGE AT WALL

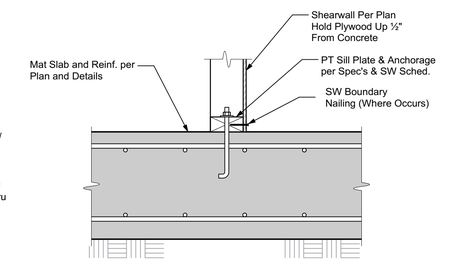
19 NOT USED

15 NOT USED

11 NOT USED



7 WOOD POST TO EXTERIOR PAD FOOTING

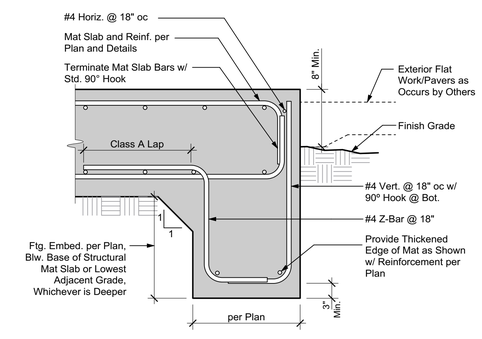


3 TYP. MAT SLAB AT INTERIOR WALL

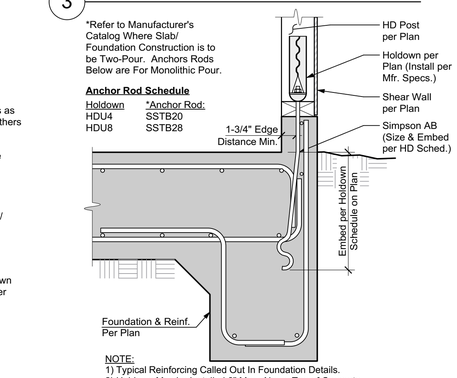
20 NOT USED

16 NOT USED

12 NOT USED



8 TYP. MAT SLAB EDGE



4 CURB AT MAT SLAB EDGE AT WALL

Apr 3, 2024
10:53:20 AM

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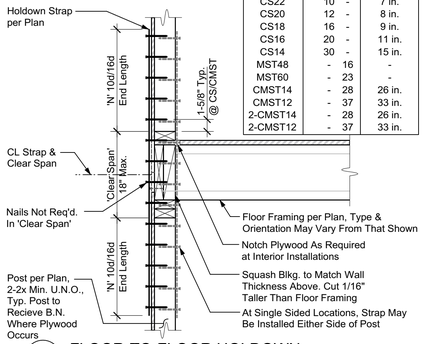
Date:	3 April 2024 Scale: NTS
A&V Job No.:	240050

STRUCTURAL DETAILS

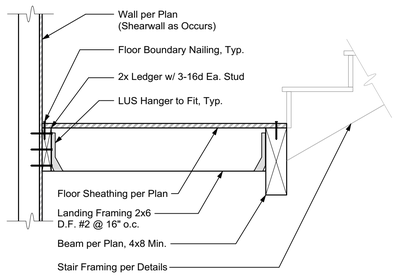
S-3.1

DO NOT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimensions.

Strap	'N' 10d/16d		End Length
CS22	10	-	7 in.
CS20	12	-	8 in.
CS18	16	-	9 in.
CS16	20	-	11 in.
CS14	30	-	15 in.
MST48	-	16	-
MST60	-	23	-
CMST14	-	28	26 in.
CMST12	-	37	33 in.
2-CMST14	-	28	26 in.
2-CMST12	-	37	33 in.

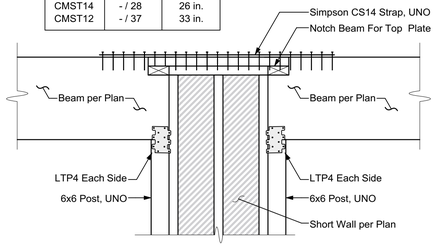


17 FLOOR-TO-FLOOR HOLDOWN

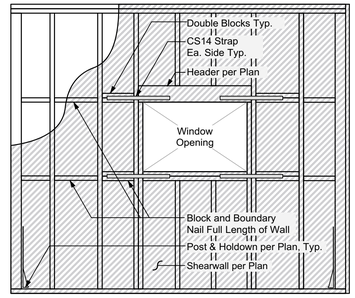


13 STAIR LANDING FRAMING

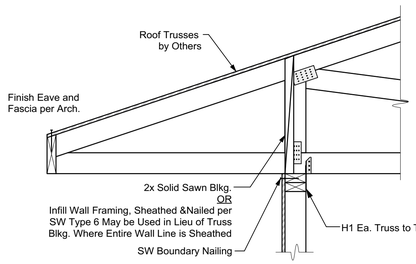
Strap	'N' 10d/16d	End Length
CS16	10 / -	11 in.
CS14	13 / -	15 in.
CMST16	25 / -	20 in.
CMST14	- / 28	26 in.
CMST12	- / 37	33 in.



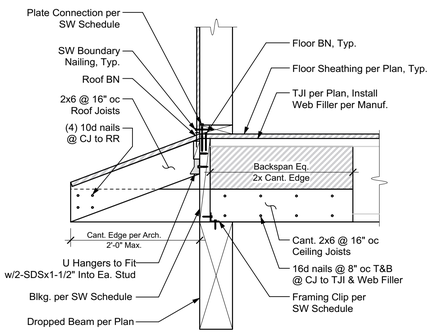
9 STRAP AT BEAM POCKET



5 WINDOW IN SHEARWALL



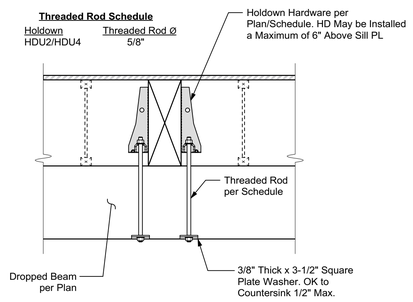
1 SHEAR TRANSFER AT DEEP HEEL TRUSSES



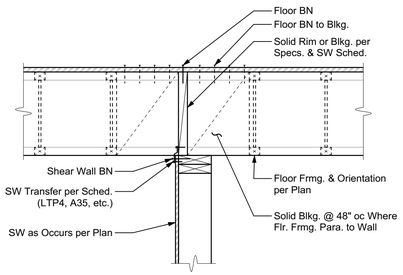
18 FLOOR TRANSFER @ DROPPED BEAM

Threaded Rod Schedule

Holdown	Threaded Rod Ø
HDU2/HDU4	5/8"

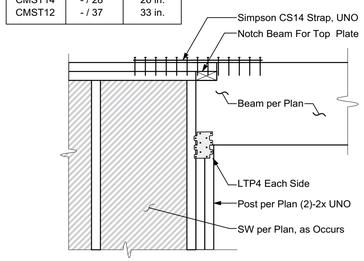


14 HOLDOWN AT WOOD BEAM

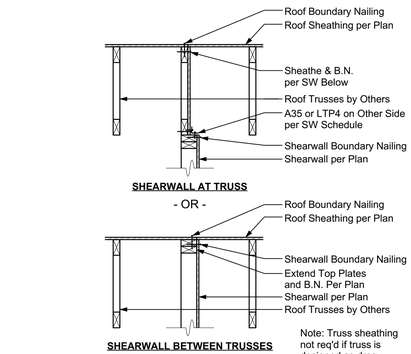


10 SHEAR TRANSFER: FLOOR AT WALL BLW.

Strap	'N' 10d/16d	End Length
CS16	10 / -	11 in.
CS14	13 / -	15 in.
CMST16	25 / -	20 in.
CMST14	- / 28	26 in.
CMST12	- / 37	33 in.

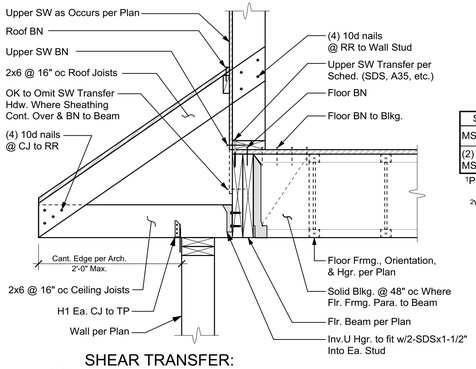


6 STRAP AT BEAM POCKET



Note: Truss sheathing not req'd if truss is designed as drag truss per plans.

2 SHEARWALL TO ROOF



SHEAR TRANSFER: ROOF TO FLOOR TRANSITION

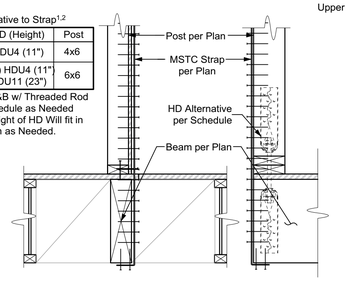
19

See Plan For Holdowns @ Ends of Beams. Use MSTA36 Each Side, Min.

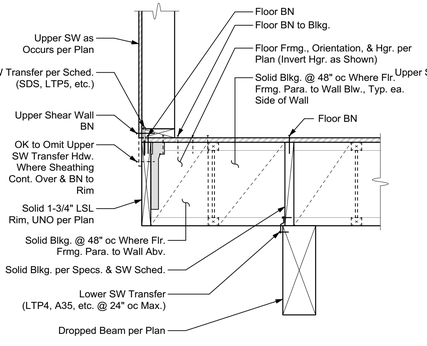
HD Alternative to Strap[1,2]

Strap	HD (Height)	Post
MSTC66B3	HDU4 (11")	4x6
(2) MSTC66B3	(2) HDU4 (11") HDU11 (23")	6x6

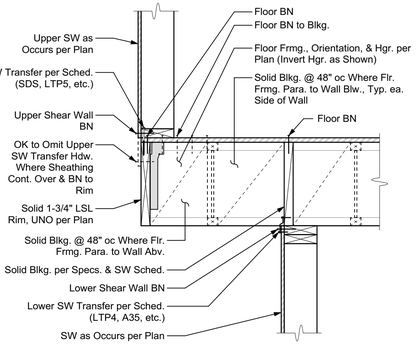
[1]Provide HD T&B w/ Threaded Rod per HD Schedule as Needed
[2]Verify the Height of HD Will fit in Location as Needed.



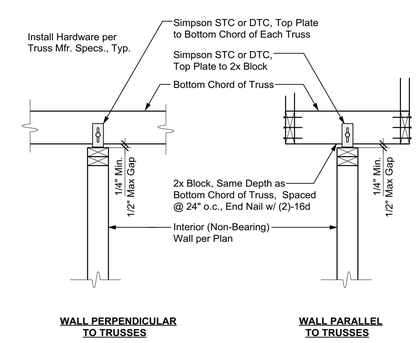
15 MSTCB STRAP TO BELOW



11 SHEAR TRANSFER: CANTILEVER FLOOR



7 SHEAR TRANSFER: CANTILEVER FLOOR



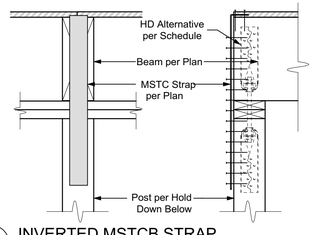
3 TYP. INTERIOR WALL TO TRUSSES

HD Alternative to Strap[1,2]

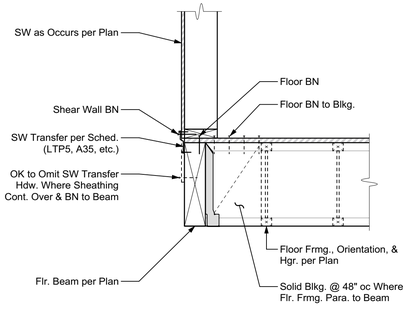
Strap	HD (Height)	Post
MSTC66B3	HDU4 (11")	4x6
(2) MSTC66B3	(2) HDU4 (11") HDU11 (23")	6x6

[1]Provide HD T&B w/ Threaded Rod per HD Schedule as Needed
[2]Verify the Height of HD Will fit in Location as Needed.

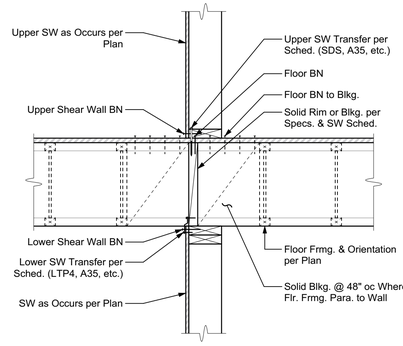
Note: May be installed on Face of Beam. Where Top Plates are Interrupted, Provide ST6224 Ea. Face of Top PL.



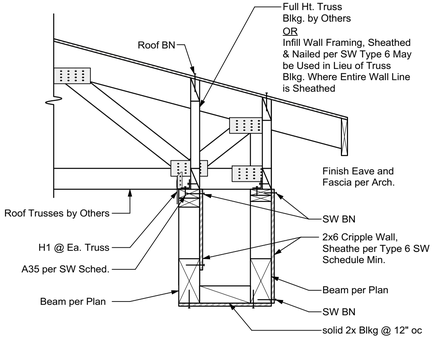
16 INVERTED MSTCB STRAP



12 SHEAR TRANSFER: EDGE BEAM AT WALL



8 SHEAR TRANSFER: FLOOR AT INT. WALL



4 SHEAR TRANSFER AT PITCH BREAK

20 NOT USED

Apr 3, 2024
10:03:29 AM

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Revision:

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Proj. Mngr.: Paul B.	
Date: 3 April 2024	Scale: NTS
A&V Job No.: 240050	

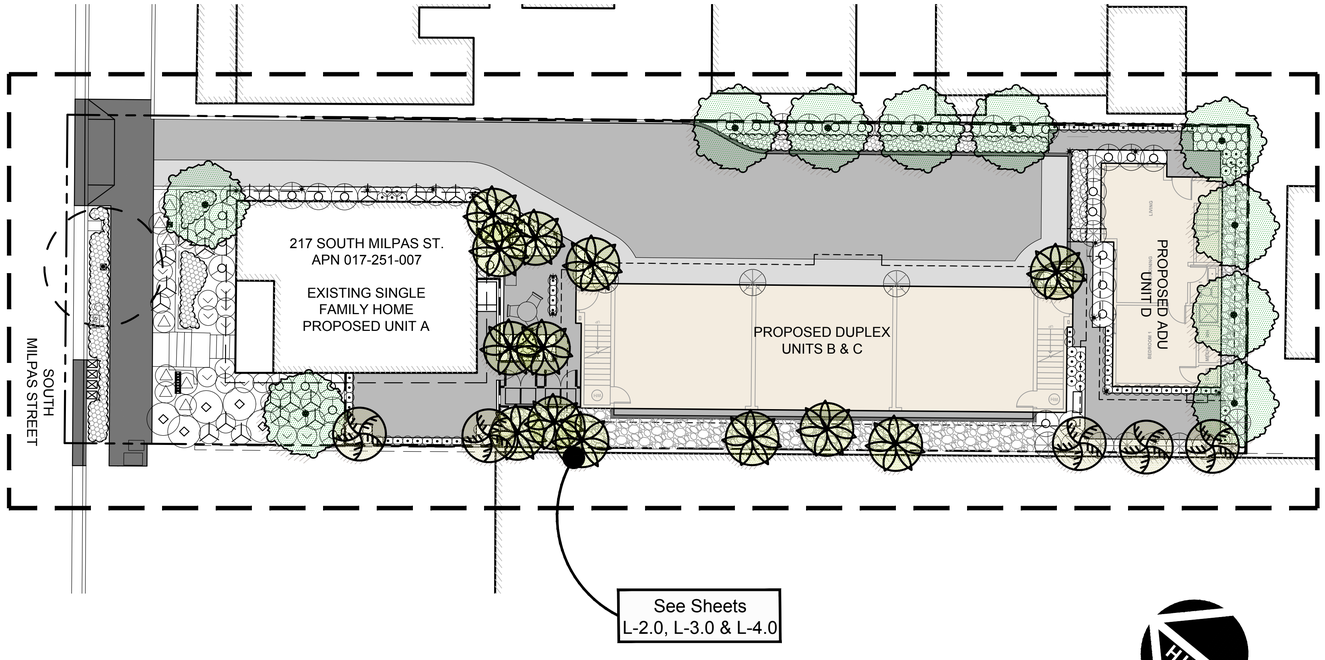
STRUCTURAL DETAILS

S-3.2

DO NOT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimensions.

LANDSCAPE ARCHITECTURAL CONSTRUCTION DOCUMENTS
FOR
217 S. MILPAS STREET
CITY OF SANTA BARBARA, CALIFORNIA

LOCATION MAP



NORTH

SCALE: N.T.S.

SHEET INDEX

MWELO COMPLIANCE STATEMENT

I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package.

Lonnee Roy — 4/15/2024

Landscape Architect — Date

SEPARATE PERMITS

- Frontage Improvement Plans

CONTACT INFORMATION

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CIVIL ENGINEER:
Lewis Engineering
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Ventura, California 93001
CONTACT PERSON: Jane Lewis
TEL: (805) 648-1353
EMAIL: lewisengineers@aol.com

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CONTACT PERSON: Lonnie Roy
TEL: (805) 896-7896
EMAIL: lroy@architects-ca.com

ARCHITECT:
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Santa Barbara, CA 93102
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EMAIL: lroy@architects-ca.com

ABBREVIATIONS

AB	Anchor Bolt	Elev	Elevation	Jts	Joints	Sim	Similar
AC	Asphaltic Concrete	Eng	Engineer	LA	Landscape Architect	SL	Scoreline
Adj	Adjacent	EP	Edge of Pavement	Lic	Licensed	Smth	Smooth
Alt	Alternate	Esp	Espalier	LP	Low Point	Specs	Specifications
Arch	Architect	Eq	Equal	Max	Maximum	Sq	Square
Auto	Automatic	EW	Each Way	MB	Machine Bolt	Stl	Steel
Bldg	Building	EWWM	Electric Welded Wire Mesh	Mech	Mechanical	TAC	Top of Area Drain
Blk	Black	Ex	Existing	Med	Medium	T & B	Top and Bottom
BM	Bench Mark	Exp	Exposed	Min	Minimum	TB	Top of Berm
BOC	Back of Curb	FF	Finish Floor Elevation	MH	Manhole	TC	Top of Curb
BOW	Back of Walk	FG	Finish Grade	Multi	Multi-branched	Tex	Textured
BS	Bottom of Steps	FH	Fire Hydrant	Nat	Natural	TG	Top of Grate
CB	Catch Basin	Fin	Finish	NIC	Not in Contract	TGD	Top of Grate Drain
CF	Cubic Feet	FL	Flow Line	OC	On Center	Thk	Thick
CI	Cast Iron	Flt	Flat	OD	Outside Diameter	TP	Top of Paving
CIP	Cast Iron Pipe	FS	Finish Surface	PA	Planting Area	TPC	Top of Pol Cbuping
CJ	Cold Joint	Ftg	Footing	Perf	Perforated	TS	Top of Steps
CL	Center Line	Ftn	Fountain	POC	Point of Connection	TW	Top of Wall
Clr	Clearance	FOB	Face of Building	PSI	Pounds Per Square Inch	Twl	Trowel
CO	Clean Out	FOC	Face of Curb	PT	Pressure Treated	Typ	Typical
CMP	Corrugated Metal Pipe	FOW	Face of Walk	PVC	Poly Vinyl Chloride	Vert	Vertical
Comp	Compacted	Ga	Gauge	PL	Property Line	W	With
Conc	Concrete	Galv	Galvanized	R	Radius	W/O	Without
Cond	Condition	GC	Ground Cover	RCP	Reinforced Concrete Pipe	WS	Water Surface
Cont	Continuous	GI	Galvanized Iron	Rebar	Reinforcing Bar		
Ct	Center	GPH	Gallons per Hour	Rein	Reinforcing		
Ctr	Sink Counter Sink	GPM	Gallons per Minute	Req'd	Required		
DD	Deck Drain	HB	Hose Bibb	Ret	Retardant		
DF	Douglas Fir	Hdr Brd	Header Board	Rgh	Rough		
DG	Decomposed Granite	Horiz	Horizontal	RS	Rough Sawn		
Dia	Diameter	HP	High Point	RSR	Rough Sawn Redwood		
Dim	Dimension	Hgt	Height	Rwd	Redwood		
Dtl	Detail	ID	Inside Diameter	Sch	Schedule		
Ea	Each	Inv	Invert	SF	Square Foot		
EJ	Expansion Joint	Int	Integral	Sht	Sheet		
Elec	Electric	J Box	Junction Box	Sht Mtl	Sheet Metal		

VICINITY MAP

NORTH

SCALE: N.T.S.

SUBMITTALS

FIRST SUBMITTAL -

SECOND SUBMITTAL -

THIRD SUBMITTAL -

FOURTH SUBMITTAL -

ERRORS AND OMISSIONS

ON Design LLC hereby certifies that the design, details, and specifications as represented herein meet professional landscape architectural standards. ON Design LLC cannot guarantee the quality of construction, installation or maintenance of improvements as designed and/or specified herein and disclaims any future liability resulting from deviations. ON Design LLC is not responsible for the amount or frequency of irrigation water applied to the project during construction or thereafter.

ON DESIGN, LLC
Architecture
Planning
Interior Design

Keith Nolan
C-22451

• ON design LLC •
• P.O. BOX 598 • Santa Barbara • California • 93102 •

217 SOUTH MILPAS DUPLEX
217 SOUTH MILPAS ST., SANTA BARBARA, CA

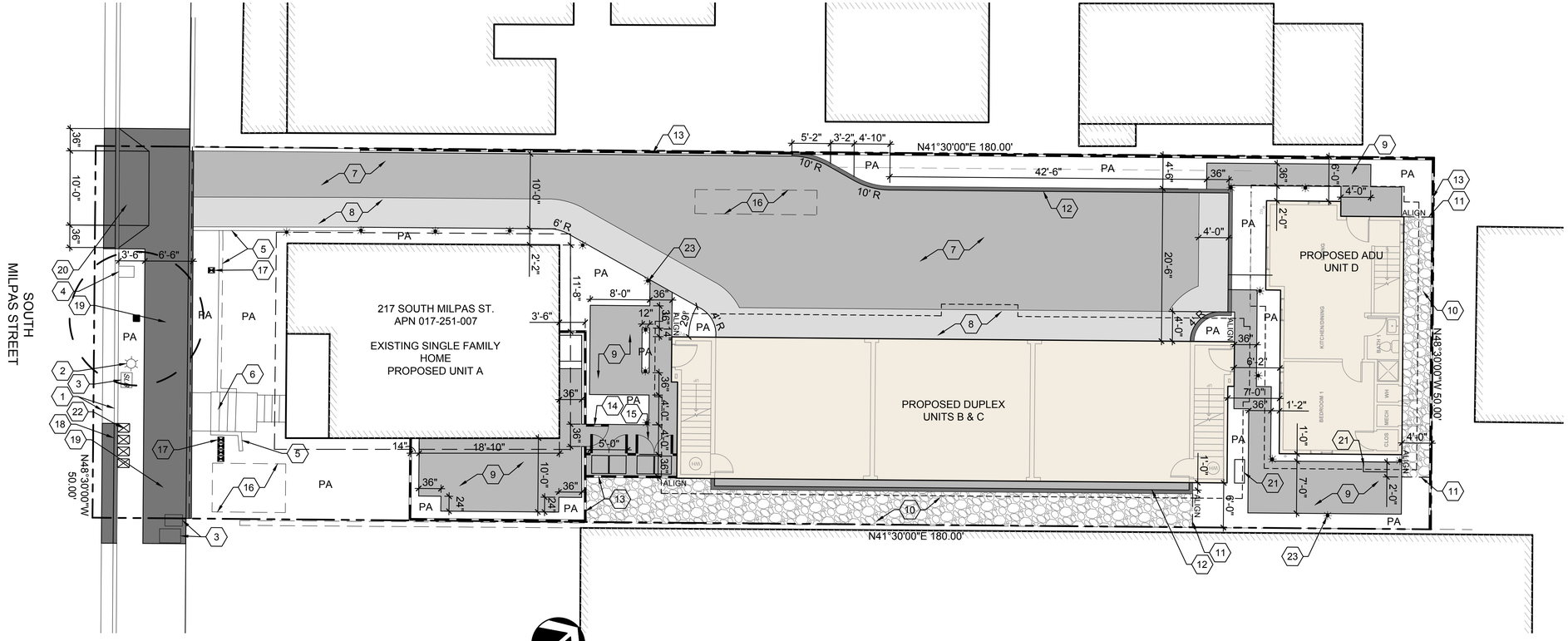
TITLE SHEET

LICENSED LANDSCAPE ARCHITECT
LONNIE R. ROY
Signature
Registration Number
4/15/24
Date
STATE OF CALIFORNIA

Revisions

Project Manager: KN
Drawn By:
Scale: VARIES
Print Date:

L-1.0



CONSTRUCTION PLAN

SCALE: 1/8" = 1'-0"

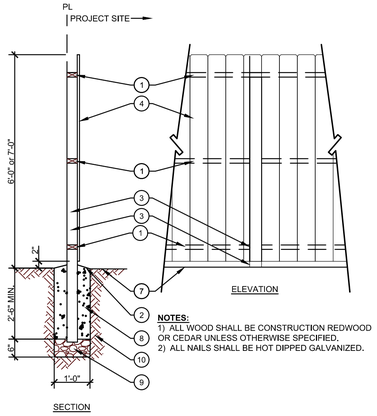
NORTH

CONSTRUCTION NOTES:

1. Contractor shall be responsible for consulting with site superintendent, appropriate agencies and plans, in order to determine the location of all underground utilities, pipes, and structures. Contractor shall take sole responsibility for any cost incurred due to damage of said utilities.
2. All property lines and lot lines shall be verified prior to commencing work.
3. See civil engineer's drawings for all finish/grade elevations not shown in this plan set.
4. Contractor is responsible for identifying the accurate location of property lines, right-of-way lines, and shall notify the landscape architect of any discrepancies.
5. Contractor shall not willfully proceed with construction as designed when it is obvious the obstructions, area discrepancies and/or grade differences exist that may not have been known during design. Such conditions shall be immediately brought to the attention of the owner's authorized representative. The contractor shall assume full responsibility for all necessary revisions due to failure to give such conditions.
6. Contractor shall be responsible for any coordination with subcontractors as required to accomplish all construction operations. All piping, conduit, sleeves, and etc., shall be set in place prior to installation of construction items.
7. Refer to City of Morgan Hill standard plans and specifications where applicable.
8. Contractor is responsible for replacement of any existing materials that are damaged during construction.
9. All dimensions are from outside face of paving, walls, curbs and etc., unless otherwise noted on plans. All baselines are from face of building unless otherwise noted.
10. All construction items formed with steel in place and/or compacted subgrade shall be observed and approved prior to installation by the owners representative.
11. These plans are for the purpose of construction of referenced site construction features.
12. Refer to the civil engineer's drawings for the vertical controls of all construction features and for the horizontal controls and features not described herein.
13. Refer to the civil engineer's drawings for the geotechnical report for all details and structural specifications regarding; concrete thickness, presoaking depth, reinforcement, edge conditions, joint requirements, joint spacing and base/sub-base specification information.
14. Expansion joints shall be placed in all cases where concrete paving abuts structures.
15. All callouts and dimensions are once typical per sheet.
16. Contractor shall stake the locations of all walls and hardscape for approval by the owner's representative prior to commencing work.
17. Dimensions taken from road edge are to back of curb unless otherwise noted.
18. Concrete surfaces shall be formed with long, smooth gradient to reduce dips, abrupt changes and sharp transitions.
19. All curvilinear walks, curbs, header boards, and walls shall have a continuous smooth curve where applicable. All forms must be inspected and approved prior to beginning that phase of work.
20. Contractor shall submit 3' x 3' (or as noted in the specifications), samples, with joints in place of all paving, paving alternatives, finishes and colors. All samples shall be approved by owner's representative, prior to construction.
21. This plan set is based on civil improvement plans prior to residential buildings being designed and plotted. As such improvements such as driveway approaches may be subject to change. If such features locations are adjusted, the contractor shall adjust the landscape and irrigation consistent with the design intent.

CONSTRUCTION LEGEND

ITEM	DESCRIPTION	DETAIL
1	(E) Curb & Gutter - Protect in Place	-
2	(E) Streetlight - Protect in Place	-
3	(E) Utility box - Protect in Place	-
4	(E) Water meter - Protect in Place	-
5	(E) Retaining wall - Protect in Place	-
6	(E) Conc. steps & entry walk - Protect in Place	-
7	(P) Permeable concrete vehicular pavement	Per Civil Eng.
8	(P) Permeable concrete vehicular pavement of different color	Per Civil Eng.
9	(P) Permeable concrete pedestrian pavement	Per Civil Eng.
10	(P) 3" thick pea gravel mulch. No geotextile fabric.	-
11	(P) Redwood header	-
12	(P) 6" Raised curb	Per Civil Eng.
13	(P) 6' high wood fence	This Sheet
14	(P) 3' wide wood gate. Fence Height	This Sheet
15	(P) 5' wide double gate. Fence Height	This Sheet
16	(P) rainstore3 Chambers	Per Civil Eng.
17	(P) Backflow Device	Per Civil Eng.
18	(P) Curb & Gutter per City standards	Per Civil Eng.
19	(P) Sidewalk per City standards	Per Civil Eng.
20	(P) Driveway approach per City Standards	Per Civil Eng.
21	(P) Heat pump	Per Arch.
22	(P) Water meter	Per Civil Eng.
23	(P) Solar path light	This Sheet



1. 2x4 R/S TOP, MIDDLE & BOTTOM RAIL
2. SLOPE TOP OF FOOTING
3. 4x4 PTDF POST, LP-22 CEDAR TONE. PT#2 OR BETTER @ 8'-0" O.C. (MAX). CONSISTENT SPACING THROUGHOUT PROJECT, EXTEND 1" THROUGH FOOTING
4. 1x6 #2 NO HOLE WESTERN RED CEDAR FENCE BOARDS
5. 2x4 R/S GATE FRAME WITH 3 HINGES & SLIDE BOLT LOCK
6. NOT USED
7. FINISH GRADE, SLOPE AWAY FROM FENCE
8. 12" DIAMETER CONCRETE FOOTING FORMED WITH SONOTUBE
9. 6" AGGREGATE DRAIN ROCK
10. UNCOMPACTED SUBGRADE

NOTES:
1) ALL WOOD SHALL BE CONSTRUCTION REDWOOD OR CEDAR UNLESS OTHERWISE SPECIFIED.
2) ALL NAILS SHALL BE HOT DIPPED GALVANIZED.

A 6' HIGH FENCE

SCALE: 1/2" = 1'-0"

PRODUCT SPECIFICATIONS

VOLT®

Project Name _____ Date _____

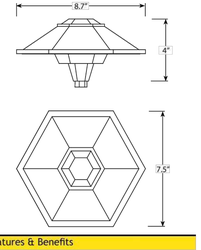
Type or Model _____ Qty _____

VOLT® Solar Landscape Lighting
VOLT® Solar Integrated LED Path Light- VSPL-1045

Product Description

With a full charge, this solar LED path light offers 40 lumens of warm, balanced illumination for path and area lighting applications. The light will gradually dim before powering off for a total of 6 hours of use each night depending on the charge. The battery requires 8-12 hours of uninterrupted sunlight to fully charge. Quick and easy installation with multiple mounting options available. Transform your outdoor living spaces while "Going Green" with professional quality solar powered landscape lighting. Available in brass/bronze or plastic/black.

Product Dimensions



Specifications

- **Construction:** Brass or Black Plastic
- **Finish:** Bronze or Black
- **Light Output:** 40 lumens that gradually diminish as the batteries drain
- **Lens:** Frosted
- **Light Source:** Integrated LED
- **Charge Time:** 8-12 hours of uninterrupted sunlight for full battery charge
- **Battery Information: Lithium rechargeable battery with 2600Mah; 3.7V**
- **Powered by:** VOLT's attached solar panel

Warranty

Lifetime Warranty on brass fixture
2 Year Warranty on plastic fixture
2 Year Warranty on battery
2 Year Warranty on panel

Features & Benefits

- Available in brass bronze or black plastic
- Environmentally friendly with a professional quality solar panel
- IP 65 rating
- 2700K color temperature for a nice warm light
- Variety of different mounting options for a customizable install

www.voltlighting.com

B PATH LIGHT CUT SHEET

SCALE: N.T.S.

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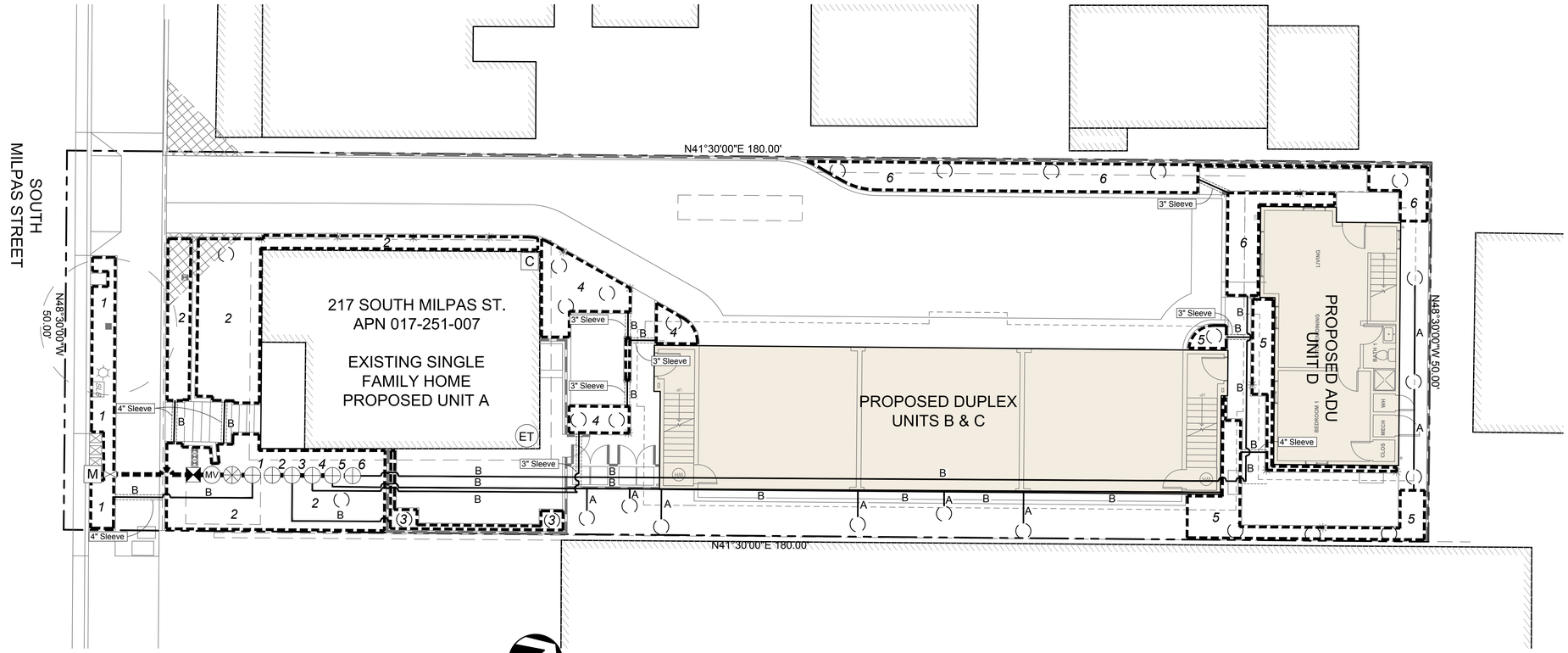
CONSTRUCTION PLAN

KEITH LANDSCAPE ARCHITECTURE R. NOLAN
Signature
04/30/24
Number/Date
4/15/24
Date
STATE OF CALIFORNIA

Revisions

Project Manager
KN
Drawn By
Scale
VARIES
Print Date

L-2.0



IRRIGATION PLAN

SCALE: 1/8" = 1'-0"

NORTH

IRRIGATION NOTES:

1. This system is diagrammatic. all pipe, valves, etc. shown within paved areas are for design clarification only and shall be installed in planting areas wherever possible.
2. Do not willfully install the sprinkler system as indicated on the drawings when it is obvious in the field that unknown obstructions or grade differences exist and should be brought to the attention of the owner's representative. In the event that this notification is not performed, the contractor must assume full responsibility for revisions necessary.
3. System design is based on minimum operating pressure shown at each point of connection with maximum GPM demand specified. Irrigation contractor shall verify all pressures on site prior to construction to owner's construction representative.
4. It is the responsibility of the irrigation contractor to familiarize their self with all grade differences, location of walls, retaining walls, curbs, etc. They shall coordinate all his work with the general contractor and other sub-contractors for location of pipe sleeves through walls, under roads, paving and structures.
5. Mainline feeder between point of connection, meter, and backflowpreventer to be of material required by current water district.
6. Final location of the automatic controller enclosure and the backflow prevention device shall be approved by the owner's representative, and/or landscape architect, where applicable.
7. In addition to the sleeves shown on the plan, the irrigation contractor shall be responsible for the installation of additional sleeves for irrigation wires of sufficient size under all paved areas prior to paving upon approval of the owner's representative, if required to operate systems.
8. Irrigation contractor shall flush all lines and adjust all heads for maximum performance and to prevent overspray onto walks, streets, and buildings as much as possible. This shall include selecting the best nozzle radius to fit unusual site conditions for approval purposes at no extra charge. Call landscape architect 48 hours in advance for any coverage tests.
9. Clean-up on a daily basis per owner's representative's approval.

CONTROLLER NOTE:

Automatic irrigation controller shall be wall mounted on building. Final location to be approved by owner. Make and model as specified on irrigation legend. Installation location approximate. 120 volt power provided by owner.

MAINLINE & LATERAL LINE NOTE:

Mainline & lateral lines shown for clarity only. Place pipe in adjacent planter. Do not install any piping under wall footings (exception when crossing & sleeved) fence posts or lighting footings. Maintain a minimum of 12" clearance from above items.

DRIPLINE INSTALLATION NOTES:

1. Dripline emitters and spacing between lines as per Irrigation Legend.
2. Locate flush valve at lowest and furthest points of system. Install in planter area. See flush valve detail for installation. Locate air relief valve near system high point, if needed.
3. Connect dripline to supply tubing with PLD-Loc fittings.

SOLAR SYNC SENSOR NOTE:

Contractor to install a wireless solar sync sensor on building in an open area to collect solar and rain water.

MWELO 492.7(a)(1)(M) NOTE:

all irrigation emission devices must meet the requirements set in the american national standards institute (ansi) standard, american society of agricultural and biological engineers'/international code council's (asabe/icc) 802-2014 "landscape irrigation sprinkler and emitter standard, all sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in asabe/icc 802-2014.

MWELO 492.7(a)(1)(I) NOTE:

The irrigation system has been designed utilizing drip systems. most plant material will be irrigated with point source emitters at the base of plants not to cause runoff. Groundcover areas may be irrigated with micro-sprays targeted specifically at the plants, and their radius can be modified not to cause runoff or overspray. The drip and micro-spray systems both have a low gpm outflow to allow water to percolate and not cause runoff. The site is flat, and low head drainage will not be an issue.

MWELO 492.7(A)(1)(U) NOTE:

Micro-spray irrigation shall not be permitted within 24" of adjacent pavement. Adjust spray radius to prevent overspray and runoff.

THIS IS A POTABLE IRRIGATION SYSTEM

SLEEVING NOTE:

Sleeve all hardscape crossing prior to hardscape placement.

IRRIGATION LEGEND:

SYMBOL	MANUFACTURER	MODEL NUMBER	DESCRIPTION	RADIUS	GPH	PSI	COMMENTS
	Rainbird	LDQ0806100	¼" Dripline Tree Ring. 4' or less diameter.	Drip	0.8	10-40	Install lines on surface under 3" mulch layer around tree trunk. Drip rings shall be 4' diameter or less. See Detail K, Sheet L-3.1.
VALVE #	Rainbird	XBS-075-500	½" Drip distribution tubing	Drip	0.0	0-60	Install lines on surface under 3" mulch layer around. Snake dripline around shrubs & groundcover. See Detail K, Sheet L-3.1.
		XQ-100	¼" Drip distribution tubing	Drip	0.0	0-60	Install from drip emitter to plant base as needed. See Detail K, Sheet L-3.1.
		XB-20PC	Drip emitter	Drip	2.0	15-50	Install 2 per 1-Gal, 3 per 5-Gal, 4 per 15 Gal. See Detail K, Sheet L-3.1.
		XS-360TS-025 XS-360TS-SPYK	Micro-spray	Micro-spray	0-17	15-30	Install in groundcover areas. See Detail K, Sheet L-3.1.

SYMBOL	MANUFACTURER	MODEL NUMBER	DESCRIPTION
	Nibco	T-585-70	Line size full port bronze ball valve in valve box. see Detail D, Sheet L-3.1.
	Hunter	ICZ-101-25	Drip remote control valve. See Detail I, Sheet L-3.1.
MV	Superior	3000100	1" normally closed master valve. See Detail F, Sheet L-3.1.
	Hunter	HFS-FCT-100	Flow sensor. See Detail G, Sheet L-3.1.
	Febco	LF825YA-QT RP	Line size reduced pressure backflow devise. See Detail E, Sheet L-3.1
ET	Hunter	WSS-SEN	ET, Rain, and freeze sensor. Mount on building eave.
C	Hunter	IC-600-M-ICM-600	Wall mount mount modular controller w/ expansion module. See Details H, Sheet L-3.1.
	Approved	SCH. 40 PVC	Mainline, 1" size, minimum 24" cover.
	Approved	SCH. 40 PVC	Lateral line, size as shown, minimum 18" cover
	Approved	SCH. 40 PVC	Sleeves, sized 2X larger than pipe to be inserted, unless otherwise noted. Wire sleeves sized as needed.
M			3/4" water meter per Civil Eng.

Landscape Water Use Calculations

Project Information

Total square footage of Landscape Area (including Special Landscape Area) **LA=** 2,100
Total square footage of Special Landscape Area **SLA=** 0
Hist. ETo for the area **ETo=** 40.6

Maximum Annual Water Allocation (MAWA)

MAWA is calculated using the following formula: (Eto) (.62) [(0.55 x LA) + (1.0 - 0.55) x SLA)]

MAWA = 29,074 gallons / yr

Estimated Total Water Use (ETWU)

ETWU is calculated using the following formula: (Eto) (.62) [(PF x HA / IE)+ SLA]

Hydrozone # 2 Low Shrubs Drip
Plant Factor **PF=** 0.3
square footage of hydrozone **HA=** 1,732 (SLA=0)
hydrozone irrigation efficiency **IE=** 0.81
#2 ETWU = 16,147 gallons / yr

Total ETWU = 16,147 gallons / yr

MAWA - ETWU = 12,926 gallons / yr

Estimated Total Water Use must be less than the Maximum Annual Water Allocation

CONTROLLER VALVE CALLOUTS

1	4.2	2	6.6	3	2.0	4	4.6
1"	HZ1	1"	HZ1	1"	HZ1	1"	HZ1
5	6.1	6	7.6				
1"	HZ1	1"	HZ1				

HYDROZONE LEGEND:

DRIP-18

Hydrozone 1 ***(HZ1)***:

Planter Areas - low water use shrubs with drip & bubbler irrigation.

MWELO COMPLIANCE STATEMENT

I HAVE COMPLIED WITH THE CRITERIA IN MWELO AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLAN

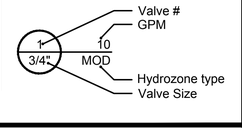
Lonnie Roy — 4/15/24

Landscape Architect — Date

PIPE SIZING CHART

A	3/4"	0-8 GPM
B	1"	8-15 GPM
C	1 1/4"	15-24 GPM
D	1 1/2"	24-32 GPM
E	2"	32-50 GPM

VALVE SIZING KEY



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217 SOUTH MILPAS DUPLEX
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IRRIGATION PLAN

LICENSED LANDSCAPE ARCHITECT
LONNIE R. ROY
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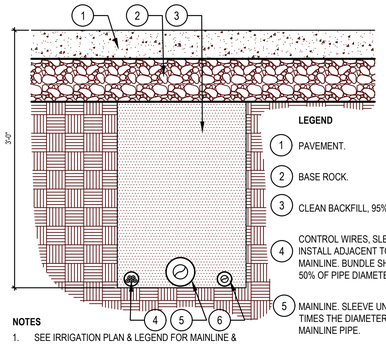


LEGEND

1. PAVEMENT.
2. BASE ROCK.
3. CLEAN BACKFILL, 95% COMPACTION.
4. CONTROL WIRES, SLEEVE UNDER PAVING. INSTALL ADJACENT TO PRESSURIZED MAINLINE. BUNDLE SHALL BE NO MORE THAN 50% OF PIPE DIAMETER.
5. MAINLINE. SLEEVE UNDER PAVING TO BE TWO TIMES THE DIAMETER OF THE PRESSURIZED MAINLINE PIPE.
6. NON-PRESSURIZED LINE, SLEEVE UNDER PAVING TO BE TWO TIMES THE DIAMETER OF THE LATERAL LINE.

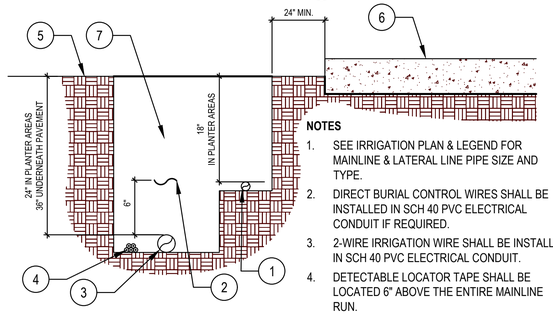
NOTES

1. SEE IRRIGATION PLAN & LEGEND FOR MAINLINE & LATERAL LINE PIPE SIZE AND TYPE.
2. ALL SLEEVES SHALL BE SCH 40 PVC PIPE.
3. ALL SLEEVES SHALL EXTEND 12" BEYOND THE EDGE OF PAVEMENT.
4. END OF SLEEVES SHALL BE LOCATED WITH A WOODEN STAKE OR PVC PIPE. LOCATORS SHALL RUN CONTINUOUSLY FROM THE END OF THE SLEEVE TO FINISH GRADE (DURING CONSTRUCTION ONLY).

A TRENCHING
SCALE: N.T.S.

LEGEND

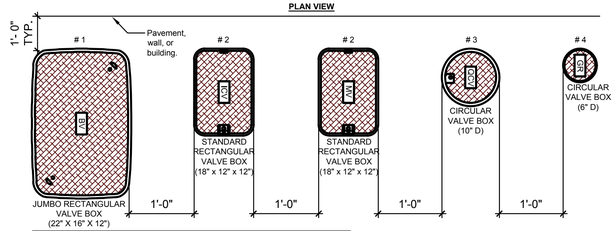
1. NON-PRESSURIZED LINE (LATERAL LINE).
2. DETECTABLE LOCATOR TAPE.
3. PRESSURIZED LINE (MAINLINE).
4. DIRECT BURIAL LOW VOLTAGE CONTROL WIRES.
5. FINISH GRADE.
6. PAVEMENT
7. CLEAN BACKFILL, 90% COMPACTION.



NOTES

1. SEE IRRIGATION PLAN & LEGEND FOR MAINLINE & LATERAL LINE PIPE SIZE AND TYPE.
2. DIRECT BURIAL CONTROL WIRES SHALL BE INSTALLED IN SCH 40 PVC ELECTRICAL CONDUIT IF REQUIRED.
3. 2-WIRE IRRIGATION WIRE SHALL BE INSTALLED IN SCH 40 PVC ELECTRICAL CONDUIT.
4. DETECTABLE LOCATOR TAPE SHALL BE LOCATED 6" ABOVE THE ENTIRE MAINLINE RUN.

B PIPE @ PAVEMENT
SCALE: N.T.S.



Water type	Controller	Designation	Box size	Lid Color	Identification Guide
PW	A	MV	# 2	Green	Master valve
PW	A	FS	# 2	Green	Flow sensor
PW	A	HM	# 2	Green	Hydrometer
PW	A	BV	# 2	Green	Ball valve 3" or less
PW	A	BV	# 1	Green	Ball valve 4" or more
PW	A	GV	# 2	Green	Gate valve
PW	A	ARV	# 2	Green	Air release valve
PW	A	QCV	# 3	Green	Quick coupler valve
PW	A	RCV	# 2	Green	Remote control valve
PW	A	MS	# 2	Green	Moisture sensor
PW	A	GR	# 4	Green	Grounding rod
PW	A	SB	# 3	Green	Splice box
PW	A	FC	# 3	Green	Future connection

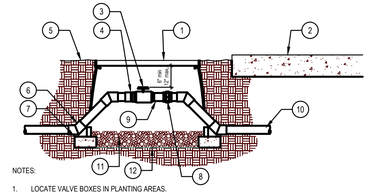
EXAMPLE

POTABLE WATER SYSTEM ON CONTROLLER 'A', REMOTE CONTROL VALVE STATION # 3.

NOTES:

1- VALVE BOX # 1 THRU # 3 SHALL HAVE STAINLESS STEEL LOCKING HARDWARE.
2- VALVE BOXES SHALL BE LABELED BY HOT IRON BRANDING OR ALUMINUM ASPHALTIC BASE WATER PROOF PAINT.
3- LOCATE VALVE ASSEMBLIES IN PLANTING AREA.
4- VALVE LOCATIONS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
5- VALVE BOXES SHALL BE CENTERED ABOVE VALVE ASSEMBLIES TO FACILITATE ACCESS AND MAINTENANCE.
6- VALVE BOXES SHALL BE FLUSH WITH FINISHED GRADE.
7- VALVE BOXES SHALL BE SET PARALLEL TO EACH OTHER AND PERPENDICULAR TO THE EDGE OF PAVEMENT.
8- SEE OTHER IRRIGATION DETAILS FOR FURTHER INFORMATION.

C VALVE BOX LAYOUT
SCALE: N.T.S.



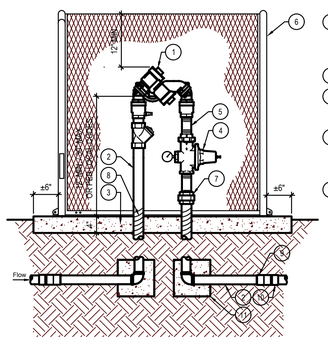
LEGEND

1. RECTANGULAR VALVE BOX WITH LOCKING LID.
2. PAVEMENT.
3. THREADED BALL VALVE. (SEE IRRIGATION PLAN FOR SIZE AND TYPE).
4. SCH. 80 PVC MALE ADAPTER.
5. FINISH GRADE.
6. SCH. 80 PVC 45° ELBOW.
7. FOUR (4) BRICK SUPPORTS.
8. SCH 80. PVC UNION SxS.
9. SCH 80. PVC NIPPLE TxS.
10. MAINLINE.
11. 3" THICK LAYER OR PEA GRAVEL.
12. 3/8" WELDED WIRE MESH.

NOTES:

1. LOCATE VALVE BOXES IN PLANTING AREAS.
2. WRAP VALVE BOX WITH A MINIMUM OF 3 MIL THICK PLASTIC AND SECURE IT USING DUCT TAPE OR ELECTRICAL TAPE.
3. ALL THREADED CONNECTIONS TO BE MADE USING TEFLON TAPE.
4. ALL CHANGES IN ELEVATION SHALL BE MADE USING SCH. 40 PVC 45° ELBOWS.

D BALL VALVE
SCALE: N.T.S.



LEGEND

1. REDUCED PRESSURE BACKFLOW DEVICE. MANUFACTURER: FEBCO. MODEL: LF825YA. SIZE TO MATCH EXISTING BACKFLOW.
2. GALVANIZED NIPPLE
3. 38" x 63" x 4" THICK CONCRETE PAD. 1" ABOVE FINISHED GRADE. SEE BACKFLOW CAGE DETAIL
4. WATER PRESSURE REDUCER VALVE. MANUFACTURER: ZURN. MODEL: 500XL. SIZE: TO MATCH BACKFLOW. SET AT CURRENT SYSTEM PSI.
5. THREADED GALVANIZED NIPPLE
6. BACLFLOW CAGE. MANUFACTURER: GUARDSHACK. MODEL: GS-NP2. SIZE:30"W x 48" H. x 47" L. COLOR: FOREST GREEN. (OPTIONAL)
7. GALVANIZED UNION
8. WRAP 20 MIL TAPE TWICE AROUND ALL GALVANIZED PIPE UNDER FINISHED GRADE AND THROUGH THE CONCRETE.
9. GALVANIZED COUPLING
10. SCH. 80 PVC MALE ADAPTER
11. CONCRETE THRUST BLOCKS REQUIRED ON BACKFLOW DEVICES 2.5" AND LARGER.

NOTE:

1- ALL ASSEMBLY PARTS (THREADED NIPPLES, FITTINGS, ETC.) SHALL BE GALVANIZED OR BRASS PER LOCAL CODES AND REQUIREMENTS.

2- GALVANIZED NIPPLE SHALL EXTEND 12" PAST THE EDGE OF THE CONCRETE FOOTING.

3- SCH. 80 PVC MALE ADAPTER SHALL BE USED IN CONNECTION FROM GALVANIZE TO THE MAINLINE.

4- BACKFLOW PREVENTION DEVICE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE LANDSCAPE METER.

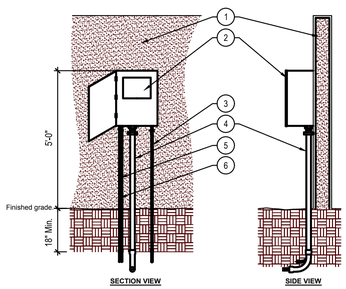
5- BACKFLOW PREVENTION DEVICE SHALL BE LOCATED IN PLANTING AREA UNLESS APPROVED BY OWNER'S REPRESENTATIVE.

6- SEE DETAIL FOR BACKFLOW CAGE INSTALLATION.

7- ALL BACKFLOW PREVENTION DEVICES SHALL HAVE FREEZE BLANKET INCLUDED UPON INSTALLATION.

8- ALL GALVANIZED CONNECTIONS SHALL TO BE MADE USING PIPE THREAD SEALANT. ALL SCH. 80 PVC TO GALVANIZED CONNECTIONS TO BE MADE USING TEFLON TAPE.

E BACKFLOW DEVICE
SCALE: N.T.S.



LEGEND

1. WALL, FENCE, OR BUILDING
2. WALL MOUNTED CONTROLLER. INSTALL PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. (SEE IRRIGATION LEGEND FOR CONTROLLER MAKE AND MODEL NUMBER)
3. 3/4" KNOCKOUT FOR EARTH GROUND WIRE
4. 2" PVC ELECTRICAL CONDUIT FOR IRRIGATION VALVE, MASTER VALVE, AND FLOW SENSOR WIRES. OPTIONAL 3" KNOCKOUT IF MORE WIRES ARE NEEDED. SECURE CONDUIT TO WALL USING STAINLESS STEEL CLAMP.
5. 1" PVC ELECTRICAL CONDUIT FOR ELECTRICAL POWER PER LOCAL AND NATIONAL ELECTRICAL CODES.
6. 1" PVC ELECTRICAL CONDUIT FOR ET SENSOR IF REQUIRED.

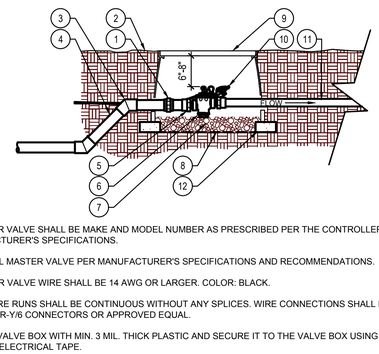
NOTES:

1- COMMON AND CONTROLLER WIRE TO BE BUNDLED USING ELECTRICAL TAPE AT 10'-0" ON CENTER.

2- GROUNDING RODS SHALL BE LOCATED BETWEEN 8"- 0" TO 12'- 0" AWAY FROM THE CONTROLLER. GROUNDING RODS SHALL BE ½" IN DIAMETER X 8' IN LENGTH. CONNECT THE GROUNDING ROD TO THE CONTROLLER USING 6 GAUGE BARE COPPER WIRE OR PER THE MANUFACTURER'S SPECIFICATIONS.SEE GROUNDING ROD DETAIL.

3- ET STATION SHALL BE INSTALLED NO FURTHER THAN 90' AWAY FROM THE CONTROLLER AND A MINIMUM OF 15' OFF OF THE GROUND, OUT FROM UNDER ANY OVERHEAD OBSTRUCTIONS SUCH AS, BUT NOT LIMITED TO, BUILDING OVERHANGS, TREES, OR UTILITIES.

H WALL MOUNT CONTROLLER
SCALE: N.T.S.



LEGEND

1. SCH. 80 PVC UNION
2. FINISHED GRADE
3. SCH 40 PVC 45° ELBOW
4. IRRIGATION MAINLINE
5. SCH. 80 PVC MALE ADAPTER
6. MASTER VALVE PER LEGEND
7. 3" THICK LAYER OF PEA GRAVEL
8. 3/8" WELDED WIRE MESH.
9. RECTANGULAR VALVE BOX
10. CONTROL WIRES WITH 12" MIN. EXPANSION COIL
11. MAINLINE TO FLOW SENSOR
12. FOUR BRICKS

NOTES:

1- MASTER VALVE SHALL BE MAKE AND MODEL NUMBER AS PRESCRIBED PER THE CONTROLLER MANUFACTURER'S SPECIFICATIONS.

2- INSTALL MASTER VALVE PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

3- MASTER VALVE WIRE SHALL BE 14 AWG OR LARGER. COLOR: BLACK.

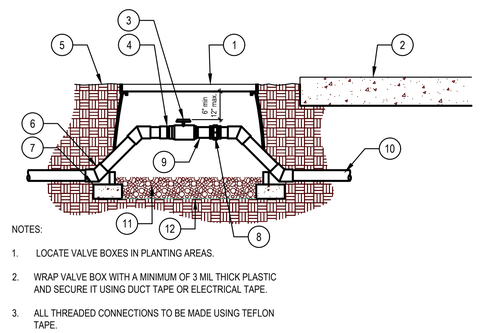
4- ALL WIRE RUNS SHALL BE CONTINUOUS WITHOUT ANY SPLICES. WIRE CONNECTIONS SHALL BE MADE USING DBR-Y/6 CONNECTORS OR APPROVED EQUAL.

5- WRAP VALVE BOX WITH MIN. 3 MIL. THICK PLASTIC AND SECURE IT TO THE VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.

6- SEE MASTER VALVE/ FLOW SENSOR DETAIL FOR LINEAR DIMENSIONS.

7- VALVE BOXES SHALL BE LOCATED IN PLANTING AREAS.

F MASTER VALVE
SCALE: N.T.S.



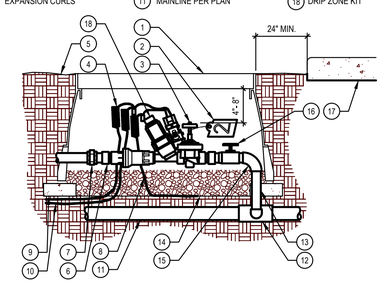
LEGEND

1. RECTANGULAR VALVE BOX WITH LOCKING LID.
2. PAVEMENT.
3. THREADED BALL VALVE. (SEE IRRIGATION PLAN FOR SIZE AND TYPE).
4. SCH. 80 PVC MALE ADAPTER.
5. FINISH GRADE.
6. SCH. 80 PVC 45° ELBOW.
7. FOUR (4) BRICK SUPPORTS.
8. SCH 80. PVC UNION SxS.
9. SCH 80. PVC NIPPLE TxS.
10. MAINLINE.
11. 3" THICK LAYER OR PEA GRAVEL.
12. 3/8" WELDED WIRE MESH.

NOTES:

1. LOCATE VALVE BOXES IN PLANTING AREAS.
2. WRAP VALVE BOX WITH A MINIMUM OF 3 MIL THICK PLASTIC AND SECURE IT USING DUCT TAPE OR ELECTRICAL TAPE.
3. ALL THREADED CONNECTIONS TO BE MADE USING TEFLON TAPE.
4. ALL CHANGES IN ELEVATION SHALL BE MADE USING SCH. 40 PVC 45° ELBOWS.

G FLOW SENSOR
SCALE: N.T.S.

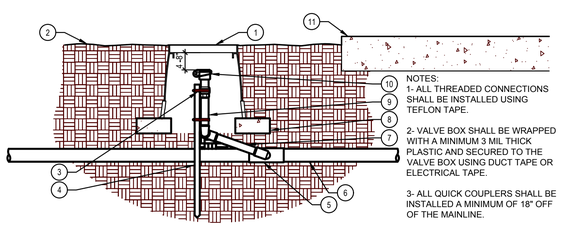


LEGEND

1. RECTANGULAR VALVE BOX w/ LOCKING LID
2. PLASTIC TAG w/ VALVE STATION NUMBER ID
3. REMOTE CONTROL IRRIGATION VALVE PER IRRIGATION LEGEND
4. CONTROLLER WIRES w/ 12" MIN. EXPANSION CURLS
5. FINISHED GRADE
6. SCH 80 PVC MALE ADAPTER
7. SCH 80 PVC MALE UNION
8. VALVE WIRE.
9. FOUR (4) 4"X8" BRICKS.
10. COMMON WIRES
11. MAINLINE PER PLAN
12. SCH 80 PVC TEE OR ELBOW.
13. SCH 40 PVC PIPE
14. 3/8" WELDED WIRE MESH
15. SCH 40 PVC 90° ELBOW
16. SCH 80 PVC BALL VALVE.
17. PAVEMENT
18. DRIP ZONE KIT

Note:
1- Locate valve box within 24" of pavement edge in planting area where easily accessible whenever possible.
2- Common wire and controller wire shall be direct burial 14 AWG or larger. Color: Common (white), controller wire for turf (blue), and controller wire for shrubs (red).
3- All wire runs shall be continuous without any splices unless approved by the Owner's Representative. See splice box detail. Wire connections shall be made using DBR/Y-6 connectors or approved equal.
4-Valve box shall be wrapped with min. 3 mil thick plastic and secure it using duct tape or electrical tape.
5- Mainlines 4" or larger shall use saddles at the connections points to the irrigation valve. (See specifications for irrigations saddles).
6- All Sch. 80 PVC to Sch. 40 PVC threaded connections shall be made using teflon tape.
7- Valve boxes shall be located in planting areas.

I CONTROL VALVE w/ DRIP KIT
SCALE: N.T.S.



LEGEND

1. ROUND VALVE BOX
2. FINISHED GRADE
3. STAINLESS STEEL SCREW CLAMP
4. #6 x 48" REBAR
5. SCH. 80 PVC TEE OR ELBOW
6. MAINLINE.
7. SCH. 80 PVC SWING JOINT PER SEPARATE DETAIL.
8. THREE BRICKS
9. SCH. 80 PVC NIPPLE
10. QUICK COUPLER VALVE PER LEGEND
11. PAVEMENT

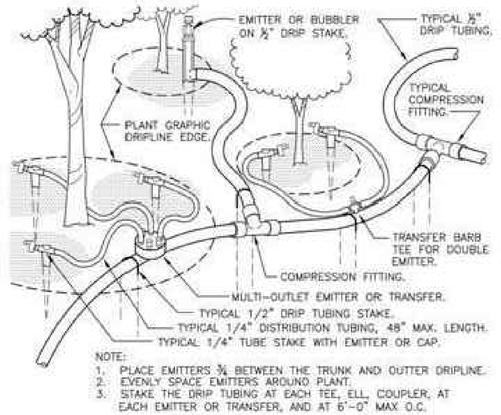
NOTES:
1- ALL THREADED CONNECTIONS SHALL BE INSTALLED USING TEFLON TAPE.

2- VALVE BOX SHALL BE WRAPPED WITH A MINIMUM 3 MIL THICK PLASTIC AND SECURED TO THE VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.

3- ALL QUICK COUPLERS SHALL BE INSTALLED A MINIMUM OF 18" OFF OF THE MAINLINE.

4- VALVE BOXES SHALL BE LOCATED IN PLANTING AREAS.

J QUICK COUPLER VALVE
SCALE: N.T.S.



NOTE:
1. PLACE EMITTERS ¾ BETWEEN THE TRUNK AND OUTTER DRIPLINE.
2. EVENLY SPACE EMITTERS AROUND PLANT.
3. STAKE THE DRIP TUBING AT EACH TEE, ELL, COUPLER, AT EACH EMITTER OR TRANSFER, AND AT 6'-0" MAX O.C.

K DRIP IRRIGATION
SCALE: N.T.S.

ON DESIGN, LLC
Architecture
Planning
Interior Design

Keith Nolan
C-22451

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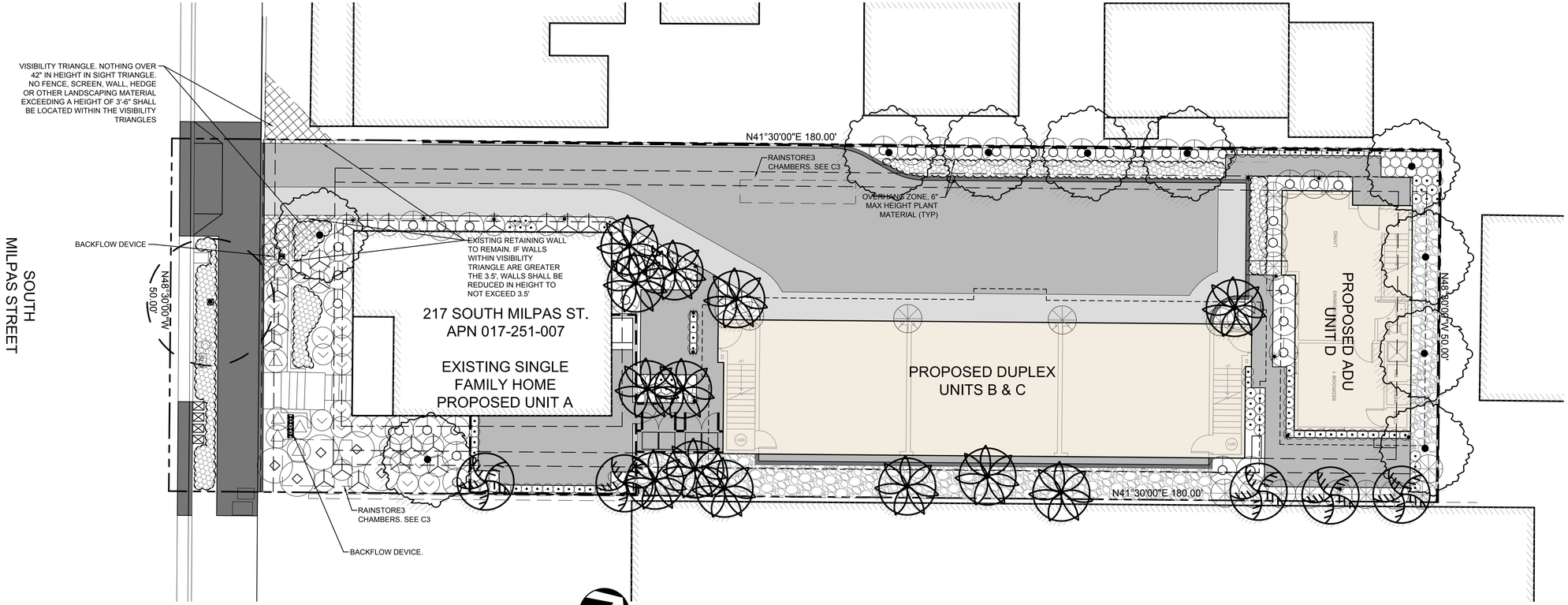
217 SOUTH MILPAS DUPLEX
217 SOUTH MILPAS ST., SANTA BARBARA, CA
IRRIGATION DETAILS

LICENSED LANDSCAPE ARCHITECT
LORRENCE R. ROY
Signature
4/15/24
Expiration Date
STATE OF CALIFORNIA

Revisions

Project Manager	KN
Drawn By	
Scale	VARIES
Print Date	

L-3.1



PLANTING PLAN

SCALE: 1/8" = 1'-0"

NORTH

PLANTING NOTES:

1. Shrub layout as shown on plan indicates "shrub masses." Quantities are as shown on legend, on-center spacing as shown on legend. Contractor to verify quantities based on spacing and add additional plant material (at no additional cost to the owner) required to maintain design intent due to existing site conditions not anticipated during design. Layout/spacing shall be as shown on plan or legend. Landscape architect to approve final layout in field prior to installation.
2. Contractors shall notify the landscape architect of site conditions which prevent installation per plans and specifications.
3. Contractor shall be liable for removing and re-installing irrigation equipment, and replanting areas which are not installed per plan and specifications.
4. Refer to planting specifications for inspection/certification schedule.
5. Irrigation system shall be installed and operational prior to installation of plant materials.
6. Trees and shrubs shall be planted after concrete placement, but not before irrigation coverage test no. 1 has been approved. (see specifications).
7. Place trees between irrigation heads wherever possible.
8. Shredded mulch installation: Install shredded mulch in all shrub and groundcover areas per specifications unless otherwise indicated on plans.
9. Contractor is responsible for all repairs and/or replacement of any damaged landscape areas beyond the limit of work, including repairing any irrigation lines/sprinkler heads, that is a direct result of the landscape construction and/or his sub-contractor. Replacement items shall be exact duplication of original work or plants, unless otherwise approved by the landscape architect.
10. Clean-up shall take place on a daily basis unless otherwise approved by the owner's representative.
11. It is the contractor's responsibility to maintain all grades and flow lines as shown on the grading plan. Where sod is to be installed on a swale, the finish grade must be adjusted so the sod does not restrict the flow.
12. Landscape contractor shall take soil samples from the site. The samples shall be taken at a depth of 12" after rough grading and submitted to an approved soil and plant laboratory for agricultural suitability testing. The cost of testing shall be included in the contractor's bid.
13. The recommendations of the soil report shall supersede the soil preparation and backfill mix specifications (see specifications). The contractor shall submit a copy of all soils reports to the landscape architect prior to modification of these specifications. The contractor shall submit a copy of all soil reports with the Certificate of Completion.
14. Backflow shall be enclosed in cage and/or screened within landscape planting area.

SOIL AMENDMENT NOTE 1:

Regardless of the recommendations as a result of the required soils testing, the soil amendment "Tri-C Humate" available from TRI-C Enterprises and distributors or approved equal shall be top dressed and incorporated into the soil at a rate of 10 LBS./1,000SF

MULCH NOTE:

Contractor shall install a 3" layer of mulch in all shrub and groundcover areas unless otherwise noted.

SOIL AMENDMENT NOTE 2:

Regardless of the recommendations as a result of the required soils testing, compost at a rate of 4 cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of 6" into the soil.

SOILS REPORT AND RECOMMENDATIONS:

Contractor shall sample the site after mass grading and submit minimum number of samples per code to qualified soil lab. The report and recommendations shall be submittal to the City and Landscape Architect for review.

MWELO COMPLIANCE STATEMENT

I HAVE COMPLIED WITH THE CRITERIA IN MWELO AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLAN

Lonnee Roy — 4/15/2024

Landscape Architect — Date

PLANTING LEGEND:

SYMBOL CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE	QUANTITY
	Lophostemon confertus	Brisbane Box	24" Box	As Shown	-	L	10
	Archontophoenix cunninghamiana	King Palm	10' BTH	As Shown	-	M	13
	Syagrus romanzoffiana	Queen Palm	10' BTH	As Shown	-	M	5
SHRUBS & GROUNDCOVER							
	Agapanthus africanus 'Peter Pan'	Dwarf Agapanthus	1 Gal.	18" O.C.	-	L	92
	Nandina domestica 'Compacta'	Dwarf Heavenly Bamboo	1 Gal.	18" O.C.	-	L	43
	Rhaphiolepis umbellata 'Minor'	Dwarf Yeddo Hawthorn	5 Gal.	48" O.C.	-	L	37
	Agave attenuata	Fox Tail Agave	5 Gal.	36" O.C.	-	L	14
	Leymus condensatus 'Canyon Prince'	Canyon Prince Wild Rye	1 Gal.	36" O.C.	-	L	29
	Salvia 'Bee's Bliss'	Bee's Bliss Sage	1 Gal.	60" O.C.	-	L	5
	Dymondia margaretae	Silver Carpet	Flats	12" O.C.	-	L	7
	Podocarpus macrophyllus 'Maki'	Shrubby Yew Podocarpus	5 Gal.	48" O.C.	-	L	15

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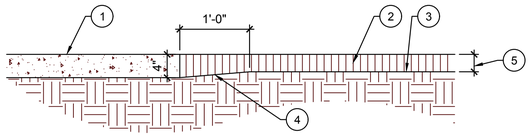
217 SOUTH MILPAS DUPLEX
217 SOUTH MILPAS ST., SANTA BARBARA, CA
PLANTING PLAN

LICENSED LANDSCAPE ARCHITECT — LONNEE R. ROY — Signature — 4/15/24 — Renewal Date — STATE OF CALIFORNIA

Revisions

Project Manager: KN
Drawn By:
Scale: VARIES
Print Date:

L-4.0



LEGEND

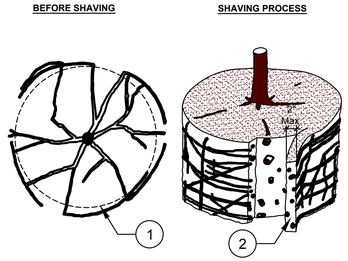
1. HARDSCAPE / HEADERBOARD
2. SHREDDED MULCH PER SPECIFICATIONS
3. FINISH GRADE
4. SHOVEL CUT DEEPENED EDGE ADJACENT TO PAVING
5. MULCH DEPTH PER PLANTING PLAN

NOTE:

A. MULCH UNDER TREES AND SHRUBS AND BLEND INTO EDGES AT GROUNDCOVER AREAS.

A MULCH DETAIL

SCALE: N.T.S.



LEGEND

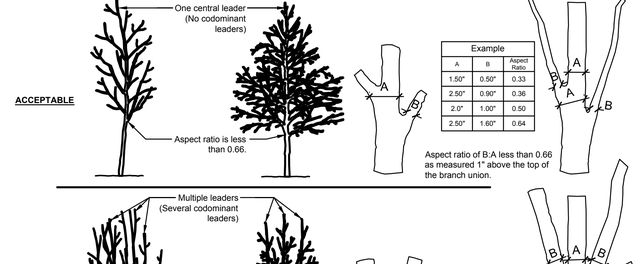
1. SHAVE ROOT BALL HERE TO REMOVE ALL ROOTS GROWING ON PERIPHERY.
2. SHAVE OUTER PERIPHERY OF THE ROOT BALL A MAXIMUM OF 2" THICK.
3. ROOT TIPS EXPOSED AT PERIPHERY OF ROOT BALL. ALL ROOTS GROWING AROUND PERIPHERY ARE REMOVED.

NOTES

1. SHAVING TO BE CONDUCTED USING A SHARP BLADE OR HAND SAW ELIMINATING NO MORE THAN NEEDED TO REMOVE ALL ROOTS ON THE PERIPHERY OF ROOT BALL.
2. SHAVING CAN BE PERFORMED JUST PRIOR TO PLANTING OR AFTER PLACING IN THE HOLE.

B ROOT BALL SHAVING DETAIL

SCALE: N.T.S.

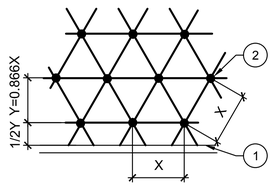


Notes:
1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.

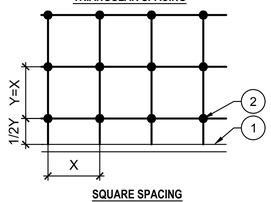
2- Any tree not meeting the crown observations detail may be rejected.

C CROWN OBSERVATION DETAIL

SCALE: N.T.S.



TRIANGULAR SPACING



SQUARE SPACING

LEGEND

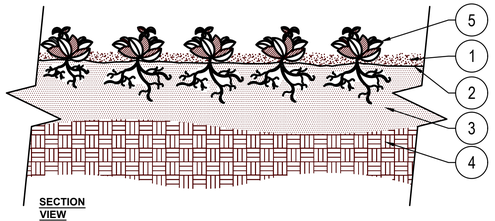
1. BACK OF CURB OR EDGE OF PAVING
2. PLANT LOCATION

NOTE:

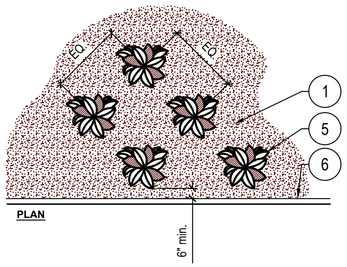
A. ALL SHRUB/GROUND COVER TO BE TRIANGULAR SPACING UNLESS OTHERWISE INDICATED ON THE PLANTING PLANS.

D PLANT SPACING DETAIL

SCALE: N.T.S.



SECTION VIEW



PLAN

NOTES

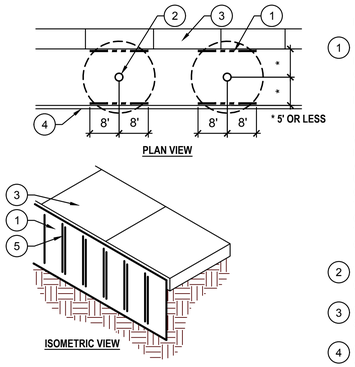
1. SEE PLANTING LEGEND FOR GROUNDCOVER SPECIES, SIZE, AND SPACING.
2. SMALL ROOTS (1/4" OR LESS) THAT GROW AROUND, UP, OR DOWN THE ROOT BALL PERIPHERY ARE CONSIDERED A NORMAL CONDITION IN CONTAINER PRODUCTION AND ARE ACCEPTABLE HOWEVER THEY SHOULD BE ELIMINATED AT THE TIME OF PLANTING. ROOTS ON THE PERIPHERY CAN BE REMOVED AT THE TIME OF PLANTING. (SEE ROOT BALL SHAVING CONTAINER DETAIL).
3. SETTLE SOIL AROUND ROOT BALL OF EACH GROUNDCOVER PRIOR TO MULCHING.

LEGEND

1. 3" LAYER OF MULCH.
2. FINISH GRADE.
3. MODIFIED SOIL PER SOIL REPORT.
4. EXISTING SOIL.
5. GROUNDCOVER PLANTS TO BE TRIANGULARLY SPACED UNLESS PLANTING LEGEND SPECIFIES OTHERWISE.
6. PAVEMENT.

E GROUNDCOVER DETAIL

SCALE: N.T.S.



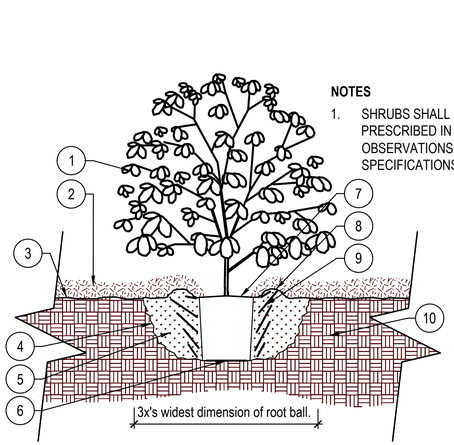
LEGEND

1. 18" DEEP LINEAR STYLE ROOT BARRIER AS MADE BY CENTURY ROOT BARRIER MODEL# CP18-2 OR APPROVED EQUAL.

   PLACE BARRIER IN TRENCH WITH THE VERTICAL RIBS FACING TOWARD THE TREE & ALIGN IN A STRAIGHT FASHION. USE HARDSCAPE EDGE AS A GUIDE AND BACKFILL AGAINST THE BARRIERS TO PROVIDE CLEAN FIT. TOP OF BARRIER TO EXTEND 1" BELOW TOP OF CURB OR WALK.
2. TREE TRUNK LOCATION (CANOPY SHOWN DASHED IN)
3. CONCRETE SIDEWALK OR SLAB
4. CONCRETE CURB OR SITE WALL
5. VERTICAL RIBS

F ROOT BARRIER DETAIL (optional)

SCALE: N.T.S.



NOTES

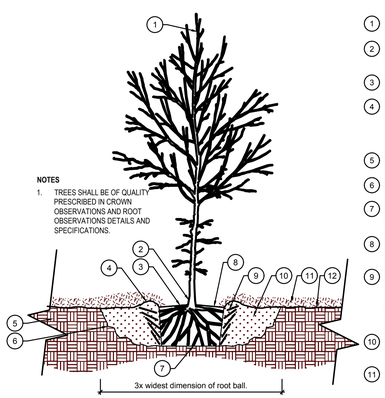
1. SHRUBS SHALL BE OF QUALITY PRESCRIBED IN THE ROOT OBSERVATIONS DETAIL AND SPECIFICATIONS.

LEGEND

1. SHRUB.
2. 3" LAYER OF MULCH. NO MORE THAN 1" OF MULCH ON TOP OF ROOT BALL.
3. FINISH GRADE.
4. SLOPE SIDES OF LOOSENED SOIL.
5. LOOSENED SOIL. DIG & TURN THE SOIL TO REDUCE THE COMPACTION TO THE AREA AND DEPTH SHOWN.
6. ROOT BALL RESTS ON EXISTING OR RECOMPACTED SOIL.
7. TOP OF ROOT BALL SHALL BE FLUSH WITH FINISHED GRADE.
8. 4" HIGH x 8" WIDE ROUND - TOPPED SOIL BERM ABOVE ROOT BALL SURFACE SHALL BE CONSTRUCTED AROUND THE ROOT BALL. BERM SHALL BEGIN AT ROOT BALL PERIPHERY.
9. PRIOR TO MULCHING, LIGHTLY TAMP SOIL AROUND THE ROOT BALL IN 6" LIFTS TO BRACE TREE. DO NOT OVER COMPACT. WHEN THE PLANTING HOLE HAS BEEN BACKFILLED, POUR WATER AROUND THE ROOT BALL TO SETTLE THE SOIL.
10. EXISTING SOIL.

G SHRUB DETAIL

SCALE: N.T.S.



NOTES

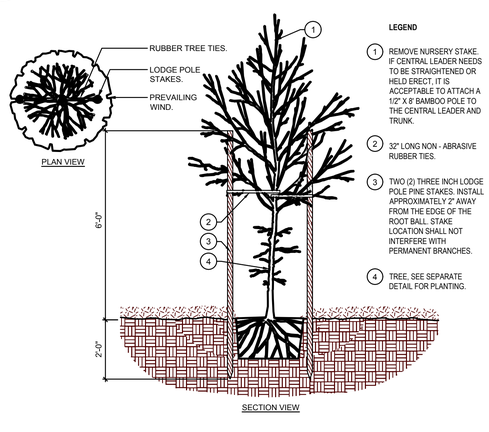
1. TREES SHALL BE OF QUALITY PRESCRIBED IN CROWN OBSERVATIONS AND ROOT OBSERVATIONS DETAILS AND SPECIFICATIONS.

LEGEND

1. CENTRAL LEADER. (SEE CROWN OBSERVATION DETAIL).
2. TRUNK CALIPER SHALL MEET ANSI Z60 CURRENT EDITION FOR ROOT BALL SIZE.
3. ROOT BALL MODIFIED AS REQUIRED.
4. ROUND-TOPPED SOIL BERM 4" HIGH x 8" WIDE ABOVE ROOT BALL SURFACE SHALL BE CONSTRUCTED AROUND THE ROOT BALL. BERM SHALL BEGIN AT ROOT BALL PERIPHERY.
5. EXISTING SOIL.
6. SLOPE SIDES OF LOOSENED SOIL.
7. BOTTOM OF ROOT BALL RESTS ON EXISTING OR RECOMPACTED SOIL.
8. TOP OF ROOT BALL SHALL BE FLUSH WITH FINISHED GRADE.
9. PRIOR TO MULCHING, LIGHTLY TAMP SOIL AROUND THE ROOT BALL IN 6" LIFTS TO BRACE TREE. DO NOT OVER COMPACT. WHEN THE PLANTING HOLE HAS BEEN BACKFILLED, POUR WATER AROUND THE ROOT BALL TO SETTLE THE SOIL.
10. LOOSENED SOIL. DIG AND TURN THE SOIL TO REDUCE COMPACTION TO THE AREA AND DEPTH SHOWN.
11. 3" LAYER OF MULCH. NO MORE THAN 1" OF MULCH ON TOP OF ROOT BALL.
12. FINISH GRADE.

H TREE DETAIL

SCALE: N.T.S.



LEGEND

1. REMOVE NURSERY STAKE. IF CENTRAL LEADER NEEDS TO BE STRAIGHTENED OR HELD ERECT, IT IS ACCEPTABLE TO ATTACH A 1/2" X 8' BAMBOO POLE TO THE CENTRAL LEADER AND TRUNK.
2. 32" LONG NON - ABRASIVE RUBBER TIES.
3. TWO (2) THREE INCH LODGE POLE PINE STAKES. INSTALL APPROXIMATELY 2" AWAY FROM THE EDGE OF THE ROOT BALL. STAKE LOCATION SHALL NOT INTERFERE WITH PERMANENT BRANCHES.
4. TREE, SEE SEPARATE DETAIL FOR PLANTING.

I TREE STAKING DETAIL

SCALE: N.T.S.

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217 SOUTH MILPAS DUPLEX
217 SOUTH MILPAS ST., SANTA BARBARA, CA

PLANTING DETAILS

LICENSED LANDSCAPE ARCHITECT
LAWRENCE R. ROMO
Signature
12/13/23
Registration Date
4/15/24
Date
STATE OF CALIFORNIA

Revisions

Project Manager
KN
Drawn By
Scale
VARIES
Print Date