

VICINITY MAP

1. BUILDING: 2021 WASHINGTON STATE RESIDENTIAL CODE
2. ENERGY: 2021 WASHINGTON STATE ENERGY CODE
3. PLUMBING: 2021 UNIFORM PLUMBING CODE (UPC) W/ WASHINGTON STATE AMENDMENT, ALL PLUMBING WORK SHALL BE DONE BY LICENSED CONSTRUCTOR UNDER SEPARATE PERMIT
5. ELECTRICAL-NATIONAL ELECTRICAL CODE (NEC) / WASHINGTON CITIES ELECTRICAL CODE (WCEC), ALL ELECTRICAL WORK SHALL BE DONE BY LICENSED CONSTRUCTOR UNDER SEPARATE PERMIT
6. MECHANICAL: 2021 INTERNATIONAL MECHANICAL CODE

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www.5ft2studio.com

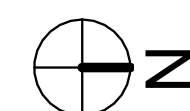


10. USE 3 INCHES OR DEEPER WOOD CHIP MULCH OUTSIDE FENCED AREAS TO PROTECT FEEDER ROOTS

PERMIT SITE. ALTERNATIVE TREE
PROTECTION, IF APPROVED BY
SDCI, AS SHOWN ON SITE PLAN



TREE PROTECTION FENCE



Building Permit

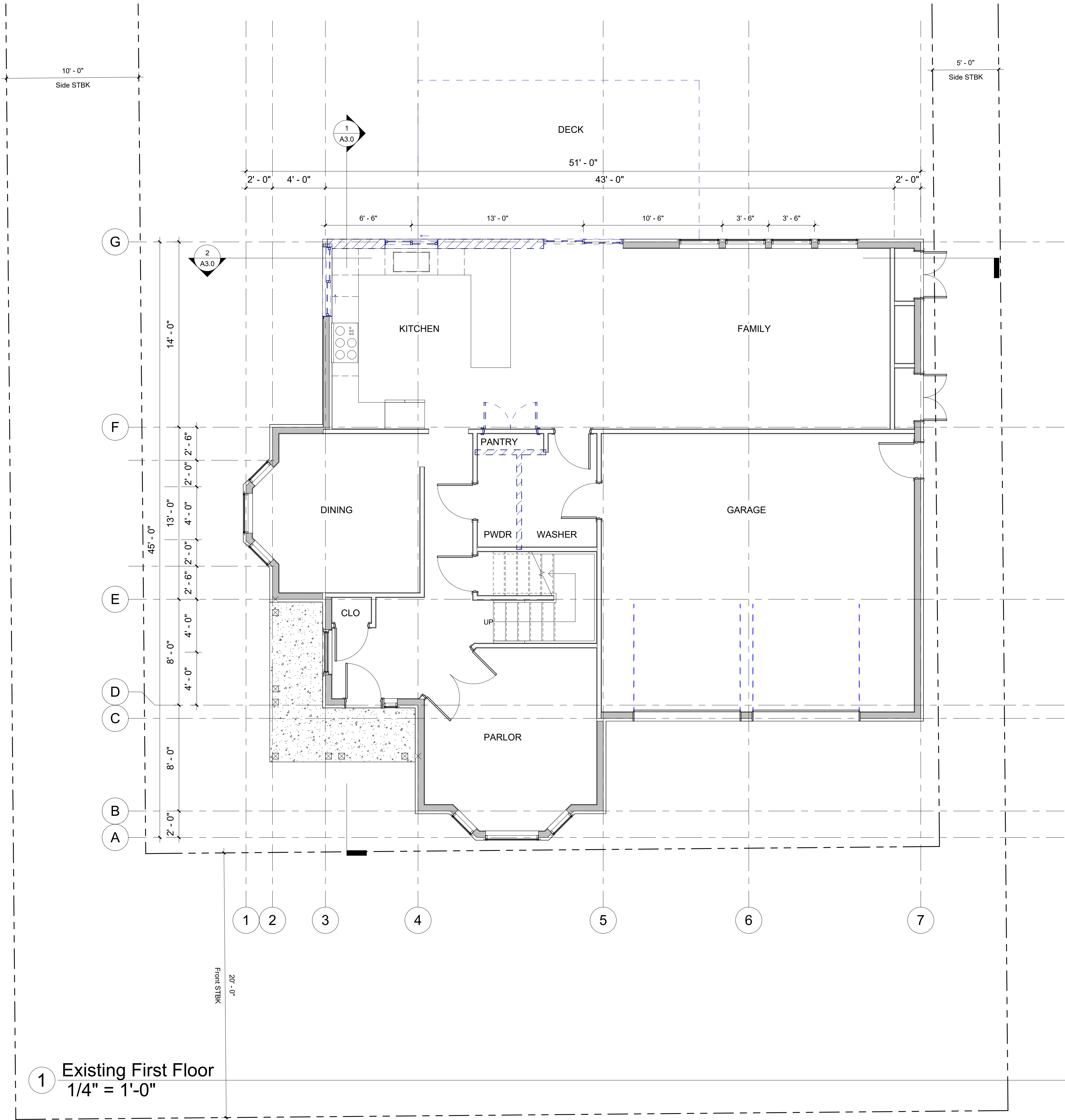
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DATE: 08.8.2024

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PLAN NOTES

SG SAFETY GLAZING REQUIREMENT (S.G.) : (R308)
SAFETY GLAZING PER R308 IN WINDOWS AND DOORS

EE EMERGENCY ESCAPE AND RESCUE OPENING (E.E.) : (R310)

R310.1. All sleeping rooms must have an emergency egress window or door that leads directly to a yard or public way

Emergency egress windows must provide a minimum clear openable area of 5.7 square feet, 24 inches high and 20 inches wide.

R310.2.2 Where a window is provided as the emergency escape and rescue opening, it shall have a sill height of not more than 44 inches above the floor; where the sill height is below grade, it shall be provided with a window well in accordance with Section R310.2.3

MECHANICAL VENTILATION (M1505)

SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION AND WHOLE HOUSE MECHANICAL VENTILATION

1 100 CFM ON SWITCH

2 50 CFM ON SWITCH

S SMOKE DETECTORS (R314.3)

SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION

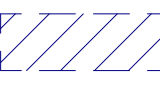
M CARBON MONOXIDE ALARM (R315.1)

SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION

HD NEW ATTACHED GARAGES (R314.2.3)

SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION

WALL LEGEND

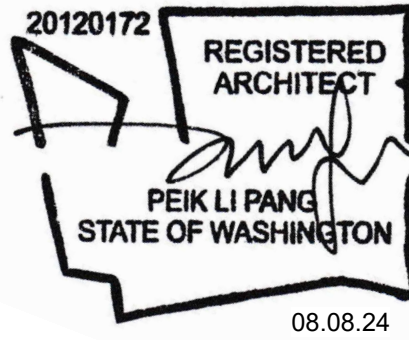
 DEMOLISHED WALLS, DOORS, WINDOWS AND DECK

5ft2

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Bellevue, WA 98004

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Mercerwood
4227

4227 91st Ave SE,
Mercer Island, WA
98040

Building Permit

All dimensions to be
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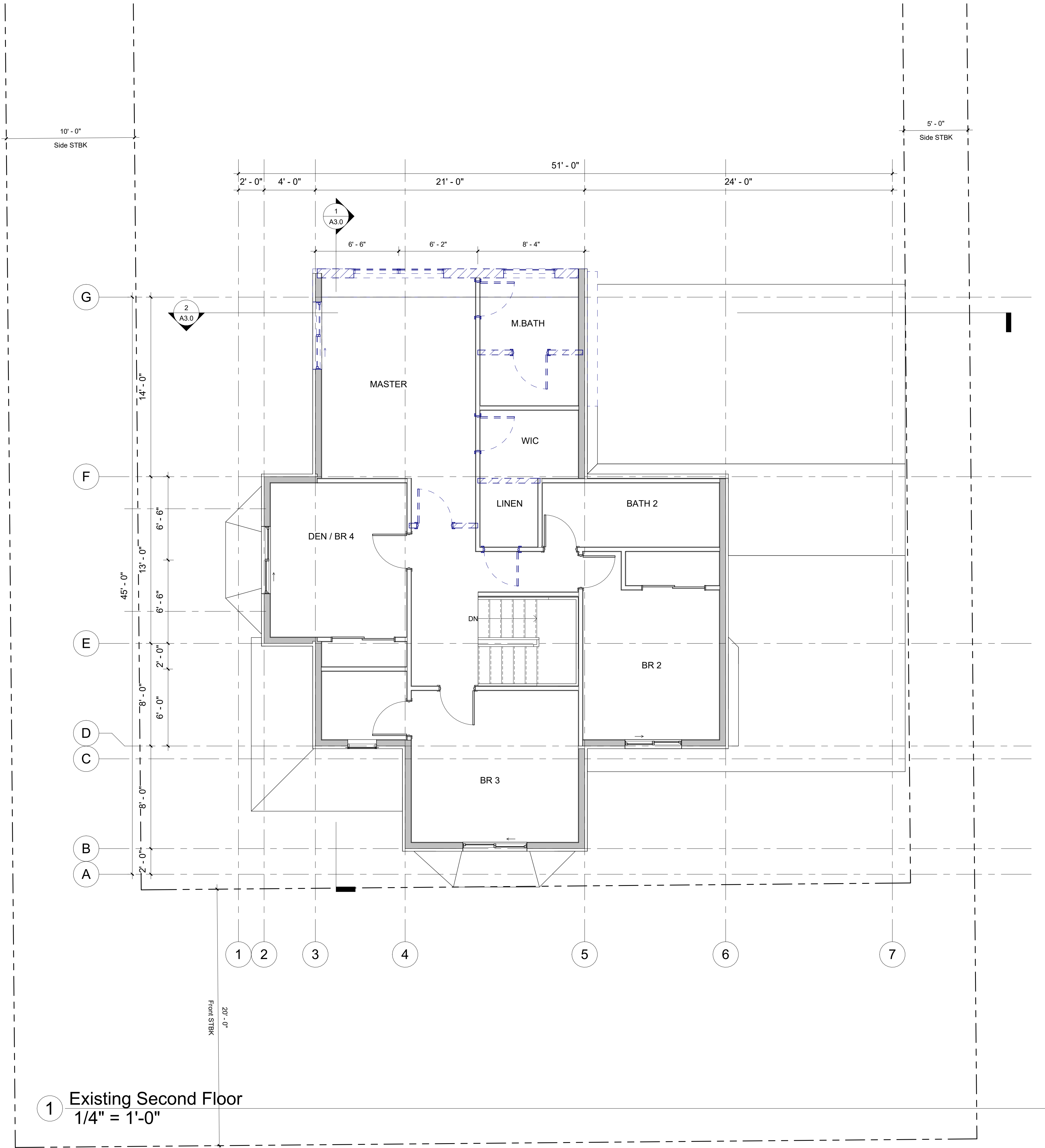
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Existing
Level 1
Plan

A1.1



PLAN NOTES

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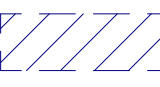
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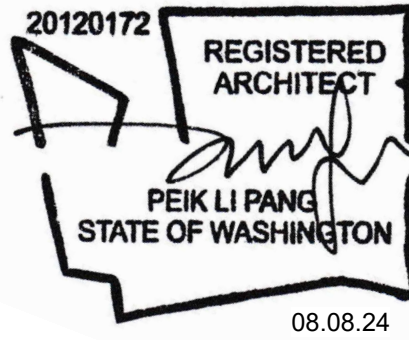
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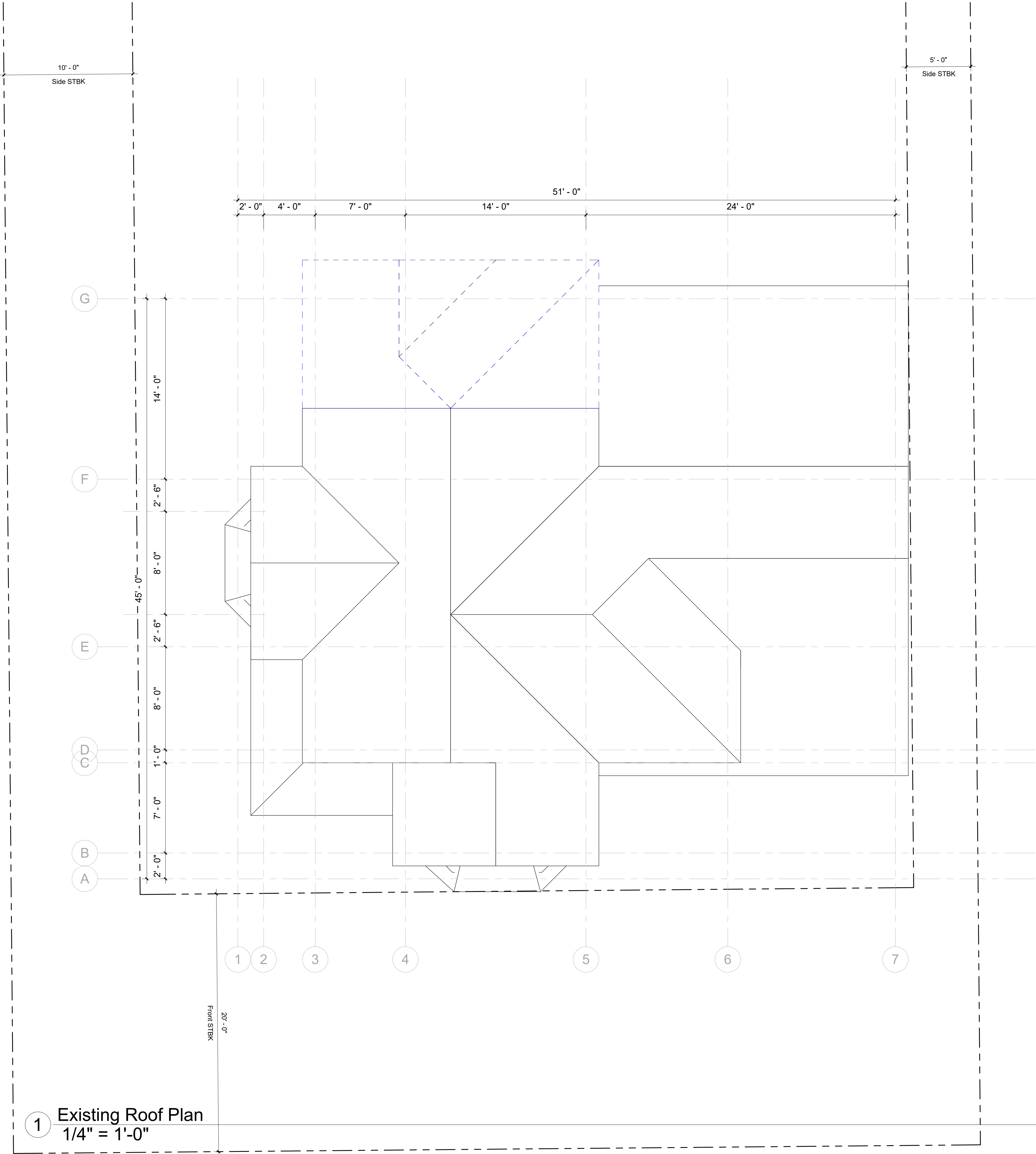
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Existing
Level 2
Plan

A1.2



PLAN NOTES

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SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION

HD NEW ATTACHED GARAGES (R314.2.3)

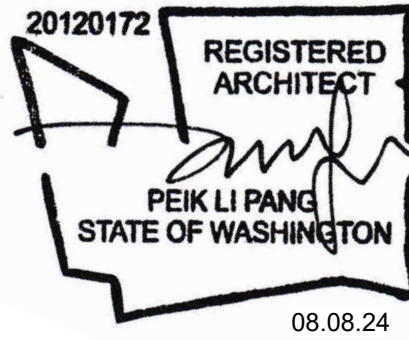
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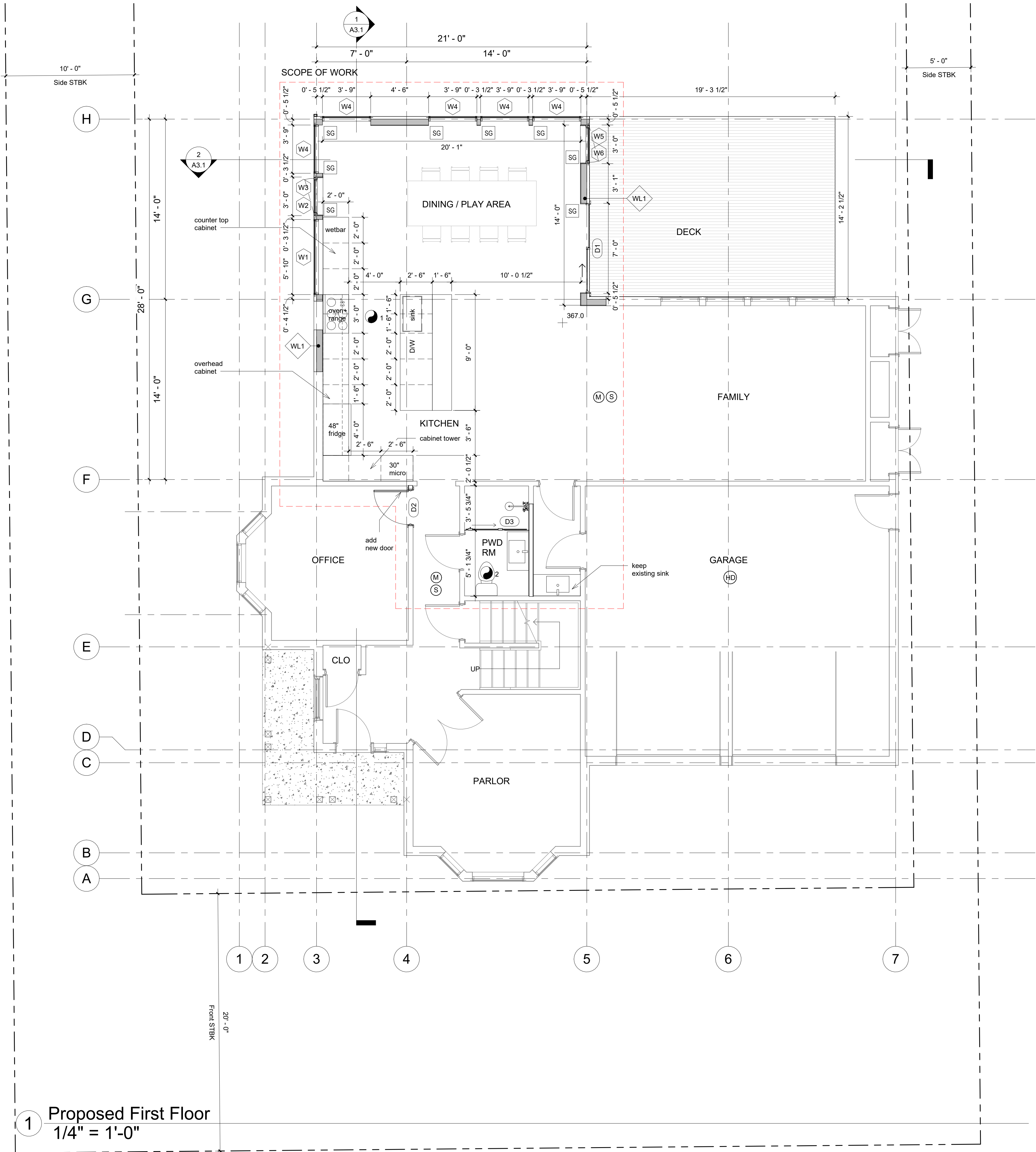
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Existing
Roof
Plan

A1.3



PLAN NOTES

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M CARBON MONOXIDE ALARM (R315.1)

SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION

HD NEW ATTACHED GARAGES (R314.2.3)

SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION

WALL LEGEND NEW

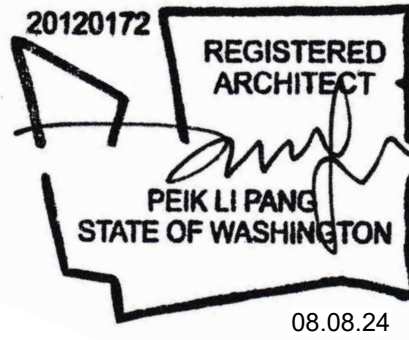
- EXISTING WALLS
- NEW INTERNAL WALLS
- NEW EXTERNAL WALLS

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Proposed
Level 1
Plan

A1.4

SAFETY GLAZING PER R308 IN WINDOWS AND DOORS

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SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION
AND WHOLE HOUSE MECHANICAL VENTILATION

- ⑤ **SMOKE DETECTORS (R314.3)**

SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION

SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION

SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION

 EXISTING WALLS
 NEW INTERNAL WALLS
 NEW EXTERNAL WALLS

NO.	DESCRIPTION	DATE
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All dimensions to be
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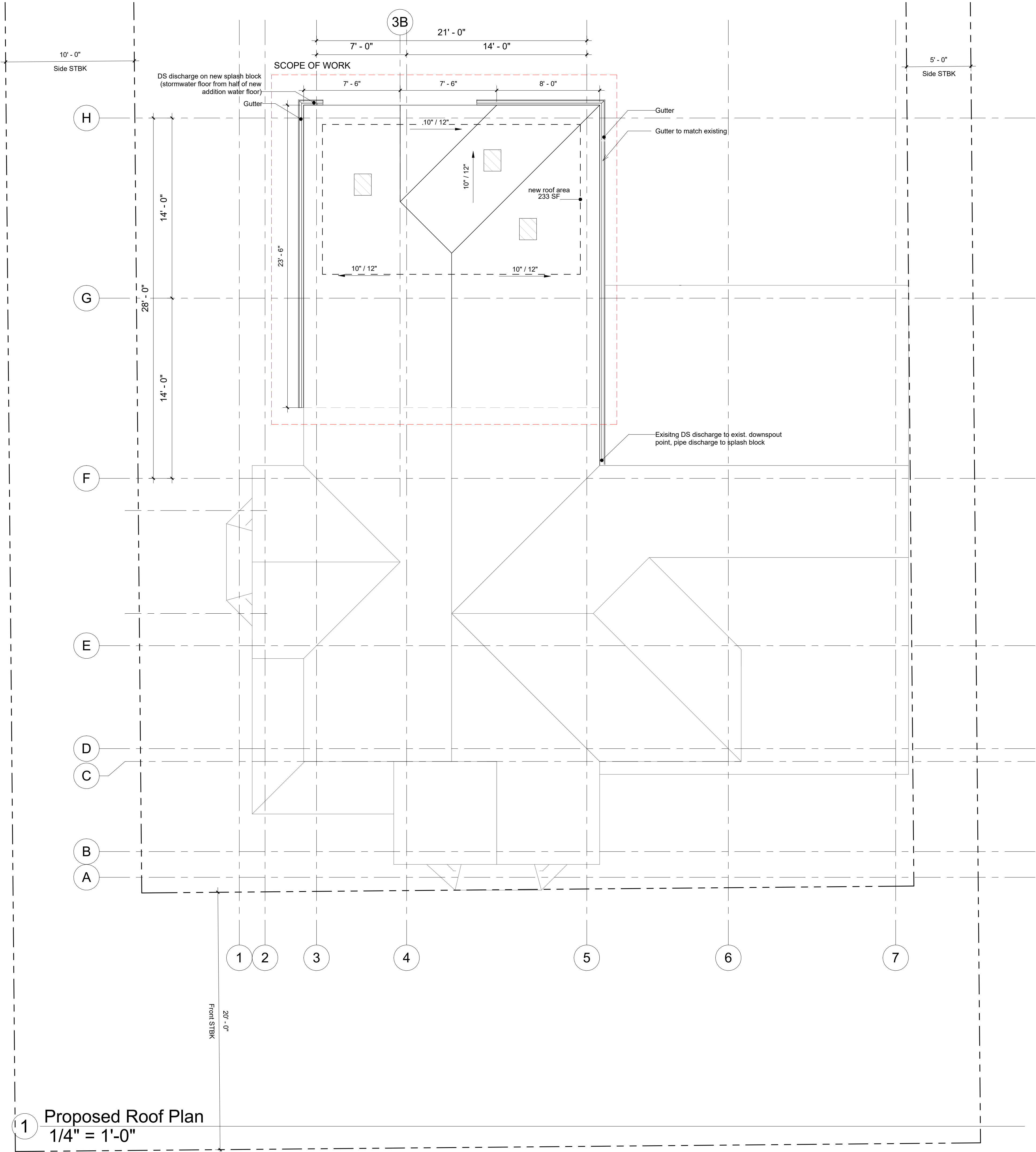
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Proposed Level 2 Plan

A1.5

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PLAN NOTES

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M CARBON MONOXIDE ALARM (R315.1)

SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION

HD NEW ATTACHED GARAGES (R314.2.3)

SEE SHEET A7.0 FOR COMPLIANCE - ALARMS AND VENTILATION

ROOF VENTILATION CALCULATION PER R806

New Roof area over heated space : 233 sf
Ventilation required:(233 sf/150)X 144 sq. in./sf = 223 sq.in.

Required exhaust = 112 sq. in.
Required intake = 112 sq. in.

PROPOSED EXHAUST NEAR RIDGE OF THE ROOF

Roof Vents providing 50 sq. in. of net free area, 112/50 = 11 pieces required.

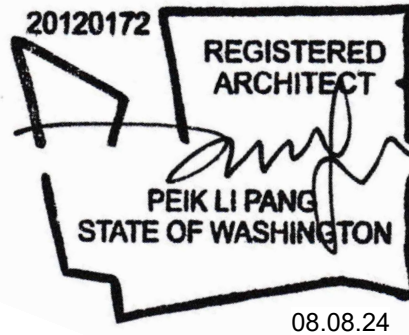
PROPOSED INTAKE ON SOFFITS/UNDEREAVE
Provide 4" wide vent of 28 linear inch= 112 sq. in.

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Building Permit

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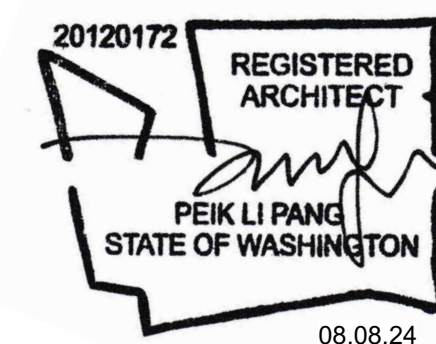
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Proposed
Roof
Plan

A1.6



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9804

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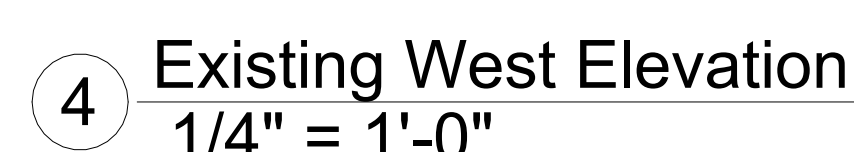
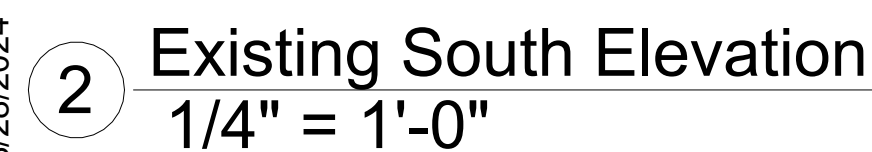
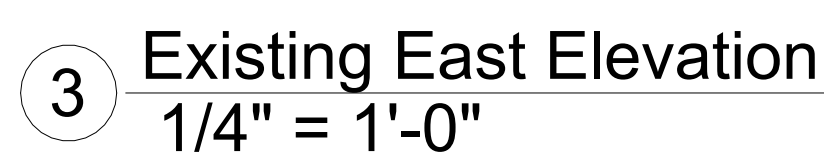
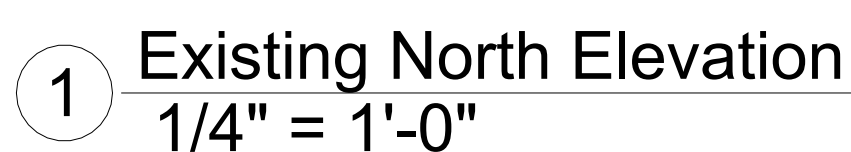
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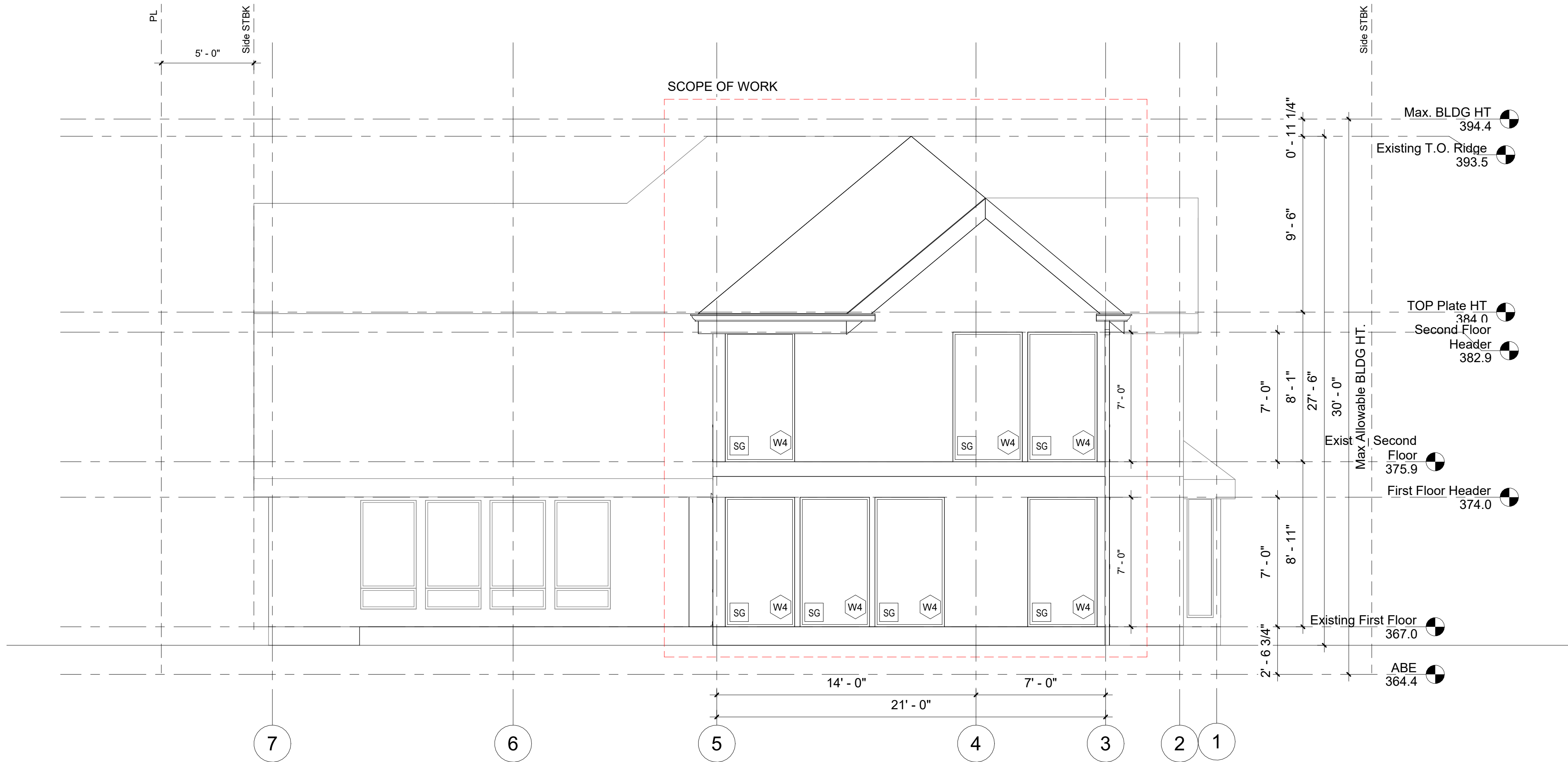
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Existing
Elevation
1

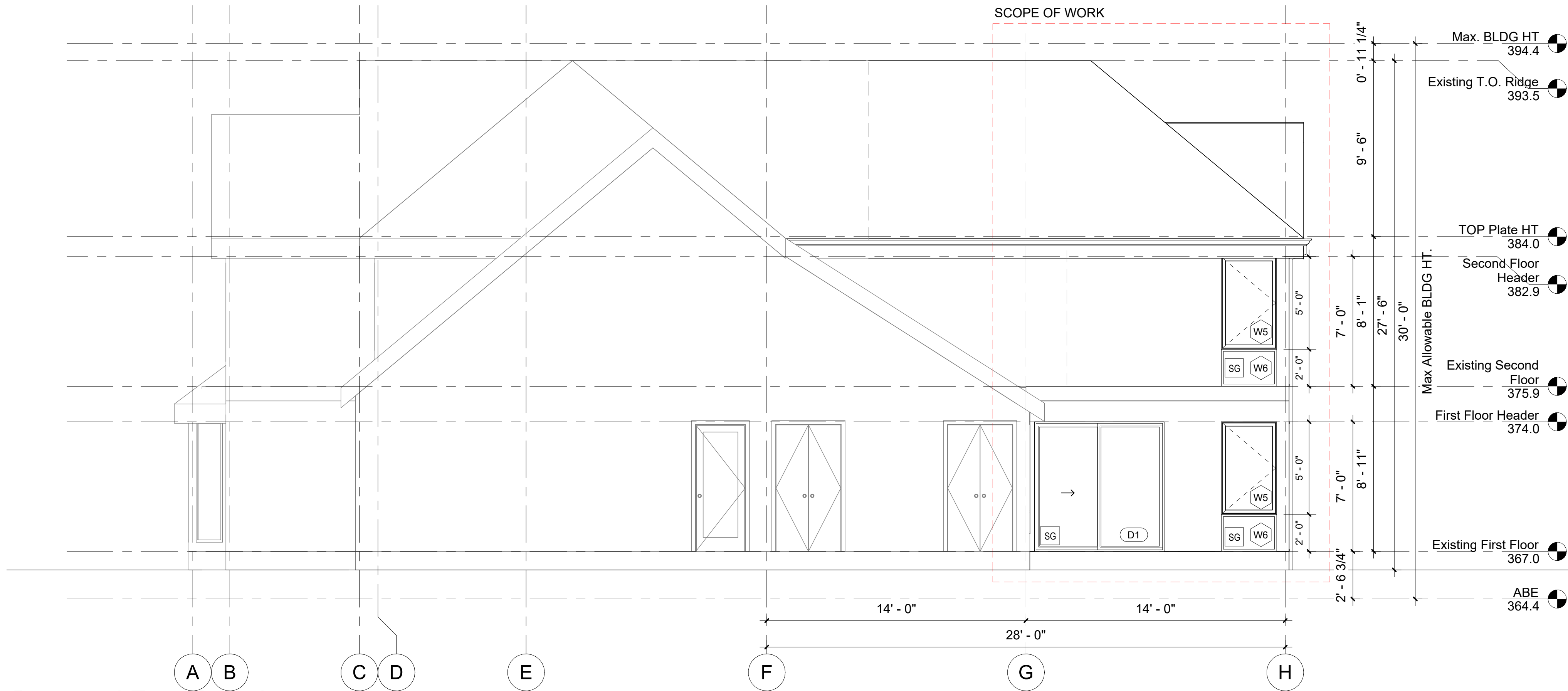
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1 Proposed North Elevation
1/4" = 1'-0"



2 Proposed East Elevation
1/4" = 1'-0"

ELEVATION & SECTION NOTES

SG SAFETY GLAZING REQUIREMENT (S.G.) : (R308)

SAFETY GLAZING PER R308 IN WINDOWS AND DOORS

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CRAWL SPACE VENTILATION

A ground cover of six mil (0.006 inch thick black polyethylene or approved equal shall be laid over the ground within crawl spaces. the ground cover shall be overlapped six inches minimum at the joints and shall extend to the foundation wall. minimum net area of ventilation openings shall be not less than 1 sf for each 300 sf of under-floor space area per washington state code amendment to section R408.2.

Crawl space area total: 223 sf
min. net area of ventilation openings required: 223sf / 300 sf = 0.74 sf = 107 sq. in.

Crawl space ventilation screen design based on: 16"w X 8"h Crawl Space Aluminum Exterior Vent , 150 sq.in of net free area per panel.

Thus: 105 sq.in / 150 sq.in =0.7
= 1 number 16"w X 8"h Crawl Space Aluminum Exterior Vent required.

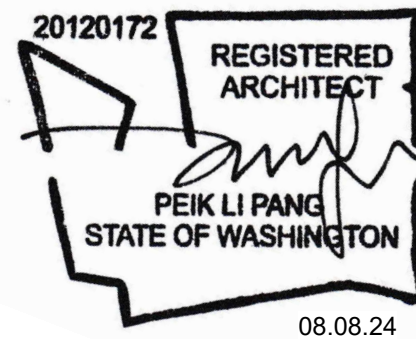
in additional of 223sf new crawl space 1 extra ventilation vent is needed.

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Proposed
Elevation
1

A2.2

5ft2

2625 Northup Way, Ste 100,
Bellevue, WA 98004

20120172

REGISTERED
ARCHITECT

Peik Li Pang

PEIK LI PANG
STATE OF WASHINGTON

08.08.24

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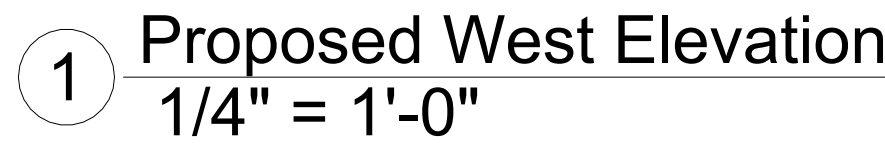
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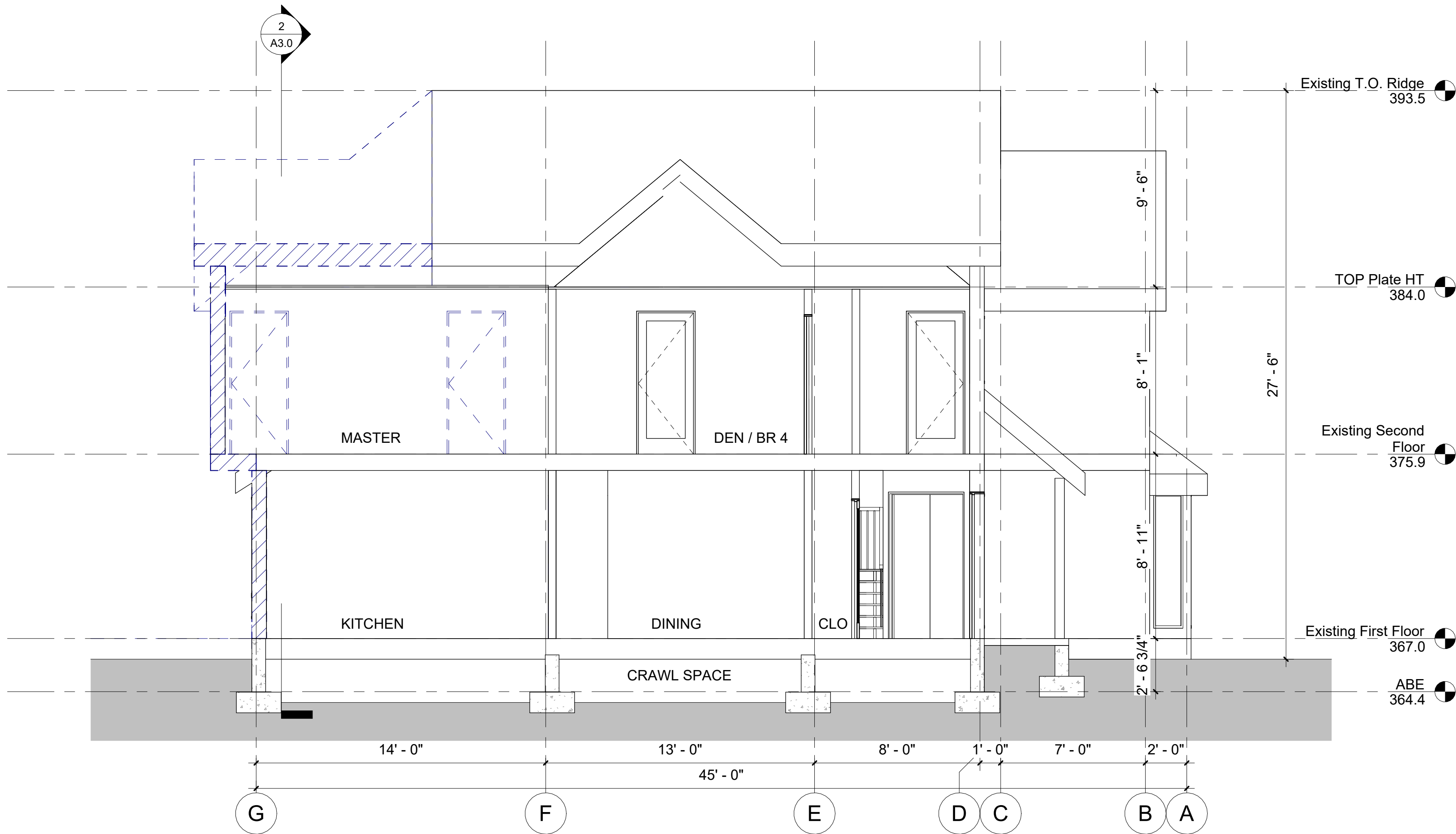
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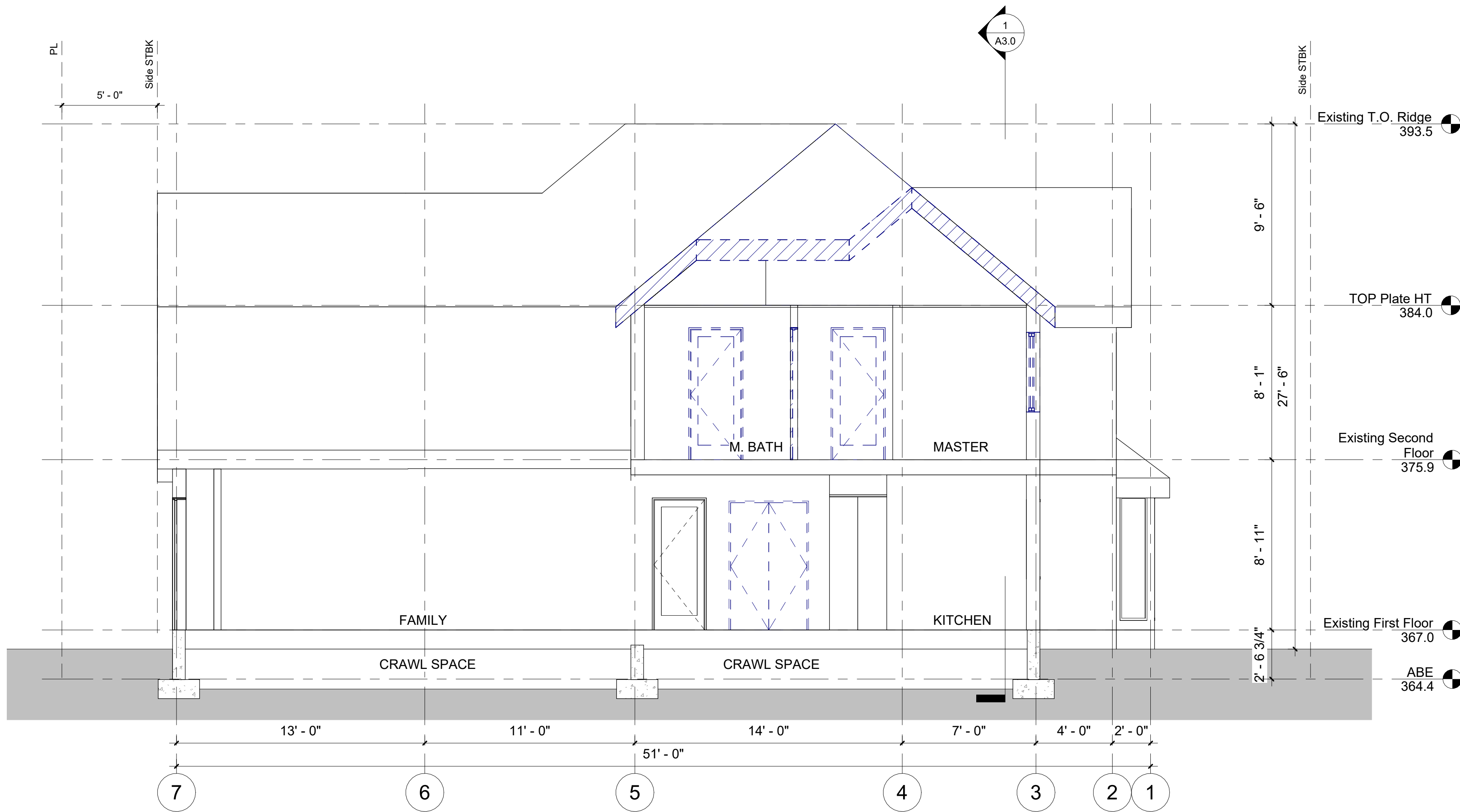
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Proposed
Elevation
2

A2.3



1 Existing Section 1
1/4" = 1'-0"



2 Existing Section 2
1/4" = 1'-0"

ELEVATION & SECTION NOTES

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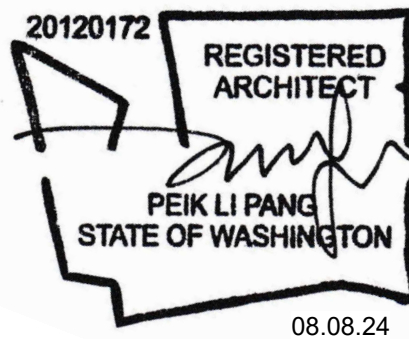
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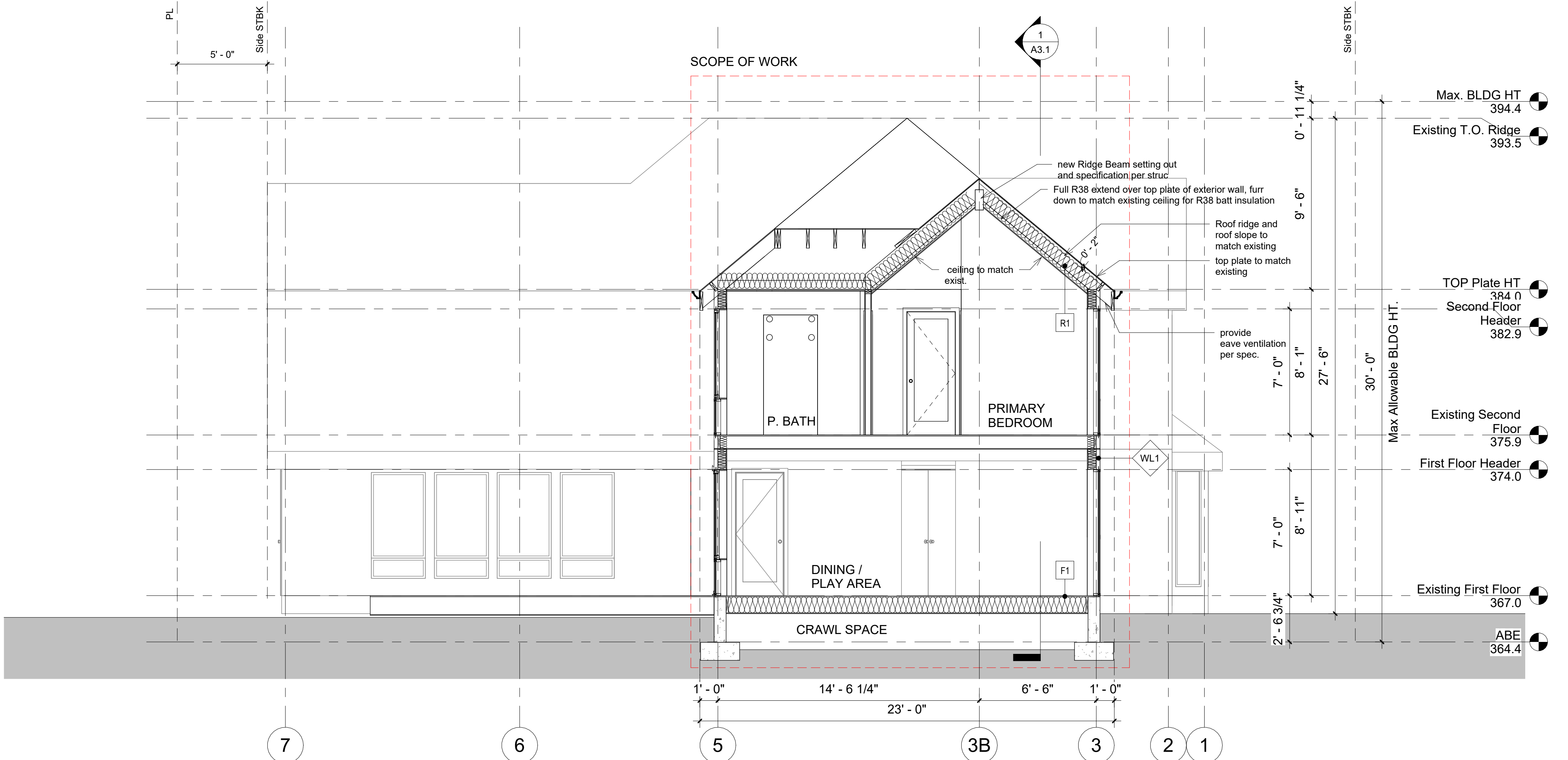
DATE:	08.8.2024
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Existing
Section

A3.0



1 Proposed Section 1
1/4" = 1'-0"



2 Proposed Section 2
1/4" = 1'-0"

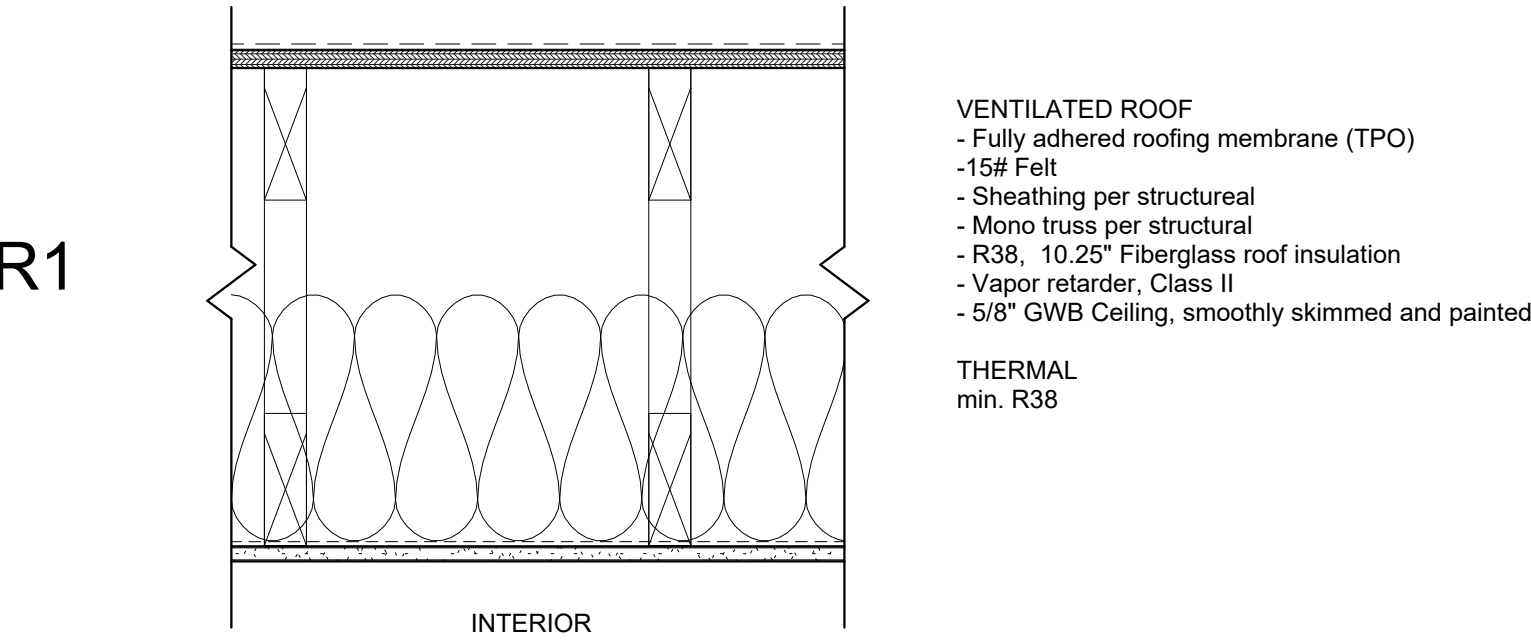
ELEVATION & SECTION NOTES

SG SAFETY GLAZING REQUIREMENT (S.G.) : (R308)
SAFETY GLAZING PER R308 IN WINDOWS AND DOORS

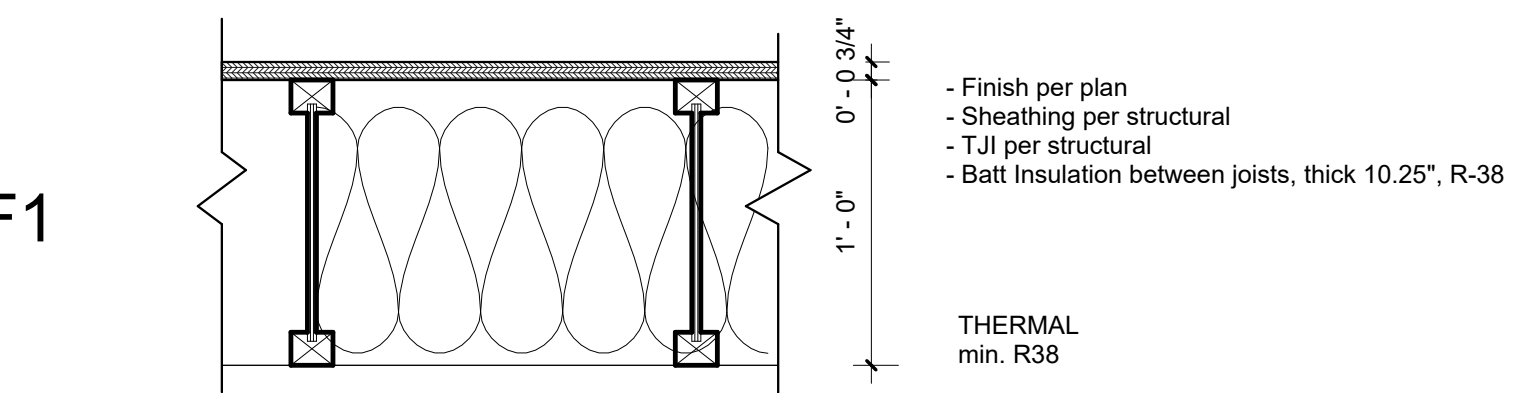
EE EMERGENCY ESCAPE AND RESCUE OPENING (E.E.) : (R310)
R310.1. All sleeping rooms must have an emergency egress window or door that leads directly to a yard or public way and shall have minimum dimensions as specified in this section.
Emergency egress windows must provide a minimum clear openable area of 5.7 square feet, 24 inches high and 20 inches wide.
R310.2.2 Where a window is provided as the emergency escape and rescue opening, it shall have a sill height of not more than 44 inches above the floor; where the sill height is below grade, it shall be provided with a window well in accordance with Section R310.2.3

CRAWL SPACE VENTILATION
A ground cover of six mil (0.006 inch thick black polyethylene or approved equal shall be laid over the ground within crawl spaces, the ground cover shall be overlapped six inches minimum at the joints and shall extend to the foundation wall, minimum net area of ventilation openings shall be not less than 1 sf for each 300 sf of under-floor space area per Washington state code amendment to section R408.2.
Crawl space area total: 223sf
min. net area of ventilation openings required: 223sf / 300 sf = 0.74 sf = 107 sq. in.
Crawl space ventilation screen design based on: 16" w X 8" h Crawl Space Aluminum Exterior Vent, 150 sq.in of net free area per panel.
Thus: 105 sq.in / 150 sq.in = 0.7 = 1 number 16" w X 8" h Crawl Space Aluminum Exterior Vent required.
in addition of 223sf new crawl space 1 extra ventilation vent is needed.

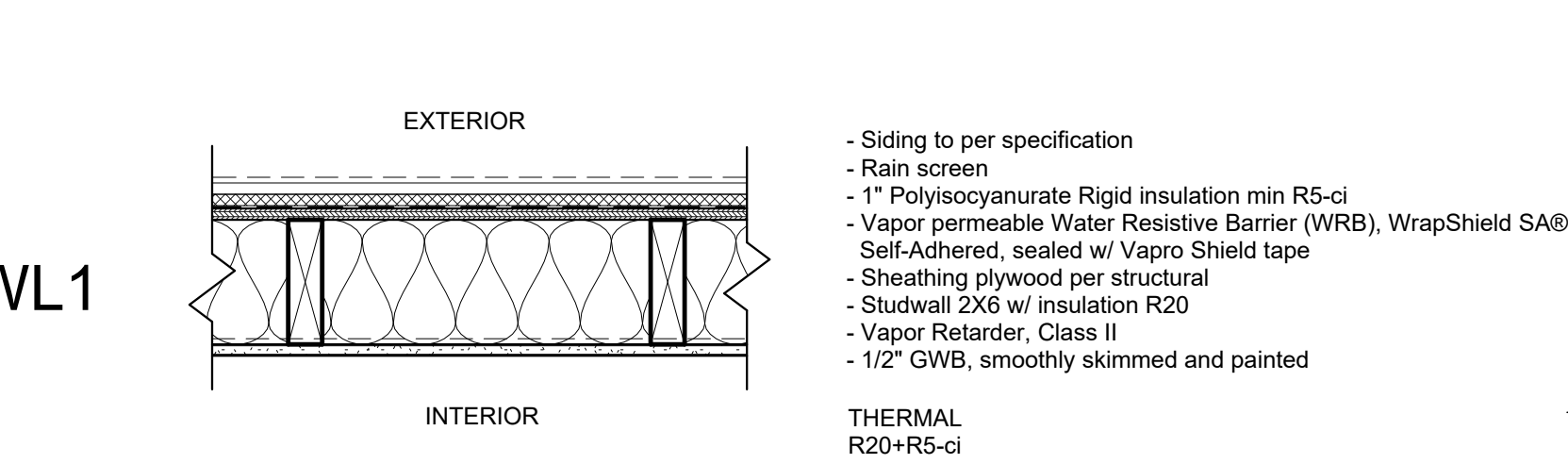
ROOF ASSEMBLIES



FLOOR ASSEMBLIES



WALL ASSEMBLIES



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ARCHITECT
PEIK LI PANG
STATE OF WASHINGTON
08.08.24

Mercerwood
4227

4227 91st Ave SE,
Mercer Island, WA
98040

Building Permit

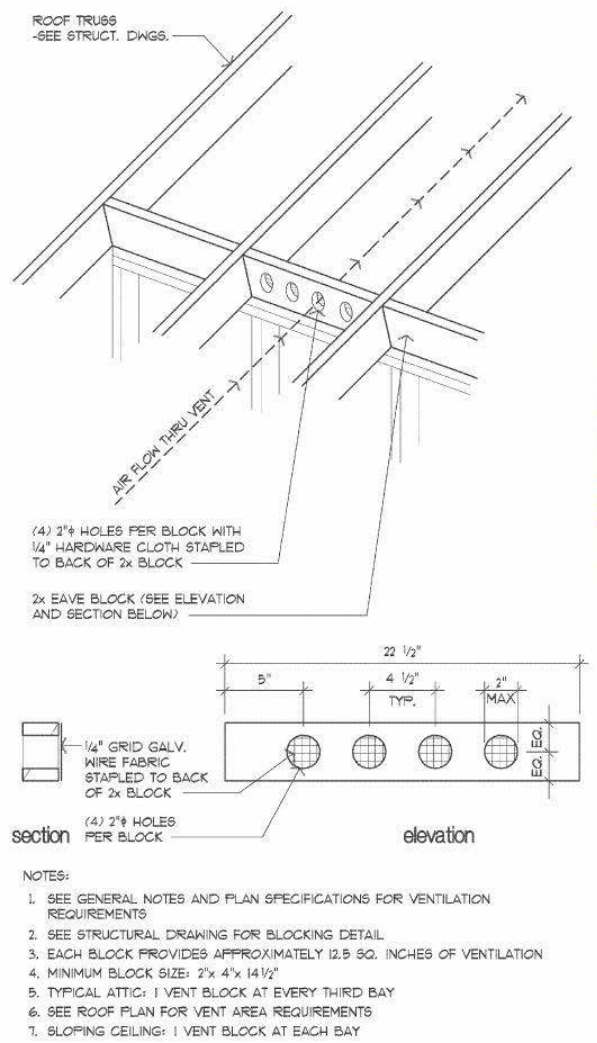
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Proposed
Section

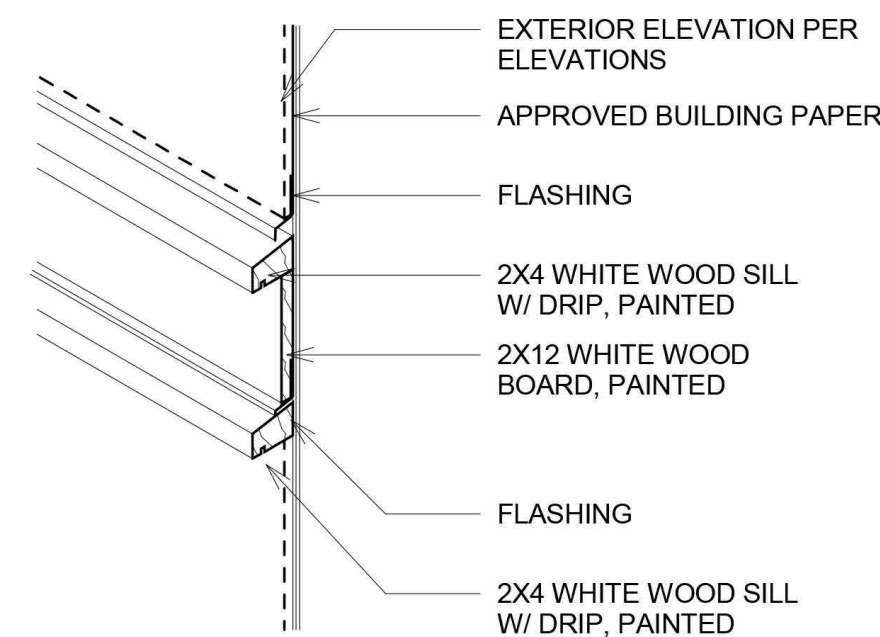
A3.1



3 EAVE VENT BLOCK
N.T.S

- EXTERIOR TRIMS INCLUDE:
- FASCIAS
 - BARGES
 - WINDOW AND DOOR TRIMS, LINERS AND JAMBS
 - BELLY BANDS
 - OUTSIDE CORNER TRIMS (BUT NOT INSIDE)

EXTERIOR TRIMS FINISH:
WHITE WOOD PAINTED
SHERWIN WILLIAMS SW7504 "KEYSTONE GREY"
EXTERIOR GRADE FLAT FINISH



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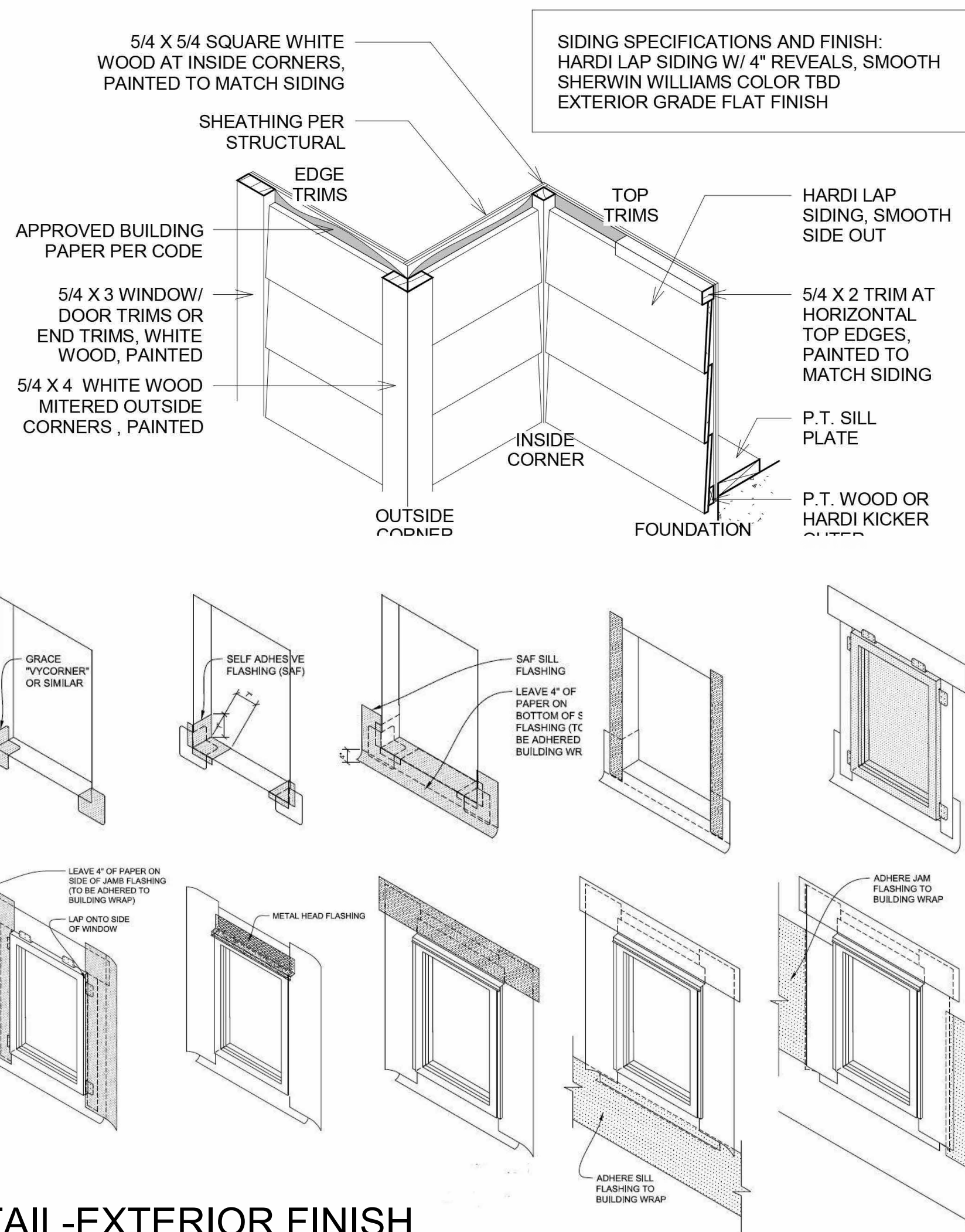
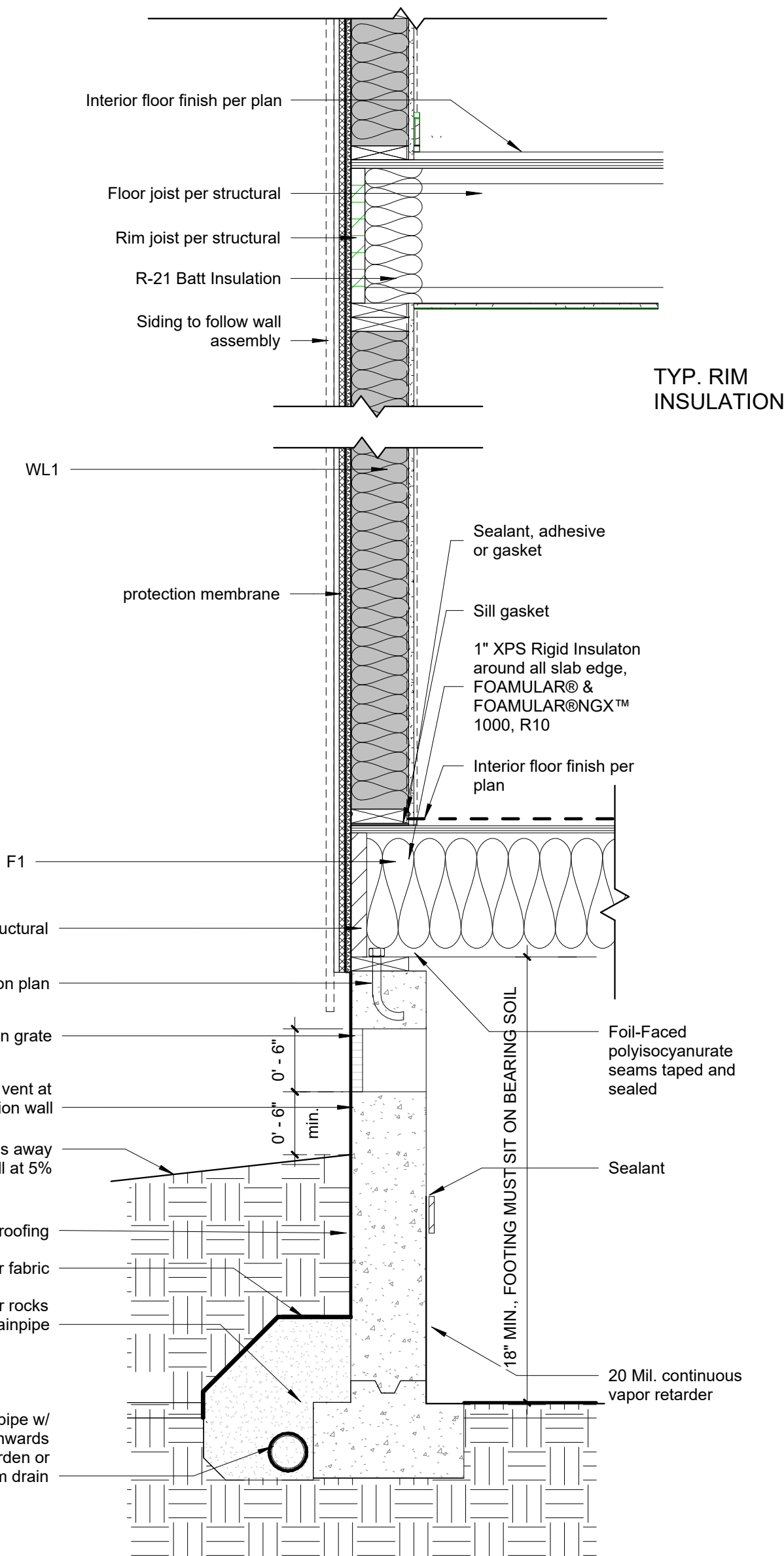
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Details

A5.0

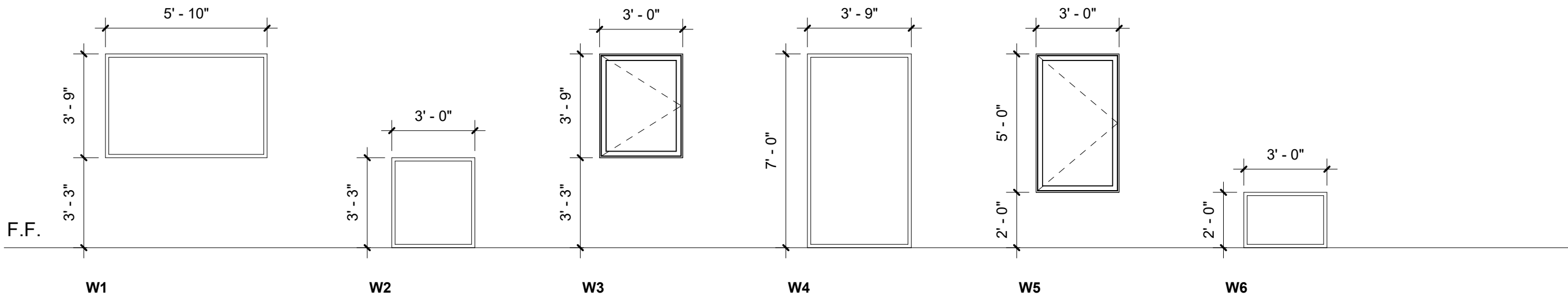


5 DETAIL-EXTERIOR FINISH
12" = 1'-0"

N.T.S

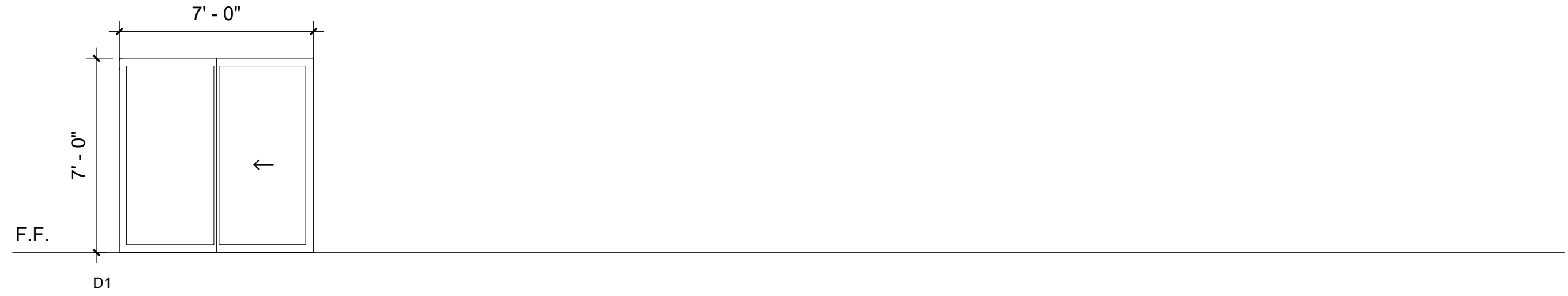
1 TYPICAL WALL SECTION WITH
CRAWL SPACE
1" = 1'-0"

WINDOWS

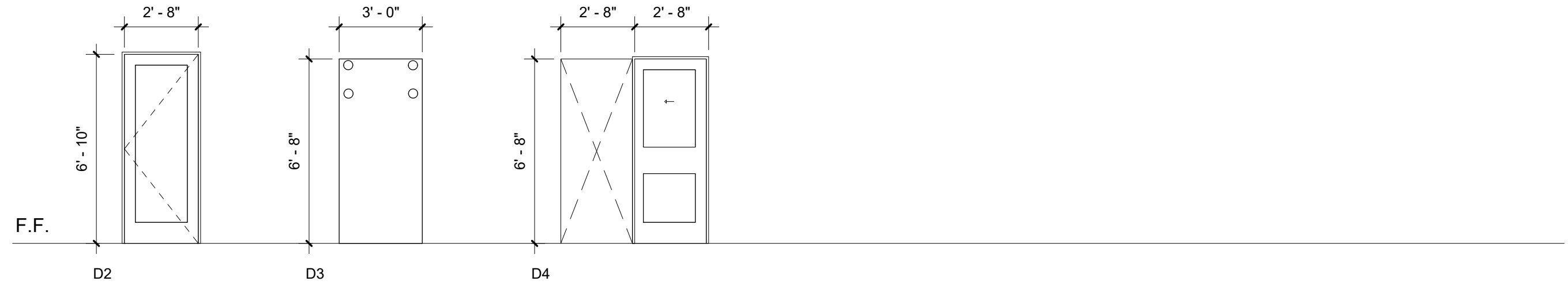


Window Schedule
1/4" = 1'-0"

EXTERIOR



INTERIOR



Schedule - Door
1/4" = 1'-0"

Window Schedule										
Type Mark	Level	Count	Width	Height	Sill Height	U-Value	Type Comments	Glazing Material	Frame	Manufacturer

W1	Existing First Floor	1	5' - 10"	3' - 9"	3' - 3"		Direct Glaze Rectangle	Glass-Marvin-IG Low E II with Argon	High Density Fiberglass	Marvin Windows or Equivalent
W2	Existing First Floor	1	3' - 0"	3' - 3"	0' - 0"		Fixed	Glass-Marvin-IG Low E II with Argon	High Density Fiberglass	Marvin Windows or Equivalent
W3	Existing First Floor	1	3' - 0"	3' - 9"	3' - 3"		Casement Window	Glass-Marvin-IG Low E II with Argon	High Density Fiberglass	Marvin Windows or Equivalent
W4	<varies>	9	3' - 9"	7' - 0"	0' - 0"		Direct Glaze Rectangle	Glass-Marvin-IG Low E II with Argon	High Density Fiberglass	Marvin Windows or Equivalent
W5	<varies>	3	3' - 0"	5' - 0"	2' - 0"		Casement Window	Glass-Marvin-IG Low E II with Argon	High Density Fiberglass	Marvin Windows or Equivalent
W6	<varies>	3	3' - 0"	2' - 0"	0' - 0"		Direct Glaze Rectangle	Glass-Marvin-IG Low E II with Argon	High Density Fiberglass	Marvin Windows or Equivalent

Door Schedule						
Mark	Count	Width	Height	U-Values	Type Comments	Panel Material

D1	1	7' - 0"	7' - 0"		Exterior Double Slider	Glass
D2	2	2' - 8"	6' - 10"		Single Flush Door	Solid Wood Core
D3	2	4' - 4"	6' - 8"		Shower Glass Door	Glass
D4	4	2' - 8"	6' - 8"		Single Pocket Sliding Door	Solid Wood Core

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Window
and
Door
Schedule

A6.0

ENERGY CODE TO COMPLY WITH CHAPTER 51-11C WAC WASHINGTON
STATE ENERGY CODE - RESIDENTIAL 2021 EDITION, SECTIONS R401
THROUGH R404 AND ADDITION OF SECTION R406

1. Sections R401 through R404. In addition, dwelling units and sleeping units in a residential building shall comply with Section R406.
2. Section R405.
3. Section R407.

- a. U-factors or F-factors shall be obtained from measurement, calculation or an approved source, or as specified in Section R402.1.5.
- b. A maximum U-factor of 0.32 shall apply to vertical fenestration products installed in buildings located above 4000 feet in elevation above sea level, or in windborne debris regions where protection of openings is required under Section R301.2.1.2 of the International Residential Code.

2021 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective March 15, 2024)

1. Small Dwelling Unit:	5.0 credits
Dwelling units less than 1500 square feet in conditioned floor area with less than 300 square feet of fenestration area. Additions to existing building greater than 500 square feet of heated floor area but less than 1500 square feet.	
2. Medium Dwelling Unit:	8.0 credits
All dwelling units that are not included in #1, #3 or #4.	
3. Large Dwelling Unit:	9.0 credits
Dwelling units exceeding 5000 square feet of conditioned floor area.	
4. Dwelling units serving Group R-2 occupancies:	6.5 credits
Section R401.1 and residential building Section R202 for Group R-2.	
5. Additions 150 square feet to 500 square feet:	2.0 credits

[illegible]

Options	Energy Credit Option Descriptions	Credits — limited to one credit per each credit category	Comments
1.1	Efficient Building Envelope	0.5	☐
1.2	Efficient Building Envelope	1.0	☐
1.3	Efficient Building Envelope	1.5	☐
1.4	Efficient Building Envelope	2	☐
2.1	Air Leakage Control and Efficient Ventilation	1.0	☐
2.2	Air Leakage Control and Efficient Ventilation	1.5	☐
2.3	Air Leakage Control and Efficient Ventilation	2.0	☐
3.1 ^{1/2}	High Efficiency HVAC	1.0	☐
3.2 ^{1/2}	High Efficiency HVAC	0.5	☐
3.3 ^{1/2}	High Efficiency HVAC	0.5	☐
3.4 ^{1/2}	High Efficiency HVAC	1.5	☐
3.5 ^{1/2}	High Efficiency HVAC	1.5	☒
3.6 ^{1/2}	High Efficiency HVAC	1.0	☐
3.7 ^{1/2}	High Efficiency HVAC	2.0	☐
3.8 ^{1/2}	High Efficiency HVAC	1.0	☐
3.9 ^{1/2}	High Efficiency HVAC	1.5	☐
3.10	High Efficiency HVAC	2.5	☐
3.11	High Efficiency HVAC	3.0	☐
4.1	High Efficiency HVAC Distribution System	0.5	☐
5.1 ^{1/2}	Efficient Water Heating	0.5	☐
5.2	Efficient Water Heating	0.5	☐
5.3	Efficient Water Heating	0.5	☐
5.4	Efficient Water Heating	1.0	☐
5.5	Efficient Water Heating	1.5	☐
5.6	Efficient Water Heating	2.0	☐
5.7	Efficient Water Heating	2.5	☐
5.8	Efficient Water Heating	2.5	☐
6.1 ^{1/2}	Renewable Electric Energy (4.5 credit max)	0.5-4.5	☐
7.1	Appliance Package	0.5	☐
Total Credits		0.5-10.0	☐

Prescriptive Path – Single Family WSEC-R 2021 Edition EPCA C 103 (V2/1/2024) 3

For testing data complying with Section R501.1, if the foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastic insulation.

g. For wall structures developed in compliance with Standard ICC-600, wall shall also meet the requirements for climate zone 5 of ICC-600.

h. Intermediate framing: Develops framing and insulation as defined in Section A303.2.1 including standard framing 16 inches on center, 72 percent of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.

i. The first cavity is cavity insulation, the second cavity is continuous insulation. Therefore, an example, "R11+10" means R-11 cavity insulation plus R-10 continuous insulation.

j. A minimum U-factor of 0.32 shall apply to vertical ventilation products installed in buildings located above 4000 feet in elevation above sea level, or in windborne debris regions where protection of openings is required under Section A303.2.1.2 of the International Residential Code.

Prescriptive Path – Single Family WSEC-R 2021 Edition EPCA C103 (V 01/2024) 1

Prescriptive Path – Single Family WSECR 2021 Edition EPCA C103 IV/21Q2041Prescriptive Path – Single Family WSEC-R 2021 Edition EPCA C 103 (1/21/2024) 5Prescriptive Path – Single Family WSEC-R 2021 Edition EPCA C 103 (V21/2024) 6Prescriptive Path – Single Family WSECC-R 2021 Edition EPCA C103 (v2/1/2024) 7Prescriptive Path – Single Family WSEEC-R 2021 Edition EPCA C 933 (v2/1/2024) 6Prescriptive Path – Single Family W5EC-R 2021 Edition EPCA C103 (1/21/2024) 9Prescriptive Path – Single Family WSECC-R 2021 Edition EPCA C103 (V21102024) 11Prescriptive Path – Single Family WSEC-R 2021 Edition EPCA C103 (V2/1/2024) 10

⑤ SMOKE DETECTORS (IRC R314.3)

4. Smoke alarms shall be installed not less than 3 feet horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by this section.

R314.5 Combination alarms. Combination smoke and carbon monoxide alarms shall be permitted to be used in lieu of carbon monoxide alarms.

R315.2 Where required. For new construction, an approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedroom in dwelling units and each level of the dwelling in accordance with manufacturer's recommendation.

R315.5 Interconnectivity. Where more than one carbon monoxide alarm is required to be installed within an individual dwelling unit in accordance with Section R 315.3, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual dwelling unit. Physical interconnection of carbon monoxide alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

NEW ATTACHED GARAGES (IRC R314.2.3)

MECHANICAL VENTILATION IRC 2021:

 1 100 CFM ON SWITCH

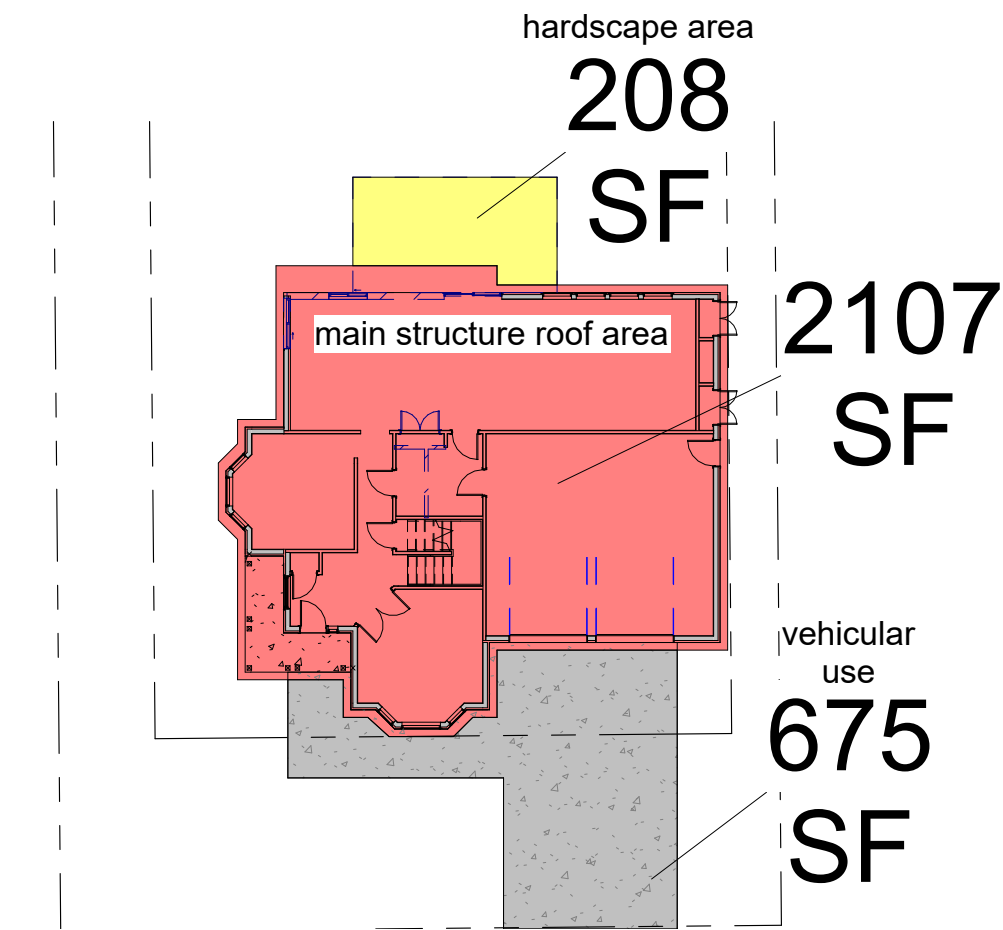
 2 50 CFM ON SWITCH

For SI: 1 cubic foot per minute = 0.0004719 m³/s.

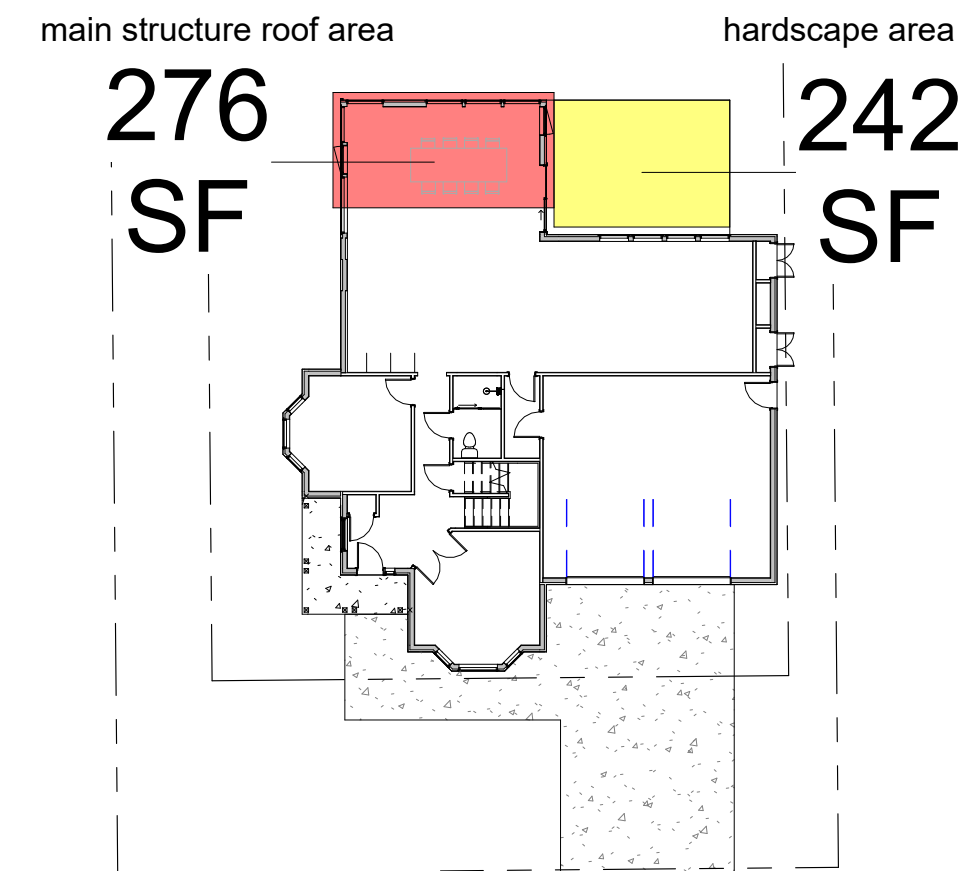
DATE: 08.8.2024

SITE DATA AND ZONING

ZONING	R-9.6	
LOT AREA	10,125 SF	
SETBACK REQUIREMENT	FRONT SETBACK	20 FT
	REAR SETBACK	25 FT
	SIDE SETBACK (For lots with a lot width of 90 feet or less)	the side yard setback must sum to 15 feet; provided that no side yard shall be less than 5 feet.
	ALL SETBACKS UNCHANGED PER EXISTING	



1 D. Existing Lot Coverage and Hardscape
1" = 20'-0"



8 D. Proposed Lot Coverage and Hardscape
1" = 20'-0"

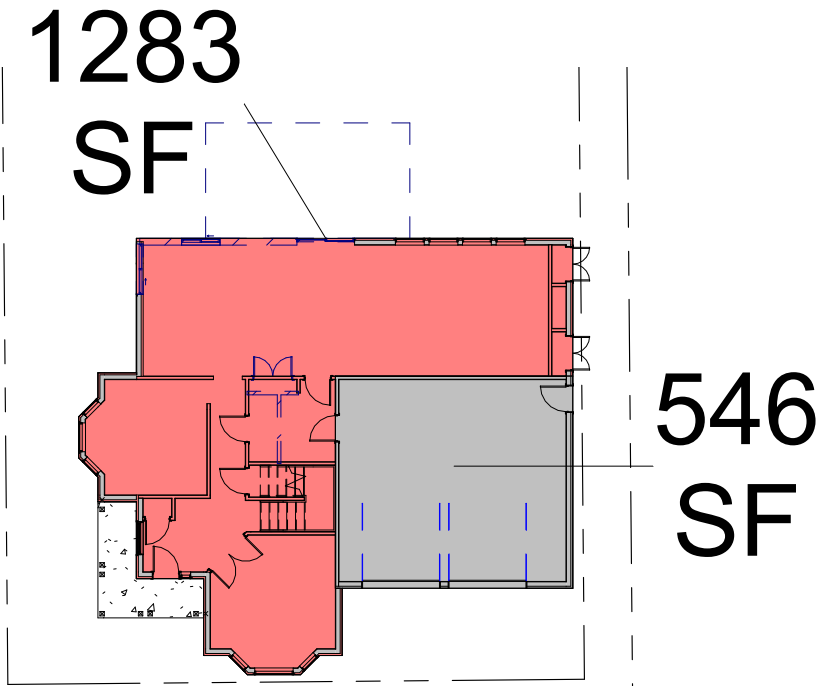
LOT COVERAGE CALCULATIONS				
A.	Gross Lot Area			10,125 Square Feet
B.	Net Lot Area			10,125 Square Feet
C.	Allowed Lot Coverage Area			4,050 Square Feet
D.	Allowed Lot Coverage			40 % of Lot
E.	Existing Lot Coverage:			
	1 Main Structure Roof Area			2,107 Square Feet
	2 Accessory Building Roof Area			0 Square Feet
	3 Vehicular Use (driveway, paved accesseasements [portion used by the lot for			675 Square Feet
	4 Covered Patios and Covered Decks			0 Square Feet
	5 Total Existing Lot Coverage Area (E1+E2+E3+E4)			2,782 Square Feet
F.	(Total Lot Coverage Area Removed)			0 Square Feet
G.	Proposed Adjustment for Single Story (Area)			NA Square Feet
H.	Proposed Adjustment for Flag Lot			NA Square Feet
I.	Total New Lot Coverage Area:			
	1 Main Structure Roof Area			276 Square Feet
	2 Accessory Structure Roof Area			0 Square Feet
	3 Vehicular Use (driveway, paved accesseasements [portion used by the lot for			0 Square Feet
	4 Covered Patios and Covered Decks			0 Square Feet
	5 Total New Lot Coverage Area (I1 + I2 + I3 + I4)			276 Square Feet
J.	Total Project Lot Coverage Area = (E5 - F) + I5			3,058 Square Feet
K.	Proposed Lot Coverage Area = (J/B) x 100			30.2% % of Lot

HARDSCAPE CALCULATIONS				
A.	Gross Lot Area			10,125 Square Feet
B.	Net Lot Area			10,125 Square Feet
C.	Area Borrowed from Lot Coverage			992 Square Feet
D.	Allowed Hardscape Area = 9% of lot area + C			19 % of Lot
E.	Allowed Hardscape Area			1,903 Square Feet
F.	Total Existing Hardscape Area			
	1 Uncovered Decks			208 Square Feet
	2 Uncovered Patios			0 Square Feet
	3 Walkways			0 Square Feet
	4 Stairs			0 Square Feet
	5 Rockeries and Retaining Walls			0 Square Feet
	6 Other [INSERT TEXT HERE]			0 Square Feet
	7 Total Existing Hardscape Area (F1 + F2 + F3 + F4 + F5 + F6)			208 Square Feet
G.	(Total Hardscape Area Removed)			208 Square Feet
H.	Total New Hardscape Area			
	1 Uncovered Decks			242 Square Feet
	2 Uncovered Patios			0 Square Feet
	3 Walkways			0 Square Feet
	4 Stairs			0 Square Feet
	5 Rockeries and Retaining Walls			0 Square Feet
	6 Other [INSERT TEXT HERE]			0 Square Feet
	7 Total Existing Hardscape Area (H1 +H2 +H3 +H4 + H5 + H6)			242 Square Feet
I.	Total Project Hardscape Area = (F7-G) + H7			242 Square Feet
J.	Total Project Hardscape Area = (I/B) x 100			2.4 % of Lot

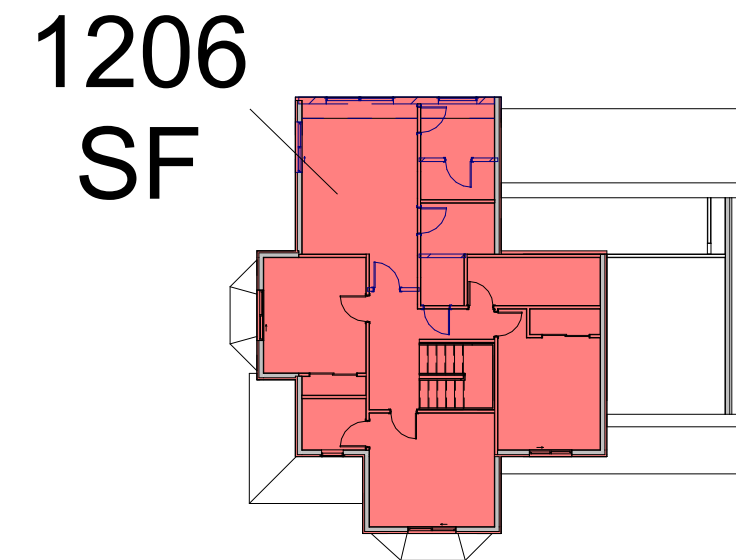
GROSS FLOOR AREA

EXISTING

CONDITIONED AREA (A) = 2489 SF	
LEVEL 1	= 1283 SF
LEVEL 2	= 1206 SF
UNCONDITIONED AREA (B) = 546 SF	
LEVEL 1 GARAGE	= 546 SF
TOTAL GROSS FLOOR AREA (A+B) = 3035 SF	



2 D. GFA Existing First Floor
1" = 20'-0"

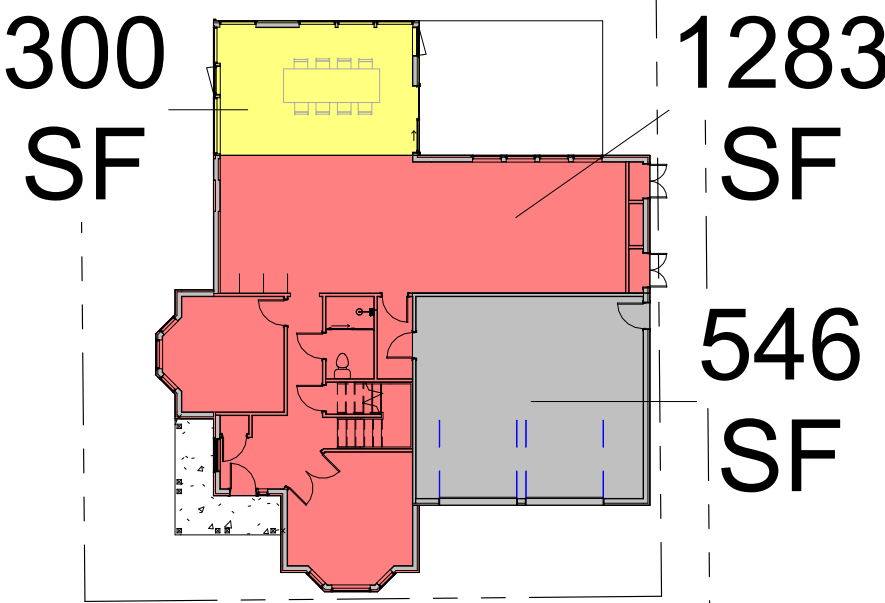


3 D.GFA Existing Second Floor
1" = 20'-0"

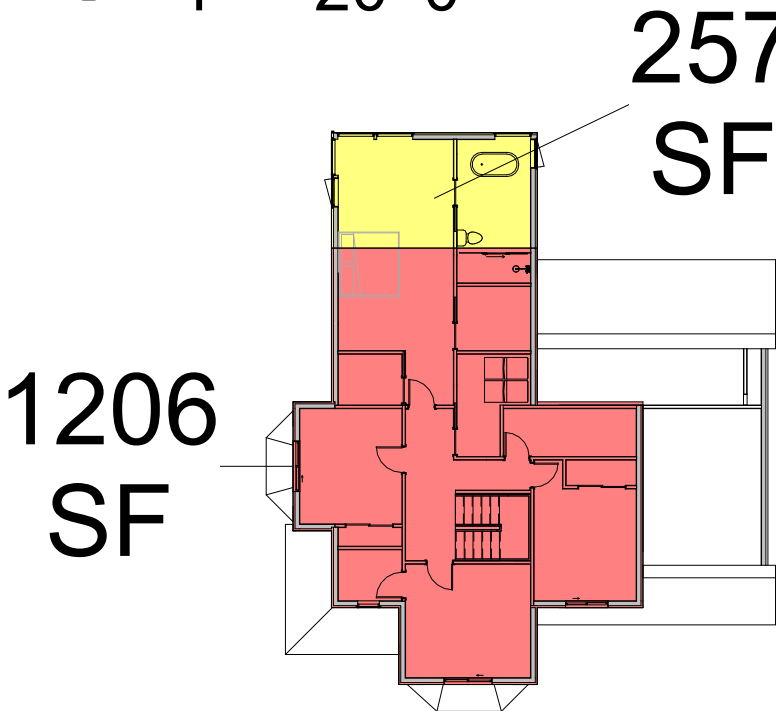
GROSS FLOOR AREA

PROPOSED

CONDITIONED AREA (A) = 3046 SF	
LEVEL 1 (PROPOSED)	= 300 SF
LEVEL 1 (EXISTING)	= 1283 SF
LEVEL 2 (PROPOSED)	= 257 SF
LEVEL 2 (EXISTING)	= 1206 SF
UNCONDITIONED AREA (B) = 546 SF	
LEVEL 1	= 546 SF
TOTAL GROSS FLOOR AREA (A+B) = 3592 SF	
TOTAL EXISTING GFA = 3035 SF	
TOTAL NEW ADDITION GFA = 557 SF	



5 D. GFA Propsed First Floor
1" = 20'-0"



6 D.GFA Proposed Second Floor
1" = 20'-0"

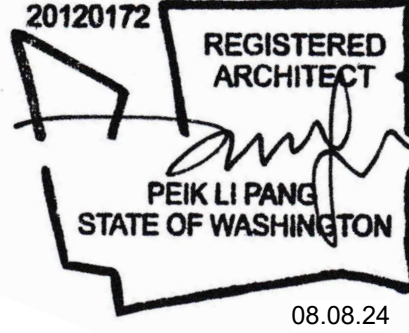
GROSS FLOOR AREA CALCULATIONS				
Building Area		Existing Area (Sq. Ft.)	Removed Area (Sq. Ft.)	New/Addition Area (Sq. Ft.)
Upper Floor		1,206	0	257
Main Floor		1,283	0	300
Gross Basement Area		0	0	0
Garage / Carport		546	0	0
Total Floor Area		3,035	0	557
Accessory Buildings		0	0	0
Accessory Dwelling Unit		0	0	0
2nd and 3rd Story Roof Decks		0	0	0
Basement Area Excluded		0	0	0.0
150% GFA Modifier* (main and upper floor x2)		0	0	0
200% GFA Modifier* (main and upper floor x2)		0	0	0
Staircase GFA Modifier* (x2 for a three story staircase, x3 for a four story staircase)		0	0	0
TOTAL Building Area				3,592
* Enter the actual room area *				
A.	Lot Area			10,125 Square Feet
B.	Zone	R-8.4 ()	R-9.6 (x)	R-12 ()
C.	Allowed Gross Floor Area (refer to "allowed GFA")			4,050 Square Feet
D.	Allowed Gross Floor Area			40 % of Lot
E.	Proposed Gross Floor Area			3,592 Square Feet
F.	Proposed Gross Floor Area			35.48% % of Lot

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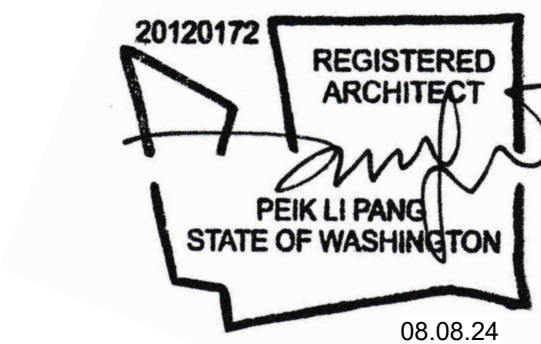
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Compliance
- Zoning
1

A7.1



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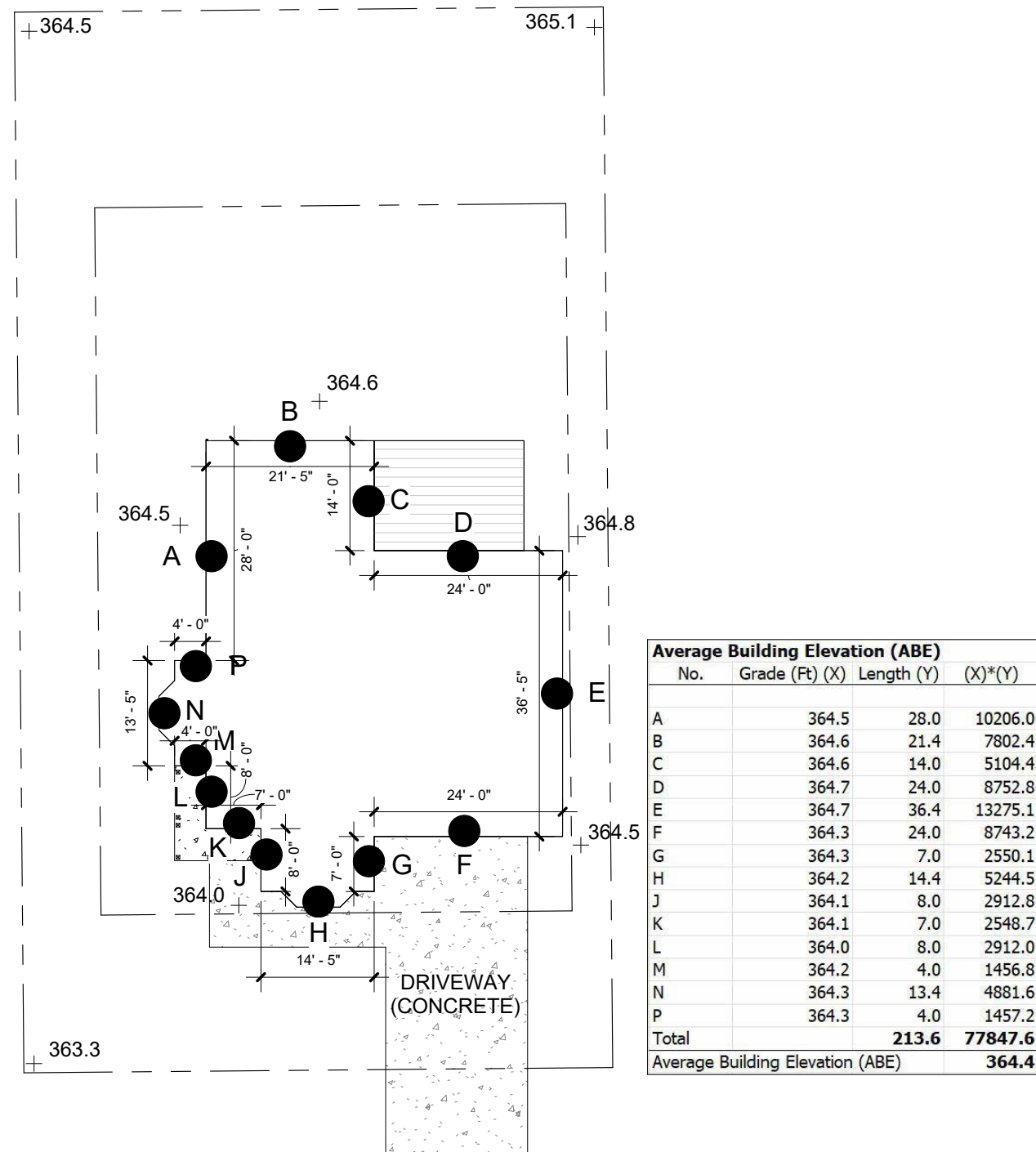
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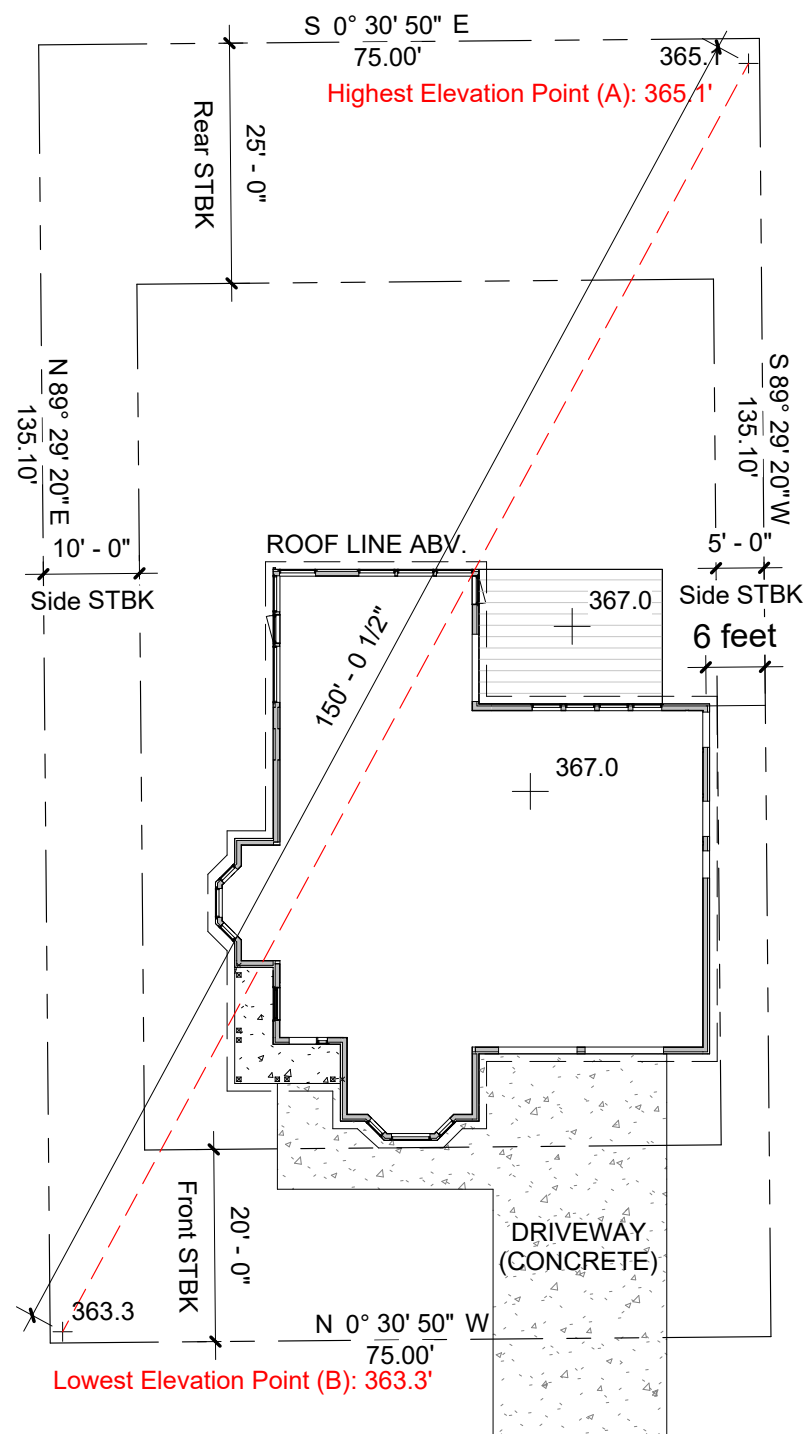
DATE:	08.8.2024
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Compliance
- Zoning
2

A7.2



1 D. Average Grade
1" = 20'-0"



LOT SLOPE CALCULATION:
(Point A - Point B) / Distance between A and B:
(365.1' - 363.3') / 150.1' = 1.2%

2 D. Lot Slope
1" = 20'-0"

BUILDING HEIGHT CALCULATIONS			
A.	Average Building Elevation (ABE) calculations located on sheet #:		A7.2
B.	Allowable Building Height (ABE + 30ft.)		394.4 Feet
C.	Proposed Building Height		393.5 Feet
D.	Benchmark Elevation*		- Feet
E.	Describe Benchmark Location (must be undisturbed throughout project)		-
F.	Sloping lot (Downhill side) - maximum height of top of exterior wall façade above lowest existing grade (30-ft max)		- Feet
G.	ABE and Allowable Building Height Shown on elevations plan sheet#		A2.2
H.	Topo-survey Accuracy Attested on Plan Sheet #		-
Note: Survey must attest to accuracy when proposed building height is within 2 feet of the allowable building height. Please see page 8 for more information on calculating Average Building Elevation (ABE)			
* The benchmark elevation is a fixed elevation point on or off site that will not be disturbed during development activity and is used to verify the final building height			

LOT SLOPE CALCULATIONS			
A.	Highest Elevation Point of Lot:		365.1 Feet
B.	Lowest Elevation Point of Lot:		363.3 Feet
C.	Elevation Difference		1.8 Feet
D.	Horizontal Distance Between High and Low Points		150.1 Feet
E.	Lot Slope*		1.2 %
* Lot slope is the elevation difference divided by horizontal distance multiplied by 100. *			



Mercerwood
4227

4227 91st Ave SE,
Mercer Island, WA
98040

Building Permit

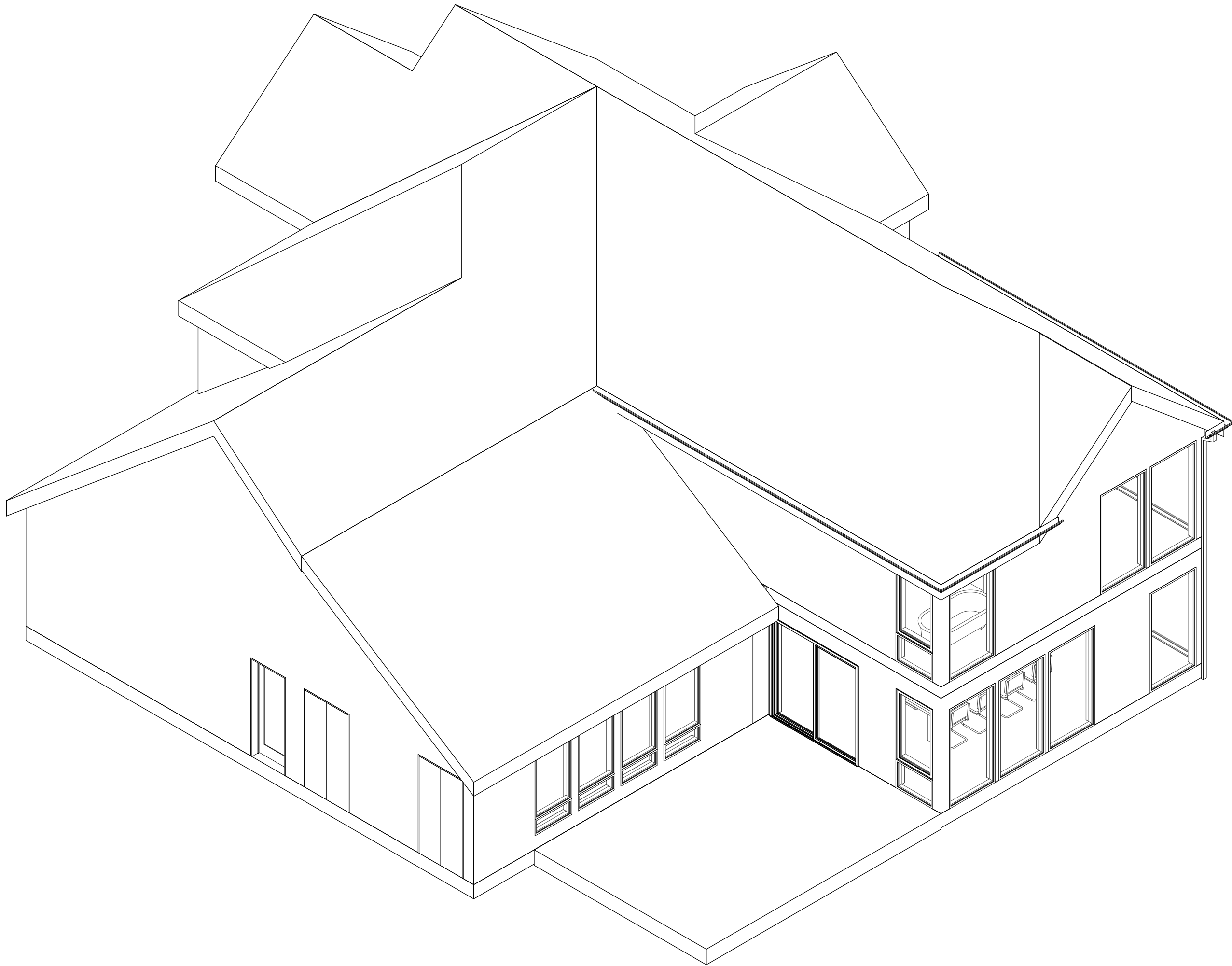
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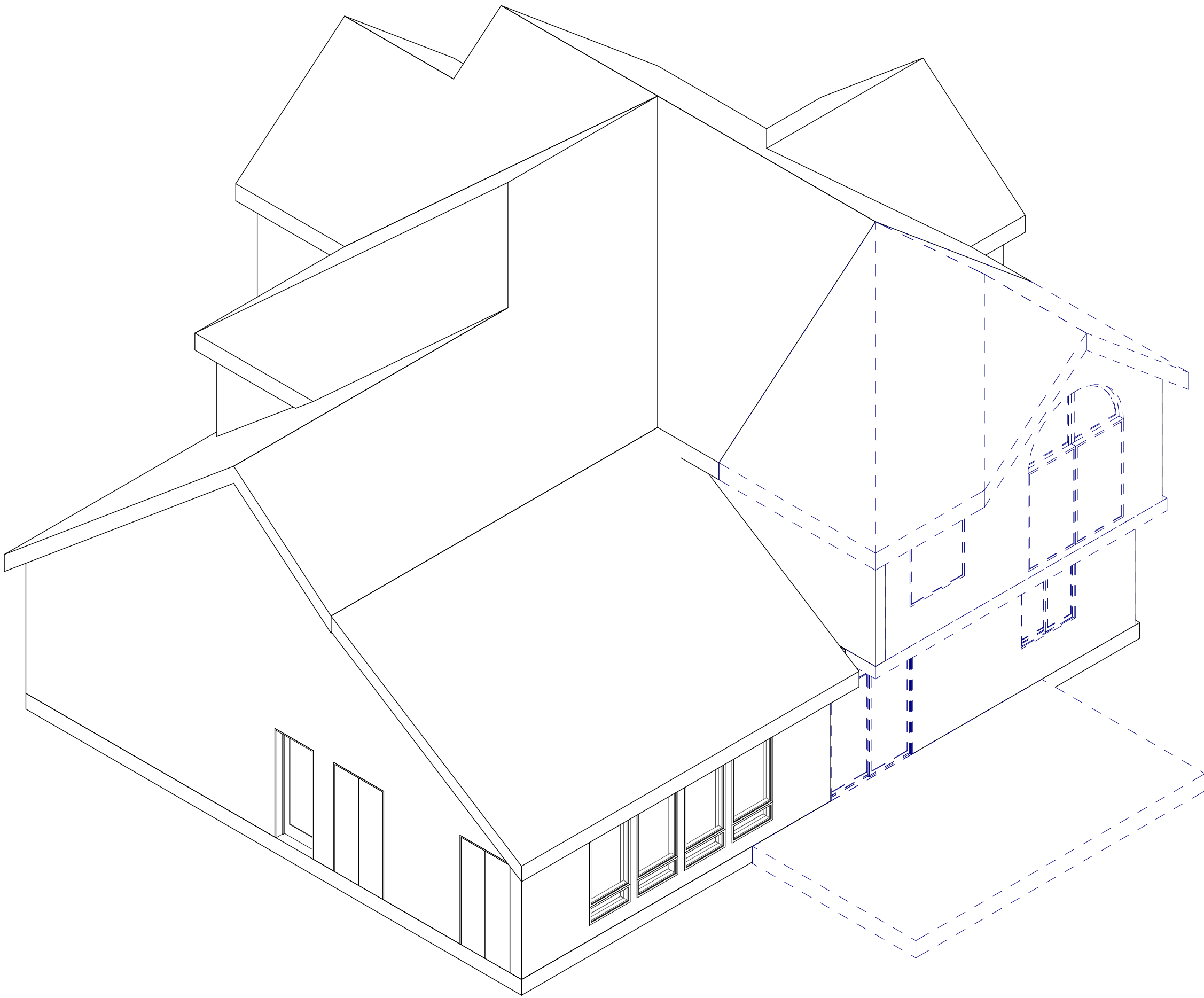
DATE:	08.8.2024
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3D
Views

A9.0



1 Proposed 3D



2 Existing 3D

GENERAL STRUCTURAL NOTES

BUILDING CODE
2021 INTERNATIONAL BUILDING CODE

DESIGN METHOD
ALLOWABLE STRESS DESIGN (ASD)

FLOOR LOADS
DEAD LOAD : 15 psf
LIVE LOAD: 40 psf

ROOF LOADS
DEAD LOAD: 15 psf
LIVE LOAD (SNOW): 25 psf

WIND DESIGN DATA
1. BASIC WIND SPEED: 110 MPH
2. RISK CATEGORY: II
3. WIND EXPOSURE: B
4. Kzt = 1.38
5. ANALYSIS PROCEDURE: ENVELOPE SIMPLIFIED

SESIMIC DESIGN DATA
1. SEISMIC IMPORTANCE FACTOR: 1.0
2. RISK CATEGORY: II
3. SPECTRAL RESPONSE ACCEL (Sg): 1.57
4. SITE CLASS: D
5. SPECTRAL RESPONSE COEFF (Sps): 1.17
6. SEISMIC DESIGN CATEGORY: D
7. LFRS: WOOD SHEATHED SHEARWALLS
8. SEISMIC RESPONSE COEFFICIENT (Cs): 0.18
9. RESPONSE MODIFICATION FACTOR (R): 6.5
10. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE

GENERAL

1. ANY DISCREPANCY FOUND AMONG THE DRAWINGS, THESE NOTES, AND THE SITE CONDITIONS SHALL BE REPORTED TO THE DESIGNER, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE CONTRACTORS RISK.

2. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CONTRACT DRAWINGS.

3. DURING THE CONSTRUCTION PERIOD THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING. THE CONTRACTOR SHALL PROVIDE ERECTION BRACING, FORMWORK, AND TEMPORARY CONSTRUCTION SHORING IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES. ANY DEVIATION MUST BE APPROVED IN WRITING PRIOR TO ERECTION.

4. ALL ERECTION PROCEDURES SHALL CONFORM TO OSHA STANDARDS. ANY DEVIATION MUST BE APPROVED BY OSHA PRIOR TO ERECTION.

5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION PROCEDURES.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AND BE RESOLVED PRIOR TO PROCEEDING WITH THE WORK.

7. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED SUBJECT TO REVIEW BY THE ENGINEER.

8. ALL DETAILS DESIGNATED AS STANDARD OR TYPICAL SHALL OCCUR IN ADDITION TO ANY OTHER SPECIFIC DETAIL CALLED OUT.

9. ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. WHERE ACTUAL CONDITIONS CONFLICT WITH THE DRAWINGS, THEY SHALL BE REPORTED TO THE ENGINEER SO THE PROPER REVISIONS MAY BE MADE. MODIFICATIONS TO CONSTRUCTION DETAILS SHALL NOT BE MADE WITHOUT PRIOR WRITTEN APPROVAL BY THE ENGINEER.

FOUNDATIONS

1. THE FOUNDATION DESIGN IS BASED ON THE RECOMMENDATION IN THE INTERNATIONAL BUILDING CODE TABLE 1806.2. FOUNDATION WORK SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 18 OF THIS CODE.

2. THE FOUNDATION DESIGN IS BASED ON THE FOLLOWING VALUES:
ALLOW. SOIL BEARING 1500 PSF
SOIL FRICTION .30
EQUIV. FLUID PRESSURES
ACTIVE PRESSURE 35 PCF
AT REST PRESSURE 50 PCF
PASSIVE PRESSURE 250 PCF

3. ALL FOOTINGS SHALL BE FOUNDED AT LEAST 18" BELOW THE UNDISTURBED GROUND SURFACE OR TO FROST DEPTH. ALL FOOTINGS SHALL BE FOUNDED ON COMPACTED FILL OR UNDISTURBED NATURAL GRADE UNLESS OTHERWISE NOTED.

4. COMPACTION: MATERIAL FOR FILLING AND BACKFILLING SHALL CONSIST OF THE EXCAVATED MATERIAL AND/OR IMPORTED BORROW AND SHALL BE FREE OF ORGANIC MATTER, TRASH, LUMBER, OR OTHER DEBRIS. ALL WALLS SHALL BE ADEQUATELY BRACED PRIOR TO BACKFILLING. FILL AND BACKFILL SHALL BE DEPOSITED IN LAYERS NOT TO EXCEED 8 INCHES THICK, PROPERLY MOISTENED TO APPROXIMATE OPTIMUM REQUIREMENTS AND THOROUGHLY ROLLED OR COMPACTED WITH APPROVED EQUIPMENT IN SUCH A MANNER AND EXTENT AS TO PRODUCE A RELATIVE COMPACTION OF 90% OF MAXIMUM POSSIBLE DENSITY AS DETERMINED BY ASTM D1557. HAND TAMPERS SHALL WEIGH AT LEAST 50 POUNDS EACH AND SHALL HAVE A FACE AREA NOT IN EXCESS OF 64 SQUARE INCHES. HAND TAMPERS MAY BE OPERATED EITHER MANUALLY OR MECHANICALLY AND SHALL BE USED WHERE LARGER POWER DRIVEN COMPACTION EQUIPMENT CANNOT BE USED.

CONCRETE

1. ALL CONCRETE UNLESS OTHERWISE NOTED SHALL BE REGULAR WEIGHT HARD ROCK TYPE (150 PCF) AGGREGATES SHALL CONFORM TO ASTM C33 WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.05%.

2. ALL CONCRETE DESIGN IS BASED ON A 28 DAY COMPRESSIVE STRENGTH (fc) OF 2500 PSI. WHERE 3000 PSI CONCRETE IS REQUIRED BY THE BUILDING DEPARTMENT FOR WEATHERING PURPOSES ONLY, NO SPECIAL INSPECTION IS REQUIRED.

3. CEMENT SHALL CONFORM TO ASTM C150, TYPE I, CSA NORMAL.

4. MAXIMUM SLUMP SHALL NOT EXCEED 4 INCHES IN FLATWORK.

5. PLACEMENT OF CONCRETE SHALL CONFORM WITH ACI 301.

6. CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF FIVE (5) DAYS AFTER PLACEMENT. ALTERNATE METHODS WILL BE APPROVED IF SATISFACTORY PERFORMANCE CAN BE ASSURED.

7. POUR JOINTS CAN BE USED TO MINIMIZE EFFECTS OF SHRINKAGE AS WELL AS PLACED AT POINTS OF LOW STRESS. RECOMMENDED MAXIMUM AREA OF POUR JOINTS IS 400 SF.

8. MINIMUM CONCRETE COVERAGE OF REINFORCING STEEL FOR FORMED WORK SHALL BE AS FOLLOWS:
INTERIOR WALL: 3/4"
EXT. WALLS, EXPOSED TO WEATHER: 1 1/2"
EXPOSED TO EARTH OR WEATHER (#5 OR SMALLER): 1 1/2"
*NOTE: CONCRETE CAST AGAINST GROUND SHALL HAVE 3" MIN. COVERAGE

9. PIPES AND CONDUITS SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED.

10. CONCRETE MIXES SHALL BE PROVIDED IN ACCORDANCE WITH ACI 318 (WHEN STRENGTH DATA FROM TRIAL BATCHES OR FIELD EXPERIENCE ARE NOT AVAILABLE). ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (F'c) OF 2500 PSI, WITH A MINIMUM CEMENT CONTENT OF 470 LBS/CUBIC YARD (5 SACKS PER CUBIC YARD). MIXES SHALL BE PROPORTIONED TO PRODUCE A SLUMP OF 5" OR LESS. NO MORE THAN A 1" PLUS TOLERANCE SHALL BE ALLOWED.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 (fy = 60 KSI) FOR BAR SIZES NO. 4 & LARGER, GRADE 40 (fy = 40 KSI) FOR NO. 3 BARS.

2. ALL REINFORCING STEEL SHALL BE LAPPED AS NOTED ON THE PLANS. WHERE LAP OR SPLICE LOCATIONS ARE NOT SPECIFICALLY INDICATED ON THE CONSTRUCTION DOCUMENTS, LAPS AND/OR SPLICES SHALL BE 42 BAR DIA AND BE WELL STAGGERED. NO MORE THAN 50% OF HORIZONTAL OR VERTICAL BARS SHALL BE SPLICED AT ONE LOCATION.

3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A82 AND A185 AND SHALL BE 6x6 W1.4xW1.4 UNLESS OTHERWISE NOTED. LAP REINFORCEMENT 6" MINIMUM.

4. ANCHOR BOLTS, DOWELS AND OTHER EMBEDDED ITEMS SHALL BE SECURELY TIED IN PLACE BEFORE CONCRETE IS POURED. SLAB ON GRADE REINFORCEMENT SHALL BE PLACED AT MID-DEPTH OF SLAB AND SHALL BE HELD SECURELY IN PLACE WITH MECHANICAL DEVICES DURING PLACING OF THE CONCRETE.

FRAMING LUMBER

1. FRAMING LUMBER SHALL BE DOUG-FIR NO. 2 FOR STUDS AND JOISTS, DOUG-FIR NO. 1. FOR BEAMS AND POSTS. GRADES ARE TYPICAL UNLESS OTHERWISE NOTED ON PLANS. LUMBER TO BE GRADE MARKED PER WCLIB SPECIFICATIONS.

2. GLU-LAMINATED MEMBERS SHALL BE 24F-V4 (DF-L) FOR SINGLE SPAN AND 24F-V8 FOR CONTINUOUS SPAN & CANTILEVERED.

3. STRUCTURAL SHEATHING SHALL BE APA RATED PLYWOOD OR OSB, EXPOSURE 1 SHEATHING CONFORMING TO EITHER COMMERCIAL STANDARDS P51-83, APA PRP-108, OR VOLUNTARY PRODUCT STANDARD PSE-92. PROVIDE A MINIMUM OF 3/8" EDGE DISTANCE ON ALL NAILS AND 1/8" EXPANSION JOINT BETWEEN ALL PANEL EDGES. MINIMUM SHEATHING REQUIREMENTS ARE AS FOLLOWS, UNLESS NOTED OTHERWISE ON THE PLANS:

4. NAILING SHALL CONFORM TO TABLE 2304.10.1 OF THE INTERNATIONAL BUILDING CODE UNLESS NOTED OTHERWISE. USE COMMON NAILS THROUGHOUT UNLESS NOTED OTHERWISE.

5. NO STRUCTURAL MEMBER SHALL BE CUT OR NOTCHED UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.

6. PROVIDE PROPERLY SIZED WASHERS UNDER HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD.

7. PROVIDE 3"x3"x0.229" WASHERS AT ALL ANCHOR BOLTS.

8. BOLT HOLES SHALL BE NOMINAL DIAMETER OF BOLT PLUS 1/16" UNLESS NOTED OTHERWISE. LAG BOLT PILOT HOLES SHALL BE PRE-DRILLED TO 60% OF THE NOMINAL DIAMETER OF THE LAG BOLT UNLESS NOTED OTHERWISE.

9. ALL SILL PLATES SHALL BE BOLTED TO THE FOUNDATION WITH 3/8" MINIMUM DIAMETER BOLTS SPACED AT A MAXIMUM OF 48" ON CENTER. BOLTS MUST BE EMBEDDED A MINIMUM OF 7" INTO CONCRETE OR MASONRY. SEE PLANS AND DETAILS FOR SPECIFIC REQUIREMENTS WHERE APPLICABLE.

10. PROVIDE DOUBLE JOIST UNDER ALL PARALLEL PARTITION WALLS AND SOLID BLOCKING UNDER PERPENDICULAR PARTITION WALLS.

11. WHERE LEDGERS, SILL PLATES, POSTS, OR STUDS ARE IN DIRECT CONTACT WITH CONCRETE OR MASONRY, USE PRESERVE TREATED LUMBER OR PROVIDE GRACE VYCOR PLUS BARRIER BETWEEN WOOD MEMBERS AND CONCRETE OR MASONRY.

12. ALL FASTENERS IN CONTACT WITH PRESERVE TREATED LUMBER OR EXPOSED TO THE ELEMENTS SHALL BE HOT-DIPPED GALVANIZED OR STAINLESS STEEL.

GLUED-LAMINATED TIMBER

1. ADHESIVE SHALL BE FOR WET USE.

2. LAMINATIONS SHALL BE OF DOUGLAS FIR/WESTER LARCH, COMBINATION 24F-V4 FOR SIMPLE SPAN BEAMS AND 24F-V8 FOR CONTINUOUS MULTIPLE SPAN AND CANTILEVERED BEAMS, FABRICATED IN ACCORDANCE WITH AITC A190.1 AND ASTM D 3737.

3. FABRICATION SHALL BE BY A LICENSED FABRICATOR.

4. GLULAM BEAMS EXPOSED TO WEATHER SHALL BE PROPERLY SEALED OR FLASHED TO PREVENT DECAY.

MANUFACTURED LUMBER

1. LAMINATED STRAND LUMBER DESIGN IS BASED ON TIMBERSTRAND LSL PRODUCTS AS SUPPLIED BY TRUS JOIST IN ACCORDANCE WITH ASTM D 5456 OR EQUIVALENT. DESIGN PROPERTIES SHALL BE:
Fb = 2325 PSI
Fv = 310 PSI
E = 1.55 x 10 ^6 PSI

2. PARALLEL STRAND LUMBER DESIGN IS BASED ON PARALLAM PSL PRODUCTS AS SUPPLIED BY TRUS JOIST IN ACCORDANCE WITH ASTM D 5456 OR EQUIVALENT. DESIGN PROPERTIES SHALL BE:
Fb = 2900 PSI
Fv = 290 PSI
E = 2.0 x 10 ^6 PSI

3. LAMINATED VENEER LUMBER DESIGN IS BASED ON MICROLAM LVL PRODUCTS AS SUPPLIED BY TRUS JOIST IN ACCORDANCE WITH ASTM D 5456 OR EQUIVALENT. DESIGN PROPERTIES SHALL BE:
Fb = 2600 PSI
Fv = 285 PSI
E = 1.9 x 10 ^6 PSI

4. PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED ALONG WITH THE APPROPRIATE ICBO EVALUATION REPORTS TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION. INSTALLATION OF SUBSTITUTIONS SHALL NOT PROCEED WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.

POST-INSTALLED ANCHORS

1. POST-INSTALLED ANCHOR SYSTEMS SHALL COMPLY WITH THE LATEST REVISION OF ICC-ES ACCEPTANCE CRITERIA AND HAVE A VALID ICC-ES REPORT (OR APPROVED EQUIVALENT) IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE.

2. UNLESS OTHERWISE NOTES ON THE DRAWINGS USE ANCHORS LISTED BELOW:
EXPANSION ANCHORS IN CONCRETE SHALL BE ONE OF THE FOLLOWING:
A. HILTI HSL-3 CARBON STEEL HEAVY DUTY EXPANSION ANCHOR (ICC-ES ESR-1545)
B. HILTI HDA CARBON AND STAINLESS STEEL ANCHORS (ICC-ES ESR-1546)
C. HILTI KWIK BOLT TZ CARBON AND STAINLESS STEEL ANCHORS (ICC-ES ESR-1917)
D. POWERS POWER-STUD+SD2 ANCHOR (ICC-ES ESR-2502)
E. SIMPSON STRONG-TIE STRONG-BOLT 2 ANCHOR (ICC-ES ESR-3037)
ADHESIVE ANCHORS IN CONCRETE SHALL BE ONE OF THE FOLLOWING:
A. HILTI HIT-RE 500-SD ADHESIVE ANCHOR (ICC-ES ESR-2322)
B. HILTI HIT-HY 200 ADHESIVE ANCHOR (ICC-ES ESR-3187)
C. POWERS PURE 110+ EPOXY ADHESIVE ANCHOR (ICC-ES ESR-3298)
D. SIMPSON STRONG-TIE SET-3G EPOXY ADHESIVE ANCHOR (ICC-ES ESR-4507)
E. SIMPSON STRONG-TIE AT-XP EPOXY ADHESIVE ANCHOR (IAPMO UES ER-263)
SCREW ANCHORS IN CONCRETE SHALL BE ONE OF THE FOLLOWING:
A. POWERS WEDGE-BOLT+ SCREW ANCHOR (ICC-ES ESR 2526)
B. HILTI KWIK HUS-EZ SCREW ANCHOR (ICC-ES ESR-3027)
C. SIMPSON STRONG-TIE TITEN HD SCREW ANCHOR (ICC-ES ESR-2713)

SPECIAL INSPECTIONS

IN ACCORDANCE WITH IBC CHAPTER 17, THE FOLLOWING TYPES OF WORK REQUIRE SPECIAL INSPECTION. SEE THE SPECIFICATIONS AND DRAWINGS FOR ADDITIONAL REQUIREMENTS FOR INSPECTION AND TESTING. SPECIAL INSPECTION SHALL BE PAID FOR AND PROVIDED BY THE OWNER.

MATERIAL	TASK	CONTINUOUS	PERIODIC	RESPONSIBLE FIRM
CONCRETE CONSTRUCTION	INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE	-	X	SPECIAL INSPECTOR

ABBREVIATION LIST

A.B.	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ANCH	ANCHORAGE
ARCH	ARCHITECTURAL
ASD	ALLOWABLE STRESS DESIGN
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BM	BEAM
BP	BASE PLATE
BRG	BEARING
CIP	CAST-IN-PLACE
CL	CENTER LINE
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONT	CONTINUOUS
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DL	DEAD LOAD
DP	DEEP
EA	EACH
EF	EACH FACE
EL	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
(E)	EXISTING
FLR	FLOOR
FS	FAR SIDE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GLB	GLU-LAMINTED BEAM
GYP	GYPSUM
HF	HEMLOCK FIR
HORIZ	HORIZONTAL
INCL	INCLUDE
K	KILOPOUND
L	ANGLE
LL	LIVE LOAD
LLV	LONG LEG VERTICAL
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
MAX	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MISC	MISCELLANEOUS
MIN	MINIMUM
NS	NEAR SIDE
NTS	NOT TO SCALE
OF	OUTSIDE FACE
PCF	POUNDS PER CUBIC FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
QTY	QUANTITY
REINF	REINFORCING
RF	ROOF
SCHED	SCHEDULE
SF	SQUARE FOOT
SHTG	SHEATHING
SIM	SIMILAR
SLV	SHORT LEG VERTICAL
SPECS	SPECIFICATIONS
SS	STAINLESS STEEL
STD	STANDARD
STRUCT	STRUCTURAL
T&B	TOP & BOTTOM
T&G	TONGUE & GROOVE
TOB	TOP OF BEAM
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TYP	TYPICAL
ULT	ULTIMATE
U.N.O	UNLESS NOTED OTHERWISE
VERT	VERTICAL
V.I.F.	VERIFY IN FIELD
W/	WITH
WF	WIDE FLANGE
W/O	WITHOUT
WT	WEIGHT
WWF	WELDED WIRE FABRIC



Mercerwood Addition
4227

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Mercer Island,
WA 98033

Owner:

Hui Zhou

Architect/Designer:

5ft2

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Revisions:

Revision	Issue Date

Issue Set: Permit

Issue Date: August 1st, 2024

Drawn By: PIS

Checked By: NKH

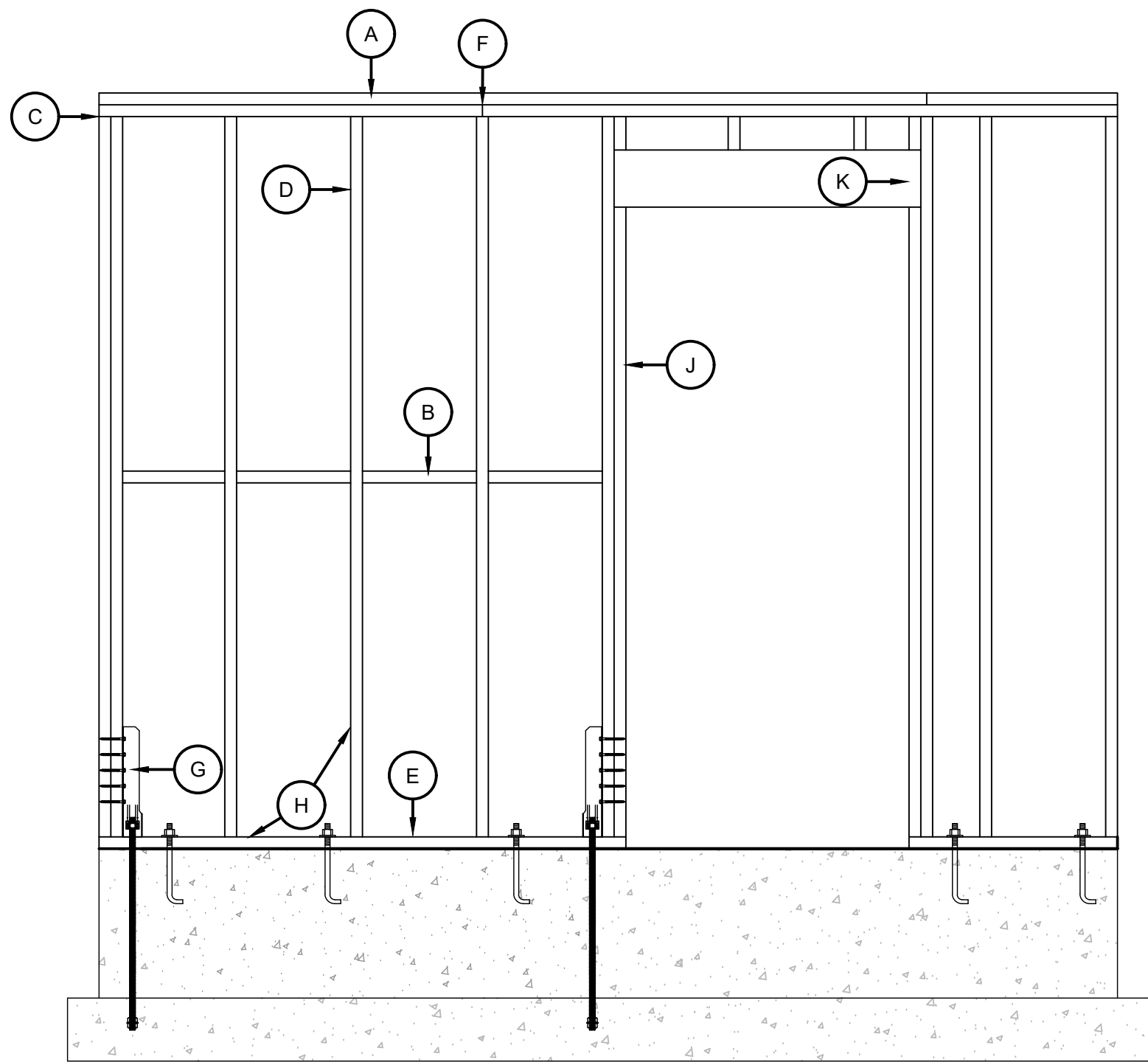
Sheet Name:

GENERAL
STRUCTURAL
NOTES

Sheet:

S1.0

Job Number: 24-065



- A DOUBLE TOP PLATE W/ EDGE NAILING (STAGGER)
- B SHEARWALL EDGE NAILING AT ALL PANEL EDGES. BLOCKING AT ALL PANEL EDGES WHERE APPLICABLE.
- C EDGE NAILING TO HOLDOWN POST (FULL HEIGHT) STAGGER INTO DOUBLE STUDS
- D STUDS AT 16" ON CENTER
- E PRESSURE TREATED SILL PLATE WITH EDGE NAILING AND ANCHOR BOLTS PER SHEARWALL SCHEDULE.
- F TOP PLATE SPLICE NAILING TO BE (12) 10d COMMONS (MIN). LAP 48" MINIMUM. CENTER SPLICE ON STUD.
- G HOLDOWN PER SCHEDULE AND PLAN
- H COORDINATE ALL STUD AND PLATE SIZES w/ SHEARWALL SCHEDULE REQUIREMENTS
- I EDGE NAILING TO POSTS, TRIM STUDS, AND KING STUDS
- J BEARING STUD FOR HEADER
- K

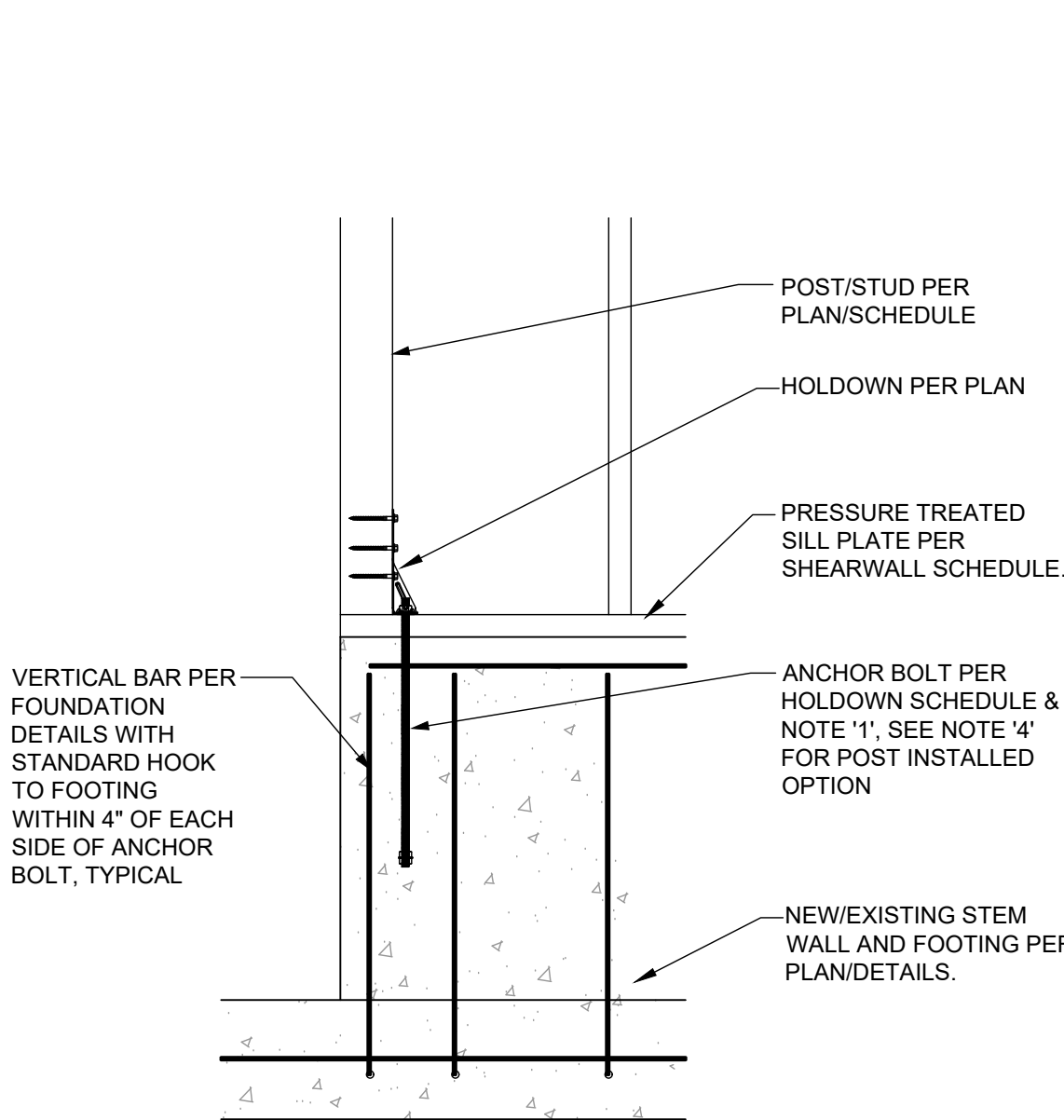
1 TYPICAL SHEARWALL ELEVATION

S1.1 NTS

SHEARWALL SCHEDULE								
SHEARWALL MARK	SHEATHING MATERIAL	FASTENER TYPE AND SIZE	PANEL EDGE NAILING	PANEL FIELD NAILING	SILL PLATE MATERIAL AND ANCHOR BOLT SIZE AND SPACING (MIN EMBED 7")	BOTTOM PLATE SIZE AND CONNECTION	ALLOWABLE CAPACITY FOR SEISMIC LOADS (8d $\frac{1}{8}$ ")	ALLOWABLE CAPACITY FOR WIND LOADS (8d $\frac{1}{8}$ ")
SW-6	$\frac{1}{8}$ " OR $\frac{1}{2}$ " OSB OR PLYWOOD SHEATHING ONE FACE	8d COMMON NAIL (1-1/2" MIN PENETRATION INTO FRAMING MEMBERS)	6" O.C.	12" O.C.	PT 2x SILL PLATE w/ $\frac{1}{8}$ " $\varnothing$ AB @ 48" O.C.	2x BOTTOM PLATE w/ 16d AT 6" O.C. INTO RIM JOIST/BLOCKING	240 PLF	335 PLF
SW-4			4" O.C.		PT 2x SILL PLATE w/ $\frac{1}{8}$ " AB $\varnothing$ @ 36" O.C.	2x BOTTOM PLATE w/ 16d AT 4" O.C. INTO RIM JOIST/BLOCKING	350 PLF	490 PLF
SW-3			3" O.C.		PT 3x SILL PLATE w/ $\frac{1}{8}$ " $\varnothing$ AB @ 16" O.C.	3x BOTTOM PLATE w/ (2) ROWS OF SIMPSON 6" SDW SCREWS AT 6" O.C. INTO RIM JOIST AND BLOCKING	450 PLF	630 PLF
SW-2			2" O.C.		PT 3x SILL PLATE w/ $\frac{1}{8}$ " $\varnothing$ AB @ 16" O.C.	3x BOTTOM PLATE w/ (2) ROWS OF SIMPSON 6" SDW SCREWS AT 6" O.C. INTO RIM JOIST AND BLOCKING	585 PLF	820 PLF
(2)SW-3			$\frac{1}{4}$ " OR $\frac{1}{2}$ " SHEATHING TWO-FACES		3" O.C.	PT 3x SILL PLATE w/ $\frac{1}{8}$ " $\varnothing$ AB @ 8" O.C.	3x BOTTOM PLATE w/ (2) ROWS OF SIMPSON 6" SDW SCREWS AT 4" O.C. INTO RIM JOIST AND BLOCKING	900 PLF

SHEARWALL NOTES

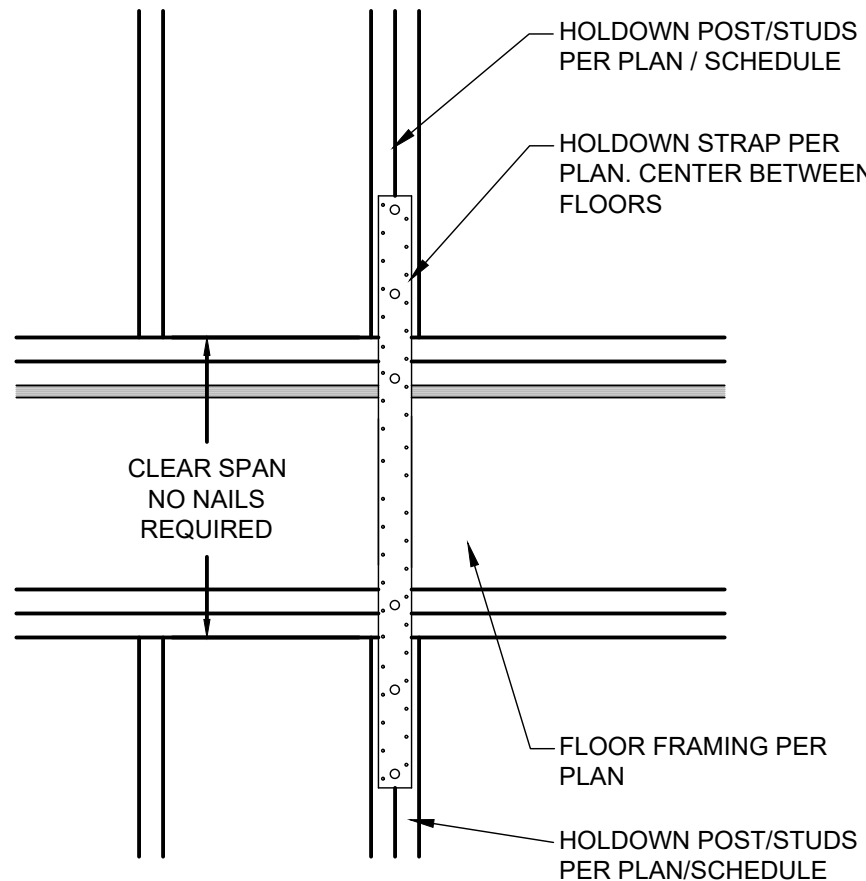
- ALL STUDS, BLOCKING, TOP AND BOTTOM PLATES SHALL BE HEM-FIR NO. 2 UNLESS NOTED OTHERWISE ON PLANS. ALL SHEATHING EDGES MUST BE BACKED WITH 2x OR WIDER FRAMING (SEE NOTE #3).
- SHEATHING MAY BE INSTALLED EITHER HORIZONTALLY OR VERTICALLY. ALL SHEARWALL SHEATHING MUST EXTEND TO THE OUTSIDE EDGE OF ALL HOLDOWN POSTS AND CORNERS, AND TO THE INSIDE EDGE OF FRAMING AROUND OPENINGS.
- WHERE SHEATHING NAILING IS SHEARWALL TYPE SW-3 AND GREATER, ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3-INCH NOMINAL MEMBER. ADDITIONALLY, WHERE SHEARWALLS ARE SHEATHED ON BOTH FACES, ALL STUDS AND PLATES RECEIVING EDGE NAILING FROM BOTH FACES MUST BE A SINGLE 3-INCH NOMINAL MEMBER OR PANEL JOINTS MUST BE OFFSET. (2)2x MAY BE SUBSTITUTED FOR A SINGLE 3x MEMBER PROVIDED THE STUDS ARE STITCH NAILED TOGETHER w/ 10d NAILS STAGGERED AT 6" O.C. FROM EACH SIDE.
- SHEARWALL NAILING CRITERIA IS BASED ON TABLE 4.2A OF THE AF&PA SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC. VALUES ARE BASED ON OSB OR PLYWOOD SHEATHING w/ HEM-FIR NO. 2 FRAMING AND COMMON NAILS.
- HOLDOWNS AND OTHER CONNECTIONS MAY BE REQUIRED AT THE ENDS OF MANY SHEARWALLS. SIZES AND LOCATIONS OF THESE CONNECTORS ARE INDICATED ON THE PLANS. REFER TO THE APPROPRIATE DETAILS AND/OR HOLDOWN SCHEDULE FOR ADDITIONAL INFORMATION REGARDING ANCHOR BOLTS, EMBEDMENT LENGTH, ETC. WHERE (2) 2xS ARE USED AS A HOLDOWN POST, SHEARWALL EDGE NAILING MUST BE STAGGERED INTO EACH MEMBER OF THE POST.
- ANCHOR BOLTS MUST BE EMBEDDED A MINIMUM OF 7" INTO CONCRETE OR GROUTED CMU, AND SHALL BE PLACED TO PROVIDE A MINIMUM OF 2" COVER. PROVIDE 3" COVER FOR CONCRETE CAST AGAINST SOIL.
- ALL MACHINE BOLTS SHALL BE ASTM A307 OR BETTER. HILTI KWIK BOLTS/SIMPSON TITEN HD BOLTS OF THE SAME DIAMETER AS SHOWN IN THE SHEARWALL SCHEDULE MAY BE SUBSTITUTED FOR ANCHOR BOLTS INTO EXISTING CONCRETE. BOLTS SHALL BE EMBEDDED A MINIMUM OF 3 $\frac{1}{2}$ " INTO EXISTING CONCRETE.
- ALL NAILS AND CONNECTORS IN CONTACT WITH PRESSURE TREATED WOOD (EXCEPT FOR BORITE TREATED WOOD) MUST BE HOT DIPPED GALVANIZED OR STAINLESS STEEL TO RESIST CORROSION.
- NAILS MUST BE STAGGERED WHEN SPACED AT 2" O.C.
- PROVIDE A MINIMUM OF 3" x 3" x 0.229" PLATE WASHERS AT ALL ANCHOR BOLTS. THE EDGE OF THE PLATE WASHER MUST BE LOCATED NO MORE THAN $\frac{1}{2}$ " FROM THE INSIDE FACE OF THE SHEARWALL SHEATHING. FOR SHEARWALLS SHEATHED ON BOTH FACES, SQUARE PLATE WASHERS SHALL HAVE A MINIMUM SQUARE DIMENSION OF SILL PLATE WIDTH MINUS 1". (E.G. 4.5" x 4.5" x 0.229" WASHER FOR 3x6 SILL PLATE.)



SLAB/STEMWAL

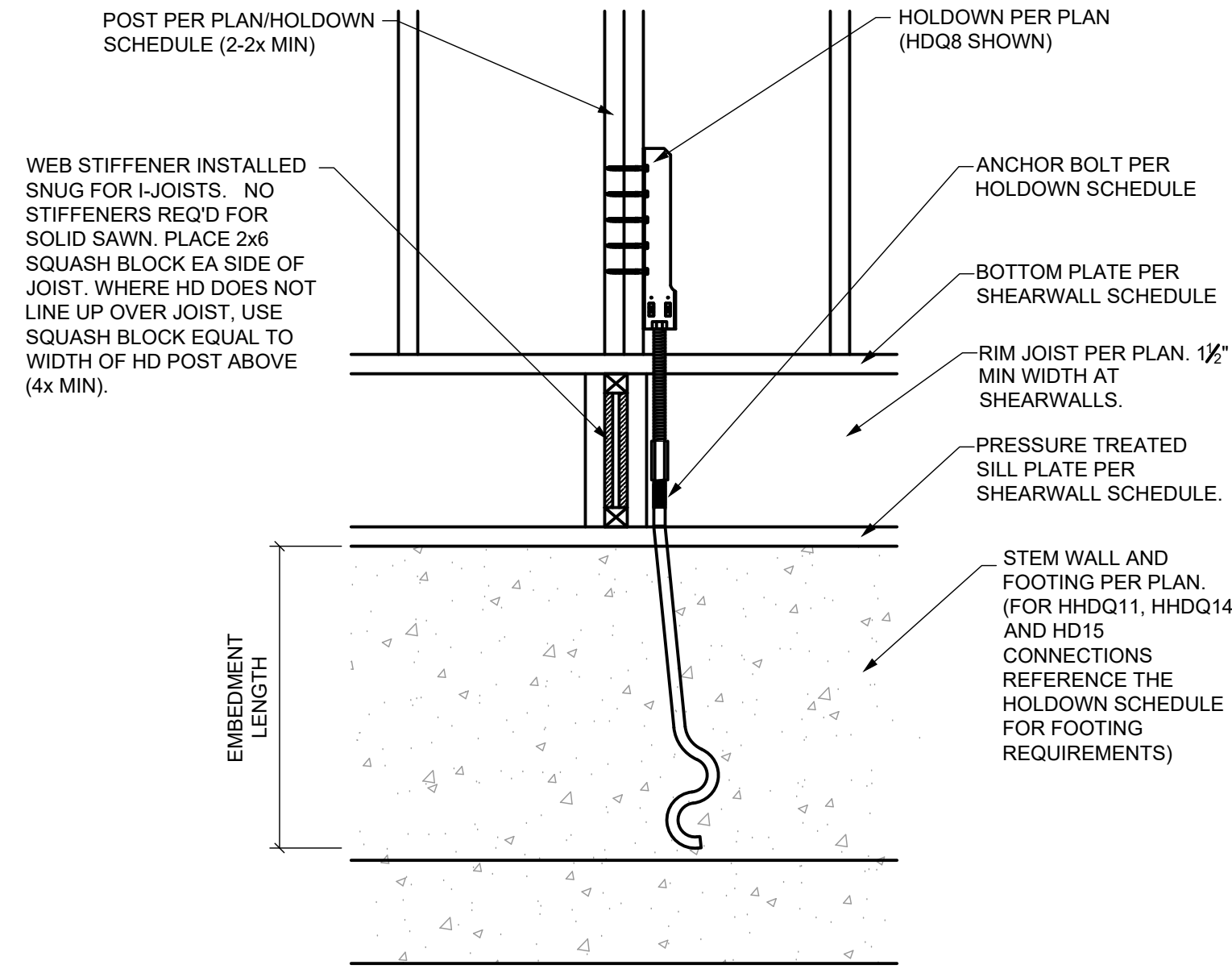
2 TYP BOLTED HOLDOWN

S1.1 1" = 1'-0"



3 TYP FLR TO FLR STRAP

S1.1 1" = 1'-0"



AT RIM JOIST

HOLDOWN SCHEDULE							
HOLDOWN MARK	THREADED ROD SIZE	EMBED INTO CONCRETE	MIN EDGE DISTANCE	MINIMUM POST SIZE	TOTAL FASTENERS	CAPACITY	REMARKS
DTT2Z	$\frac{1}{2}$ " $\varnothing$	10"	2 $\frac{1}{2}$ "	(2) 2x	(8) SDS $\frac{1}{4}$ " x 1 $\frac{1}{2}$ "	2145#	SEE DET 2/S1.1
HDU4	$\frac{3}{8}$ " $\varnothing$	12"	3"	(2) 2x	(10) SDS $\frac{1}{4}$ " x 2 $\frac{1}{2}$ "	4565#	SEE DET 2/S1.1
HDU11	1"	16"	4"	6X6	(30) SDS $\frac{1}{4}$ "x2 $\frac{1}{2}$ "	9535#	SEE DET 2/S1.1
MST37	N/A	N/A	N/A	(2) 2x	(22) 16d	2705#	SEE DET 3/S1.1

HOLDOWN NOTES

- ANCHOR BOLTS SHALL BE A307 ALL-THREAD w/ STANDARD CUT PLATE WASHER BETWEEN DOUBLE NUT OR EQUIVALENT SIMPSON PAB.
- MINIMUM CONCRETE COMPRESSIVE STRENGTH (f'c) SHALL BE 2500 PSI. MINIMUM WALL THICKNESS IS 8", U.N.O. ON PLAN OR DETAILS.
- ALL HOLDOWNS REQUIRE A (2)2x POST UNLESS NOTED OTHERWISE. WHERE HOLDOWNS ARE INSTALLED INTO THE WIDE FACE OF THE STUD, STUDS MUST BE STITCH NAILED TOGETHER w/ 16d SINKERS STAGGERED AT 4" O.C.
- THREADED RODS MAY BE POST INSTALLED WITH SIMPSON SET-XP, AT-XP, OR HILTI HY-150 EPOXY, UNO. CONSULT EOR FOR HDU8 & HEAVIER POST INSTALLED OPTIONS. SPECIAL INSPECTIONS ARE REQUIRED FOR POST-INSTALLED ANCHORS PER GENERAL STRUCTURAL NOTES.
- MINIMUM EDGE DISTANCE IS FOR FORMED CONCRETE EXPOSED TO WEATHER OR SOIL. FOR CONCRETE CAST AGAINST SOIL PROVIDE 3" CLEAR TO ANCHOR BOLT.
- NAILS/SCREWS TO HOLDOWN POST SHALL BE PER MANUFACTURER'S SPECIFICATIONS.
- WHEN FIELD CONDITION BECOME LESS THAN MINIMUM SHOWN, CONTACT ENGINEER PRIOR TO PROCEEDING.
- ALL HOLDOWN BOLTS MUST BE RE-TIGHTENED JUST PRIOR TO ENCLOSING SECOND SIDE OF WALL.

Mercerwood Addition 4227

4227 91st Ave SE,
Mercer Island,
WA 98033

Owner:
Hui Zhou

Architect/Designer:

5ft2

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Revisions:

Revision	Issue Date

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Issue Date: August 1st, 2024

Drawn By: PIS

Checked By: NKH

Sheet Name:

SHEARWALL SCHEDULE & DETAILS

Sheet:

S1.1

Job Number: 24-065

**Mercerwood Addition
4227**

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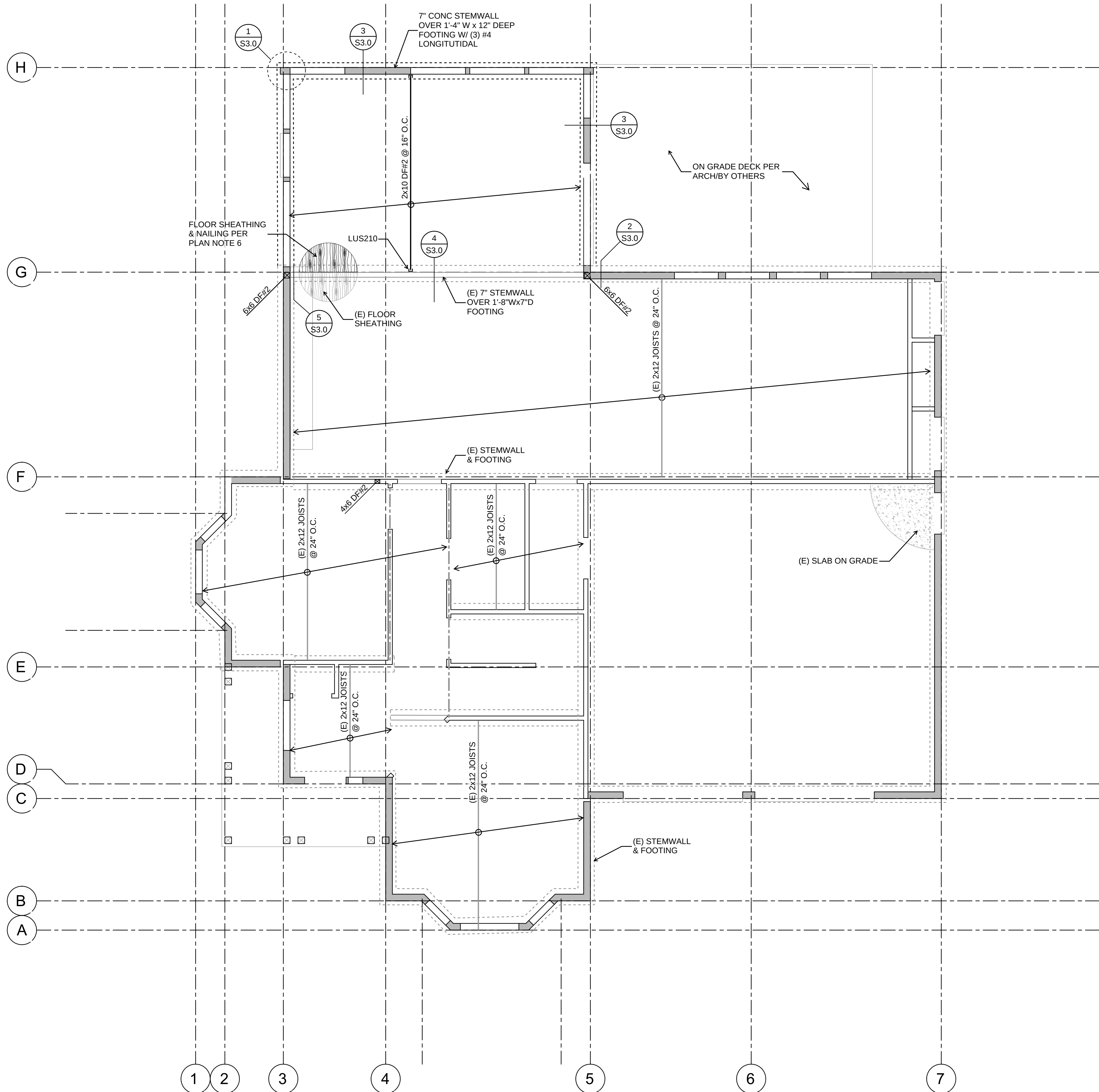
Sheet Name:

**FOUNDATION &
MAIN FLOOR
FRAMING PLAN**

Sheet:

S2.0

Job Number: 24-065



GENERAL NOTES

- DO NOT SCALE DRAWINGS - SCALE ONLY APPLICABLE WHEN PRINTED FULL SIZE AND SCALE IS LISTED.
- FOR GENERAL STRUCTURAL NOTES, SEE SHEET S1.0.
- ALL HEADERS SHALL BE (2)2x6 DFL #2 U.N.O. ON PLANS.
- PROVIDE (1) 2x TRIM STUD AND (1) 2x KING STUD FOR CLEAR OPENINGS UP TO 4'-0".
PROVIDE (2) 2x TRIM STUD AND (2) 2x KING STUD FOR CLEAR OPENINGS UP TO 8'-0".
PROVIDE (3) 2x TRIM STUD AND (3) 2x KING STUD FOR CLEAR OPENINGS GREATER THAN 8'-0" U.N.O. ON PLANS.
- ROOF SHEATHING SHALL BE APA RATED 1/2" OSB OR PLYWOOD. NAIL PANEL EDGES W/ 10d @ 6" O.C., NAIL PANEL FIELD W/ 10d @ 12" O.C. TYP. U.N.O.
- FLOOR SHEATHING SHALL BE APA RATED 3/4" OSB OR PLYWOOD. NAIL PANEL EDGES W/ 10d @ 6" O.C., NAIL PANEL FIELD W/ 10d @ 12" O.C. TYP. U.N.O.
- PROVIDE SIMPSON CB POST BASE FOR ALL COLUMNS TO CONCRETE & BC POST BASE TO WOOD U.N.O. ON PLAN OR IN DETAILS. ORIENT BASE TO FASTENERS IN STUD WALL WHERE APPLICABLE. REFERENCE ARCH PLANS FOR LOCATION OF CUSTOM CONNECTIONS.
- ALL EXTERIOR WALLS SHALL BE FRAMED AS SHEARWALL TYPE '6' U.N.O. ON PLANS
- SHEATHING PER SHEARWALL SCHEDULE SHALL BE INSTALLED ABOVE AND BELOW ALL OPENINGS AND SHALL RUN CONTINUOUSLY BETWEEN CORNERS.
- SEE SHEET S1.1 FOR TYPICAL HOLDOWN DETAILS.
- VERIFY/UPGRADE EXISTING WALLS AS REQUIRED PER PLAN/SHEARWALL SCHEDULE.

LEGEND

- NEW STUD WALL PER PLAN, 2x4 @ 16" O.C. MIN INTERIOR, 2x6 @ 16" O.C. MIN EXTERIOR (U.N.O.)
- NEW POST PER PLAN
- NEW FOOTING PER PLAN



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Revisions:

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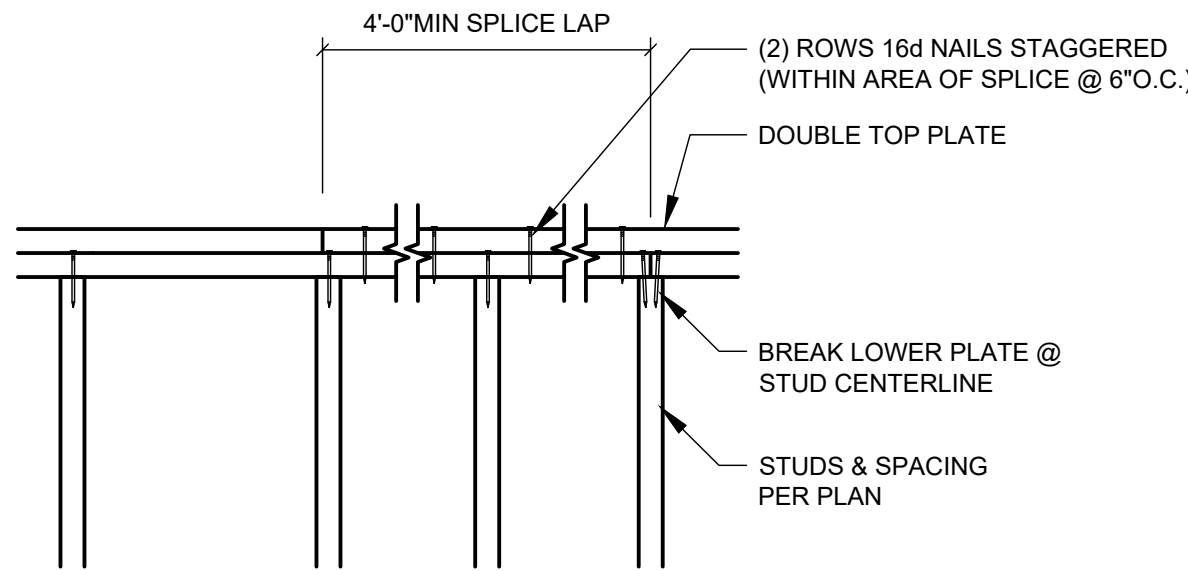
Job Number: 24-065



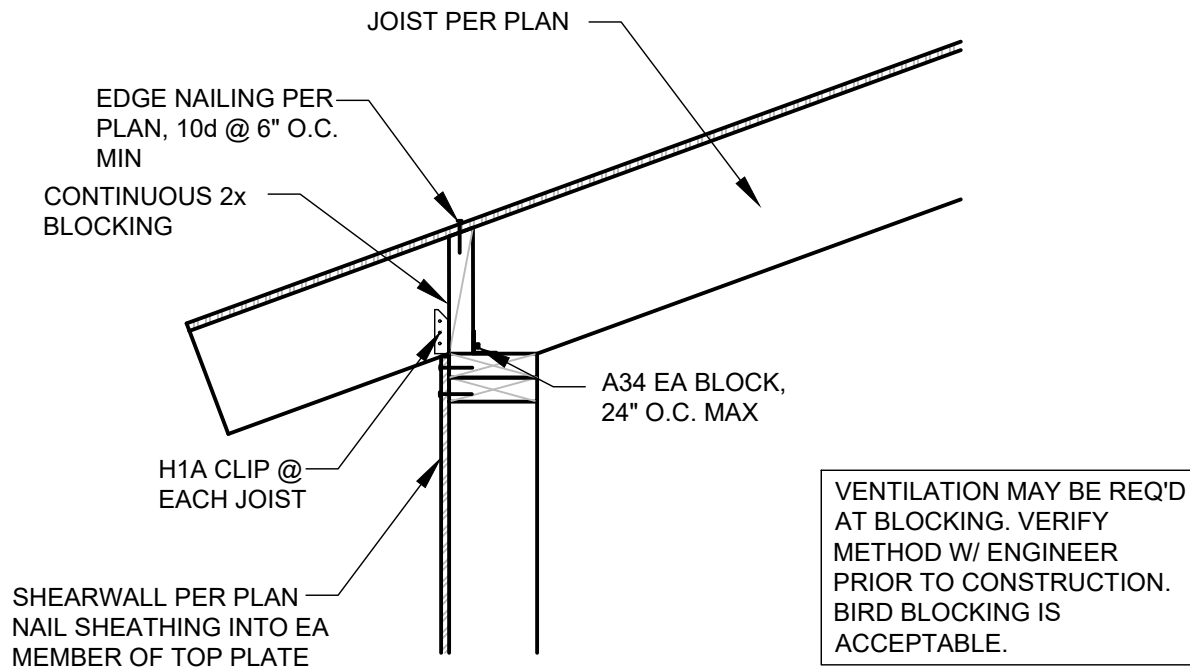
1. DO NOT SCALE DRAWINGS - SCALE ONLY APPLICABLE WHEN PRINTED FULL SIZE AND SCALE IS LISTED.
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3. ALL HEADERS SHALL BE (2)2x6 DFL #2 U.N.O. ON PLANS.
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5. ROOF SHEATHING SHALL BE APA RATED 1/2" OSB OR PLYWOOD NAIL PANEL EDGES W/ 10d @ 6" O.C., NAIL PANEL FIELD W/ 10d @ 12" O.C. TYP. U.N.O.
6. FLOOR SHEATHING SHALL BE APA RATED 3/4" OSB OR PLYWOOD. NAIL PANEL EDGES W/ 10d @ 6" O.C., NAIL PANEL FIELD W/ 10d @ 12" O.C. TYP. U.N.O.
7. PROVIDE SIMPSON CB POST BASE FOR ALL COLUMNS TO CONCRETE & BC POST BASE TO WOOD U.N.O. ON PLAN OR IN DETAILS. ORIENT BASE TO FASTENERS IN STUD WALL WHERE APPLICABLE. REFERENCE ARCH PLANS FOR LOCATION OF CUSTOM CONNECTIONS.
8. ALL EXTERIOR WALLS SHALL BE FRAMED AS SHEARWALL TYPE 'B' U.N.O. ON PLANS
9. SHEATHING PER SHEARWALL SCHEDULE SHALL BE INSTALLED ABOVE AND BELOW ALL OPENINGS AND SHALL RUN CONTINUOUSLY BETWEEN CORNERS.
10. SEE SHEET S1.1 FOR TYPICAL HOLDOWN DETAILS.
11. VERIFY/UPGRADE EXISTING WALLS AS REQUIRED PER PLAN/SHEARWALL SCHEDULE.

	NEW STUD WALL PER PLAN, 2x4 @ 16" O.C. MIN INTERIOR, 2x6 @ 16" O.C. MIN EXTERIOR (U.N.O.)
	NEW POST PER PLAN
	NEW SHEARWALL PER PLAN & SCHEDULE
	INDICATES HOLDOWN PER PLAN & S1.1

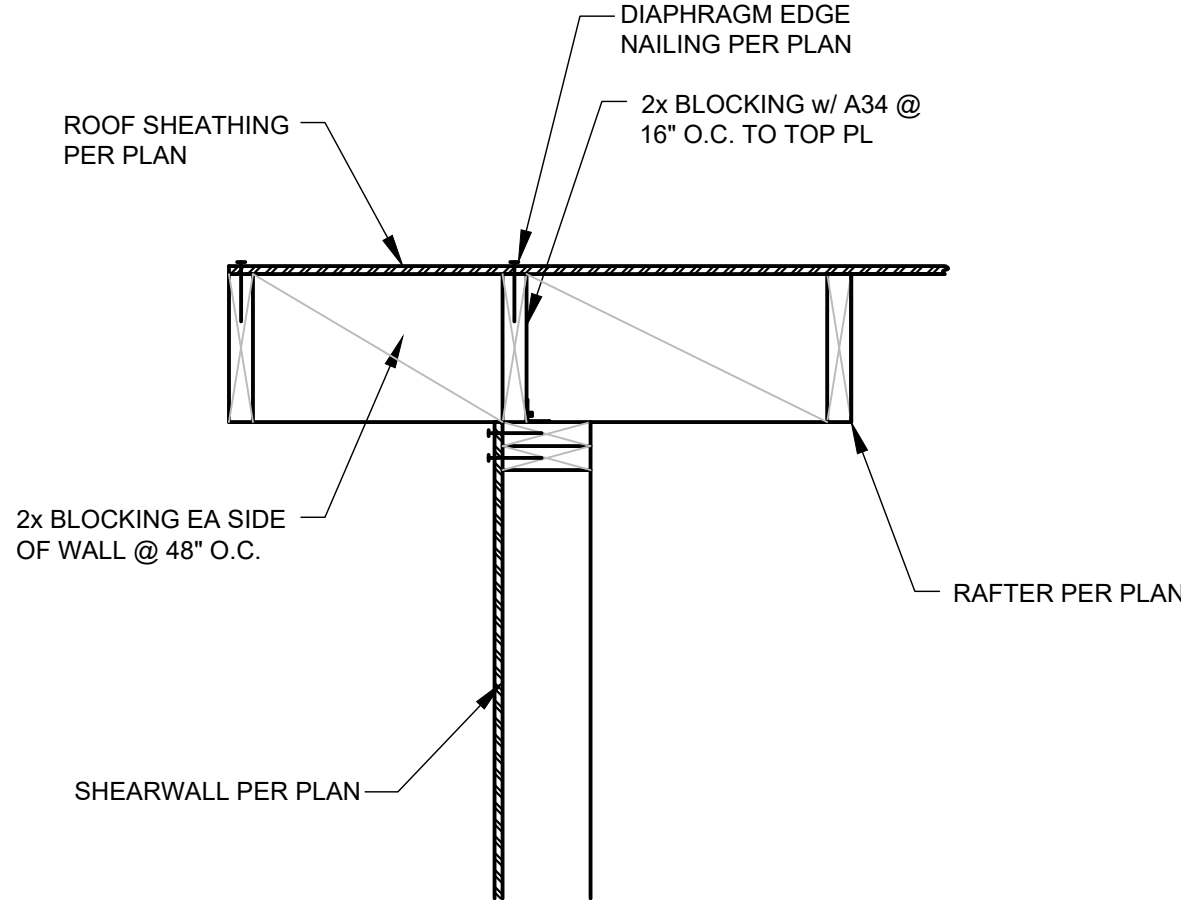




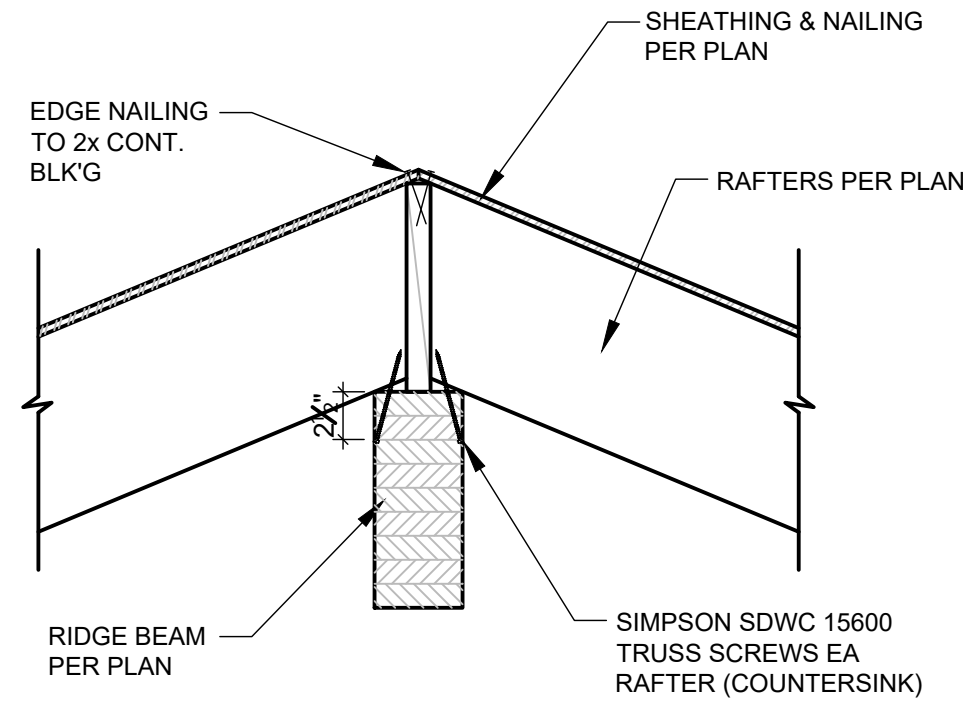
1 TYPICAL TOP PLATE SPLICE
S3.1 NTS



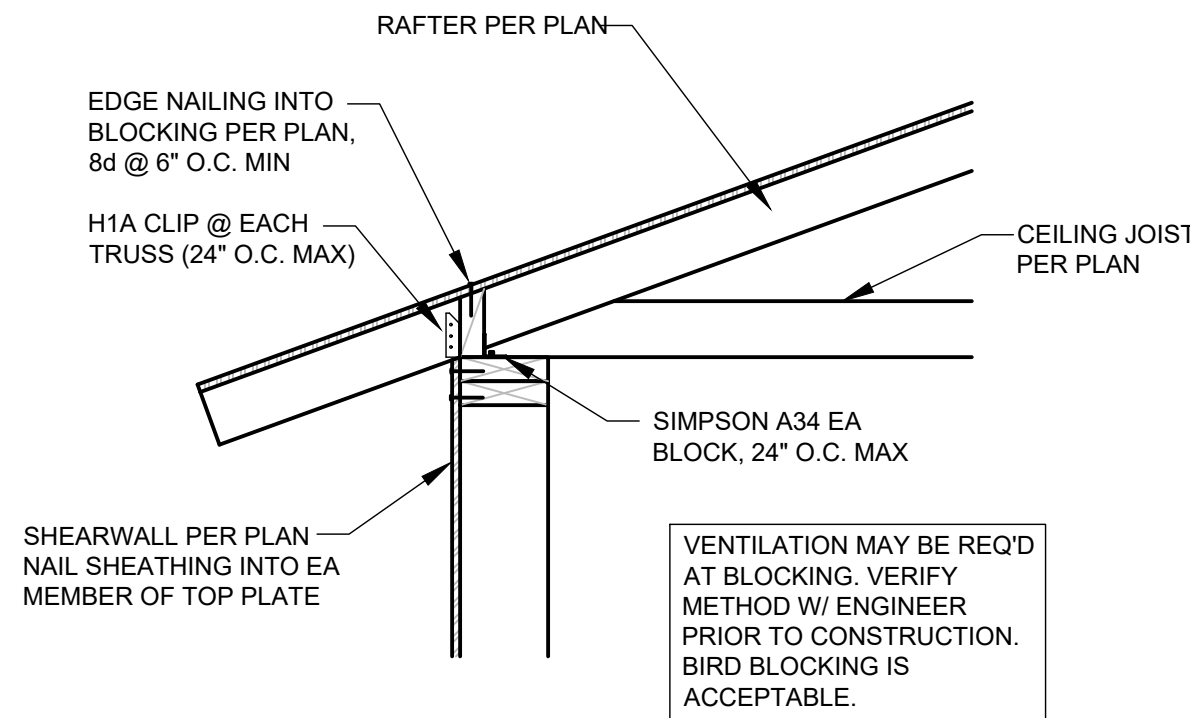
2 ROOF TO SHEARWALL CONNECTION
S3.1 1" = 1'-0"



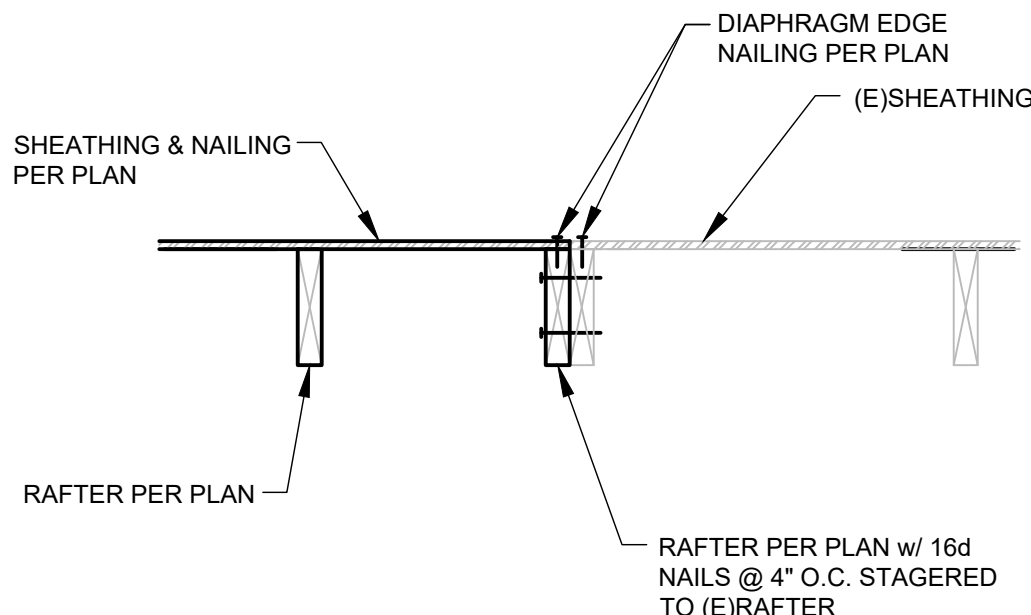
3 ROOF TO SHEARWALL CONNECTION
S3.1 1" = 1'-0"



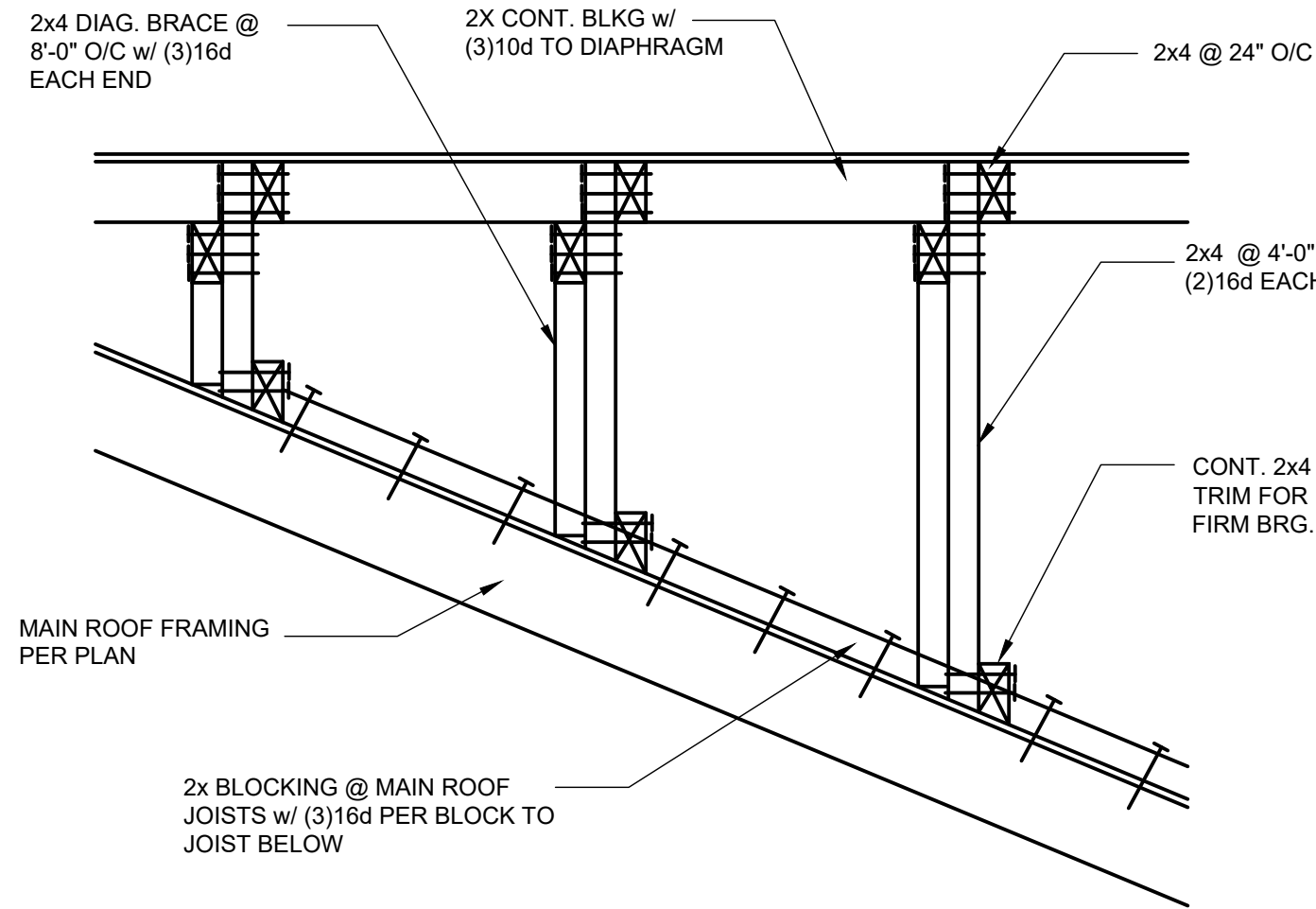
4 UPPER RIDGE BEAM CONNECTION
S3.1 1" = 1'-0"



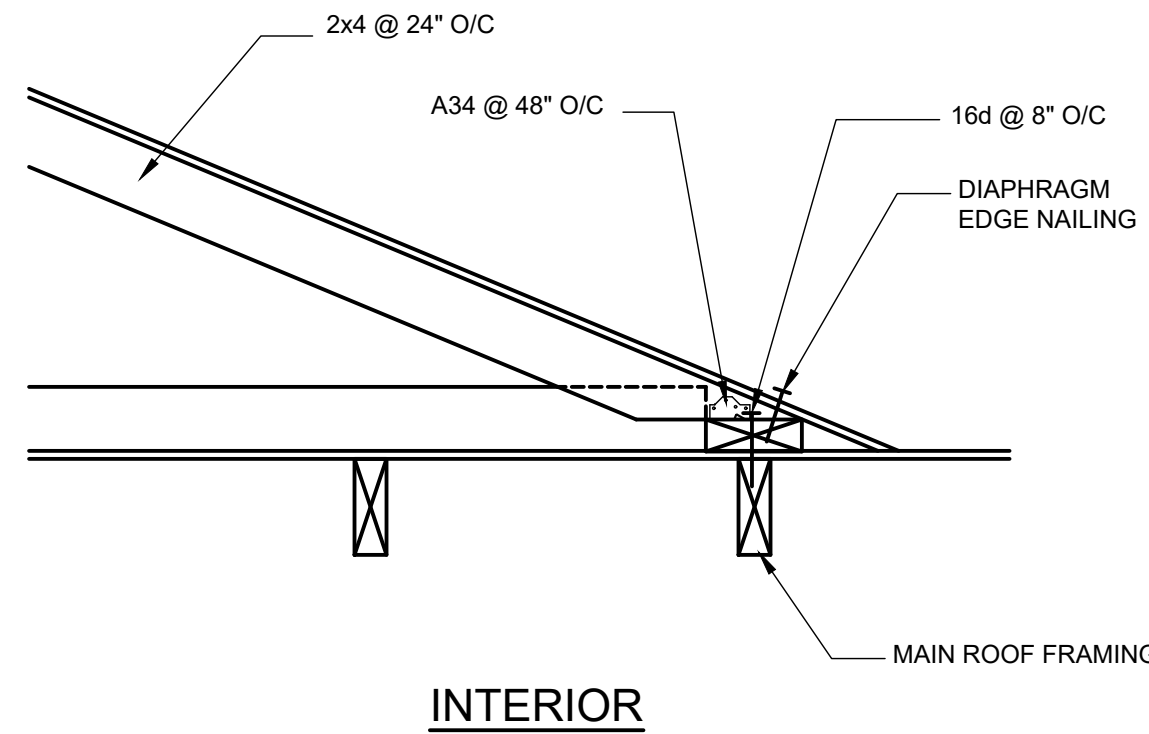
5 ROOF TO SHEARWALL CONNECTION
S3.1 1" = 1'-0"



6 (N) TO (E) ROOF CONNECTION
S3.1 1" = 1'-0"



7 FALSE FRAMING/OVERFRAMING AT ROOF
S3.1 1" = 1'-0"



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Sheet Name:
STRUCTURAL
DETAILS

Sheet:

S3.1

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