Approach View

CODES

THIS DESIGN IS IN ACCORDANCE WITH THE FOLLOWING CODES AS AMENDED BY THE STATE OF WASHINGTON:

2018 INTERNATIONAL RESIDENTIAL CODE (IRC)
2018 WASHINGTON STATE ENERGY CODE (WSEC) FROM 2015 IECC
2018 INTERNATIONAL MECHANICAL CODE (IMC)
2018 UNIFORM PLUMBING CODE (UPC)
2018 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS)

2018 WSEC NOTES

1. THE THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE PER SECTION R402.4.1 THROUGH R402.4.5 AND SHALL BE TESTED PER SECTION R402.4.1.2, SEE TABLE R402.4.1.1 FOR AIR BARRIER AND INSULATION INSTALLATION.
2. INDOOR AND OUTDOOR LIGHTING SHALL COMPLY W/ SECTION 404.
3. HVAC DUCTS SHALL BE SEALED AND LEAK TESTED AS REQUIRED PER SECTION 403.3.2.
4. OPEN-BLOWN OR POURED LOOSE FILL INSULATION MAY BE USED ONLY WHEN THE CEILING IS 3:12 SLOPE OR LESS AND THERE IS AT LEAST 30" OF CLEAR SPACE FROM THE TOP OF THE BOTTOM TRUSS CHORD TO THE ROOF SHEATHING, SEE SECTION R402.2.1.1
5. OPEN-BLOWN, POURED OR SPRAY APPLIED ROOF/CEILING INSULATION SHALL BE IDENTIFIED BY INCHES OF THICKNESS W/ DENSITY AND R-VALUE MARKERS INSTALLED AT ONE FOR EVERY 300SF THROUGH THE ATTIC SPACE PER SECTION R303.1.1.1
6. A PERMANENT CERTIFICATE SHALL BE POSTED WITHIN 3 FEET OF THE ELECTRICAL PANEL AND IS TO BE COMPLETED BY THE BUILDER OR REGISTERED DESIGN PROFESSIONAL PER SECTION R401.3, THE CERTIFICATE SHALL INCLUDE:
   a. PREDOMINANT R-VALUES OF INSTALLED INSULATION.
   b. U-FACTORS AND SHGC OF WINDOWS AND SKYLIGHTS INSTALLED AT THE HEATED ENVELOPE.
   c. THE TYPE AND EFFICIENCY OF HVAC AND WATER HEATING EQUIPMENT.
   d. DUCT LEAKAGE RATES FROM THE DUCT TEST.
   e. AIR LEAKAGE RATES IF A BLOWER DOOR TEST WAS CONDUCTED.
7. ATTIC AND CRAWL SPACE ACCESS DOORS SHALL BE INSULATED TO ADJACENT INSULATION STANDARD AND WEATHER-STRIPPED PER R402.2.4

SECTION 406 ENERGY EFFICIENCY CREDITS

R406 - ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

CREDITS REQUIRED	
~~ADDITIONS <500 SF:~~	~~1.5~~
~~SMALL DWELLING UNIT <1,500 SF:~~	~~3.0~~
MEDIUM DWELLING UNIT (ALL NOT INCLUDED IN #1, #3, or #4):	6.0
~~LARGE DWELLING UNIT >5,000 SF:~~	~~7.0~~

FUEL NORMALIZATION CREDIT REQUIREMENTS SELECTED FROM TABLE 406.2:		CREDITS
2	For an initial heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(1)C or C403.3.2(2)	1.0

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS SELECTED FROM TABLE 406.3:		CREDITS
3.2[a]	HIGH EFFICIENCY HVAC EQUIPMENT 3.2[a]: Air-source centrally ducted heat pump with minimum HSPF of 9.5. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency. footnote a	1.0
5.3	EFFICIENT WATER HEATING 5.3: Water heating system shall include one of the following: Energy Star rated gas or propane water heater with a minimum UEF of 0.91 To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.	1.0
6.1	RENEWABLE ELECTRIC ENERGY 6.1: For each 1200 kWh of electrical generation per housing unit provided annually by on-site wind or solar equipment a 1.0 credit shall be allowed, up to 3 credits. Generation shall be calculated as follows: For solar electric systems, the design shall be demonstrated to meet this requirement using the National Renewable Energy Laboratory calculator PVWATTs or approved alternate by the code official. Documentation noting solar access shall be included on the plans. For wind generation projects designs shall document annual power generation based on the following factors: The wind turbine power curve; average annual wind speed at the site; frequency distribution of the wind speed at the site and height of the tower. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall show the photovoltaic or wind turbine equipment type, provide documentation of solar and wind access, and include a calculation of the minimum annual energy power production.	3.0

SECTION 406 ENERGY CREDITS

(CONT'D.)

SECTION 406 ENERGY EFFICIENCY CREDITS FOOTNOTES:

Footnote a:

a. An alternative heating source sized at a maximum of 0.5 Watts/ft2 (equivalent) of heated floor area or 500 Watts, whichever is bigger, may be installed in the dwelling unit.

TOTAL CREDITS PROVIDED:	6.0

ENERGY CODE SUMMARY

COMPONENT REQUIREMENTS PER TABLES R402.1.1 & R402.1.3, 2015 WSEC	R-VALUE	U-FACTOR	PROJECT SPECIFIC REQUIREMENTS
FENESTRATION	N.A.	0.30	
≤ 24 S.F. OPAQUE DOOR	EXEMPT	EXEMPT	
≤ 15 S.F. GLAZED FEN.	EXEMPT	EXEMPT	
SKYLIGHTS	N.A.	0.50	
CEILINGS (TRUSSES)	R-49	0.026	
SINGLE RAFTER CEILINGS	R-38	0.026	
CEILINGS PER R402.2.1	R-38	0.026	
WOOD FRAMED WALLS	R-21 (INT.)	0.056	
FLOORS	R-30	0.029	
BELOW GRADE WALLS	R-10 C.I. EXT. R-15 C.I. INT. R-21 INT.+T.B. R-13 + R-5 C.I.	0.042	
SLAB ON GRADE, EDGE	R-10, 24" DEEP OR WIDE, 2x2 T.B. OK		
SLAB ON GRADE, HEATED	R-10 C.I., 2x2 T.B. OK SEE R402.2.9.1		

LUMBER STRENGTHS

FRAMING MEMBER TYPE	Fb	Fv	Fc⊥	E x 10^6
JOISTS AND RAFTERS (HEM-FIR #2)	850	150	405	1.3
BEAMS (4" NOM. D.F. #2)	900	180	625	1.6
BEAMS (6" NOM. D.F. #1)	1350	170	625	1.6
LAMINATED STRAND LUMBER (LSL)	1,700	425	710	1.3
LAMINATED STRAND LUMBER (LSL)	2325	310	900	1.55
LAMINATED VENEER LUMBER (LVL)	2600	285	750	2.0
PARALLEL STRAND LUMBER (PSL)	2900	290	750	2.2
GLU-LAMINATED TIMBERS	2400	265	650	1.8
POSTS	**Fb**	**Fv**	**Fc∥**	**E x 10^6**
4" NOM. D.F. #1	1000	180	1500	1.7
6" NOM. D.F. #1	1200	170	1000	1.6
2x STUDS H.F. "STUD"	675	150	800	1.2
APA RATED SHEATHING	**EXPOSURE**		**SPAN RATING**	
ROOF	EXTERIOR		32/16	
WALL	EXTERIOR		24/0	
FLOOR (T&G)	EXTERIOR		48/24	

LOADING & DEFLECTION

	LOADING (PSF)			DEFLECTION	
TYPE OF CONSTRUCTION	LIVE LOAD	DEAD LOAD	TOTAL LOAD	LIVE LOAD	TOTAL LOAD
ROOF (STICK, COMP. OR MTL.)	25	10	35	L/240	L/240
ROOF (STICK, COMP. G.W.B.)	25	15	40	L/240	L/240
ROOF (TRUSS, COMP. G.W.B.)	25	15	40	L/240	L/240
CEILING ONLY [1]	10	5	15	L/240	L/240
ATTIC W/LIMITED STORAGE [2]	20	5	25	L/240	L/240
HABITABLE ATTIC	30	10	40	L/240	L/240
FLOOR	40	10	50	L/480	L/240
DECK (CONC. PAVER)	60	10+30	100	L/480	L/240
DECK (SPACED WOOD)	60	10	70	L/480	L/240
EXTERIOR WALL	-	10	10	-	-
INTERIOR WALL	-	10	10	-	-
STAIRS	40	10	50	L/480	

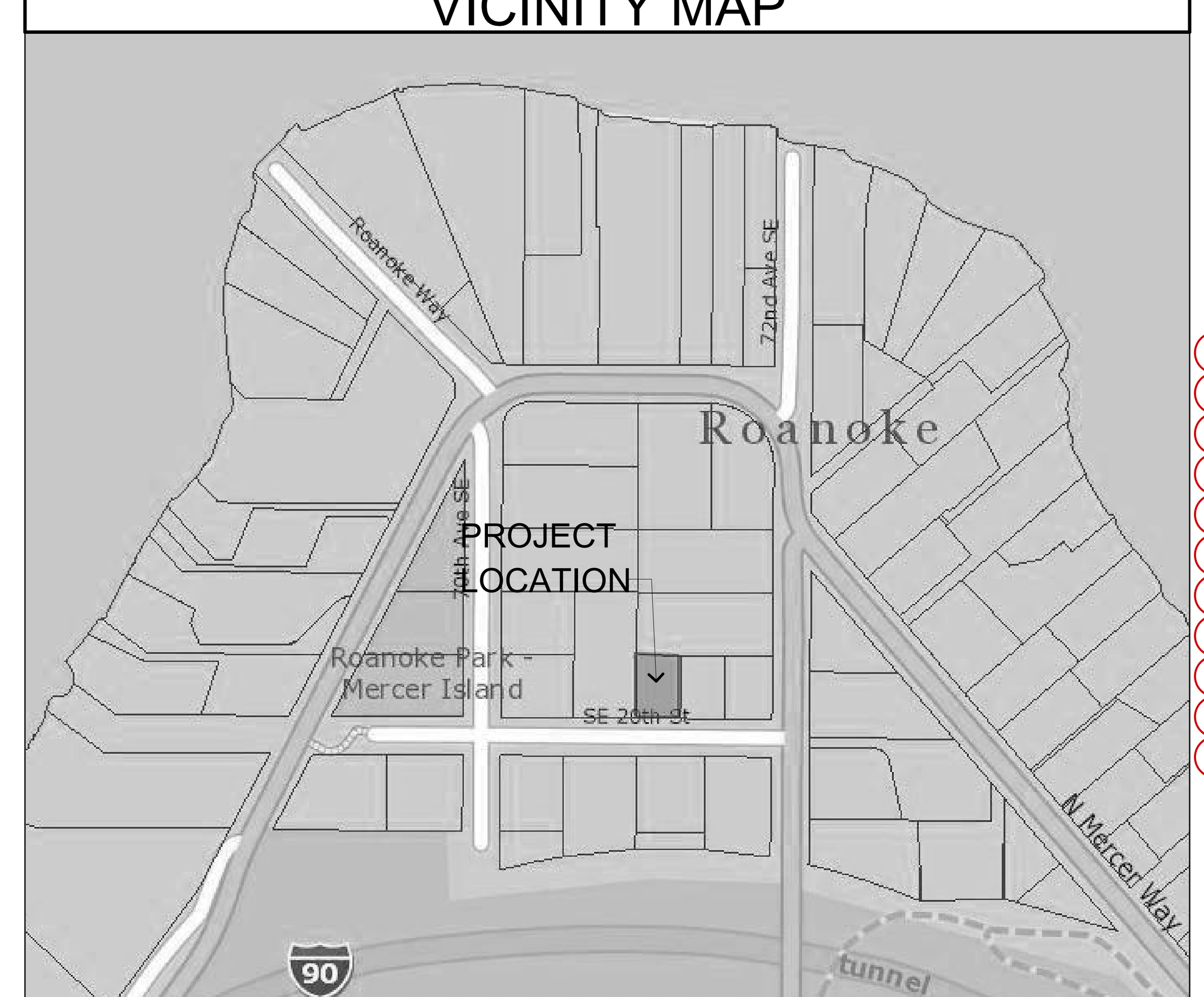
ASSUMED SOIL BEARING = 1,500 PSF

1. UNINHABITABLE ATTIC W/O STORAGE, DO NOT USE IF ANY OTHER LIVE LOAD IS ALREADY APPLIED.
2. ATTIC W/ LIMITED STORAGE DEFINED AS:
   a. MAXIMUM CLEAR SPACE BETWEEN JOISTS AND RAFTERS IS 42" H. OR GREATER, OR
   b. TWO OR MORE ADJACENT TRUSSES HAVE WEB CONFIGURATIONS CAPABLE OF ACCOMMODATING A CLEAR SPACE OF 24" W. x 42" H. OR GREATER WITHIN THE PLANE OF THE TRUSSES AND BOTTOM CHORD DEPTH IS GREATER THAN REQUIRED INSULATION DEPTH.

   SEE ALSO IRC TABLE R301.5 FOOTNOTES b, g.

01

VICINITY MAP



GENERAL NOTES

1. A NFPA 13D FIRE SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA 13D AND CoMI STANDARDS SHALL BE INSTALLED THROUGHOUT THE RESIDENCE. A SEPARATE FIRE PERMIT IS REQUIRED. (THE SYSTEM REQUIRES A MINIMUM OF 1" WATER METER AND 1" WATER SUPPLY.)
2. A NFPA 72- CHAPTER 29 MONITORED FIRE ALARM SYSTEM IN COMPLIANCE WITH NFPA 72 AND CoMI STANDARDS SHALL BE INSTALLED THROUGHOUT THE RESIDENCE. A SEPARATE FIRE PERMIT IS REQUIRED.

BUILDING AREAS

MAIN FLOOR	1,458 S.F.
UPPER FLOOR	1,307 S.F.
TOTAL LIVING SPACE	**2,765 S.F.**
GARAGE	206 S.F.
DECK (SPACED WOOD DECKING)	459 S.F.
PATIOS, TERRACES, WALKWAYS	344 S.F.
DRIVEWAY, PARKING	456 S.F.

PROJECT TEAM

ARCHITECT:
4D ARCHITECTS. INC.
MAIL ONLY: PO BOX 951
BOTHELL, WA 98041
425.576.1414
plans@4darchitects.com

STRUCTURAL ENGINEER: (LATERAL, RETAINING WALL & GRAVITY DESIGN)
UPSTATE ENGINEERING, INC. (ANDREW GAHAN)
22002 64th AVE W,#2C,
MOUNTLAKE TERRACE, WA, 98043
206.280.4715

SURVEY PROVIDED BY:
SITE SURVEYING, INC.
21293 NE 11TH. STREET, SAMMAMISH, WA, 98074
425.298.4412
DATE ON SURVEY: 8/31/21

01

DRAINAGE DESIGN BY:
CE SOLUTIONS (DUFFY ELLIS)
102 NW CANAL ST, SEATTLE, WA, 98107
206.930.0342

SEE ARBORIST REPORT BY:
ARBORIST NW, LLC. (NEAL BAKER)
206.779.2579

PROJECT DESCRIPTION

REMOVE EXISTING SINGLE FAMILYRESIDENCE
CONSTRUCT NEW SINGLE FAMILYRESIDENCE

SHEET INDEX

ID	SHEET TITLE
CS	COVER SHEET
1	SITE PLAN
2.1	DETAILS
2.2	DETAILS
2.3	WATERPROOF DETAILS
2.4	WP / STUCCO & DETAILS
3	FOUNDATION/MAIN FLOOR FRAMING
4	MAIN FLOOR PLAN
5	UPPER FLR/LOWER RF FRAMING PL...
6	UPPER FLOOR PLAN
7	UPPER ROOF FRAMING PLAN
8	ELEVATIONS
9	ELEVATIONS
10	SECTIONS
11	SECTIONS
12	SCHEDULES
S0	STRUCTURAL NOTES
S1	LATERAL DETAILS

4D ARCHITECTS
Ph. 425.576.1414
E-mail: plans@4darchitects.com

REGISTERED ARCHITECT
BARBARA J. PICKENS
STATE OF WASHINGTON
4217

Barbara J. Pickens, Architect
Ben Mulder, Designer

S.D. Smith Homes
Dhaliwal-Klar Residence

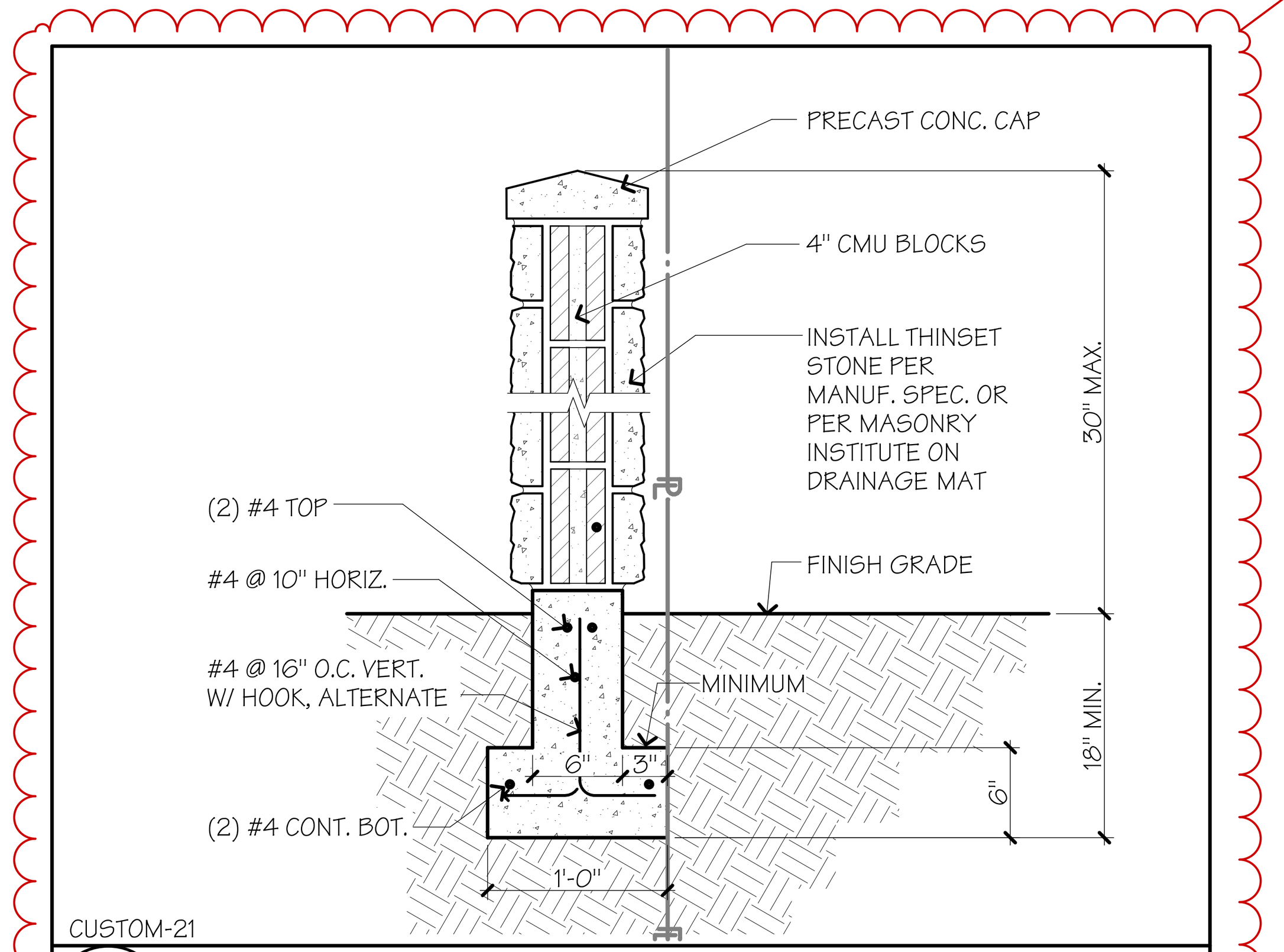
7024 SE 20th Street, Mercer Island, WA, 98040

Issued	Date	Drawn By
FINAL FOR PERMIT	06/02/23	TJF
01 M.I. CORRECTIONS	12/26/23	TJF
01 REVISED LATERAL	02/08/24	TJF
01 CORR. & BACKCHECK	03/28/24	TJF

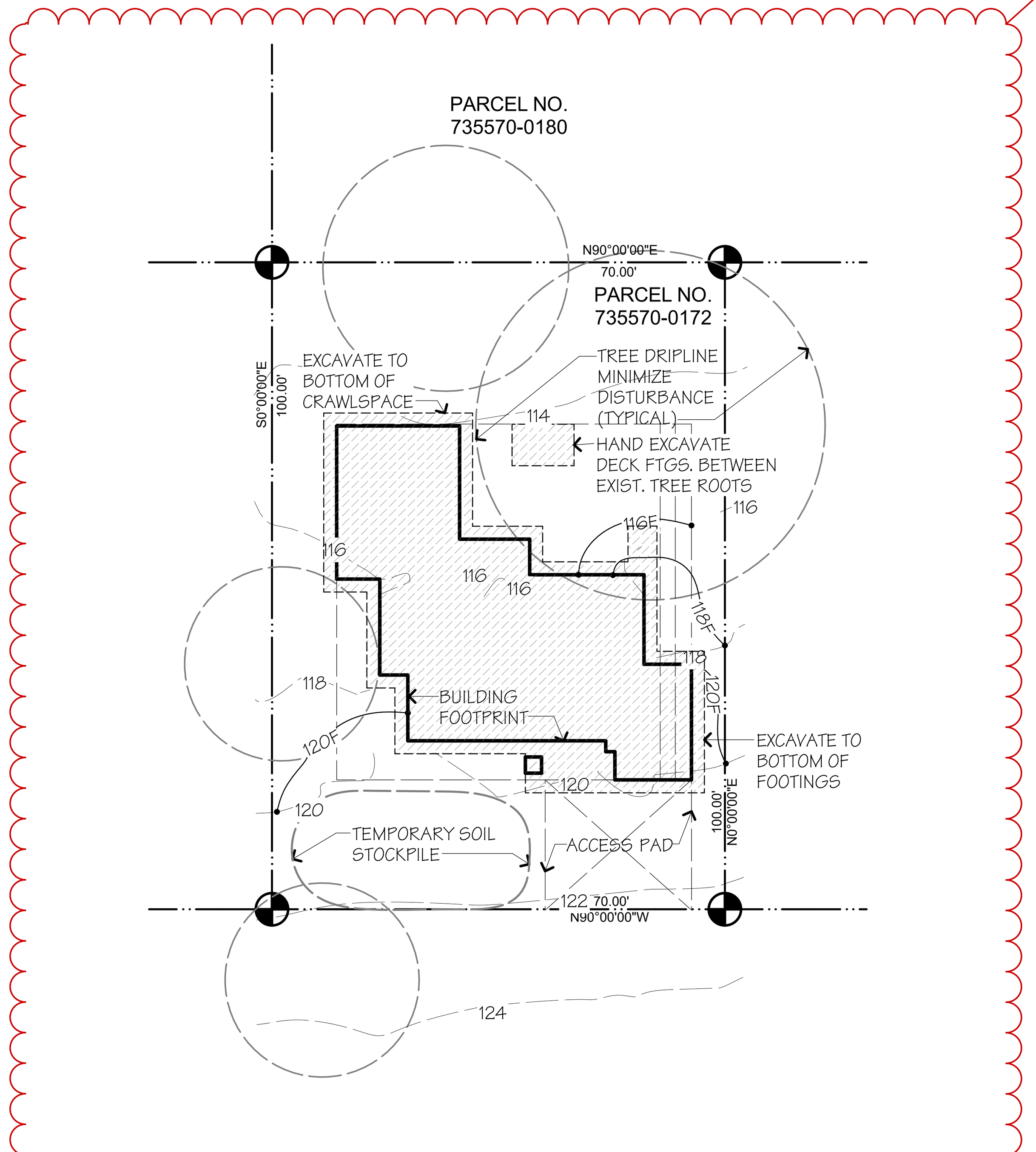
22005

CS

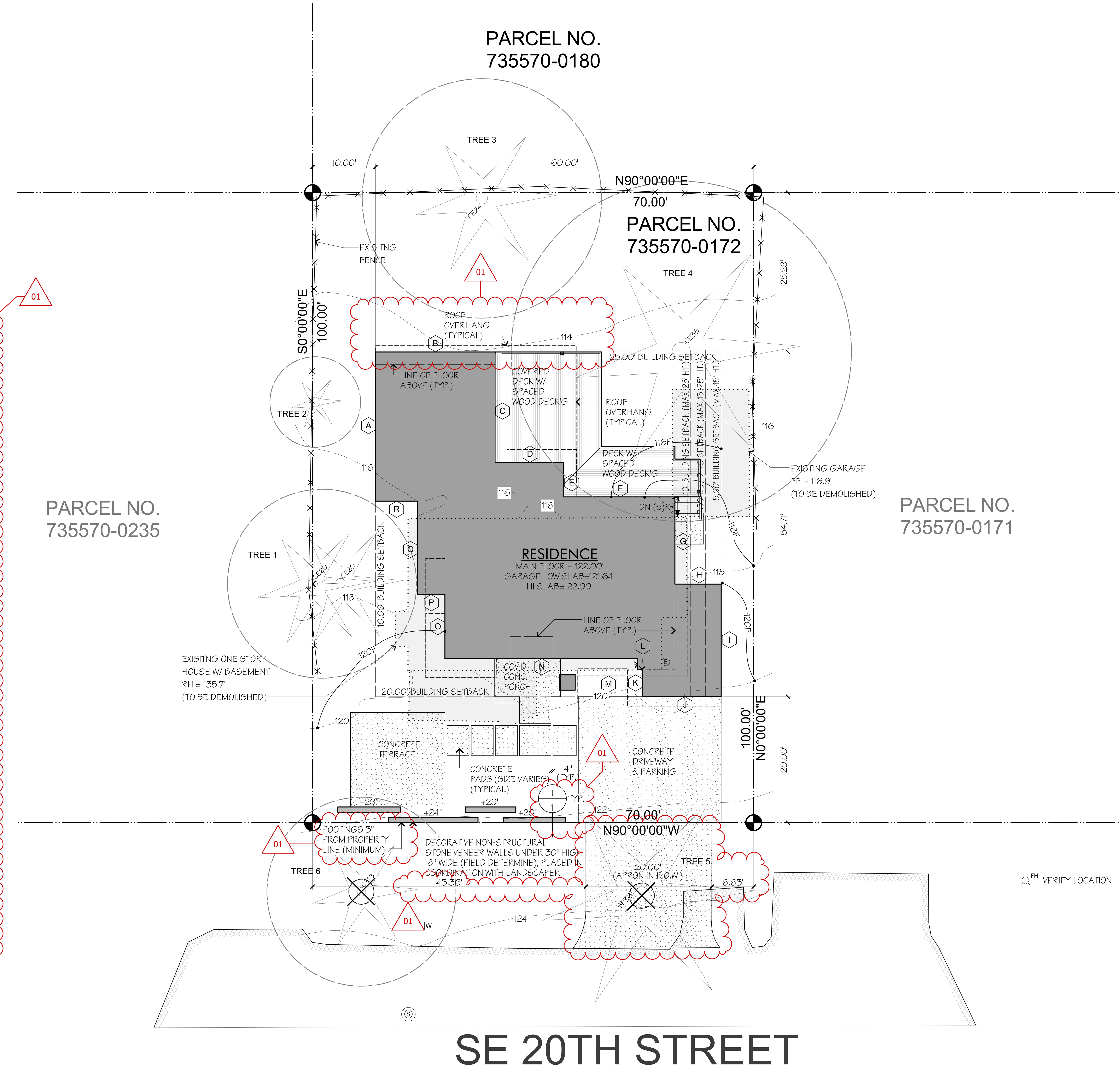
COVER SHEET



1 LANDSCAPE WALL
SCALE: 1" = 1'-0"



EXCAVATION PLAN
SCALE: 1" = 20'



SITE PLAN
SCALE: 1" = 10'

"Development proposals for a new single-family home shall remove Japanese knotweed (Polygonum cuspidatum) and Regulated Class A, Regulated Class B, and Regulated Class C weeds identified on the King County Noxious Weed list, as amended, from required landscaping areas established pursuant to subsection 19.02.020(F)(3)(a). New landscaping associated with new single-family home shall not incorporate any weeds identified on the King County Noxious Weed list, as amended. Provided, that removal shall not be required if the removal will result in increased slope instability or risk of landslide or erosion."

HARDSCAPE:

MICC 19.02 .02F (3) (b) (i) (a):
MAXIMUM HARDSCAPE= 755 S.F.

DECK= 459
WALK/PATIO= 225
LANDSCAPE WALLS= 28
712 S.F. PROPOSED HARDSCAPE

LOT SLOPE:

HIGH POINT: 122.00'
LOW POINT: 113.00'
DISTANCE: 100.00'
SLOPE: 9/100 = 9.0%

IMPERVIOUS LOT COVERAGE	
ROOF AREA	2,244 S.F.
ENTRY DRIVE	456 S.F.
TERRACE FROM WALKWAY	225 S.F.
WALKWAYS	119 S.F.
EXTERIOR STAIRS & CONC. LANDING	33 S.F.
UNCOVERED DECK AREA	221 S.F.
TOTAL IMPERVIOUS AREA	**3,298 S.F.**
PERCENTAGE OF IMPERVIOUS	**47.11 %**
MAX. PERCENTAGE ALLOWED	**XX.X %**

STRUCTURAL LOT COVERAGE	
BLDG. FOOTPRINT INCL. ROOF, & VEHICLE ACCESS	2,700 S.F.
LOT AREA	7,000 S.F.
PERCENTAGE LOT COVERAGE	**38.57 %**
MAX. PERCENTAGE ALLOWED	**40 %**

BUILDING HEIGHT CALC.

EXISTING GRADE AT MIDPOINT OF WALL SEGMENTS WITH WALL SEGMENT LENGTHS IN BRACKETS

A	115.53 (23.67)	J	120.00 (12.25)		
B	114.16 (19.00)	K	119.88 (4.31)		
C	114.81 (17.50)	L	119.65 (1.0)		
D	115.50 (10.83)	M	119.69 (1.69)		
E	115.88 (5.50)	N	119.19 (32.00)		
F	116.00 (17.67)	O	118.60 (10.17)		
G	116.73 (13.83)	P	117.72 (4.33)		
H	118.90 (7.33)	Q	116.90 (14.83)		
I	119.18 (17.83)	R	116.18 (6.67)		

SUM OF ELEVATIONS x WALL LENGTHS=	**25,808.75**
AVG. EXISTING GRADE = 25,758.35/219.99	**117.09'**
MAX. ELEV. ROOF RIDGE = 117.09'+30'	**147.09**
PROPOSED ELEV. AT ROOF RIDGE	**146.51'**

FOR VERTICAL DATUM, REFER TO
SURVEY PROVIDED BY:
SITE SURVEYING, INC.
21293 NE 11TH. STREET, SAMMAMISH, WA, 98074
425.298.4412
DATE ON SURVEY: 8/31/21

FLOOR AREA RATIO	
GROSS FLOOR AREA (INCLUDES (28) S.F. IN CRAWLSPACE FOR MECHANICAL)	2,999 SF
LOT AREA	7,000 SF
FAR	42.84%

MAX. GFA: 2,999 S.F. W/ (1) ENCLOSED OFF STREET PARKING.
MICC 19.02 020(D)(3)(a): MAX. GROSS FLOOR AREA= 3,000 S.F.

BUILDING AREAS	
MAIN FLOOR	1,458 S.F.
UPPER FLOOR	1,307 S.F.
TOTAL LIVING SPACE	**2,765 S.F.**
GARAGE	206 S.F.
DECK (SPACED WOOD DECKING)	459 S.F.
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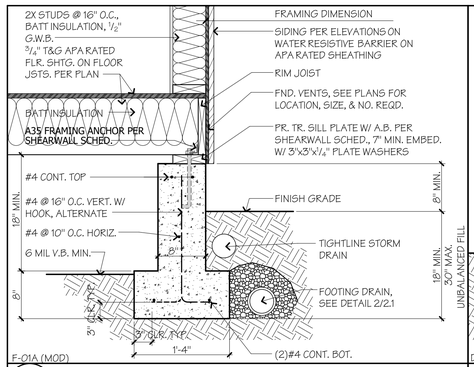
22005

1

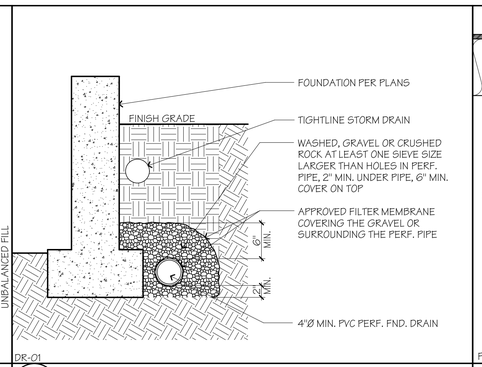
SITE PLAN



F-01A (MOD)

1 FND. WALL: TYPICAL (FOR TYPICAL REINFORCEMENT, & ANCHOR BOLTS ONLY)

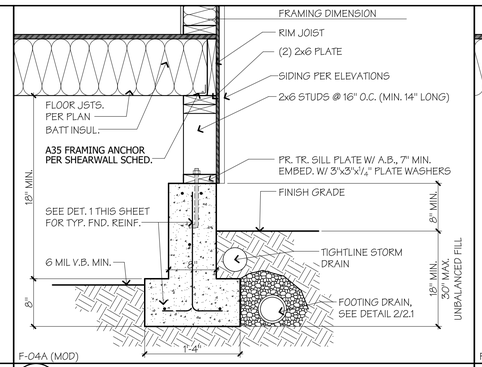
SCALE: 1" = 1'-0"



DR-01

2 FOOTING DRAINAGE

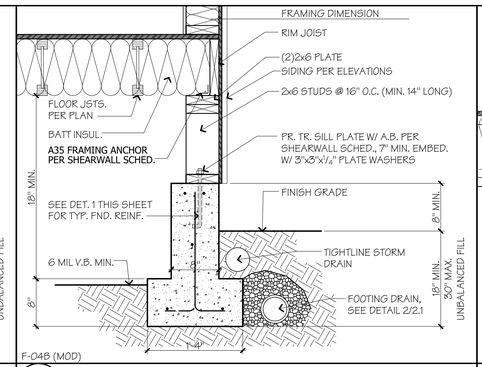
SCALE: 1" = 1'-0"



F-04A (MOD)

3 EXTERIOR CRIPPLE WALL - JSTS. PERP.

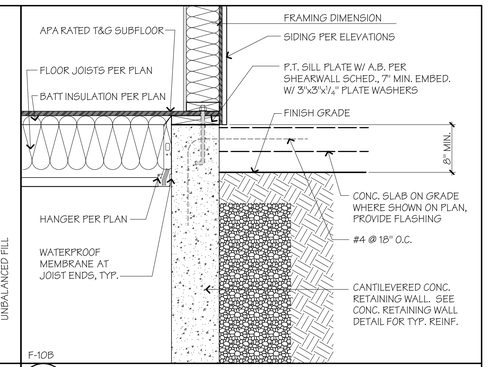
SCALE: 1" = 1'-0"



F-04B (MOD)

4 EXTERIOR CRIPPLE WALL. - JSTS PARA.

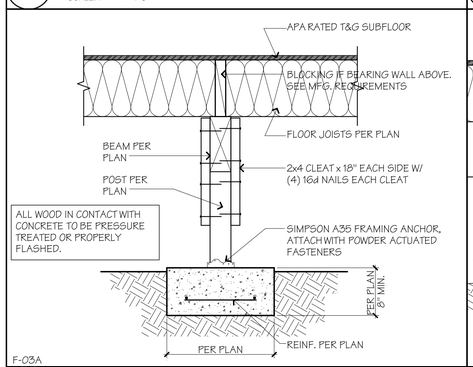
SCALE: 1" = 1'-0"



F-10B

5 FNDN. WALL -RAISED @ CRAWL.

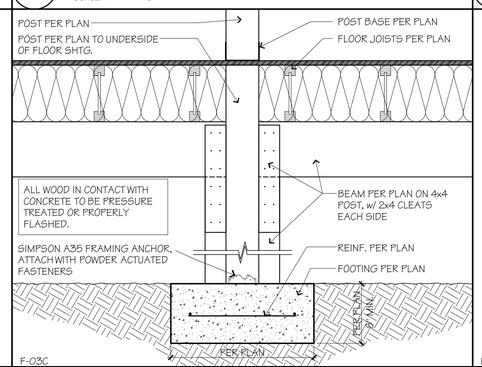
SCALE: 1" = 1'-0"



F-03A

6 ISOLATED FTG. - TYPICAL

SCALE: 1" = 1'-0"



F-03C

7 CONT. BEARING @ CRAWLSPACE

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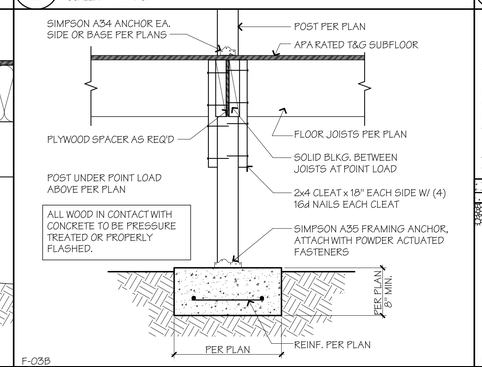
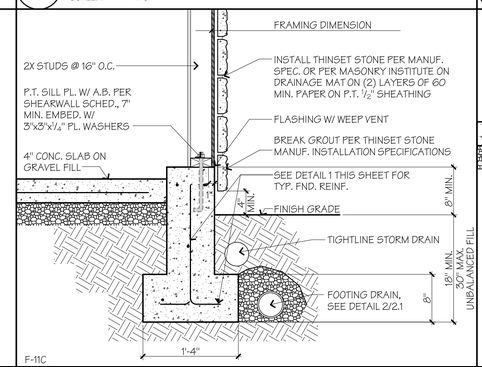


F-03B

8 CONT. BEARING UNDER POST ABOVE

SCALE: 1" = 1'-0"



F-11C

9 GAR. FND./THINSET STONE

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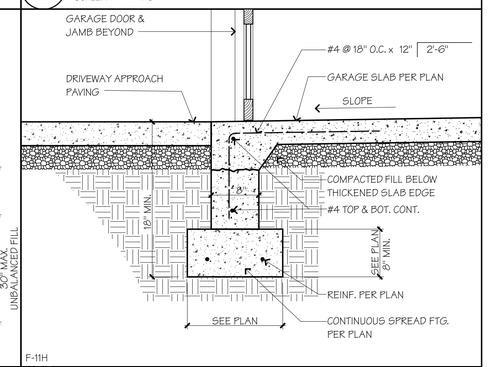

F-11H

10 FOUNDATION @ GARAGE DOOR

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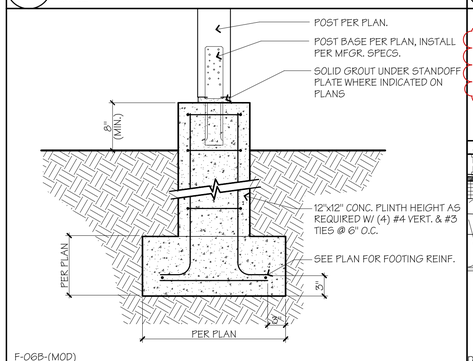

F-06B-(MOD)

11 ISOLATED FTG. w/ RAISED PLINTH

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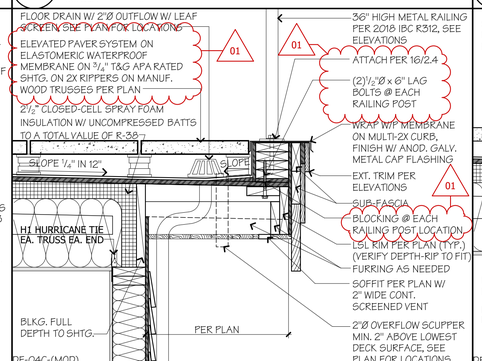

DF-04C-(MOD)

12 DECK FRMG. - PEDESTAL PAVERS

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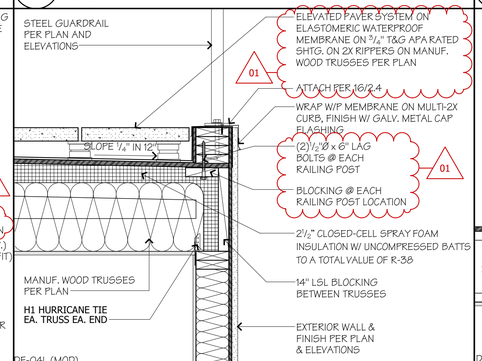

DF-04L (MOD)

13 DECK FRAMING - PEDESTAL

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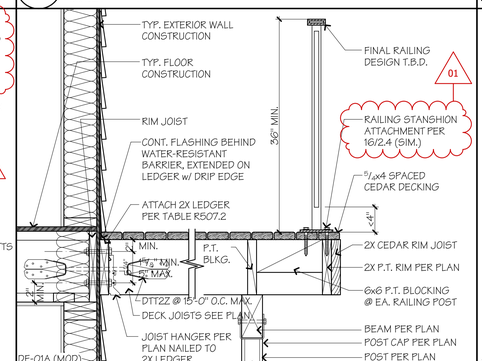

DF-01A (MOD)

14 DECK FRAMING - OPEN JSTS.

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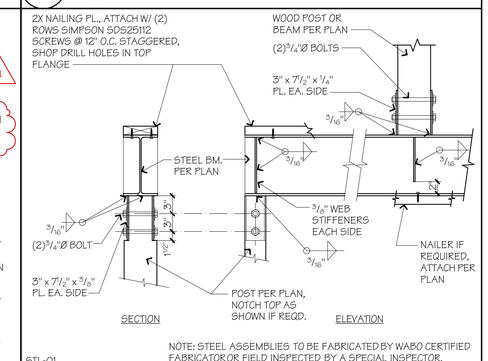
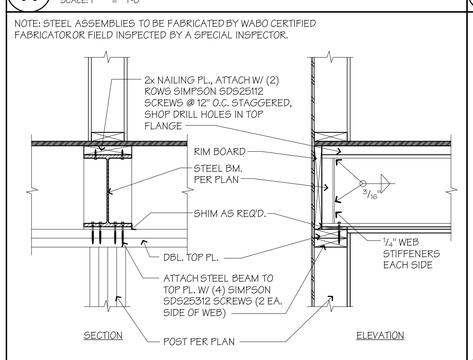


STL-01

15 STEEL BM. TO WOOD POST

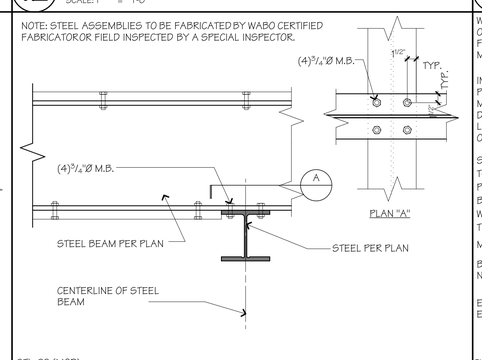
SCALE: 1" = 1'-0"



STL-06

16 STEEL BEAM FLUSH IN WOOD FLR.

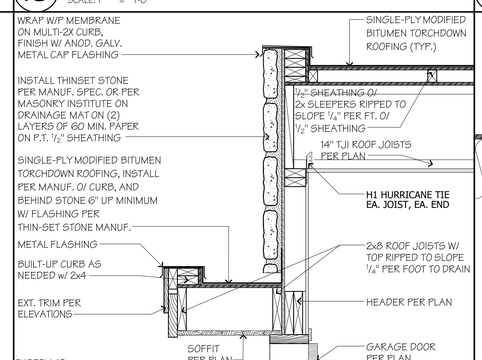
SCALE: 1" = 1'-0"



STL-02 (MOD)

17 STEEL BM. TO STEEL BM. CONN.

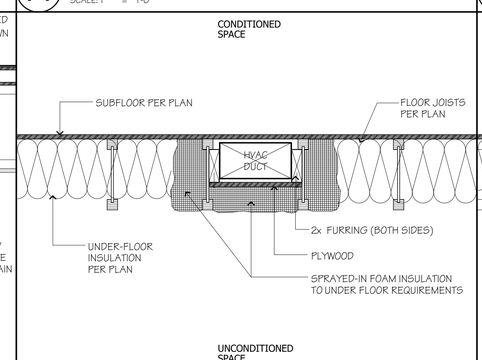
SCALE: 1" = 1'-0"



CUSTOM-19

18 EYEBROW ROOF @ GARAGE FRONT

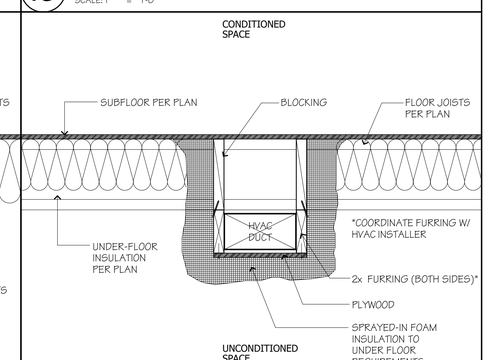
SCALE: 1" = 1'-0"



FL-09

19 FLOOR INSUL. @ DUCT PARALLEL

SCALE: 1" = 1'-0"



FL-10A

20 FLOOR INSUL. @ DUCT PERP.

SCALE: 1" = 1'-0"

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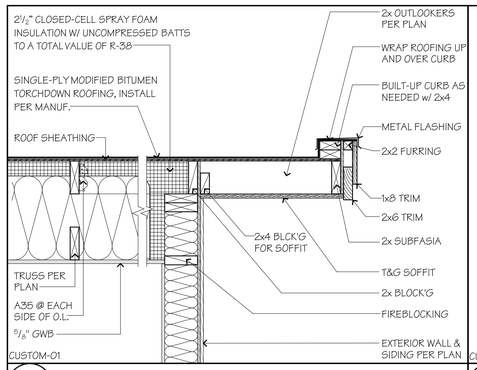
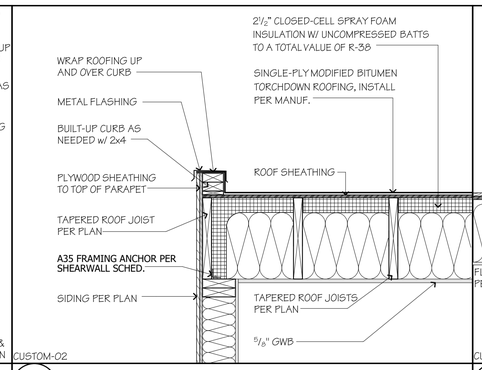
22005

2.1

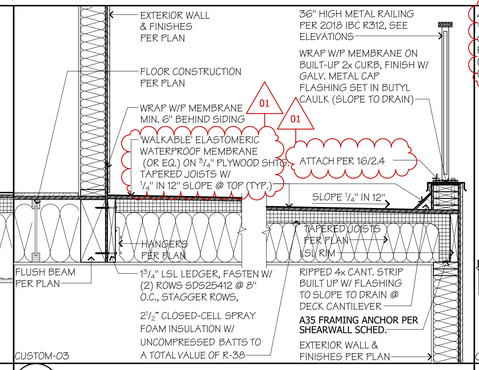
DETAILS



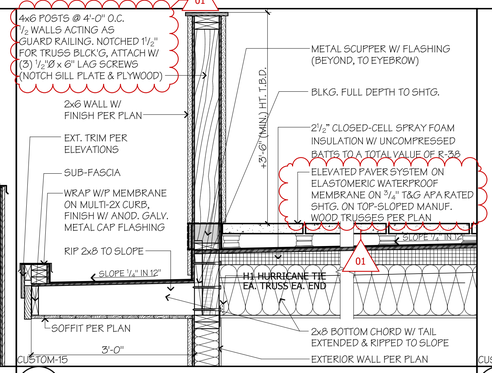
1 OUTLOOKERS @ FLAT ROOF
SCALE: 1" = 1'-0"
PERPENDICULAR TO TRUSSES



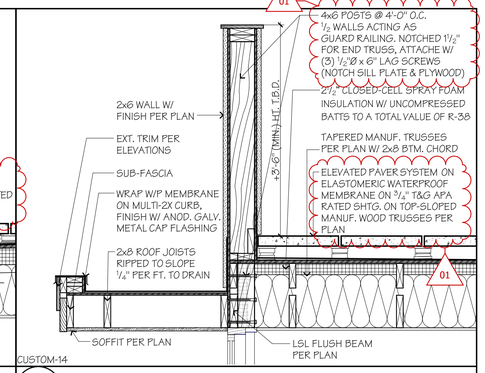
2 FLUSH PARAPET-NO TRIM
SCALE: 1" = 1'-0"



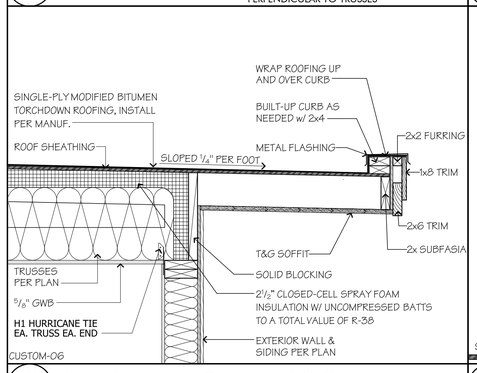
3 ELASTOMERIC DECK @ WALL
SCALE: 3/4" = 1'-0"



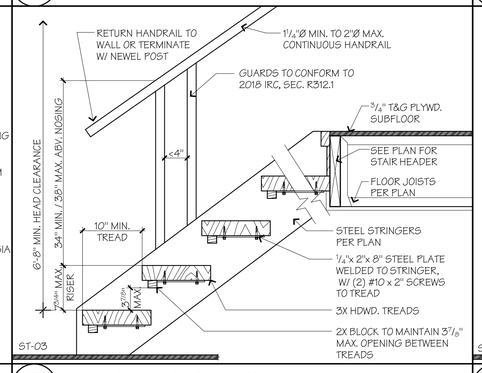
4 STAIR EYEBROW ROOF (WEST)
SCALE: 3/4" = 1'-0"



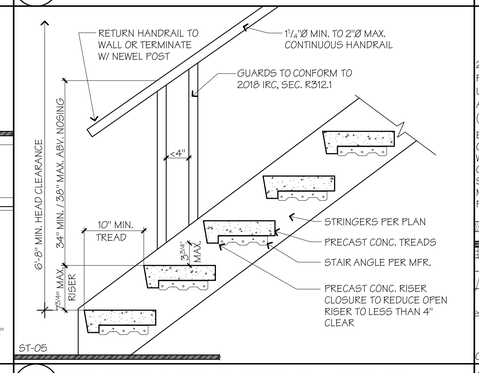
5 EYEBROW ROOF @ STAIRS (FRONT)
SCALE: 3/4" = 1'-0"



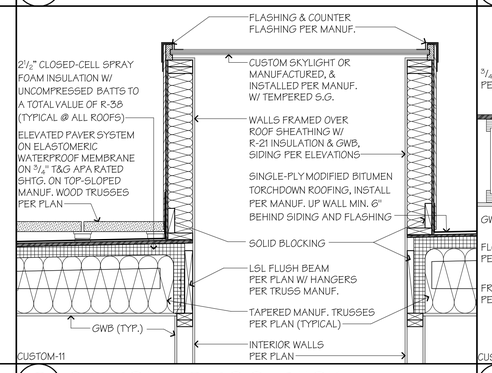
6 OVERHANG @ FLAT ROOF
SCALE: 1" = 1'-0"
PARALLEL TO TRUSSES



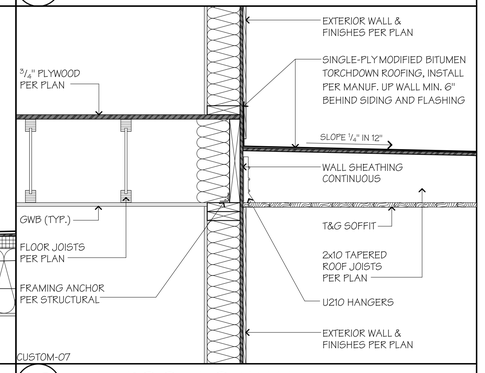
7 STAIR W/ OPEN RISERS
SCALE: 1" = 1'-0"



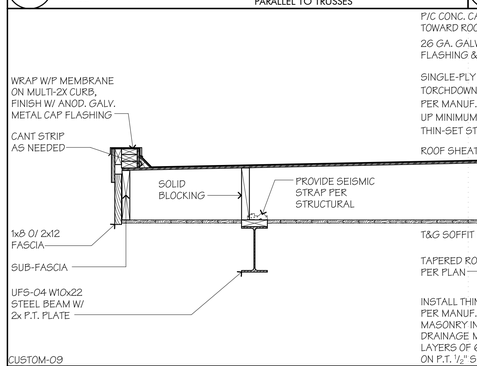
8 EXTERIOR STAIR CONC. TREADS
SCALE: 1" = 1'-0"



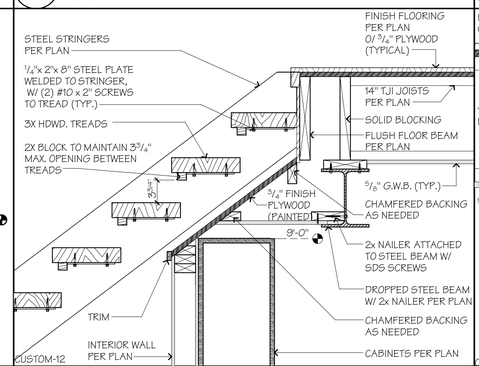
9 SKYLIGHT @ ROOFDECK
SCALE: 3/4" = 1'-0"



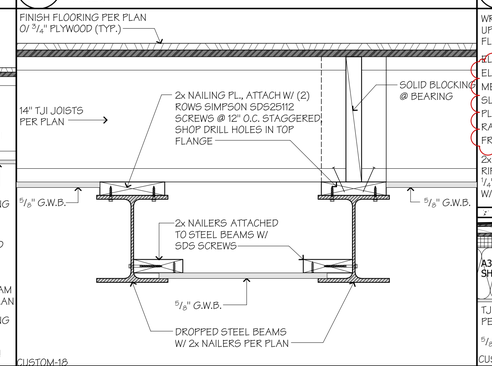
10 FLAT ROOF TO WALL
SCALE: 1" = 1'-0"



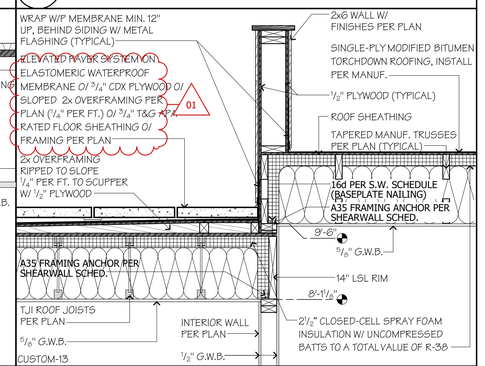
11 ENTRY PORCH ROOF
SCALE: 3/4" = 1'-0"



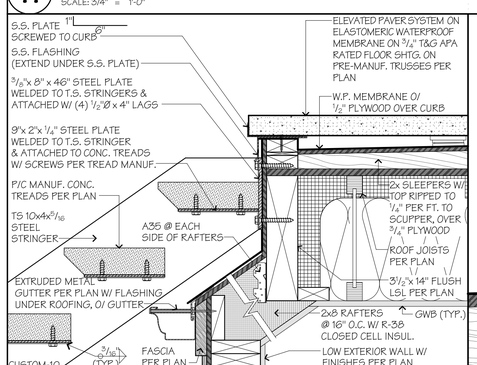
13 KITCHEN SOFFIT @ STAIRS
SCALE: 1" = 1'-0"



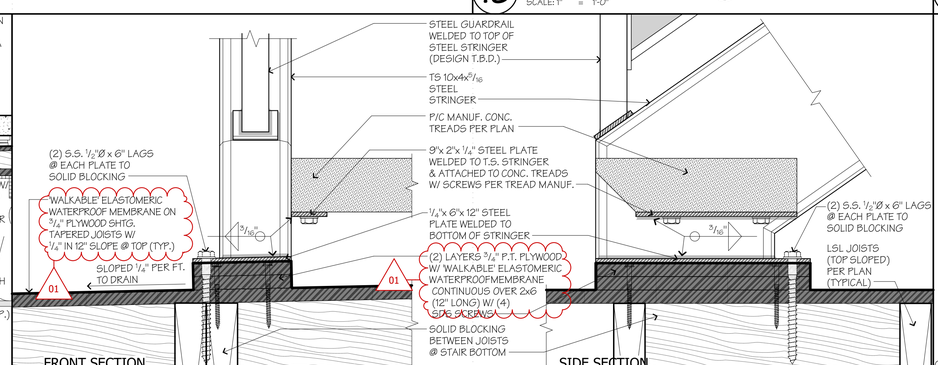
14 STEEL BEAMS @ ENTRY
SCALE: 1 1/2"= 1'-0"



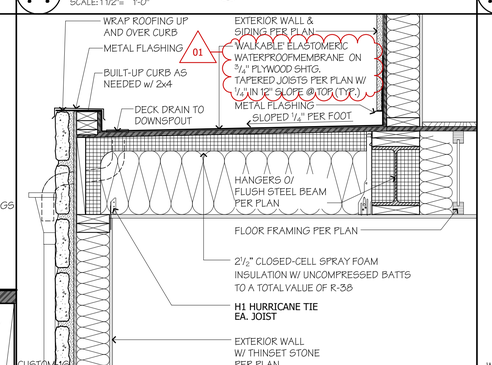
15 STEP @ MASTER ROOF
SCALE: 3/4" = 1'-0"



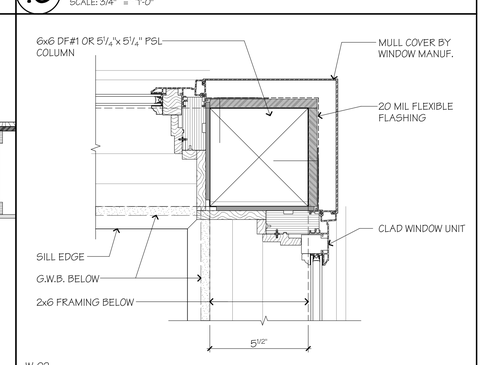
16 ROOF @ EXTERIOR STAIRS (TOP)
SCALE: 1 1/2"= 1'-0"



17 EXTERIOR STAIR BASE (BOTTOM)
SCALE: 3" = 1'-0"



19 W.P. DECK @ EXT. STAIRS
SCALE: 1" = 1'-0"



20 6x6 AT CORNER WINDOW
SCALE: 3" = 1'-0"

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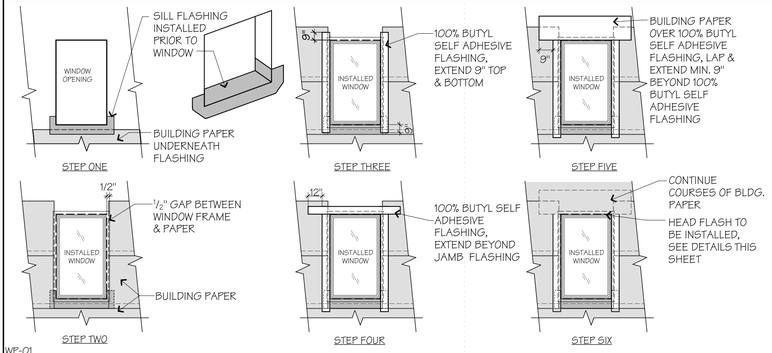
22005

2.2

DETAILS



STEP ONE:
PREPARE OPENING WITH SLOPED SILL. LAY WATER RESISTIVE BARRIER (WRB) 6O MIN. TYPE 'D' BUILDING PAPER UNDER BOTTOM OF WINDOW OPENING. INSTALL SILL FLASHING WITH 6" OVERLAP OF WRB.

INSTALL WINDOW PER MANUFACTURER.

STEP TWO:
LAY BUILDING PAPER ON SHEATHING AROUND WINDOW WITH 6" OVERLAP. LEAVE 1/2" GAP BETWEEN BUILDING PAPER AND WINDOW FRAME. LEAVE SHEATHING EXPOSED ABOVE WINDOW.

STEP THREE:
INSTALL 9" 100% BUTYL SELF ADHESIVE FLASHING ON SIDES OF WINDOW FRAME PER MANUFACTURER'S ADHESION METHOD. EXTEND FLASHING 9" BEYOND TOP AND BOTTOM OF WINDOW. FLASHING TO TOUCH WINDOW FRAME AND COVER 1/2" GAP.

STEP FOUR:
INSTALL 9" 100% BUTYL SELF ADHESIVE FLASHING OVER TOP OF WINDOW FRAME PER MANUFACTURER'S ADHESION METHOD. EXTEND FLASHING 12" BEYOND JAMB FLASHINGS. FLASHING TO TOUCH WINDOW FRAME.

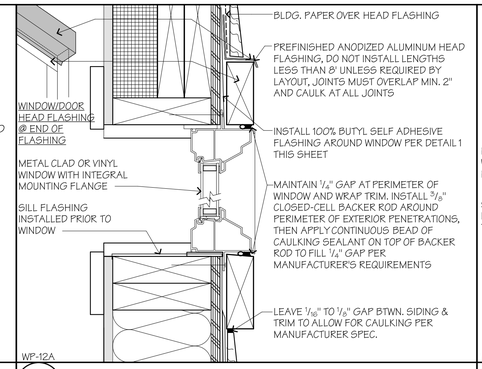
STEP FIVE:
LAY 30" BUILDING PAPER OVER TOP PIECE OF 100% BUTYL SELF ADHESIVE FLASHING. EXTEND BUILDING PAPER MIN. 9" BEYOND EACH END OF FLASHING. BUILDING PAPER TO TOUCH WINDOW FRAME.

STEP SIX:
INSTALL METAL OR VINYL WINDOW HEAD FLASHING AND LAP CONTINUOUS COURSES OF BUILDING PAPER OVER.

NOTE:
CONTRACTOR TO VERIFY CHEMICAL COMPATIBILITY OF ALL EXTERIOR MATERIALS, INCLUDING FLASHING, CAULK, WATER RESISTIVE BARRIER, ALL SUBSTRATES, WINDOW NAILING FINS, ROOFING, AND SIDING MATERIALS.

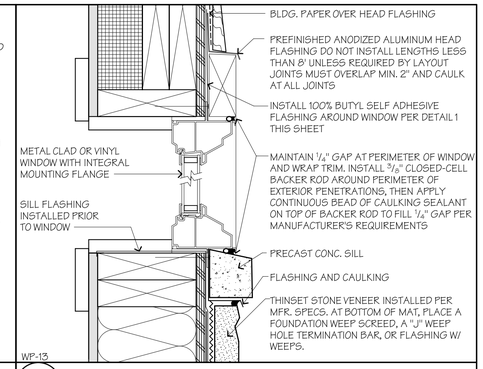
WP-01

1 WEATHER BARRIER AROUND WINDOWS
SCALE: 1" = 1'-0"



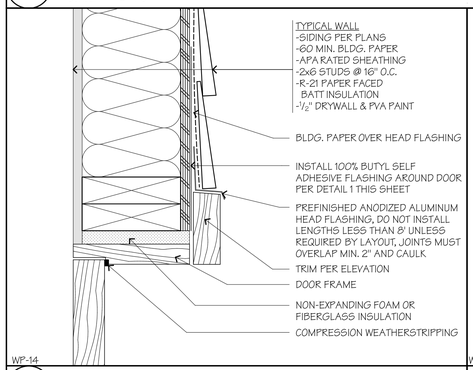
WP-12A

4 WINDOW HEAD AND SILL
SCALE: 3" = 1'-0"



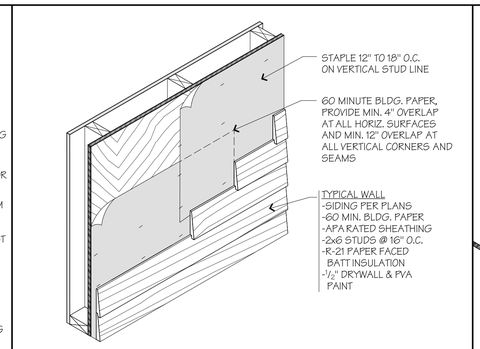
WP-13

5 WINDOW SILL AT STONE VENEER
SCALE: 3" = 1'-0"



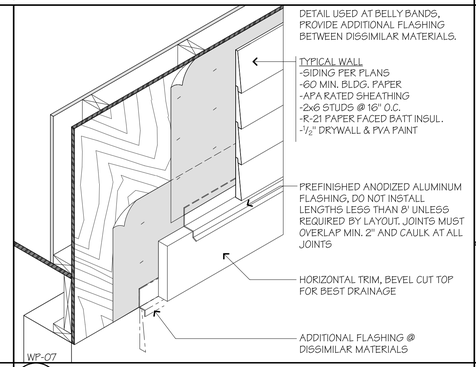
WP-14

6 DOOR HEAD - EXTERIOR
SCALE: 3" = 1'-0"



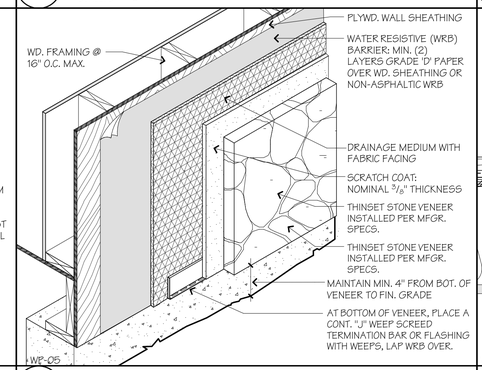
WP-06

7 BUILDING PAPER INSTALLATION
SCALE: 1" = 1'-0"



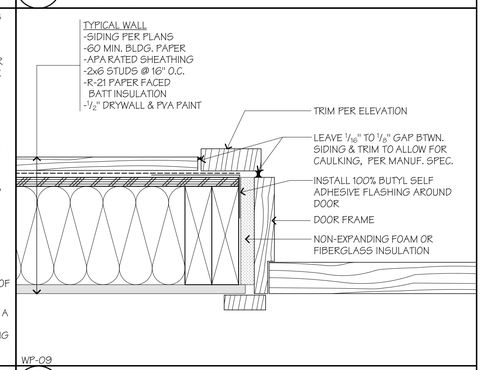
WP-07

8 HORIZONTAL TRIM
SCALE: 1" = 1'-0"



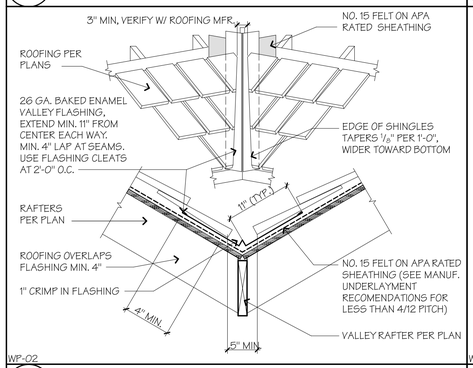
WP-05

9 THINSET STONE AT FND.
SCALE: 1" = 1'-0"



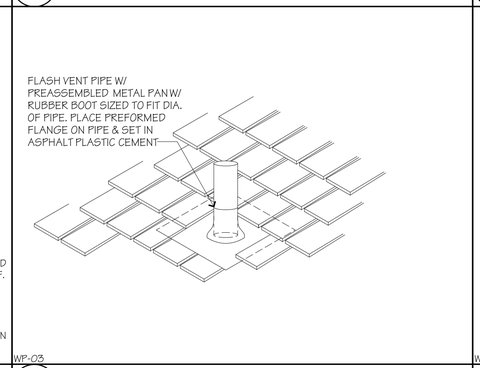
WP-09

10 DOOR JAMB - EXTERIOR
SCALE: 3" = 1'-0"



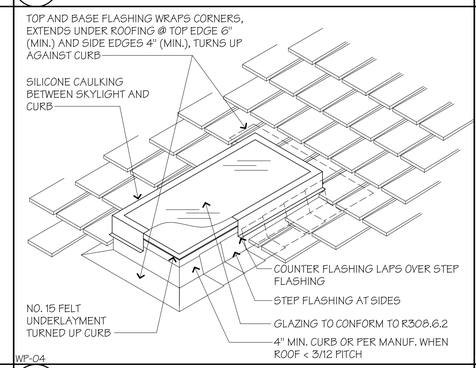
WP-02

11 VALLEY FLASHING
SCALE: 1" = 1'-0"



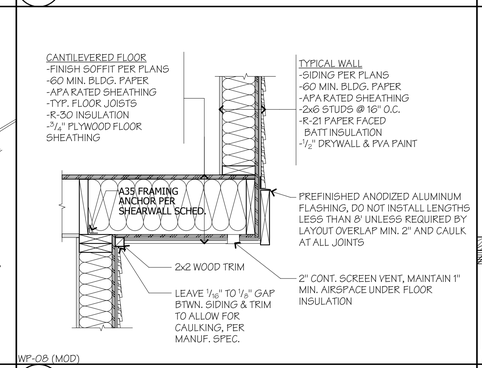
WP-03

12 ROOF VENT PIPE FLASHING
SCALE: 1" = 1'-0"



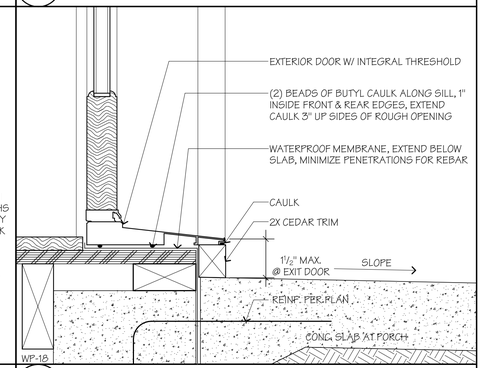
WP-04

13 SKYLIGHT FLASHING
SCALE: 1" = 1'-0"



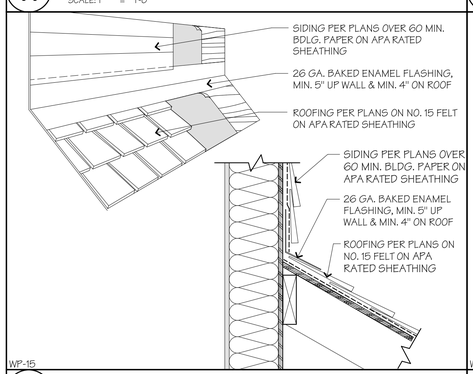
WP-08 (MOD)

14 CANTILEVERED FLOOR
SCALE: 1" = 1'-0"



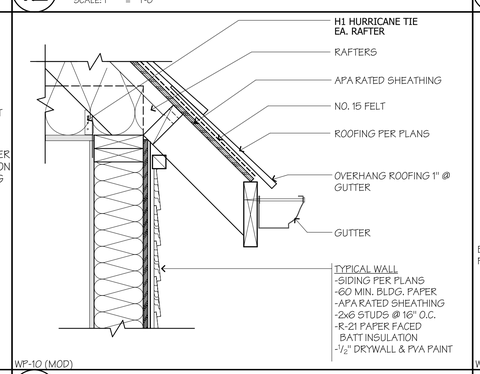
WP-18

15 DOOR THRESHOLD - EXTERIOR
SCALE: 3" = 1'-0"



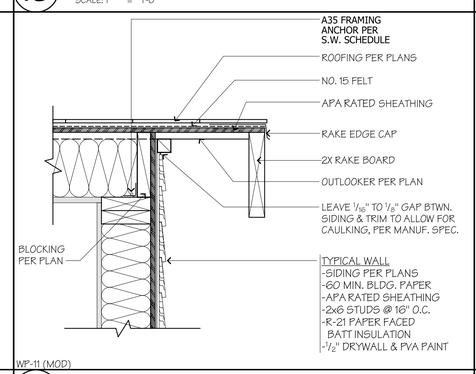
WP-15

16 WALL TO ROOF FLASHING
SCALE: 1 1/2" = 1'-0"



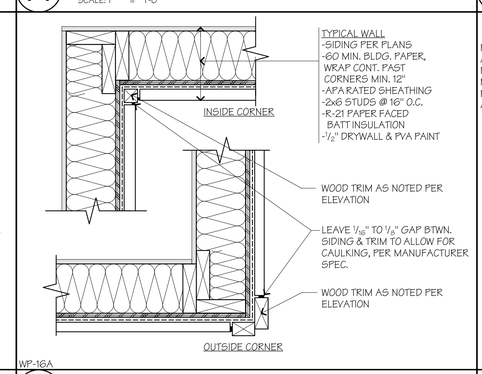
WP-10 (MOD)

17 EAVE DETAIL
SCALE: 1 1/2" = 1'-0"



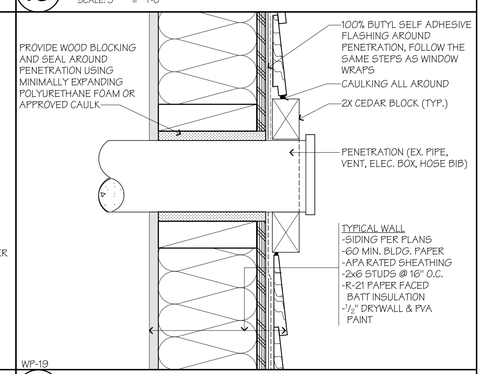
WP-11 (MOD)

18 RAKE DETAIL
SCALE: 1 1/2" = 1'-0"



WP-16A

19 EXTERIOR SIDING CORNERS
SCALE: 1 1/2" = 1'-0"



WP-19

20 WALL PENETRATION
SCALE: 3" = 1'-0"

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4217
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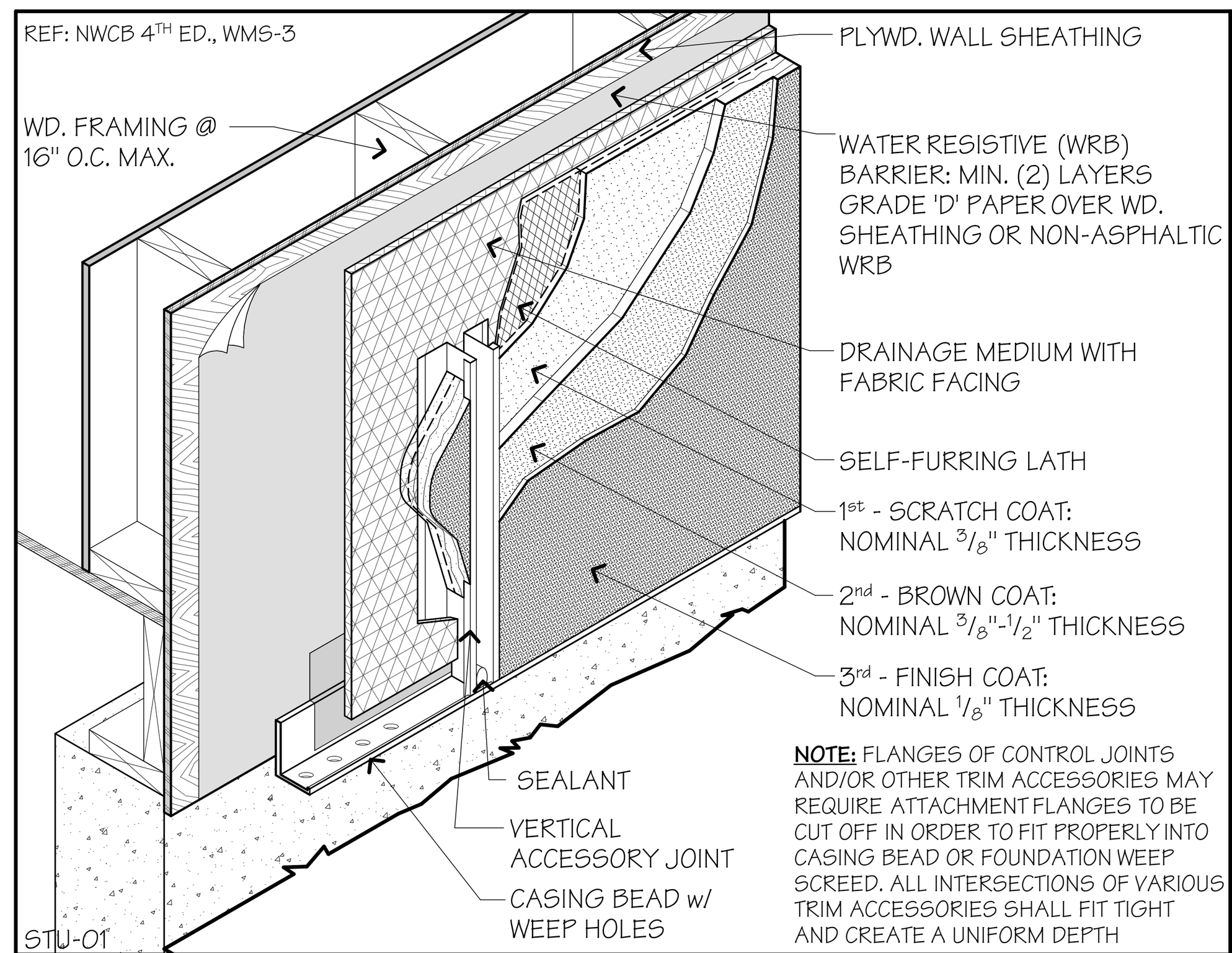
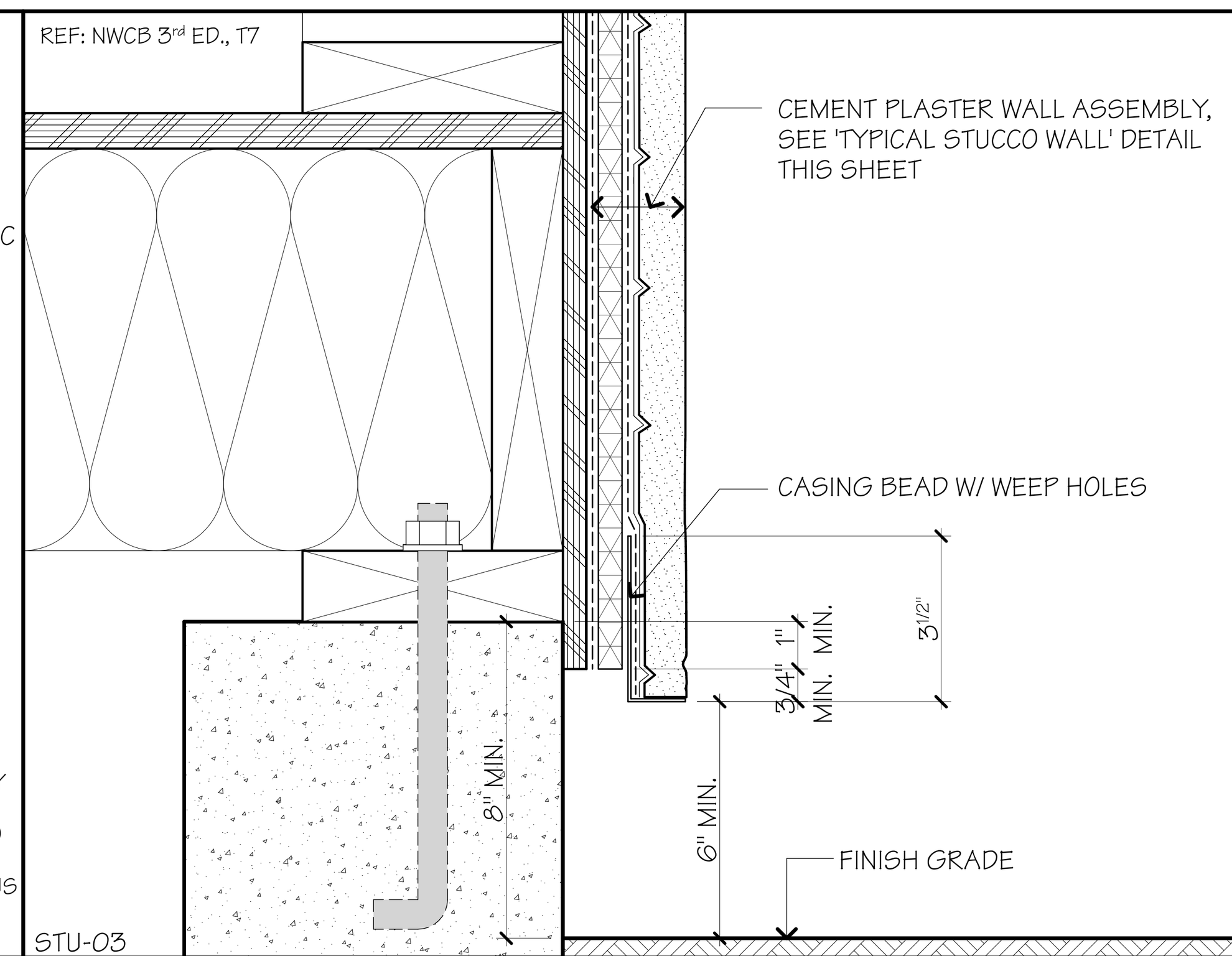
C:\Users\Tim Fosdick\Documents\ArchiCAD\Projects\22005 Dhaliwal Klar Mercer Island.pln, Original Size 24" x 36", printed: 3/28/2024

22005

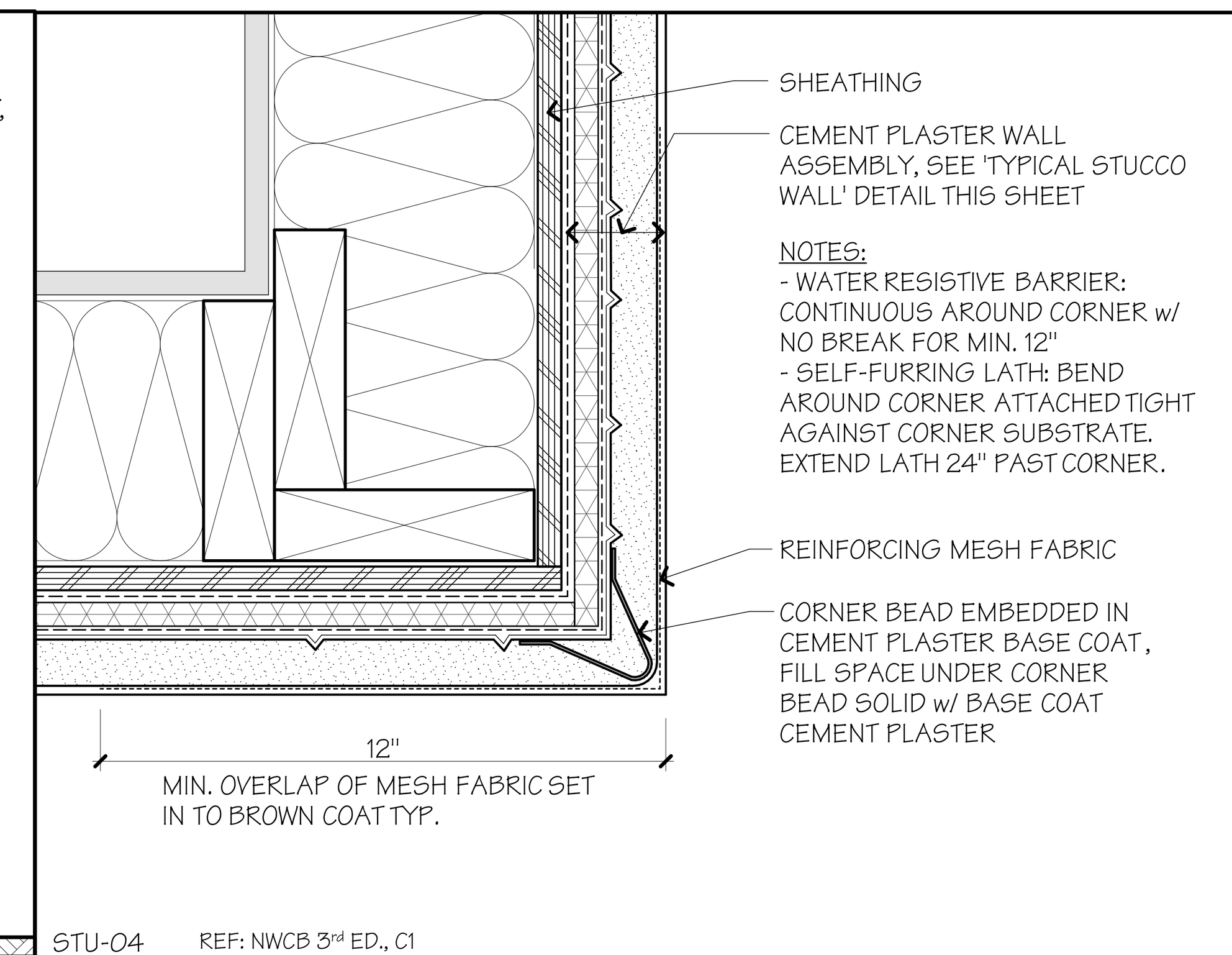
2.3
WATERPROOF DETAILS



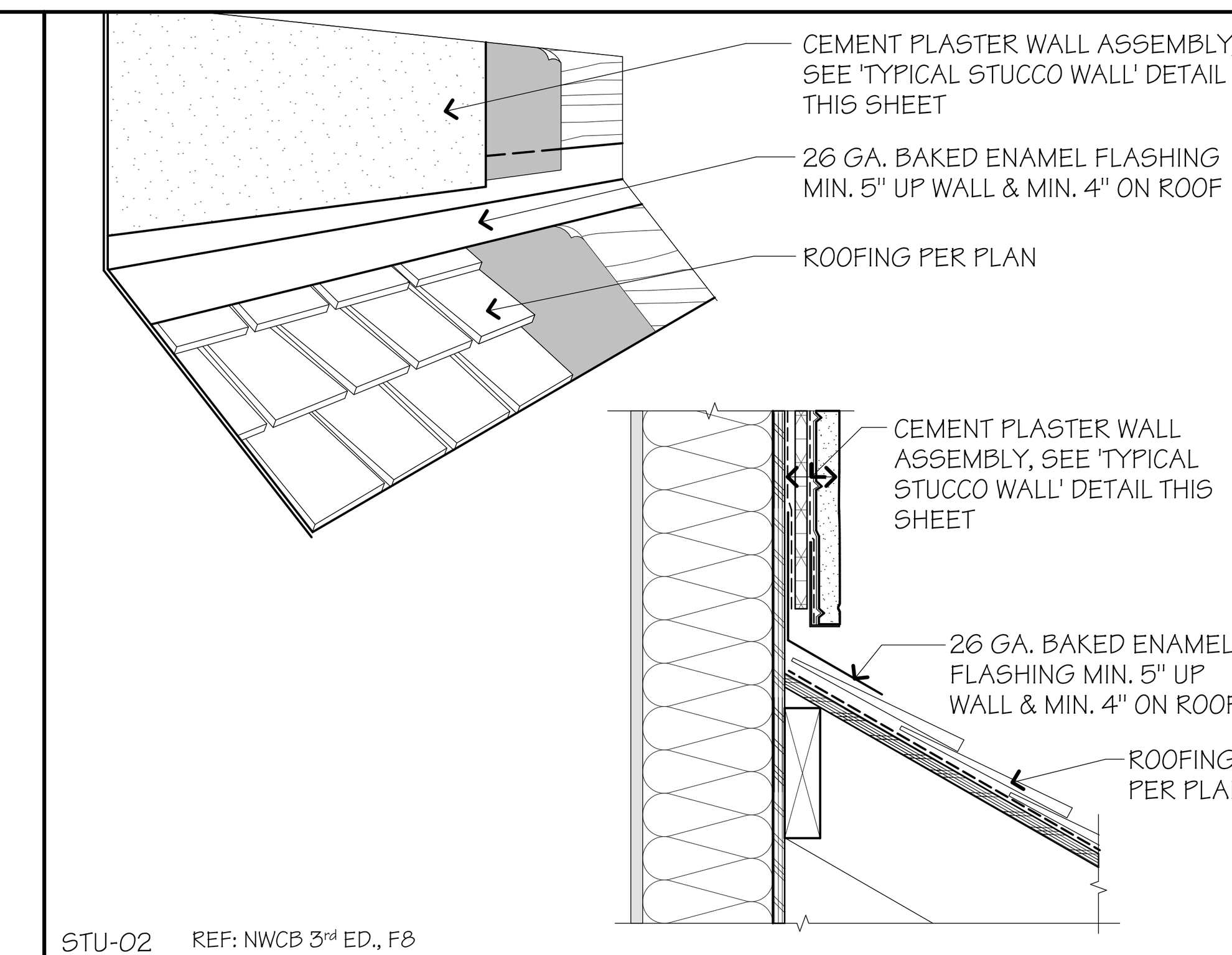
1 TYPICAL STUCCO WALL
SCALE: 1" = 1'-0"



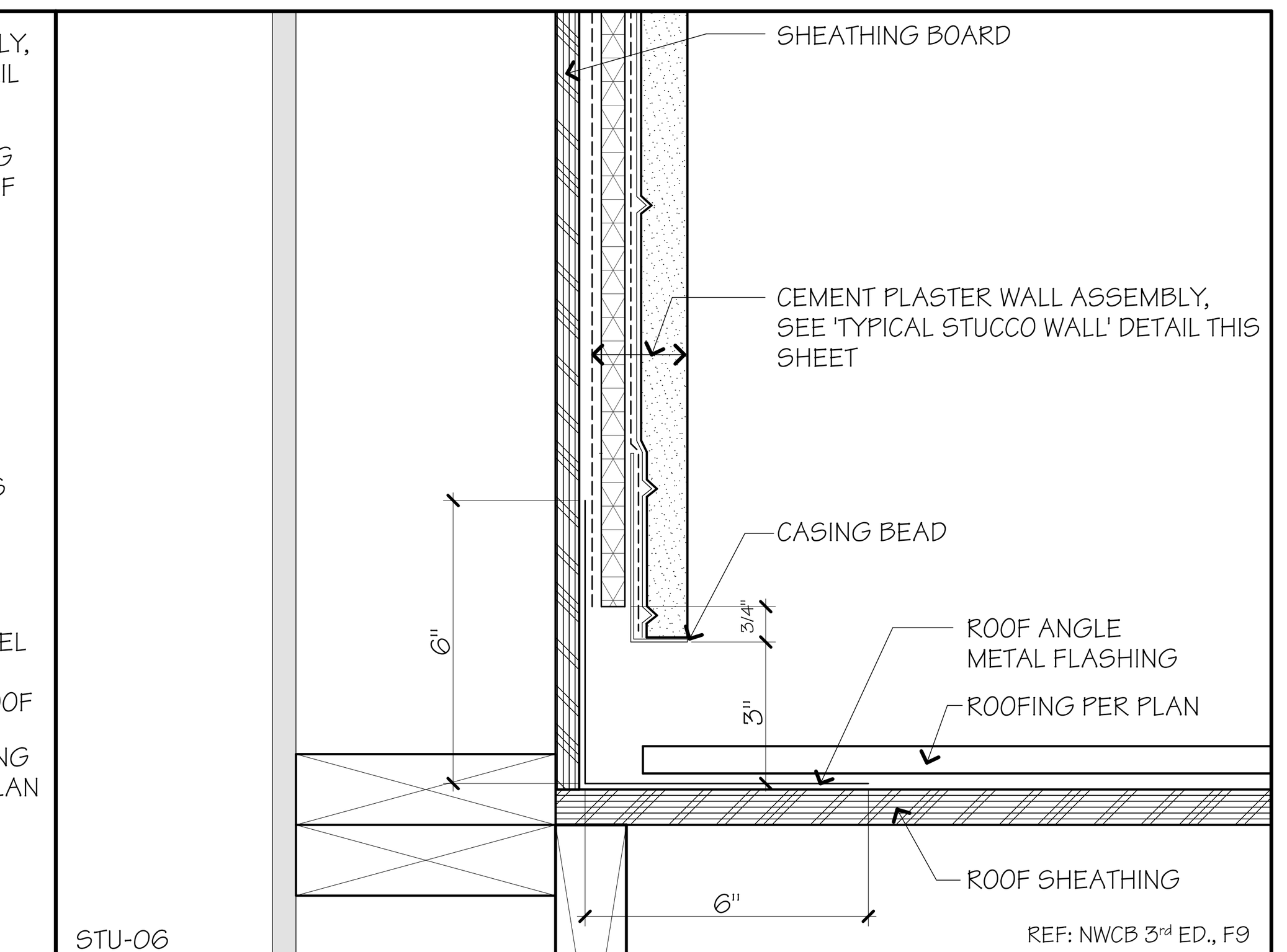
2 STUCCO AT FOUNDATION
SCALE: 3" = 1'-0"



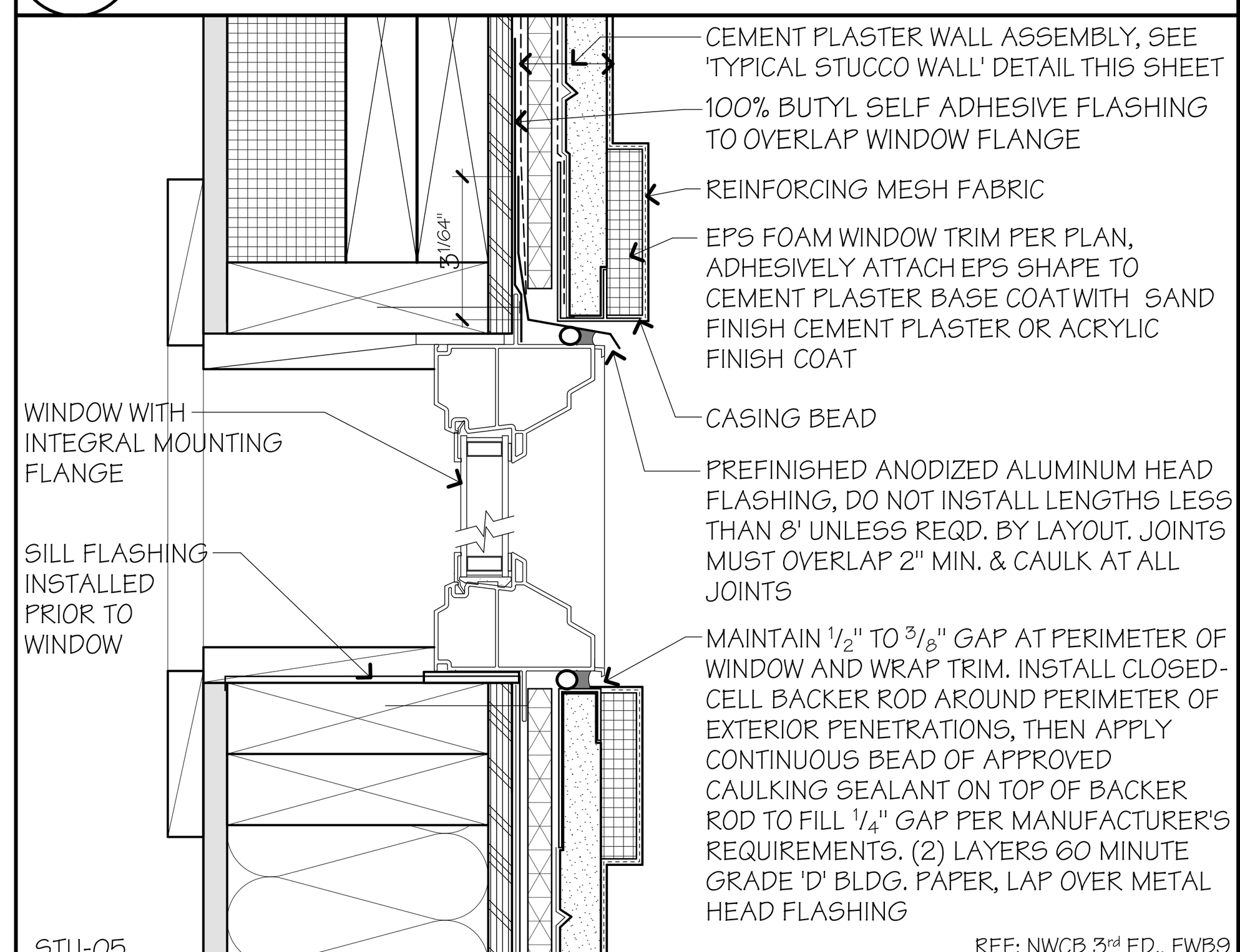
3 STUCCO AT BLDG. CORNER
SCALE: 3" = 1'-0"



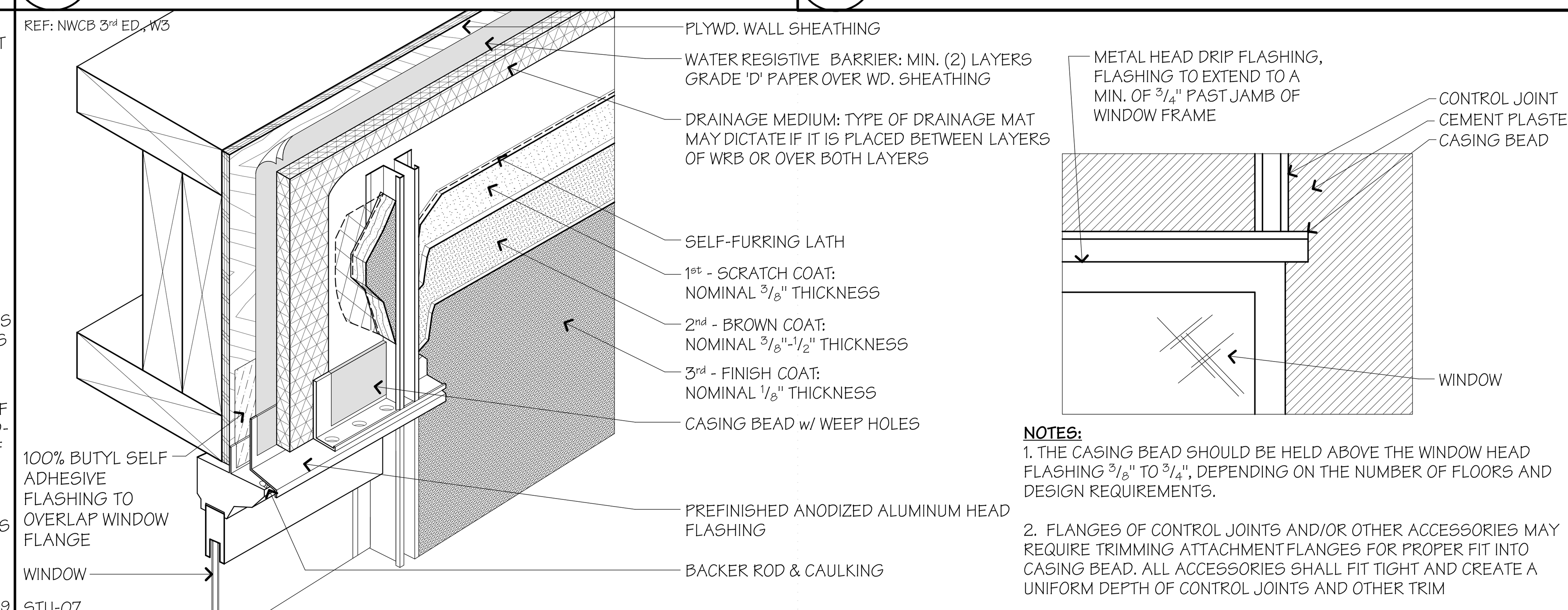
4 STUCCO WALL TO ROOF
SCALE: 1 1/2" = 1'-0"



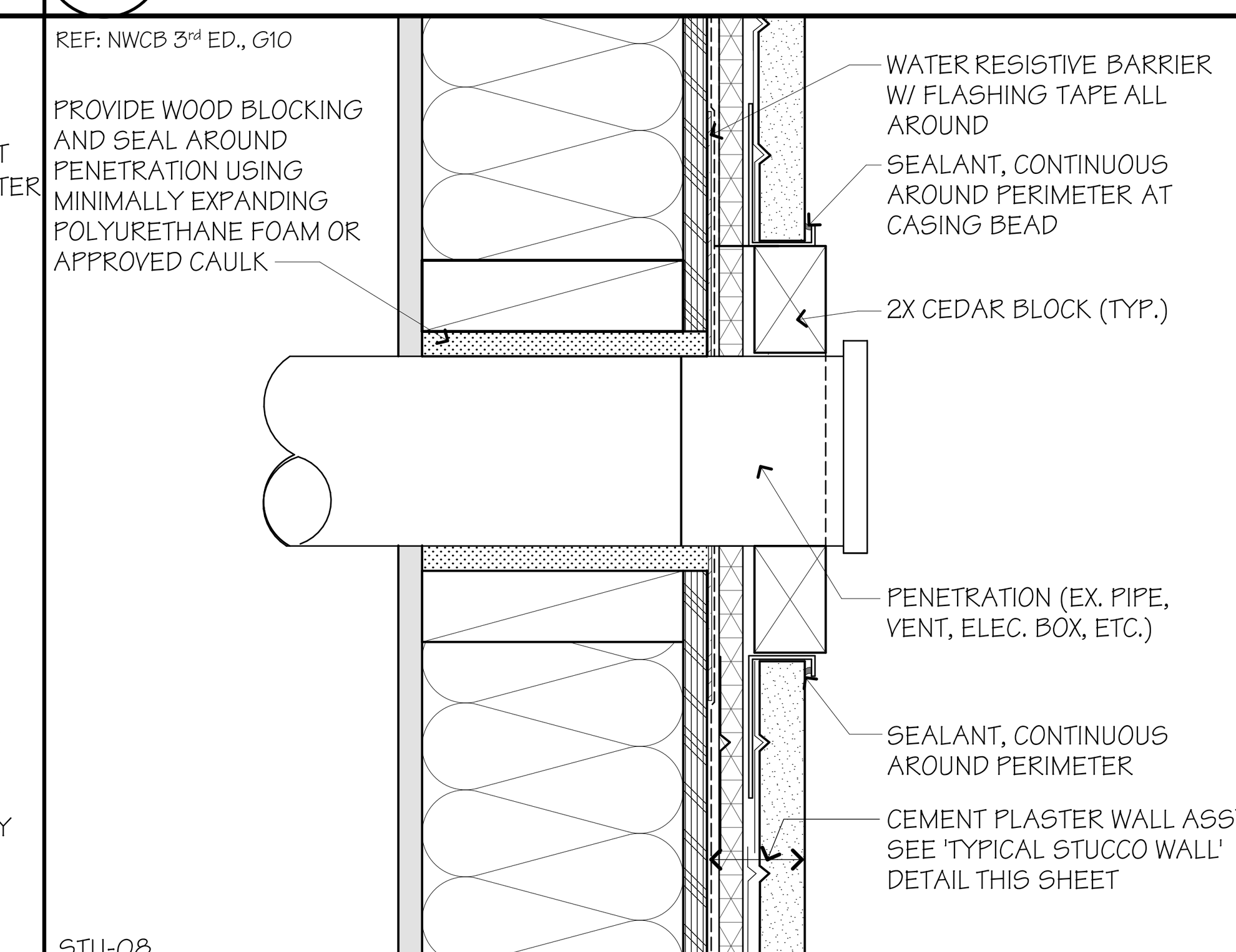
5 STUCCO SIDEWALL AT ROOF
SCALE: 3" = 1'-0"



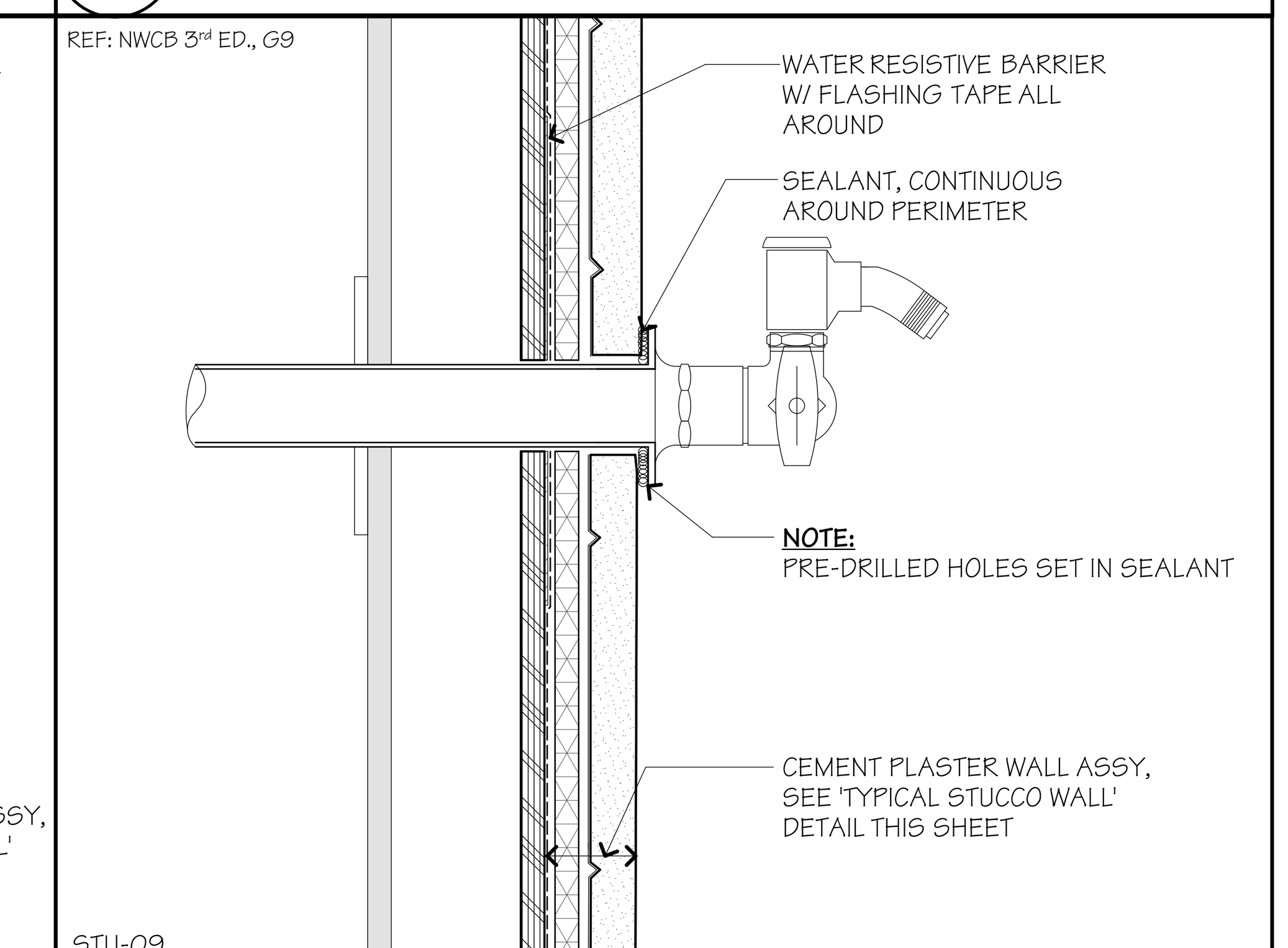
6 STUCCO AT WINDOW
SCALE: 3" = 1'-0"



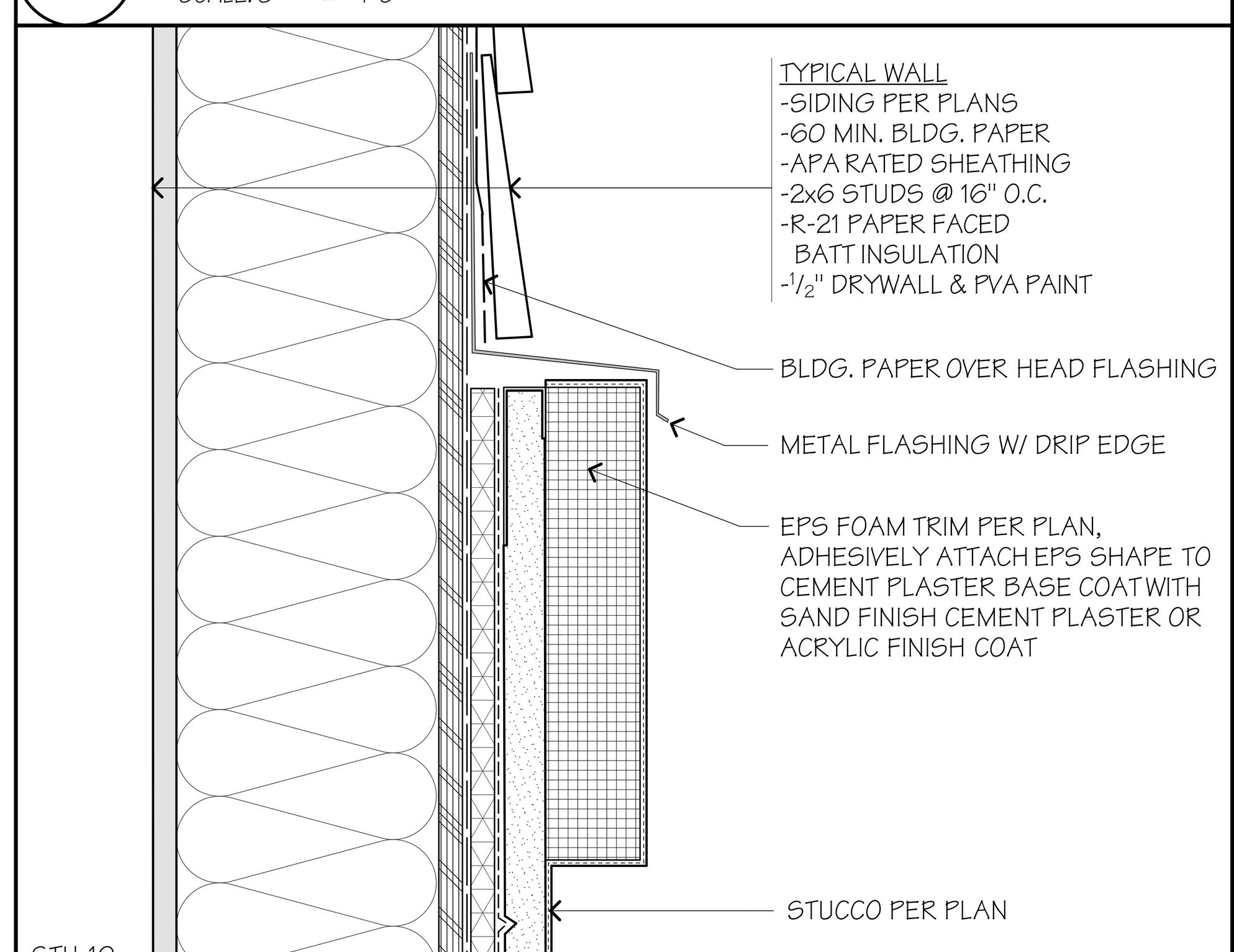
7 STUCCO AT WINDOW HEAD
SCALE: 3" = 1'-0"



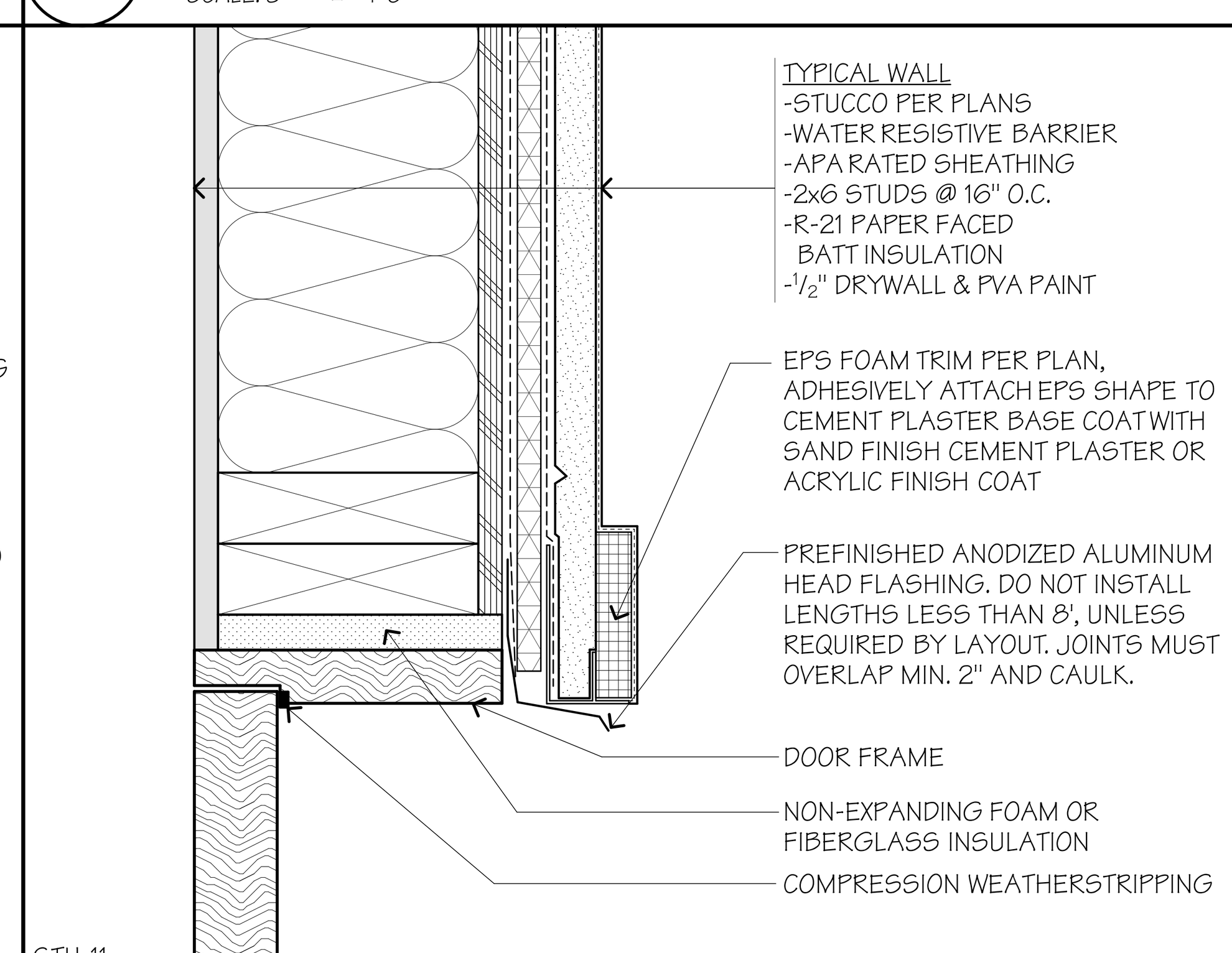
9 STUCCO AT PENETRATION
SCALE: 3" = 1'-0"



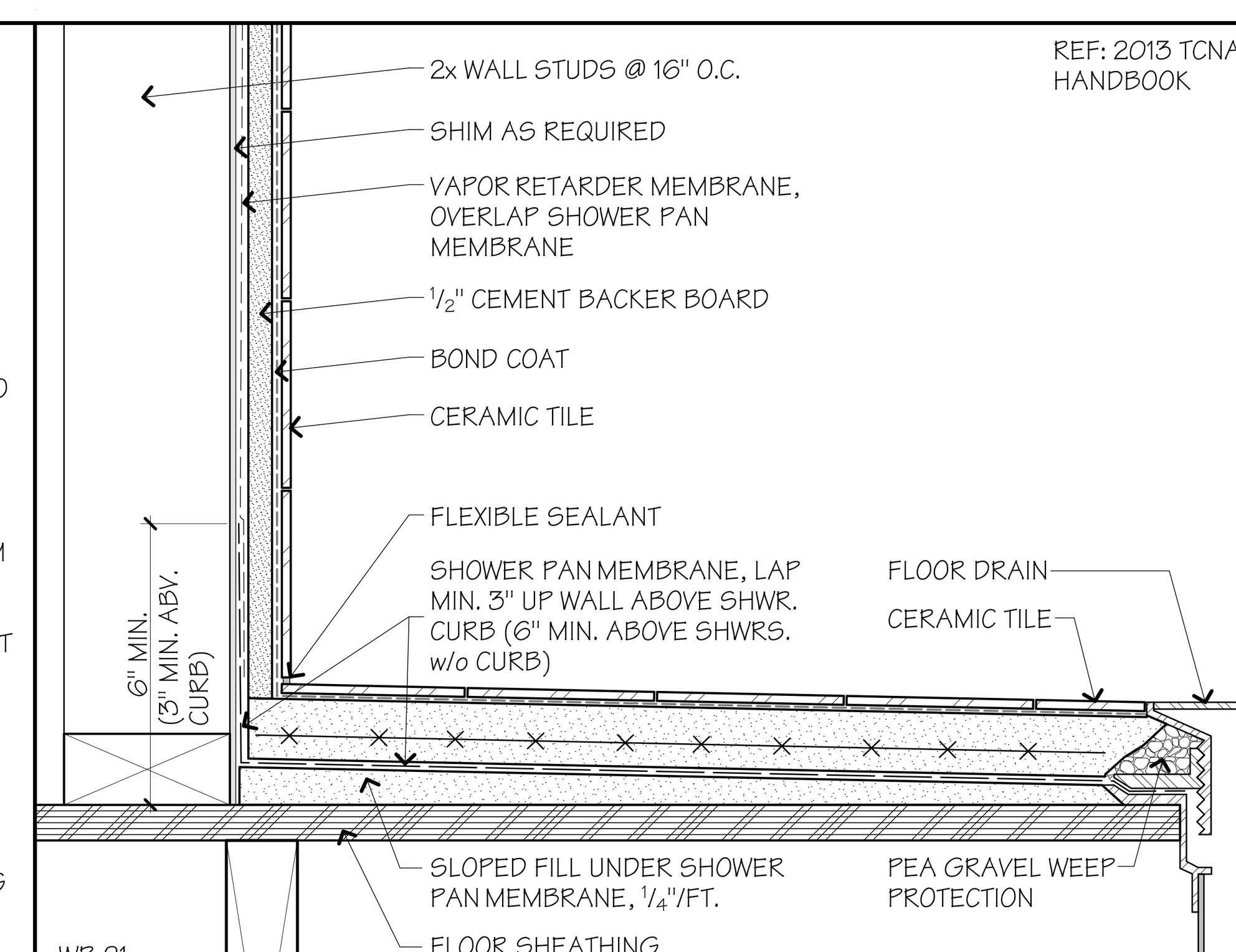
10 STUCCO AT PIPE PENETRATION
SCALE: 3" = 1'-0"



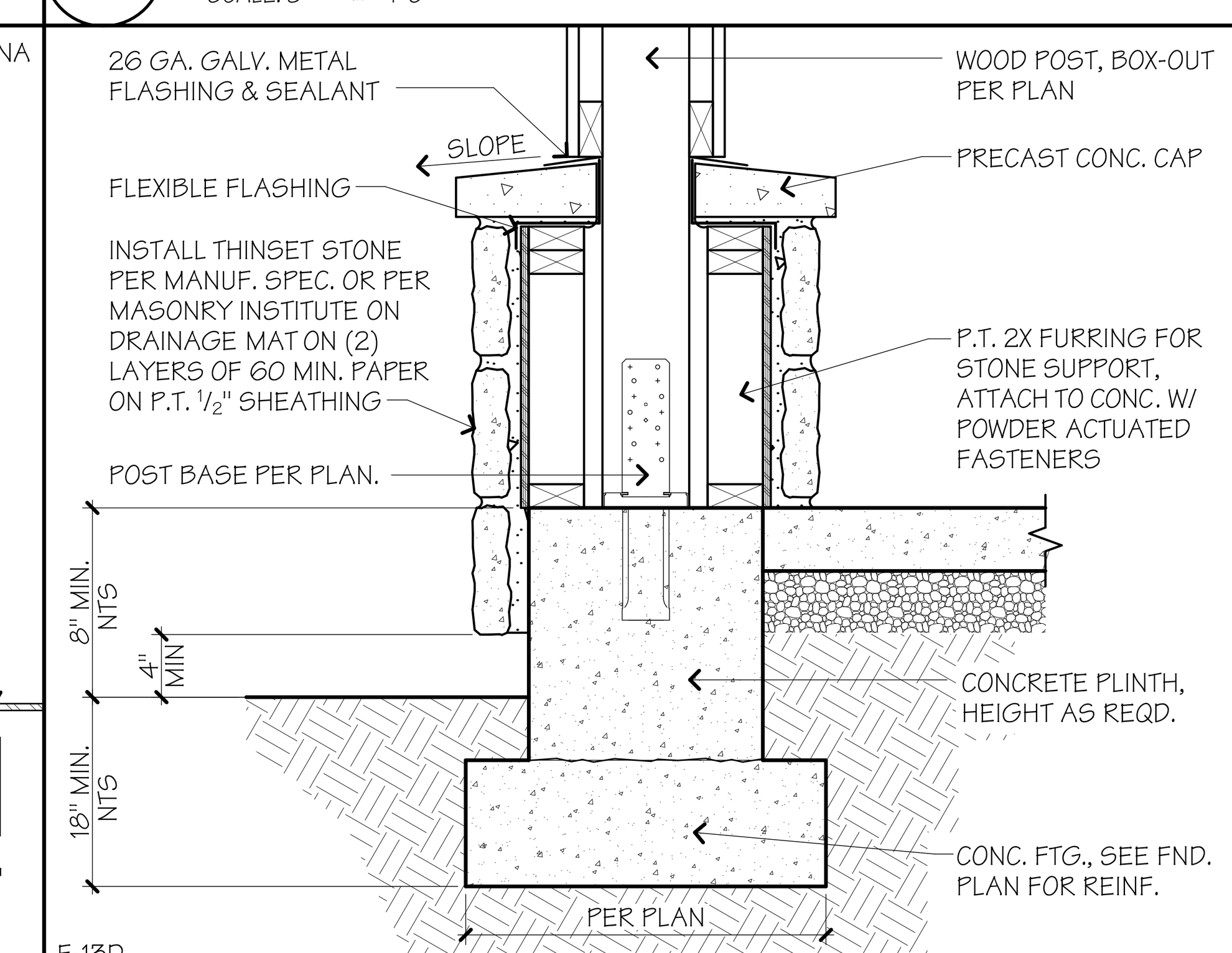
11 STUCCO SIDING TRANSITION
SCALE: 3" = 1'-0"



12 STUCCO AT DOOR HEAD
SCALE: 3" = 1'-0"



13 SHOWER PAN DETAIL
SCALE: 3" = 1'-0"



14 POST BASE - THINSET STONE
SCALE: 1" = 1'-0"

NOTE:
THIRD-PARTY SPECIALTY AGENCY INSPECTION REQUIRED FOR STUCCO FINISHES TO CONFORM W/ ASTM C926 AND C1063. OWNER WILL PROVIDE THE THIRD-PARTY INSPECTION.

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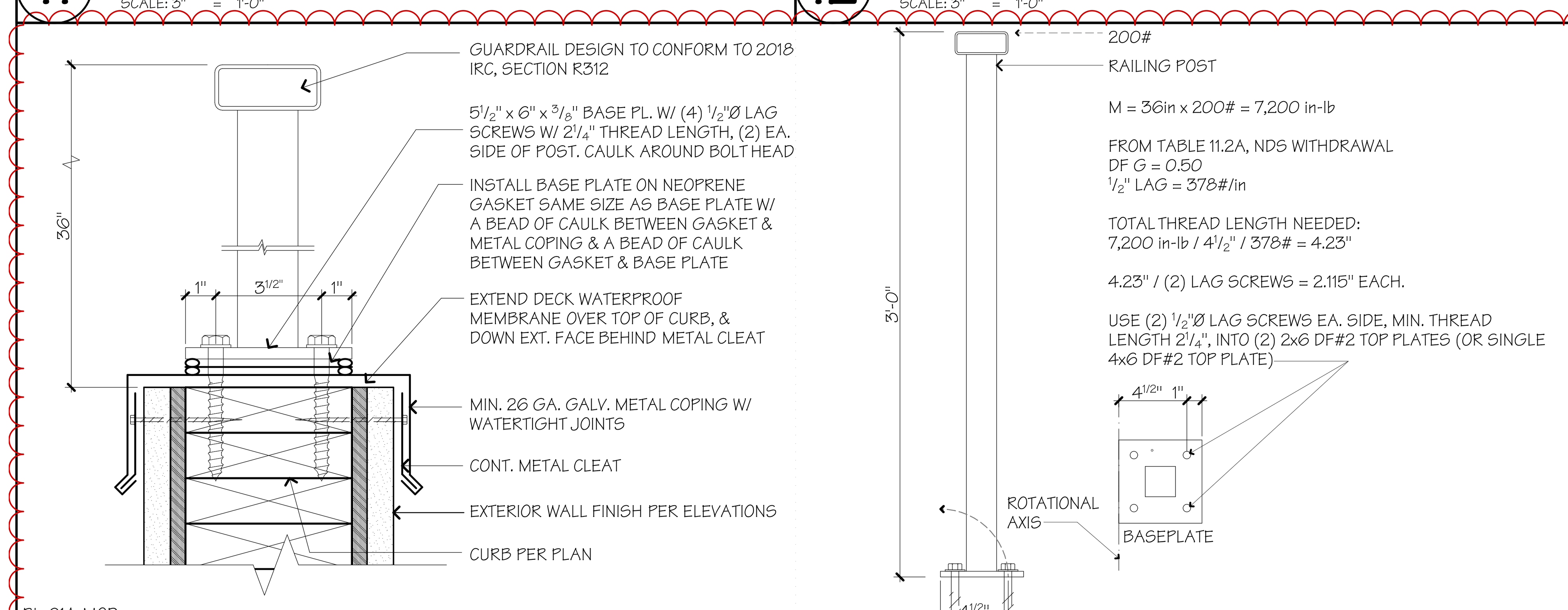

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16 GUARDRAIL TO CURB
SCALE: 3" = 1'-0"

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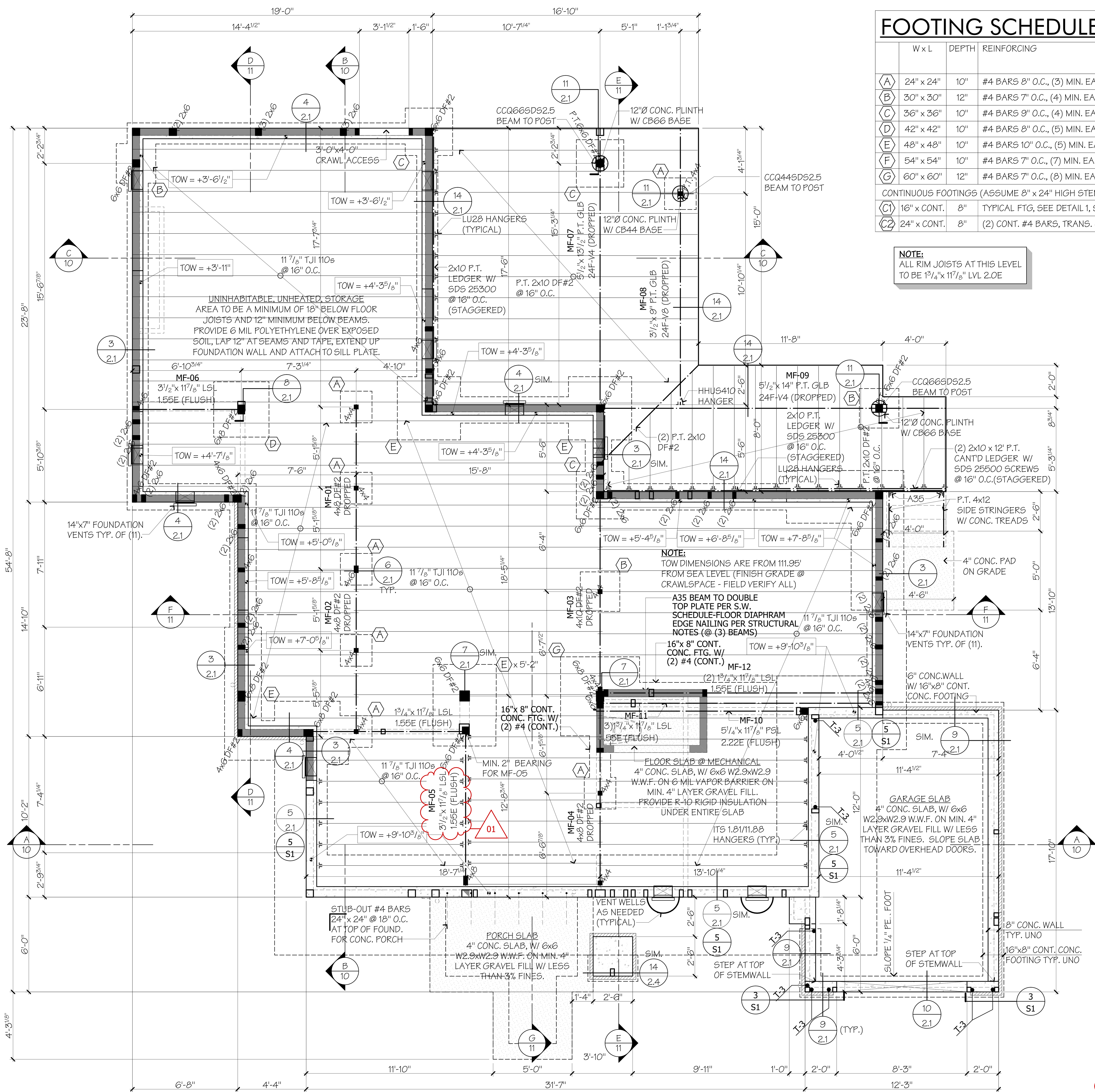
Issued	Date	Drawn By
FINAL FOR PERMIT	06/02/23	TJF
1 W.I. CORRECTIONS	12/26/23	TJF
2 REVISED LATERAL	02/08/24	TJF
3 CORR. & BACKCHECK	03/28/24	TJF

22005

2.4

WP / STUCCO & DETAILS



FOUNDATION/MAIN FLOOR FRAMING

NORTH

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

FOOTING SCHEDULE - 1,500 PSF

	W x L	DEPTH	REINFORCING	MIN. COLUMN SIZE	MAX. LOAD AT 1,500 PSF SOIL CAPACITY
A	24" x 24"	10"	#4 BARS 8" O.C., (3) MIN. EA. WAY	4x4	5,500#
B	30" x 30"	12"	#4 BARS 7" O.C., (4) MIN. EA. WAY	4x4	8,400#
C	36" x 36"	10"	#4 BARS 9" O.C., (4) MIN. EA. WAY	4x6	12,300#
D	42" x 42"	10"	#4 BARS 8" O.C., (5) MIN. EA. WAY	6x6	16,800#
E	48" x 48"	10"	#4 BARS 10" O.C., (5) MIN. EA. WAY	6x6	22,000#
F	54" x 54"	10"	#4 BARS 7" O.C., (7) MIN. EA. WAY	6x6	27,300#
G	60" x 60"	12"	#4 BARS 7" O.C., (8) MIN. EA. WAY	6x6	33,700#
CONTINUOUS FOOTINGS (ASSUME 8" x 24" HIGH STEMWALL)					
C1	16" x CONT.	8"	TYPICAL FTG, SEE DETAIL 1, SHEET 2.1		1,650 PLF
C2	24" x CONT.	8"	(2) CONT. #4 BARS, TRANS. #4 @ 12" O.C.		2600 PLF

NOTE:
ALL RIM JOISTS AT THIS LEVEL TO BE $1^3/_4$"x $11^7/_8$" LVL 2.0E

SHEARWALL SCHEDULE

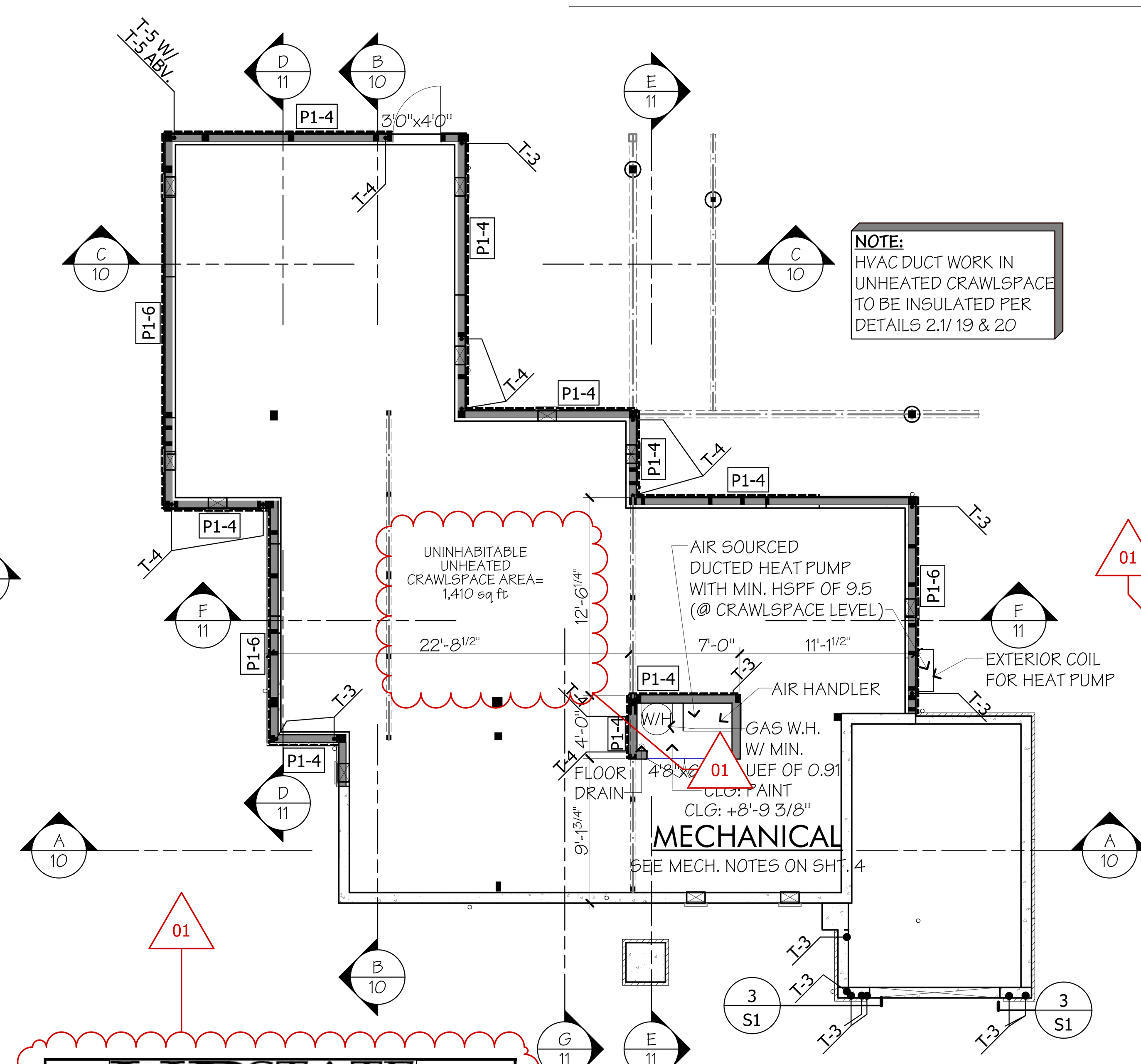
Date: 3/2/2023
Job #: 1651

MARK *(2)	SHEATHING - APPLY TO 2x HF STUDS @ 16"o/c U.N.O. BELOW *(9)	SHEATHING EDGE NAILS *(5) ALL EDGES BLOCKED (do not penetrate past flush)	BASE PLATE NAILS *(5)	ROOF TO TOP PLATE, FLOOR TO TOP PLATE & SILL PLATE *(6)	SILL PLATE ANCHORS w/ 3" x 3" x 1/4" WASHERS *(8)
P1-6	7/16" OSB	8d @ 6" o/c (12" o/c field)	16d @ 12 " o/c	H1 @ 24 " o/c or A35 @ 24 " o/c	5/8"Øx10" AB's @ 60 " o/c
P1-4	7/16" OSB	8d @ 4" o/c (12" o/c field)	16d @ 6 " o/c	A35 @ 16 " o/c	5/8"Øx10" AB's @ 42 " o/c
P1-3	7/16" OSB *(7)	8d @ 3" o/c (12" o/c field)	16d @ 4 " o/c	A35 @ 12 " o/c	5/8"Øx10" AB's @ 36 " o/c
P1-2	7/16" OSB *(7)	8d @ 2" o/c staggered (12" o/c field)	16d @ 3 " o/c	A35 @ 8 " o/c	5/8"Øx10" AB's @ 24 " o/c *(3)
P2-2	7/16" OSB Both Sides *(7)	8d @ 2" o/c staggered (12" o/c field)	(2)-16d @ 4"o/c to dbl 2x rim / blk'g	A35 / LTP4 each side @ 10 " o/c	5/8"Øx10" AB's @ 16 " o/c *(3)
RSW	7/16" OSB	8d @ 4" o/c (12" o/c field)	16d @ 6 " o/c	A35 @ 16 " o/c	5/8"Øx10" AB's @ 42 " o/c

HOLDOWN SCHEDULE

Date: 3/2/2023
Job #: 1651

MARK	HOLDOWN / STRAP *(1)	FASTENERS TO (2)-STUDS MIN U.N.O.	FOUNDATION ANCHOR *(1)(4)	COMMENTS
T-1	MSTC48B3	10d NAILS - (12) FACE, (4) BTM, (38) FRAMING	N/A	TO BEAM/HDR/DBL JST BELOW PER PLAN
T-2	MSTC52	(24) - 16d sinkers to each connected element	N/A	
T-3	HDU4-SDS2.5	(10) - SDS 0.25x2.5 WOOD SCREWS	SSTB24	
T-4	HDU8-SDS2.5	(20) - SDS 0.25x2.5 WOOD SCREWS	SSTB28	MIN. DF#2 4X POST
T-5	HDU14-SDS2.5	(36) - SDS 0.25x2.5 WOOD SCREWS	PAB8 W/ 11" MIN EMBEDMENT	MIN 6x6 POST



UNINHABITABLE, UNHEATED CRAWLSPACE

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

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UPSTATE engineering

SHEARWALL & HOLDOWN NOTES (U.N.O.) :

(1) Simpson or equal. Locate at end of shearwall u.n.o. Install per manufacturer recommendations for foundation minimum end distance and embedment, deepen foundation as required.

(2) Construct cripple wall same as shearwall (SW) above, and gable-end same as shearwall (SW) below.
(3) Requires 3x or (2) 2x foundation sill plate
(4) Threaded rod and coupler as required.
(5) Common nails, UNO: 8d=0.131"x2½", 10d=0.148"x3", 12d=0.148"x3¼", 16d=0.162"x3½", 16d sinker=0.148"x3¼".

(6) Install H1's on all trusses/rafters, A35's at 24"o/c on gables & rim joist (or solid blkg) to top plate (sill plate at fdn) u.n.o.; When specified spacing is less than 24"o/c, install A35's at roof solid blk'ing to SW top plate, and install H1 or H2.5 on all trusses/rafters. LTP4, LTP5 or LS50 can be substituted for A35. Conn. per Simpson Strong-Tie or equal.

(7) Minimum 3x or dbl-2x stud lam'd w/ (2)-16d @ 6" o/c at abutting panel edges.
(8) Anchor bolts shall be embedded at least 7" into concrete; there shall be a minimum of two bolts per piece with one bolt located not more than 12" or less than seven bolt diameters from each end of the piece. 2x min PT, u.n.o.
(9) All sheathing must be APA rated.

MAIN FLR. FRMG. NOTES

1. PLANS SHOULD BE REVIEWED BY ALL SUBCONTRACTORS PRIOR TO STARTING CONSTRUCTION. IF DISCREPANCIES EXIST, PLEASE NOTIFY 4D ARCHITECTS, INC. OR OWNER/CONTRACTOR.
2. WRITTEN DIMENSIONS TAKE PRECEDENT OVER SCALED DIMENSIONS.
3. ALL HEADERS TO BE (2)2x8, TYPICAL, U.N.O. NAIL TOGETHER W/ 16d @ 16" O.C. TOP AND BOTTOM STAGGERED.
4. ALL EXTERIOR WALLS TO BE FRAMED WITH 2x6 (STUD GRADE OR BETTER). PROVIDE R-21 BATT INSULATION MINIMUM, U.N.O.
5. ALL FRAME NAILING TO COMPLY WITH TABLE R602.3(1), 2018 I.R.C. BLOCK ALL APA RATED SHEATHING EDGES AND NAIL WITH 10d AT 6" O.C. TYPICAL, U.N.O. ON SHEARWALL SCHEDULE. NAILING INTO PRESSURE TREATED MATERIAL SHALL BE HOT-DIP GALVANIZED PER ASTM A153.
6. JOISTS UNDER AND PARALLEL TO BEARING PARTITIONS ABOVE SHALL BE DOUBLED U.N.O. PROVIDE 2X SOLID BLOCKING BELOW BEARING PARTITIONS PERPENDICULAR TO JOISTS, U.N.O. INSTALL WOOD I-JOISTS PER MFG. SPECIFICATIONS.
7. PROVIDE 2X SOLID BLOCKING AT JOISTS OVER SUPPORTS. SEE MFG. SPECS. FOR WOOD I-JOISTS.
8. PROVIDE FIREBLOCKING AT ALL PLUMBING PENETRATIONS AND WALL/ROOF INTERSECTIONS.
9. METAL FRAMING CONNECTORS SPECIFIED ARE MANUFACTURED BY THE SIMPSON COMPANY. SEE LATEST CATALOG EDITION. INSTALL PER SPECIFICATIONS. USE ONLY EQUIVALENT SUBSTITUTIONS.
10. ALL METAL CONNECTORS SUPPORTED BY PRESSURE TREATED MATERIAL SHALL BE "ZMAX" (G185 HDG PER ASTM A653) OR EQUIVALENT AND FASTENERS PER ASTM A153.
11. ALL CONCEALED VOIDS TO BE FIREBLOCKED PER SECTION R302.11, 2018 I.R.C. AND DRAFTSTOPPING IN FLOOR-CEILING ASSEMBLIES PER SECTION R302.12. 2018 I.R.C. CONCEALED SPACES SHALL NOT EXCEED 1,000 SF & BE DIVIDED INTO APPROXIMATELY EQUAL AREAS.
12. ENGINEERED LUMBER SPECIFIED SHALL MEET OR EXCEED THE DESIGN STRESS VALUES INDICATED ON THE COVERSHEET. INSTALL PER MFG. RECOMMENDATIONS. THESE DRAWINGS ONLY SHOW SIZE, SPAN, AND SPACING.
13. HVAC DUCTS MUST NOT DISPLACE REQUIRED INSULATION AT ANY GIVEN LOCATION, PROVIDE REQUIRED FLOOR OR CEILING INSULATION ON UNHEATED SIDE OF DUCTS INSTALLED IN JOIST OR RAFTER CAVITIES WHERE UNHEATED SPACES ARE ABOVE OR BELOW.

FOUNDATION NOTES

1. PLANS SHOULD BE REVIEWED BY ALL SUBCONTRACTORS PRIOR TO STARTING CONSTRUCTION. IF DISCREPANCIES EXIST, PLEASE CONTACT 4D ARCHITECTS, INC. OR OWNER/CONTRACTOR.
2. WRITTEN DIMENSIONS TAKE PRECEDENT OVER SCALED DIMENSIONS.
3. ALL FOOTINGS TO HAVE A MINIMUM DEPTH OF 18" BELOW FINISH GRADE.
4. ALL CONCRETE FOOTINGS TO REST ON FIRM UNDISTURBED EARTH. SOIL BEARING PRESSURE TO BE AS LISTED ON COVER SHEET OR REFER TO SOILS REPORT WHEN REQUIRED OR AVAILABLE.
5. STEP FOUNDATION PER SITE CONDITIONS.
6. CONCRETE COMPRESSIVE STRENGTH TO BE F'C = 3,000 PSI (MODERATE EXPOSURE, PER IRC TABLE 402.2). 2,500 PSI USED FOR DESIGN PURPOSES, GRADE 40 REINFORCEMENT.
7. ALL WOOD IN CONTACT WITH CONCRETE, MASONRY, WITHIN 8" OF ADJACENT EARTH, OR EXPOSED TO WEATHER SHALL BE PRESSURE TREATED.
8. VERIFY ALL DIMENSIONS AND FIELD CONDITIONS.
9. PROVIDE TEMPORARY BRACING AS REQUIRED UNTIL ALL PERMANENT CONNECTIONS AND STIFFENINGS HAVE BEEN INSTALLED.
10. JOISTS UNDER AND PARALLEL TO BEARING PARTITIONS ABOVE SHALL BE DOUBLED U.N.O. PROVIDE 2X SOLID BLOCKING BELOW BEARING PARTITIONS WHEN PERPENDICULAR TO JOISTS U.N.O. INSTALL WOOD I-JOISTS PER MFG. RECOMMENDATIONS.
11. PROVIDE 2X SOLID BLOCKING AT JOISTS OVER SUPPORTS. SEE MFG. SPECS. FOR WOOD I-JOISTS.
12. PROVIDE FIREBLOCKING AT ALL PLUMBING PENETRATIONS AND WALL/ROOF INTERSECTIONS.
13. ENGINEERED LUMBER SPECIFIED SHALL MEET OR EXCEED THE DESIGN STRESS VALUES INDICATED ON THE COVERSHEET. INSTALL PER MFG. RECOMMENDATIONS. THESE DRAWINGS ONLY SHOW SIZE, SPAN, AND SPACING.
14. PROVIDE 14"x7" FOUNDATION VENTS WITH $^1/_4$" CORROSION RESISTANT WIRE MESH. FOUNDATION VENT CALCULATION: TOTAL CRAWL SPACE AREA: 1,410 S.F. VENT AREA REQD.: 1,410 S.F./300=4.7 S.F. (ASSUME .51 S.F. NET VENT AREA PER VENT.) NUMBER OF VENTS REQD..: 4.7 S.F./.51 =9 VENTS. (11) PROVIDED. INSTALL VENTS IN RIM JOISTS. VENTS TO BE EVENLY SPACED AND PROVIDE CROSS VENTILATION. SEE FOUNDATION PLAN. SEE WA STATE AMENDMENT R408.2.
15. CRAWLSPACE TO BE A MINIMUM OF 18" BELOW FLOOR JOISTS AND 12" MINIMUM BELOW BEAMS. PROVIDE 6 MIL POLYETHYLENE CLASS I VAPOR BARRIER. LAP 12" AT SEAMS AND TAPE, EXTEND UP FOUNDATION WALL AND ATTACH TO SILL PLATE.
16. ALL BEAMS TO BE 4x10 D.F.#2 TYP. U.N.O.
17. ALL POSTS TO BE 4x4 D.F.#1 (4x6 AT BEAM SPLICES) TYP. U.N.O.
18. ALL ISOLATED SPREAD FOOTINGS TO BE 24"x24"x10" WITH (2)#4 BOTTOM EACH WAY TYP. U.N.O.
19. CONCRETE PROTECTION FOR REINFORCEMENT: A. 3" CAST AGAINST EARTH. B. $1^1/_2$" EXPOSED TO EARTH OR WEATHER. C. $^3/_4$" NOT EXPOSED TO EARTH OR WEATHER.
20. METAL FRAMING CONNECTORS SPECIFIED ARE MANUFACTURED BY THE SIMPSON COMPANY. SEE LATEST CATALOG EDITION. INSTALL PER SPECS. USE ONLY EQUIVALENT SUBSTITUTIONS.
21. ALL METAL CONNECTORS SUPPORTED BY PRESSURE TREATED MATERIAL SHALL BE "ZMAX" (G185 HDG PER ASTM A653) OR EQUIVALENT AND FASTENERS SHALL BE PER ASTM A153.
22. ALL FRAME NAILING TO COMPLY WITH TABLE R602.3(1), 2018 I.R.C. BLOCK ALL APA RATED SHEATHING EDGES AND NAIL WITH 10d AT 6" O.C. TYPICAL, U.N.O. ON SHEARWALL SCHEDULE. NAILING INTO PRESSURE TREATED MATERIAL SHALL BE HOT-DIP GALVANIZED PER ASTM A153.
23. DAMPROOFING/WATERPROOFING OF CONCRETE & MASONRY FOUNDATIONS REQUIRED FOR ALL INTERIOR & BELOW-GRADE SPACES INCLUDING CRAWLSPACES.
24. HVAC DUCTS MUST NOT DISPLACE REQUIRED INSULATION AT ANY GIVEN LOCATION, PROVIDE REQUIRED FLOOR OR CEILING INSULATION ON UNHEATED SIDE OF DUCTS INSTALLED IN JOIST OR RAFTER CAVITIES WHERE UNHEATED SPACES ARE ABOVE OR BELOW.

SHEARWALL NOTES

1.	T-3	HOLDOWN AND ANCHOR PER PLAN, SEE DETAILS AND SCHEDULE ON LATERAL "S" SHEET(S)
2.	T-1 T-2	STRAP PER PLAN, SEE DETAILS ON LATERAL "S" SHEET(S)
3.		SEE LATERAL "S" SHEET(S) FOR SHEARWALL NOTES, SCHEDULE, AND TYPICAL DETAILS

LEGEND

SYMBOL	DESCRIPTION
(dashed line)	DENOTES STUD WALLS ABOVE
■	DENOTES POSTING UNDER CONCENTRATED LOADS. PROVIDE DF#2 4x4 AT MIDSPAN AND DF#2 4x6 AT BEAM SPLICES U.N.O.
□	DENOTES CONCENTRATED LOAD FROM ABOVE. PROVIDE SOLID BLOCKING AS REQUIRED. DO NOT INSTALL FND. VENTS AT THESE LOCATIONS
XF:00	DENOTES BEAM OR FOOTING LABEL. SEE BEAM AND FOOTING CALCULATIONS

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Dhaliwal-Klar Residence

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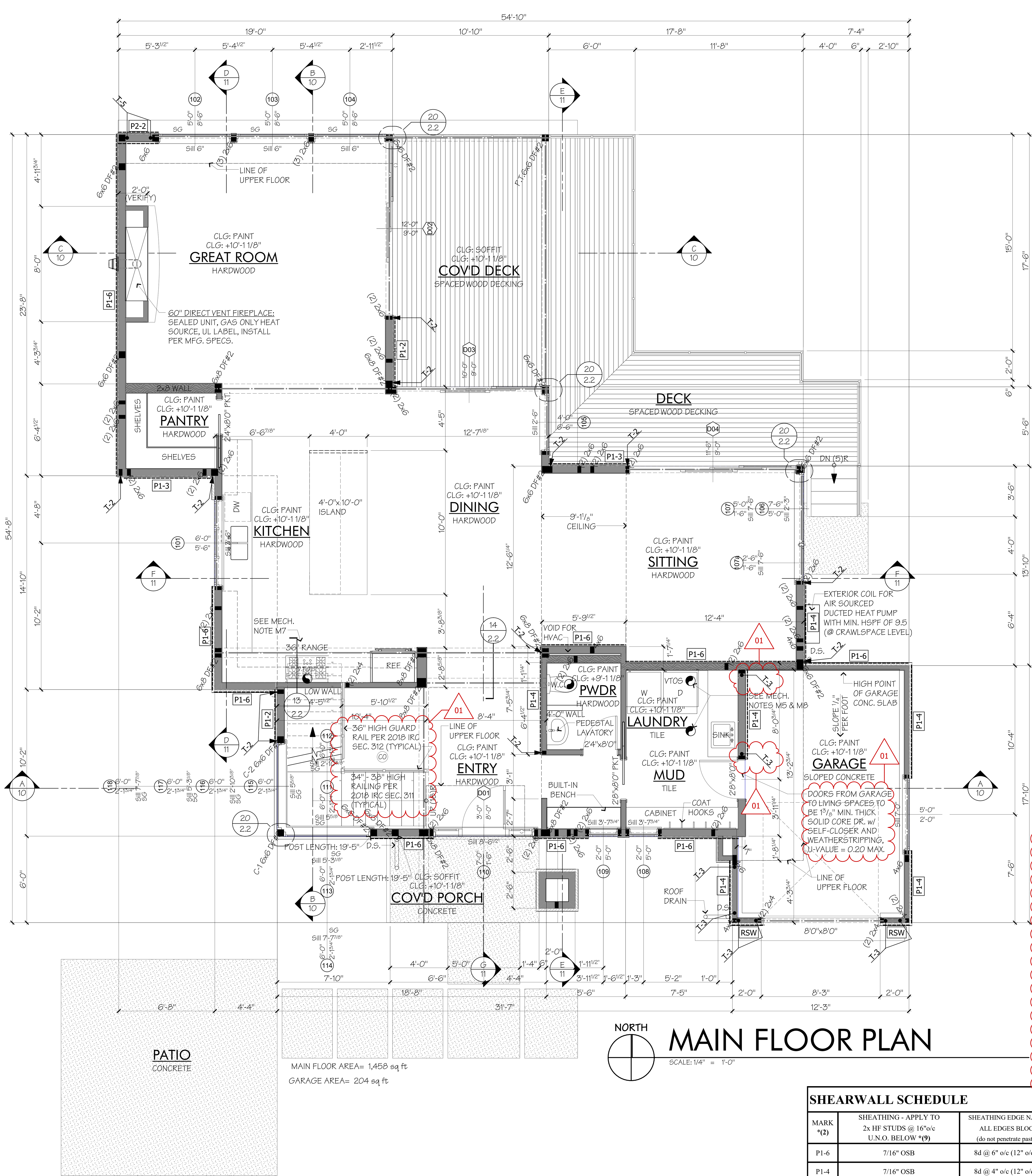
22005

3

FOUNDATION/MAIN FLOOR FRAMING



MAIN FLOOR PLAN

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

MAIN FLOOR AREA= 1,458 sq ft
GARAGE AREA= 204 sq ft

MECHANICAL NOTES

M1. GAS APPLIANCES SHALL BE ELEVATED SO THAT THE IGNITORS ARE 18" MIN. ABOVE THE GARAGE FLOOR PER 2018 I.R.C. M1307.3. PROTECTION FROM IMPACT: APPLIANCES SHALL BE PROTECTED BY APPROVED BARRIERS WHEN LOCATION IN SUBJECT TO VEHICLE DAMAGE (IRC M1307.3.1).

M2. 8"Ø FRESH AIR DUCT TO RETURN AIR PLENUM w/ MOTORIZED DAMPER.

M3. PROVIDE COMBUSTION AIR FOR GAS APPLIANCES PER 2018 I.R.C. G2407.

M4. HVAC DUCTS MUST NOT DISPLACE REQUIRED INSULATION AT ANY GIVEN LOCATION, PROVIDE REQUIRED FLOOR OR CEILING INSULATION ON UNHEATED SIDE OF DUCTS INSTALLED IN JOIST OR RAFTER CAVITIES WHERE UNHEATED SPACES ARE ABOVE OR BELOW.

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M5. INTERMITTENT WHOLE-HOUSE VENTILATION TO BE DESIGNED IN ACCORDANCE WITH 2018 WSRC, SECTIONS M1505.4.1 THROUGH M1505.4.4. THE WHOLE-HOUSE VENTILATION SYSTEM SHALL CONSIST OF ONE OR MORE SUPPLY OR EXHAUST FANS, OR A COMBINATION OF SUCH, AND ASSOCIATED DUCTS AND CONTROLS. THE WHOLE-HOUSE VENTILATIONS SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE (M1505.4.2). THE WHOLE-HOUSE MECHANICAL SYSTEM SHALL PROVIDE OUTDOOR AIR AT A CONTINUOUS RATE AS DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(1) OR EQUATION 15-1.

M6. SECURE WATER HEATER WITH MIN. (2) 22 GA. x 3/4" WIDE METAL STRAPS. LOCATE AT UPPER & LOWER ONE-THIRD OF WATER HEATER TANK.

M7. COOKTOP w/ INTERMITTENT EXHAUST FAN TO OUTSIDE, 100 CFM (MIN.), 400 CFM (MAX.), DUCTS TO HAVE SMOOTH INTERIOR SURFACES, BE AIR-TIGHT AND BE EQUIPPED WITH BACKDRAFT DAMPERS.

M8. DRYER EXHAUST DUCTS SHALL HAVE SMOOTH INTERIORS AND BE MADE OF MIN. 28 GAUGE METAL AND BE NO MORE THAN 35 FEET IN LENGTH FROM DRYER CONNECTION TO OUTLET TERMINAL, SEE 2018 I.R.C. SECTION M1502. FOR DUCT RUNS WITH ELBOWS, MAXIMUM ALLOWABLE LENGTH SHALL BE REDUCED PER 2018 I.R.C. TABLE M1502.4.5.1.

SHEARWALL NOTES

1.		ALL EXTERIOR WALLS TO BE P1-6
2.	(symbol)	DENOTES EXTENT OF SHEARWALL
3.	P1-4	SHEARWALL MARK. MARK IS ON SIDE OF WALL TO BE SHEATHED IF ONE SIDE IS INDICATED, SEE SHEARWALL SCHEDULE ON LATERAL "S" SHEET(S)
4.	T-3	HOLDOWN AND ANCHOR PER PLAN, SEE DETAILS AND SCHEDULE ON LATERAL "S" SHEET(S)
5.	T-1 T-2	STRAP PER PLAN, SEE DETAILS ON LATERAL "S" SHEET(S)
6.		SEE LATERAL "S" SHEET(S) FOR SHEARWALL NOTES, SCHEDULE, AND TYPICAL DETAILS

01

WALL LEGEND

(solid fill)	DENOTES NEW WALLS
(hatched fill)	DENOTES INTERIOR BEARING WALLS

2018 TABLE 406.3 ENERGY CREDITS

TABLE 406.2 FUEL NORMALIZATION CREDITS

FUEL NORMALIZATION CREDIT REQUIREMENTS SELECTED FROM TABLE 406.2:		CREDITS
2	For an initial heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(1)C or C403.3.2(2)	1.0
3.2ª	HIGH EFFICIENCY HVAC EQUIPMENT 3.2ª: footnote a Air-source centrally ducted heat pump with min. HSPF of 9.5.	1.0
5.3	HIGH EFFICIENCY HVAC EQUIPMENT 5.3: Energy Star rated gas or propane water heater with a min. UEF of 0.91	1.0
6.1	RENEWABLE ELECTRIC ENERGY 6.1: For solar electric systems, the design shall be demonstrated to meet this requirement using the National Renewable Energy Laboratory calculator PVWATTs or approved alternate by the code official. Documentation noting solar access shall be included on the plans. For wind generation projects designs shall document annual power generation based on the following factors: The wind turbine power curve; average annual wind speed at the site; frequency distribution of the wind speed at the site and height of the tower.	3.0

Footnote a:
a. An alternative heating source sized at a maximum of 0.5 Watts/ft2 (equivalent) of heated floor area or 500 Watts, whichever is bigger, may be installed in the dwelling unit.

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SHEARWALL & HOLDOWN NOTES (U.N.O.) :

(1) Simpson or equal. Locate at end of shearwall u.n.o. Install per manufacturer recommendations for foundation minimum end distance and embedment, deepen foundation as required.

(2) Construct cripple wall same as shearwall (SW) above, and gable-end same as shearwall (SW) below.
(3) Requires 3x or (2) 2x foundation sill plate
(4) Threaded rod and coupler as required.
(5) Common nails, UNO: 8d=0.131"x2½", 10d=0.148"x3", 12d=0.148"x3¼", 16d=0.162"x3½", 16d sinker=0.148"x3¼".

(6) Install H1's on all trusses/rafters, A35's at 24"o/c on gables & rim joist (or solid blkg) to top plate (sill plate at fdn) u.n.o.; When specified spacing is less than 24"o/c, install A35's at roof solid blk'ing to SW top plate, and install H1 or H2.5 on all trusses/rafters. LTP4, LTP5 or LS50 can be substituted for A35. Conn. per Simpson Strong-Tie or equal.

(7) Minimum 3x or dbl-2x stud lam'd w/ (2)-16d @ 6" o/c at abutting panel edges.
(8) Anchor bolts shall be embedded at least 7" into concrete; there shall be a minimum of two bolts per piece with one bolt located not more than 12" or less than seven bolt diameters from each end of the piece. 2x min PT, u.n.o.
(9) All sheathing must be APA rated.

MAIN FLOOR NOTES

1. PLANS SHOULD BE REVIEWED BY ALL SUBCONTRACTORS PRIOR TO CONSTRUCTION. IF DISCREPANCIES EXIST, PLEASE NOTIFY 4D ARCHITECTS OR OWNER/CONTRACTOR.
2. WRITTEN DIMENSIONS TAKE PRECEDENT OVER SCALED DIMENSIONS.
3. PLATE HEIGHT TO BE 10'-1 1/8" THIS FLOOR U.N.O. CEILING HEIGHT CALL-OUT ABOVE ROOM NAME IS FROM TOP OF SUBFLOOR TO BOTTOM OF FLOOR OR CEILING JOISTS.
4. SILL HT. OF WINDOW R.O. FROM TOP OF SUBFLOOR. SEE WINDOW SCHEDULE FOR HEAD HTS.
5. SEE UPPER FLOOR FRAMING PLAN FOR WINDOW/DOOR HEADER SIZES.
6. ALL EXTERIOR WALLS TO BE FRAMED WITH 2x6 (STUD GRADE OR BETTER). PROVIDE R-21 BATT INSULATION MINIMUM, U.N.O.
7. ALL FRAME NAILING TO COMPLY WITH TABLE R602.3(1), 2018 I.R.C. BLOCK ALL APA RATED SHEATHING EDGES AND NAIL WITH 10d AT 6" O.C. TYPICAL, U.N.O. ON SHEARWALL SCHEDULE. NAILING INTO PRESSURE TREATED MATERIAL SHALL BE HOT-DIP GALVANIZED PER ASTM A153.
8. JOISTS UNDER AND PARALLEL TO BEARING PARTITIONS ABOVE SHALL BE DOUBLED U.N.O. PROVIDE 2X SOLID BLOCKING BELOW BEARING PARTITIONS PERPENDICULAR TO JOISTS, U.N.O. INSTALL WOOD I-JOISTS PER MFG. SPECIFICATIONS.
9. PROVIDE 2X SOLID BLOCKING AT JOISTS OVER SUPPORTS. SEE MFG. SPECS. FOR WOOD I-JOISTS.
10. PROVIDE FIREBLOCKING AT ALL PLUMBING PENETRATIONS AND WALL/ROOF INTERSECTIONS.
11. SPACES UNDER STAIRCASES USED FOR STORAGE TO BE FINISHED WITH MIN. (1) LAYER 1/2" G.W.B.
12. THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NO LESS THAN 1/2" G.W.B. APPLIED TO THE GARAGE SIDE. LIVING AREAS ABOVE THE GARAGE SHALL BE SEPARATED FROM THE GARAGE WITH NO LESS THAN 5/8" TYPE "X" G.W.B. ALL SUPPORTING STRUCTURE SHALL BE PROTECTED BY NO LESS THAN 1/2" G.W.B.
13. FINISH ALL CEILINGS WITH 5/8" TYPE "X" G.W.B. WHERE JOISTS ARE SPACED GREATER THAN 16".
14. PROVIDE 26 GA GALVANIZED SHEET METAL FLASHING ABOVE WINDOWS AND DOORS, LAP BUILDING PAPER OVER.
15. CONCRETE STEMWALLS TO EXTEND 8" MIN. ABOVE FINISH GRADE. INSTALL SIDING 8" ABOVE FINISH GRADE.
16. WINDOWS TO MEET THE ENERGY CODE REQUIREMENTS ON THE COVERSHEET.
17. ALL TUBS AND SHOWER STALLS: A) FIREBLOCK BETWEEN STUDS. B) LIMIT SHOWER FLOW PER COVERSHEET. C) WALLS SHALL BE WATERPROOFED TO A MIN. OF 70" ABOVE DRAIN INLET. D) ALL GLAZING FACING TUBS, SPAS, SHOWERS AND POOLS WITH THE BOTTOM EDGE WITHIN 60" VERTICALLY OF ANY WALKING OR STANDING SURFACE SHALL BE SAFETY GLAZING, UNLESS IT IS MORE THAN 60" AWAY HORIZONTALLY.
18. ENGINEERED LUMBER SPECIFIED SHALL MEET OR EXCEED THE DESIGN STRESS VALUES INDICATED ON THE COVERSHEET. INSTALL PER MFG. RECOMMENDATIONS. THESE DRAWINGS ONLY SHOW SIZE, SPAN, AND SPACING.
19. DIRECT VENT FIREPLACE: GAS ONLY HEAT SOURCE. UL LABEL. INSTALL PER MFR. SPECIFICATIONS.
20. PROVIDE ELECTRIC ILLUMINATION AT OUTSIDE DOORS SWITCHED FROM INSIDE.
21. PROVIDE ELECTRIC ILLUMINATION AT ALL STAIRWAYS, INCLUDING LANDINGS, SWITCHED AT EACH FLOOR LEVEL.
22. HVAC DUCTS MUST NOT DISPLACE REQUIRED INSULATION AT ANY GIVEN LOCATION, PROVIDE REQUIRED FLOOR OR CEILING INSULATION ON UNHEATED SIDE OF DUCTS INSTALLED IN JOIST OR RAFTER CAVITIES WHERE UNHEATED SPACES ARE ABOVE OR BELOW.
23. DOORS FROM GARAGE TO LIVING SPACES TO BE 1 3/8" MIN. THICK SOLID CORE DR. w/ SELF-CLOSER AND WEATHERSTRIPPING, U-VALUE = 0.20 MAX.

LEGEND

SYMBOL	DESCRIPTION
■	DENOTES POSTING UNDER CONCENTRATED LOADS. PROVIDE POSTING THE WIDTH OF STUD WALL X BEAM WIDTH WITH EITHER SOLID WOOD POST OR MULTIPLE 2X STUDS, TYPICAL, U.N.O.
SD	SMOKE DETECTOR POWERED BY BUILDING WIRING w/ BATTERY BACK-UP. DETECTORS TO BE INTERCONNECTED SO ANY ONE UNIT WILL ACTIVATE ALL OTHER UNITS
CO	CARBON MONOXIDE DETECTOR, HARD-WIRED w/ BATTERY BACK-UP PER I.R.C. SECTION R315
S/C	COMBINATION SMOKE & CARBON MONOXIDE DETECTOR, HARD-WIRED w/ BATTERY BACK-UP PER I.R.C. SECTION R314-R315
HD	HEAT DETECTOR OR ALARM RATED FOR AMBIENT OUTDOOR TEMPERATURES TO BE CENTRALLY LOCATED IN GARAGE PER R314.2.3
(fan symbol)	50 CFM INTERMITTENT EXHAUST FAN VENTED TO OUTSIDE
101	WINDOW MARKER, SEE WINDOW SCHEDULE
D01	EXTERIOR DOOR MARKER, SEE DOOR SCHEDULE
SK1	SKYLIGHT MARKER, SEE WINDOW SCHEDULE

SHEARWALL SCHEDULE

Date: 3/2/2023
Job #: 1651

MARK *(2)	SHEATHING - APPLY TO 2x HF STUDS @ 16"o/c U.N.O. BELOW *(9)	SHEATHING EDGE NAILS *(5) ALL EDGES BLOCKED (do not penetrate past flush)	BASE PLATE NAILS *(5)	ROOF TO TOP PLATE, FLOOR TO TOP PLATE & SILL PLATE *(6)	SILL PLATE ANCHORS w/ 3" x 3" x 1/4" WASHERS *(8)
P1-6	7/16" OSB	8d @ 6" o/c (12" o/c field)	16d @ 12 " o/c	H1 @ 24 " o/c or A35 @ 24 " o/c	5/8"Øx10" AB's @ 60 " o/c
P1-4	7/16" OSB	8d @ 4" o/c (12" o/c field)	16d @ 6 " o/c	A35 @ 16 " o/c	5/8"Øx10" AB's @ 42 " o/c
P1-3	7/16" OSB *(7)	8d @ 3" o/c (12" o/c field)	16d @ 4 " o/c	A35 @ 12 " o/c	5/8"Øx10" AB's @ 36 " o/c
P1-2	7/16" OSB *(7)	8d @ 2" o/c staggered (12" o/c field)	16d @ 3 " o/c	A35 @ 8 " o/c	5/8"Øx10" AB's @ 24 " o/c *(3)
P2-2	7/16" OSB Both Sides *(7)	8d @ 2" o/c staggered (12" o/c field)	(2)-16d @ 4"o/c to dbl 2x rim / blk'g	A35 / LTP4 each side @ 10 " o/c	5/8"Øx10" AB's @ 16 " o/c *(3)
RSW	7/16" OSB	8d @ 4" o/c (12" o/c field)	16d @ 6 " o/c	A35 @ 16 " o/c	5/8"Øx10" AB's @ 42 " o/c

HOLDOWN SCHEDULE

Date: 3/2/2023
Job #: 1651

MARK	HOLDOWN / STRAP *(1)	FASTENERS TO (2)-STUDS MIN U.N.O.	FOUNDATION ANCHOR *(1)(4)	COMMENTS
T-1	MSTC48B3	10d NAILS - (12) FACE, (4) BTM, (38) FRAMING	N/A	TO BEAM/HDR/DBL JST BELOW PER PLAN
T-2	MSTC52	(24) - 16d sinkers to each connected element	N/A	
T-3	HDU4-SDS2.5	(10) - SDS 0.25x2.5 WOOD SCREWS	SSTB24	
T-4	HDU8-SDS2.5	(20) - SDS 0.25x2.5 WOOD SCREWS	SSTB28	MIN. DF#2 4X POST
T-5	HDU14-SDS2.5	(36) - SDS 0.25x2.5 WOOD SCREWS	PAB8 W/ 11" MIN EMBEDMENT	MIN 6x6 POST

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Issued	Date	Drawn By
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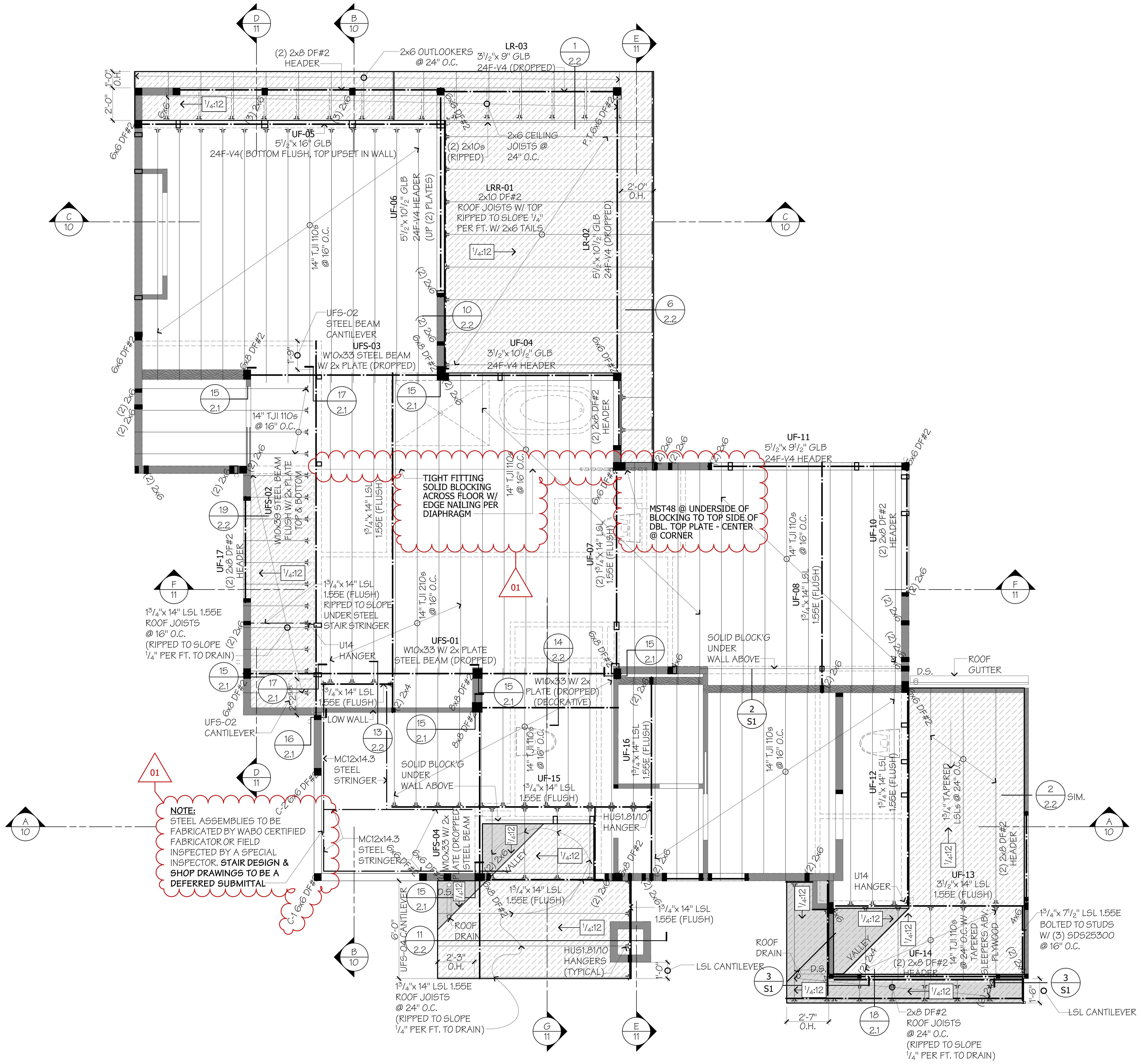
PLAN CORRECTIONS	12/26/23	TJF
REVISED LATERAL	02/08/24	TJF
CORR. & BACKCHECK	03/28/24	TJF

22005



UPPER FLOOR/LOWER ROOF FRAMING

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

NOTE:
ALL ROOF AREAS ARE NON-VENTED

UPPER FLOOR FRMG. NOTES

1. PLANS SHOULD BE REVIEWED BY ALL SUBCONTRACTORS PRIOR TO STARTING CONSTRUCTION. IF DISCREPANCIES EXIST, PLEASE NOTIFY 4D ARCHITECTS, INC. OR OWNER/CONTRACTOR.
2. WRITTEN DIMENSIONS TAKE PRECEDENT OVER SCALED DIMENSIONS.
3. ALL HEADERS TO BE (2)2x8, TYPICAL, U.N.O. NAIL TOGETHER W/ 16d @ 16" O.C. TOP AND BOTTOM STAGGERED.
4. ALL EXTERIOR WALLS TO BE FRAMED WITH 2x6 (STUD GRADE OR BETTER). PROVIDE R-21 BATT INSULATION MINIMUM, U.N.O.
5. ALL FRAME NAILING TO COMPLY WITH TABLE R602.3(1), 2018 I.R.C. BLOCK ALL APARATED SHEATHING EDGES AND NAIL WITH 10d AT 6" O.C. TYPICAL, U.N.O. ON SHEARWALL SCHEDULE. NAILING INTO PRESSURE TREATED MATERIAL SHALL BE HOT-DIP GALVANIZED PER ASTM A153.
6. JOISTS UNDER AND PARALLEL TO BEARING PARTITIONS ABOVE SHALL BE DOUBLED U.N.O. PROVIDE 2X SOLID BLOCKING BELOW BEARING PARTITIONS PERPENDICULAR TO JOISTS, U.N.O. INSTALL WOOD I-JOISTS PER MFG. SPECIFICATIONS.
7. PROVIDE 2X SOLID BLOCKING AT JOISTS OVER SUPPORTS. SEE MFG. SPECS. FOR WOOD I-JOISTS.
8. PROVIDE FIREBLOCKING AT ALL PLUMBING PENETRATIONS AND WALL/ROOF INTERSECTIONS.
9. METAL FRAMING CONNECTORS SPECIFIED ARE MANUFACTURED BY THE SIMPSON COMPANY. SEE LATEST CATALOG EDITION. INSTALL PER SPECIFICATIONS. USE ONLY EQUIVALENT SUBSTITUTIONS.
10. ALL METAL CONNECTORS SUPPORTED BY PRESSURE TREATED MATERIAL SHALL BE "ZMAX" (G185 HDG PER ASTM A653) OR EQUIVALENT AND FASTENERS PER ASTM A153.
11. ALL CONCEALED VOIDS TO BE FIREBLOCKED PER SECTION R302.11, 2018 I.R.C. AND DRAFT STOPPED PER SECTION R302.12, 2018 I.R.C.
12. ENGINEERED LUMBER SPECIFIED SHALL MEET OR EXCEED THE DESIGN STRESS VALUES INDICATED ON THE COVERSHEET. INSTALL PER MFG. RECOMMENDATIONS. THESE DRAWINGS ONLY SHOW SIZE, SPAN, AND SPACING.
13. HVAC DUCTS MUST NOT DISPLACE REQUIRED INSULATION AT ANY GIVEN LOCATION, PROVIDE REQUIRED FLOOR OR CEILING INSULATION ON UNHEATED SIDE OF DUCTS INSTALLED IN JOIST OR RAFTER CAVITIES WHERE UNHEATED SPACES ARE ABOVE OR BELOW.

LEGEND

	DENOTES INTERIOR BEARING WALLS BELOW
	DENOTES WALLS BELOW
	DENOTES WALLS ABOVE
	DENOTES OVER-FRAMING ABOVE ROOF FRAMING BELOW
	DENOTES ROOF FRAMING (OR ROOF DECK)
	DENOTES BEAMS, HEADERS, OR TRUSSES
UF:00	DENOTES BEAM LABEL. SEE BEAM CALCULATIONS
■	DENOTES POSTING IN WALLS BELOW UNDER CONCENTRATED LOADS. PROVIDE POSTING THE WIDTH OF STUD WALL X BEAM WIDTH WITH EITHER SOLID WOOD POST OR MULTIPLE 2X STUDS, U.N.O.
□	DENOTES CONCENTRATED LOAD FROM ABOVE. PROVIDE SOLID BLOCKING AS REQUIRED

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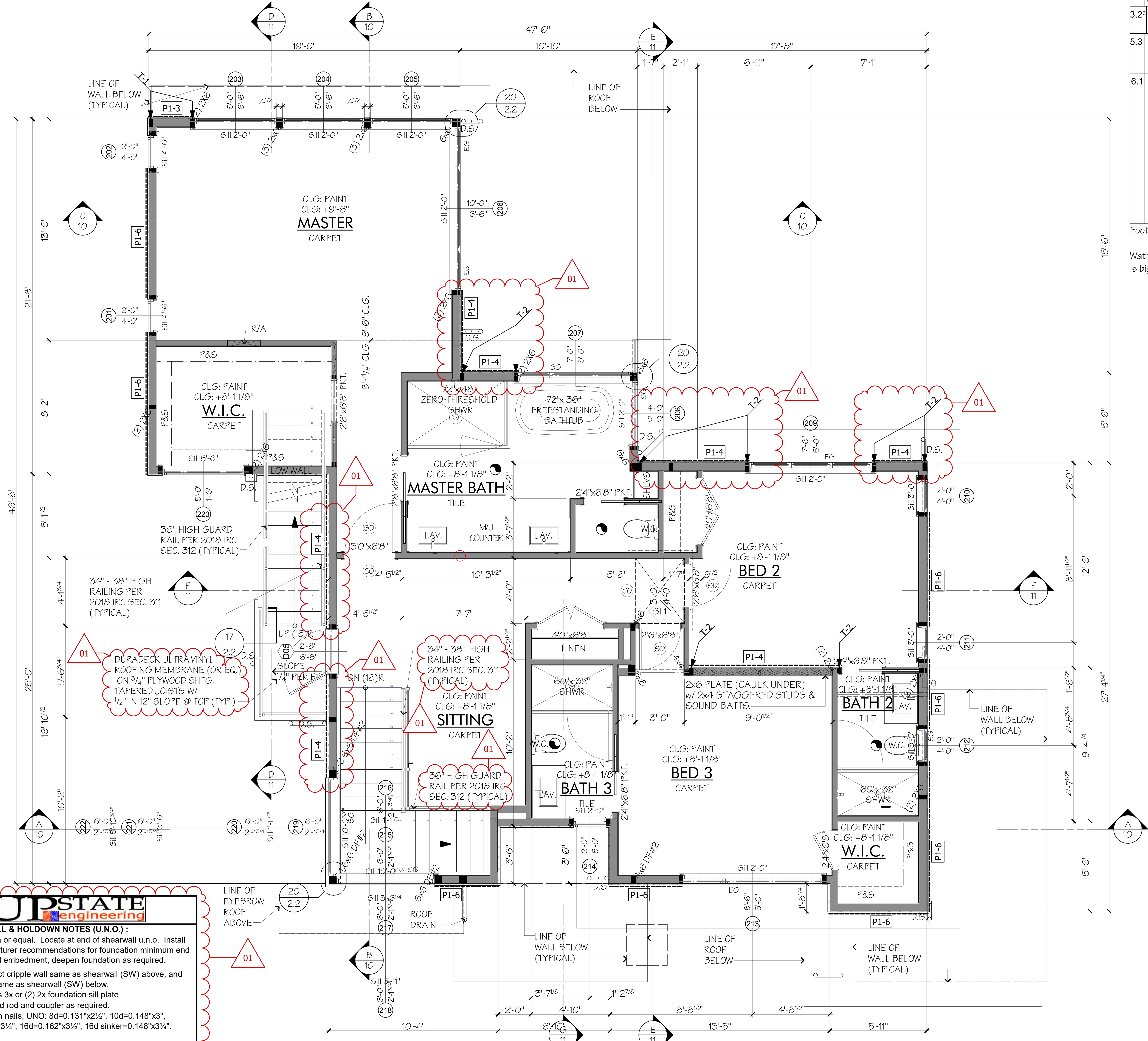
22005

5

UPPER FLR/LOWER RF FRAMING PLAN



NORTH

UPPER FLOOR PLAN

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

UPPER FLOOR AREA	
UPPER FLOOR AREA	1,309.8

2018 TABLE 406.3 ENERGY CREDITS

TABLE 406.2 FUEL NORMALIZATION CREDITS

	FUEL NORMALIZATION CREDIT REQUIREMENTS SELECTED FROM TABLE 406.2:	CREDITS
2	For an initial heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(1)C or C403.3.2(2)	1.0
3.2ª	HIGH EFFICIENCY HVAC EQUIPMENT 3.2ª: footnote a Air-source centrally ducted heat pump with min. HSPF of 9.5.	1.0
5.3	HIGH EFFICIENCY HVAC EQUIPMENT 5.3: Energy Star rated gas or propane water heater with a min. UEF of 0.91	1.0
6.1	RENEWABLE ELECTRIC ENERGY 6.1: For solar electric systems, the design shall be demonstrated to meet this requirement using the National Renewable Energy Laboratory calculator PVWATTs or approved alternate by the code official. Documentation noting solar access shall be included on the plans. For wind generation projects designs shall document annual power generation based on the following factors: The wind turbine power curve; average annual wind speed at the site; frequency distribution of the wind speed at the site and height of the tower.	3.0

Footnote a:
a. An alternative heating source sized at a maximum of 0.5 Watts/ft2 (equivalent) of heated floor area or 500 Watts, whichever is bigger, may be installed in the dwelling unit.

LEGEND

SYMBOL	DESCRIPTION
■	DENOTES POSTING UNDER CONCENTRATED LOADS. PROVIDE POSTING THE WIDTH OF STUD WALL X BEAM WIDTH WITH EITHER SOLID WOOD POST OR MULTIPLE 2X STUDS, TYPICAL, U.N.O.
SD	SMOKE DETECTOR POWERED BY BUILDING WIRING w/ BATTERY BACK-UP. DETECTORS TO BE INTERCONNECTED SO ANY ONE UNIT WILL ACTIVATE ALL OTHER UNITS
CO	CARBON MONOXIDE DETECTOR, HARD-WIRED w/ BATTERY BACK-UP PER I.R.C. SECTION R315
S/C	COMBINATION SMOKE & CARBON MONOXIDE DETECTOR, HARD-WIRED w/ BATTERY BACK-UP PER I.R.C. SECTION R314-R315
	50 CFM INTERMITTENT EXHAUST FAN VENTED TO OUTSIDE
101	WINDOW MARKER, SEE WINDOW SCHEDULE
D01	EXTERIOR DOOR MARKER, SEE DOOR SCHEDULE
SK1	SKYLIGHT MARKER, SEE WINDOW SCHEDULE

SHEARWALL NOTES

1.		ALL EXTERIOR WALLS TO BE P1-6
2.		DENOTES EXTENT OF SHEARWALL
3.	P1-4	SHEARWALL MARK. MARK IS ON SIDE OF WALL TO BE SHEATHED IF ONE SIDE IS INDICATED, SEE SHEARWALL SCHEDULE ON LATERAL "S" SHEET(S)
4.	T-3	HOLDOWN AND ANCHOR PER PLAN, SEE DETAILS AND SCHEDULE ON LATERAL "S" SHEET(S)
5.	T-1 T-2	STRAP PER PLAN, SEE DETAILS ON LATERAL "S" SHEET(S)
6.		SEE LATERAL "S" SHEET(S) FOR SHEARWALL NOTES, SCHEDULE, AND TYPICAL DETAILS

01

WALL LEGEND

	DENOTES NEW WALLS
	DENOTES INTERIOR BEARING WALLS

UPPER FLOOR NOTES

1. PLANS SHOULD BE REVIEWED BY ALL SUBCONTRACTORS PRIOR TO CONSTRUCTION. IF DISCREPANCIES EXIST, PLEASE NOTIFY 4D ARCHITECTS, INC. OR OWNER/CONTRACTOR.
2. WRITTEN DIMENSIONS TAKE PRECEDENT OVER SCALED DIMENSIONS.
3. PLATE HEIGHT TO BE 8'-1 1/8" THIS FLOOR U.N.O. CEILING HEIGHT CALL-OUT ABOVE ROOM NAME IS FROM TOP OF SUBFLOOR TO BOTTOM OF FLOOR OR CEILING JOISTS.
4. SILL HT. OF WINDOW R.O. FROM TOP OF SUBFLOOR. SEE WINDOW SCHEDULE FOR HEAD HTS.
5. SEE ROOF FRAMING PLAN FOR WINDOW/DOOR HEADER SIZES.
6. ALL EXTERIOR WALLS TO BE FRAMED WITH 2x6 (STUD GRADE OR BETTER). PROVIDE R-21 BATT INSULATION MINIMUM, U.N.O.
7. ALL FRAME NAILING TO COMPLY WITH TABLE R602.3(1), 2018 I.R.C. BLOCK ALL APA RATED SHEATHING EDGES AND NAIL WITH 10d AT 6" O.C. TYPICAL, U.N.O. ON SHEARWALL SCHEDULE. NAILING INTO PRESSURE TREATED MATERIAL SHALL BE HOT-DIP GALVANIZED PER ASTM A153.
8. JOISTS UNDER AND PARALLEL TO BEARING PARTITIONS ABOVE SHALL BE DOUBLED U.N.O. PROVIDE 2X SOLID BLOCKING BELOW BEARING PARTITIONS PERPENDICULAR TO JOISTS, U.N.O. INSTALL WOOD I-JOISTS PER MFG. SPECIFICATIONS.
9. PROVIDE 2X SOLID BLOCKING AT JOISTS OVER SUPPORTS. SEE MFG. SPECS. FOR WOOD I-JOISTS.
10. PROVIDE FIREBLOCKING AT ALL PLUMBING PENETRATIONS AND WALL/ROOF INTERSECTIONS.
11. SPACES UNDER STAIR CASES USED FOR STORAGE TO BE FINISHED WITH MIN. (1) LAYER 1/2" G.W.B.
12. THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NO LESS THAN 1/2" G.W.B. APPLIED TO THE GARAGE SIDE. LIVING AREAS ABOVE THE GARAGE SHALL BE SEPARATED FROM THE GARAGE WITH NO LESS THAN 5/8" TYPE "X" G.W.B. ALL SUPPORTING STRUCTURE SHALL BE PROTECTED BY NO LESS THAN 1/2" G.W.B.
13. FINISH ALL CEILINGS WITH 5/8" TYPE "X" G.W.B. WHERE JOISTS ARE SPACED GREATER THAN 16".
14. PROVIDE 26 GA GALVANIZED SHEET METAL FLASHING ABOVE WINDOWS AND DOORS, LAP BUILDING PAPER OVER.
15. INSTALL SIDING 8" ABOVE FINISH GRADE.
16. WINDOWS TO MEET THE ENERGY CODE REQUIREMENTS ON THE COVERSHEET.
17. ALL CONCEALED VOIDS TO BE FIREBLOCKED PER SECTION R302.11, 2018 I.R.C. AND DRAFT STOPPED PER SECTION R302.12, 2018 I.R.C.
18. ALL TUBS AND SHOWER STALLS: A) FIREBLOCK BETWEEN STUDS. B) LIMIT SHOWER FLOW PER COVERSHEET. C) WALLS SHALL BE WATERPROOFED TO A MIN. OF 70" ABOVE DRAIN INLET. D) ALL GLAZING FACING TUBS, SPAS, SHOWERS AND POOLS WITH THE BOTTOM EDGE WITHIN 60" VERTICALLY OF ANY WALKING OR STANDING SURFACE SHALL BE SAFETY GLAZING, UNLESS IT IS MORE THAN 60" AWAY HORIZONTALLY.
19. ENGINEERED LUMBER SPECIFIED SHALL MEET OR EXCEED THE DESIGN STRESS VALUES INDICATED ON THE COVERSHEET. INSTALL PER MFG. RECOMMENDATIONS. THESE DRAWINGS ONLY SHOW SIZE, SPAN, AND SPACING.
20. DIRECT VENT FIREPLACE: GAS ONLY HEAT SOURCE. UL LABEL. INSTALL PER MFR. SPECIFICATIONS.
21. PROVIDE ELECTRIC ILLUMINATION AT OUTSIDE DOORS SWITCHED FROM INSIDE.
22. PROVIDE ELECTRIC ILLUMINATION AT ALL STAIRWAYS, INCLUDING LANDINGS, SWITCHED AT EACH FLOOR LEVEL.
23. HVAC DUCTS MUST NOT DISPLACE REQUIRED INSULATION AT ANY GIVEN LOCATION, PROVIDE REQUIRED FLOOR OR CEILING INSULATION ON UNHEATED SIDE OF DUCTS INSTALLED IN JOIST OR RAFTER CAVITIES WHERE UNHEATED SPACES ARE ABOVE OR BELOW.

UPSTATE engineering

SHEARWALL & HOLDOWN NOTES (U.N.O.) :

(1) Simpson or equal. Locate at end of shearwall u.n.o. Install per manufacturer recommendations for foundation minimum end distance and embedment, deepen foundation as required.

(2) Construct cripple wall same as shearwall (SW) above, and gable-end same as shearwall (SW) below.

(3) Requires 3x or (2) 2x foundation sill plate

(4) Threaded rod and coupler as required.

(5) Common nails, UNO: 8d=0.131"x2½", 10d=0.148"x3", 12d=0.148"x3¼", 16d=0.162"x3½", 16d sinker=0.148"x3¼".

(6) Install H1's on all trusses/rafters, A35's at 24"o/c on gables & rim joist (or solid blkg) to top plate (sill plate at fdn) u.n.o.; When specified spacing is less than 24"o/c, install A35's at roof solid blk'ing to SW top plate, and install H1 or H2.5 on all trusses/rafters. LTP4, LTP5 or LS50 can be substituted for A35. Conn. per Simpson Strong-Tie or equal.

(7) Minimum 3x or dbl-2x stud lam'd w/ (2)-16d @ 6" o/c at abutting panel edges.

(8) Anchor bolts shall be embedded at least 7" into concrete; there shall be a minimum of two bolts per piece with one bolt located not more than 12" or less than seven bolt diameters from each end of the piece. 2x min PT, u.n.o.

(9) All sheathing must be APA rated.

01

SHEARWALL SCHEDULE

Date: 3/2/2023
Job #: 1651

MARK *(2)	SHEATHING - APPLY TO 2x HF STUDS @ 16"o/c U.N.O. BELOW *(9)	SHEATHING EDGE NAILS *(5) ALL EDGES BLOCKED (do not penetrate past flush)	BASE PLATE NAILS *(5)	ROOF TO TOP PLATE, FLOOR TO TOP PLATE & SILL PLATE *(6)	SILL PLATE ANCHORS w/ 3" x 3" x 1/4" WASHERS *(8)
P1-6	7/16" OSB	8d @ 6" o/c (12" o/c field)	16d @ 12 " o/c	H1 @ 24 " o/c or A35 @ 24 " o/c	5/8"Øx10" AB's @ 60 " o/c
P1-4	7/16" OSB	8d @ 4" o/c (12" o/c field)	16d @ 6 " o/c	A35 @ 16 " o/c	5/8"Øx10" AB's @ 42 " o/c
P1-3	7/16" OSB *(7)	8d @ 3" o/c (12" o/c field)	16d @ 4 " o/c	A35 @ 12 " o/c	5/8"Øx10" AB's @ 36 " o/c
P1-2	7/16" OSB *(7)	8d @ 2" o/c staggered (12" o/c field)	16d @ 3 " o/c	A35 @ 8 " o/c	5/8"Øx10" AB's @ 24 " o/c *(3)
P2-2	7/16" OSB Both Sides *(7)	8d @ 2" o/c staggered (12" o/c field)	(2)-16d @ 4"o/c to dbl 2x rim / blk'g	A35 / LTP4 each side @ 10 " o/c	5/8"Øx10" AB's @ 16 " o/c *(3)
RSW	7/16" OSB	8d @ 4" o/c (12" o/c field)	16d @ 6 " o/c	A35 @ 16 " o/c	5/8"Øx10" AB's @ 42 " o/c

HOLDOWN SCHEDULE

Date: 3/2/2023
Job #: 1651

MARK	HOLDOWN / STRAP *(1)	FASTENERS TO (2)-STUDS MIN U.N.O.	FOUNDATION ANCHOR *(1)(4)	COMMENTS
T-1	MSTC48B3	10d NAILS - (12) FACE, (4) BTM, (38) FRAMING	N/A	TO BEAM/HDR/DBL JST BELOW PER PLAN
T-2	MSTC52	(24) - 16d sinkers to each connected element	N/A	
T-3	HDU4-SDS2.5	(10) - SDS 0.25x2.5 WOOD SCREWS	SSTB24	
T-4	HDU8-SDS2.5	(20) - SDS 0.25x2.5 WOOD SCREWS	SSTB28	MIN. DF#2 4X POST
T-5	HDU14-SDS2.5	(36) - SDS 0.25x2.5 WOOD SCREWS	PAB8 W/ 11" MIN EMBEDMENT	MIN 6x6 POST

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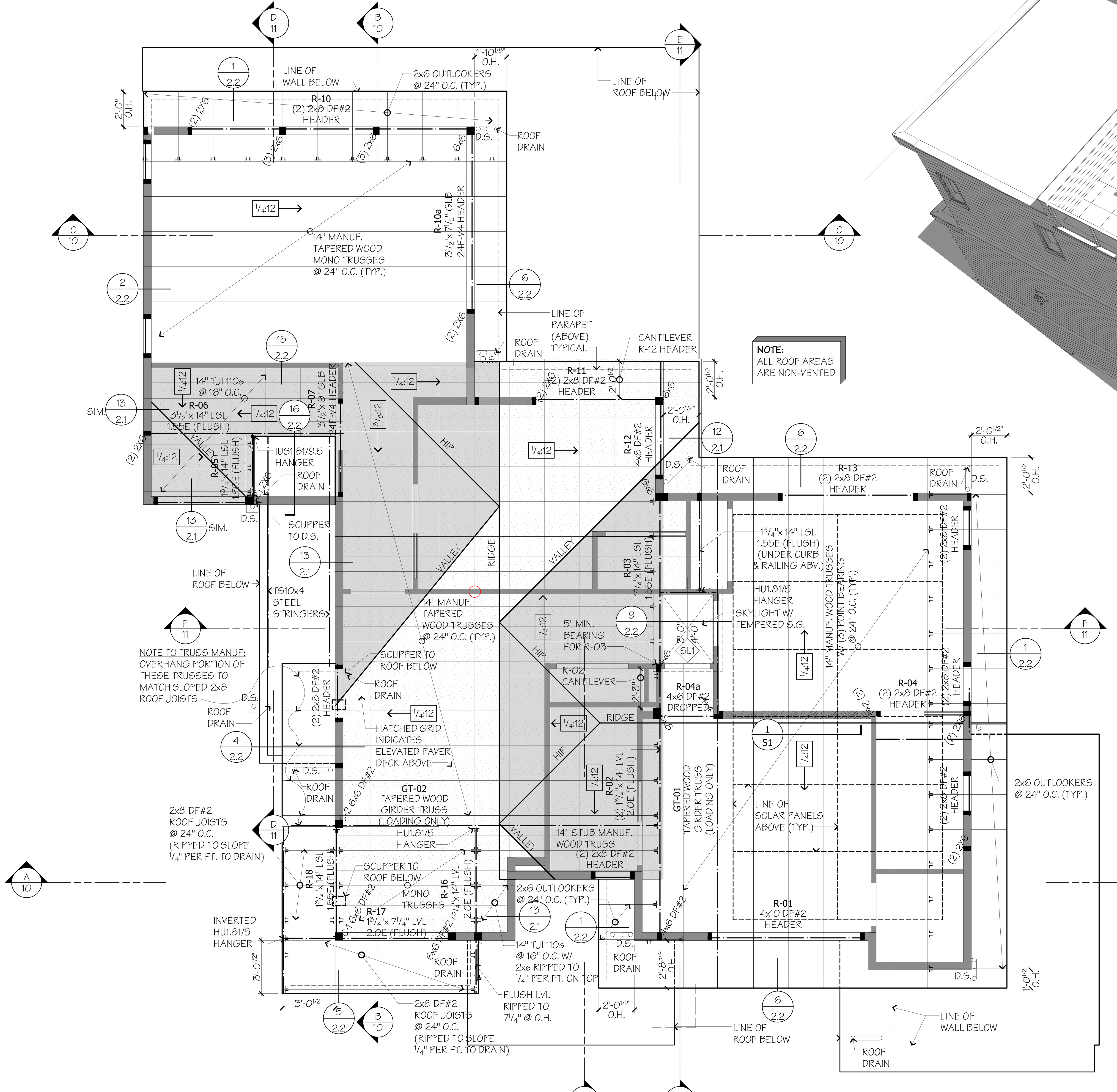
6

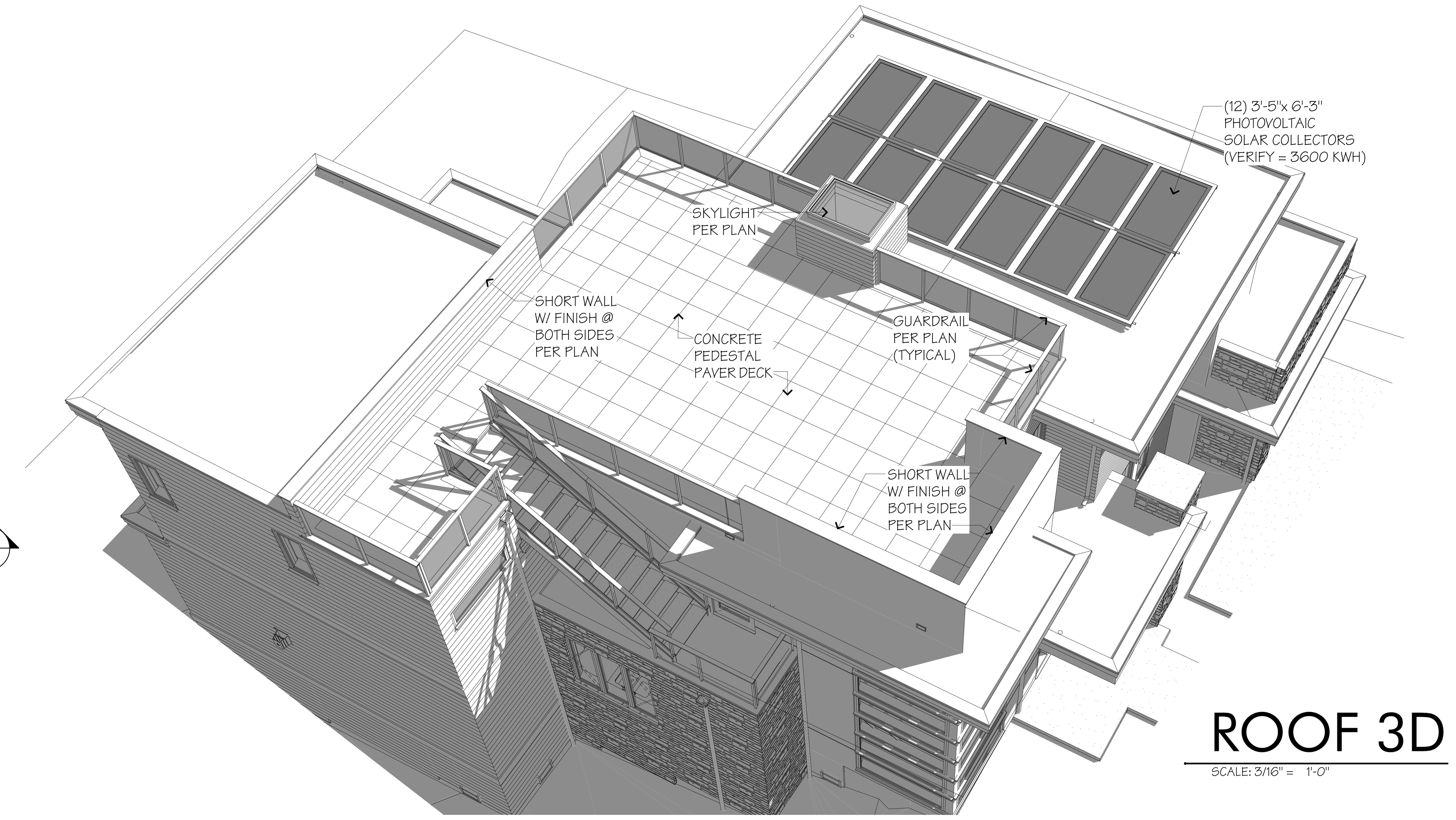
UPPER FLOOR PLAN



ROOF FRAMING

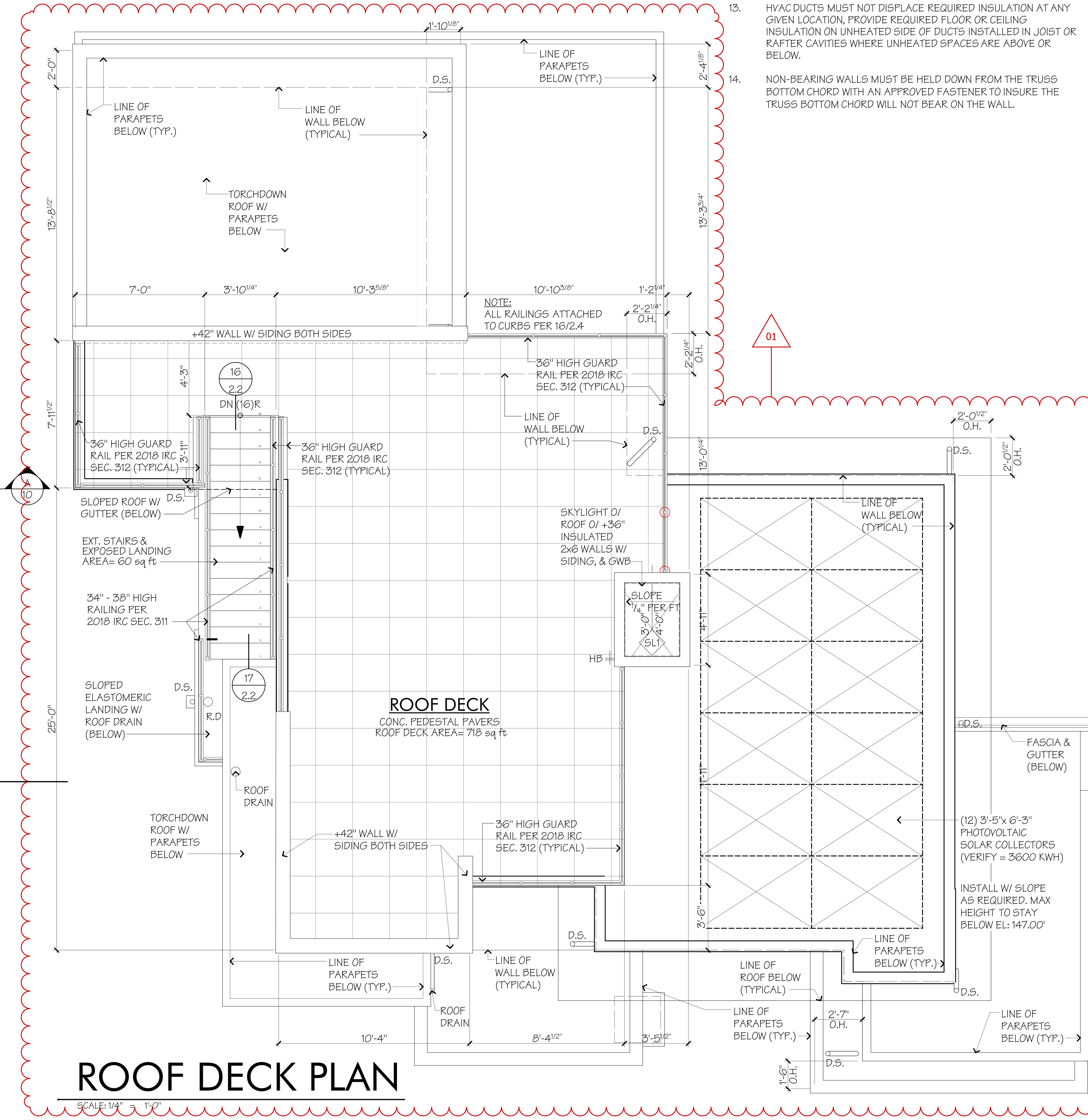
SCALE: 1/4" = 1'-0"

NOTE:
ALL ROOF AREAS ARE NON-VENTED



ROOF 3D

SCALE: 3/16" = 1'-0"



ROOF DECK PLAN

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

LEGEND

(symbol)	DENOTES INTERIOR BEARING WALLS BELOW
(symbol)	DENOTES WALLS BELOW
(symbol)	DENOTES WALLS ABOVE
(symbol)	DENOTES OVER-FRAMING ABOVE ROOF FRAMING BELOW TO CREATE SLOPE O/ FLAT ROOF FOR PEDESTAL PAVER DECK
(symbol)	DENOTES BEAMS, HEADERS, OR TRUSSES
R:00	DENOTES BEAM LABEL. SEE BEAM CALCULATIONS
■	DENOTES SOLID AND FULL BEARING UNDER CONCENTRATED LOADS
(symbol)	DENOTES ELEVATED PAVER SYSTEM ON VERSIFLEX PVC WATERPROOF MEMBRANE ON ¾" T&G APA RATED SHTG. ON TOP-SLOPED MANUF. WOOD TRUSSES PER PLAN (OR FURRING) (SLOPE TO DRAIN ¼" PER FT.)

ROOF FRAMING NOTES

1. PLANS SHOULD BE REVIEWED BY ALL SUBCONTRACTORS PRIOR TO STARTING CONSTRUCTION. IF DISCREPANCIES EXIST, PLEASE CONTACT 4D ARCHITECTS, INC. OR OWNER/CONTRACTOR.
2. SHADED AREAS DENOTE OVERFRAMING ABOVE ROOF FRAMING BELOW.
3. ALL HEADERS TO BE (2)2x8, TYPICAL, U.N.O. NAIL TOGETHER W/ 16d @ 16" O.C. TOP AND BOTTOM STAGGERED.
4. ROOF IS NON-VENTED.
5. MASONRY CHIMNEY HEIGHT TO BE 2'-0" MINIMUM ABOVE ANY PORTION OF ROOF WITHIN 10'-0" AND 3'-0" MIN. ABOVE THE HIGHEST POINT WHERE THE CHIMNEY PASSES THROUGH THE ROOF.
6. TRUSSES SHALL CARRY MFG. STAMP AND SHALL BE INSTALLED AND BRACED PER MFG. SPECIFICATIONS. DO NOT ALTER WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEERING CALCULATIONS. DESIGN DETAILS AND DRAWINGS SHALL BE ON SITE FOR FRAMING INSPECTION.
7. CONTRACTOR TO VERIFY LOCATION OF ALL ROOF SUPPORT BRACING AND POSTING AND PROVIDE ADEQUATE BEARING TO FOUNDATION.
8. ENGINEERED LUMBER SPECIFIED SHALL MEET OR EXCEED DESIGN STRESS VALUES INDICATED ON THE COVERSHEET. INSTALL PER MFG. RECOMMENDATIONS. THESE DRAWINGS ONLY SHOW SIZE, SPAN, AND SPACING.
9. BUILT-UP 2X HIPS, VALLEYS, AND RIDGES NAIL TOGETHER W/ 16d @ 16" O.C. TOP AND BOTTOM STAGGERED AND (2) 16d AT ENDS AND SPLICES.
10. BRACING OR POSTING: (2)2x6 UP TO 9'-0", (3) 2x6 UP TO 15'-0". PROVIDE (2) SIMPSON A35 FRAMING ANCHORS AT BOTTOM AND (1)CS16 X 12" STRAP AT TOP.
11. ALL ROOF COVERINGS SHALL COMPLY WITH THE PROVISIONS IN CHAPTER 9, 2018 I.R.C.
12. ROOF MATERIAL TO BE TORCHDOWN.
13. HVAC DUCTS MUST NOT DISPLACE REQUIRED INSULATION AT ANY GIVEN LOCATION, PROVIDE REQUIRED FLOOR OR CEILING INSULATION ON UNHEATED SIDE OF DUCTS INSTALLED IN JOIST OR RAFTER CAVITIES WHERE UNHEATED SPACES ARE ABOVE OR BELOW.
14. NON-BEARING WALLS MUST BE HELD DOWN FROM THE TRUSS BOTTOM CHORD WITH AN APPROVED FASTENER TO INSURE THE TRUSS BOTTOM CHORD WILL NOT BEAR ON THE WALL.

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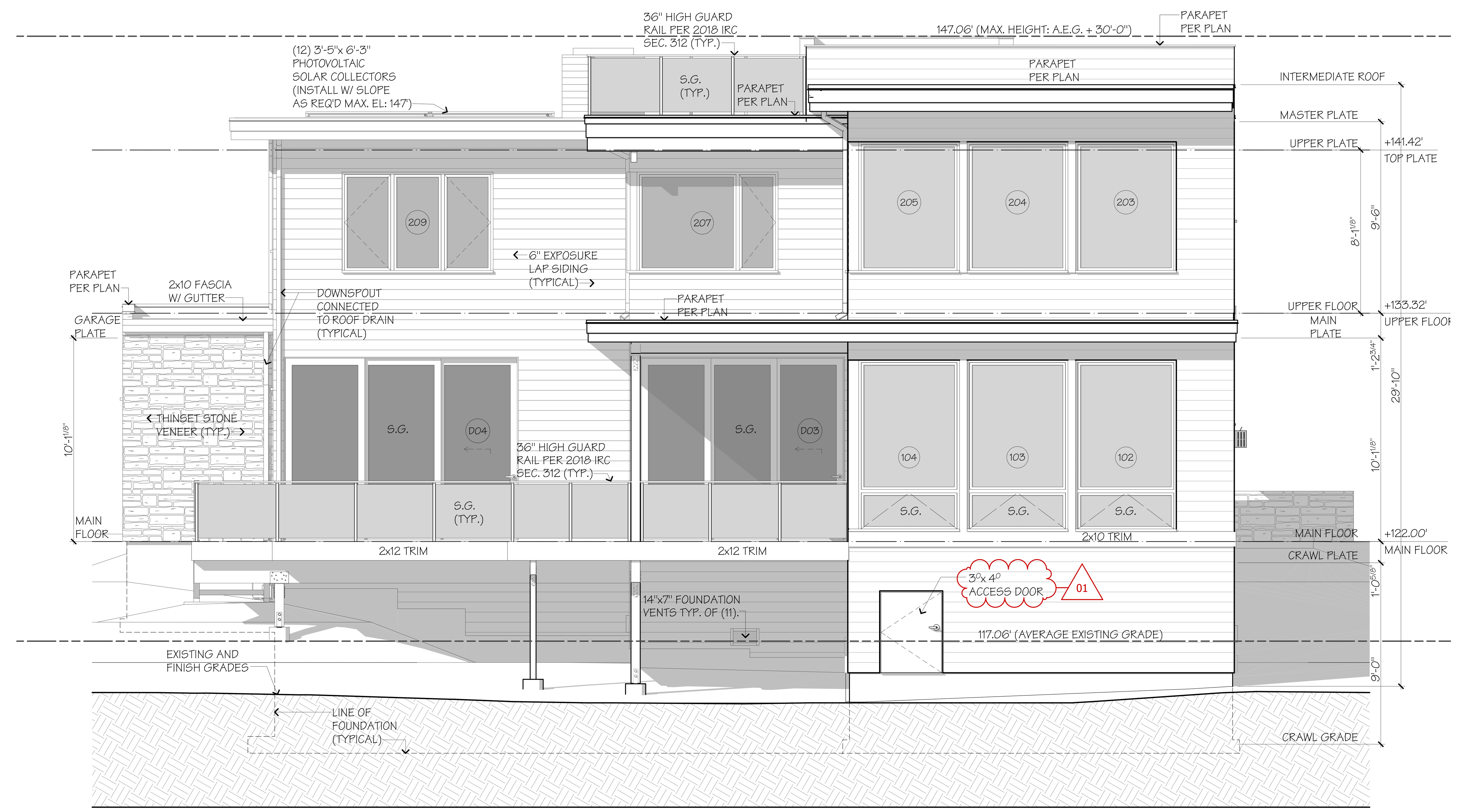
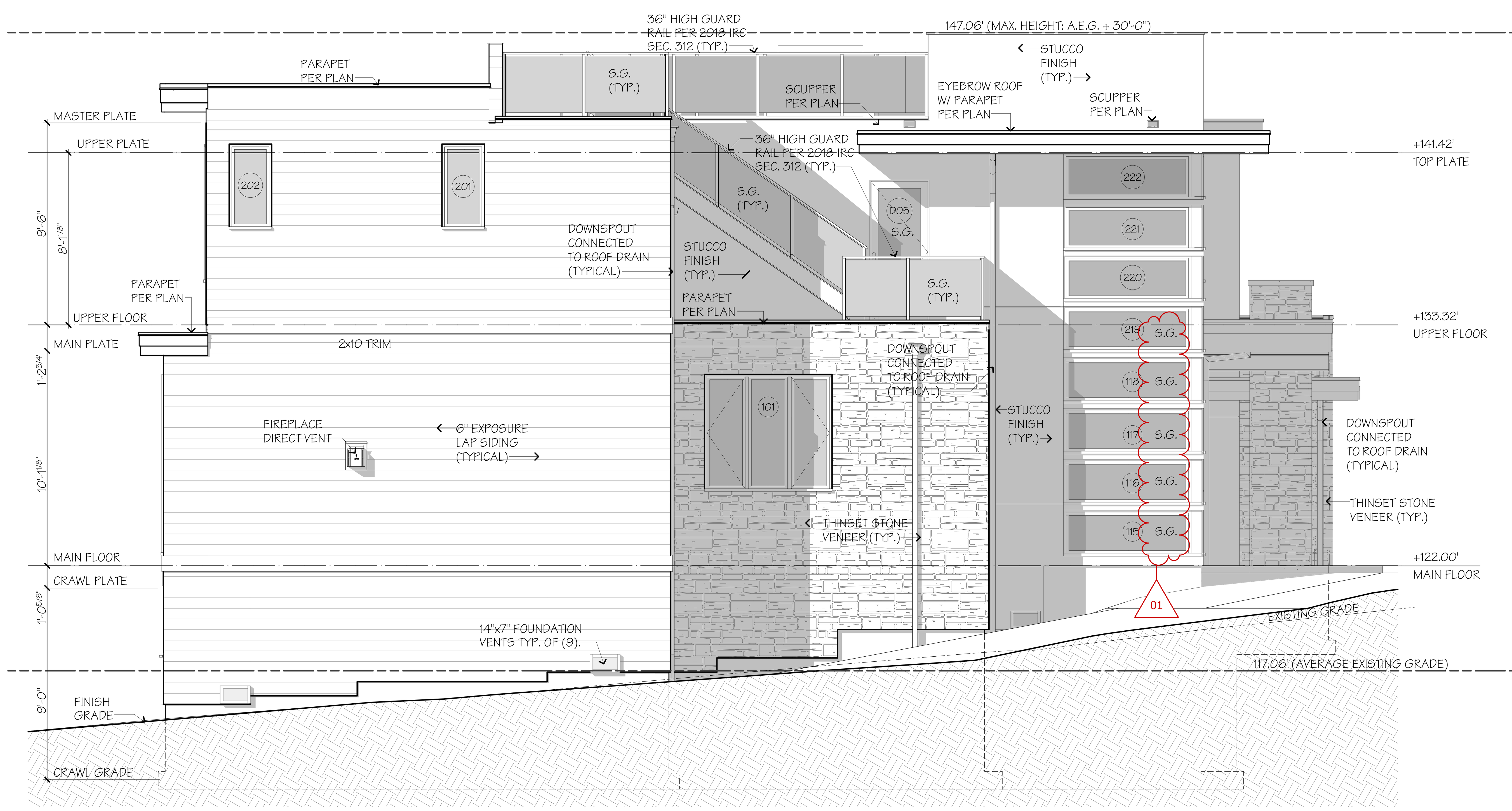
7

UPPER ROOF FRAMING PLAN



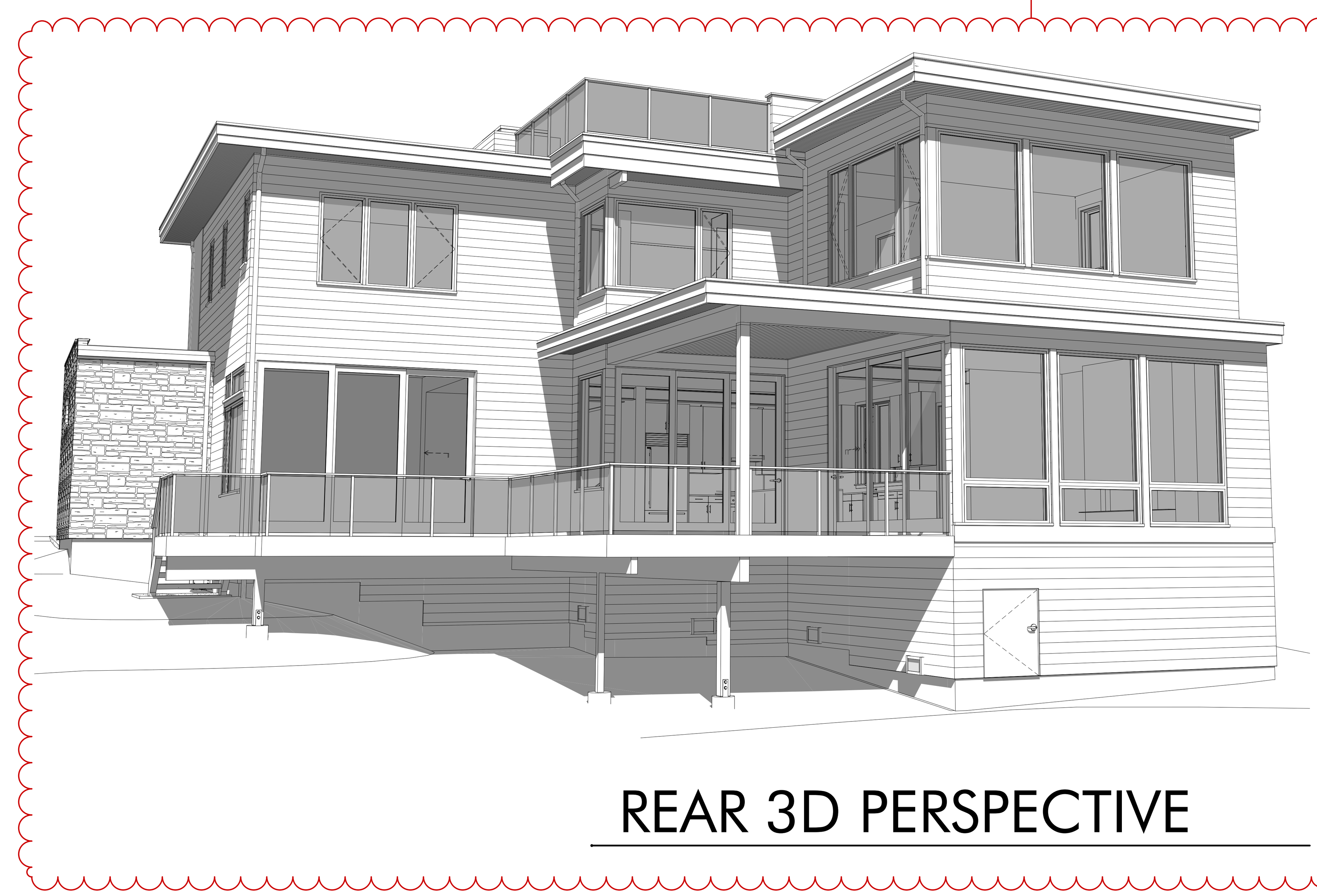
NORTH ELEVATION

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



WEST ELEVATION

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



REAR 3D PERSPECTIVE

GENERAL NOTES

1. PROVIDE ROOF DRAINS TO DOWNSPOUTS PER PLAN, TYPICAL.
2. PROVIDE GALVANIZED SHEET METAL FLASHING AND COUNTER-FLASHING AT ALL ROOF PENETRATIONS INCLUDING CHIMNEYS.
3. PROVIDE WEATHERSTRIPPING AT ALL DOORS AND WINDOWS. CAULK ALL JOINTS AND PENETRATIONS IN EXTERIOR WALLS.
4. FLASHING AT EXTERIOR WINDOW & DOOR OPENINGS SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH OR THE WATER-RESISTIVE BARRIER. FLASHING IS REQUIRED AT ALL EXTERIOR WINDOW JAMBS.
5. CEMENTITIOUS STUCCO ON SELF-FURRING METAL LATH WITH ELASTOMERIC ACRYLIC FINISH. PROVIDE EXPANSION / CONTROL JOINTS @ FLOOR & PLATE LINES. PROVIDE (2) LAYERS OF 60 MINUTE GRADE D PAPER OVER WALL SHEATHING. ATTACH SO THAT PAPER IS TAUT & FLAT, ATTACH w/ SMALL STAPLES. FOLLOW ALL REQUIREMENTS FROM NORTHWEST WALL & CEILING BUREAU FOR INSTALLATION.
6. MASONRY VENEER TO BE INSTALLED PER MANUF. SPEC. AND/OR MASONRY INSTITUTE SPEC. ADHERED MASONRY VENEER TO BE 4" MIN. CLEAR TO GRADE, 2" MIN. CLEAR TO PAVED SURFACES, 1/2" MIN. CLEAR TO WALKING SURFACES SUPPORTED BY THE SAME FOUNDATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL SELECTION OF PRODUCTS WHERE DISSIMILAR MATERIALS MAY INTERACT. COMPATIBILITY, CONTACT, ADJACENCY, CONSTRUCTION METHOD, DIRECTION OF FLOW, CHEMISTRY, AND/OR CLIMATIC CONDITIONS SHALL ALL BE CONSIDERED AND PROVEN MATERIALS AND INSTALLATION METHODS SHALL BE SELECTED. MATERIAL CHOICES WHICH MAY BE AFFECTED BY, BUT ARE NOT LIMITED TO, DISSIMILAR MATERIAL INTERACTION ARE: ASPHALTIC ROOFING, PVC ROOFING, CAULKING, RIGID AND FLEXIBLE FLASHINGS, VINYL WINDOWS, METAL FRAMING CONNECTORS, NAILS AND FASTENERS, TREATED LUMBER, SPRAY AND RIGID FOAMS, AND BUILDING WRAP/AIR BARRIER MATERIALS.

NOTE:
THIRD-PARTY SPECIALTY AGENCY INSPECTION REQUIRED FOR STUCCO FINISHES TO COMFORM W/ ASTM C926 AND C1063.
OWNER WILL PROVIDE THE THIRD-PARTY INSPECTION.

01

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8

NORTH & WEST ELEVATIONS

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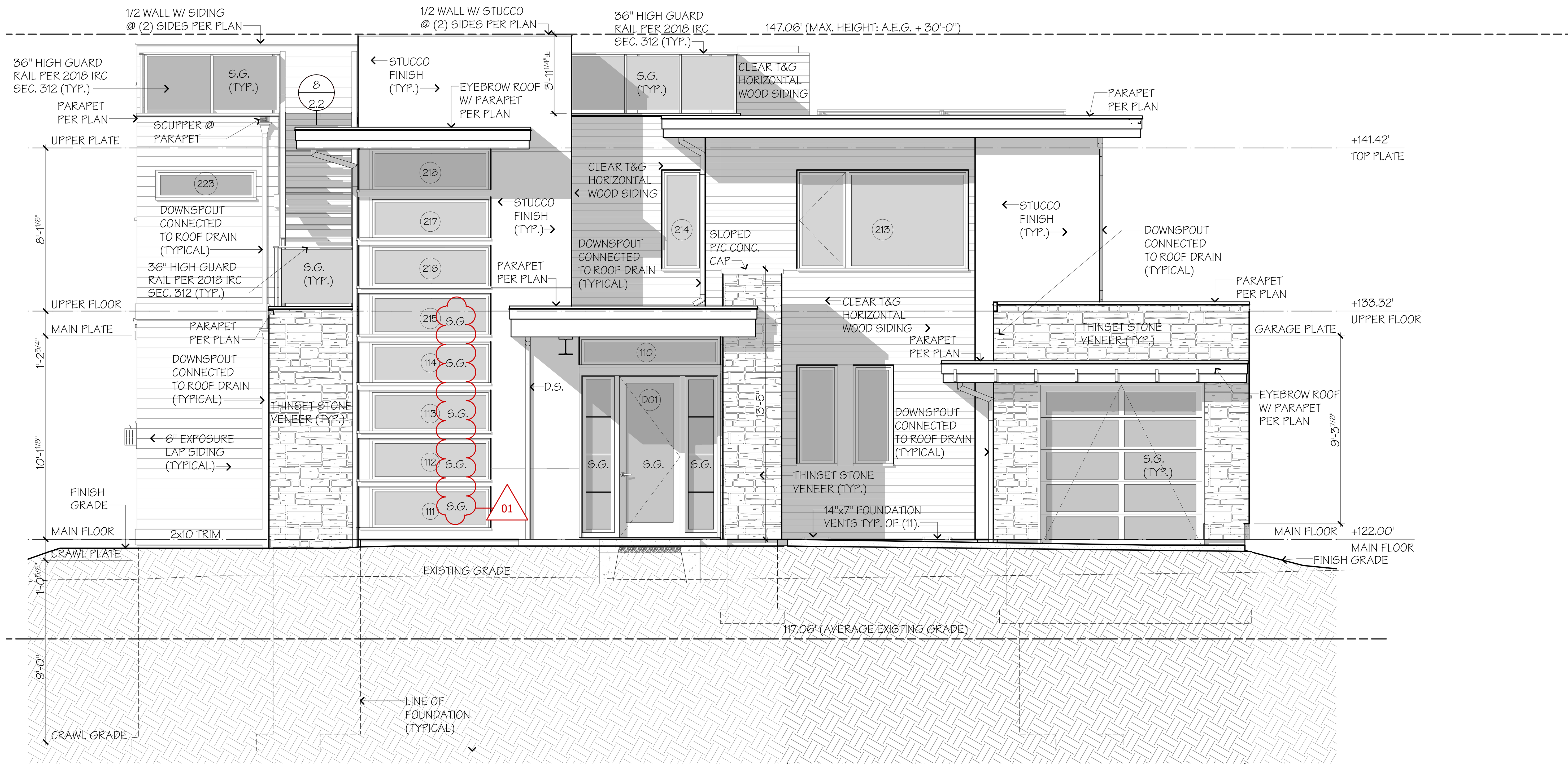
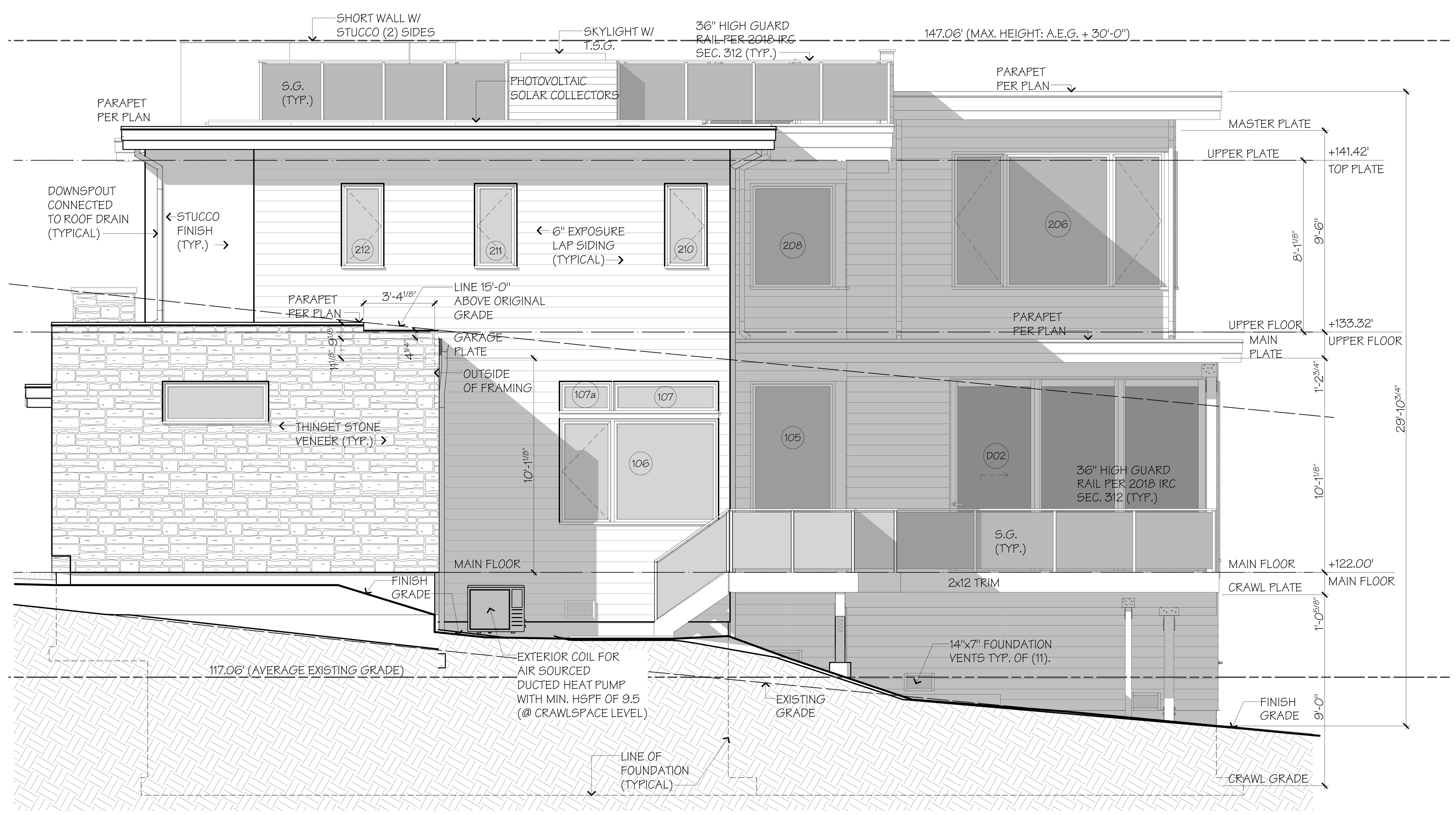


SOUTH ELEVATION

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



EAST ELEVATION

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

GENERAL NOTES

1. PROVIDE ROOF DRAINS TO DOWNSPOUTS PER PLAN, TYPICAL.
2. PROVIDE GALVANIZED SHEET METAL FLASHING AND COUNTER-FLASHING AT ALL ROOF PENETRATIONS INCLUDING CHIMNEYS.
3. PROVIDE WEATHERSTRIPPING AT ALL DOORS AND WINDOWS. CAULK ALL JOINTS AND PENETRATIONS IN EXTERIOR WALLS.
4. FLASHING AT EXTERIOR WINDOW & DOOR OPENINGS SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH OR THE WATER-RESISTIVE BARRIER. FLASHING IS REQUIRED AT ALL EXTERIOR WINDOW JAMBS.
5. CEMENTITIOUS STUCCO ON SELF-FURRING METAL LATH WITH ELASTOMERIC ACRYLIC FINISH. PROVIDE EXPANSION / CONTROL JOINTS @ FLOOR & PLATE LINES. PROVIDE (2) LAYERS OF 60 MINUTE GRADE D PAPER OVER WALL SHEATHING. ATTACH SO THAT PAPER IS TAUT & FLAT, ATTACH w/ SMALL STAPLES. FOLLOW ALL REQUIREMENTS FROM NORTHWEST WALL & CEILING BUREAU FOR INSTALLATION.
6. MASONRY VENEER TO BE INSTALLED PER MANUF. SPEC. AND/OR MASONRY INSTITUTE SPEC. ADHERED MASONRY VENEER TO BE 4" MIN. CLEAR TO GRADE, 2" MIN. CLEAR TO PAVED SURFACES, 1/2" MIN. CLEAR TO WALKING SURFACES SUPPORTED BY THE SAME FOUNDATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL SELECTION OF PRODUCTS WHERE DISSIMILAR MATERIALS MAY INTERACT. COMPATIBILITY, CONTACT, ADJACENCY, CONSTRUCTION METHOD, DIRECTION OF FLOW, CHEMISTRY, AND/OR CLIMATIC CONDITIONS SHALL ALL BE CONSIDERED AND PROVEN MATERIALS AND INSTALLATION METHODS SHALL BE SELECTED. MATERIAL CHOICES WHICH MAY BE AFFECTED BY, BUT ARE NOT LIMITED TO, DISSIMILAR MATERIAL INTERACTION ARE: ASPHALTIC ROOFING, PVC ROOFING, CAULKING, RIGID AND FLEXIBLE FLASHINGS, VINYL WINDOWS, METAL FRAMING CONNECTORS, NAILS AND FASTENERS, TREATED LUMBER, SPRAY AND RIGID FOAMS, AND BUILDING WRAP/AIR BARRIER MATERIALS.

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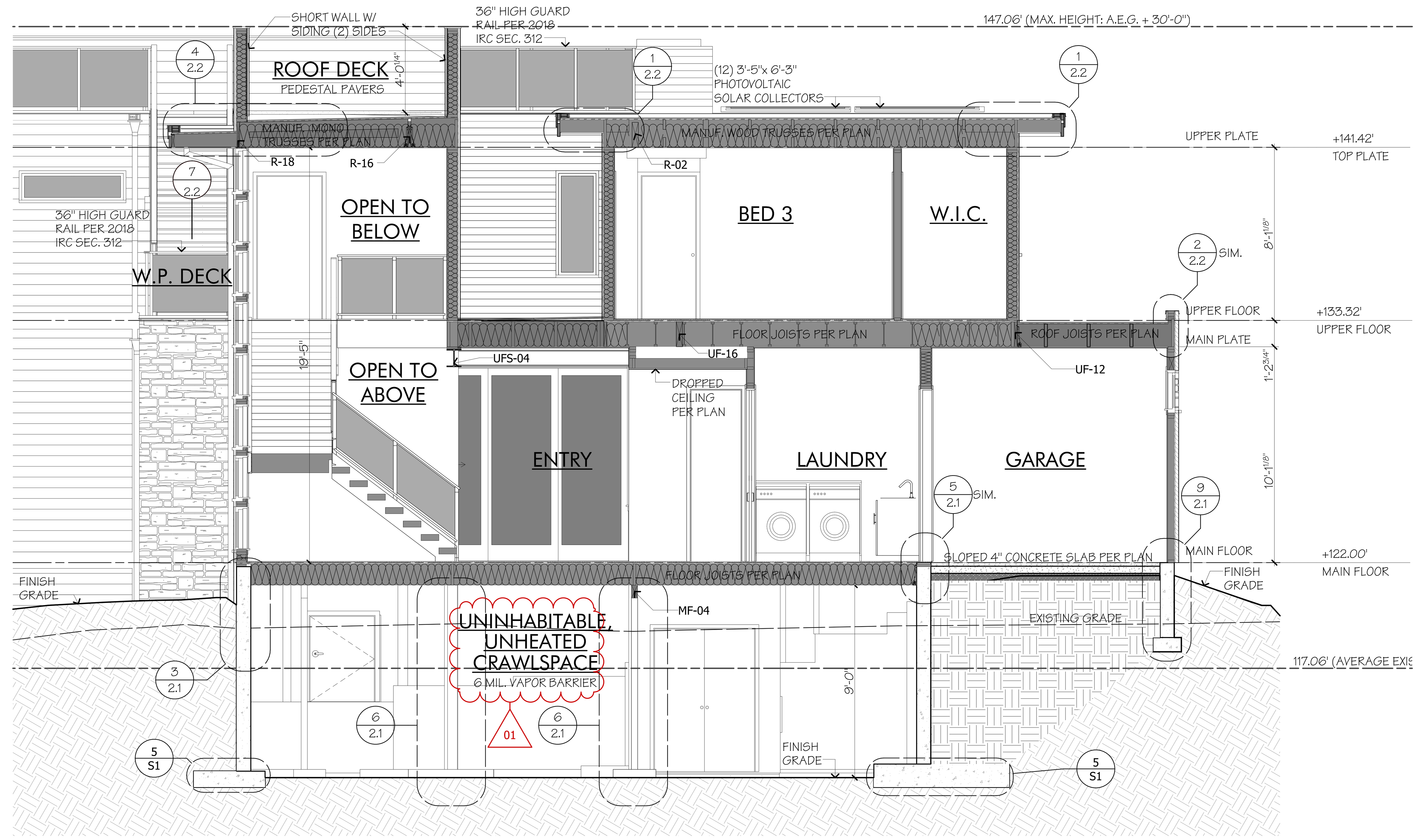
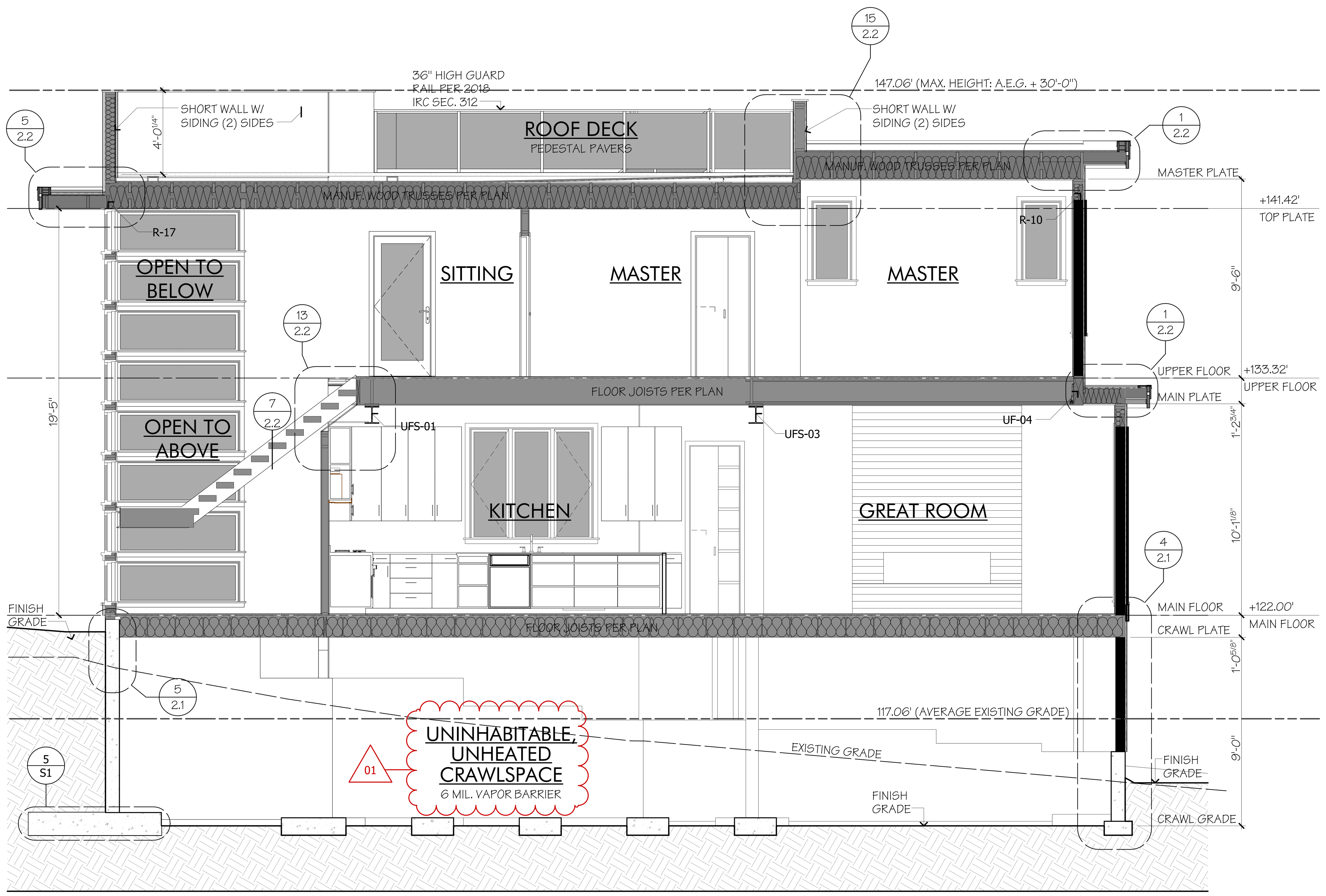
9

SOUTH & EAST ELEVATIONS



A SECTION

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



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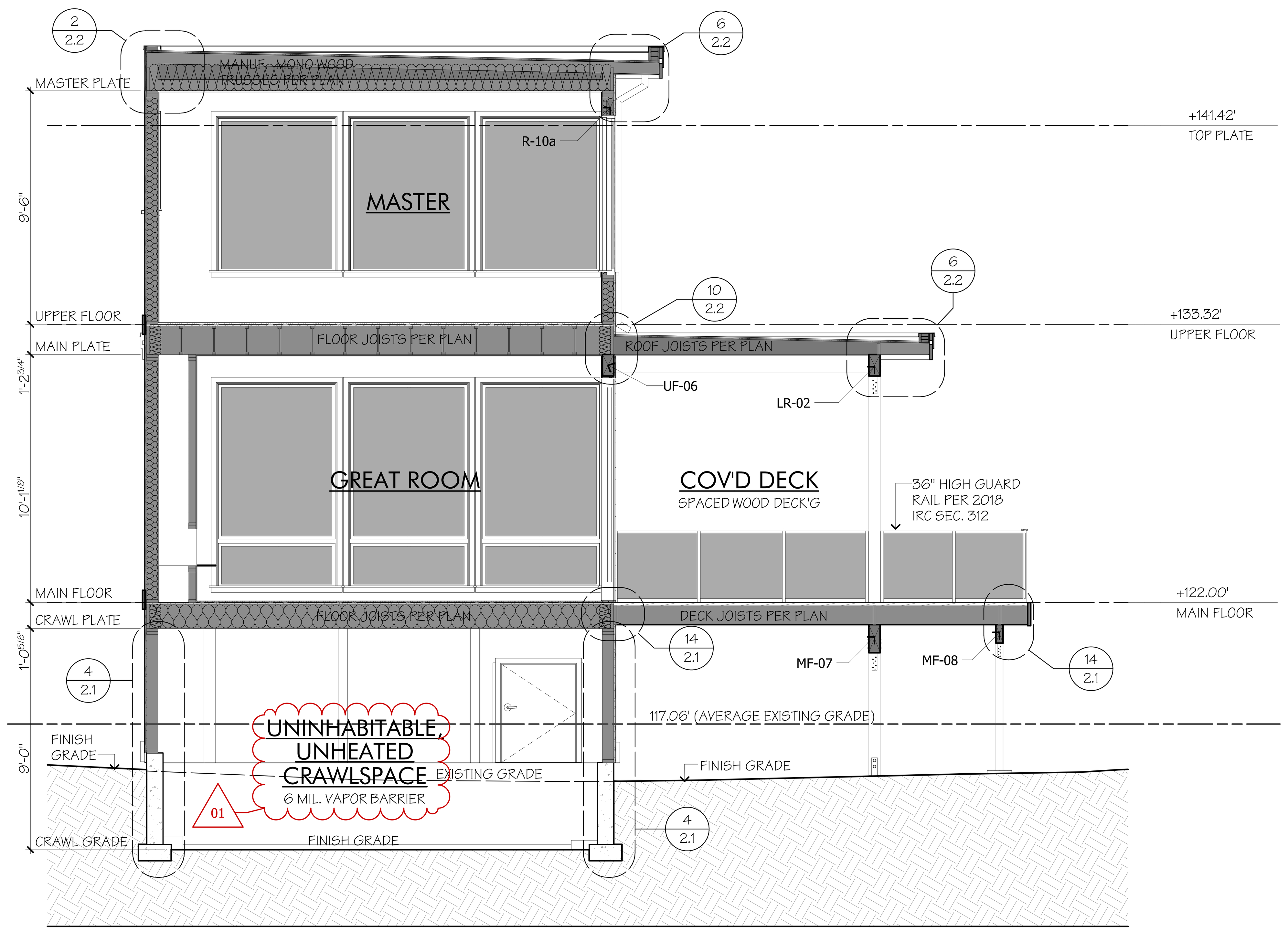

C SECTION

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

ROOF CONSTRUCTION

1. SINGLE PLY MODIFIED BITUMEN TORCHDOWN.
2. ROOFING FELT PER TORCHDOWN MANUFACTURER.
3. APA RATED ROOF SHEATHING. SEE STRUCTURAL SHEETS.
4. RAFTERS, TRUSSES & CEILING JOISTS PER PLANS.
5. INSULATION SHALL BE:
   a.) R-38 BLOWN-IN CELLULOSE AT ADVANCED FRAMED ROOFS (TALL-HEEL TRUSSES, SEE DETAILS).
   b.) 2 1/2" CLOSED-CELL "AIR-IMPERMEABLE" SPRAY APPLIED INSULATION AT RAFTERS, APPLY DIRECTLY TO UNDERSIDE OF ROOF SHEATHING, NO VOIDS ABOVE INSULATION. THIS IS THE VAPOR RETARDER. ADD BATT INSULATION AS NEEDED TO REACH R-38 AT SINGLE RAFTER CEILINGS OR R-49 AT WARM ATTICS AND AREAS WITH DROPPED CEILINGS.
   c.) R-49 BLOWN-IN AT OTHER ROOF AREAS
6. 5/8" GYPSUM WALL BOARD CEILING

WALL CONSTRUCTION

1. FINISH WALL MATERIALS PER ELEVATIONS.
2. 60 MINUTE TYPE 'D' BUILDING PAPER MINIMUM (WATER RESISTIVE BARRIER). SEE DETAILS.
3. APA RATED WALL SHEATHING. SEE STRUCTURAL SHEETS.
4. 2x6 STUDS 16" O.C., TYPICAL UNLESS NOTED OTHERWISE.
5. MIN. R-21 BATT INSULATION, CLASS II VAPOR RETARDER PER 2018 IRC 702.7, KRAFT FACED BATT INSULATION.
6. 1/2" GYPSUM WALL BOARD.

FLOOR CONSTRUCTION

1. FINISH FLOOR PER PLAN.
2. 3/4" TONGUE & GROOVE APA RATED FLOOR SHEATHING, GLUED & NAILED.
3. FLOOR JOISTS PER PLAN.
4. R-30 BATT INSULATION OVER UNHEATED SPACE.

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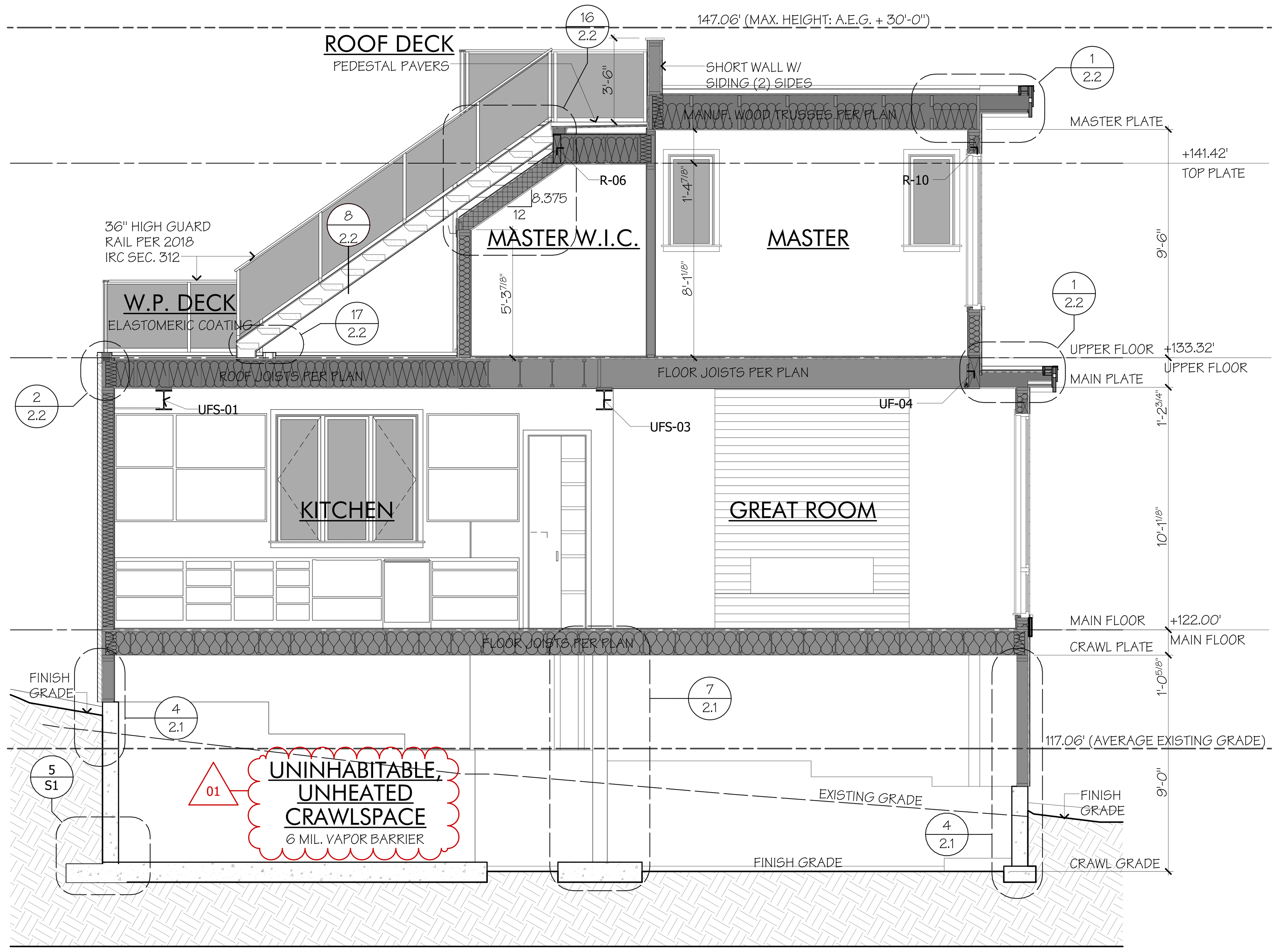
10

SECTIONS



D SECTION
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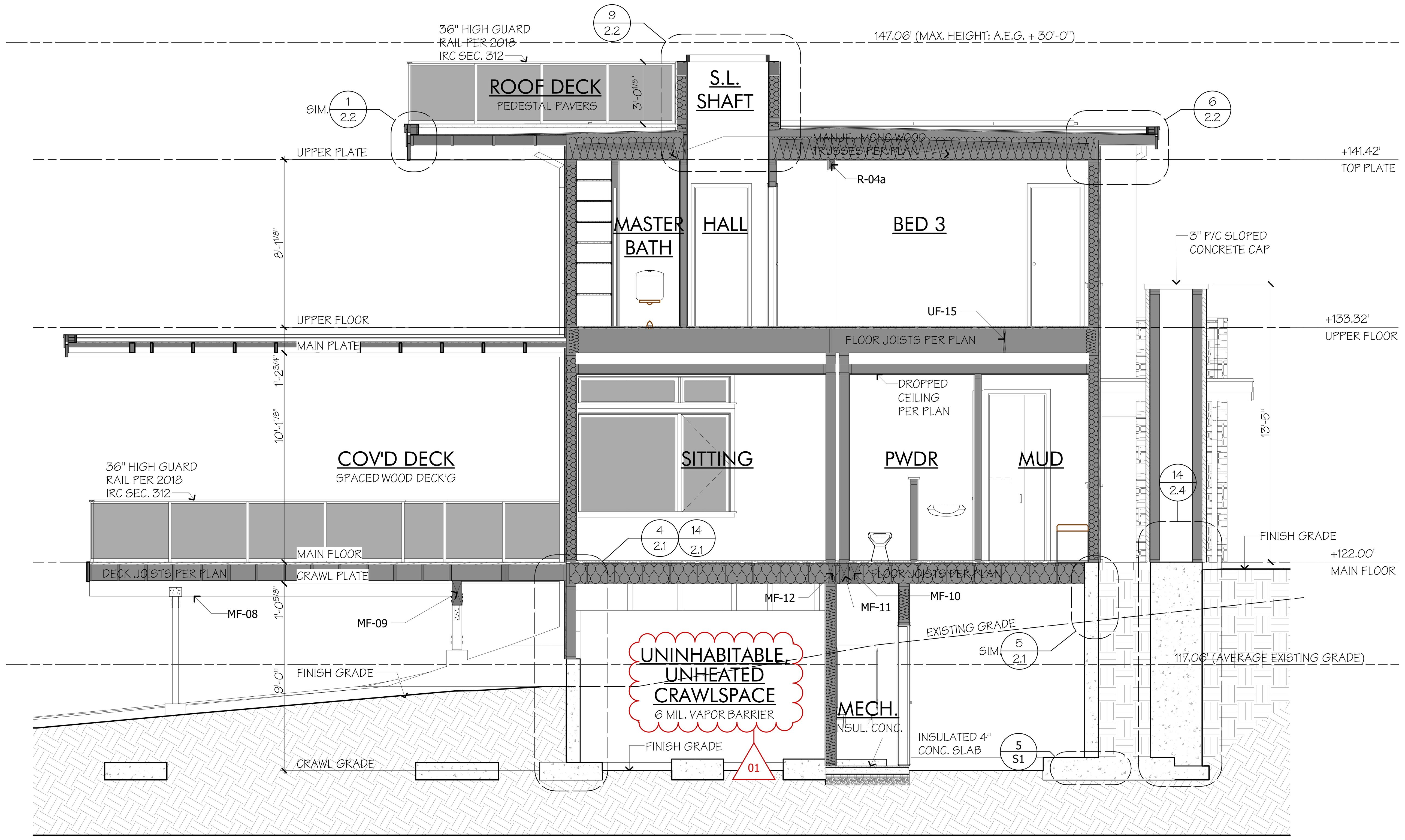
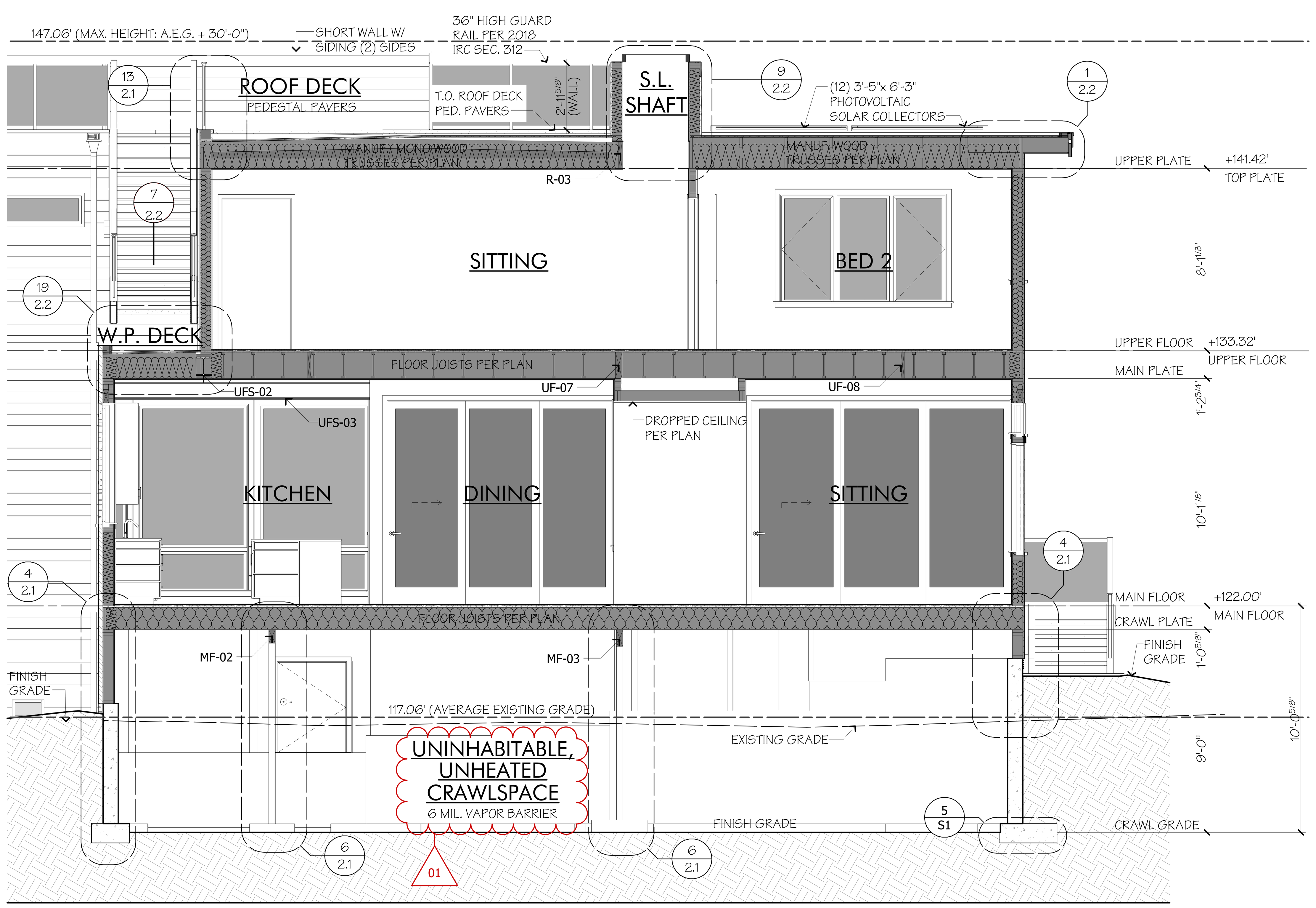
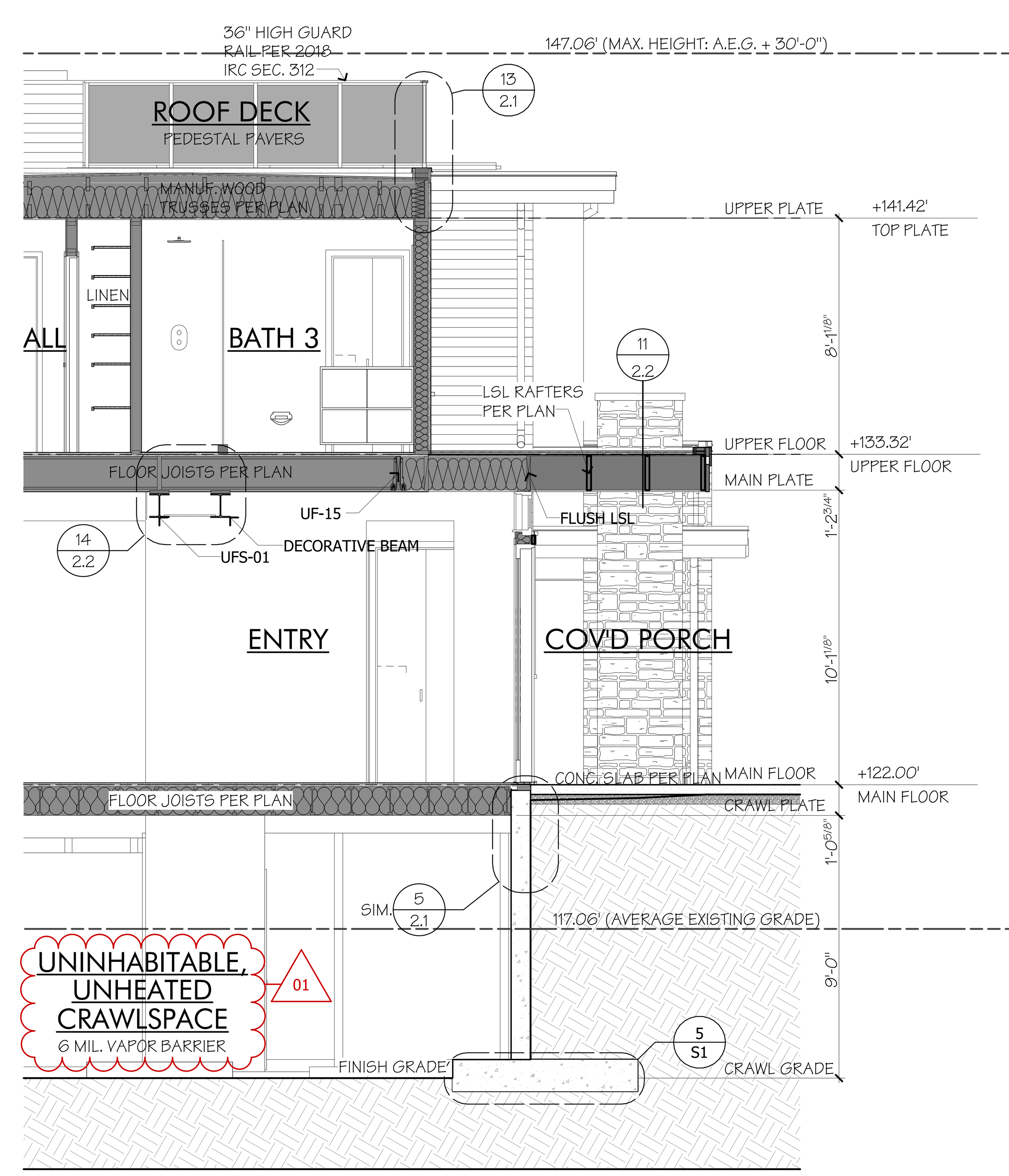


E SECTION
SCALE: 1/4" = 1'-0"



F SECTION
SCALE: 1/4" = 1'-0"



G SECTION
SCALE: 1/4" = 1'-0"

ROOF CONSTRUCTION

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2. ROOFING FELT PER TORCHDOWN MANUFACTURER.
3. APA RATED ROOF SHEATHING. SEE STRUCTURAL SHEETS.
4. RAFTERS, TRUSSES & CEILING JOISTS PER PLANS.
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   a.) R-38 BLOWN-IN CELLULOSE AT ADVANCED FRAMED ROOFS (TALL-HEEL TRUSSES, SEE DETAILS).
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4. 2x6 STUDS 16" O.C., TYPICAL UNLESS NOTED OTHERWISE.
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11

SECTIONS

SKYLIGHT SCHEDULE

MARK	WIDTH	HEIGHT	ELEVATION, N.T.S.	NOTES	ROOM	AREA
SL1	3'	4'		TEMPERED SAFETY GLASS	HALL	12.0
						12.0 ft²

EXTERIOR DOOR SCHEDULE

MARK	WIDTH	HEIGHT	ELEVATION, N.T.S.	NOTES	ROOM	UNIT AREA
D01	3'	8'		WOOD DOOR W/ SIDELITES AND SAFETY GLASS	ENTRY	57.2
D02	12'	9'		SLIDING DOOR SAFETY GLASS	GREAT ROOM	109.9
D03	10'	9'		SLIDING DOOR SAFETY GLASS	DINING	91.8
D04	11'-6"	9'		SLIDING DOOR SAFETY GLASS	SITTING	105.4
D05	2'-8"	6'-8"		W/ SAFETY GLASS	SITTING TO W.P. DECK	18.8
						493.0 ft²

WINDOW SCHEDULE

MARK	SIZE		HEAD HT.	ELEVATION, N.T.S.	TYPE	ROOM	UNIT AREA
	WIDTH	HEIGHT					
101	6'	5'-6"	9'		2'0"x5'6" C/ 2'0"x5'6" F/ 2'0"x5'6" C	KITCHEN	33.0
102	5'	8'-6"	9'		5'0"x6'6" F/ 5'0"x2'0" A W/ S.G.	GREAT ROOM	42.5
103	5'	8'-6"	9'		5'0"x6'6" F/ 5'0"x2'0" A W/ S.G.	GREAT ROOM	42.5
104	5'	8'-6"	9'		5'0"x6'6" F/ 5'0"x2'0" A W/ S.G.	GREAT ROOM	45.7
105	4'	6'-6"	9'		FIXED	DINING	28.4
106	7'-6"	5'	7'-3"		2'6"x 5'0" C/ 5'0"x5'0" F	SITTING	37.5
107	5'	1'-6"	9'		FIXED TRANSOM	SITTING	7.5
107a	2'-6"	1'-6"	9'		FIXED TRANSOM	SITTING	3.8
108	2'	5'	8'-7 3/4"		FIXED	MUD	10.0
109	2'	5'	8'-7 3/4"		FIXED	MUD	10.0
110	7'	1'-6"	10'-1/2"		FIXED	ENTRY	10.5
111	6'	2'-1 3/4"	2'-7 3/8"		FIXED W/ S.G.	STAIRS	13.8
112	6'	2'-1 3/4"	5'-1/8"		FIXED W/ S.G.	STAIRS	13.8
113	6'	2'-1 3/4"	7'-4 7/8"		FIXED W/ S.G.	STAIRS	13.8
114	6'	2'-1 3/4"	9'-9 5/8"		FIXED W/ S.G. (01)	STAIRS	13.8
115	6'	2'-1 3/4"	2'-7 3/8"		FIXED W/ S.G. (01)	STAIRS	13.8
116	6'	2'-1 3/4"	5'-1/8"		FIXED W/ S.G. (01)	STAIRS	13.8
117	6'	2'-1 3/4"	7'-4 7/8"		FIXED W/ S.G. (01)	STAIRS	13.8
118	6'	2'-1 3/4"	9'-9 5/8"		FIXED W/ S.G.	STAIRS	13.8
201	2'	4'	8'-6"		FIXED	MASTER	8.0
202	2'	4'	8'-6"		FIXED	MASTER	8.0

WINDOW SCHEDULE (CONTINUED)

MARK	SIZE		HEAD HT.	ELEVATION, N.T.S.	TYPE	ROOM	UNIT AREA
	WIDTH	HEIGHT					
203	5'	6'-6"	8'-6"		FIXED	MASTER	32.5
204	5'	6'-6"	8'-6"		FIXED	MASTER	32.5
205	5'	6'-6"	8'-6"		FIXED	MASTER	34.9
206	10'	6'-6"	8'-6"		2'6"x6'6" C/ 5'0"x6'6" F/ 2'6"x6'6" C/ EGRESS	MASTER	67.4
207	7'	5'	7'		5'0"x5'0" F/ 2'6"x5'0" C W/ S.G.	MASTER BATH	36.9
208	4'	5'	7'		FIXED W/ S.G.	MASTER BATH	21.9
209	7'-6"	5'	7'		2'6"x5'0" C/ 2'6"x5'0" F/ 2'6"x5'0" C EGRESS	BED 2	37.5
210	2'	4'	7'		CASEMENT	BED 2	8.0
211	2'	4'	7'		CASEMENT	BED 2	8.0
212	2'	4'	7'		CASEMENT W/ S.G.	BATH 2	8.0
213	8'-6"	5'	7'		2'6"x5'0" C/ 6'0"x5'0" F EGRESS	BED 3	42.5
214	2'	5'	7'		FIXED	BATH 3	10.0
215	6'	2'-1 3/4"	12'-2 3/8"		STAIRS	FIXED	13.8
216	6'	2'-1 3/4"	14'-7 1/8"		STAIRS	FIXED	13.8
217	6'	2'-1 3/4"	16'-11 7/8"		STAIRS	FIXED	13.8
218	6'	2'-1 3/4"	19'-4 5/8"		STAIRS	FIXED	13.8
219	6'	2'-1 3/4"	12'-2 3/8"		STAIRS	FIXED W/ S.G (01)	13.8
220	6'	2'-1 3/4"	14'-7 1/8"		STAIRS	FIXED	13.8
221	6'	2'-1 3/4"	16'-11 5/8"		STAIRS	FIXED	13.8
222	6'	2'-1 3/4"	19'-4 3/8"		STAIRS	FIXED	13.8
223	5'	1'-6"	7'		FIXED	MASTER W.I.C.	7.5
							855.8 ft²

4D ARCHITECTS
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REGISTERED ARCHITECT — BARBARA J. PICKENS — STATE OF WASHINGTON — 4217

Barbara J. Pickens, Architect
Ben Mulder, Designer

S.D. Smith Homes
Dhaliwal-Klar Residence
7024 SE 20th Street, Mercer Island, WA, 98040

Issued	Date	Drawn By
FINAL FOR PERMIT	06/02/23	TJF
01 M.I. CORRECTIONS	12/26/23	TJF
01 REVISED LATERAL	02/08/24	TJF
01 CORR. & BACKCHECK	03/28/24	TJF

22005

12

SCHEDULES

GENERAL STRUCTURAL NOTES

GENERAL

ALL CONSTRUCTION SHALL CONFORM TO THE 2018 INTERNATIONAL BUILDING CODE (IBC), THE 2018 INTERNATIONAL RESIDENTIAL CODE (IRC) AND/OR OTHER GOVERNING CODE, AS REQUIRED BY LOCAL JURISDICTION.

STRUCTURAL DRAWINGS INDICATE TYPICAL AND GENERAL CONSTRUCTION DETAILS. WHERE DETAILS ARE NOT REFERENCED AT LOCATIONS OF SIMILAR CONFIGURATION TO DETAILS PROVIDED, SIMILAR DETAILS SHALL BE EMPLOYED. NOTES ON THE FOLLOWING INDIVIDUAL STRUCTURAL SHEETS SHALL TAKE PRECEDENCE OVER THESE GENERAL STRUCTURAL NOTES. ANY SPECIFICATION CONFLICTS THAT MAY OCCUR WITHIN THIS PLAN SET, THE CONTRACTOR SHALL DEFAULT TO THE MORE STRINGENT/ CONSERVATIVE SPECIFICATION.

THE CONTRACTOR SHALL REVIEW THE CONSTRUCTION DOCUMENTS IN FULL FOR ACCURACY AND ADEQUACY AS RELATED TO SITE CONDITIONS. ANY DISCREPENCIES SHALL BE SUBMITTED TO THE EOR BEFORE PROCEEDING.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL DESIGN, PERMITTING AND CONSTRUCTION OF ALL UTILITIES INCLUDING PLUMBING, ELECTRICAL AND HVAC. ANY STRUCTURAL MODIFICATIONS SHALL BE SUBMITTED TO THE EOR BEFORE PROCEEDING.

DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SUPERCEDE. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIMENSIONS (INCLUDING ROUGH OPENINGS) AND SHALL REVIEW ALL DIMENSIONS AND THEIR ACCURACY IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION.

THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE, INCLUDING SOIL CONDITIONS (UNLESS SOILS REPORT EXISTS), AND CONDITIONS RELATED TO EXISTING UTILITIES, EASEMENTS, AND/OR RIGHTS OF WAY.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION, WORKMANSHIP AND JOBSITE SAFETY. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY BRACING AS REQUIRED UNTIL ALL PERMANENT CONNECTIONS AND STIFFENINGS HAVE BEEN INSTALLED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS WITH THE BUILDING DEPARTMENT.

ANY AND ALL DISCREPANCIES BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER JOB-RELATED DRAWINGS, INCLUDING ARCHITECTURAL, CIVIL OR ANY OTHER CONSULTANT DRAWINGS SHALL BE PROVIDED TO THE EOR BEFORE PROCEEDING.

SOILS

SEE DESIGN CRITERIA FOR SOILS REPORT INFORMATION, IF APPLICABLE.

WHERE SOILS REPORT NOT PROVIDED, 2000 PSF SOIL BEARING ASSUMED. ASSUMED ALLOWABLE SOIL BEARING AND LATERAL PRESSURES SHALL BE FIELD-VERIFIED. BEARING SOIL SHALL BE FREE OF ORGANIC MATERIAL. EOR SHALL BE NOTIFIED OF ANY SOILS FOUND TO BE INADEQUATE TO REVIEW FOUNDATION ADEQUACY. SEE ADDITIONAL SOILS NOTES ON RETAINING WALL DETAILS, IF APPLICABLE.

FOUNDATION CONDITIONS

FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED SOIL (OR CONTROLLED, COMPACTED STRUCTURAL FILL) AT LEAST 18" BELOW EXISTING GRADE. ACTUAL ELEVATIONS OF FOOTINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. OVEREXCAVATION SHALL BE BACKFILLED USING LEAN CONCRETE (f'_c = 2000 PSI) OR STRUCTURAL BACKFILL.

STRUCTURAL FILL

STRUCTURAL FILL SHOULD CONSIST OF PREDOMINATELY WELL-GRADED, GRANULAR SOIL, FREE OF ORGANIC MATERIAL AND DEBRIS. FILL SHOULD BE PLACED IN MAXIMUM 8" LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED BY ASTM D-1557 TEST PROCEDURES. INFORMATION FOUND WITHIN SOILS REPORT, IF PROVIDED, SHALL TAKE PRECEDENCE. ANY SIGNIFICANT CONSTRUCTION FOUNDED ON STRUCTURAL FILL SHALL BE REVIEWED BY A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF WASHINGTON.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL BE PROVIDED AS REQUIRED BY THE BUILDING DEPARTMENT AND IBC SECTION 1704. THE OWNER SHALL BE RESPONSIBLE FOR RETAINING ANY SPECIAL INSPECTORS REQUIRED. ALL SPECIAL INSPECTION REPORTS SHALL BE PROVIDED TO THE EOR AS APPLICABLE. SEE CONCRETE SECTION FOR MORE ON SPECIAL INSPECTIONS.

SPECIAL INSPECTIONS AND TESTS OF SOILS (IBC 1705.6)

VERIFICATION AND INSPECTION	FREQUENCY: CONTINUOUS	FREQUENCY: PERIODIC	REFERENCES
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHEIVE THE DESIGN BEARING CAPACITY		X	
VERIFY EXCAVATIONS EXTEND TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS		X	
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X		
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X	

WOOD FRAMING NOTES

GENERAL REQUIREMENTS

PROVIDE MINIMUM NAILING PER 2018 IBC TABLE 2304.10.1 (PROVIDED BELOW), UNLESS NOTED OTHERWISE. ALL WOOD IN CONTACT WITH CONCRETE AND/OR EXPOSED TO WEATHER SHALL BE PRESERVATIVE-TREATED BY AN APPROVED METHOD. ALL CUTS, NOTCHES AND EXPOSED ENDS TO BE RE-TREATED. DO NOT NOTCH, BEVEL OR DRILL STRUCTURAL MEMBERS, EXCEPT AS ALLOWED BY SECTIONS 2308.4.2.4 AND 2308.7.4, OR AS ALLOWED ELSEWHERE WITHIN THIS PLAN SET.

FRAMING LUMBER

STRUCTURAL LUMBER SHALL ADHERE TO THE FOLLOWING TABLE:

MEMBER	GRADING	f'_b (PSI)	f'_v (PSI)	$f'_{c\perp}$ (PSI)	$f'_{c,\perp}$ (PSI)
STUDS, SAWN FLOOR JOISTS, SAWN RAFTERS (2x LUMBER)	HF#2 OR BETTER (HEM FIR #2)	850	150	1300	405
POSTS, BEAMS, HEADERS (4x LUMBER AND GREATER)	DF#2 OR BETTER (DOUG FIR #2)	900	180	1350	625
LVL- LAMINATED VENEER LUMBER (FLUSH BEAMS, COLLECTORS, RAFTERS)	VERSA-LAM 3100 OR EQUIV	3100	285	3000	750
GLB - GLUED-LAMINATED BEAMS (DROPPED, EXPOSED, EXTERIOR, HEADERS)	24F-V4 - TYPICAL 24F-V8 - CANTILEVERED	2400/ 1850(-) 2400/ 2400(-)	265	1650	650
PSL - PARALLEL STRAND LUMBER (FLUSH BEAMS, HEADERS)	2.0E	2900	290	2900	750

2x_ TIMBER SHALL BE KILN DRIED. GRADES SHALL CONFORM TO "WWPA GRADING RULES FOR WESTERN LUMBER", LATEST EDITION.

ROOF DIAPHRAGMS

INSTALL MINIMUM 1/2" CDX PLYWOOD (32/16) OR 7/16" OSB SHEATHING. NAIL ALL SUPPORTED EDGES AND BOUNDARIES WITH 8d AT 6" O.C, AND INTERIOR SUPPORTS WITH 8d AT 12" O.C.; BLOCKING NOT REQUIRED, UNO. SEE ROOF FRAMING PLAN(S) FOR ADDITIONAL INFORMATION.

FLOOR DIAPHRAGMS

INSTALL MINIMUM 23/32" T&G STURD-I-FLOOR SHEATHING. GLUE AND NAIL ALL SUPPORTED EDGES AND BOUNDARIES WITH 10d AT 6" O.C., AND INTERIOR SUPPORTS WITH 10d AT 12" O.C.; BLOCKING NOT REQUIRED, UNO. SEE FLOOR FRAMING PLAN(S) FOR ADDITIONAL INFORMATION.

WOOD TRUSSES (IBC 2303.4)

PRE-FABRICATED WOOD TRUSSES TO BE DESIGNED PER IBC 2303.4.1.1 TO CARRY LOADS LISTED IN THE DESIGN CRITERIA SECTION AND ANY ADDITIONAL POINT LOADS, UNIFORM LOADS OR DRAG STRUT FORCES PROVIDED ON THE ROOF FRAMING PLAN(S).

TRUSS DESIGN DRAWINGS AND DOCUMENT SUBMITTAL SHALL INCLUDE STRESS ANLYSIS AND DEPICTION OF EACH TRUSS TYPE, AND SHALL INCLUDE A TRUSS LAYOUT. TRUSS ANALYSIS, LAYOUT AND INSTALLATION DOCUMENTS SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER LICENSED IN THE STATE OF WASHINGTON. APPROVED TRUSS DOCUMENTS SHALL REMAIN ON THE JOB SITE THROUGHOUT CONSTRUCTION.

PRE-FABRICATED TRUSSES SHALL NOT BE NOTCHED, DRILLED, CUT, SPLICED OR OTHERWISE ALTERED WITHOUT WRITTEN APPROVAL FROM THE TRUSS DESIGN ENGINEER. ALTERATIONS RESULTING IN THE ADDITION OF LOADS TO ANY MEMBER (E.G. HVAC EQUIPMENT, PIPING, ETC.) SHALL NOT BE PROHIBITED WITHOUT WRITTEN APPROVAL FROM THE TRUSS DESIGN ENGINEER.

UNLESS NOTED OTHERWISE, ALL TRUSSES SHALL BE SPACED AT 24" O.C. AND HAVE SIMPSON H1 CLIPS AT EXTERIOR WALLS. GABLE TRUSSES SHALL HAVE A35 CLIPS @ 24" O.C., UNO.

THE GENERAL CONTRACTOR SHALL PROVIDE THE EOR WITH A COPY OF THE APPROVED TRUSS DOCUMENTS FOR REVIEW. IF THE TRUSS DOCUMENTS WERE DEVELOPED SUBSEQUENT TO THE ISSUANCE OF THIS PLAN SET, THE TRUSS ANALYSES MAY RESULT IN REVISIONS TO THE BEAM CALCULATIONS ASSOCIATED WITH THIS PLAN SET.

FASTENERS

THE LATEST SIMPSON STRONG-TIE COMPANY, INC. PRODUCTS WERE USED AS A BASIS FOR THIS PROJECT. CONNECTORS BY ALTERNATE MANUFACTURERS MAY BE SUBSTITED PROVIDED THEY HAVE CURRENT ICC-ESR/IAPMO-ER APPROVAL FOR EQUIVALENT OR GREATER LOAD CAPACITIES. ALL FASTENERS AND CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.

NAILS AND STAPLES TO CONFORM TO IBC 2303.6 "NAILS AND STAPLES." ALL NAILING TO BE PROVIDED PER TABLE 2304.10.1 (PROVIDED BELOW). ALL NAILS SPECIFIED SHALL BE COMMON, UNO.

COMMON NAILS		
SIZE	LENGTH	DIAMETER
8d	$2^1/_2$"	0.131"
10d	3"	0.148"
16d	$3^1/_2$"	0.162"
16d SINKER	$3^1/_4$"	0.148"

CONCRETE NOTES

CONCRETE SHALL CONSIST OF PORTLAND CEMENT ASTM C-150 TYPE II OR TYPE I AND SHALL BE READY-MIXED PER ASTM C-94, MAXIMUM SLUMP 5". MINIMUM $5^1/_2$ SACKS OF CEMENT PER CUBIC YARD OF CONCRETE. SEGREGATION OF MATERIALS TO BE PREVENTED.

MINIMUM SPECIFIED COMPRESSIVE STRENGTH ($f'C$ AT 28 DAYS) ACI 318-14		
LOCATION/USE	f'_c (PSI)	SPECIAL INSPECTION & TESTING REQUIRED
FOOTING PADS & FOUNDATIONS NOT EXPOSED TO WEATHER	2500	NOT REQUIRED
PORCHES, PATIOS, DRIVEWAYS GARAGE SLABS	3000	NOT REQUIRED
FOUNDATION STEM WALLS AND INTERIOR SLABS ON GRADE	2500	NOT REQUIRED

REINFORCEMENT STEEL

REINFORCING STEEL #5 BARS AND LARGER SHALL BE GRADE 60 DEFORMED BARS, AND #3 AND #4 BARS SHALL BE GRADE 40, IN ACCORDANCE WITH ASTM A-615. LAP SPLICES 32 BAR DIAMETERS OR 18" MIN. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 AND SHALL BE 6X6 – W1.4 X W1.4. LAP ONE FULL MESH AT SPLICES. SEE CONCRETE DETAILS FOR MORE INFORMATION.

CONCRETE COVER REQUIREMENTS	
REINFORCING BAR LOCATION	MIN CONCRETE COVER
UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#6 BARS AND LARGER)	2"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#5 BARS AND SMALLER)	11/2"
COLUMNS AND BEAMS WITH BARS ENCLOSED IN STIRRUPS, TIES OR SPIRAL REINFORCEMENT	11/2"
SLABS, JOISTS AND INTERIOR FACES OF WALLS (#5 BARS AND SMALLER)	3/4"

SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION (IBC 1705.3)

VERIFICATION AND INSPECTION	FREQUENCY: CONTINUOUS	FREQUENCY: PERIODIC	REFERENCES
INSPECT REINFORCEMENT AND VERIFY PLACEMENT		X	IBC 1908.4 ACI 318: CH. 20, 25.2-3, 26.6.1-3
INSPECT ANCHORS CAST IN CONCRETE		X	ACI 318: 17.8.2
VERIFY REQUIRED DESIGN MIX		X	IBC 1904.1-2, 1908.2-3 ACI 318: CH. 19, 26.4.3-4
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS AND DETERMINE TEMPERATURE OF CONCRETE	X		IBC 1908.10 ASTM C172, C31 ACI 318: 26.5, 26.12
INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X		IBC 1905.6-8 ACI 318: 26.5
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X	IBC 1908.9 ACI 318: 26.5.3-5
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE BEING POURED		X	ACI 318: 26.11.1.2(b)

MINIMUM FASTENING SCHEDULE (UNO) (PER 2018 IBC TABLE 2304.10.1

NO.	CONNECTION	NAILING, LOCATION (UNO)
1	BLOCKING BETWEEN JOIST/RAFTER OR TRUSSES TO TOP PLATE OR OTHER FRAMING ABOVE	(3) 8d, TOENAIL EACH END
2	BLOCKING BETWEEN JOIST/RAFTER OR TRUSSES NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS	(2) 8d, TOENAIL EACH END
3	FLAT BLOCKING TO TRUSS AND WEB FILLER	16d FACE NAIL
4	JOISTS TO TOP PLATE OR GIRDER	(3) 8d, TOENAIL
5	CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (NO THRUST)	(3) 16d
6	COLLAR TIE TO JOIST/RAFTER	(3) 10d
7	ROOF TRUSS TO TOP PLATE	(3) 10d, TOENAIL
8	ROOF JOIST/RAFTER TO RIDGE VALLEY OR HIP RAFTERS; OR ROOF RAFTER TO 2" RIDGE BEAM	(2) 16d, END NAIL
9	STUD TO STUD (NOT AT SHEAR WALLS)	16d @ 24" O.C., FACE NAIL
10	CONTINUOUS HEADER TO STUD	(4) 8d, TOENAIL
11	TOP PLATE TO TOP PLATE, AT END JOINTS	(8) 16d, EACH SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
12	SILL PLATE TO JOIST, RIM JOIST OR BLOCKING (NOT AT BRACED WALL PANELS)	16d @ 16" O.C., FACE NAIL
13	SILL PLATE TO JOIST, RIM JOIST OR BLOCKING AT BRACED WALL PANELS	(3) 16d @ 16" O.C., FACE NAIL
14	STUD TO SILL PLATE	(4) 8d, TOENAIL OR (2) 16d, END NAIL*
15	TOP PLATE TO STUD	(2) 16d, END NAIL
16	TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	(2) 16d, FACE NAIL
17	1" BRACE TO EACH STUD AND PLATE	(2) 8d, FACE NAIL
18	1" x 6" SHEATHING OR LESS TO EACH BEARING	(2) 8d, FACE NAIL
19	1" x 8" AND WIDER SHEATHING TO EACH BEARING	(3) 8d, FACE NAIL
20	JOIST TO SILL, TOP PLATE OR GIRDER	(3) 8d, TOENAIL
21	RIM JOIST, OR BLOCKING TO TOP PLATE, SILL OR OTHER FRAMING BELOW	8d @ 6" O.C., TOENAIL
22	1" x 6" SUBFLOOR OR LESS TO EACH JOIST	(2) 8d, FACE NAIL
23	2" SUBFLOOR TO JOIST OR GIRDER	(2) 16d, BLIND AND FACE NAIL
24	2" PLANKS (PLANK & BEAM - FLOOR & ROOF)	(2) 16d, EACH BEARING, FACE NAIL
25	BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	20d @ 32" O.C., FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES AND (2) 20d AT ENDS OF EACH SPLICE
26	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	(3) 16d, EACH JOIST OR RAFTER, FACE NAIL
27	JOIST TO RIM JOIST	(3) 16d, END NAIL
28	BRIDGING OR BLOCKING TO JOIST	(2) 8d, EACH END, TOENAIL

*USE (4) 16d END NAIL STUDS TO TOP AND SILL PLATES AT 2x10 STUDS

DESIGN CRITERIA

WIND:

NOMINAL WIND SPEED – 85 MPH	RISK CATEGORY II
ULTIMATE WIND SPEED – 110 MPH	IMPORTANCE, I = 1.0
WIND EXPOSURE, B	K_{zT} = 1.00

SEISIMIC:

EQUIVALENT LATERAL FORCE PROCEDURE

IMPORTANCE, Ie = 1.0	S_s = 1.36
SITE CLASS, D	S_1 = 0.52
SEISMIC DESIGN CAT., D	S_{DS} = 0.91
SEIS. FORCE RES. SYS, A.15.	S_{D1} = NA
DESIGN BASE SHEAR = 17195 lbs	C_s = 0.14
RISK CATEGORY II	R = 6.5

LIVE LOADS:

ROOF 25 (SNOW)
FLOOR 40 PSF
DECKS 60 PSF

INSPECTIONS NO SPECIAL INSPECTIONS ARE REQUIRED. VERIFY INSPECTIONS REQUIRED WITH AUTHORITY HAVING JURISDICTION.

SOILS

GEOTECH EOR: **NA**
REPORT #: **NA**
WHERE SOILS REPORT NOT PROVIDED, 2000 PSF SOIL BEARING ASSUMED.

SCOPE OF STRUCTURAL WORK

- SEISMIC AND WIND ANALYSIS (LATERAL DESIGN)
- VERTICAL LOAD ANALYSIS (GRAVITY DESIGN)
- FOUNDATION DESIGN/VERIFICATION
- STRUCTURAL DRAFTING
- STRUCTURAL DETAILING

UPSTATE engineering, inc.
22002 64TH AVE W - SUITE 2C MOUNTLAKE TERRACE WA 98043
TEL: (425)354-4105 SERVICES@UPST8.COM

01

UPSTATE STAMP

JAMES M. KLAR — STATE OF WASHINGTON — 44281 — REGISTERED PROFESSIONAL ENGINEER
2/4/2024

STRUCTURAL DESIGN
STRUCTURAL NOTES
MIN CONNECTIONS

S.D. SMITH HOMES
DHALIWAL-KLAR RESIDENCE
by 4D ARCHITECTS
7024 SE 20th STREET
MERCER ISLAND, WA 98040

UPSTATE JOB #	1651
DRAWN BY:	JBG
CHECKED BY:	amg
REVISION DATE:	3/16/2023
DESCRIPTION:	VERSION 1

APPROVALS

S0

SHEARWALL & HOLDOWN NOTES (U.N.O.) :

(1) Simpson or equal. Locate at end of shearwall u.n.o. Install per manufacturer recommendations for foundation minimum end distance and embedment, deepen foundation as required.

(2) Construct cripple wall same as shearwall (SW) above, and gable-end same as shearwall (SW) below.

(3) Requires 3x or (2) 2x foundation sill plate

(4) Threaded rod and coupler as required.

(5) Common nails, UNO: 8d=0.131"x2½", 10d=0.148"x3", 12d=0.148"x3¼", 16d=0.162"x3½", 16d sinker=0.148"x3¼".

(6) Install H1's on all trusses/rafters, A35's at 24"o/c on gables & rim joist (or solid blkg) to top plate (sill plate at fdn) u.n.o.; When specified spacing is less than 24"o/c, install A35's at roof solid blk'ng to SW top plate, and install H1 or H2.5 on all trusses/rafters. LTP4, LTP5 or LSS0 can be substituted for A35. Conn. per Simpson Strong-Tie or equal.

(7) Minimum 3x or dbl-2x stud lam'd w/ (2)-16d @ 6" o/c at abutting panel edges.

(8) Anchor bolts shall be embedded at least 7" into concrete; there shall be a minimum of two bolts per piece with one bolt located not more than 12" or less than seven bolt diameters from each end of the piece. 2x min PT, u.n.o.

(9) All sheathing must be APA rated.

HOLDOWN SCHEDULE

Date: 3/2/2023
Job #: 1651

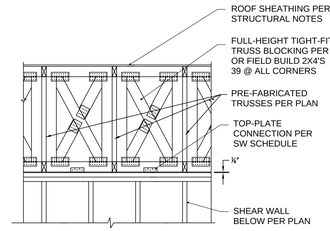
MARK	HOLDOWN / STRAP *(1)	FASTENERS TO (2)-STUDS MIN U.N.O.	FOUNDATION ANCHOR *(1)(4)	COMMENTS
T-1	MSTC48B3	10d NAILS - (12) FACE, (4) BTM, (38) FRAMING	N/A	TO BEAM/HDR/DBL JST BELOW PER PLAN
T-2	MSTC52	(24) - 16d sinkers to each connected element	N/A	
T-3	HDU4-SDS2.5	(10) - SDS 0.25x2.5 WOOD SCREWS	SSTB24	
T-4	HDU8-SDS2.5	(20) - SDS 0.25x2.5 WOOD SCREWS	SSTB28	MIN. DF#2 4X POST
T-5	HDU14-SDS2.5	(36) - SDS 0.25x2.5 WOOD SCREWS	PAB8 W/ 11" MIN EMBEDMENT	MIN 6x6 POST

SHEARWALL SCHEDULE

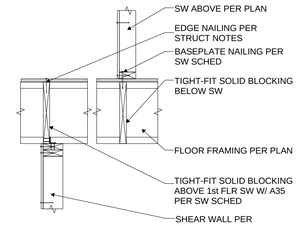
Date: 3/2/2023
Job #: 1651

MARK *(2)	SHEATHING - APPLY TO 2x HF STUDS @ 16"o/c U.N.O. BELOW *(9)	SHEATHING EDGE NAILS *(5) ALL EDGES BLOCKED (do not penetrate past flush)	BASE PLATE NAILS *(5)	ROOF TO TOP PLATE, FLOOR TO TOP PLATE & SILL PLATE *(6)	SILL PLATE ANCHORS w/ 3" x 3" x 1/4" WASHERS *(8)
P1-6	7/16" OSB	8d @ 6" o/c (12" o/c field)	16d @ 12 " o/c	H1 @ 24 " o/c or A35 @ 24 " o/c	5/8"Ø x10" AB's @ 60 " o/c
P1-4	7/16" OSB	8d @ 4" o/c (12" o/c field)	16d @ 6 " o/c	A35 @ 16 " o/c	5/8"Ø x10" AB's @ 42 " o/c
P1-3	7/16" OSB *(7)	8d @ 3" o/c (12" o/c field)	16d @ 4 " o/c	A35 @ 12 " o/c	5/8"Ø x10" AB's @ 36 " o/c
P1-2	7/16" OSB *(7)	8d @ 2" o/c staggered (12" o/c field)	16d @ 3 " o/c	A35 @ 8 " o/c	5/8"Ø x10" AB's @ 24 " o/c *(3)
P2-2	7/16" OSB Both Sides *(7)	8d @ 2" o/c staggered (12" o/c field)	(2)-16d @ 4"o/c to dbl 2x rim / blk'g	A35 / LTP4 each side @ 10 " o/c	5/8"Ø x10" AB's @ 16 " o/c *(3)
RSW	7/16" OSB	8d @ 4" o/c (12" o/c field)	16d @ 6 " o/c	A35 @ 16 " o/c	5/8"Ø x10" AB's @ 42 " o/c

01

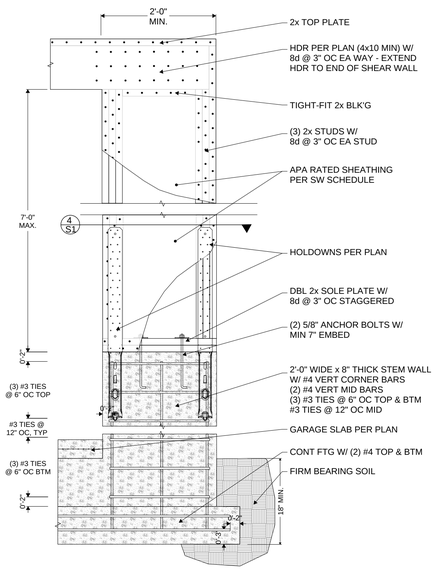


1 S1 TYPICAL SHEAR FLOW TRUSS PERP TO INT SW NTS

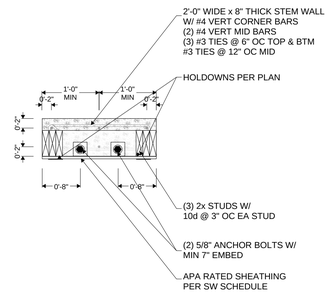


2 S1 SHEAR FLOW OFFSET SW TO SW - FLR PERP NTS

01



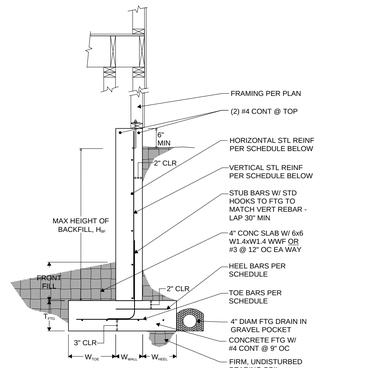
3 S1 RAISED SHEAR WALL (RSW) ELEVATION VIEW NTS



4 S1 RAISED SHEAR WALL (RSW) SECTION VIEW NTS

CANTILEVERED FOUNDATION/RETAINING WALL NOTES:

- IBC 2018 EDITION
- SOILS REPORT NOT PROVIDED
- 35 PCF EQUIV FLUID PRESS (WORST CASE)
  2000 PSF SOIL BEARING CAPACITY
- 5½ SACK CEMENT PER CUBIC YARD, 2500 PSI (FOOTINGS), 3000 PSI (WALLS) MINIMUM COMPRESSIVE STRENGTH, MAXIMUM 6 GALLONS WATER PER SACK
- GRADE 60 STEEL FOR #5 & LARGER
  GRADE 40 STEEL FOR #4 & SMALLER
- BACKFILL WITH POUROUS MATERIAL; PROVIDE TEMP BRACINGS AS REQUIRED UNTIL SLAB IS CONSTRUCTED AND CURED



01

REINFORCEMENT AND FOOTING SCHEDULE

H_{BF}	VERTICAL REINFORCEMENT	HORIZONTAL REINFORCEMENT	W_{TOE}	W_{WALL}	W_{HEEL}	T_{FTG}	TOE BARS	HEEL BARS	FRONT FILL OR SLAB
6'-0"	#4 @ 12" O.C.	#4 @ 10" O.C.	1'-6"	8"	0'-4"	9"	#4 @ 10" O.C.	NA	12"
8'-0"	#4 @ 8" O.C.	#4 @ 10" O.C.	2'-0"	8"	0'-8"	9"	#4 @ 10" O.C.	NA	18"
10'-0"	#5 @ 10" O.C.	#4 @ 10" O.C.	2'-0"	8"	3'-8"	13"	#4 @ 8" O.C.	#4 @ 8" O.C.	4"

5 S1 RETAINING WALL CANTILEVERED NTS

UPSTATE engineering, inc.
22002 64TH AVE W - SUITE 2C, MOUNTLAKE TERRACE WA 98043
TEL (425)354-4105 SERVICES@UPST8.COM

UPSTATE STAMP

ADDITIONAL STRUCTURAL DETAILS

S.D. SMITH HOMES
DHALIWAL-KLAR RESIDENCE
by 4D ARCHITECTS
7024 SE 20th STREET
MERCER ISLAND, WA 98040

UPSTATE JOB #	1651
DRAWN BY: JBG	CHECKED BY: amg

REVISION DATE:	DESCRIPTION:
3/16/2023	VERSION 1

APPROVALS

S1

GRAPHIC SCALE

5 0 5 10 20

1 INCH = 10 FT.

LEGEND

	FOUND MONUMENT IN CASE		WIRE FENCE
	FOUND REBAR AS DESCRIBED		WOOD FENCE
	FOUND BRASS DISK		CONCRETE WALL
	SET MAG NAIL AS DESCRIBED		BRICK SURFACE
P	POWER METER		ASPHALT SURFACE
	SANITARY SEWER MANHOLE		CONCRETE SURFACE
	WATER VALVE	CE	CEDAR
	FIRE HYDRANT	SP	SPRUCE
	WATER METER		
	YARD DRAIN		

LEGAL DESCRIPTION

THE WEST 70 FEET OF TRACT 20, ROANOKE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 18 OF PLATS, PAGE 59, RECORDS OF KING COUNTY, WASHINGTON;

SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

BASIS OF BEARINGS

ACCEPTED A BEARING OF N00°00'00"E FOR THE CENTERLINE OF 72ND AVENUE SE BASED ON FOUND MONUMENTS.

PROJECT INFORMATION

SURVEYOR:	SITE SURVEYING, INC. 21923 NE 11TH ST SAMMAMISH, WA 98074 PHONE: 425.298.4412
PROPERTY OWNER:	SUKHMINDER DHALIWAL & MANDEEP KLAR 7024 SE 20TH STREET MERCER ISLAND, WA 98040
TAX PARCEL NUMBER:	735570-0172
PROJECT ADDRESS:	7024 SE 20TH STREET MERCER ISLAND, WA 98040
ZONING:	R-15
JURISDICTION:	CITY OF MERCER ISLAND
PARCEL ACREAGE:	7,000 S.F. (0.1161 ACRES) AS SURVEYED

GENERAL NOTES

1. THIS SURVEY WAS COMPLETED WITHOUT BENEFIT OF A CURRENT TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.
2. INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND SPECTRAPRECISION FOCUS 35 TOTAL STATION. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090.
3. THE INFORMATION ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN SEPTEMBER 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
4. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
5. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.

VERTICAL DATUM & CONTOUR INTERVAL

DATUM

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY WCCS SURVEY CONTROL DATABASE.

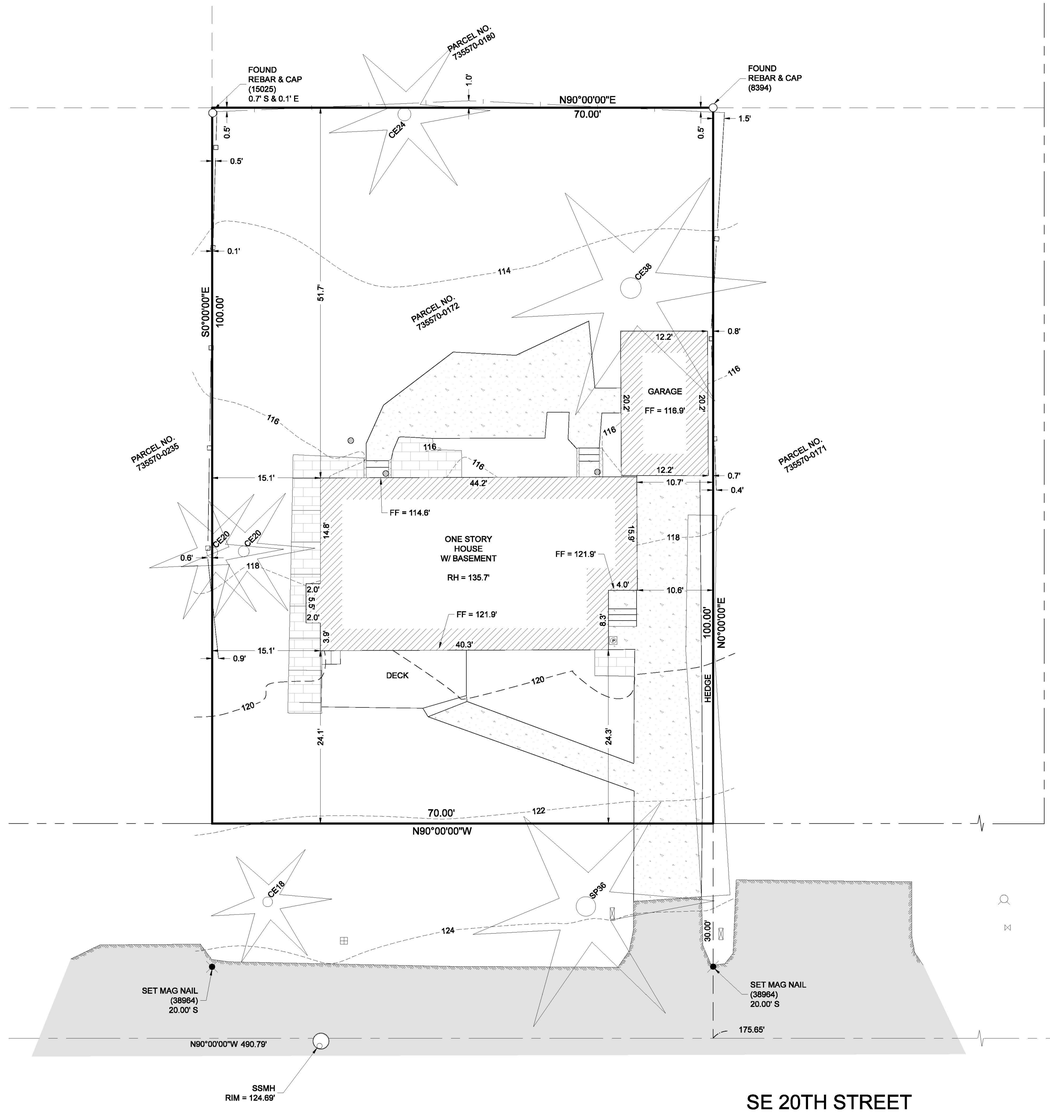
THE MARK IS A MONUMENT IN CASE AT THE INTERSECTION OF SE 24TH STREET AND 72ND AVENUE SE.

POINT ID NO. MI 1004:
ELEVATION: 215.855 FEET (65.793 METERS) NAVD 88

2.0' CONTOUR INTERVAL - THE EXPECTED VERTICAL ACCURACY IS EQUAL TO 1/2 THE CONTOUR INTERVAL OR PLUS / MINUS 1.0' FOR THIS PROJECT.

VICINITY MAP

NTS



NW 1/4, SW 1/4, SEC 1, TWP 24N, RNG 4E, W.M.

Site Surveying, Inc.
21923 NE 11th Street Sammamish, WA 98074
Phone: 425.298.4412
www.sitesurveymapping.com

THOMAS N. WOLDENDORP — WASHINGTON — TEXAS — PROFESSIONAL LAND SURVEYOR — 2/1/22

DATE	REVISION	DRN

TOPOGRAPHIC SURVEY

MANDY KLAR
7024 SE 20TH STREET
MERCER ISLAND, WA 98040

PROJECT NO. 21-470

DRAWN BY: MTS
CHECKED BY: TNW
DATE: 8/31/2021

SHEET 1 OF 1

LEGAL DESCRIPTION

THE WEST 70 FEET OF TRACT 20, ROANOKE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 18 OF PLATS, PAGE 59, RECORDS OF KING COUNTY, WASHINGTON;

SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

ORGANIC SOIL REQUIREMENT

MINIMUM 10% ORGANIC MULCH & COMPOST SOIL REQUIRED

SOIL AMENDMENT REQUIRED

COMPOST AMENDED SOIL REQUIRED ON ALL LANDSCAPED AREAS AFTER CONSTRUCTION. SEE DETAIL ON C3.5.

ESTIMATED TOPSOIL IMPORT = 16.3 CY

SOIL INSPECTION REQUIRED BY ENGINEER

A POST CONSTRUCTION INSPECTION & CERTIFICATION OF AMENDED SOILS IS REQUIRED BY A LICENSED CIVIL ENGINEER. THIS IS REQUIRED BEFORE FINAL SIGN-OFF BY CITY.

TREE TABLE

ARBORIST: NEAL BAKER

TREE #	TREE TYPE	DBH	DRIPLINE	CONDITION	RETAIN OR REMOVE	ADDITIONAL NOTES
1.	WESTERN RED CEDAR	30.6"	15	GOOD	RETAIN	
2.	LEYLAND CYPRESS	8"	14	GOOD	RETAIN	
3.	WESTERN RED CEDAR	34"	19	GOOD	RETAIN	
4.	WESTERN RED CEDAR	44"	27	FAIR	REMOVE	
5.	NORWAY SPRUCE	41"	21.2	POOR	REMOVE	OFFSITE - TOPPED
6.	WESTERN RED CEDAR	18"	15	POOR	RETAIN	OFFSITE - TOPPED - IVY
	12 replacement trees locations and species TBD					

TREE PROTECTION DETAIL

TREE PROTECTION AREA (TPZ)

KEEP OUT!

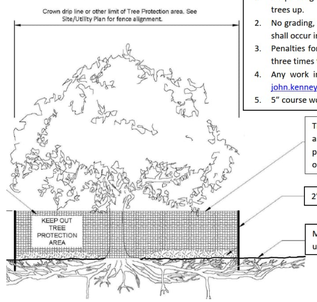
DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees/financial penalties
3. Arborist reports recommending mitigation

Notes

1. No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
2. No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
3. Penalties for damaging by root damage/compaction or removing a saved tree may be a fine up to three times the value of the tree plus restoration (MICC 19.10.160).
4. Any work in approved TPZ must be with the permission of the City Arborist (206) 275-7713, john.kenney@mercergov.org.
5. 5" course woodchips within the tree protection zone, but not against the tree trunk.



Tree protection fence: 4-6" **chain link** fence, solidly anchored into the ground, or if authorized High-density polyethylene fencing with 3.5" x 1.5" openings; color orange. Steel posts installed at 8' o.c.

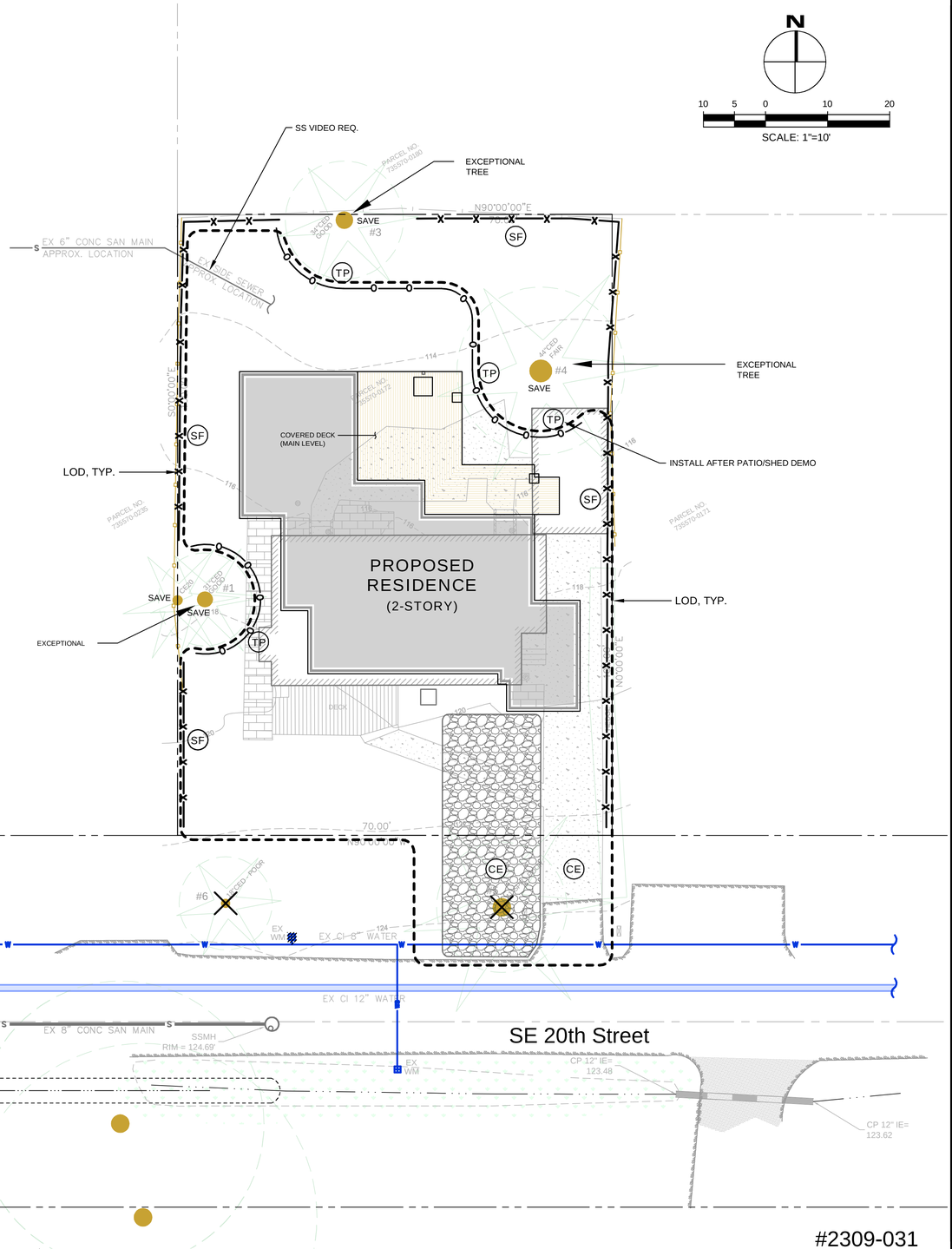
2" x 6" steel posts or approved equal

Maintain existing grade with the tree protection fence unless otherwise indication on the plans

Any Work in the protected area must be with the permission of the City Arborist john.kenney@mercergov.org

EROSION CONTROL LEGEND

LIMITS OF DISTURBANCE		
FILTER FABRIC FENCE (SILT FENCE)	SF	USE AS NEEDED
STABILIZED CONSTRUCTION ENTRANCE	CE	
CATCH BASIN INLET PROTECTION	IP	
INTERCEPTOR SWALE SEE COR DWG 504, TYPE A TEMPORARY SWALE	IS	
TREE PROTECTION FENCING	TP	
CHECK DAM	CD	
STRAW WATTLES	SW	



#2309-031

NO.	DATE	BY	REVISIONS

APPLICANT
SUKHMINDER DHALIWAL & MANDEEP KLAR
7024 SE 20th STREET
MERCER ISLAND, WA 98040

DATE: Feb 07, 2024
JOB# 2060
DRAFTED: SS DESIGN: DE
DIGITAL SIGNATURE

Feb 07, 2024
JEFFREY E. DUFFY
STATE OF WASHINGTON
38766
REGISTERED
PROFESSIONAL ENGINEER

CIVIL ENGINEERING SOLUTIONS
701 N 36th STREET, SUITE 450 SEATTLE, WA 98103
PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

TESC PLAN

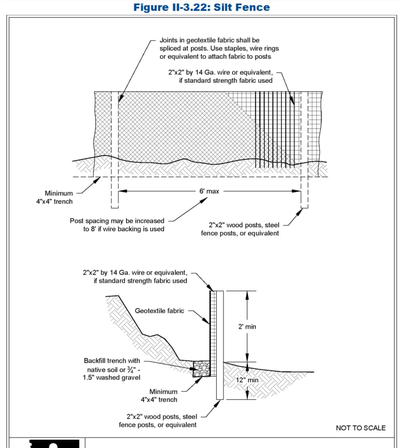
DHALIWAL/KLAR RESIDENCE
7024 SE 20th STREET, MERCER ISLAND, WA 98040

DRAWING NO: C1.0

APN 735570-0172
#2309-031

SILT FENCE DETAIL — DOE

Figure II-3.22: Silt Fence

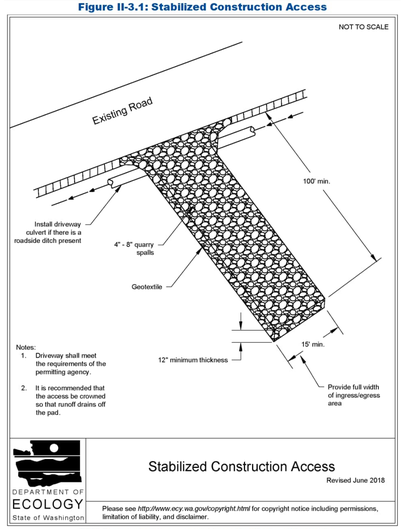


2019 Stormwater Management Manual for Western Washington

Volume II - Chapter 3 - Page 371

CONSTRUCTION ENTRANCE — DOE

Figure II-3.1: Stabilized Construction Access



2019 Stormwater Management Manual for Western Washington

Volume II - Chapter 3 - Page 279

RECOMMENDED CONSTRUCTION SEQUENCE

A DETAILED CONSTRUCTION SEQUENCE IS NEEDED TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE APPLIED AT THE APPROPRIATE TIMES. A RECOMMENDED CONSTRUCTION SEQUENCE IS PROVIDED BELOW:

1. HOLD AN ONSITE PRE-CONSTRUCTION MEETING.

2. POST SIGN WITH NAME AND PHONE NUMBER OF ESC SUPERVISOR (MAY BE CONSOLIDATED WITH THE REQUIRED NOTICE OF CONSTRUCTION SIGN).

3. FLAG OR FENCE CLEARING LIMITS.

4. INSTALL CATCH BASIN PROTECTION, IF REQUIRED.

5. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).

6. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).

7. CONSTRUCT SEDIMENT PONDS AND TRAPS.

8. GRADE AND STABILIZE CONSTRUCTION ROADS.

9. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.

10. MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.

11. RELOCATE SURFACE SURFACE WATER CONTROLS OR TESC MEASURES, OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE TESC IS ALWAYS IN ACCORDANCE WITH CITY OF MERCER ISLAND TESC REQUIREMENTS.

12. COVER ALL AREAS THAT WILL BE UN-WORKED FOR MORE THAN SEVEN DAYS DURING THE DRY SEASON (MAY 1 TO SEPT 30) OR TWO DAYS DURING THE WET SEASON (OCT 1 TO APRIL 30) WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, OR EQUIVALENT.

13. STABILIZE ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.

14. SEED, SOD, STABILIZE, OR COVER ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.

15. UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS AND REMOVE BMPS IF APPROPRIATE.

DENUDED AREAS REQUIREMENTS

APRIL 1 TO SEPT 30
ALL DENUDED AREAS MUST BE STABILIZED WITHIN 7 DAYS OF CONSTRUCTION. PLEASE READ ALL CITY TESC NOTES ON SHEET C1.2.

OCT 1 TO MARCH 31
ALL DENUDED AREAS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING. IF AN EROSION PROBLEM ALREADY EXISTS ON THE SITE, OTHER COVER PROTECTION AND EROSION CONTROL WILL BE REQUIRED.

EROSION CONTROL NOTES

D.8.2 STANDARD ESC PLAN NOTES
THE STANDARD ESC PLAN NOTES MUST BE INCLUDED ON ALL ESC PLANS. AT THE APPLICANT'S DISCRETION, NOTES THAT IN NO WAY APPLY TO THE PROJECT MAY BE OMITTED; HOWEVER, THE REMAINING NOTES MUST NOT BE RENUMBERED. FOR EXAMPLE, IF ESC NOTE #3 WERE OMITTED, THE REMAINING NOTES SHOULD BE NUMBERED 1, 2, 4, 5, 6, ETC.

1. APPROVAL OF THIS EROSION AND SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).

2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.

3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY SURVEY TAPE OR FENCING, IF REQUIRED, PRIOR TO CONSTRUCTION (SWDM APPENDIX D). DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.

4. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS CONSTRUCTED WHEEL WASH SYSTEMS OR WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN AND TRACK OUT TO ROAD RIGHT OF WAY DOES NOT OCCUR FOR THE DURATION OF THE PROJECT.

5. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.

6. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G. ADDITIONAL COVER MEASURES, ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, PERIMETER PROTECTION ETC.) AS DIRECTED BY CITY OF MERCER ISLAND.

7. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES.

8. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO CONSECUTIVE DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).

9. ANY AREA NEEDING ESC MEASURES THAT DO NOT REQUIRE IMMEDIATE ATTENTION SHALL BE ADDRESSED WITHIN SEVEN (7) DAYS.

10. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH DURING THE DRY SEASON, BI-MONTHLY DURING THE WET SEASON, OR WITHIN TWENTY FOUR (24) HOURS FOLLOWING A STORM EVENT.

11. AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

12. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MUST BE ROUGH GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.

13. COVER MEASURES WILL BE APPLIED IN CONFORMANCE WITH APPENDIX D OF THE SURFACE WATER DESIGN MANUAL

14. PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON.

CITY NOTES

1. ANY CHANGES TO THE APPROVED PLANS REQUIRES CITY APPROVAL THROUGH A REVISION.

2. APPLICANT IS RESPONSIBLE FOR ANY DAMAGES TO UNDERGROUND UTILITIES CAUSED FROM THIS CONSTRUCTION.

3. CATCH BASIN FILTERS SHOULD BE PROVIDED FOR ALL STORM DRAIN CATCH BASINS/INLETS DOWNSLOPE AND WITHIN 500 FEET OF THE CONSTRUCTION AREA. CATCH BASIN FILTERS SHOULD BE DESIGNED BY THE MANUFACTURER FOR USE AT CONSTRUCTION SITES AND APPROVED BY THE CITY INSPECTOR. CATCH BASIN FILTERS SHOULD BE INSPECTED FREQUENTLY, ESPECIALLY AFTER STORM EVENTS. IF THE FILTER BECOMES CLOGGED, IT SHOULD BE CLEANED OR REPLACED.

4. CONTRACTORS SHALL VERIFY LOCATIONS AND DEPTHS OF UTILITES.

5. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, CALL "ONE CALL" AT 1.800.424.5555

6. DO NOT BACKFILL WITH NATIVE MATERIAL ON PUBLIC RIGHT-OF-WAY. ALL MATERIAL MUST BE IMPORTED

7. EROSION CONTROL: ALL "LAND DISTURBING ACTIVITY" IS SUBJECT TO PROVISIONS OF MERCER ISLAND ORDINANCE 95C-118 "STORM WATER MANAGEMENT." SPECIFIC ITEMS TO BE FOLLOWED AT YOUR SITE:

8. PROTECT ADJACENT PROPERTIES FROM ANY INCREASED RUNOFF OR SEDIMENTATION DUE TO THE CONSTRUCTION PROJECT THROUGH THE USE OF APPROPRIATE "BEST MANAGEMENT PRACTICES" (BMP) EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, SEDIMENT TRAPS, SEDIMENT PONDS, FILTER FABRIC FENCES, VEGETATIVE BUFFER STRIPS OR BIOENGINEERED SWALES.

9. CONSTRUCTION ACCESS TO THE SITE SHOULD BE LIMITED TO ONE ROUTE. STABILIZE ENTRANCE WITH QUARRY SPALLS TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING THE STORM DRAINS.

10. PREVENT SEDIMENT, CONSTRUCTION DEBRIS, PAINTS, SOLVENTS, ETC., OR OTHER TYPES OF POLLUTION FROM ENTERING PUBLIC STORM DRAINS. KEEP ALL POLLUTION ON YOUR SITE.

11. ALL EXPOSED SOILS SHALL REMAIN DENUDED FOR NO LONGER THAN SEVEN (7) DAYS AND SHALL BE STABILIZED WITH MULCH, HAY, OR THE APPROPRIATE GROUND COVER. ALL EXPOSED SOILS SHALL BE COVERED IMMEDIATELY DURING ANY RAIN EVENT.

12. INSTALLATION OF CONCRETE DRIVEWAYS, TREES, SHRUBS, IRRIGATION, BOULDERS, BERMS, WALLS, GATES, AND OTHER IMPROVEMENTS ARE NOT ALLOWED IN THE PUBLIC RIGHT-OF-WAY WITHOUT PRIOR APPROVAL, AND AN ENCROACHMENT AGREEMENT AND RIGHT OF WAY PERMIT FROM THE SENIOR DEVELOPMENT ENGINEER.

13. OWNER SHALL CONTROL DISCHARGE OF SURFACE DRAINAGE RUNOFF FROM EXISTING AND NEW IMPERVIOUS AREAS IN A RESPONSIBLE MANNER. CONSTRUCTION OF NEW GUTTERS AND DOWNSPOUTS, DRY WELLS, LEVEL SPREADERS OR DOWNSTREAM CONVEYANCE PIPE MAY BE NECESSARY TO MINIMIZE DRAINAGE IMPACT TO YOUR NEIGHBORS. CONSTRUCTION OF MINIMUM DRAINAGE IMPROVEMENTS SHOWN OR CALLED OUT ON THIS PLAN DOES NOT IMPLY RELIEF FROM CIVIL LIABILITY FOR YOUR DOWNSTREAM DRAINAGE.

14. POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUBLIC MAINS.

15. REMEMBER: EROSION CONTROL IS YOUR FIRST INSPECTION.

16. ROOF DRAINS MUST BE CONNECTED TO THE STORM DRAIN SYSTEM AND INSPECTED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO ANY BACKFILLING OF PIPE.

17. SILENT FENCE: CLEAN AND PROVIDE REGULAR MAINTENANCE OF THE SILT FENCE. THE FENCE IS TO REMAIN VERTICAL AND IS TO FUNCTION PROPERLY THROUGHOUT THE TERM OF THE PROJECT.

18. WORK IN PUBLIC RIGHT OF WAY REQUIRES A RIGHT-OF-WAY USE PERMIT.

19. REFER TO WATER SERVICE PERMIT FOR ACTUAL LOCATION OF NEW WATER METER AND SERVICE LINE DETERMINED BY MERCER ISLAND WATER DEPARTMENT.

16. THE TV INSPECTION OF THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN IS REQUIRED. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED. ALTERNATELY, A PRESSURE TEST OF THE SIDE SEWER, FROM SEWER MAIN TO POINT OF CONNECTION, MAY BE SUBSTITUTED FOR THE VIDEO INSPECTION.

20. NEWLY INSTALLED SIDE SEWER REQUIRES A 4 P.S.I. AIR TEST OR PROVIDE 10' OF HYDROSTATIC HEAD TEST.

21. POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUBLIC MAINS.

22. THE LIMITS AND EXTENDS OF THE PAVEMENT IN THE PUBLIC RIGHT OF WAY SHALL BE DETERMINED BY THE CITY ENGINEER PRIOR TO FINALIZE THE PROJECT.

#2309-031

NO.	DATE	BY	REVISIONS

APPLICANT
SUKHMINDER DHALIWAL & MANDEEP KLAR
7024 SE 20th STREET
MERCER ISLAND, WA 98040

DATE: Feb 07, 2024
JOB# 2060
DRAFTED: SS DESIGN: DE
DIGITAL SIGNATURE

Feb 07, 2024
JEFFREY E. DUFFY — STATE OF WASHINGTON — 39709 — REGISTERED PROFESSIONAL ENGINEER

CIVIL ENGINEERING SOLUTIONS
701 N 36th STREET, SUITE 450 SEATTLE, WA 98103
PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

TESC & CITY NOTES
TESC DETAILS

DHALIWAL/KLAR RESIDENCE
7024 SE 20th STREET, MERCER ISLAND, WA 98040

DRAWING NO: C1.2

APN 735570-0172
#2309-031

SANITARY SEWER IMPROVEMENTS

1 -

2 -6" SDR 35 PVC SANITARY SEWER(SS) @ MIN 1.0 %.

3 -

4 -6" SEWER CLEANOUT PER MERCER ISLAND DETAIL S-19.

7 -LOCATE AND VIDEO CONDITION OF EXISTING SANITARY SIDE SEWER. REPLACE LINE IF FOUND DEFECTIVE AS DETERMINED BY CITY INSPECTOR.

WATER IMPROVEMENTS

10 -1" WATER METER AND WATER SERVICE IS REQUIRED PER STANDARD DETAIL W-13. FIRE REQUIRES 13D SPRINKLER SYSTEM.

11 -1.5" 250 PSI PRIVATE HDPE WATER (ASTM D2239) FROM METER TO HOUSE. RECOMMENDED DEPTH=36". COORDINATE HOUSE ENTRY WITH BUILDER/OWNER.

12 -

14 -

STORM DRAIN

20 -4" STORM DRAIN (3034 PVC) @ MIN 2 % GRADE

21 -4" FOUNDATION DRAIN (3034 PVC) @ MIN 1 % GRADE

22 -

~~23 -8" STORM DRAIN (SDR 35 PVC OR EQUAL), SEE PROFILE FOR GRADE. FOR COVER LESS THAN 12", USE DUCTILE IRON.~~

24 -

25 -STORM DRAIN POLY **FORCE MAIN** @ MIN. 30" DEPTH. 2" FORCE MAIN (SR-9, 250 PSI, AWWA C904 PEX TUBING (CROSS LINKED PEX)). **ENCROACHMENT AGREEMENT** REQUIRED IN ROW SECTION

26 -

28 -

-

STORM DRAIN STRUCTURES

30 -

31 -

~~32 -TYPE 1 CB WITH SOLID LID~~

33 -

34 -

~~35 -18" OR 24" YARD DRAIN (OR EQUAL) WITH SOLID LID~~

36 -6" WIDE NDS DURASLOPE CHANNEL DRAIN OR EQUAL. CLASS B VEHICLE RATED GRATE.

36A -

39 -

40 -TYPE 40 CATCH BASIN WITH INTERNAL DOWNTURNED ELBOW IN DRIVEWAYS..

41 -

43 -

44 -HAND-PLACE QUARRY SPALLS

46 -DUPLEX STORM PUMPS INSIDE 30" DIAMETER RIBBED PVC BASIN. SEE C5.0 FOR ALL PUMP DETAILS AND ASSOCIATED CALCULATIONS. CONTACT KEVIN AT FOWLER (OR PUMP SUPPLILER) FOR FULL PUMP PACKAGE.

47 -

48 -

STORM BMP's

50 -COMPOST AMENDED SOIL TO ALL DISTURBED AREAS (SEE DETAIL SHEET C3.5). TILL 2-3" OF COMPOST INTO UPPER 8" OF SOIL. LOOSEN COMPACTED SUBSOIL, IF NEEDED BY RIPPING TO 12" DEPTH. MULCH LANDSCAPE BEDS AFTER PLANTING.

51 -

52 -

53 -

54 -

55 -

56 -

57 -

58 -

STREET IMPROVEMENTS

71 -PAVEMENT RESTORATION - COORDINATE SCOPE OF PAVEMENT RESTORATION WITH CITY INSPECTOR

MINIMUM 10% ORGANIC - COMPOST & MULCH REQUIRED

SOILS

NO REPORT FOR THIS PROJECT, TO ENGINEER'S KNOWLEDGE

MERCER ISLAND SOIL MAP SHOWS GLACIAL TILL

MERCER ISLAND INFILTRATION MAP SHOWS MODERATE POTENTIAL

SURVEYOR

TOPOGRAPHIC SURVEY BY:
SITE SURVEYING, INC.
2123 NE 11th STREET
SAMMAMISH, WA 98074
PHONE 425-298-4412

VERTICAL DATUM

NAVD 88 PER WGS SURVEY DATA POINT #MI 1004
SEE SURVEY

LEGAL DESCRIPTION

SEE C1.0

SOIL AMENDMENT REQUIRED

COMPOST AMENDED SOIL REQUIRED ON ALL LANDSCAPED AREAS AFTER CONSTRUCTION. SEE DETAIL ON C3.5.

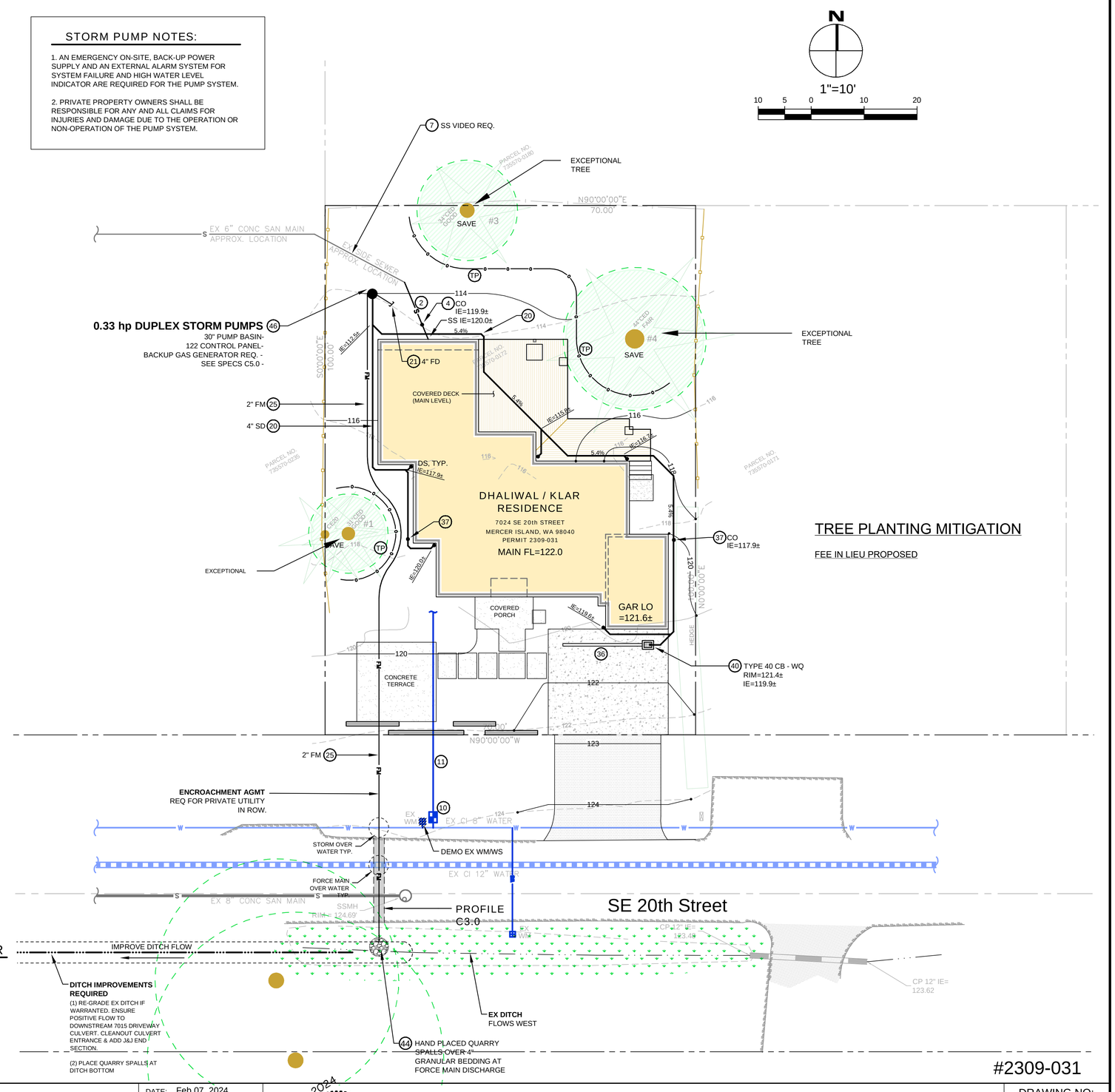
SOIL INSPECTION REQUIRED BY ENGINEER

A POST CONSTRUCTION INSPECTION & CERTIFICATION OF AMENDED SOILS IS REQUIRED BY A LICENSED CIVIL ENGINEER.
THIS IS REQUIRED BEFORE FINAL SIGN-OFF BY CITY.

STORM PUMP NOTES:

1. AN EMERGENCY ON-SITE, BACK-UP POWER SUPPLY AND AN EXTERNAL ALARM SYSTEM FOR SYSTEM FAILURE AND HIGH WATER LEVEL INDICATOR ARE REQUIRED FOR THE PUMP SYSTEM.

2. PRIVATE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR ANY AND ALL CLAIMS FOR INJURIES AND DAMAGE DUE TO THE OPERATION OR NON-OPERATION OF THE PUMP SYSTEM.



TREE PLANTING MITIGATION

FEE IN LIEU PROPOSED

#2309-031

NO.	DATE	BY	REVISIONS

APPLICANT
SUKHMINDER DHALIWAL & MANDEEP KLAR
7024 SE 20th STREET
MERCER ISLAND, WA 98040

DATE: Feb 07, 2024
JOB# 2060
DRAFTED: DE DESIGN: DE
DIGITAL SIGNATURE

Feb 07, 2024
JEFFREY E. DUFFY
STATE OF WASHINGTON
39766
REGISTERED
PROFESSIONAL ENGINEER

CIVIL ENGINEERING SOLUTIONS
701 N 36th STREET, SUITE 450 SEATTLE, WA 98103
PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

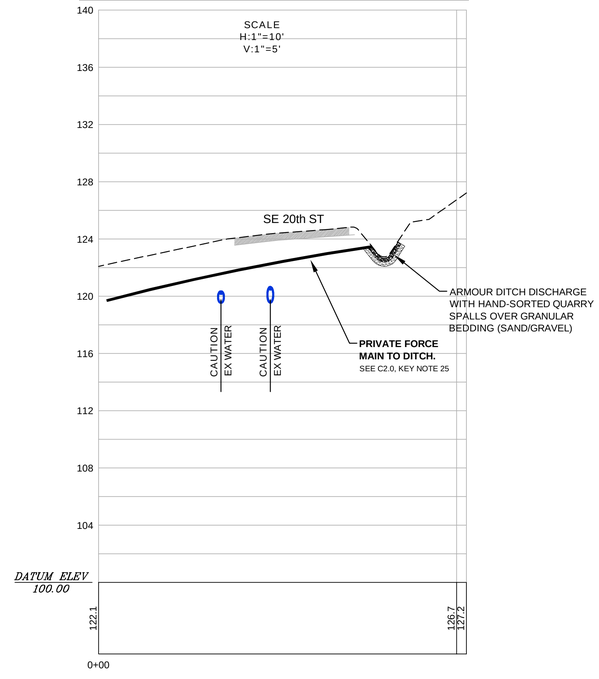
DRAINAGE / CIVIL PLAN

DHALIWAL/KLAR RESIDENCE
7024 SE 20th STREET, MERCER ISLAND, WA 98040

DRAWING NO: C2.0

APN 735570-0172
#2309-031

SE 20TH FORCE MAIN CROSSING



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JEFFREY E. DUFFY
STATE OF WASHINGTON
20795
REGISTERED
PROFESSIONAL ENGINEER

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PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

PROFILE(S)

DHALIWAL/KLAR RESIDENCE
7024 SE 20th STREET, MERCER ISLAND, WA 98040

DRAWING NO:
C3.0

APN 735570-0172
#2309-031

RHOMBUS 122 PANEL

MODEL 122 Control Panel

Single phase, duplex alternating pump control with override.

The Model 122 control panel is designed to alternately control two 120, 208, or 240 VAC single phase pumps in water and sewage installations. The controller is provided with a pump selector switch that can be set to alternate the pumps to equalize wear or to call either pump to activate first with the other pump to activate in lag condition. If an alarm occurs, the alarm activates the audible-visual system. The alarm conditions include: high water, float out-of-sequence, pump fail-to-run, seal failure (optional). Common applications include: lift stations, pump chambers, and irrigation systems.

PANEL COMPONENTS

1. **Enclosure** measures 12x10x6 inches (30.48x24.4x15.24). Choice of NEMA 1 (steel for indoor use) or NEMA 4X (ultraviolet stabilized thermoplastic, padlockable with integral mounting flanges, drip shield, (2) heavy duty cover latches, and stainless steel ¼ turn set screw; for outdoor or indoor use). Note: added options may change enclosure size and enclosure features.
2. **Magnetic Motor Contactors** control pumps by switching electrical lines.
3. **Circuit Breakers** (optional) provide pump disconnect and branch circuit protection.
4. **Ground Lugs**
5. **Duplex Controller** provides pump control, alternation and alarm; elevated in the enclosure for easy access and field wiring
   a. HOA switches for manual control Hand/Off/Automatic
   b. Control Power ON/OFF switch
   c. Power ON green LED indicator
   d. Float status red LED indicators
   e. Float push-to-test buttons
   f. Pump selector switch: Alt, 1-lead 2-lag, 2-lead 1 lag
   g. Auxiliary alarm contacts Form-C
   h. Terminal block: incoming power
   i. Terminal block: float switches
   j. **Option:** adjustable seal failure circuits and red LED indicators (must select option 5E when ordering)

NOTE: Schematic Diagram is located inside the panel on enclosure cover.

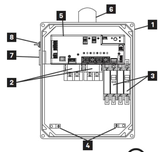
STANDARD ALARM PACKAGE

6. **Red Alarm Beacon** provides 360° visual check of alarm condition.
7. **Alarm Horn** provides audible alarm warning (83 to 85 decibel rating).
8. **Exterior Alarm Test/Normal/Silence Switch** allows horn and light to be tested and horn to be silenced in an alarm condition. Alarm automatically resets once alarm condition is cleared unless the controller is programmed to manual alarm reset.

NOTE: other options available.

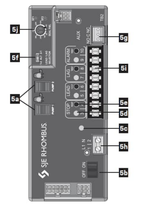
FEATURES

- Touch safe circuit board housing and low voltage 12 VDC float circuits
- Alarm (field programmable to flash)
- Alarm automatic reset (field programmable to manual alarm reset)
- Float out-of-sequence detection
- Pump fail-to-run detection (field programmable to deactivate)
- Controller protected by four auto resettable fuses, no fuse replacement
- Three second lag pump delay time, prevents simultaneous pump start-up
- Standard package includes three 20' control switches or EZconnex® float system
- Five-year limited warranty.



Model Shown
1221W114X6A10E19B

c UL us LISTED



SJE RHOMBUS

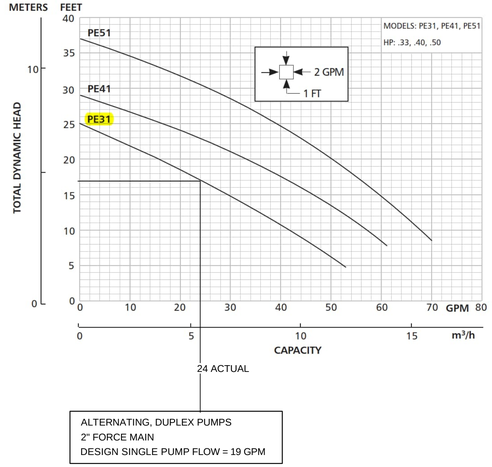
1-888-DIAL-SJE • 1-218-847-1317
1-218-847-4617 Fax
email: customer.service@sjeinc.com
www.sjerhombus.com

B.39

California Prop 65 requires the following: ⚠ WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

SEE REVERSE SIDE FOR ORDERING INFORMATION.
SEE PRICE BOOK FOR LIST PRICE.

GOULD PE31 STORM PUMP CURVE



STORM PUMP SPEC

Goulds Water Technology

Wastewater

TECHNICAL BROCHURE
BPE

FEATURES

Corrosion resistant construction
Cast iron body
Thermoplastic impeller and cover.
Upper sleeve and lower heavy duty ball bearing construction.
Motor is permanently lubricated for extended service life.
Powered for continuous operation.
All ratings are within the working limits of the motor.
Quick disconnect power cord, 20' standard length, heavy duty 16/3 SJTW with 115 or 230 volt grounding plug.
Complete unit is heavy duty, portable and compact.
Mechanical seal is carbon, ceramic, BUNA and stainless steel.
Stainless steel fasteners

APPLICATIONS

Specially designed for the following uses:
- Mound Systems
- Effluent/Dosing Systems
- Low Pressure Pipe Systems
- Basement Draining
- Heavy Duty Sump/Dewatering

SPECIFICATIONS

Pump – General:
- Discharge: 1½" NPT
- Temperature: 104°F (40°C) maximum, continuous when fully submerged.
- Solids handling: ½" maximum sphere.
- Automatic models include a float switch.
- Manual models available.
- Pumping range: see performance chart or curve.

PE31 Pump:
- Maximum capacity: 53 GPM
- Maximum head: 25' TDH

PE41 Pump:
- Maximum capacity: 61 GPM
- Maximum head: 29' TDH

PE51 Pump:
- Maximum capacity: 70 GPM
- Maximum head: 37' TDH

MOTOR

General:
- Single phase
- 60 Hertz
- 115 and 230 volts
- Built-in thermal overload protection with automatic reset.
- Class B insulation
- Oil-filled design
- High strength carbon steel shaft

PE31 Motor:
- .33 HP, 3000 RPM
- 115 volts
- Shaded pole design

PE41 Motor:
- .40 HP, 3400 RPM
- 115 and 230 volts
- PSC design

PE51 Motor:
- .50 HP, 3400 RPM
- 115 and 230 volts
- PSC design

AGENCY LISTINGS

Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association
File #LR38549

PE

SUBMERSIBLE EFFLUENT PUMP

GOULDS WATER TECHNOLOGY
a xylem brand

PUMP INFORMATION

Order No.	HP	Volts	Amps	Minimum Circuit Breaker	Phase	Float Switch Style	Cord Length	Discharge Connection	Minimum Basin Diameter	Maximum Solids Size	Shipping Weight lbs/kg
PE31M	0.33	115	12	20	1	Manual / No Switch	20'	1.5"	18"	.5"	31 / 14.1
PE31P1						Piggyback Float Switch					
PE41M	0.4		7.5	15		Manual / No Switch					
PE41P1						Piggyback Float Switch					
PE42M		230	3.7	10		Manual / No Switch					
PE42P1						Piggyback Float Switch					
PE51M	0.5	115	9.5	20		Manual / No Switch					
PE51P1						Piggyback Float Switch					
PE52M		230	4.7	10		Manual / No Switch					
PE52P1						Piggyback Float Switch					

PUMPING DEPTH CALCULATOR

Storm Pump-Float Depth / Pump Interval Calculator

	Value	Units	Comments
Input Pump Basin Diameter (feet)=	2.5	feet	
Calculate pump basin radius=	1.3	feet	
Calculate cross section Area of basin=	4.91	sf	
Input a pump depth to achieve 2 min run time=	1.5	feet	
Calculate volume of water per pump cycle=	7.4	cf	
Convert volume to gallons	55.1	gallons	convert to gallons pumped
Input pump rate based on pump curve and TDH	24	gpm	
Calculate time for pump to operate per cycle	2.3	Minutes	Ensure greater than 2 minutes

RECOMMENDED PUMP CYCLE DEPTH

PUMP DESIGN HYDROLOGY

Peak Flow Rates in Puget Sound

100 year, 24 hour storm event
I=4.0 inches/24 hours per isopluvials

		SBUH (CFS)	SBUH (GPM)	SBUH (CFS)	SBUH (GPM)	
Impervious Area	Acres	Tc=6.3		Tc=10		Comments
500	0.011	0.01	4	0.011	5	
1,000	0.023	0.02	9	0.023	10	
2,000	0.046	0.041	18	0.045	20	
3,000	0.069	0.062	28	0.067	30	
4,000	*0.092*	*0.082*	*36*	*0.085*	*38*	*tributary area ~ 3,200 sf*
5,000	0.115	0.103	46	0.112	50	
6,000	0.138	0.124	55	0.135	60	
7,000	0.161	0.143	64	0.156	69	
8,000	0.184	0.164	73	0.179	80	

GIVEN DUPLEX PUMPS, SIZE EACH PUMP FOR 50% OF 38 GPM SINCE BOTH CAN ACTIVATE DURING LARGER STORM FLOWS

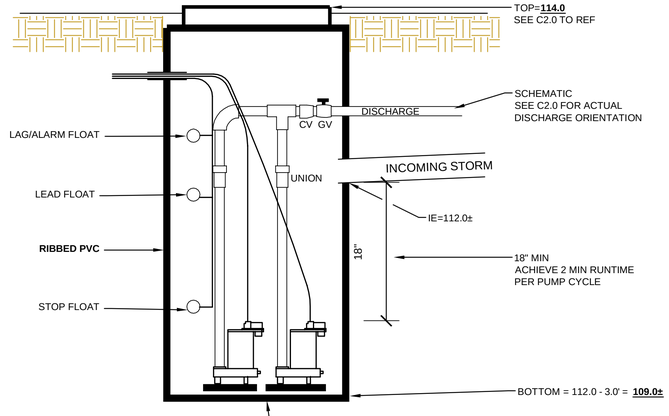
TOTAL DYNAMIC HEAD CALCULATOR

Pump Flow Rate	Pipe Diameter(ID)	Pipe Length	Differential Elevation	Pipe Material	Total Dynamic Head(TDH)
US GPM	in.	ft.	ft.	Plastic	ft.
30	2	100	13		14.823615681182138

Compute Total Dynamic Head(TDH) | Reset

STORM PUMP & PVC PUMP BASIN SCHEMATIC

3-FLOAT DUPLEX



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NO.	DATE	BY	REVISIONS

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Feb 07, 2024
JEFFREY E. DUFFY — STATE OF WASHINGTON — 39704 REGISTERED PROFESSIONAL ENGINEER

CIVIL ENGINEERING SOLUTIONS
701 N 36th STREET, SUITE 450 SEATTLE, WA 98103
PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

STORM PUMPS

DHALIWAL/KLAR RESIDENCE
7024 SE 20th STREET, MERCER ISLAND, WA 98040

DRAWING NO: C5.0

APN 735570-0172
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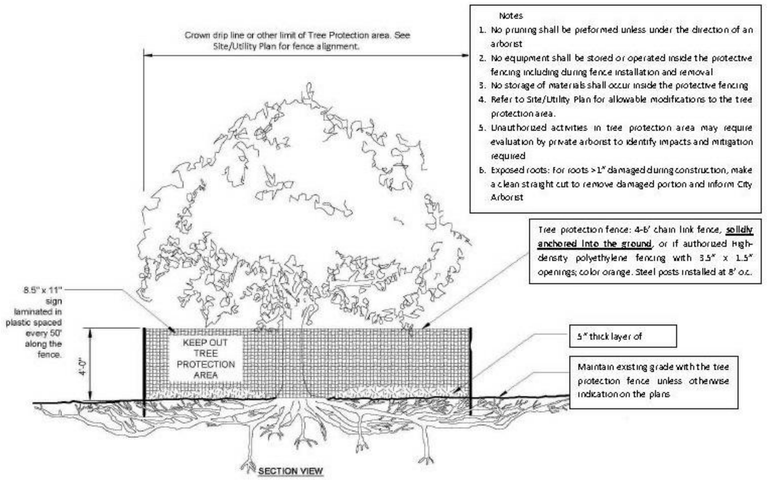
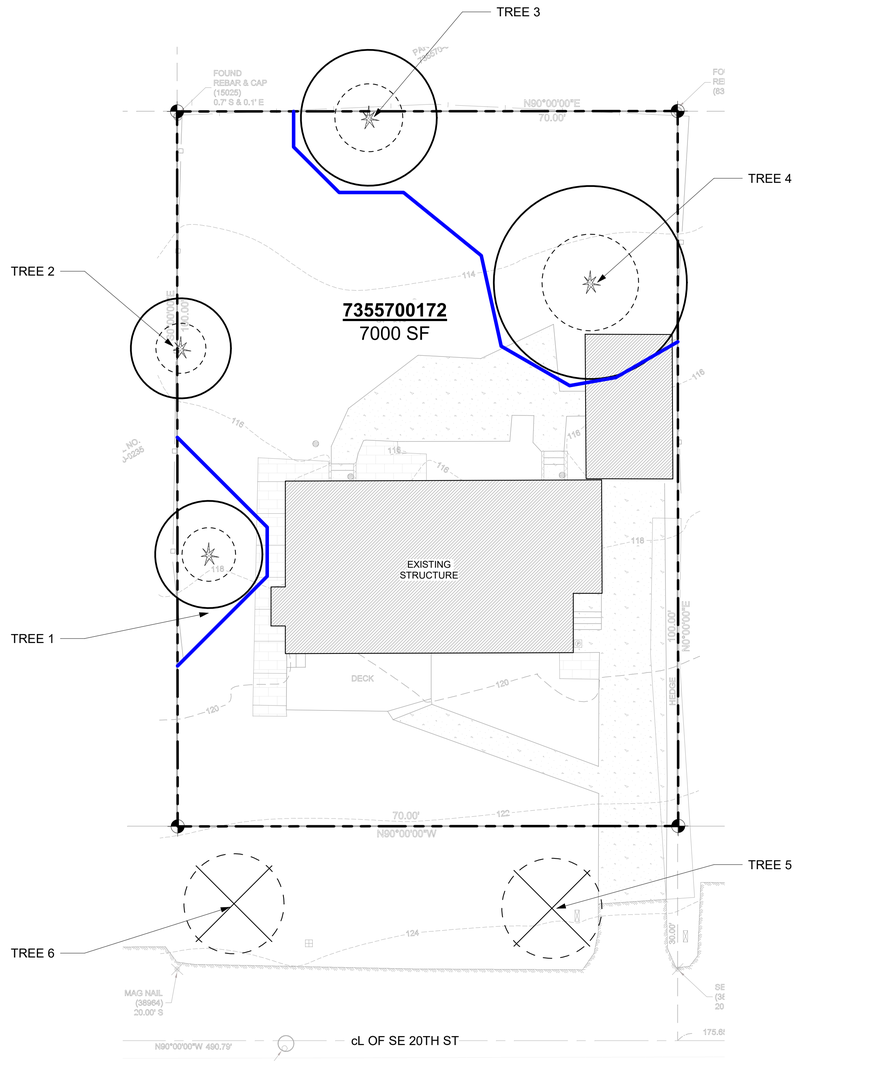


2 Mercer Island Tree Protection Detail
1/4" = 1'-0"

	TREE DRIP LINE (DL)
	DIAMETER STANDARD HEIGHT (DSH)
	EVERGREEN TREE
	DECIDUOUS TREE
	TREE TO BE REMOVED
	TREE PROTECTION FENCING
	NEW TREE



ARBORISTS SITE PLAN
1" = 10'-0"

0' 10' 20' 80'

NORTH

TREE #	TREE TYPE	DBH	DRIPLINE	CONDITION	RETAIN OR REMOVE	ADDITIONAL NOTES
1.	WESTERN RED CEDAR	30.6"	15	GOOD	RETAIN	
2.	LEYLAND CYPRESS	8"	14	GOOD	RETAIN	
3.	WESTERN RED CEDAR	34"	19	GOOD	RETAIN	
4.	WESTERN RED CEDAR	44"	27	FAIR	Retain	
5.	NORWAY SPRUCE	41"	21.2	POOR	REMOVE	OFFSITE - TOPPED
6.	WESTERN RED CEDAR	18"	15	POOR	REMOVE	OFFSITE - TOPPED - IVY

PREPARED BY:

NEAL BAKER
ARBORISTS NW.COM
ISA CERT. PN1075A
TRAQ ISA (TREE RISK ASSESSMENT QUALIFIED)
MEMBER AREA & SOCA
PH: 206 779 2579

arboristsNW

Arborists NW is a full spectrum arboricultural, consulting and landscape design and installation provider. When you think tree and landscape services, think Arborists NW.

ONLINE: https://arboristsnw.com/
PHONE: 206-779-2579
EMAIL: neal@arboristsnw.com

No.	Description	Date

7024 SE 20TH STREET, MERCER ISLAND 98040

ARBORIST TREE PLAN

Project number	22010
Date	04/02/24
Drawn by	CW
Checked by	NB
	X100
Scale	As indicated

4/4/2024 11:45:03 AM