

Donna Jean Brown Architect  
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THYGESEN RESIDENCE  
8109 SE 71ST STREET  
MERCER ISLAND, WA 98040

SUBMIT

DATE: 10/31/2024

SITE PLAN  
GENERAL NOTES  
PROJECT INFORMATION  
LOT SLOPE CALCULATION

REVISIONS

3-11-2025  
4-28-2025

3.  
4.

A-1

SHEET 1 OF 10

PROJECT INFORMATION:

ADDRESS: 8109 SE 71ST STREET, MERCER ISLAND, WA 98040  
OWNER: THYGESEN  
PHONE: 206-335-7477  
E-MAIL: DAN\_THYGESEN@MSN.COM  
PIERCE CO. A.P.N.: 283600-0130  
LEGAL: GOODBODYS TO MER ISLAND PLAT OF PLAT BLOCK: 2 PLAT LOT:6  
ZONING R-9.6  
LOT: 10,578 SF

PROJECT DESCRIPTION:  
REMODEL AND ADDITIONS TO EXISTING SINGLE FAMILY RESIDENCE. INCLUDES NEW ENTRY, EXPANDING THE GARAGE AND CONVERTING A PORTION OF IT TO HABITABLE SPACE FOR EXERCISE ROOM. SECOND FLOOR ADDITION OF MASTER BEDROOM SUITE WITH BATHROOM AND NEW MEDIA ROOM. SITE LANDSCAPE WORK INCLUDES REMOVING OLD SURFACING AND RETAINING WALLS, REPLACING THE OLD DAMAGED DRIVEWAY WITH NEW CONCRETE, CLEANING UP DISTURBED PLANTING AREAS WITH NEW PLANTS

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 FIRE PERMIT WILL BE PROVIDED AS DEFERRED SUBMITTAL.

GENERAL NOTES

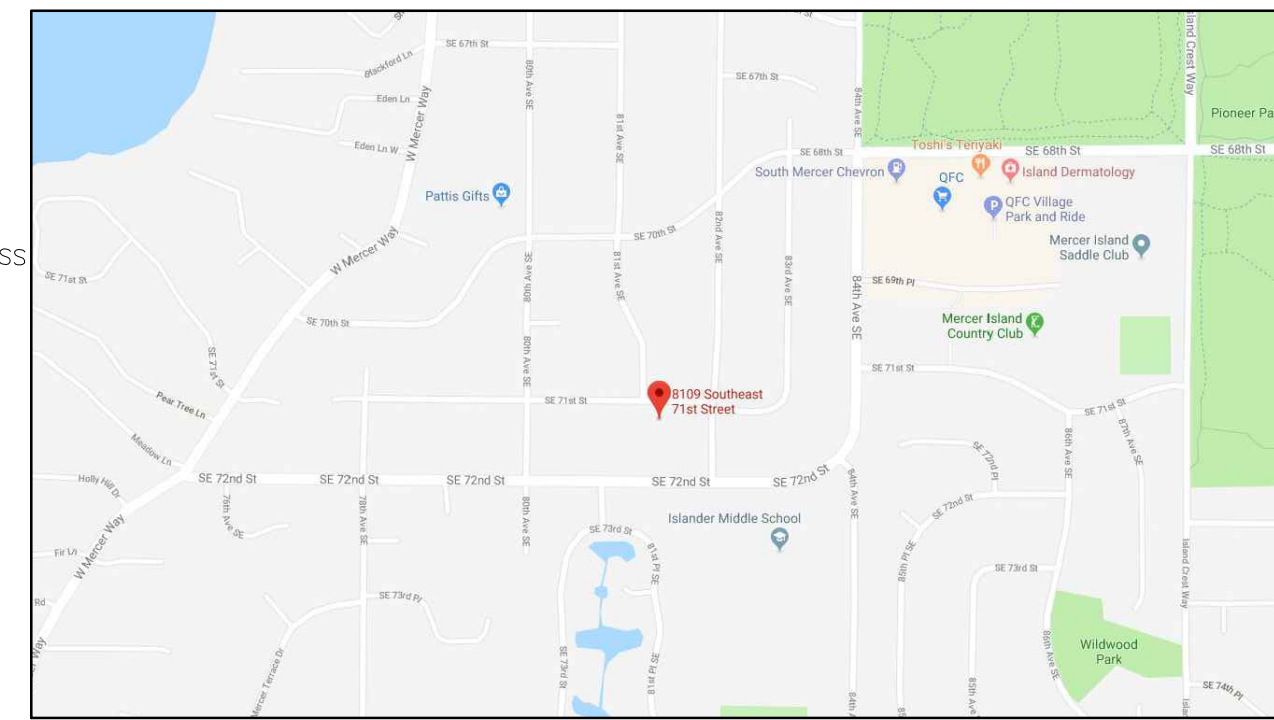
- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RESIDENTIAL BUILDING CODES AND ADDENDUMS AS ADOPTED BY THE CITY OF MERCER ISLAND, WA. NOTHING IN THESE DRAWINGS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING WITH GOVERNING CODES. CONTRACTOR SHALL COORDINATE WITH CITY OF EDGWOOD DEPT. OF PLANNING & DEVELOPMENT TO OBTAIN ALL REQUIRED INSPECTIONS.
- 2. WORK TO COMPLY WITH WASHINGTON STATE CODE FOR RESIDENTIAL ENERGY EFFICIENCY SECTIONS INDICATED AS "MANDATORY" AND WITH EITHER SECTIONS IDENTIFIED AS "PRESCRIPTIVE" OR THE PERFORMANCE APPROACH IN SECTION R405. AND SECTION R406 OF THE INTERNATIONAL RESIDENTIAL CODE.
- 3. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS; CLEARANCES, BUILDING AND SITE CONDITIONS BEFORE COMMENCING WORK. REPORT ALL DISCREPANCIES, ERRORS, AMBIGUITIES AND/OR OMISSIONS TO THE ARCHITECT.
- 4. SECURITY REQUIREMENTS: MIN. 1/2" THROW DEADBOLT OR DEAD LATCH FOR EXTERIOR DOORS. ALL LOCKS MUST BE ABLE TO BE OPENED FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. WINDOWS WITHIN 10' OF GRADE OR ACCESSIBLE DECK CAPABLE OF BEING LOCKED.
- 5. ALL SMOKE AND CARBON MONOXIDE DETECTORS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING AND BE EQUIPPED WITH A BATTERY BACK-UP.
- 6. WHOLE HOUSE VENT SYSTEM PER URC TABLE M 1507.3.3(1) SEE A-3 FOR CALCULATION & LOCATION ON FLOOR PLAN

GOVERNING CODE

- 2021 INTERNATIONAL BUILDING CODE (IBC)
- 2021 INTERNATIONAL RESIDENTIAL CODE (IRC)
- 2021 INTERNATIONAL MECHANICAL CODE (IMC)
- 2021 INTERNATIONAL FUEL GAS CODE (IFGC)
- 2021 UNIFORM PLUMBING CODE (UPC)
- 2021 INTERNATIONAL FIRE CODE (IFC)
- 2021 INTERNATIONAL EXISTING BUILDING CODE
- 2021 INTERNATIONAL SWIMMING POOL AND SPA CODE
- WASHINGTON STATE ENERGY CODE (WSEC)
- WASHINGTON CITIES ELECTRICAL CODE (WCEC)
- ICC/ANSI A117.1-17, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, WITH STATEWIDE AND CITY AMENDMENTS

SHEET INDEX

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- S4.3 TYP LATERAL SECTIONS & DETAILS
- S4.4 SECTIONS & DETAILS



VICINITY MAP

ENERGY EQUALIZATION & ENERGY CREDITS

TOTAL SF: 2,600 SF  
MEDIUM DWELLING - 8 CREDITS REQUIRED TOTAL: 8.5 PT

R406.2 ENERGY EQUALIZATION CREDITS  
4. FOR HEATING SYSTEM USING A HEAT PUMP THAT MEETS FEDERAL STANDARDS FOR THE EQUIPMENT LISTED IN TABLE C403.3.2(2) OR C403.3.2(9) 3 PT

R406.3 ENERGY CREDITS  
2.1 AIR LEAKAGE CONTROL  
COMPLIANCE BASED ON SECTION R402.4.1.2; REDUCE THE TESTED AIR LEAKAGE TO 2.0 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS. ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1505.3 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 403.8 OF THE INTERNATIONAL MECHANICAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.65. 1.0 PT

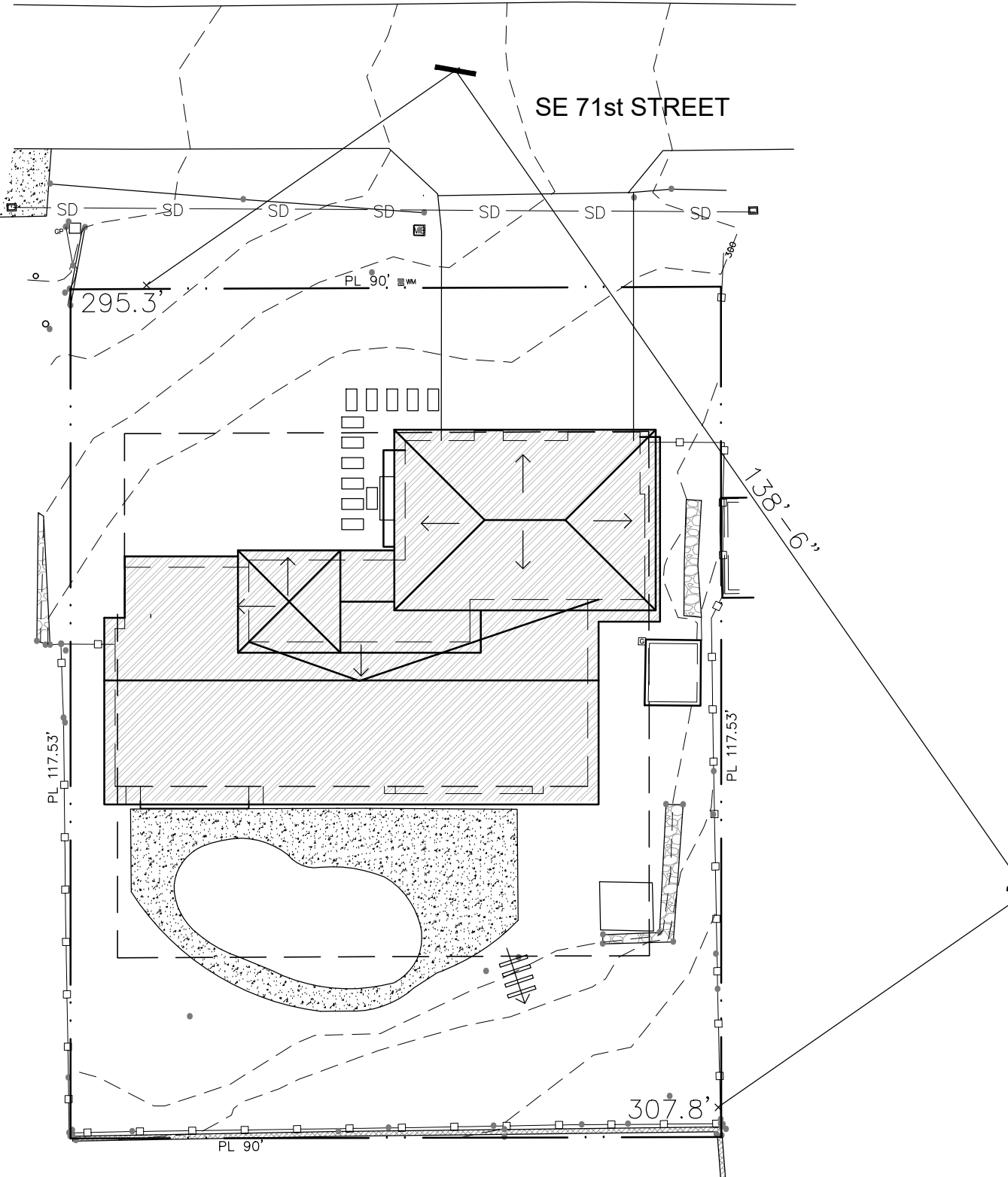
2.1.1 COMPLIANCE BASED ON SECTION R402.4.1.2; REDUCE THE TESTED AIR LEAKAGE TO 2.0 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS. ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1505.3 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 403.8 OF THE INTERNATIONAL MECHANICAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.65. 1.0 PT

3.3 HIGH EFFICIENT HVAC EQUIPMENT  
AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF2 OF 8.1 (HSPF OF 9.5). 0.5 PT

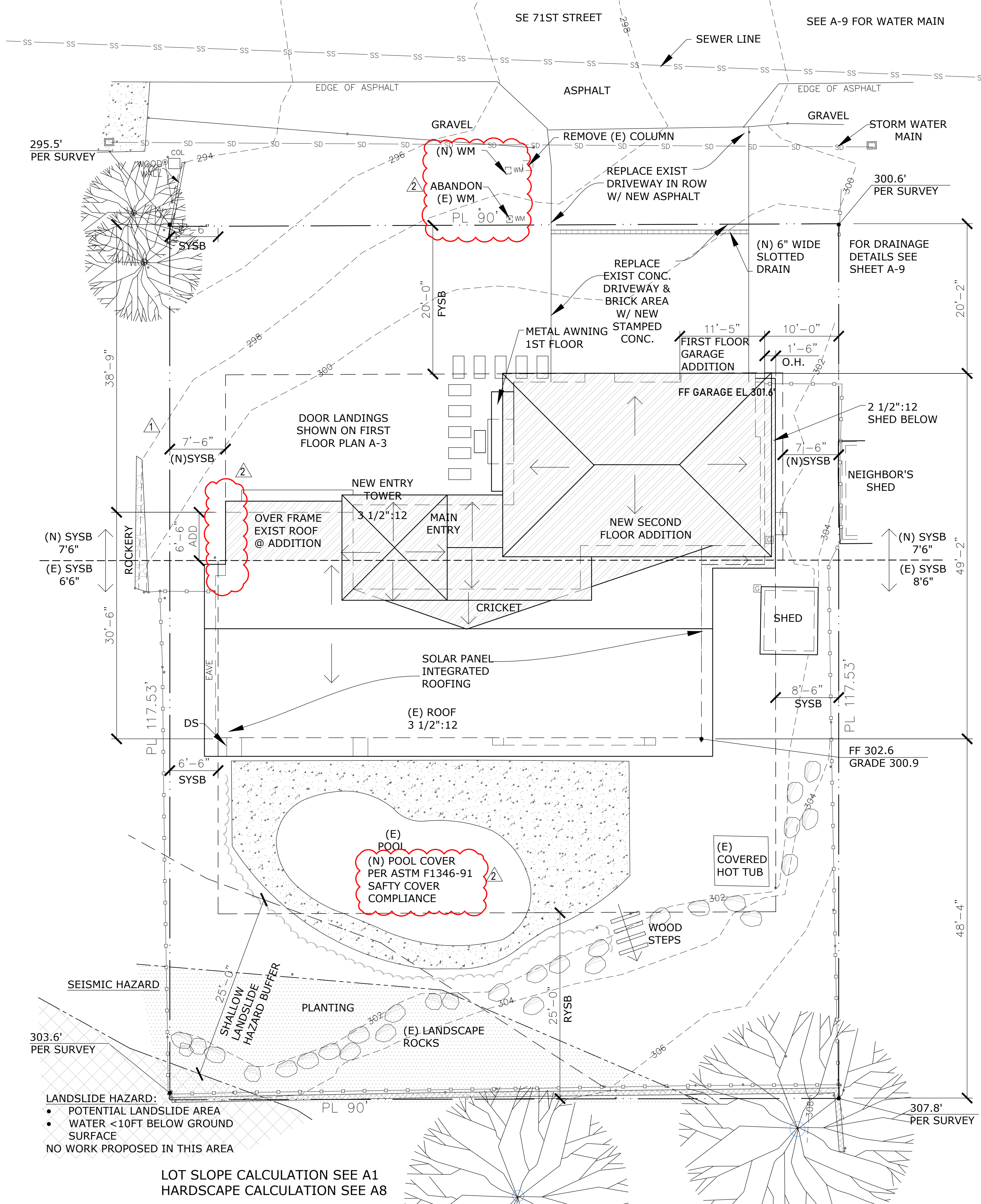
5.6 EFFICIENT WATER HEATING  
WATER HEATING SYSTEM SHALL INCLUDE ONE OF THE FOLLOWING: ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION 2.0 PT

6.1 RENEWABLE ELECTRIC ENERGY 2.0 PT

HIGHEST ELEVATION POINT OF LOT: 307.8 FEET  
LOWEST ELEVATION POINT OF LOT: 295.3 FEET  
ELEVATION DIFFERENCE: 12.5 FEET  
HORIZONTAL DISTANCE BETWEEN HIGH AND LOW POINTS: 138.5'  
LOT SLOPE: 9.03'



LOT SLOPE CALCULATION  
SCALE 1"=20'-0"

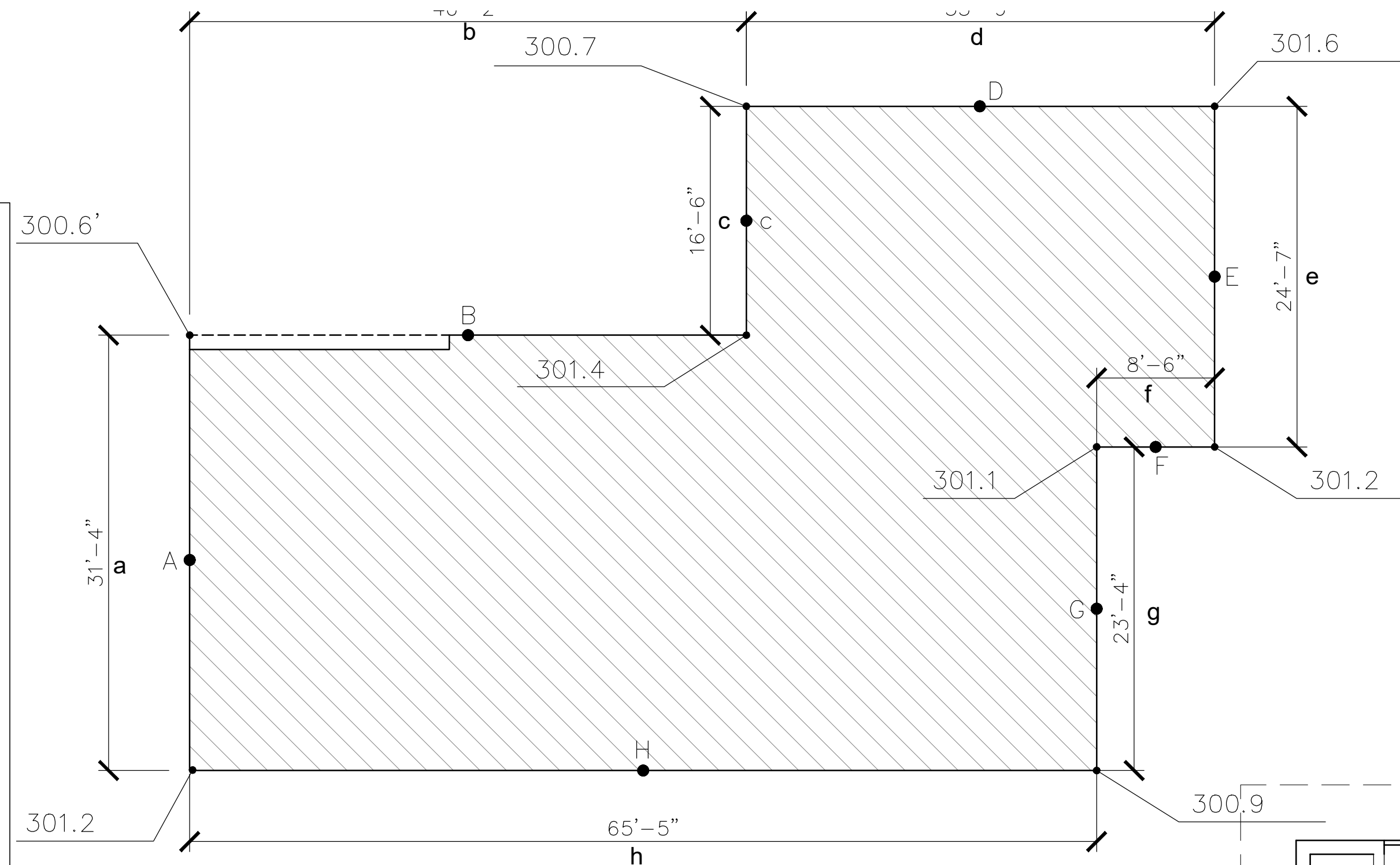
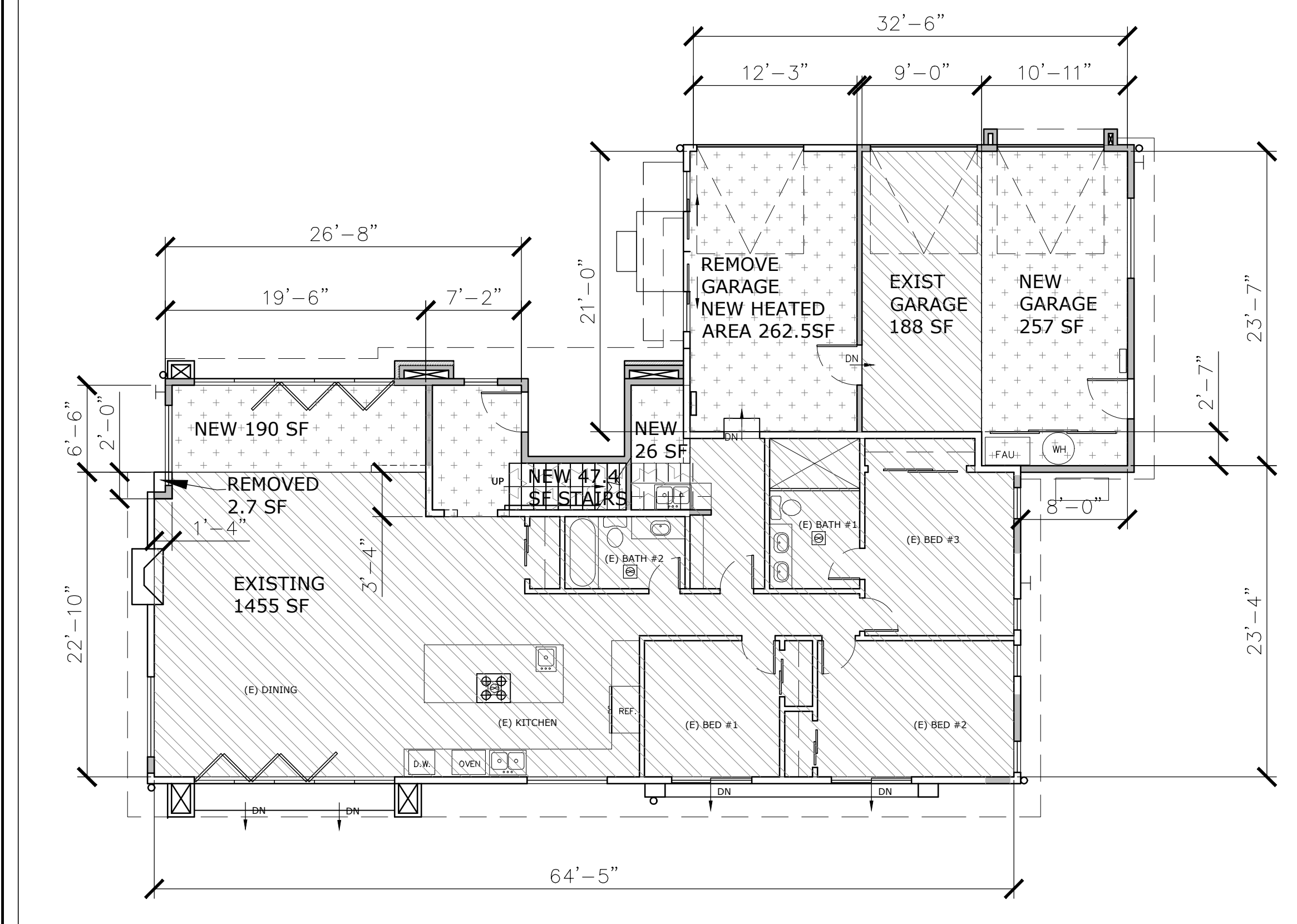
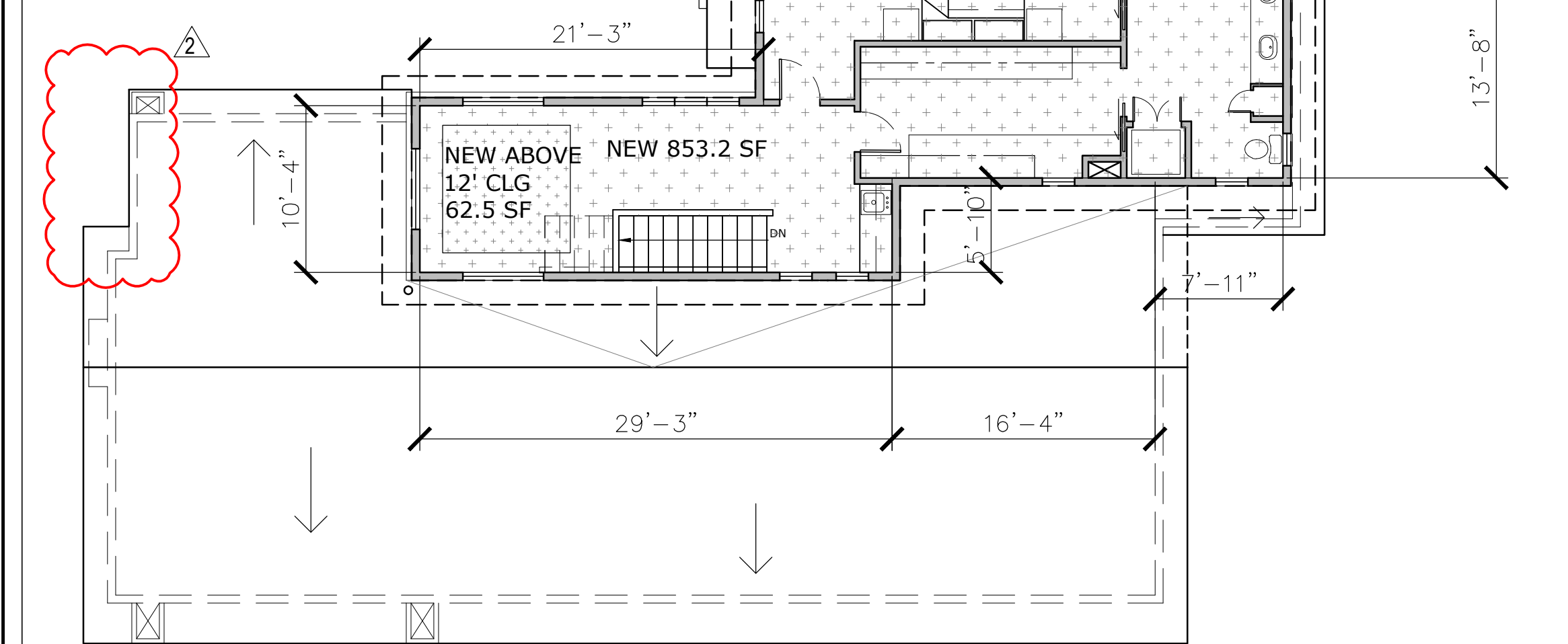


PROPOSED SITE/ROOF PLAN  
SCALE 1/8"=1'-0"

LANDSLIDE HAZARD:  
• POTENTIAL LANDSLIDE AREA  
• WATER <10FT BELOW GROUND SURFACE  
NO WORK PROPOSED IN THIS AREA

LOT SLOPE CALCULATION SEE A1  
HARDSCAPE CALCULATION SEE A8

GROSS FLOOR AREA CALCULATION:  
 EXISTING AREA: 1,905.5 SF  
 REMOVED AREA: -265.2 SF  
 STAIRS: 47.7 SF  
 NEW/ ADDITION AREA: 1,588.7 S.F.  
 CEILING HEIGHT UNDER 12': 93.75 S.F.  
 CEILINGS HEIGHT BETWEEN 12'-16' (150%): 3,370 SF  
 TOTAL: 3,370 SF



$$(Axa)+(Bxb)+(Cxc)+(Dxd)+(Exe)+(Fxf)+(Gxg)+(Hxh)$$

$$a+b+c+d+e+f+g+h$$

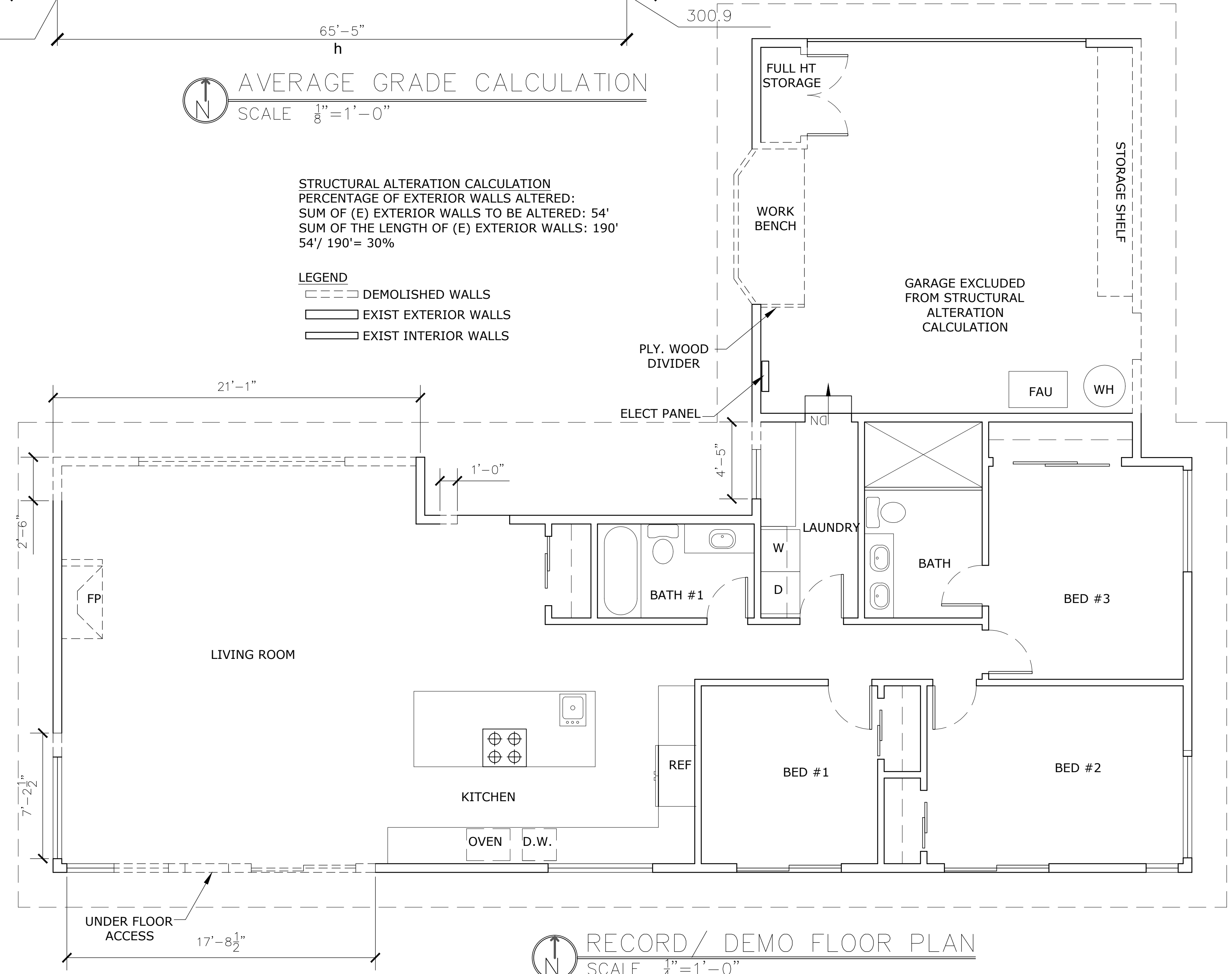
$$\frac{73,316}{244} = \text{AVERAGE GRADE} = 300.5$$

MIDPOINT ELEVATION	WALL LENGTH
A= 300.9'	a= 31.3'
B= 301'	b= 40.17'
C= 301'	c= 16.5'
D= 301.15'	d= 33.75'
E= 301.4'	e= 24.6'
F= 301.15'	f= 8.5'
G= 301'	g= 23.3'
H= 301.05'	h= 65.4'

AVERAGE GRADE CALCULATION  
 SCALE 1/8" = 1'-0"

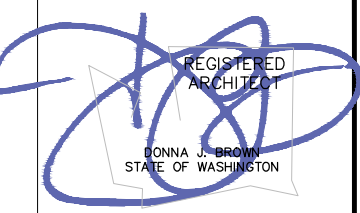
STRUCTURAL ALTERATION CALCULATION  
 PERCENTAGE OF EXTERIOR WALLS ALTERED:  
 SUM OF (E) EXTERIOR WALLS TO BE ALTERED: 54'  
 SUM OF THE LENGTH OF (E) EXTERIOR WALLS: 190'  
 54'/190' = 30%

- LEGEND
- DEMOLISHED WALLS
  - EXIST EXTERIOR WALLS
  - EXIST INTERIOR WALLS



RECORD/ DEMO FLOOR PLAN  
 SCALE 1/4" = 1'-0"

GFA CALCULATIONS  
 SCALE 1/8" = 1'-0"



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EXIST FLOOR PLANS AVERAGE GRADE CALCULATION
REVISIONS
2-19-2025
4/28/2025
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5.

A-2

LEGEND:

- EXIST EXTERIOR WALLS
- EXIST INTERIOR WALLS
- NEW INTERIOR WALLS  
2x4@16" O.C. W/1/2"

- (E) EXISTING
- EXHAUST FAN 80 CFM MIN

- SMOKE DETECTOR
- SMOKE & CARBON MONOXIDE DETECTOR

ALL SMOKE ALARMS & CARBON MONOXIDE ALARMS ARE HARDWIRED AND INTERCONNECTED

OUTSIDE DIMENSIONS TO FACE OF FRAMING

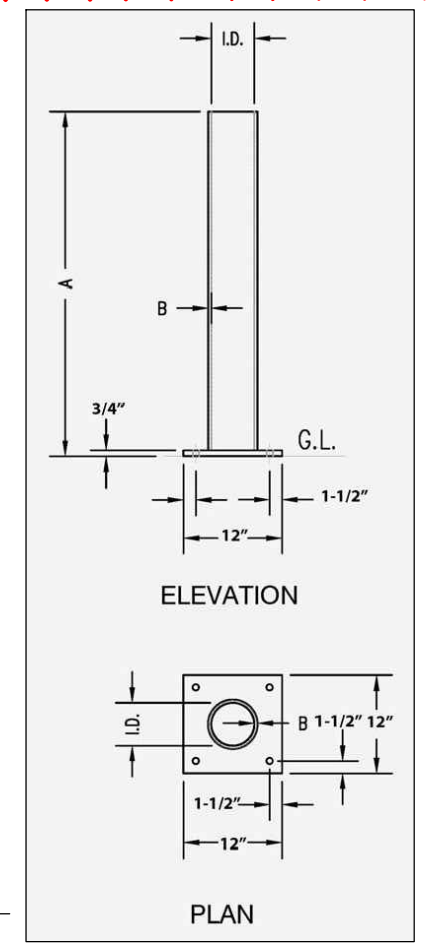
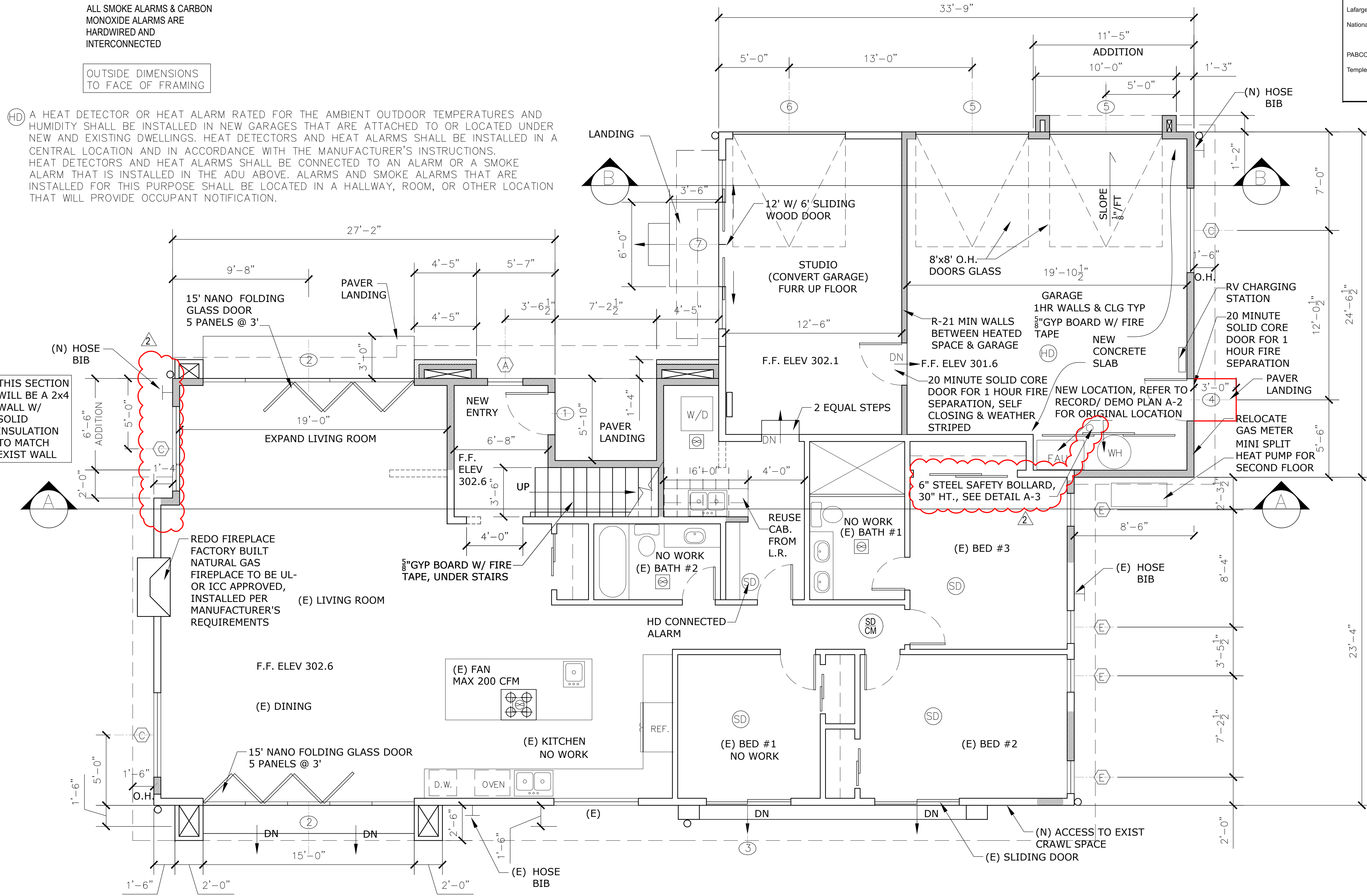
(HD) A HEAT DETECTOR OR HEAT ALARM RATED FOR THE AMBIENT OUTDOOR TEMPERATURES AND HUMIDITY SHALL BE INSTALLED IN NEW GARAGES THAT ARE ATTACHED TO OR LOCATED UNDER NEW AND EXISTING DWELLINGS. HEAT DETECTORS AND HEAT ALARMS SHALL BE INSTALLED IN A CENTRAL LOCATION AND IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HEAT DETECTORS AND HEAT ALARMS SHALL BE CONNECTED TO AN ALARM OR A SMOKE ALARM THAT IS INSTALLED IN THE ADU ABOVE. ALARMS AND SMOKE ALARMS THAT ARE INSTALLED FOR THIS PURPOSE SHALL BE LOCATED IN A HALLWAY, ROOM, OR OTHER LOCATION THAT WILL PROVIDE OCCUPANT NOTIFICATION.

ALL EXISTING ROOF WALL & FLOOR CAVITIES EXPOSED DURING CONSTRUCTION SHALL BE FILLED WITH INSULATION 2x4 WALLS TO MIN R-15, R-21 IN 2x6 WALLS

ALL NEW HEATING & COOLING SYSTEMS TO MEET WSEC SECTION 403

CONTINUOUS WHOLE-HOUSE VENTILATION CALCULATION  
FLOOR AREA = 3522.9 SF  
NUMBER OF BEDROOMS = 4  
MIN. AIRFLOW 90 CFM

GA FILE NO. WP 8109	PROPRIETARY*	1 HOUR FIRE
<p><b>Gypsum Panel Products, Fiber-Cement Siding, Wood Studs</b></p> <p>EXTERIOR SIDE: Base layer 1/4" proprietary type X gypsum sheathing or glass mat gypsum substrate applied parallel to 2 x 4 wood studs 16" o.c. with 1 1/4" galvanized roofing nails 4" o.c. at vertical joints and 7" o.c. at intermediate studs and top and bottom plates. Joints of gypsum sheathing may be left untreated. Face layer 1/4" proprietary fiber-cement siding fastened through sheathing to studs. 3 1/2" unfaced glass fiber friction fit in stud space.</p> <p>INTERIOR SIDE: One layer 5/8" proprietary type X gypsum wallboard, glass mat gypsum substrate, water-resistant gypsum backing board, or gypsum veneer base applied parallel or at right angles to studs with 6d coated nails, 1 7/8" long, 0.0915" shank, 1/4" heads, 7" o.c. (LOAD BEARING)</p> <p>Thickness: 5 1/4" Approx. Weight: 9 psf See WP 3510 UL R3501-47, -48, 9-17-65, UL Design U309, UL R-1319-129, 7-22-70, UL Design U314)</p>		
<p><b>PROPRIETARY GYPSUM PANEL PRODUCTS</b></p> <p>American Gypsum Company LLC - 5/8" FireBloc® Type X 5/8" Exterior Sheathing Type X CertainTeed Gypsum Inc. - 5/8" CertainTeed® Type X Gypsum Board 5/8" GlasRoc® Sheathing Type X Gypsum Panels Georgia Pacific Gypsum LLC - 5/8" DensArmor Plus® Fireguard® Interior Panel 5/8" DensGlass® Fireguard® Sheathing Lafarge North America Inc. - 5/8" Firecheck® Type X 5/8" Weather Defense® Platinum Sheathing National Gypsum Company - 5/8" Gold Bond® Brand FIRE-SHIELD® Gypsum Board 5/8" Gold Bond® Brand FIRE-SHIELD® Gypsum Sheathing PABCO Gypsum - 5/8" FLAME CURB® Type X 5/8" Exterior Gypsum Sheathing Type X Temple-Inland - 5/8" Type X 5/8" GreenGlass Type X</p>		



**SAFETY AND SECURITY NOTES:**

STAIRWAYS TO MEET THE FOLLOWING REQUIREMENTS:  
OCCUPANCIES LESS THAN 10  
STAIR WIDTH: 36" (MINIMUM)  
TREAD WIDTH 10" (MINIMUM)  
RISER HEIGHT 7 3/4" (MAXIMUM)  
HEADROOM 80" (MINIMUM)  
HANDRAIL HEIGHT 34" TO 38" ABOVE NOSING  
HANDRAIL GRASP 1-1/2" (MIN.) TO 2" (MAX.)

HANDRAIL AND GUARDRAIL INTERMEDIATE MEMBERS SHALL BE CONFIGURED AS TO PROHIBIT PASSING A 4" DIAMETER SPHERE THROUGH ANY OPENING.

GUARDRAILS SHALL BE A MINIMUM OF 36" ABOVE FINISH FLOOR. GUARDRAILS SHALL BE DESIGNED TO RESIST A 200 LB CONCENTRATED LOAD ON THE TOP RAIL AND 50 LB LOAD OVER A 12"x12" AREA ON ALL GUARDRAIL INFILL COMPONENTS. (SRC R301.5)

**EXTERIOR DOOR & WINDOW SCHEDULE/ GLAZING CALCULATIONS**

WINDOWS TO BE NFRC CERTIFIED WITH ATTACHED LABELS;  
GLAZING TO BE DOUBLE-PANED, ARGON FILLED, U = 0.22, DOORS U = 0.20, U.N.O.  
EGRESS: MIN. CLR. OPEN 5.7 SF; MIN. NET CLEAR HT. 24", W. 20"; 44" MAX. SILL HT.

SYM	LOCATION	DESCRIPTION	TEMPERE D	W	HT.	SF	QTY.	GLAZING AREA
1	MAIN ENTRY	FULL LIGHT SWING	X	3	7	21	1	21
2	DINING & LIVING ROOM	NANO FOLDING GLASS DOOR	X	15	7	105	2	210
3	BED #1	FULL LIGHT SLIDING	X	6	7	42	1	42
4	GARAGE	SWING	X	3	7	21	1	
5	GARAGE	O.H. DOORS	X	8	8	64	2	128
6	PILATES STUDIO	O.H. DOORS	X	8	7.5	60	1	60
7	PILATES STUDIO	WINDOW W/ 6' FULL LIGHT SLIDING	X	12	7.5	90	1	90
A	ENTRY	SINGLE HUNG, FIXED	X	2.5	3.5	8.75	1	8.75
B	LIVING ROOM, DINING, GARAGE	SLIDING		6	2	12	3	36
C	BED #2 & #3	CASEMENT, EGRESS		2.33	4	9.32	4	37.28
D	ENTRY TOWER	FIXED		5	6	30	3	90
E	BATH #3	DOUBLE HUNG	X	2	4	8	1	8
F	CLOSET, BATH #3, MEDIA ROO.	FIXED		2	2	4	4	16
G	BED #4	SLIDING	X	6	8.67	52.02	2	104.04
H	BATH #3	SLIDING	X	4.5	3	13.5	1	13.5
I	BED #4	SLIDING		4	2	8	1	8
J	MEDIA ROOM	SLIDING		6	2	12	1	12
TOTAL NEW GLAZING AREA								854.57
EXISTING GLAZING TO REMAIN								99.5
TOTAL GLAZING IN HEATED AREA:								954.07

GLAZING AREA: 892.92 SF/3,498 SF FLOOR AREA = 25.5% GLAZING

DOOR HARDWARE: MINIMUM 1" THROW ON DEADBOLT OR DEAD LATCH FOR ALL EXTERIOR DOORS. ALL LOCKS MUST BE ABLE TO BE OPENED FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL EFFORT. DOOR ROUGH OPENINGS TO BE 4-1/2" MIN. FROM ADJACENT WALL U.N.O.

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FIRST FLOOR PLAN, DOOR & WINDOW SCHEDULE

REVISIONS

2-19-2025

4-28-2025

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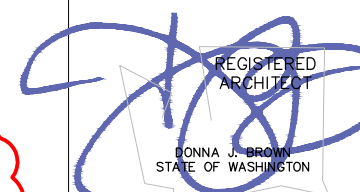
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**A-3**

SHEET 3 OF 9

FIRST FLOOR PLAN  
SCALE 1/4" = 1'-0"



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SECOND FLOOR PLAN

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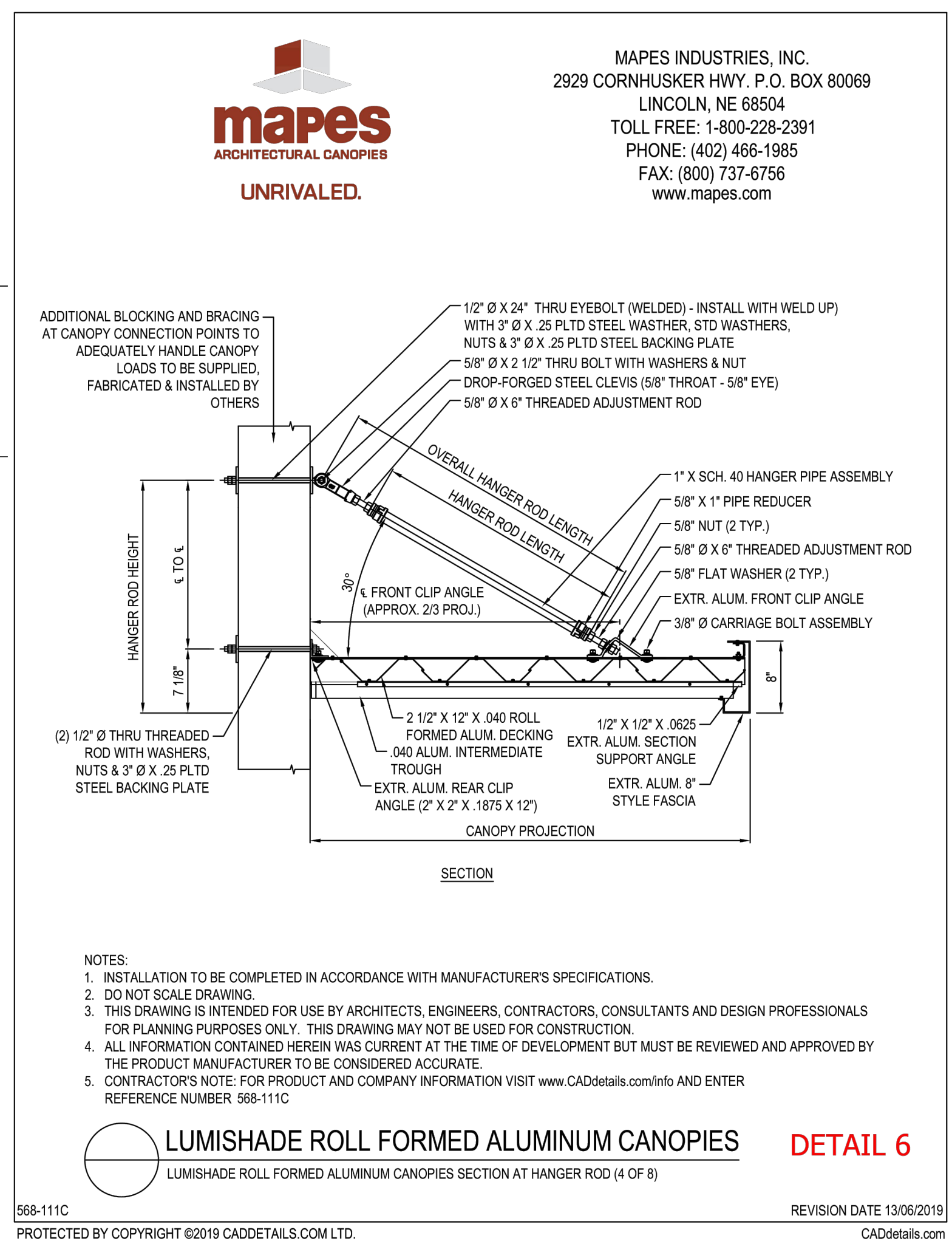
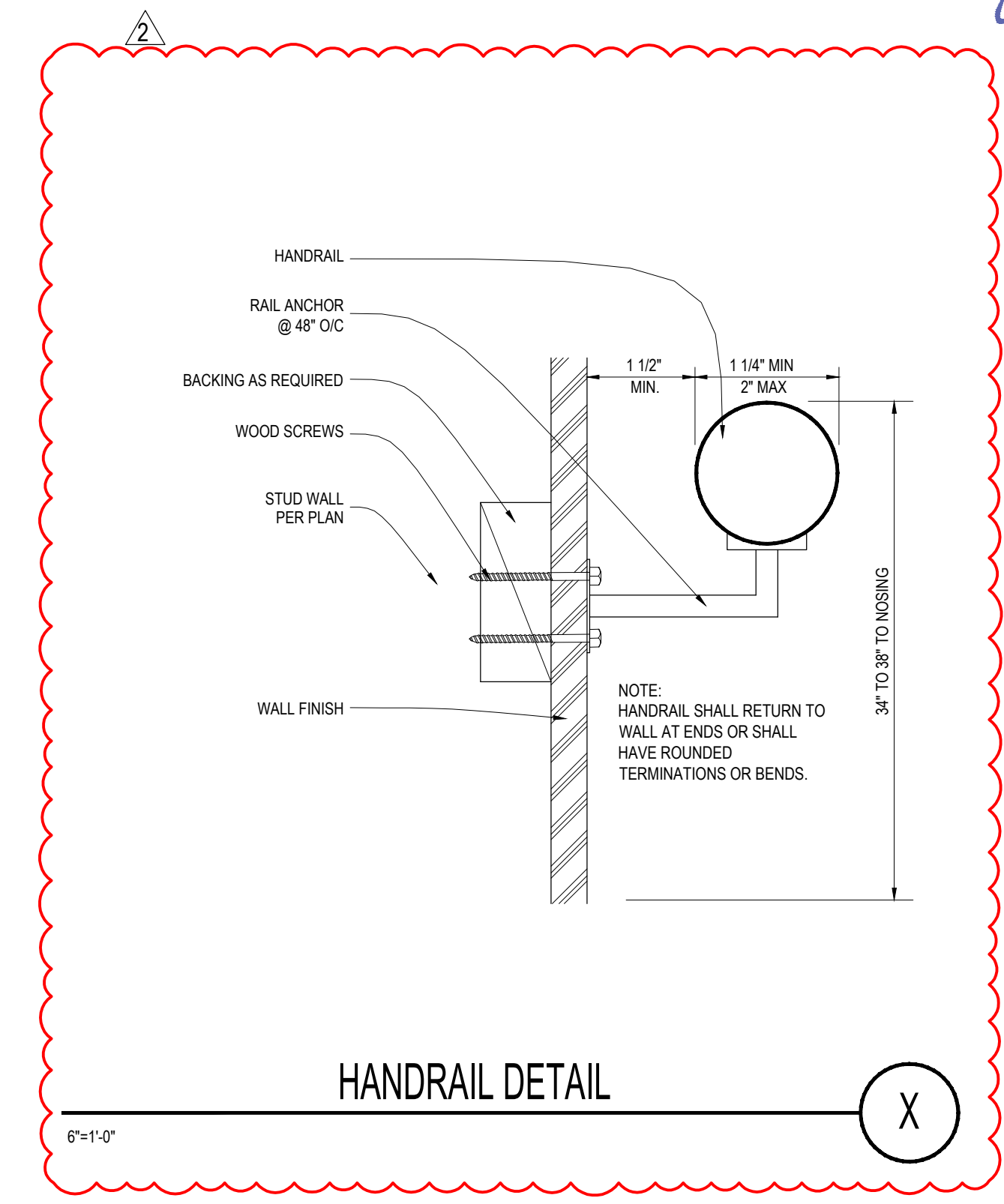
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**A-4**

SHEET 4 OF 9

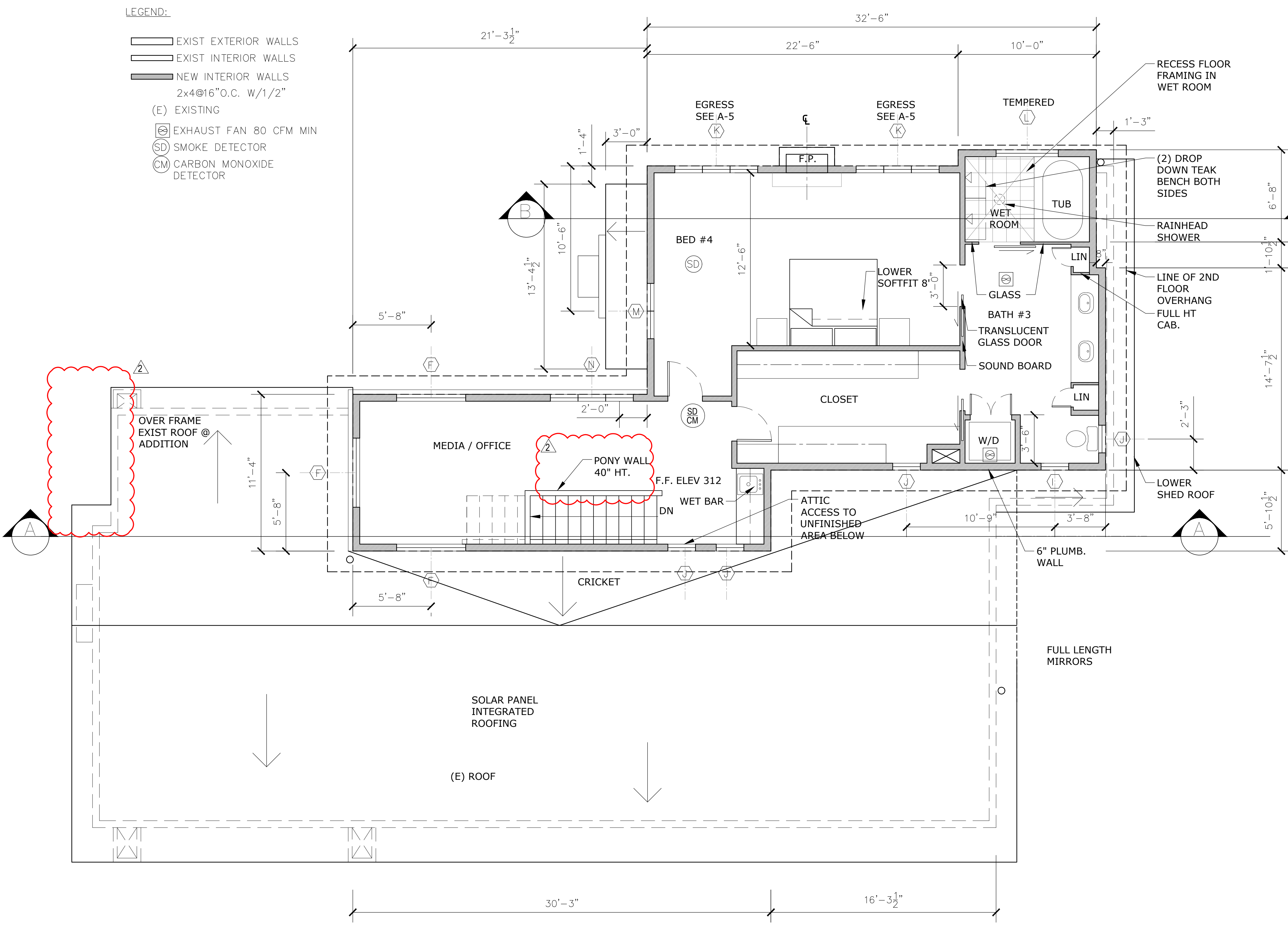


- NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  2. DO NOT SCALE DRAWING.
  3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
  4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
  5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT [www.CADdetails.com/info](http://www.CADdetails.com/info) AND ENTER REFERENCE NUMBER 568-111C

**LUMISHADE ROLL FORMED ALUMINUM CANOPIES** **DETAIL 6**  
 LUMISHADE ROLL FORMED ALUMINUM CANOPIES SECTION AT HANGER ROD (4 OF 8)

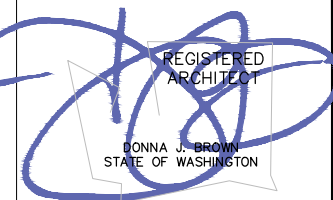
568-111C PROTECTED BY COPYRIGHT ©2019 CADDETAILS.COM LTD. REVISION DATE 13/08/2019 CADdetails.com

- LEGEND:**
- EXIST EXTERIOR WALLS
  - EXIST INTERIOR WALLS
  - NEW INTERIOR WALLS  
2x4@16" O.C. W/1/2"
  - (E) EXISTING
  - EXHAUST FAN 80 CFM MIN
  - SMOKE DETECTOR
  - CARBON MONOXIDE DETECTOR



**SECOND FLOOR PLAN**  
 SCALE 1/4" = 1'-0"

**METAL CANOPIES**  
 SCALE 1/4" = 1'-0"



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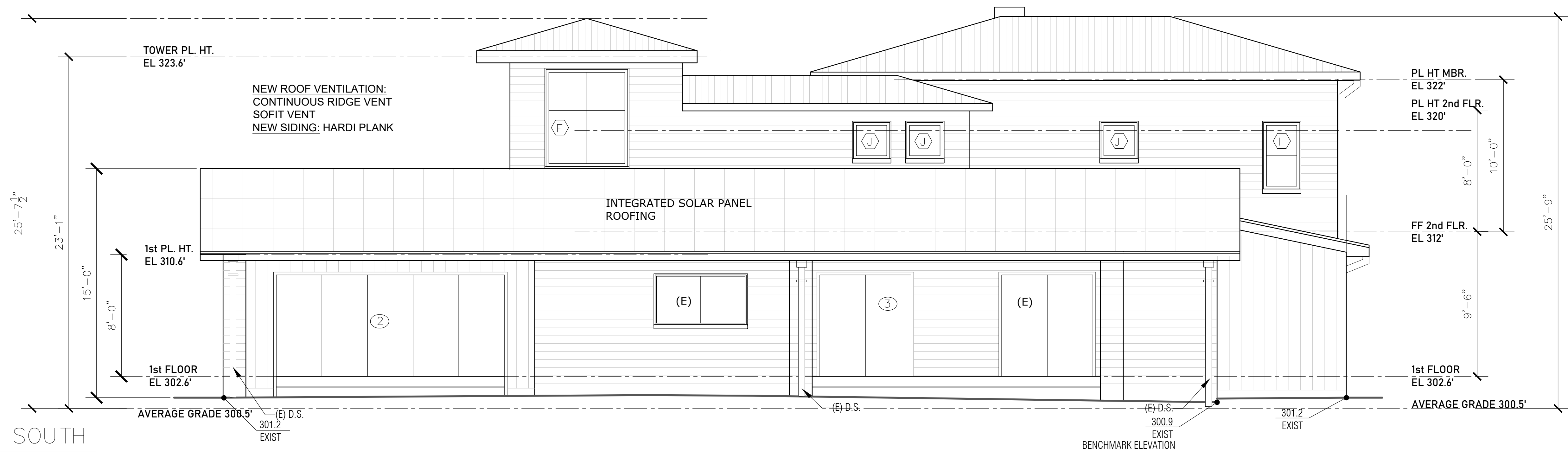
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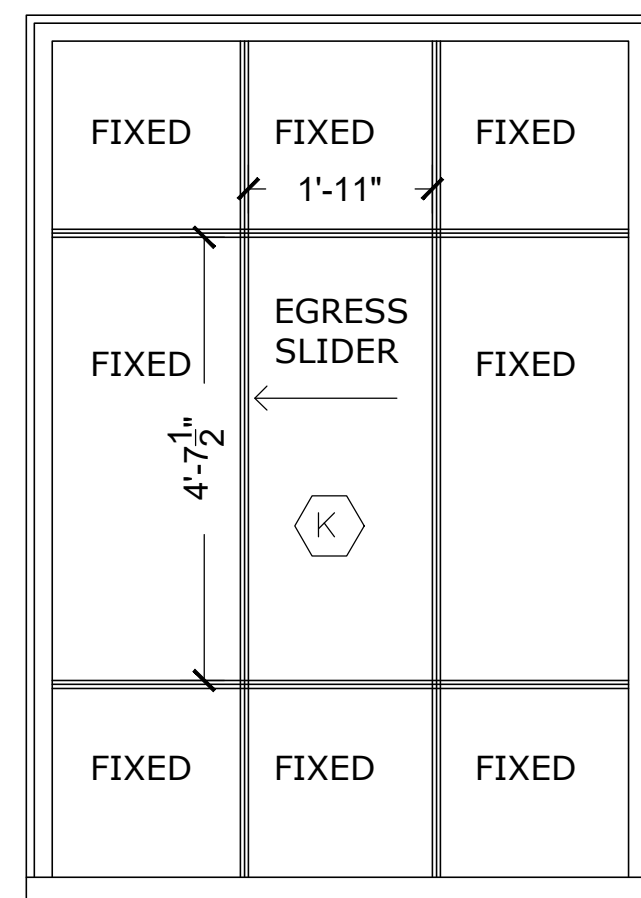
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**A-5**

SHEET 5 OF 9

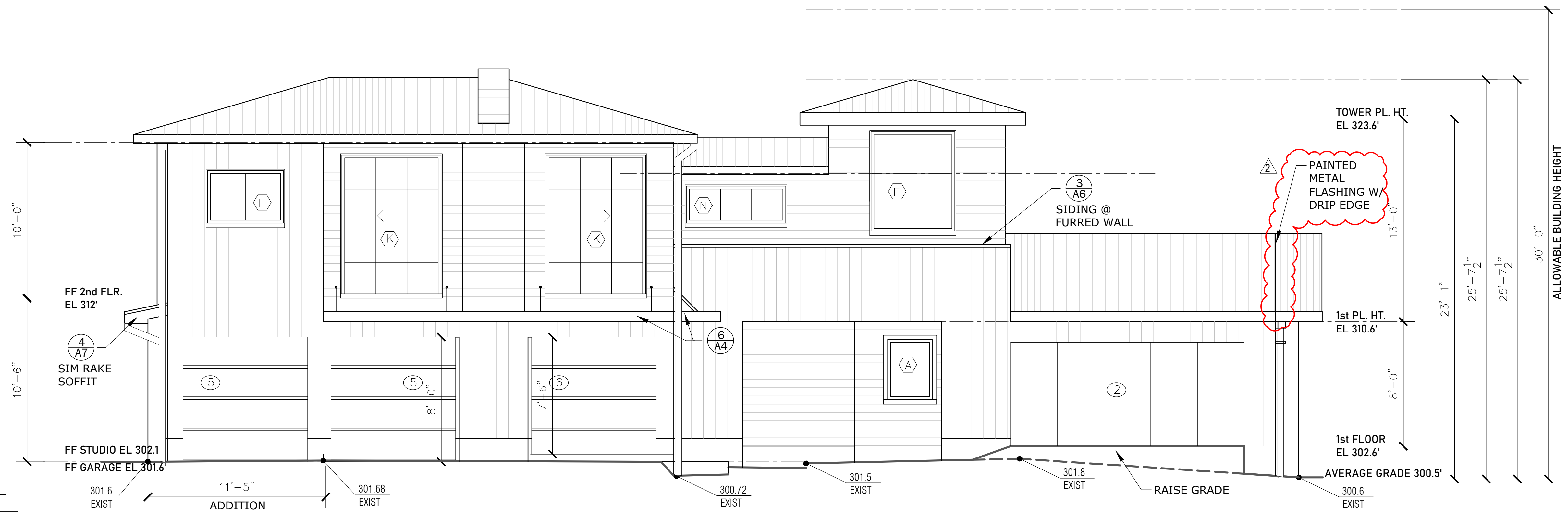


**ELEVATION SOUTH**  
 SCALE 1/4" = 1'



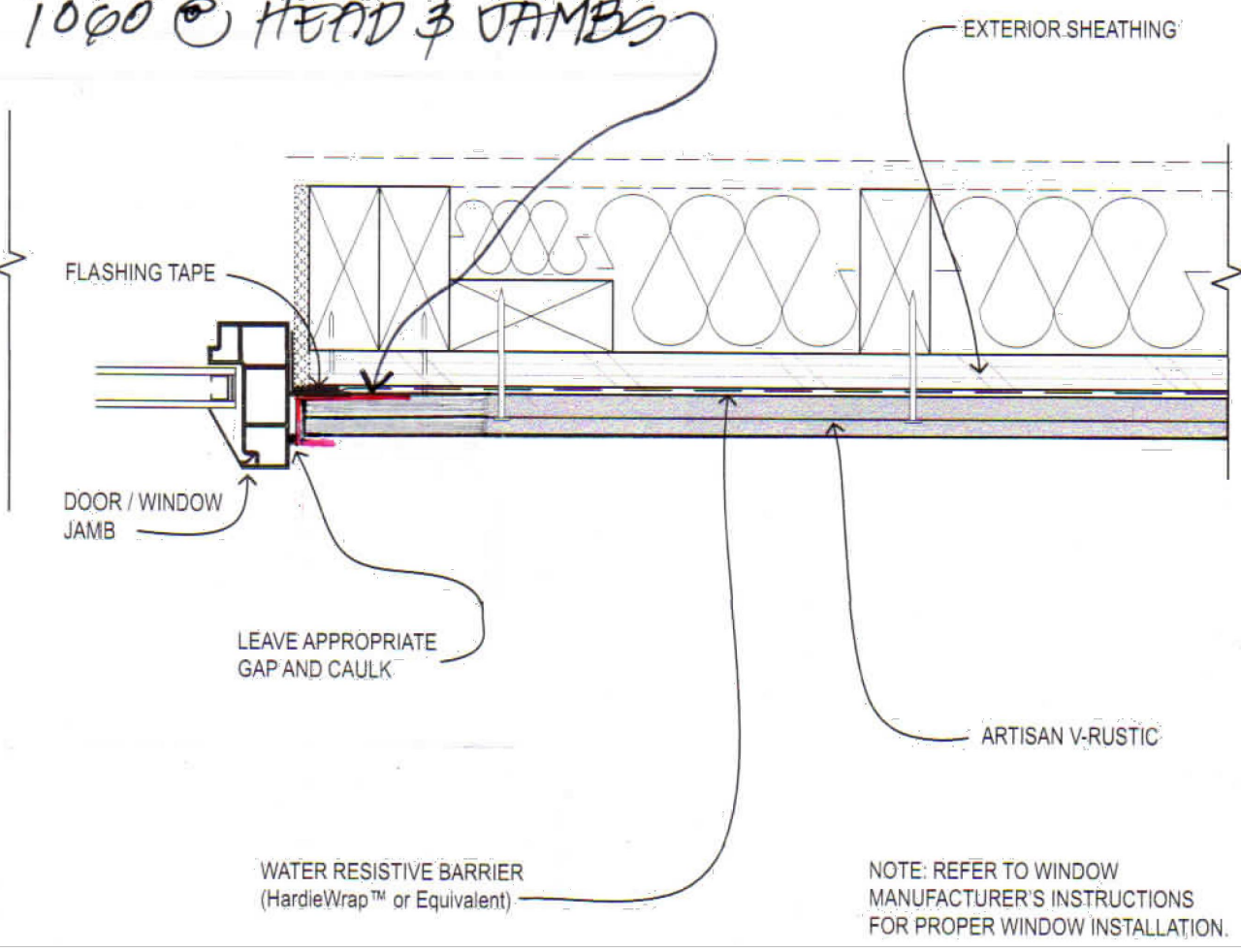
**DETAIL EGRESS WINDOW K FOR BED #4**

SCALE 1/2" = 1'

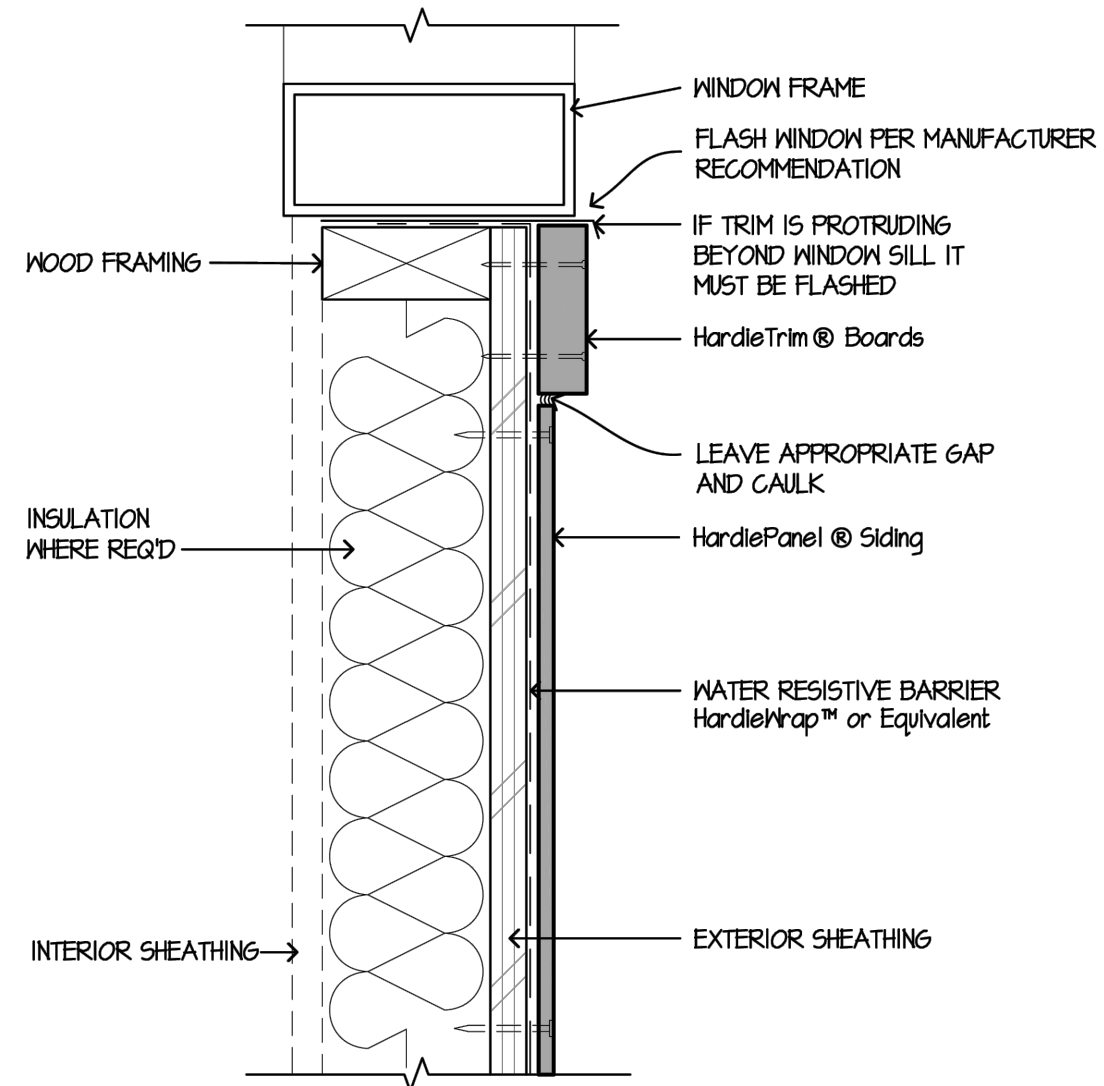


**ELEVATION NORTH**  
 SCALE 1/4" = 1'

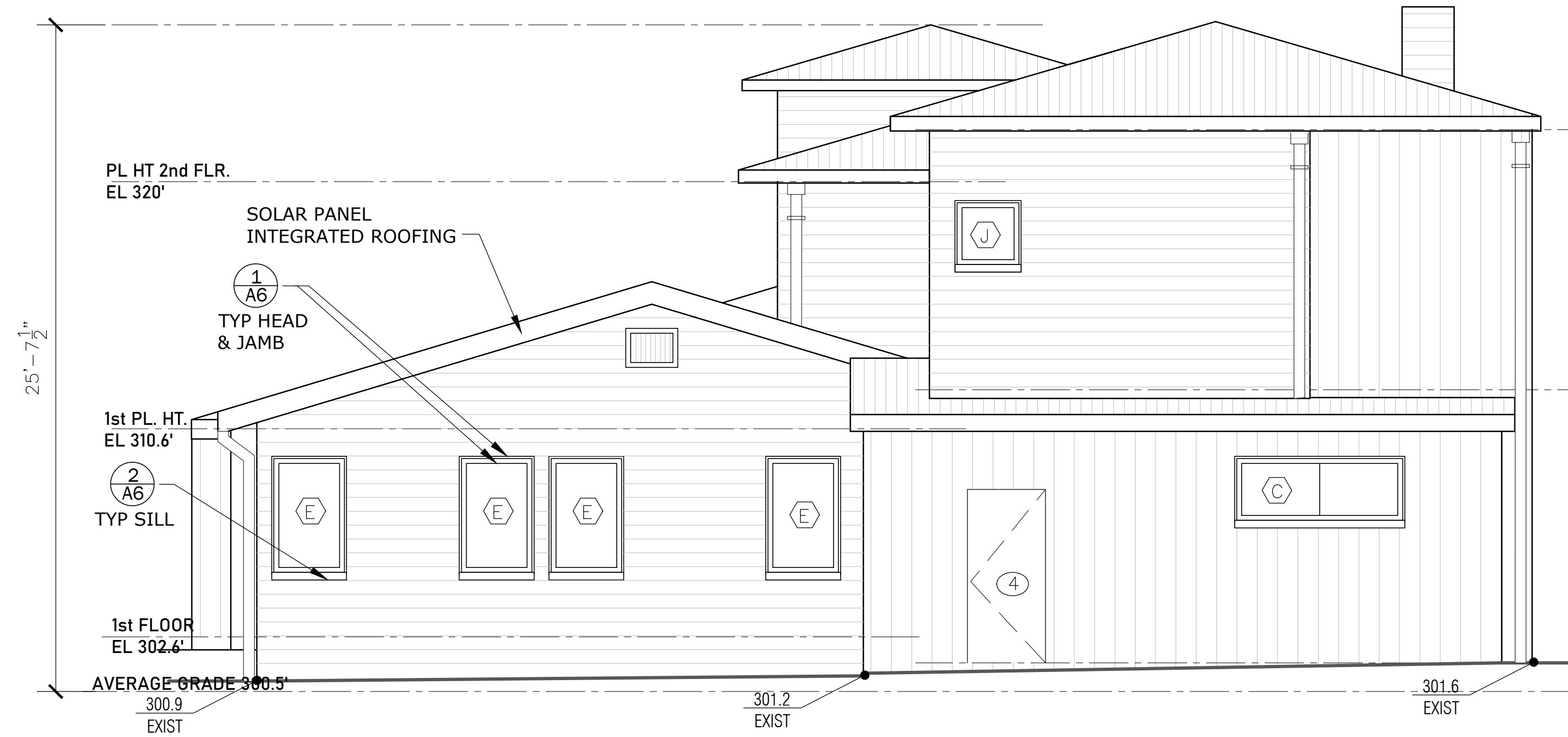
FRY REGLET TO CHANNEL  
1000 @ HEAD & JAMBS



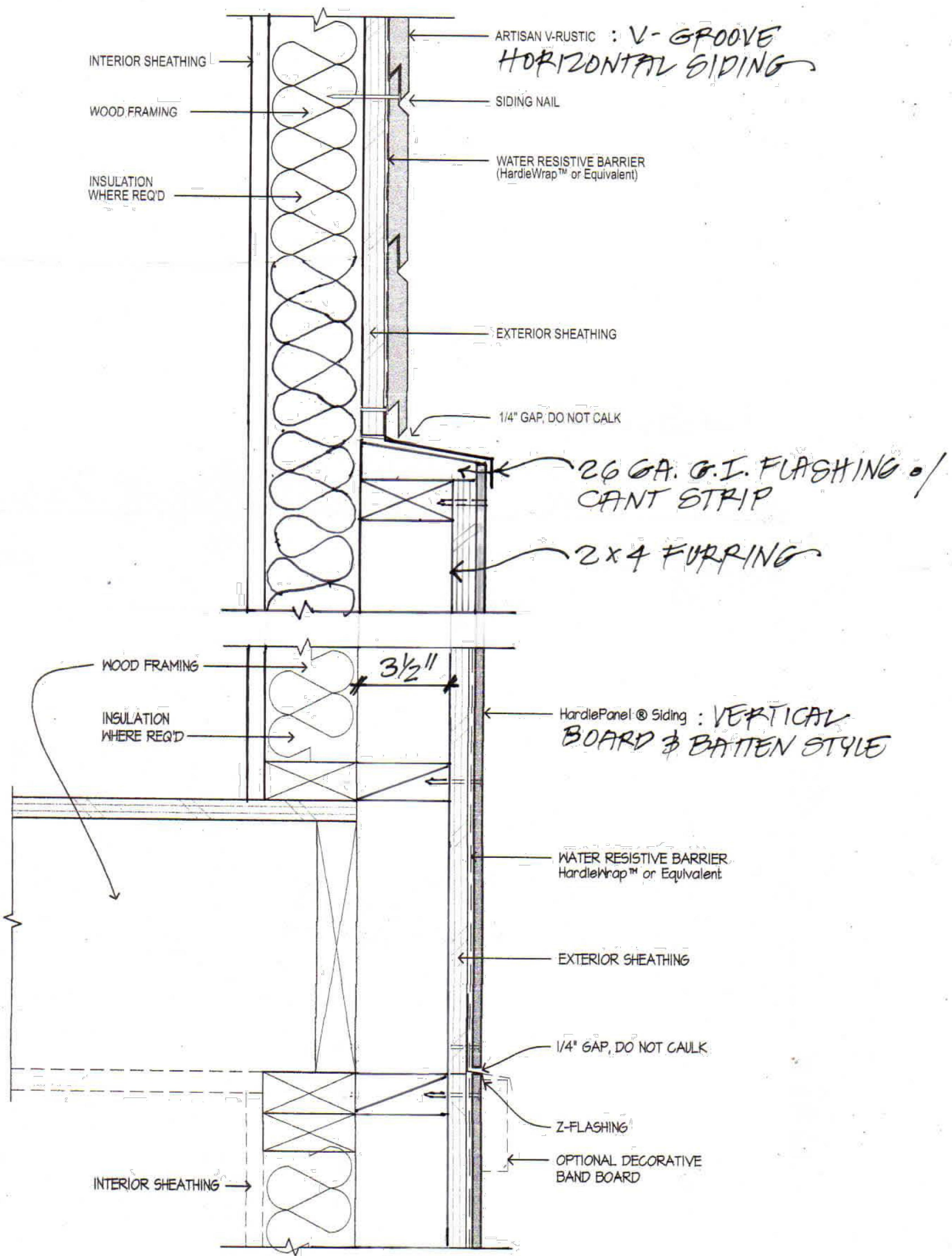
1 DOOR / WINDOW JAMB  
W/ METAL J CHANNEL  
N.T.S.



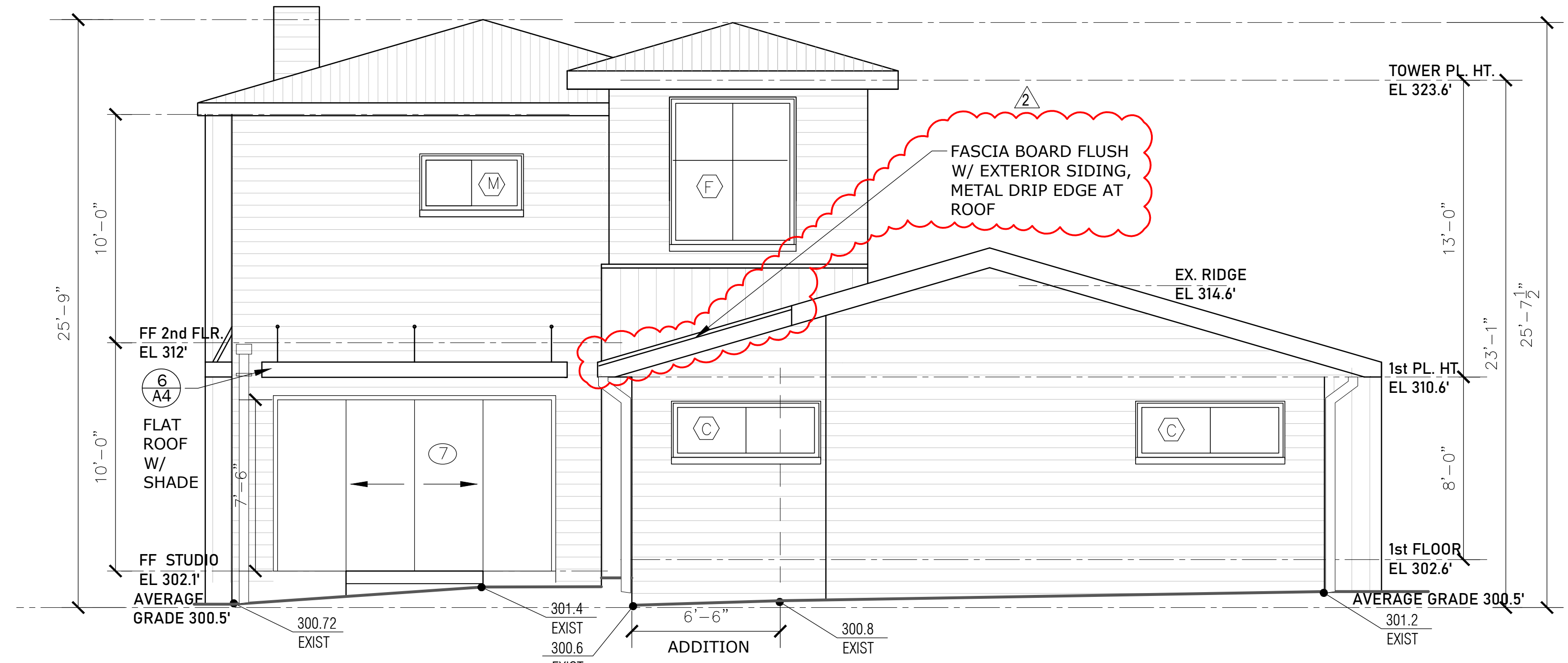
2 WINDOW SILL  
N.T.S.



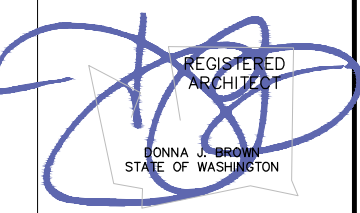
ELEVATION EAST  
SCALE 1/4" = 1'



3 SIDING @ FURRED WALL  
N.T.S.



ELEVATION WEST (RIGHT)  
SCALE 1/4" = 1'



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THYGESEN RESIDENCE  
8109 SE 71ST STREET  
MERCER ISLAND, WA 98040

SUBMIT

DATE: 7-31-2024

ELEVATIONS  
DETAILS

REVISIONS

2-19-2025

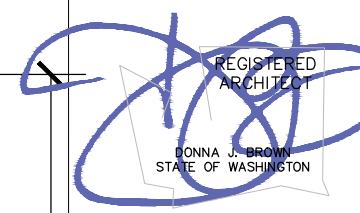
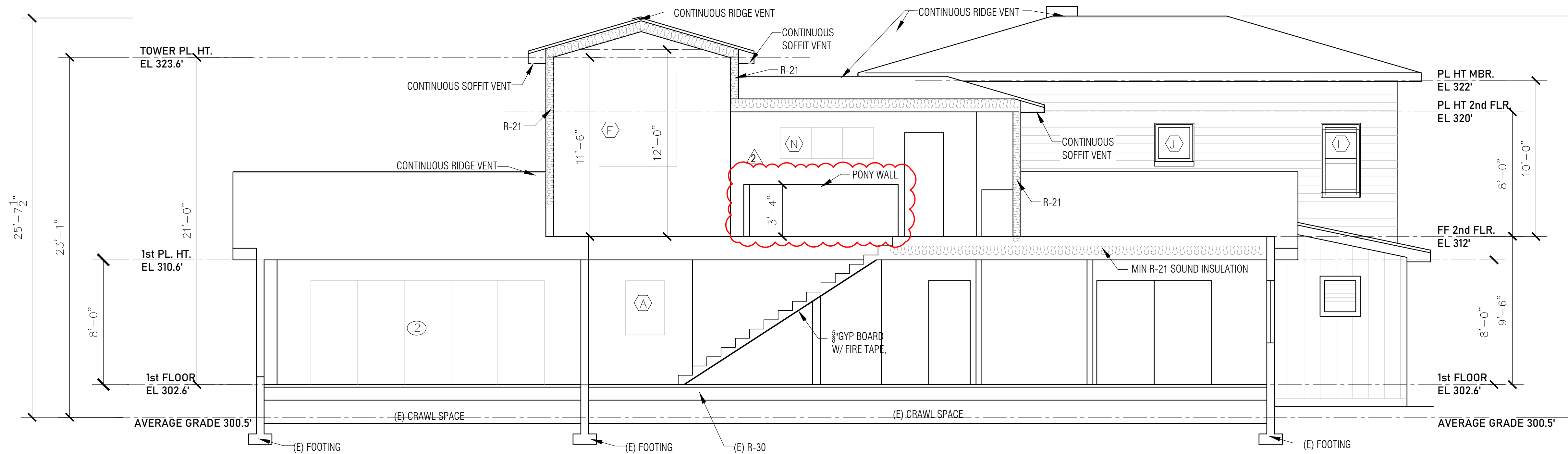
4-28-2025

3.

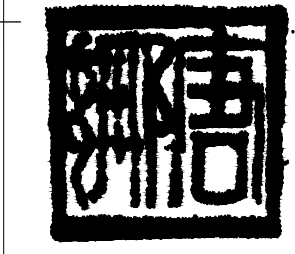
4.

A-6

SHEET 6 OF 9



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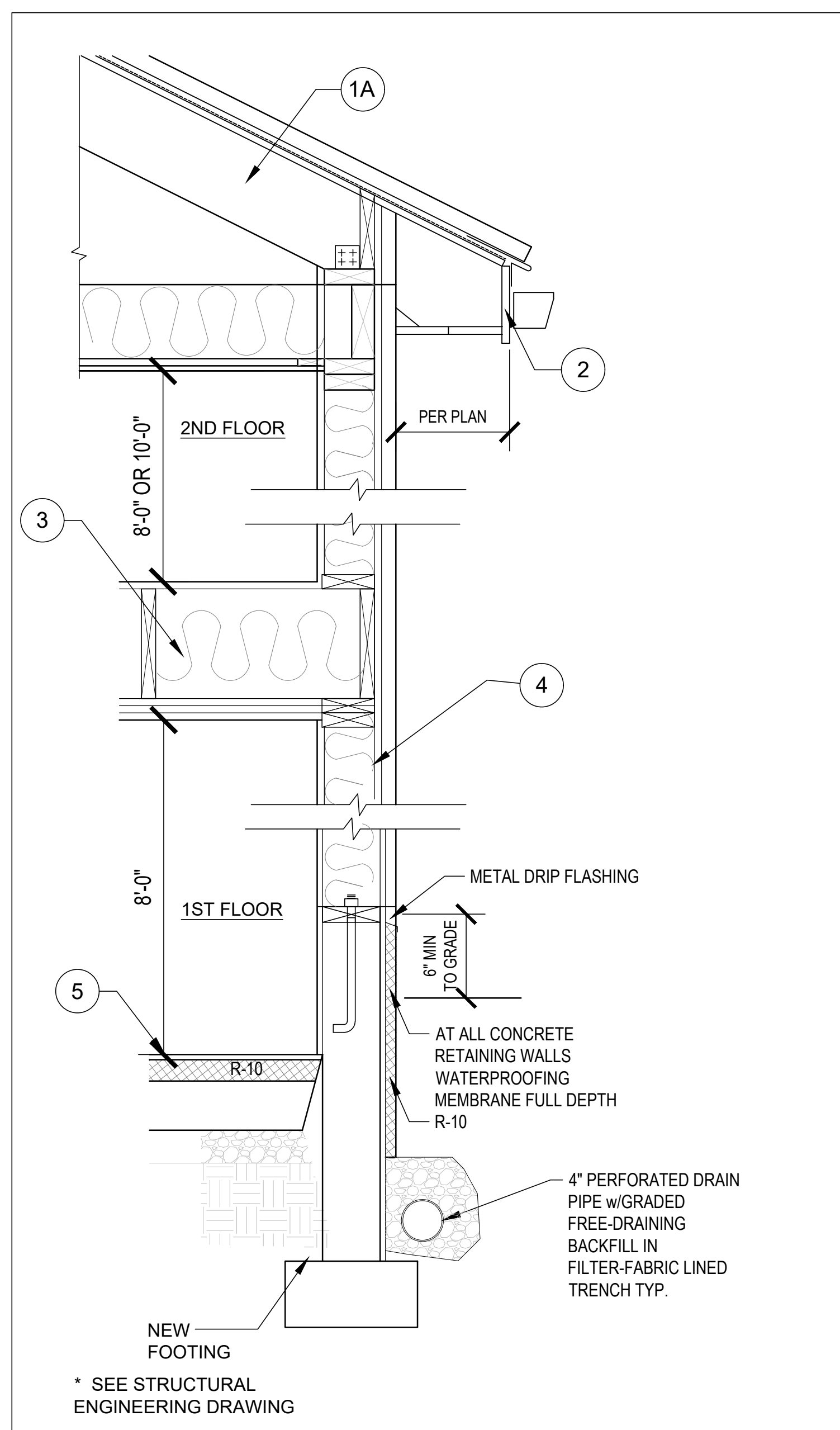


**THYGESEN RESIDENCE**  
 8109 SE 71ST STREET  
 MERCER ISLAND, WA 98040

**TYPICAL WALL DETAIL**

NO SCALE

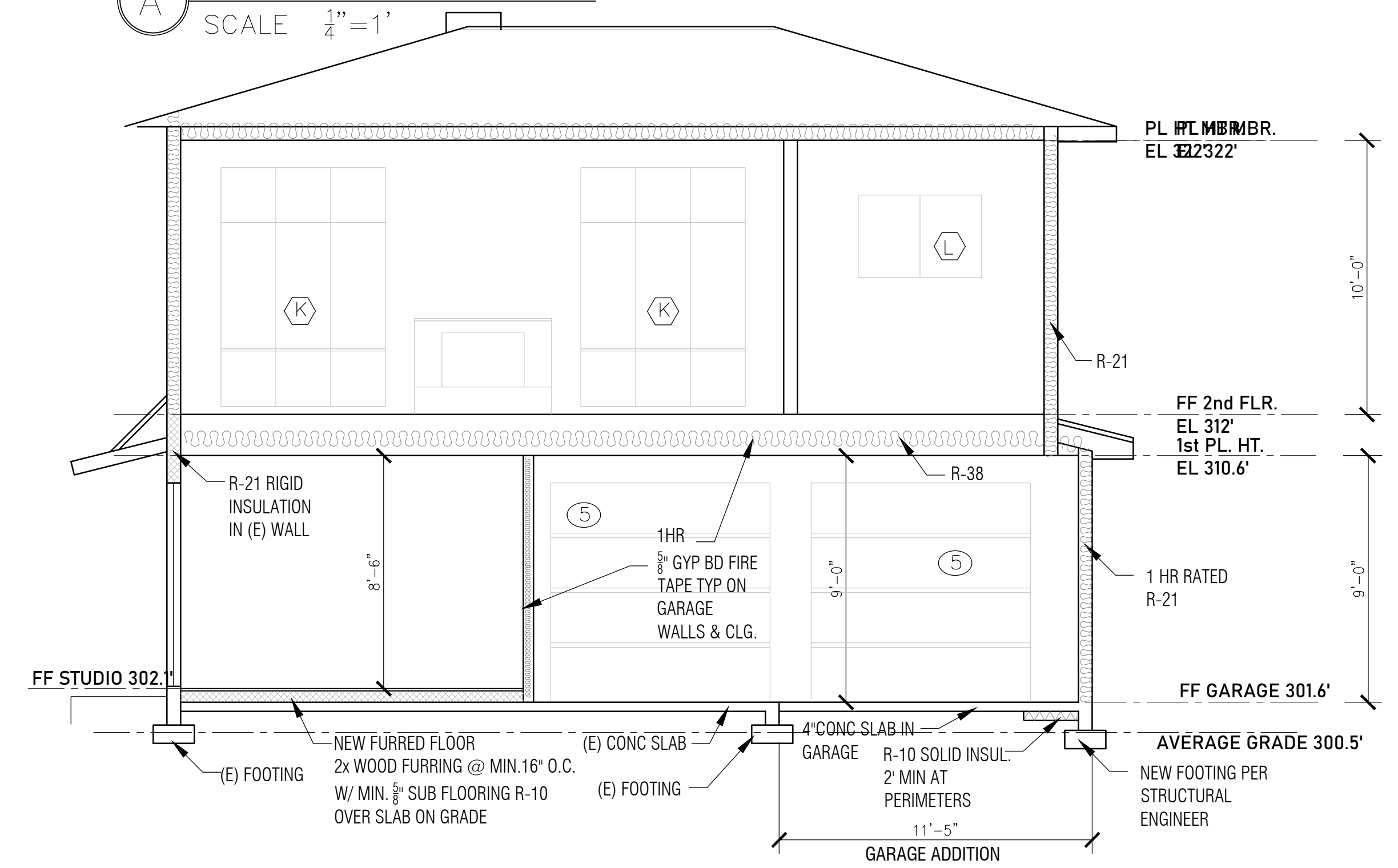
- 1A** NEW ROOFING SYSTEM
  - \* FRAMING PER STRUCTURAL PLAN
  - \* R-49 BATT INSULATION
  - \* VENTILATION: 1SF/150SF NEW ROOF @ATTIC
  - \* CONT RIDGE VENT AND LINER SHINGLE CONT VENT NO EAVE SOFFIT VENT, TYP.
  - \* MIN 1" AIRSPACE BETWEEN INSULATION AND ROOF SHEATHING TYPICAL
  - \* (2)LAYERS 30# ROOFING FELT
  - \* 25 YEAR CLASS "A" RATED ASPHALT SHINGLE ROOFING
  - \* METAL DRIP EDGE
- 2** EAVE ASSEMBLY:
  - \* EXTEND LAST COURSE OF ROOF SHEATHING 5/8" FRX OR OTHER APPROVED 1-HOUR FIRE RESISTIVE PRESSURE TREATED PLYWOOD SHEATHING
  - \* (1) LAYER 5/8" CertainTeed's M2Tech® Moisture Resistant GWB
  - \* (1) LAYER HARDIE SOFFIT CEMENTIOUS BEAD BOARD
  - \* EXPOSED RAFTER TAILS TO BE 2x FRX OR OTHER FIRE RESISTIVE PRESSURE TREATED WOOD
  - \* CAULK/SEAL/TAPE ALL JOINTS
- 3** TYP FLOORING SYSTEM:
  - \* 2x10 @ 16" O.C.
  - \* R-13 SOUND INSULATION
  - \* 3/4" PLYWOOD SUBFLOOR
  - \* WOOD FINISH FLOORING
  - \* 1/2" GWB CEILING OR
  - \* 5/8" CDX GYP BOARD, FIRE TAPED TO MEET 1 HR RATED (GARAGE)
- 4** TYPICAL EXTERIOR WALL SYSTEM
  - \* 1/2" INTERIOR GWB OR
  - \* 5/8" CDX GYP BOARD, FIRE TAPED TO MEET 1 HR RATED (GARAGE)
  - \* 2x FRAMING @ 16" o.c. (OR PER SHEAR WALL SCHED.)
  - \* R-10 MIN RIGID INSUL @ DOOR/WINDOW HEADERS
  - \* R-21 INSULATION
  - \* SHEATHING PER SHEAR WALL SCHED.
  - \* (SHEAR PLY ON OUTSIDE @ NEW)
  - \* (2) LAYERS 15# BUILDING PAPER
  - \* DRIP SCREED OF 26 GA. METAL w/31/2" FLANGE TO TOP OF CONCRETE (IF APPLICABLE)
  - \* HARDI PLANK SIDING
- 5** FLOORING SYSTEM
  - \* CONC. FOOTINGS PER PLAN
  - \* EX. 4" CONCRETE SLAB ON GRADE
  - \* SLAB OVER 4" SAND
  - \* R-10 SOLID INSULATION
  - \* SAND OVER 6-MIL VISQUEVEN VAPOR BARRIER
  - \* ENGINEERED FLOORING
  - \* P.T. SILL PLATE @ ALL WOOD/CONC. CONTACT POINTS



\* SEE STRUCTURAL ENGINEERING DRAWING

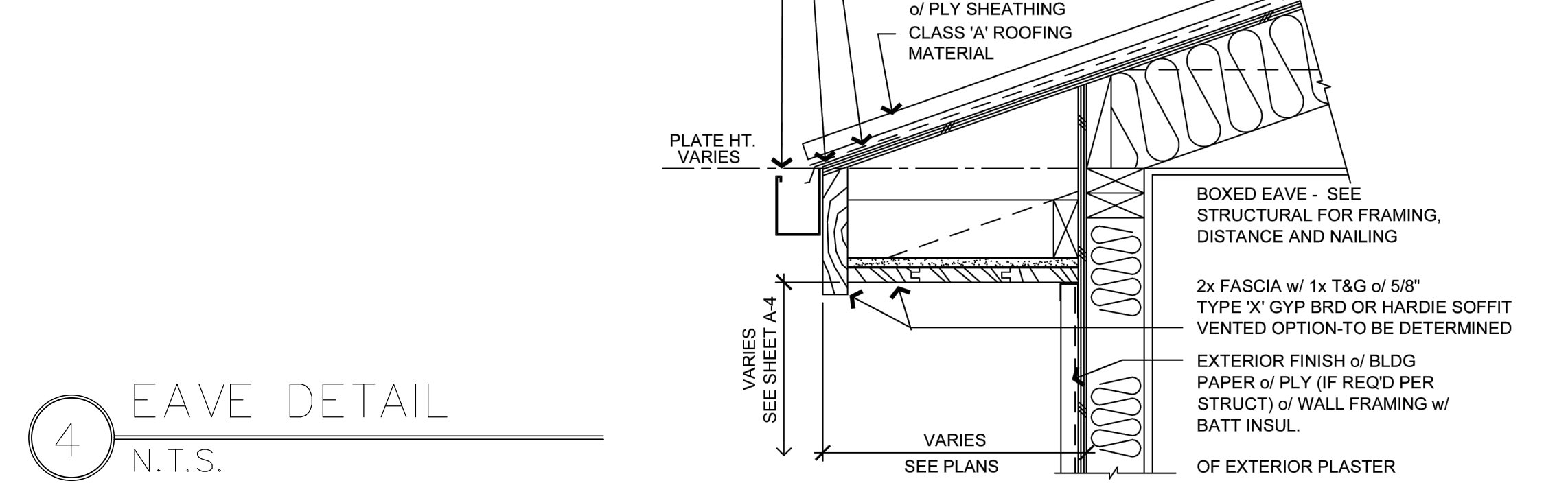
**SECTION A**

SCALE 1/4" = 1'



**SECTION B**

SCALE 1/4" = 1'



SUBMIT

DATE: 10-31-2024

SECTIONS DETAILS

REVISIONS

2-19-2025

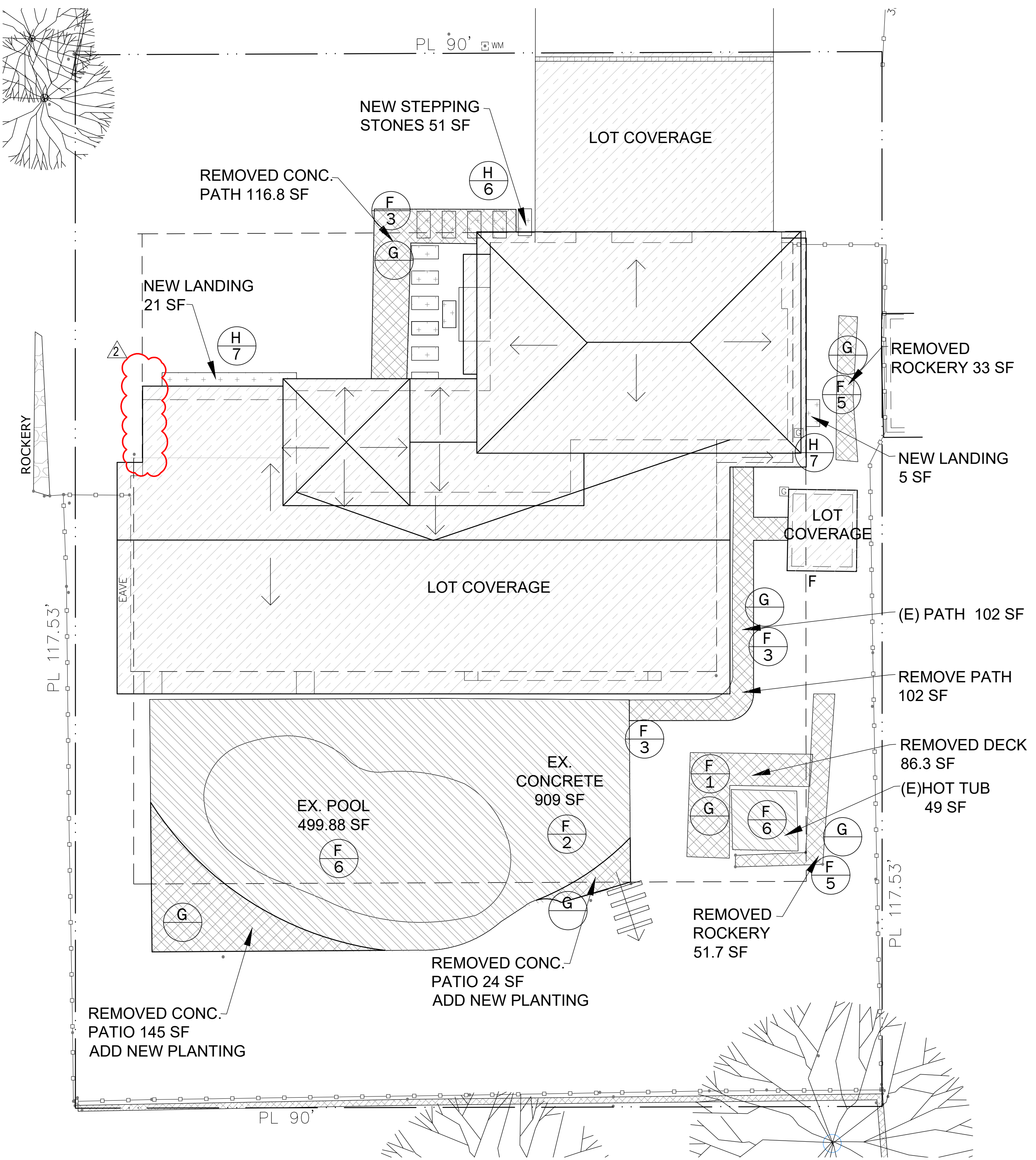
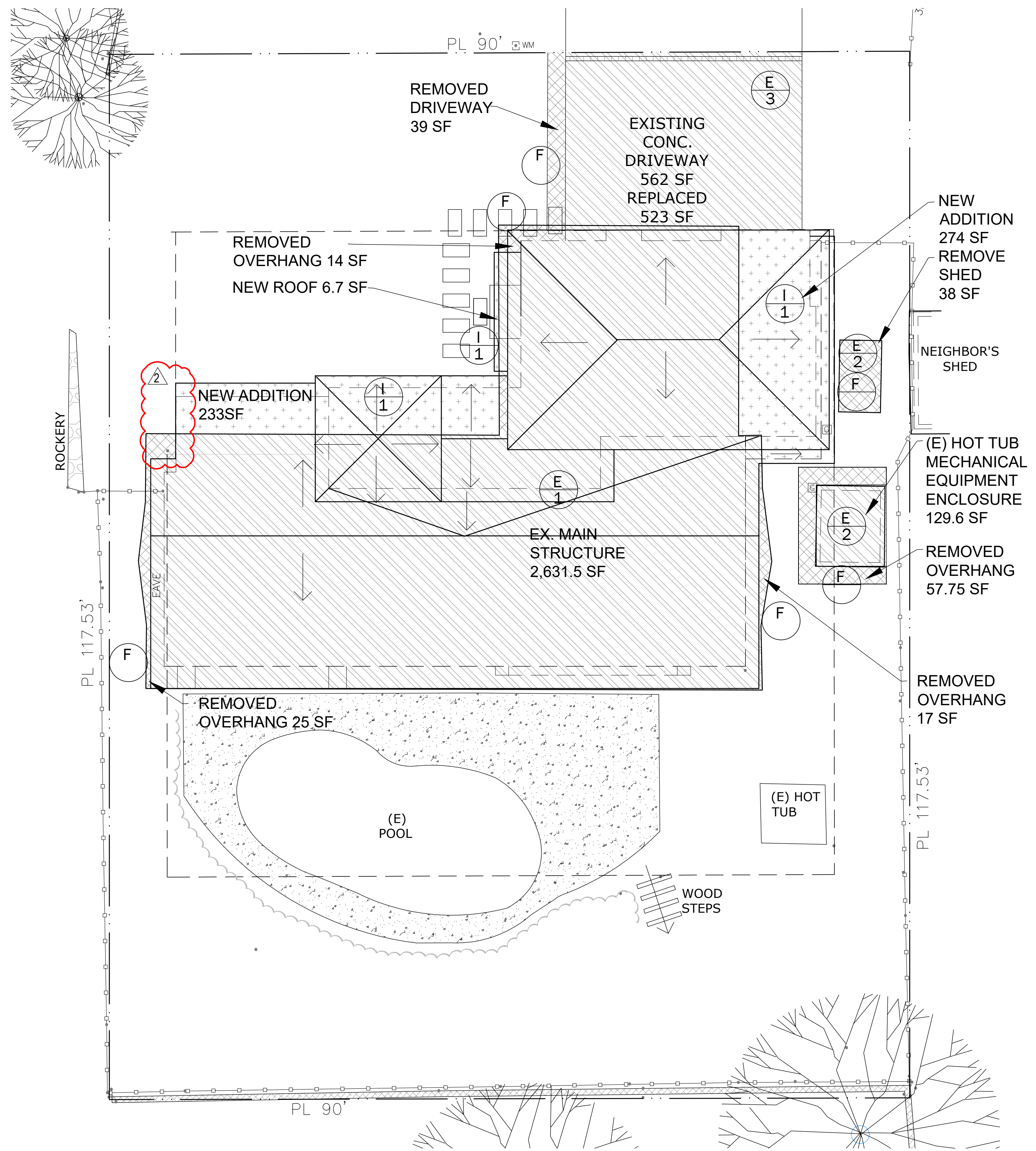
4-28-2025

3.

4.

**A-7**

SHEET 7 OF 9

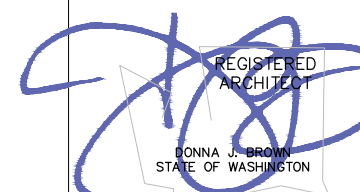


	<b>E EXISTING</b>	
	E.1 MAIN STRUCTURE	2,631.5 SF
	E.2 ACCESSORY BUILDING	167.6 SF
	E.3 DRIVEWAY	562 SF
	<b>TOTAL EXISTING</b>	<b>3,361.1 SF</b>
	<b>F REMOVED</b>	<b>- 190.75 SF</b>
	<b>I NEW LOT COVERAGE</b>	
	I.1 MAIN STRUCTURE	513.7 SF
	<b>TOTAL:</b>	<b>3,684 SF</b>
	3,684 SF / 10,578 SF =	35%
	<b>ALLOWED 40%</b>	

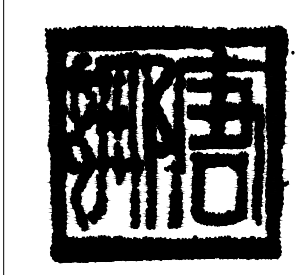
	<b>F EXISTING HARDSCAPE</b>	
	F.1 UNCOVERED DECKS	86.3 SF
	F.2 UNCOVERED PATIOS	909 SF
	F.3 WALKWAYS	218.8 SF
	F.5 ROCKERY	84.7 SF
	F.6 HOT TUB, POOL	548.9 SF
	<b>TOTAL EXISTING</b>	<b>1,847.7 SF</b>
	<b>G REMOVED</b>	<b>- 558.8 SF</b>
	<b>H NEW HARDSCAPE</b>	
	H.6 STEPPING STONES	51.0 SF
	H.7 LANDINGS	26.0 SF
	<b>TOTAL:</b>	<b>1,365.9 SF</b>
	1,366 SF / 10,578 SF =	12.9%

LOT COVERAGE CALCULATION  
SCALE 1/8"=1'-0"

HARDSCAPE CALCULATION  
SCALE 1/8"=1'-0"



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**THYGESEN RESIDENCE**  
**8109 SE 71ST STREET**  
**MERCER ISLAND, WA 98040**

SUBMIT

DATE: 10-31-2024

LOT COVERAGE & HARDSCAPE CALCULATIONS

REVISIONS

2-19-2025

5-28-2025

3.

4.

**A-8**

SHEET 8 OF 9





# TOPOGRAPHIC & BOUNDARY SURVEY

measure success

## LEGAL DESCRIPTION

(PER STATUTORY WARRANTY DEED RECORDING #20170131000972)  
 LOT 6, BLOCK 2, GOODBODY'S ADDITION TO MERCER ISLAND, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 64 OF PLATS, PAGE(S) 9, IN KING COUNTY, WASHINGTON.  
 SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

## BASIS OF BEARINGS

THE CENTERLINE OF SE 71ST STREET  
 BEARING = NORTH 88°41'04" WEST PER R1.

## REFERENCES

- R1. PLAT OF GOODBODY'S ADDITION TO MERCER ISLAND, VOL.64, PG.9, RECORDS OF KING COUNTY, WASHINGTON.
- R2. RECORD OF SURVEY, REC. NO. 20111223900003.

## VERTICAL DATUM

NAVD88, PER GPS OBSERVATIONS.

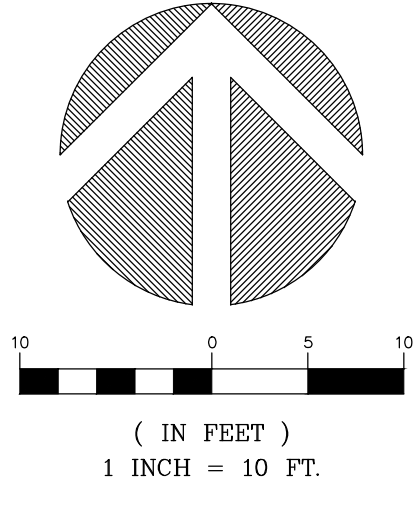
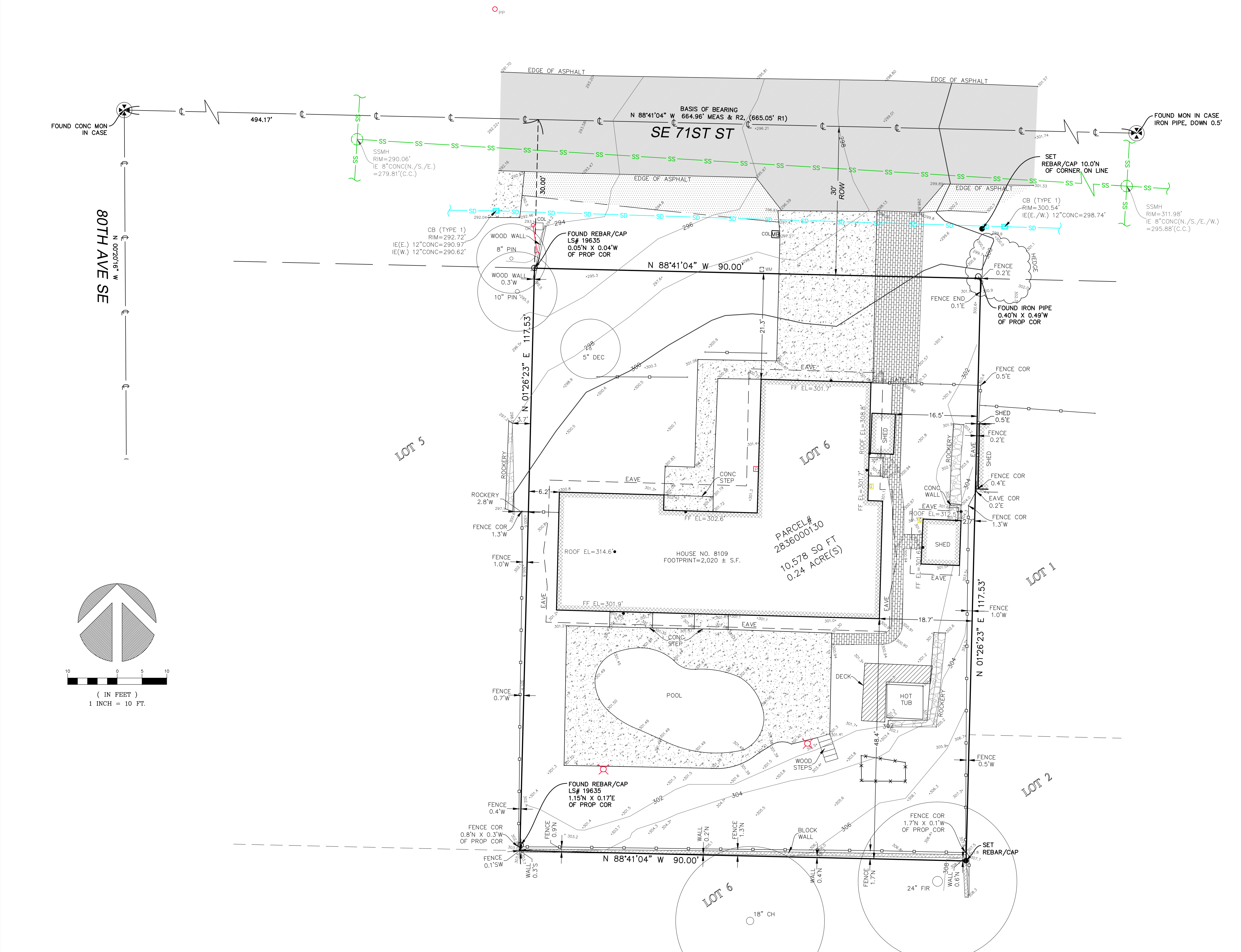
## SURVEYOR'S NOTES

1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN OCTOBER OF 2019. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 283600-0130.
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 10,578 ± S.F. (0.24 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

## LEGEND

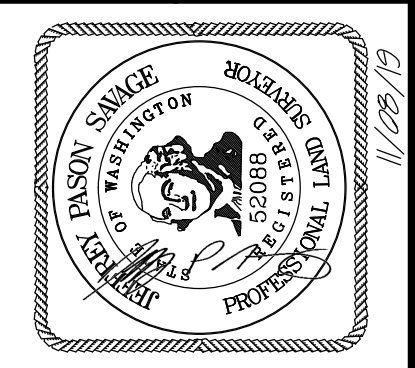
ASPHALT SURFACE	INLET (TYPE 1)
BRICK SURFACE	IRON PIPE (FOUND)
BUILDING	MAILBOX (RESIDENTIAL)
CENTERLINE ROW	MONUMENT IN CASE (FOUND)
CONCRETE SURFACE	POWER METER
RETAINING WALL	POWER POLE
DECK	REBAR AS NOTED (FOUND)
FENCE LINE (CHAIN LINK)	REBAR & CAP (SET)
FENCE LINE (WOOD)	ROCKERY
GAS LINE	SEWER LINE
GAS METER	SEWER MANHOLE
GRAVEL SURFACE	TREE (AS NOTED)
GUY ANCHOR	WATER METER
GUY POLE	YARD LIGHT
HEDGE FOLIAGE LINE	COLUMN

## VICINITY MAP



**STEEP SLOPE/BUFFER DISCLAIMER:**  
 THE LOCATION AND EXTENT OF STEEP SLOPES SHOWN ON THIS DRAWING ARE FOR INFORMATIONAL PURPOSES ONLY AND CANNOT BE RELIED ON FOR DESIGN AND/OR CONSTRUCTION. THE PITCH, LOCATION, AND EXTENT ARE BASED SOLELY ON OUR GENERAL OBSERVATIONS ON SITE AND OUR CURSORY REVIEW OF READILY AVAILABLE PUBLIC DOCUMENTS; AS SUCH, TERRANE CANNOT BE LIABLE OR RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY STEEP SLOPE INFORMATION. ULTIMATELY, THE LIMITS AND EXTENT OF ANY STEEP SLOPES ASSOCIATED WITH ANY SETBACKS OR OTHER DESIGN OR CONSTRUCTION PARAMETERS MUST BE DISCUSSED AND APPROVED BY THE REVIEWING AGENCY BEFORE ANY CONSTRUCTION CAN OCCUR.

TOPOGRAPHIC & BOUNDARY SURVEY  
 SE 1/4 OF NE 1/4 SEC 25, TWP. 24N., RGE 04E., W.M.  
 PARCEL NO. 283600-0130



**Terrane**  
 10801 Main Street, Suite 102, Bellevue, WA 98004  
 phone 425.458.4488 support@terrane.net  
 www.terrane.net

JOB NUMBER:	191738
DATE:	10/31/2019
DRAFTED BY:	RSN
CHECKED BY:	JPS
SCALE:	1" = 10'

REVISION HISTORY	

**GENERAL STRUCTURAL NOTES**  
(THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE PLANS.)

**A. GENERAL**

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION FOR NEW CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION.

2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF DOOR AND WINDOW OPENINGS. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF MISCELLANEOUS MECHANICAL OPENINGS.

3. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES, AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED.

4. DEMOLITION: CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS BEFORE COMMENCING ANY DEMOLITION. SHORING SHALL BE INSTALLED TO SUPPORT EXISTING CONSTRUCTION AS REQUIRED AND IN A MANNER SUITABLE TO THE WORK SEQUENCE. EXISTING REINFORCING SHALL BE SAVED WHERE AND AS NOTED ON THE PLANS. SAW CUTTING, IF AND WHERE USED, SHALL NOT CUT EXISTING REINFORCING THAT IS TO BE SAVED. DEMOLITION DEBRIS SHALL NOT BE ALLOWED TO DAMAGE OR OVERLOAD THE EXISTING STRUCTURE. LIMIT CONSTRUCTION LOADING (INCLUDING DEMOLITION DEBRIS) ON EXISTING FLOOR SYSTEMS TO 40 PSF.

4.1 CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND LOCATION OF MEMBERS PRIOR TO CUTTING ANY OPENINGS.

4.2 WHERE NEW REINFORCING TERMINATES AT EXISTING CONCRETE, DOWEL BARS SHALL BE DRILLED AND EPOXIED INTO EXISTING CONCRETE TO MATCH NEW HORIZONTAL REINFORCING AS NOTED ON PLANS.

5. CONTRACTOR SHALL CHECK FOR DRYROT AT ALL EXTERIOR WALLS, EXISTING TOILET ROOM FLOORS AND WALLS, AREAS SHOWING WATER STAINS, AND ALL WOOD MEMBERS IN THE BASEMENT AND CRAWL SPACES. ALL ROT SHALL BE REMOVED AND DAMAGED MEMBERS SHALL BE REPLACED OR REPAIRED AS DIRECTED BY THE STRUCTURAL ENGINEER OR ARCHITECT.

6. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS OF THE NEW CONSTRUCTION UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. THE CONTRACTOR SHALL ALSO PROVIDE TEMPORARY BRACING AND SHORING OF THE EXISTING BUILDING(S) IN WHICH PORTIONS OF THE EXISTING STRUCTURE ARE TO BE REMOVED OR MODIFIED. THIS TEMPORARY BRACING AND SHORING SHALL REMAIN IN PLACE UNTIL NEW CONSTRUCTION AND/OR STRUCTURAL MODIFICATIONS ARE COMPLETED. THE CONTRACTOR SHALL DESIGN, PROVIDE MATERIALS FOR AND INSTALL (AND REMOVE IF NECESSARY) SUCH TEMPORARY WORK.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM HIS WORK. STRUCTURAL DESIGN OF THE BUILDING IS BASED ON RESISTANCE TO DEAD LOADS, CODE SPECIFIED LATERAL LOADS, AND MAXIMUM EXPECTED SERVICE LOADS. NO CONSIDERATION HAS BEEN GIVEN TO LOADS WHICH WILL BE INDUCED BY ERECTION PROCEDURES. THE CONTRACTOR SHALL VERIFY, TO THE SATISFACTION OF HIM/HERSELF AND THE OWNER, THE ABILITY OF THE STRUCTURE TO RESIST ALL ERECTION LOADS WITHOUT EXCEEDING THE ALLOWABLE STRESSES OF THE MATERIALS USED.

8. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.

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

10. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER.

11. INSPECTIONS: INSPECTIONS OF THE WOOD FRAMING, THE STEEL REBAR AND WOOD FORMS FOR CONCRETE FOOTINGS & FOUNDATIONS, AND CONCRETE SLABS ARE REQUIRED PER IBC SECTION 110.3.

12. SPECIAL INSPECTION: SHALL BE PERFORMED BY A CERTIFIED TESTING AGENCY, DESIGNATED BY THE ARCHITECT OR ENGINEER, AND APPROVED BY THE OWNER.

THE SPECIAL INSPECTION AGENCIES SHALL PRODUCE REPORTS AND KEEP RECORDS PER IBC SECTION 1704.2.4.

THE SPECIAL INSPECTION AGENCIES SHALL INSPECT FABRICATORS PER IBC SECTION 1704.2.5. IF FABRICATOR IS REGISTERED & APPROVED TO PERFORM THE WORK WITHOUT SPECIAL INSPECTION PER IBC 1704.2.5.1, FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL PER IBC SECTION 1704.2.5.1. AT COMPLETION OF FABRICATION.

THE SPECIAL INSPECTION AGENCIES DUTIES SHALL INCLUDE THE FOLLOWING:

12.1 SOILS:  
SPECIAL INSPECTION IS REQUIRED OF THE EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT, AND LOAD-BEARING REQUIREMENTS PER IBC SECTION 1705.6.

12.2 PILE & PIER FOUNDATIONS:  
SPECIAL INSPECTIONS OF PIER OR PILE FOUNDATIONS ARE REQUIRED PER IBC SECTIONS 1705.7 AND 1705.8.

13. SHOP DRAWINGS FOR REINFORCING STEEL, CONNECTOR PLATE WOOD ROOF TRUSSES, AND PRE-ENGINEERED METAL COMPONENTS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

ENGINEER OF RECORD SHALL REVIEW SHOP DRAWINGS FOR DESIGN INTENT ONLY. DIMENSIONS AND QUANTITIES ARE NOT GUARANTEED BY THE ENGINEER OF RECORD, AND THEREFORE, MUST BE VERIFIED BY THE GENERAL CONTRACTOR. DRAWINGS FOR COMPONENTS DESIGNED PRIMARILY BY OTHERS SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO CURSORY REVIEW BY THE ENGINEER OF RECORD FOR LOADS IMPOSED ON THE BASIC STRUCTURE. SUBMITTALS SHALL INCLUDE A REPRODUCIBLE AND A COPY; REPRODUCIBLE WILL BE REVIEWED AND RETURNED. SHOP DRAWINGS MUST BE REVIEWED AND STAMPED BY CONTRACTOR PRIOR TO REVIEW BY ENGINEER.

14. PRE-MANUFACTURED, PRE-ENGINEERED STRUCTURAL COMPONENTS SHALL BE DESIGNED BASED ON THE CRITERIA PRESENTED IN THE CONTRACT DOCUMENTS. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE, TEMPORARY AND PERMANENT BRACING AND ALL NECESSARY CONNECTIONS, INCLUDING CONNECTIONS TO THE PRIMARY STRUCTURE, NOT SPECIFICALLY CALLED OUT ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS. SHOP DRAWINGS SHALL INDICATE THE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON THE PRIMARY STRUCTURE. SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED PER PARAGRAPH "A.13." OF THESE NOTES.

15. DEFERRED SUBMITTALS – THE FOLLOWING ITEMS ARE CONSIDERED TO BE DEFERRED SUBMITTALS UNDER SECTION 107.3.4.1 OF THE INTERNATIONAL BUILDING CODE AND MUST BE SUBMITTED TO THE ARCHITECT OR THE ENGINEER FOR REVIEW. THESE ITEMS WILL THEN BE FORWARDED TO THE BUILDING OFFICIAL FOR APPROVAL. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL. DESIGN SUBMITTALS SHALL BEAR THE STAMP AND SIGNATURE OF A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF WASHINGTON

\* PRE-ENGINEERED WOOD TRUSSES  
PRE-ENGINEERED CANOPIES

**B. DESIGN CRITERIA**

**1. DESIGN LOADS**

ROOF LIVE LOAD	25 PSF (SNOW, $s_s=1.0$ )
ROOF DEAD LOAD	15 PSF
FLOOR LIVE LOAD (RESIDENTIAL)	40 PSF (REDUCIBLE)
FLOOR LIVE LOAD (BALCONIES/DECKS)	60 PSF (REDUCIBLE)
FLOOR DEAD LOAD	15 PSF

WIND (ASCE 7-16)  $V_{ULT} = 97$  MPH,  $V_{ASD} = 75$  MPH, (3 sec gust)  
ENCLOSED BUILDING, EXPOSURE "B",  $I_w=1.0$ ,  $K_{zt} = 1.6$

EARTHQUAKE (ASCE 7-16) SITE CLASS D  
OCCUPANCY CATEGORY II ( $I_e = 1.0$ )  
SEISMIC DESIGN CATEGORY D  
 $S_s = 1.467g$ ,  $S_1 = 0.507g$   
 $S_d=1.174g$ ,  $S_d1 = 0.608g$   
 $R=6.5$ ,  $r = 1.3$   
 $V_{ULT} = C_s W = 0.235W = 25.9$  KIPS  
EQUIVALENT LATERAL FORCE PROCEDURE  
LATERAL LOADS ARE RESISTED BY STRUCTURAL WOOD  
PANEL SHEAR WALLS & DIAPHRAGMS

ALLOWABLE SOIL PRESSURE\*\* ..... 2000 PSF  
LATERAL EARTH PRESSURE\*\* ..... 35 PCF ACTIVE/100 PSF SURCHARGE/7H SEISMIC  
55 PCF AT-REST/14H SEISMIC  
250 PSF PASSIVE  
0.35 COEFFICIENT OF FRICTION

\*\*SOILS REPORT REFERENCE: "GEOTECHNICAL REPORT PROPOSED REMODEL, 8109 SOUTHEAST 71<sup>ST</sup> ST, MERCER ISLAND, WA", PREPARED BY, PANGEO INC, FILE # 24-093, DATED, NOVEMBER 1, 2024

**C. FOUNDATION**

1. FOUNDATION EXCAVATION, BACKFILL AND COMPACTION SHALL CONFORM TO SPECIFICATION REQUIREMENTS. THIS CONSTRUCTION WORK, INCLUDING DRAINAGE, SHORING AND SUCH OTHER RELATED WORK AS REQUIRED, SHALL BE CONDUCTED BY THE CONTRACTOR UNDER THE OBSERVATION AND DIRECTION OF THE GEOTECHNICAL ENGINEER.

2. FOOTINGS SHALL BEAR ON SOLID UNDISTURBED EARTH (CONTROLLED, COMPACTED STRUCTURAL FILL OR BOTH) AT LEAST 18" BELOW LOWEST ADJACENT FINISHED GRADE. MATERIAL TO BE COMPACTED TO 95% MINIMUM OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557.

3. FOOTINGS MAY BE POURED IN NEAT EXCAVATIONS PROVIDED SIZE IS INCREASED 3" AT EACH INTERFACE WITH SOIL.

4. ALL FOOTING EXCAVATIONS SHALL BE HAND CLEANED PRIOR TO PLACING CONCRETE.

5. ALL ABANDONED FOOTINGS, UTILITIES, ETC. THAT INTERFERES WITH NEW CONSTRUCTION SHALL BE REMOVED.

6. CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING, AND SHORING REQUIRED TO SAFELY RETAIN EXCAVATIONS.

7. BACKFILL BEHIND ALL WALLS WITH WELL DRAINING, GRANULAR FILL MATERIAL, AND PROVIDE PERFORATED PIPE DRAINS AS DESCRIBED IN THE SOILS REPORT. BACKFILL BEHIND WALLS SHALL NOT BE PLACED BEFORE THE WALL IS PROPERLY SUPPORTED BY THE FLOOR SLAB, OR TEMPORARY BRACING. ALL FOOTINGS SHALL BE CENTERED BELOW CENTERLINE OF COLUMNS OR WALLS ABOVE, UNLESS NOTED OTHERWISE.

**C.1. PIN PILE FOUNDATION**

- PIN PILE TO BE 2" DIAMETER SCHEDULE 80 PIPE. PIN PILE DESIGN CAPACITY IS 4 KIPS
- PIN PILES ARE TO BE DRIVEN USING A 90-POUND PNEUMATIC JACKHAMMER UNTIL REFUSAL. REFUSAL IS DEFINED AS A PENETRATION RESISTANCE OF LESS THAN 1 INCH OF PENETRATION PER MINUTE OF SUSTAINED DRIVING.
- PIN PILE TO EXTEND 6" MINIMUM INTO PILE CAP. PROVIDE COMPRESSION FIT CAP.
- PIPE PILE TO BE SPLICED WITH COMPRESSION FIT SLEEVED COUPLER OR COMPLETE PENETRATION WELD.
- THE GEOTECHNICAL ENGINEER OF RECORD OR HIS/HER REPRESENTATIVE SHALL PROVIDE FULL-TIME OBSERVATION OF PILE INSTALLATION AND TESTING TO VERIFY THE DRIVING REFUSAL CRITERIA.
- IT IS RECOGNIZED THAT THE IBC REQUIRES 8-INCH MINIMUM DIAMETER PIPE FOR PIPE PILE INSTALLATION. APPROPRIATE ANALYSIS/EVALUATION AND TESTING REQUIREMENTS ARE PROVIDED TO ALLOW FOR USE OF PILES LESS THAN 8-INCHES IN DIAMETER AS REQUIRED BY SECTION 1810.3.5.3. OF THE IBC.
- A MINIMUM OF 3% OF THE PILES (1 MINIMUM AND UP TO 5 PILES MAXIMUM) SHOULD BE LOAD TESTED TO VERIFY DESIGN LOAD CAPACITIES. ALL LOAD TESTS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN ASTM D1143. THE MAXIMUM TEST LOAD SHALL BE 2X THE DESIGN LOAD. TEST LOAD = 12 KIPS FOR 2 INCH PILE. VERIFY WITH GEOTECHNICAL REPORT AND SPECIAL INSPECTION IF LOAD TESTING IS REQUIRED.

**D. CONCRETE**

1. ULTIMATE STRENGTH DESIGN PER INTERNATIONAL BUILDING CODE AND ACI 318-14.

2. CONCRETE SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS

- CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF  $f'_c = 3,500$  PSI (2,500 PSI DESIGN) AND MIX SHALL CONTAIN NOT LESS THAN 5-1/2 SACKS OF CEMENT PER CUBIC YARD AND SHALL BE PROPORTIONED TO PRODUCE A SLUMP OF 5" OR LESS. EXPOSURE CLASS F1, SO, W0 & CO.
- THE MINIMUM AMOUNTS OF CEMENT AND MAXIMUM AMOUNTS OF WATER MAY BE CHANGED IF A CONCRETE DESIGN MIX IS SUBMITTED TO THE STRUCTURAL ENGINEER AND THE BUILDING DEPARTMENT FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE. THE CONCRETE PERFORMANCE MIX SHALL INCLUDE THE AMOUNTS OF CEMENT, FINE AND COARSE AGGREGATE, WATER AND ADMIXTURES AS WELL AS THE WATER CEMENT RATIO, SLUMP, CONCRETE YIELD AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH ACI 318, CHAPTERS 19 AND 26.

ALL CONCRETE EXPOSED TO FREEZING TEMPERATURES WHILE CURING AND ALL CONCRETE PERMANENTLY EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ACI 318. TOTAL AIR CONTENT SHALL BE 6% IN ACCORDANCE WITH TABLE 19.3.3.1.

NO ADMIXTURES, OTHER THAN FOR AIR-ENTRAINMENT AS NOTED ABOVE, SHALL BE USED WITHOUT PRIOR REVIEW BY THE STRUCTURAL ENGINEER.

**4. REINFORCING**

REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 (INCLUDING SUPPLEMENT S1), GRADE 60,  $f_y = 60,000$  PSI.

WELDED WIRE REINFORCEMENT: ASTM A82 AND ASTM A185, SPLICE WITH AT LEAST ONE FULL MESH. PLACE AT MID-DEPTH, OR SLIGHTLY ABOVE, OF SLAB. MATERIAL TO BE SUPPLIED IN FLAT SHEETS.

REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH ACI 318 (LATEST EDITION). LAP ALL CONTINUOUS REINFORCEMENT PER NOTE D.6. PROVIDE CORNER BARS AT ALL WALL INTERSECTIONS. LAP CORNER BARS PER NOTE D.6. LAP ADJACENT MATS OF WELDED WIRE REINFORCEMENT A MINIMUM OF 8" AT SIDES AND ENDS.

NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

6. REINFORCING STEEL LAPS AND EMBEDMENT SHALL BE AS NOTED BELOW, UNLESS NOTED OTHERWISE:

DEVELOPMENT LENGTH	48 BAR DIAM. – 24" MINIMUM
LAP SPLICE LENGTH	64 BAR DIAM. – 24" MINIMUM

ALL HOOKS SHALL BE "STANDARD" IN ACCORDANCE WITH ACI 318. REINFORCING SHALL NOT BE TACK WELDED. DO NOT WELD GRADE 60 REINFORCING.

7. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

FOOTINGS AND OTHER UNFORMED SURFACES, EARTH FACE 3"  
FORMED SURFACES EXPOSED TO EARTH (i.e. WALLS BELOW GROUND) OR WEATHER (#5 BARS OR SMALLER) 1-1/2"

8. CONCRETE WALL REINFORCING – PROVIDE THE FOLLOWING UNLESS DETAILED OTHERWISE:

6" WALLS #4 @ 13 HORIZ. #4 @ 13 VERTICAL 1 CURTAIN @ CENTER  
8" WALLS #5 @ 15 HORIZ. #5 @ 15 VERTICAL 1 CURTAIN @ CENTER

9. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. GROUT SHALL BE NON-SHRINK, CEMENT-BASED AND HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF  $f'_c = 5000$  PSI WHEN TESTED IN ACCORDANCE WITH ASTM C109.

10. ADHESIVE ANCHOR SYSTEM SHALL BE SET-XP OR SET-3G EPOXY BY SIMPSON STRONG-TIE, HIT-HY 200-A OR HIT-RE 500 V3 BY HILTI, AC208+ BY DEWALT, OR APPROVED EQUAL.

11. ALL WOOD PLATES IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED (SEE WOOD SECTION).

**E. CARPENTRY**

1. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ANSI STANDARD A190.1. EACH MEMBER SHALL BEAR AN AITC OR APA EWS IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN AITC OR APA EWS CERTIFICATE OF CONFORMANCE. ALL SIMPLE SPAN BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V4,  $F_b = 2,400$  PSI,  $F_v = 240$  PSI. ALL CANTILEVERED BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8,  $F_b = 2,400$  PSI,  $F_v = 240$  PSI. CAMBER ALL GLULAM BEAMS TO 2,000' RADIUS, UNLESS SHOWN OTHERWISE ON THE PLANS.

2. FRAMING LUMBER SHALL BE GRADED AND MARKED IN CONFORMANCE WITH WCLUB STANDARD GRADING RULES FOR WEST COAST LUMBER, LATEST EDITION. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

MEMBER	SIZE	SPECIES	GRADE	MIN. BASIC DESIGN STRESS
JOISTS AND RAFTERS:	2x, 3x	HEM.FIR	#2	$F_b = 850$ PSI
	4x	HEM.FIR	#2	$F_b = 850$ PSI
BEAMS AND STRINGERS:	6x AND LARGER	HEM.FIR	#1	$F_b = 1050$ PSI
POSTS AND TIMBERS: TOP AND BOTTOM PLATES AT SHEAR WALLS AND BEARING WALLS:	6x6, 6x8	HEM.FIR	#1	$F_c = 850$ PSI $F_b = 975$ PSI
		HEM.FIR	#2	$F_b = 850$ PSI
STUDS, PLATES, & MISC. LIGHT FRAMING:		HEM.FIR	#2	$F_b = 850$ PSI

ALL LUMBER WITH A LEAST DIMENSION OF 2" (NOMINAL) SHALL BE STAMPED SURFACE-DRY AND SHALL HAVE A MOISTURE CONTENT WHEN STAMPED AND WHEN INSTALLED OF NOT MORE THAN 19 PERCENT. LUMBER WITH A LEAST DIMENSION OF 4" (NOMINAL) OR GREATER SHALL BE STAMPED SURFACE-GREEN AND AIR-DRIED TO A MOISTURE CONTENT OF NOT MORE THAN 19 PERCENT PRIOR TO ITS USE IN FRAMING THE STRUCTURE.

3. MANUFACTURED LUMBER SHALL BE AS MANUFACTURED BY TRUS JOIST OR APPROVED EQUAL. REQUESTS FOR APPROVAL AS EQUAL WILL REQUIRE SUBMITTAL OF ICC REPORT EQUIVALENT TO ESR-1387 FOR LAMINATED STRAND LUMBER (LSL), LAMINATED VENEER LUMBER (LVL), OR PARALLEL STRAND LUMBER (PSL). THE MINIMUM ALLOWABLE DESIGN VALUES ARE AS FOLLOWS:

LSL –  $F_b = 2,250$ ;  $F_v = 400$  PSI;  $E = 1,550,000$  PSI  
LVL –  $F_b = 2,600$ ;  $F_v = 285$  PSI;  $E = 1,800,000$  PSI  
PSL –  $F_b = 2,900$ ;  $F_v = 290$  PSI;  $E = 2,000,000$  PSI

4. PREFABRICATED CONNECTOR PLATE WOOD ROOF TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE "NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION," ANSI/TPI 1-2014" BY TRUSS PLATE INSTITUTE FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. MINIMUM LOADING SHALL BE AS FOLLOWS:

TOP CHORD LIVE LOAD	25 PSF (SNOW)
TOP CHORD DEAD LOAD	10 PSF
BOTTOM CHORD DEAD LOAD	10 PSF
TOTAL LOAD	45 PSF

ADDITIONAL LIVE LOAD CASES SHALL BE ANALYZED FOR UNBALANCED SNOW LOADS & SNOW DRIFTS PER ASCE 7-16, SECTIONS 7.6 & 7.7.

5. WOOD TRUSSES SHALL UTILIZE APPROVED CONNECTOR PLATES (GANGNAIL OR EQUAL). SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS (COMPLETE WITH STRESS DIAGRAMS) TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. SUBMITTED DOCUMENTS SHALL BEAR THE STAMP AND SIGNATURE OF A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF WASHINGTON. PROVIDE FOR SHAPES, BEARING POINTS, INTERSECTIONS, HIPs, VALLEYS, ETC., SHOWN ON THE DRAWINGS. EXACT COMPOSITION OF SPECIAL HIP, VALLEY, AND INTERSECTION AREAS (USE OF GIRDER TRUSSES, JACK TRUSSES, STEP-DOWN TRUSSES, ETC.) SHALL BE DETERMINED BY THE MANUFACTURER UNLESS SPECIFICALLY INDICATED ON THE PLANS. PROVIDE ALL TRUSS TO TRUSS AND TRUSS TO GIRDER TRUSS CONNECTION DETAILS AND REQUIRED CONNECTION MATERIALS. PROVIDE FOR ALL TEMPORARY AND PERMANENT TRUSS BRACING AND BRIDGING.

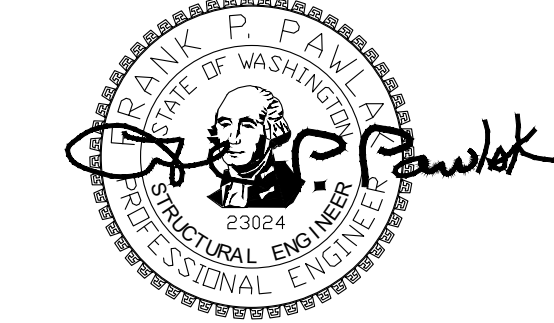
6. SHEATHING SHALL BE APA PERFORMANCE RATED PANELS PER APA "PLYWOOD DESIGN SPECIFICATION", INCLUDING APPLICABLE SUPPLEMENTS, UNLESS NOTED OTHERWISE. PLYWOOD OR ORIENTED-STRAND BOARD (OSB) PANELS SHALL BE GRADE CD AND ALSO CONFORM TO DOC PS-1 & PS-2. ALL PANELS SHALL BE IDENTIFIED AS EXPOSURE 1 UNLESS NOTED OTHERWISE. PANEL RATING TO BE AS FOLLOWS UNLESS NOTED OTHERWISE:

ROOF:	19/32" (OR 5/8") THICK, 40/20
WALLS:	15/32" THICK, 32/16, OR 1/2" THICK, 24/0
FLOORS:	23/32" (OR 3/4") THICK, TONGUE & GROOVE, (48/24)

UNLESS NOTED OTHERWISE ON THE PLANS, ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS AND NAILED WITH 8d NAILS @ 6"oc TO FRAMED PANEL EDGES AND OVER STUD WALLS SHOWN ON PLANS AND @ 12"oc (10"oc AT FLOORS) TO INTERMEDIATE SUPPORTS. PROVIDE APPROVED SHEATHING EDGE CLIPS @ 16"oc AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED TONGUE-AND-GROOVE JOINTS AND EDGE CLIPS. PROVIDE SOLID BLOCKING AT ALL EDGES ONLY WHERE NOTED ON PLANS. TOENAIL BLOCKING TO SUPPORTS WITH 16d NAILS, UNLESS NOTED OTHERWISE.

UNLESS NOTED OTHERWISE ON THE PLANS, WALL SHEATHING MAY BE LAID UP HORIZONTALLY OR VERTICALLY, UNSUPPORTED EDGES SHALL BE BLOCKED AND ALL EDGES SHALL BE NAILED WITH 8d @ 6"oc, NAIL WITH 8d @ 12"oc AT INTERMEDIATE SUPPORTS. NAIL SHEAR WALL SHEATHING TO ALL HOLDOWN STUDS USING EDGE NAIL SPACING WHEN HOLDOWN STUD DOES NOT OCCUR AT PANEL EDGES.

SHEATHING NAILS SHALL BE DRIVEN FLUSH BUT SHALL NOT FRACTURE THE SURFACE OF THE SHEATHING.



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**GENERAL STRUCTURAL NOTES**

**SHEET NO.**

**S1.1**

7. INTERIOR WOOD MEMBERS IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED WITH SODIUM BORATE (SBX). WOOD MEMBERS EXPOSED TO WEATHER (UNPAINTED) OR IN DIRECT CONTACT WITH SOIL SHALL BE PRESSURE-TREATED WITH ALKALINE COPPER QUATERNARY (ACQ). NOTE THAT ACQ IS EXTREMELY CORROSIVE TO METALS. SBX IS NONTOXIC TO THE ENVIRONMENT. PROVIDE TWO LAYERS OF ASPHALT IMPREGNATED BUILDING PAPER BETWEEN UNTREATED LEDGERS, BLOCKING, ETC., AND CONCRETE OR MASONRY. ALL METAL CONNECTORS IN CONTACT WITH "ACQ" PRESSURE-TREATED LUMBER OR FIRE-RETARDANT-TREATED LUMBER SHALL BE TYPE 304 OR 316 STAINLESS STEEL. THIS INCLUDES WASHERS, SCREWS, NAILS, HANGERS, AND ANY OTHER MISCELLANEOUS LT. GAGE METAL CONNECTORS. WHERE ACQ LUMBER IS MISTAKENLY USED OR FOR FIRE-RETARDANT-TREATED LUMBER USED IN INTERIOR CONDITIONS, ASTM A 653, TYPE G185 ("HOT-DIP" GALVANIZED TO 1.85 OUNCES PER SQUARE FOOT) METAL CONNECTORS MAY BE USED IN LIEU OF STAINLESS STEEL. METAL CONNECTORS 1/2" THICK OR GREATER NEED NOT BE GALVANIZED FOR INTERIOR USE, NOR DO THEY NEED TO BE STAINLESS STEEL FOR EXTERIOR USE. METAL CONNECTORS 1/2" THICK PLUS MUST BE GALVANIZED FOR EXTERIOR USE, UNLESS SPECIFIED OTHERWISE BY THE ARCHITECT.

8. WOOD FASTENER NOTES – THE FOLLOWING APPLY UNLESS OTHERWISE SHOWN ON THE PLANS:

8.1 NOTATIONS ON DRAWINGS RELATING TO FRAMING CLIPS, JOIST HANGERS AND OTHER CONNECTING DEVICES REFER TO CATALOG NUMBERS OF CONNECTORS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY, DUBLIN, CALIFORNIA. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. SUBMIT MANUFACTURER'S CATALOG AND ICC REPORTS TO ARCHITECT AND ENGINEER FOR REVIEW WHEN REQUESTING SUBSTITUTIONS. ALL SPECIFIED FASTENERS MUST BE USED AND PROPER INSTALLATION PROCEDURES MUST BE RECEIVED IN ORDER TO OBTAIN ICC APPROVED LOAD CAPACITIES. VERIFY THAT THE DIMENSIONS OF THE SUPPORTING MEMBER ARE SUFFICIENT TO RECEIVE THE SPECIFIED FASTENERS.

8.2 NAILS SHALL BE MANUFACTURED IN CANADA OR THE UNITED STATES IN SIZES AND TYPES AS FOLLOWS, UNLESS NOTED OTHERWISE:

PNEUMATIC NAILING – PLAIN SHANK, COATED OR GALVANIZED

8d = .131 DIAMETER x 2-1/2" MINIMUM LENGTH  
 10d = .148 DIAMETER x 3" MINIMUM LENGTH  
 16d = .162 DIAMETER x 3-1/4" MINIMUM LENGTH  
 20d = .192 DIAMETER x 4" MINIMUM LENGTH

HAND NAILING – SINKERS, COATED

8d = 11-1/2 GAGE x 2-3/8"  
 10d = 11 GAGE x 2-7/8"  
 16d = 9 GAGE x 3-1/4"

9. WOOD FRAMING NOTES – THE FOLLOWING APPLY UNLESS OTHERWISE SHOWN ON THE PLANS:

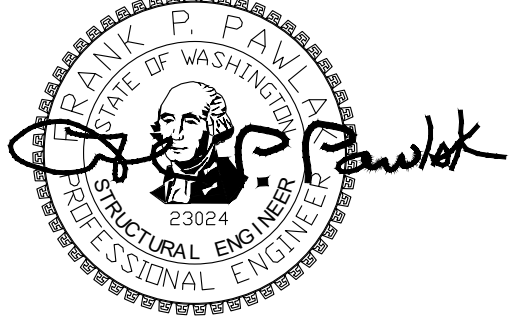
9.1 ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE INTERNATIONAL BUILDING CODE. MINIMUM NAILING, UNLESS OTHERWISE NOTED, SHALL CONFORM TO TABLE 2304.10.1 OF THE INTERNATIONAL BUILDING CODE. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.

9.2 WALL FRAMING: ALL STUD WALLS SHOWN AND NOT OTHERWISE NOTED SHALL BE 2x4 STUDS @ 16"oc AT INTERIOR WALLS AND 2x6 STUDS @ 16"oc AT EXTERIOR WALLS. TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS. UNLESS NOTED OTHERWISE A (2) 2x8 HEADER SHALL BE PROVIDED OVER ALL OPENINGS IN 2x4 STUD WALLS AND A (3) 2x8 HEADER OVER ALL OPENINGS IN 2x6 WALLS. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORT BELOW. PROVIDE CONTINUOUS SOLID BLOCKING AT MID-HEIGHT OF ALL STUD WALLS OVER 8'-0" IN HEIGHT.

ALL STUD WALLS SHOWN ON STRUCTURAL DRAWINGS SHALL HAVE THEIR LOWER PLATES ATTACHED TO WOOD FRAMING BELOW WITH 16d NAILS AT 12"oc STAGGERED OR BOLTED TO CONCRETE OR MASONRY WITH 5/8" DIAMETER BY 10" LONG ANCHOR BOLTS, EMBEDDED 7" AND SPACED AT 4'-0"oc MAXIMUM, UNLESS NOTED OTHERWISE (UNO) ON PLANS. SHEAR WALLS REQUIRE MINIMUM 3"x3"x1/4" SQUARE PLATE WASHERS AT ALL ANCHOR BOLTS. REFER TO THE STRUCTURAL PLANS AND SHEAR WALL SCHEDULE FOR REQUIRED SHEATHING AND NAILING.

9.3 FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS AND AROUND ALL OPENINGS IN FLOORS OR ROOFS UNLESS OTHERWISE NOTED. PROVIDE BRIDGING @ 8'-0"oc AND SOLID BLOCKING AT ALL BEARING POINTS. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.

TOENAIL JOISTS TO BEARING SUPPORTS WITH 16d NAILS. UNLESS NOTED OTHERWISE, ATTACH JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON "LU" SERIES METAL JOIST HANGERS TO SUIT JOIST SIZE. ALL DOUBLE JOISTS, BEAMS, AND SLOPED AND/OR SKEWED JOISTS SHALL BE CONNECTED TO FLUSH MEMBERS WITH U-SERIES JOIST HANGERS UNLESS NOTED OTHERWISE. SKEW AND SLOPE ALL CONNECTORS AS REQUIRED. FACE-NAIL ALL MULTI-JOIST BEAMS TOGETHER WITH 16d SPIKES @ 24"oc STAGGERED.



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GENERAL  
 STRUCTURAL  
 NOTES

**SHEET NO.**

S1.2



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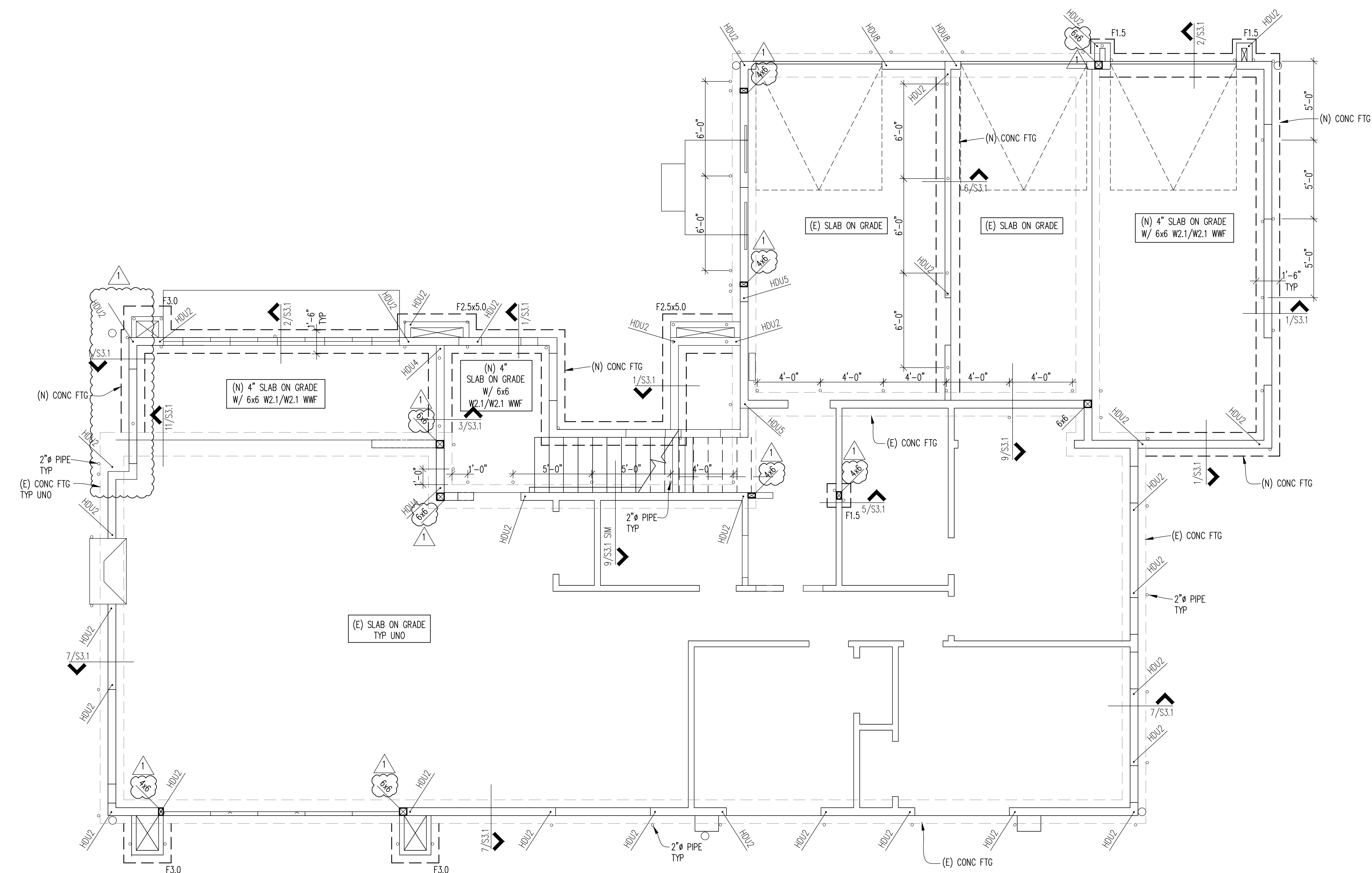
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FOUNDATION PLAN

SHEET NO.

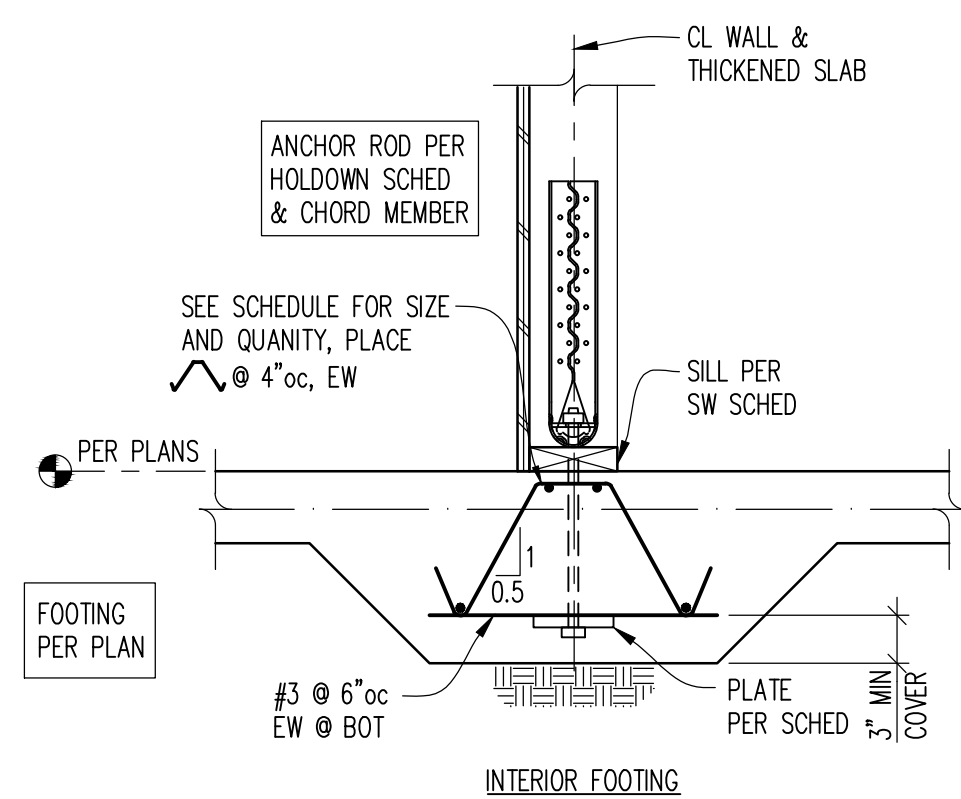
S2.1



- NOTES:
- SEE ARCH FOR DIMENSIONS
  - SEE SHEETS S3.X FOR TYPICAL CONCRETE DETAILS;  
SEE SHEETS S4.X FOR TYPICAL WOOD FRAMING DETAILS.
  - INDICATES HOLD-DOWN TYPE, SEE 12/S2.1 FOR HOLD-DOWN SCHEDULE.
  - SEE ARCH FOR INSULATION BELOW SLAB-ON-GRADE, IF APPLICABLE.
  - FOOTING SCHEDULE  
 F1.5 1'-6"x1'-6"x16" THK W/ (2) #4 EW BOT  
 F2.0 2'-0"x2'-0"x16" THK W/ (2) #4 EW BOT  
 F2.5 2'-6"x2'-6"x16" THK W/ (3) #4 EW BOT  
 F3.0 3'-0"x3'-0"x16" THK W/ (3) #4 EW BOT  
 F3.5 3'-6"x3'-6"x16" THK W/ (4) #4 EW BOT  
 F2.5x5.0 2'-6"x5'-0"x16" THK W/ (3) #4 TRAN & (6) #4 LONG BOT

INDICATES EXISTING (E) FOOTING  
 INDICATES NEW (N) FOOTING

10



- NOTES:
- PROVIDE ASTM F1554 GR.105 HEADED ANCHORS FOR HOLDOWN ANCHORS.
  - CONNECT HOLDOWN TO CONCRETE WALL BELOW PER DETAIL.
  - QUANTITY OF NAILS FOR STRAPS ARE EVENLY DIVIDED BETWEEN ENDS OF STRAPS ABOVE AND BELOW THE DEPTH OF THE FLOOR SYSTEM, SEE 1/S4.X. USE 16d COMMON NAILS.
  - WOOD MEMBERS (MIN) ABOVE AND BELOW WHERE OCCURS AT FLOOR LEVEL, IF SHEAR WALL REQUIRES 3x STUDS, USE 3x INSTEAD OF 2x.
  - HOLDOWN DETAIL AT FLOOR-TO-FLOOR HOLDOWNS CONDITION PER 12/S4.3.
  - HOLDOWN SCHEDULE IS PROVIDED FOR GENERAL INSTALLATION INFORMATION. NOT ALL HARDWARE SCHEDULED IS REQUIRED, SEE PLANS FOR HOLDOWN CALL-OUTS AND LOCATIONS. CONSULT MANUFACTURER FOR ADDITIONAL INFORMATION.

HOLDOWN SCHEDULE (HF# FRAMING)

MARK	FASTENERS TO CONCRETE			FASTENERS TO WOOD STUDS OR POSTS			ASD ALLOWABLE LOAD (LBS)
	ANCHOR DIAMETER SEE NOTE 1	EMBEDMENT LENGTH INTO CONCRETE: WALL & HAIRPINS SLAB & HAIRPINS SEE NOTE 2	EMBED PLATE @ INT FTGS	S/S 1/4"x2 1/2" SCREWS	16d COMMON NAILS SEE NOTE 4	CHORD MEMBER SEE NOTE 5	
MSTC40	3" x 16 GA	-	-	-	(32) 16d	(3) 2x STUDS	2,650
MSTC48B3	3" x 14 GA	-	-	-	(54) 10d	(3) 2x STUDS	3,420
HDU2	3/8"	18" & 1-#4	2-#4	6	-	(3) 2x STUDS	2,215
HDU4	3/8"	18" & 1-#4	2-#4	10	-	(3) 2x STUDS	3,285
HDU8	3/8"	18" & 2-#4	2-#4	1/2x5x5	20	6x6	5,665

TYPICAL HOLDOWN DETAIL/FOUNDATION

12

FOUNDATION PLAN

1/4"=1'-0"

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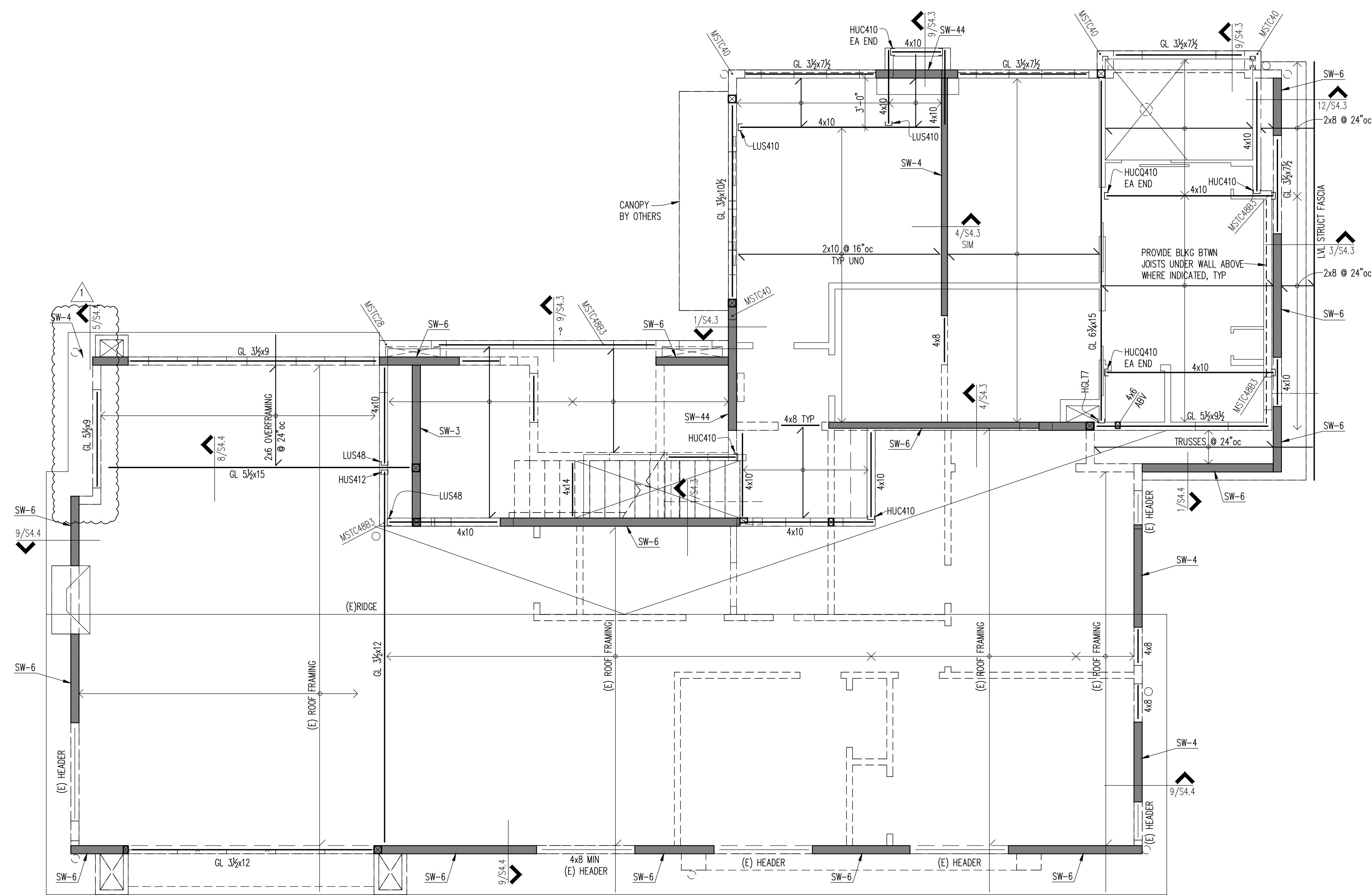
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SHEET TITLE

2ND FLOOR  
FRAMING PLAN

SHEET NO.

S2.2



NOTES:

1. WALLS SHOWN ARE ON FLOOR BELOW.
2. SEE ARCH FOR DIMENSIONS.
3. SEE SHEETS S4.X FOR TYPICAL WOOD FRAMING DETAILS.
4. SW-X INDICATES SHEAR WALL TYPE. SEE 1/S4.2 FOR SHEAR WALL SCHEDULE.
5. [Symbol] INDICATES SHEAR WALLS.
6. [Symbol] INDICATES HOLD-DOWN TYPE. SEE 9/S3.1 FOR HOLD-DOWN SCHEDULE.
7. SEE STRUCTURAL GENERAL NOTES FOR TYPICAL HEADERS NOT NOTED ON PLAN.
8. SEE STRUCTURAL GENERAL NOTES & 1/S4.1 FOR TYPICAL POSTS AT ENDS OF HEADERS & BEAMS NOT NOTED ON PLAN.
9. \* INDICATES STRAP WINDOW, SEE 2/S4.2.





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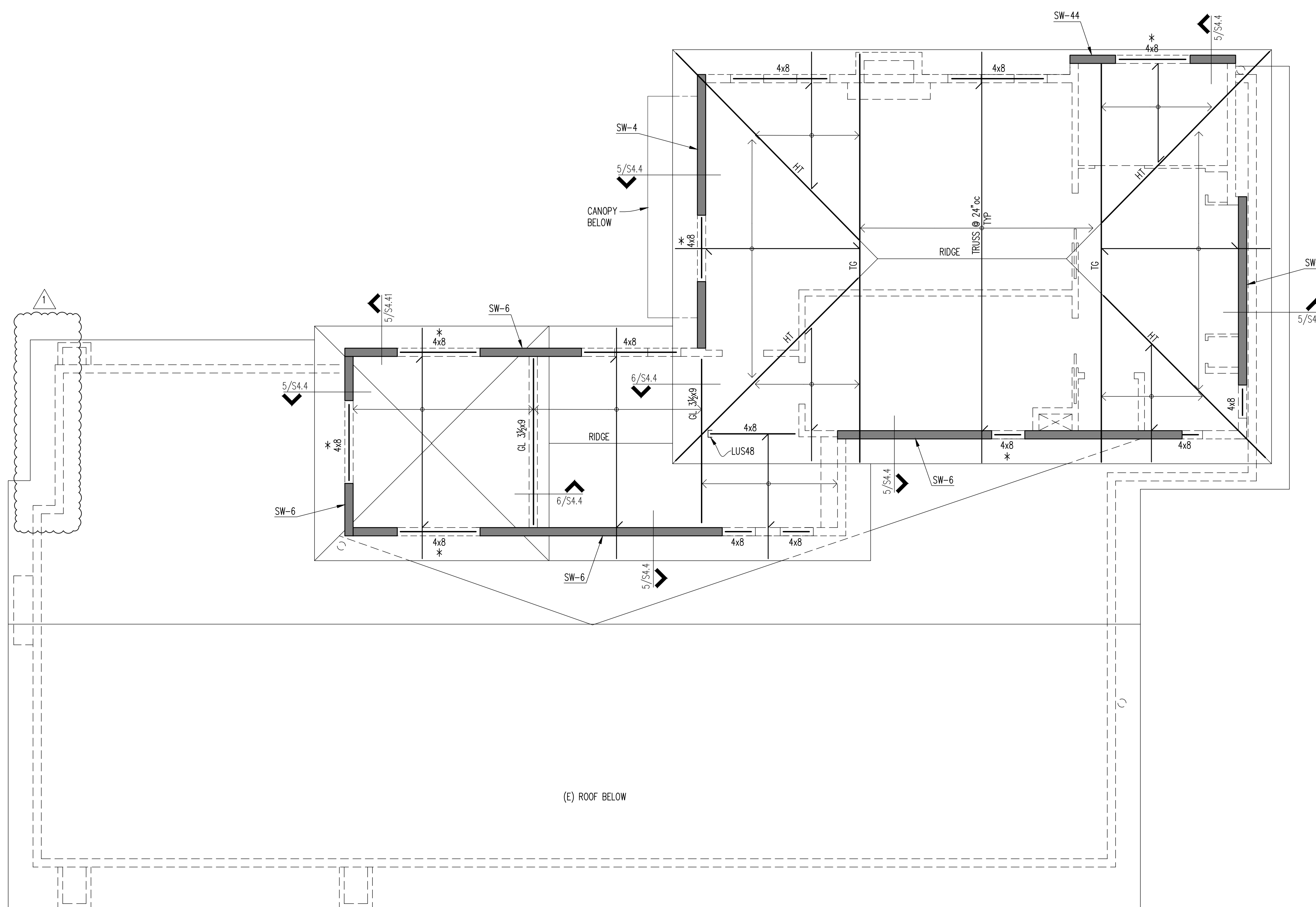
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BDS	AS NOTED
DRAWN	SCALE

SHEET TITLE

ROOF FRAMING PLAN

SHEET NO.

S2.3

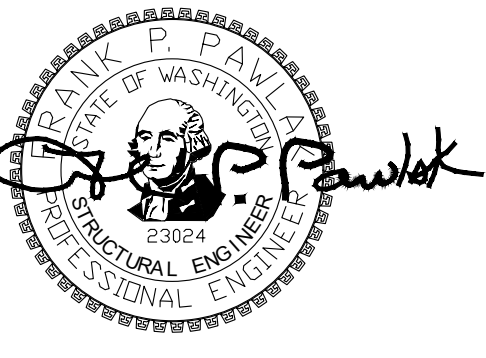


(E) ROOF BELOW

NOTES:

- SEE ARCH FOR DIMENSIONS.
- WALLS SHOWN ARE BELOW FRAMING.
- SEE SHEETS SA-X FOR WOOD DETAILS.
- SW-X INDICATES SHEAR WALL TYPE, SEE 1/S4.2 FOR SHEARWALL SCHEDULE.
- INDICATES SHEAR WALLS.
- SEE STRUCTURAL GENERAL NOTES FOR TYPICAL HEADERS NOT NOTED ON PLAN UNO.
- TC INDICATES TRUSS GIRDER.
- HT INDICATES HIP TRUSS.
- INDICATES BEARING WALLS.
- INDICATES NON-BEARING WALLS.
- \* INDICATES STRAP WINDOW, SEE 2/S4.2.





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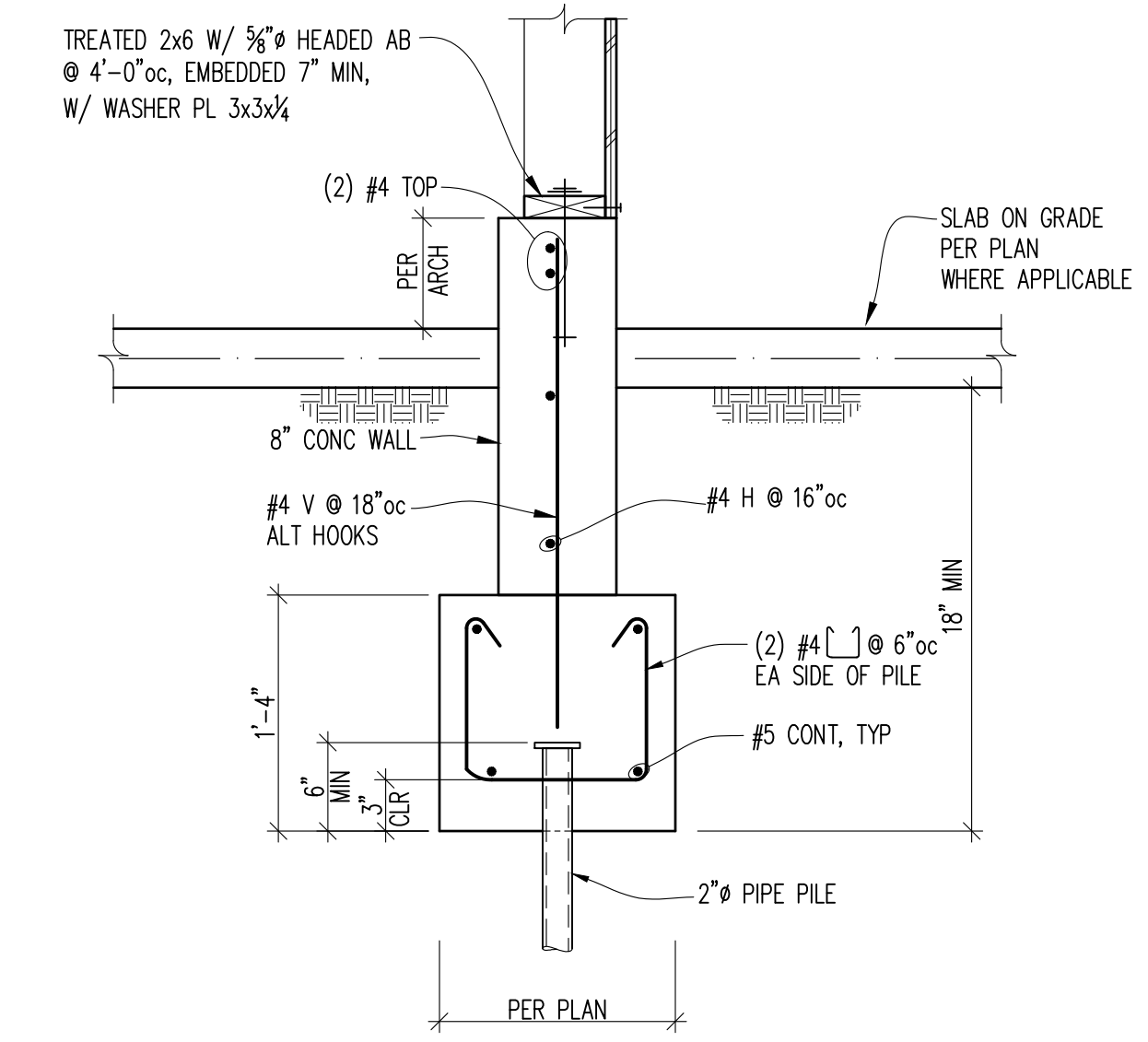
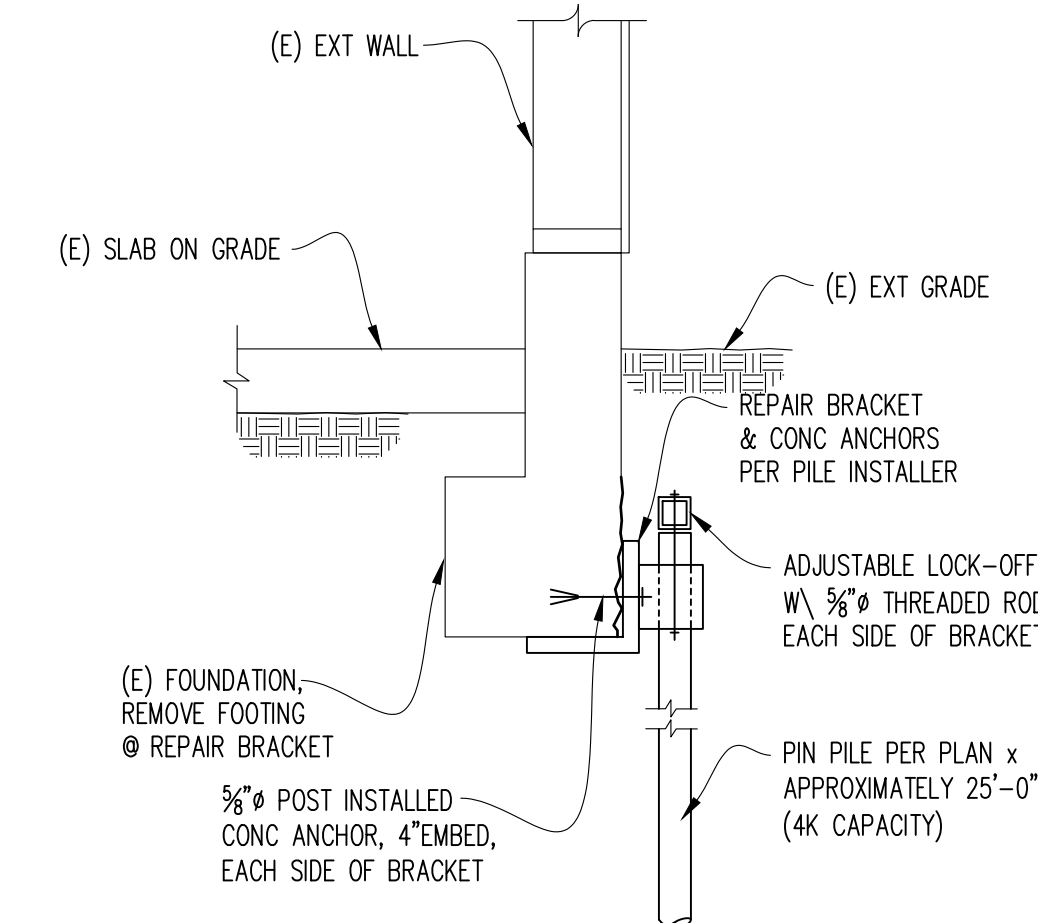
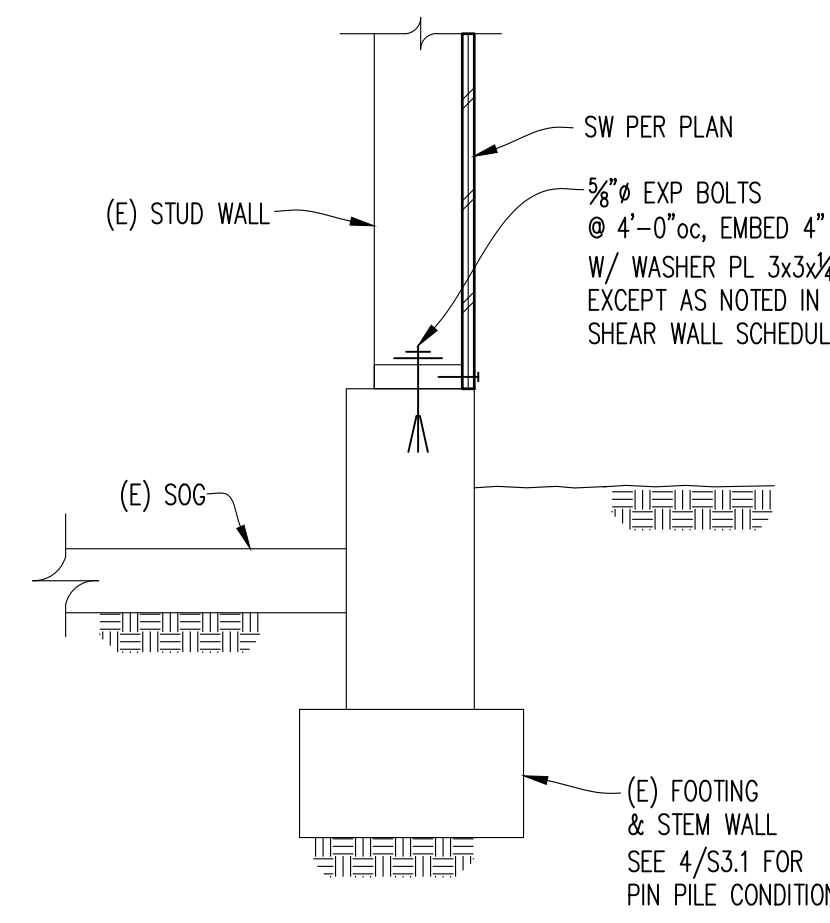
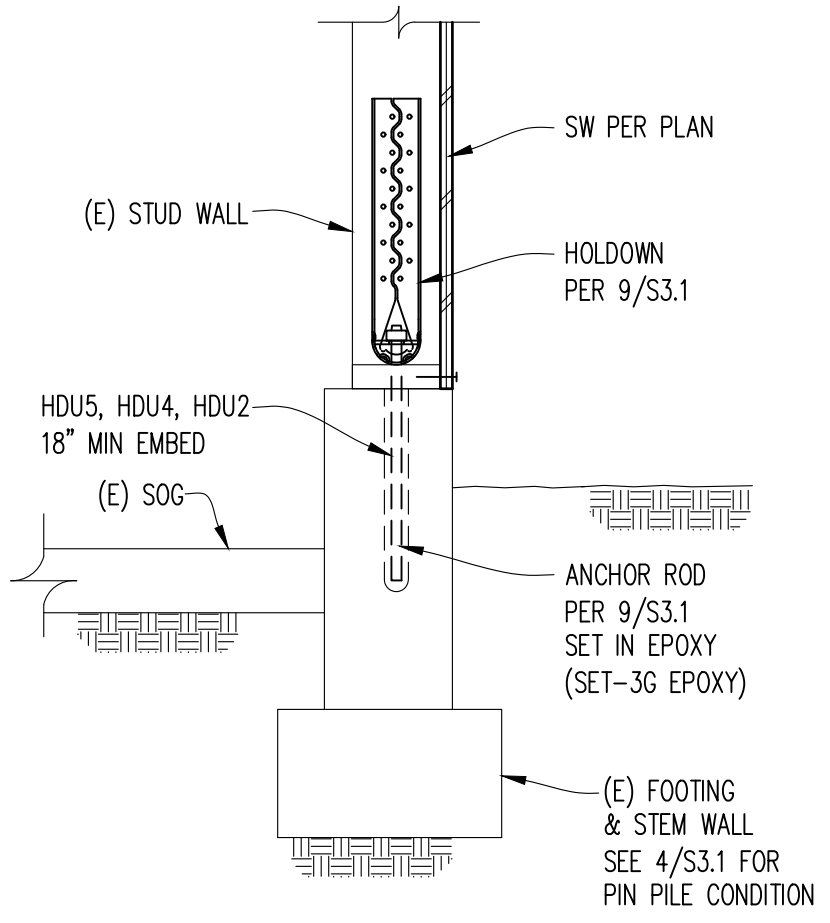
12/20/23	23-195
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SHEET TITLE

TYP CONC SECTIONS & DETAILS

SHEET NO.

S3.1

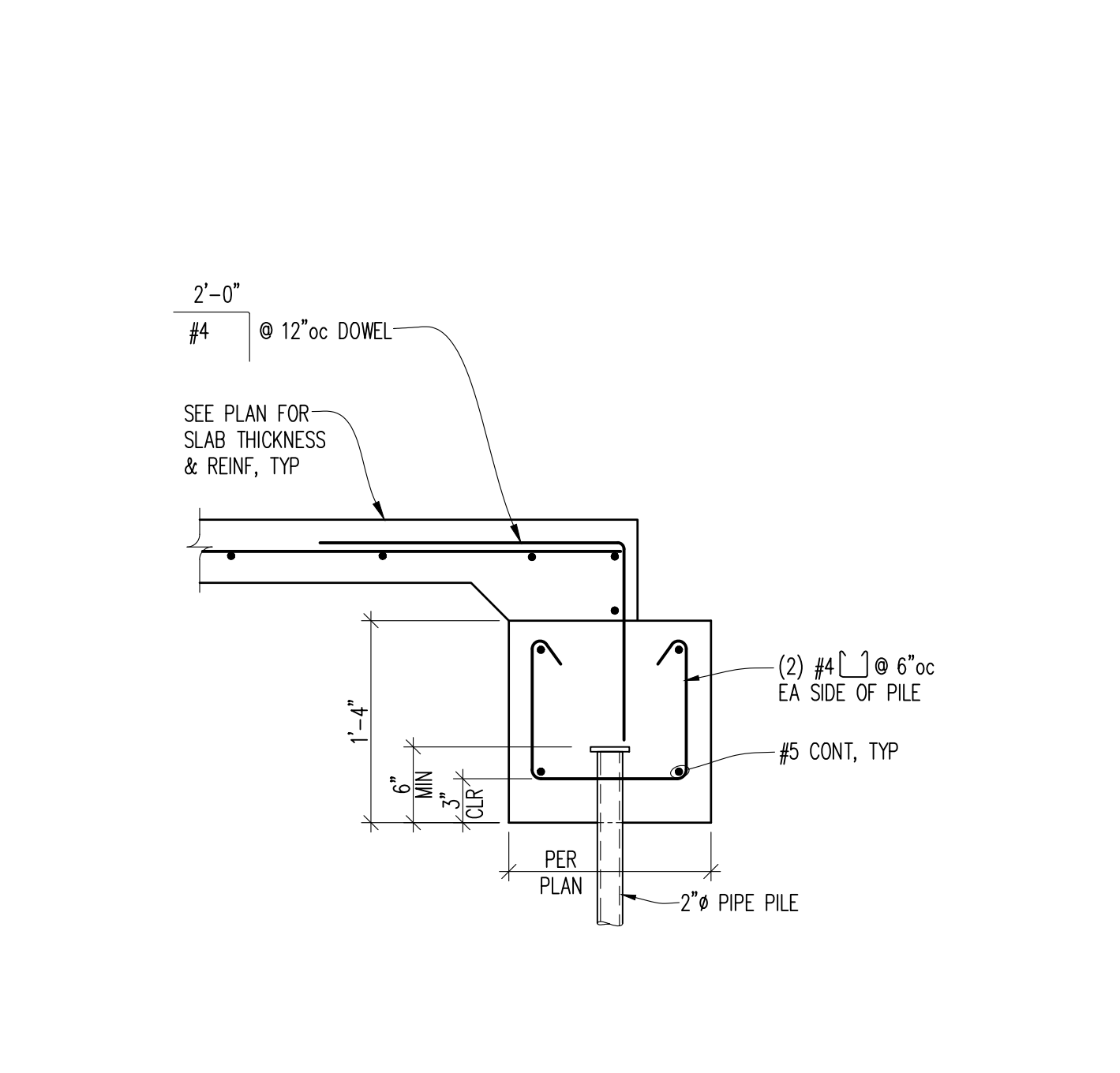
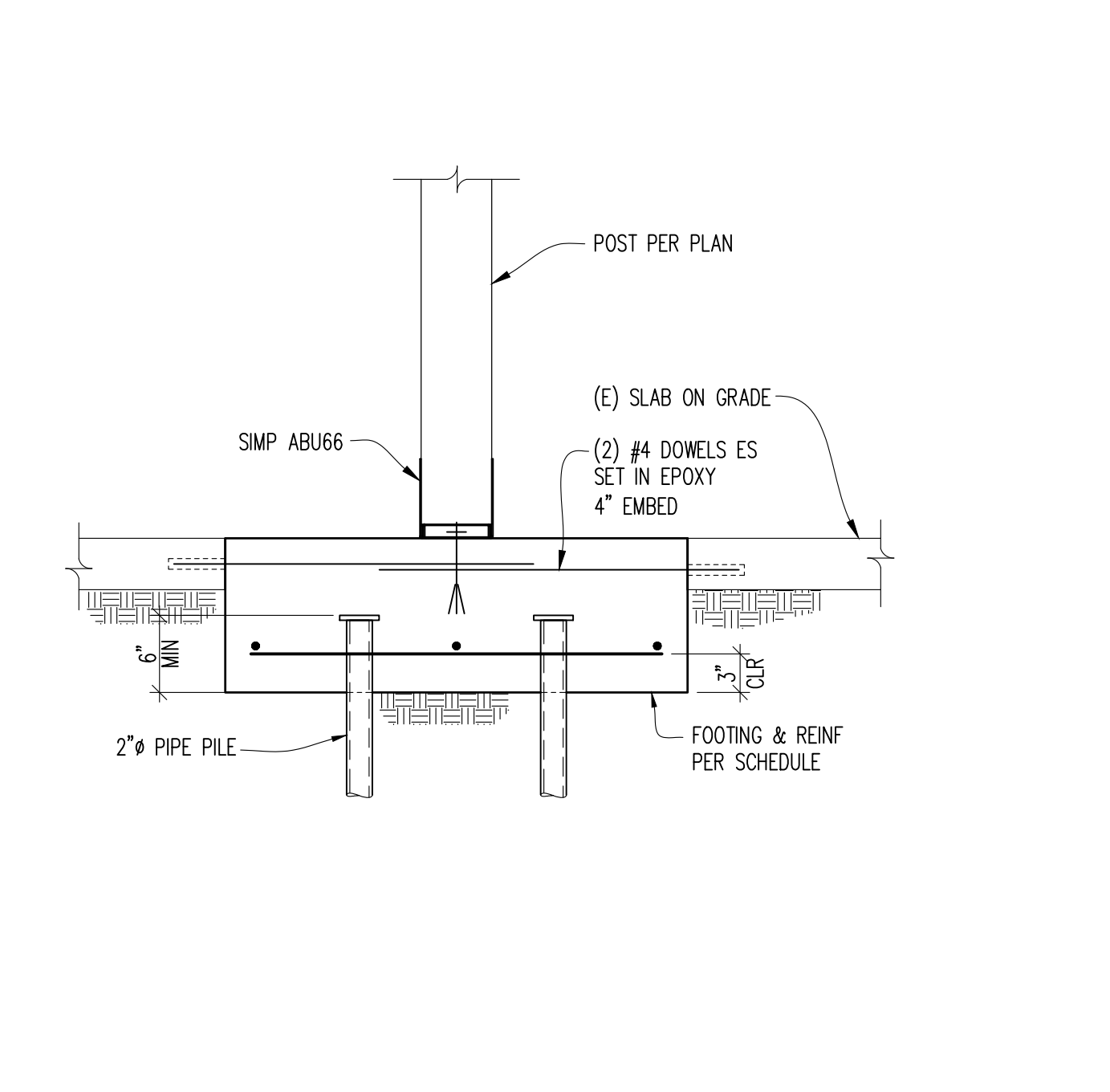
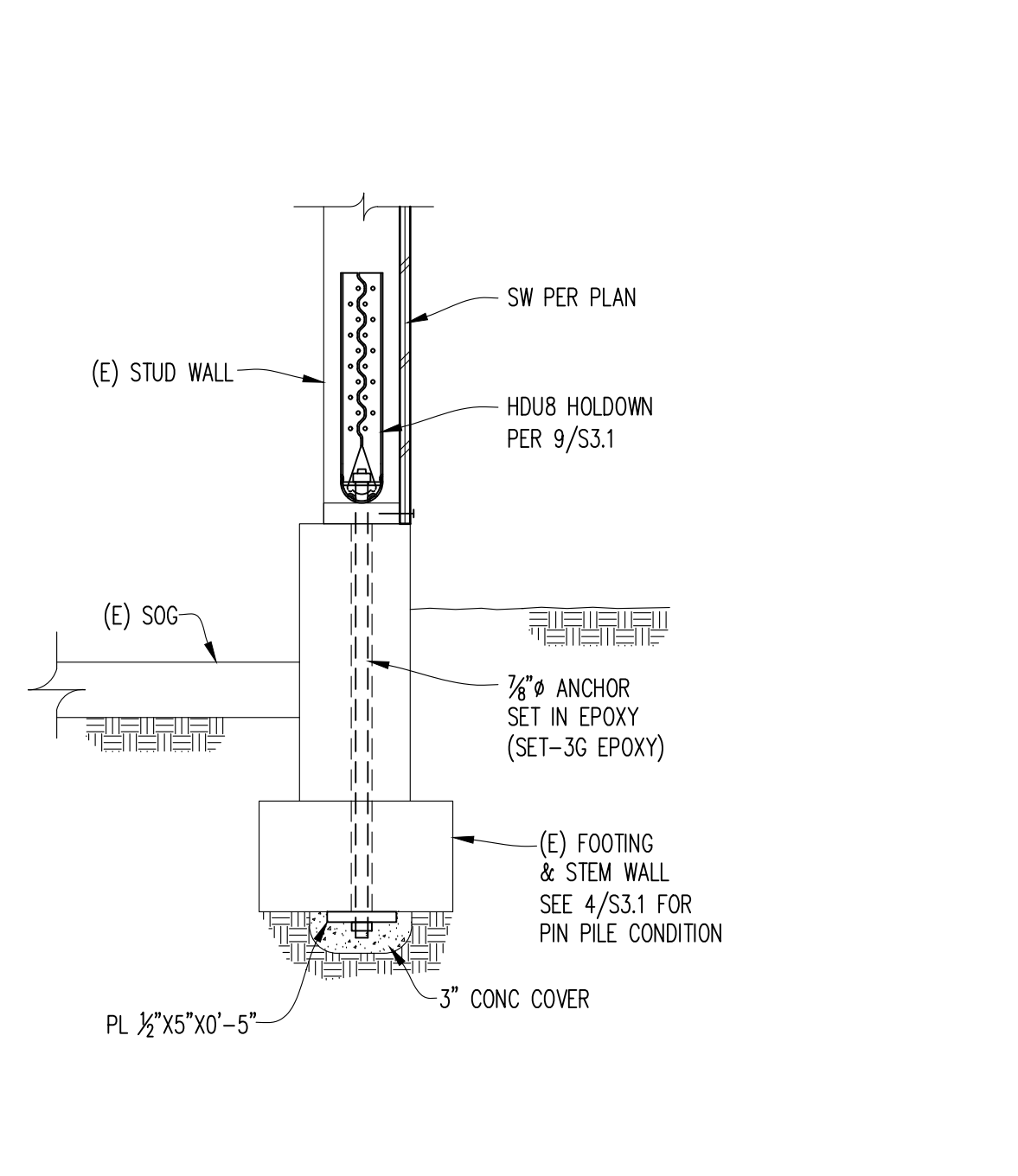
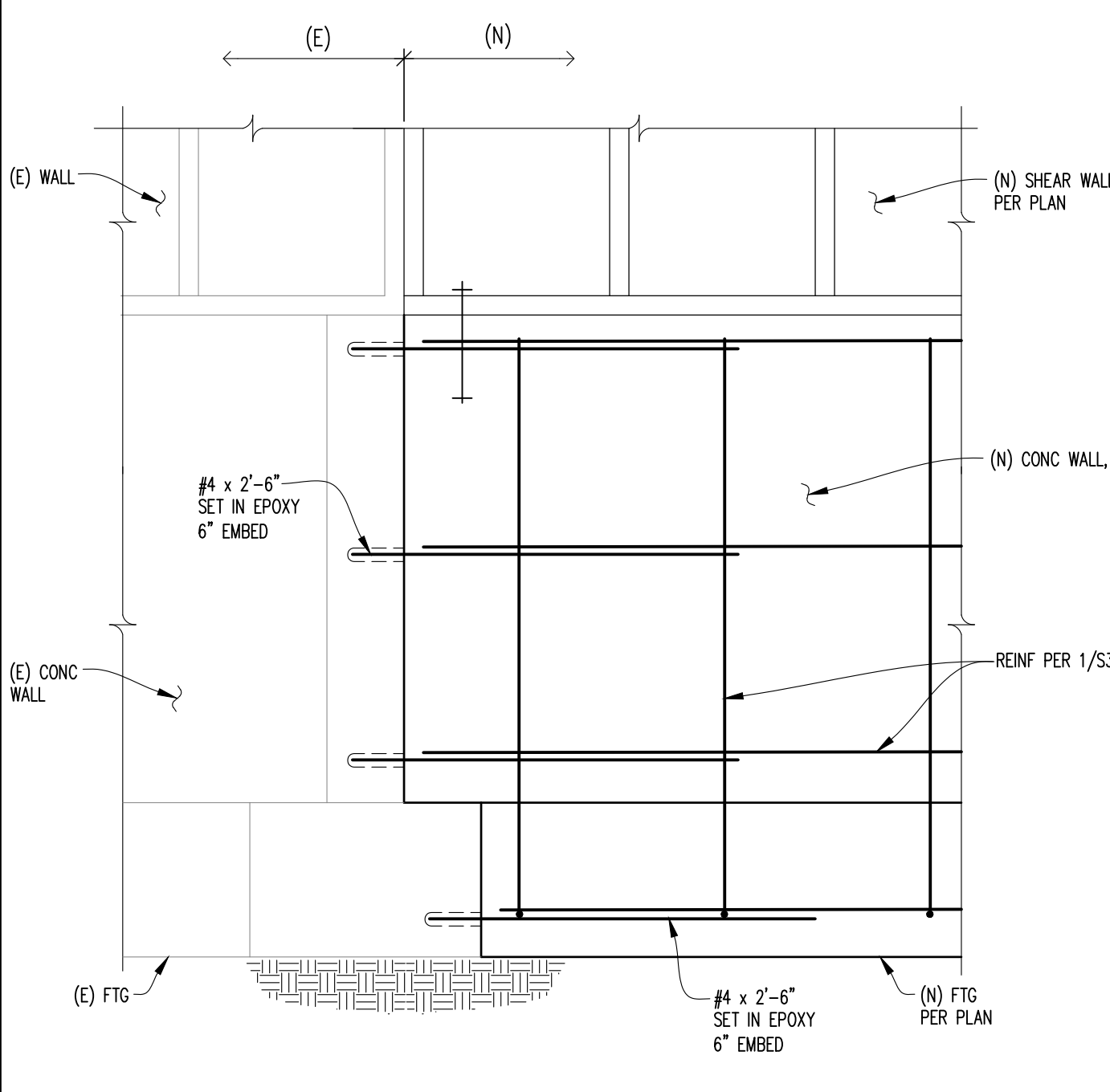


HOLDOWN EMBED IN EXISTING FOOTING 10

DETAIL 1"=1'-0" 7

PIPE PILE AT EXTERIOR 1"=1'-0" 4

DETAIL 1"=1'-0" 1

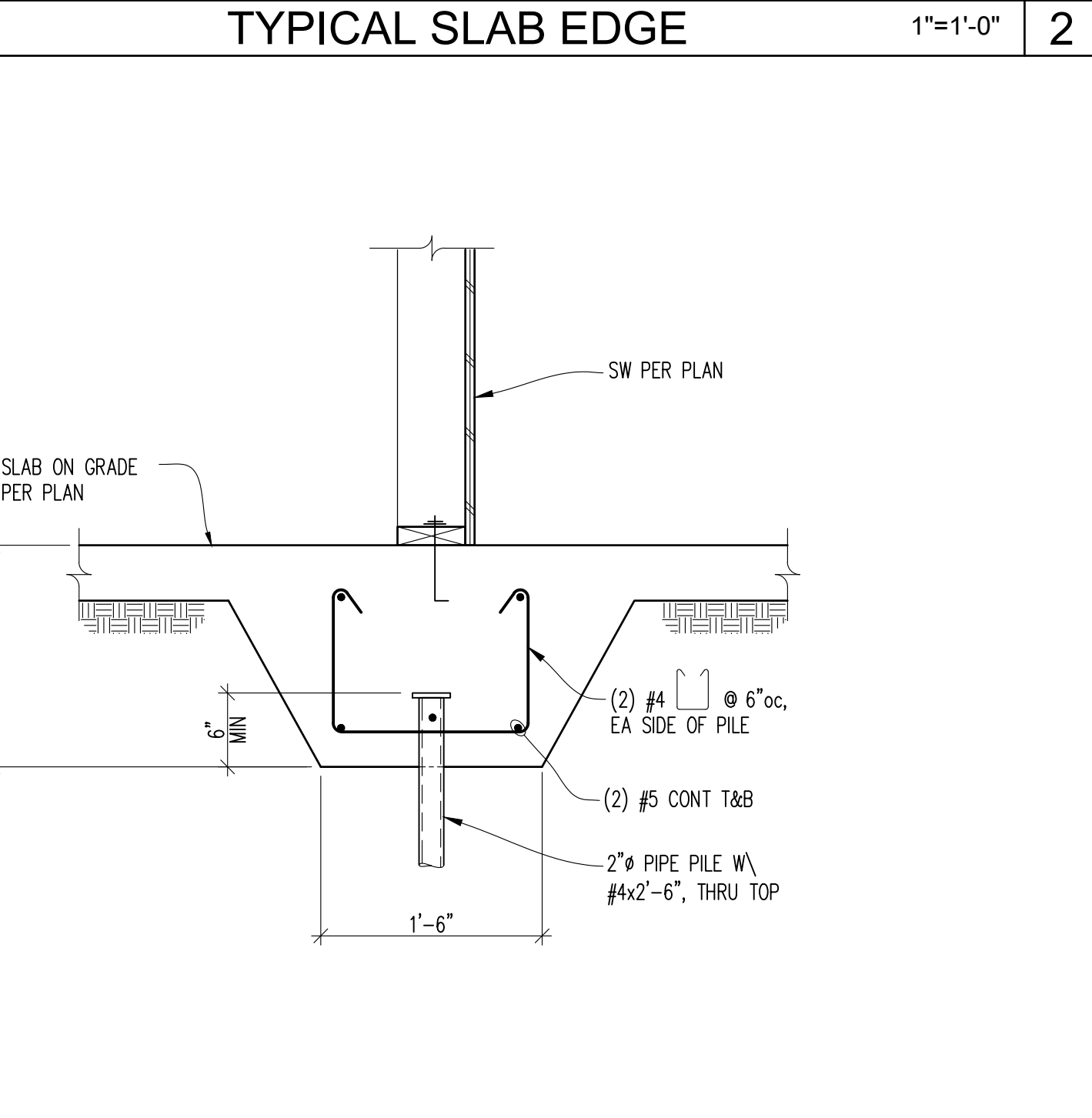
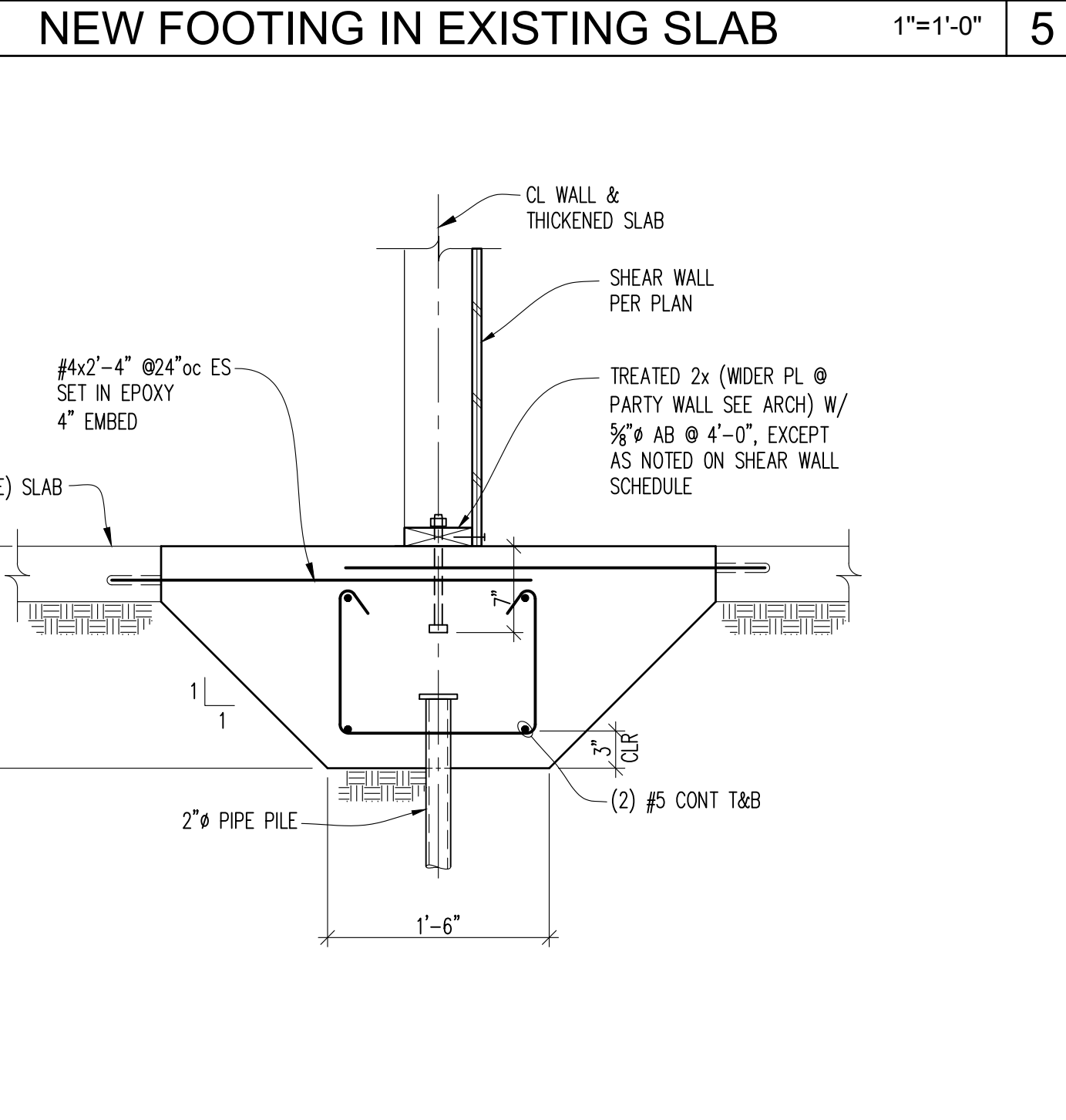
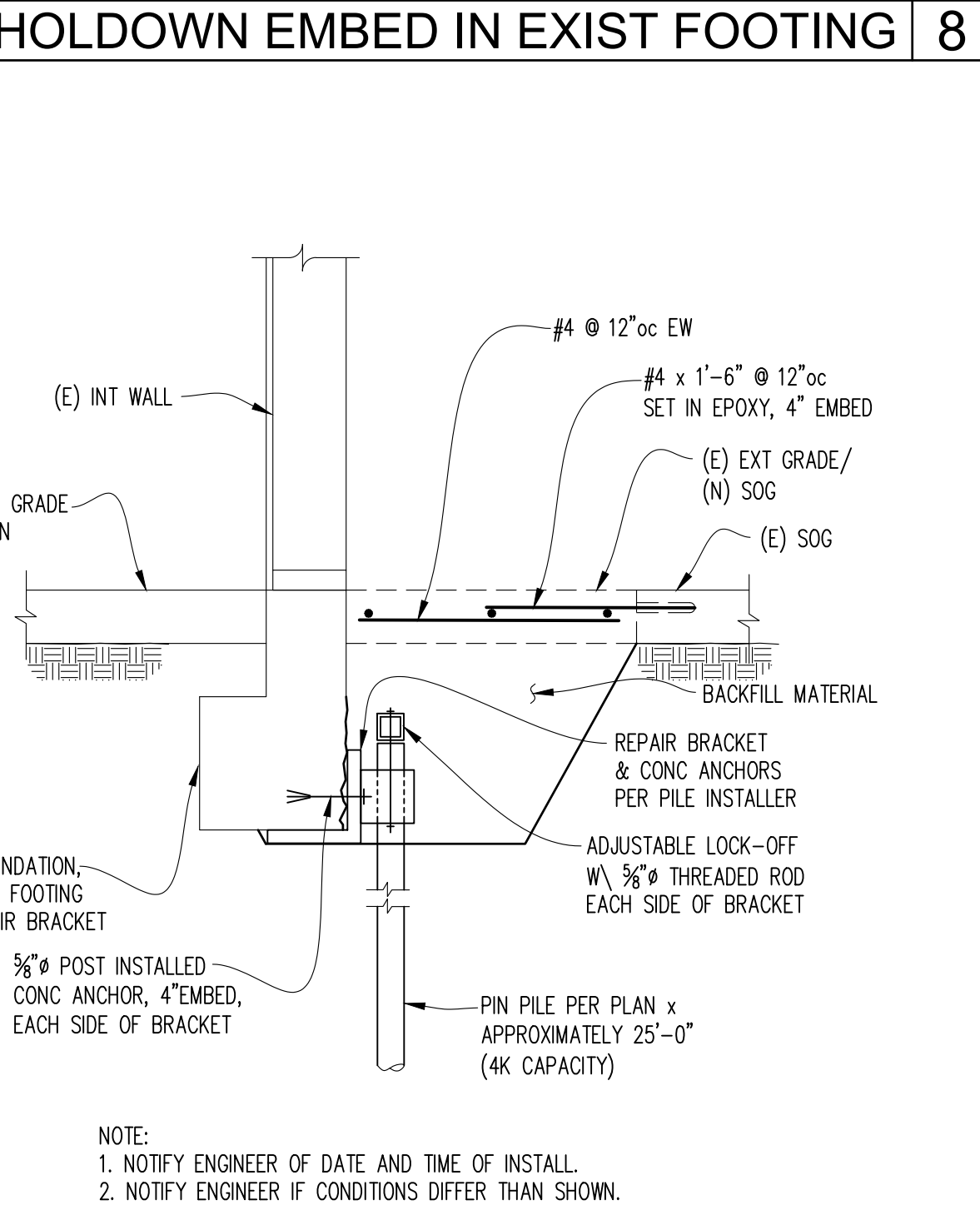


WALL DETAIL 1"=1'-0" 11

HDU8 HOLDOWN EMBED IN EXIST FOOTING 8

NEW FOOTING IN EXISTING SLAB 1"=1'-0" 5

TYPICAL SLAB EDGE 1"=1'-0" 2

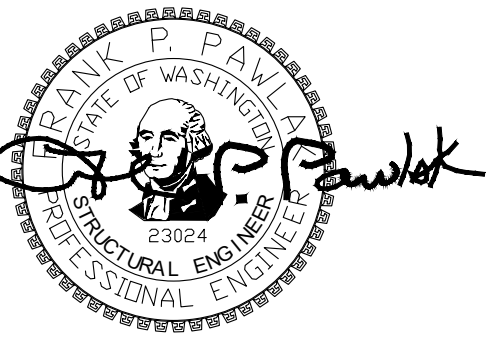


12

PIPE PILE AT INTERIOR 1"=1'-0" 9

TYPICAL INTERIOR FOOTING 1"=1'-0" 6

TYPICAL INTERIOR FOOTING 1"=1'-0" 3



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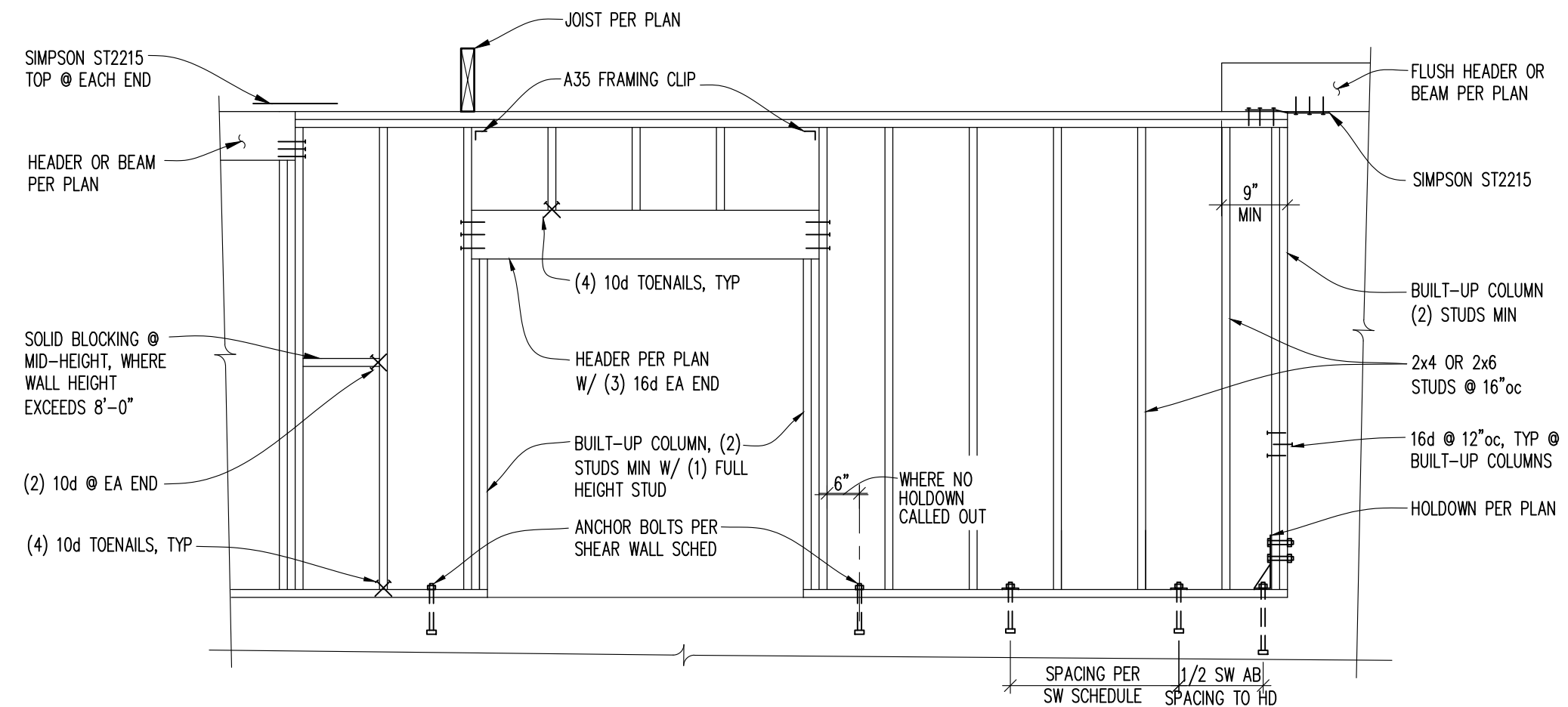
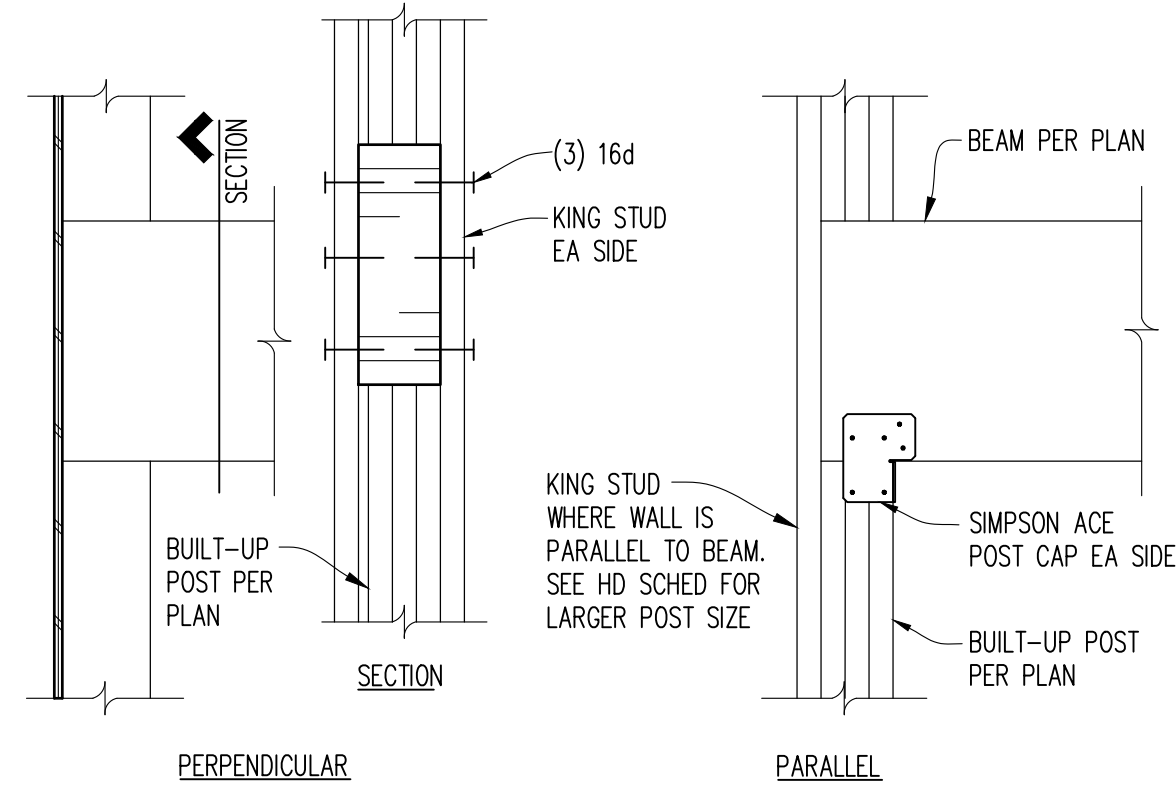
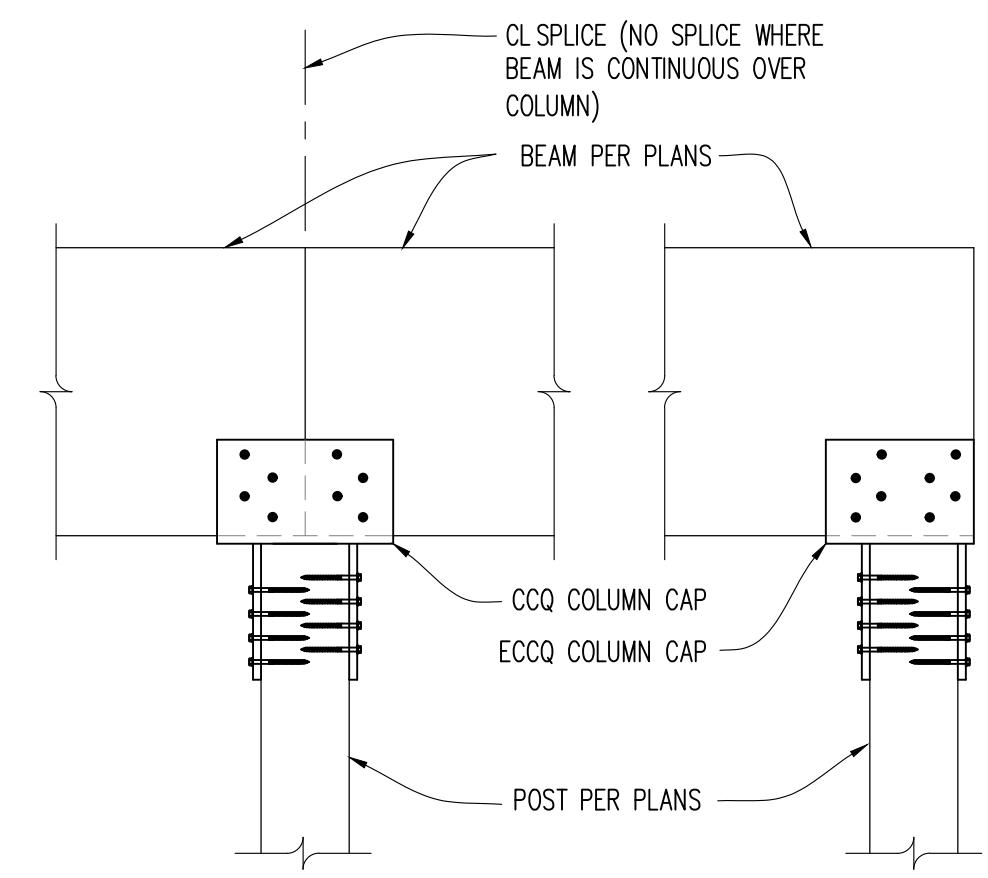
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SHEET TITLE

SECTIONS & DETAILS

SHEET NO.

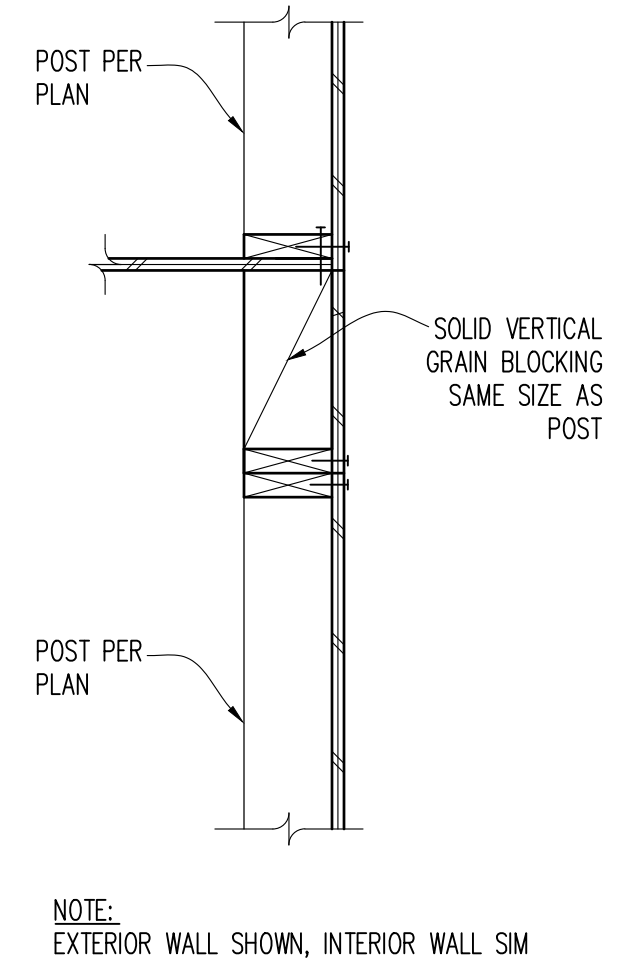
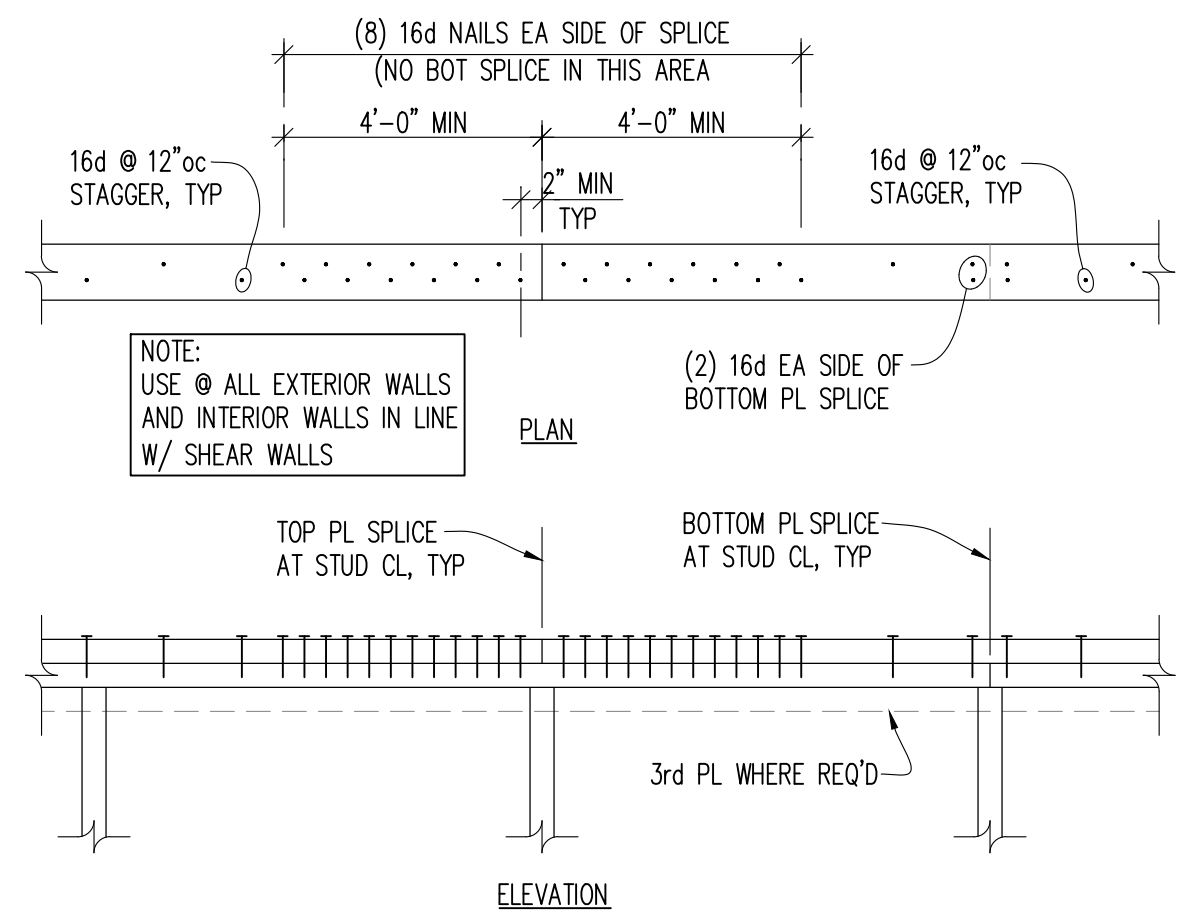
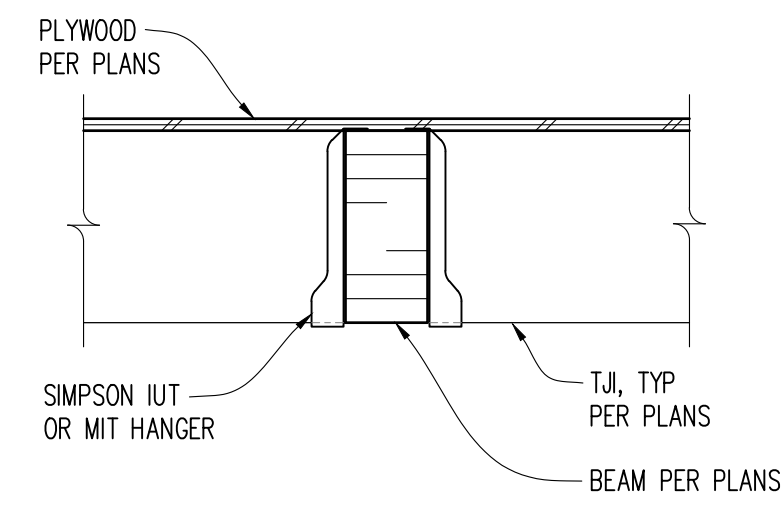
S4.1



TYPICAL BEAM TO WOOD POST 10

TYPICAL BM TO WALL CONNECTION 7

TYPICAL STUD FRAMING DETAIL 1



TYP BEAM/JOIST CONNECTION 11

STUD WALL TOP PLATE SPLICE 5

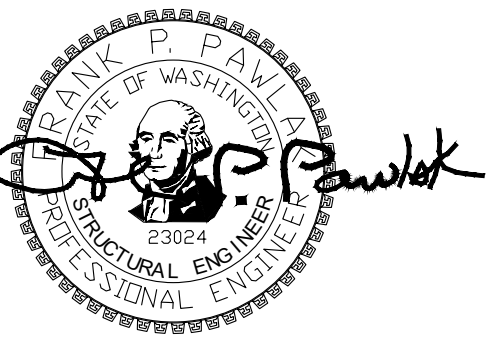
TYP POST FLOOR-TO-FLOOR 2

12

9

6

3



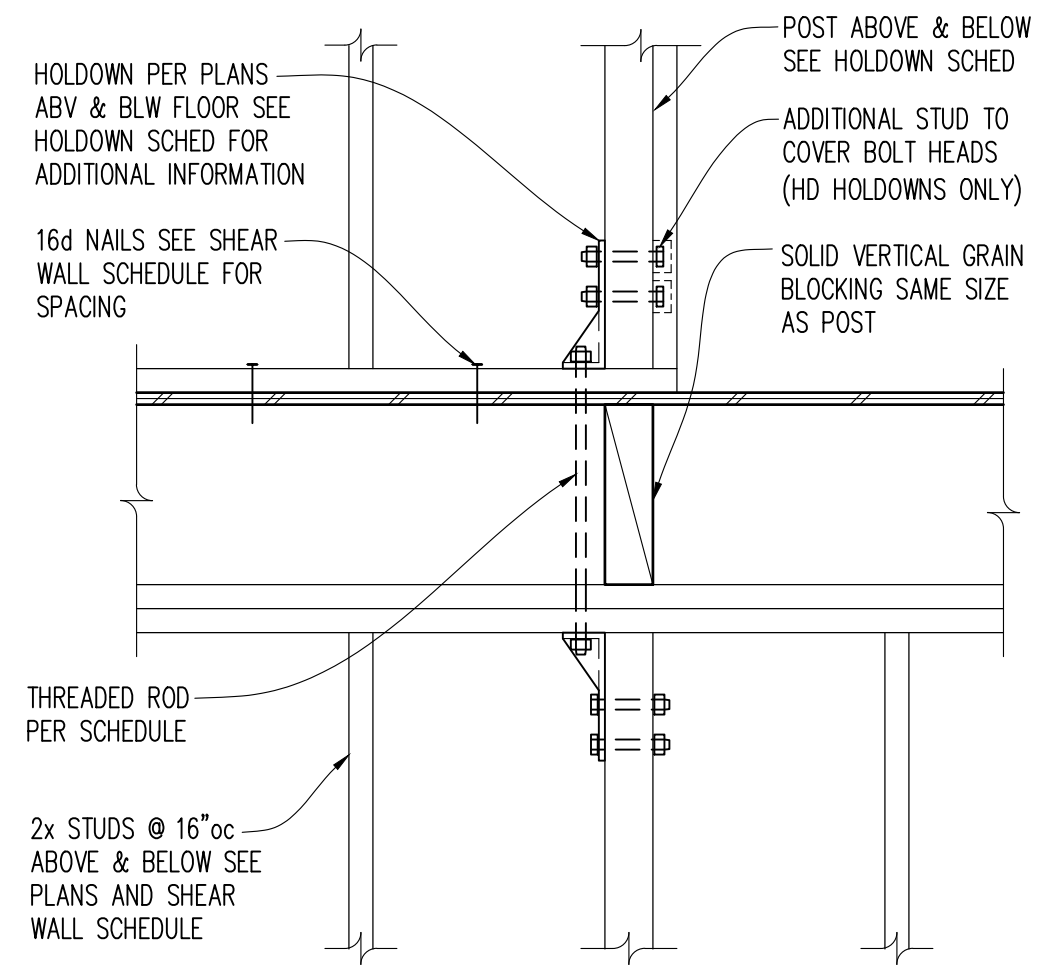
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SHEAR WALL SCHEDULE (HEM FIR LUMBER WITH 8d NAILS)

MARK	SHEATHING (NOTES 1,2,3,4,9) APPLICATION	PANEL EDGE NAIL SPACING (NOTE 5)	RIM/BLKG TO WALL TOP PLATE (NOTE 6)	WALL BOTTOM PLATE TO RIM/BLKG ATTACHMENT * (NOTE 6,13)		3/8" ANCHOR BOLTS TO CONCRETE (NOTES 9,10)	MIN PANEL EDGE STUDS & BLOCKING (NOTE 8)	FASTENING ALTERNATIVE (2)2x TOGETHER (NOTE 14)		ALLOWABLE SHEAR CAPACITY (PLF)(NOTE 8)
				16d NAILS	SDWS 0.220"x5"			10d NAILS	SDS 1/2"x3"	
SW-6	ONE SIDE	8d @ 6"oc	LTP4 @ 24"oc	11"oc	21"oc	48"oc	2x	N/A	N/A	242
SW-4	ONE SIDE	8d @ 4"oc	LTP4 @ 22"oc	7"oc	15"oc	46"oc	3x	5 1/2"oc	10"oc	353
SW-3	ONE SIDE	8d @ 3"oc	LTP4 @ 16"oc	5"oc	11"oc	36"oc	3x	4"oc	8"oc	456
SW-44	BOTH SIDES (NOTE 7)	8d @ 4"oc	LTP4 @ 11"oc	N/A	7"oc	23"oc	3x	(2) @ 5 1/2"oc	5 1/2"oc	706

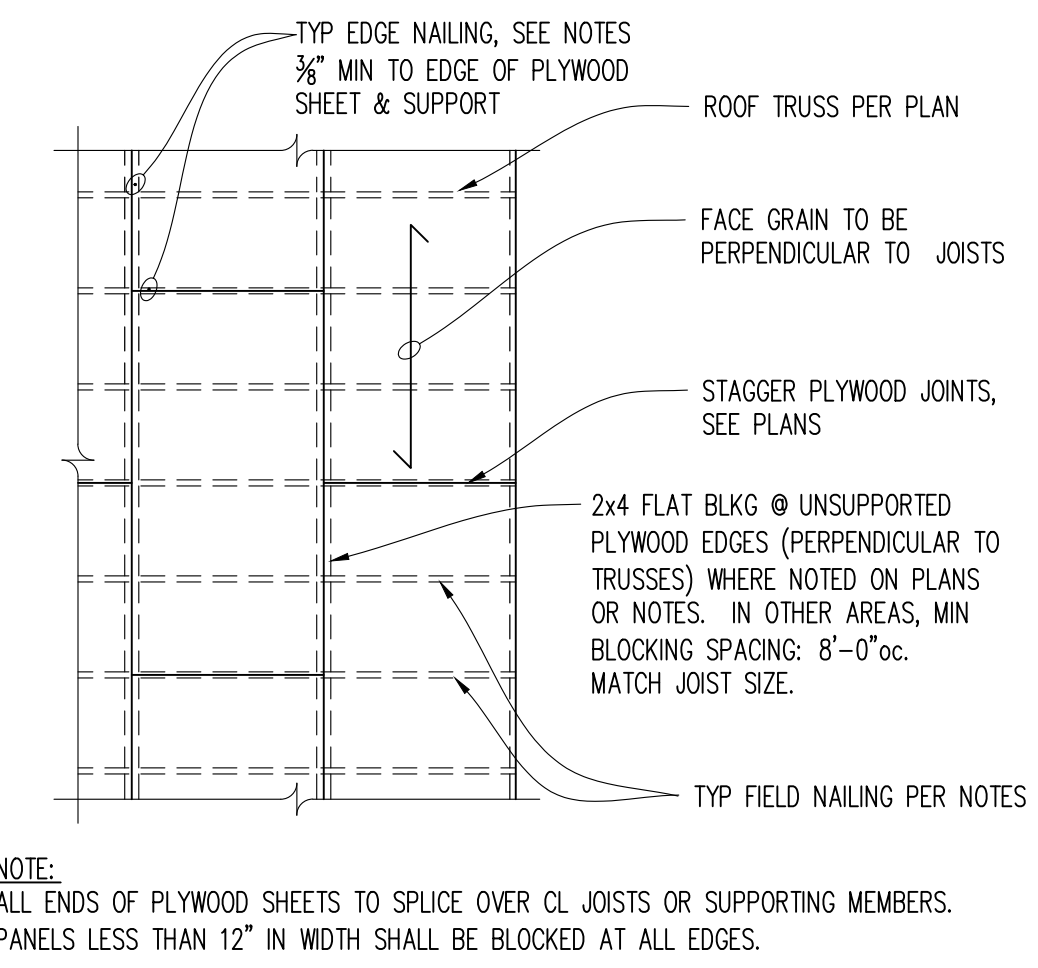
\* A35 OR LTP4 CAN BE USED ALTERNATIVELY  
\*\* USE MIN 2x DF RIM BOARD AT THESE SHEARWALLS  
\*\*\* FASTENERS SHALL BE STAGGERED

- NOTES:
- SHEATHING SHALL BE 1/2" OR 5/8" PLY, TYP UNO. OSB SHALL NOT BE SUBSTITUTED FOR PLYWOOD. SHEATHING SHALL HAVE A MINIMUM SPAN RATING OF 24/0.
  - SHEATHING SHALL BE APPLIED DIRECTLY TO FRAMING.
  - PROVIDE SOLID BLOCKING AT ALL SHEATHING PANEL EDGES.
  - PROVIDE 8d @ 12"oc AT ALL INTERMEDIATE SUPPORTS (FIELD NAIL), TYP UNO.
  - NAILS PER GENERAL STRUCTURAL NOTES.
  - LATERAL TIE PLATES OR WALL PLATE TO BLOCKING NAILING IS REQUIRED WHERE SHEATHING IS DISCONTINUOUS, I.E., WHERE ADJACENT SHEATHING EDGES ARE NOT NAILED TO THE SAME PIECE OF FRAMING. TIE NAILING IS NOT PERMITTED. LATERAL TIE PLATES MAY BE SUBSTITUTED FOR WALL PLATE TO BLOCKING NAILING. INSTALL LATERAL TIE PLATES OVER APA RATED SHEATHING PANELS. USE COMMON NAILS OR EQUIVALENT NAILS SUPPLIED BY CONNECTOR MANUFACTURER FOR LATERAL TIE PLATES. A35 FRAMING ANCHORS MAY BE SUBSTITUTED FOR LATERAL TIE PLATES AT SPACING SHOWN IN TABLE.
  - WHERE SHEATHING IS APPLIED TO BOTH SIDES OF WALL, STAGGER PLYWOOD JOINTS SO THAT JOINTS ON EACH SIDE OF THE WALL DO NOT OCCUR AT THE SAME STUD. PROVIDE 3x BLOCKING FOR ALL DOUBLE SHEATHED WALLS.
  - PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF WALLS NOTED ON PLANS. ENDS OF WALLS ARE DESIGNATED BY EXTERIOR OF BUILDING, CORRIDORS, OR DOORWAYS. PROVIDE HOLDDOWNS PER PLANS AT EACH END OF WALL, UNO. PROVIDE EDGE NAILING TO STUD(S) GRIPPED BY HOLDOWN.
  - CRITERIA: 2018 IBC  
HEM FIR LUMBER  
2500 PSI CONCRETE MINIMUM  
ASTM A307 ANCHOR BOLTS WITH 2 3/4" EDGE DISTANCE IN CONCRETE AND 7" MINIMUM EMBEDMENT
  - INSTALL 3x3x1/4" PL WASHERS AT ALL ANCHOR BOLTS, BETWEEN THE NUT AND THE SILL PLATE. USE 4 1/2"x4 1/2"x1/4" PL WASHERS WHERE 2x6 STUD WALLS ARE SHEATHED ON BOTH SIDES. ALL PLATE WASHERS SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) WITH SHEATHING.
  - AT SHEARWALLS WHERE SHEATHING MAY EXTEND VERTICALLY TO OVERLAP WITH RIMBOARD/BLOCKING ABOVE, IT IS ACCEPTABLE TO NAIL SHEATHING TO RIMBOARD/BLOCKING WITH EDGE NAILING AS SPECIFIED IN TABLE ABOVE AND ELIMINATE THE A35 CLIPS BETWEEN THE RIMBOARD/BLOCKING AND WALL TOP PLATE.
  - FASTENERS IN CONTACT WITH TREATED WOOD SHALL BE CORROSION RESISTANT.
  - 1 1/2" MIN LSL RIM BOARD AND SINGLE SILL PLATE ARE ASSUMED. IF RIM MATERIAL IS DIFFERENT, NOTIFY ENGINEER FOR REVISED SPACING. IF (2)2x SILL PLATES ARE USED, USE SDWS 0.220"x6" SCREWS. CONTRACTOR CAN SELECT EITHER NAILS OR SCREWS.
  - (2)2x STUDS AND SILL PLATES CAN BE USED INSTEAD OF 3x MEMBERS. (2)2x STUDS WILL NEED TO BE FASTENED TOGETHER WITH EITHER NAILS OR SCREWS AS CALLED OUT.

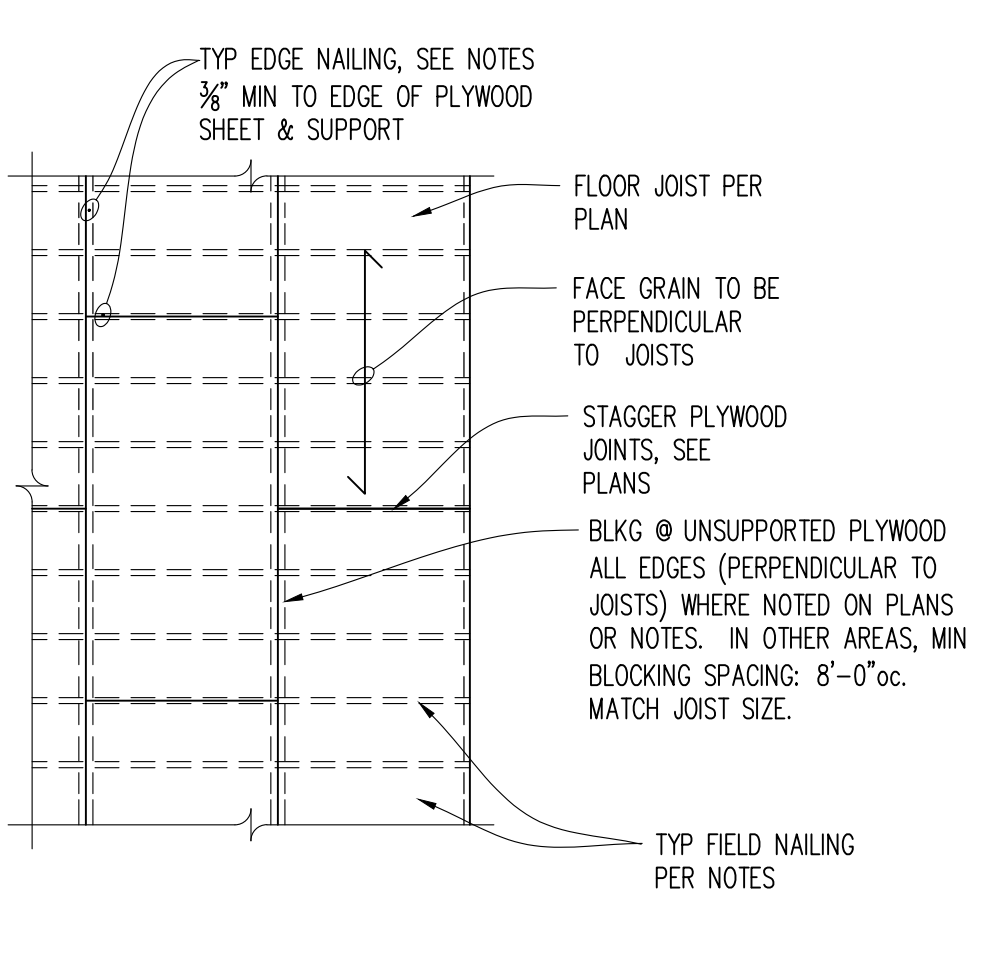


10 TYPICAL HOLDOWN: FLOOR TO FLOOR 7

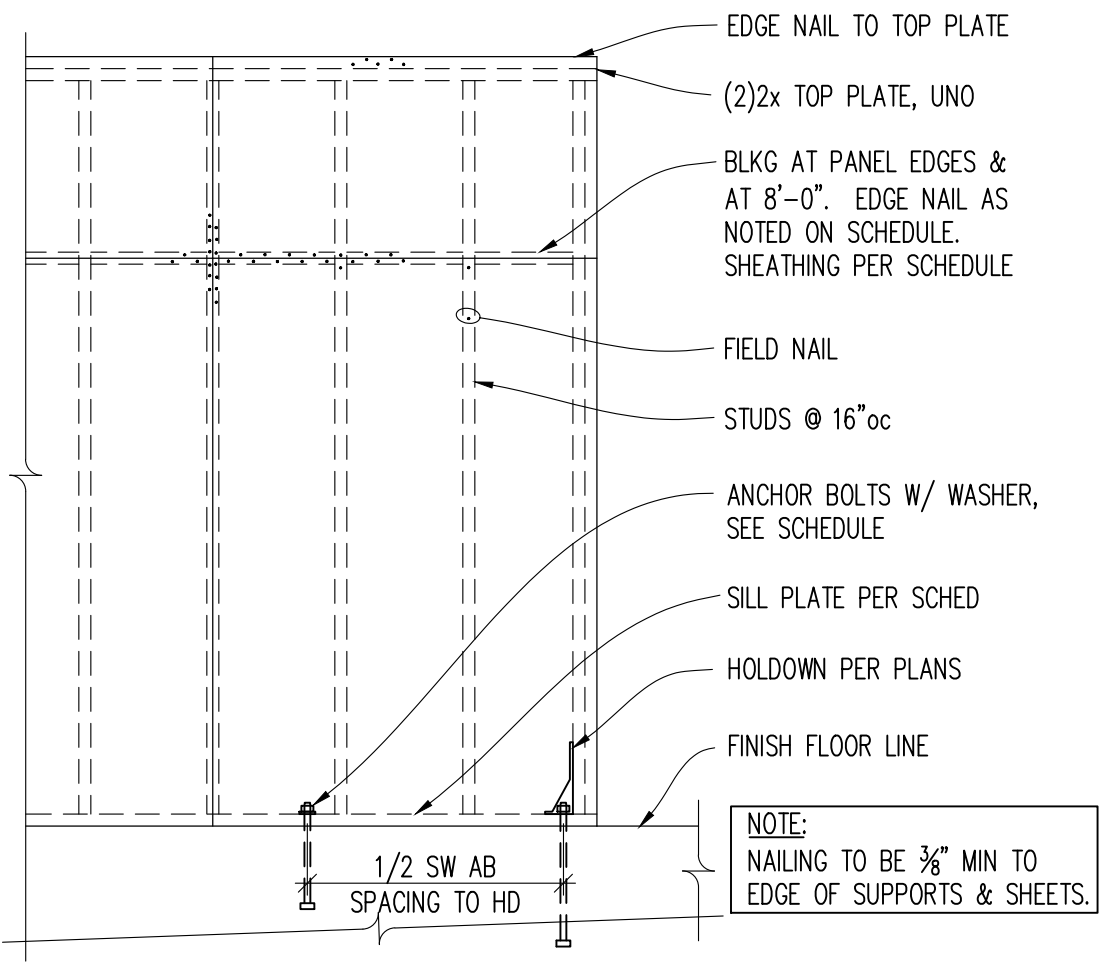
SHEARWALL SCHEDULE 1



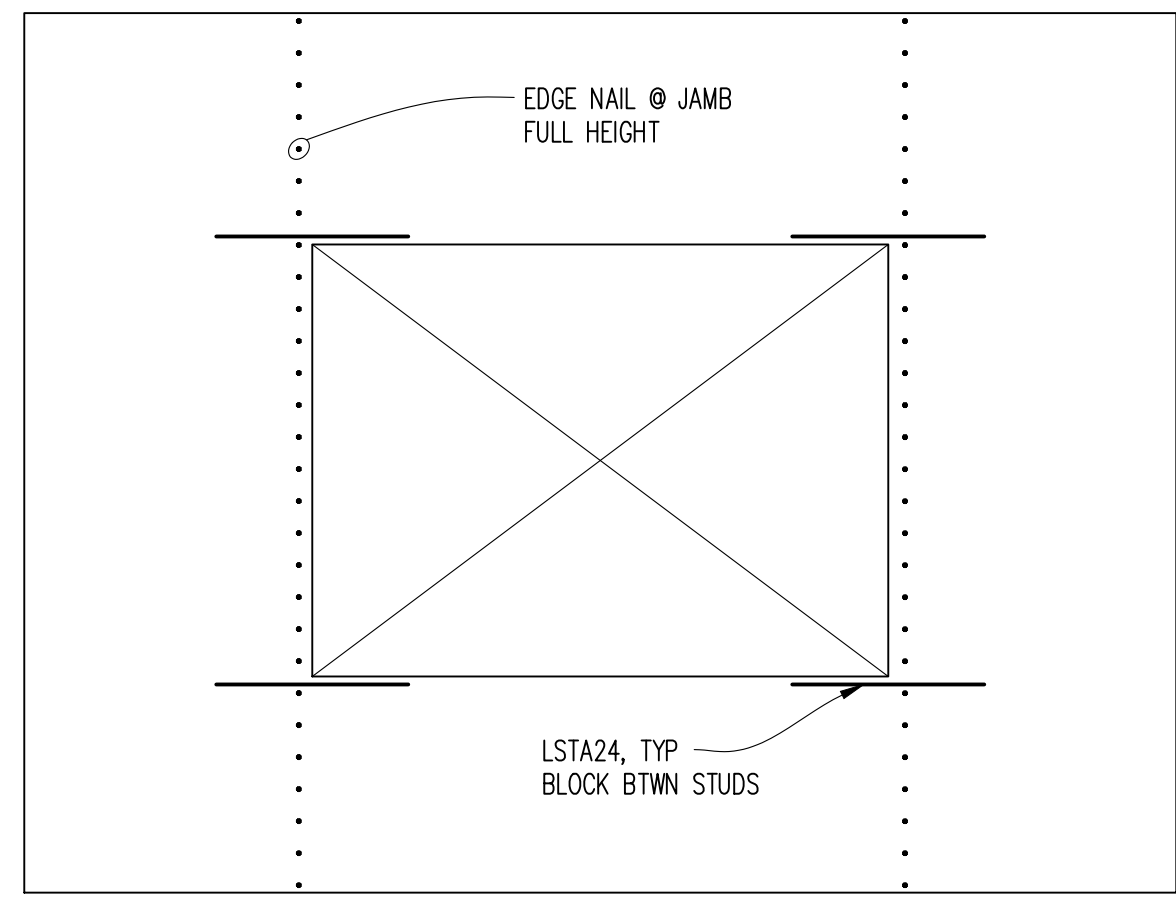
TYPICAL ROOF SHEATHING 11



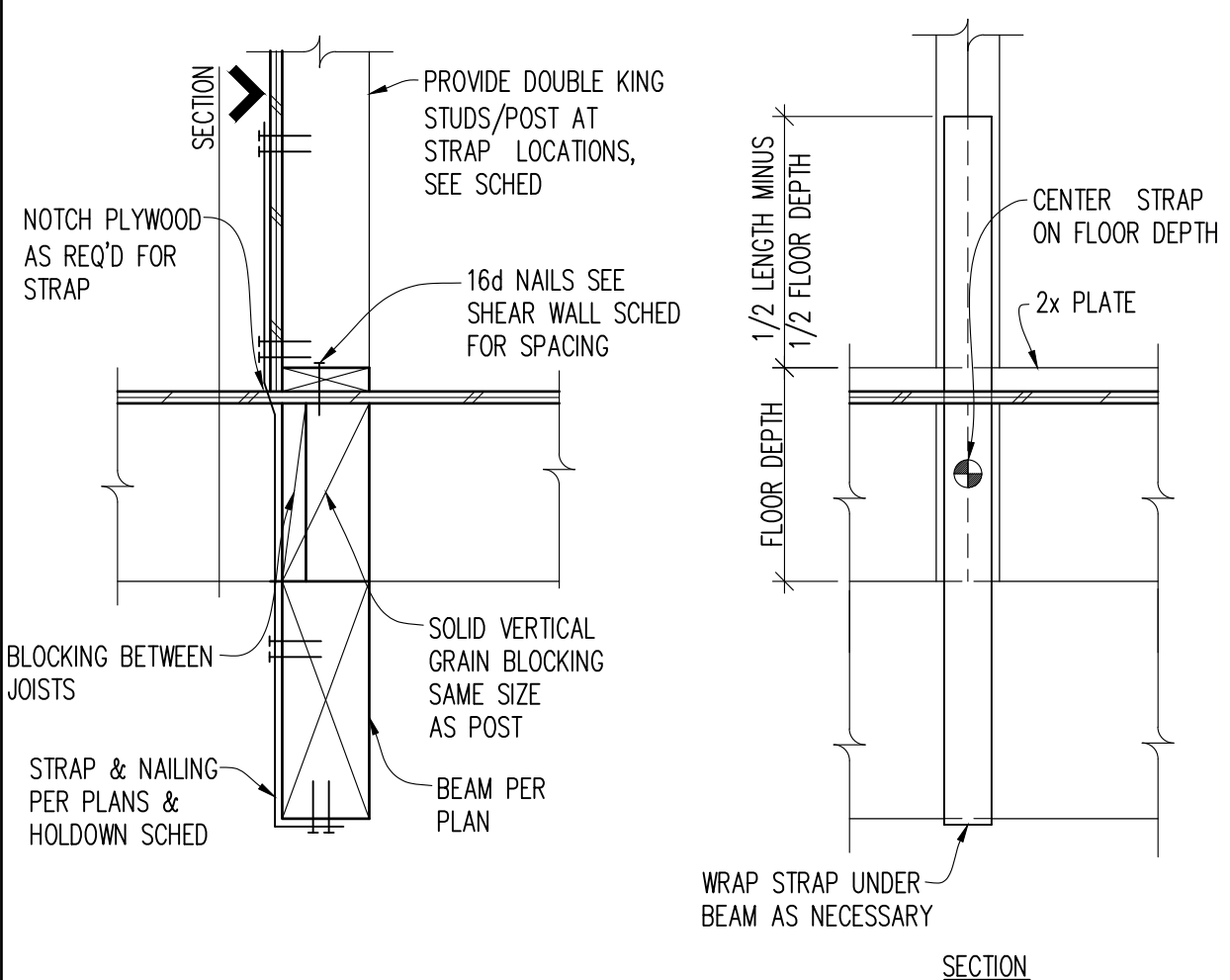
TYPICAL FLOOR SHEATHING 8



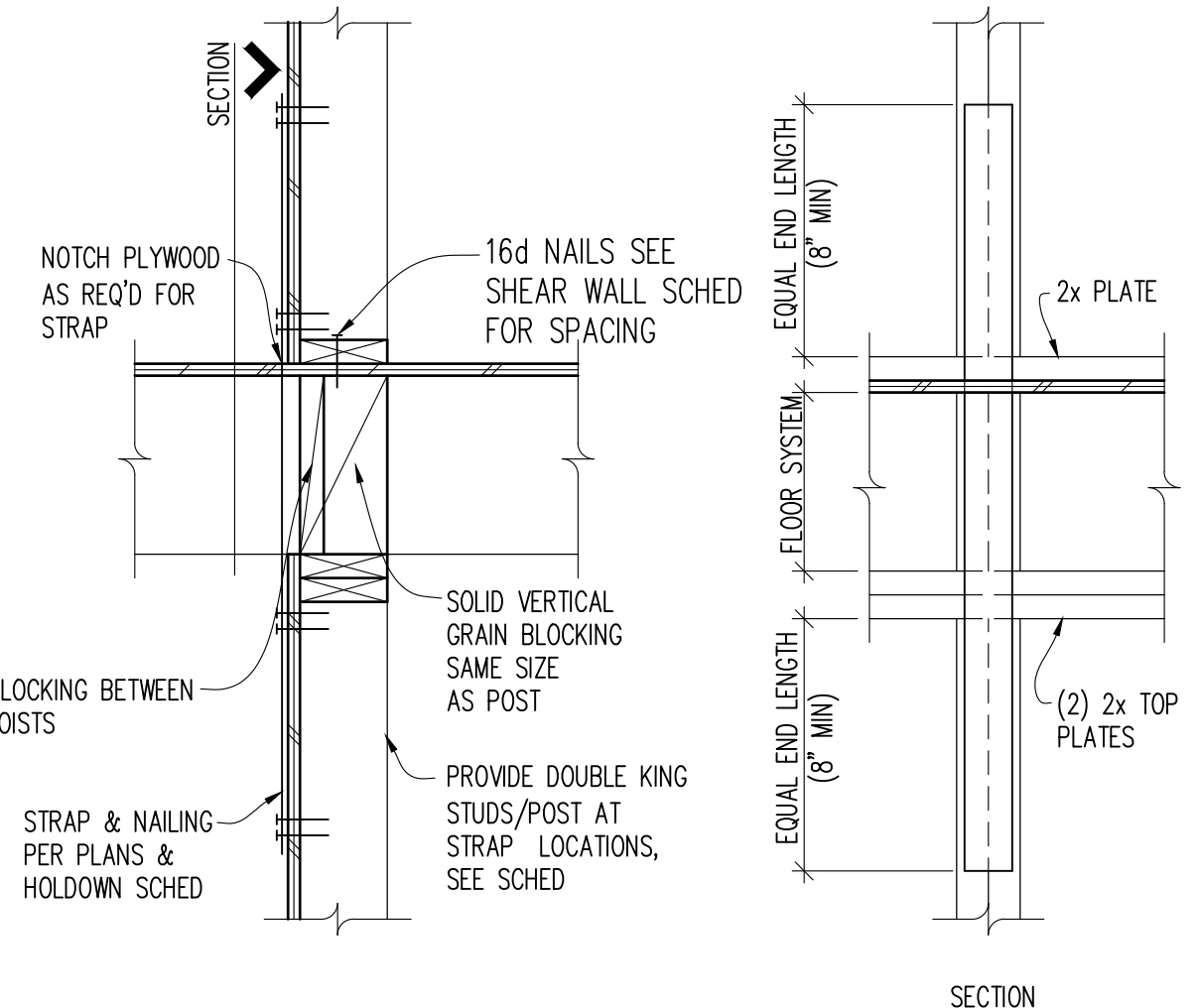
TYPICAL SHEAR WALL SHEATHING 5



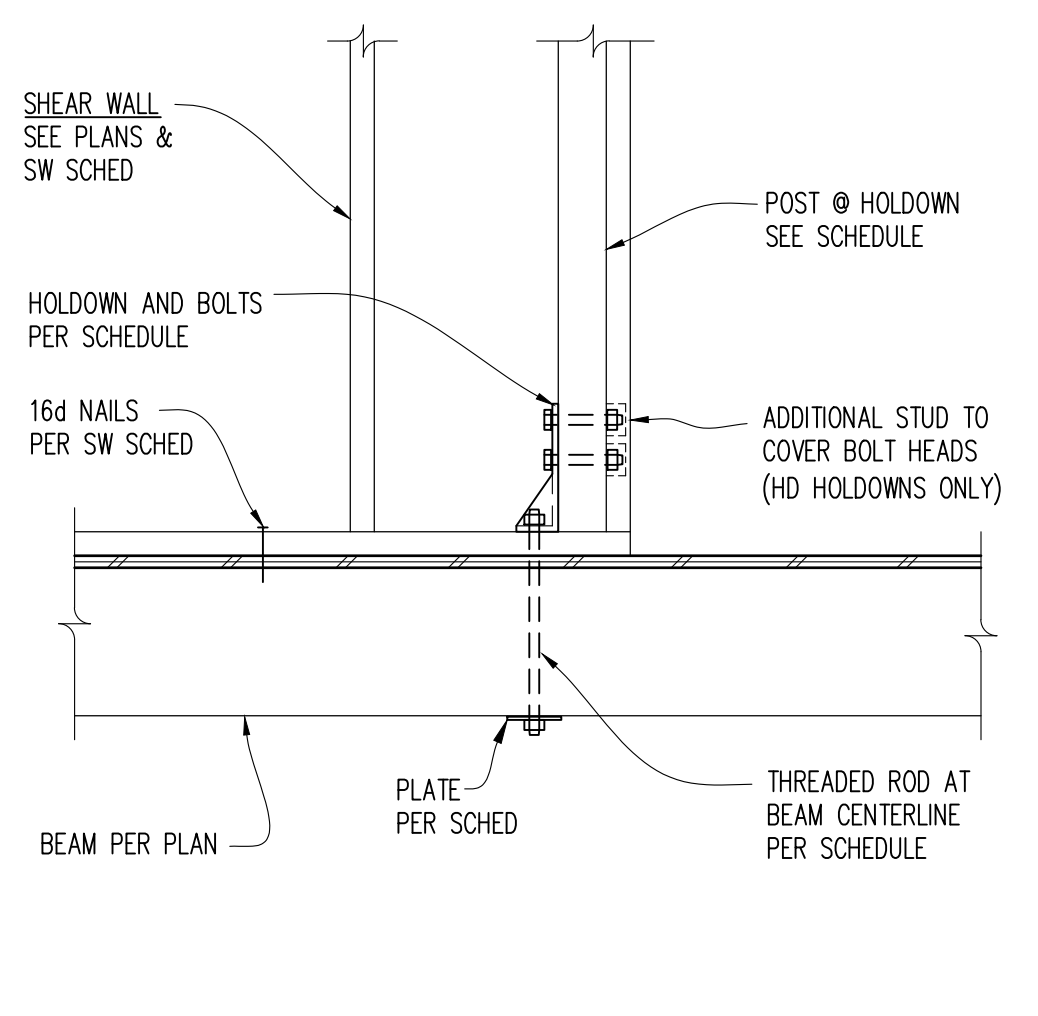
STRAP AT SHEAR WALL OPENING 2



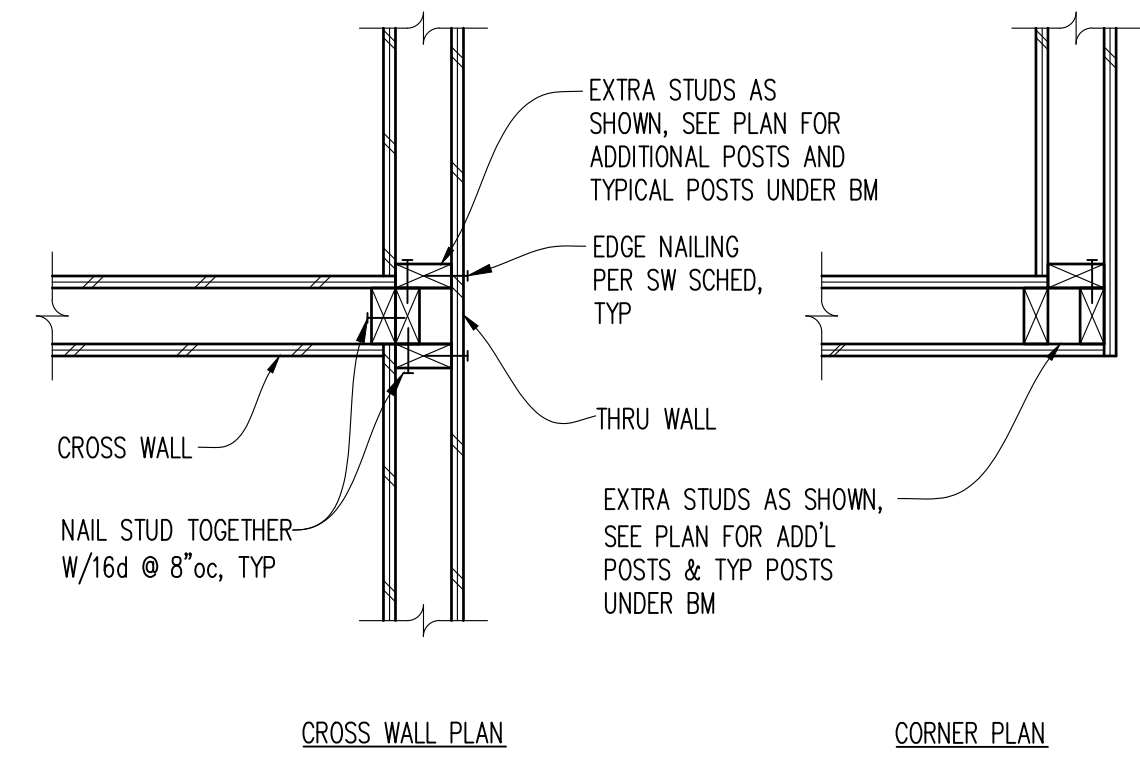
TYP FLR-TO-BM HOLDOWN STRAP 12



TYP FLR-TO-FLR HOLDOWN STRAP 9



TYPICAL HOLDOWN TO BEAM 6



TYPICAL SHEAR WALL INTERSECTION 3

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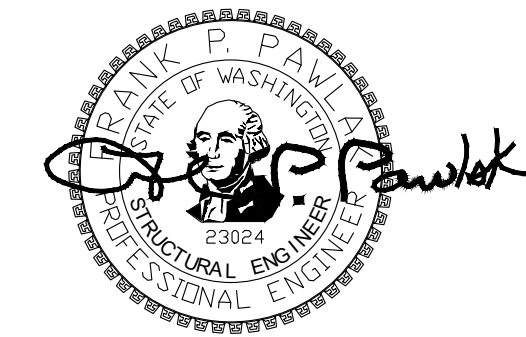
12/20/23	23-195
DATE	JOB #
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SHEET TITLE

TYP LATERAL SECTIONS & DETAILS

SHEET NO.

S4.2



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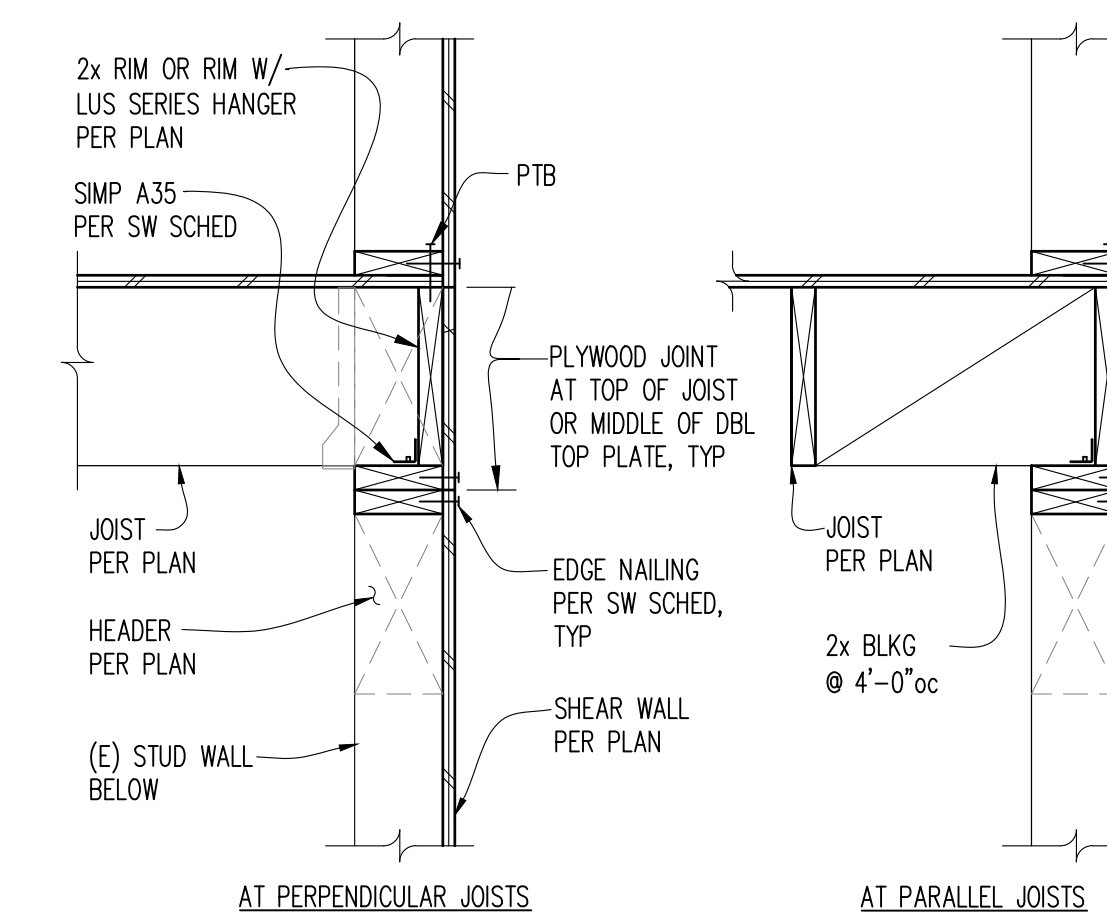
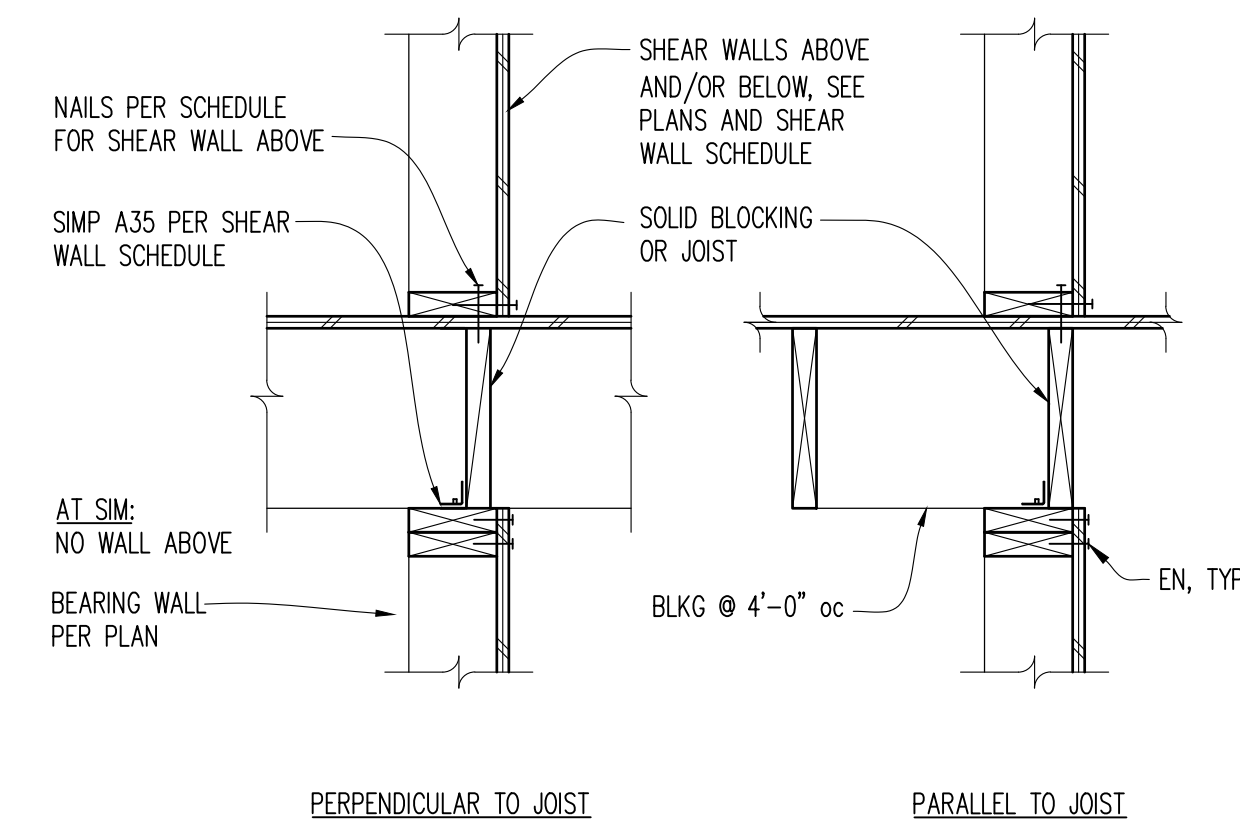
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SHEET TITLE

TYP LATERAL SECTIONS & DETAILS

SHEET NO.

S4.3



10

7

TYPICAL INTERIOR SHEAR WALL DETAIL 1"=1'-0" 4

4

TYPICAL EXTERIOR WALL 1"=1'-0" 1

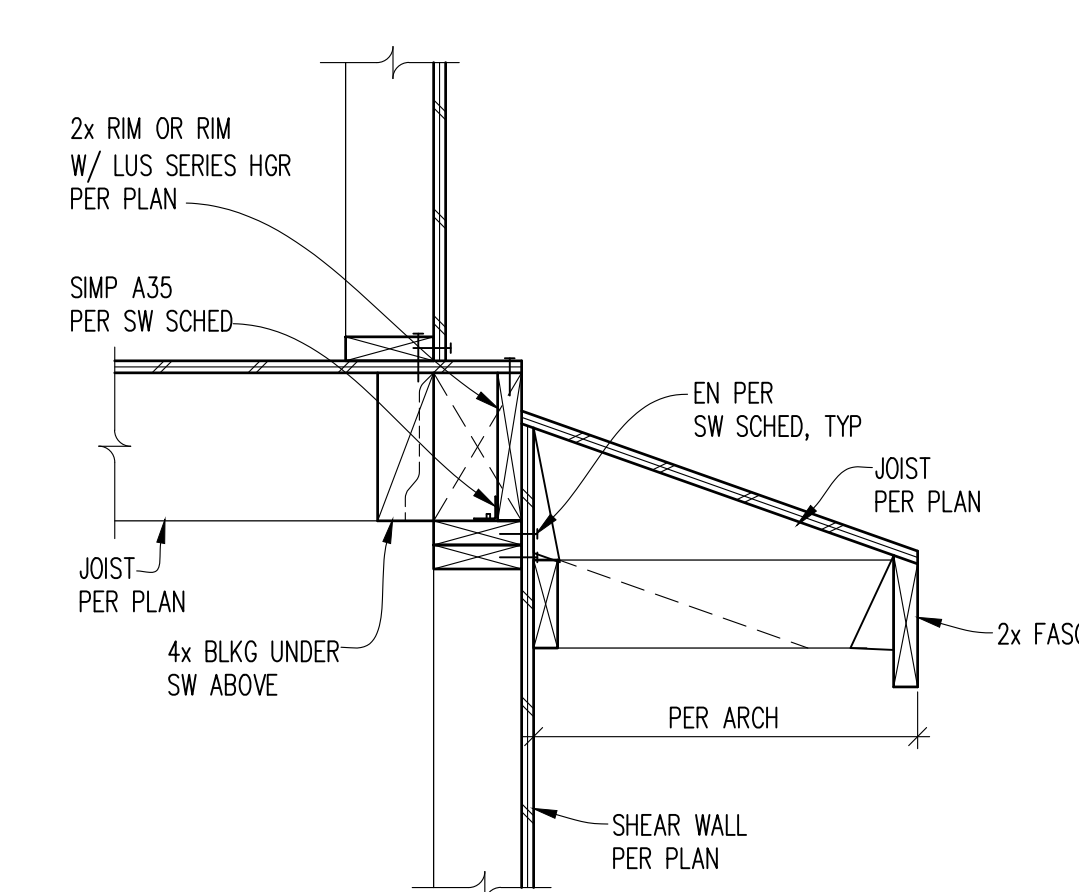
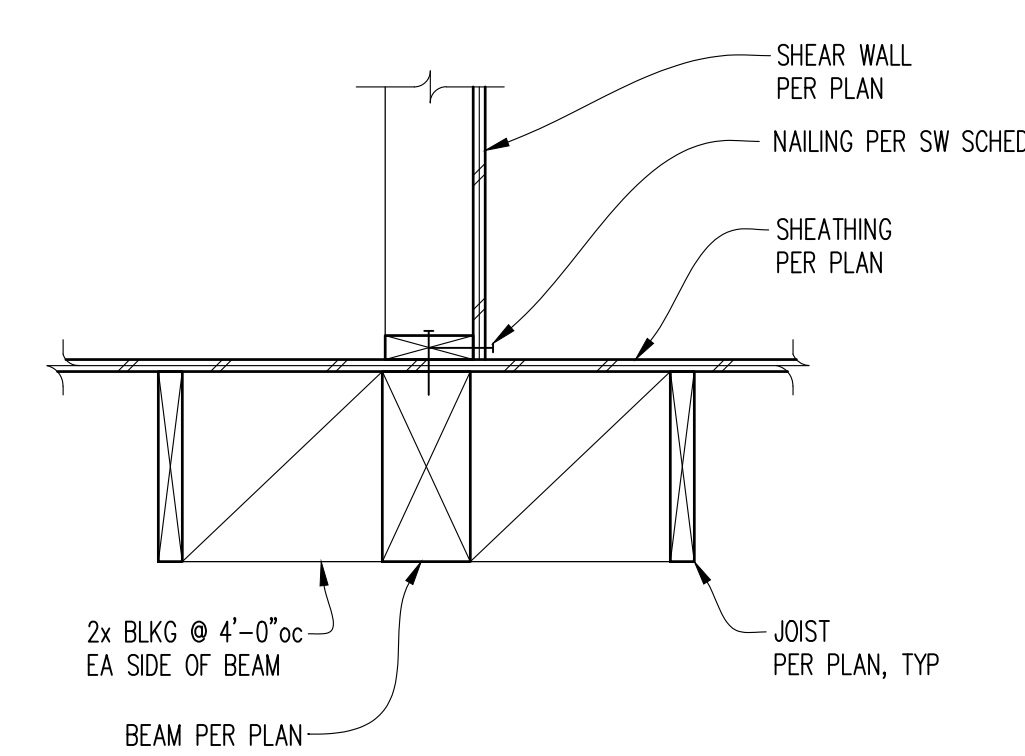
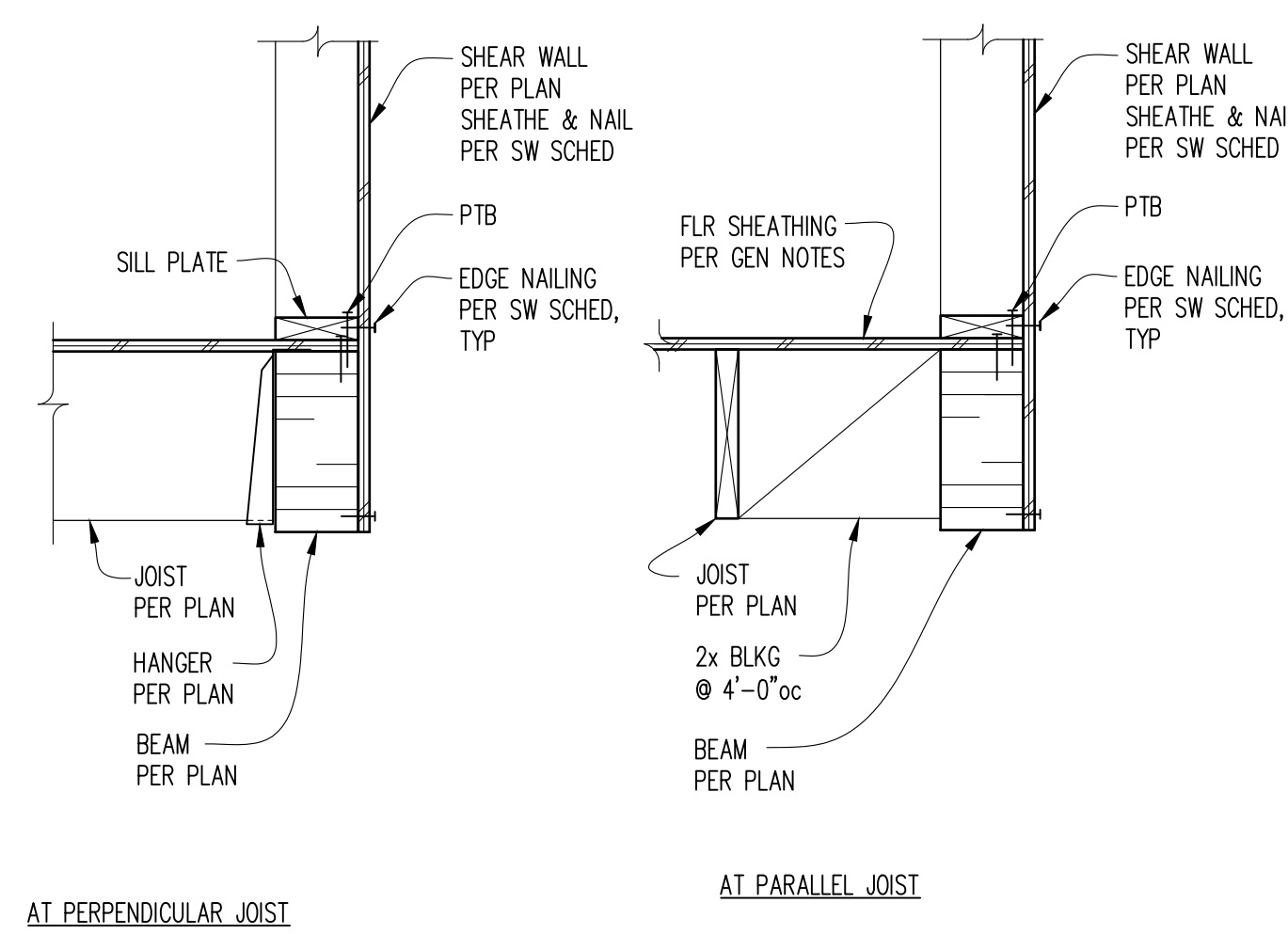
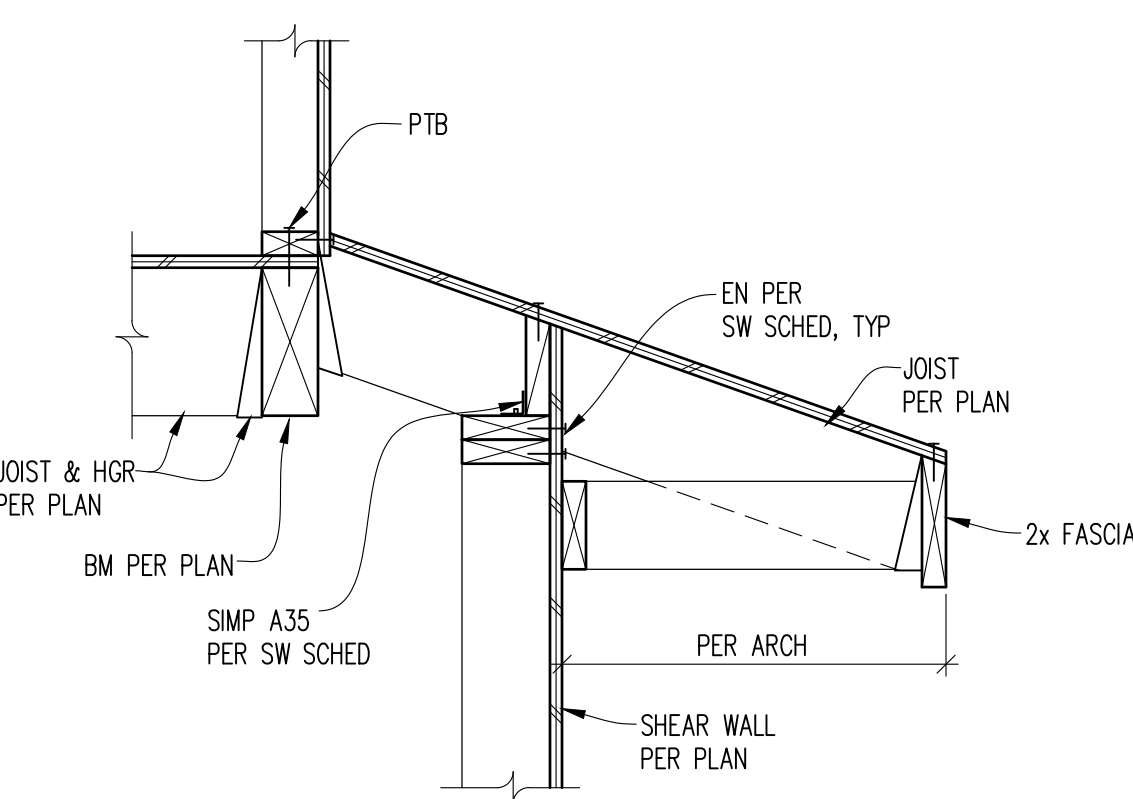
1

11

8

FRAMING @ DISCONTINUOUS WALL 1"=1'-0" 9

5



DETAIL 1"=1'-0" 12

12

FRAMING @ DISCONTINUOUS WALL 1"=1'-0" 9

9

INTERIOR SHEARWALL ABOVE 1"=1'-0" 6

6

DETAIL 1"=1'-0" 3

3



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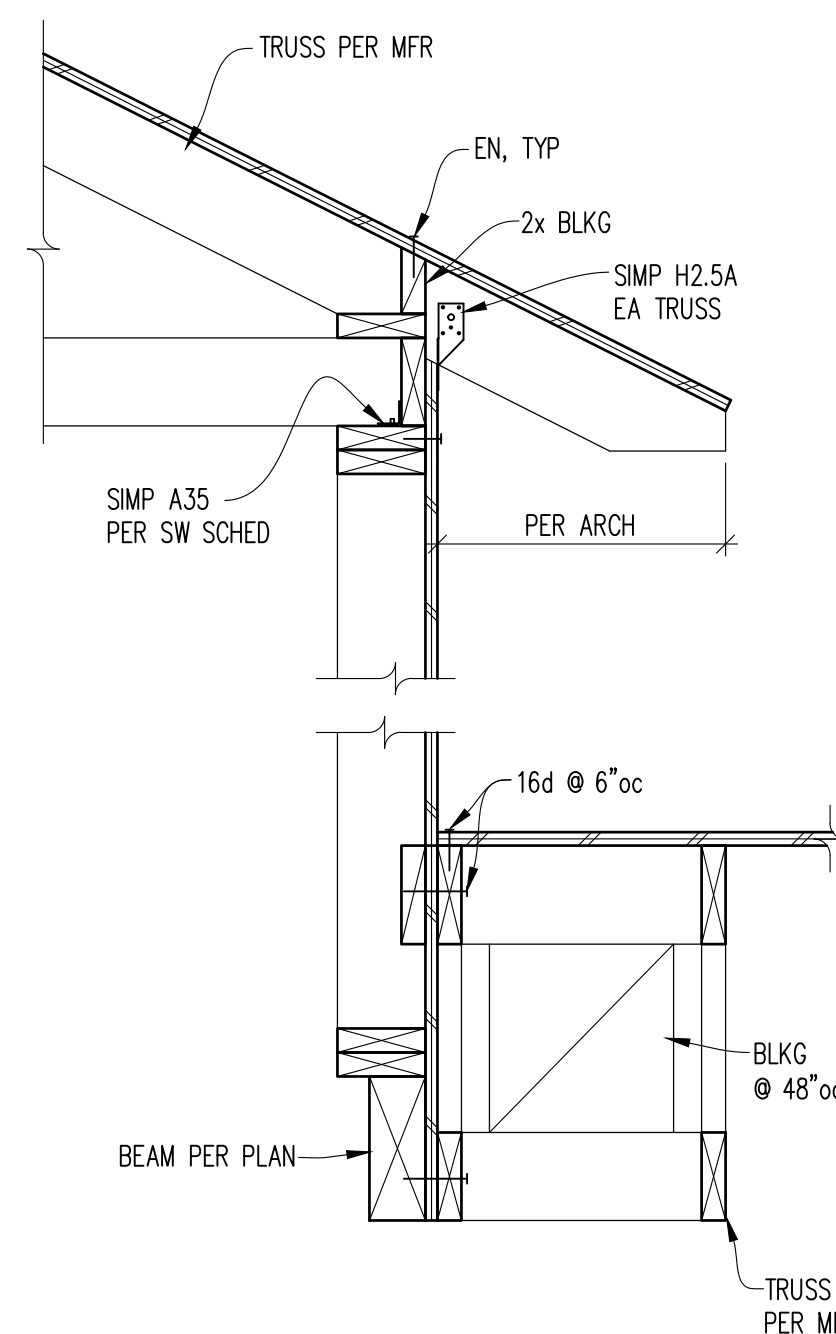
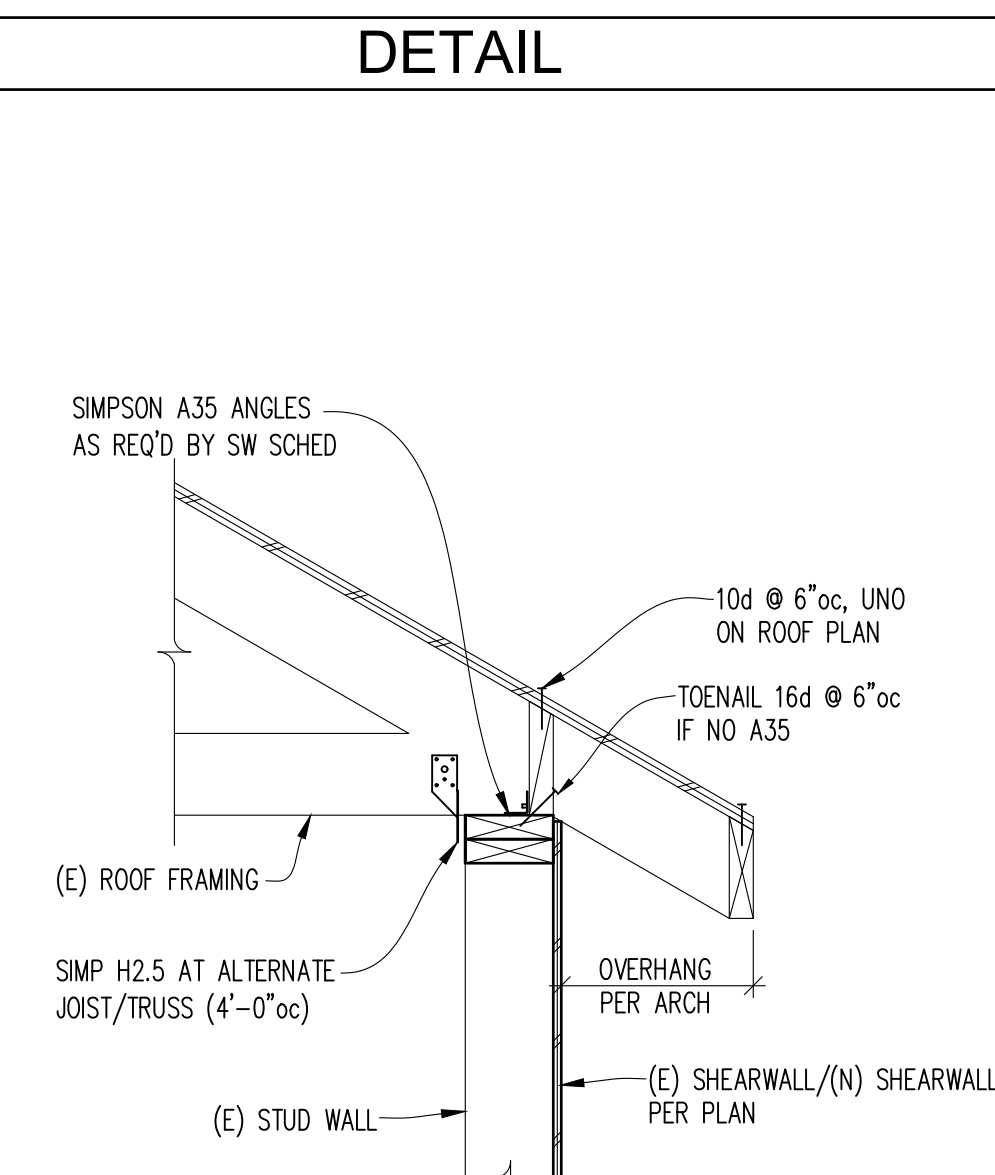
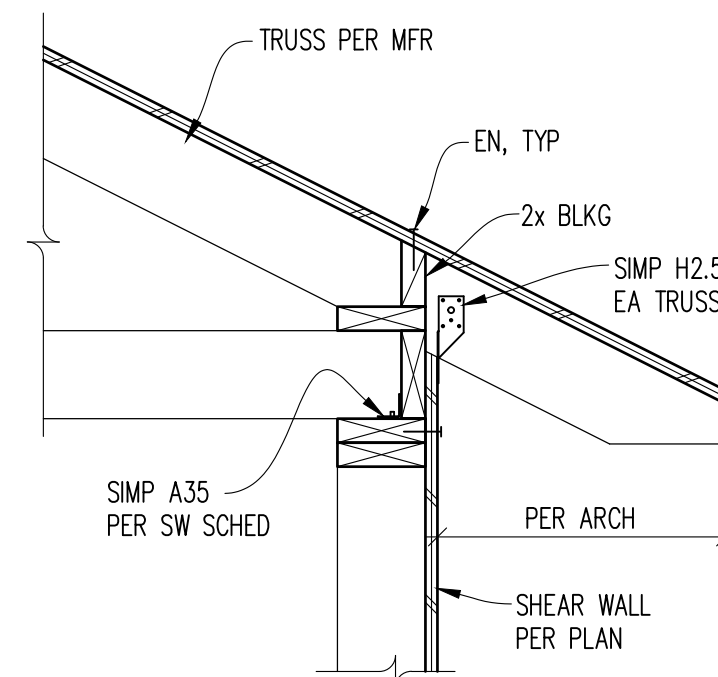
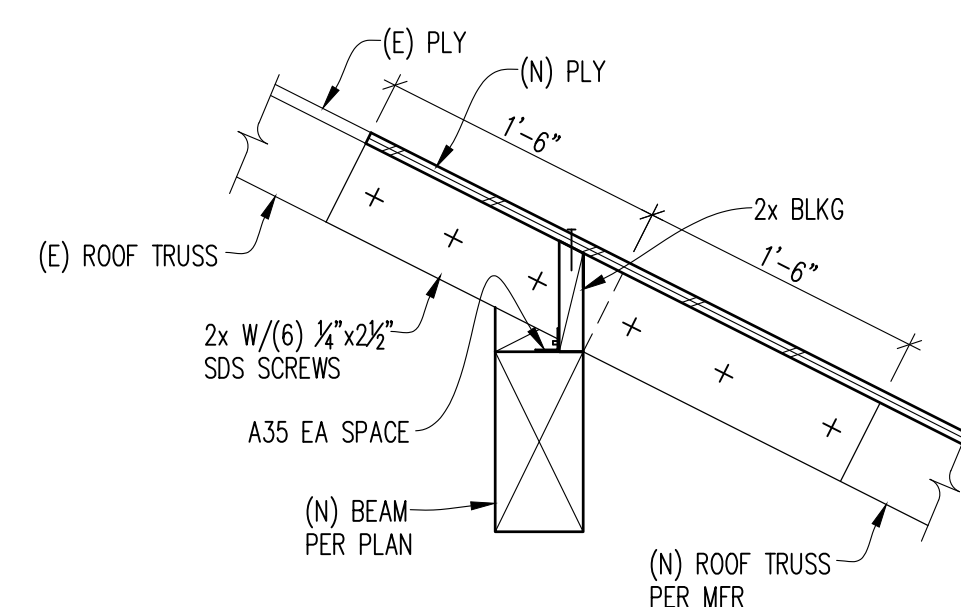
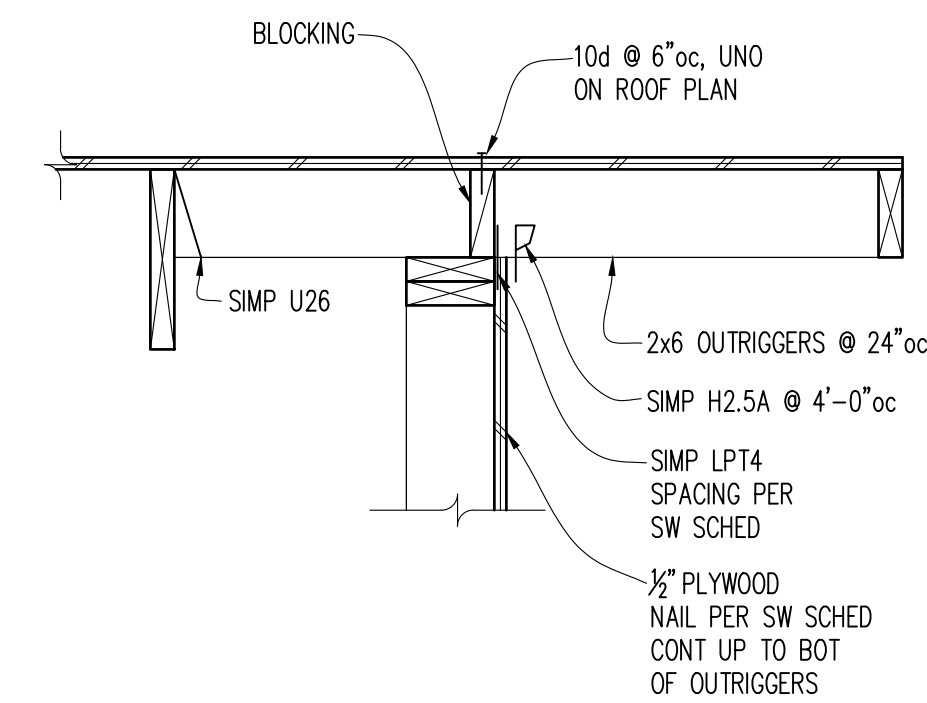
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SHEET TITLE

SECTIONS & DETAILS

SHEET NO.

S4.4



10

7

4

TYPICAL OUTRIGGERS

1

11

DETAIL

1"=1'-0"

8

DETAIL

1"=1'-0"

5

2

12

TYPICAL EAVE - EXISTING ROOF

1"=1'-0"

9

DETAIL

1"=1'-0"

6

3