

LOT SLOPE  
 HIGH POINT = 235'  
 LOW POINT = 164'  
 LOT SLOPE = 71'/238.5' = 29.77%  
 LOT COVERAGE = 35%  
 15033sf x .35 = 5261.6 sf total lot coverage allowed

HARDSCAPE  
 patio = 436 sf  
 walks = 140 sf  
 lower retaining walls = 180 sf  
 upper retaining wall = 100 sf  
 TOTAL = 856 sf

TREE PLANTING NOTES

1. NEW TREES WILL BE AT LEAST 6 FEET TALL FOR CONIFERS AND 1.5 INCHES IN CALIPER FOR DECIDUOUS SPECIES
2. NEW TREES WILL BE PLANTED BETWEEN OCTOBER AND MARCH
3. MINIMUM SPACING BETWEEN TREES AND DISTANCES FROM BUILDINGS OR INFRASTRUCTURE WILL BE 10 FEET
4. EACH NEW TREE WILL BE WATERED FOR THE FIRST 2 YEARS ON THE FOLLOWING SCHEDULE:  
 - MINIMUM OF 5 GALLONS OF WATER PER WEEK FOR THE FIRST 4 WEEKS AFTER PLANTING  
 - EVERY 2 WEEKS WHEN WEEKLY DAYTIME MAXIMUM TEMPERATURES ARE BELOW 70°  
 - ONCE A WEEK WHEN WEEKLY DAYTIME MAXIMUM TEMPERATURES ARE OVER 70° (E.G. MAY THROUGH SEPTEMBER)

- NATIVE TREES SUGGESTED BY ARBORIST FOR HILL STABILIZING
- DF = DOUGLAS FIR (*Pseudotsuga menziesii*)
- M = PACIFIC MADRONE (*Arbutus menziesii*)
- NON-NATIVES
- JM = JAPANESE MAPLE (*Acer palmatum*)

Parcel Number/Legal

Parcel # = 1574700170  
 Legal Description:

CHRISTIAN CHURCH CAMP ADD #2 LOT B  
 MERCER ISLAND SHORT PLAT NO 84-02-06  
 REC NO 8412209004 SD SHORT PLAT DAF -  
 LOT S 7 & 8 BLK 9 SD ADD & VAC ST ADJ  
 ZONING = R-8.4  
 lot size = 15033 sf

Civil Engineer

Duffy Ellis  
 CES Civil Engineering  
 102 NW Canal St Seattle WA 98107  
 206.930.0342

Structural Engineer

Javid Abdi, PE, SE Atlas Consulting Structural Engineers  
 6810 NE 149th St Kenmore WA 98028  
 Phone: (206) 427-7233

Contractor

Artouch Construction and Remodeling  
 13101 NE 50th ST Bellevue WA  
 (425) - 890 - 9995

Project Description

New single family residence.

F.A.R. CALCULATION

Main Floor FA= 1972 sf  
 Basement FA = 1638  
 Upper Floor FA = 1581 sf  
 5191.0 sf

NO BASEMENT FAR EXCEPTION CLAIMED  
 stairs = (120 sf x 2 = 240 sf)

TOTAL chargeable FA = 4950 sf

LIMIT = 40 x 15033 sf = 6013.2sf  
 LIMITED TO 5000 sf BY ZONING

LOT COVERAGE (SHADED AREA)

House Roof to eaves (shaded) = 2694.2 sf  
 driveway (shaded) = 2148.5 sf  
 TOTAL = 4842.7 sf  
 15033sf x .35 = 5261.6 sf total lot coverage allowed before flag lot allowance

ELEVATION CALC.

EL @ MIDPOINT	segment	wtd sgmt	
a	186.00	24.00	4464.00
b	198.00	22.00	4356.00
c	198.00	15.54	3076.92
d	198.00	10.00	1980.00
e	198.00	24.00	4752.00
f	198.00	5.00	990.00
g	198.00	10.00	1980.00
h	198.00	12.02	2379.96
i	208.00	24.00	4992.00
j	196.00	36.00	7056.00
k	192.00	35.54	6823.68
l	194.00	5.69	1103.86
m	189.00	16.00	3024.00
n	189.00	11.92	2252.88
251.71		49231.30	

AVG. EL = 195.59  
 BOLD = NEW EL LOWER THAN EXIST

HIGH CONTRAST ADDRESS SIGN

UTILITY EASEMENT PER REC. # 8412209004 (HATCHED AREA)

FOUND TACK/LEAD 0.05'S OF LINE & 0.15'W FROM PROP COR

SET REBAR/CAP AT PROP COR

UTILITY EASEMENT PER REC. NO. 8412209004  
 FOUND IRON PIPE 0.16'S OF PROP LINE

Required setback = .17 x 100' = 17'  
 Minimum setback = .33 x 17 = 5.61'

A NFPA 13R Fire Sprinkler System in compliance with NFPA 13R and CoMI standards shall be installed throughout the residence. A separate FIRE permit is required.

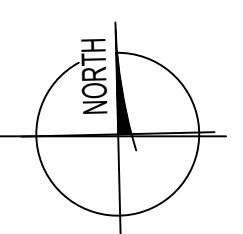
Note that this sprinkler system requires a minimum of a 1.5" water meter and 2" water supply line.

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.

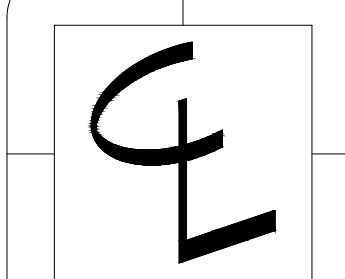
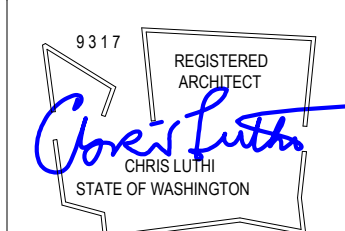
lot size = 15033 sf

A. SITE PLAN

1" = 10'-0"



- ▲ = WALL SEGMENT TAG FOR HEIGHT CALCULATION
- = EAVE/ROOF LINE
- - - = REVISED TOPO
- EXISTING HOUSE, DRIVEWAY AND ALL HARDSCAPE ON PROPERTY TO BE REMOVED



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CONTENTS

Site Plan

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2.4.25  
 4.24.25  
 6.10.25

A-1

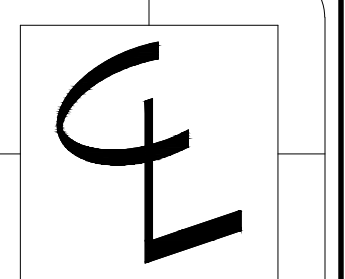
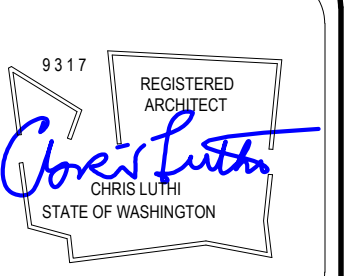
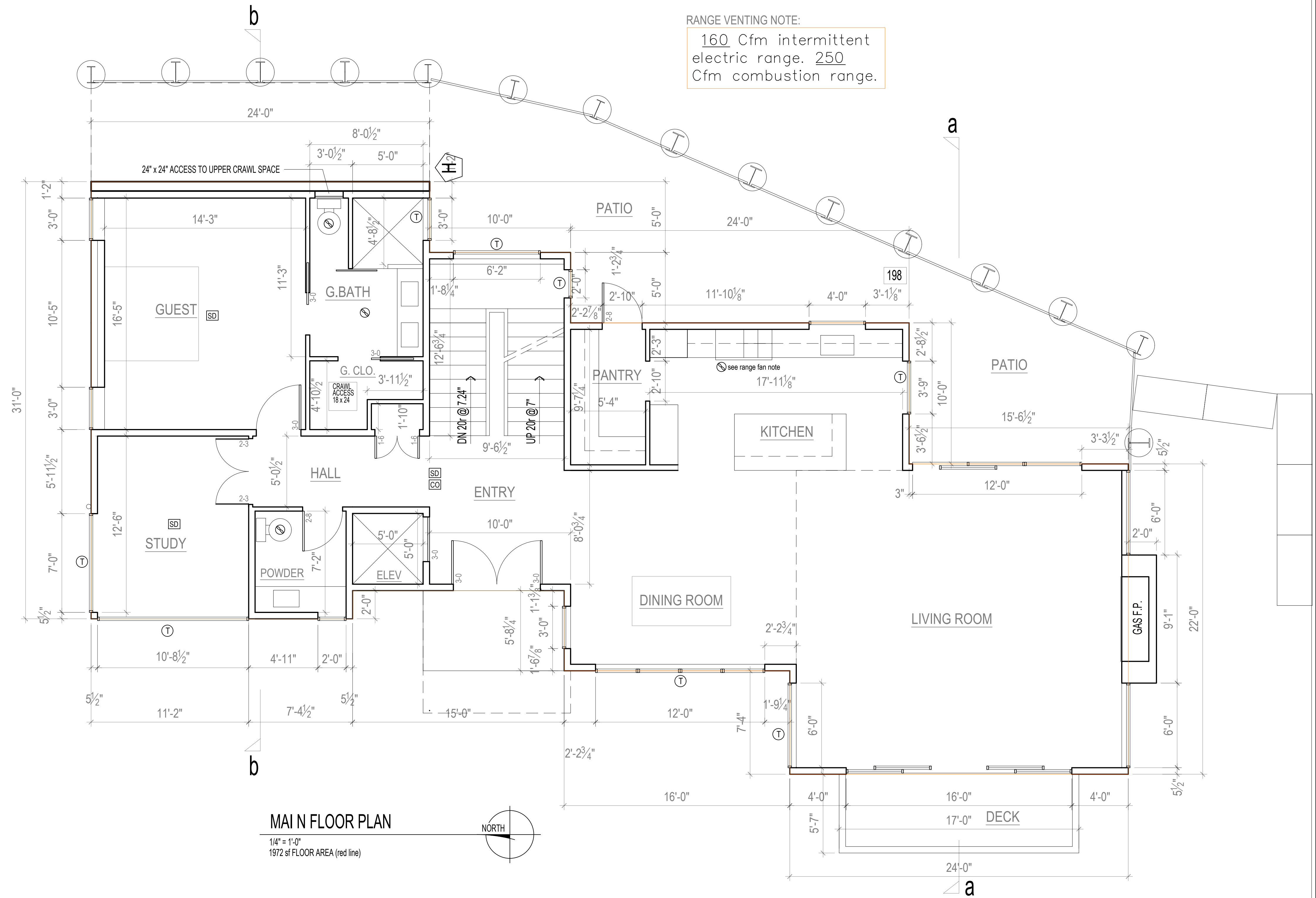
NOTES

- SD = SMOKE DETECTOR, HARDWIRE, INTERCONNECTED w/ BATTERY BACK-UP
- CO = CARBON MONOXIDE DETECTOR, HARDWIRE w/ BATTERY BACK-UP
- HD = HEAT DETECTOR, HARDWIRE w/ BATTERY BACK-UP
- DOORS ARE (width per plan + 2" FOR R.O.) x 7'-10" (ie for a 3'-0, r.o. = 3'-2" x 8'-0") unless otherwise indicated
- FAN = FAN, 50 CFM UNLESS OTHERWISE INDICATED
- FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS
- ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING
- E = EGRESS WINDOWS
- Contractor shall verify to Inspector all guards and railings shall be capable of resisting 200 lb load on top rail acting in any direction as required by IRC Table R301.5.
- ALL WALLS FULL HEIGHT UNLESS OTHERWISE INDICATED
- T = TEMPER/SAFETY GLAZE WINDOWS
- ALL GAS F.P. TO BE APPROVED DIRECT VENT

EGRESS WINDOW REQUIREMENTS

Minimum of 5.7 square feet of net clear opening area. Minimum of 24 inches of net clear opening height. Minimum of 20 inches of net clear opening width. Opening must be max 44" above floor.

fire blocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective fire barrier between stories, and between a top story and the roof space.



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CONTENTS  
 Main Floor

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 6.10.25

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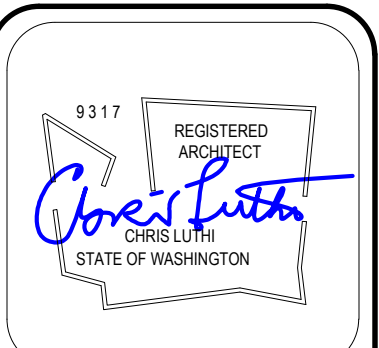
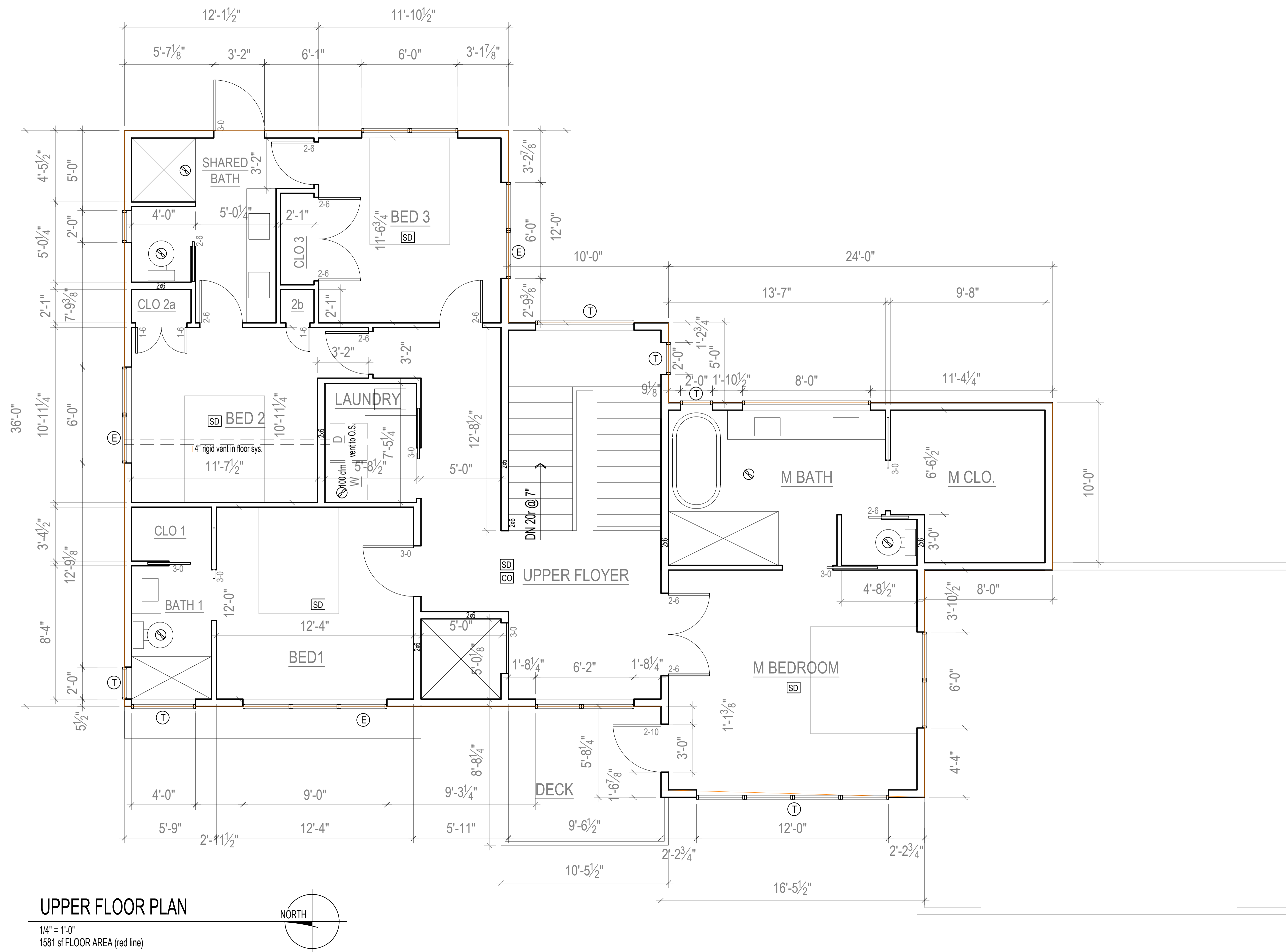
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CONTENTS  
Upper Floor

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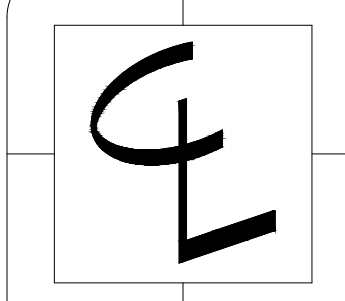
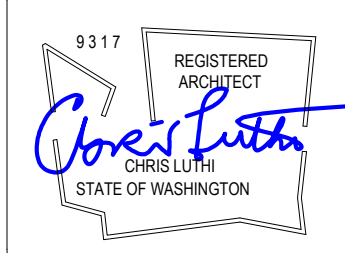
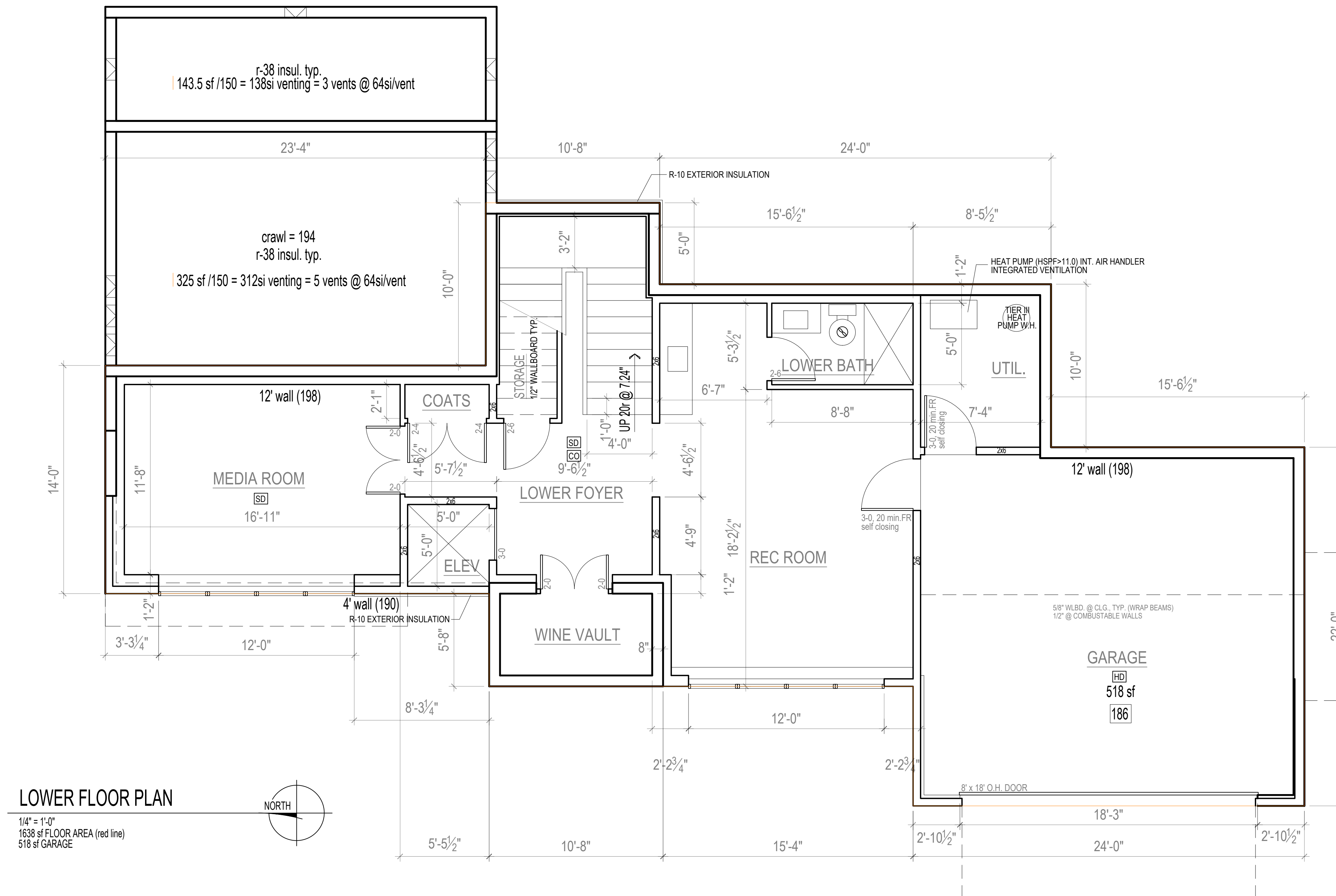
**A3**

NOTES

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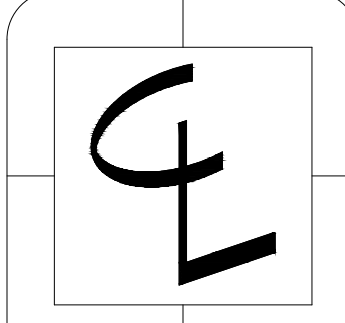
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CONTENTS  
 Lower Floor

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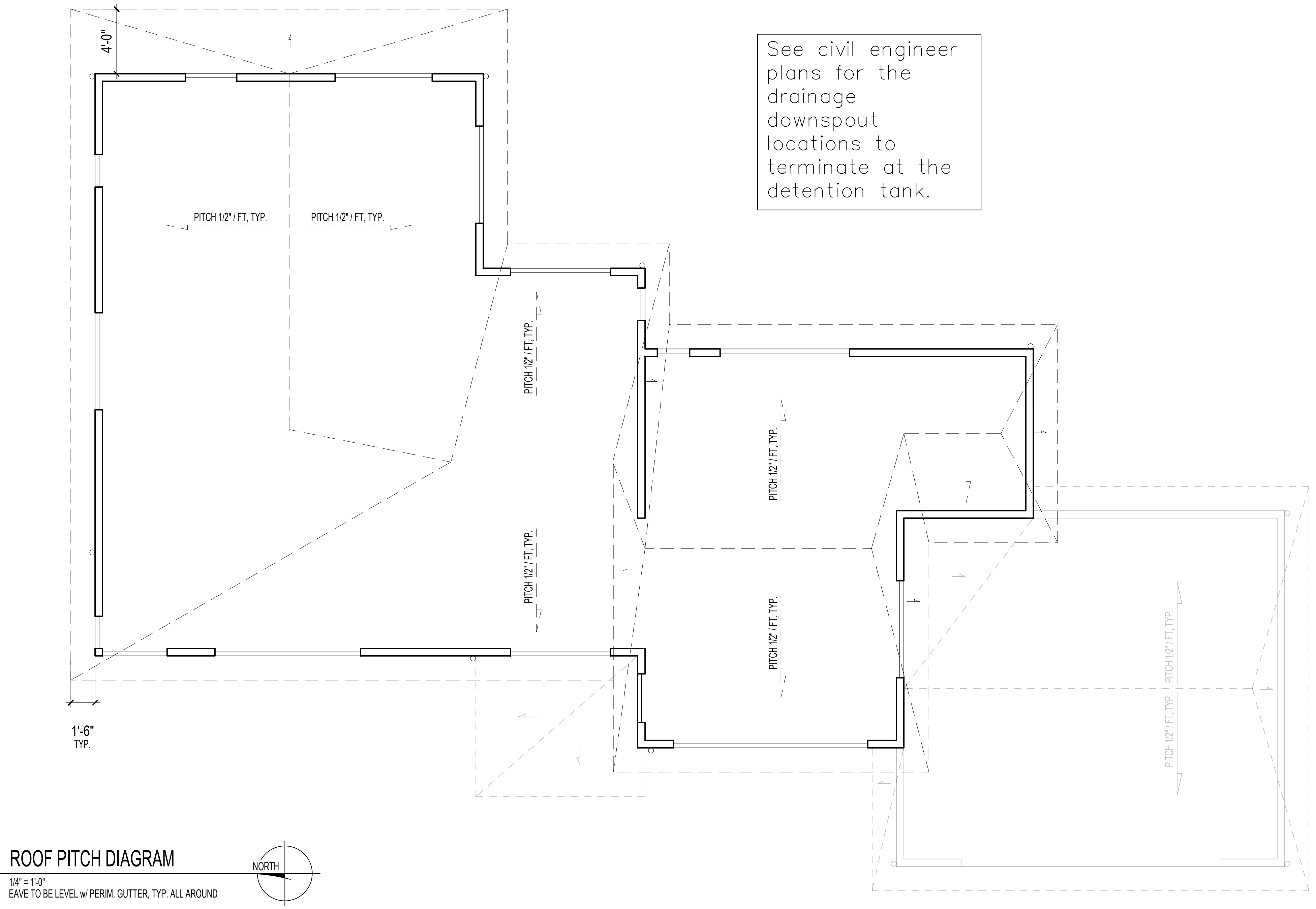


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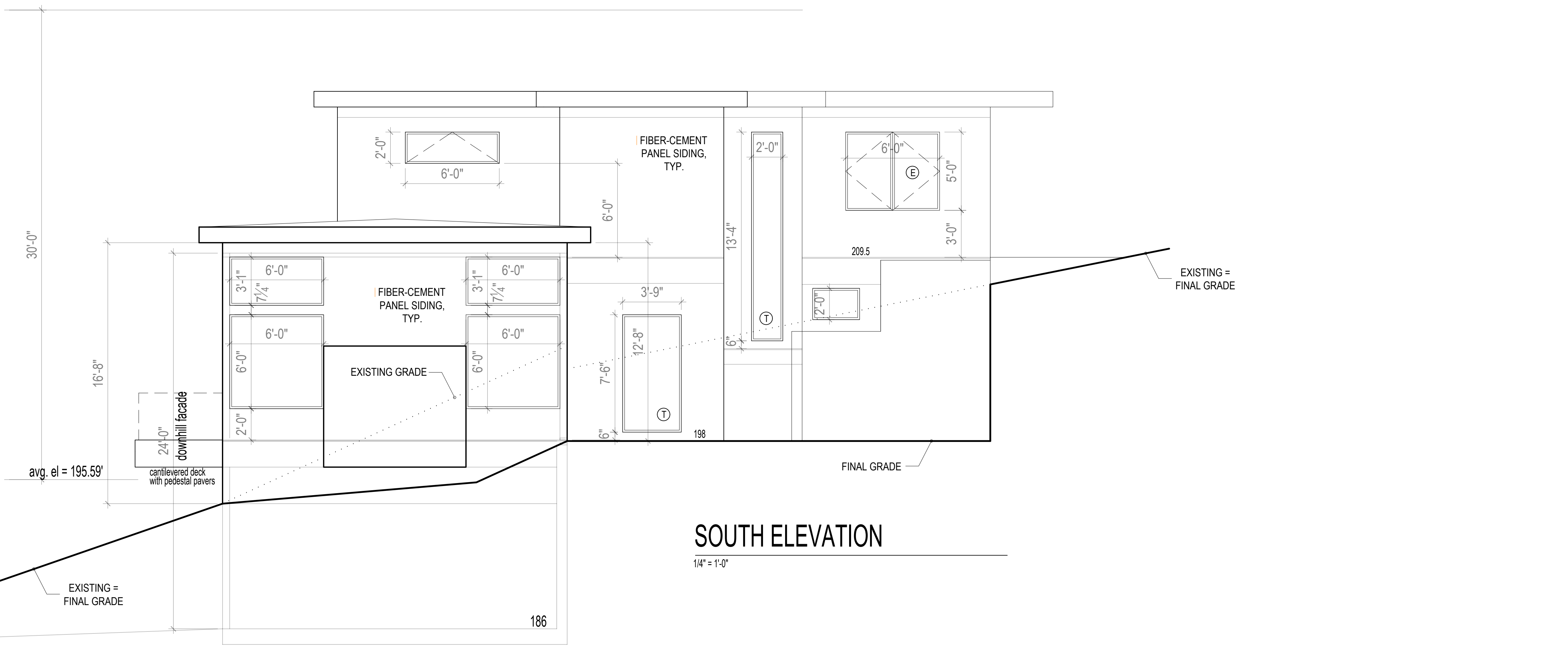
CONTENTS  
 ROOF PLAN

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A4.5



ROOF PITCH DIAGRAM  
 1/4" = 1'-0"  
 EAVE TO BE LEVEL w/ PERIM. GUTTER, TYP. ALL AROUND

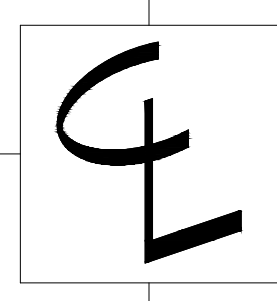


**SOUTH ELEVATION**  
 1/4" = 1'-0"



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

height limit = 225.59'



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CONTENTS

Elev

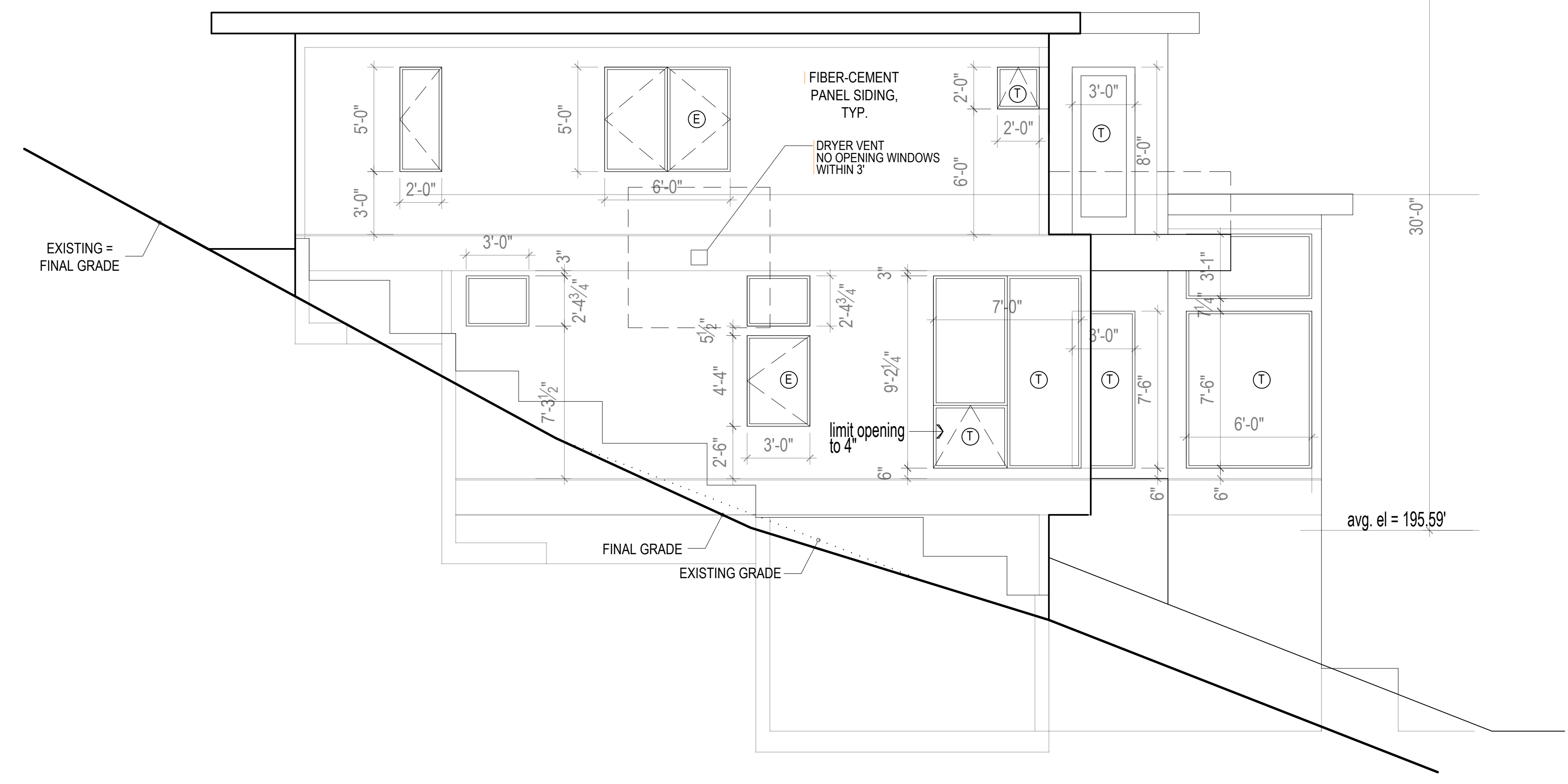
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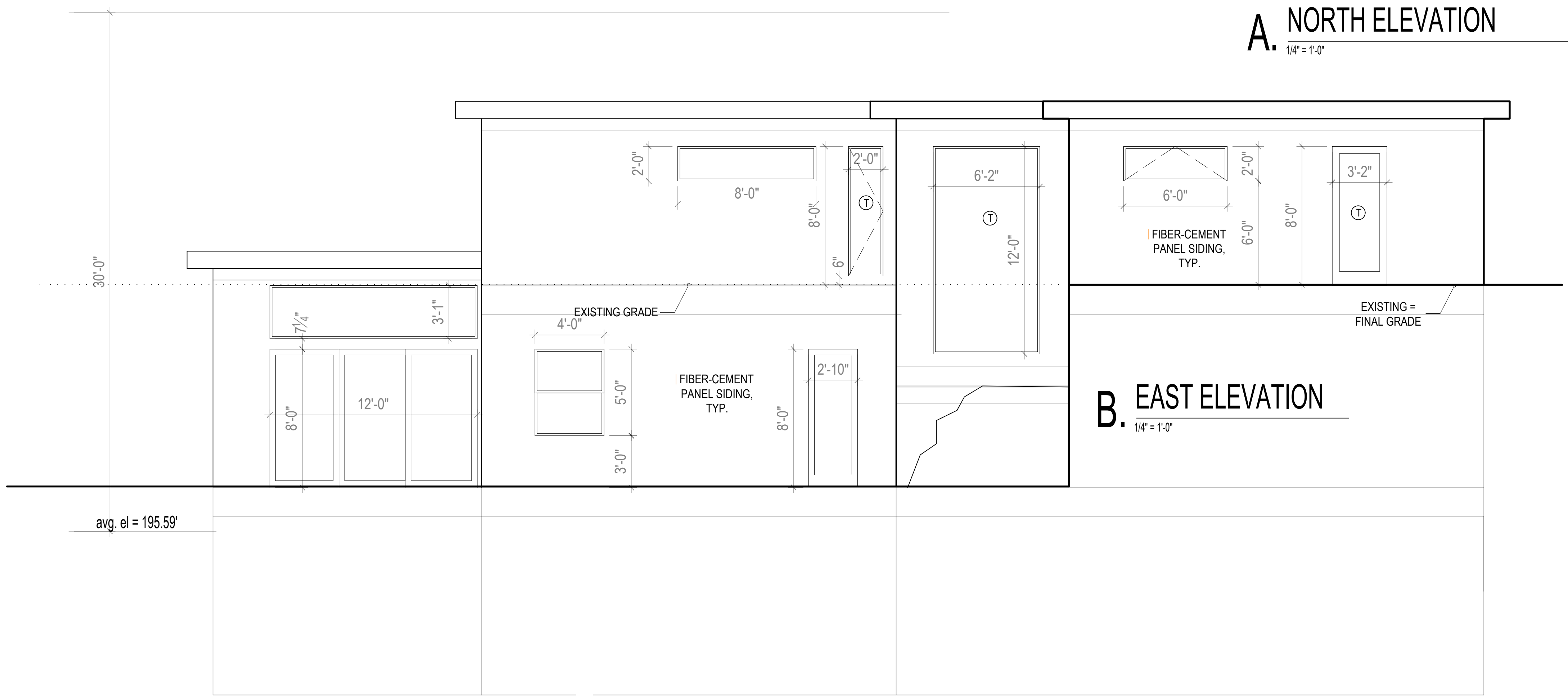
DATE

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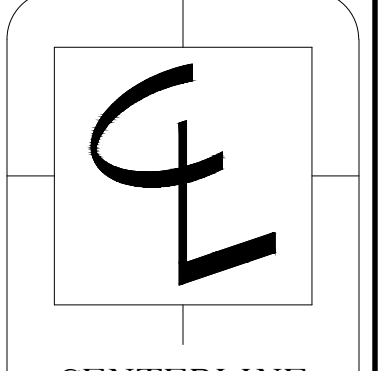
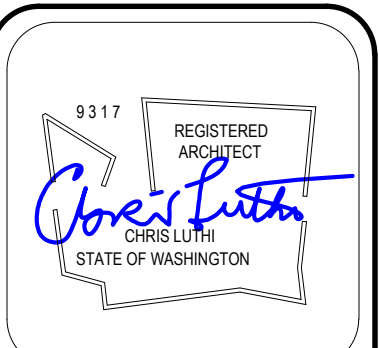
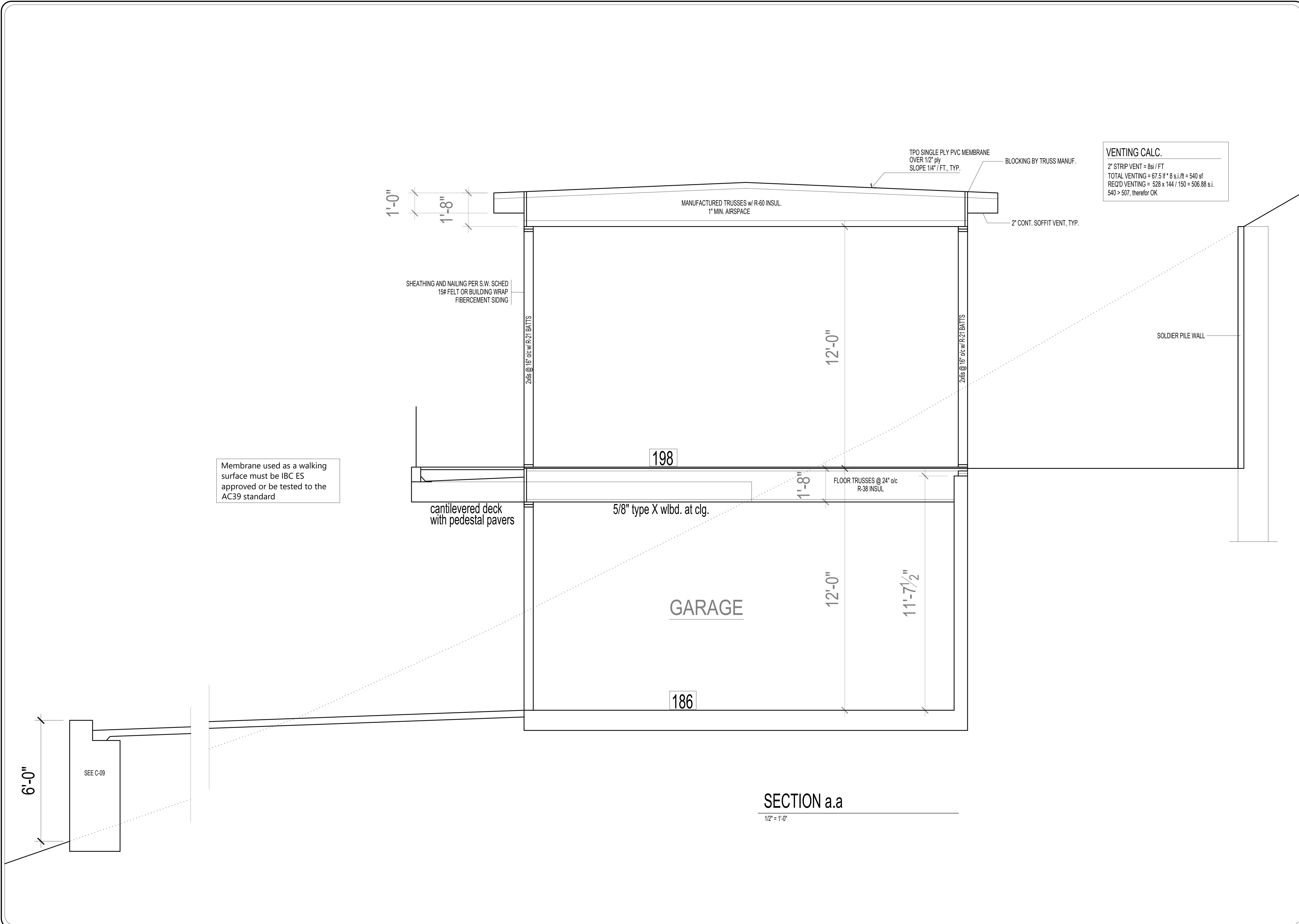
**A. NORTH ELEVATION**  
 1/4" = 1'-0"



**B. EAST ELEVATION**  
 1/4" = 1'-0"

avg. el = 195.59'

avg. el = 195.59'



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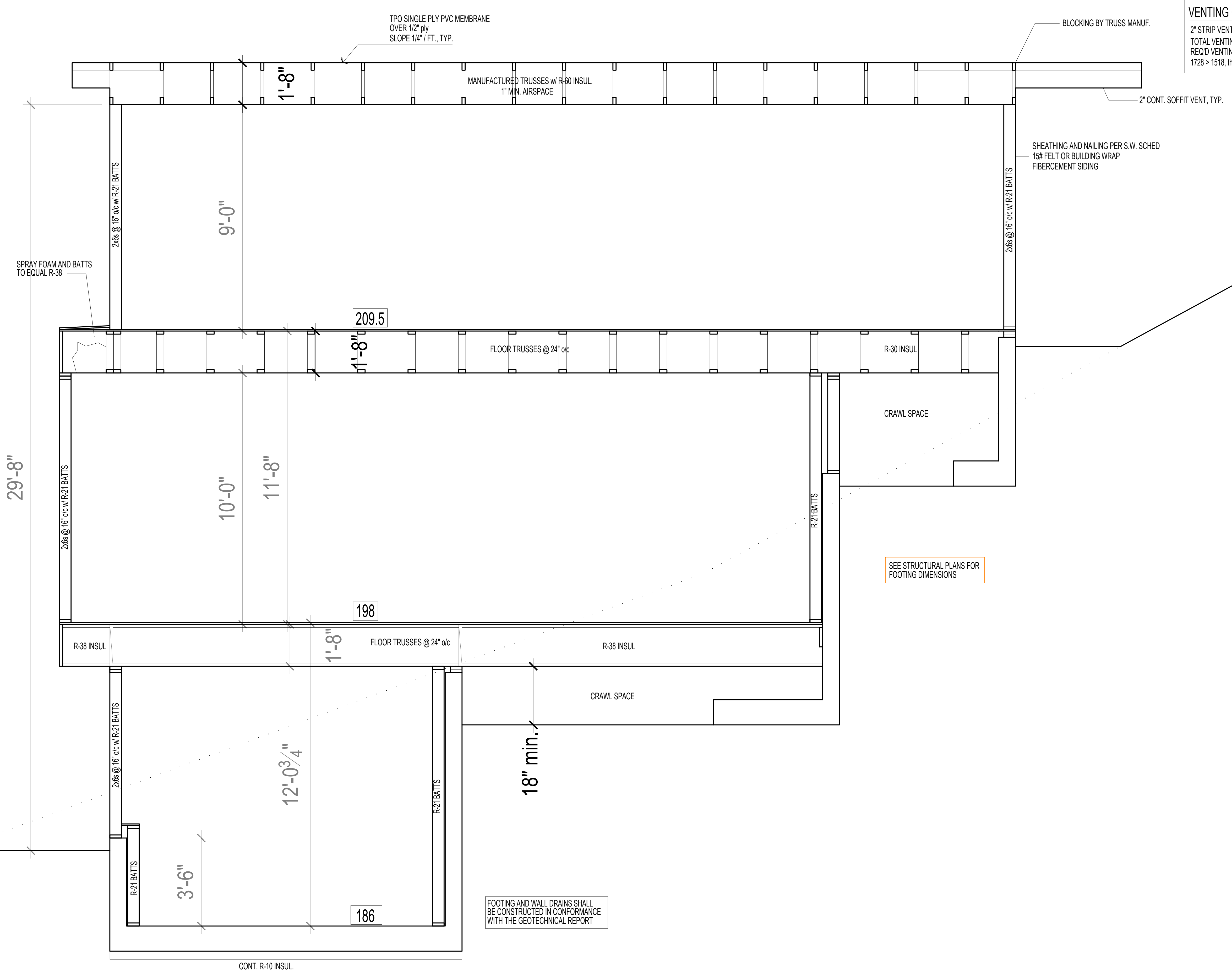
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CONTENTS  
Section

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A7

Closed cell spray foam directly applied to underside of sheathing (min R-10) + batts to = R-60  
 Spray foam product to be "Spraytite 178" as manufactured by BASF (ESR-2942), or equal.  
 Spray foam insulation shall be installed per IRC 806.5.1.3.  
 A copy of the ICC ESR report for the product used must be provided on the job site for field inspector verification.  
 The applied spray foam must be installed by a certified installer.



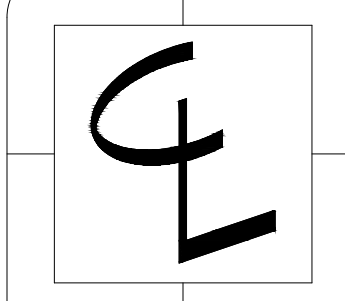
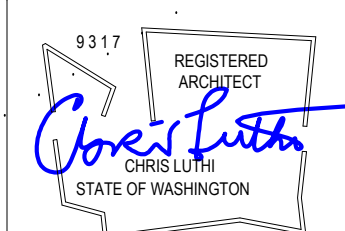
**VENTING CALC.**  
 2" STRIP VENT = 8sq / FT  
 TOTAL VENTING = 216 sq ft = 1728 sf  
 REQ'D VENTING = 1581 x 144 / 150 = 1518 sq ft  
 1728 > 1518, therefor OK

FOOTING AND WALL DRAINS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE GEOTECHNICAL REPORT

SEE STRUCTURAL PLANS FOR FOOTING DIMENSIONS

**SECTION b.b**

1/2" = 1'-0"  
 FOR STRUCT. DETAILS SEE S3.2  
 R-10 AT WINDOW HEADERS, TYP.



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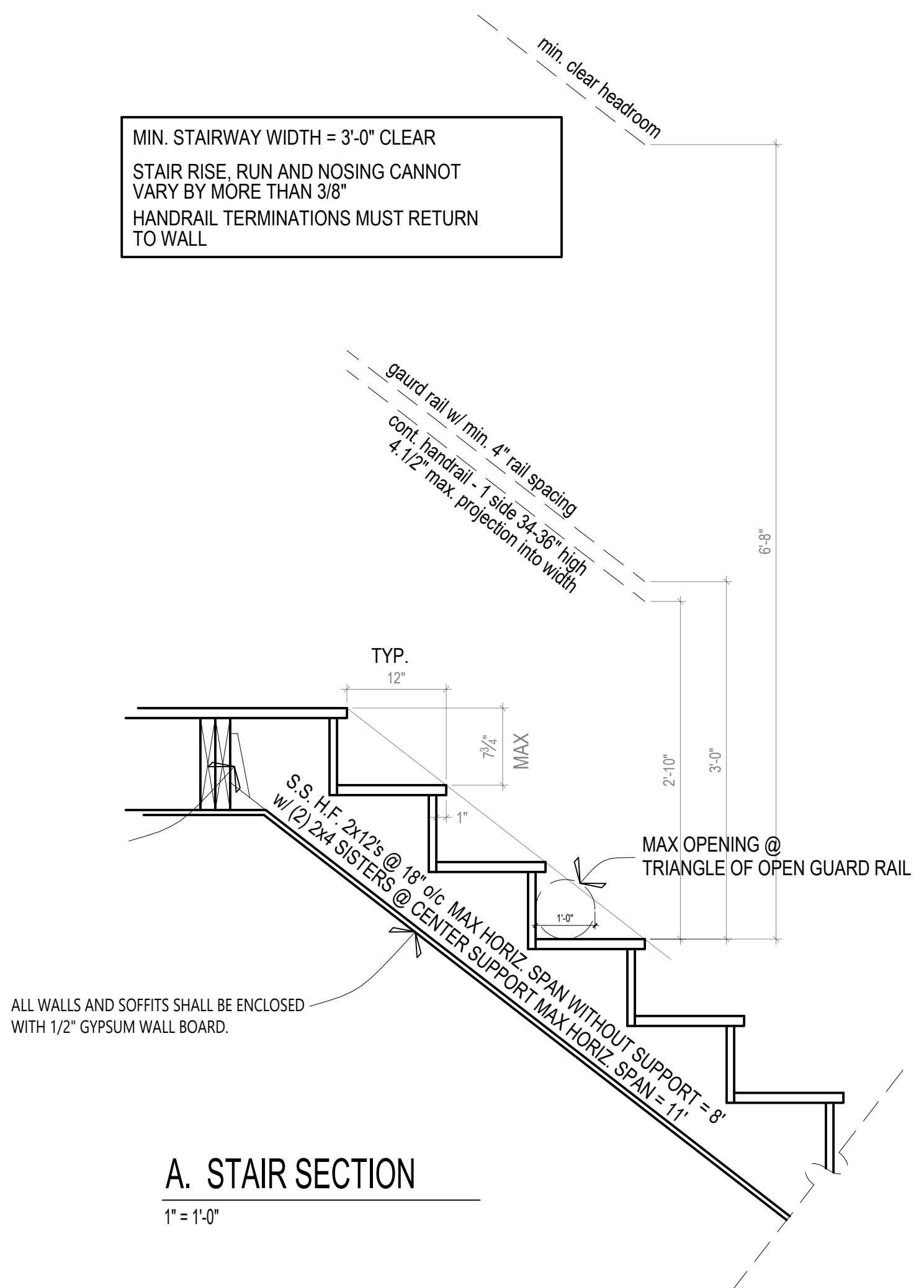
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**CONTENTS**  
 Section

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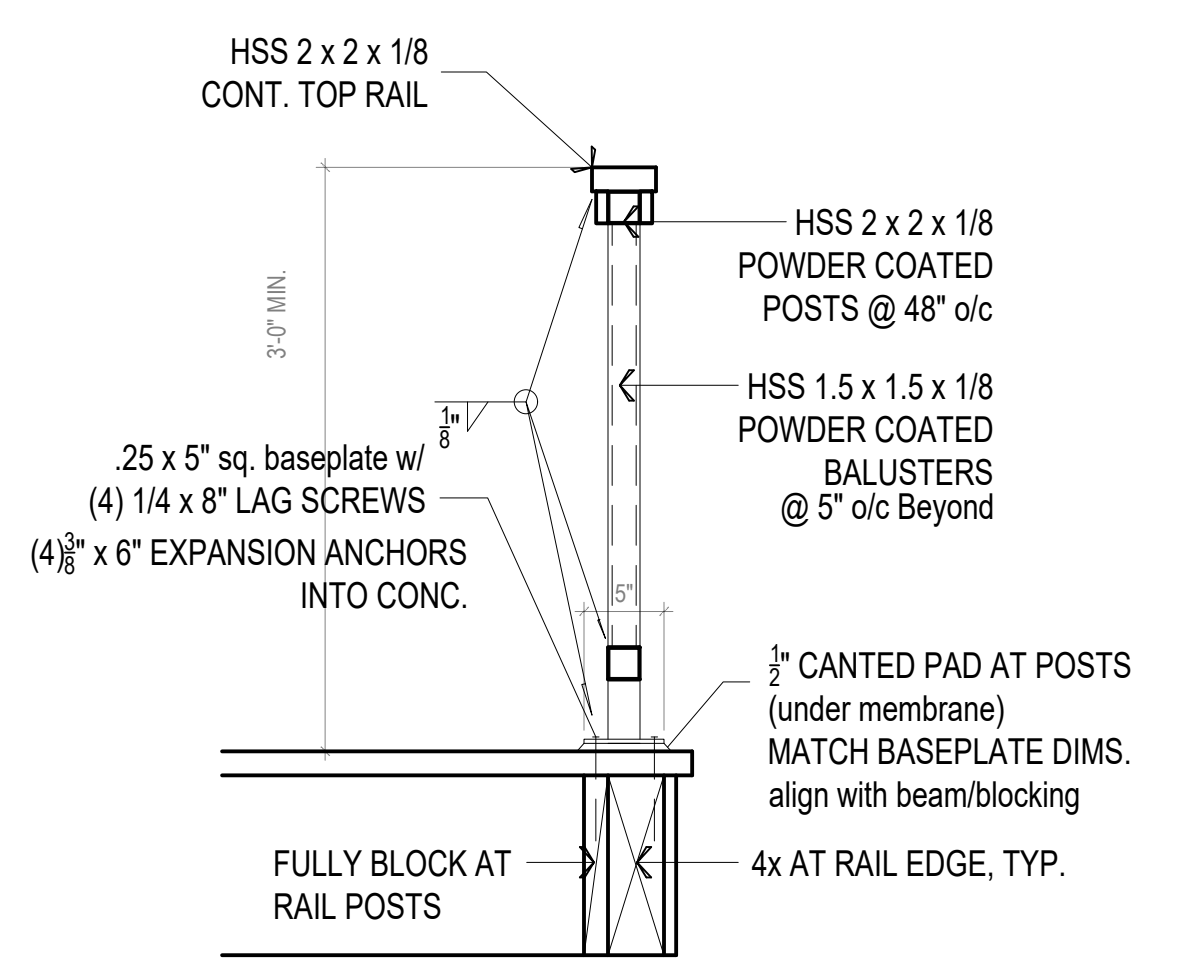
**A8**

MIN. STAIRWAY WIDTH = 3'-0" CLEAR  
 STAIR RISE, RUN AND NOSING CANNOT VARY BY MORE THAN 3/8"  
 HANDRAIL TERMINATIONS MUST RETURN TO WALL

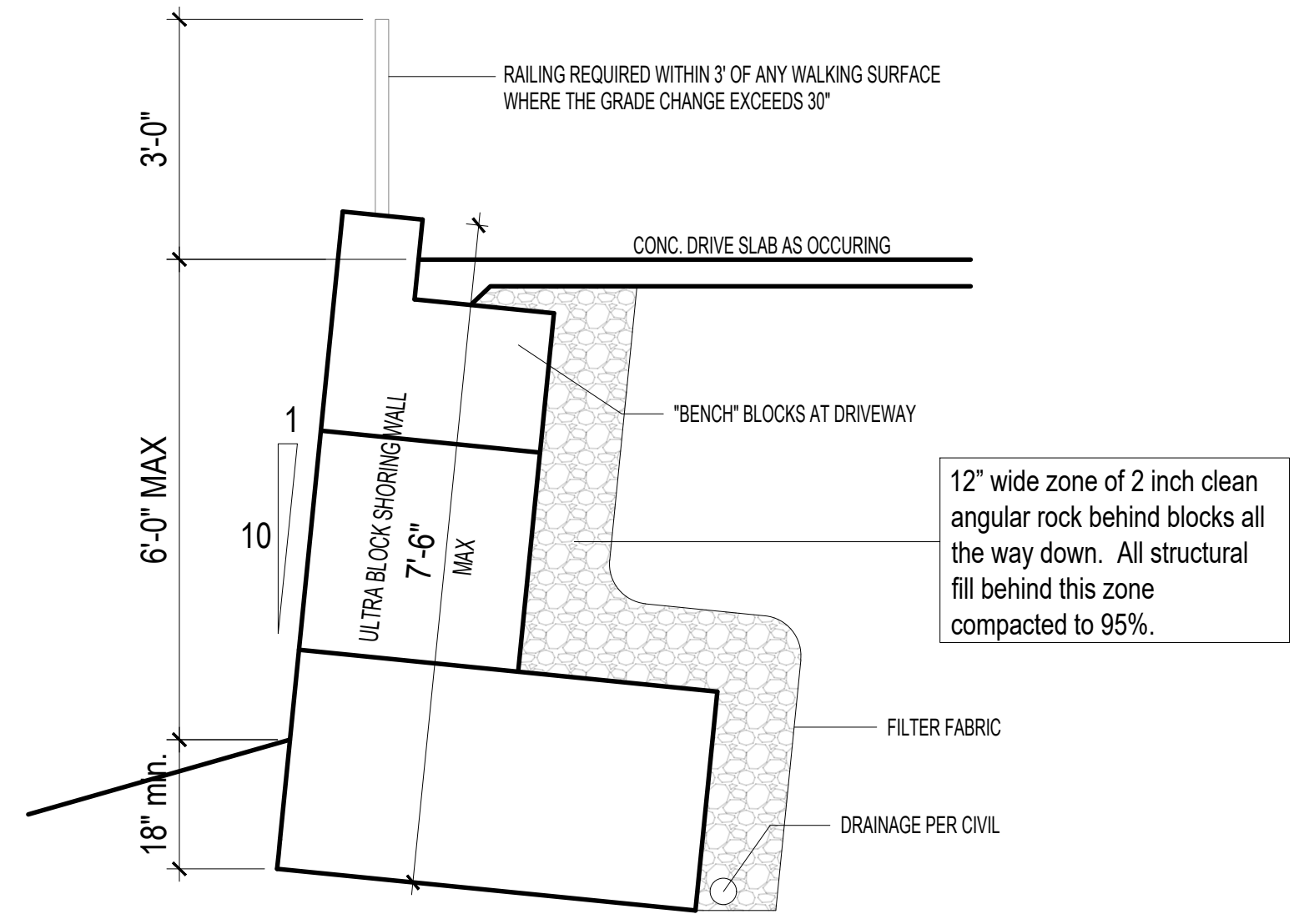


**A. STAIR SECTION**  
 1" = 1'-0"

ALL WALLS AND SOFFITS SHALL BE ENCLOSED WITH 1/2" GYPSUM WALL BOARD.



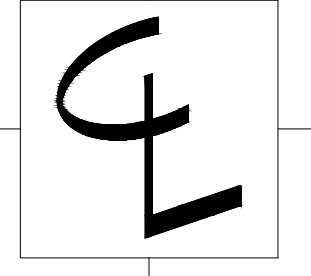
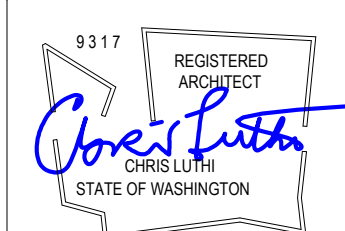
**B. RAILING DETAIL**  
 1" = 1'-0"



**C. GRAVITY RETAINING WALLS**  
 1" = 1'-0"

GEOTECHNICAL SPECIAL INSPECTOR SHALL CONTINUOUSLY MONITOR THE EXCAVATION FOR AND INSTALLATION OF THE ECOLOGY BLOCK WALL.

- ULTRABLOCK RETAINING WALL:**
1. WALLS (2 1/2 x 2 1/2 x 5 FEET IN DIMENSION) MAY ALSO BE CONSIDERED TO SUPPORT THE TEMPORARY EXCAVATIONS. HOWEVER, USE OF ULTRABLOCK SHORING WILL REQUIRE EXCAVATIONS ABOVE THE BLOCKS TO EXTEND INTO THE ROW. THE ULTRABLOCK WALL SHOULD HAVE A MAXIMUM HEIGHT OF 7 1/2 FEET (THREE BLOCKS HIGH)
  2. THE MAXIMUM WALL HEIGHT OF STAGGERED BLOCKS IS 7 1/2 FEET (I.E., 3 BLOCKS IN HEIGHT);
  3. THE BACK SLOPE ABOVE THE WALL SHALL BE NO STEEPER THAN 1H:3V (6' MAXIMUM);
  4. THE SUBGRADE AT THE BASE OF THE ULTRABLOCK BLOCKS SHALL CONSIST OF DENSE NATIVE SOIL OR LEVELING CRUSHED ROCK PLACED ON DENSE SOIL;
  5. NO EXCAVATION SHALL BE MADE UNTIL BLOCKS ARE AVAILABLE ON SITE
  6. THE WIDTH OF UNSUPPORTED CUT FACE FOR BLOCK PLACEMENT SHALL BE LIMITED TO NO MORE THAN ABOUT 12 FEET AT ANY GIVEN TIME;
  7. BLOCKS SHALL BE PLACED IMMEDIATELY AFTER THE CUT IS MADE, OTHERWISE THE CUT FACE SHALL BE BUTTRESSED WITH ON-SITE SOILS UNTIL THE BLOCKS CAN BE PLACED;
  8. ANY VOIDS BEHIND BLOCKS SHALL BE BACKFILLED WITH GRAVEL IMMEDIATELY AFTER THE BLOCK WALL ARE INSTALLED; AND
  9. GEOTECHNICAL ENGINEER SHALL PROVIDE FULL TIME OBSERVATION DURING BLOCK WALL INSTALLATION.



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Details

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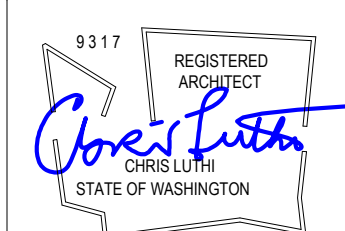
PRIMARY RESIDENCE HVAC NOTES

DUCTED HEAT PUMP (HSPF>11.0) INT. AIR HANDLER INTEGRATED HEAT RECOVERY VENTILATION REQUIRED VENTING = CONTINUOUS 85CFM SET TO OPERATE AT 170 CFM FOR 2 HOURS IN EA. 4 HR PERIOD (50%) PROVIDED BY VARIABLE SPEED HIGH EFF. FAN (MAX. 35 WATTS/CFM) CONTROLLED TO OPERATE AT LOW SPEED IN VENTILATION MODE ONLY.

design professional or builder shall complete and post an "Insulation Certificate for Residential Construction" within 3' of the electrical panel prior to final inspection.

Maximum flow rates for shower heads and kitchen sink - 1.75 GPM or less. All other lavatory faucets - 1.0 GPM or less.

Per WSEC R402.4, The building thermal Envelope shall be constructed to limit air leakage to 2.0 air changes per hour maximum. The results of the test shall be signed by the party conducting the test and provided to the code official (R402.4.1.2). Per WSEC R403.1.1, at least one thermostat per dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule. Per WSEC R403.2.2, Ducts, air handlers, and filter boxes shall be sealed. Per WSEC R404.1, A minimum of 90 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps.



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Project Information table with fields for Project Name, Address, Contact Information, and Messages/Comments.

ANALYSIS SET UP table with fields for Compliance Path, Project Building Type, Occupancy Type, Code Version, Classification, Baseline Description, and About Your Selection.

RESULTS - Comparison of Baseline and Proposed Design table with columns for Component, Baseline U, Area, UA, Proposed Design U, Area, UA, and UA Reduction.

Table R406.2 Energy Equalization Credits table with columns for System No., Fuel Description, Select System Type, Fuel Normalization Credits, Energy Credits, and Total Credits.

Table R406.3 Energy Credits table with columns for Option No., Category, Select Options, Energy Credits, and Brief Description of Selected Options.

WSU\_C32021\_20241009-Memor Lot 6.slm, Version: 10/16/2024 4:07:13 PM

THERMAL ENVELOPE DETAILS - Proposed Design table with columns for Plan ID, Component, Ref, U, Ql, Width, Height, Area, and UA.

Exterior Doors table with columns for Plan ID, Component, Ref, U, Ql, Width, Height, Area, and UA.

Overhead Glazing table with columns for Plan ID, Component, Ref, U, Ql, Width, Height, Area, and UA.

Vertical Glazing Schedule table with columns for Plan ID, Component, Ref, U, Ql, Width, Height, Area, and UA.

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Floor (over crawl or exterior) table with columns for Plan ID, Component, Ref, Floor U, Area, and UA.

Slab on Grade (less than 2 feet below grade) table with columns for Plan ID, Component, Ref, Slab U, Slab Perim, and FP.

Below Grade Walls and Slabs table with columns for Plan ID, Component, Slab Depth, Ref, Wall U, Wall Area, Slab U, Slab Perim, and UA.

Links to Download Forms, Checklists and Other Resources table with columns for Compliance Certificate, Insulation Certificate, and Duct Testing Affidavit.

Ventilation Requirements table with fields for Conditioned Floor Area, Number of Bedrooms, Run-Time Percent, and Whole House Mechanical Ventilation Airflow Rate.

HVAC Thermal Distribution System table with fields for Is this a hydronic heating system?, Location of Ducts, Location of Air Handler, and Maximum Duct Leakage.

Heating System Sizing - Proposed Design table with fields for Heating System Type, Location of HVAC Distribution System, Envelope Heat Load, Air Leakage Heat Load, Building Design Heat Load, Building and Duct Heat Load, Maximum Heat Equipment Output, and Average ceiling height.

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Table with columns for Option No., Category, Select Options, Energy Credits, and Brief Description of Selected Options.

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Flat/Vaulted Ceilings table with columns for Plan ID, Component, Ref, Attic U, Area, and UA.

Walls (Above Grade) table with columns for Plan ID, Component, Ref, Wall U, Net Area, and UA.

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Table with columns for HVAC System Type, Location of HVAC Distribution System, Envelope Heat Load, Air Leakage Heat Load, Building Design Heat Load, Building and Duct Heat Load, Maximum Heat Equipment Output, and Average ceiling height.

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CONTENTS C3 Energy Code

DRAWN BY CRL DATE 2.4.25

A10

# General Structural Notes (GSN's)

**CRITERIA:**  
 1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE SEATTLE BUILDING CODE (SBC) WITH WASHINGTON STATE ADMINISTRATIVE CODE AMENDMENTS (2021) EDITION.

RISK CATEGORY SBC TABLE 1604.5	.....II
ROOF SNOW LOAD	..... 25 PSF (s = 1.0)
ROOF DEAD LOAD	..... 15 PSF
RESIDENTIAL LIVE LOAD	..... 40 PSF
DECK LIVE LOAD	..... 60 PSF
FLOOR DEAD LOAD	..... 25 PSF

EARTHQUAKE	..... SEISMIC DESIGN CATEGORY D
	S <sub>s</sub> = 1.63, S <sub>1</sub> = 0.64, S <sub>0.5</sub> = 1.19, S <sub>0</sub> = 0.72
	EQUIVALENT LATERAL FORCE PROCEDURE
	LIGHT FRAME (WOOD) WALLS AND ROOFS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR
	R = 6.5, C <sub>d</sub> = 2.5, I <sub>e</sub> = 1.0, C <sub>e</sub> = 4, C <sub>s</sub> = 0.183
	BASE SHEAR, V = 63.5 K (RFD)
WIND	..... 110 MPH, EXPOSURE "C", K <sub>zt</sub> = 1.3
COMPONENTS & CLADDING	..... -52.5/-31.5 PSF MAX. AT WALLS (LRFD/ASD)
	-52.5/-31.5 GROSS UPLIFT AT ROOF (LRFD/ASD)

WIND PRESSURES BASED ON LESS THAN 10 SQUARE FOOT TRIANGULAR AREAS NEAR WALL CORNERS OR ROOF EDGES (EXCLUDING CORNER ZONES AT ROOF). REDUCED DESIGN PRESSURES MAY BE CALCULATED IN ACCORDANCE WITH ASCE 7-16 CHAPTER 30.

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ENGINEER OF ALL DISCREPANCIES PRIOR TO CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE BUILDING LAYOUT DIMENSIONS (GRID LAYOUTS, SITE COORDINATES, ETC.) AMONGST ALL TRADES, INCLUDING SHOP FABRICATED ITEMS.

4. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING, BOTH FOR VERTICAL LOADS AND LATERAL STABILITY, FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK.

6. 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.

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

8. SEISMIC BRACING AND/OR GRAVITY SUPPORT AND ANCHORAGE OF ALL MECHANICAL OR ELECTRICAL EQUIPMENT SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON, EXCEPT FOR ELEMENTS SPECIFICALLY SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. THE MECHANICAL/ELECTRICAL CONTRACTOR MUST HIRE THE ENGINEER AND IS RESPONSIBLE FOR ALL COSTS RELATED TO THE PURCHASE AND INSTALLATION OF NECESSARY SUPPORTS, BRACING AND ANCHORAGE. SEISMIC BRACING AND ANCHORAGE DESIGN AND CONSTRUCTION SHALL COMPLY WITH CHAPTER 13 OF ASCE 7-10.

9. SHOP DRAWING REVIEW: SHOP DRAWINGS FOR TRUSSES SHALL BE SUBMITTED TO THE CONTRACTOR, ARCHITECT, AND ENGINEER OF RECORD FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS. DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, AND THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY ENGINEER OF RECORD. SUBMITTALS SHALL INCLUDE A REPRODUCIBLE AND ONE COPY. THE REPRODUCIBLE SHALL BE MARKED AND RETURNED. SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

10. DEFERRED SUBMITTALS SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF WASHINGTON. THE COMPONENT DESIGNER SHALL BE A REGISTERED STRUCTURAL ENGINEER IF REQUIRED BY THE BUILDING OFFICIAL OF THE LOCAL JURISDICTION. BUILDING COMPONENT SUBMITTALS SHALL INCLUDE THE DESIGNING PROFESSIONAL ENGINEER'S STAMP AND SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO CURSORY REVIEW BY THE ENGINEER OF RECORD FOR LOADS IMPOSED ON THE BASIC STRUCTURE. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE INCLUDING ACCOMMODATION FOR STRUCTURAL DISPLACEMENT PER ASCE 7-10 SECTION 13.3.2, AND ALL NECESSARY CONNECTIONS NOT SPECIFICALLY CALLED OUT ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. DEFERRED SUBMITTALS SHALL INDICATE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON BASIC STRUCTURE. DESIGN CALCULATIONS SHALL BE INCLUDED IN THE SUBMITTAL. THE CONTRACTOR SHALL FORWARD DEFERRED SUBMITTALS TO THE BUILDING OFFICIAL AND HAVE THE DEFERRED SUBMITTALS ON SITE FOR THE GOVERNING JURISDICTIONS INSPECTORS USE AND REFERENCE. THE FOLLOWING BUILDING COMPONENTS SHALL BE DEFERRED SUBMITTALS FOR THIS PROJECT:  
 - PREFABRICATED CONNECTOR PLATE WOOD TRUSSES (SEE GENERAL NOTE #23)

**GEOTECHNICAL:**

1. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH THE SPECIFICATIONS OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER. FOOTINGS SHALL BEAR ON UNDISTURBED MEDIUM DENSE OR FIRMER NATIVE SOILS OR ON PROPERLY COMPACTED STRUCTURAL FILL PLACED ON THE SUITABLE NATIVE SOILS, AT LEAST 12" BELOW LOWEST ADJACENT FINISHED GRADE. ANY UNDOCUMENTED FILL AND/OR LOOSE NATIVE SOILS SHOULD BE REMOVED AND REPLACED WITH STRUCTURAL FILL BELOW FOUNDATION ELEMENTS. STRUCTURAL FILL BELOW FOOTINGS SHOULD CONSIST OF CLEAN ANGULAR ROCK ¾ TO 4 INCHES IN SIZE. SOIL CONDITIONS DURING FOUNDATION EXCAVATION WORK SHALL BE VERIFIED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF ALL FOOTINGS.	2,000 PCF
ALLOWABLE SOIL PRESSURE	..... 2,000 PCF
LATERAL EARTH PRESSURE (UNRESTRAINED)	..... 35 PCF
(RESTRAINED)	..... 55 PCF
SEISMIC SURCHARGE PRESSURE (UNRESTRAINED)	..... 14H, UNIFORM
(RESTRAINED)	..... 7H, UNIFORM
PASSIVE EARTH PRESSURE (WITH 1.5 FACTOR OF SAFETY)	..... 250 PCF
BASE COEFFICIENT OF FRICTION (WITH 1.5 FACTOR OF SAFETY)	..... 0.3

ALL BOTTOM OF EXTERIOR FOOTINGS, AND INTERIOR FOOTINGS IN AN UNCONDITIONED SPACE, SHALL BE SET 12" BELOW GRADE AT A MINIMUM TO REACH FROST DEPTH.

GEOTECHNICAL REFERENCE: Cobalt Geoscience; Geotechnical Evaluation; Proposed Residence; 5818 W. Mercer Way; Mercer Island, WA; November 8, 2025

**ANCHORAGE:**

13. DRIVE PINS AND OTHER POWER-ACTUATED FASTENERS SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS INCLUDING MINIMUM EMBED REQUIREMENTS: "E" SERIES" (0.157" DIAMETER) AS MANUFACTURED BY ITW RAMCET (ICC-ES NO. 1799); OR "K-U" (0.157" DIAMETER) AS MANUFACTURED BY HILTI, INC. (ICC-ES NO. 2269); OR "STRONG-TIE POPA" (0.157" DIAMETER) AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. (ICC-ES NO. 2138); OR "CS" PIN" (0.157" DIAMETER) AS MANUFACTURED BY DEWALT/POWERS (ICC-ES NO. 2024); OR AN APPROVED EQUIVALENT IN STRENGTH AND EMBEDMENT. MINIMUM EMBEDMENT IN CONCRETE SHALL BE 1" UNLESS OTHERWISE NOTED. MAINTAIN AT LEAST 3-1/2" TO NEAREST REINFORCING EMBED.

**CONCRETE:**

14. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 318-18 CHAPTER 4 AND 26, AND ACI 301. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF f<sub>c</sub> = 2,500 PSI (5½ SACK 2500 PSI CONCRETE MIX PER SBC SECTION CA1904.2). AIR-ENTRAINMENT IS NOT REQUIRED FOR DURABILITY PURPOSES. MIXES SHALL BE PROPORTIONED TO PRODUCE A 5-INCH OR LESS SLUMP, WITH A MAXIMUM ALLOWABLE TOLERANCE OF 1-INCH PLUS.

15. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, f<sub>y</sub> = 60,000 PSI. GRADE 60 REINFORCING BARS WHICH ARE TO BE WELDED SHALL CONFORM TO ASTM A706. REINFORCEMENT COMPLYING WITH ASTM A615(S1) MAY BE WELDED ONLY IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN A.W.S. D1.4 ARE SUBMITTED. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064.

16. REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH ACI 318-18 AND 318-18. LAP ALL CONTINUOUS REINFORCEMENT IN ACCORDANCE WITH "REINFORCEMENT SPLICE AND DEVELOPMENT LENGTH SCHEDULE" OF 10/S3.1. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 12" AT SIDES AND ENDS. NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS OTHERWISE NOTED ON THE DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.

17. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:  
 - FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST A PERMANENTLY EXPOSED TO EARTH 3" FOR ALL REINFORCING BAR SIZES  
 - FORMED SURFACES EXPOSED TO EARTH (I.E. WALLS BELOW GROUND) OR WEATHER 1½" FOR #5 REINFORCING BARS OR SMALLER 2" FOR #6 REINFORCING BARS OR LARGER

17. DEVELOPMENT AND SPLICE LENGTH SHALL BE NO LESS THAN THAT SHOWN IN TABLE BELOW:

f <sub>c</sub> < 3000 PSI	BAR SIZE	MISCELLANEOUS BARS		TOP BARS		HOOKED BARS	
		Ld	SPLICE	Ld	SPLICE	Ldh	Ldh
f <sub>c</sub> = 4000 PSI	#3	17"	23"	22"	29"	9"	9"
	#4	22"	29"	29"	38"	11"	11"
	#5	28"	37"	37"	47"	14"	14"
	#6	33"	43"	43"	56"	17"	17"
	#8	41"	51"	51"	68"	21"	21"
f <sub>c</sub> = 5000 PSI	#3	15"	20"	19"	25"	8"	8"
	#4	19"	25"	25"	33"	10"	10"
	#5	24"	32"	31"	41"	12"	12"
	#6	29"	38"	37"	49"	15"	15"
	#8	37"	47"	47"	62"	19"	19"
f <sub>c</sub> = 6000 PSI	#3	12"	16"	16"	21"	6"	6"
	#4	16"	21"	21"	28"	8"	8"
	#5	20"	26"	26"	34"	10"	10"
	#6	24"	32"	31"	41"	12"	12"
	#8	31"	41"	41"	54"	15"	15"

- A. VALUES FOR UNCOATED REINFORCING AND NORMAL WEIGH CONCRETE WITH CLEAR SPACING > 4d, CLEAR COVER > 4d, AND MINIMUM STRIPS OR TIES THROUGHOUT Ld OR CLEAR SPACING > 2db AND CLEAR COVER > db
- B. DEVELOP ALL REINFORCING IN STRUCTURAL SLABS WITH MINIMUM DEVELOPMENT LENGTH Ld
- C. Ldh = DEVELOPMENT LENGTH OF BAR WITH STANDARD HOOK
- D. TOP BAR = HORIZONTAL BAR WITH MORE THAN 12" OF FRESH CONCRETE BELOW (EXCLUDING WALL, HORIZONTAL REINFORCING) OR AS NOTED ON DOCUMENTS AS "TOP BAR"
- E. ALL TABULATED VALUES ARE IN INCHES

18. BONDING AGENT SHALL BE "MASTEREMACH ADH 326" BY BASF CORPORATION, OR EQUIVALENT, AND SHALL BE USED WHERE NEW CONCRETE IS PLACED AGAINST HARDENED CONCRETE. PLACE IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, INCLUDING PREPARATION OF EXISTING SURFACES. CONCRETE SHALL BE CONSIDERED HARDENED AFTER 56 DAYS.

19. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (6,000 PSI MINIMUM).

**IBC TABLE 1705.3 REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION**

REQUIRED	VERIFICATION & INSPECTION	CONTINUOUS	CONSTRUCTION	REF. STD.	IBC REF.
N/A	1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS AND VERIFY PLACEMENT.	----	X	ACI 318 CH. 20; 25.2, 25.3, 26.5.1, 26.5.3	1908.4
N/A	2. REINFORCING BAR WELDING: A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706. B. INSPECT SINGLE-PASS FILLET WELDS, MINIMUM 5/16"; AND C. INSPECT ALL OTHER WELDS.	----	X	AKSD.4 ACI 318 26.5.4	----
N*	3. INSPECT ANCHORS CAST IN CONCRETE.	----	X	ACI 318: 17.8.2	----
N/A	4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS: A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLUDED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.4.	X	X	ACI 318: 17.8.2.4 ACI 318:17.8.2	----
N*	5. VERIFY USE OF REQUIRED DESIGN MIX.	----	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
N*	6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	----	ASTM C 172 ASTM C 304.5, 26.12	1908.10
N*	7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	----	ACI 318: 26.4.5	1908.6, 1908.7, 1908.8
N*	8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	----	X	ACI 318: 26.4.9	1908.9
N/A	9. INSPECT PRESTRESSED CONCRETE FOR: A. APPLICATION OF PRESTRESSING FORCES; AND B. GROUTING OF BONDED PRESTRESSING TENDONS	X	X	ACI 318: 26.9.2.1 ACI 218: 26.9.2.3	----
N/A	10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	----	X	ACI 318: CH. 26.8	----
N*	11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCT. SLABS.	----	X	ACI 318: 26.10.2	----
N*	12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	----	X	ACI318: 26.10.1(6)	----

\* EXCEPTIONS 2 PER SBC SECTION 1705.3 APPLIES TO CONCRETE WORK ON THIS PROJECT.

**WOOD:**

20. FRAMING LUMBER SHALL BE KILN DRIED OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH W.C.L.I.B. STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17 OR W.W.P.A. WESTERN LUMBER GRADING RULES. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

PLATES, LEDGERS & MISC. LIGHT FRAMING:	DOUGLAS FIR NO. 3 OR STUD GRADE MIN. BASIC DESIGN STRESS, F <sub>b</sub> = 525 PSI, E = 1400 KSI F <sub>v</sub> = 775 PSI, F <sub>t</sub> = 325 PSI
JOISTS & RAFTERS:	DOUGLAS FIR NO. 2 MIN. BASIC DESIGN STRESS, F <sub>b</sub> = 900 PSI, E = 1600 KSI F <sub>v</sub> = 1350 PSI, F <sub>t</sub> = 575 PSI
BEAMS:	DOUGLAS FIR NO. 1 MIN. BASIC DESIGN STRESS, F <sub>b</sub> = 1000 PSI, E = 1700 KSI F <sub>v</sub> = 1500 PSI, F <sub>t</sub> = 675 PSI
6x...	MIN. BASIC DESIGN STRESS, F <sub>b</sub> = 1350 PSI, E = 1600 KSI F <sub>v</sub> = 925 PSI, F <sub>t</sub> = 675 PSI
COLUMNS:	DOUGLAS FIR NO. 1 MIN. BASIC DESIGN STRESS, F <sub>b</sub> = 1000 PSI, E = 1700 KSI F <sub>v</sub> = 1500 PSI, F <sub>t</sub> = 675 PSI
6x...	MIN. BASIC DESIGN STRESS, F <sub>b</sub> = 1200 PSI, E = 1600 KSI F <sub>v</sub> = 1000 PSI, F <sub>t</sub> = 825 PSI

21. 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 VENEER LUMBER (LVL, LAMINATED STRAND LUMBER (LSL), OR PARALLEL STRAND LUMBER (PSL)). THE MINIMUM ALLOWABLE DESIGN VALUES ARE AS FOLLOWS:

LVL -	F <sub>b</sub> = 2,600	F <sub>v</sub> = 290 PSI	E = 2,000,000 PSI
LSL -	F <sub>b</sub> = 1,900	F <sub>v</sub> = 150 PSI	E = 1,300,000 PSI

22. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND A.I.T.C. STANDARDS IN ACCORDANCE WITH SBC SECTION 2303.1.3. EACH MEMBER SHALL BEAR AN A.I.T.C. IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN A.I.T.C. CERTIFICATE OF CONFORMANCE. HORIZONTAL MEMBERS AND INCLUDED MEMBERS OF LESS THAN 4:1 SLOPE SHALL HAVE A RADIUSED CORNER OF 3,500 FT. UNLESS OTHERWISE NOTED.

**SIMPLE SPAN BEAMS**  
 DOUGLAS FIR COMBINATION 24F-V4  
 F<sub>b</sub> = 2400 PSI; F<sub>v</sub> = 265 PSI; E = 1,800,000 PSI

**CONTINUOUS OR CANTILEVERED BEAMS**  
 DOUGLAS FIR COMBINATION 24F-V8  
 F<sub>b</sub> = 2400 PSI; F<sub>v</sub> = 265 PSI; E = 1,800,000 PSI

THESE MEMBERS ARE NOTED AS "V" IN PLAN

GLUED LAMINATED MEMBERS EXPOSED TO WEATHER OR MOISTURE SHALL BE TREATED WITH A NON-CORROSIVE, APPROVED PRESERVATIVE.

23. PREFABRICATED CONNECTOR PLATE WOOD TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH ANS/ITPI 1-2007 AND IBC SECTION 2303.4 FOR THE SPANS AND CONDITIONS SHOWN ON THE DRAWINGS. DESIGN LOADS SHALL BE AS FOLLOWS:

ROOF TRUSSES	
TOP CHORD LIVE LOAD	25 PSF, SNOW
BOTTOM CHORD LIVE LOAD	0 PSF
TOP CHORD DEAD LOAD	10 PSF
BOTTOM CHORD DEAD LOAD	5 PSF
WIND UPLIFT (TOP CHORD)	SEE NOTE#2 COMPONENTS & CLADDING ROOF LOADS
FLOOR TRUSSES	
TOP CHORD LIVE LOAD	40 PSF
BOTTOM CHORD LIVE LOAD	0 PSF
TOP CHORD DEAD LOAD	20 PSF
BOTTOM CHORD DEAD LOAD	5 PSF

THE TRUSS MANUFACTURER SHALL COORDINATE LOCATIONS AND SUPPORT CONFIGURATIONS OF PLUMBING, MECHANICAL UNITS, DUCTS, AND/OR OTHER MISCELLANEOUS ITEMS WITH THE CONTRACTOR PRIOR TO TRUSS FABRICATION. THE TRUSS MANUFACTURER SHALL DESIGN TRUSSES TO SUPPORT ALL LOADS ASSOCIATED WITH SUCH ITEMS. THE TRUSS SHOP DRAWINGS SHALL INCLUDE ALL DESIGN LOADS AND APPROVED HANGER CONNECTION DETAILS TO TRUSS CHORDS FOR SUPPORT OF HUNG MECHANICAL SYSTEM COMPONENTS AS APPLICABLE.

WOOD TRUSSES SHALL UTILIZE APPROVED CONNECTOR PLATES (GANGNAIL OR EQUAL). SHOP DRAWINGS AND CALCULATIONS SHALL BE PROVIDED AS A DEFERRED SUBMITTAL TO THE CONTRACTOR AND STRUCTURAL ENGINEER OF RECORD PER GENERAL STRUCTURAL NOTE 13. SHOP DRAWINGS SHALL INDICATE SHAPES, BEARING POINTS, INTERSECTIONS, HIP, VALLEYS, ETC. EXACT COMPOSITION OF SPECIAL HIP, VALLEY, AND INTERSECTION AREAS (USE OF GREYER TRUSSES, JACK TRUSSES, STEP-DOWN TRUSSES, ETC.) SHALL BE DETERMINED BY THE MANUFACTURER UNLESS OTHERWISE NOTED ON THE DRAWINGS. THE TRUSS MANUFACTURER SHALL PROVIDE ALL TRUSS-TO-TRUSS BEAM/JOIST CONNECTION DETAILS AND REQUIRED CONNECTION MATERIALS. THE TRUSS MANUFACTURER SHALL DESIGN AND PROVIDE DETAILS FOR ALL TEMPORARY AND PERMANENT TRUSS BRACING AND BRIDGING.

24. ROOF & WALL SHEATHING SHALL BE APA RATED, EXTERIOR OR EXPOSURE 1 PLYWOOD OR ORIENTED STRAND BOARD (OSB) IN CONFORMANCE WITH SBC SECTION 2303.1.5. SHEATHING SHALL BE MANUFACTURED UNDER THE PROVISIONS OF VOLUNTARY PRODUCT STANDARDS DPC PS 1-09, PS 2-10, OR APA PRP-108 PERFORMANCE STANDARDS AND POLICES FOR STRUCTURAL USE PANELS. SEE DRAWINGS FOR THICKNESS, SPAN RATINGS, AND NAILING REQUIREMENTS.

25. AT NON-SHEAR WALL EXTERIOR WALLS, UNLESS OTHERWISE NOTED, WALL SHEATHING SHALL BE ½" (NOMINAL) WITH SPAN RATING OF ¾" WITH 8d @ 6" OC PANEL NAILING (APPLIES TO ALL SHEATHING PANEL EDGES); AND 8d @ 12" OC TO INTERMEDIATE FRAMING.

26. ALL PRESSURE-TREATED (P.T.) WOOD MEMBERS SPECIFIED ON THE DRAWINGS THAT OCCUR ABOVE GROUND AND CONTINUOUSLY PROTECTED FROM MOISTURE (INTERIOR LOCATIONS) SHALL BE PRESURE-TREATED WITH DOT SODIUM BORATE (SDB) WITHOUT NaSO<sub>2</sub>, AT LOCATIONS PERMANENTLY EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND. WOOD MEMBERS SHALL BE PRESURE-TREATED WITH ALKALINE COPPER QUAT (ACQ-C FOR DOUGLAS-FIR) PRESERVATIVE UNLESS OTHERWISE NOTED. AMMONIACAL COPPER ZINC ARSENATE (ACZA) PRESERVATIVE OR OTHER PRESERVATIVES WITH AMMONIA CARRIERS, SHALL NOT BE USED. GLUED LAMINATED MEMBERS EXPOSED TO WEATHER OR MOISTURE SHALL BE TREATED WITH A NON-CORROSIVE, APPROVED PRESERVATIVE. SEE NOTE #27 FOR MATERIAL REQUIREMENTS OF CONNECTORS AND FASTENERS IN CONTACT WITH PRESSURE-TREATED MEMBERS.

27. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR WOOD CONNECTION CATALOG NO. C-C-2017-18. INSTALL NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, CENTER STRAP ON JOINT AND INSTALL NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER, WITH EQUAL NUMBER AND SIZE OF FASTENERS IN EACH MEMBER. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. INSTALL WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED.

ALL TIMBER CONNECTORS IN CONTACT WITH PRESURE-TREATED WOOD THAT USED PRESERVATIVE CHEMICALS OTHER THAN DOT SODIUM BORATE (SDB) WITHOUT NaSO<sub>2</sub> SHALL BE MANUFACTURED FROM 304L STEEL BY SIMPSON (GIBS STEEL PER ASTM A653), OR TYPE 304 OR 316 STAINLESS STEEL. ALTERNATIVELY, CONNECTORS CAN BE POST HOT DIP GALVANIZED PER ASTM A123 OR MECHANICALLY GALVANIZED PER ASTM B695, CLASS 55 OR GREATER. STAINLESS STEEL FASTENERS SHALL BE USED WITH STAINLESS STEEL CONNECTORS, AND HOT DIP GALVANIZED FASTENERS PER ASTM A153 SHALL BE USED WITH GALVANIZED CONNECTORS.

28. WOOD FRAMING NOTES: THE FOLLOWING SHALL APPLY UNLESS OTHERWISE NOTED ON THE DRAWINGS:

A. ALL WOOD FRAMING DETAILS SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE SBC. MINIMUM NAILING SHALL CONFORM TO SBC TABLE 2304.10.1 OR CURRENT ICC-ES REPORT NER-272. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS. INSTALL WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. INSTALLATION OF LAG SCREWS SHALL CONFORM TO 2021 NDS SECTION 11.1.4, AND INSTALLATION OF BOLTS SHALL CONFORM TO 2021 NDS SECTION 11.1.3.

B. WALL FRAMING: TWO STUDS MINIMUM SHALL BE INSTALLED AT THE ENDS OF ALL WALLS, UNLESS NOTED OTHERWISE NOTED. INSTALL SOLID BLOCKING FOR WOOD COLUMN THROUGH FLOOR SPACES TO SUPPORTS BELOW.

ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH 16d NAILS @ 12" OC STAGGERED OR BOLTED TO CONCRETE WITH ¾" Ø ANCHOR BOLTS @ 4'-0" OC PER SBC SECTION 2308.6 (EMBED 7"), UNLESS OTHERWISE NOTED. 3" x 3" x 0.229" PLATE WASHERS SHALL BE USED WITH ALL SILL PLATE ANCHOR BOLTS AND INSTALLED PER A&P&P SDPS-2015 SECTION 4.3.6.4.3. INDIVIDUAL MEMBERS OF BUILT-UP STUD POSTS SHALL BE NAILED TO EACH OTHER WITH 16d @ 12" OC STAGGERED.

C. FLOOR AND ROOF FRAMING: INSTALL SOLID BLOCKING AT ALL BEARING POINTS. TOENAIL JOISTS TO SUPPORTS WITH (2)16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI-JOIST BEAMS TOGETHER WITH 16d@12" OC STAGGERED.

ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAN PERPENDICULAR TO SUPPORTS AND NAILED AS SHOWN ON THE DRAWINGS. INSTALL APPROVED PANEL EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED TONGUE-AND-GROOVE JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING ALONG ¼" SPACING AT ALL PANEL EDGES AND ENDS OF LOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 16d@12" OC. IN ACCORDANCE WITH SBC SECTION 1604.8.3, DECKS SHALL BE POSITIVELY ANCHORED TO THE STRUCTURE BY MEANS OTHER THAN NAILS SUBJECT TO WITHDRAWAL ANCHOR WITH MINIMUM (1) CS16 STRAP AT EACH END ATTACHED TO DECK JOISTS AND TO A SOLID BLOCKING MEMBER WITHIN THE BUILDING.

D. NAILING: A MINIMUM NAIL DIAMETER AND LENGTH SHALL BE AS FOLLOWS:

	NAIL SIZE ON DRAWINGS	DIAMETER x LENGTH
SHEATHING NAILS	8d	0.131" x 2½"
	10d	0.148" x 2½"
FRAMING NAILS	10d	0.148" x 3"
	16d	0.148" x 3½"

E. WOOD SHRINKAGE: THE PLUMBING, FIRE PROTECTION, DRAINAGE, MECHANICAL, ELECTRICAL, CLADDING, AND OTHER SYSTEMS INSTALLED WITHIN THE BUILDING SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE VERTICAL SHRINKAGE AT ALL WOOD FRAMING LEVELS. THE WOOD SHRINKAGE AMOUNT SHALL BE ASSUMED TO EQUAL ¾" FOR EACH WOOD FRAMED FLOOR LEVEL.

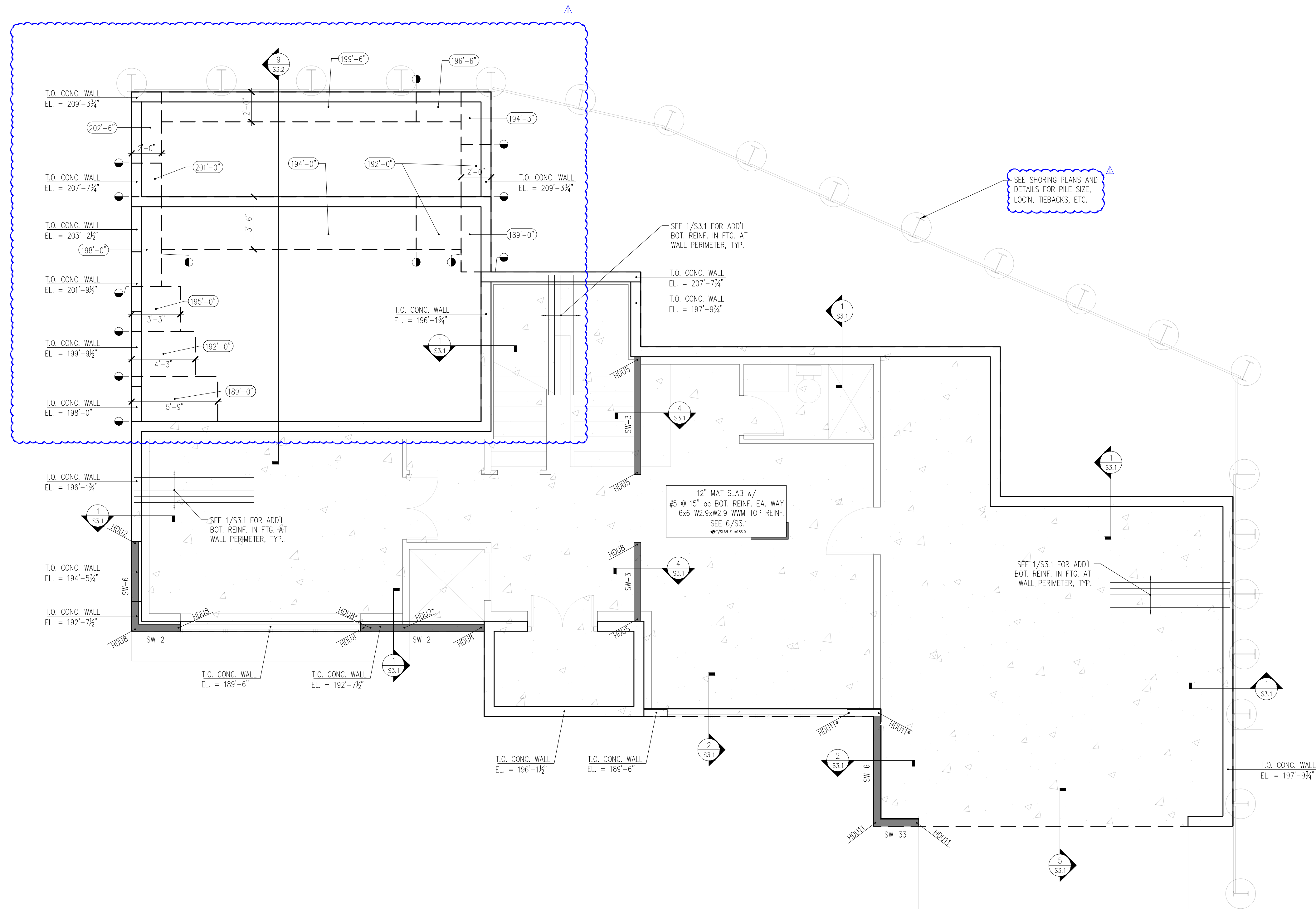
# Minimum Connectors and Fasteners for Wood Members per IBC 2021

DESCRIPTION OF BLDG. ELEMENT	NUMBER AND TYPE OF FASTENERS	SPACING & LOCATION
ROOF		
1. BLOCKING BETWEEN CEILING JOISTS, RAFTERS, OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW	3-8d COMMON (2½" x 0.131"); or 3-10d BOX (3" x 0.128"); or 3-3" x 0.131" NAILS; or 3-3" x 14 GAGE STAPLES, ¾" CROWN	EACH END, TOENAIL
BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS	2-8d COMMON (2½" x 0.131") 2-3" x 0.131" NAILS 2-3" x 14 GAGE STAPLES	EACH END, TOENAIL
2. CEILING JOISTS TO TOP PLATE	2-16d COMMON (3½" x 0.162") 3-3" x 0.131" NAILS 3-3" x 14 GAGE STAPLES	END NAIL
FLAT BLOCKING TO TRUSS AND WEB FILLER	16d COMMON (3½" x 0.162") @ 6" oc 3" x 0.131" NAILS @ 6" oc 3" x 14 GAGE STAPLES @ 6" oc	FACE NAIL
3. CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITION (NO THRUST) (SEE 2308.7.3.1, TABLE 2308.7.3.1)	3-16d COMMON (3½" x 0.162"); or 4-10d BOX (3" x 0.128"); or 4-3" x 0.131" NAILS; or 4-3" x	

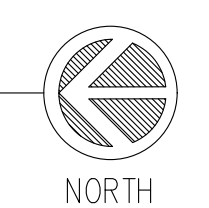
**LEGEND**

	CONCRETE FOOTING
	CONCRETE WALL
	POST
	SPREAD FOOTING PER 3/S3.1
	DENOTES TOP OF FOOTING ELEVATION (±)
	DENOTES STEP IN FOOTING 9/S3.1
	DENOTES EXTENT OF SHEARWALL TYPE SW- PER 1/S6.5
	DENOTES SHEARWALL TENSION TIE PER 4/S6.5

CONNECTOR TABLE	
SIMPSON DESIGNATION	NOTES
JB ~or~ LUS	HANGER
THA422	TOP FLANGE HANGER
ITS ~or~ IUS	HANGER



1 LOWER FLOOR AND FOUNDATION PLAN  
S2.1 1/4" = 1'-0"



5818 West Mercer  
Mercer Island

**CONTENTS**  
Lower Floor and Foundation Plan

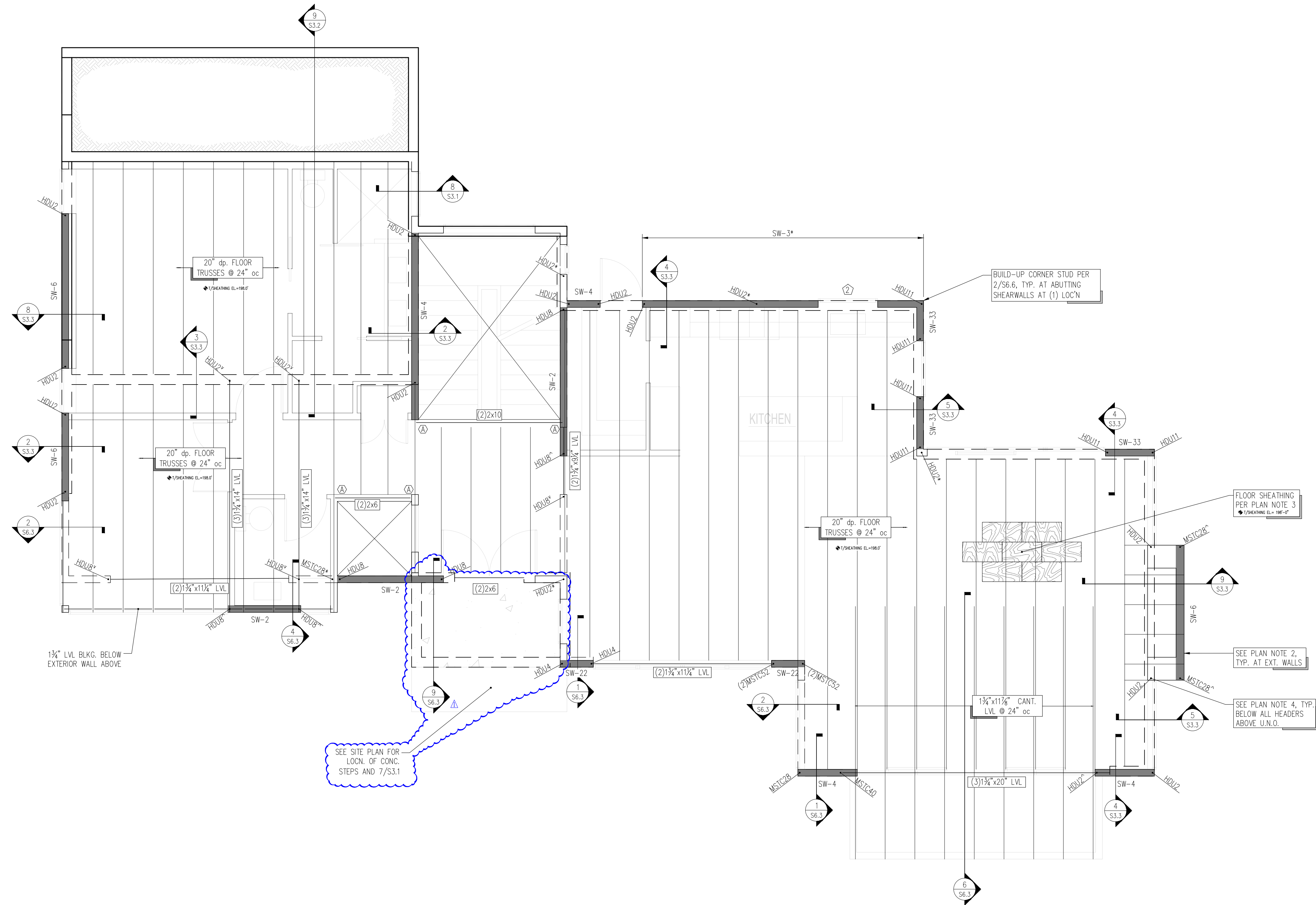
**DRAWN BY**  
JDA  
**DATE**  
01.02.25  
06.06.25

S2.1

LEGEND

	CONCRETE WALL BELOW		DENOTES EXTENT OF SHEARWALL TYPE SW- PER 1/S6.5
	CONCRETE WALL		DENOTES STRAPPED SHEARWALL PER 7/S6.6, WITH DENOTING STRAP PER SCHEDULE ABOVE & BELOW OPENING
	STRUCTURAL WOOD STUDWALL		DENOTES SHEARWALL TENSION TIE PER 4/S6.5
	POST BELOW		DENOTES TENSION TIE FROM THE ABOVE
	POST		DENOTES TIE FROM BEAM TO STUD/POST ABOVE
	HEADER or BEAM		DENOTES TIE FROM BEAM TO STUD/POST BELOW
	JOIST		

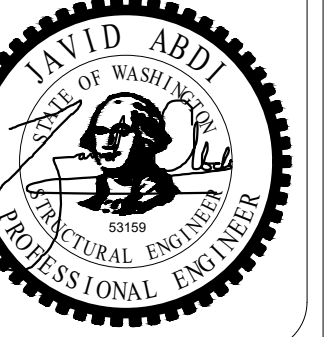
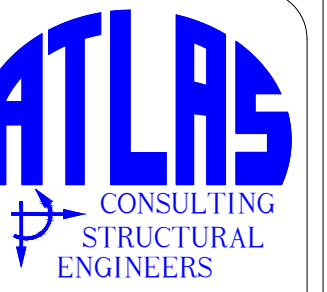
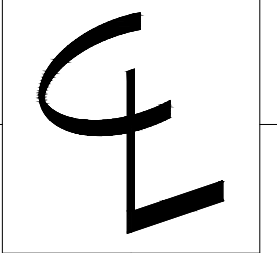
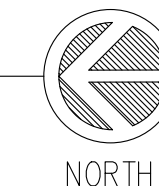
CONNECTOR TABLE	
SIMPSON DESIGNATION	NOTES
Ⓐ JB ~or~ LUS	HANGER
Ⓑ TH4422	TOP FLANGE HANGER
Ⓒ ITS ~or~ IUS	HANGER



**MAIN FLOOR FRAMING PLAN NOTES**

- SOLID WALLS SHOWN IN PLAN ARE ABOVE MAIN FLOOR FRAMING ELEVATION (FROM MAIN FLOOR TO UNDERSIDE OF UPPER FLOOR). DASHED WALLS SHOWN IN PLAN ARE BELOW MAIN FLOOR FRAMING ELEVATION (FROM FOUNDATION TO UNDERSIDE OF MAIN FLOOR FRAMING)
- EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 16" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.2, 5/S6.2, AND 2/S6.2 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
- FLOOR SHEATHING SHALL CONSIST OF 3/4" T&G SHEATHING (PANEL SPAN RATING 48/24). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.1). GLUE SHEATHING AT ALL SUPPORTS w/ ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.
- ALL HEADERS ABOVE (SEE 1/S2.3) SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.2 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.2 AT LOAD BEARING EXTERIOR WALLS
- HEADERS IN EXTERIOR WALLS NOT SUPPORTING RAFTERS, JOISTS, OR BEAMS SHALL BE PER DETAIL 4/S6.1 U.N.O. IN PLAN.

1 MAIN FLOOR FRAMING PLAN  
S2.2 1/4" = 1'-0"



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Main Floor Framing Plan

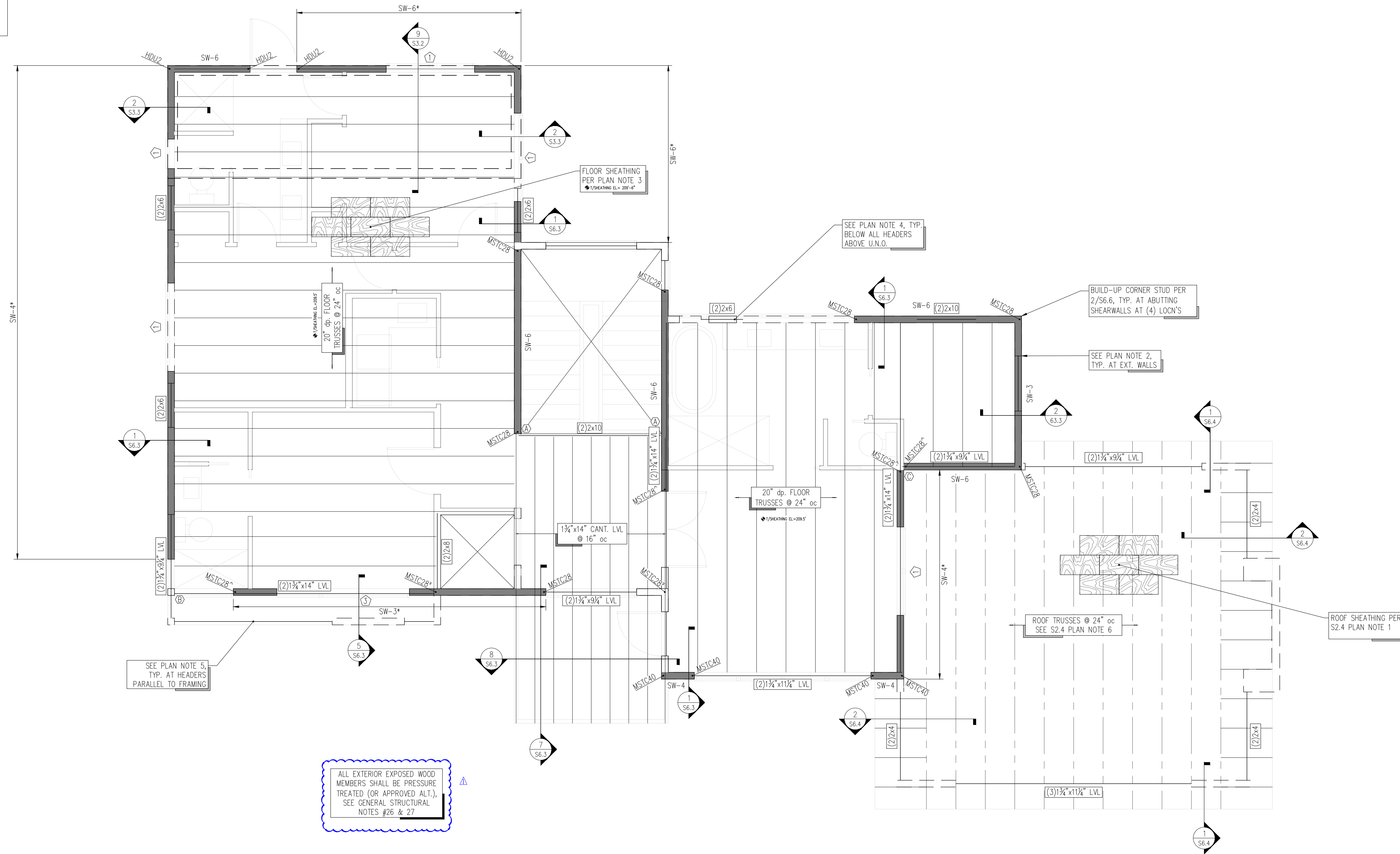
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DATE  
01.02.25  
06.06.25

S2.2

LEGEND

	STRUCTURAL WOOD STUDWALL BELOW		DENOTES EXTENT OF SHEARWALL TYPE SW- PER 1/S6.5
	STRUCTURAL WOOD STUDWALL		DENOTES STRAPPED SHEARWALL PER 7/S6.6, WITH O DENOTING STRAP PER SCHEDULE ABOVE & BELOW OPENING
	POST BELOW		DENOTES SHEARWALL TENSION TIE PER 4/S6.5
	POST		<ul style="list-style-type: none"> <li>- DENOTES TRANSFER TIE FROM THE ABOVE</li> <li>- DENOTES TIE FROM BEAM TO STUD/POST ABOVE</li> <li>- DENOTES TIE FROM BEAM TO STUD/POST BELOW</li> </ul>
	HEADER or BEAM		
	JOIST		

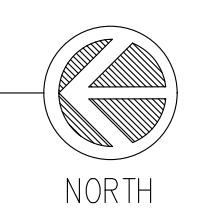
SIMPSON DESIGNATION	NOTES
JB ~or~ LUS	HANGER
THA422	TOP FLANGE HANGER
ITS ~or~ IUS	HANGER



ALL EXTERIOR EXPOSED WOOD MEMBERS SHALL BE PRESSURE TREATED (OR APPROVED ALT.), SEE GENERAL STRUCTURAL NOTES #26 & 27

- MAIN FLOOR FRAMING PLAN NOTES
- SOLID WALLS SHOWN IN PLAN ARE ABOVE MAIN FLOOR FRAMING ELEVATION (FROM UPPER FLOOR TO UNDERSIDE OF ROOF). DASHED WALLS SHOWN IN PLAN ARE BELOW UPPER FLOOR FRAMING ELEVATION (FROM MAIN FLOOR TO UNDERSIDE OF UPPER FLOOR FRAMING)
  - EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 16" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.2, 5/S6.2, AND 2/S6.2 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
  - FLOOR SHEATHING SHALL CONSIST OF 3/4" T&G SHEATHING (PANEL SPAN RATING 48/24). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.1). GLUE SHEATHING AT ALL SUPPORTS w/ ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.
  - ALL HEADERS ABOVE (SEE 1/S2.3) SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.2 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.2 AT LOAD BEARING EXTERIOR WALLS
  - HEADERS IN EXTERIOR WALLS NOT SUPPORTING RAFTERS, JOISTS, OR BEAMS SHALL BE PER DETAIL 4/S6.1 U.N.O. IN PLAN.

1 UPPER FLOOR FRAMING PLAN  
S2.3 1/4" = 1'-0"



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Upper Floor  
Framing Plan

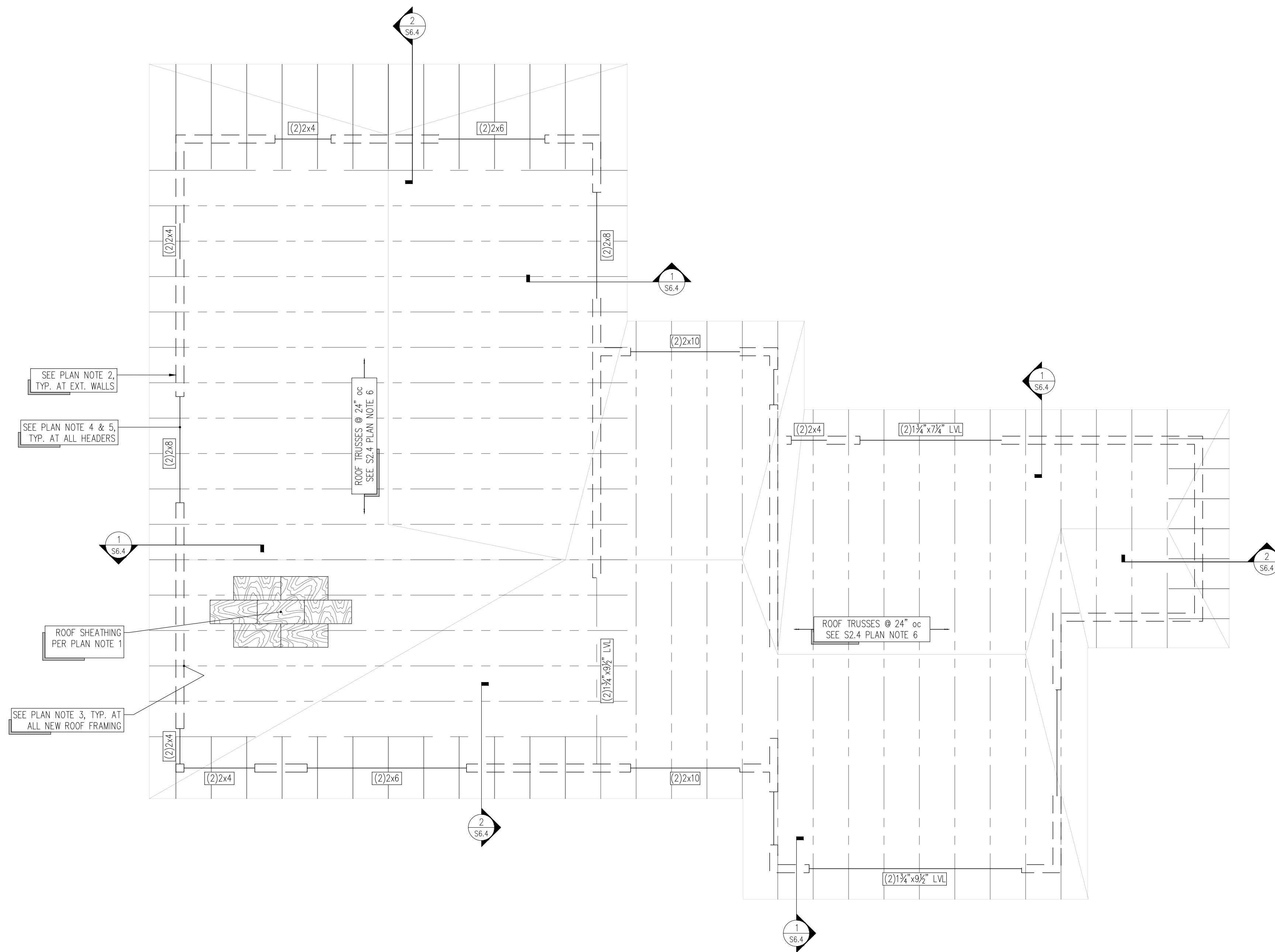
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S2.3

LEGEND

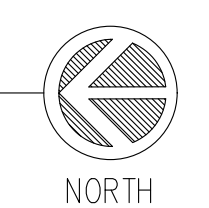
---	STRUCTURAL WOOD STUD/WALL BELOW
□	POST BELOW
—	HEADER or BEAM
—	CONNECTOR PLATE
—	WOOD TRUSS
—	ROOF FRAMING

CONNECTOR TABLE		
SIMPSON DESIGNATION	NOTES	
JB ~or~ LUS	HANGER	Ⓐ
TH4422	TOP FLANGE HANGER	Ⓑ
ITS ~or~ IUS	HANGER	Ⓒ



- ROOF FRAMING PLAN NOTES**
1. ROOF SHEATHING SHALL CONSIST OF 5/8" SHEATHING (PANEL SPAN RATING 32/16) NAILED AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.2).
  2. DASHED WALLS AND SHEARWALLS SHOWN IN PLAN ARE BELOW ROOF FRAMING ELEVATION.
  3. PROVIDE H2.5A HURRICANE TIES AT EACH END OF ALL ROOF FRAMING.
  4. ALL HEADERS SHALL HAVE A MINIMUM NUMBER OF POSTS PER 4/S6.1 AT NON-LOAD BEARING EXTERIOR WALLS, AND PER 6/S6.1 AT LOAD BEARING EXTERIOR WALLS.
  5. HEADERS IN EXTERIOR WALLS NOT SUPPORTING RAFTERS, JOISTS, OR BEAMS SHALL BE PER DETAIL 4/S6.1 U.N.O. IN PLAN.
  6. SEE GENERAL STRUCTURAL NOTE #9, 10, AND 22 FOR CONNECTOR PLATE ROOF TRUSS REQUIREMENTS.

1 ROOF FRAMING PLAN  
S2.4 1/4" = 1'-0"

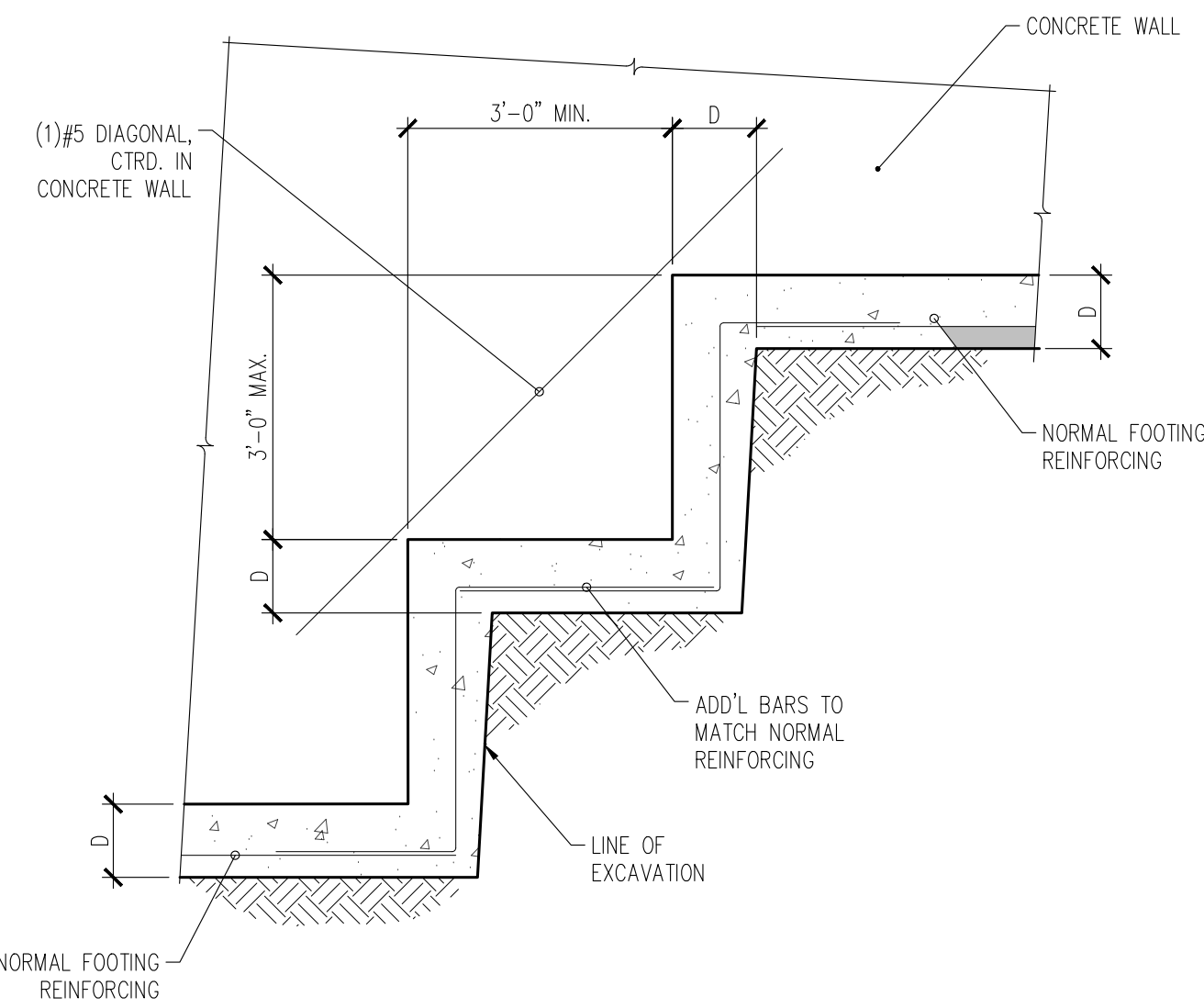


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Mercer Island

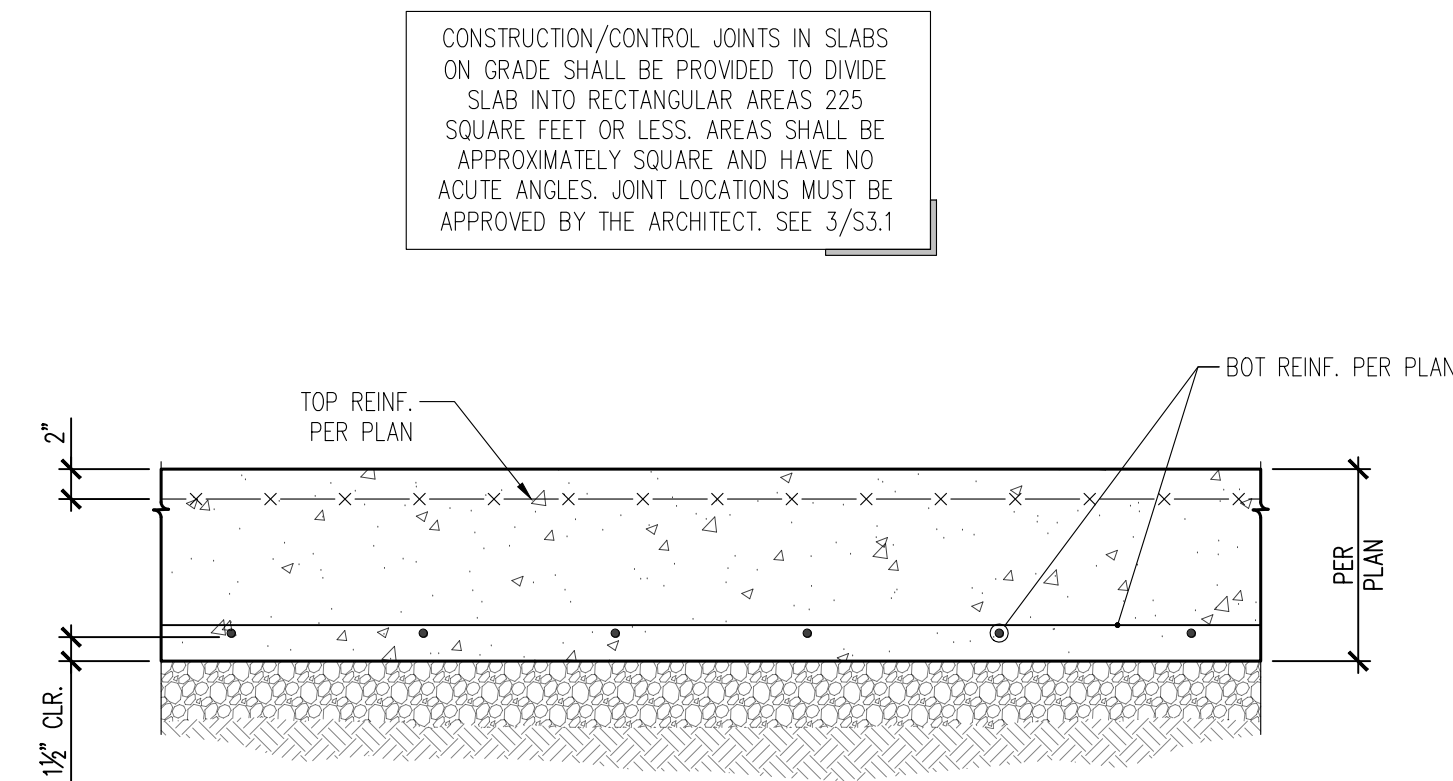
CONTENTS  
Roof Framing Plan

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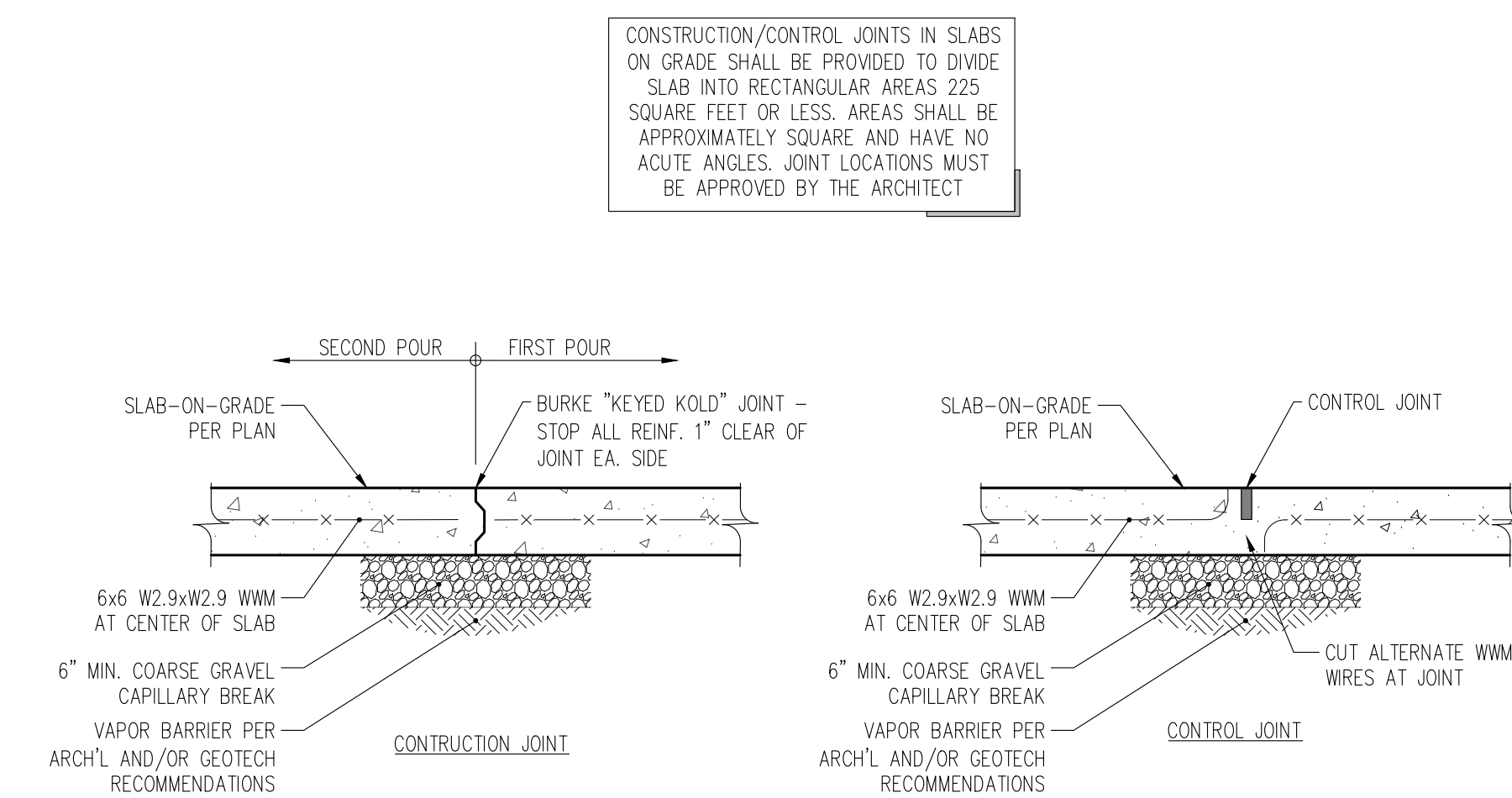
S2.4



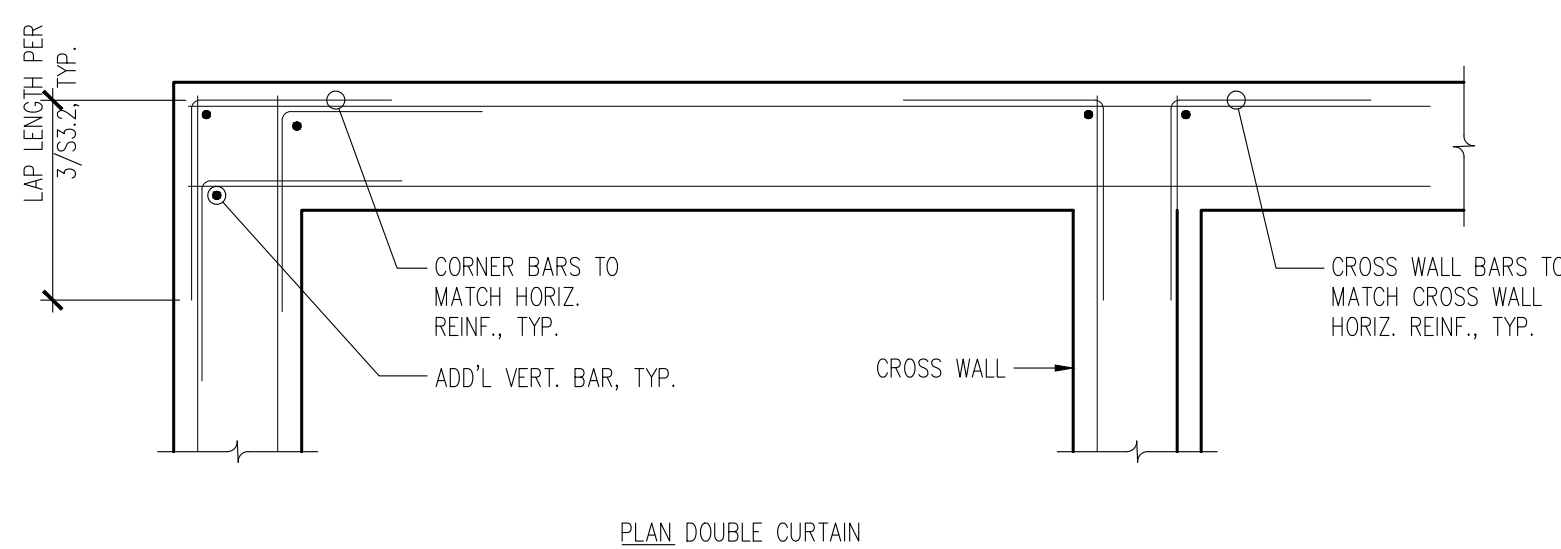
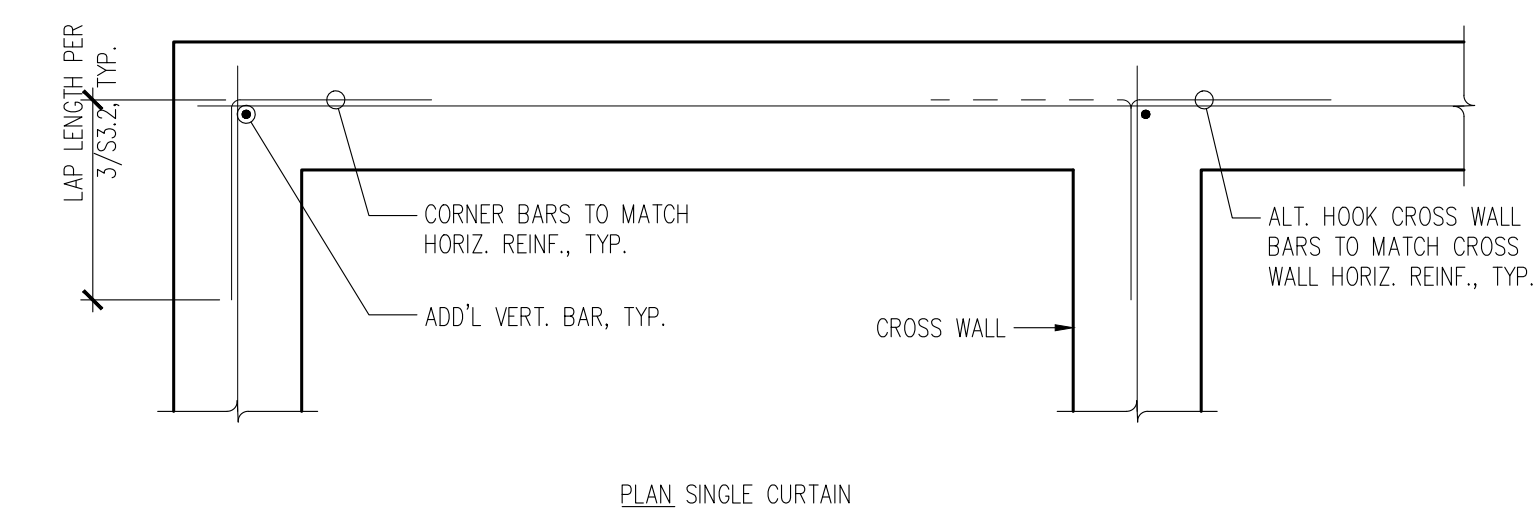
9 TYPICAL STEPPED FOOTING  
S3.1 N.T.S.



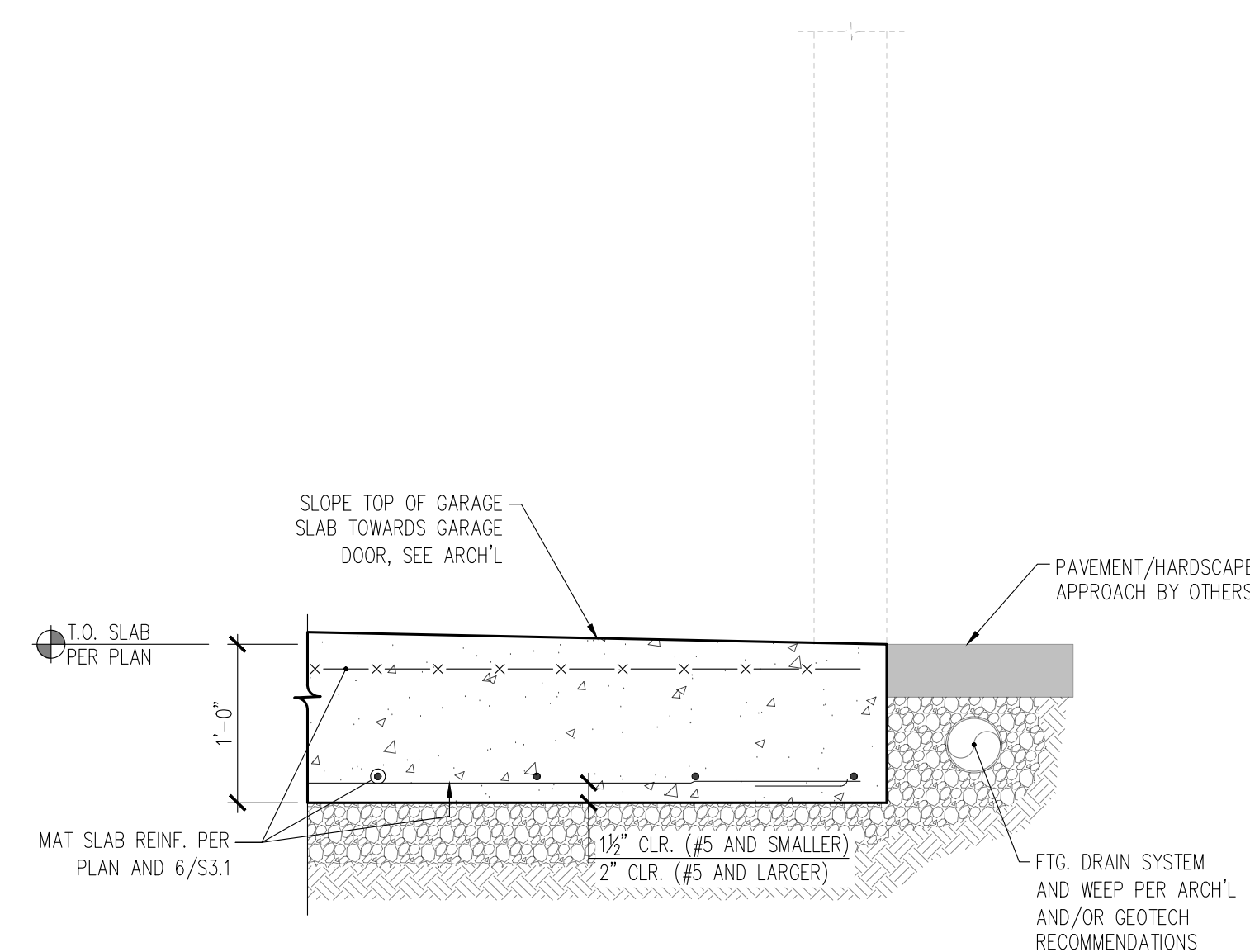
6 SECTION THROUGH MAT SLAB  
S3.1 1" = 1'-0"



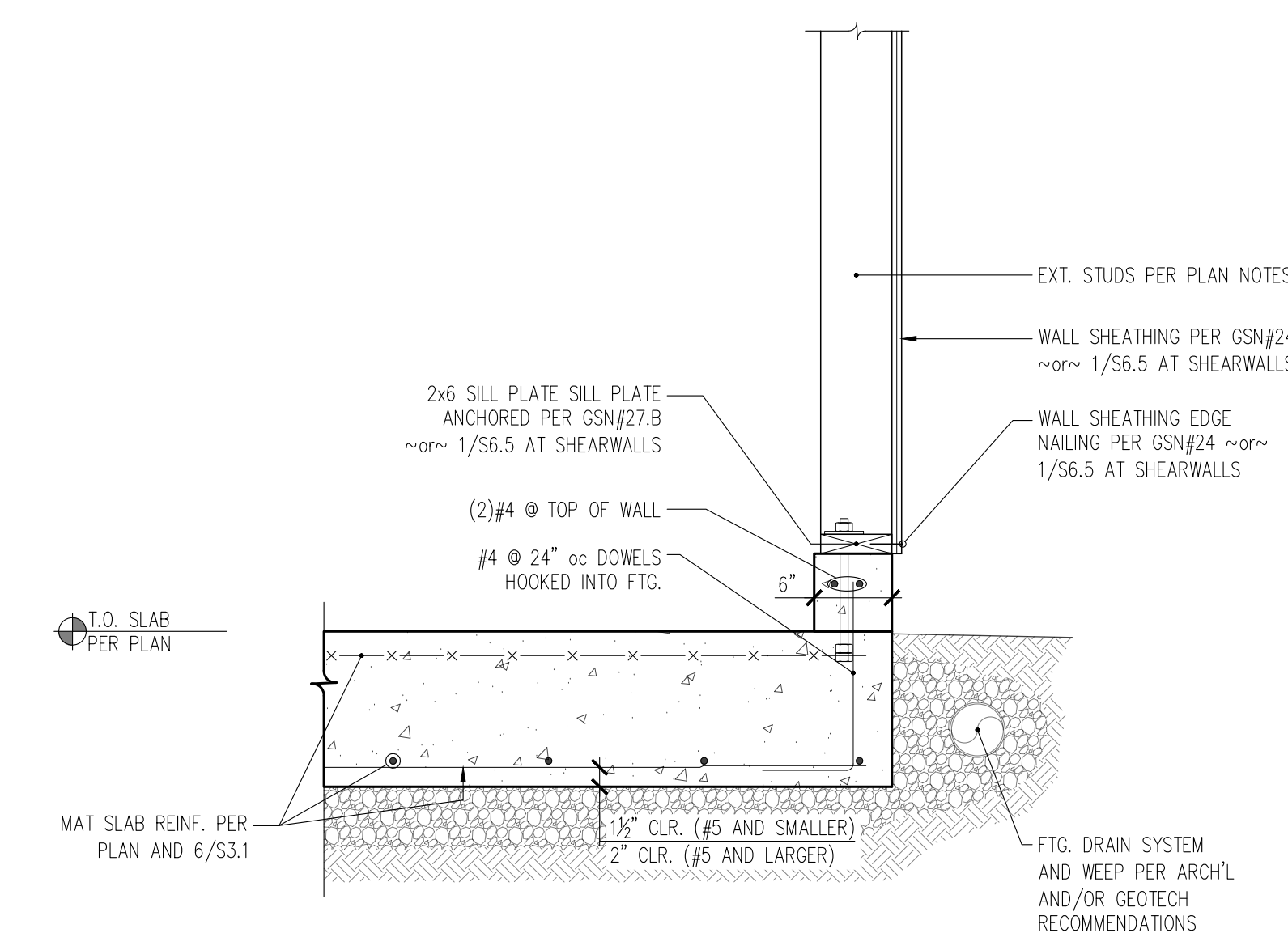
3 EXTERIOR SLAB-ON-GRADE JOINTING  
S3.1 1" = 1'-0"



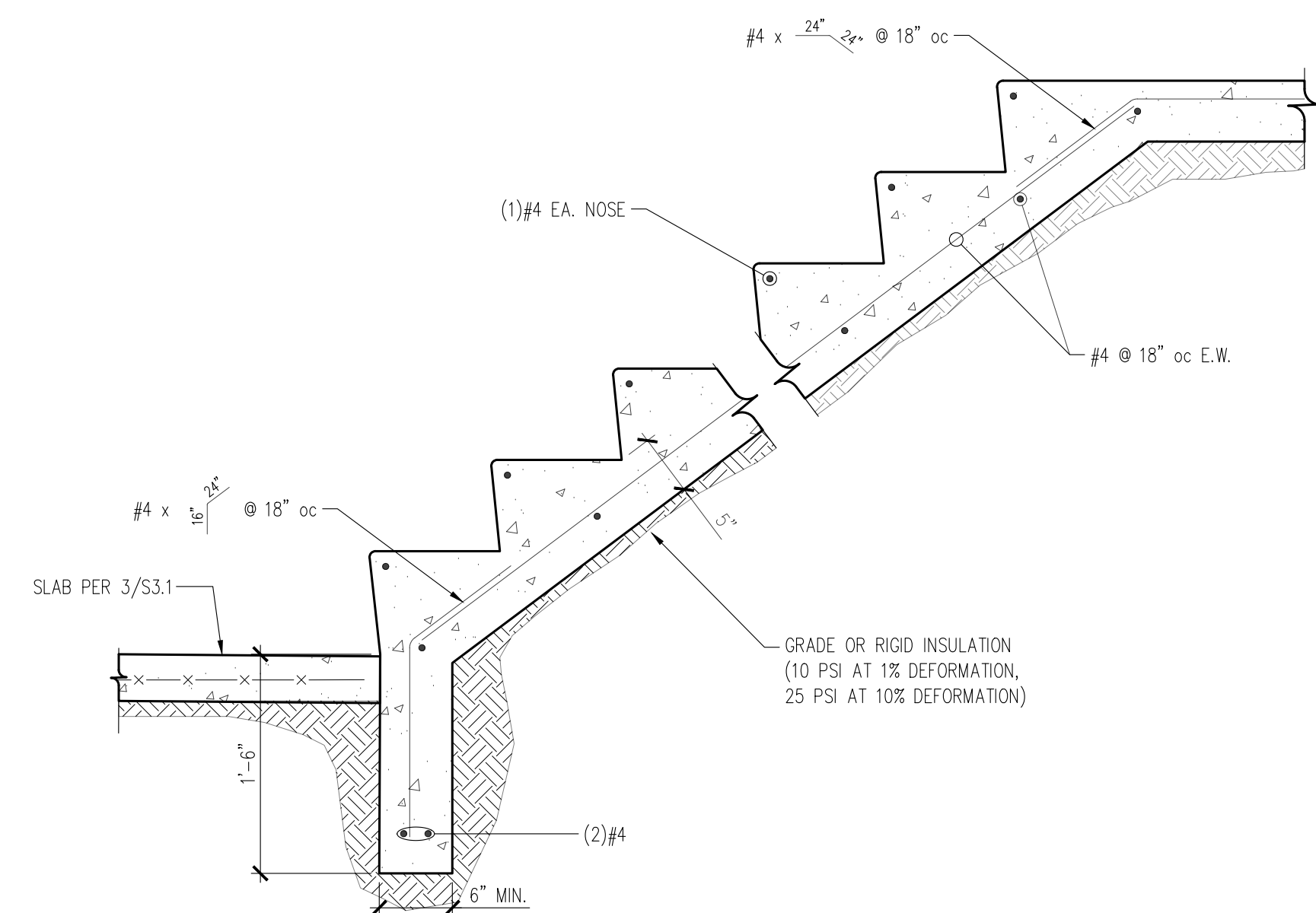
8 TYPICAL WALL CORNER REINFORCING  
S3.1 N/A



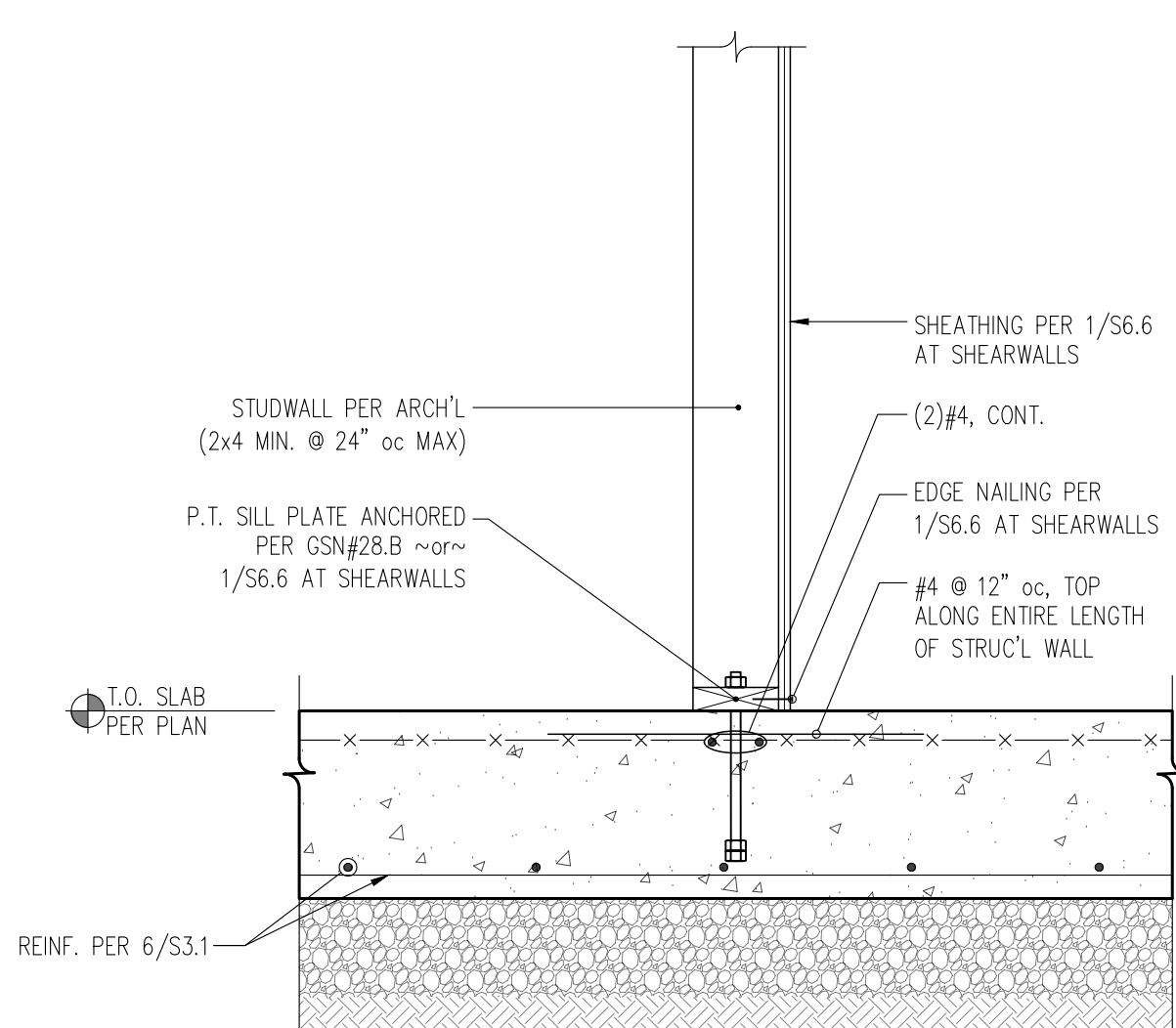
5 SECTION THROUGH MAT SLAB AT GARAGE ENTRANCE  
S3.1 1" = 1'-0"



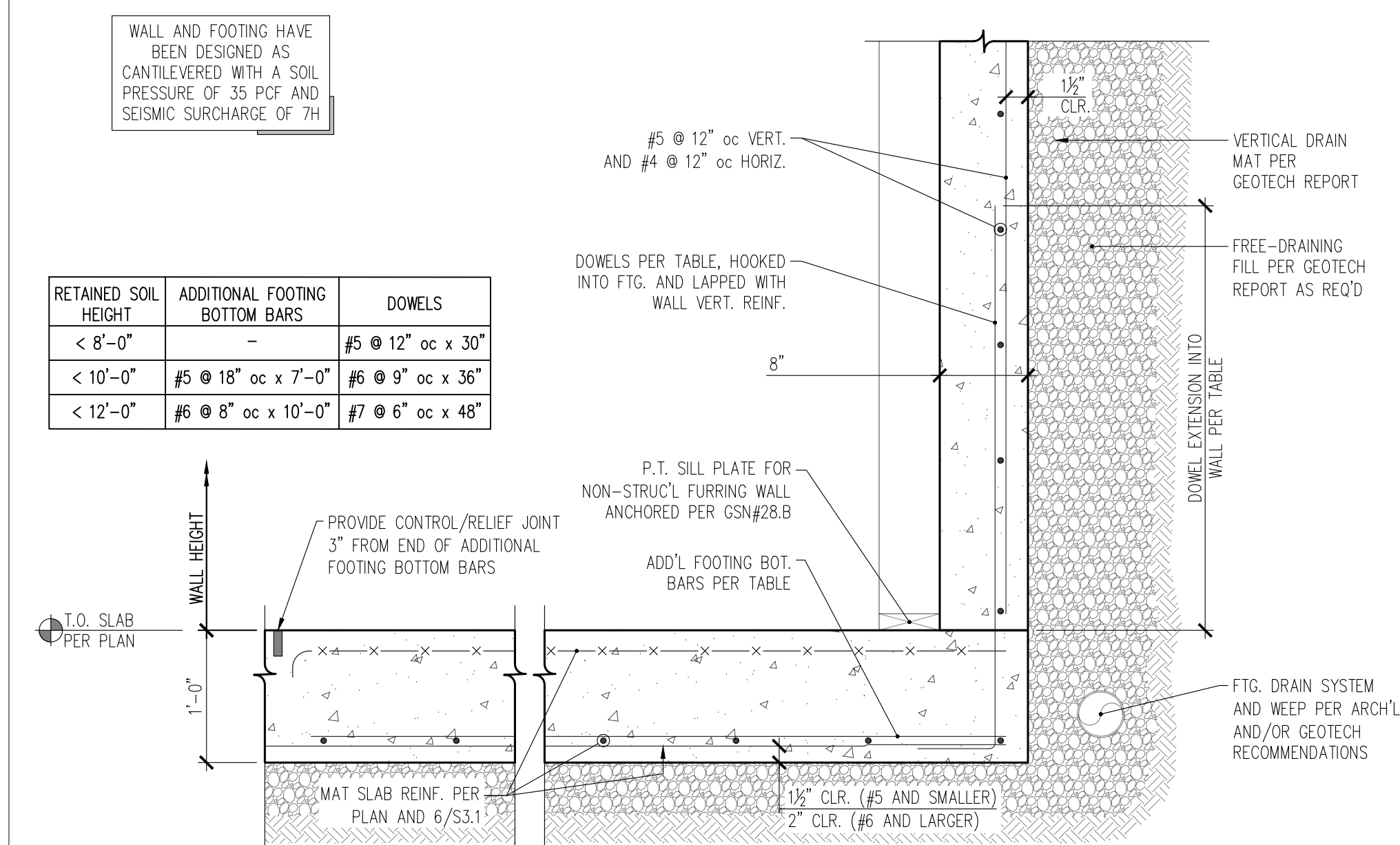
2 SECTION THROUGH MAT SLAB AT LOW GRADE  
S3.1 1" = 1'-0"



7 CAST-IN-PLACE STAIR  
S3.1 N/A



4 SECTION THROUGH MAT SLAB AT INTERIOR STRUCTURAL WALL  
S3.1 1" = 1'-0"



1 SECTION THROUGH FOUNDATION WALL  
S3.1 1" = 1'-0"

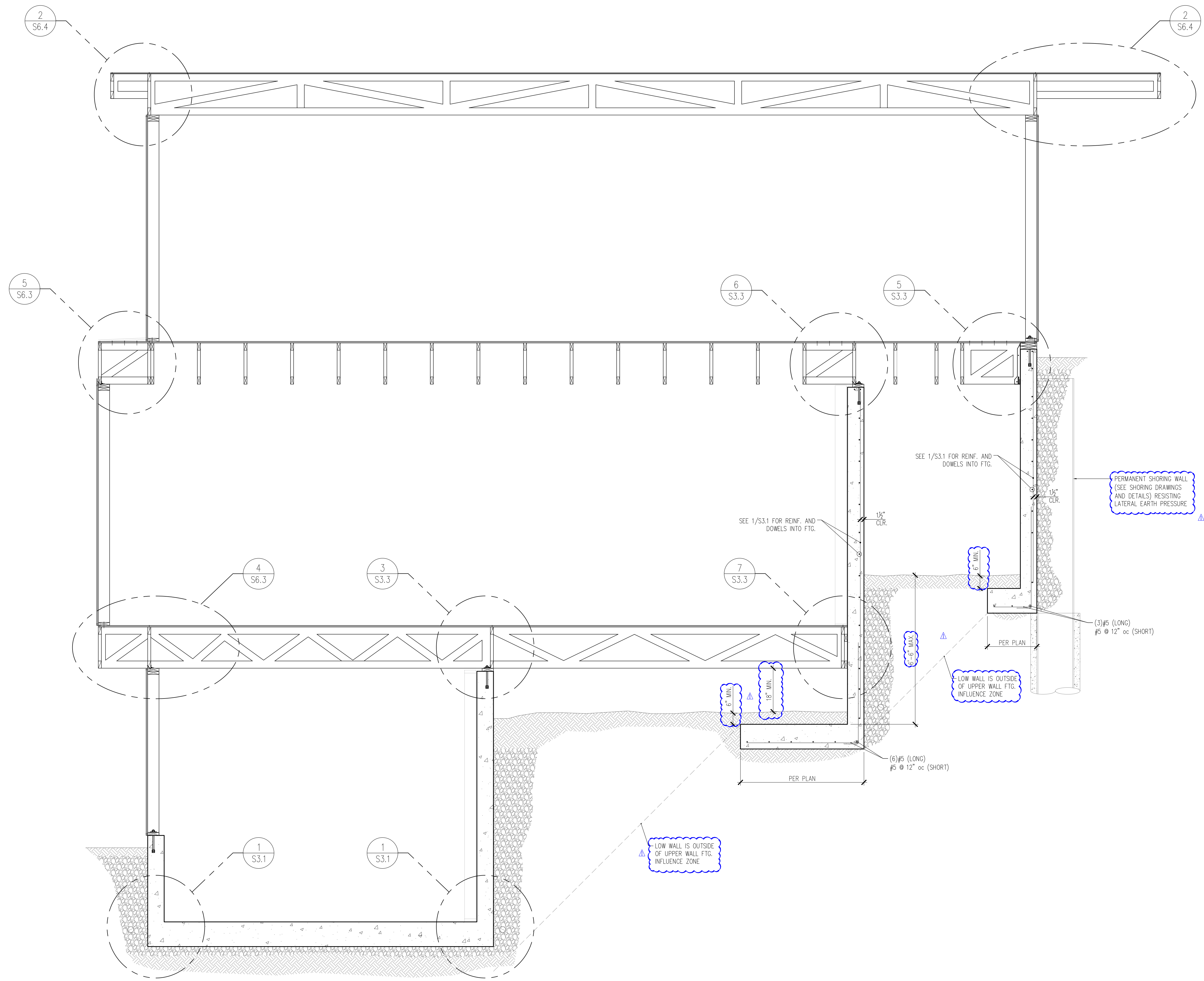


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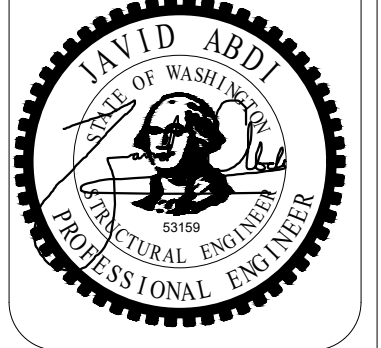
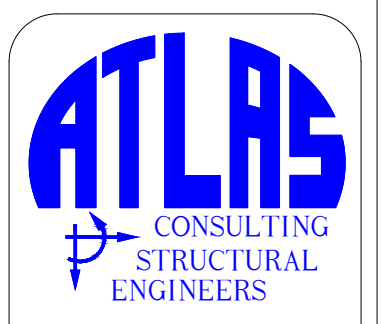
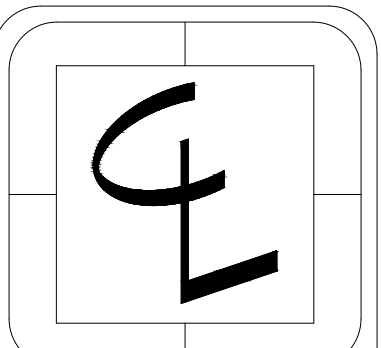
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Foundation & Main Floor  
Details

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S3.1



9 SECTION  
S3.2 1/2" = 1'-0"

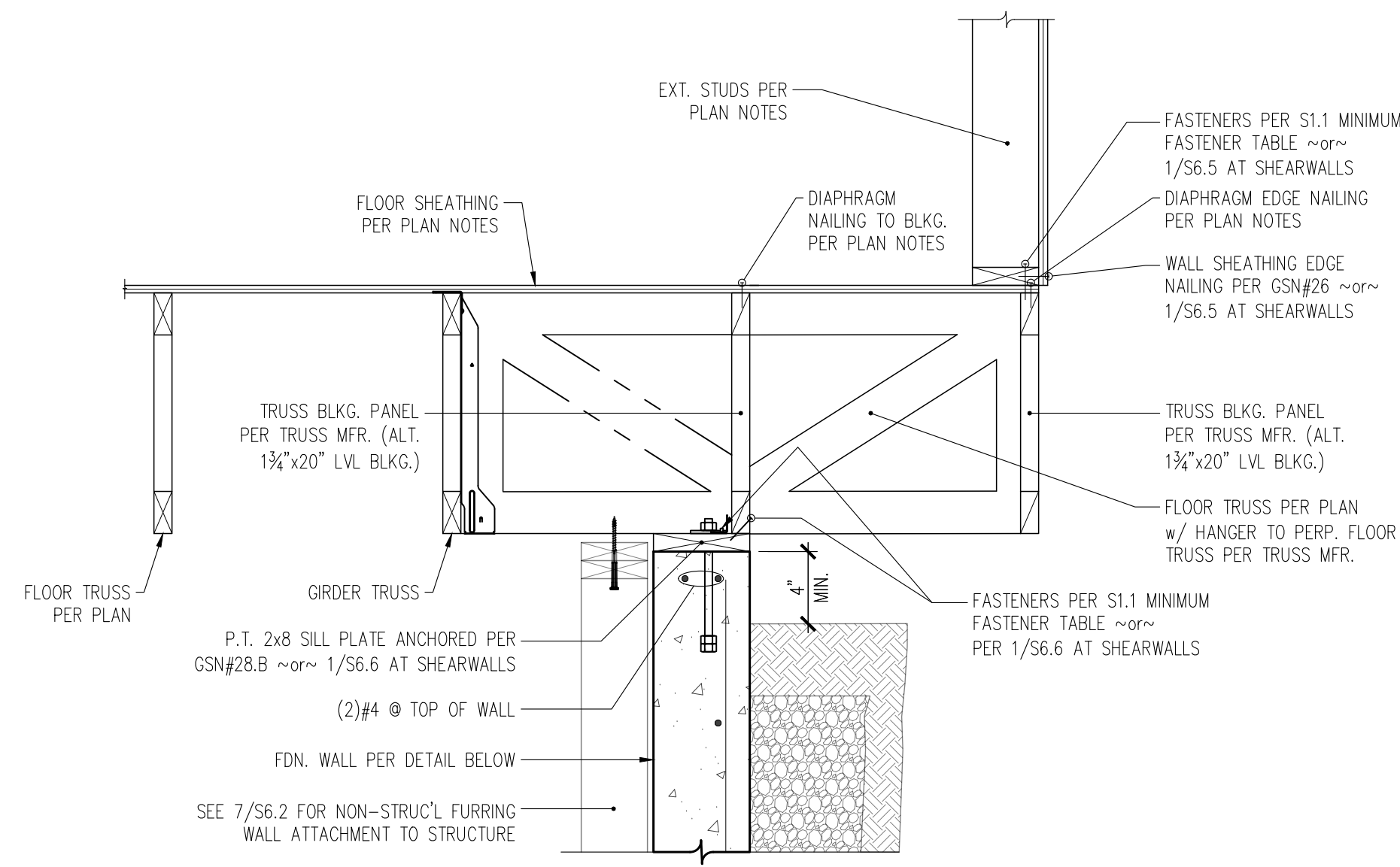


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Mercer Island

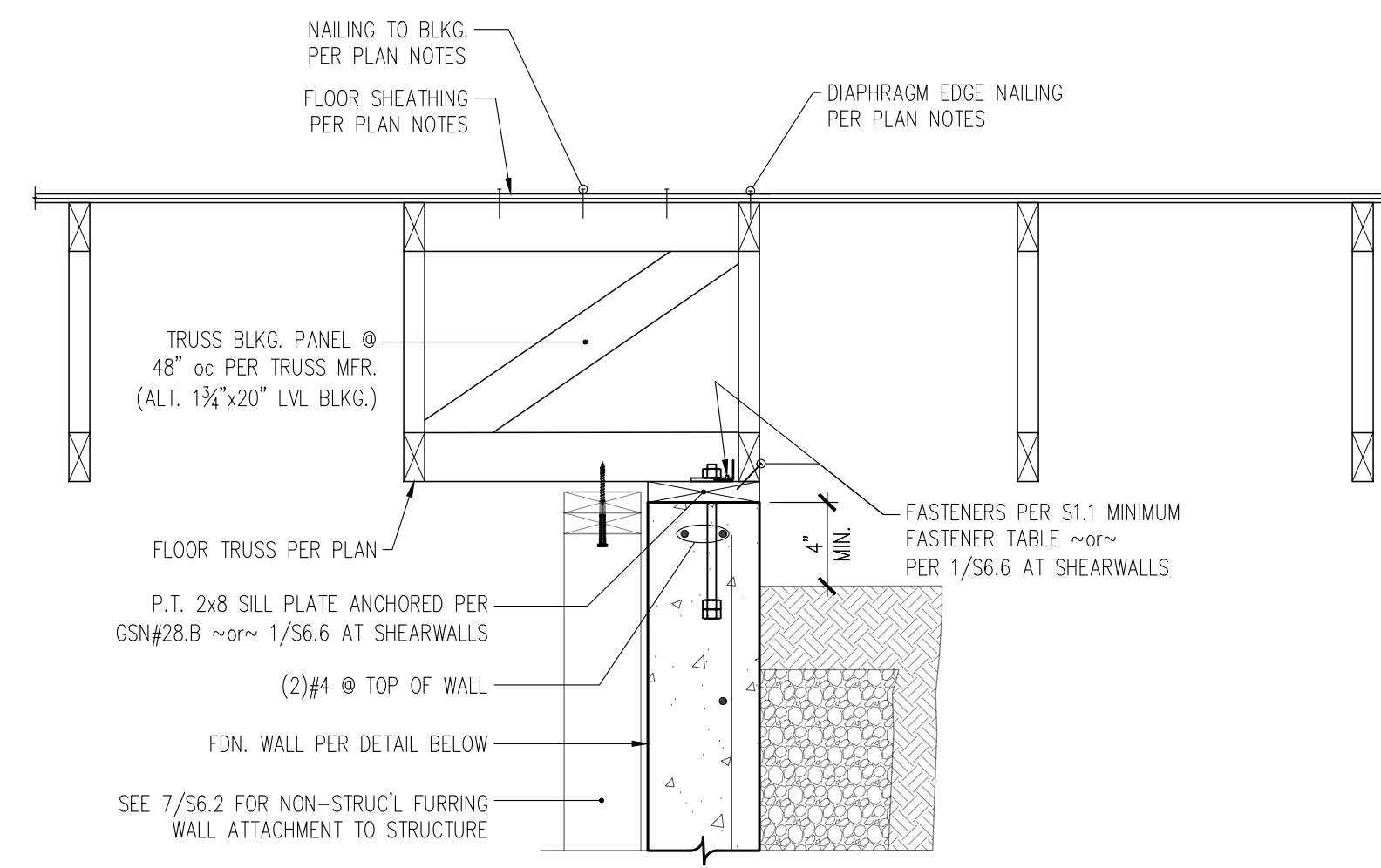
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Foundation &  
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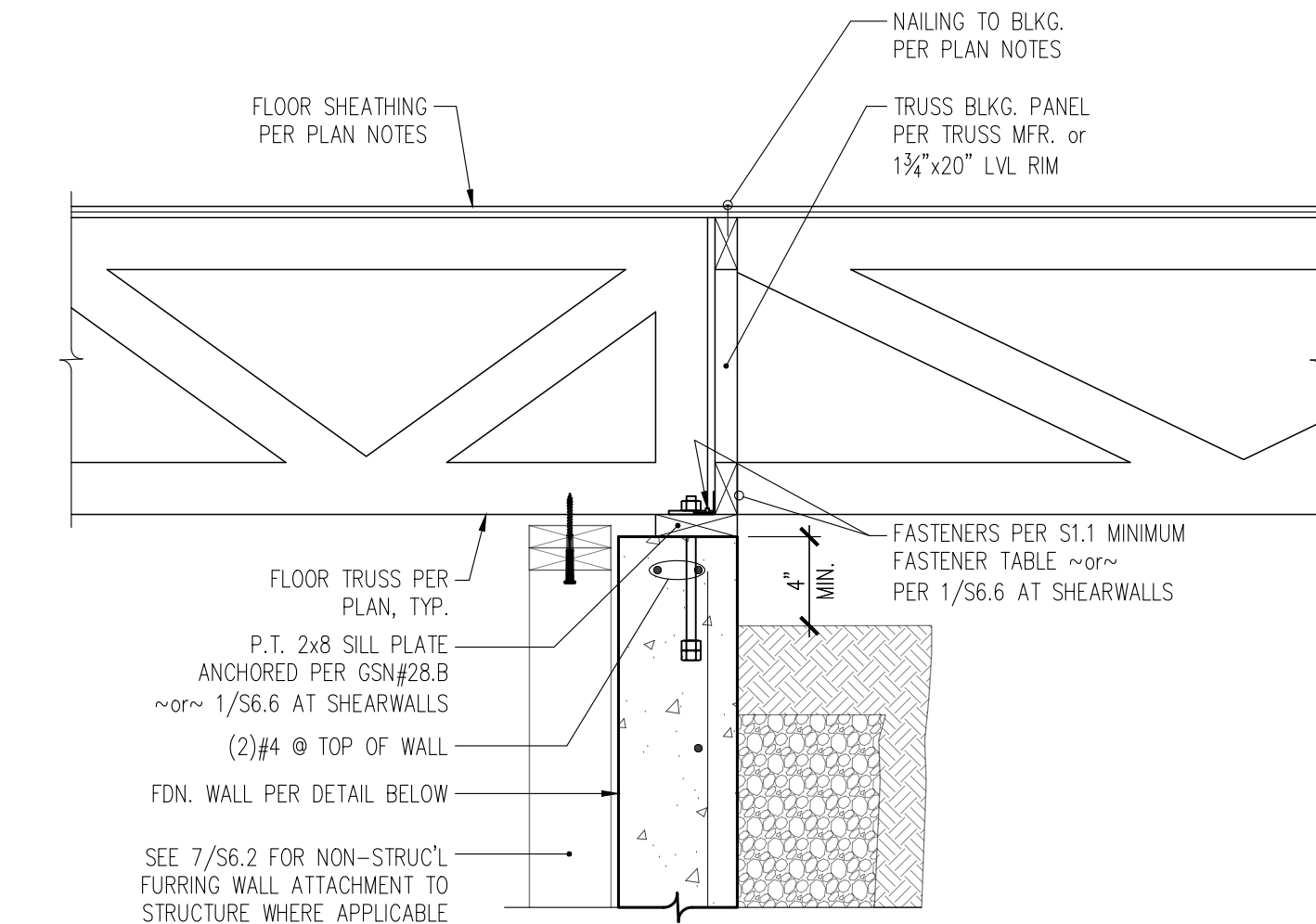
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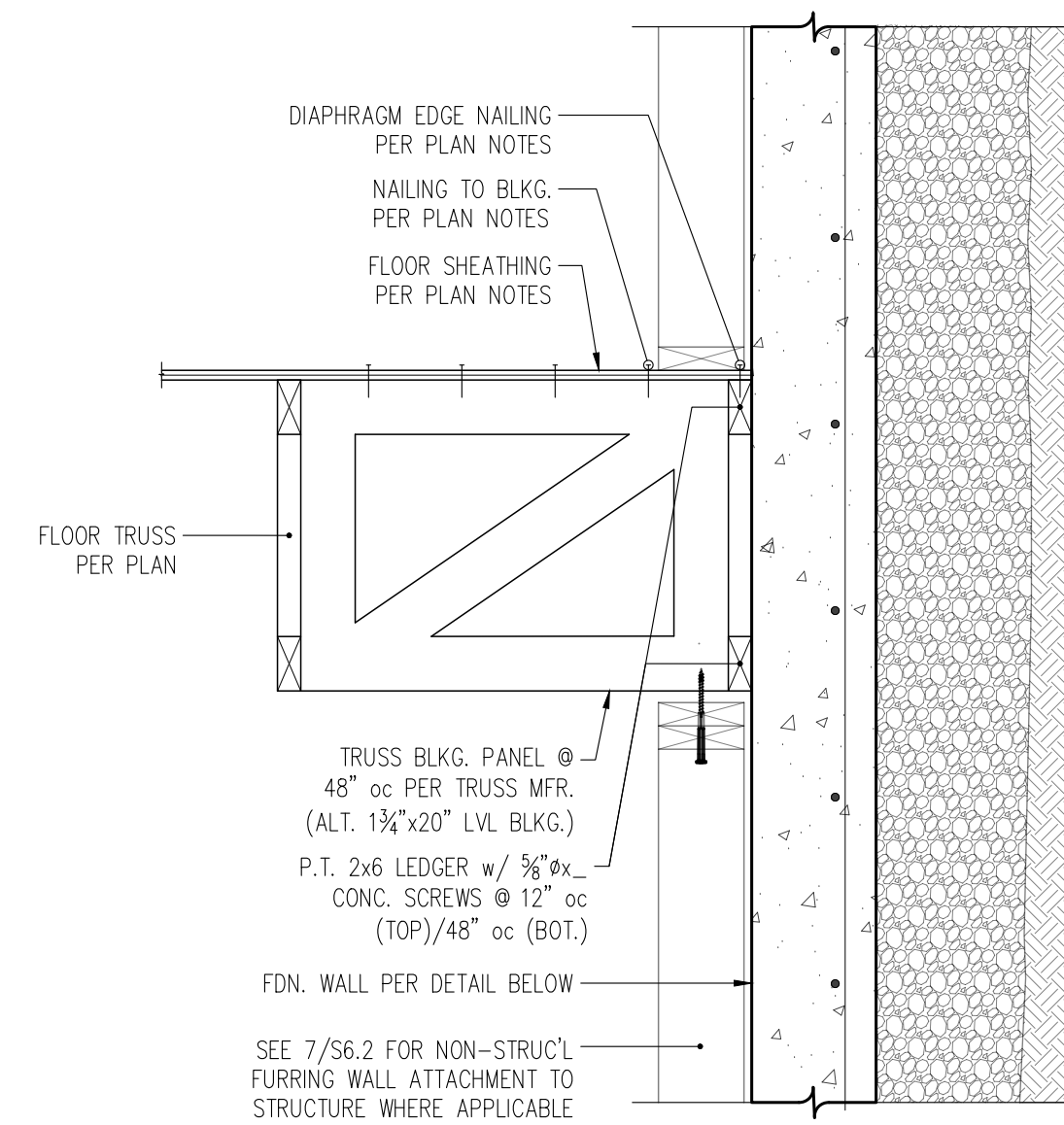
9 SECTION THROUGH FOUNDATION WALL AT OFFSET EXTERIOR WALL ABOVE  
S3.3 1" = 1'-0"



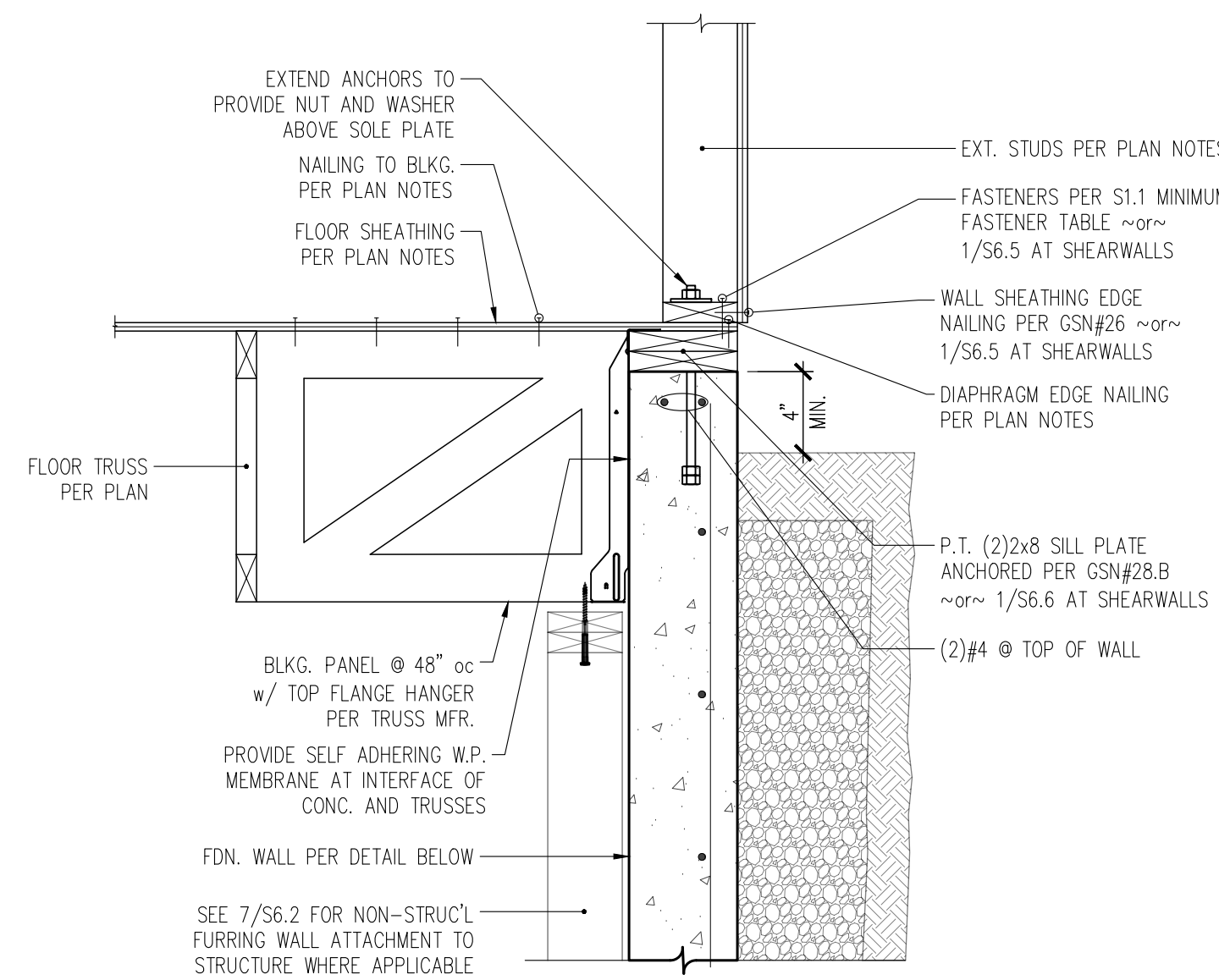
6 SECTION THROUGH FOUNDATION WALL BELOW PARALLEL FLOOR TRUSS AT EACH SIDE  
S3.3 1" = 1'-0"



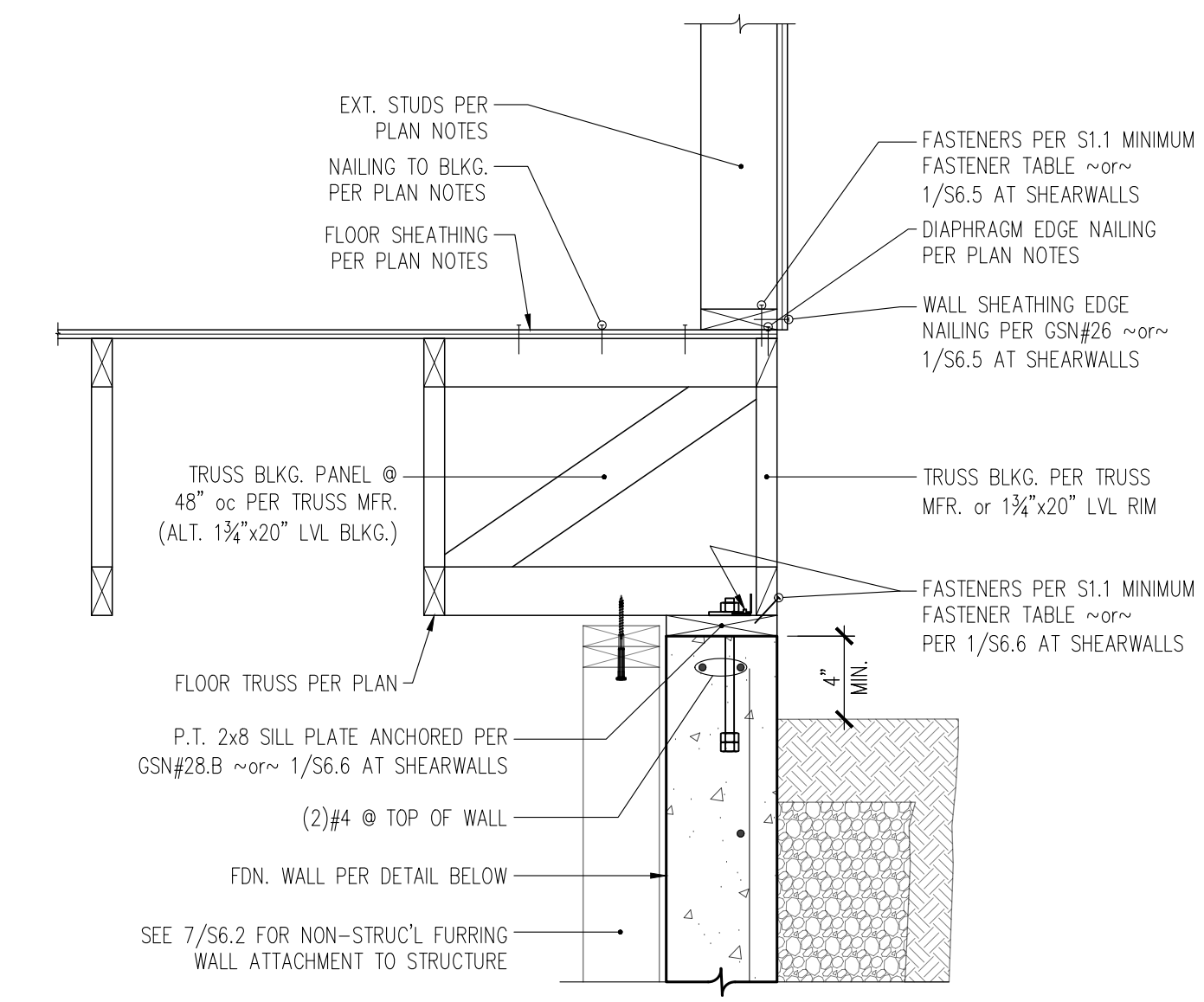
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S3.3 1" = 1'-0"



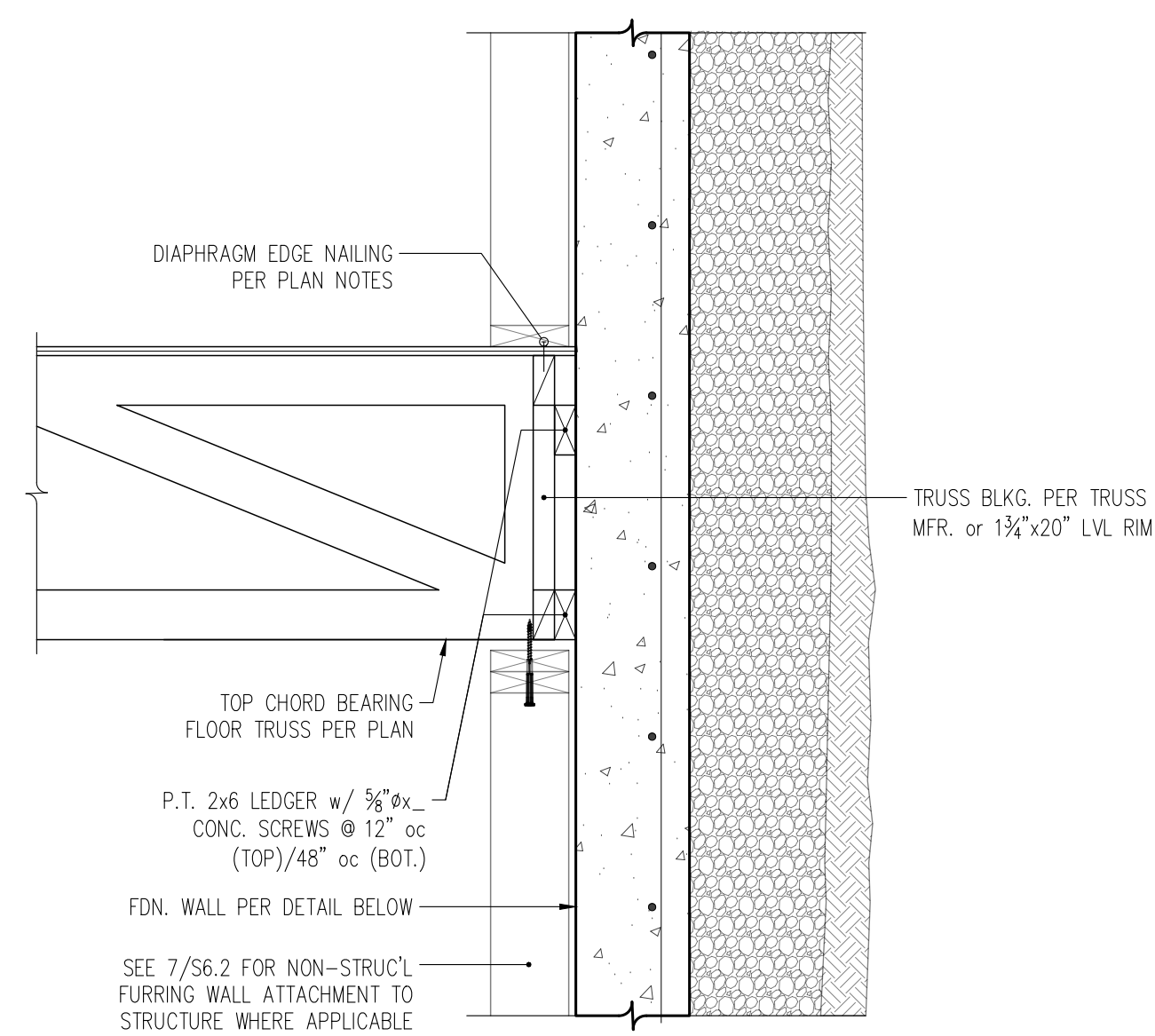
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S3.3 1" = 1'-0"



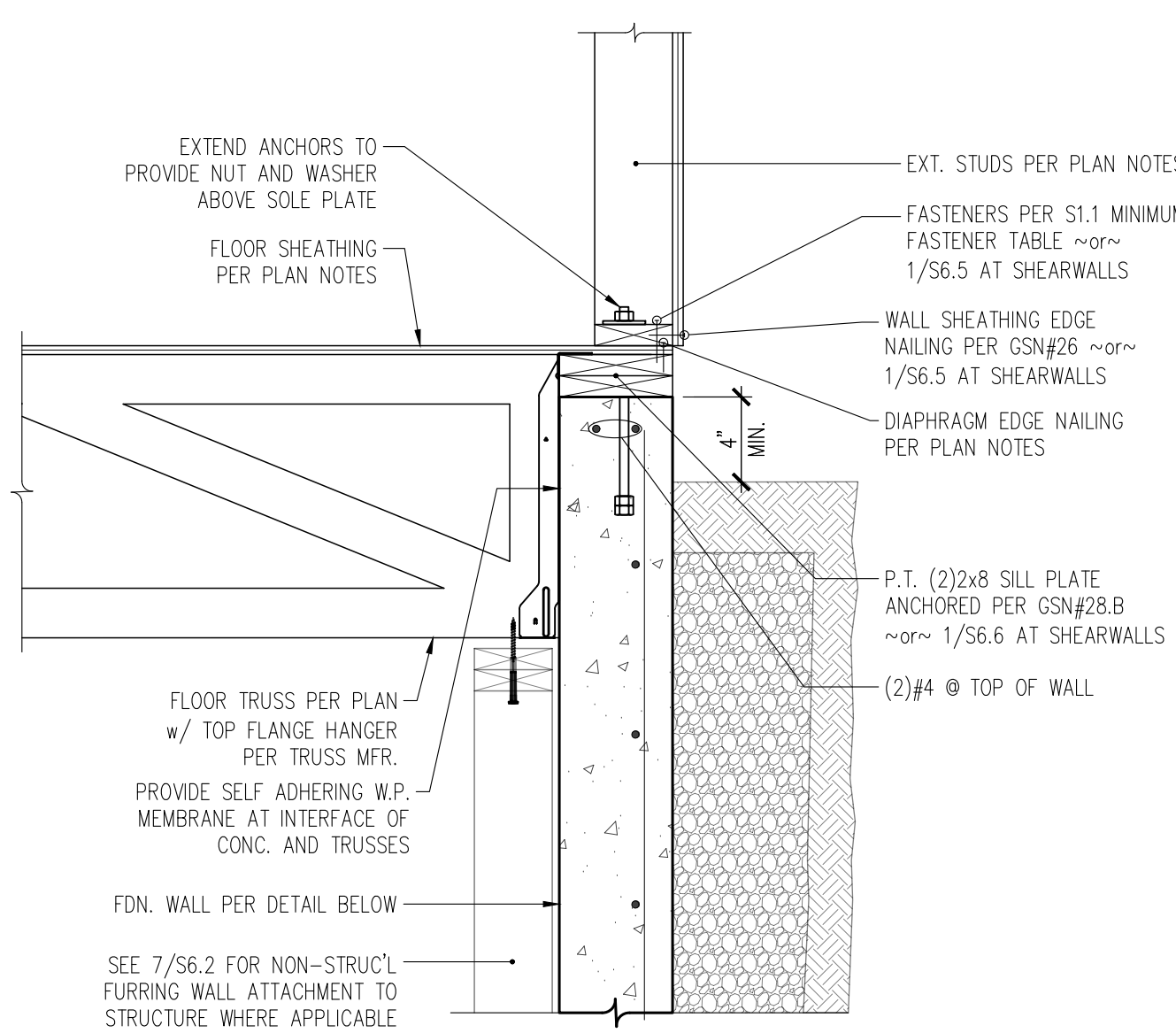
5 SECTION THROUGH FOUNDATION WALL BELOW SOLE PLATE AT PARALLEL FLOOR TRUSS  
S3.3 1" = 1'-0"



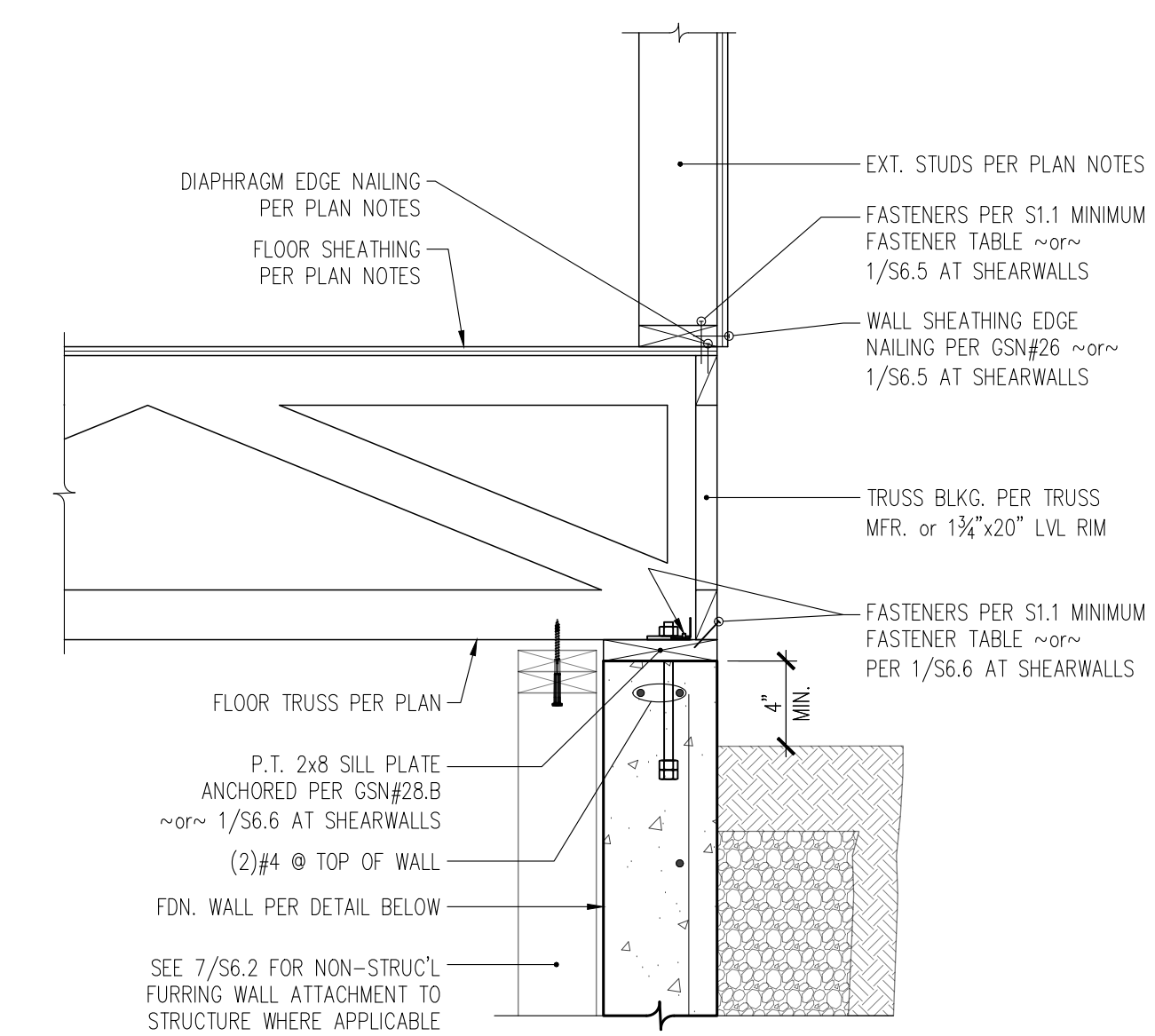
2 SECTION THROUGH FOUNDATION WALL BELOW PARALLEL FLOOR TRUSS  
S3.3 1" = 1'-0"



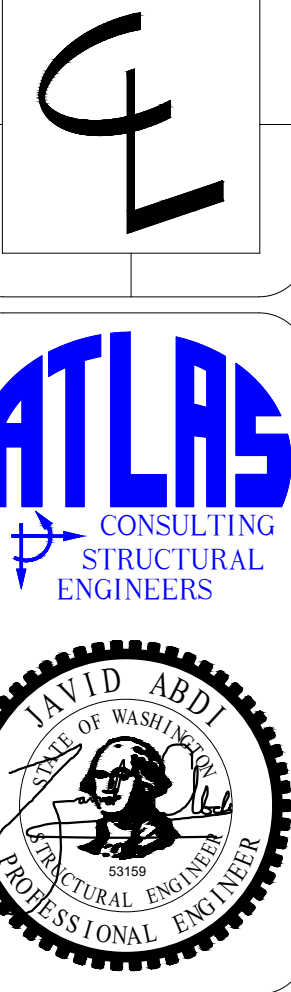
7 SECTION THROUGH FOUNDATION WALL AT PERPENDICULAR FLOOR TRUSS  
S3.3 1" = 1'-0"



4 SECTION THROUGH FOUNDATION WALL BELOW SOLE PLATE AT PERPENDICULAR FLOOR TRUSS  
S3.3 1" = 1'-0"



1 SECTION THROUGH FOUNDATION WALL BELOW PERPENDICULAR FLOOR TRUSS  
S3.3 1" = 1'-0"

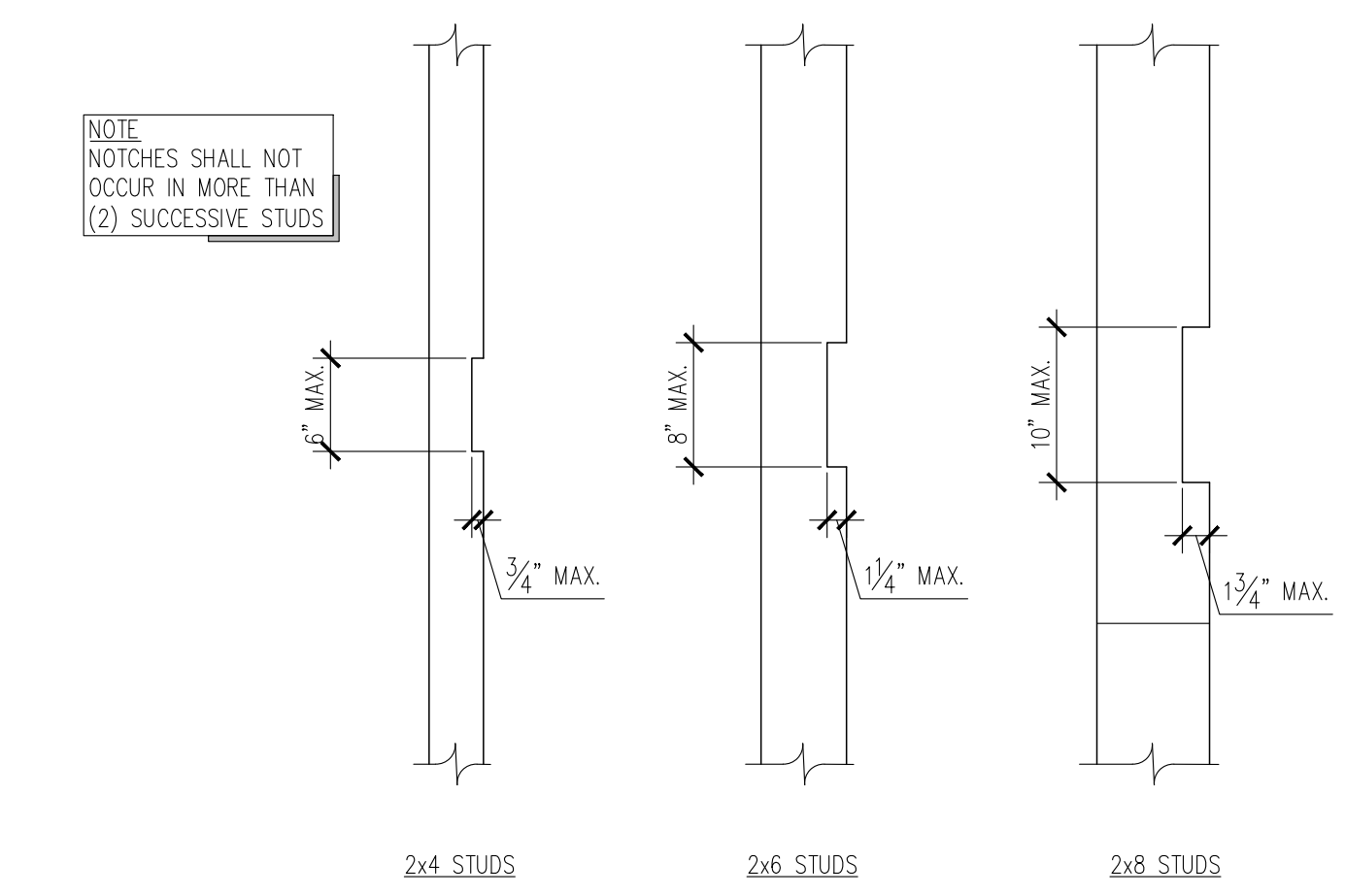


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Mercer Island

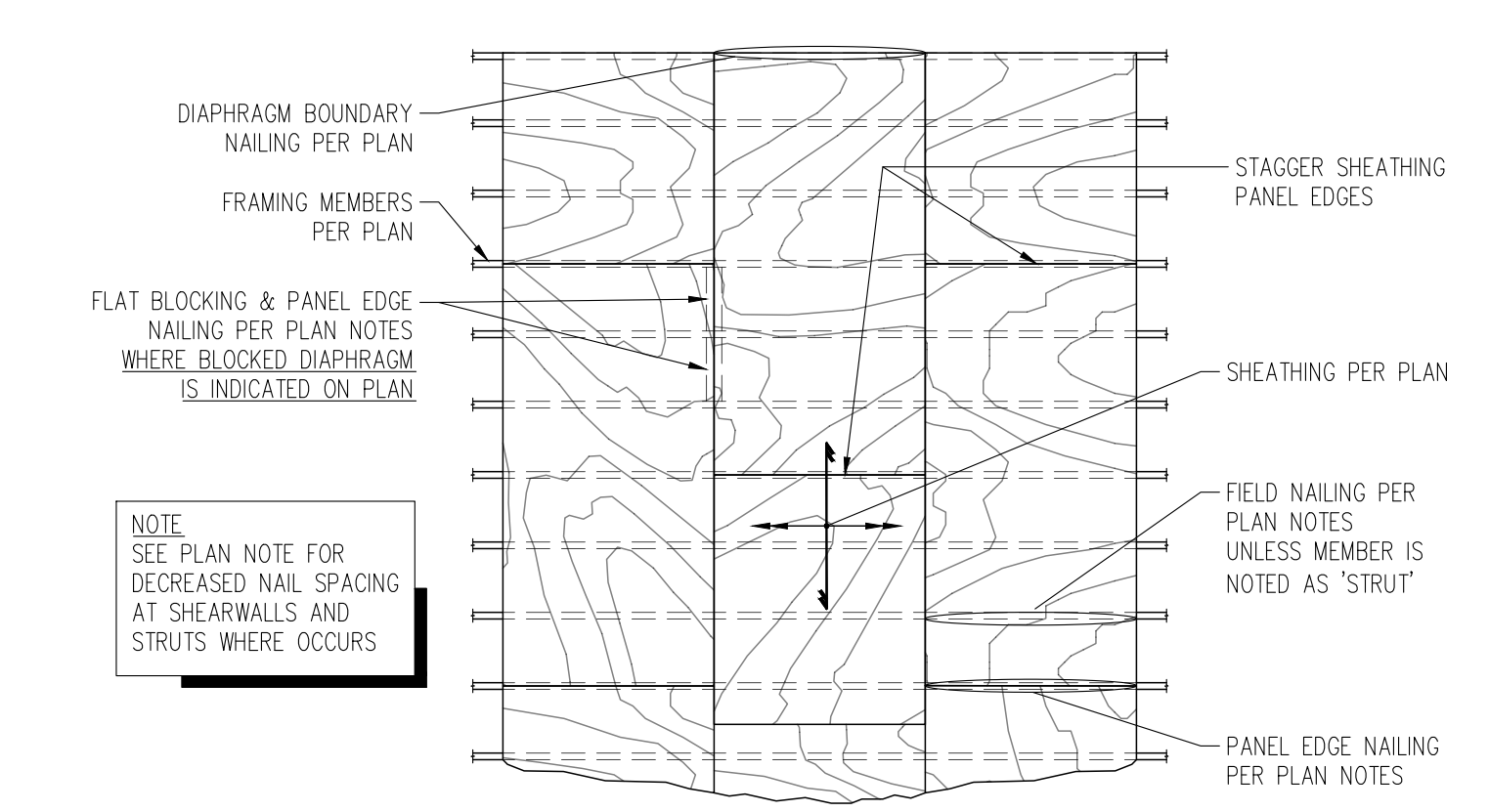
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01.02.25

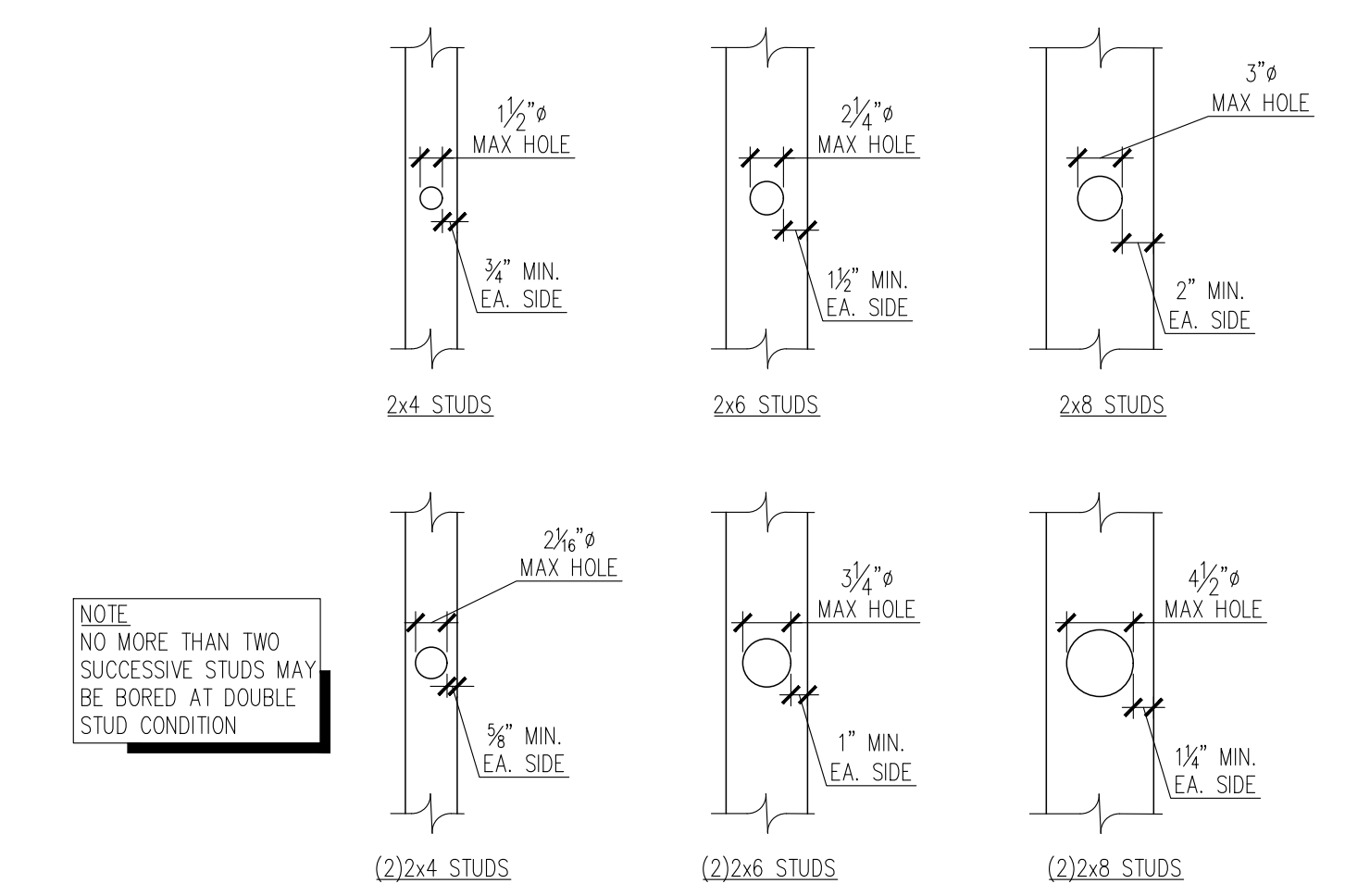
S3.3



6 ALLOWABLE HOLES IN STUDWALL STUDS  
S6.1 NTS



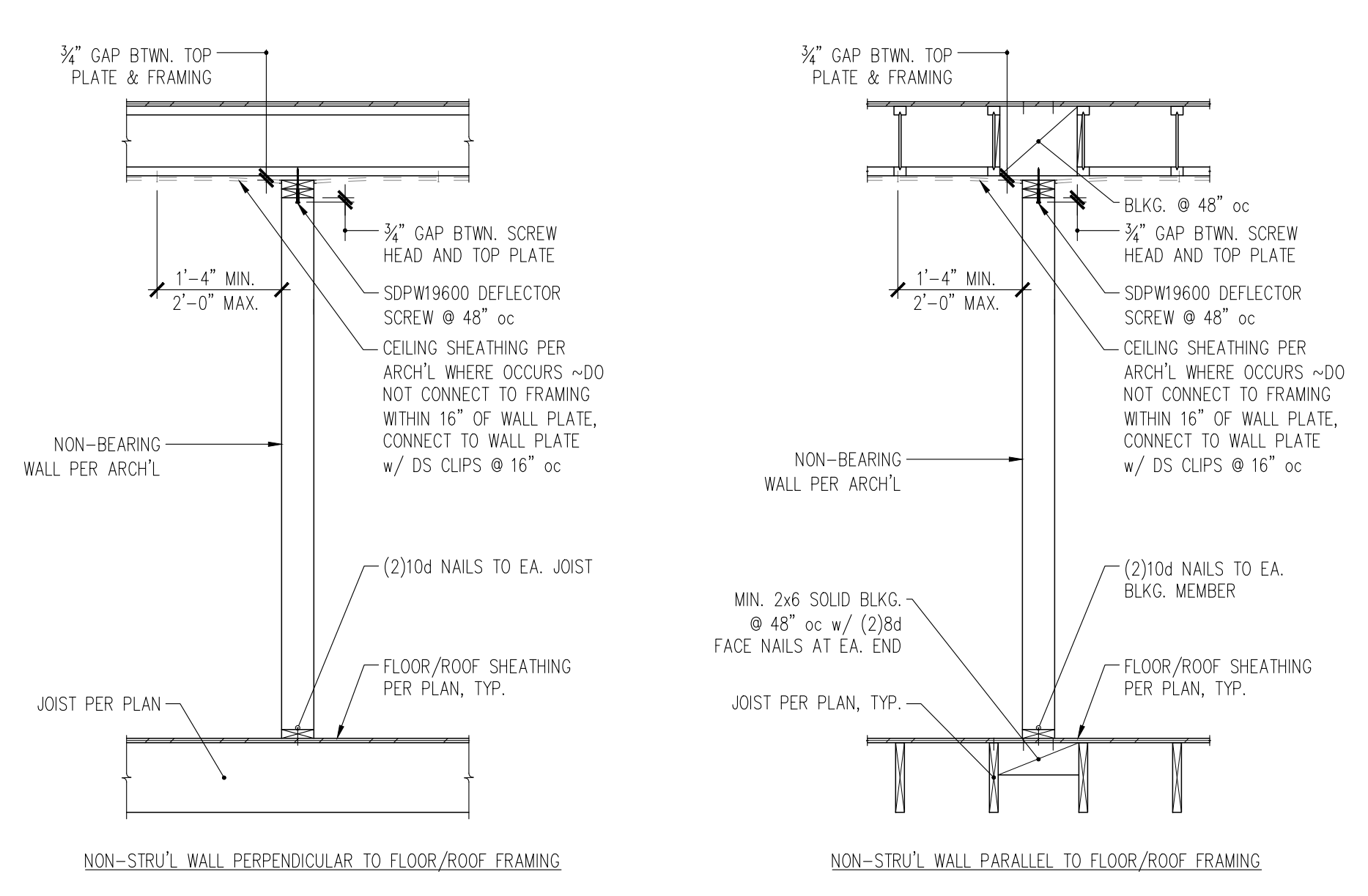
3 TYPICAL DIAPHRAGM NAILING  
S6.1 NTS



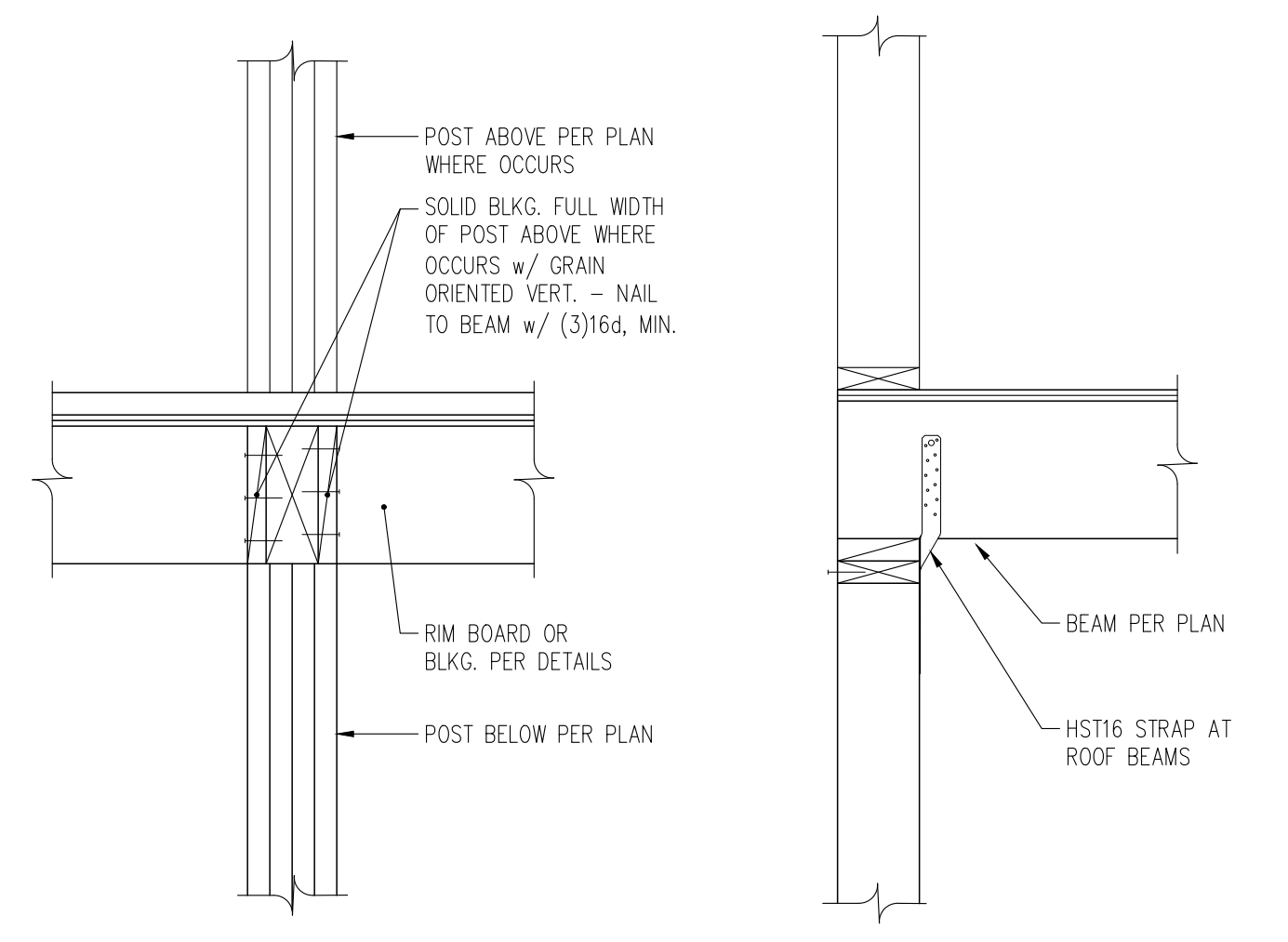
5 ALLOWABLE HOLES IN STUDWALL STUDS  
S6.1 NTS

	NO REINF. REQUIRED	STRAP REINF. REQUIRED
2x4 PLATES	1 1/2" MAX. HOLE 3/4" MIN. EA. SIDE	2 5/8" MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) 3/8" MIN. EA. SIDE
2x6 PLATES	2 1/4" MAX. HOLE 1 1/2" MIN. EA. SIDE	3 3/4" MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) 3/4" MIN. EA. SIDE
2x8 PLATES	3 1/4" MAX. HOLE 2" MIN. EA. SIDE	5" MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) 1 1/2" MIN. EA. SIDE

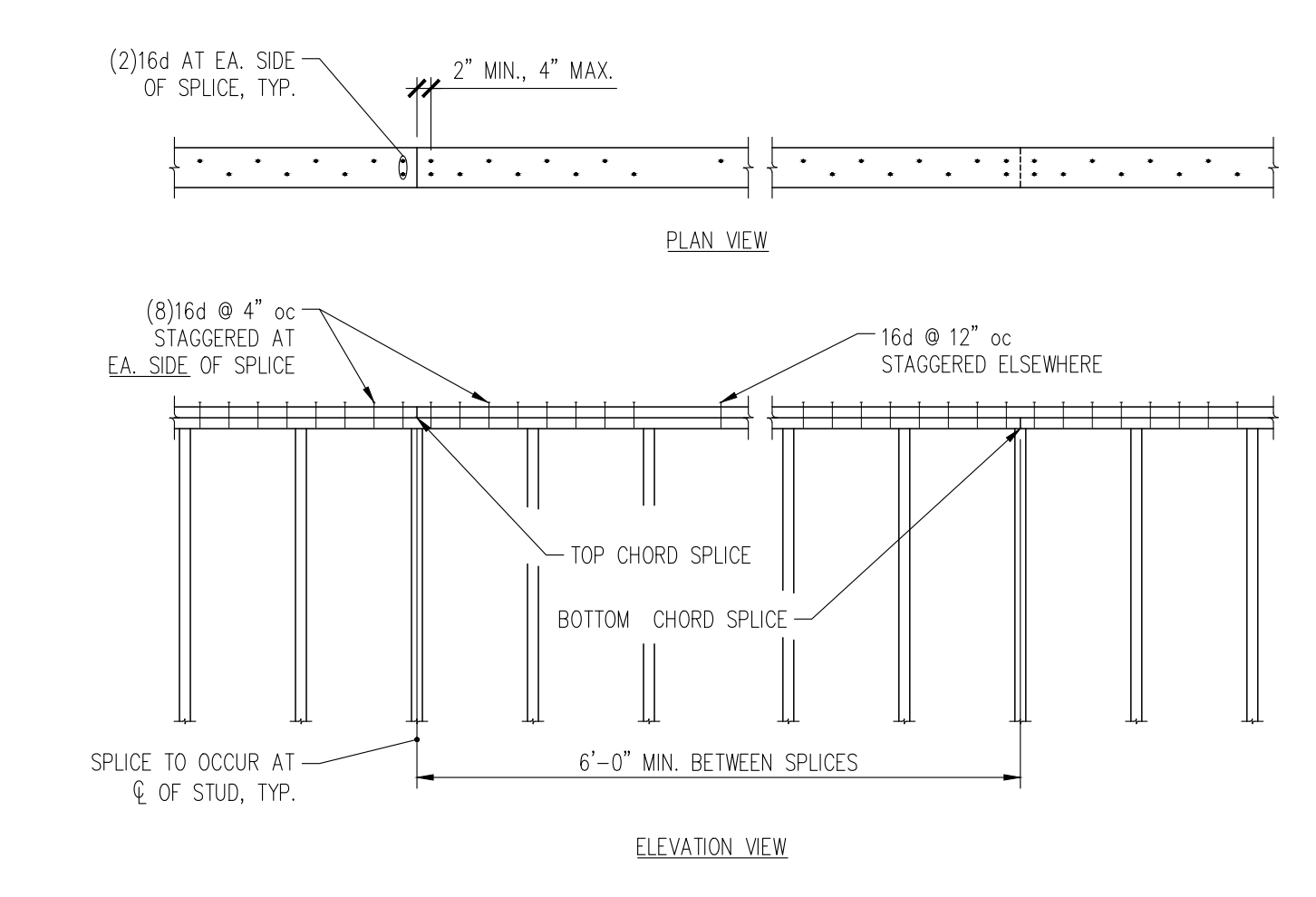
2 ALLOWABLE HOLES THROUGH TOP PLATES  
S6.1 NTS



7 CONNECTION OF NON-STRUC'L PARTITION WALL TO STRUCTURE  
S6.1 NTS

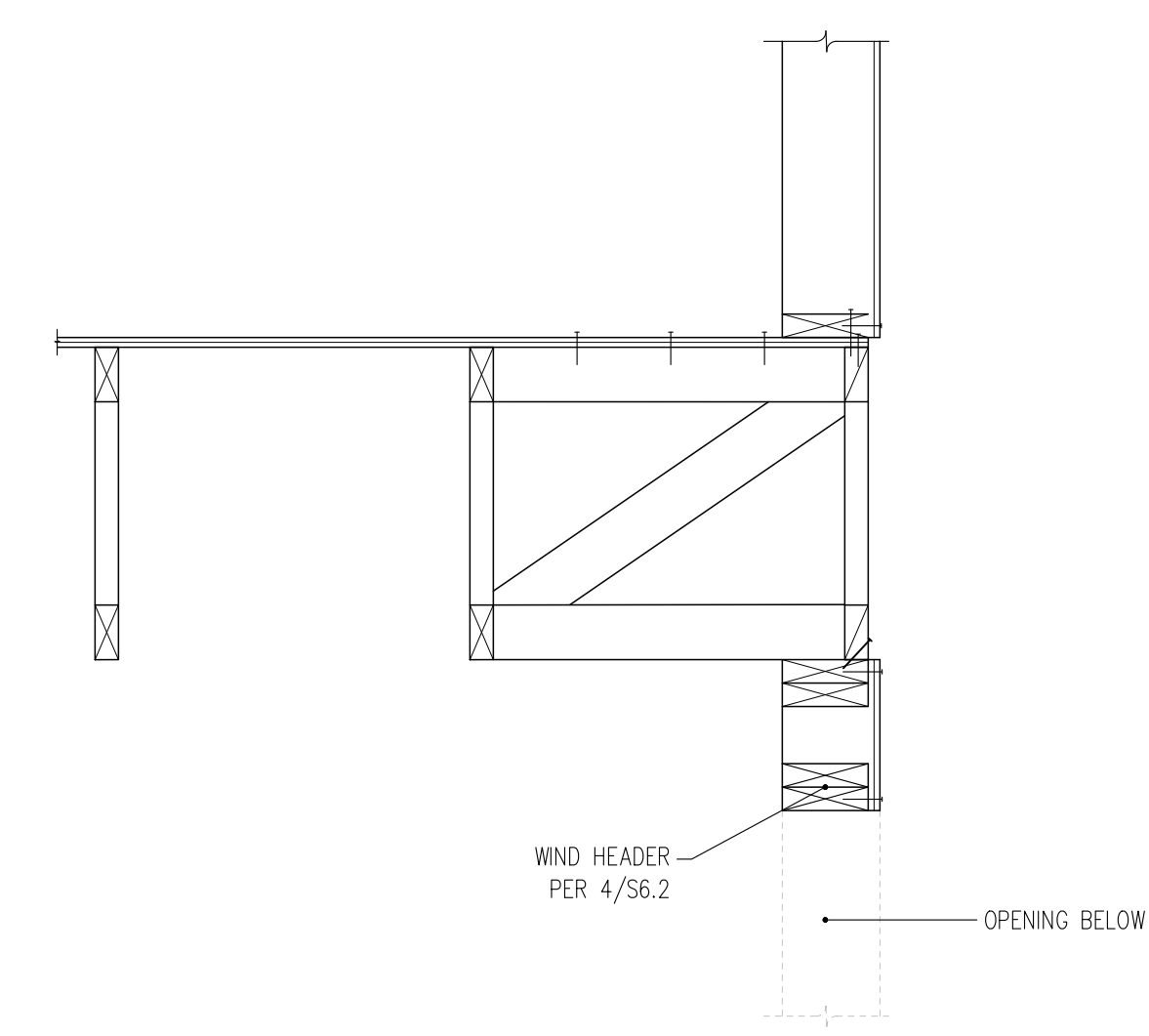


4 TYPICAL BEAM PERPENDICULAR TO WALL  
S6.1 NTS

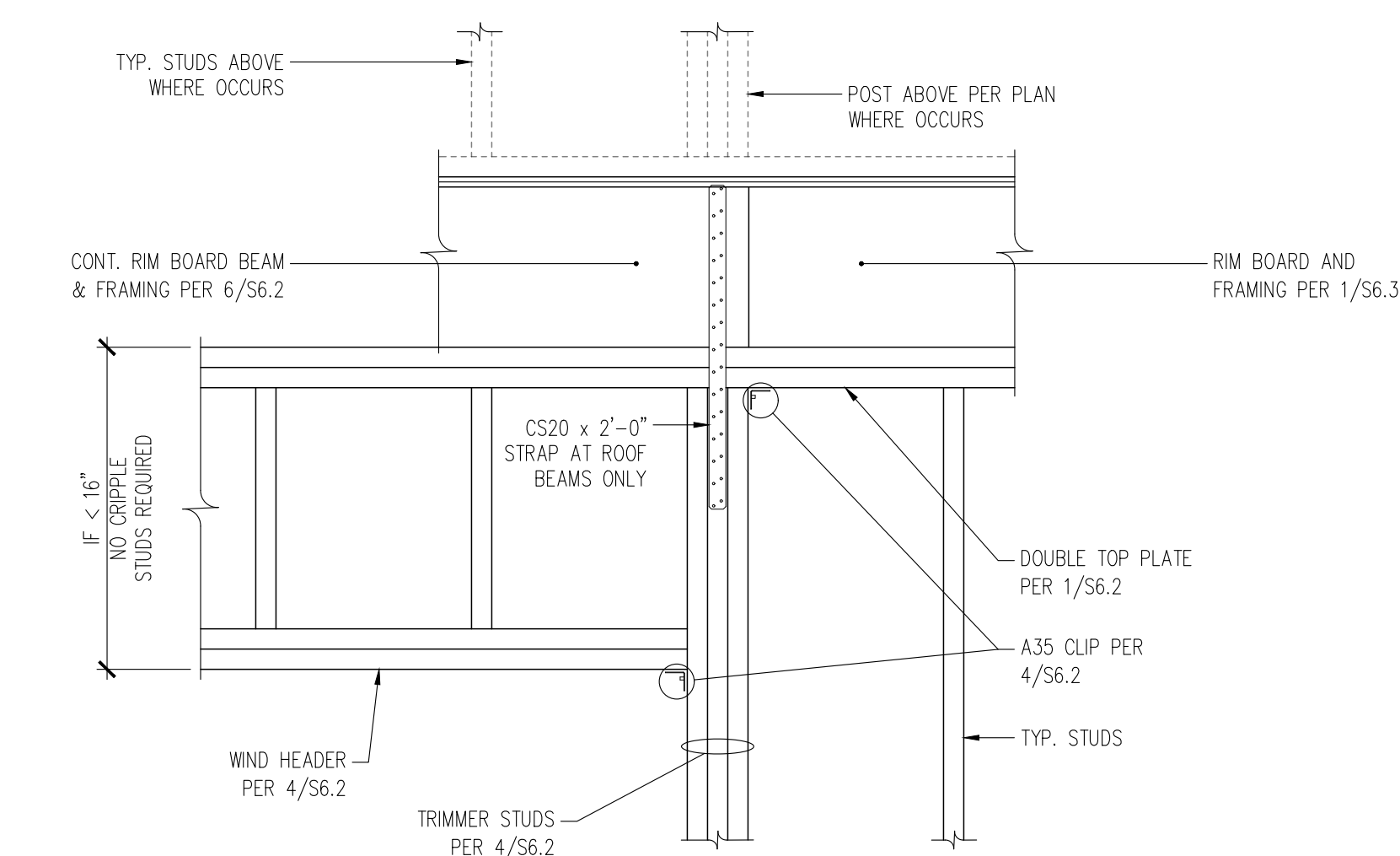


1 TOP PLATE SPLICE  
S6.1 NTS

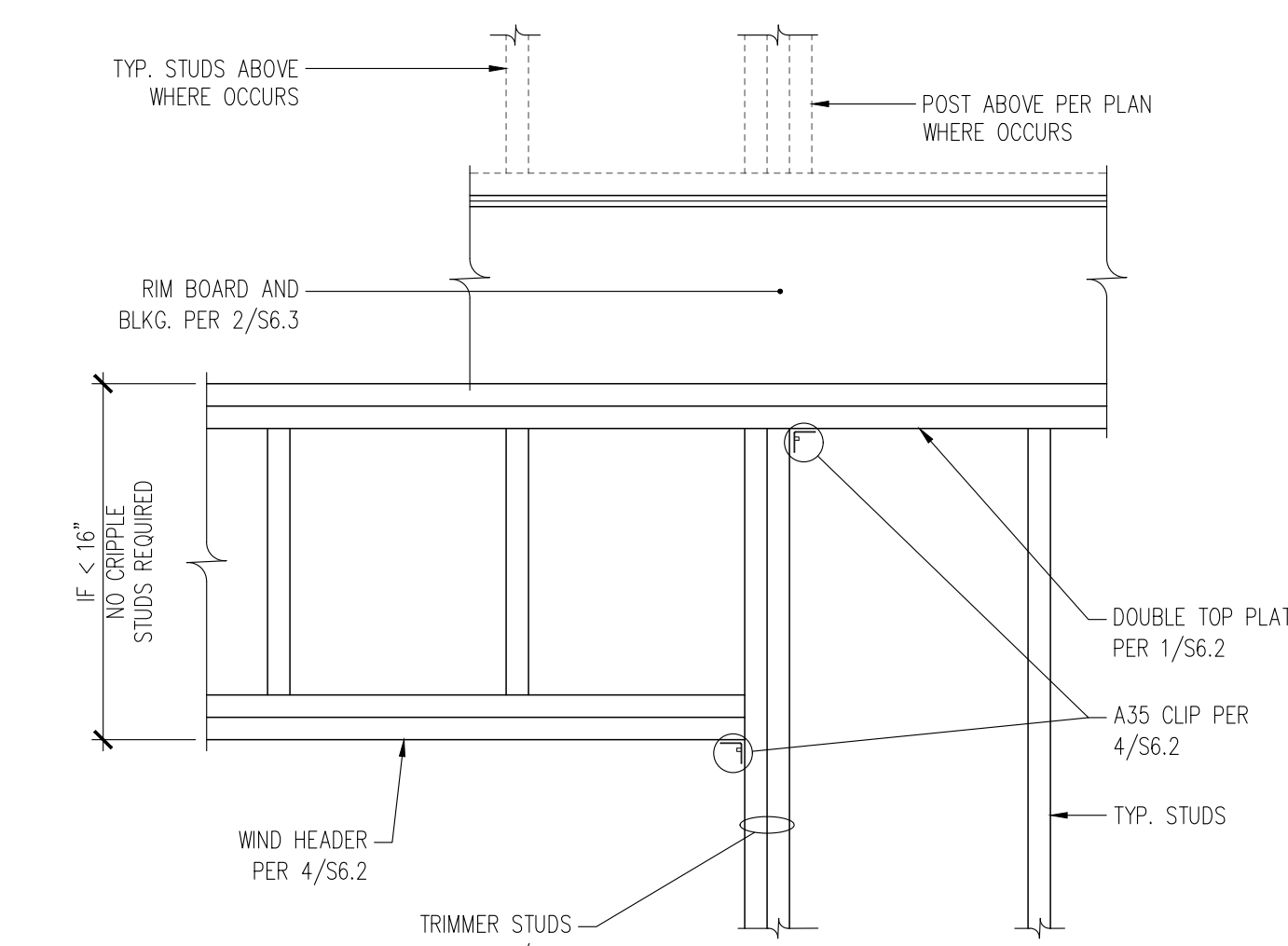
SEE DETAIL  
2/S6.3 FOR CALL  
OUTS IN COMMON



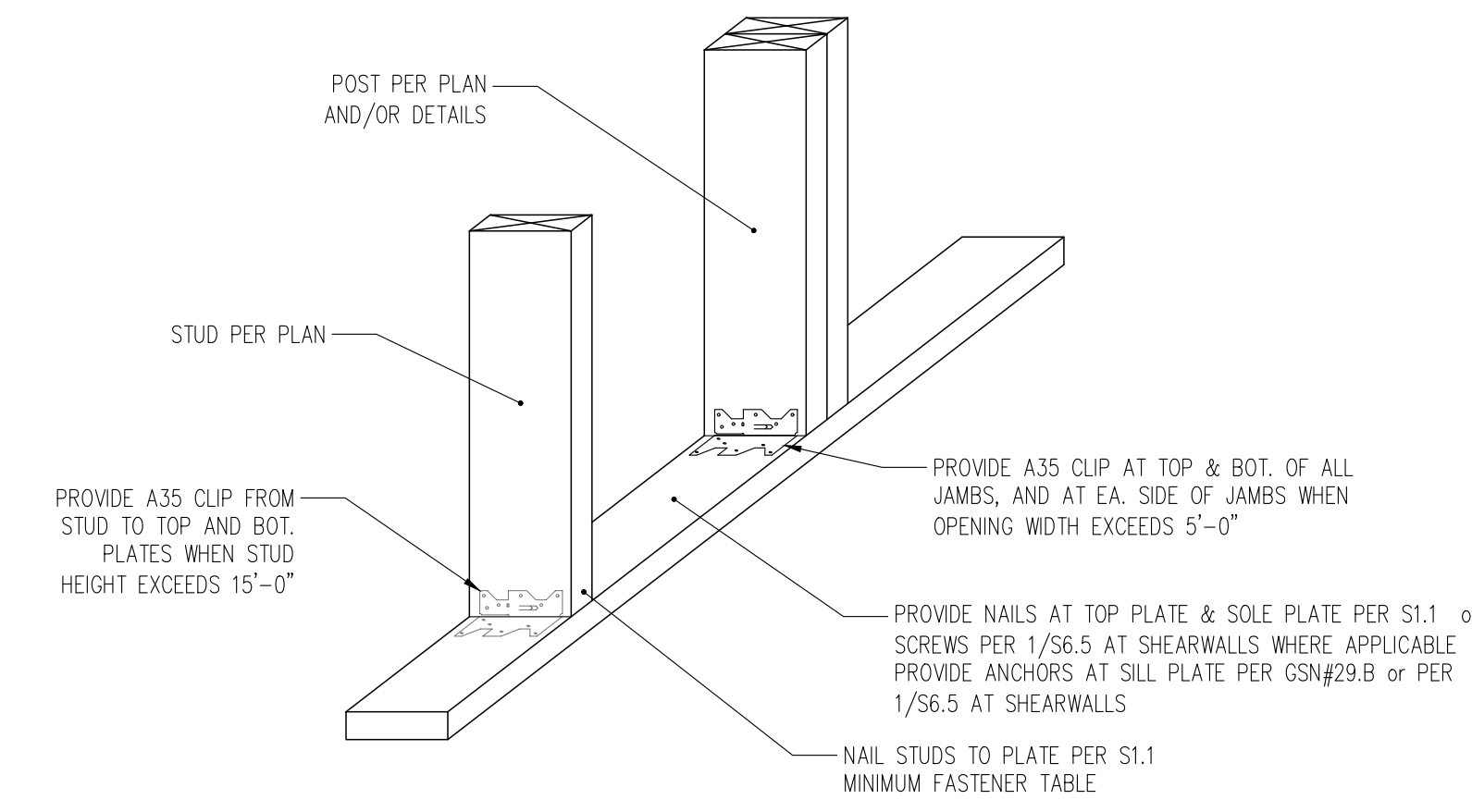
3  
S6.2  
TYPICAL WIND HEADER IN NON-LOAD BEARING EXTERIOR WALL  
NTS



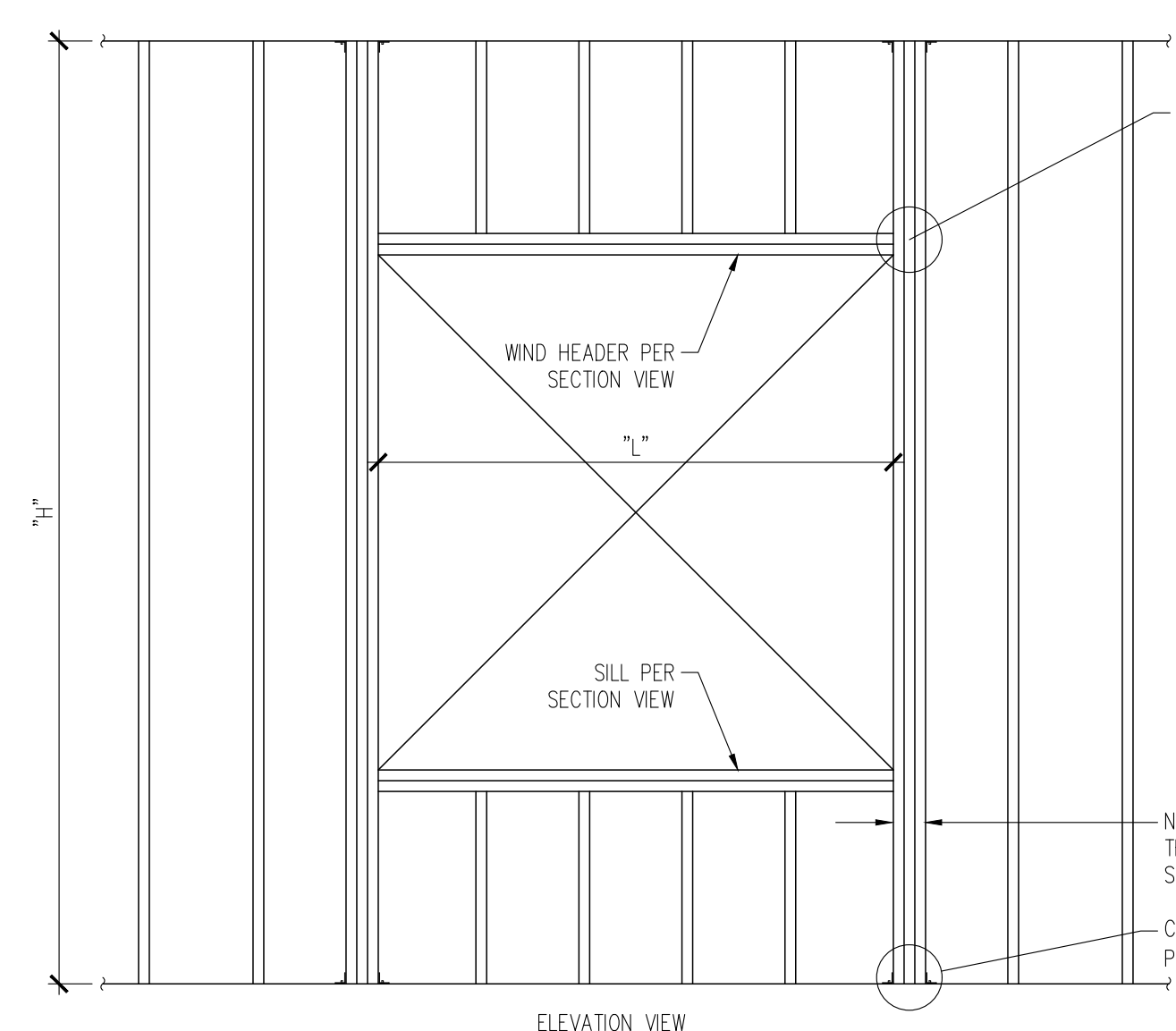
5  
S6.2  
TYPICAL FLUSH BEAM/HEADER IN EXTERIOR WALL  
NTS



2  
S6.2  
TYPICAL WIND HEADER DETAIL  
NTS



7  
S6.2  
CONNECTION OF EXTERIOR STUDS AT TOP & BOTTOM PLATES  
NTS

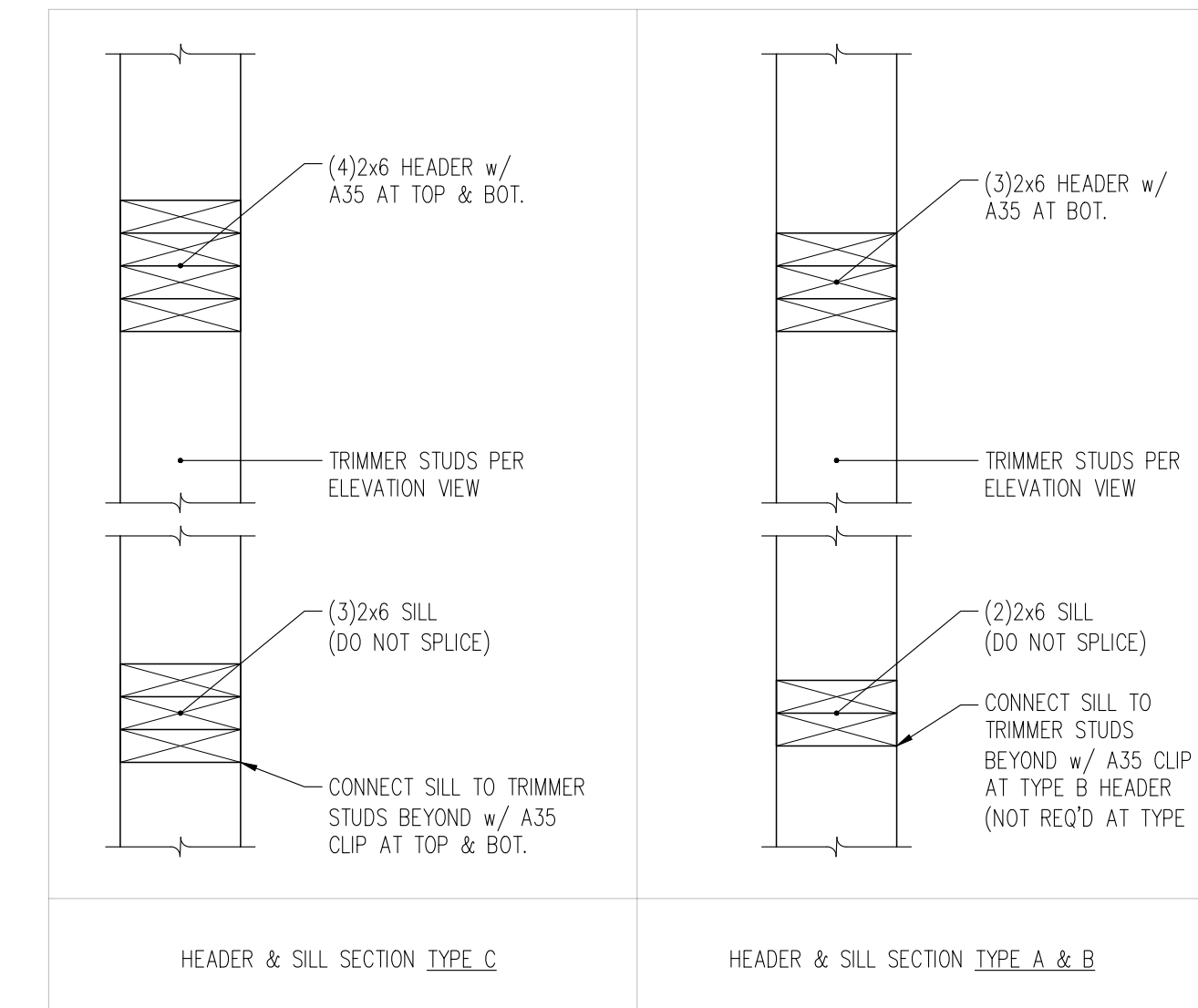


4  
S6.2  
TYPICAL WIND HEADER  
NTS

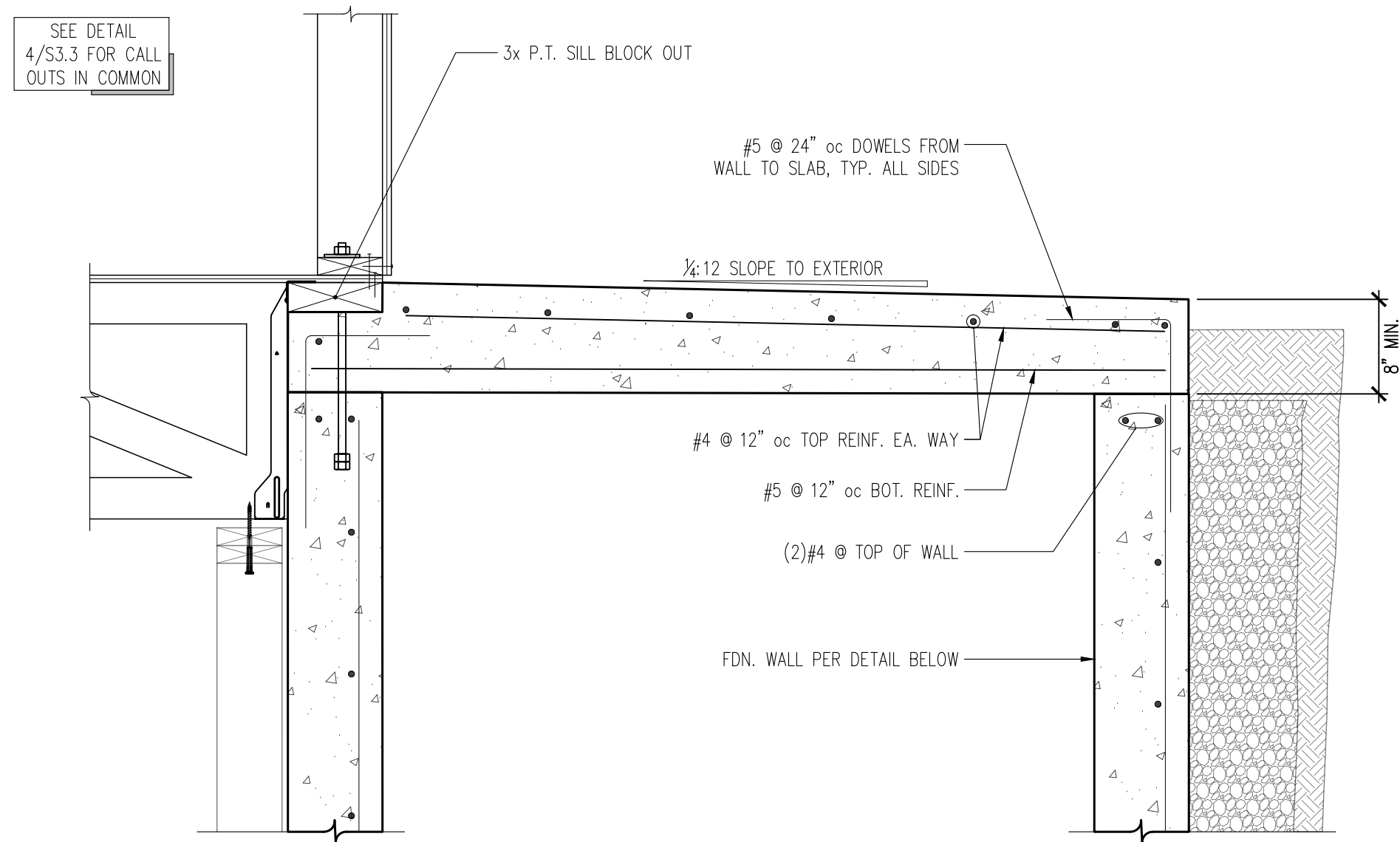
TYPICAL EXTERIOR WALL OPENING FRAMING SCHEDULE

CLEAR HEIGHT "H"	OPENING WIDTH "L"	HDR./SILL TYPE PER SECTION AT RIGHT	No. OF FULL HEIGHT TRIMMER STUDS
H < 12'	L ≤ 6'-0"	A	2
	6' < L < 10'	B	2
	10' ≤ L ≤ 15'	C	3
12' < H < 16'	L ≤ 10'	B	3
	10' < L ≤ 15'	C	6x8

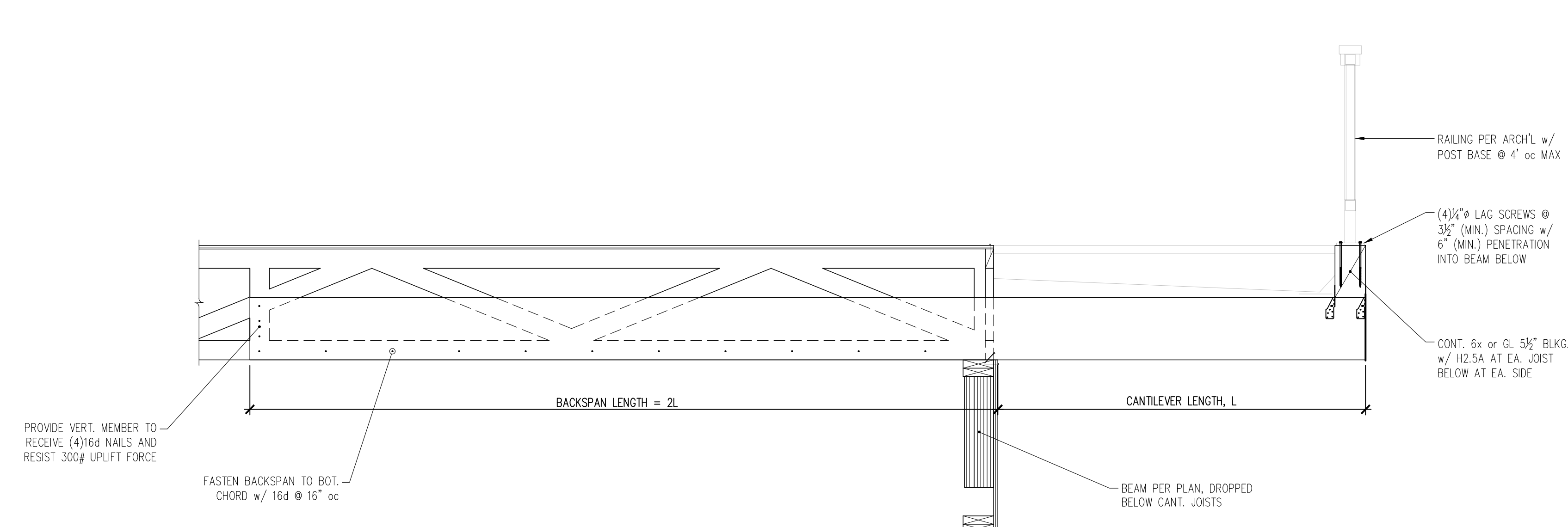
- ① ALL TRIMMER STUDS, HEADERS, AND SILLS SHALL BE NAILED TOGETHER PER S1.1
- ② ALL STRUCTURAL TRIMMER STUDS, SILLS, AND HEADERS SHALL BE DOUGLAS FIR #2 OR BETTER
- ③ SEE PLANS FOR LIV. STUD WALL LOCATIONS, WHERE APPLICABLE



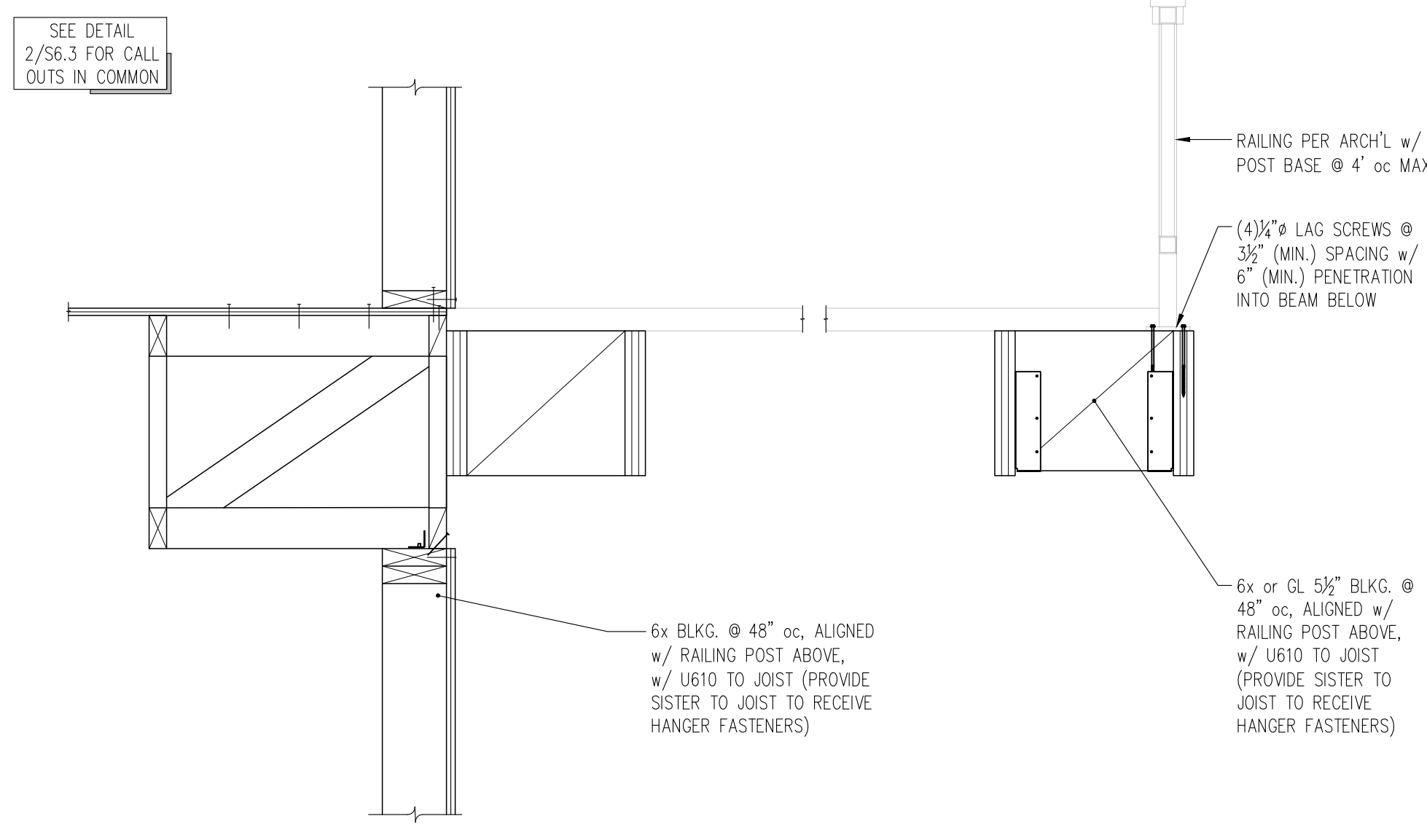
HEADER & SILL SECTION TYPE C  
HEADER & SILL SECTION TYPE A & B



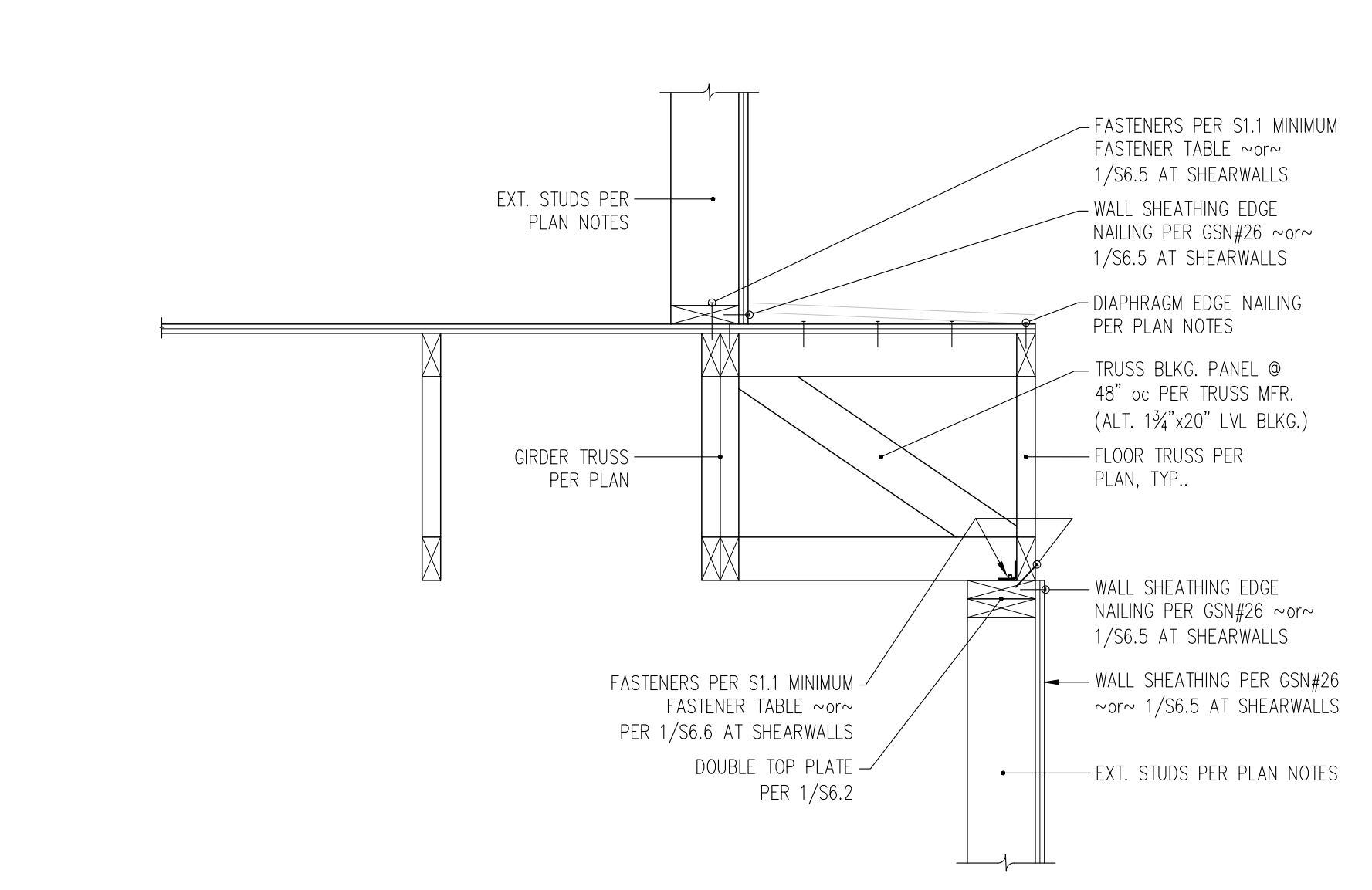
9 SECTION THROUGH PERPENDICULAR TRUSS AND ELEVATED EXTERIOR SLAB  
S6.3 1" = 1'-0"



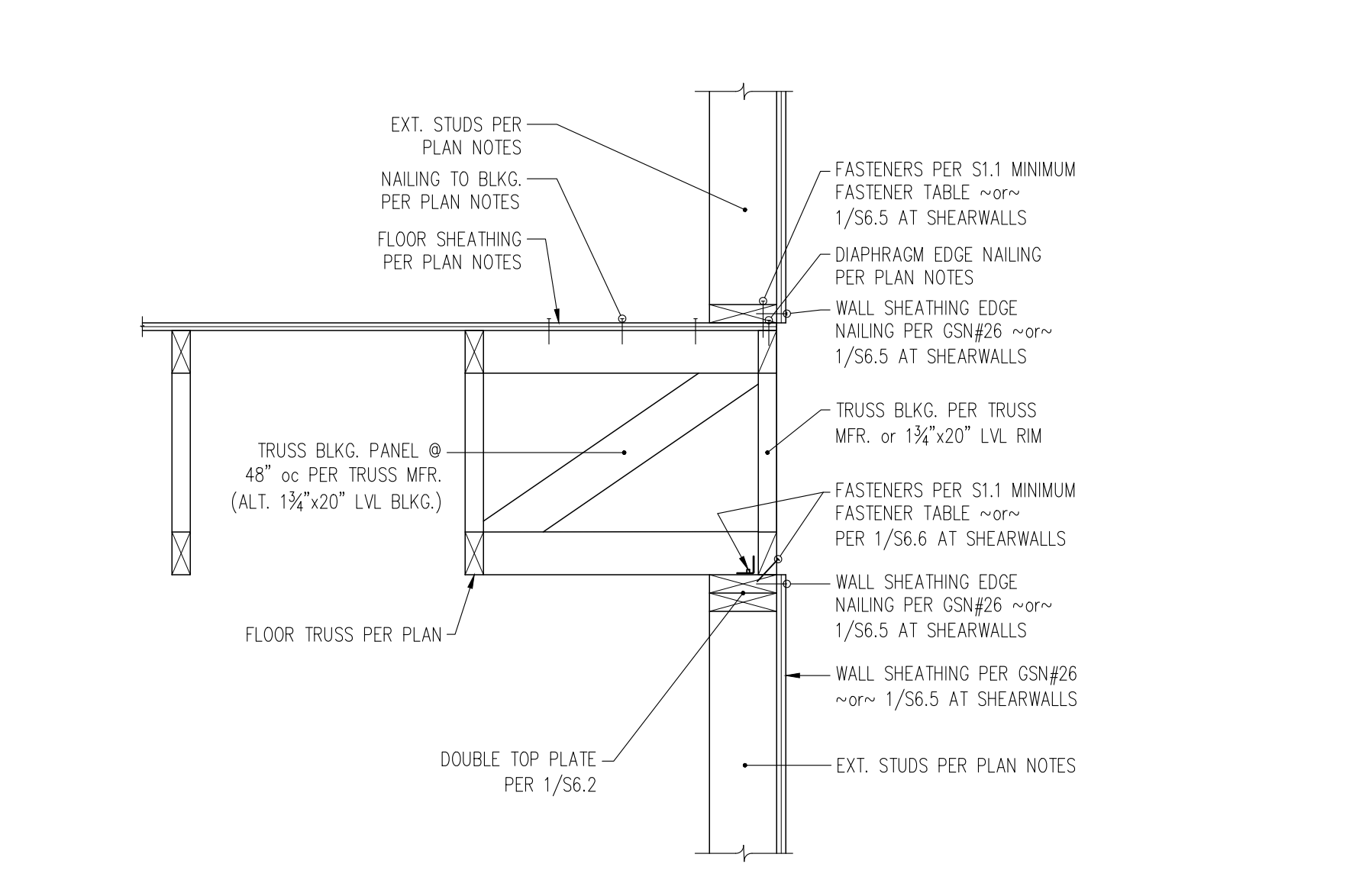
6 SECTION AT CANTILEVERED DECK JOISTS  
S6.3 NTS



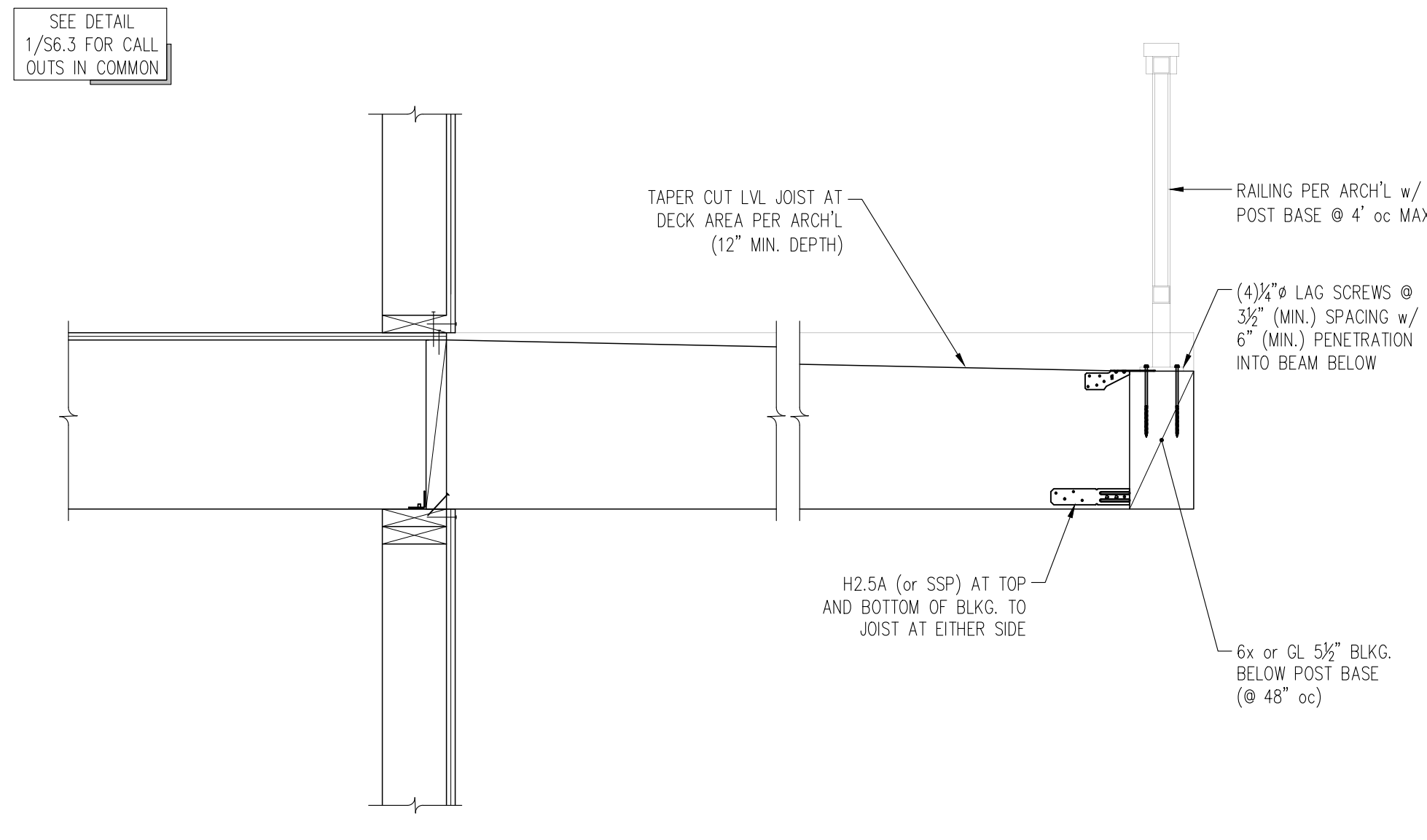
8 SECTION THROUGH PARALLEL TRUSS AND DECK JOISTS  
S6.3 1" = 1'-0"



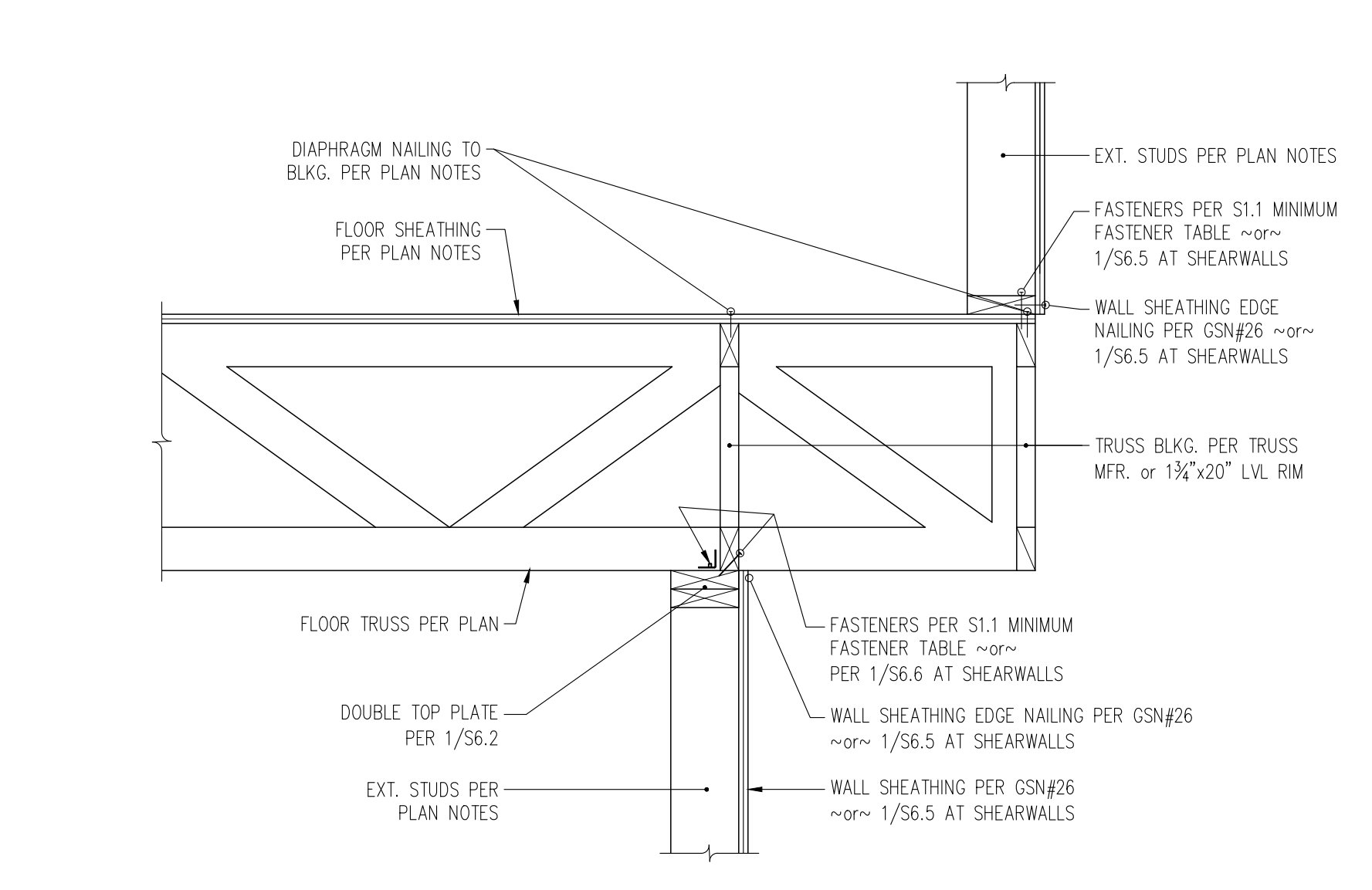
5 SECTION THROUGH OFFSET EXTERIOR WALLS AT PARALLEL TRUSS  
S6.3 1" = 1'-0"



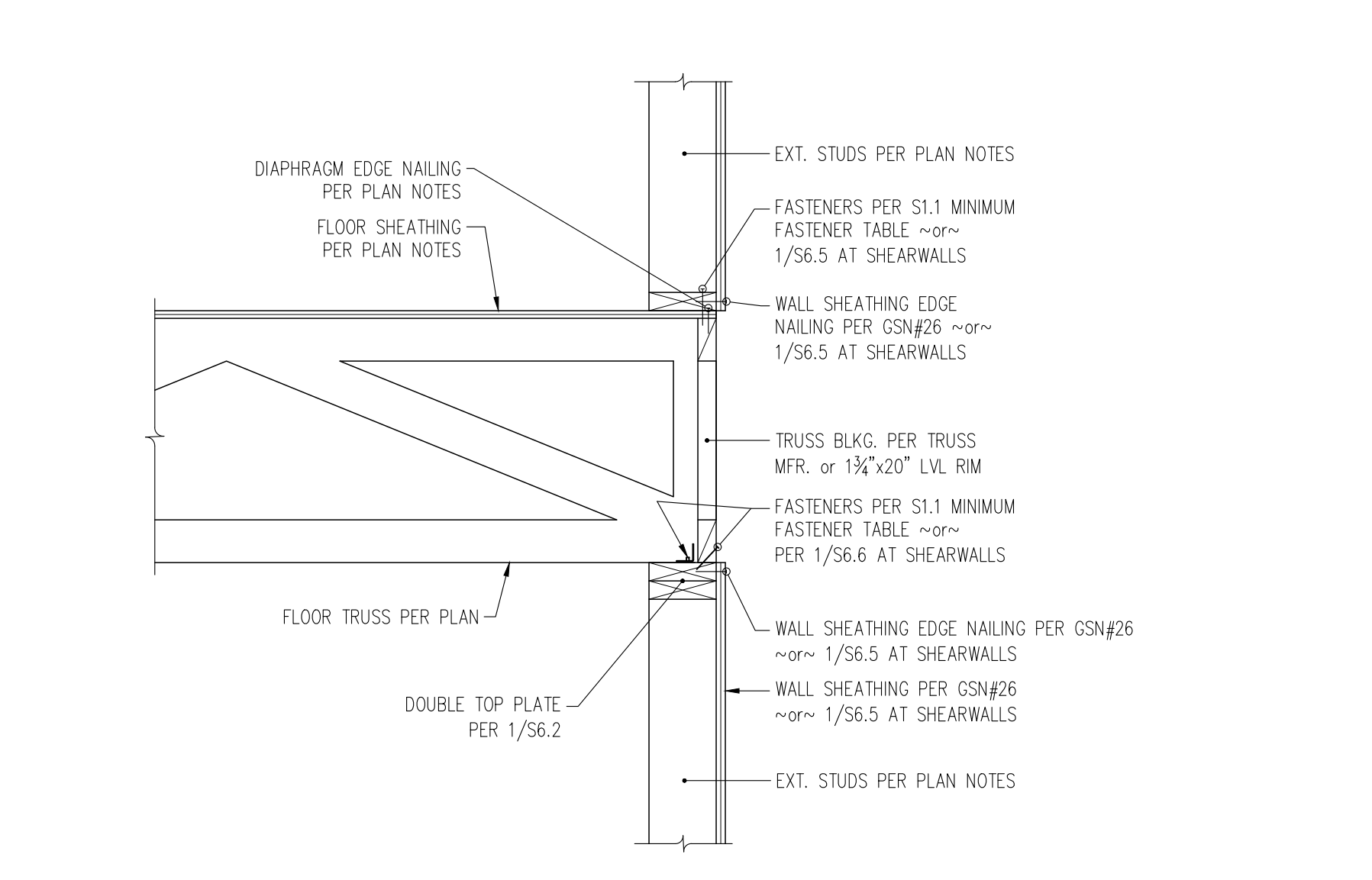
2 SECTION THROUGH EXTERIOR WALL AT PARALLEL TRUSS  
S6.3 1" = 1'-0"



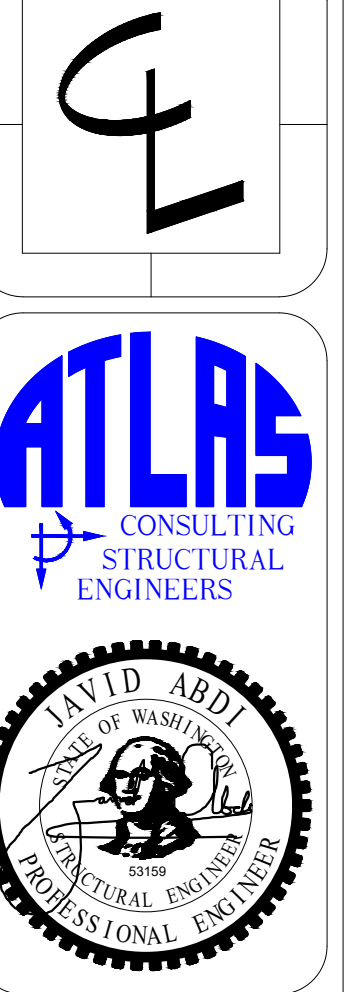
7 SECTION THROUGH PERPENDICULAR TRUSS AND DECK JOISTS  
S6.3 1" = 1'-0"



4 SECTION THROUGH OFFSET EXTERIOR WALLS AT PERPENDICULAR TRUSS  
S6.3 1" = 1'-0"



1 SECTION THROUGH EXTERIOR WALL AT PERPENDICULAR TRUSS  
S6.3 1" = 1'-0"

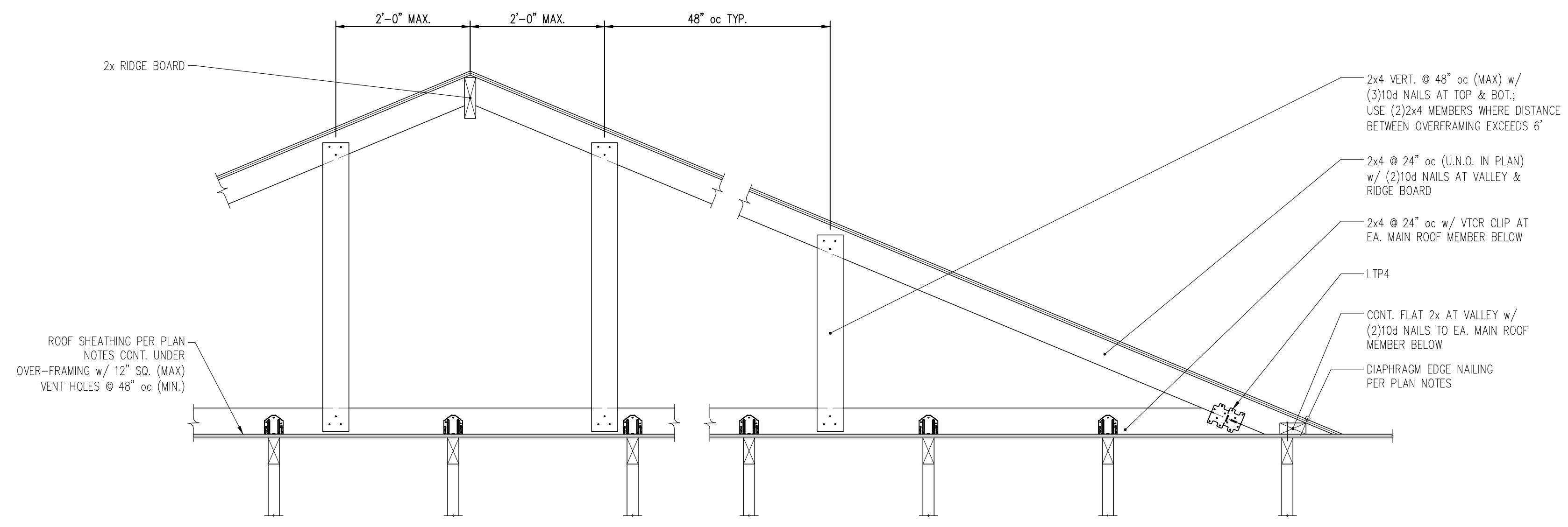


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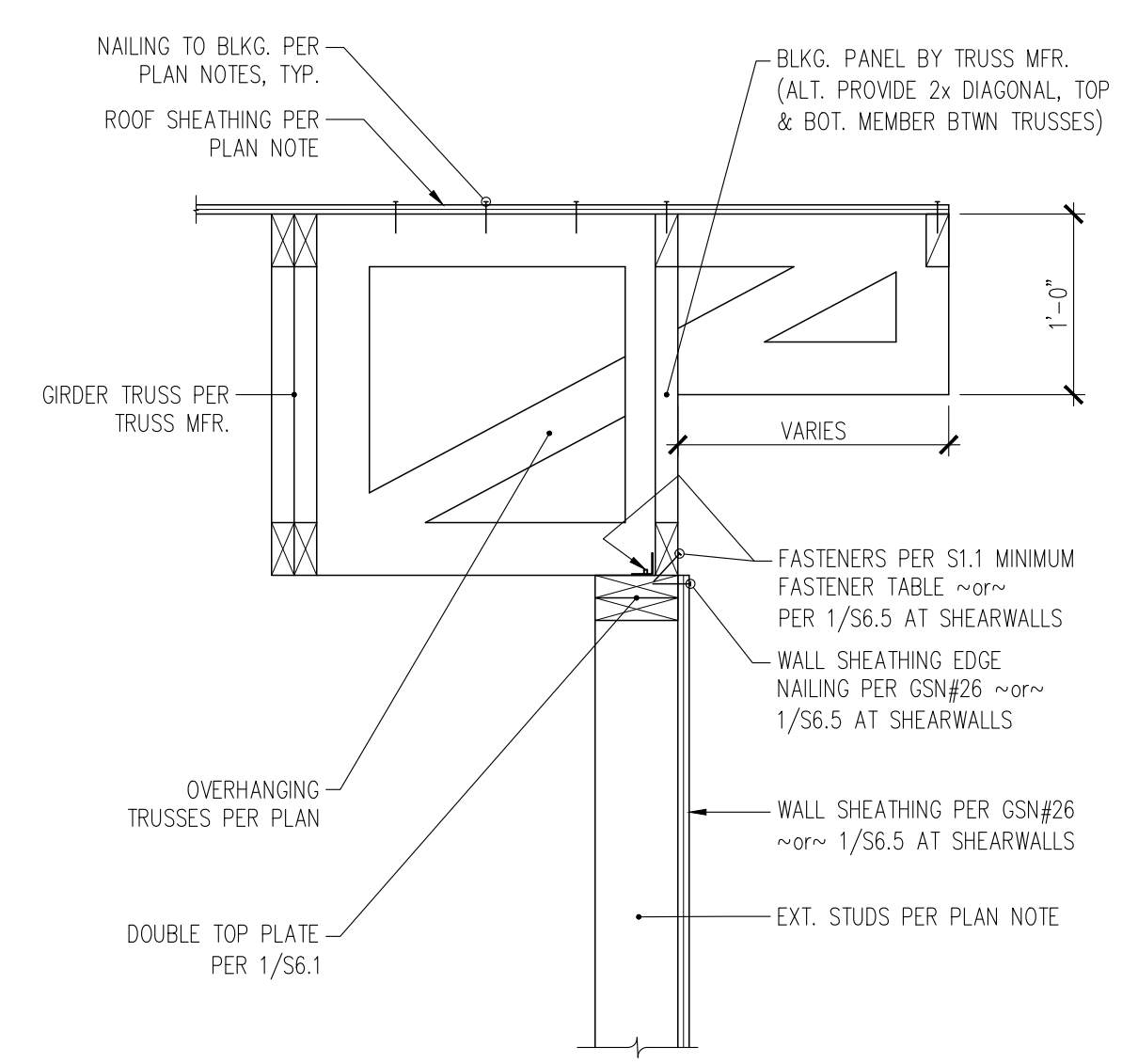
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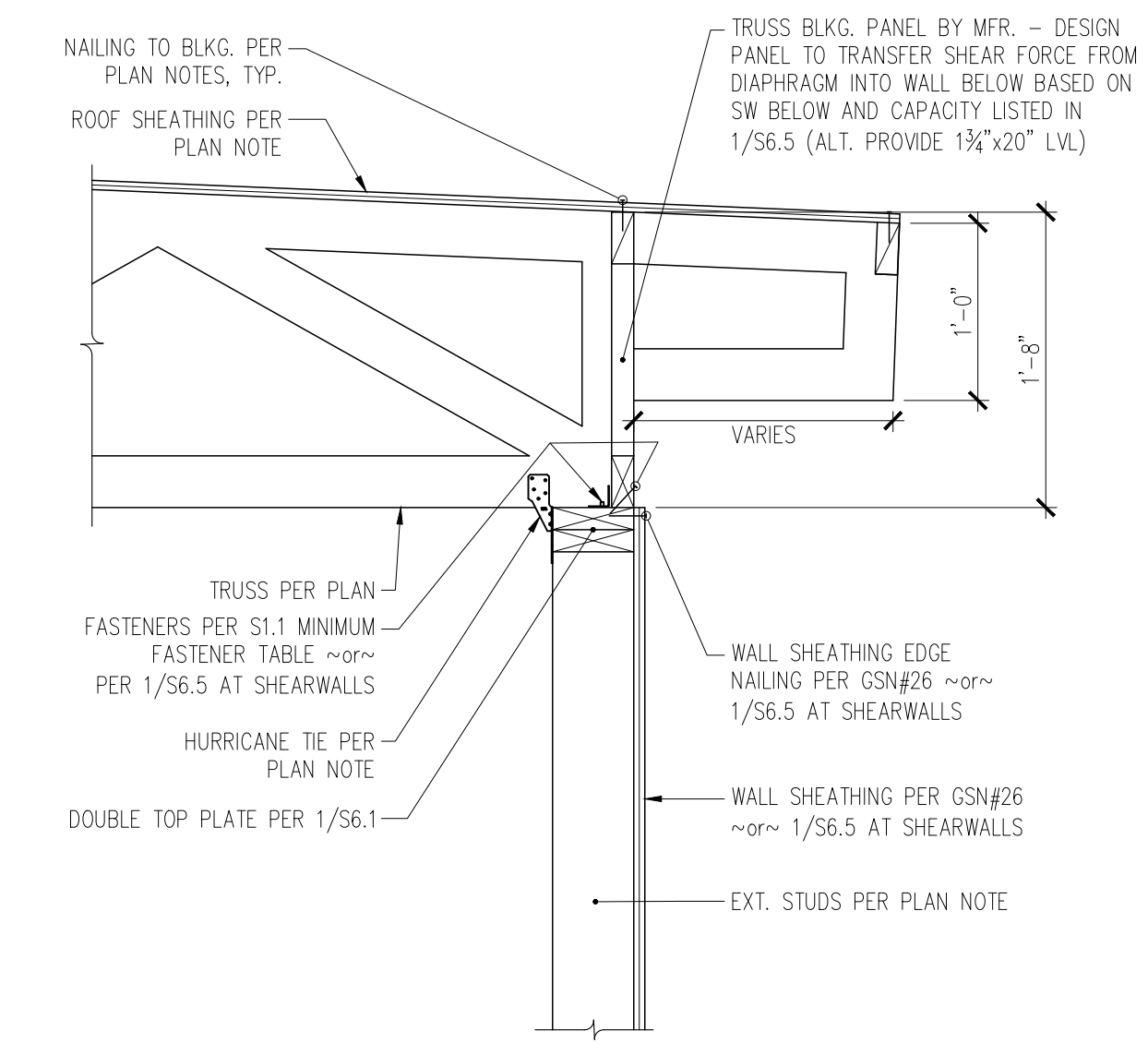
S6.3



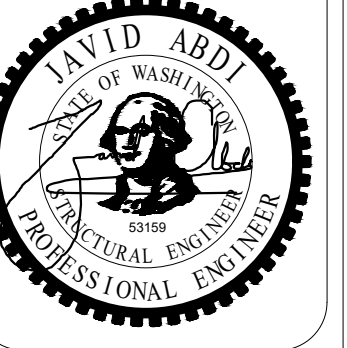
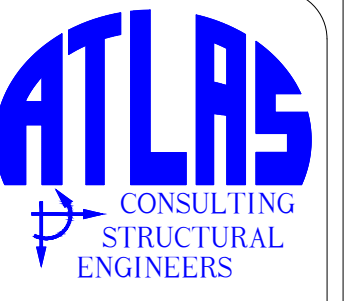
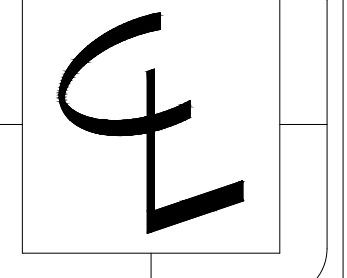
6 TYPICAL ROOF OVERFRAMING  
S6.4 1" = 1'-0"



2 SECTION THROUGH EXTERIOR WALL AT PARALLEL ROOF TRUSSES  
S6.4 1" = 1'-0"



1 SECTION THROUGH EXTERIOR WALL AT PERPENDICULAR ROOF TRUSSES  
S6.4 1" = 1'-0"



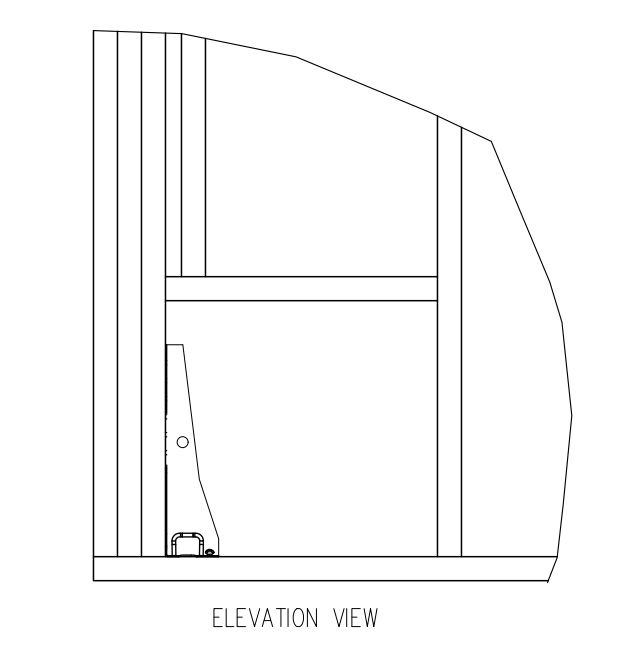
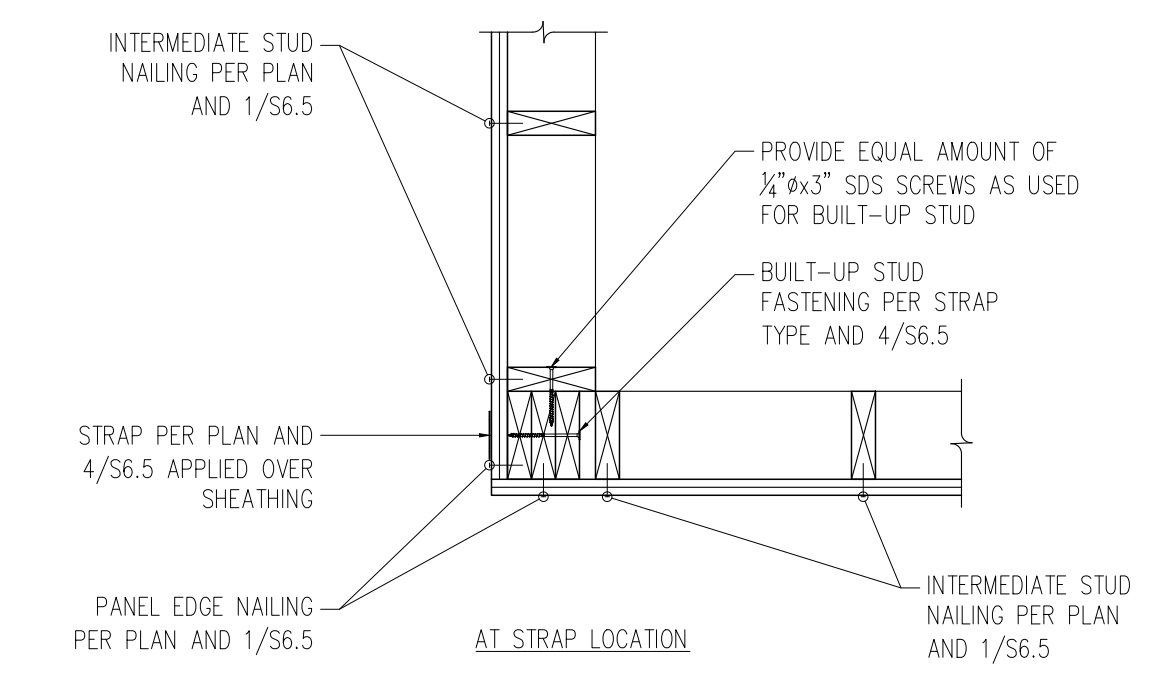
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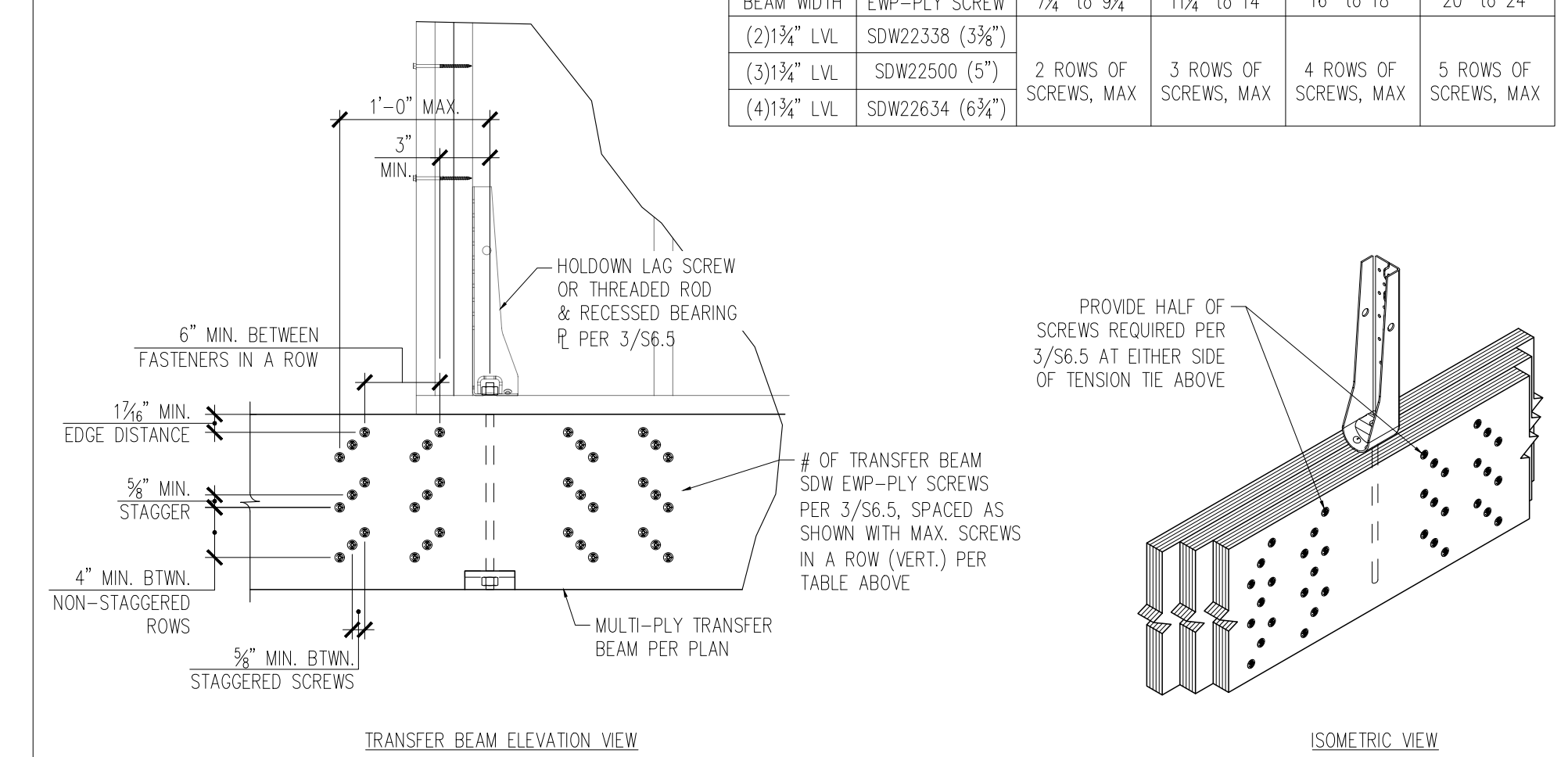
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JDA  
DATE  
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S6.4



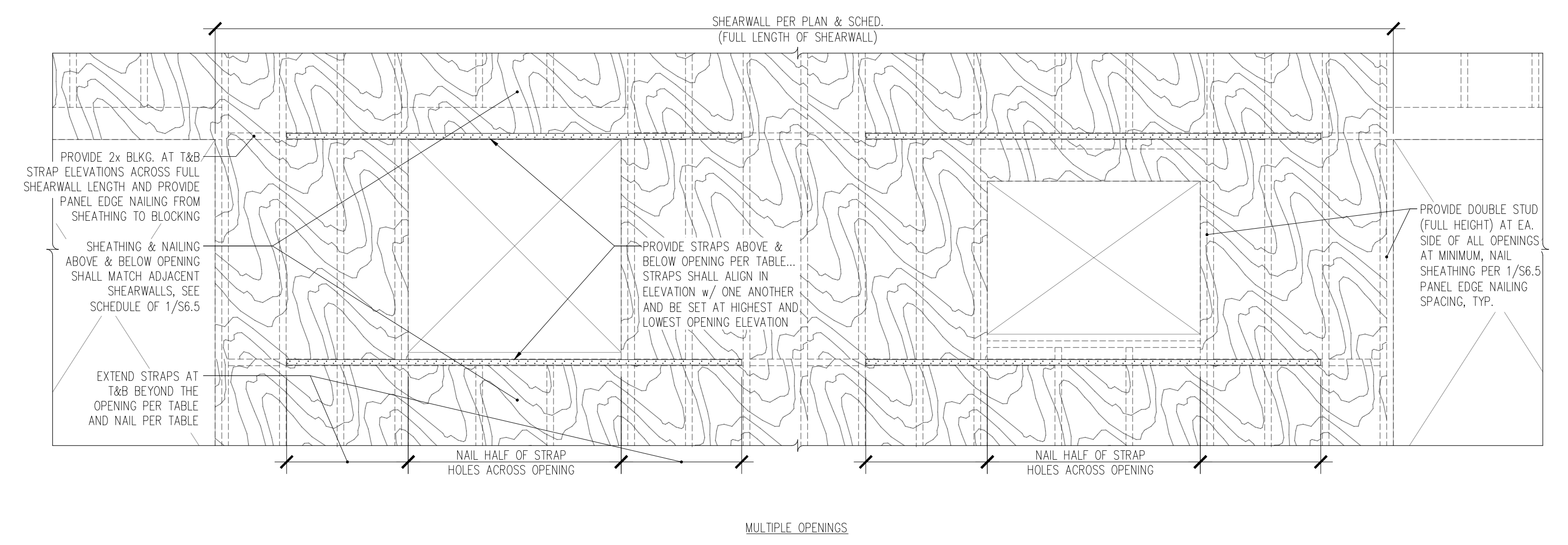


TRANSFER BEAM WIDTH	SIMPSON SDW EWP-PLY SCREW	TRANSFER BEAM DEPTH			
		7 1/2" to 9 1/2"	11 1/2" to 14"	16" to 18"	20" to 24"
(2) 1 3/4" LVL	SDW22338 (3 3/8")	2 ROWS OF SCREWS, MAX	3 ROWS OF SCREWS, MAX	4 ROWS OF SCREWS, MAX	5 ROWS OF SCREWS, MAX
(3) 1 3/4" LVL	SDW22500 (5")				
(4) 1 3/4" LVL	SDW22634 (6 3/4")				

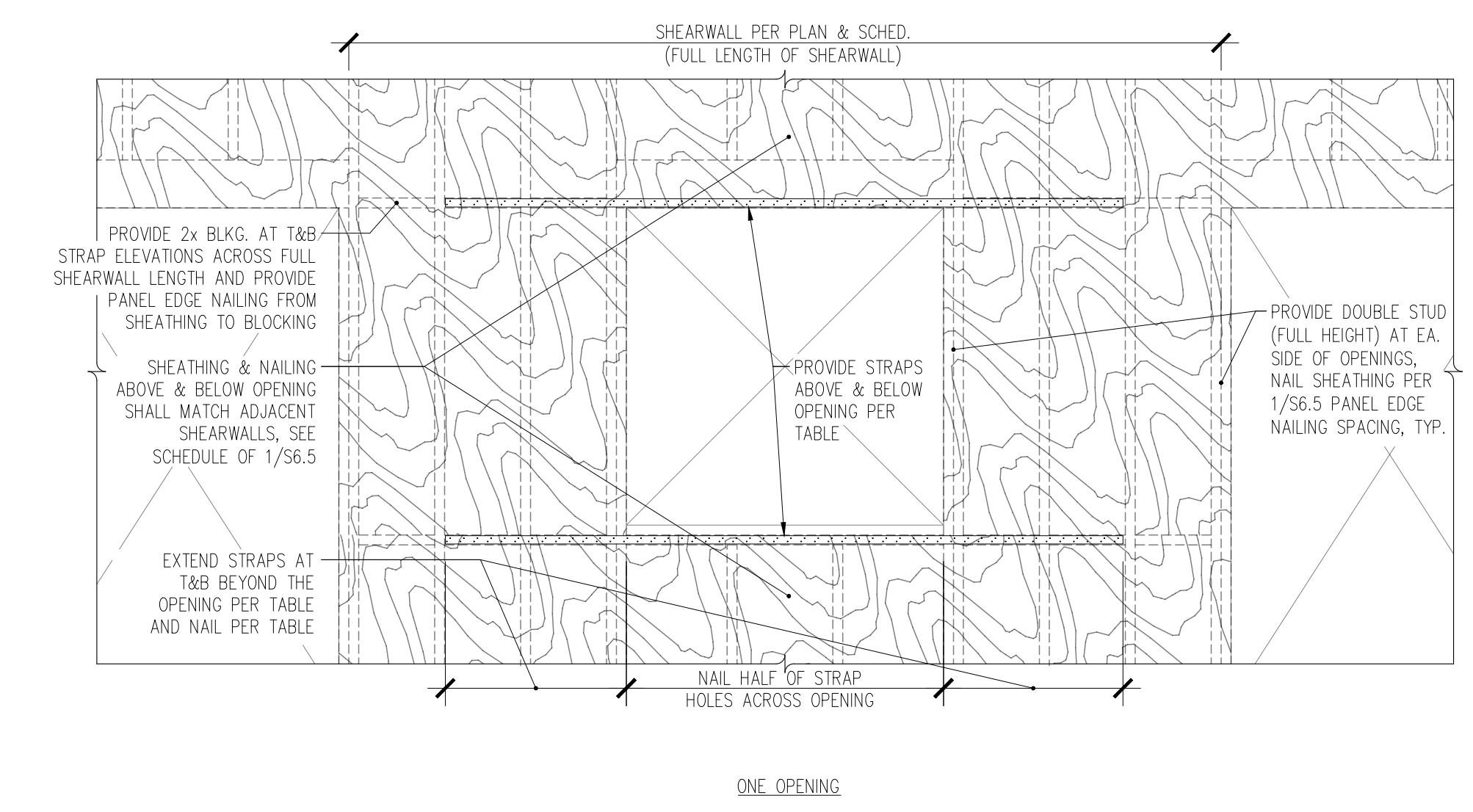


5 MULTI-PLY TRANSFER BEAM CONNECTION DETAILS  
S6.6 1" = 1'-0"

2 SHEAR WALL INTERSECTION AND TENSION TIE POSITIONING  
S6.6 N.T.S.



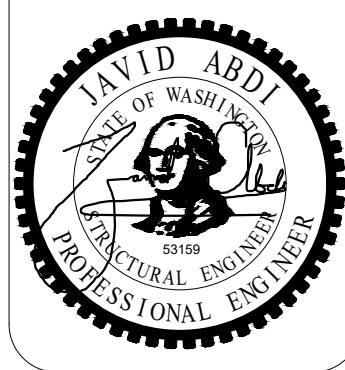
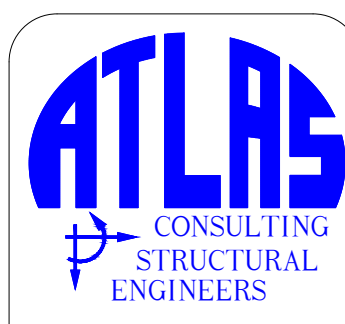
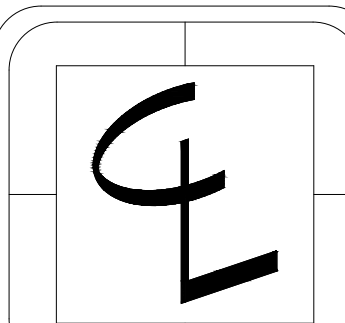
7 STRAPPED SHEARWALL DETAIL  
S6.6 N.T.S.



TYPE	STRAP	END LENGTH	NAILS
1	CS20	16"	(12) 0.148" x 2 1/2"
2	CS20	24"	(12) 0.148" x 2 1/2"
3	CS20	30"	(12) 0.148" x 2 1/2"
4	CS18	24"	(16) 0.148" x 2 1/2"
5	CS18	30"	(16) 0.148" x 2 1/2"
6	CS18	34"	(16) 0.148" x 2 1/2"
7	CS16	30"	(20) 0.148" x 2 1/2"
8	CS16	45"	(20) 0.148" x 2 1/2"

ONE OPENING

STRAP TABLE

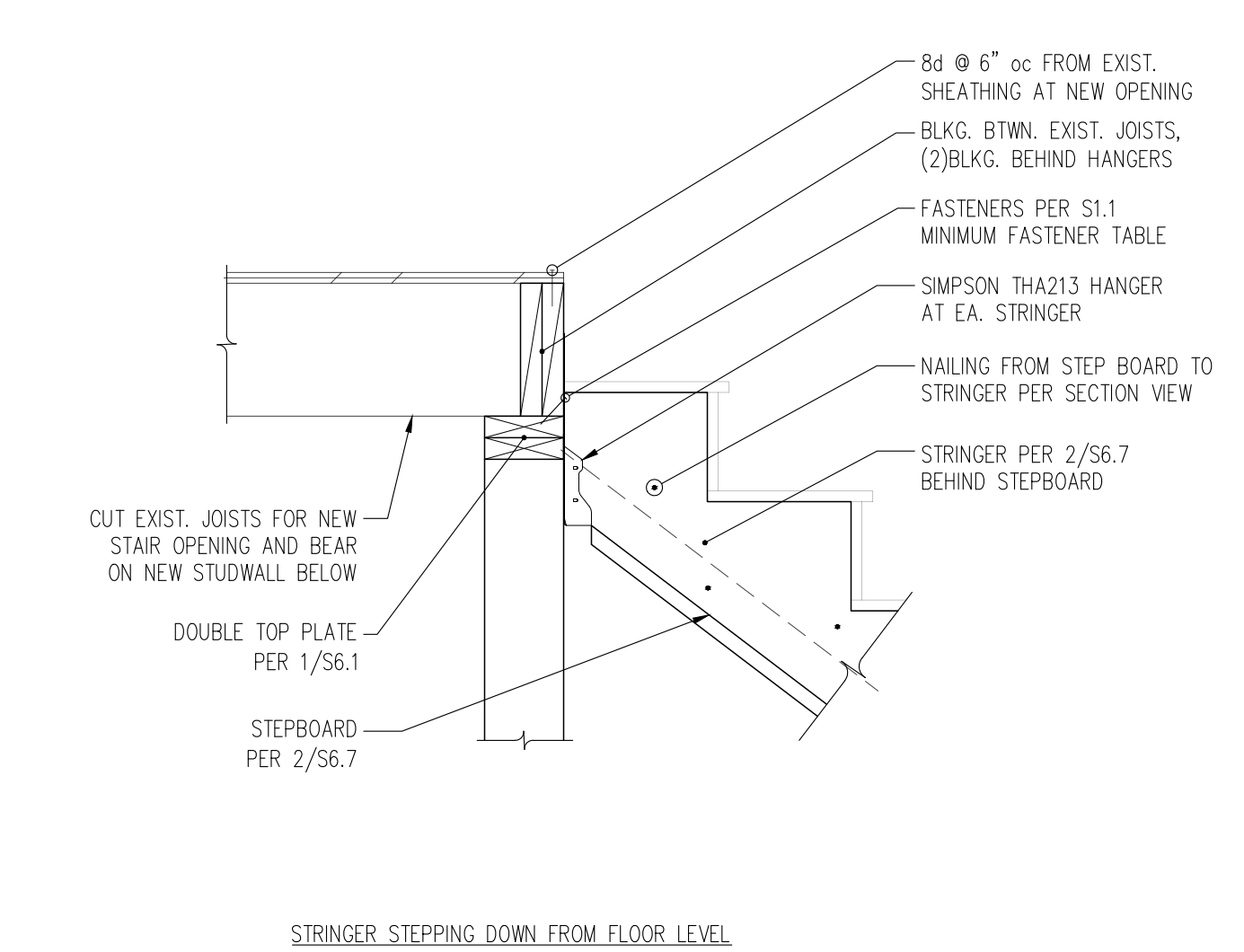


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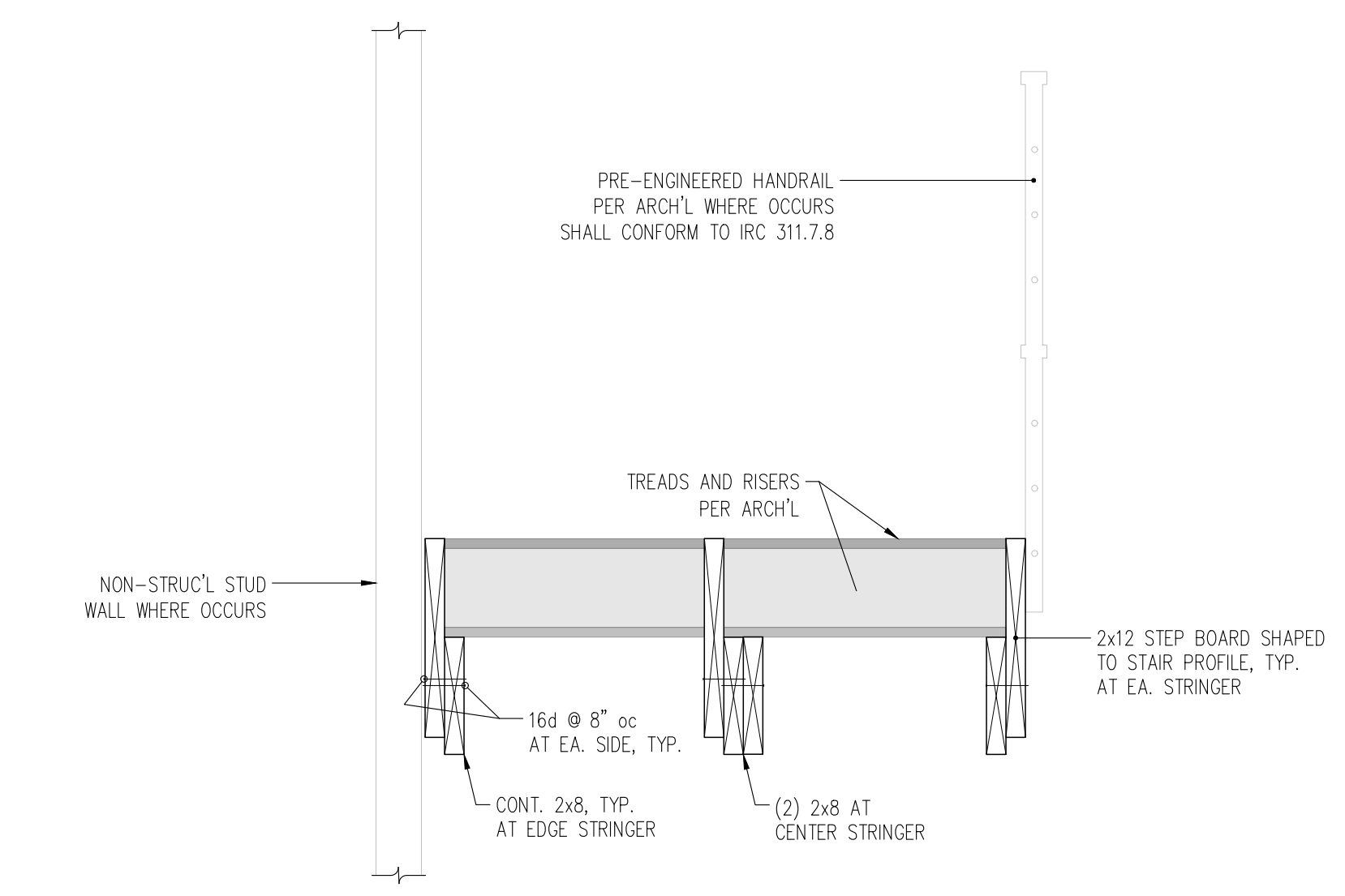
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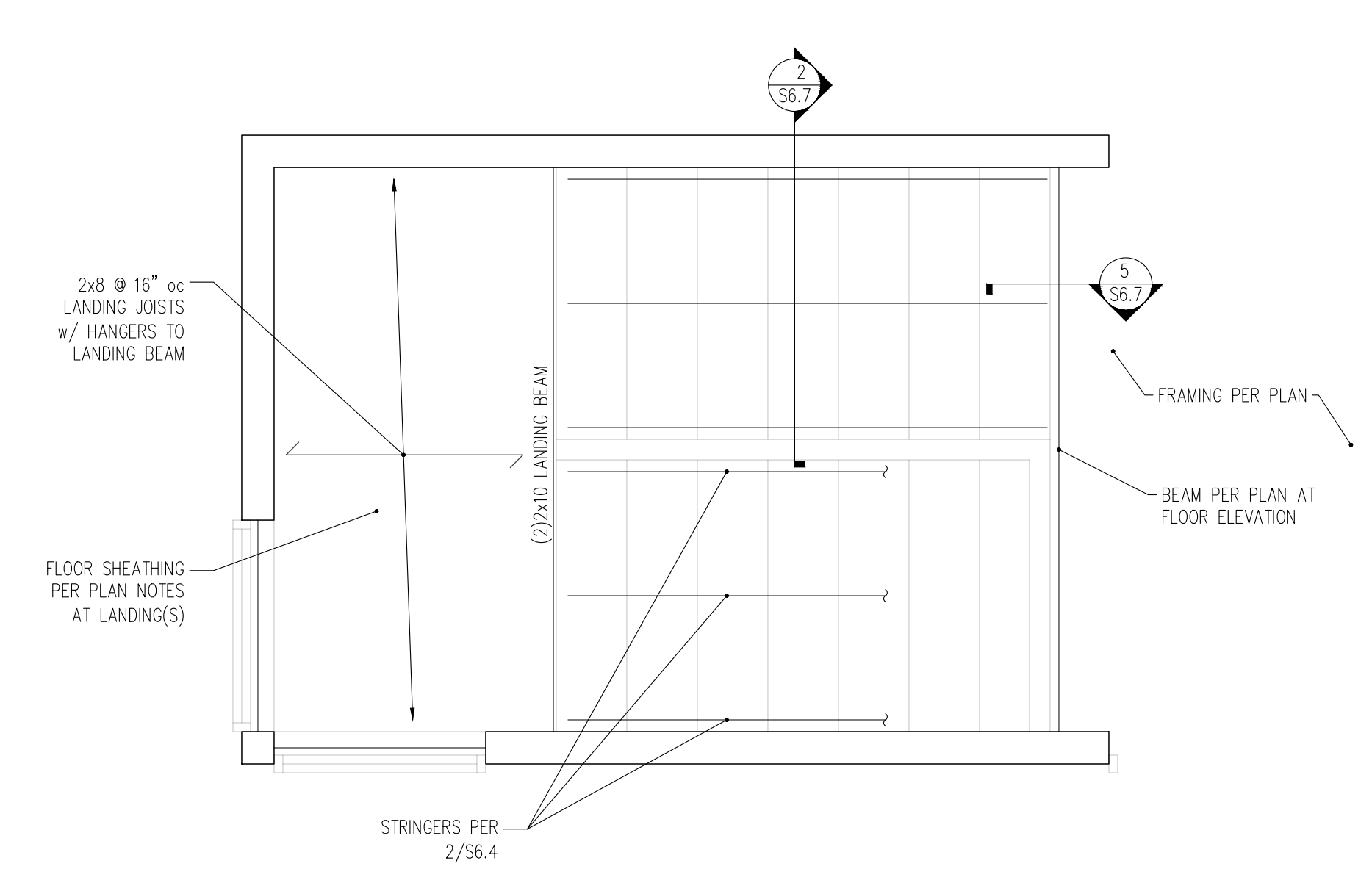
S6.7



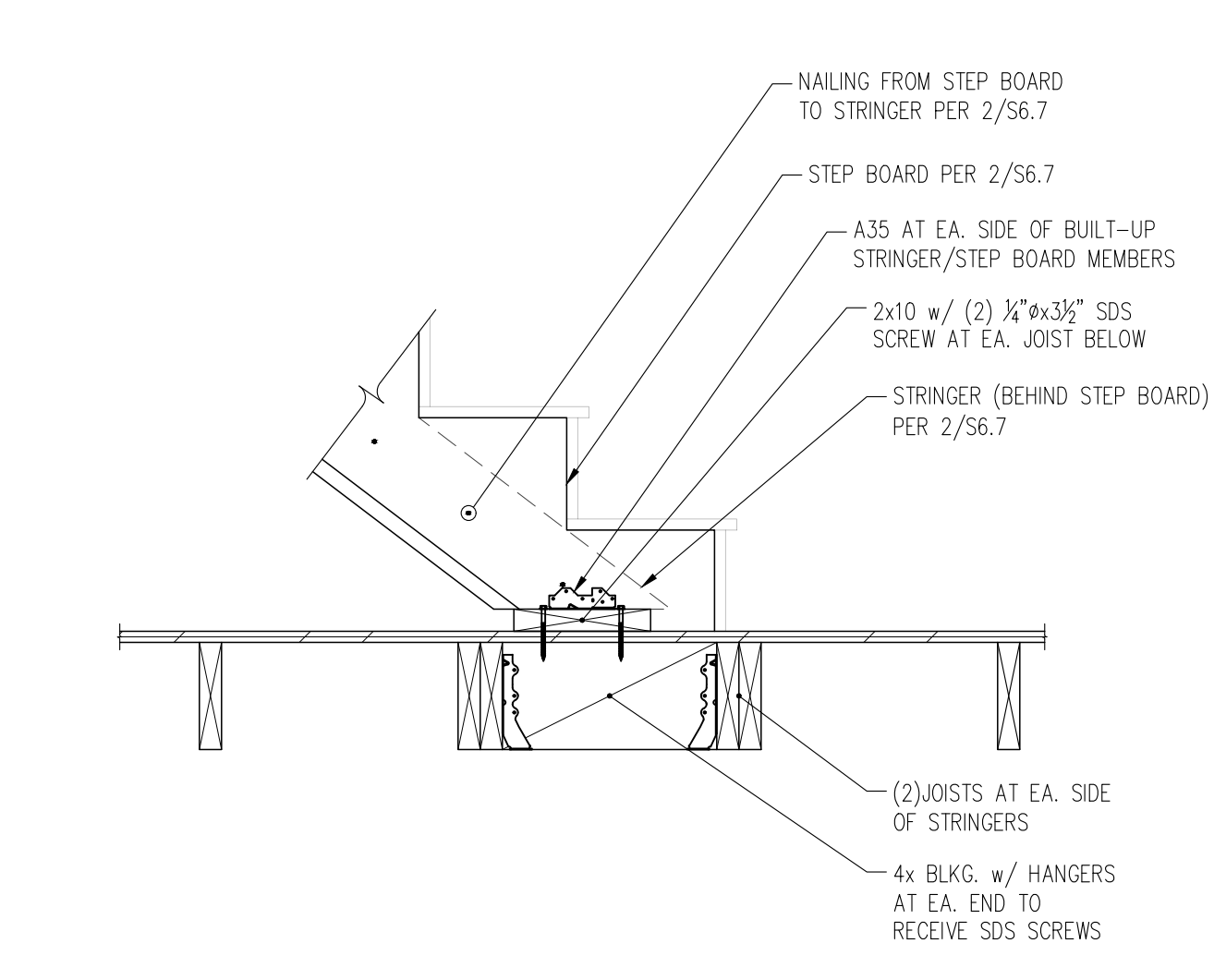
5  
S6.7 ELEVATION OF STRINGER TO SUPPORT MEMBER  
1" = 1'-0"



2  
S6.7 SECTION THROUGH STAIR FRAMING  
1" = 1'-0"



4  
S6.7 TYPICAL STAIR FRAMING/LANDING PLAN VIEW  
1" = 1'-0"



1  
S6.7 ELEVATION VIEW OF STAIR STRINGERS BEARING ATOP FRAMING  
1" = 1'-0"

## General Shoring Notes

### CRITERIA:

- ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC) WITH WASHINGTON STATE ADMINISTRATIVE CODE AMENDMENTS, 2021 EDITION.
- SHORING DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ENGINEER OF ALL DISCREPANCIES PRIOR TO CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE BUILDING LAYOUT DIMENSIONS (GRID LAYOUTS, SITE COORDINATES, ETC.) AMONGST ALL TRADES, INCLUDING SHOP FABRICATED ITEMS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK.
- 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.
- SUBMITTALS: SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO ANY FABRICATION OR CONSTRUCTION FOR ALL STRUCTURAL ITEMS INCLUDING THE FOLLOWING: STRUCTURAL STEEL & MISCELLANEOUS METAL. PROPOSED DEMOLITION AND SHORING SEQUENCE SHALL ALSO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW.
- UTILITY LOCATION: THE SHORING CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRILLING PILE HOLES, OR CUTTING OR DIGGING IN STREETS OR ALLEYS. THE UTILITIES INFORMATION SHOWN ON THE SURVEY MAY NOT BE COMPLETE.

### MINIMUM PILE AND BUILDING MONITORING REQUIREMENTS

- PROVIDE PHOTO DOCUMENTATION OF THE ADJACENT BUILDINGS PRIOR TO THE START OF SHORING WALL CONSTRUCTION, IF APPLICABLE. ESTABLISH A BASELINE READING OF MONITORING POINTS ON THE GROUND SURFACE AND SETTLEMENT-SENSITIVE STRUCTURES BEHIND THE SHORING WALL. ALIGNMENTS PRIOR TO EXCAVATION OR INSTALLATION OF THE SHORING SYSTEM. BASELINE MONITORING POINTS SHALL BE ESTABLISHED ON THE FAÇADE BUILDING CORNERS OF THE ADJACENT BUILDINGS, AS WELL AS INTERMEDIATE POINTS SPACED NO MORE THAN 15 FEET APART AT THE NORTH FACING WALL OF THE ADJACENT BUILDINGS. THE HORIZONTAL (X AND Y) COORDINATES AND ELEVATIONS SHALL BE ESTABLISHED BY A LICENSED LAND SURVEYOR (NOT THE CONTRACTOR) PRIOR TO STARTING EARTHWORK ACTIVITIES OR SHORING INSTALLATION.

ALL SURVEYING SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR. SURVEY MID-HEIGHT OF THE SHORING WALLS AT 25- FEET (X AND Y) INTERVALS AND AT THE TOP OF EVERY SOLDIER PILE. SURVEY FREQUENCY SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AFTER REVIEW AND APPROVAL BY THE AUTHORITY HAVING JURISDICTION (AHJ). SURVEY SHALL OCCUR A MINIMUM OF ONCE A WEEK DURING SHORING INSTALLATION AND EXCAVATION. SURVEY FREQUENCY MAY BE DECREASED AFTER SHORING SYSTEM IS INSTALLED AND THE EXCAVATION IS COMPLETE IF DATA INDICATES THAT NO OR LITTLE ADDITIONAL MOVEMENT OCCURS. A DECREASED SURVEY FREQUENCY MUST BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND MUST BE REVIEWED AND APPROVED BY AHJ. SURVEYING MUST CONTINUE UNTIL PERMANENT BUILDING STRUCTURE (INCLUDING FLOOR SLABS AS BRACES) IS COMPLETED UP TO GRADE LEVEL.

FOR ALL SURVEY ACTIVITY, SURVEY ACCURACY SHALL BE 0.001 FEET. THE GEOTECHNICAL ENGINEER SHALL REVIEW THE SURVEY DATA WITHIN 2 DAYS OF BEING MEASURED AND PROVIDE AN EVALUATION OF SHORING WALL PERFORMANCE ALONG WITH THE SURVEY DATA TO AHJ ON AT LEAST A WEEKLY BASIS. IMMEDIATELY AND DIRECTLY NOTIFY THE GEOTECHNICAL ENGINEERS, STRUCTURAL ENGINEERS, AND SDCI IF 0.04 FEET OF MOVEMENT OR ANY UNUSUAL OR SIGNIFICANTLY INCREASED MOVEMENT OCCURS BETWEEN TWO CONSECUTIVE READINGS.

IMMEDIATELY AND DIRECTLY NOTIFY THE GEOTECHNICAL ENGINEERS, STRUCTURAL ENGINEERS, WALL DESIGNER, AND SDCI IF 0.05 INCHES OF MOVEMENT OCCURS BETWEEN TWO CONSECUTIVE READINGS AND WHEN TOTAL MOVEMENTS REACH 1 INCH. AT THAT AMOUNT OF MOVEMENT, THE GEOTECHNICAL AND STRUCTURAL ENGINEERS SHALL DETERMINE THE CAUSE OF THE DISPLACEMENT AND DEVELOP REMEDIAL MEASURES SUFFICIENT TO LIMIT TOTAL LATERAL DEFLECTION AT TOP OF PILES TO 1 INCH. ALL EARTHWORK AND CONSTRUCTION ACTIVITIES MUST BE DIRECTED TOWARDS IMMEDIATE IMPLEMENTATION OF REMEDIAL MEASURES NECESSARY TO LIMIT TOTAL WALL MOVEMENTS TO WHAT HAS BEEN DEFINED AS ACCEPTABLE BY THE DESIGN TEAM AND AHJ (AS INDICATED ABOVE).

### SPECIAL INSPECTIONS:

- STEEL CONSTRUCTION: VERIFY AND/OR INSPECT STEEL CONSTRUCTION PER SBC TABLE 1704.3 AND IBC SECTIONS 1704.3 AND 1707.2. THIS INCLUDES (BUT IS NOT LIMITED TO) STRUCTURAL STEEL, HIGH STRENGTH BOLTING, AND WELDING.
- SOILS: SPECIAL INSPECTIONS OF THE EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT, AND LOAD-BEARING REQUIREMENTS PER IBC SECTIONS 1704.7.1 - 1704.7.3 ARE REQUIRED.
- SOLDIER PILE SHORING: SPECIAL INSPECTIONS OF SOLDIER PILES ARE REQUIRED PER IBC SECTIONS 1704.8 AND 1704.9.

### GEOTECHNICAL:

- GEOTECHNICAL REFERENCE: Cobalt Geoscience; Geotechnical Evaluation; Proposed Residence; 5818 W. Mercer Way; Mercer Island, WA; November 8, 2025
- 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.
- CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING, AND SHORING REQUIRED TO SAFELY RETAIN EXCAVATIONS, U.N.O.
- BACKFILL BEHIND ALL SHORING WALLS WITH WELL DRAINING, GRANULAR FILL MATERIAL, AND PROVIDE PERFORATED PIPE DRAINS AS DESCRIBED IN THE ABOVE REFERENCED SOIL REPORT.
- SHAFT EXCAVATION SHALL BE PERFORMED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER.
- PROTECT THE TOP OF SHAFT EXCAVATIONS IN ORDER TO PREVENT THE ENTRY OF SOIL OR OTHER UNDESIRABLE MATERIALS IN THE SHAFT.
- DRILLED PIER FOUNDATIONS SHALL BE INSTALLED BY DRILLING CONCENTRIC SHAFTS OF DIAMETERS INDICATED IN THE DRAWINGS.
- DESIGN CRITERIA AS OUTLINED BY THE AFOREMENTIONED GEOTECH REPORT, AND REPLICATED IN FIGURES ON THIS SHEET TO THE RIGHT, HAS BEEN USED TO DESIGN THE SHORING SYSTEM. To account for arching effects, lateral loading on the lagging can be reduced by 50 percent. Unlogged excavation heights should not exceed three feet. No portion of the excavation should remain unsupported overnight. Lagging sections may be up to 6 feet in height depending on stability. Cantilever soldier pile walls for this site may be designed based on an active lateral earth pressure of 35 pcf for level backslope conditions, provided the wall is unrestrained (not fixed; permitted to move at least 0.2 percent of the wall height). An increase in the above pressures is necessary if sloping backslope conditions will be present. This increase can be calculated using an increase of 0.75 pcf per degree of slope.
- OBSERVATION BY THE GEOTECHNICAL ENGINEER IS REQUIRED FOR THE SHORING SYSTEM INSTALLATION INCLUDING DRILLING OF PILE HOLES, INSTALLATION OF SOLDIER PILES AND LEAN MIX CONCRETE, TIEBACK INSTALLATION, GROUTING AND LOAD TESTING. A COMPLETE AND ACCURATE RECORD SHALL BE KEPT OF ALL PILE DEPTHS, QUANTITY OF LEAN MIX PER PILE, AND ANY UNUSUAL CONDITIONS ENCOUNTERED. THE CONTRACTOR SHALL PROVIDE TESTING EQUIPMENT THAT HAS BEEN CALIBRATED IN THE PAST 60 DAYS. MEASUREMENTS OF ANCHOR MOVEMENT SHALL BE OBTAINED WITH EQUIPMENT ACCURATE TO 0.001 INCH.

### LAGGING:

- ALL WOOD USED FOR LAGGING SHALL CONFORM TO "GRADING AND DRESSING RULES," WEST COAST LUMBER INSPECTION BUREAU, LATEST EDITION, MINIMUM GRADE SHALL BE HEM-FIR #2.
- ALL WOOD FRAMING IN DIRECT CONTACT WITH SOIL, CONCRETE OR EXPOSED TO WEATHER SHALL BE PRESERVE-TREATED WITH AN APPROVED PRESERVATIVE PER IBC SECTION 2303.1.8. PERMANENT SHORING WALL SYSTEMS THAT USE CUT OR DRILLED SECTIONS OF TREATED MATERIAL SHALL BE TREATED WITH AN APPROVED PRESERVATIVE PER IBC SECTION 2303.1.8. SEE IBC SECTION 2304.11 FOR ADDITIONAL REQUIREMENTS.

### CONCRETE AND GROUT:

- LEAN MIX: ALL CDF SHALL HAVE A MINIMUM OF 1-1/2 SACK (141 LBS) OF CEMENT PER CUBIC YARD OF CONCRETE. TYPE I, II, OR II PORTLAND CEMENT CONFORMING TO ASTM C150/AASHTO M85 SHALL BE USED FOR CDF.

- STRUCTURAL GROUT SHALL HAVE THE FOLLOWING PROPERTIES:  $f_c = 3000$  PSI (@ 5 DAYS), 9 SACK MIN. PUMPABLE, 8" MINIMUM SLUMP
- ADMIXTURES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C49/AASHTO M194, SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AND SHALL BE APPROVED BY THE ENGINEER
- AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C33/AASHTO M6 FOR FINE AGGREGATES AND AASHTO M80, CLASS B FOR COARSE AGGREGATES.

### STEEL

- STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON THE LATEST EDITIONS OF THE A.I.S.C. SPECIFICATIONS AND CODES.
  - SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS-ALLOWABLE STRESS AND PLASTIC DESIGN, OR LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.
  - CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, ADOPTED APRIL 14, 2010.
    - IN REFERENCE TO SECTIONS 3.1.2 AND 4.4.1, THE CONTRACT DOCUMENTS (DESIGN DRAWINGS) SHOW COMPLETE CONNECTION DETAILS FOR ALL MEMBERS EXCEPT THOSE NOTED TO BE DESIGN-BUILD ITEMS. ALTERNATE CONNECTION DETAILS REQUESTED BY THE FABRICATOR SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL VIA A REQUEST FOR INFORMATION (RFI) PRIOR TO COMPLETION OF SHOP DRAWINGS.
    - IN REFERENCE TO SECTION 3.1.6, FABRICATOR SHALL ALSO REVIEW PROJECT SPECIFICATIONS AND ARCHITECTURAL DRAWINGS TO DETERMINE PAINTING AND GALVANIZING REQUIREMENTS. MEMBERS EMBEDDED IN CONCRETE, MASONRY OR TO RECEIVE SPRAY-ON FIREPROOFING SHALL NOT BE PAINTED. DO NOT PAINT OR GALVANIZE AREAS OF PIECES TO BE FIELD WELDED, OR REMOVE PAINT AND GALVANIZING IN FIELD PRIOR TO WELDING.
    - IN REFERENCE TO SECTION 3.3, IN THE EVENT OF DISCREPANCIES BETWEEN DESIGN DRAWINGS AND SPECIFICATIONS, THE DESIGN DRAWINGS GOVERN.
    - IN REFERENCE TO SECTION 4.1, THE FABRICATOR SHALL NOT ASSUME BID PACKAGES CONSTITUTE RELEASING THE DRAWINGS FOR CONSTRUCTION WITHOUT EXPLICIT DIRECTION TO DO SO BY THE OWNER.
  - SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.
  - QUALITY CONTROL SHALL BE IN ACCORDANCE WITH AISC 360 CHAPTER N (AISC 341 CHAPTER J FOR STEEL SEISMIC SYSTEM).
 

CONTRACTOR SHALL ALSO COMPLY WITH OSHA REGULATION 29 CFR PART 1926 SUBPART R - STEEL ERECTION, PUBLISHED JANUARY 18, 2001. MISCELLANEOUS PLATES FOR GUYING CABLE ATTACHMENTS, TEMPORARY JOIST BRACING, ETC. SHALL BE ADDED AS REQUIRED.

CONTRACTOR SHALL EVALUATE COLUMNS AND PROVIDE ADEQUATE BASE PLATE SHIMS. ADDITIONAL TEMPORARY ERECTION BOLTS/CLIPS, GUYES, OR TEMPORARY BRACING AS REQUIRED PER SECTION 1926.755.
- STRUCTURAL STEEL PLATES AND RODS SHALL CONFORM TO ASTM A36,  $F_y = 36$  KSI. WIDE FLANGE STEEL SHAPES SHALL CONFORM TO ASTM A992,  $F_y = 50$  KSI. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 (36 KSI) UNLESS NOTED OTHERWISE. STEEL-TO-STEEL CONNECTION BOLTS SHALL CONFORM TO ASTM A325.
- DIMENSIONAL TOLERANCE FOR STRUCTURAL STEEL MEMBERS SHALL BE PER THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, SECTION 6.4 AND ASTM SPECIFICATION A6. UNLESS SPECIFICALLY ALLOWED BY THE ENGINEER, COLUMN MEMBERS SHALL NOT BE MODIFIED BY THE ROTARY STRAIGHTENING PROCESS.

### ANCHOR TESTING

- THE ANCHOR TESTING SHOULD BE CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE POST TENSIONING INSTITUTE (PTI) "RECOMMENDATIONS FOR PRESTRESSED ROCK AND SOIL ANCHORS." ESSENTIAL ELEMENTS OF VERIFICATION TESTS ARE AS FOLLOWS:
  - PERFORM A MINIMUM OF TWO VERIFICATIONS TESTS ON EACH ANCHOR TYPE, INSTALLATION METHOD AND SOIL TYPE WITH THE TESTED ANCHORS CONSTRUCTED TO THE SAME DIMENSIONS AS PRODUCTION ANCHORS. THE CONTRACTOR SHOULD CONSIDER PERFORMING THE VERIFICATION TESTS PRIOR TO INSTALLING PRODUCTION ANCHORS.
  - TEST LOCATIONS TO BE DETERMINED IN CONJUNCTION AND APPROVED BY THE GEOTECHNICAL ENGINEER.
  - TEST ANCHORS, WHICH WILL BE LOADED TO 200% OF THE DESIGN LOAD, MAY REQUIRE ADDITIONAL PRESTRESSING STEEL (STEEL LOAD NOT TO EXCEED 80% OF THE ULTIMATE TENSILE STRENGTH) OR REINFORCING OF THE SOLDIER PILE.
  - LOAD TEST ANCHORS TO 150% LOAD IN 25% LOAD INCREMENTS, HOLDING EACH INCREMENTAL LOAD FOR AT LEAST 5 MINUTES AND RECORDING DEFLECTION OF THE ANCHOR HEAD AT VARIOUS TIMES WITHIN EACH HOLD TO THE NEAREST 0.01 INCH.
  - AT THE 150% LOAD, THE HOLDING PERIOD SHALL BE AT LEAST 60 MINUTES.
  - AFTER COMPLETION OF THE 150% HOLD, LOAD THE ANCHOR IN 25% LOAD INCREMENTS TO THE 200% LOAD, WHICH SHALL BE HELD FOR 10 MINUTE, AND;
  - A SUCCESSFUL TEST SHALL PROVIDE A MEASURED CREEP RATE OF 0.04 INCHES OR LESS AT THE 150% LOAD BETWEEN 1 AND 10 MINUTES, AND 0.08 INCHES BETWEEN 6 AND 60 MINUTES, AND BOTH SHALL HAVE A CREEP RATE THAT IS LINEAR OR DECREASING WITH TIME. THE APPLIED LOAD MUST REMAIN CONSTANT DURING ALL HOLDING PERIODS (I.E. NO MORE THAN 5% VARIATION FROM THE SPECIFIED LOAD).

VERIFICATION TESTED ANCHORS OR EXTENDED CREEP PROOF TESTED ANCHORS NOT MEETING THE ACCEPTANCE CRITERIA WILL REQUIRE A REDESIGN BY THE CONTRACTOR TO ACHIEVE THE ACCEPTANCE CRITERIA.

ALL PRODUCTION ANCHORS SHOULD BE PROOF TESTED TO 130% OF THE DESIGN LOAD. THE ANCHOR TESTING SHOULD BE CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE POST TENSIONING INSTITUTE (PTI) "RECOMMENDATIONS FOR PRESTRESSED ROCK AND SOIL ANCHORS." ESSENTIAL ELEMENTS OF PROOF TESTS ARE SUMMARIZED BELOW:

- LOAD TEST ALL PRODUCTION ANCHORS TO 130% OF THE DESIGN LOAD IN 25% LOAD INCREMENTS, HOLDING EACH INCREMENTAL LOAD UNTIL A STABLE DEFLECTION IS ACHIEVED (RECORD DEFLECTION OF THE ANCHOR HEAD AT VARIOUS TIMES WITHIN EACH HOLD TO THE NEAREST 0.01 INCH).
- AT THE 130% LOAD, THE HOLDING PERIOD SHALL BE AT LEAST 10 MINUTES.
- A SUCCESSFUL TEST SHALL PROVIDE A MEASURED CREEP RATE OF 0.04 INCHES OR LESS AT THE 150% LOAD BETWEEN 1 AND 10 MINUTES WITH A CREEP RATE THAT IS LINEAR OR DECREASING WITH TIME. THE APPLIED LOAD MUST REMAIN CONSTANT DURING THE HOLDING PERIOD (I.E. NO MORE THAN 5% VARIATION FROM THE 130% LOAD). ANCHORS FAILING THIS PROOF TESTING CREEP ACCEPTANCE CRITERIA MAY BE HELD AN ADDITIONAL 50 MINUTES FOR CREEP MEASUREMENT. ACCEPTABLE PERFORMANCE WOULD EQUATE TO A CREEP OF 0.08 INCHES OR LESS BETWEEN 5 AND 50 MINUTES WITH A LINEAR OR DECREASING CREEP RATE.

### WALL DRAINAGE

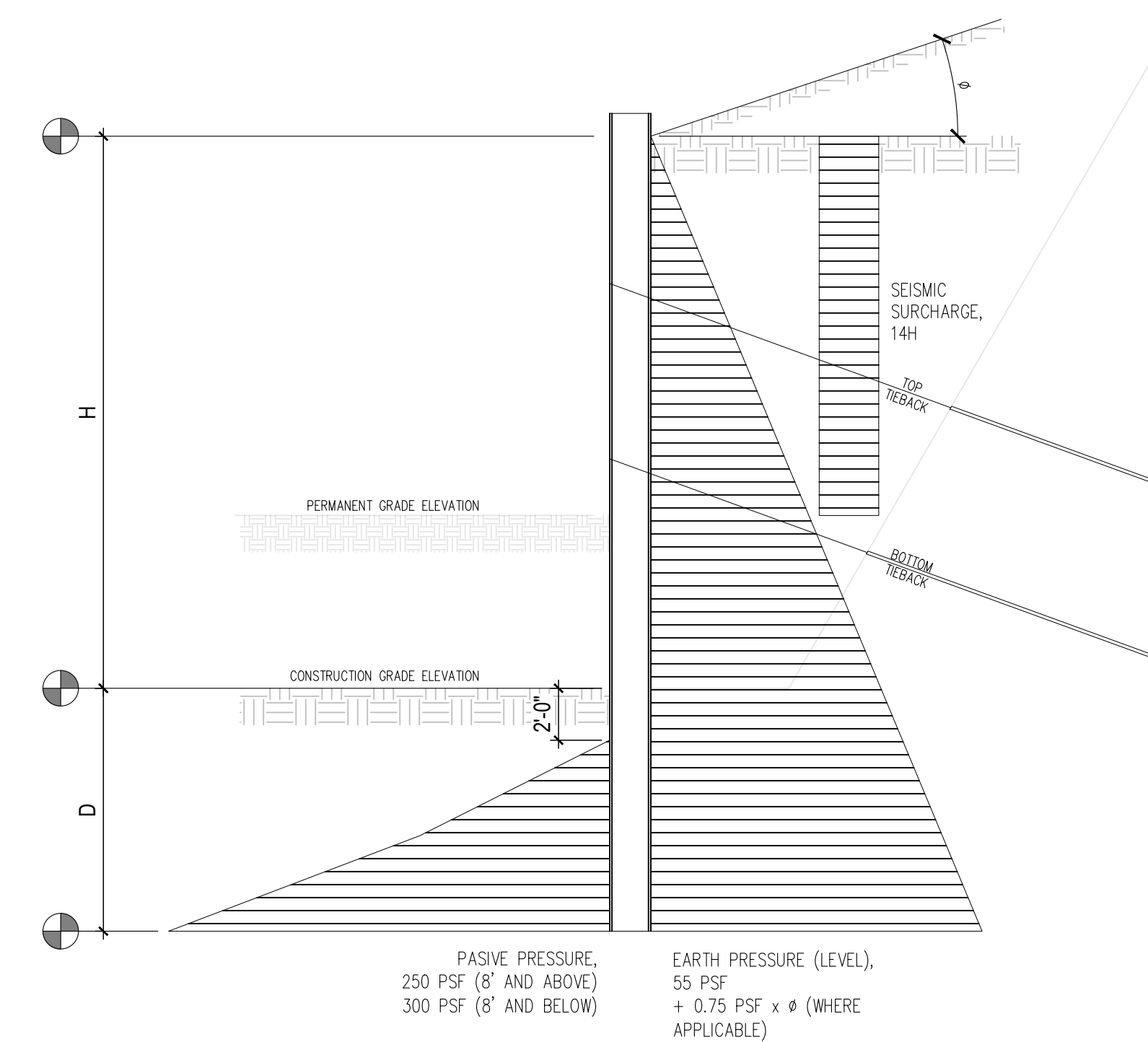
- THE DRAINAGE NETWORK SHALL CONSIST OF INSTALLING THE PREFABRICATED GEOCOMPOSITE DRAINAGE STRIPS, PVC, CONNECTION PIPES, AND WALL FOOTING DRAINS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. EXCLUSIVE OF THE WALL FOOTING DRAINS, ALL ELEMENTS OF THE DRAINAGE NETWORK SHALL BE INSTALLED PRIOR TO SHOTCRETING OR CASTING CONCRETE WALLS AGAINST SHORING.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A DRY EXCAVATION FACE AND A DRY SUBGRADE. THE STATIC GROUNDWATER TABLE OCCURS BELOW THE BOTTOM OF THE PROPOSED EXCAVATION. HOWEVER, PERCHED WATER TABLES MAY BE ENCOUNTERED ABOVE THE STATIC GROUNDWATER LEVEL. IN THE EVENT OF GROUND WATER INFILTRATION, THE CONTRACTOR IS REQUIRED TO DEWATER THE GROUND SUCH THAT THE GROUNDWATER LEVEL IS MAINTAINED AT LEAST 3 FEET BELOW THE MAXIMUM EXCAVATION LEVELS. THE CONTRACTOR SHALL PROVIDE THE DEWATERING PLAN TO THE ENGINEER FOR REVIEW. NO EXCAVATION FOR SHORING SHOULD EXTEND BELOW THE WATER TABLE UNTIL THE GROUND IS PROPERLY DEWATERED. ANY FACE STABILITY PROBLEMS THAT RESULT FROM INADEQUATE DEWATERING ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE POSITIVE CONTROL AND DISCHARGE OF ALL SURFACE WATER ENCOUNTERED DURING CONSTRUCTION TO THE EXTENT NECESSARY TO PREVENT ADVERSE CONDITIONS AS DETERMINED BY THE OWNER'S REPRESENTATIVE. DAMAGE CAUSED BY THE FAILURE TO CONTROL SURFACE WATER SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER. SURFACE WATER RUNOFF FLOW AND FLOWS FROM EXISTING SUBSURFACE DRAINAGE FEATURES SHOULD BE CAPTURED INDEPENDENTLY OF THE WALL DRAINAGE NETWORK AND CONVEYED TO AN OUTFALL STRUCTURE OR STORM SEWER AS DETERMINED BY THE OWNER'S REPRESENTATIVE. REMEDIAL MEASURES FOR EXISTING SUBSURFACE DRAINAGE FEATURES ENCOUNTERED DURING THE WORK WHICH WERE NOT IDENTIFIED ON THE PLANS WILL BE PAID FOR AS EXTRA WORK PER THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONDITION AND MAINTENANCE OF ANY PIPE OR CONDUIT USED TO CONTROL SURFACE WATER DURING CONSTRUCTION. UPON SUBSTANTIAL COMPLETION OF THE WORK, SURFACE WATER CONTROL PIPES OR CONDUITS SHALL BE REMOVED FROM THE SITE. ALTERNATIVELY PIPES OR CONDUITS THAT ARE LEFT IN PLACE WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE SHALL BE FULLY GROUTED (ABANDONED) OR LEFT IN A MANNER THAT PROTECTS THE STRUCTURE AND ALL ADJACENT FACILITIES FROM MIGRATION OF FINES THROUGH THE PIPE OR CONDUIT AND POTENTIAL GROUND LOSS.

## PILE SCHEDULE

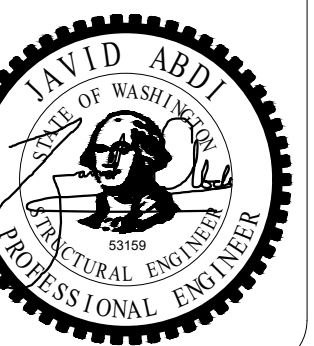
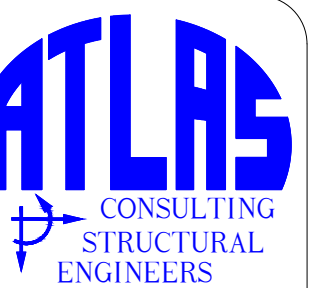
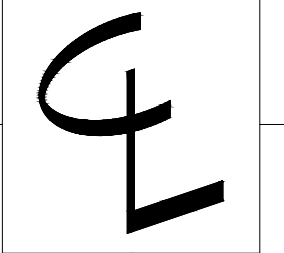
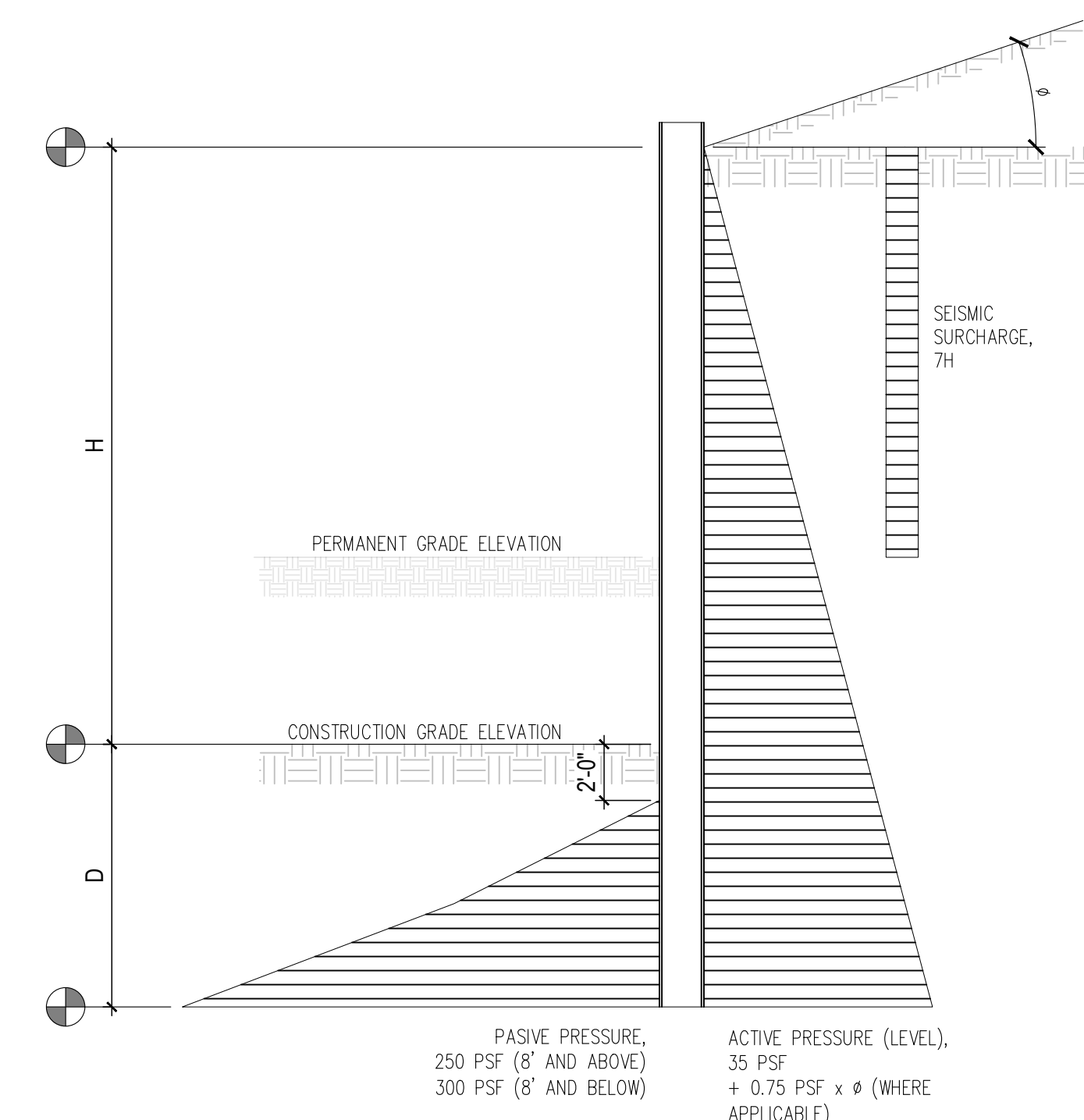
PILE #	AUGER # (FT)	WIDE FLANGE	EMBEDMENT DEPTH ' (FT)	MAX OR AVERAGE RETAINING HEIGHT ' (FT)	TYPE		MIN. TOP OF PILE ELEVATION	BOTTOM OF EXCAVATION	BOTTOM OF PILE	TOP TIEBACK (SEE NOTE)			BOTTOM TIEBACK (SEE NOTE)		
					ELEVATION	ANGLE				LOAD (KIPS)	ELEVATION	ANGLE	LOAD (KIPS)		
S1	2'-0"	W12x16	13.00'	7'-0" (LEVEL)	CANTILEVER	TEMPORARY	191.90'	185.00'	172.00'	--	--	--	--	--	--
S2	2'-0"	W12x16	13.00'	7'-0" (LEVEL)	CANTILEVER	TEMPORARY	191.90'	185.00'	172.00'	--	--	--	--	--	--
S3	2'-0"	W14x26	16.00'	10'-0" (LEVEL)	CANTILEVER	TEMPORARY	195.10'	185.00'	169.00'	--	--	--	--	--	--
S4	2'-0"	W16x40	17.00'	12'-0" (LEVEL)	CANTILEVER	TEMPORARY	197.10'	185.00'	168.00'	--	--	--	--	--	--
S5	2'-0"	W18x50	18.75'	13'-6" (LEVEL)	CANTILEVER	TEMPORARY	198.40'	185.00'	166.25'	--	--	--	--	--	--
S6	2'-0"	W18x55	19.25'	14'-0" (LEVEL)	CANTILEVER	TEMPORARY	199.10'	185.00'	165.75'	--	--	--	--	--	--
S7	2'-0"	W18x65	20.00'	14'-9" (LEVEL)	CANTILEVER	TEMPORARY	199.70'	185.00'	165.00'	--	--	--	--	--	--
E1	2'-0"	W16x36	13.00'	24'-6" (33° RETAINED SLOPE)	TIEBACK	PERMANENT	209.50'	185.00'	172.00'	201.00'	20'	35.4 K	194.50'	20'	42.7 K
E2	2'-0"	W16x67	15.75'	25'-0" (33° RETAINED SLOPE)	TIEBACK	PERMANENT	210.00'	185.00'	169.25'	201.50'	20'	71.2 K	195.00'	20'	95.3 K
E3	2'-0"	W16x77	16.00'	25'-6" (33° RETAINED SLOPE)	TIEBACK	PERMANENT	210.50'	185.00'	169.00'	202.00'	20'	72.3 K	195.50'	20'	100.0 K
E4	2'-0"	W16x67	15.75'	25'-0" (33° RETAINED SLOPE)	TIEBACK	PERMANENT	210.00'	185.00'	169.25'	201.50'	20'	71.2 K	195.00'	20'	95.3 K
E5	2'-0"	W16x67	15.75'	25'-0" (33° RETAINED SLOPE)	TIEBACK	PERMANENT	210.00'	185.00'	169.25'	201.50'	20'	71.2 K	195.00'	20'	95.3 K
E6	2'-0"	W16x67	15.75'	25'-0" (33° RETAINED SLOPE)	TIEBACK	PERMANENT	210.00'	185.00'	169.25'	201.50'	20'	71.2 K	195.00'	20'	95.3 K
E7	2'-0"	W16x67	15.75'	25'-0" (33° RETAINED SLOPE)	TIEBACK	PERMANENT	210.00'	185.00'	169.25'	201.50'	20'	71.2 K	195.00'	20'	95.3 K
E8	2'-0"	W16x36	13.25'	21'-6" (33° RETAINED SLOPE)	TIEBACK	PERMANENT	210.00'	188.50'	175.25'	201.50'	20'	71.2 K	195.00'	20'	64.9 K
E9	2'-0"	W16x40	12.50'	18'-0" (33° RETAINED SLOPE)	TIEBACK	PERMANENT	209.50'	192.00'	179.50'	201.00'	20'	86.7 K	--	--	--
E10	2'-0"	W16x26	10.25'	15'-3" (33° RETAINED SLOPE)	TIEBACK	PERMANENT	208.50'	193.25'	183.25'	200.00'	20'	69.1 K	--	--	--
E11	2'-0"	W18x60	22.75'	11'-0" (31° RETAINED SLOPE)	CANTILEVER	PERMANENT	208.50'	198.50'	175.75'	--	--	--	--	--	--
E12	2'-0"	W18x60	22.75'	11'-0" (31° RETAINED SLOPE)	CANTILEVER	PERMANENT	208.50'	198.50'	175.75'	--	--	--	--	--	--
E13	2'-0"	W18x45	20.25'	8'-6" (31° RETAINED SLOPE)	CANTILEVER	PERMANENT	207.00'	198.50'	178.25'	--	--	--	--	--	--
E14	2'-0"	W19x26	15.75'	6'-0" (31° RETAINED SLOPE)	CANTILEVER	PERMANENT	206.00'	201.50'	185.75'	--	--	--	--	--	--

NOTE: THE MANNER IN WHICH THE TIEBACK ANCHORS CARRY LOAD WILL DEPEND ON THE TYPE OF ANCHOR SELECTED, THE METHOD OF INSTALLATION, AND THE SOIL CONDITIONS SURROUNDING THE ANCHOR. PER THE GEOTECH REPORT REFERENCED IN US#11, THE TIEBACK LOADS NOTED ABOVE AND ANY ADDITIONAL RECOMMENDATIONS AND/OR REPORTS FROM THE GEOTECHNICAL ENGINEER SHALL BE USED BY THE SHORING CONTRACTOR TO SELECT AND INSTALL SUITABLE TIEBACKS. TIEBACK ANCHORS SHALL BE CAPABLE OF SATISFACTORILY ACHIEVING THE ABOVE DESIGN STRUCTURAL LOADS, WITH A PULLOUT RESISTANCE FACTOR OF SAFETY OF AT LEAST 2. PERMANENT ANCHORS REQUIRE ADDITIONAL CONSIDERATION AND SHALL BE REVIEWED AND APPROVED BY THE GEOTECHNICAL AND STRUCTURAL ENGINEER.

## TIEBACK SOLDIER PILE SHORING WALL SOIL PRESSURE DIAGRAM



## CANTILEVERED SOLDIER PILE SHORING WALL SOIL PRESSURE DIAGRAM



5818 West Mercer  
Mercer Island

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General Shoring Notes

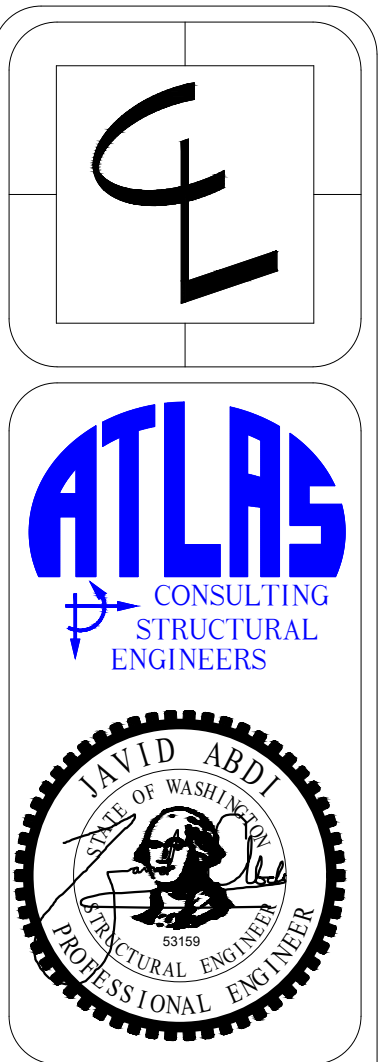
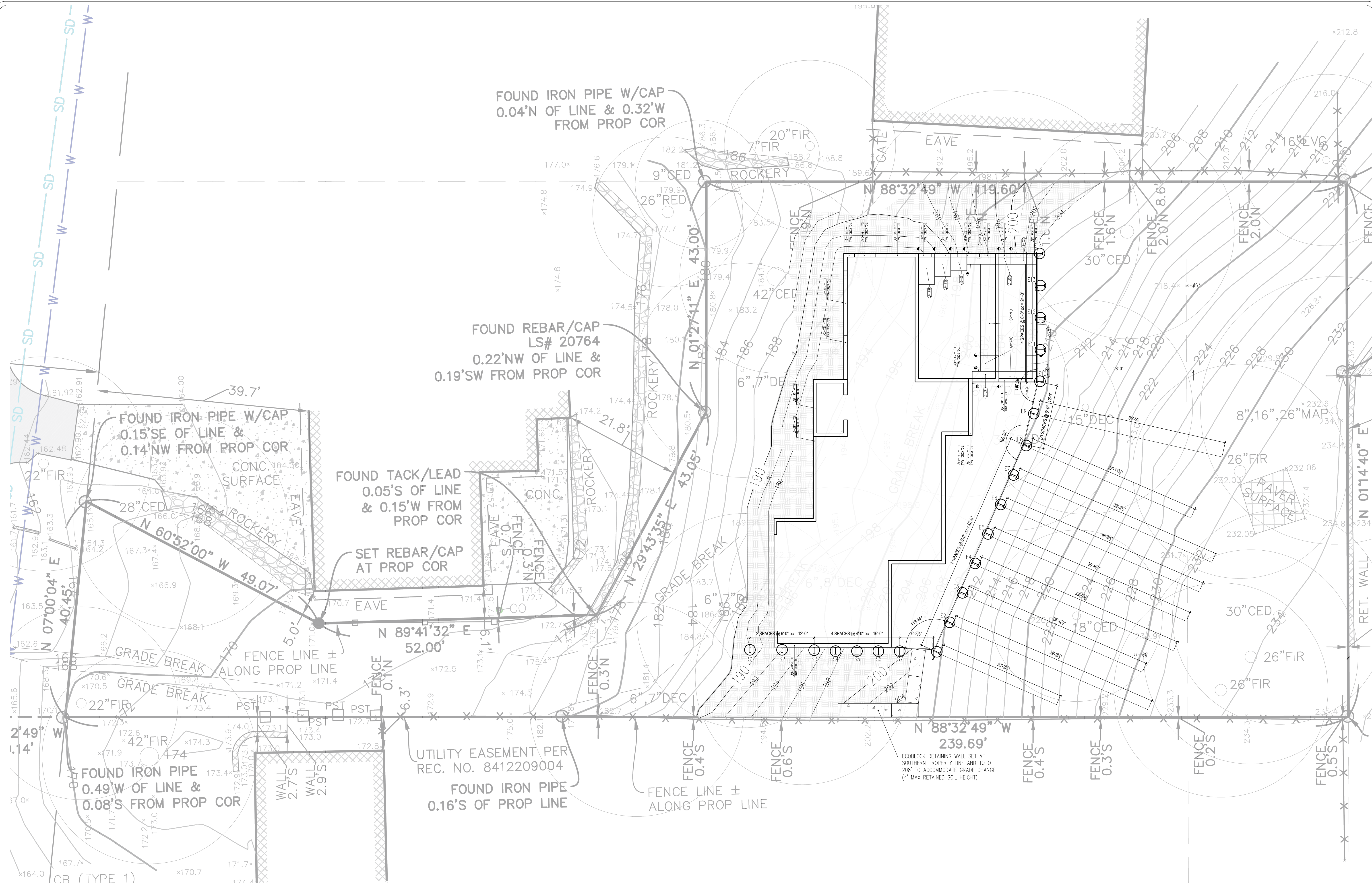
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JDA

### DATE

01.03.25  
06.09.25

SH0.1



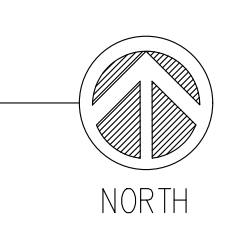
**5818 West Mercer**  
Mercer Island

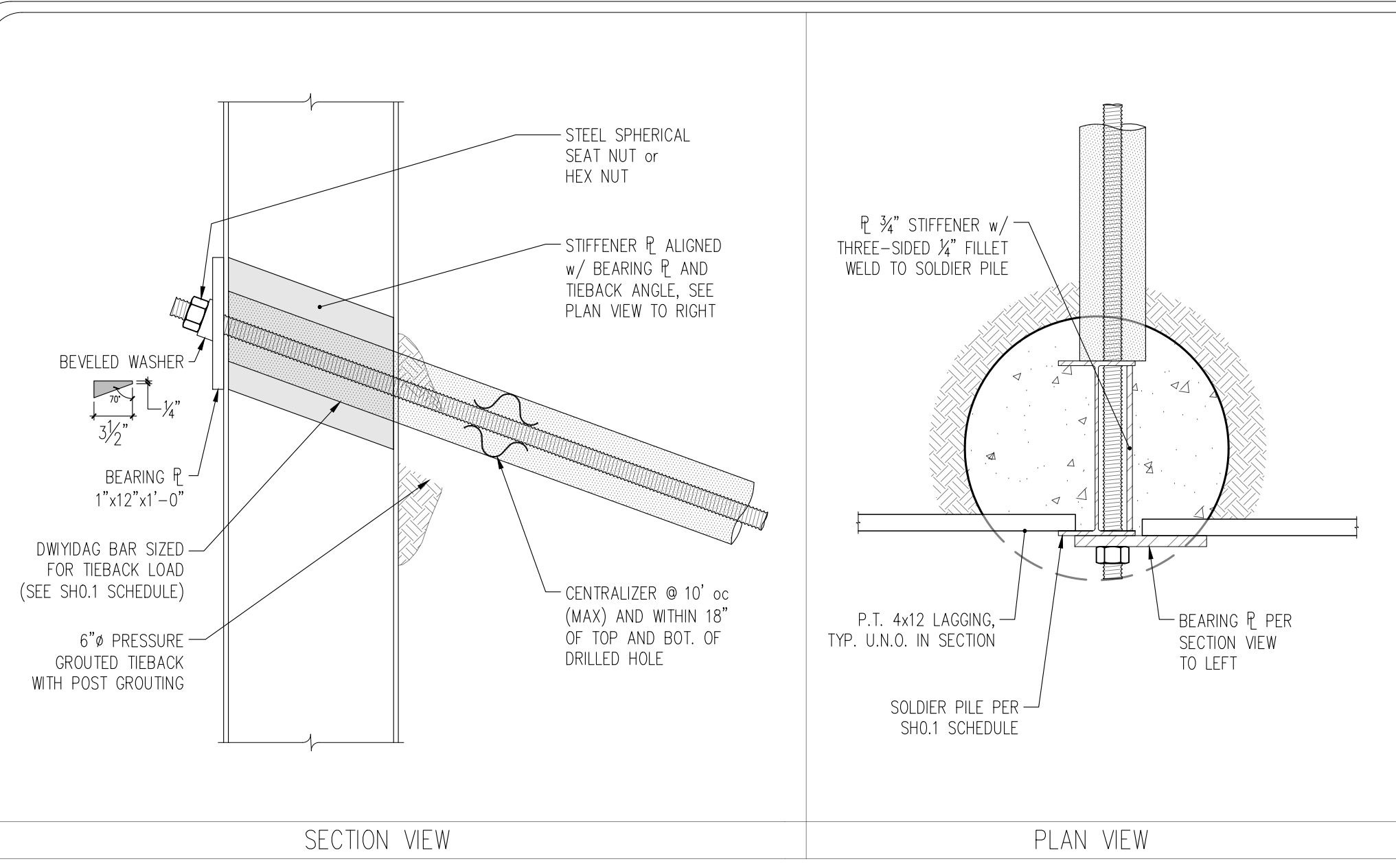
**CONTENTS**  
Temporary  
Grading and  
Shoring Plan

**DRAWN BY**  
JDA  
**DATE**  
01.03.25  
06.09.25

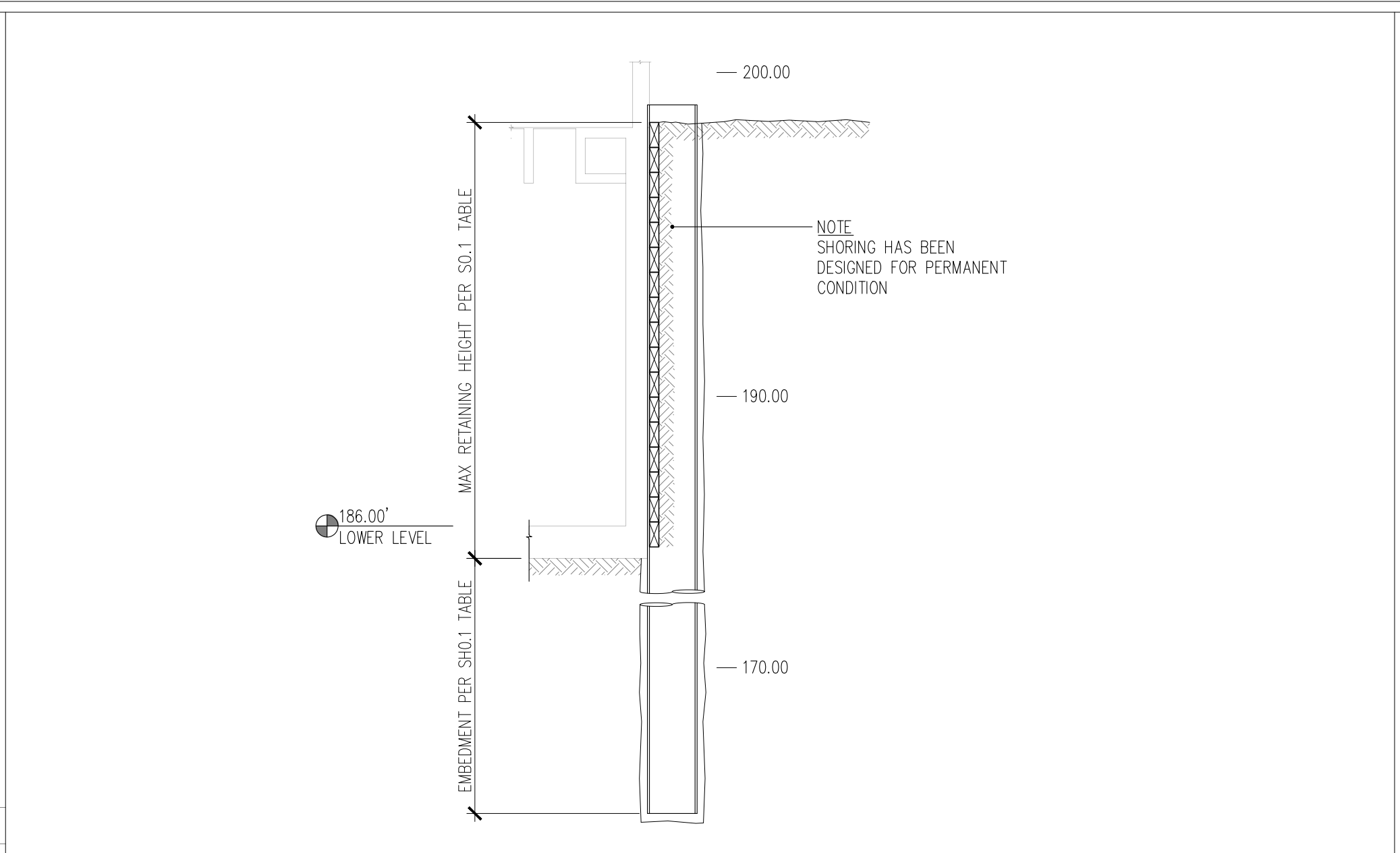
**SH1.1**

1 TEMPORARY GRADING AND SHORING PLAN  
SH1.1 1/8" = 1'-0"

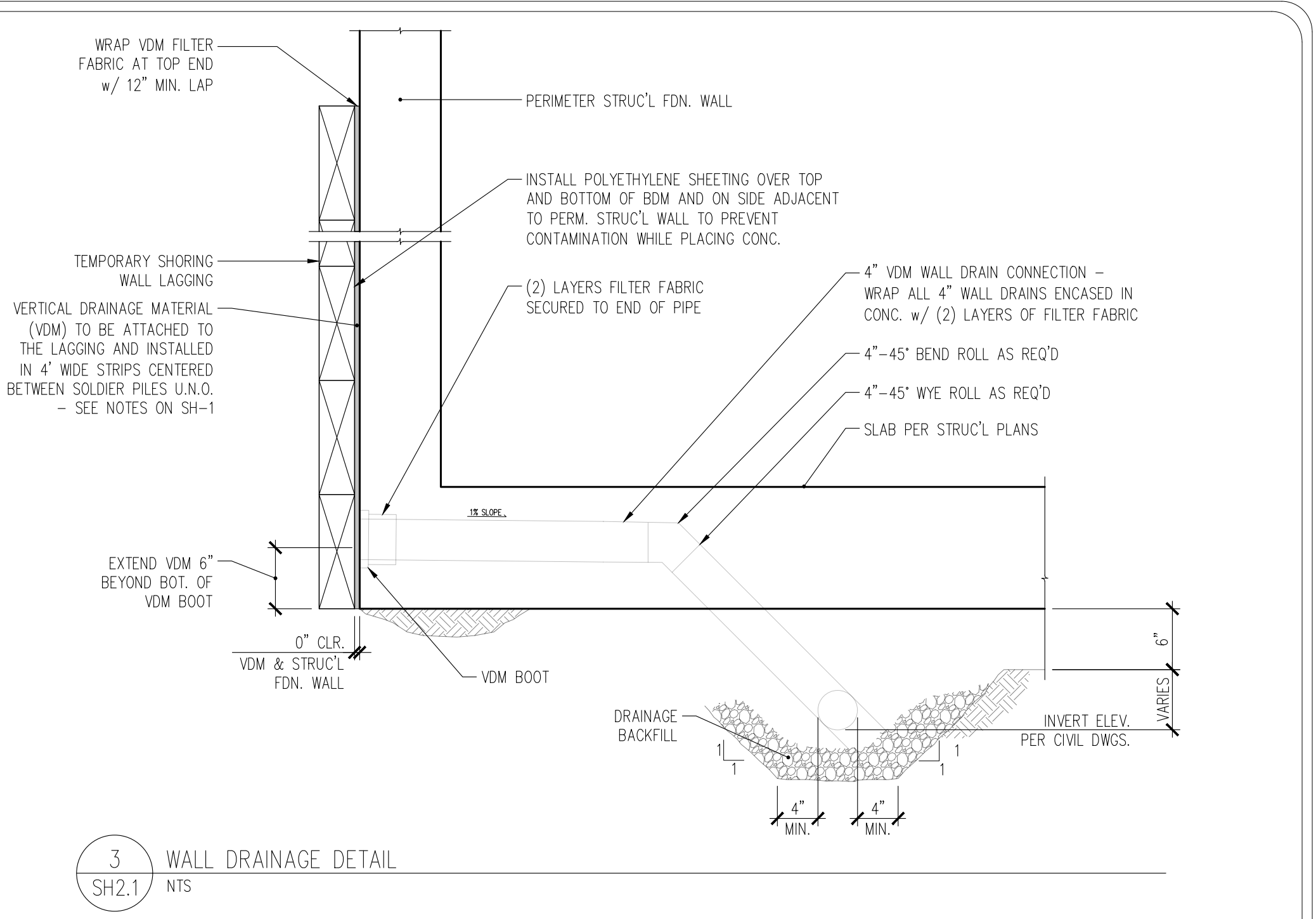




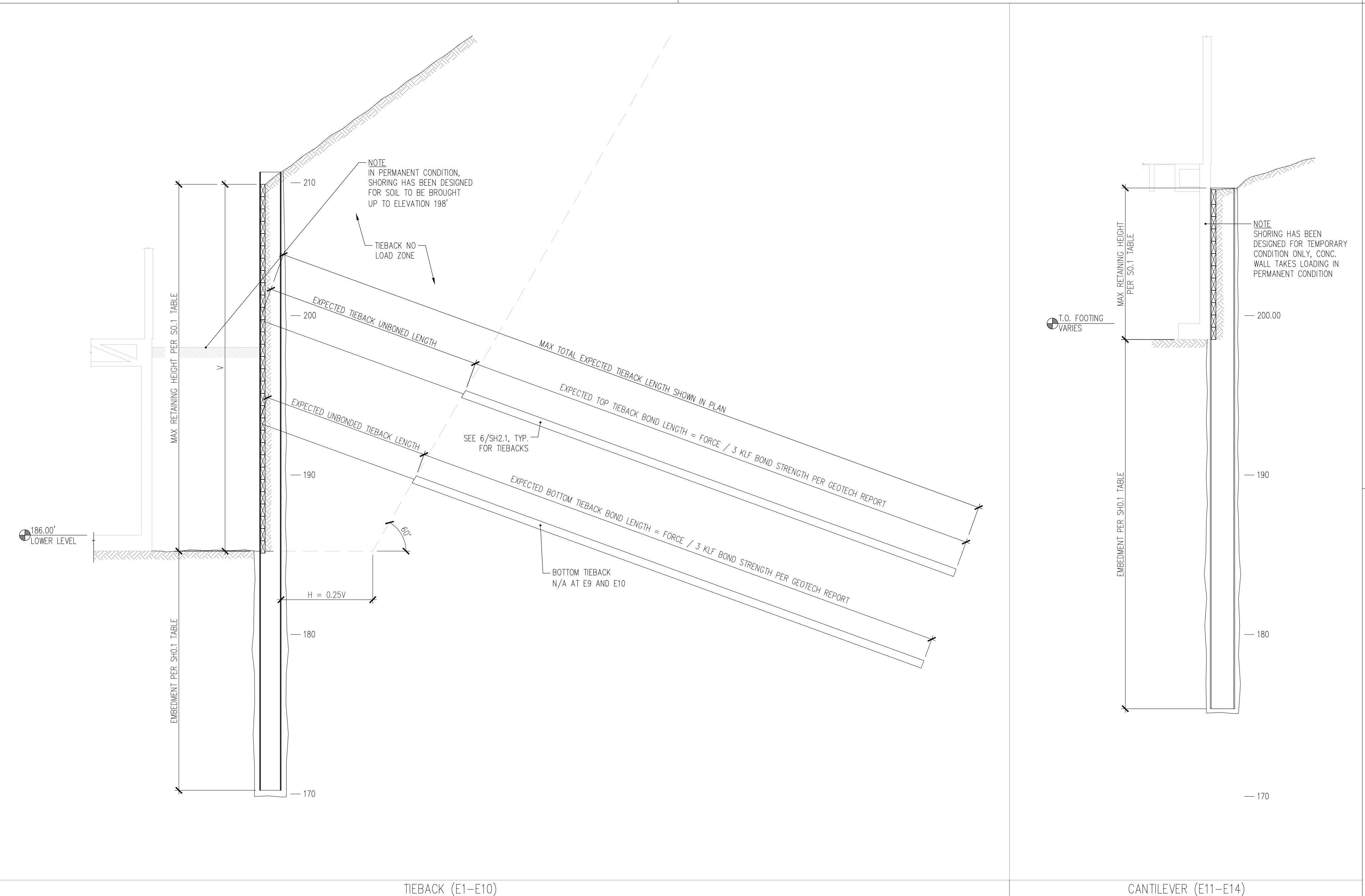
6 TIEBACK DETAIL  
1/4" = 1'-0"



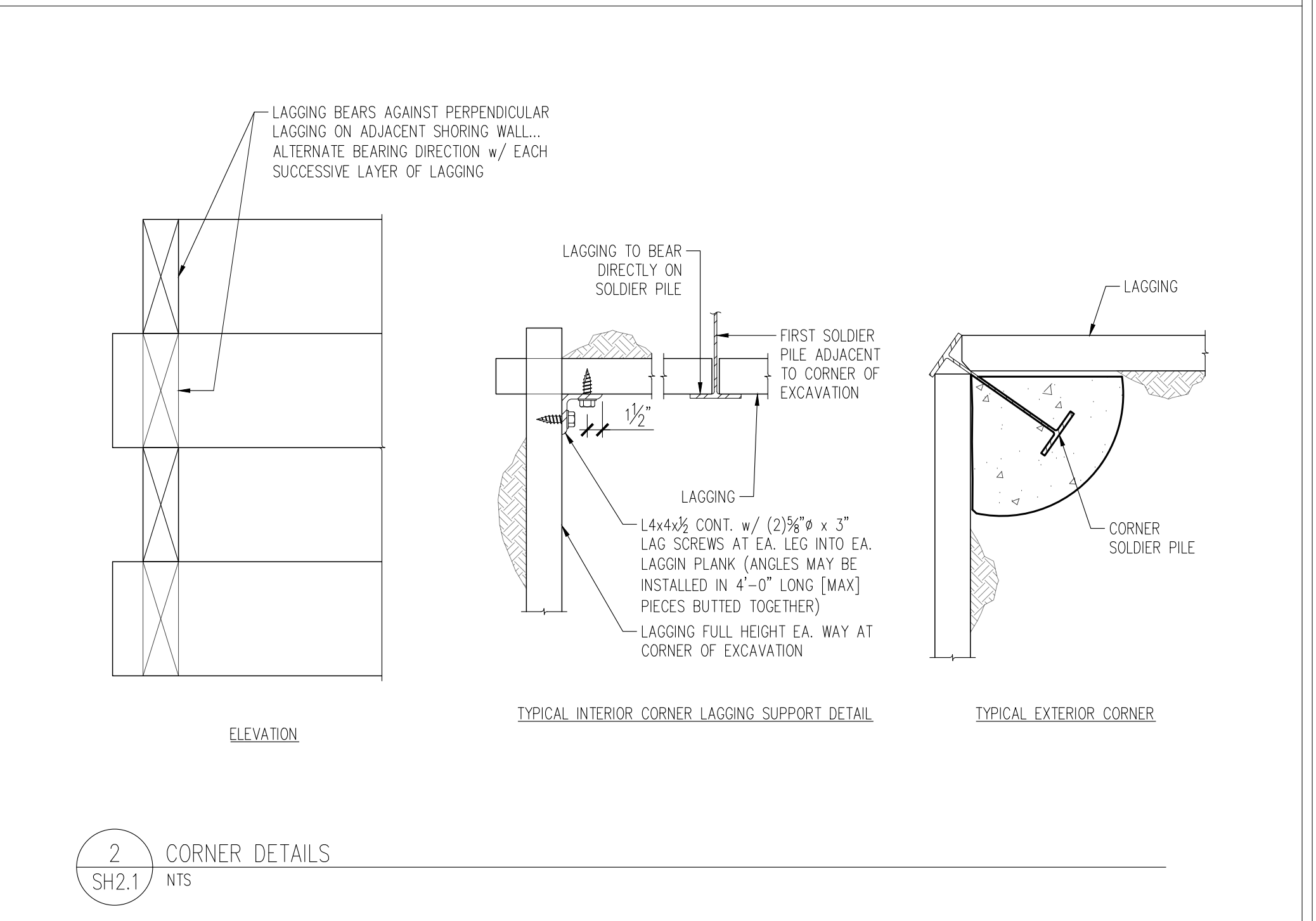
6 CANTILEVERED SOLDIER PILE SECTION (S1 - S7)  
1/4" = 1'-0"



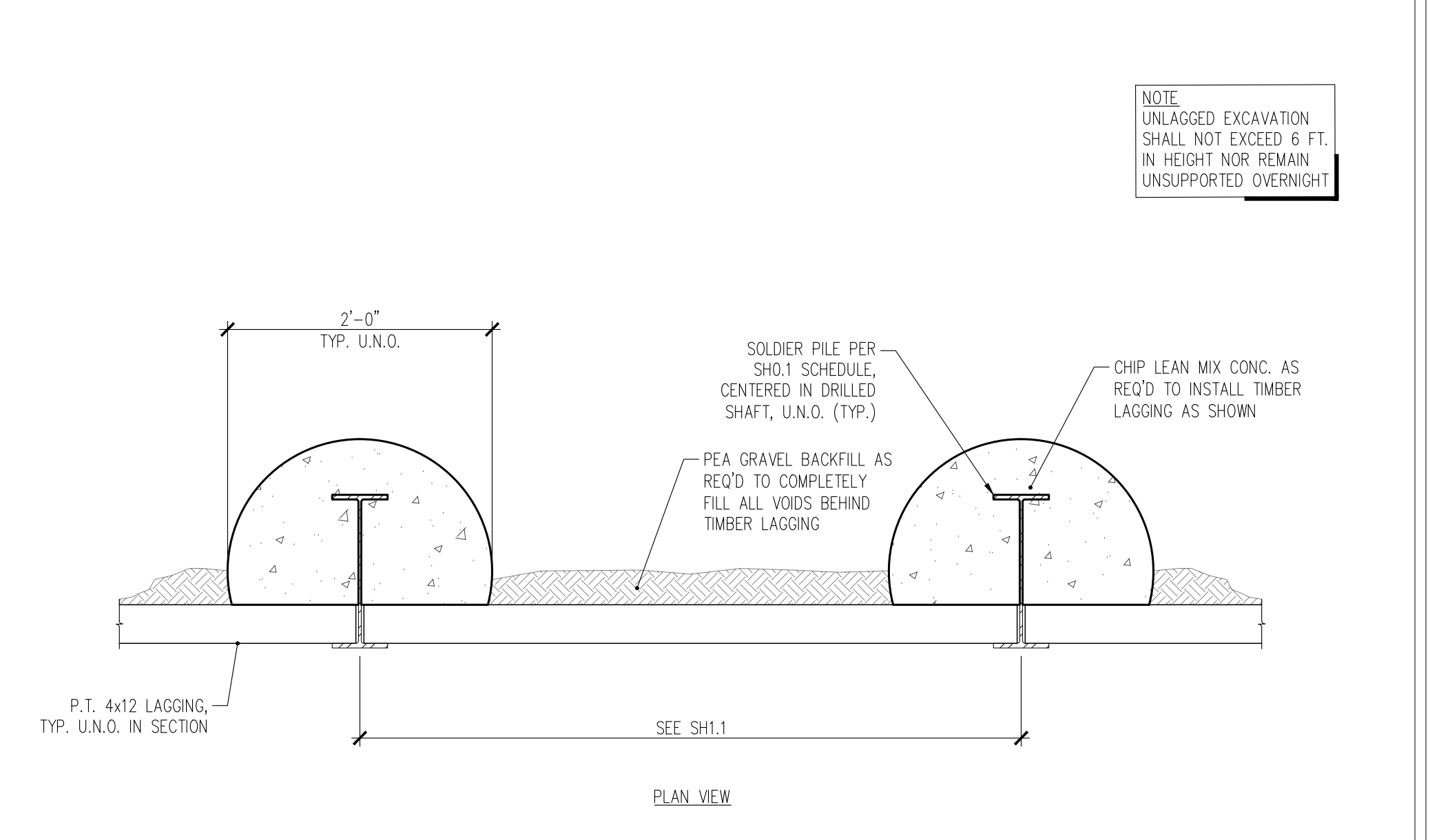
3 WALL DRAINAGE DETAIL  
NTS



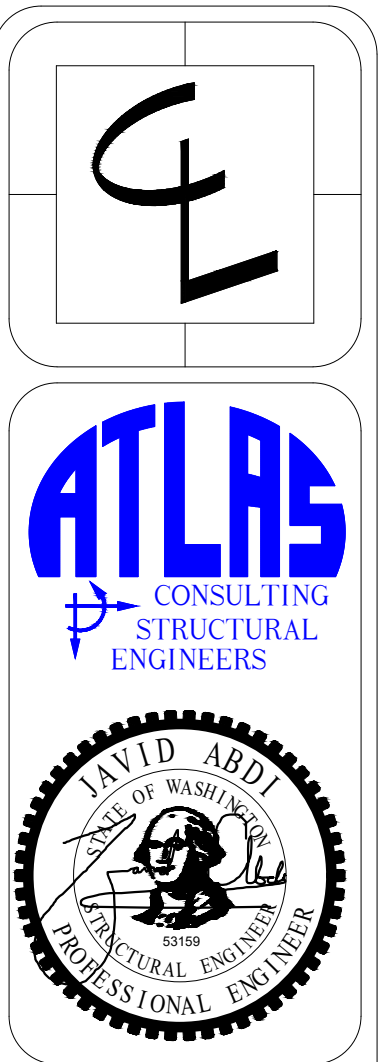
7 TIEBACK SOLDIER PILE SECTION (E1 - E10) AND CANTILEVERED SOLDIER PILE SECTION (E11 - E14)  
1/4" = 1'-0"



2 CORNER DETAILS  
NTS



1 TYPICAL PILE/SHAFT LAGGING DETAIL  
NTS



5818 West Mercer  
Mercer Island

CONTENTS  
Shoring  
Details  
DRAWN BY  
JDA  
DATE  
01.03.25  
06.09.25

SH2.1

TREE PROTECTION DETAIL

TREE PROTECTION AREA (TPZ)

**KEEP OUT!**

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

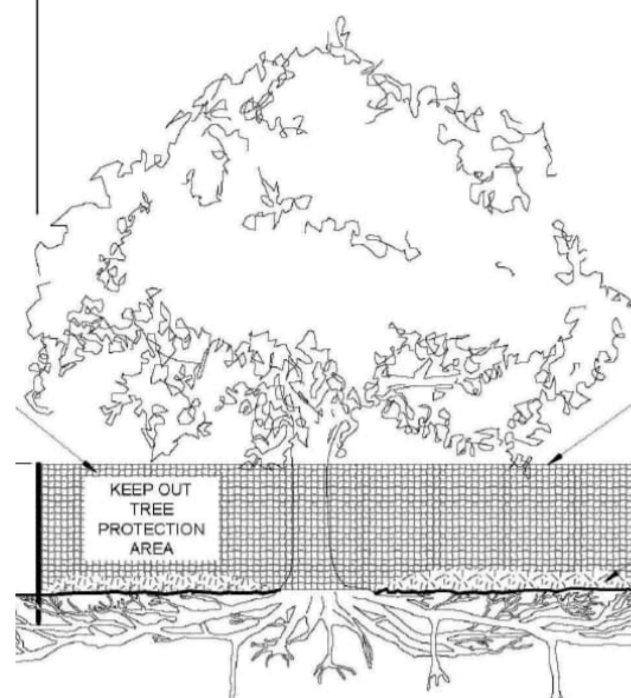
Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

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](mailto:john.kenney@mercergov.org).
5. 5" course woodchips within the tree protection zone, but not against the tree trunk.

Crown drip line or other limit of Tree Protection area. See Site/Utility Plan for fence alignment.



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](mailto:john.kenney@mercergov.org)

EROSION CONTROL LEGEND

LIMITS OF DISTURBANCE	-----		
FILTER FABRIC FENCE (SILT FENCE)	-----	SF	-----
STABILIZED CONSTRUCTION ENTRANCE	-----	CE	-----
CATCH BASIN INLET PROTECTION	-----	IP	-----
TREE PROTECTION FENCING ALSO SEE C1.2	-----	TP	-----
STRAW WATTLES	-----	SW	-----
PLASTIC COVERING	-----	PC	-----
STOCKPILE	-----	SP	-----
COMPOST SOCK	-----	CS	-----
COMPOST BERM	-----	CB	-----
DUST CONTROL	-----	DC	-----
MULCHING, MATTING, & COMPOST BLANKETS	-----	MU	-----

USE AS NEEDED  
COVER EXPOSED AREAS WITHIN MERCER ISLAND TIME LIMIT  
SEDIMENT CONTROL OPTION RECOMMENDED IN LIEU OF SILT FENCE  
SEDIMENT CONTROL OPTION RECOMMENDED IN LIEU OF SILT FENCE

SOIL AMENDMENT REQUIRED

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

ESTIMATED TOPSOIL IMPORT = 45 CY

TREE LEGEND

----- EXCEPTIONAL TREE

WET SEASON RESTRICTION (OCT 1-APRIL 1)

LAND CLEARING, GRADING, FILLING, AND FOUNDATION WORK ARE NOT PERMITTED BETWEEN OCTOBER 1 AND APRIL 1 WITHIN LANDSLIDE HAZARD AREAS, OR IF MORE THAN 2,000 SQUARE FEET OF DISTURBANCE IS PROPOSED IN AN EROSION HAZARD AREA.

THE BUILDING OFFICIAL MAY DETERMINE THAT ISSUING A BUILDING PERMIT FOR WORK THAT WOULD BE PROHIBITED BY THESE LIMITATIONS IS NOT PRACTICABLE DURING THE REGULATED SEASON OR UNLESS A SEASONAL DEVELOPMENT LIMITATION WAIVER IS ISSUED. (SEE MICC 17.14.010 SECTION 105.3.1)

A WAIVER TO THIS SEASONAL DEVELOPMENT LIMITATION MAY BE GRANTED IF COMPELLING JUSTIFICATION IS DEMONSTRATED AND SUPPORTED BY A GEOTECHNICAL EVALUATION OF THE SITE AND PROPOSED CONSTRUCTION ACTIVITIES.

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 PROTECTION REQUIREMENTS

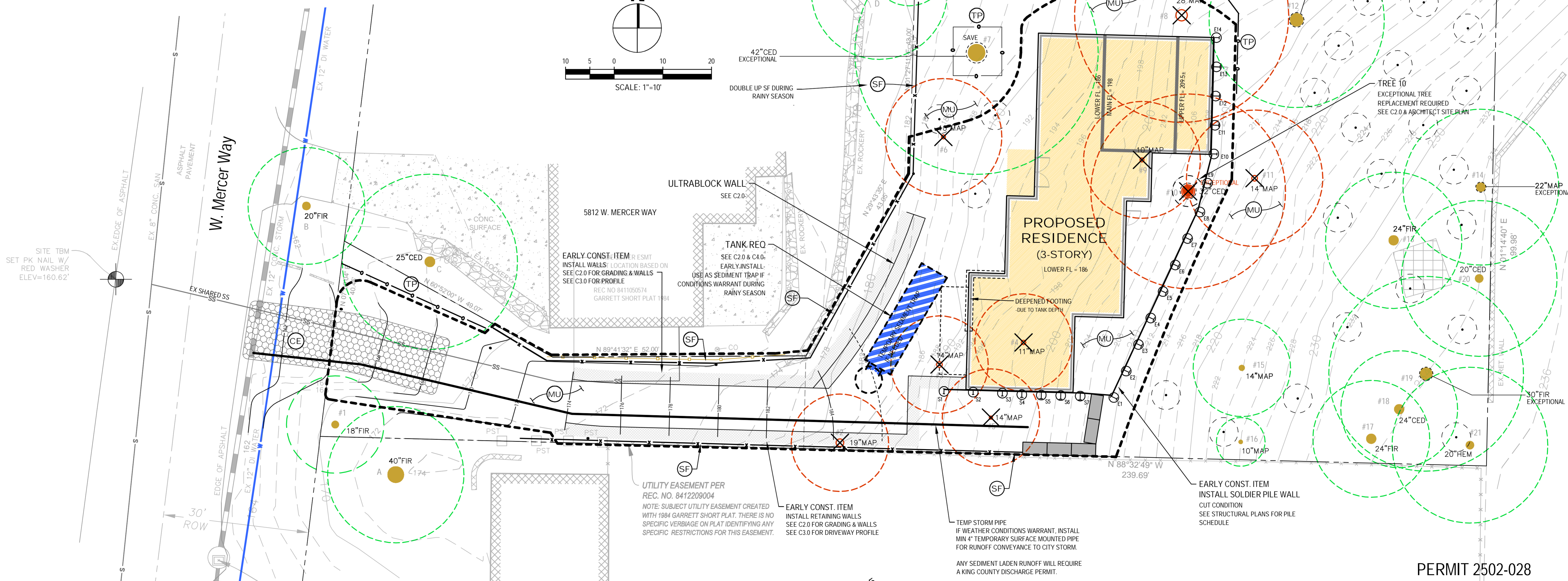
SEE SHEET C1.2 FOR TREE PROTECTION REQUIREMENTS PER REPORT BY SCOTT SHELBY CONSULTING

EROSION HAZARD NOTES: GEOTECHNICAL ENGINEER

Erosion Hazard

The Natural Resources Conservation Services (NRCS) maps for King County indicate that the site is underlain by Alderwood gravelly sandy loam (8 to 15 percent slopes) and Kitsap silt loam (2 to 8 percent slopes). These soils would have a slight to moderate erosion potential in a disturbed state depending on the slope magnitude.

It is our opinion that soil erosion potential at this project site can be reduced through landscaping and surface water runoff control. Typically, erosion of exposed soils will be most noticeable during periods of rainfall and may be controlled by the use of normal temporary erosion control measures, such as silt fences, hay bales, mulching, control ditches and diversion trenches. The typical wet weather season, with regard to site grading, is from October 31<sup>st</sup> to April 1<sup>st</sup>. Erosion control measures should be in place before the onset of wet weather.

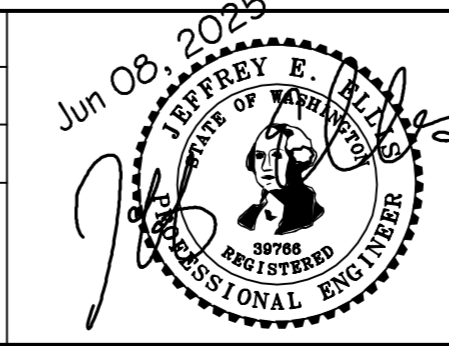


PERMIT 2502-028

NO.	DATE	BY	REVISIONS

APPLICANT: ARTOUSH CONSTRUCTION REMODELING LLC	DATE: Jun 08, 2025
	JOB#: 2105
	DRAFTED: SS DESIGN: SS
	DIGITAL SIGNATURE

DATE: Jun 08, 2025
JOB#: 2105
DRAFTED: SS DESIGN: SS
DIGITAL SIGNATURE



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701 N 36th STREET, SUITE 450 SEATTLE, WA 98103  
206.930.0342 [DUFFY@CESOLUTIONS.US](mailto:DUFFY@CESOLUTIONS.US)

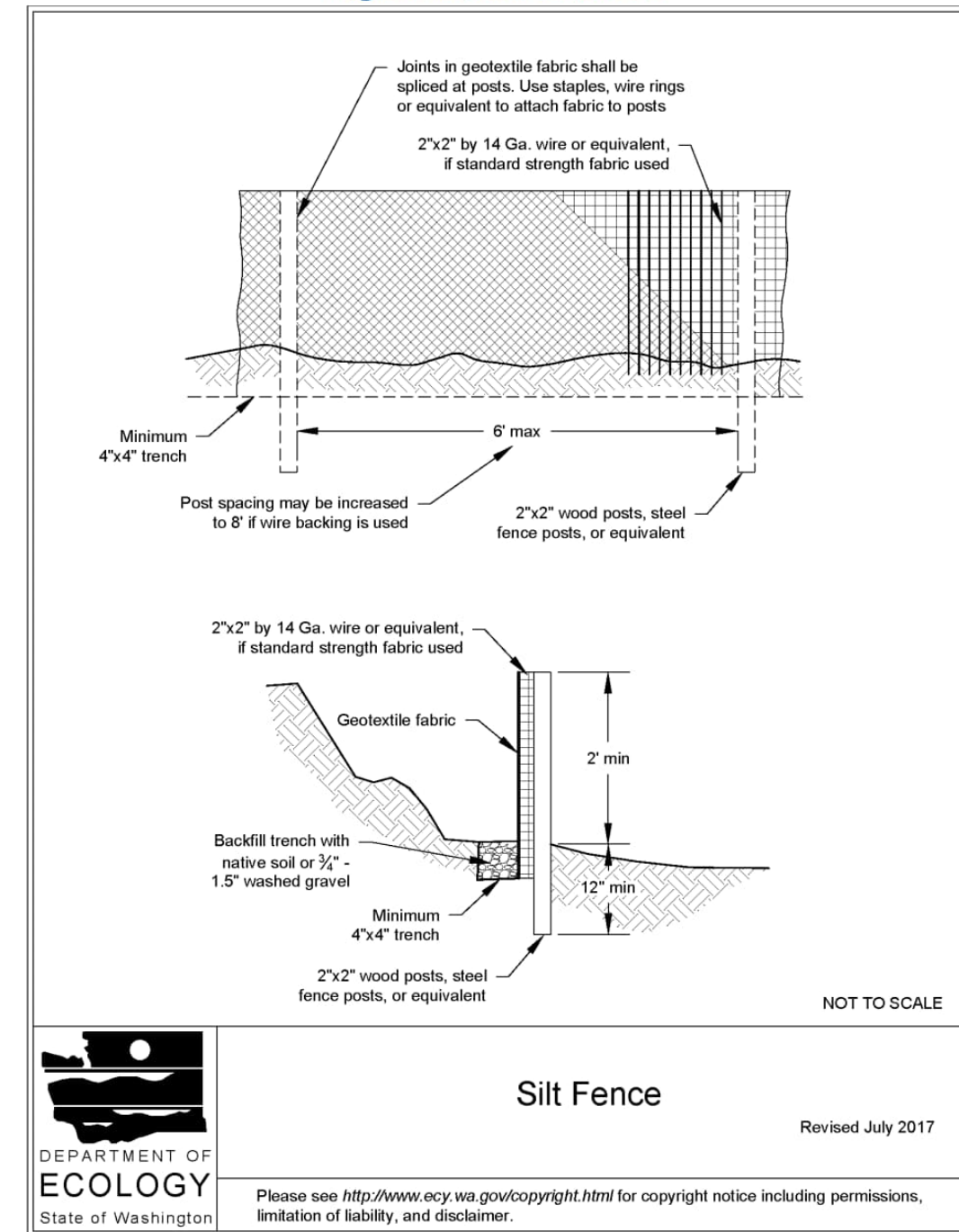
**TESC PLAN**  
PROPOSED RESIDENCE  
5818 WEST MERCER WAY, MERCER ISLAND, WA 98040

DRAWING NO: <b>C1.0</b>
APN 157470-0170 #2502-28

**SILT FENCE DETAIL**

DOE

Figure II-3.22: Silt Fence



**Silt Fence**  
Revised July 2017  
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**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:

- HOLD AN ONSITE PRE-CONSTRUCTION MEETING.
- POST SIGN WITH NAME AND PHONE NUMBER OF ESC SUPERVISOR (MAY BE CONSOLIDATED WITH THE REQUIRED NOTICE OF CONSTRUCTION SIGN).
- FLAG OR FENCE CLEARING LIMITS.
- INSTALL CATCH BASIN PROTECTION, IF REQUIRED.
- GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
- INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
- CONSTRUCT SEDIMENT PONDS AND TRAPS.
- GRADE AND STABILIZE CONSTRUCTION ROADS.
- CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
- MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
- 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.
- 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.
- STABILIZE ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.
- SEED, SOD, STABILIZE, OR COVER ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
- UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS AND REMOVE BMP'S 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.

**ARBORIST TREE PROTECTION REQUIREMENTS**

Tree Protection Specifications  
The following is a list of protection measures that must be employed before, during and after construction to ensure the long-term viability of retained trees.

- Project Arborist:** The project arborist shall at a minimum have an International Society of Arboriculture (ISA) Certification and ISA Tree Risk Assessment Qualification.
- Tree Protection Zone (TPZ):** In some cases, the TPZ may extend outside tree protection fencing. Work within the TPZ must be approved and monitored by the project arborist.
- Tree Protection Fencing:** Tree protection shall consist of 6-foot chain-link fencing installed at the TPZ as approved by the project arborist. Fence posts shall be anchored into the ground or bolted to existing hardscape surfaces.
  - Where trees are being retained as a group, the fencing shall encompass the entire area including all landscape beds or lawn areas associated with the grove.
  - Per arborist approval, TPZ fencing may be placed at the edge of existing hardscape within the TPZ to allow for staging and traffic.
  - Where work is planned within the TPZ, install fencing at edge of TPZ and move to limits of disturbance at the time that the work within the TPZ is planned to occur. This ensures that work within the TPZ is completed to specification.
  - Where trees are protected at the edge of the project boundary, construction limits fencing shall be incorporated as the boundary of tree protection fencing.
- Access Beyond Tree Protection Fencing:** In areas where work such as installation of utilities is required within the TPZ, a locking gate will be installed in the fencing to facilitate access. The project manager or project arborist shall be present when tree protection areas are accessed.
- Tree Protection Signage:** Tree protection signage shall be affixed to fencing every 20 feet. Signage shall be fluorescent, at least 2' x 2' in size, with 3" tall text. Signage will note: "Tree Protection Area - Do Not Enter. Entry into the tree protection area is prohibited unless authorized by the project manager." Signage shall include the contact information for the project manager and instructions for gaining access to the area.
- Filter / Silt Fencing:** Filter / silt fencing within the TPZ of retained trees shall be installed in a manner that does not sever roots. Install so that filter / silt fencing sits on the ground and is weighted in place by sandbags or gravel. Do not trench to insert filter / silt fencing into the ground.
- Monitoring:** The project arborist shall monitor all ground disturbance at the edge of or within the TPZ, including where the TPZ extends beyond the tree protection fencing.
- Soil Protection:** No parking, foot traffic, materials storage, or dumping (including excavated soils) are allowed within the TPZ. Heavy machinery shall remain outside of the TPZ. Access to the tree protection area will be granted under the supervision of the project arborist. If project arborist allows, heavy machinery can enter the area if soils are protected from the load. Acceptable methods of soil protection include applying 3/4-inch plywood over 4 to 6 inches of wood chip mulch or use of AlturnaMats. (or equivalent product approved by the project arborist). Retain existing paved surfaces within or at the edge of the TPZ for as long as possible.
- Soil Remediation:** Soil compacted within the TPZ of retained trees shall be remediated using pneumatic air excavation according to a specification produced by the project arborist.
- Canopy Protection:** Where fencing is installed at the limits of disturbance within the TPZ, canopy management (pruning or tying back) shall be conducted to ensure that vehicular traffic does not damage canopy parts. Exhaust from machinery shall be located five feet outside the dripline of retained trees. No exhaust shall come in contact with foliage for prolonged periods of time.

**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.

- 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.).
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.).
- ANY AREA NEEDING ESC MEASURES THAT DO NOT REQUIRE IMMEDIATE ATTENTION SHALL BE ADDRESSED WITHIN SEVEN (7) DAYS.
- 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.
- 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.
- 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.
- COVER MEASURES WILL BE APPLIED IN CONFORMANCE WITH APPENDIX D OF THE SURFACE WATER DESIGN MANUAL.
- 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.

**EROSION CONTROL NOTES: COBALT GEO**

Erosion and sediment control (ESC) is used to reduce the transportation of eroded sediment to wetlands, streams, lakes, drainage systems, and adjacent properties. Erosion and sediment control measures should be implemented, and these measures should be in general accordance with local regulations. At a minimum, the following basic recommendations should be incorporated into the design of the erosion and sediment control features for the site:

- Schedule the soil, foundation, utility, and other work requiring excavation or the disturbance of the site soils, to take place during the dry season (generally May through September). However, provided precautions are taken using Best Management Practices (BMP's), grading activities can be completed during the wet season (generally October through April).
- All site work should be completed and stabilized as quickly as possible.
- Additional perimeter erosion and sediment control features may be required to reduce the possibility of sediment entering the surface water. This may include additional silt fences, silt fences with a higher Apparent Opening Size (AOS), construction of a berm, or other filtration systems.
- Any runoff generated by dewatering discharge should be treated through construction of a sediment trap if there is sufficient space. If space is limited other filtration methods will need to be incorporated.

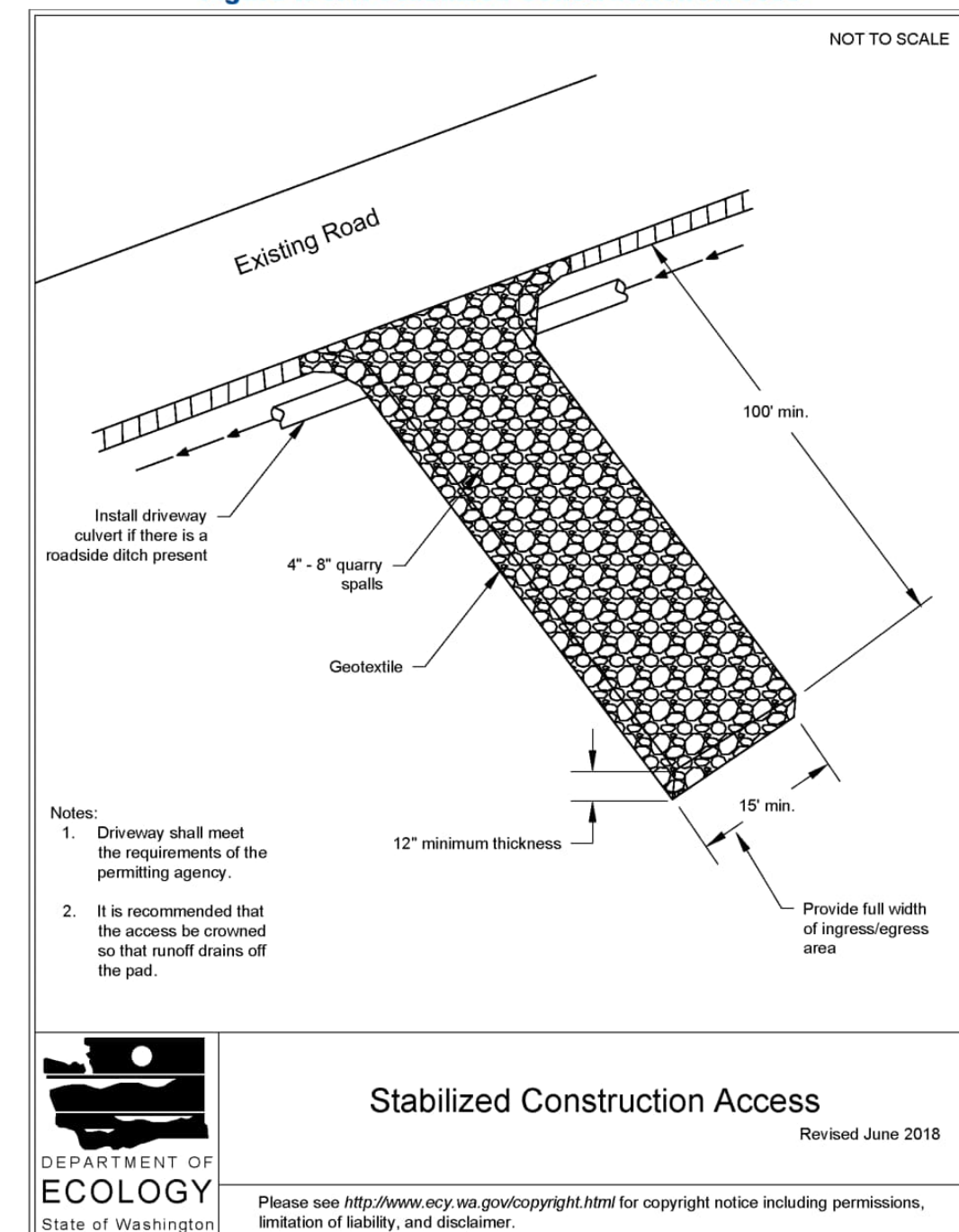
**CITY NOTES**

- ANY CHANGES TO THE APPROVED PLANS REQUIRES CITY APPROVAL THROUGH A REVISION.
- APPLICANT IS RESPONSIBLE FOR ANY DAMAGES TO UNDERGROUND UTILITIES CAUSED FROM THIS CONSTRUCTION.
- 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.
- CONTRACTORS SHALL VERIFY LOCATIONS AND DEPTHS OF UTILITIES.
- AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, CALL "ONE CALL" AT 1.800.424.5555
- DO NOT BACKFILL WITH NATIVE MATERIAL ON PUBLIC RIGHT-OF-WAY. ALL MATERIAL MUST BE IMPORTED
- 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:
- 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.
- 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.
- PREVENT SEDIMENT, CONSTRUCTION DEBRIS, PAINTS, SOLVENTS, ETC., OR OTHER TYPES OF POLLUTION FROM ENTERING PUBLIC STORM DRAINS. KEEP ALL POLLUTION ON YOUR SITE.
- 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.
- 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.
- 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.
- 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.
- REMEMBER: EROSION CONTROL IS YOUR FIRST INSPECTION.
- ROOF DRAINS MUST BE CONNECTED TO THE STORM DRAIN SYSTEM AND INSPECTED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO ANY BACKFILLING OF PIPE.
- 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.
- WORK IN PUBLIC RIGHT OF WAY REQUIRES A RIGHT-OF-WAY USE PERMIT.
- REFER TO WATER SERVICE PERMIT FOR ACTUAL LOCATION OF NEW WATER METER AND SERVICE LINE DETERMINED BY MERCER ISLAND WATER DEPARTMENT.
- 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.
- NEWLY INSTALLED SIDE SEWER REQUIRES A 4 P.S.I. AIR TEST OR PROVIDE 10' OF HYDROSTATIC HEAD TEST.
- 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.
- 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.

**CONSTRUCTION ENTRANCE**

DOE

Figure II-3.1: Stabilized Construction Access



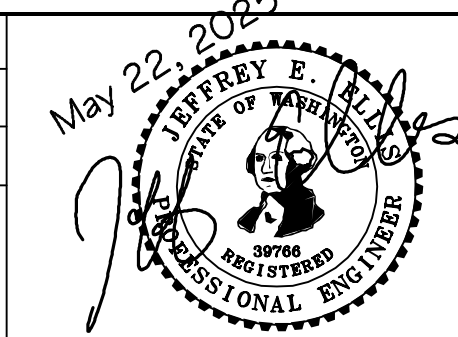
**Stabilized Construction Access**  
Revised June 2018  
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2019 Stormwater Management Manual for Western Washington  
Volume II - Chapter 3 - Page 279

NO.	DATE	BY	REVISIONS

<p>APPLICANT ARTOUSH CONSTRUCTION REMODELING LLC</p>
--

DATE: May 22, 2025
JOB#: 2105
DRAFTED: SS DESIGN: DE
DIGITAL SIGNATURE



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

**TESC & CITY NOTES**  
**TESC DETAILS**  
PROPOSED RESIDENCE  
5818 WEST MERCER WAY, MERCER ISLAND, WA 98040

DRAWING NO:  
**C1.2**  
APN 157470-0170

**SANITARY SEWER IMPROVEMENTS**

- 1 .
- 2 . 4 OR 6" SDR 35 PVC SANITARY SEWER(SS) @ MIN 1.0 %
- 3 .
- 4 .
- 7 .

**WATER IMPROVEMENTS**

- 10 . 1.5" WATER METER WITH 1.5" WATER SERVICE FROM MAIN TO METER REQUIRED PER STANDARD DETAIL W-13. 13R SPRINKLER SYSTEM REQ.
- 11 . (FIRE SPRINKLERS REQUIRED).....2.0" WATER SUPPLY REQUIRED FROM METER TO HOUSE. SPEC: 250 PSI PRIVATE HOPE (ASTM D2239). RECOMMENDED DEPTH=36".
- 12 .
- 14 .

**STORM DRAIN**

- 20 . 4" STORM DRAIN (3034 PVC) @ MIN 2 % GRADE
- 21 . 4" FOUNDATION DRAIN (3034 PVC) @ MIN 2 % GRADE
- 22 . 6" STORM DRAIN (3034 PVC) @ MIN 2 % GRADE
- 23 .
- 24 .
- 25 .
- 26 .

**STORM DRAIN STRUCTURES**

- 30 .
- 31 . TYPE 1 CB WITH VANED LID. MAX 5' RIM TO FL DEPTH. PROVIDE RISOR WITH TURNED-DOWN ELBOW IN DRIVEWAY.
- 32 .
- 33 .
- 34 .
- 35 .
- 36 . 6" WIDE NDS DURASLOPE CHANNEL DRAIN OR EQUAL. CLASS B VEHICLE RATED GRATE.
- 38A .
- 38 . PATIO AREA DRAIN: MIN 8" DIAMETER PEDESTRIAN GRATE
- 39 .
- 40 . PRIVATE TYPE 40 CATCH BASIN OR EQUAL. INCLUDE OIL TEE (OR INVERTED ELBOW) IN DRIVEWAY LOCATIONS.
- 41 . 54" ID TYPE 2 MH CONTROL STRUCTURE WITH SOLID LID. SEE ALL DETAILS AND PROFILE C4.0.
- 43 .
- 46 .
- 47 . 72" DETENTION PIPE. ALUMINIZED CMP OR EQUAL. CONTACT CONTECH FOR FABRICATION OF TANK. FORWARD FABRICATION PLANS TO ENGINEER FOR REVIEW. SEE PLAN FOR SIZE AND CONFIGURATION. SEE PROFILE, NOTES, AND DETAILS ON C4.0.

**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 .

**SOILS**

SOILS REPORT SUMMARY	
Infiltration recommendation?	No: sloped site is within an infiltration infeasibility area
Project	Artoush Residence
Depth of Boring	16.5'
Soil profile	Weathered Outwash over Lawton Clay
Density	medium dense to very stiff
Soil classification:	SM over SM/ML
Date of digging:	October 29, 2024
Geotech consultant:	Phil Haberman, PE, LG, LEG, Cobalt Geosciences

**SURVEYOR**

TOPOGRAPHIC SURVEY BY:  
TERRANE  
11235 SE 6th STREET, SUITE 130  
BELLEVUE, WA 98004  
PHONE 425-458-4488  
info@terrane.net

**VERTICAL DATUM**

NAVD 88 PER GPS OBSERVATIONS  
SEE SURVEY

**LEGAL DESCRIPTION**

SEE C1.0

**SOIL AMENDMENT REQUIRED**

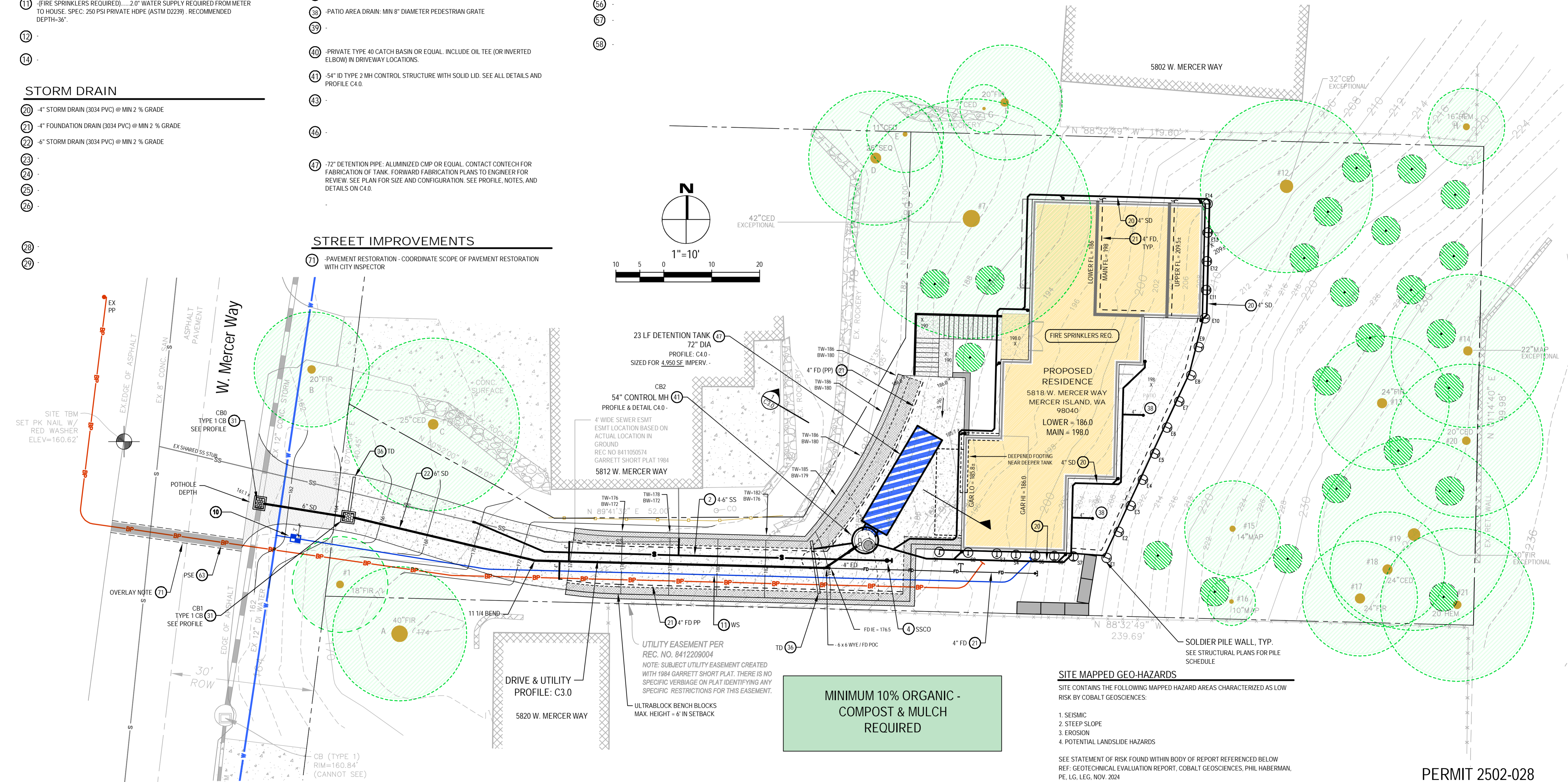
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**SOIL INSPECTION REQUIRED BY ENGINEER**

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**STREET IMPROVEMENTS**

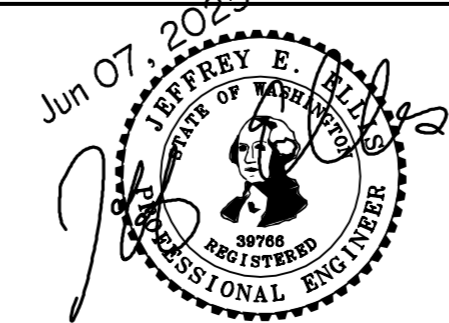
- 71 . PAVEMENT RESTORATION - COORDINATE SCOPE OF PAVEMENT RESTORATION WITH CITY INSPECTOR



NO.	DATE	BY	REVISIONS

APPLICANT ARTOUSH CONSTRUCTION REMODELING LLC	DATE: Jun 07, 2025
	JOB# 2105
	DRAFTED: DE DESIGN: DE
	DIGITAL SIGNATURE

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

**DRAINAGE / CIVIL PLAN**  
PROPOSED RESIDENCE  
5818 WEST MERCER WAY, MERCER ISLAND, WA 98040

DRAWING NO:  
**C2.0**  
APN 157470-0170  
#2502-28

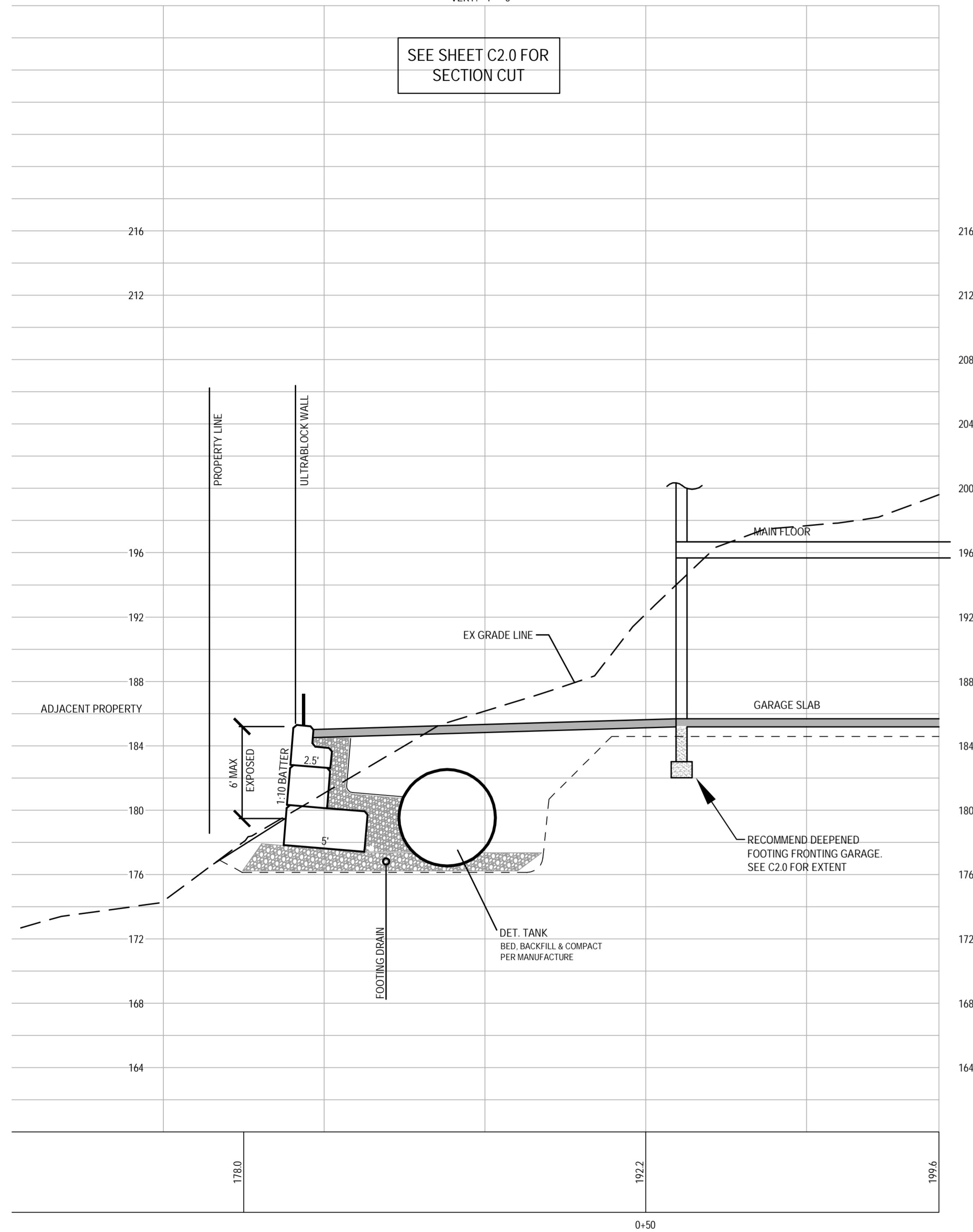
PERMIT 2502-028

1

### ULTRABLOCK WALL SECTION 1

SCALE:  
HORIZ: 1" = 5'  
VERT: 1" = 5'

SEE SHEET C2.0 FOR SECTION CUT

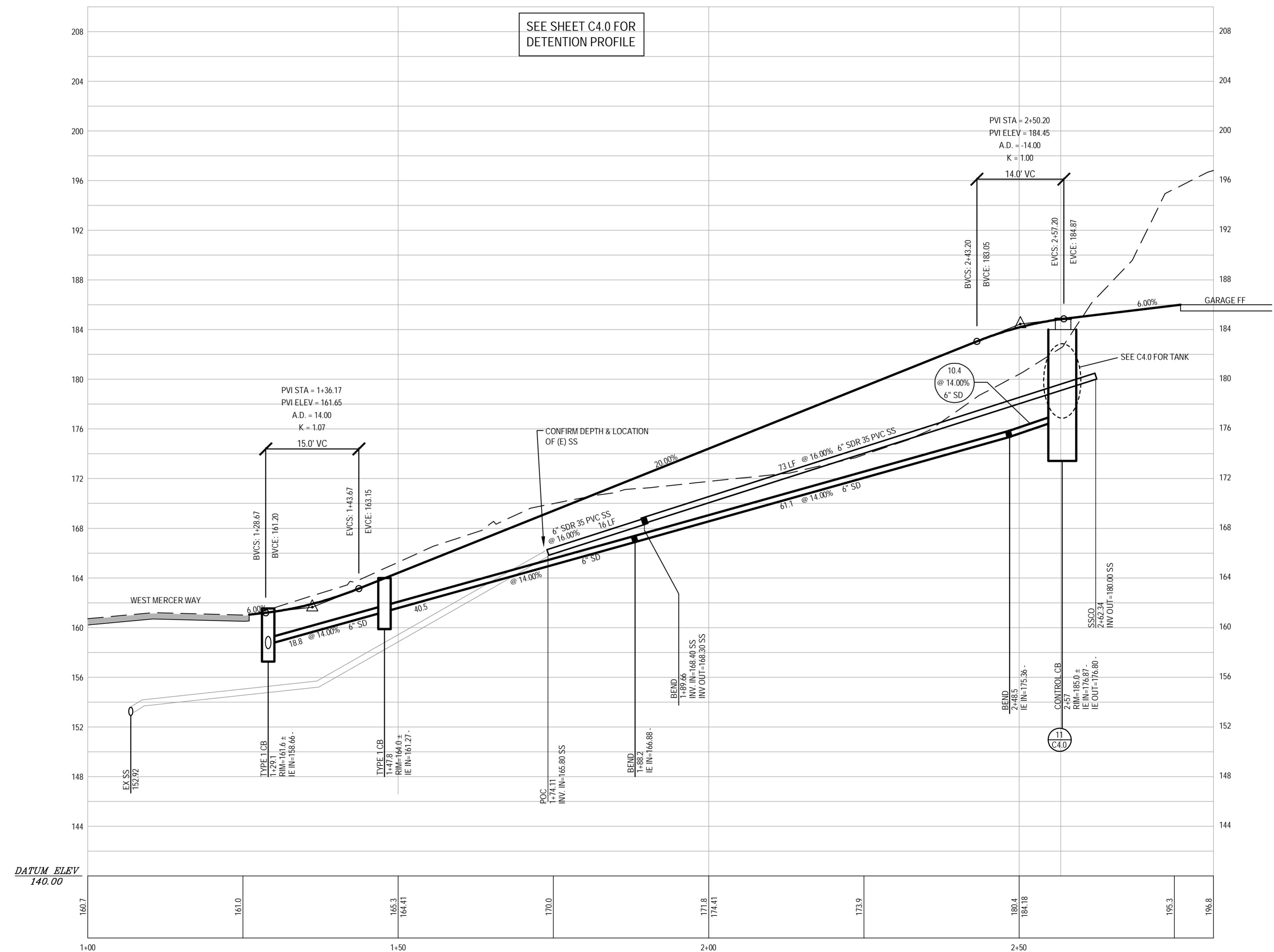


2

### DRIVEWAY PROFILE

SCALE:  
HORIZ: 1" = 10'  
VERT: 1" = 5'

SEE SHEET C4.0 FOR DETENTION PROFILE

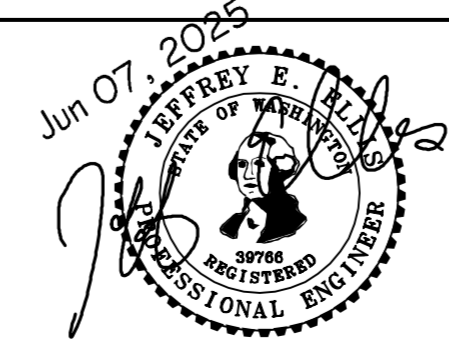


PERMIT 2502-028

NO.	DATE	BY	REVISIONS

APPLICANT  
ARTOUSH CONSTRUCTION REMODELING LLC

DATE: Jun 07, 2025  
JOB# 2105  
DRAFTED: DE DESIGN: DE  
DIGITAL SIGNATURE



**CIVIL ENGINEERING SOLUTIONS**  
701 N 36th STREET, SUITE 450 SEATTLE, WA 98103  
206.930.0342 [DUFFY@CESOLUTIONS.US](mailto:DUFFY@CESOLUTIONS.US)

PROFILES & SECTIONS  
PROPOSED RESIDENCE  
5818 WEST MERCER WAY, MERCER ISLAND, WA 98040

DRAWING NO:  
**C3.0**  
APN 157470-0170  
#2502-28





**MINIMUM 10% ORGANIC - COMPOST SOIL REQUIRED**

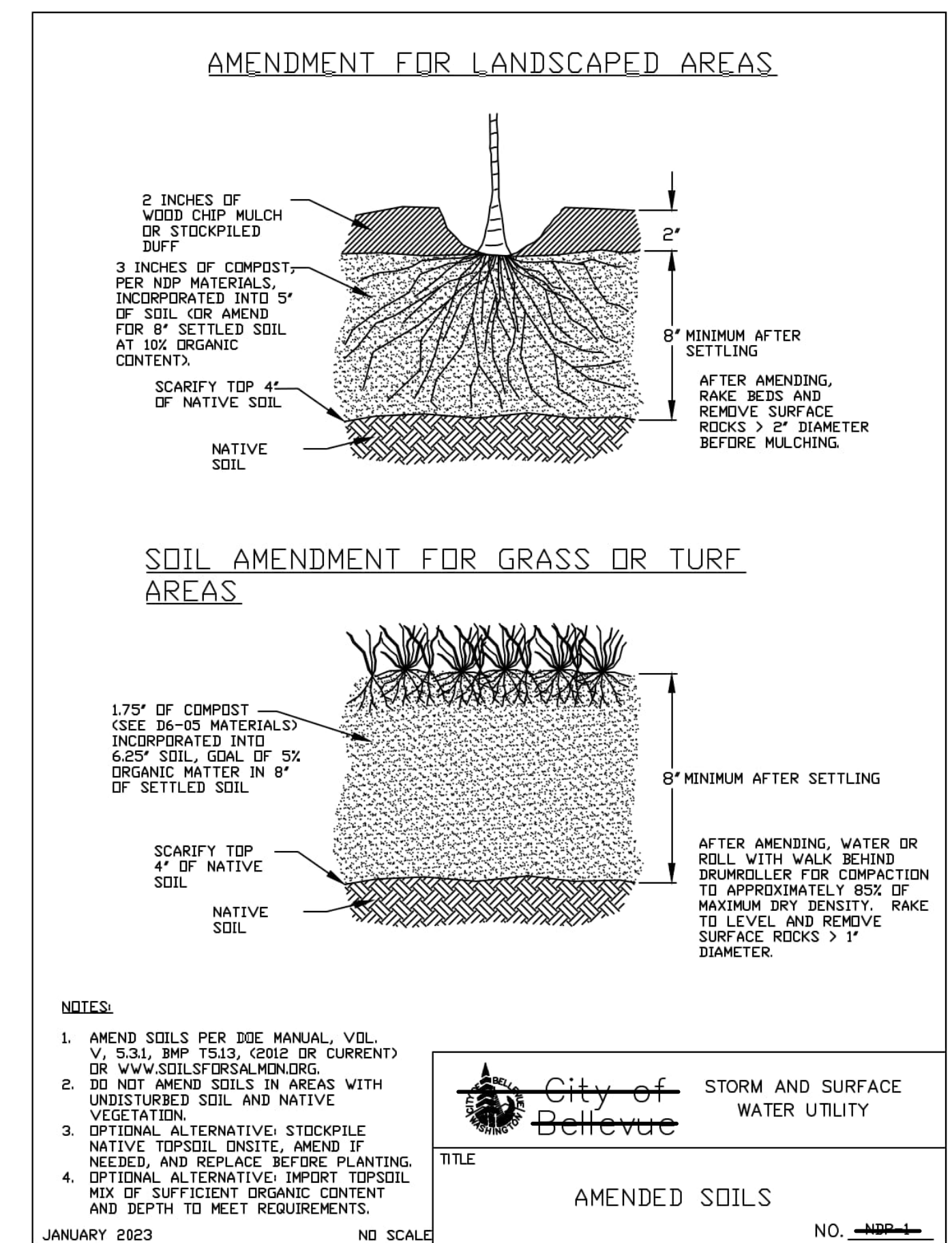
**SOIL AMENDMENT REQUIRED**

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

**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.

**COMPOST AMENDED SOIL SPEC**

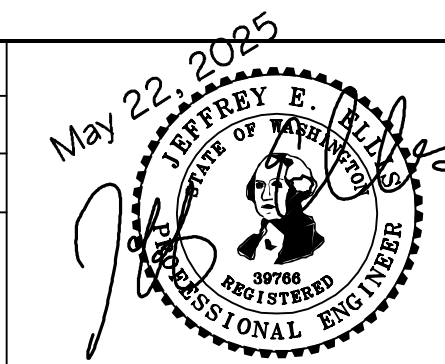


PERMIT 2403-078

NO.	DATE	BY	REVISIONS

APPLICANT  
LEI WU AND INGRID CHANG  
2956 72nd AVENUE SE  
MERCER ISLAND, WA 98040

DATE: May 22, 2025  
JOB# 2094  
DRAFTED: SS DESIGN: SS  
DIGITAL SIGNATURE



**CIVIL ENGINEERING SOLUTIONS**  
701 N 36th STREET, SUITE 450 SEATTLE, WA 98103  
206.930.0342 [DUFFY@CESOLUTIONS.US](mailto:DUFFY@CESOLUTIONS.US)

**STORM, BMP DETAILS**

WU/CHANG RESIDENCE  
2956 72nd AVENUE SE, MERCER ISLAND, WA 98040

DRAWING NO:

**C3.5**

APN 531510-0744

MERCER ISLAND DETENTION "TABLE 1"

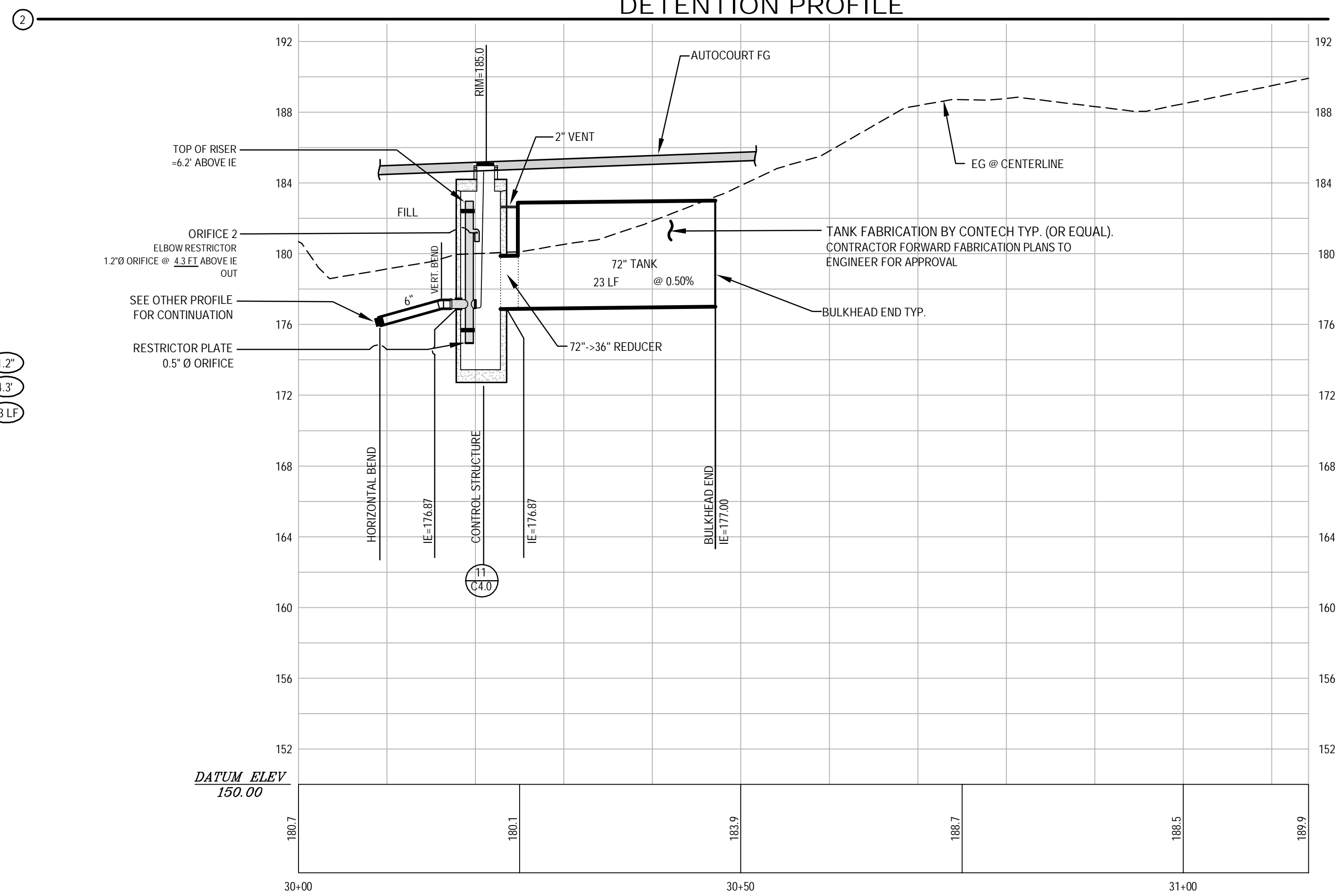
**Table 1**  
ON-SITE DETENTION DESIGN FOR PROJECTS BETWEEN 500 SF AND 9,500 SF NEW PLUS REPLACED IMPERVIOUS SURFACE AREA

New and Replaced Impervious Surface Area (sf)	Detention Pipe Diameter (in)	Detention Pipe Length (ft)		Lowest Orifice Diameter (in) <sup>(1)</sup>		Distance from Outlet Invert to Second Orifice (ft)		Second Orifice Diameter (in)	
		B soils	C soils	B soils	C soils	B soils	C soils	B soils	C soils
500 to 1,000 sf	36"	30	22	0.5	0.5	2.2	2.0	0.5	0.8
	48"	18	11	0.5	0.5	3.3	3.2	0.9	0.8
	60"	11	7	0.5	0.5	4.2	3.4	0.5	0.6
1,001 to 2,000 sf	36"	66	43	0.5	0.5	2.2	2.3	0.9	1.4
	48"	34	23	0.5	0.5	3.2	3.3	0.9	1.2
	60"	22	14	0.5	0.5	4.3	3.6	0.9	0.9
2,001 to 3,000 sf	36"	90	66	0.5	0.5	2.2	2.4	0.9	1.9
	48"	48	36	0.5	0.5	3.1	2.8	0.9	1.5
	60"	30	20	0.5	0.5	4.2	3.7	0.9	1.1
3,001 to 4,000 sf	36"	120	78	0.5	0.5	2.4	2.2	1.4	1.6
	48"	62	42	0.5	0.5	2.8	2.9	0.8	1.3
	60"	42	26	0.5	0.5	3.8	3.9	0.9	1.3
4,001 to 5,000 sf	36"	134	91	0.5	0.5	2.8	2.2	1.7	1.5
	48"	73	49	0.5	0.5	3.6	2.9	1.6	1.5
	60"	46	31	0.5	0.5	4.6	3.9	1.6	1.4
5,001 to 6,000 sf	36"	162	105	0.5	0.5	2.7	2.9	1.8	1.6
	48"	90	59	0.5	0.5	3.5	2.9	1.7	1.5
	60"	54	37	0.5	0.5	4.6	3.6	1.6	1.4
6,001 to 7,000 sf	36"	192	128	0.5	0.5	2.7	2.2	1.9	1.8
	48"	102	68	0.5	0.5	3.7	2.9	1.9	1.6
	60"	64	43	0.5	0.5	4.6	3.6	1.8	1.5
7,001 to 8,000 sf	36"	216	146	0.5	0.5	2.8	2.2	2.0	1.9
	48"	119	79	0.5	0.5	3.8	2.9	2.2	1.7
	60"	73	49	0.5	0.5	4.5	3.6	2.0	1.6
8,001 to 8,500 sf <sup>(1)</sup>	36"	228	155	0.5	0.5	2.8	2.2	2.1	1.9
	48"	124	84	0.5	0.5	3.7	2.9	1.9	1.8
	60"	77	53	0.5	0.5	4.6	3.6	2.0	1.6
8,501 to 9,000 sf	36"	NA <sup>(1)</sup>	164	0.5	0.5	NA <sup>(1)</sup>	2.2	NA <sup>(1)</sup>	1.9
	48"	NA <sup>(1)</sup>	89	0.5	0.5	NA <sup>(1)</sup>	2.9	NA <sup>(1)</sup>	1.9
	60"	NA <sup>(1)</sup>	55	0.5	0.5	NA <sup>(1)</sup>	3.6	NA <sup>(1)</sup>	1.7
9,001 to 9,500 sf <sup>(2)</sup>	36"	NA <sup>(1)</sup>	174	0.5	0.5	NA <sup>(1)</sup>	2.2	NA <sup>(1)</sup>	2.1
	48"	NA <sup>(1)</sup>	94	0.5	0.5	NA <sup>(1)</sup>	2.9	NA <sup>(1)</sup>	2.0
	60"	NA <sup>(1)</sup>	58	0.5	0.5	NA <sup>(1)</sup>	3.7	NA <sup>(1)</sup>	1.7

MAY 2025 NOTE  
TANK DIAMETER CHANGED  
TO 72 INCH DUE TO SITE  
CONSTRAINTS.  
EQUIVALENT STORAGE= 23  
LF

**Notes:**  
 • Minimum Requirement #7 (Flow Control) is required when the 100-year flow frequency causes a 0.15 cubic feet per second increase (when modeled in WWHM with a 15-minute timestep). Breakpoints shown in this table are based on a flat slope (0-5%). The 100-year flow frequency will need to be evaluated on a site-specific basis for projects on moderate (5-15%) or steep (> 15%) slopes.  
 • Soil type to be determined by geotechnical analysis or soil map.  
 • Sizing includes a Volume Correction Factor of 120%.  
 • Upper bound contributing area used for sizing.  
<sup>(1)</sup> On Type B soils, new plus replaced impervious surface areas exceeding 8,500 sf trigger Minimum Requirement #7 (Flow Control)  
<sup>(2)</sup> On Type C soils, new plus replaced impervious surface areas exceeding 9,500 sf trigger Minimum Requirement #7 (Flow Control)  
<sup>(3)</sup> Minimum orifice diameter = 0.5 inches  
 in = inch  
 ft = feet  
 sf = square feet

**Basis of Sizing Assumptions:**  
 Sized per MRFIS in the Stormwater Management Manual for Puget Sound Basin (1992 Ecology Manual)  
 SBUH, Type 1A, 24-hour hydrograph  
 2-year, 24-hour storm = 2 in; 10-year, 24-hour storm = 3 in; 100-year, 24-hour storm = 4 in  
 Predeveloped = second growth forest (CN = 72 for Type B soils, CN = 81 for Type C soils)  
 Developed = impervious (CN = 98)  
 0.5 foot of sediment storage in detention pipe  
 Overland slope = 5%

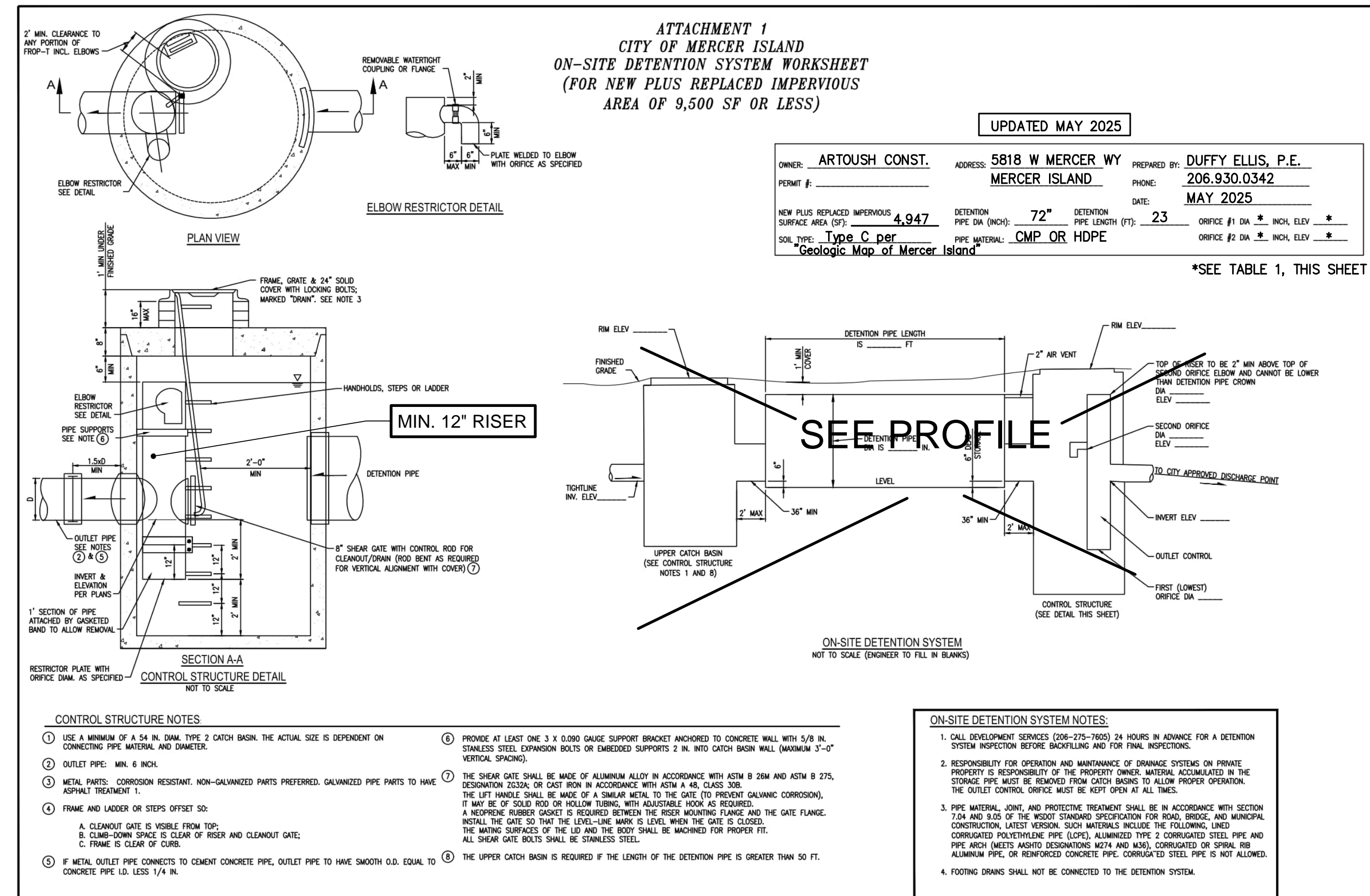


IMPERVIOUS TABLE

**Impervious Area Spreadsheet - Stormwater Version**  
Proposed Residence - 5818 West Mercer Way, Mercer Island, WA 98040

Gross Site area	15,033 sf
	0.345 acres
<b>Existing Impervious Area</b>	
Existing to be demo-ed	93 sf
Existing to remain	0 sf
<b>total on-site (new + replaced) proposed =</b>	<b>93 sf</b>
<b>Proposed Impervious Area (on-site) (new + replaced)</b>	
Roof	2,694 sf
Exposed concrete driveway, on-site	2,138 sf
Front steps, exposed	115 sf
<b>total on-site (new + replaced) proposed =</b>	<b>4,947 sf</b>
<b>total new + replaced impervious =</b>	<b>4,947 sf</b>
<b>total existing to remain =</b>	<b>0 sf</b>
<b>total proposed lawn/landscape =</b>	<b>10,086 sf</b>

MERCER ISLAND DETENTION DETAIL



NO.	DATE	BY	REVISIONS

APPLICANT  
ARTOUSH CONSTRUCTION REMODELING LLC

DATE: May 22, 2025  
 JOB#: 2105  
 DRAFTED: SS DESIGN: SS  
 DIGITAL SIGNATURE

PROFESSIONAL ENGINEER  
DUFFY ELLIS, P.E.  
MAY 22, 2025

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

DRAWING NO: **C4.0**  
 APN 157470-0170

DETENTION TANK DETAIL  
 PROPOSED RESIDENCE  
 5818 WEST MERCER WAY, MERCER ISLAND, WA 98040

# TOPOGRAPHIC & BOUNDARY SURVEY

We are the measure | terrane.net

TOPOGRAPHIC & BOUNDARY SURVEY  
 PARCEL NO. 1574700170  
**5818 W MERCER WAY**  
 5818 WEST MERCER WAY  
 MERCER ISLAND, WA 98040



# TERRANE

11235 SE 6th St, Suite 130  
 Bellevue, WA 98004  
 p: 425-458-4488 | e: info@terrane.net

JOB NUMBER:	241599
DATE:	09/20/24
DRAFTED BY:	VGB
CHECKED BY:	JJS/JGM
SCALE:	1" = 10'
REVISION HISTORY	
SHEET NUMBER	
1 OF 1	

**LEGAL DESCRIPTION**  
 (PER QUIT CLAIM DEED RECORDING # 2019010800554)  
 PARCEL B OF MERCER ISLAND SHORT PLAT NO. MI-84-02D6, RECORDED UNDER RECORDING NO. 8412209004, BEING A PORTION OF LOTS 7 AND 8, BLOCK 9, CHRISTIAN CHURCH COMMUNITY CAMP DIVISION NO. 2, AS PER PLAT THEREOF RECORDED IN VOLUME 31 OF PLATS, PAGE 42, IN KING COUNTY, WASHINGTON.  
 SITUATED IN THE COUNTY OF KING, STATE OF WASHINGTON.

**BASIS OF BEARINGS**  
 ACCEPTED A BEARING OF N 14°36'00" E BETWEEN MONUMENTS FOUND ALONG THE CENTERLINE OF W MERCER WAY, PER REFERENCE NO. 1.

**REFERENCES**  
 R1. MERCER ISLAND SHORT PLAT NO. M.I.-84-02-06, VOL. 43, PGS. 14-14A, RECORDS OF KING COUNTY, WASHINGTON.

**VERTICAL DATUM**  
 NAVD 88 PER GPS OBSERVATIONS

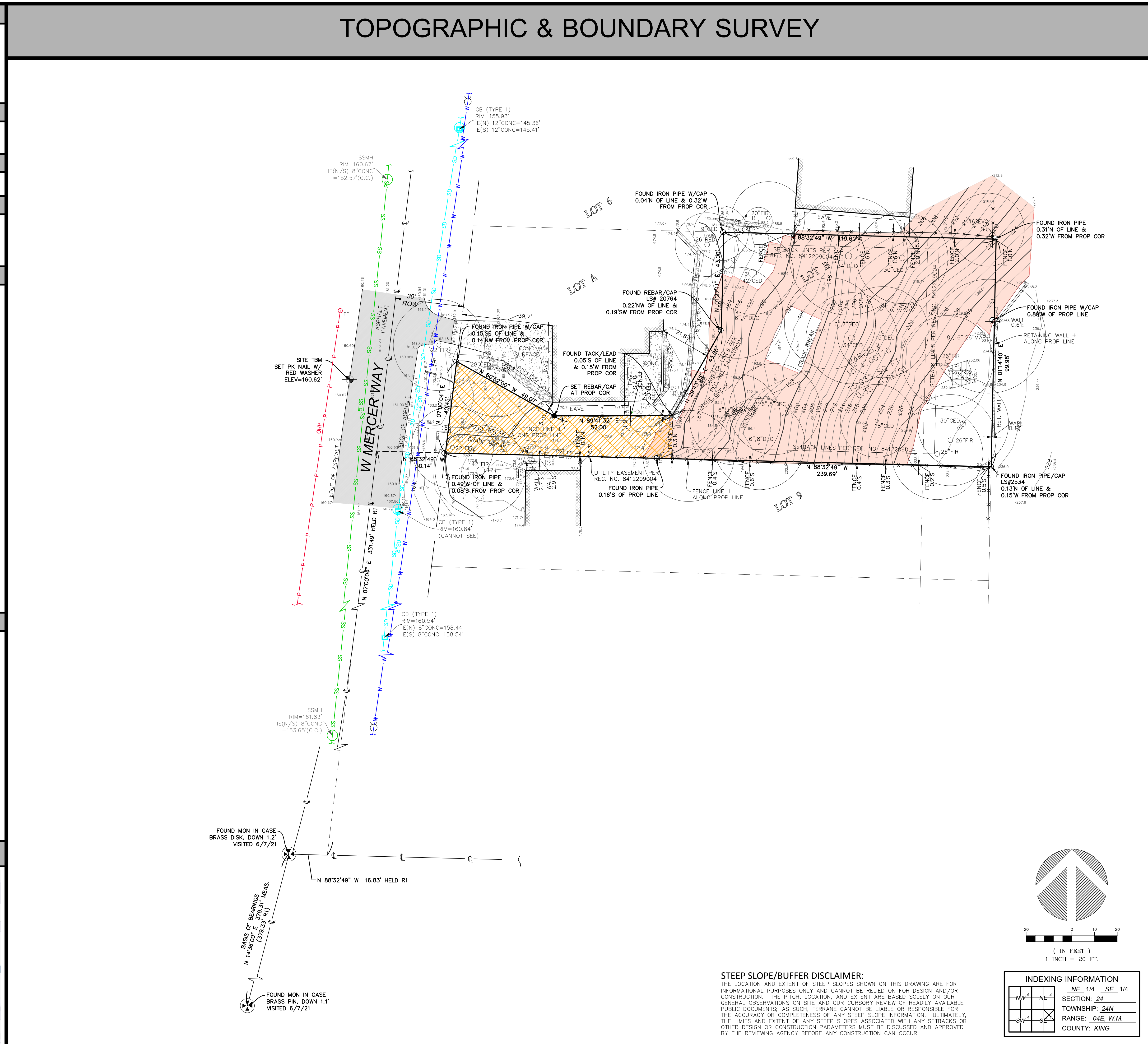
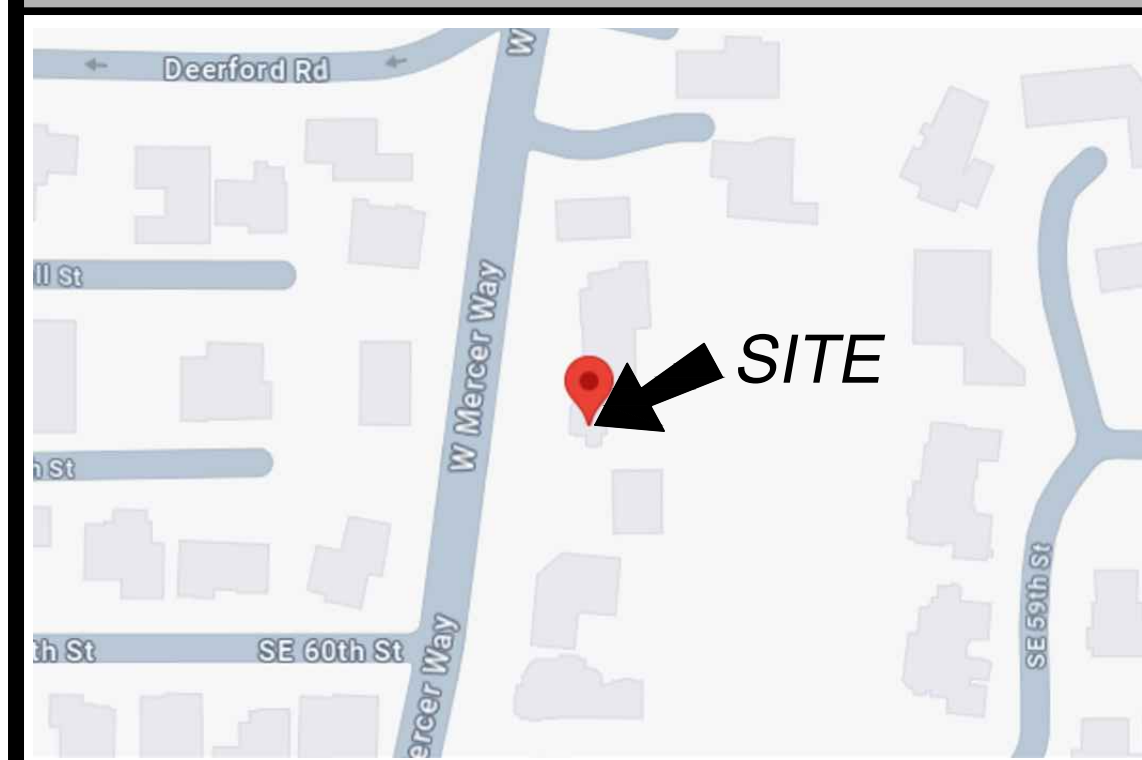
**SITE TEMP. BENCHMARK**  
 DESCRIPTION: PK NAIL W/ RED WASHER  
 LOCATION: 42.0'W & 32.3'N FROM SW PROPERTY CORNER  
 ELEVATION: 160.62'

**SURVEYOR'S NOTES**

1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN SEPTEMBER OF 2024. 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. 1574700170
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 15,033 S.F. (0.35 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. EXISTING STRUCTURE(S) LOCATION AND DIMENSIONS ARE MEASURED FROM THE FACE OF THE SIDING UNLESS OTHERWISE NOTED.
8. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 3-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**

	BENCHMARK		INLET (TYPE 1)
	CENTERLINE ROW		INLET (TYPE 2)
	FENCE LINE (CHAIN LINK)		STORM DRAIN LINE
	FENCE LINE (WOOD)		CLEANOUT
	IRON PIPE (FOUND)		SEWER MANHOLE
	MONUMENT (IN CASE, FOUND)		SEWER LINE
	PROPERTY LINE (SUBJECT)		FIRE HYDRANT
	REBAR & CAP (SET)		WATER LINE
	RETAINING WALL		BUILDING
	RIGHT-OF-WAY LINES		C.C.
	BUILDING		CALCULATED
	PST		CATCH BASIN
	TREE (AS NOTED)		CONCRETE
	ASPHALT SURFACE		CORNER
	CONCRETE SURFACE		DECIDUOUS
	PAVER SURFACE		ELEVATION
	ROCKERY		EVERGREEN
	STEEP SLOPE AREA		LAND SURVEYOR NUMBER
	POWER POLE		MEASURED
	POWER (OVERHEAD)		MONUMENT
			OVERHEAD POWER
			PROPERTY
			RIGHT OF WAY
			SQUARE FEET
			SANITARY SEWER MANHOLE
			SQUARE FEET
			UTILITY EASEMENT PER REC. NO. 8412209004



**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.

