

CITY OF MERCER ISLAND

DEVELOPMENT SERVICES GROUP

9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org



INSPECTION REQUESTS:

online:



voicemail: (206) 275-7730

NOTE: ALL RECORDS AND DRAWINGS ARE SUBJECT TO PUBLIC DISCLOSURE AS REQUIRED BY RCW 42.56

CONTACT INFORMATION:

Applicant is to complete the following information.

Applicant Contact information prior to permit issuance: Name, Address, Phone, Email
Applicant Contact information post permit issuance: Name, Address, Phone, Email

REQUIRED SPECIAL INSPECTIONS / STRUCTURAL OBSERVATIONS:

It is the Engineer of Record's responsibility to specify all required Special Inspections or Structural Observation (check items below). The owner is responsible for hiring an approved private Special Inspector for the checked inspections noted below.

STRUCTURAL OBSERVATION BY ENGINEER OF RECORD (EOR): Engineer of Record, Company, Phone, General Conformance to Construction Documents, Other

SOILS / GEOTECHNICAL: Special Inspector, Company, Phone, Erosion control measures, Subsurface drainage placement, Shoring installation and monitoring, Verify fill material and compaction, etc.

REINFORCED CONCRETE: Special Inspector, Company, Phone, Concrete strength, Retaining wall construction, Reinforcing steel and concrete placement, etc.

STRUCTURAL STEEL: Special Inspector, Company, Phone, Fabrication and shop welds, Moment Frame construction, Structural steel erection, field welds and bolting, etc.

STRUCTURAL MASONRY: Special Inspector, Company, Phone, Mortar strength, Glass unit masonry installation, Masonry unit strength, Wall panel and veneer installation, etc.

WOOD: Special Inspector / Engineer of Record, Company, Phone, Lateral resisting system construction, High strength diaphragm construction, etc.

OTHER SPECIAL INSPECTIONS: Special Inspector, Company, Phone, Epoxy grout installations, Stucco installation, Expansion anchor installations, Infiltration System, etc.

DEFERRED SUBMITTALS:

The Applicant is required to select all deferred submittals / shop drawings for submittal to the City for review and approval prior to item fabrication / construction.

Connector plate wood trusses, Metal joist / metal trusses, Post tension layout, Exterior cladding, etc.

ENERGY CODE COMPLIANCE INFORMATION:

Indicate where the following information is located in the drawing set. Alternatively, incorporate or include the Residential Energy Code Prescriptive Compliance (RECPC) Form into the drawing set.

Building envelope, Air Leakage Testing, Whole house ventilation, Duct Leakage Testing, Energy Credit Information, etc.

TO BE COMPLETED BY DSG

PROJECT ALERTS: Construction of the project shall be from approved plans only. No deviation from the approved project plans is allowed without prior approval from the City of Mercer Island.

TREE PROTECTION REQUIREMENTS: Tree protection as shown on approved drawings shall be installed at tree dripline prior to start of any site work and must remain in place throughout the project.

FIRE PROTECTION REQUIREMENTS: Separate Permits are required for ALL fire protection systems. Fire Sprinkler, Monitored Household Fire Alarm, etc.

WATER SUPPLY REQUIREMENTS: Fire sprinkler design calculations must be provided prior to determining water supply system requirements. Water Supply system upgrade required, etc.

DRAINAGE REQUIREMENTS: On site detention system required, Direct discharge into the lake, No Storm Water permit required, etc.

SIDE SEWER REQUIREMENTS: Side sewer requires a backflow preventer when connecting to the lake line or when the elevation of the lowest plumbing fixture is lower than the elevation of the upstream manhole rim.

APPROVED CODE ALTERNATIVES: Code alternatives must be inspected. Refer to the Inspection Checklist. CA1, CA2

SURVEY REQUIREMENTS: Surveyor shall verify points chosen for height calculations and point verification shall be submitted at the time of City foundation inspection.

MAXIMUM 40 PERCENT ALTERATION INSPECTION: A Building Inspection prior to demolition is required for all legally nonconforming single family dwelling to ensure no more than 40 percent of the dwelling's exterior walls are structurally altered.

GEOTECHNICAL INFORMATION: Land clearing, grading, filling and foundation work within geologic hazard areas is NOT PERMITTED between October 1 and April 1 without an approved Seasonal Development Limitation Waiver.

SEASONAL DEVELOPMENT LIMITATION RESTRICTION: Applies (Geologic Hazard area). Grading not permitted between October 1 through April 1. Waiver approved. Grading and excavation permitted subject to all conditions noted in Seasonal Development Limitation Waiver Permit.

TO BE COMPLETED BY DSG

TO BE COMPLETED BY DSG

REQUIRED CONSTRUCTION INSPECTIONS: Inspector shall initial and date appropriate inspection only if approved. Tree protection, Erosion control, Sewer disconnect and cap, etc.

TO BE COMPLETED BY DSG

90 DAY TEMPORARY CERTIFICATE OF OCCUPANCY (TCO): Final Inspection: Tree Restoration, Fire protection, Fuel Tank Installation, Fire Extinguishing System, etc.

ADDITIONAL REQUIRED CITY INSPECTIONS: Call the appropriate contact to arrange the inspection. Required Inspection(s), Contact, Phone, Scheduling

IMPACT FEES: Impact fees apply and are due prior to Final Inspection or on Date, whichever occurs first.

PLAN REVIEW APPROVALS: Not all review disciplines may be required to review the documents. Building, Planning, Engineering, Tree, Fire

TO BE COMPLETED BY APPLICANT

TO BE COMPLETED BY APPLICANT



CERTIFICATE OF OCCUPANCY Issued after all required inspections have been performed and approved.

PROJECT NAME: PROJECT ADDRESS:

APPROVED DRAWINGS MUST BE KEPT ON THE BUILDING SITE AT ALL TIMES REVIEWED FOR CODE COMPLIANCE

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

(PER STATUTORY WARRANTY DEED RECORDING# 199411230981)
 LOT 1, BLOCK 7, MERCERDALE, ACCORDING TO THE PLAT THEREOF
 RECORDED IN VOLUME 59 OF PLATS, PAGES 94, 95 AND 96, IN
 KING COUNTY, WASHINGTON.

BASIS OF BEARINGS

N 79°41'30" W BETWEEN SURVEY MONUMENTS FOUND ON THE
 CENTERLINE OF S.E. 37TH ST., PER R1.

REFERENCES

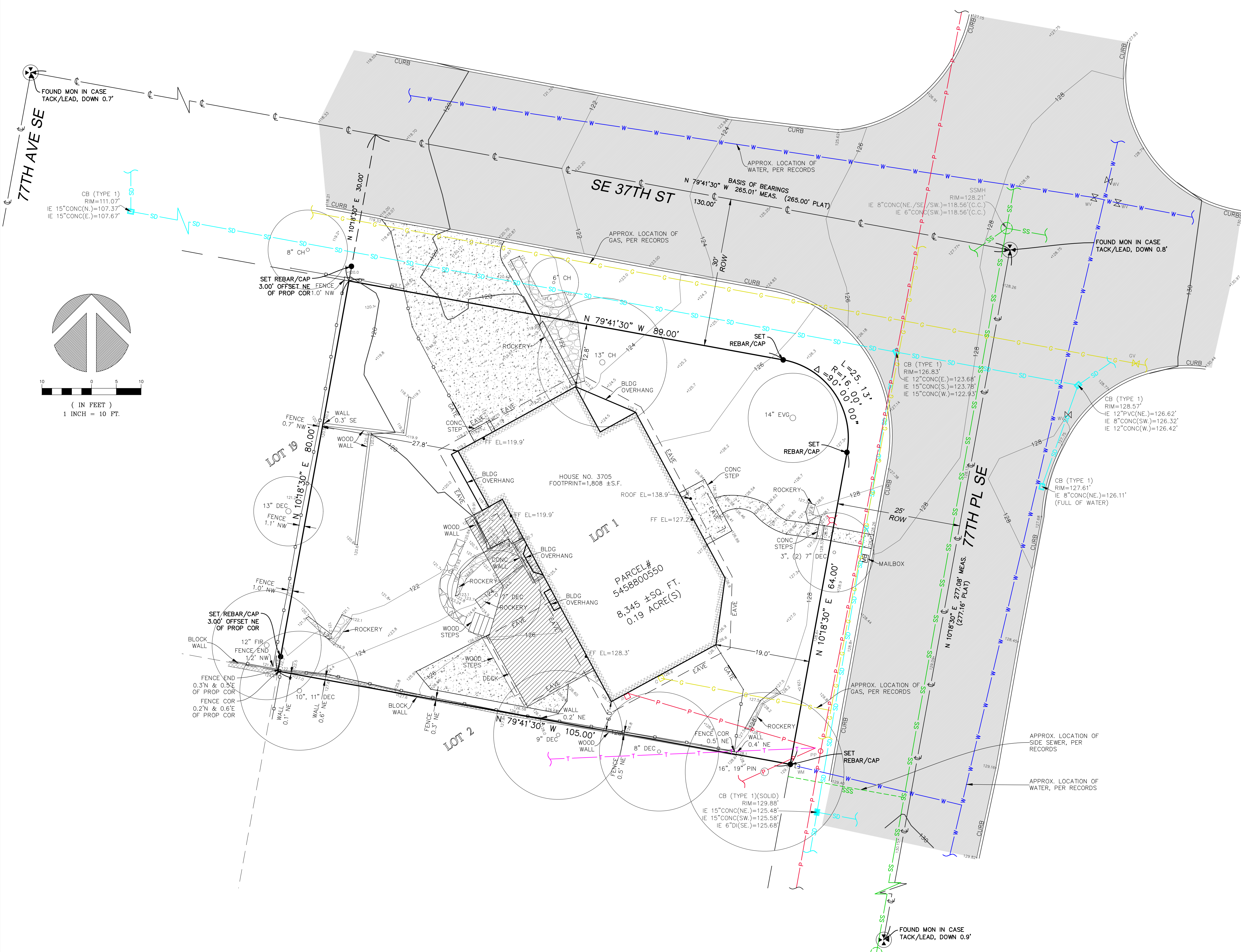
R1. MERCERDALE, RECORDED IN VOLUME 59 OF PLATS, PAGES
 94-96, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD88 PER GPS OBSERVATIONS

SURVEYOR'S NOTES

1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN MARCH OF 2021. 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. 545880-0550
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 8,345 ± S.F. (0.19 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 352-130-090.



LEGEND

- | | | | |
|--|--------------------------|--|----------------------|
| | ASPHALT SURFACE | | POWER METER |
| | BUILDING | | POWER (OVERHEAD) |
| | CENTERLINE ROW | | POWER POLE |
| | CONCRETE SURFACE | | REBAR & CAP (SET) |
| | RETAINING WALL | | ROCKERY |
| | DECK | | SEWER LINE |
| | FENCE LINE (CHAIN LINK) | | SEWER MANHOLE |
| | FENCE LINE (WOOD) | | STORM DRAIN LINE |
| | FIRE HYDRANT | | TELEPHONE (OVERHEAD) |
| | FLAGSTONE SURFACE | | TREE (AS NOTED) |
| | GAS LINE | | WATER LINE |
| | GAS METER | | WATER METER |
| | GAS VALVE | | WATER VALVE |
| | INLET (TYPE 1) | | YARD LIGHT |
| | MAILBOX (RESIDENTIAL) | | SANITARY SIDE SEWER |
| | MONUMENT IN CASE (FOUND) | | |

VICINITY MAP



INDEXING INFORMATION

SW 1/4	SE 1/4
SECTION: 12	
TOWNSHIP: 24N	
RANGE: 04E, W.M.	
COUNTY: KING	

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

TOPOGRAPHIC & BOUNDARY SURVEY

PARCEL NO. 5458800550

LIU RESIDENCE

3705 77TH PL SE
 MERCER ISLAND, WA 98040



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

JOB NUMBER:	210282
DATE:	03/09/21
DRAFTED BY:	IDV / DSS
CHECKED BY:	DRT / JGM
SCALE:	1" = 10'
REVISION HISTORY	
SHEET NUMBER	
1 OF 1	

measure success

AVERAGE BUILDING ELEVATION
PROPOSED RESIDENCE

WALL	WALL SEGMENT	MIDPT. ELEV.	WALL SEGMENT X ELEV.
A	13'0"	127'0"	3589
B	8'5"	126'0"	1076.7
C	9'0"	126'0"	3949
D	23'5"	126'0"	2339.5
E	29'5"	120'0"	4308
F	14'0"	120'0"	8188.53
G	3'5"	120'0"	711
H	21'5"	121'0"	4389.17
I	42'5"	126'0"	7520
TOTAL	175		21623.5

AVERAGE BUILDING ELEVATION = $21623.5/175 = 123.56'$
 MAXIMUM BUILDING HEIGHT = $123.56' + 30'0" = 153.56'$
 PROPOSED BUILDING HEIGHT = 151.95'

BASEMENT FLOOR AREA CALCULATION

WALL	LENGTH	COVERAGE	RESULT
A	9'08"	100%	9'08"
B	1'	100%	1'
C	12'	100%	12'
D	19'33"	63%	12'22"
E	19'5"	18.6%	3'63"
TOTAL	60'91"		26.93%

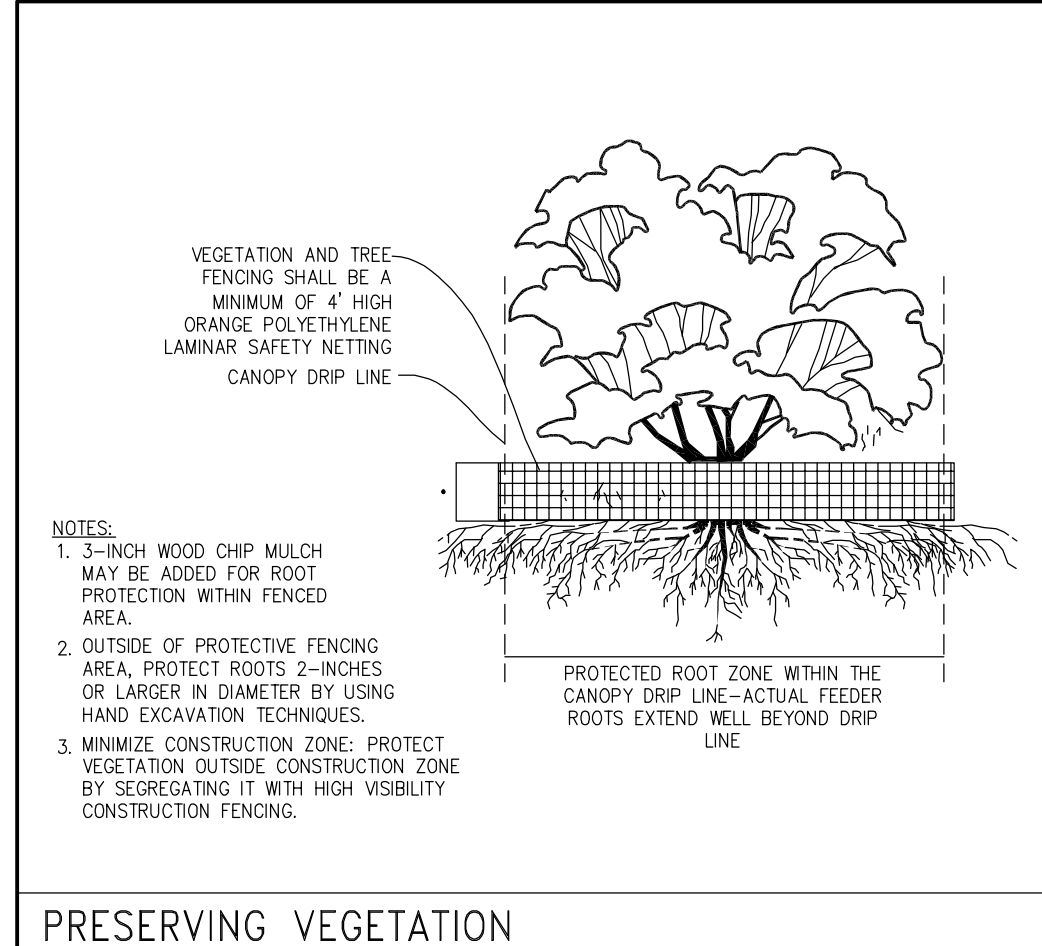
PORTION OF EXCLUDED BASEMENT FLOOR AREA:
 619 (ACTUAL SQ. FT. W/ GARAGE) X (26.93/60.91) = 273.7 SQ. FT.
 AREA OF BASEMENT EXCLUDED = 619 - 273.7 = 345.3 SQ. FT.

GROSS FLOOR AREA

LOWER FLOOR W/ GARAGE	619	SQ. FT.
MAIN FLOOR W/ GARAGE	1635	SQ. FT.
UPPER FLOOR	1380	SQ. FT.
TOTAL	3634	SQ. FT.
BASEMENT EXCLUDED	345	SQ. FT.
TOTAL	3278	SQ. FT.
LOT AREA	8345	SQ. FT.
SQUARE FOOTAGE ALLOWED (40%)	3338	SQ. FT.

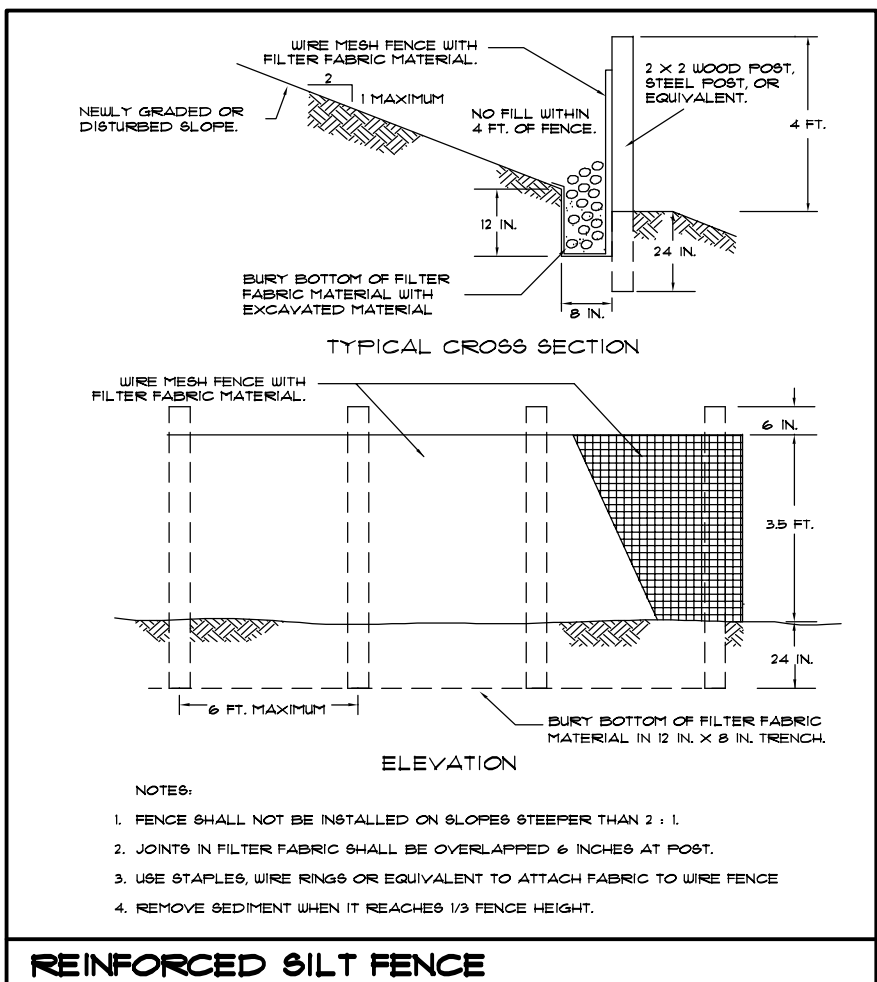
IMPERVIOUS SURFACE

PROPOSED HOME W/ O.H.	1860	SQ. FT.
COVERED DECK	210	SQ. FT.
FRONT PORCH	79	SQ. FT.
WALKS AND DRIVE	743	SQ. FT.
TOTAL	2892	SQ. FT. (34.7%)
LOT AREA	8345	SQ. FT.
ALLOWABLE	3338	SQ. FT. (40%)



TREE INVENTORY

EXISTING TREES	SPECIES	DIAMETER	RETAINED	ROW
④	CHERRY	6"	YES	ROW
③	CHERRY	12"	NO	
①	EVGRN	14"	YES	
②	DEC.	3 1/2" 1"	YES	ROW
⑤	DEC.	7"	NO	



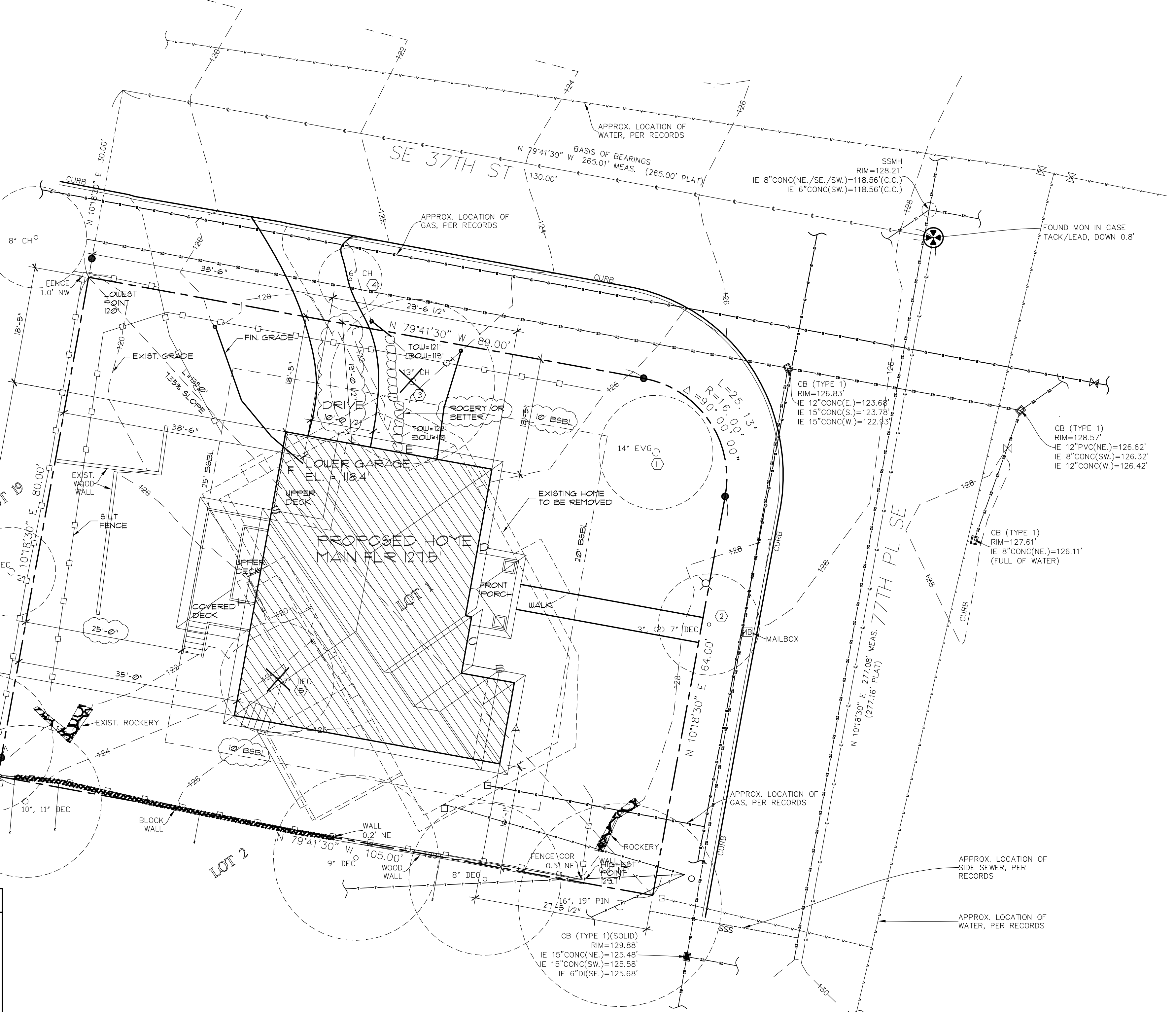
LOT COVERAGE

MAIN STRUCTURE ROOF AREA	1958	SQ. FT.
DRIVEWAYS	745	SQ. FT.
COVERED DECK	210	SQ. FT.
TOTAL	2913	SQ. FT.
LOT AREA	8345	SQ. FT.
PROPOSED LOT COVERAGE	34.9%	
SQUARE FOOTAGE ALLOWED (40%)	3338	SQ. FT.

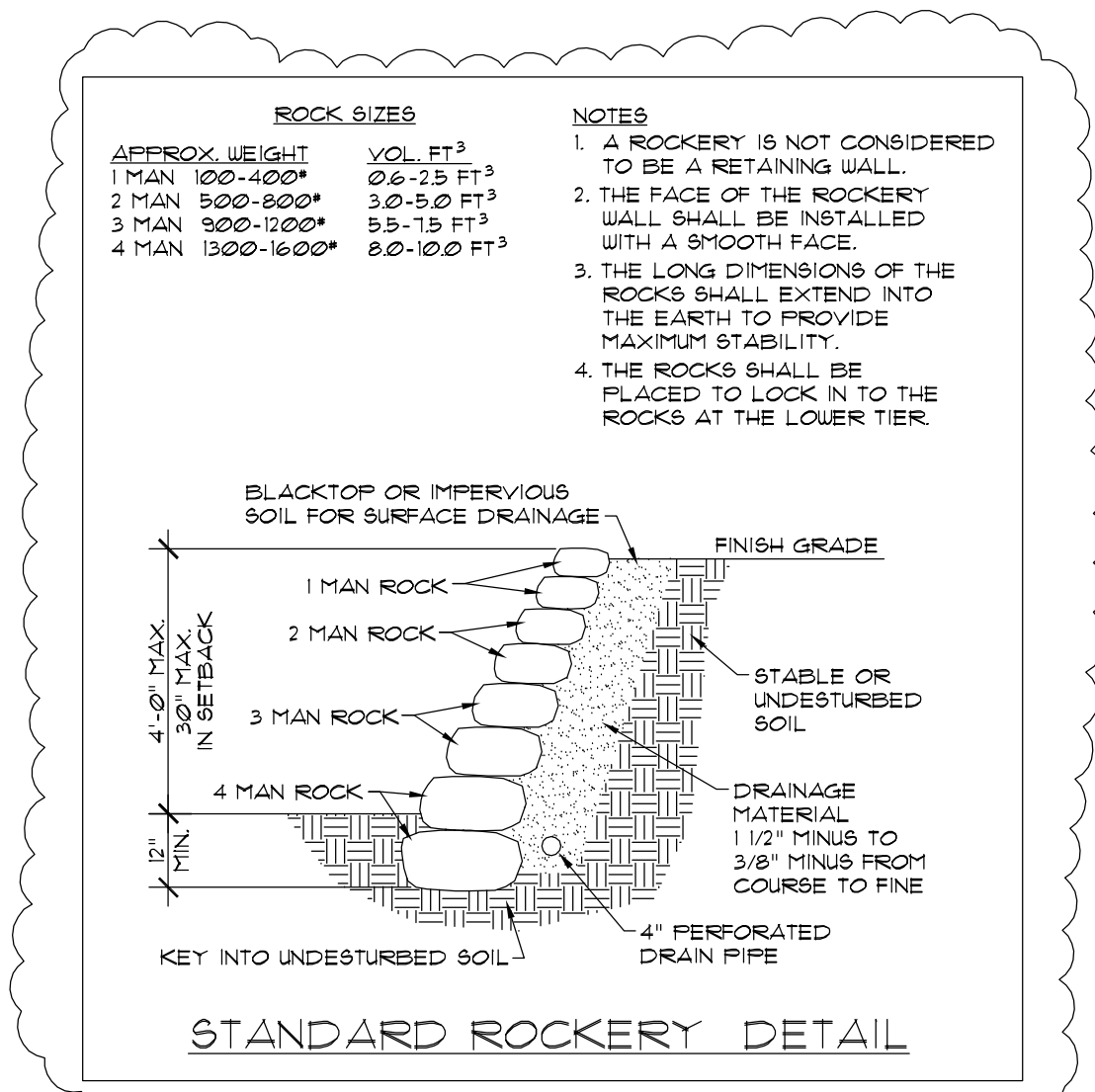
HARDSCAPE CALC

LOT AREA	8345	SQ. FT.
COVERED DECK	210	SQ. FT.
FRONT WALK	117	SQ. FT.
ROCKERY	50	SQ. FT.
TOTAL	377	SQ. FT.
HARDSCAPE ALLOWED	9% (718 SQ. FT.)	
PROPOSED HARDSCAPE	4.5% (377 SQ. FT.)	

CONTACT:
 CHARLIE CHEN
 P.O. BOX 317
 MERCER ISLAND, WA 98040
 PH: 206 - 235-8818



NFPA 13d FIRE SPRINKLER SYSTEM REQUIRED



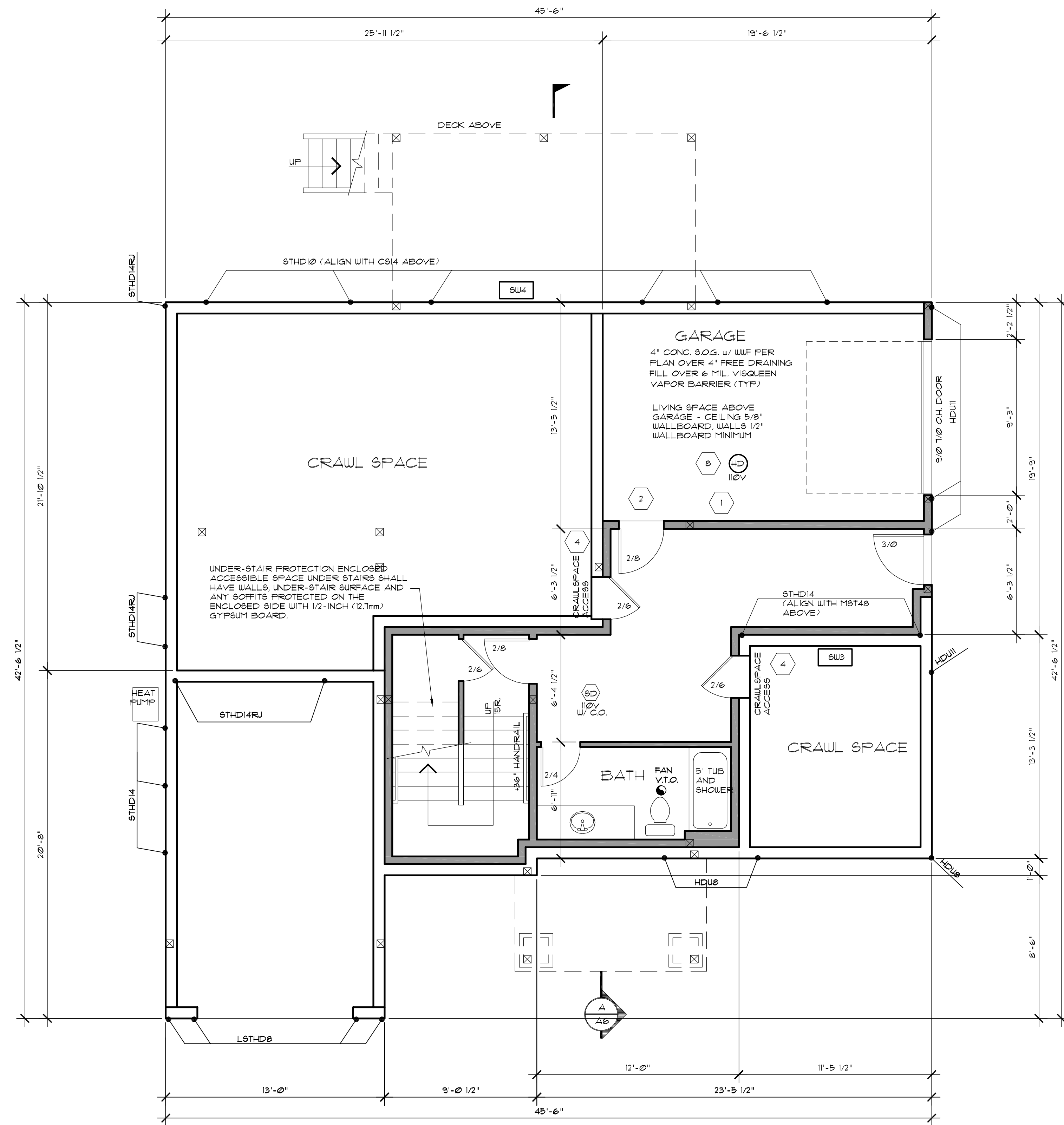
MICC 19.02.020(F)(3)(d) requires noxious weeds to be removed during new development proposals. Please add a note to the plan set that states:

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

Pursuant to MICC 19.02.050(D) any "...rockeries, retaining walls, fences, or any combination thereof, are limited to a maximum height of 42 inches within that portion of any required yard which lies within 20 feet of any improved street." Please indicate the height of the rock wall that falls within 20 feet of the public-right-of-way.

If the height exceeds the 42-inch height limitation you can apply for a fence height deviation pursuant to MICC 19.02.050(F).

Fence height deviation required for 4' retaining walls.



NFPA 13d FIRE SPRINKLER SYSTEM REQUIRED

LOWER FLOOR PLAN
SCALE: 1/4" = 1' - 0"

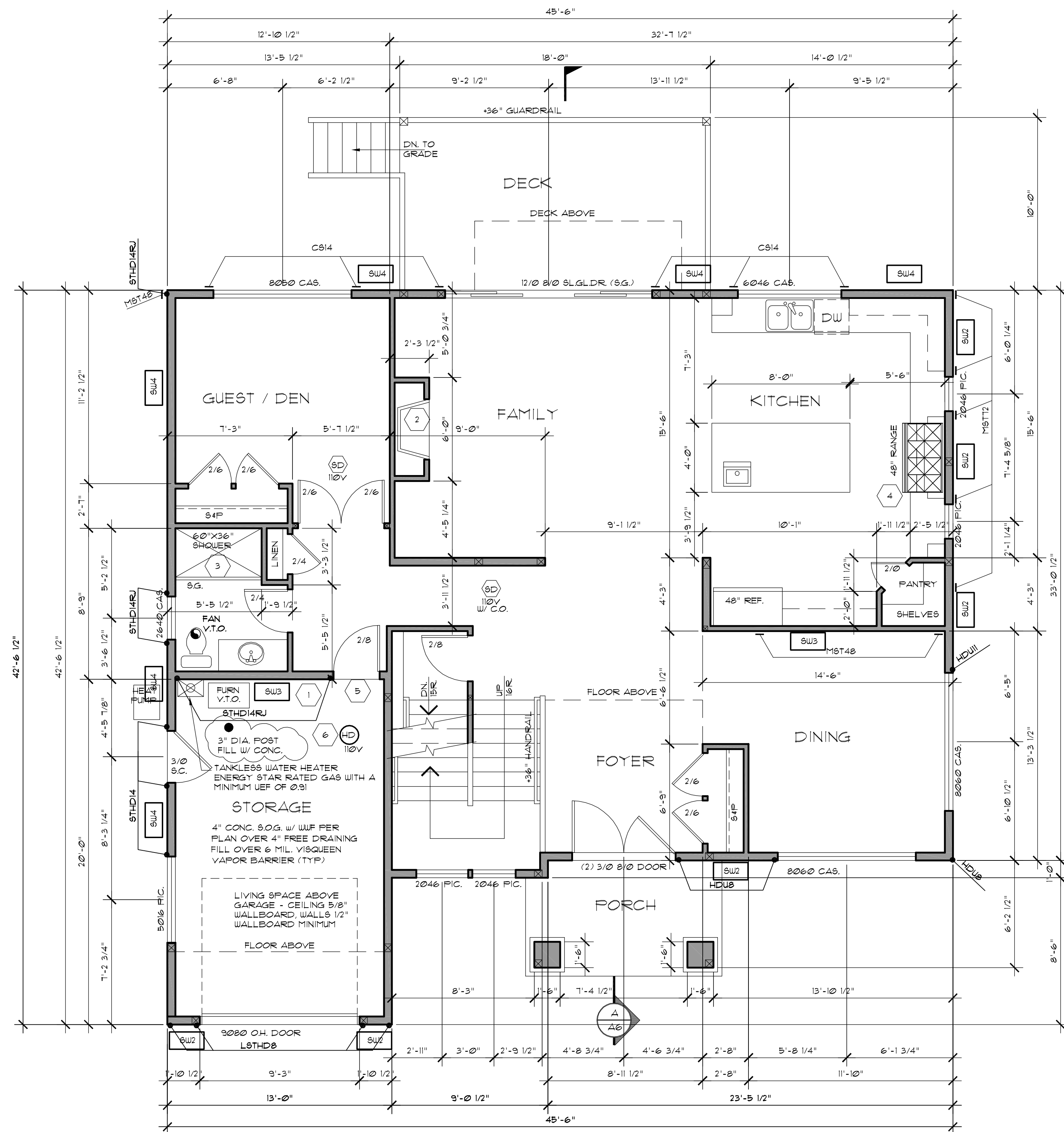
A NEW HOME FOR:
THE LIU RESIDENCE
3705 11TH PL. SE
MERCER ISLAND, WA 98040

JOB NO: 21006
DATE: 6/13/22
DRUN. BY: TH
REVISED: 9/30/22
1/3/23

SHEET NO.

A2

- 1 2018 IRC R302.6: Dwelling/garage separation required. The garage shall be separated as required by Table R302.6. Openings in garage walls shall comply with Section R302.5. This provision does not apply to garage walls that are perpendicular to the adjacent dwelling unit wall. Ceilings and beams will be covered by 5/8" Type X gypsum run perpendicular to the floor joists (see 2018 IRC Table R102.3.5 footnote e)
 - 2 Openings between the garage and residence shall be equipped with solid wood doors not less than 1-3/8-inches (35mm) in thickness, solid or honeycomb core steel doors not less than 1-3/8 inches (35mm) thick, or 20-minute fire-rated doors, equipped with a self-closing device.
 - 3 R314.4: Heat detection interconnection. Heat detectors and heat alarms shall be connected to an alarm or a smoke alarm that is installed in the dwelling. Alarms and smoke alarms that are installed for this purpose shall be located in a hallway, room, or other location that will provide occupant notification.
 - 4 18"x24" MIN. CRAWL SPACE ACCESS WEATHERSTRIP & INSULATE TO LEVEL EQUAL TO SURROUNDING SURFACES.
- NOTE: CONTRACTOR SHALL VERIFY TO INSPECTOR ALL GUARDS AND RAILINGS SHALL BE CAPABLE OF RESISTING 200 LB LOAD ON TOP RAIL IN ANY DIRECTION AS REQUIRED BY IRC TABLE 301.5



MAIN FLOOR PLAN
SCALE: 1/4" = 1' - 0"

WHOLE HOUSE VENTILATION PER SECTION M1505.4

INTERMITTENTLY OPERATION VENTILATION SYSTEM PER IRC SECTION M1501.2 REF TO TABLE M1505.4 (1) FOR MINIMUM OUTDOOR AIRFLOW RATES - CFM
 RUN TIME - ON ONCE EVERY THREE HOURS FOR ONE HOUR PER TABLE M1501.3.2 OPERATION. THE CLOCK TO OPEN DAMPER LOCATED IN FRESH AIR INTAKE DUCT BETWEEN THE OUTSIDE CAP AND THE RETURN AIR DUCT AT FURNACE, AND TIME CLOCK ALSO STARTS THE FURNACE FAN TO DISTRIBUTE FRESH AIR THROUGH THE HEAT DUCT SYSTEM THAT WAS BROUGHT IN THROUGH THE AIR INTAKE DUCT. THE AIR VOLUME BROUGHT IN WILL BE FLOW TESTED AND ADJUSTED TO MATCH THE AMOUNT REQUIRED BY CALCULATIONS. (PRIOR TO THE FINAL INSPECTION)

FLOOR AREA	BEDROOMS				
	0-1	2	3	4	5 OR MORE
LESS THAN 500	30 CFM	30 CFM	35 CFM	45 CFM	50 CFM
501-1,000	30 CFM	35 CFM	40 CFM	50 CFM	55 CFM
1,001-1,500	30 CFM	40 CFM	45 CFM	55 CFM	60 CFM
1,501-2,000	35 CFM	45 CFM	50 CFM	60 CFM	65 CFM
2,001-2,500	40 CFM	50 CFM	55 CFM	65 CFM	70 CFM
2,501-3,000	45 CFM	55 CFM	60 CFM	70 CFM	75 CFM
3,001-3,500	50 CFM	60 CFM	65 CFM	75 CFM	80 CFM
3,501-4,000	55 CFM	65 CFM	70 CFM	80 CFM	85 CFM
4,001-4,500	60 CFM	70 CFM	75 CFM	85 CFM	90 CFM
4,501-5,000	65 CFM	75 CFM	80 CFM	90 CFM	95 CFM

TABLE 406.3
2018 ENERGY CREDITS (DEBITS)
 SEE RESIDENTIAL ENERGY EFFICIENCY SHEET ATTACHED

HEAT OPTION 2 - 10 PTS
 OPTION 2.1 - 5 PTS
 OPTION 2.2 - 15 PTS
 OPTION 2.3 - 15 PTS
 OPTION 4.1 - 5 PTS
 OPTION 5.3 - 10 PTS

TOTAL POINTS - 60 PTS

PERSCRIPTIVE REQUIREMENTS 2018 W.S.E.C. (UNLIMITED)

CLIMATE ZONES 5 AND MARINE 4
 GLAZING U-FACTOR: VERTICAL U+28, OVER-HEAD U+50
 DOOR U-FACTOR: U+28
 INSULATION: CEILING: R-49, R-38 (ADV), VAULTED CEILING: R-38
 ABOVE GRADE WALLS: R-21, BELOW GRADE WALLS: R-21
 FLOOR OVER VENTED CRAWL SPACE: R-38
 SLAB ON GRADE: R-10

ENERGY CODE COMPLIANCE

3.5a Air-source, centrally ducted heat pump with minimum HSPF of 11.0.
 To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.

unit and shall meet the following standards:
 Dishwasher - Energy Star rated
 Refrigerator (if provided) - Energy Star rated
 Washing machine - Energy Star rated
 Dryer - Energy Star rated, ventless dryer with a minimum CEF rating of 5.2.

MECHANICAL VENTILATION
 REQUIRED VENTILATION PER TABLE M1501.3.3 (1) 30 CFM
 INTERMITTENT RUN TIME FACTOR 2 + 180 CFM
 PROVIDE WHOLE HOUSE VENTILATION INTEGRATED WITH A FORCED AIR SYSTEM M1501.3.5

A MINIMUM OF 75% OF ALL LIGHT FIXTURES WILL BE HIGH EFFICACY. (W.S.E.C. R404.1)

- 2018 IRC R302.6: Dwelling/garage separation required: The garage shall be separated as required by Table R302.6. Openings in garage walls shall comply with Section R302.5. This provision does not apply to garage walls that are perpendicular to the adjacent dwelling unit wall. Ceilings and beams will be covered by 5/8" Type X gypsum run perpendicular to the floor joists (see 2018 IRC Table R102.3.3 Footnote e).
- DIRECT VENT FIREPLACE
 INSTALL PER MANUFACTURERS SPECIFICATIONS
- CONC. FIBERBOARD @ TUB & SHOWER
 SURROUND TO 6" ABOVE DRAIN
- NOTE: PER M1503.6 EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 400 CFM SHALL BE PROVIDED WITH MAKEUP AIR AT A RATE EQUAL TO THE EXHAUST RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH A MEANS OF CLOSURE AND SHALL BE AUTOMATICALLY CONTROLLED TO START AND OPERATE SIMULTANEOUSLY WITH THE EXHAUST SYSTEM
- Openings between the garage and residence shall be equipped with solid wood doors not less than 1-3/8-inches (35mm) in thickness, solid or honeycomb core steel doors not less than 1-3/8 inches (35mm) thick, or 20-minute fire-rated doors, equipped with a self-closing device.
- R314.1 Heat detection interconnection. Heat detectors and heat alarms shall be connected to an alarm or a smoke alarm that is installed in the dwelling. Alarms and smoke alarms that are installed for this purpose shall be located in a hallway, room, or other location that will provide occupant notification.

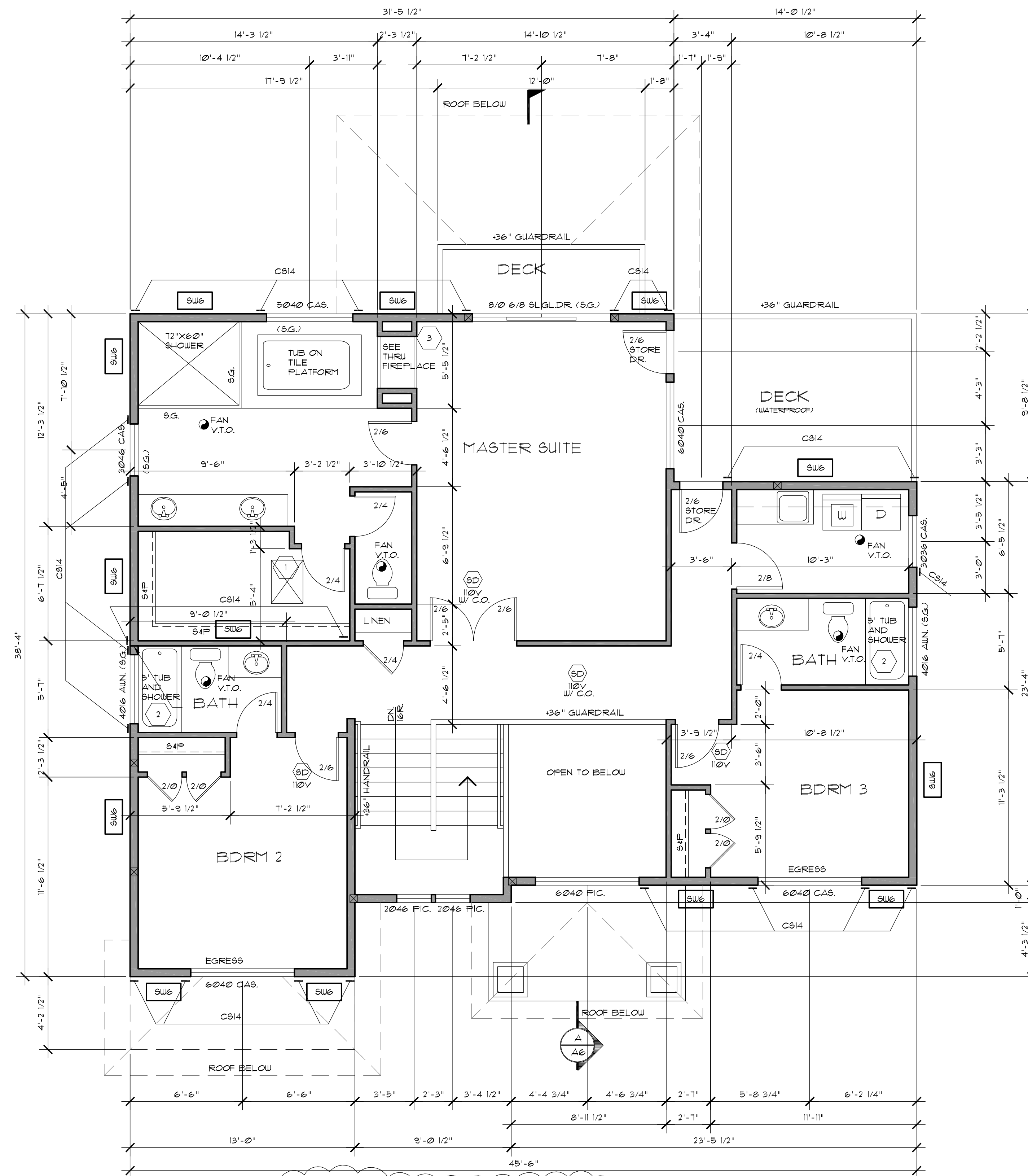
NOTE: CONTRACTOR SHALL VERIFY TO INSPECTOR
 ALL GUARDS AND RAILINGS SHALL BE CAPABLE OF
 RESISTING 200 LB LOAD ON TOP RAIL IN ANY
 DIRECTION AS REQUIRED BY IRC TABLE 301.5

SQUARE FOOTAGE SUMMARY

LOWER FLOOR	251	SQ. FT.
MAIN FLOOR	1332	SQ. FT.
UPPER FLOOR	1305	SQ. FT.
TOTAL	2894	SQ. FT.
LOWER GARAGE	307	SQ. FT.
GARAGE	255	SQ. FT.
COVERED DECK	210	SQ. FT.
UPPER DECKS	184	SQ. FT.

JOB NO: 21006
 DATE: 6/13/22
 DRUN. BY: TH
 REVISED: 9/30/22
 7/3/23

SHEET NO.



NFPA 13d FIRE SPRINKLER SYSTEM REQUIRED

UPPER FLOOR PLAN
 SCALE: 1/4" = 1' - 0"

STAIR LIGHTING ALL STAIRWAYS SHALL BE PROVIDED WITH LIGHT SOURCES. LIGHT ACTIVATION CONTROLS SHALL BE ACCESSIBLE AT THE TOP AND BOTTOM OF INTERIOR STAIRWAYS AND WITHIN DWELLING UNIT FOR EXTERIOR STAIRS. IRC SECTIONS R303.7 & R311.7.9

- 1 22"x30" ATTIC ACCESS. WEATHERSTRIP & INSULATE OVER TO EQUAL CEILING INSULATION. PROVIDE WOOD SURROUND TO PREVENT LOOSE INSULATION SPILLAGE TO LIVING SPACE. (IBC SEC. R201.1)
- 2 CONC. FIBERBOARD @ TUB & SHOWER SURROUND TO 6" ABOVE DRAIN
- 3 DIRECT VENT FIREPLACE INSTALL PER MANUFACTURERS SPECIFICATIONS
- 4 GUARDS ARE NOT OF GLASS BALUSTER CONSTRUCTION. IF GUARDS TO BE OF GLASS BALUSTER CONSTRUCTION, PROVIDE DETAILS OF CONSTRUCTION. GLASS INFILL IS PERMITTED.

NOTE: CONTRACTOR SHALL VERIFY TO INSPECTOR ALL GUARDS AND RAILINGS SHALL BE CAPABLE OF RESISTING 200 LB LOAD ON TOP RAIL IN ANY DIRECTION AS REQUIRED BY IRC TABLE 301.5

A NEW HOME FOR:
THE LIU RESIDENCE
 3705 11TH PL. SE
 MERCER ISLAND, WA 98040

JOB NO: 21006
 DATE: 6/13/22
 DRUN. BY: TH
 REVISED: 9/30/22
 1/3/23

SHEET NO.

MAX. BUILDING HEIGHT = 153.56'

PROPOSED BUILDING HEIGHT = 151.95'

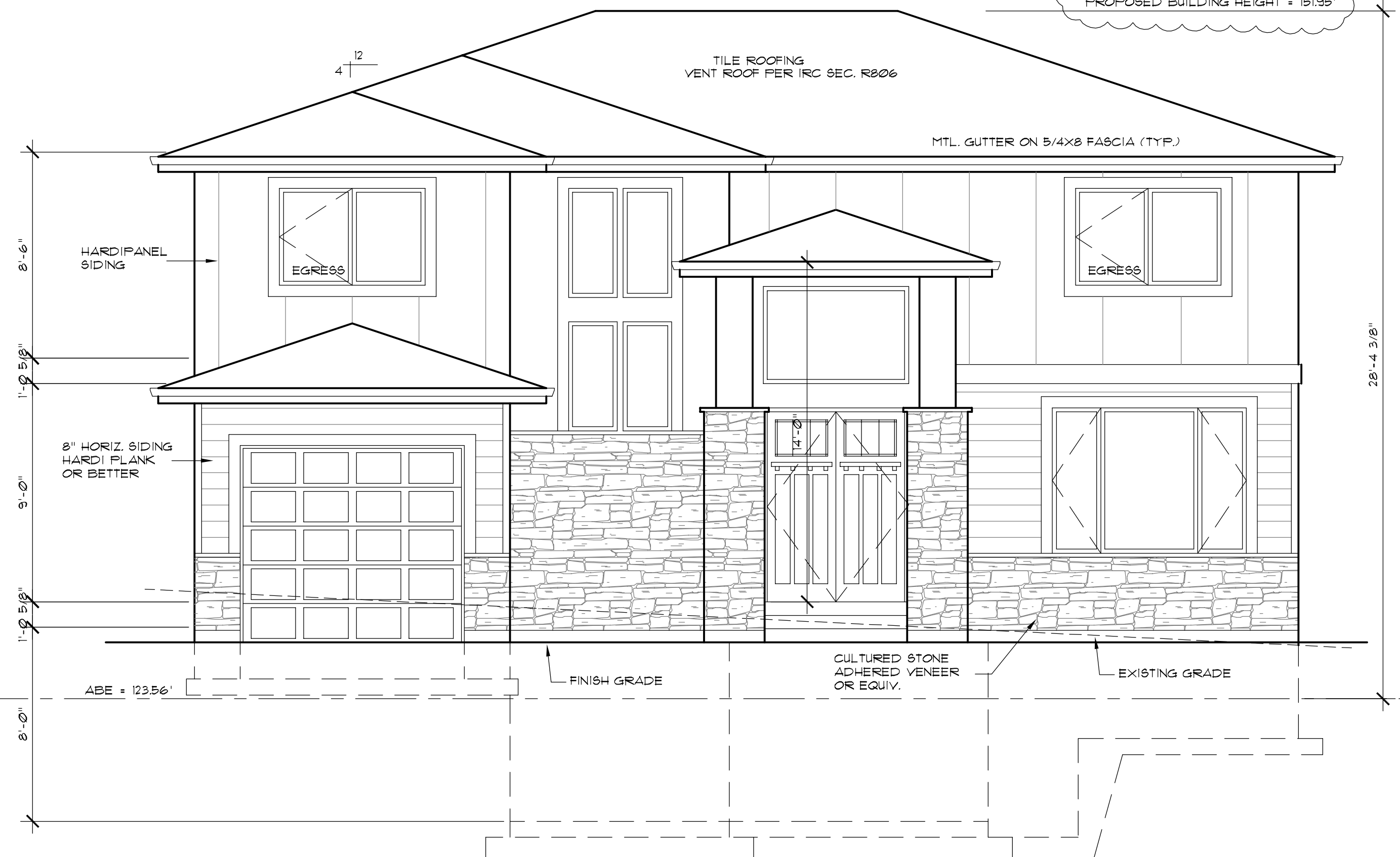


RIGHT ELEVATION

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

MAX. BUILDING HEIGHT = 153.56'

PROPOSED BUILDING HEIGHT = 151.95'



FRONT ELEVATION

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

MAX. BUILDING HEIGHT = 153.56'

PROPOSED BUILDING HEIGHT = 151.95'



REAR ELEVATION

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

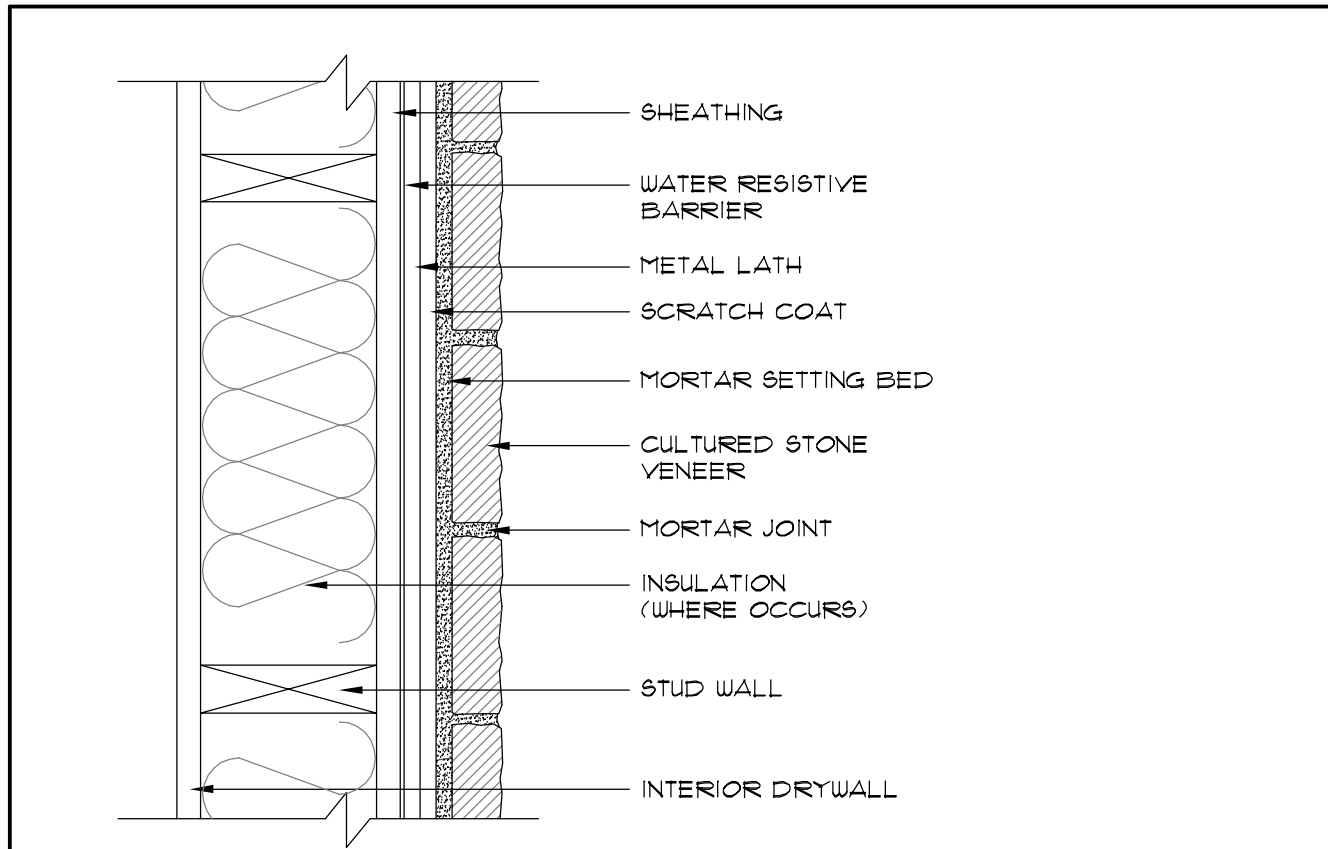
MAX. BUILDING HEIGHT = 153.56'

PROPOSED BUILDING HEIGHT = 151.95'



LEFT ELEVATION

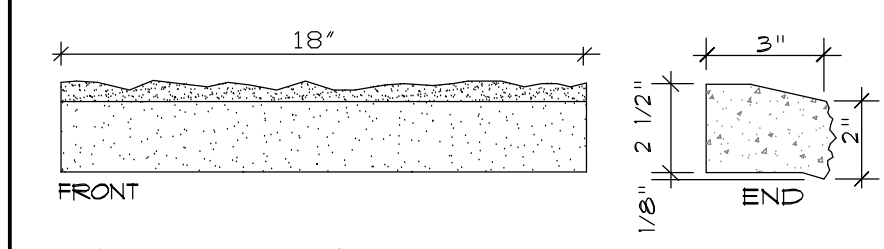
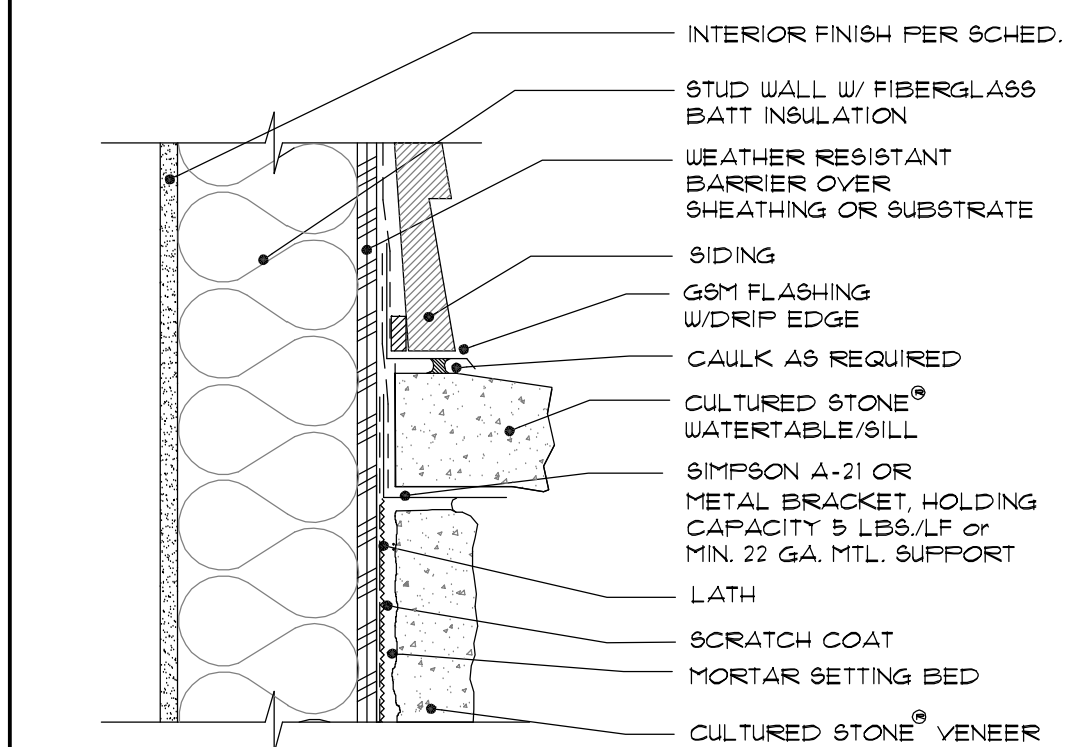
SCALE: 1/4" = 1' - 0"



AN APPROVED REPORT AND INSTALLATION INSTRUCTIONS TO BE ON SITE DURING INSTALLATION AND INSPECTION OF STONE VENEER

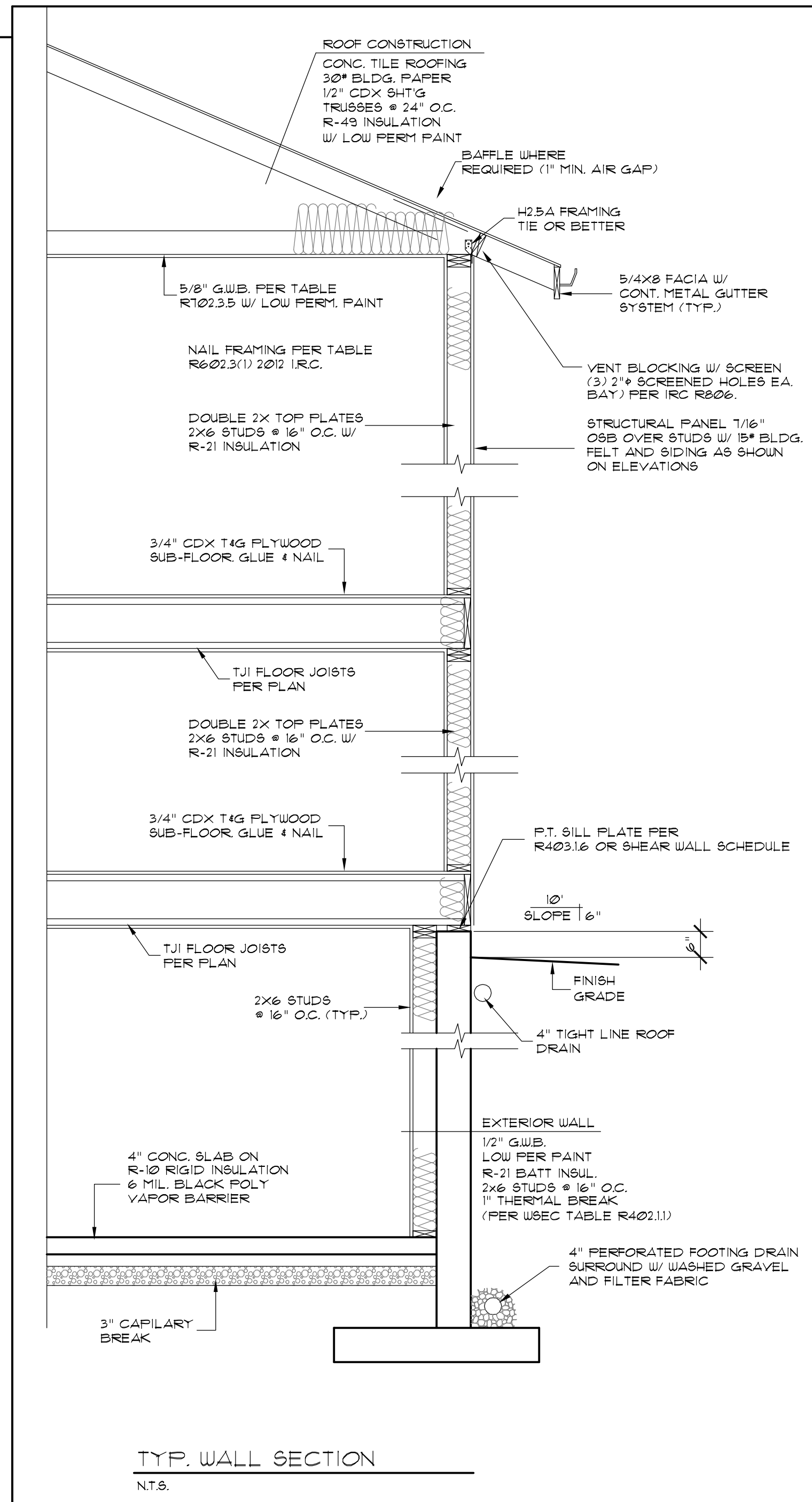
STONE APPLICATION DETAIL
NT.S.

FASTENERS FOR ATTACHMENT OF TRIM ACCESSORIES, FOUNDATION TRIM AND LATH WOOD-SHEATHED FRAMING:
 1. ROOFING NAILS: 11-GAUGE - 7/16" HEAD - 1 3/8" INCHES LONG
 2. STAPLES: 16" GAUGE - 3/4" CROWN - 1 3/8" INCHES LONG
 3. TYPE W SCREWS: WAFER HEAD - 1 1/4" INCHES LONG
 FOR ATTACHMENT OF 25 POUND PER SQUARE YARD DIAMOND MESH LATH, THE SPACING OF FASTENERS SHALL BE 16 INCHES (402MM) O.C. HORIZONTALLY. FOR ATTACHMENT OF WOVEN WIRE LATH WELDED WIRE LATH AND 3/4 POUND PER SQUARE YARD DIAMOND MESH LATH, THE SPACING OF FASTENERS SHALL BE 24 INCHES (609MM) O.C. HORIZONTALLY. VERTICAL ATTACHMENT OF LATH SHALL BE 6 INCHES (152MM).

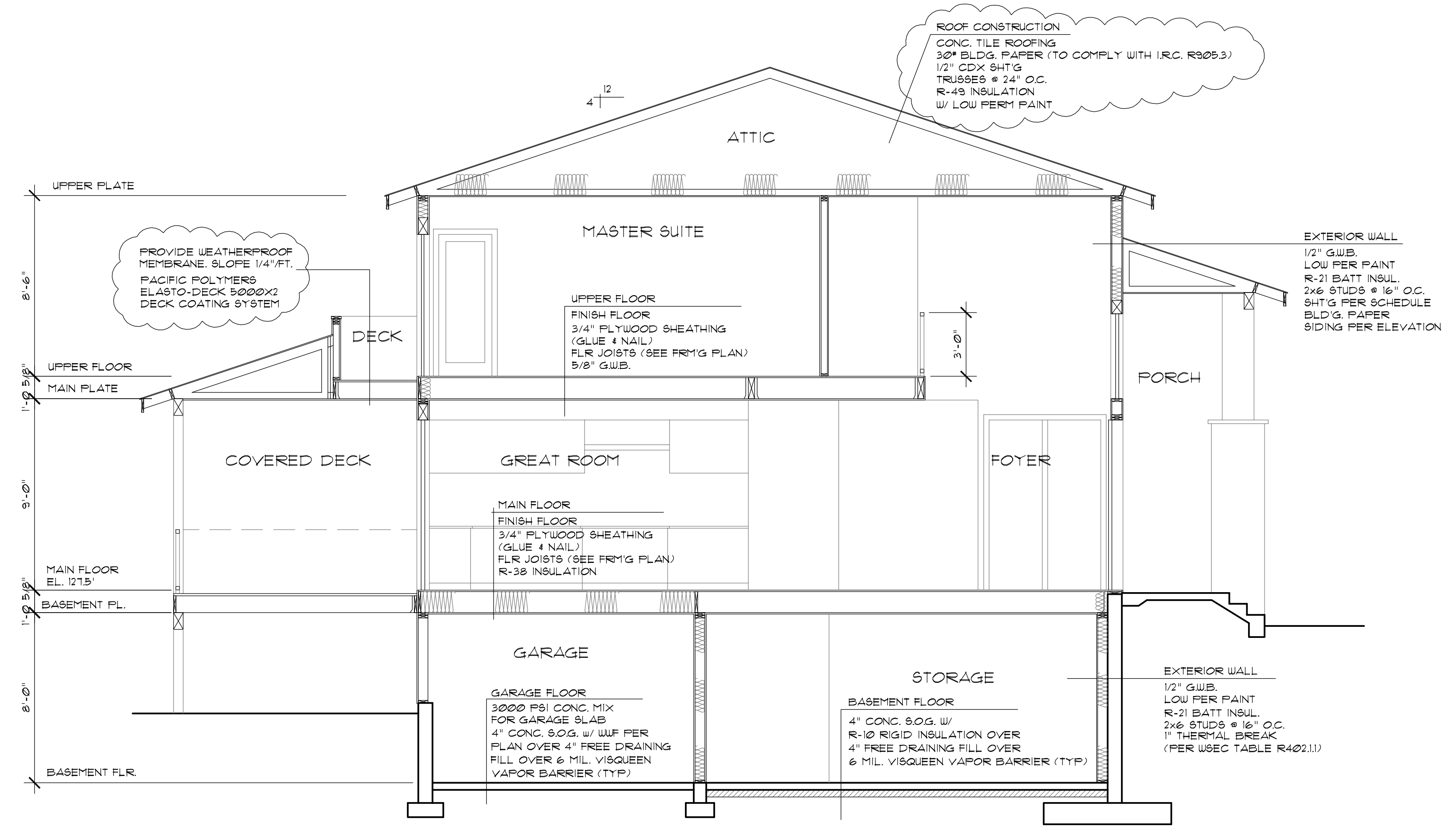


WATERTABLE/SILL PROFILE

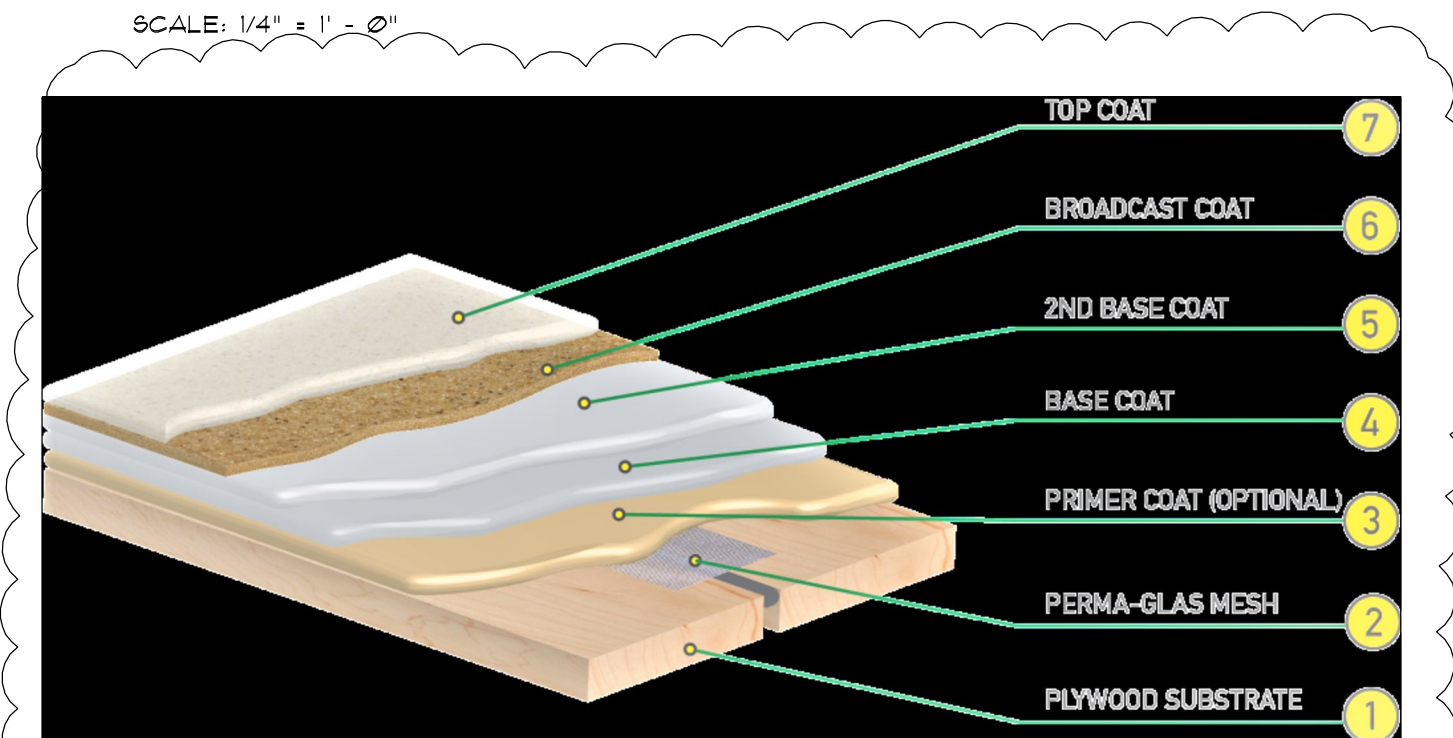
CULTURED STONE® OR THIN STONE WATERTABLE/SILL @ SIDING
SCALE: NT.S.



TYP. WALL SECTION
NT.S.



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



WATERPROOF DECK DETAIL

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective February 1, 2021)

Each dwelling unit in a residential building shall comply with sufficient options from Table R406.2 (fuel normalization credits) and Table 406.3 (energy credits) to achieve the following minimum number of credits. To claim this credit, the building permit drawings shall specify the option selected and the maximum tested building air leakage, and show the qualifying ventilation system and its control sequence of operation.

- 1. Small Dwelling Unit: 3 credits
Dwelling units less than 1,500 sf in conditioned floor area with less than 300 sf of fenestration area. Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.
- 2. Medium Dwelling Unit: 6 credits
All dwelling units that are not included in #1 or #3
- 3. Large Dwelling Unit: 7 credits
Dwelling units exceeding 5,000 sf of conditioned floor area
- 4. Additions less than 500 square feet: 1.5 credits
All other additions shall meet 1-3 above

Summary of Table R406.2			
Heating Options	Fuel Normalization Descriptions	Credits - select ONE heating option	User Notes
1	Combustion heating minimum NAECAB	0.0	
2	Heat pump	1.0	●
3	Electric resistance heat only - furnace or zonal	-1.0	
4	DHP with zonal electric resistance per option 3.4	0.5	
5	All other heating systems	-1.0	
Energy Options	Energy Credit Option Descriptions	Credits - select ONE energy option from each category a	
1.1	Efficient Building Envelope	0.5	
1.2	Efficient Building Envelope	1.0	
1.3	Efficient Building Envelope	0.5	●
1.4	Efficient Building Envelope	1.0	
1.5	Efficient Building Envelope	2.0	
1.6	Efficient Building Envelope	3.0	
1.7	Efficient Building Envelope	0.5	
2.1	Air Leakage Control and Efficient Ventilation	0.5	
2.2	Air Leakage Control and Efficient Ventilation	1.0	●
2.3	Air Leakage Control and Efficient Ventilation	1.5	
2.4	Air Leakage Control and Efficient Ventilation	2.0	
3.1a	High Efficiency HVAC	1.0	
3.2	High Efficiency HVAC	1.0	
3.3a	High Efficiency HVAC	1.5	
3.4	High Efficiency HVAC	1.5	
3.5	High Efficiency HVAC	1.5	●
3.6a	High Efficiency HVAC	2.0	
4.1	High Efficiency HVAC Distribution System	0.5	●
4.2	High Efficiency HVAC Distribution System	1.0	
5.1d	Efficient Water Heating	0.5	
5.2	Efficient Water Heating	0.5	
5.3	Efficient Water Heating	1.0	●
5.4	Efficient Water Heating	1.5	
5.5	Efficient Water Heating	2.0	
5.6	Efficient Water Heating	2.5	
6.1e	Renewable Electric Energy (3 credits max)	1.0	
7.1	Appliance Package	0.5	
Total Credits		6.0	

- a. An alternative heating source sized at a maximum of 0.5 W/sf (equivalent) of heated floor area or 500 W, whichever is bigger, may be installed in the dwelling unit.
- b. Equipment listed in Table C403.3.2(4) or C403.3.2(5)
- c. Equipment listed in Table C403.3.2(1) or C403.3.2(2)
- d. You cannot select more than one option from any category EXCEPT in category 5. Option 5.1 may be combined with options 5.2 through 5.6. See Table 406.3.
- e. 1.0 credit for each 1,200 kWh of electrical generation provided annually, up to 3 credits max. See the complete Table R406.2 for all requirements and option descriptions.

Energy Credits (2018 Code)

TABLE 406.3
2018 ENERGY CREDITS

OPTION	DESCRIPTION	CREDIT(S)	
		All Other	Group R-2
1. EFFICIENT BUILDING ENVELOPE OPTIONS Only one option from Items 1.1 through 1.7 may be selected in this category. Compliance with the conductive UA targets is demonstrated using Section R402.1.4, Total UA alternative, where $1 - (\text{Proposed UA} / \text{Target UA}) > \text{the required \%UA reduction}$			
1.3	Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenestration U = 0.28 Floor R-38 Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab or Compliance based on Section R402.1.4: Reduce the Total conductive UA by 5%.	0.5	N/A
2.2	Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 2.0 air changes per hour maximum at 50 Pascals or For R-2 Occupancies, optional compliance based on Section R402.4.1.2: Reduce the tested air leakage to 0.25 cfm/ft2 maximum at 50 Pascals and All whole house ventilation requirements as determined by Section M1507.3 of the International Residential Code or Section 403.8 of the International Mechanical Code shall be met with a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.65. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the heat recovery ventilation system.	1.0	1.5
3.5a	Air-source, centrally ducted heat pump with minimum HSPF of 11.0. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.	1.5	N/A

TABLE 406.3
2018 ENERGY CREDITS

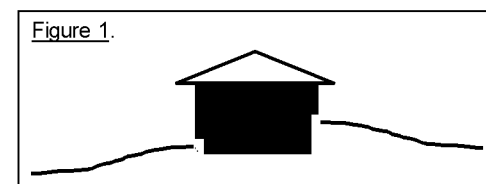
OPTION	DESCRIPTION	CREDIT(S)	
		All Other	Group R-2
4. HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM OPTIONS			
4.1	All supply and return ducts located in an unconditioned attic shall be deeply buried in ceiling insulation in accordance with Section R403.3.7. For mechanical equipment located outside the conditioned space, a maximum of 10 linear feet of return duct and 5 linear feet of supply duct connections to the equipment may be outside the deeply buried insulation. All metallic ducts located outside the conditioned space must have both transverse and longitudinal joints sealed with mastic. If flex ducts are used, they cannot contain splices. Duct leakage shall be limited to 3 cfm per 100 square feet of conditioned floor area. Air handler(s) shall be located within the conditioned space.	0.5	0.5
5. EFFICIENT WATER HEATING OPTIONS			
5.3	Water heating system shall include one of the following: Energy Star rated gas or propane water heater with a minimum UEF of 0.91 or Solar water heating supplementing a minimum standard water heater. Solar water heating will provide a rated minimum savings of 85 therms or 2000 kWh based on the Solar Rating and Certification Corporation (SRCC) Annual Performance of OG-300 Certified Solar Water Heating Systems or Water heater heated by ground source heat pump meeting the requirements of Option 3.3. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater equipment type and the minimum equipment efficiency and, for solar water heating systems, the calculation of the minimum energy savings.	1.0	1.0

Window, Skylight and Door Schedule

Project Information		Contact Information	
LIU RESIDENCE			
Exempt Swinging Door (24 sq. ft. max.)		Ref. U-factor	Area UA
Exempt Glazed Fenestration (15 sq. ft. max.)		Ref. U-factor	Area UA
Vertical Fenestration (Windows and doors)			
Component Description	Ref. U-factor	Width Ft. Height Ft.	Area UA
ENTRY TRANS.	0.28	1 6 1	6.0 1.68
DEN	0.28	1 6 4	24.0 6.72
POWDER RM	0.28	1 2 4	8.0 2.24
GREAT ROOM	0.28	1 12 8	96.0 26.88
DINING	0.28	1 5 8	40.0 11.20
DINING	0.28	1 8 7	56.0 15.68
KITCHEN	0.28	1 8 7	56.0 15.68
PANTRY	0.28	1 1 6 4	6.0 1.68
LAUNDRY	0.28	1 4 2	8.0 2.24
BEDROOM 3	0.28	1 6 4	24.0 6.72
LEISURE	0.28	1 6 4	24.0 6.72
BEDROOM 4	0.28	1 6 4	24.0 6.72
MASTER SUITE	0.28	1 8 4	32.0 8.96
MASTER BATH	0.28	1 4 4	16.0 4.48
MASTER BATH	0.28	1 4 3 6	14.0 3.92
MASTER BATH	0.28	1 2 3	6.0 1.68
BEDROOM 2	0.28	1 6 4	24.0 6.72
BEDROOM 2	0.28	3 2 2	12.0 3.36
HALL BATH	0.28	2 2 2	8.0 2.24
UPSTAIRS BATHS	0.28	2 4 1 6	12.0 3.36
			0.0 0.00
			0.0 0.00
Sum of Vertical Fenestration Area and UA			496.0 138.88
Vertical Fenestration Area Weighted U = UA/Area			0.28
Overhead Glazing (Skylights)			
Component Description	Ref. U-factor	Width Ft. Height Ft.	Area UA
			0.0 0.00
			0.0 0.00
Sum of Overhead Glazing Area and UA			0.0 0.00
Overhead Glazing Area Weighted U = UA/Area			0.00
Total Sum of Fenestration Area and UA (for heating system sizing calculations)			496.0 138.88

Simple Heating System Size: Washington State

This heating system sizing calculator is based on the Prescriptive Requirements of the 2018 Washington State Energy Code (WSEC) and ACCA Manuals J and S. This tool will calculate heating loads only. ACCA procedures for sizing cooling systems should be used to determine cooling loads. Please complete the green drop-downs and boxes that are applicable to your project. As you make selections in the drop-downs for each section, some values will be calculated for you. If you do not see the selection you need in the drop-down options, please contact the WSU Energy Program at energycode@energy.wsu.edu or (360) 956-2042 for assistance.

Project Information		Contact Information	
LIU RESIDENCE		ON	
Merced Island		6"	
All Other Systems		Heat Pump	
Heating System Type:			
To see detailed instructions for each section, place your cursor on the word "Instructions"			
Design Temperature		Design Temperature Difference (ΔT)	
Merced Island		45	
Area of Building			
Conditioned Floor Area		Conditioned Volume	
Instruction: Conditioned Floor Area (sq ft)		2,894	
Average Ceiling Height		Average Ceiling Height (ft)	
Instruction: 8.5		24,599	
Glazing and Doc		U-Factor X Area = UA	
Instruction: U-0.28		0.280 X 496 = 138.88	
Skylights		U-Factor X Area = UA	
Instruction: 0.50		0.50 X 0 = 0.00	
Insulation		U-Factor X Area = UA	
Attic		Instruction: R-49	
Instruction: 0.026		1,445 = 37.57	
Single Rafter or Joist		U-Factor X Area = UA	
Instruction: Select R-Value		No selection = 0.00	
Above Grade Wall		U-Factor X Area = UA	
Instruction: R-21 Intermediate		0.056 X 2,588 = 144.93	
Floors		U-Factor X Area = UA	
Instruction: R-38		0.025 X 696 = 17.40	
Below Grade Wall		U-Factor X Area = UA	
Instruction: R-21 Interior		0.042 X 848 = 35.62	
Slab Below Grade		F-Factor X Length = UA	
Instruction: R-10 Fully Insulated		0.303 X 106 = 32.12	
Slab on Grade		F-Factor X Length = UA	
Instruction: Select R-Value		No selection = 0.00	
Location of Duct		Duct Leakage Coefficient	
Instruction: Conditioned Space		1.00	
Figure 1		Sum of UA	
		406.51	
		Envelope Heat Load	
		Sum of UA x ΔT	
		18,293 Btu / Hour	
		Air Leakage Heat Load	
		Volume x 0.6 x ΔT x 0.018	
		11,955 Btu / Hour	
		Building Design Heat Load	
		Air leakage + envelope heat loss	
		30,248 Btu / Hour	
		Building and Duct Heat Load	
		Ducts in unconditioned space: sum of building heat loss x 1.10	
		Ducts in conditioned space: sum of building heat loss x 1	
		Maximum Heat Equipment Output	
		42,347 Btu / Hour	
		Building and duct heat loss x 1.40 for forced air furnace	
		Building and duct heat loss x 1.25 for heat pump	

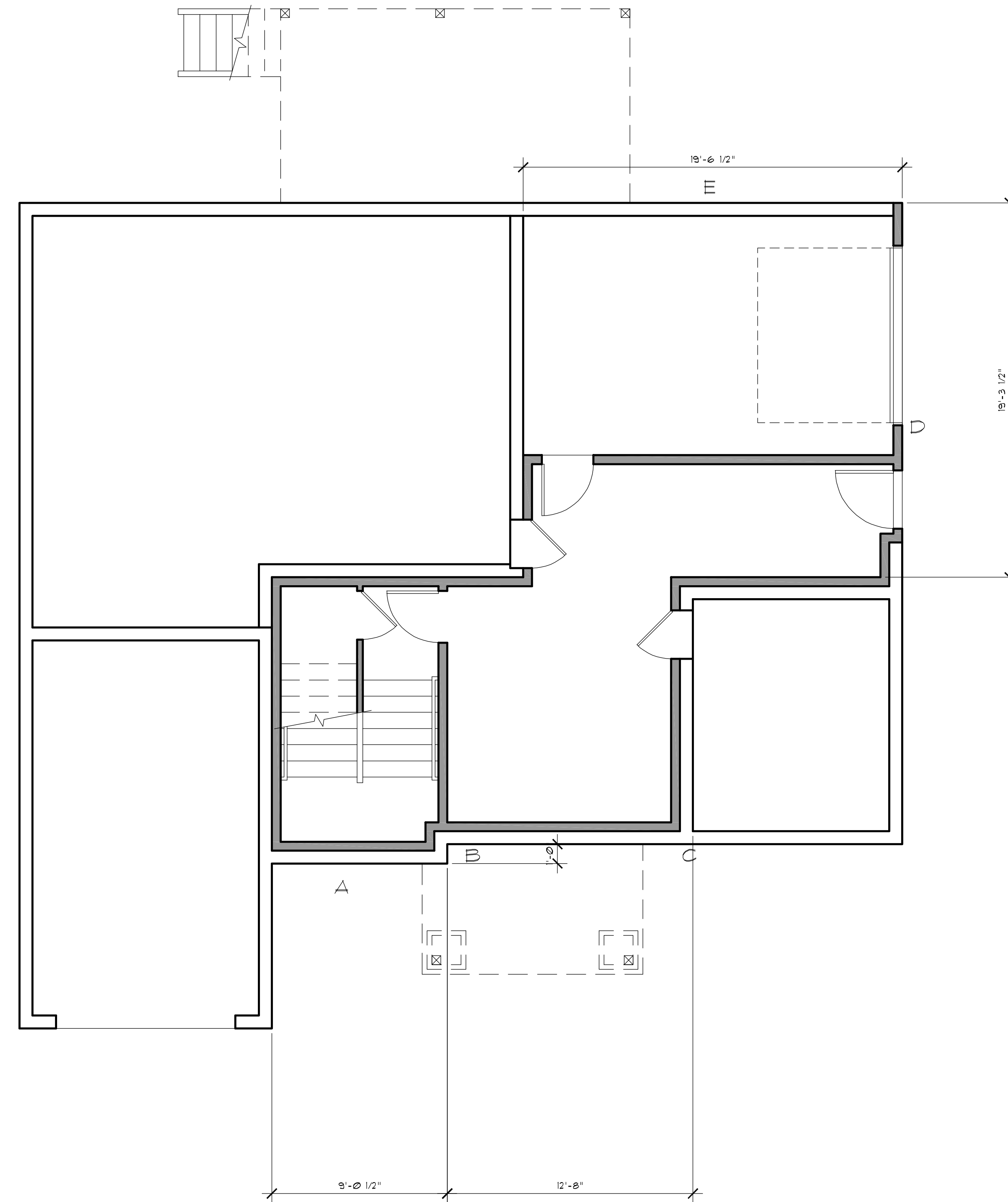


A NEW HOME FOR:
THE LIU RESIDENCE
3705 11TH PL. SE
MERCER ISLAND, WA 98040

JOB NO: 21006
DATE: 6/13/22
DRUN. BY: TH
REVISED: 7/3/23

SHEET NO.





BASEMENT FLOOR AREA CALCULATION

WALL	LENGTH	COVERAGE	RESULT
A	9.08	100%	9.08%
B	1'	100%	1%
C	12'	100%	12%
D	19.33'	6.3	1.22%
E	19.5'	18.6%	3.63%
TOTAL	60.91'		26.93%

PORTION OF EXCLUDED BASEMENT FLOOR AREA:
 $619 \text{ (ACTUAL SQ. FT. W/ GARAGE)} \times (26.93/60.91) = 273.1 \text{ SQ. FT.}$
AREA OF BASEMENT EXCLUDED = 619-273.1 = 336 SQ. FT.

GROSS FLOOR AREA

LOWER FLOOR W/ GARAGE	619	SQ. FT.
MAIN FLOOR W/ GARAGE	1635	SQ. FT.
UPPER FLOOR	1360	SQ. FT.
TOTAL	3614	SQ. FT.
BASEMENT EXCLUDED	336	SQ. FT.
TOTAL	3278	SQ. FT.
LOT AREA	8345	SQ. FT.
SQUARE FOOTAGE ALLOWED (40%)	3338	SQ. FT.

BASEMENT REDUCTION CALC
 SCALE: 1/4" = 1' - 0"



A NEW HOME FOR:

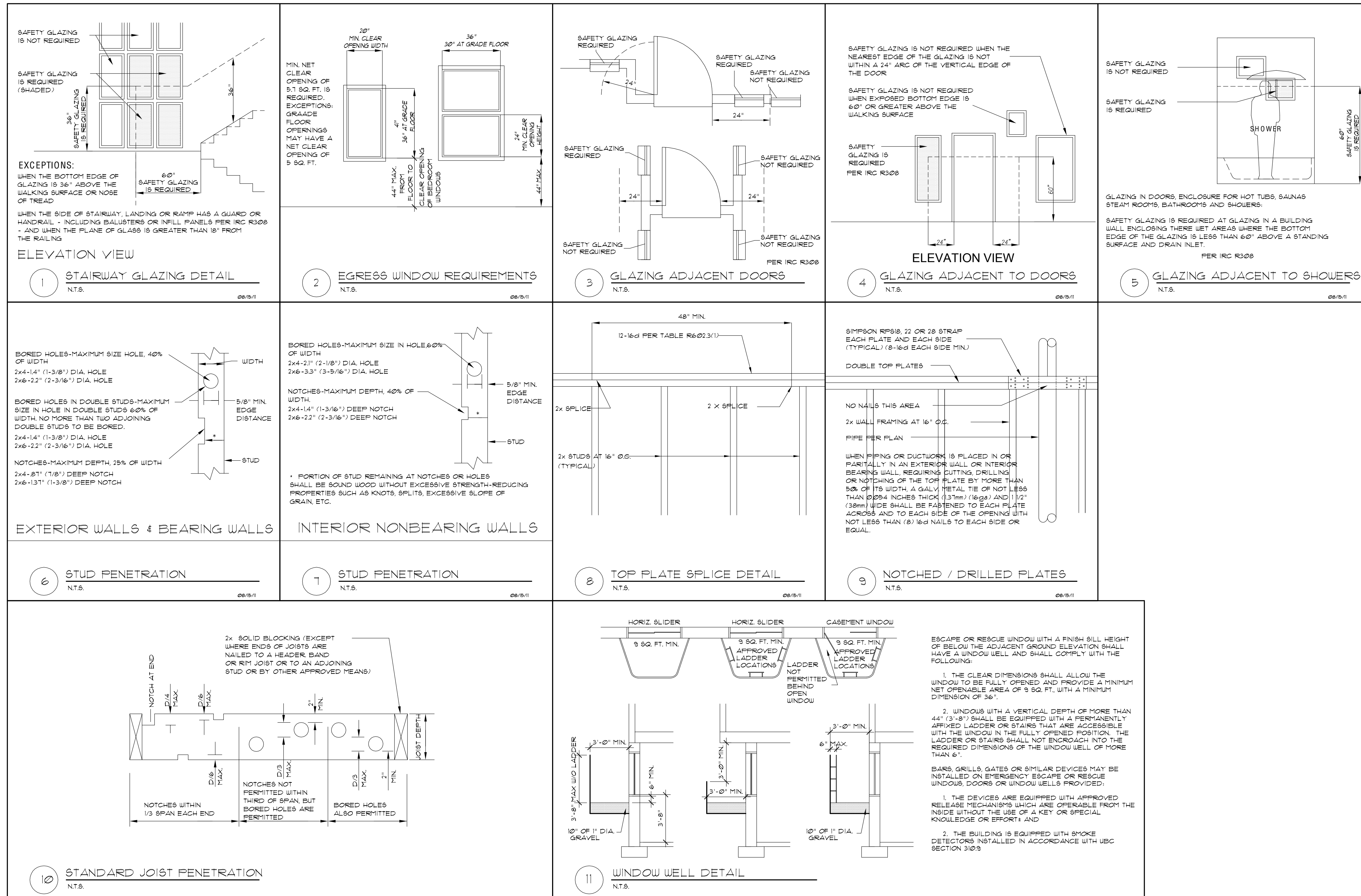
THE LIU RESIDENCE

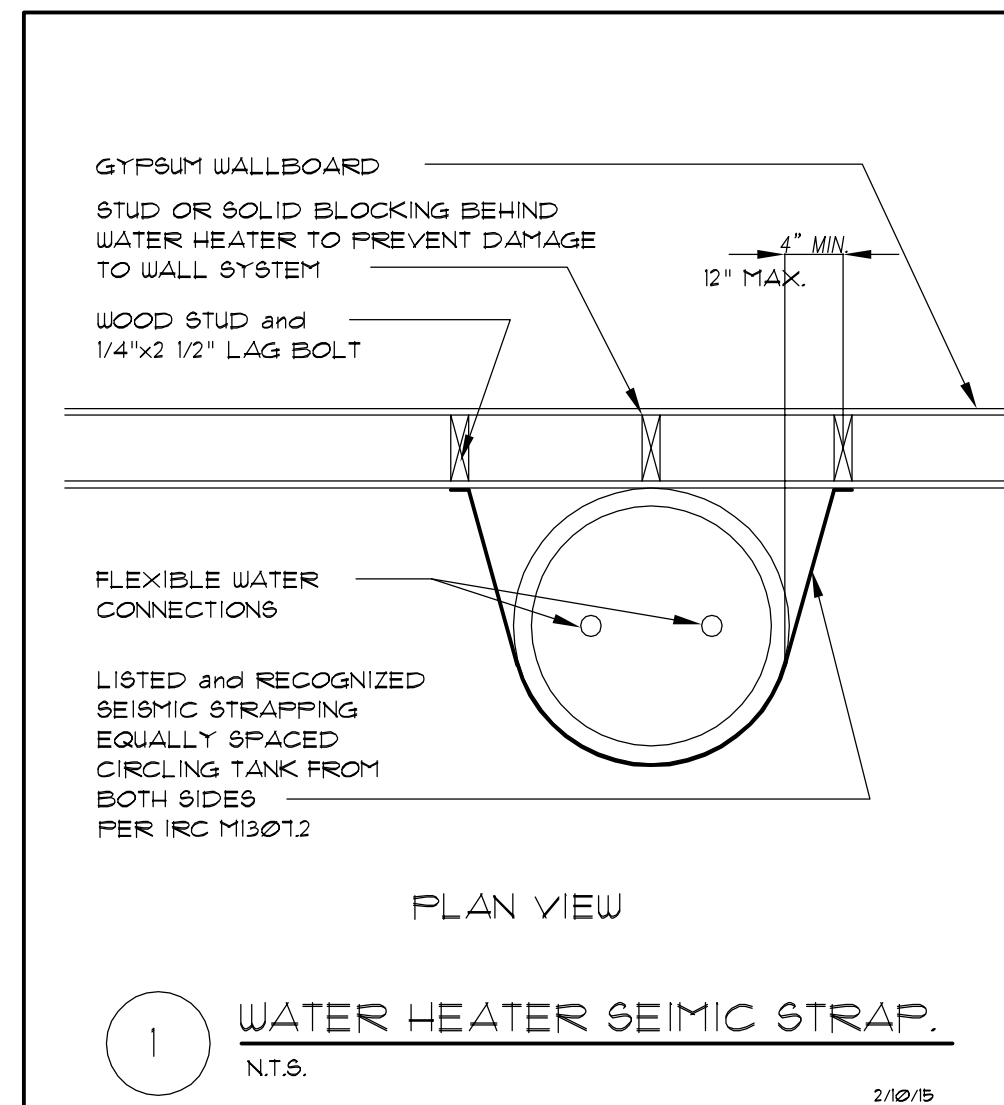
3705 11TH PL. SE
 MERCER ISLAND, WA 98040

JOB NO: 21006
 DATE: 6/13/22
 DRUN. BY: TH
 REVISED: 9/30/22

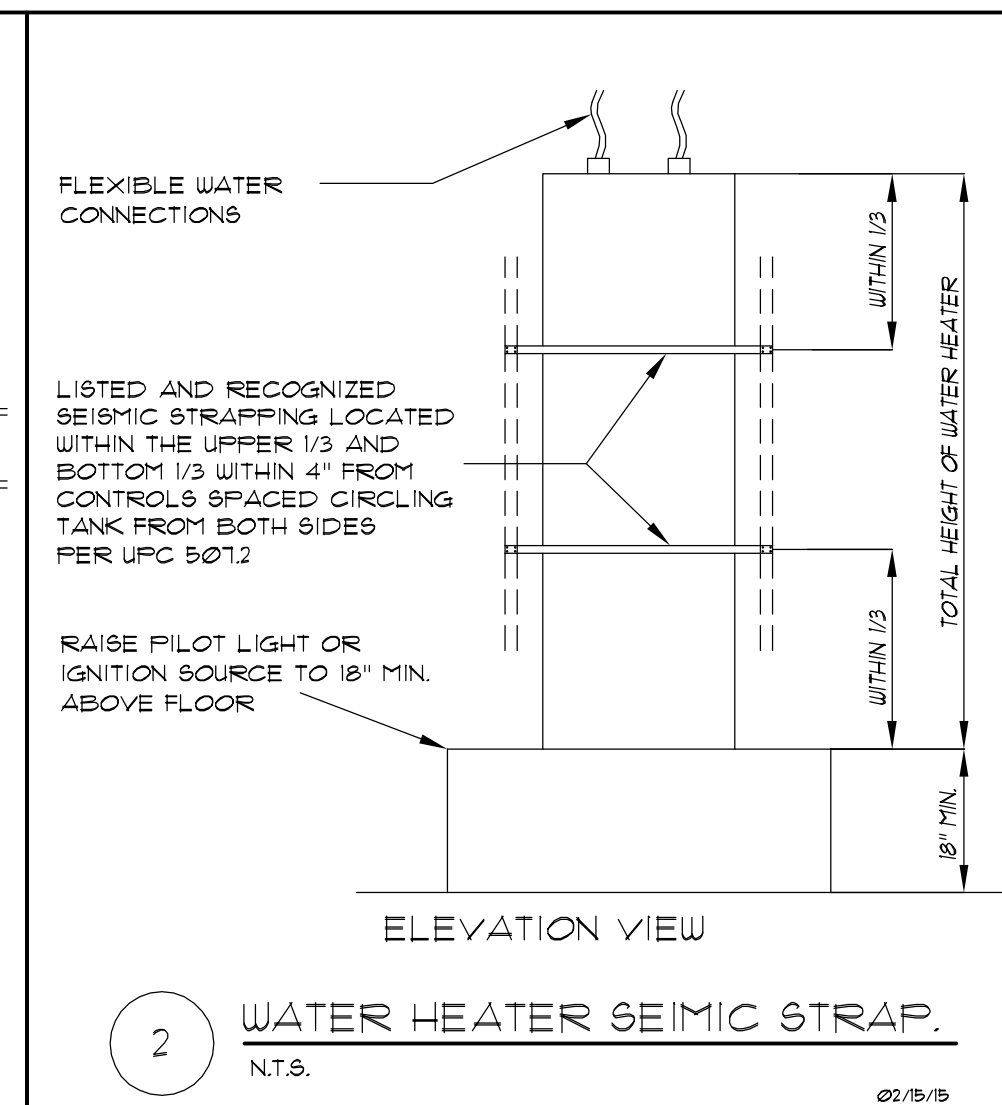
SHEET NO.

A8

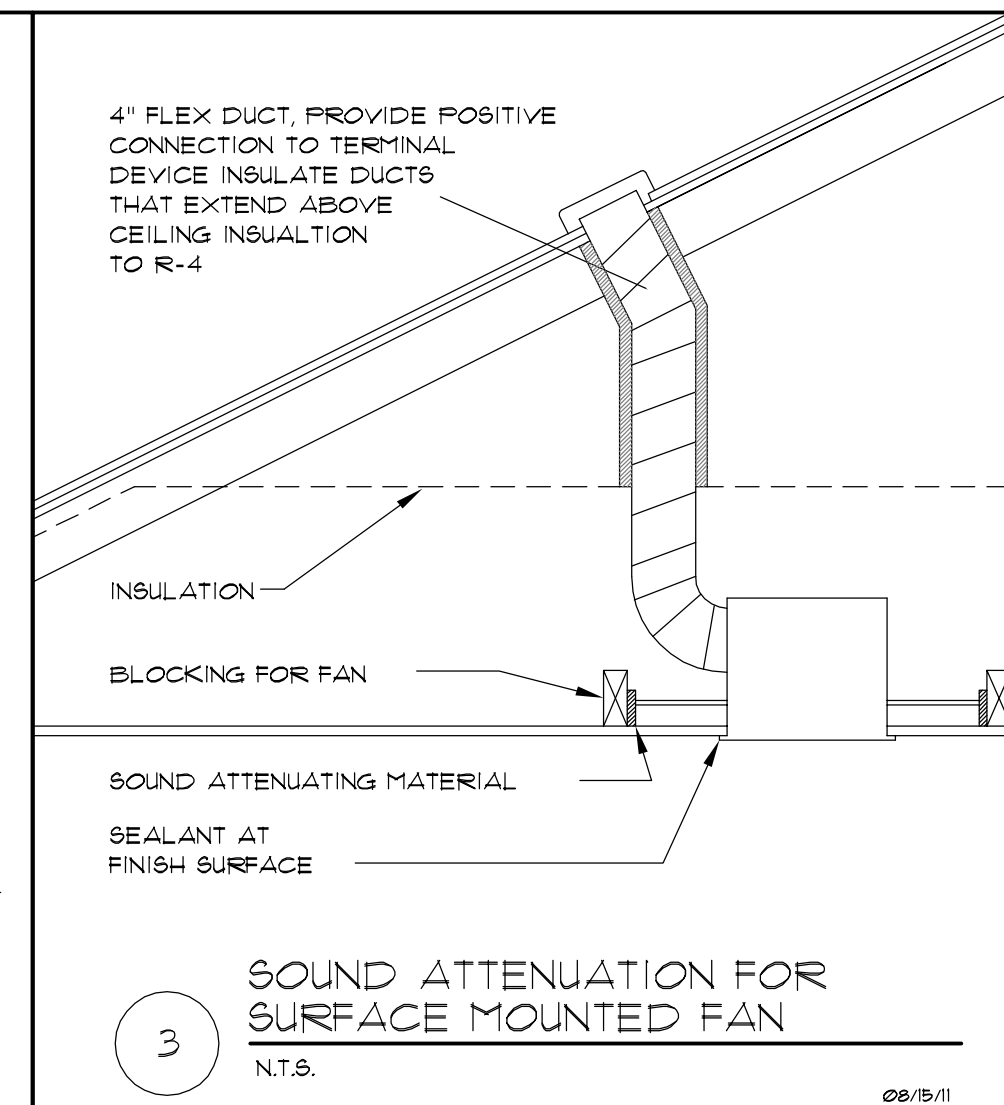




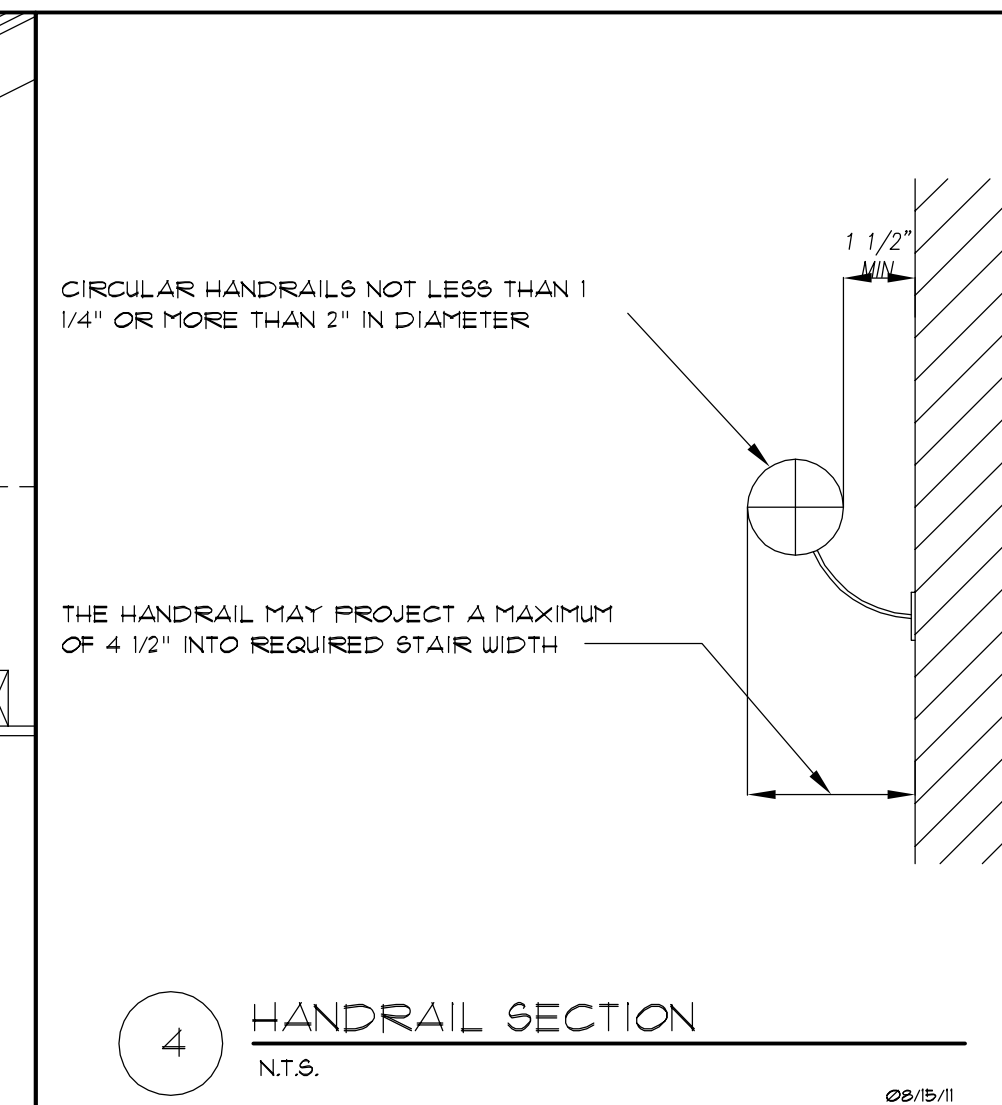
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N.T.S. 2/10/19



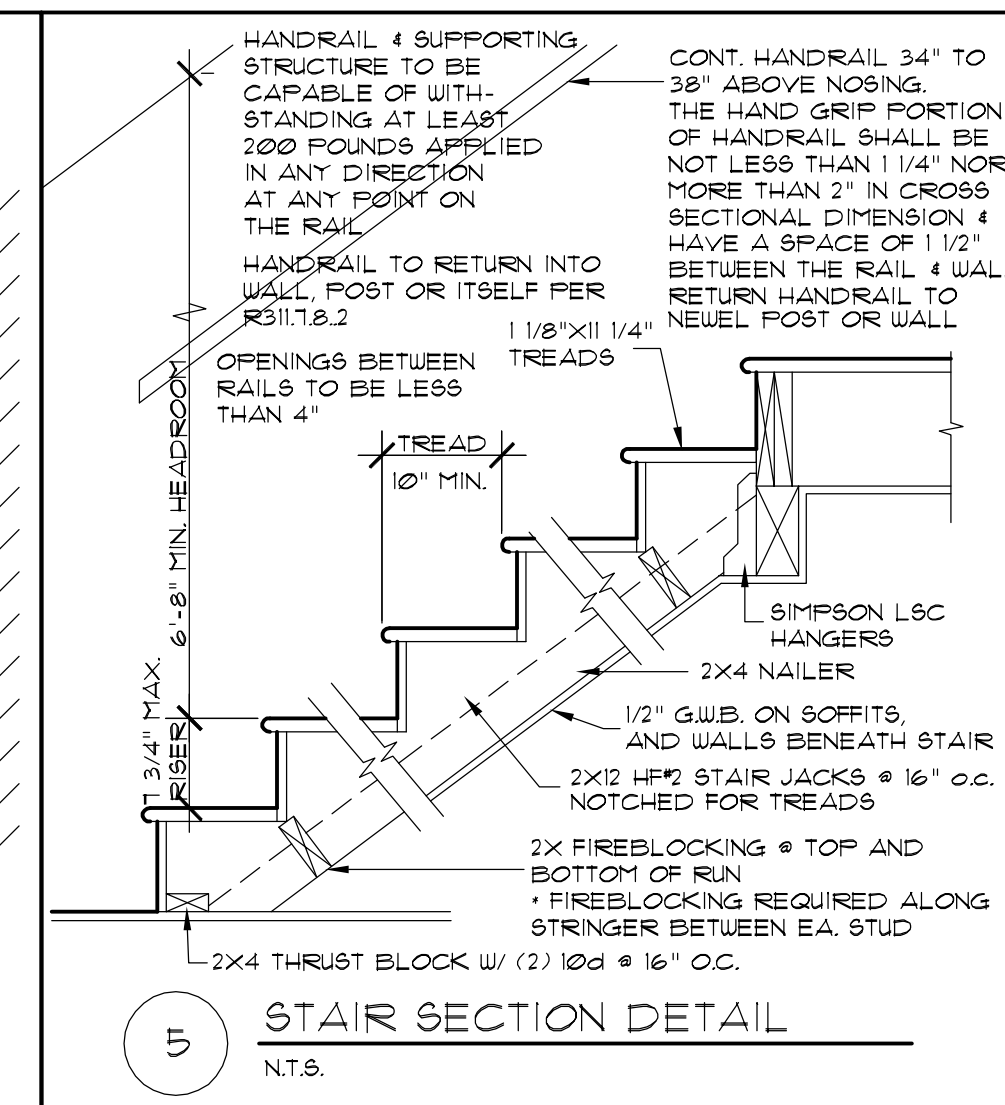
2 WATER HEATER SEISMIC STRAP
N.T.S. 02/15/19



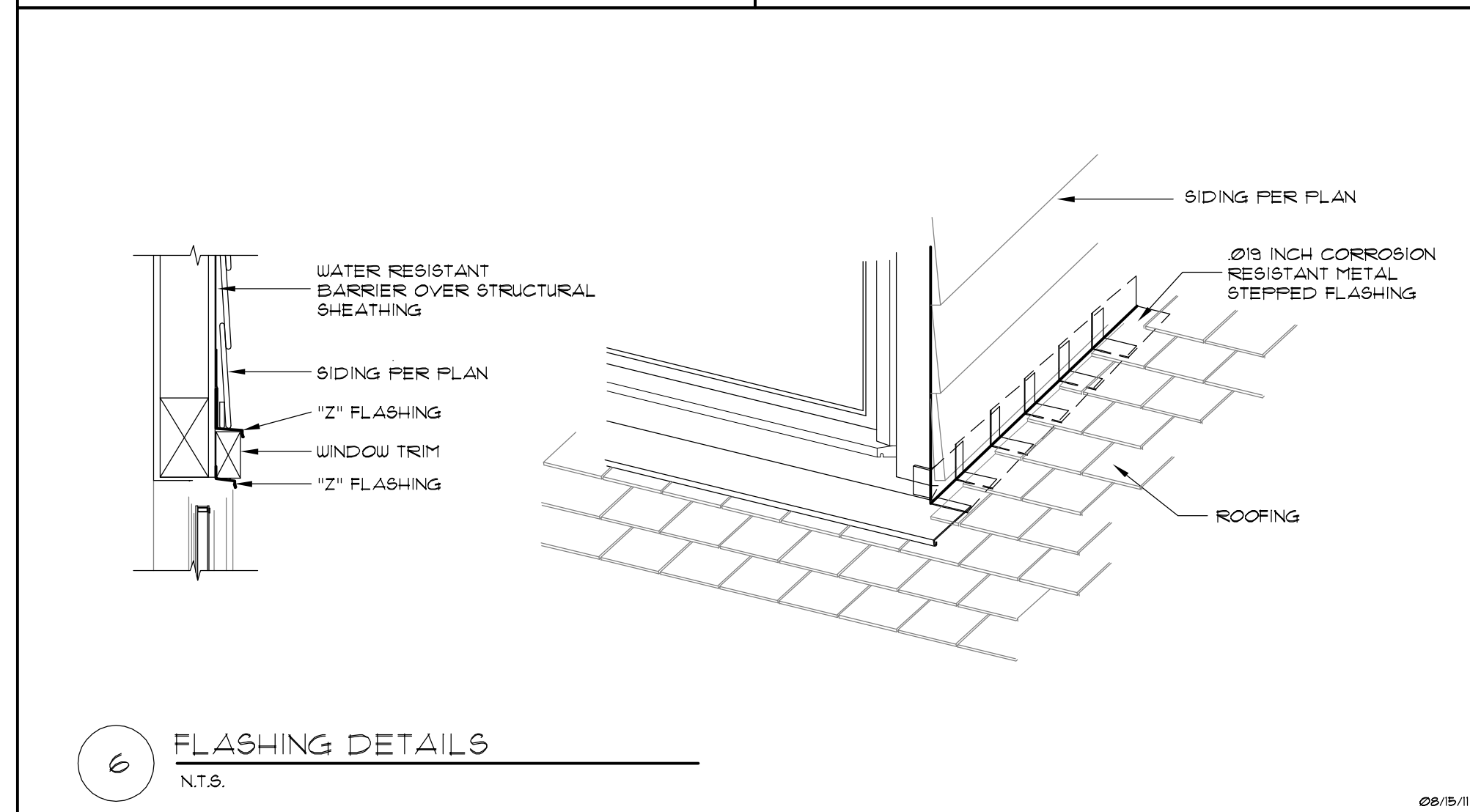
3 SOUND ATTENUATION FOR SURFACE MOUNTED FAN
N.T.S. 06/15/11



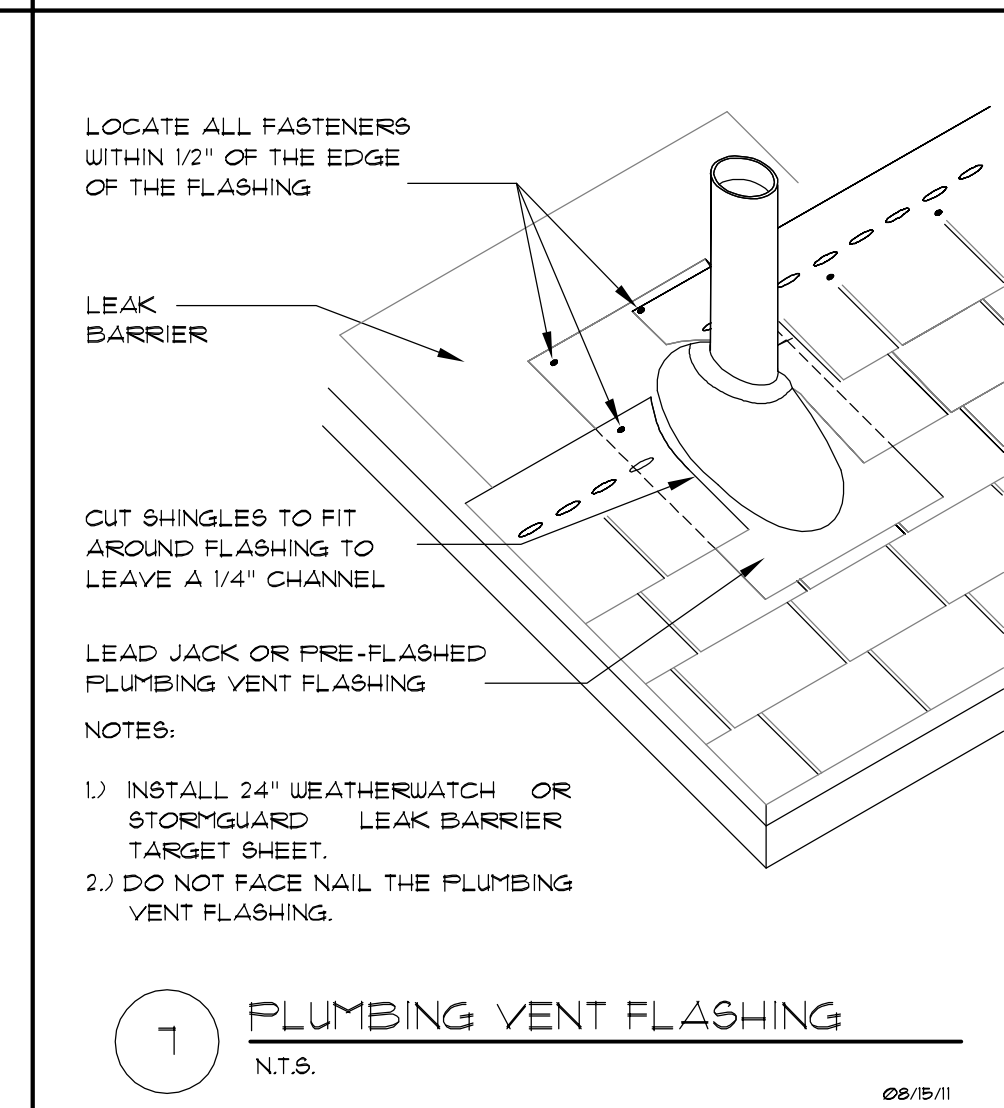
4 HANDRAIL SECTION
N.T.S. 06/15/11



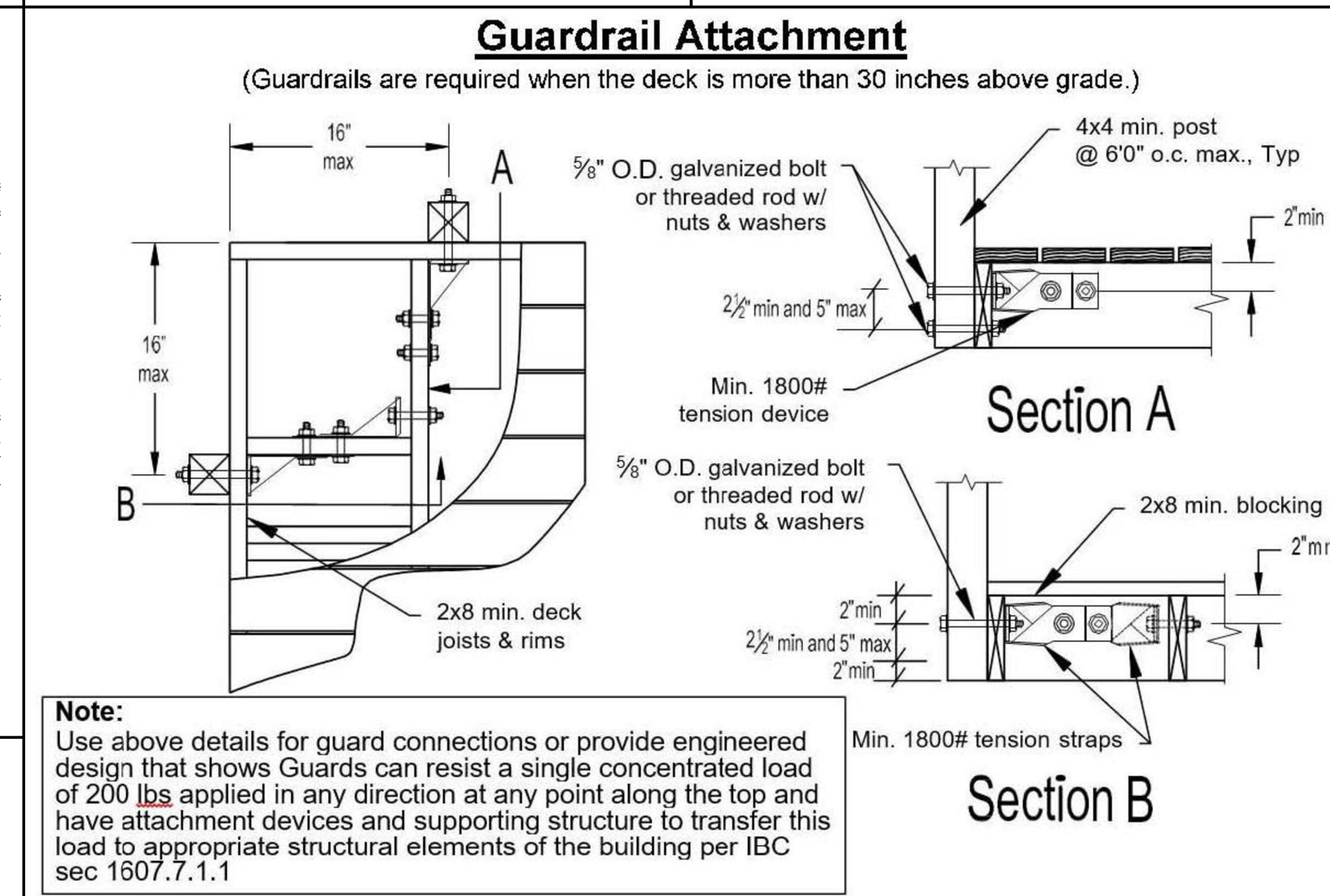
5 STAIR SECTION DETAIL
N.T.S.



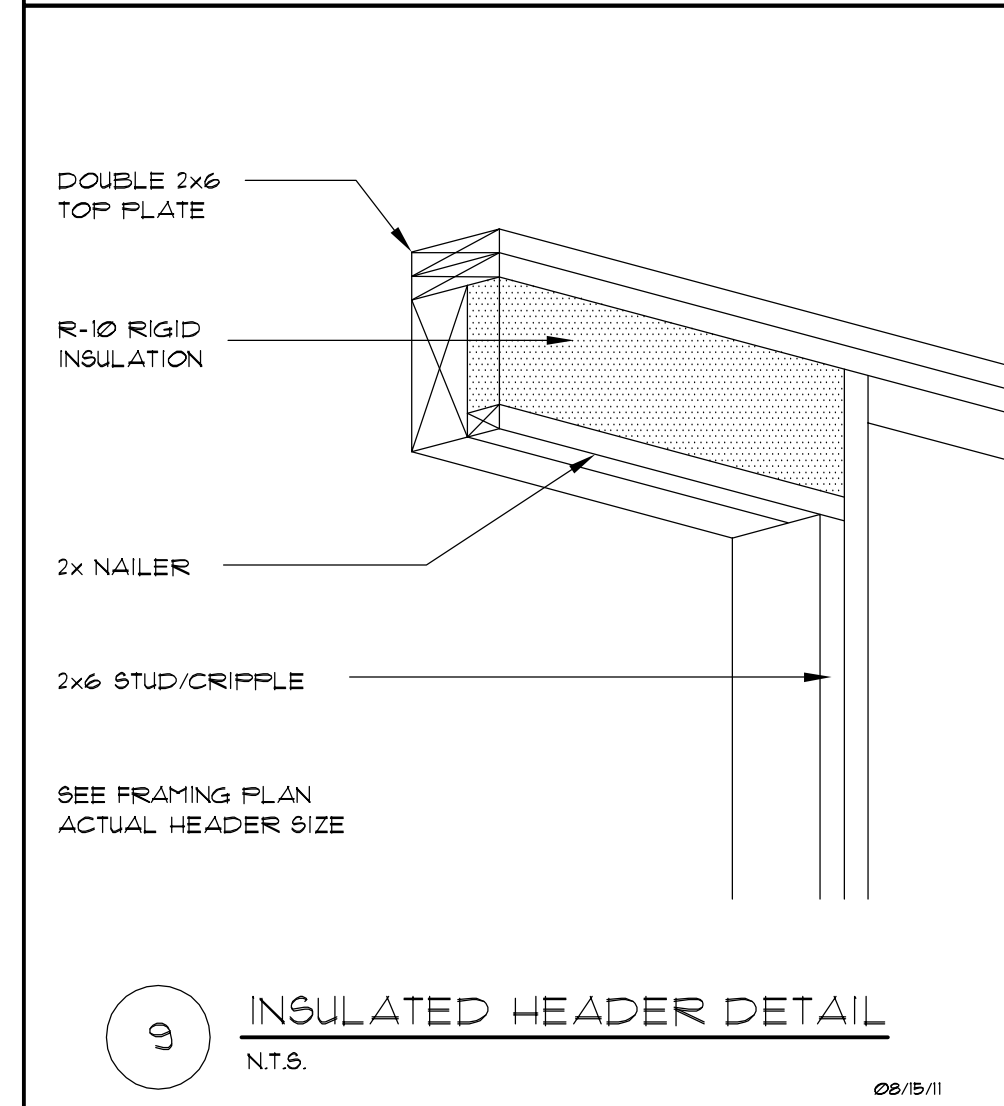
6 FLASHING DETAILS
N.T.S.



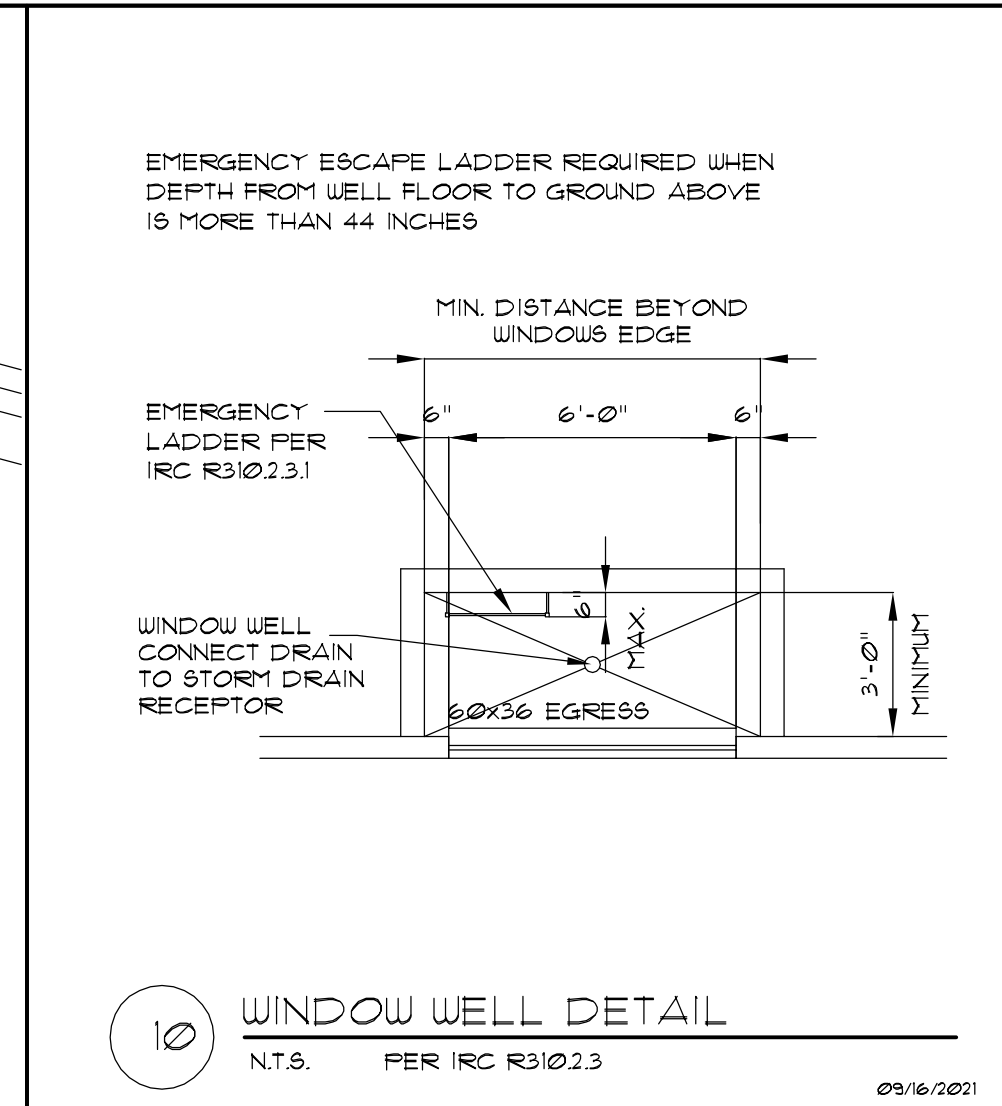
7 PLUMBING VENT FLASHING
N.T.S. 06/15/11



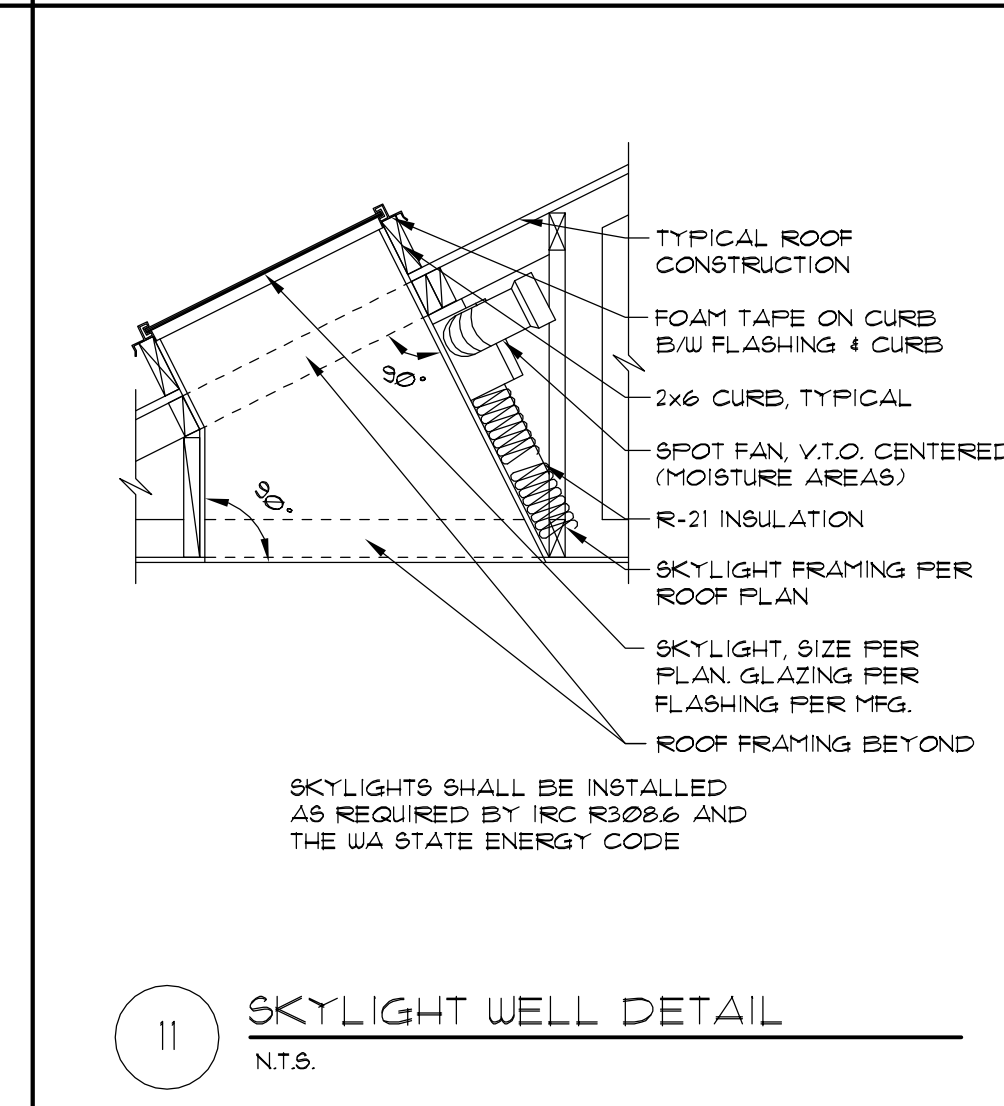
8 GUARD RAIL ATTACHMENT
N.T.S.



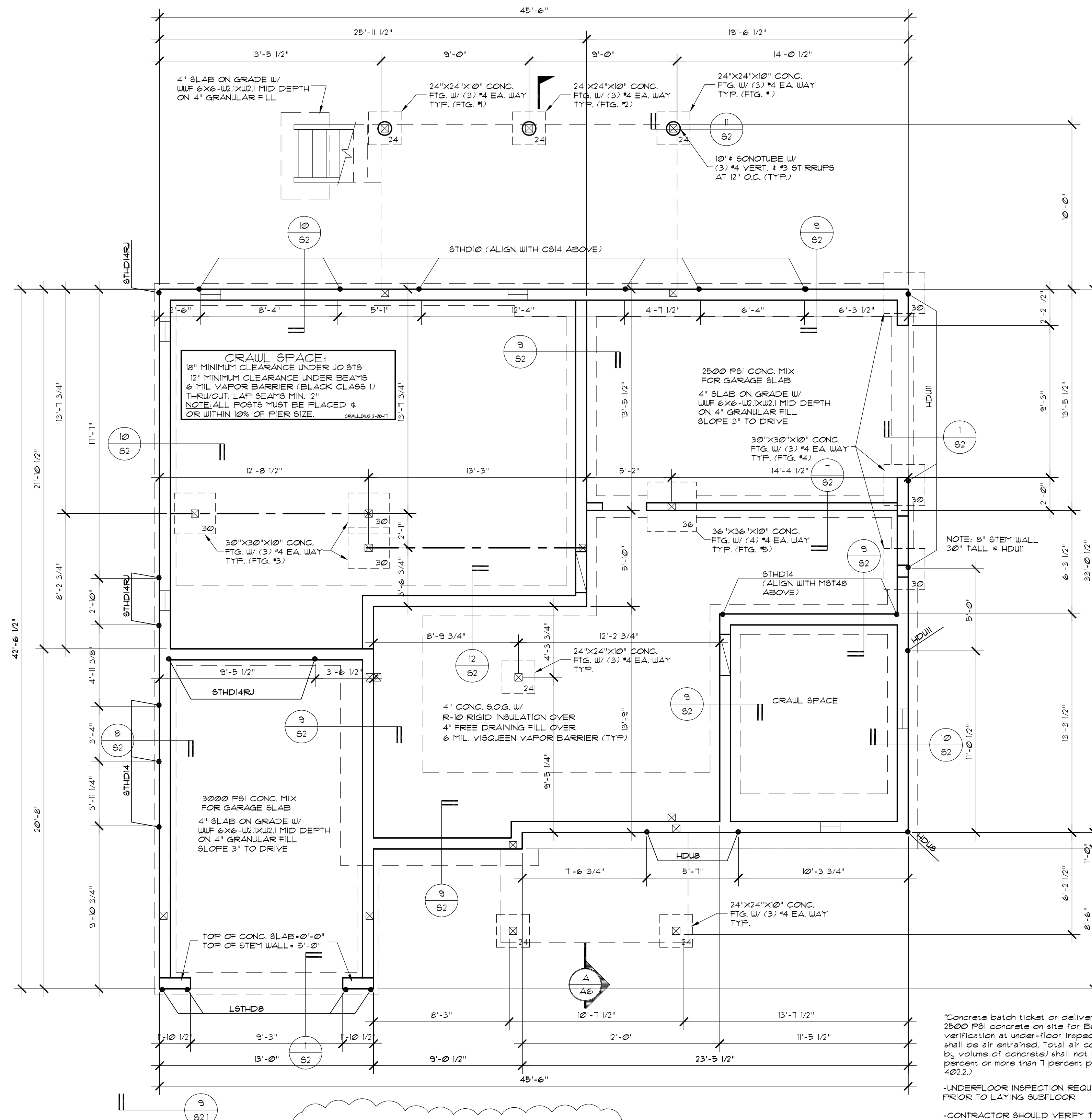
9 INSULATED HEADER DETAIL
N.T.S. 06/15/11



10 WINDOW WELL DETAIL
N.T.S. PER IRC R3102.3 09/16/2021



11 SKYLIGHT WELL DETAIL
N.T.S.



NFPA 13d FIRE SPRINKLER SYSTEM REQUIRED

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

NOTE:
 • 16"X18" DEEP CONC. CONG. FTG. W/ (2) #4 BARS, MID DEPTH (TYP.)
 • 8" CONC. STEM WALL W/ #4 @ 16" O.C. HORIZ. AND VERT. (TYP.)

*Concrete batch ticket or delivery receipt for 2500 PSI concrete on site for Building Inspector verification at under-floor inspection. Concrete shall be air entrained. Total air content (Percent by volume of concrete) shall not be less than 5 percent or more than 7 percent per IRC Table 402.2.)

-UNDERFLOOR INSPECTION REQUIRED PRIOR TO LAYING SUBFLOOR

-CONTRACTOR SHOULD VERIFY THE TRANSFER OF ALL POINT LOADS FROM THE ROOF DOWN THROUGH FRAMING MEMBERS AND INTO THE FOUNDATION

GROUNDING ELECTRODE SYSTEM: ALL GROUNDING ELECTRODES AS DESCRIBED IN 25052(A.1.1) THROUGH (A.1.6) THAT ARE PRESENT AT EACH BUILDING OR STRUCTURE SERVED SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM, WHERE NONE OF THESE GROUNDING ELECTRODES EXIST, ONE OR MORE OF THE GROUNDING ELECTRODES SPECIFIED IN 25052(A.1.4) THROUGH (A.1.7) SHALL BE INSTALLED AND USED

-NOTE: SHOP DRAWINGS FOR FIRE-ENGINEERED FLOORS OR TRUSSES MUST BE ON-SITE AT TIME OF FRAMING INSPECTION, AND HAVE AN ORIGINAL WASHINGTON SEAL AND SIGNATURE OF THE DESIGNER. PROCEEDING WITH FRAMING WITHOUT APPROVED DETAILS AND PLAN IS DONE SO AT THE CONTRACTOR'S/APPLICANT'S RISK.

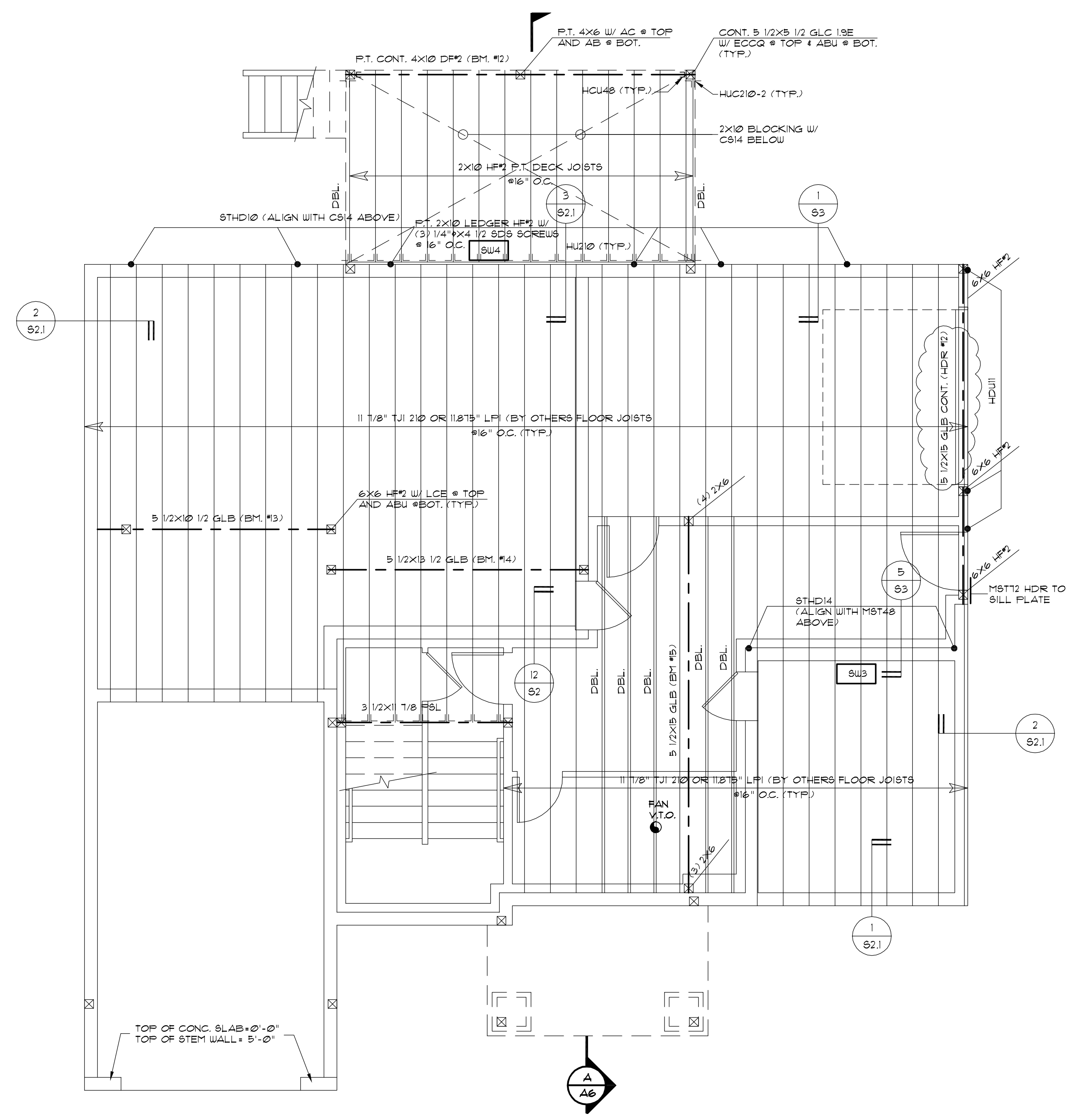
- 1) FLOOR JOISTS PER FRAMING PLANS. REFER TO MFG. LAYOUT FOR ALL FRAMING DETAILS AND BLOCKING. REVIEW MFG. LAYOUT PRIOR TO FRAMING. OR ALL FLR JOISTS AND RFTRS TO BE #2 HEM-FIR DOUBLE UNDER BEARING PARTITIONS. PROVIDE SOLID BLOCKING OVER BEARING MEMBERS.
- 2) ALL EXT. DR. & UNDO. HDRS. TO BE 4x8 DPT. (UNC)
- 3) ALL PRE-MANUFACTURED TRUSSES TO BE IDENTIFIED BY MFG'S STAMP.
- 4) FACTORY BILT FRPLC & CHIMNEY TO BE UL LABELED. INSTALL PER MFR'S SPECS. O/SIDE COMBSTN. AIR REQ'D (MIN 6 SQ IN) DUCTED TO P/BOX W/ OPERABLE O/SIDE DAMPER, TIGHTLY FITTING FLUE DAMPER, AND TIGHT FITTING GLASS OR METAL DOORS OR FLUE DRAFT INDUCTION FAN.
- 5)
- 6) HWT. TO BE LABELED PER ASHRAE STD. NO. 90A-90, AND MEET THE REQ'TS. PER NATIONAL APPLIANCE ENERGY CONSERVATION ACT.
- 7) FURN. AND HWT. TANKS: PILOTS, BURNERS, HEATING ELEMENTS, AND SWITCHES TO BE A MIN. OF 18" ABOVE FINISHED FLOOR.
- 8) ALL SKYLITES TO COMPLY WITH IRC, SECTION R308.6
- 9) ALL SIDELITES, SLIDING GLASS DOORS AND TUB/SHOWER ENCLOSURES TO COMPLY WITH IRC, SECTION R308
- 10) HEAT REGISTERS TO BE PER LEGEND: LOCATE APPROXIMATELY AS SHOWN, 6" IN FROM EXTERIOR WALLS, 3" IN FROM INTERIOR WALLS.
- 11) VENT DRYER, OVEN/RANGE & EXHAUST FANS TO O/SIDE. DRYER EXH DUCTS SHALL NOT EXCEED A TOTAL COMB. HORIZ. AND VERT. LENGTH OF 14'-0", INCL. 2 90° ELBOWS. DEDUCT 2'-0" FOR EA. 90° ELBOW EXCEEDING 2'. ALL EXHAUST DUCTS INSLTD (MIN. OF R-4)
- 12) ALL NAILING TO COMPLY WITH 2018 I.B.C., COLUMN, POST & BEAM CONNECTIONS TO COMPLY WITH 2018 I.B.C.
- 13) TUB/SHOWER SURROUND WALLS TO HAVE WATER RESIST. GYP BRD AND A SMOOTH HARD SURFACE TO A MINIMUM HEIGHT OF 10" ABOVE DRAIN INLET
- 14) PROVIDE SMOKE DETECTOR AND CO ALARMS IN COMPLIANCE WITH IRC, R314
- 15) ALL SMOKE DETECTORS W/ BATT BACKUP SMOKE DETECTORS WILL SOUND AN AUDIBLE ALARM IN ALL SLEEPING ROOMS.
- 16) DWELLING TO COMPLY W/ WA. ST. ENERGY CODE, 2018 EDITION
- 17) SEAL, CAULK, GASKET OR WEATHERSTRIP TO LIMIT AIR LEAKAGE: AT EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, OPENINGS STUN WALL AND ROOF AND WALL PANELS, OPENINGS AT UTILITY PENETRATIONS THROUGH WALLS, FLOORS, AND ROOFS, ALL OTHER OPENINGS IN BLDG ENVELOPE.
- 18) ALL EXTERIOR DOORS OR ACCESS HATCHES TO ENCLOSED UNHEATED AREAS MUST BE WEATHERSTRIPPED
- 19) MINIMUM SOIL BEARING PRESSURE = 1500 PSF
- 20) FOOTINGS TO BE PLACED ON FIRM UNDISTURBED NATIVE SOIL.
- 21) DWELLING TO COMPLY WITH IRC, 2018 EDITION
- 22) FIRE STOPS SHALL BE PROVIDED TO CUT OFF ALL CONCL'D DRAFT OPENINGS FROM VERT. TO HORIZL. SPACES, INCL. THE STAIR TUB, SHWR, REPLACE, ETC.
- 23) O/SIDE ROOF SHEATHING W/ COMP. ROOFING AND PLYTUD AT ALL OVERHANGS. SEE DETAIL SHT FOR ALL ADDITIONAL NOTES.
- 24) EXHAUST FANS CANNOT TERMINATE WITHIN 3' FROM AN OPERABLE OR UNOPERABLE OPENING PER THE IRC R506.3

GENERAL NOTES:

690	UNDER-FLOOR AREA	+ 23	SQ. FT. NET FREE REQ'D.
300			
23	NET FREE x 144	+ 331	SQ. IN./SQ. FT. NET FREE REQ'D.
PROVIDE 1 SQ. FT. PER 300 SQ. FT. OF UNDER FLOOR AREA. COVER VENTS WITH 1/4" CORROSION RESISTANT WIRE MESH. LOCATE VENTS AS CLOSE TO CORNERS AS PRACTICAL. EFFICIENT VENT AREA = 12.5 SQ. IN.			
SQ. IN. NET FREE	331		* VENTS REQ'D.
VENT AREA	12.5		

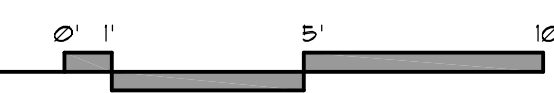
CRAWL VENTILATION CALCULATION

NOTE: STRUCTURAL FILL REQUIRED FOR ALL FOOTINGS AND SLAB



NFPA 13d FIRE SPRINKLER SYSTEM REQUIRED

MAIN FLOOR FRAMING PLAN
 SCALE: 1/4" = 1' - 0"



- FLOOR FRAMING NOTES:**
- ALL BEAMS AND HEADERS TO BE 4x6 HFM UNLESS NOTED OTHERWISE.
 - PROVIDE SOLID PRESSURE BLOCKING AT ALL POINT LOADS FROM ABOVE.
 - PROVIDE SOLID BLOCKING OR BRIDGING AT MID-SPAN OF ALL FLOOR JOISTS WITH SPANS OVER 10'-0" OR PER JOIST SPECIFICATIONS PER JOIST MANUFACTURER.
 - PROVIDE BLOCKING OR OTHER APPROVED MEANS OF LATERAL SUPPORT AT ALL JOIST BEARING LOCATIONS.
 - XXX DENOTES SHEARWALL CALLOUT PER SHEARWALL TABLE.
 - ALL HEADERS TO HAVE (1) 2x BEARING STUD AND (1) 2x KING STUD AT EACH END UNLESS NOTED OTHERWISE.

Joists shall be laterally supported at the ends by full-depth solid blocking not less than 2 inches nominal in thickness or by attachment to a full-depth header, band or rim joist, or to an adjoining stud to provide lateral support to prevent rotation. Additionally, in Seismic Design Categories D0, D1, and D2, lateral restraint shall be provided at each intermediate support. See IRC Sections 106.11 and 502.7.

WOOD-FRAMED SHEAR WALL SCHEDULE								
FOR HEM-FIR/DOUG-FIR STUD FRAMING								
SW TYPE	SW SHEATHING APA-RATED (1, 2, 3)	NAIL SIZE & SPACING @ PANEL EDGES (4, 5, 6)	RIM JOIST OR BLOCKING ATTACHMENT TO TOP PLATE BELOW (7, 8, 9)	BOTTOM PLATE & EDGE MEMBER REQUIREMENTS (10, 11)		SILL PLATE REQUIREMENTS (12)		
				SHEAR WALLING TO WOOD FRAMING BELOW	BOTTOM R. AT FRAMING	ANCHOR BOLT TO CONCRETE FOUNDATION (13)	SILL R. AT FOUNDATION (14)	
SW-6	15/32" CD-EXT	0.131" x 2 1/2" @ 6"OC	CLIP @ 18"OC	0.148" x 3 1/2" @ 6"OC	2x	5/8" @ 48"OC	P.T. 2x	260
SW-4	15/32" CD-EXT	0.131" x 2 1/2" @ 4"OC	CLIP @ 14"OC	0.148" x 3 1/2" @ 4"OC	2x	5/8" @ 32"OC 5/8" @ 48"OC	P.T. 2x P.T. 3x	380
SW-3	15/32" CD-EXT	0.131" x 2 1/2" @ 3"OC, STAGGERED	CLIP @ 12"OC	0.148" x 3 1/2" @ 4"OC & CLIP @ 18"OC	3x	5/8" @ 24"OC 5/8" @ 32"OC	P.T. 2x P.T. 3x	490
SW-2	15/32" CD-EXT	0.131" x 2 1/2" @ 4"OC	CLIP @ 8"OC	0.148" x 3 1/2" @ 4"OC & CLIP @ 16"OC	3x	5/8" @ 16"OC	P.T. 3x	640
25W-4	15/32" CD-EXT BOTH SIDE	0.131" x 2 1/2" @ 4"OC, STAGGERED	CLIP @ 6"OC	0.148" x 3 1/2" @ 4"OC & CLIP @ 12"OC	3x	5/8" @ 24"OC	P.T. 3x	760
25W-3	15/32" CD-EXT BOTH SIDE	0.131" x 2 1/2" @ 3"OC, STAGGERED	CLIP @ 8"OC BOTH SIDES, STAGGERED	0.148" x 3 1/2" @ 4"OC & CLIP @ 8"OC	3x	5/8" @ 16"OC	P.T. 3x	980
25W-2	15/32" CD-EXT BOTH SIDE	0.131" x 2 1/2" @ 2"OC, STAGGERED	CLIP @ 6"OC BOTH SIDES, STAGGERED	0.148" x 3 1/2" @ 4"OC & CLIP @ 5"OC	3x	5/8" @ 12"OC	P.T. 3x	1280

- NOTES:**
- INSTALL PANELS EITHER HORIZONTALLY OR VERTICALLY.
 - WHERE SHEATHING IS APPLIED ON BOTH SIDES OF WALL, PANEL EDGE JOINTS ON 2x FRAMING SHALL BE STAGGERED SO THAT JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUD.
 - BLOCKING IS REQUIRED AT ALL PANEL EDGES.
 - PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF FULL-HEIGHT WALLS ARE DESIGNATED BY WINDOWS, OR DOORWAYS OR AS DESIGNATED ON PLANS. HOLD-DOWN REQUIREMENTS PER PLANS.
 - SHEAR WALLS DESIGNATED AS PERFORATED SHEAR WALLS REQUIRE SHEATHING, SHEAR WALL NAILING, ETC. ABOVE AND BELOW ALL OPENINGS.
 - SHEATHING EDGE NAILING IS REQUIRED AT ALL HOLD-DOWN POSTS. EDGE NAILING MAY ALSO BE REQUIRED TO EACH STUD USED IN RAFT-UP HOLD-DOWN POSTS. ADDITIONAL INFORMATION PER HOLD-DOWN SCHEDULE & DETAILS.
 - INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH 0.148" x 2 1/2" NAILS AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND 0.148" x 2 1/2" NAILS AT 6"OC WHERE STUDS ARE SPACED AT 24"OC.
 - BASED ON 0.131" x 1 1/2" NAILS USED TO ATTACH FRAMING CLIPS DIRECTLY TO FRAMING. USE 0.131" x 2 1/2" NAILS WHERE INSTALLED OVER SHEATHING.
 - FRAMING CLIPS: SIMPSON "A35" OR "L175" OR APPROVED EQUIVALENT.
 - ANCHOR BOLTS SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED STEEL PLATE WASHERS 3/2"x3"x225"(MIN). THE HOLE IN THE PLATE WASHER MAY BE DIAGONALLY SLOTTED 3/16" x 1/2" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. PLATE WASHER TO EXTEND TO WITHIN 1/2" OF THE EDGE OF THE SILL PLATE ON THE SIDES WITH SHEATHING. WHERE SHEAR WALLS ARE SHEATHED ON BOTH SIDES OF 2x6 WALL FRAMING, USE 4.5"x4.5"x225"(MIN) PLATE WASHERS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE.
 - PRESSURE TREATED MATERIAL CAN CAUSE EXCESSIVE CORROSION IN THE FASTENERS. PROVIDE HOT-DIPPED GALVANIZED (ELECTRO-PLATING IS NOT ACCEPTABLE) NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) FOR ALL CONNECTORS IN CONTACT WITH PRESSURE TREATED FRAMING MEMBERS. ADDITIONAL INFORMATION PER STRUCTURAL NOTES.
 - WHERE WOOD SHEATHING IS APPLIED OVER GYPSUM SHEATHING, CONTACT THE ENGINEER OF RECORD FOR ALTERNATE NAILING REQUIREMENTS.
 - AT ADDING PANEL EDGES, (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2x STUDS SHALL BE CONNECTED TOGETHER BY NAILING THE STUDS TOGETHER WITH 3" LONG NAILS OF THE SAME SPACING AND DIAMETER AS THE PLATE NAILING.
 - CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR ADHESIVE OR EXPANSION BOLT ALTERNATIVES TO CAST-IN-PLACE ANCHOR BOLTS. SPECIAL INSPECTION MAY BE REQUIRED.
 - NAIL STUDS TO 3x BOTTOM/SILL PLATES WITH EITHER (2) 0.148" x 4" END NAILS OR (4) 0.131" x 2 1/2" TOENAILS.

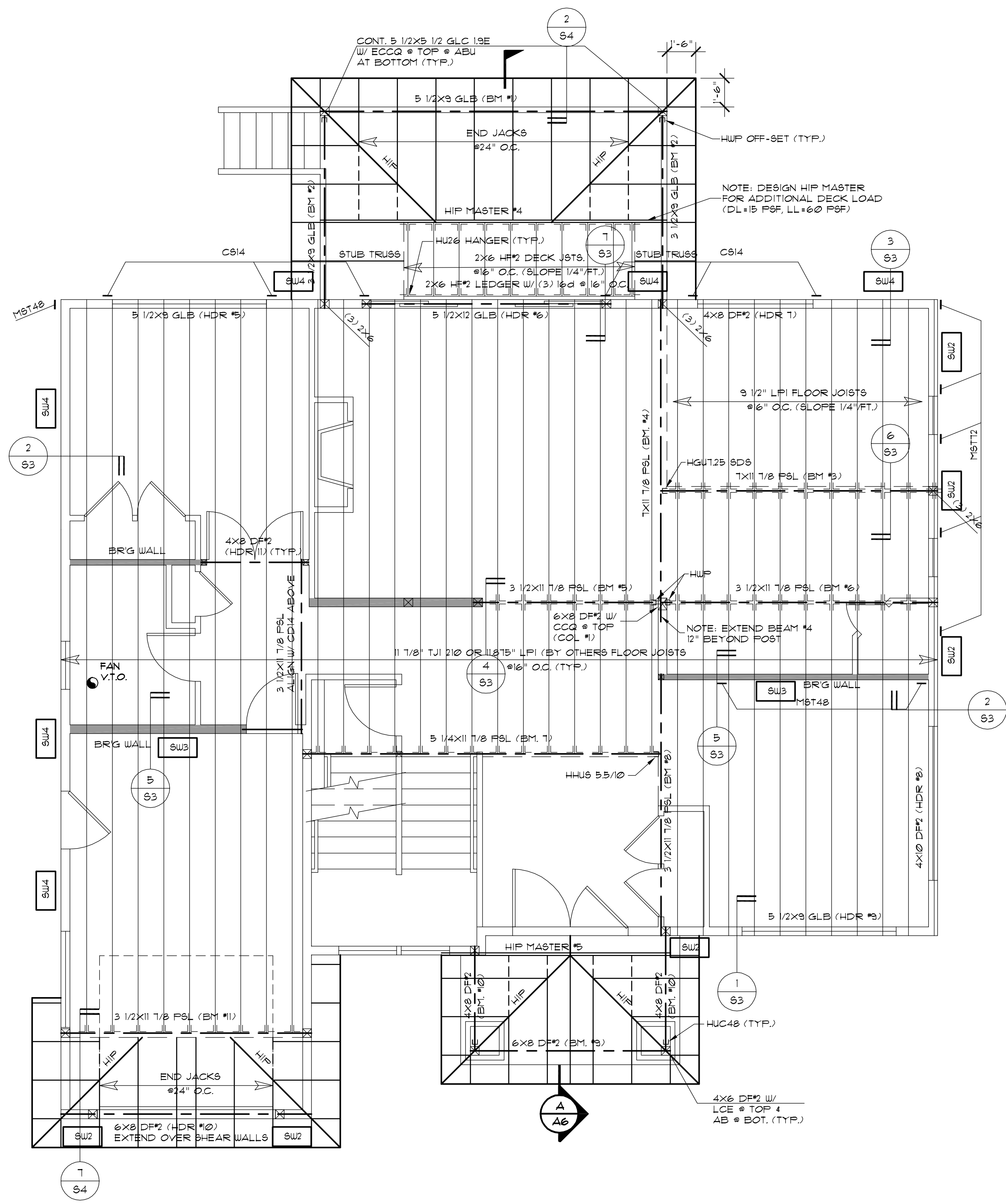
A NEW HOME FOR:

THE LIU RESIDENCE
 3705 11TH PL. SE
 MERCER ISLAND, WA 98040

JOB NO: 21006
 DATE: 6/13/22
 DRUN. BY: TH
 REVISED: 9/30/22
 7/3/23

SHEET NO.

56



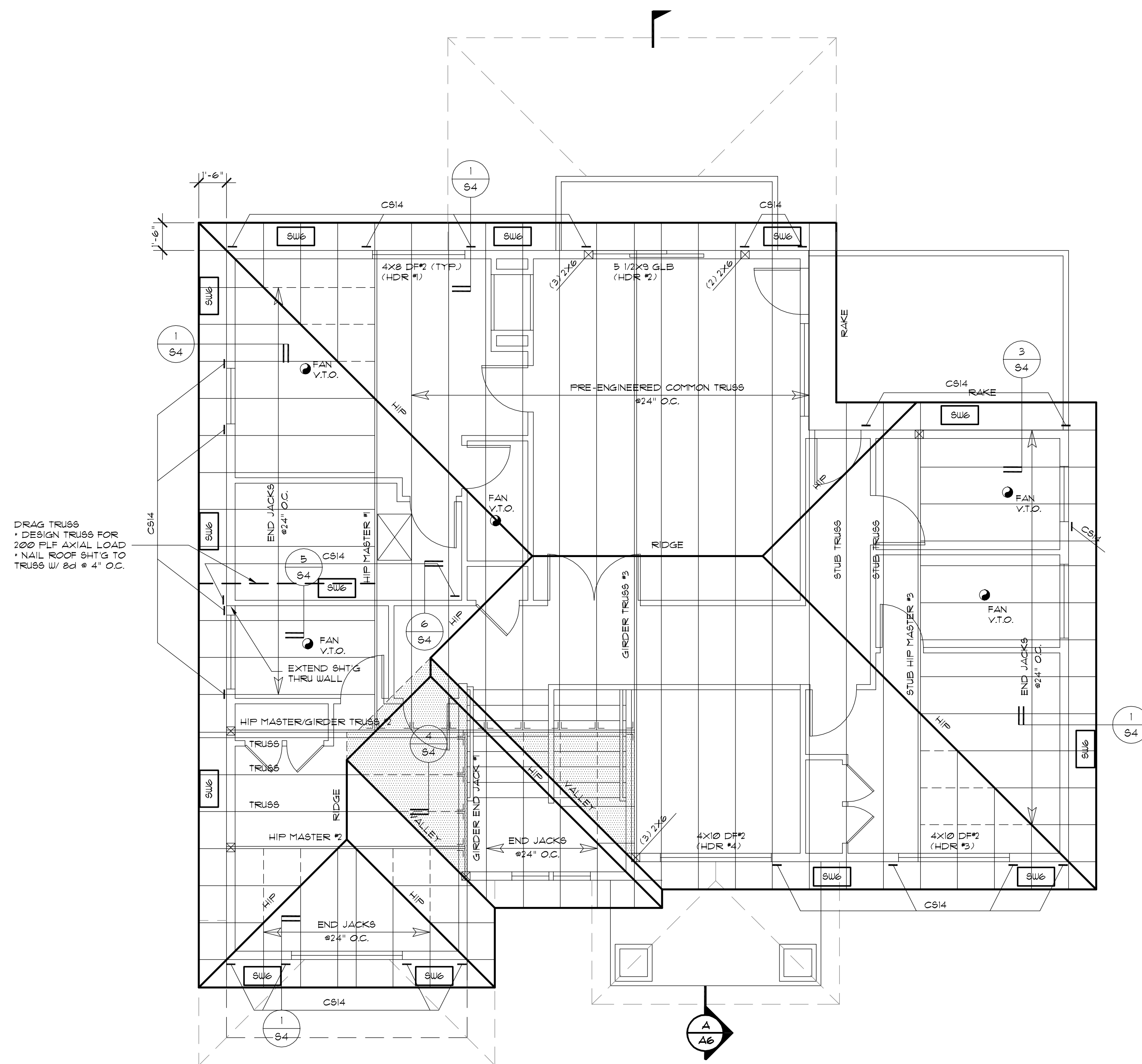
NOTE: COL TO BE (2) 2x6 HF2 TYP. (UNO.)
HDR TO BE 4x8 HF2 TYP. (UNO.)

NFPA 13d FIRE SPRINKLER SYSTEM REQUIRED

UPPER FLOOR & LOWER ROOF FRAMING PLAN
SCALE: 1/4" = 1' - 0"

WOOD-FRAMED SHEAR WALL SCHEDULE								
FOR HEM-FIR/DOUG-FIR STUD FRAMING								
SW TYPE	SW SHEATHING APA-RATED (1, 2, 3)	NAIL SIZE & SPACING @ PANEL EDGES (4, 5, 6)	RIM JOIST OR BLOCKING ATTACHMENT TO TOP PLATE BELOW (7, 8, 9)	BOTTOM PLATE & EDGE MEMBER REQUIREMENTS (10, 11)		SILL PLATE REQUIREMENTS (12)		
				SHEAR NAILING TO WOOD FRAMING BELOW	BOTTOM R. AT FRAMING	ANCHOR BOLT TO CONCRETE FOUNDATION	SILL R. AT FOUNDATION	
SW-6	15/32" CD-EXT	0.131" x 2 1/2" @ 6"OC	CLIP @ 18"OC	0.148" x 3 1/4" @ 6"OC	2x	5/8" @ 48"OC	P.T. 2x	260
SW-4	15/32" CD-EXT	0.131" x 2 1/2" @ 4"OC	CLIP @ 14"OC	0.148" x 3 1/4" @ 4"OC	2x	5/8" @ 32"OC 5/8" @ 48"OC	P.T. 2x P.T. 3x	380
SW-3	15/32" CD-EXT	0.131" x 2 1/2" @ 3"OC, STAGGERED	CLIP @ 12"OC	0.148" x 3 1/4" @ 4"OC & CLIP @ 18"OC	3x	5/8" @ 24"OC 5/8" @ 32"OC	P.T. 2x P.T. 3x	490
SW-2	15/32" CD-EXT	0.131" x 2 1/2" @ 2"OC, STAGGERED	CLIP @ 8"OC	0.148" x 3 1/4" @ 4"OC & CLIP @ 16"OC	3x	5/8" @ 16"OC	P.T. 3x	640
25W-4	15/32" CD-EXT BOTH SIDE	0.131" x 2 1/2" @ 4"OC, STAGGERED	CLIP @ 6"OC	0.148" x 3 1/4" @ 4"OC & CLIP @ 12"OC	3x	5/8" @ 24"OC	P.T. 3x	760
25W-3	15/32" CD-EXT BOTH SIDE	0.131" x 2 1/2" @ 3"OC, STAGGERED	CLIP @ 8"OC BOTH SIDES, STAGGERED	0.148" x 3 1/4" @ 4"OC & CLIP @ 8"OC	3x	5/8" @ 16"OC	P.T. 3x	980
25W-2	15/32" CD-EXT BOTH SIDE	0.131" x 2 1/2" @ 2"OC, STAGGERED	CLIP @ 6"OC BOTH SIDES, STAGGERED	0.148" x 3 1/4" @ 4"OC & CLIP @ 5"OC	3x	5/8" @ 12"OC	P.T. 3x	1280

- NOTES:**
- INSTALL PANELS EITHER HORIZONTALLY OR VERTICALLY.
 - WHERE SHEATHING IS APPLIED ON BOTH SIDES OF WALL, PANEL EDGE JOINTS ON 2x FRAMING SHALL BE STAGGERED SO THAT JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUD.
 - BLOCKING IS REQUIRED AT ALL PANEL EDGES.
 - PROMOTE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF FULL-HEIGHT WALLS ARE DESIGNATED BY WINDOWS, OR DOORWAYS OR AS DESIGNATED ON PLANS. HOLD-DOWN REQUIREMENTS PER PLANS.
 - SHEAR WALLS DESIGNATED AS PERFORATED SHEAR WALLS REQUIRE SHEATHING, SHEAR WALL NAILING, ETC. ABOVE AND BELOW ALL OPENINGS.
 - SHEATHING EDGE NAILING IS REQUIRED AT ALL HOLD-DOWN POSTS. EDGE NAILING MAY ALSO BE REQUIRED TO EACH STUD USED IN BUILT-UP HOLD-DOWN POSTS. ADDITIONAL INFORMATION PER HOLD-DOWN SCHEDULE & DETAILS.
 - INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH 0.148" x 2 1/2" NAILS AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND 0.148" x 2 1/2" NAILS AT 6"OC WHERE STUDS ARE SPACED AT 24"OC.
 - BASED ON 0.131" x 1 1/2" NAILS USED TO ATTACH FRAMING CLIPS DIRECTLY TO FRAMING. USE 0.131" x 2 1/2" NAILS WHERE INSTALLED OVER SHEATHING.
 - FRAMING CLIPS: SIMPSON "A35" OR "L175" OR APPROVED EQUIVALENT.
 - ANCHOR BOLTS SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED STEEL PLATE WASHERS 3/2"x3.0"x25"(MIN). THE HOLE IN THE PLATE WASHER MAY BE DIAGONALLY SLOTTED 3/16" x 1/2" PROVIDING A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. PLATE WASHER TO EXTEND TO WITHIN 1/2" OF THE EDGE OF THE SILL PLATE ON THE SIDES WITH SHEATHING. WHERE SHEAR WALLS ARE SHEATHED ON BOTH SIDES OF 2x6 WALL FRAMING, USE 4.5"x4.5"x0.225"(MIN) PLATE WASHERS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE.
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 - CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR ADHESIVE OR EXPANSION BOLT ALTERNATIVES TO CAST-IN-PLACE ANCHOR BOLTS. SPECIAL INSPECTION MAY BE REQUIRED.
 - NAIL STUDS TO 3x BOTTOM SILL PLATES WITH EITHER (2) 0.148" x 4" END NAILS OR (4) 0.131" x 2 1/2" TOENAILS.



DRAG TRUSS
 • DESIGN TRUSS FOR
 2000 PLF AXIAL LOAD
 • NAIL ROOF SHTG TO
 TRUSS W/ 8d @ 4" O.C.

NOTE: COL TO BE (2) 2X6 HP2 TYP. (UNO.)
 HDR TO BE 4X8 HP2 TYP. (UNO.)

NFPA 13d FIRE SPRINKLER SYSTEM REQUIRED

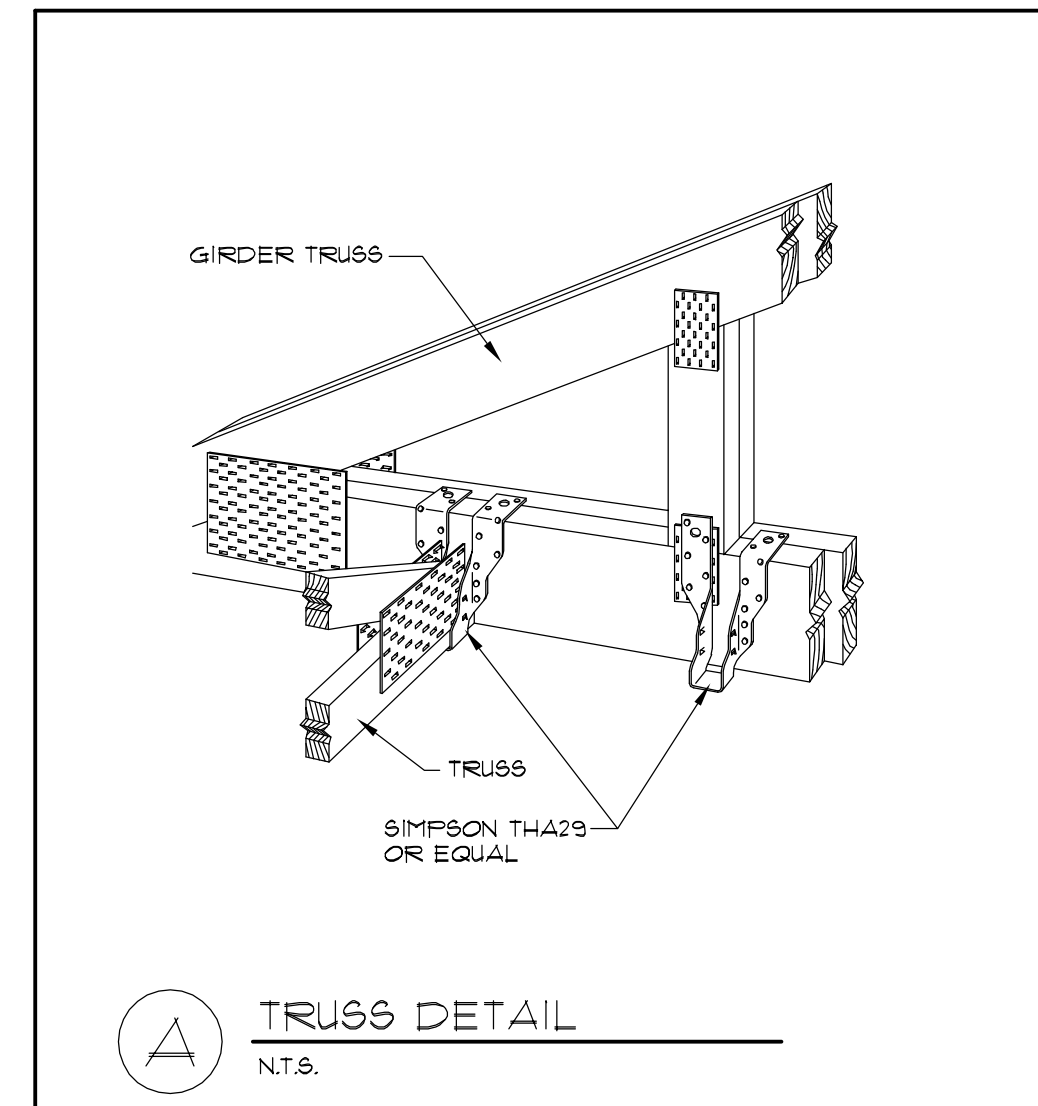


-SHALL CARRY MANUFACTURERS STAMP -SHALL BE INSTALLED & BRACED TO MANUFACTURERS SPECIFICATIONS -WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEERING CALCULATIONS -SHALL HAVE DESIGN DETAILS & DRAWINGS ON SITE FOR FRAMING INSPECTION	
TRUSS NOTES	
• TOTAL VENT. REQ'D. 1445 = 4.8 SF NET FREE 300 40% BY VENT. ABOVE EAVE 4.8 x 4 = 1.92 SF. MIN. 50% BY VENT. ABOVE EAVE 4.8 x 5 = 2.4 SF. MAX.	<small>MANUFACTURER'S STAMP</small>
• TOTAL VENTILATION PROVIDED: (MAX NUMBER OF JACKS W/O GE VENTS) AF-50 ROOF JACK YIELDS 50 IN ² NET FREE OR 35 SF • OF JACKS REQ'D. 132 VENTS OR (6) VENTS (MIN.) 35 AF-50 ROOF JACK YIELDS 50 IN ² NET FREE OR 35 SF • OF JACKS REQ'D. 132 VENTS OR (7) VENTS (MAX.) 35	
EAVE VENTLN (STANDARD) 143 LIN. FEET x 4.1 IN ² /LF = 672 IN ² = 4.6 SF	
TOTAL VENTILATION PROVIDED: ROOF JACKS = (7) x 50 IN ² = 2.4 SF EAVE VENTS = 4.6 SF 7 SF PROVIDED > 4.8 SF REQUIRED	
ROOF VENTILATION CALCULATION	
NOTE: PROVIDE VENT BLOCKING EVERY BAY UNO, SEE ROOF PLAN FOR SOLID BCKG AREAS	

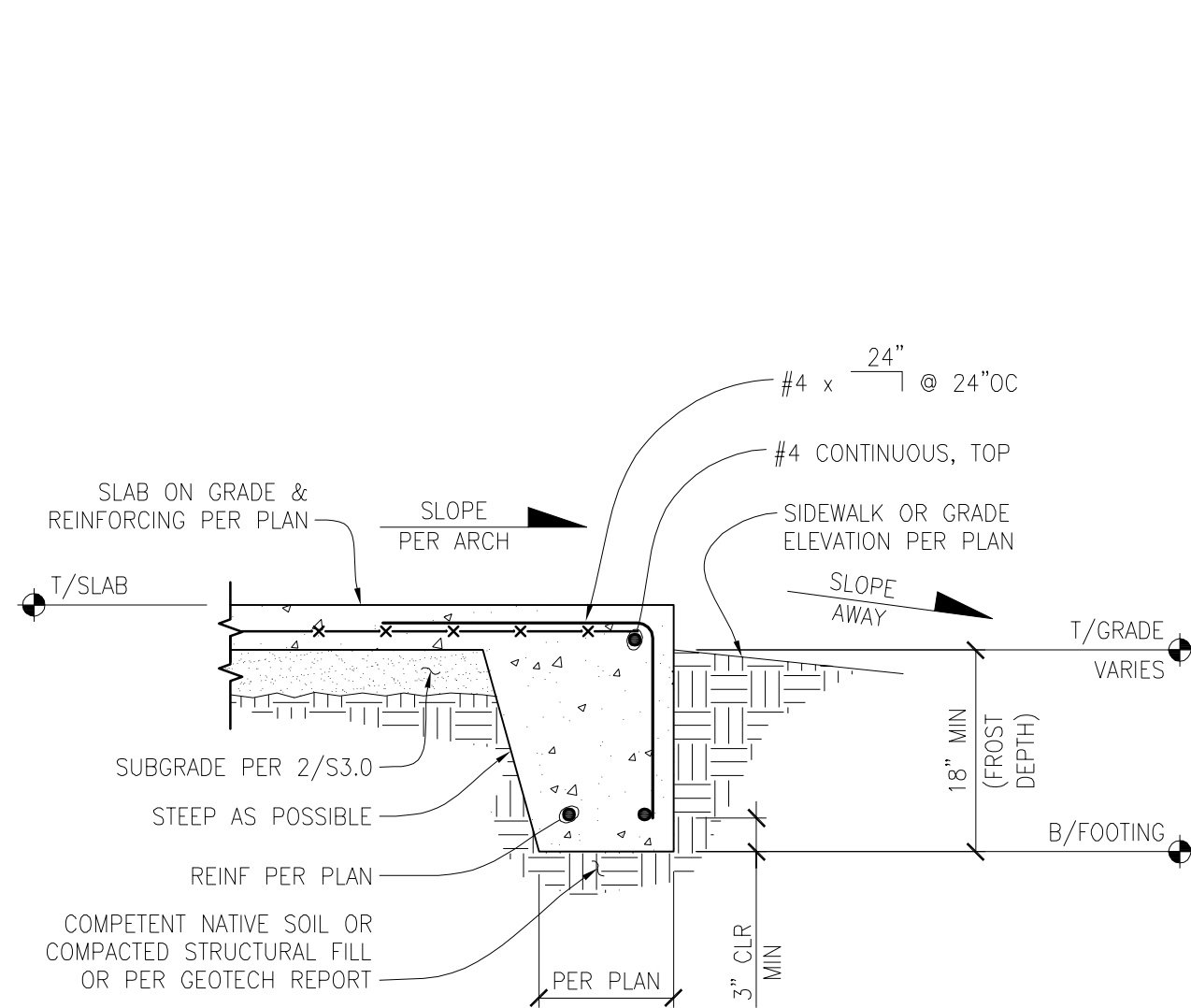
PROVIDE OPENING THRU SHEATHING FOR ACCESS AND VENTING AT OVERFRAMING

HATCHING DENOTES 2x OVERFRAMING

- OVERFRAMING SPANS**
- 2x8 HP2 RAFTERS @24" O.C. - 10'-0" MAXIMUM UNBRACED SPAN
 2x10 HP2 RIDGE BEAM - 8'-0" MAXIMUM UNBRACED SPAN
 2x10 HP2 FLAT VALLEY LAID DIAGONALLY ACROSS TRUSSES
 - 2x6 HP2 RAFTERS @24" O.C. - 8'-3" MAXIMUM UNBRACED SPAN
 2x8 HP2 RIDGE BEAM - 7'-0" MAXIMUM UNBRACED SPAN
 2x8 HP2 FLAT VALLEY LAID DIAGONALLY ACROSS TRUSSES
 - 3x4 HP2 RAFTERS @24" O.C. - 8'-0" MAXIMUM UNBRACED SPAN
 2x6 HP2 RIDGE BEAM - 5'-6" MAXIMUM UNBRACED SPAN
 2x6 HP2 FLAT VALLEY LAID DIAGONALLY ACROSS TRUSSES



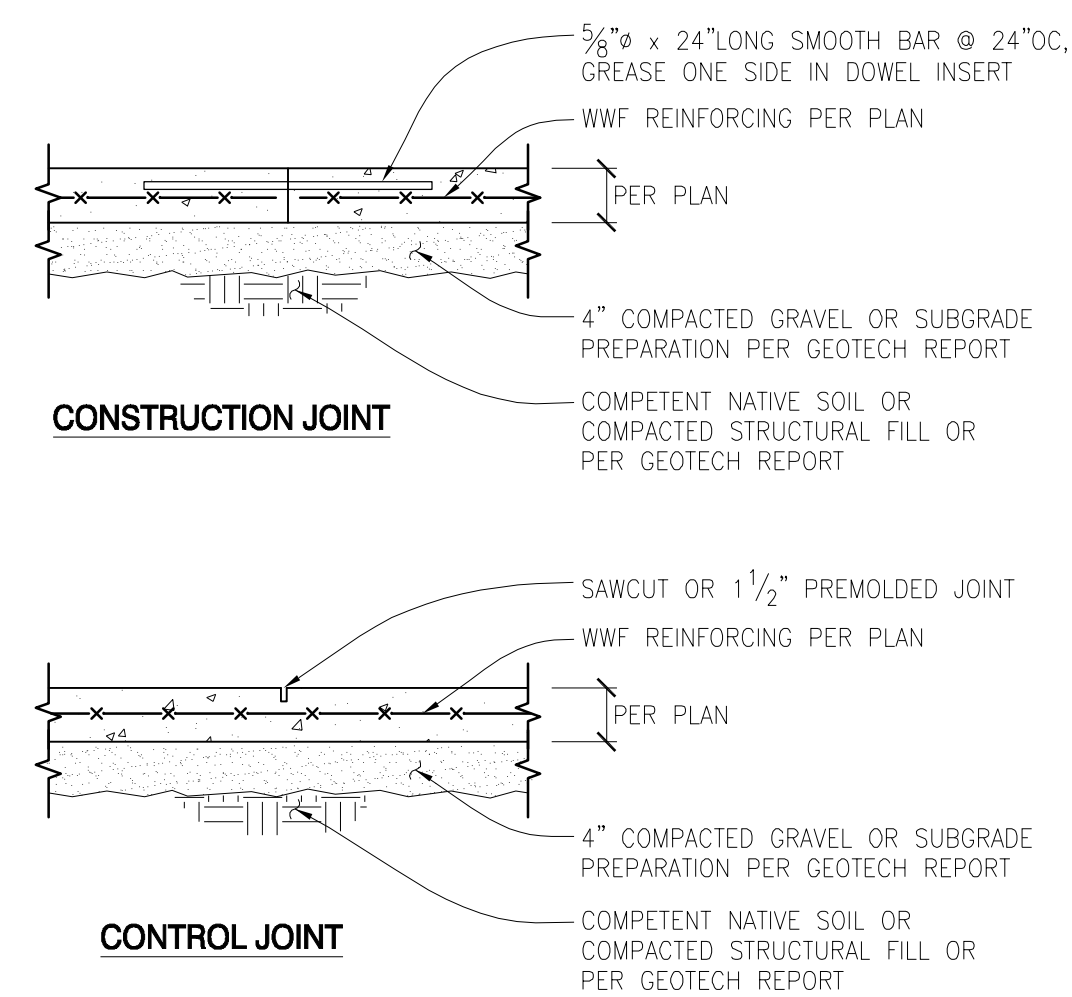
- ROOF FRAMING NOTES:**
- ALL BEAMS AND HEADERS TO BE 4x8 DF2 UNLESS NOTED OTHERWISE.
 - ALL TRUSSES TO BE PRE ENGINEERED AND ARE TO CARRY THE STAMP OF THE TRUSS MANUFACTURER AND SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS, DESIGN DETAILS AND SPECIFICATIONS BY TRUSS MANUFACTURER TO BE ON SITE FOR FRAMING INSPECTION, PROVIDE TRUSS PACKAGE TO ENGINEER FOR SHOP DRAWING REVIEW PRIOR TO CONSTRUCTION.
 - NO TRUSS SHALL BE FIELD MODIFIED WITHOUT PRIOR CONSENT OF THE TRUSS ENGINEER AND THE BUILDING DEPARTMENT.
 - SEE ENGINEERING NOTES FOR SHEATHING REQUIREMENTS
 - △ DENOTES SHEARWALL CALLOUT PER SHEARWALL TABLE.
 - ⊠ DENOTES SOLID 2x STUD BEARING BELOW END OF HEADER OR GIRDER
 - ALL HEADERS TO HAVE (2) 2x POSTS UNLESS NOTED OTHERWISE
 - PROVIDE SOLID BEARING STUDS AT ALL BEARING LOCATIONS INCLUDING GIRDER TRUSSES AND BEAMS.
 - 4x6 POSTS MAY BE SUBSTITUTED FOR (2) 2X6 POSTS FOR ROOF FRAMING PLAN ONLY. 2-PLY BUILT UP POST SHALL BE FASTENED TOGETHER W/ 16d NAILS @ 8" O.C.



TYPICAL THICKENED SLAB EDGE FOOTING

SCALE: 3/4" = 1'-0"

1

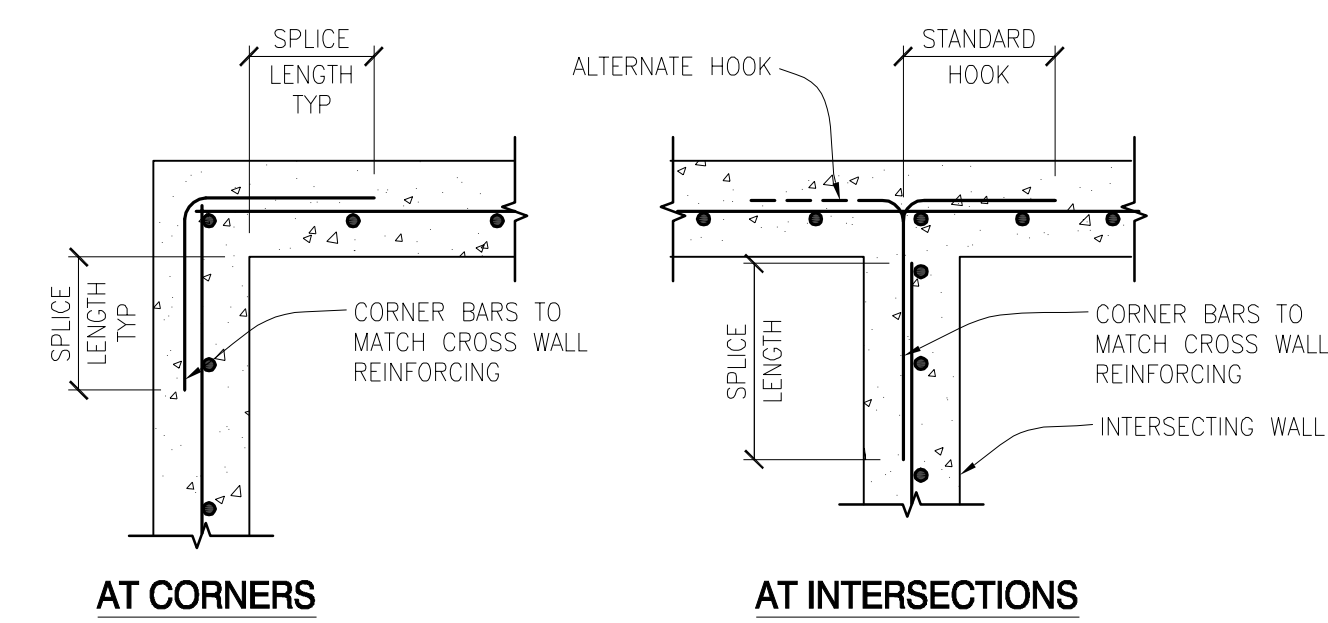


- NOTES:
- FOR CONSTRUCTION OR CONTROL JOINT LOCATIONS REFERENCE FOUNDATION/SLAB PLAN
 - USE "SOFT CUT SAW" AS SOON AS POSSIBLE WITHOUT CAUSING RAVELING OF CONCRETE EDGES. SAWCUT ALONG SHORT DIRECTION OF POUR FIRST
 - PROVIDE CONSTRUCTION/CONTROL JOINT TO ENCLOSE APPROXIMATE SQUARE AREAS OF 225 SF MAX

TYPICAL SLAB ON GRADE JOINT DETAILS

SCALE: N.T.S.

2

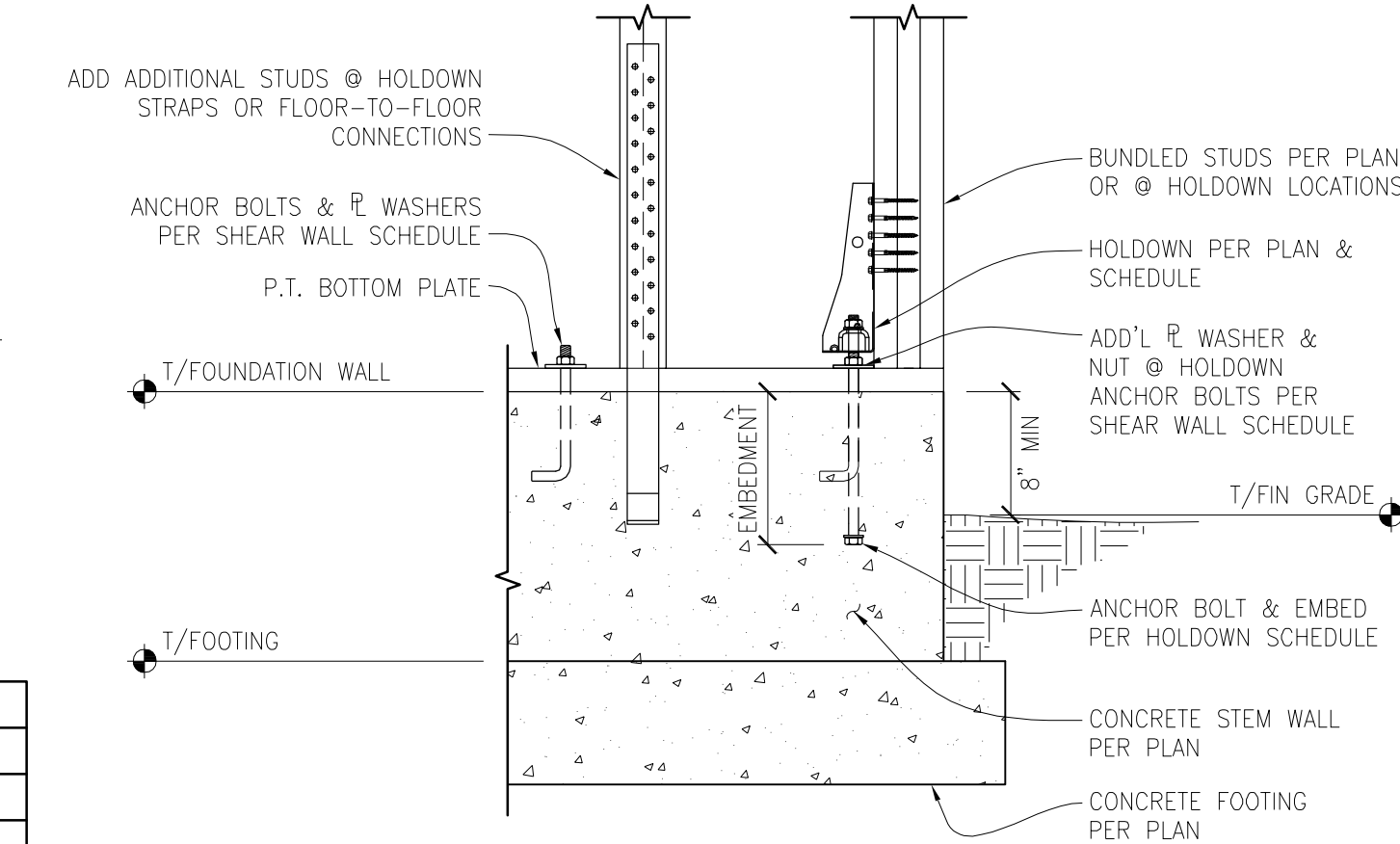


TYPICAL CORNER BARS AT CONCRETE WALLS - SINGLE MAT

SCALE: N.T.S.

3

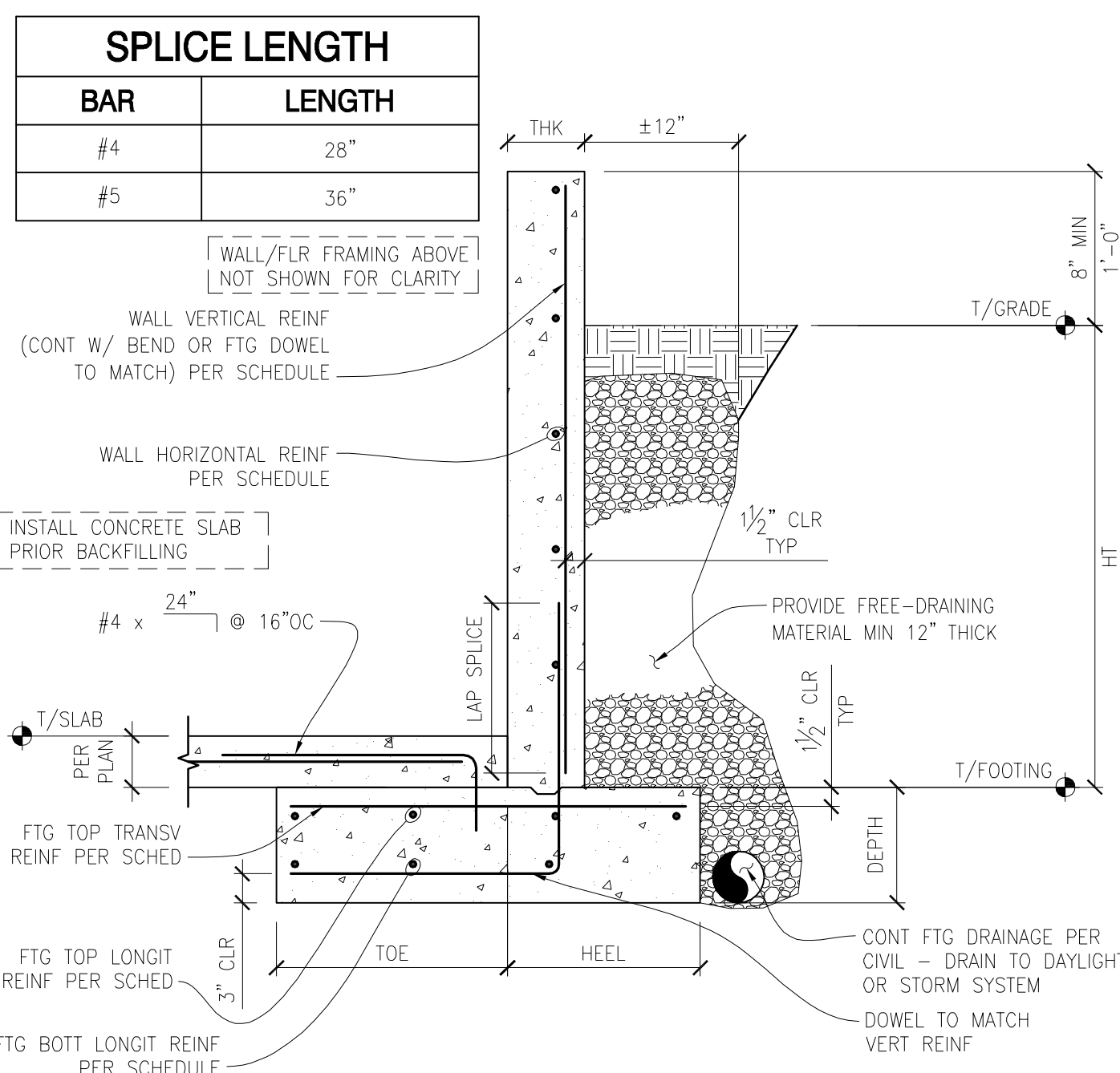
SPLICE LENGTH	
BAR	LENGTH
#4	28"
#5	36"



TYPICAL SHEAR WALL HOLDDOWN CONNECTIONS AT FOUNDATION CONCRETE WALL

SCALE: N.T.S.

4

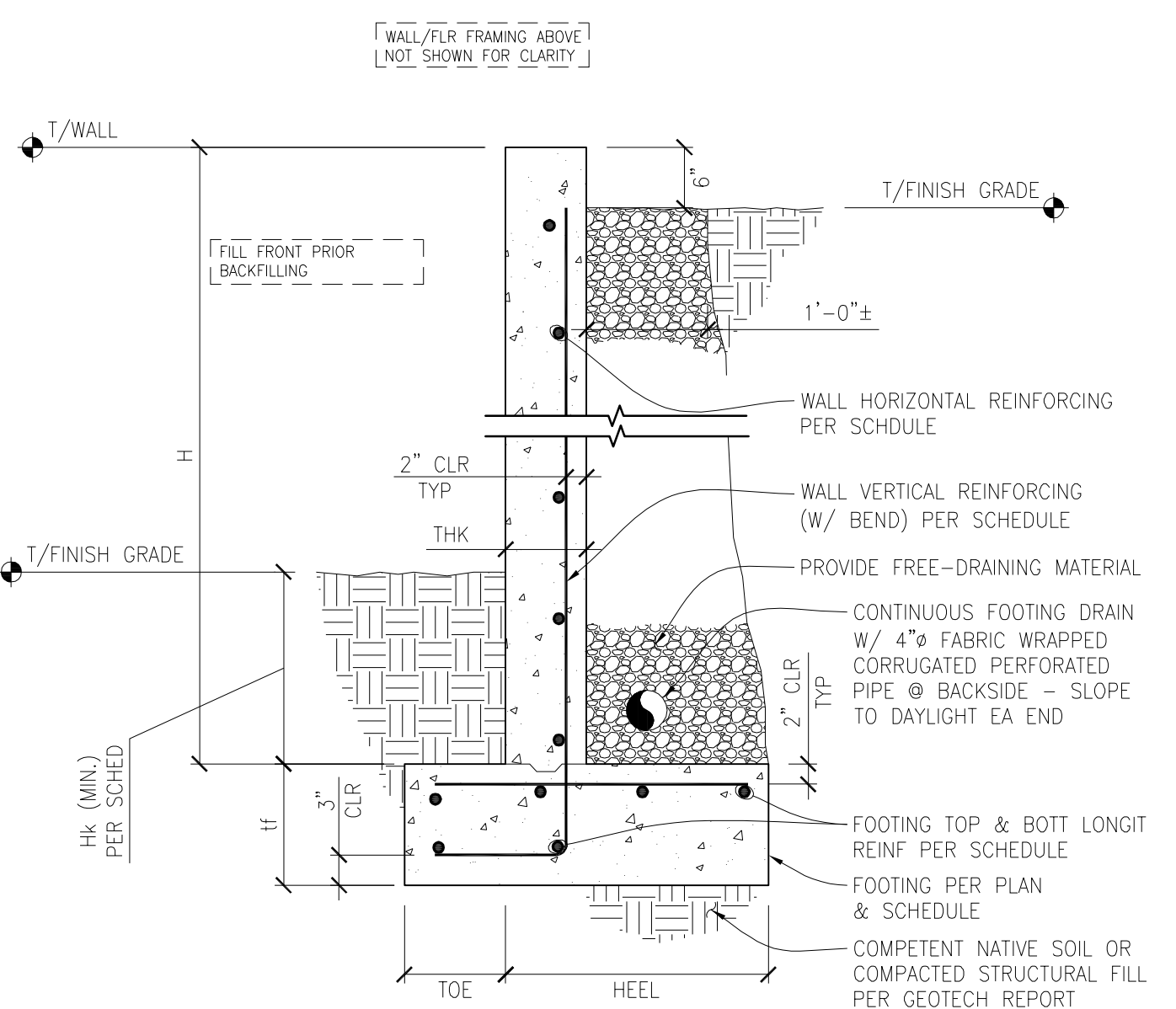


RETAINING WALL/FOOTING SCHEDULE										
WALL					FOOTING					
HT (MAX)	THK	VERTICAL	HORIZONTAL	TOE	HEEL	DEPTH	TOP/TRANSV	TOP/LONGIT	BOTTOM/LONGIT	Hk
4'-0"	8"	#4 @ 12"OC	#4 @ 12"OC	1'-0"	1'-3"	10"	#4 @ 10"OC	(3) #4	(2) #4	15"
6'-0"	8"	#4 @ 10"OC	#4 @ 12"OC	2'-0"	1'-6"	10"	#4 @ 10"OC	(4) #4	(3) #4	22"
8'-0"	8"	#5 @ 12"OC	#4 @ 12"OC	3'-3"	1'-9"	14"	#5 @ 10"OC	(5) #5	(3) #5	30"
9'-0"	10"	#5 @ 8"OC	#4 @ 10"OC	4'-3"	2'-0"	14"	#5 @ 10"OC	(7) #5	(5) #5	30"

BASEMENT RETAINING WALL SCHEDULE

SCALE: N.T.S.

9

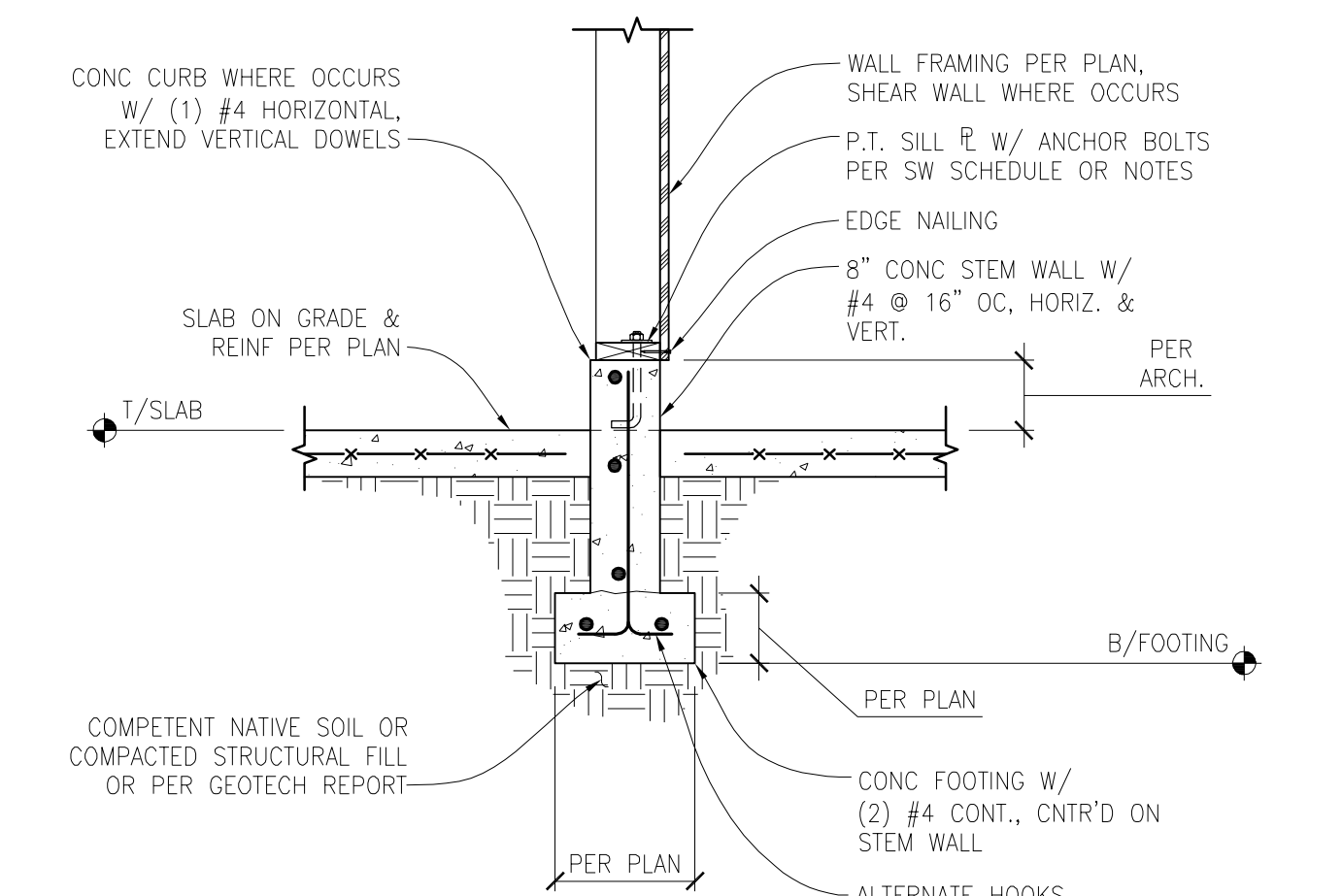


RETAINING WALL/FOOTING SCHEDULE										
WALL					FOOTING					
HT (MAX)	THK	VERTICAL	HORIZONTAL	TOE	HEEL	DEPTH	TOP/TRANSV	TOP/LONGIT	BOTTOM/LONGIT	Hk
4'-0"	8"	#4 @ 12"OC	#4 @ 12"OC	1'-0"	1'-3"	10"	#4 @ 10"OC	(3) #4	(2) #4	15"
6'-0"	8"	#4 @ 8"OC	#4 @ 12"OC	2'-0"	1'-6"	10"	#4 @ 10"OC	(4) #4	(3) #4	22"
8'-0"	8"	#5 @ 12"OC	#4 @ 12"OC	2'-0"	2'-3"	12"	#5 @ 12"OC	(5) #5	(3) #5	30"

TALL CRAWLL SPACE RETAINING WALL SCHEDULE

SCALE: N.T.S.

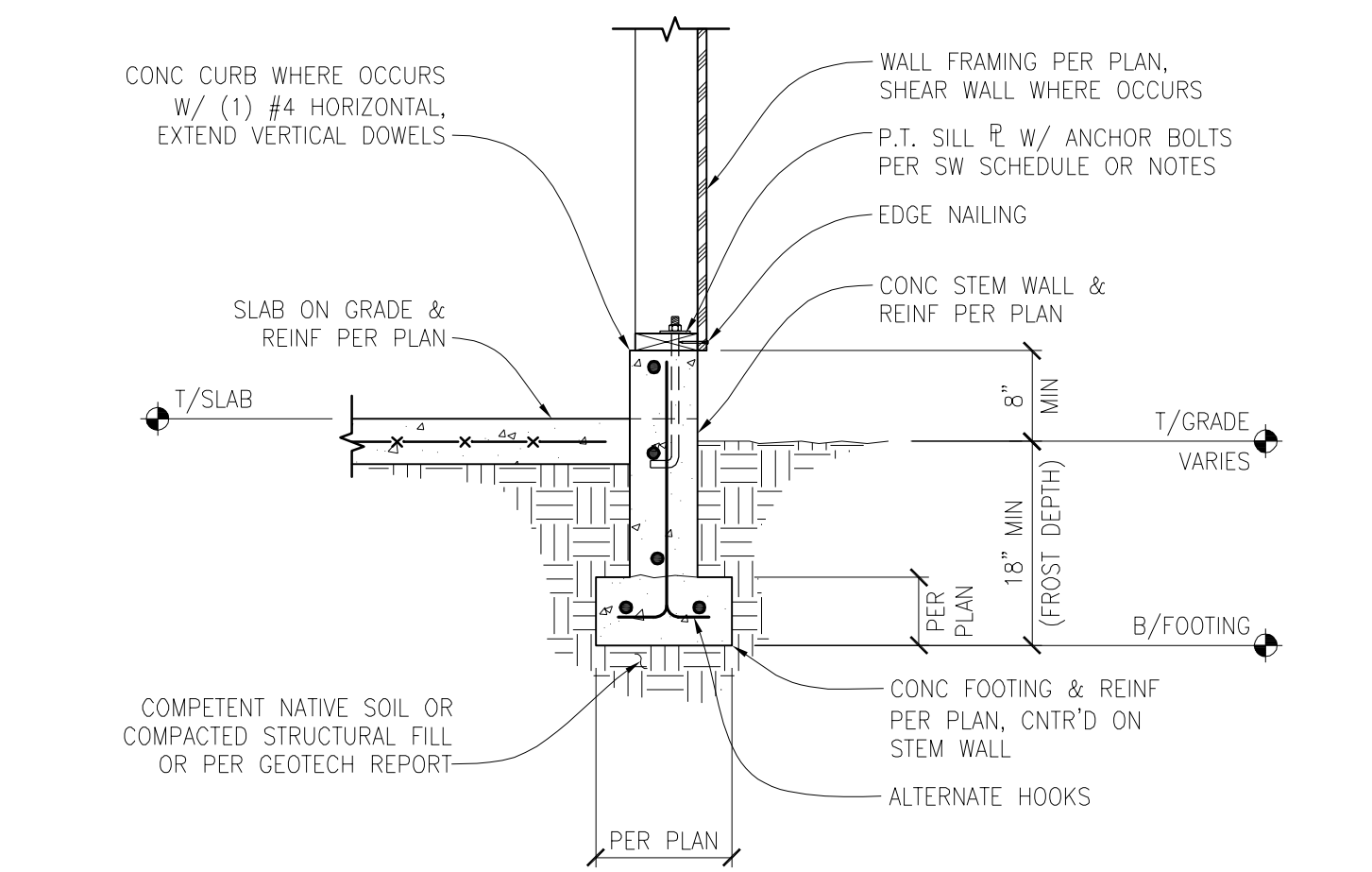
10



TYPICAL INTERIOR FOUNDATION FOOTING AND STEM WALL WITH SLAB ON GRADE

SCALE: 3/4" = 1'-0"

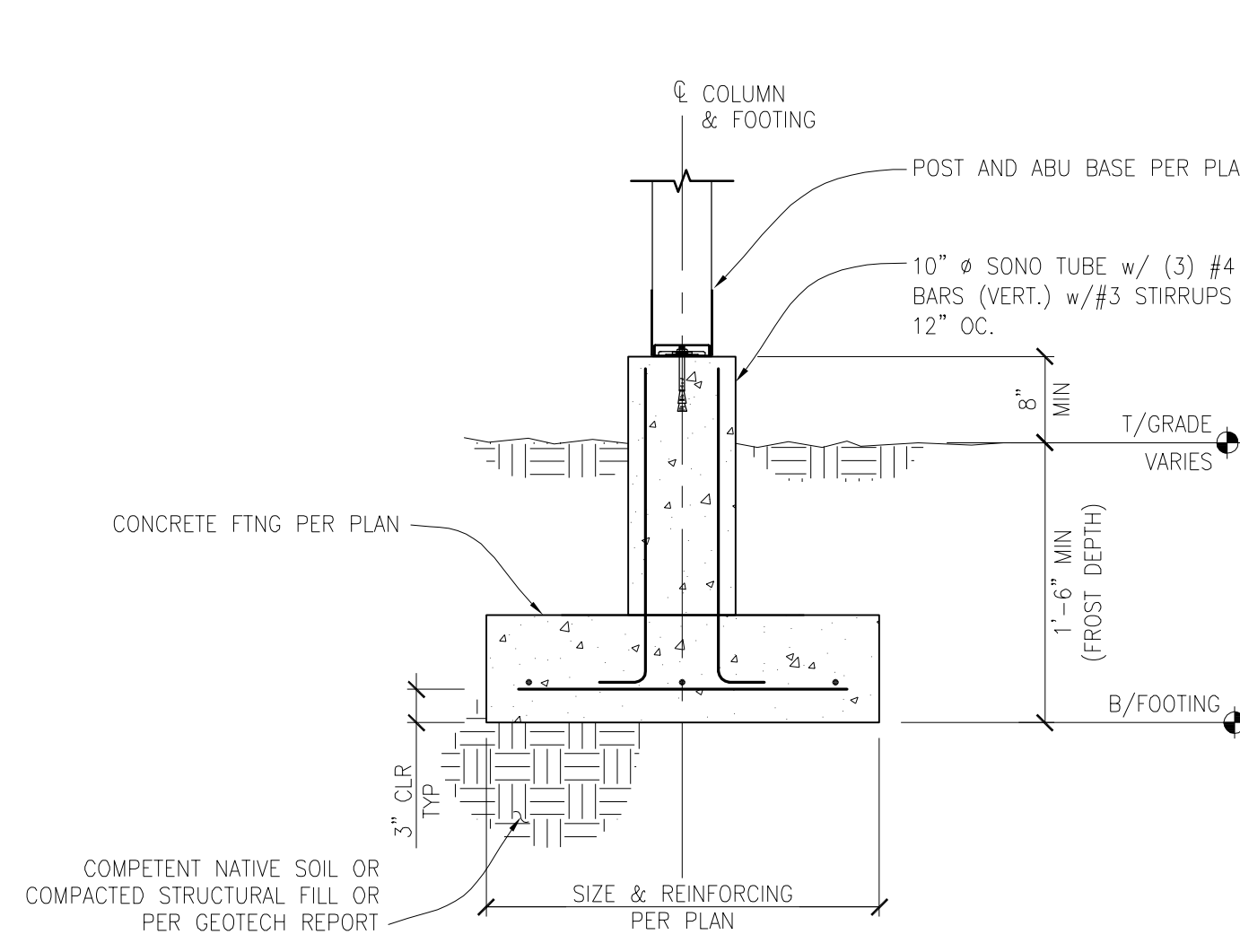
7



TYPICAL FOUNDATION FOOTING AND STEM WALL WITH SLAB ON GRADE

SCALE: 3/4" = 1'-0"

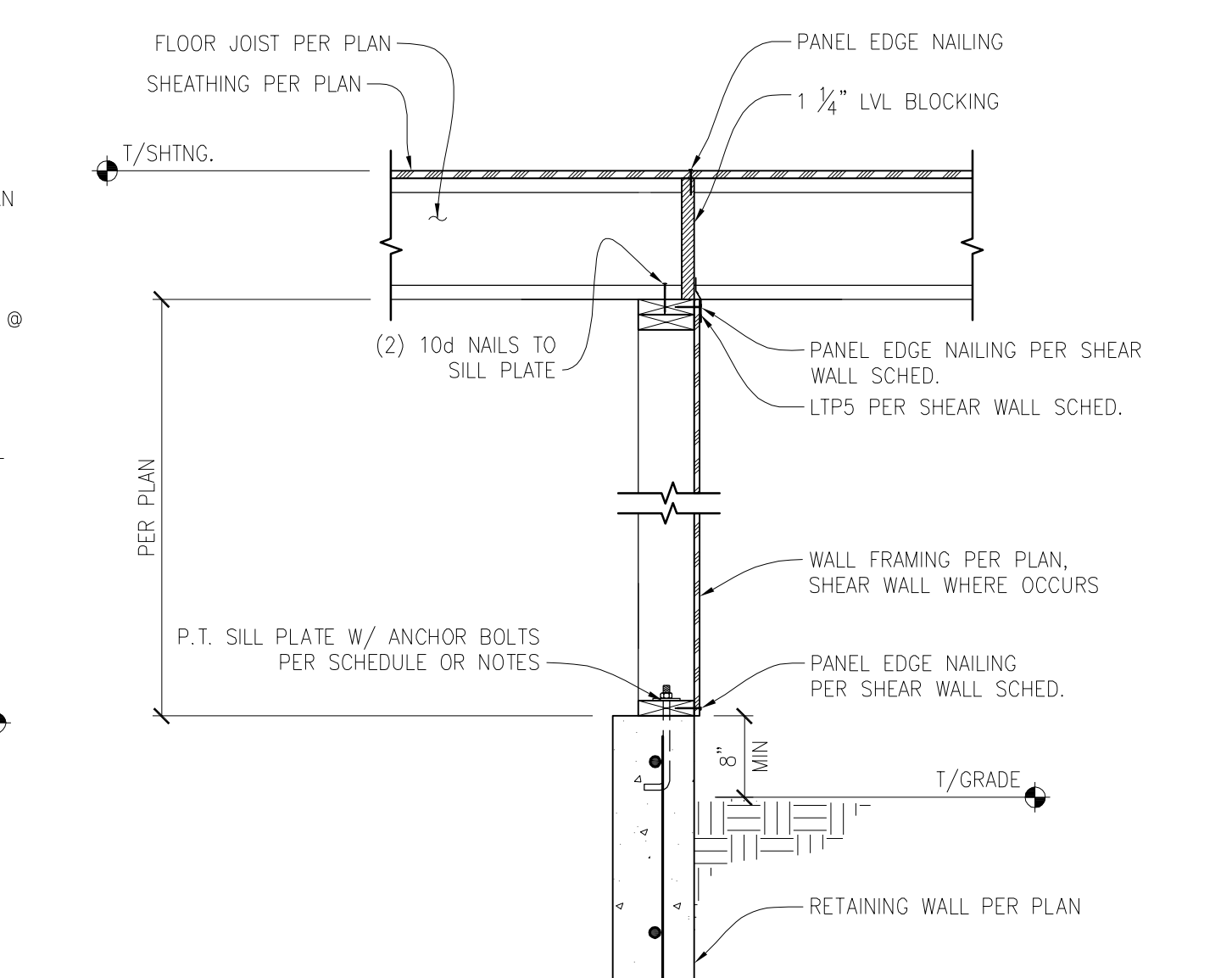
8



EXTERIOR FOOTING/POST CONNECTION

SCALE: 3/4" = 1'-0"

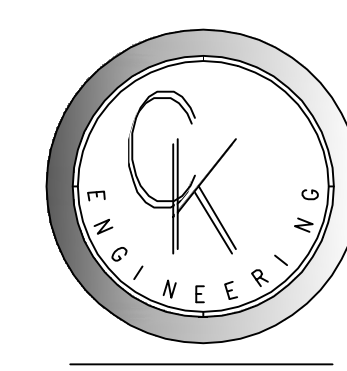
11



MAIN FLOOR WALL TO PONY WALL CON. FLOOR JOIST PERPENDICULAR

SCALE: 3/4" = 1'-0"

12



CK ENGINEERING LLC
PROFESSIONAL STRUCTURAL ENGINEERING SERVICES
19229 38th Pl. NE
Lake Forest Park, WA 98155
Phone: (206) 417-0670



6/10/2022

LIU RESIDENCE
3705 77TH PL SE
MERCER ISLAND, WA 98040

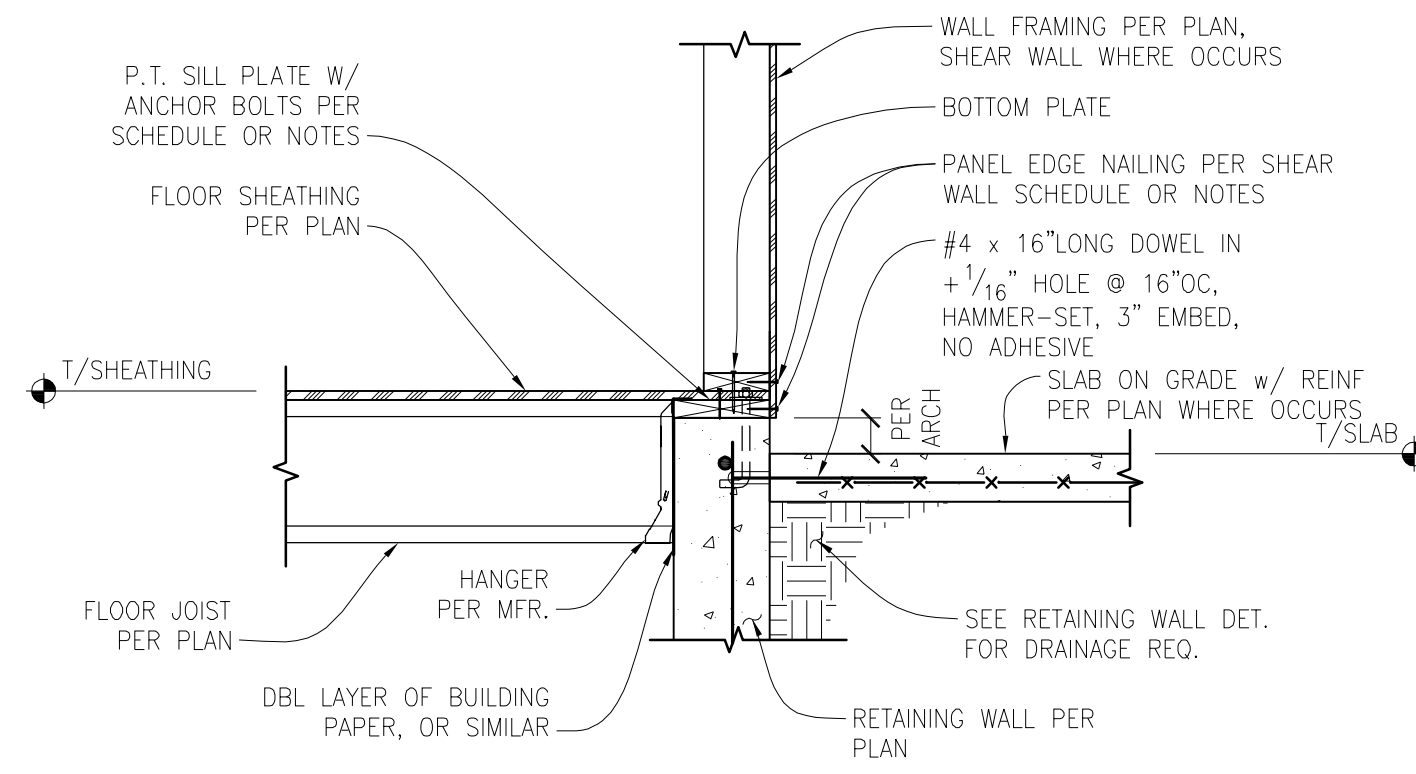
REVISION #	DATE	DESCRIPTION

Drawn By: PK
Checked By: SC
Date: 06-10-2022

CK JOB NO.
22-028

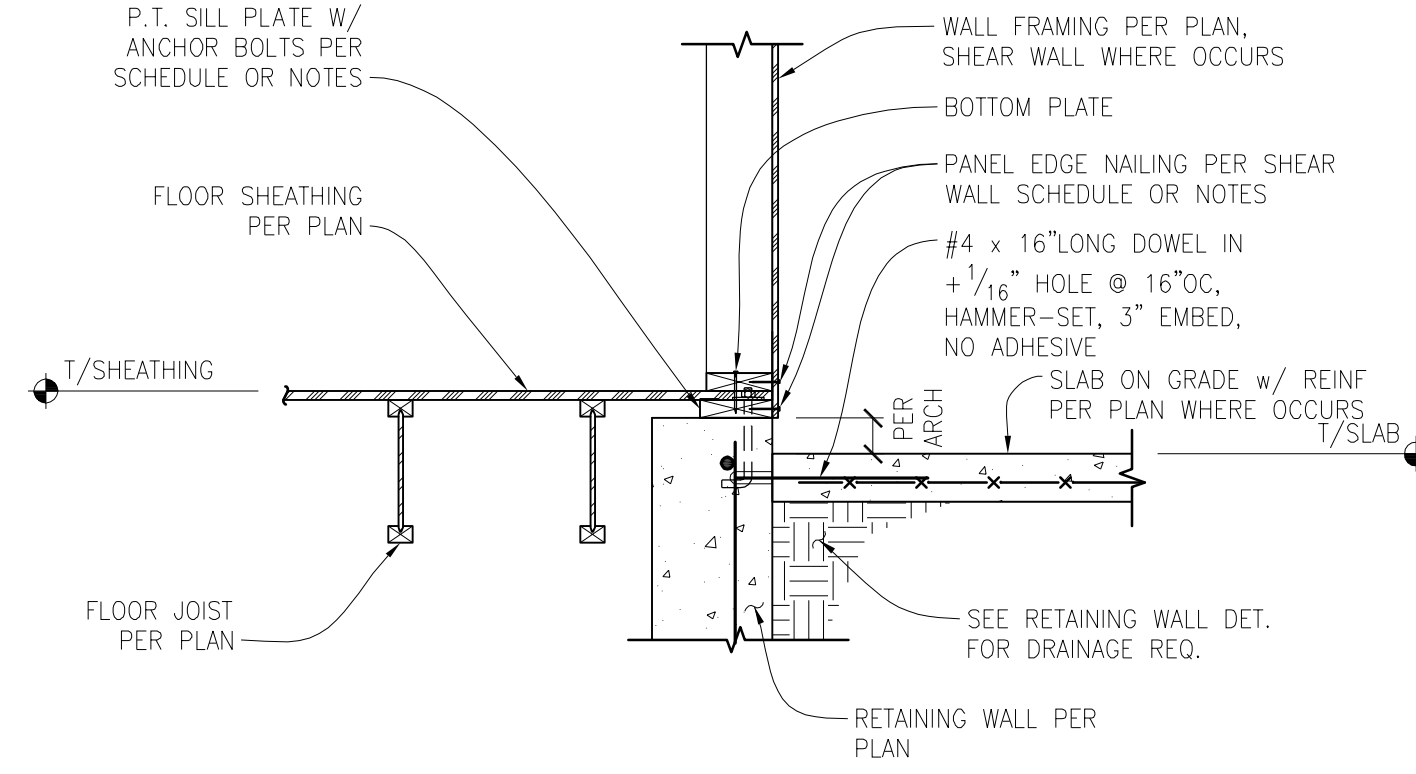
STRUCTURAL DETAILS

S-2.0



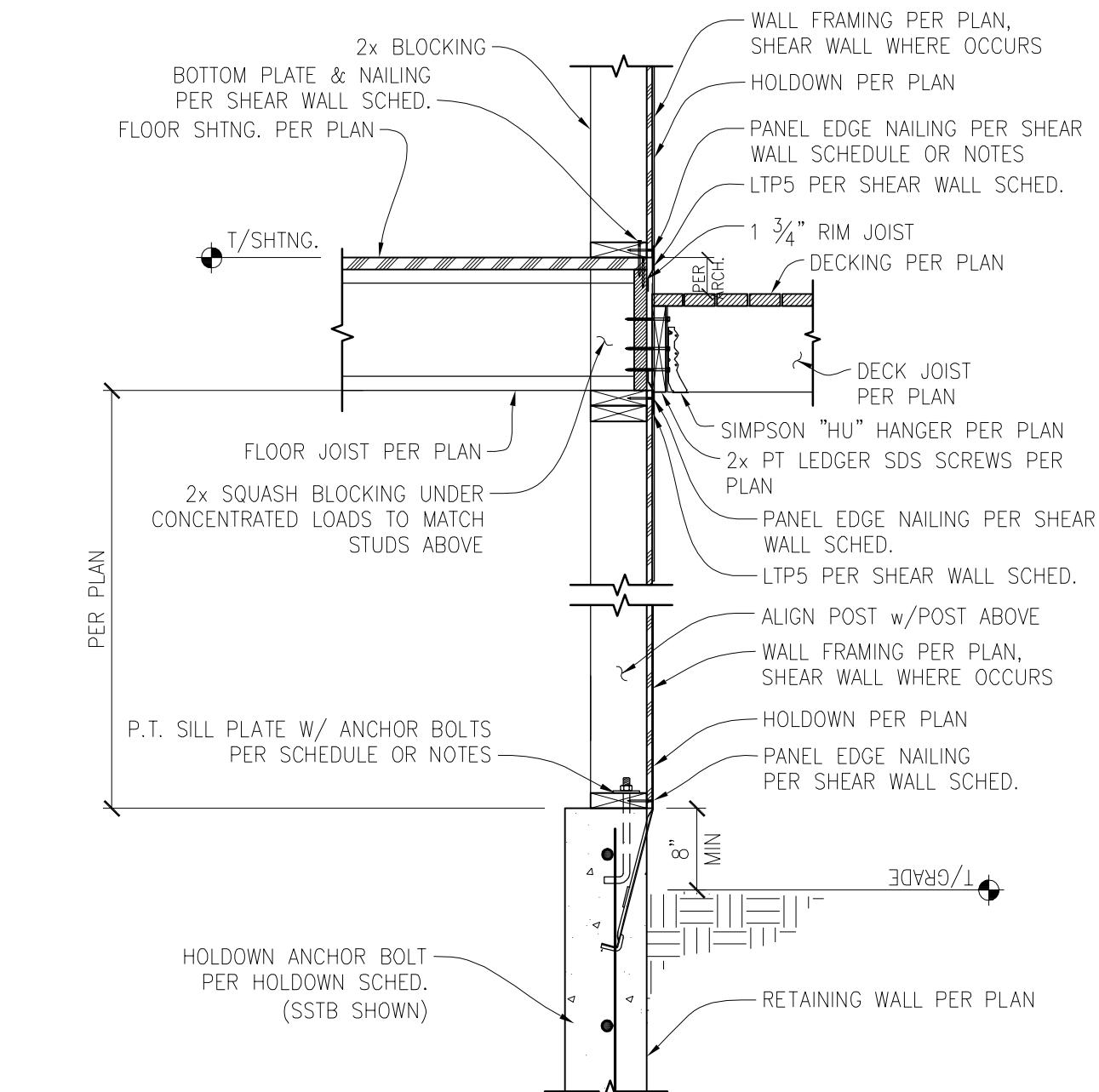
EXTERIOR SHEAR WALL WITH JOISTS PERPENDICULAR TO RETAINING WALL

SCALE: 3/4" = 1'-0"



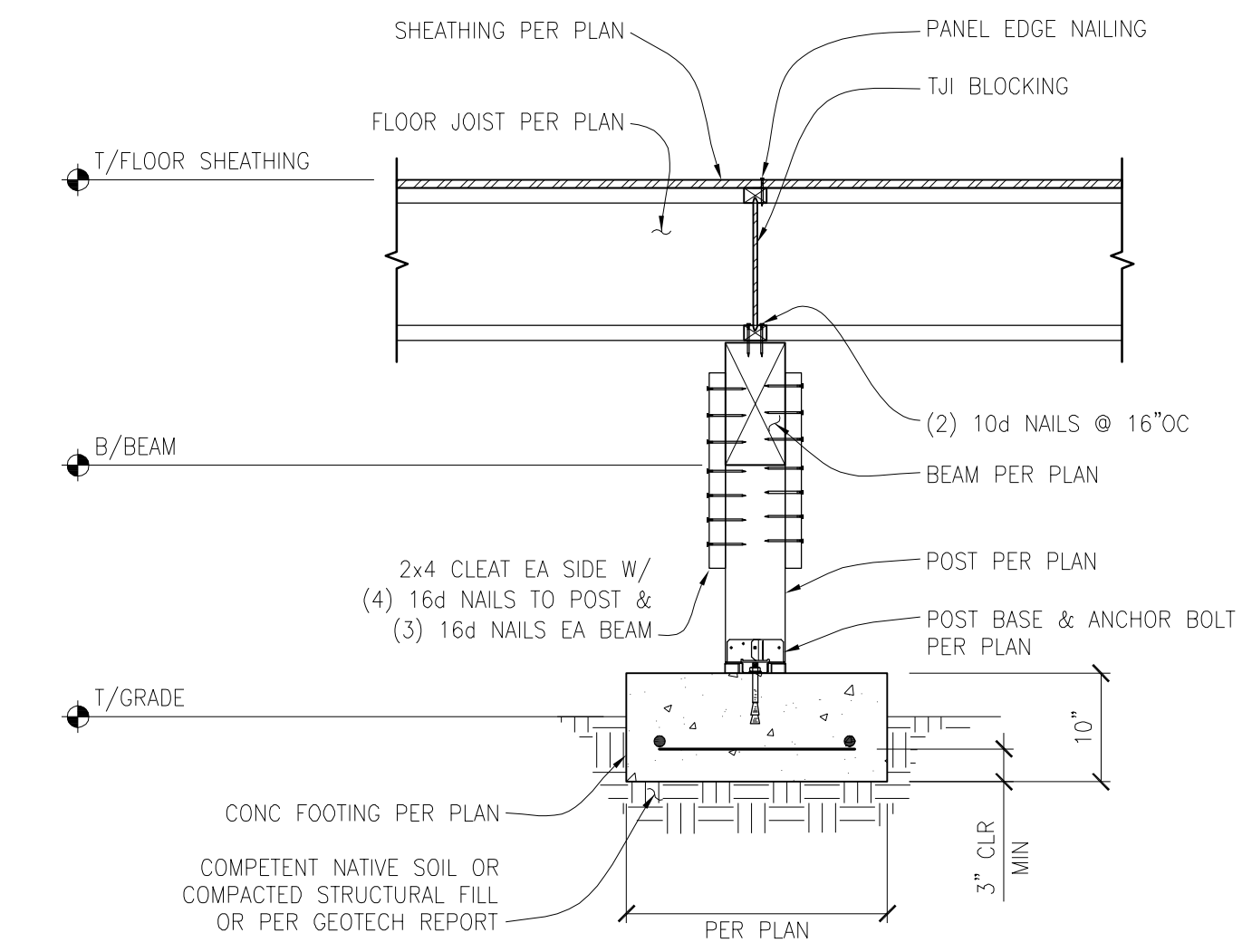
EXTERIOR SHEAR WALL WITH JOISTS PARALLEL TO RETAINING WALL

SCALE: 3/4" = 1'-0"



MAIN FLOOR WALL TO PONY WALL / LEDGER CON. (FLOOR JOIST PERPENDICULAR)

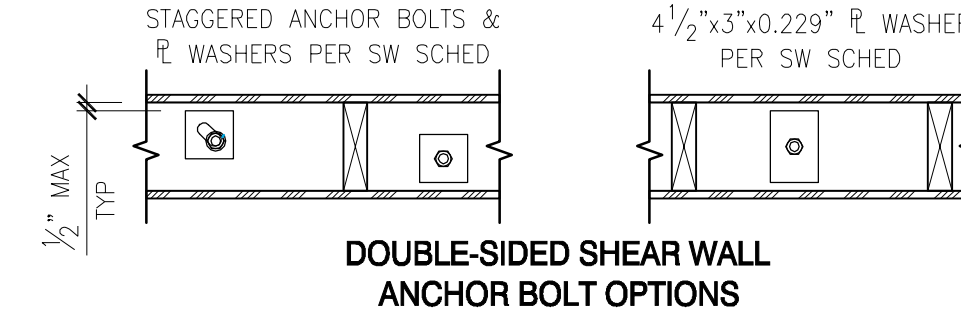
SCALE: 3/4" = 1'-0"



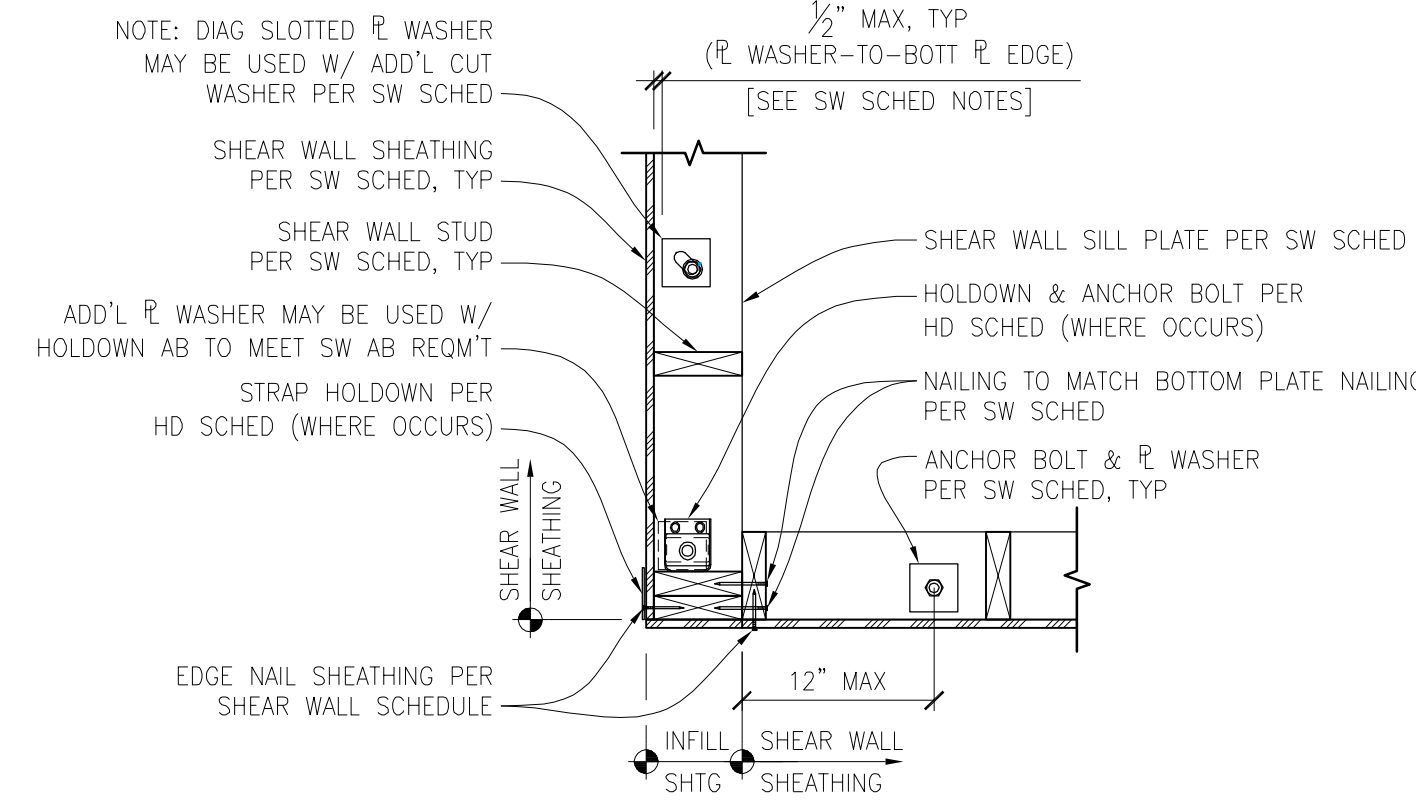
POST AND BEAM AT CRAWLSPACE

SCALE: 3/4" = 1'-0"

SIMPSON STRONG-TIE SLOTTED PLATE WASHERS W/ 3/8" ANCHOR BOLTS
3x3x0.229 BPS $\frac{3}{8}$ -3
4.5x3x0.229 BPS $\frac{3}{8}$ -6

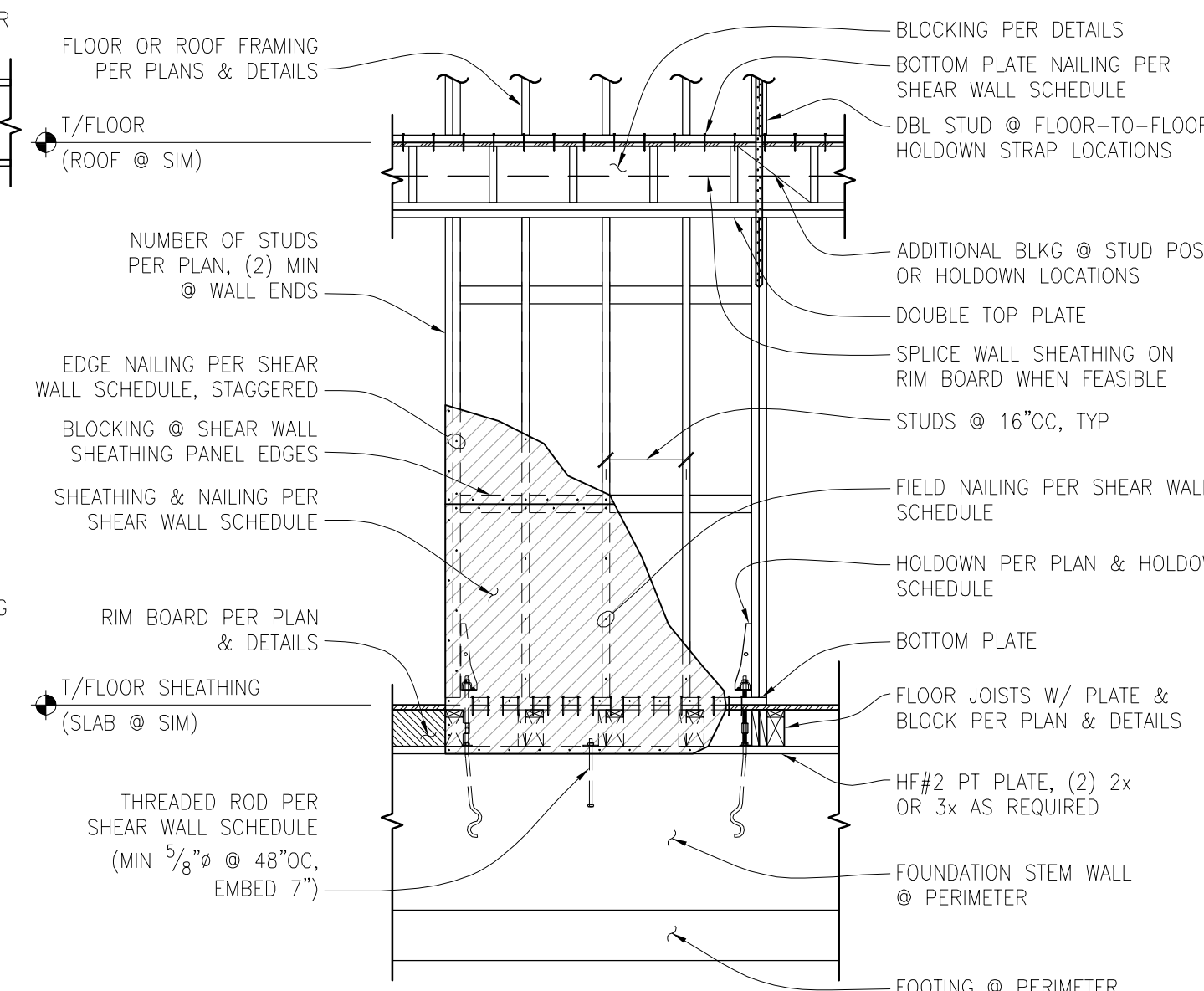


DOUBLE-SIDED SHEAR WALL ANCHOR BOLT OPTIONS



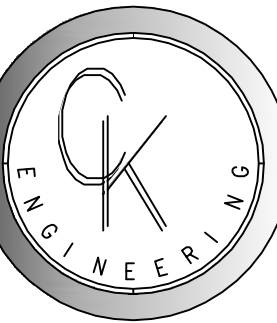
TYPICAL PLAN VIEW - SHEAR WALL HOLDOWNS & ANCHOR BOLTS

SCALE: 1" = 1'-0"



TYPICAL SHEAR WALL ELEVATION

SCALE: N.T.S.



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Lake Forest Park, WA 98155
Phone: (206) 417-0670



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REVISION #	DATE	DESCRIPTION

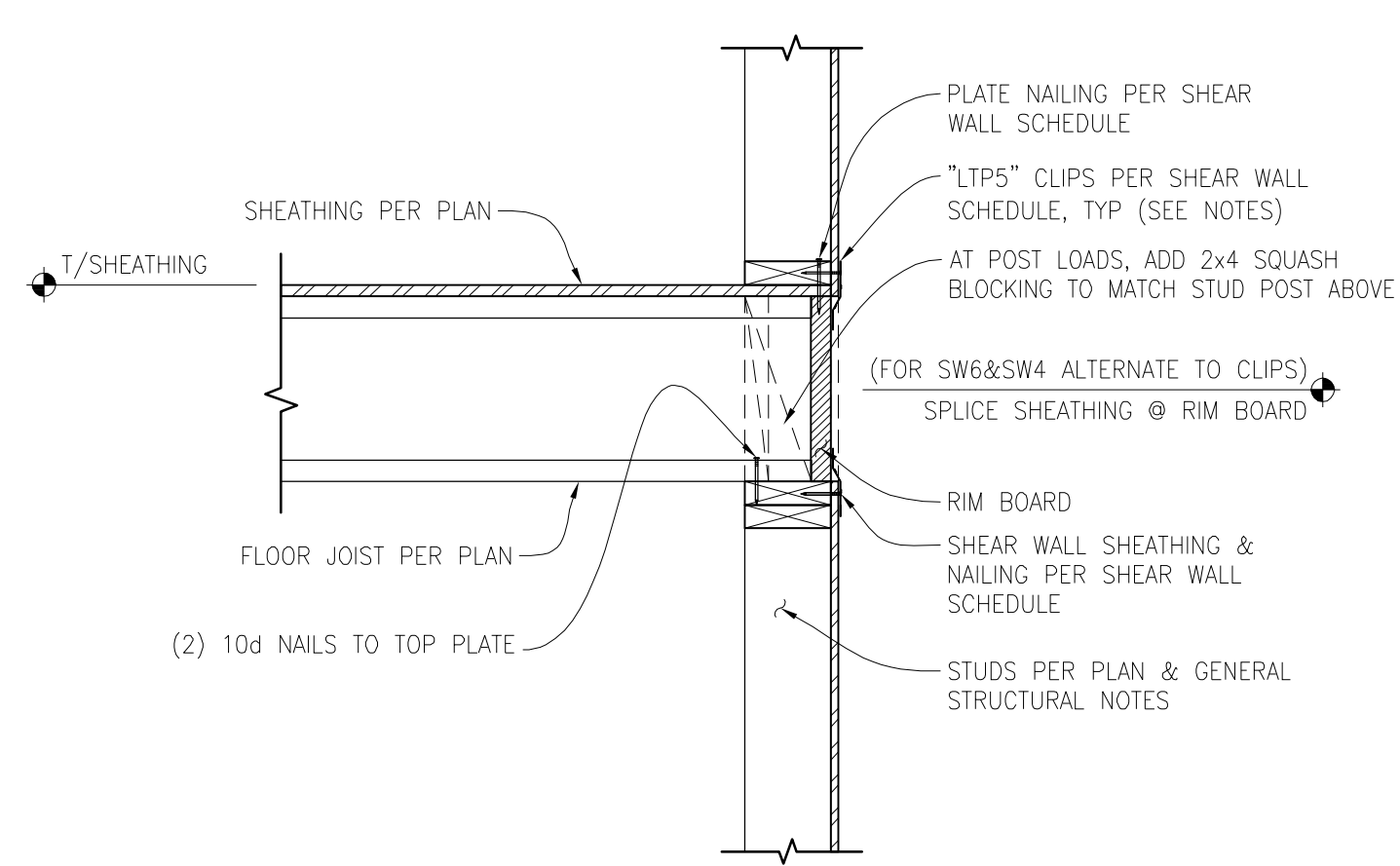
Drawn By: PK
Checked By: SC
Date: 06-10-2022

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22-028

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DETAILS

S-2.1

NOTES:
FOR SW-6 TO SW-4, TO ELIMINATE SHEAR WALL CLIPS @ R'S, LOCATE SHEATHING SPLICES AT MID-HT OF RIM BOARD & NAIL W/ (2) ROWS OF PANEL EDGE NAILING PER SHEAR WALL SCHEDULE.

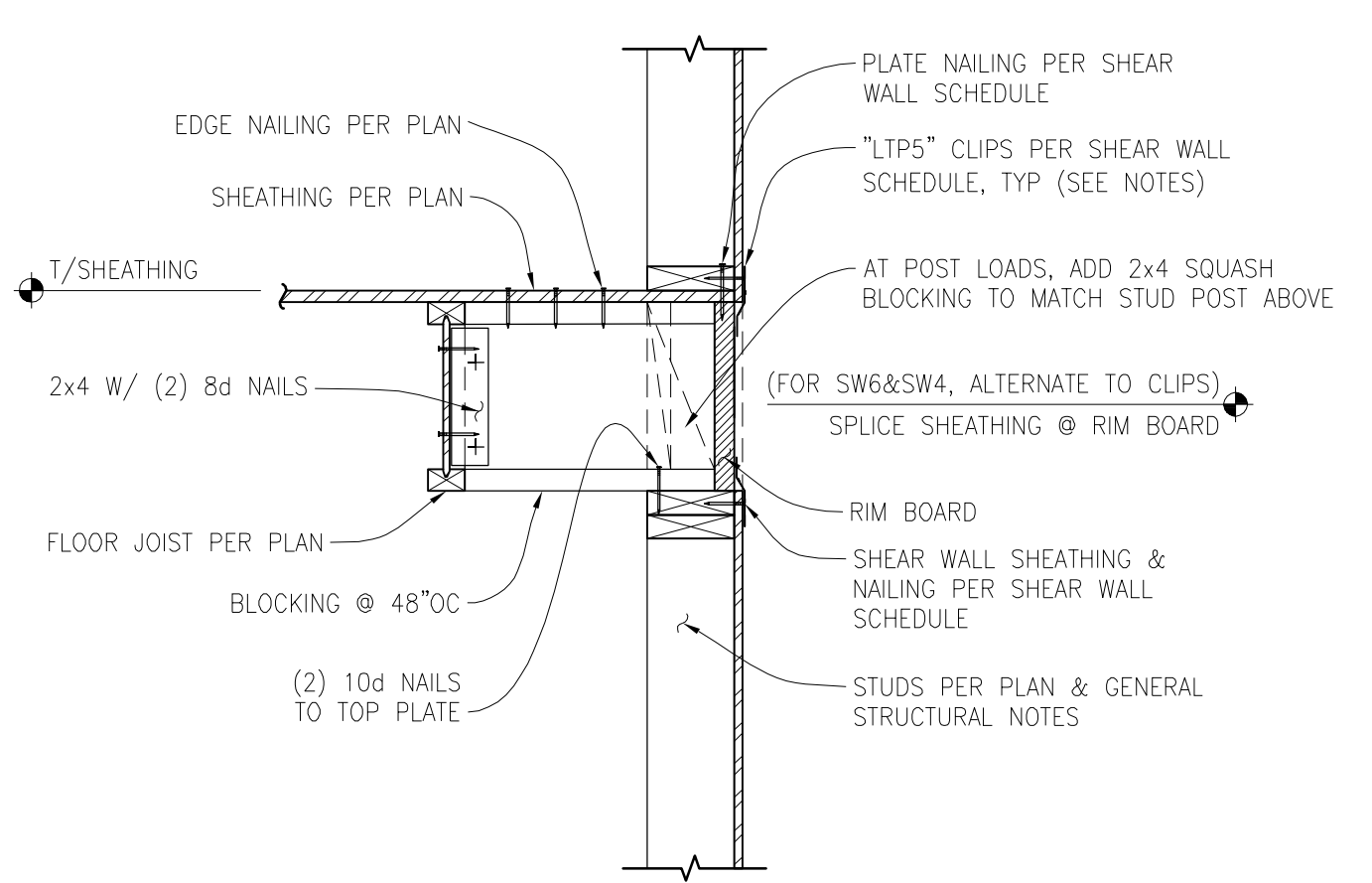


EXTERIOR WALL PERPENDICULAR TO JOISTS

SCALE: 1" = 1'-0"

1

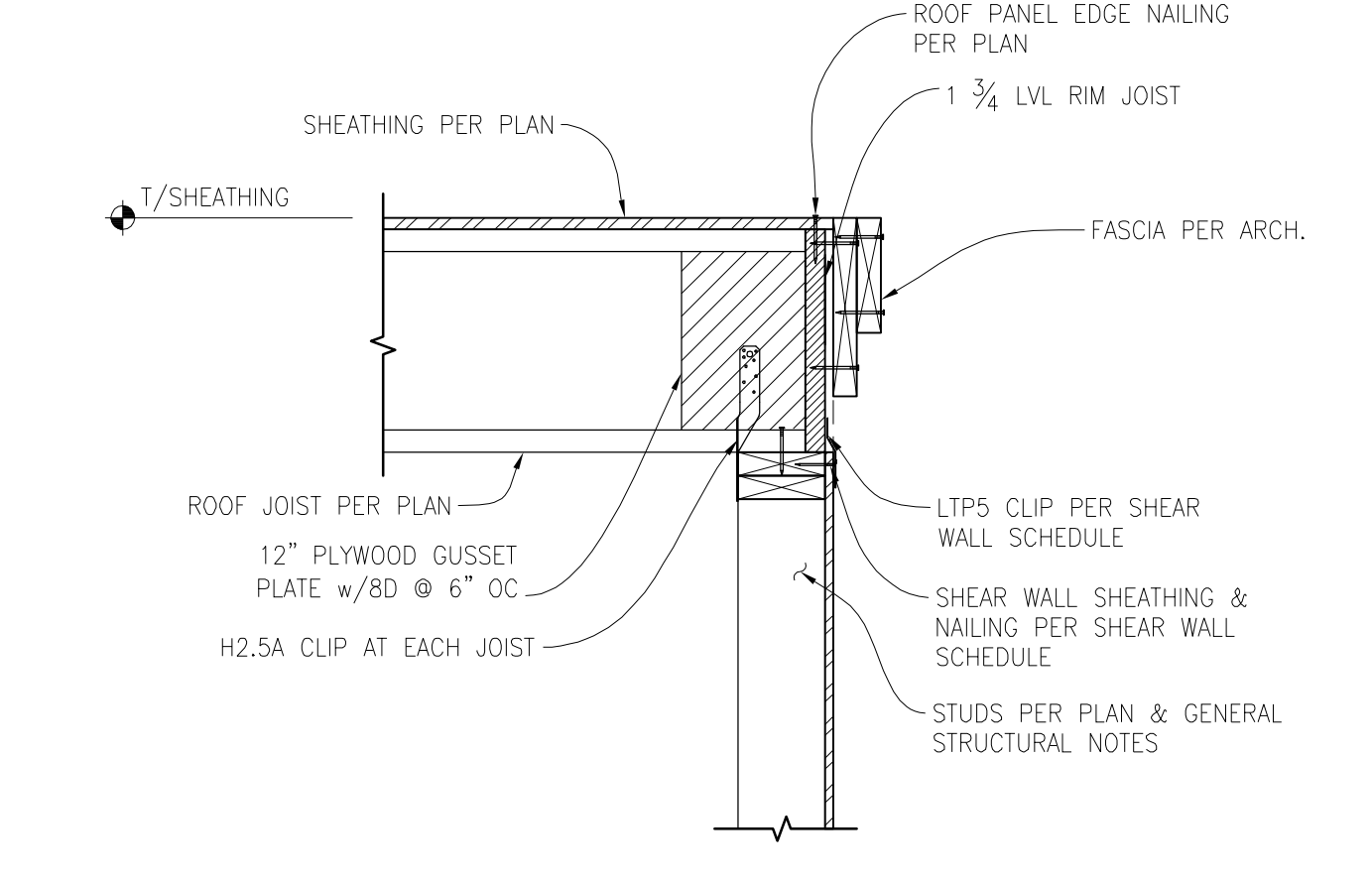
NOTES:
FOR SW-6 TO SW-4, TO ELIMINATE SHEAR WALL CLIPS @ R'S, LOCATE SHEATHING SPLICES AT MID-HT OF RIM BOARD & NAIL W/ (2) ROWS OF PANEL EDGE NAILING PER SHEAR WALL SCHEDULE.



EXTERIOR WALL PARALLEL TO JOISTS

SCALE: 1" = 1'-0"

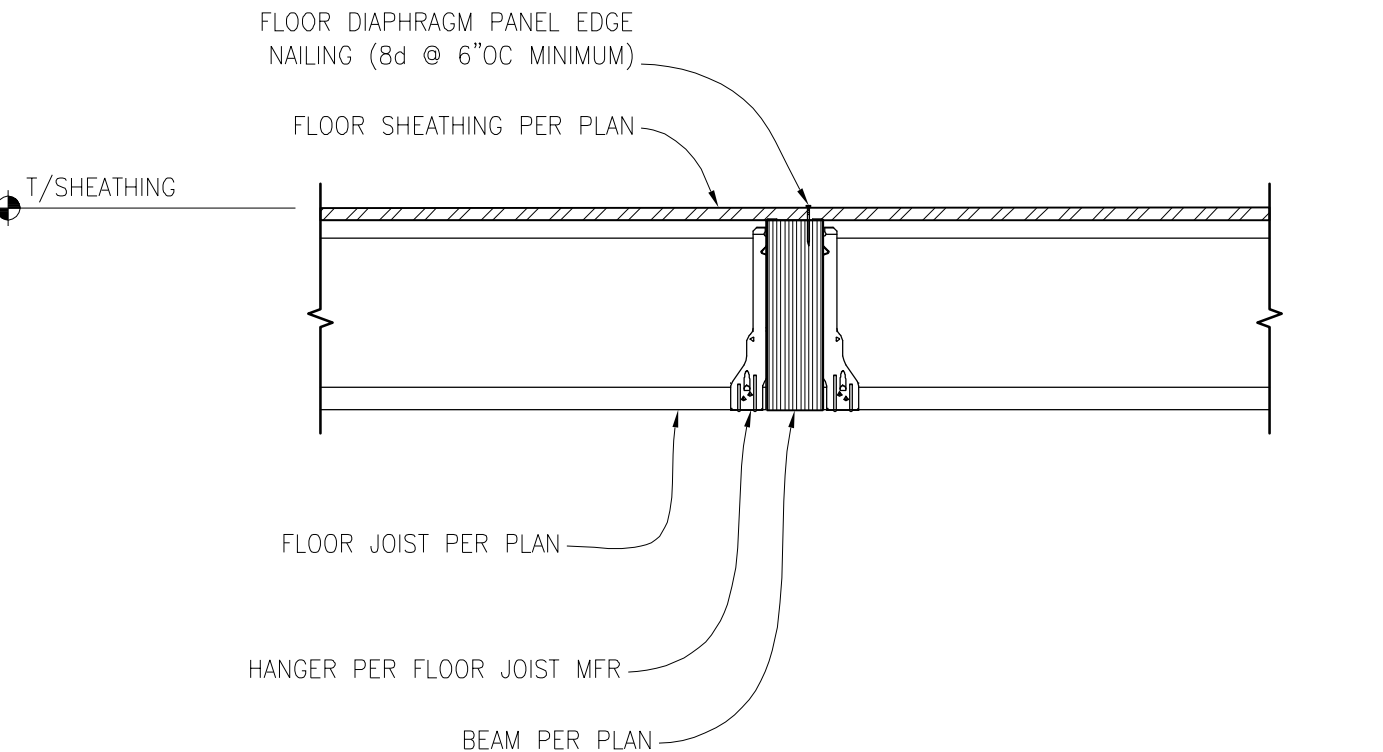
2



DECK JOIST PERPENDICULAR TO BEARING/SHEAR WALL

SCALE: 1" = 1'-0"

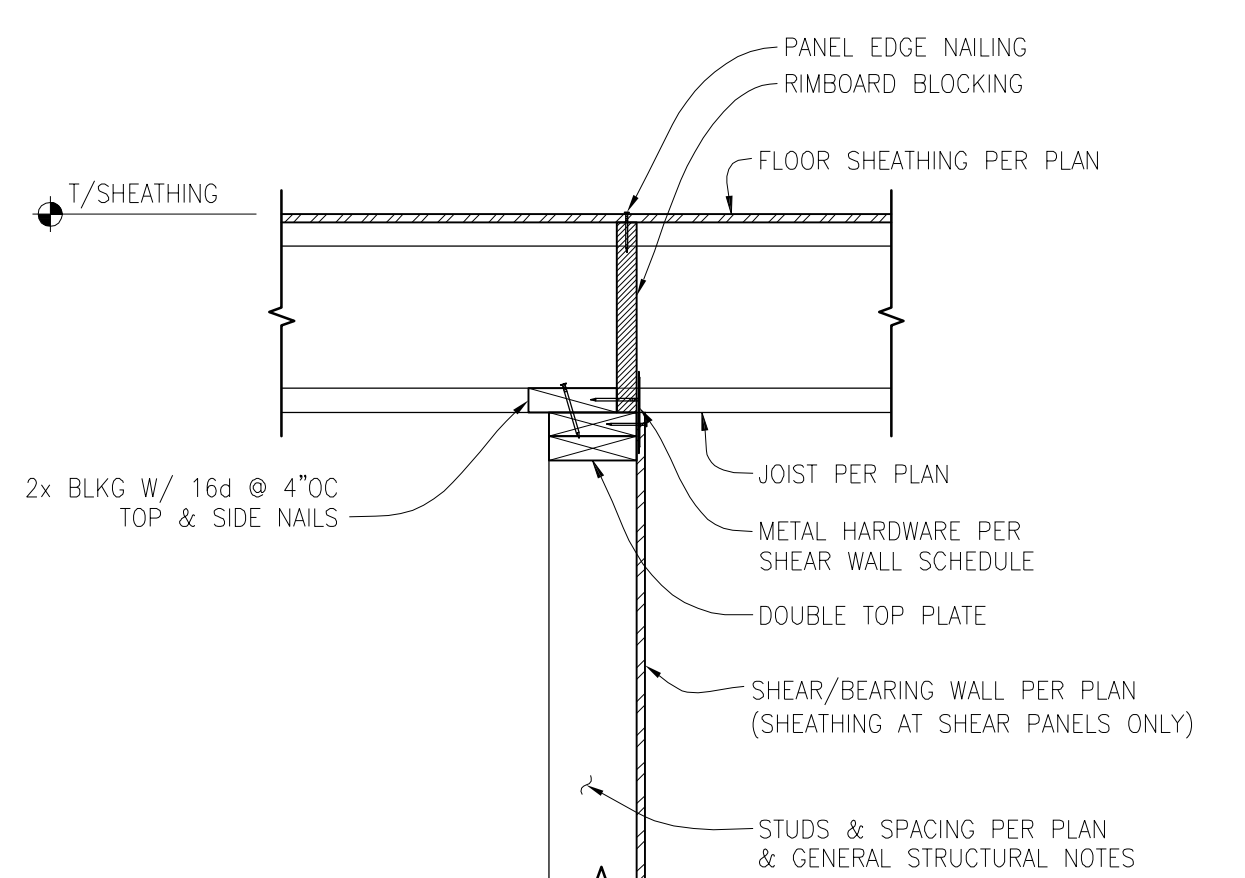
3



FLOOR JOIST/FLUSH BEAM CONNECTION

SCALE: 1" = 1'-0"

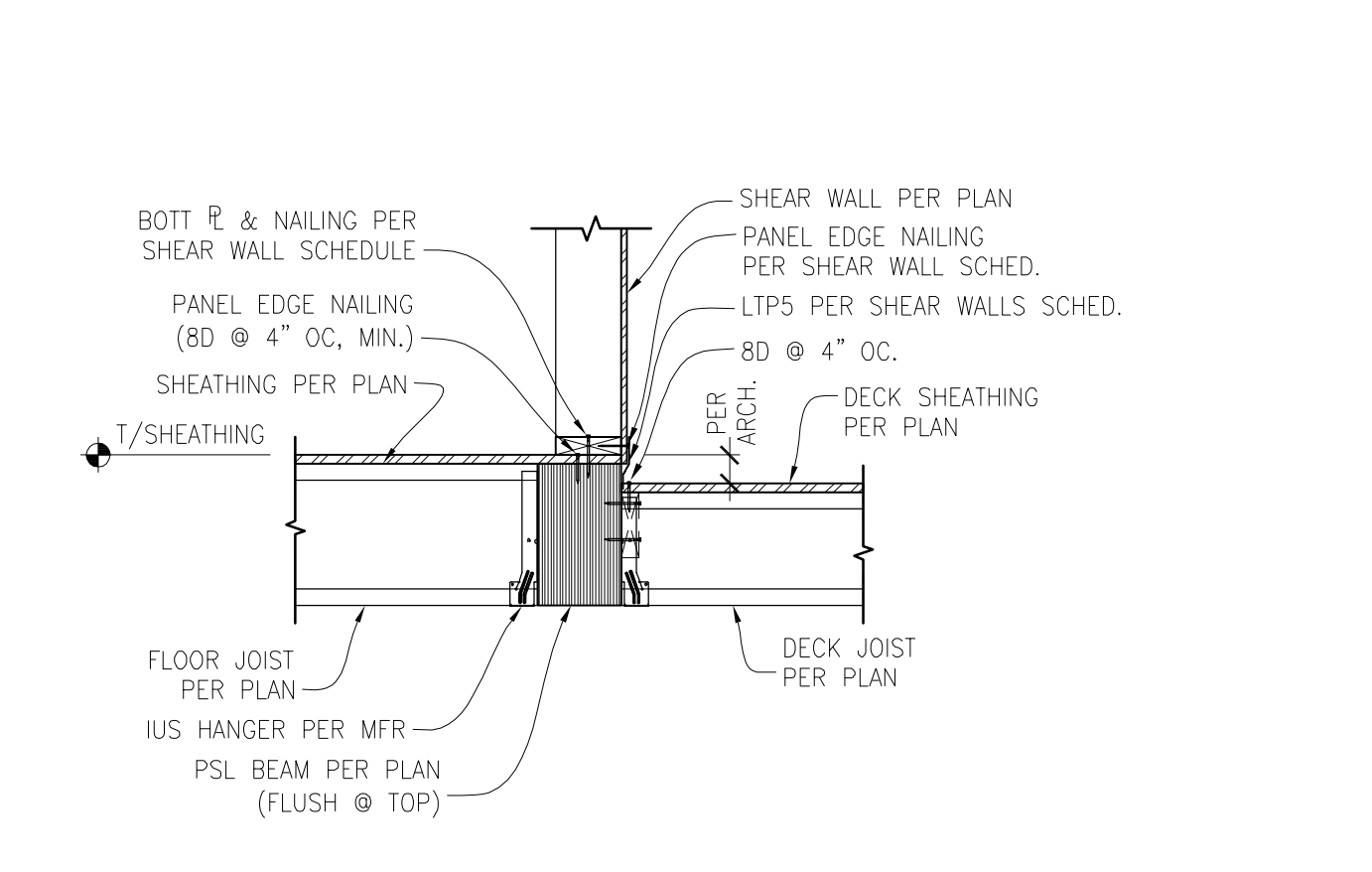
9



INTERIOR SHEAR/BEARING WALL CON.

SCALE: 1" = 1'-0"

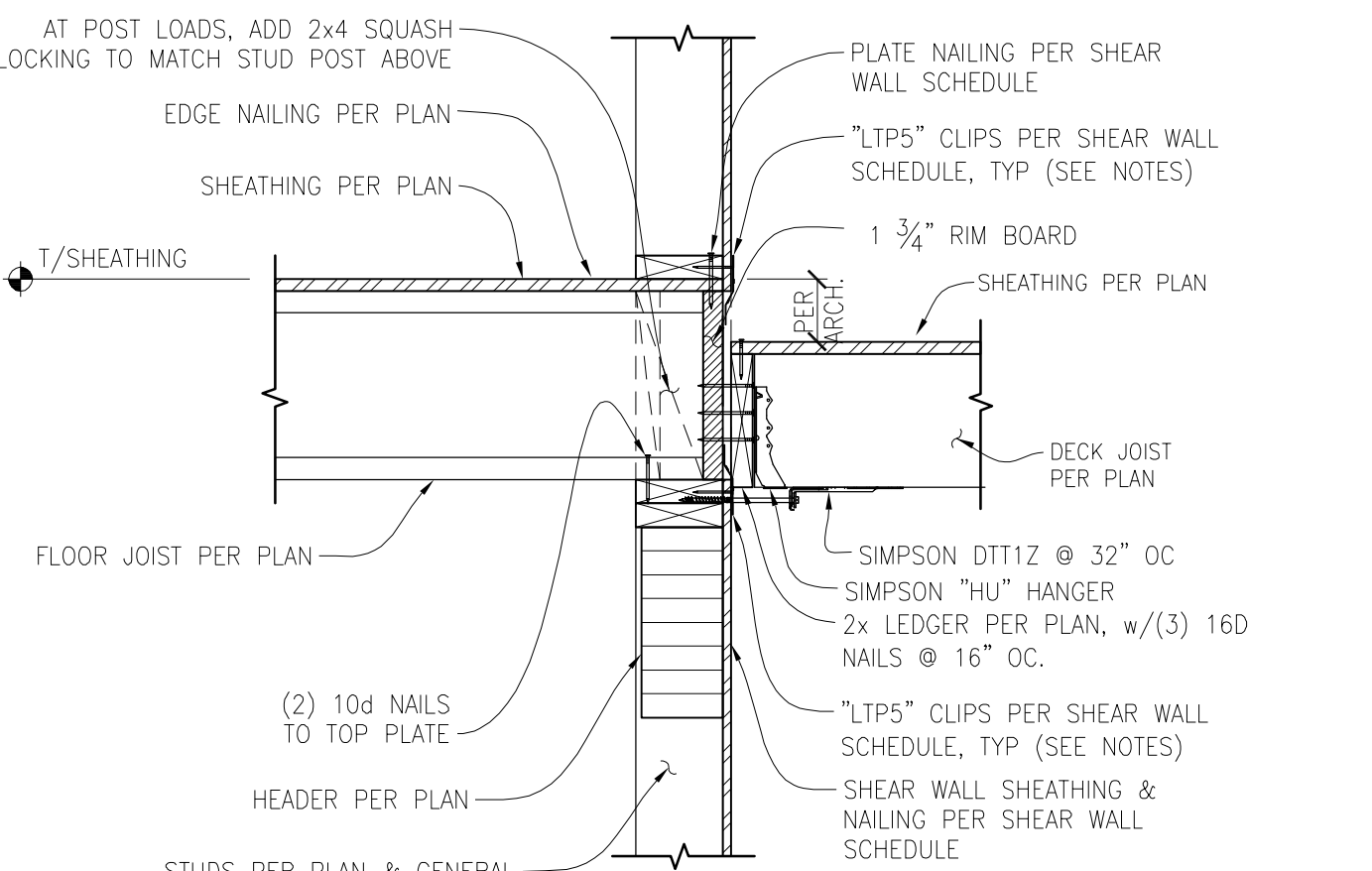
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UPPER FLOOR SHEAR WALL TO UPPER FLOOR BEAM CONNECTION

SCALE: 3/4" = 1'-0"

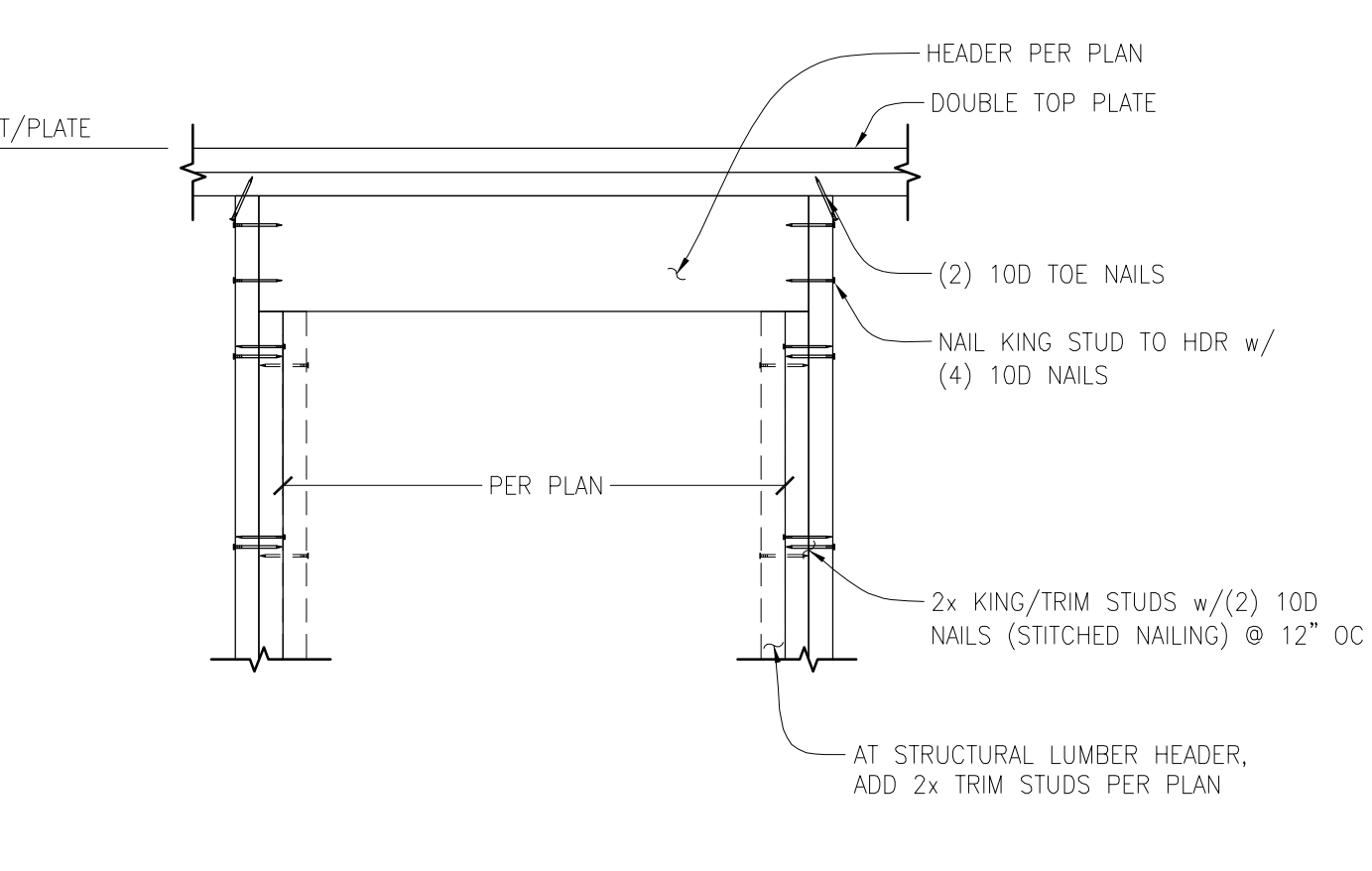
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LEDGER TO RIM JOIST CONNECTION

SCALE: 1" = 1'-0"

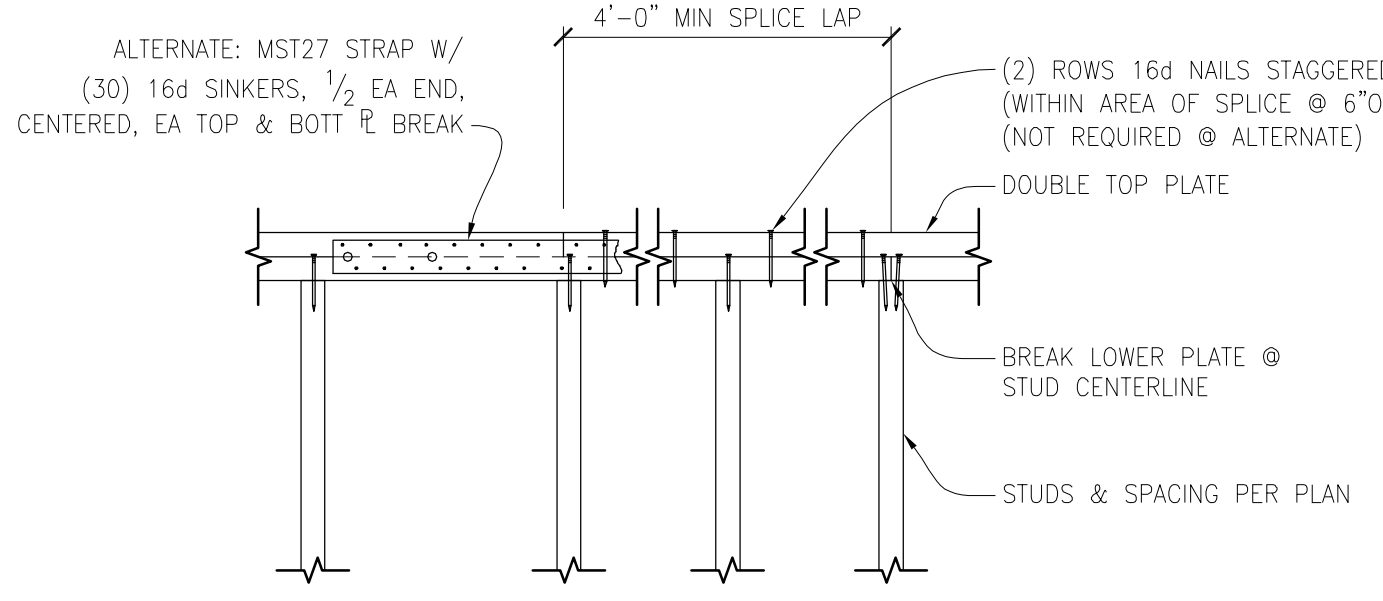
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TYPICAL HEADER CONNECTION

SCALE: N.T.S.

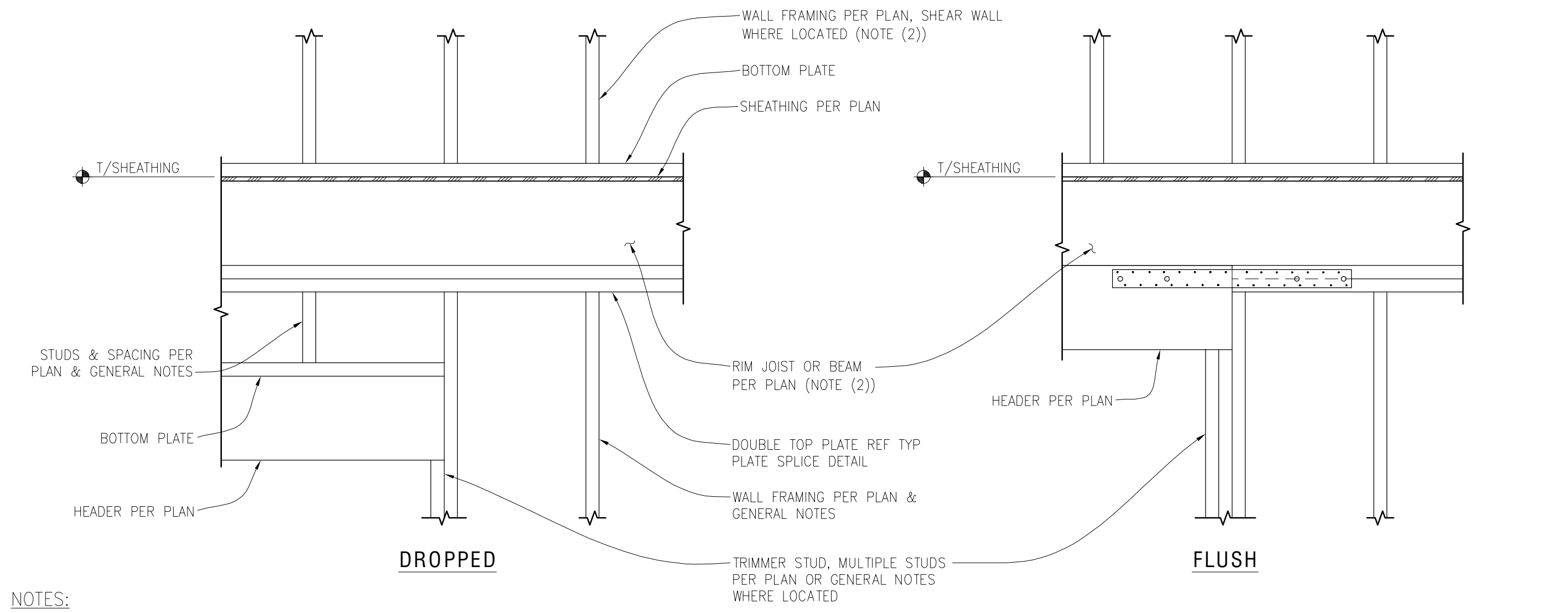
8



TYPICAL PLATE SPLICE DETAIL

SCALE: N.T.S.

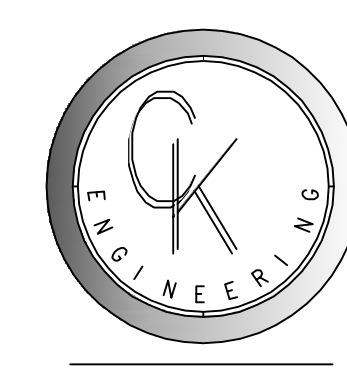
9



TYPICAL HEADER FRAMING

SCALE: 1" = 1'-0"

11



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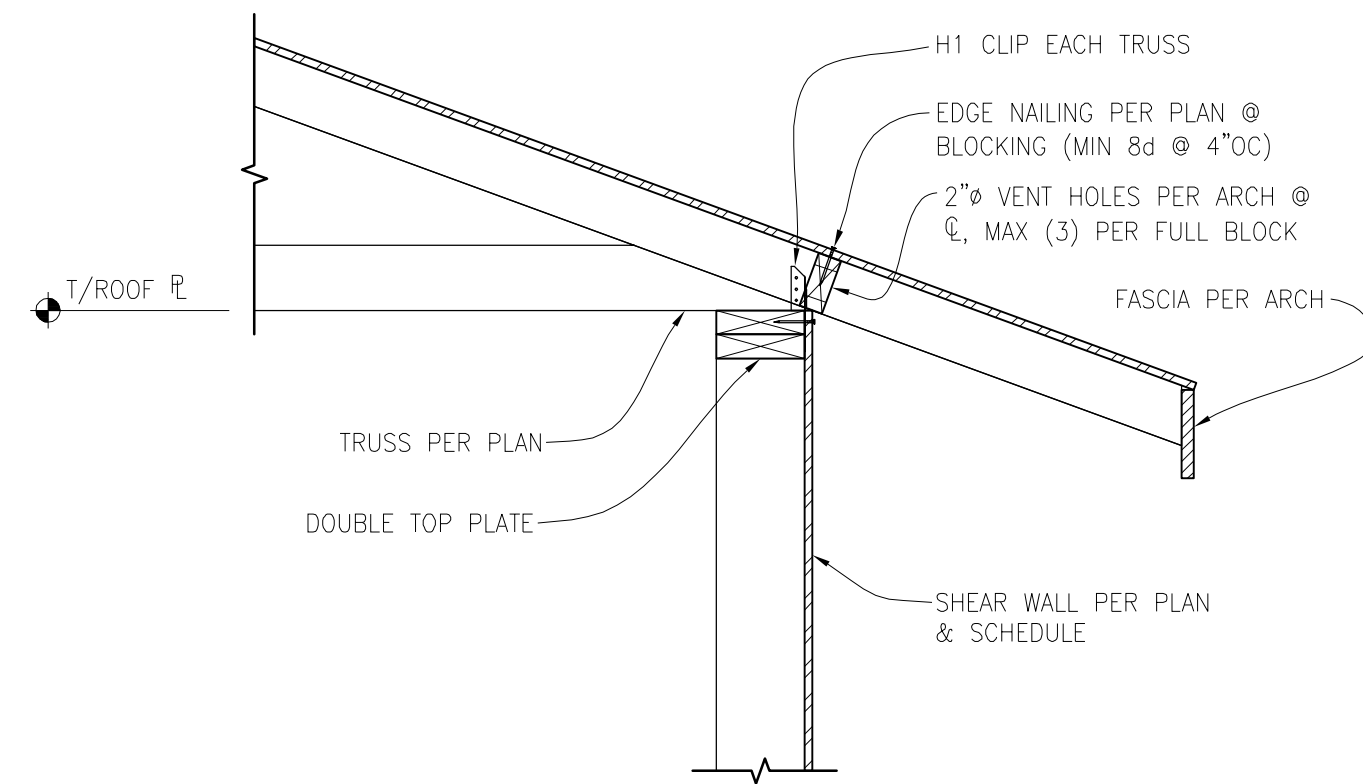
REVISION #	DATE	DESCRIPTION

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22-028

STRUCTURAL
DETAILS

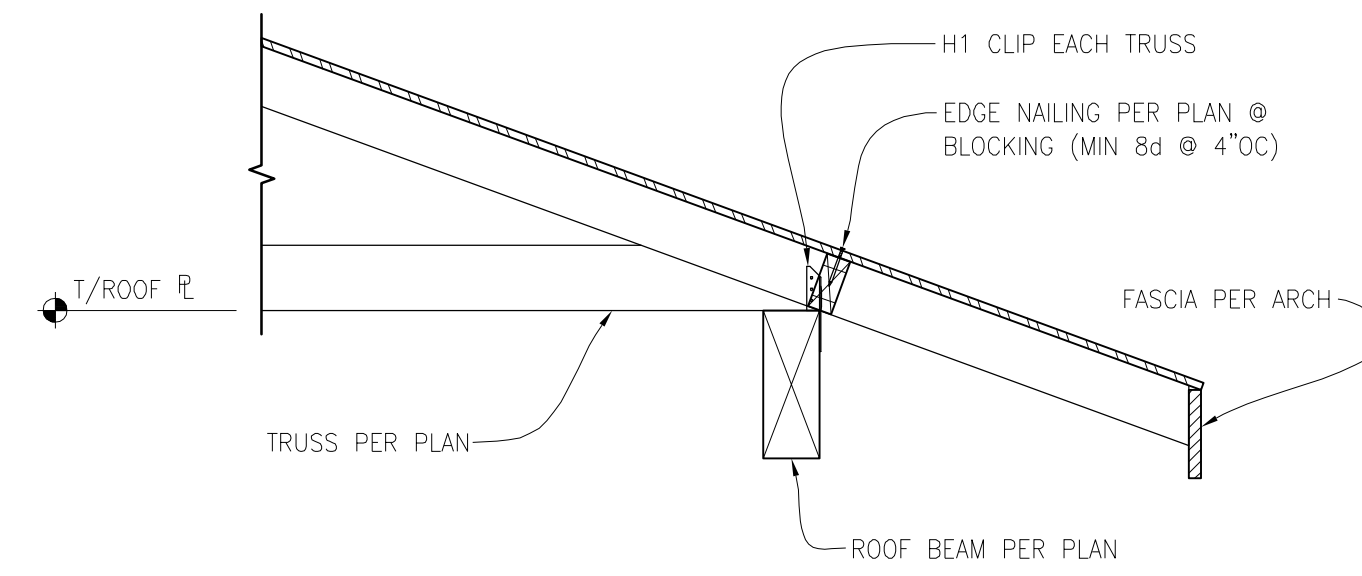
S-3.0



EXTERIOR SHEAR WALL PERPENDICULAR TO ROOF TRUSS

SCALE: 1" = 1'-0"

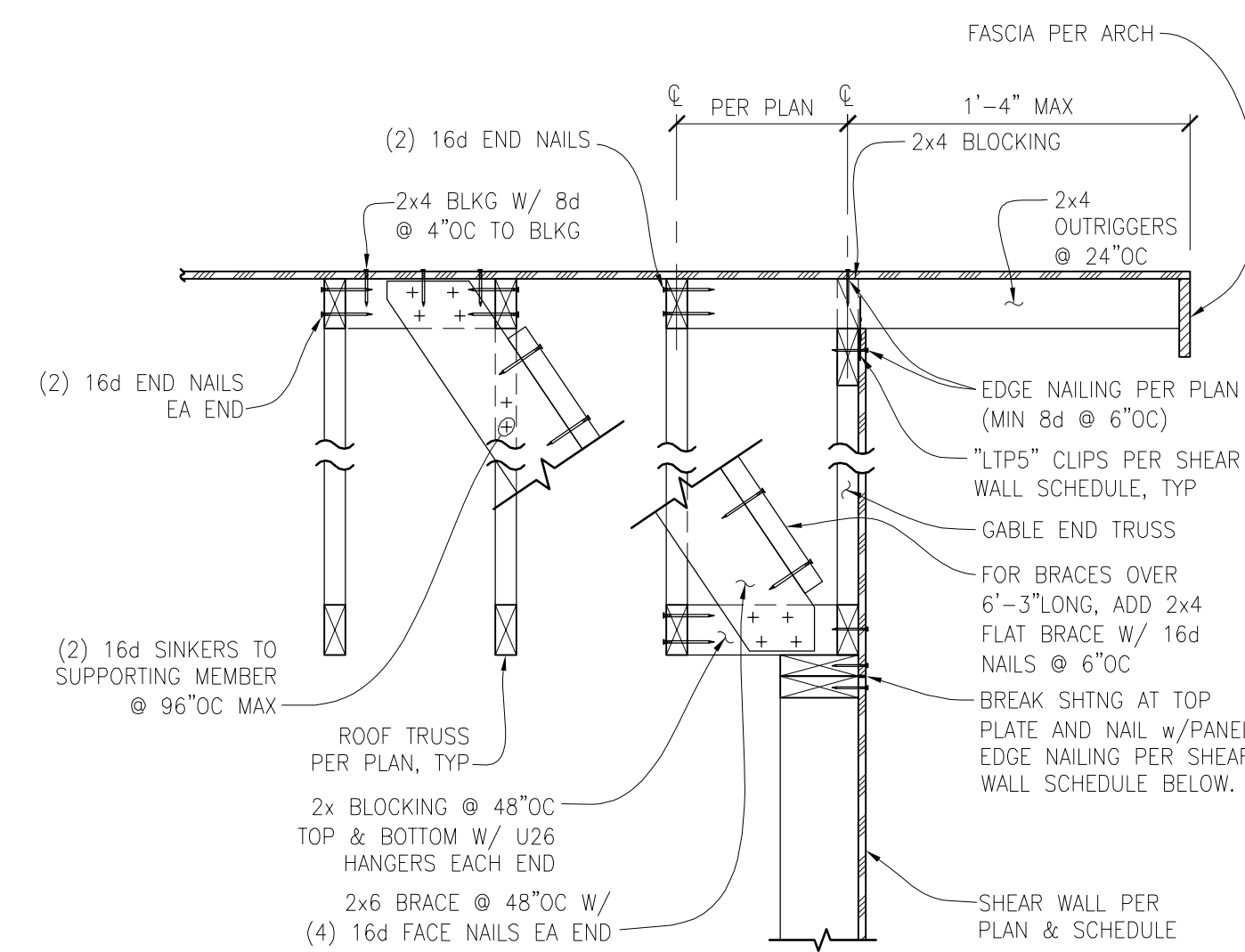
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EXTERIOR ROOF TRUSS BEAM CONNECTION

SCALE: 1" = 1'-0"

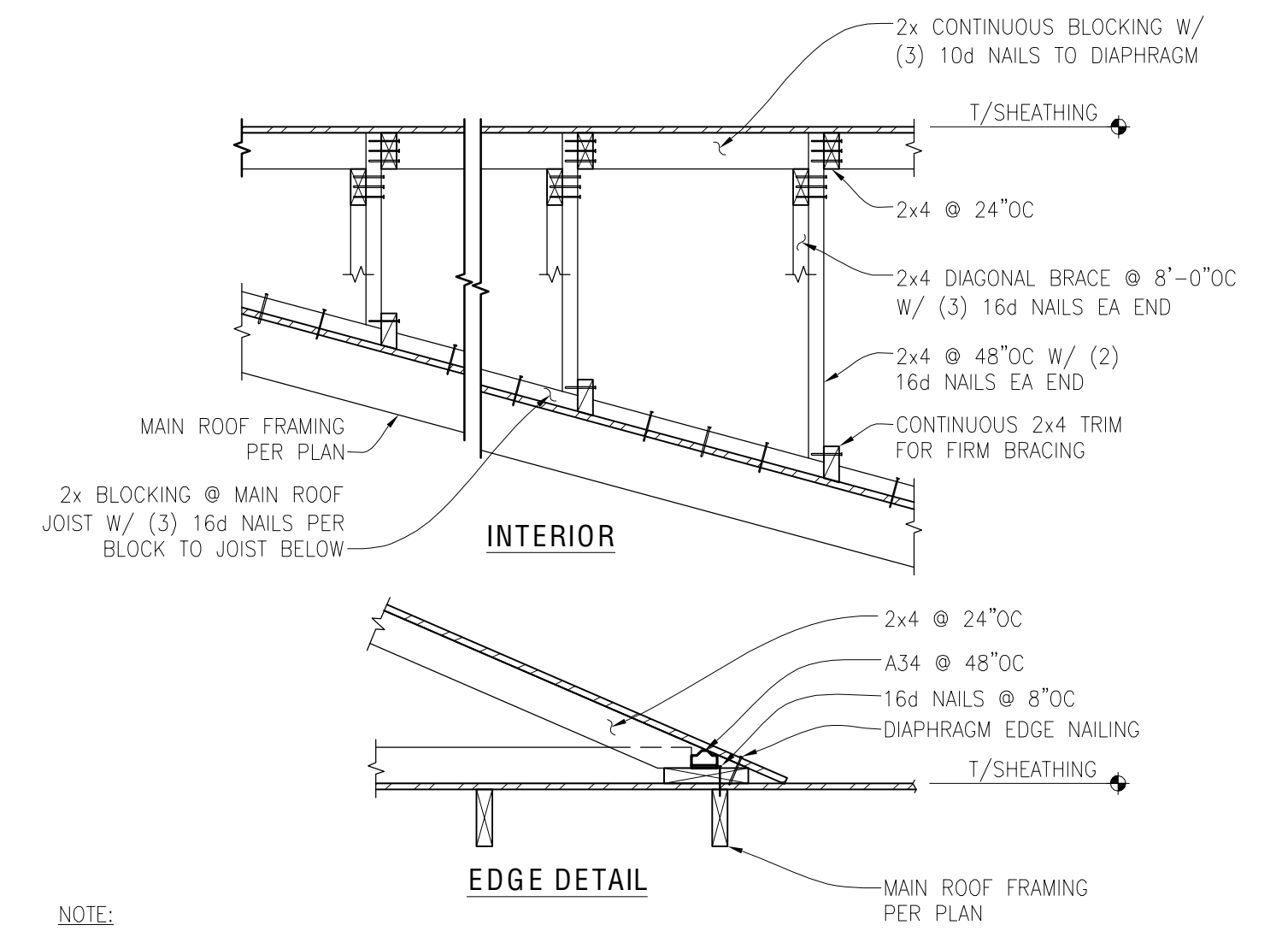
2



EXTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS

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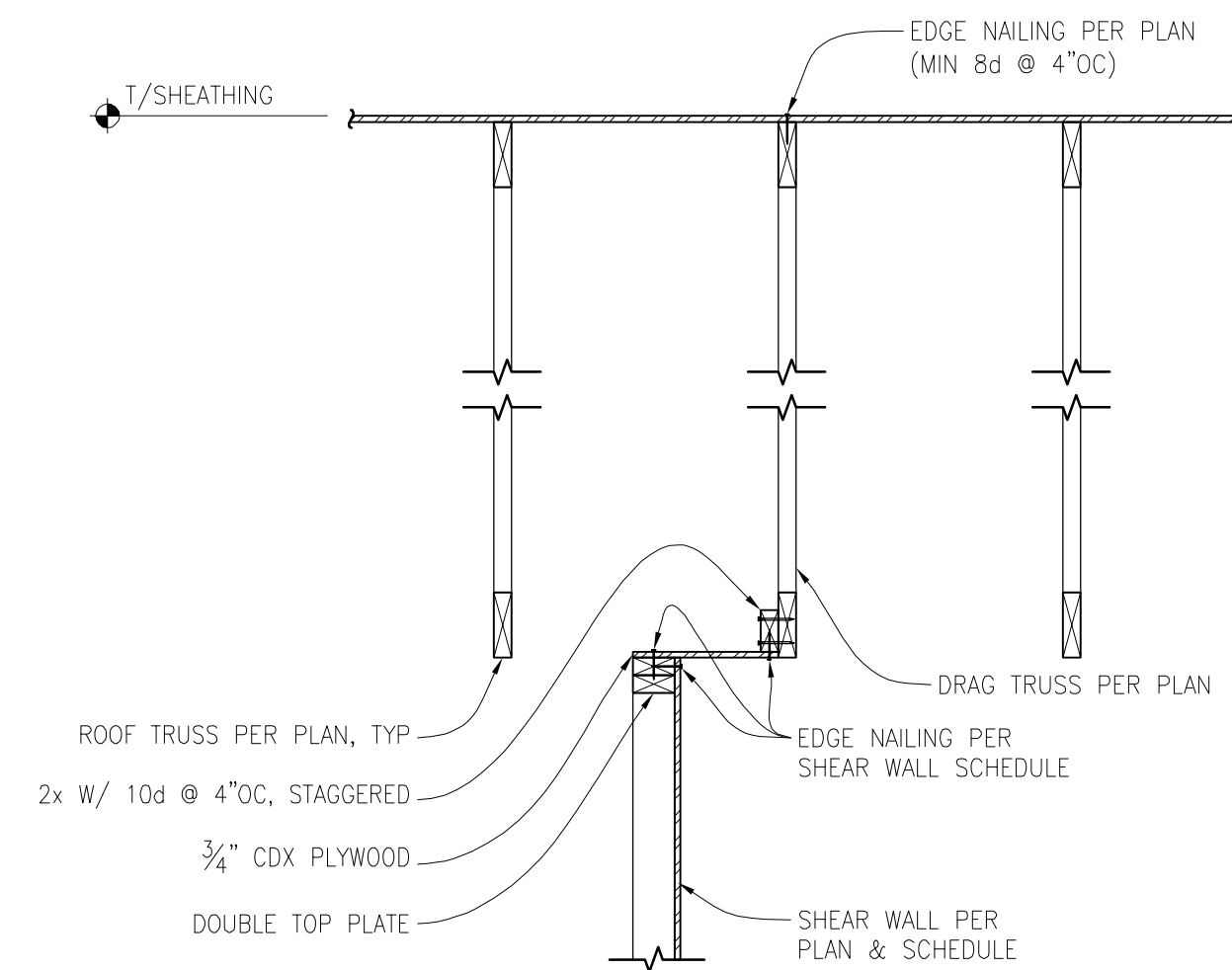
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TYPICAL ROOF OVERFRAMING DETAIL

SCALE: N.T.S.

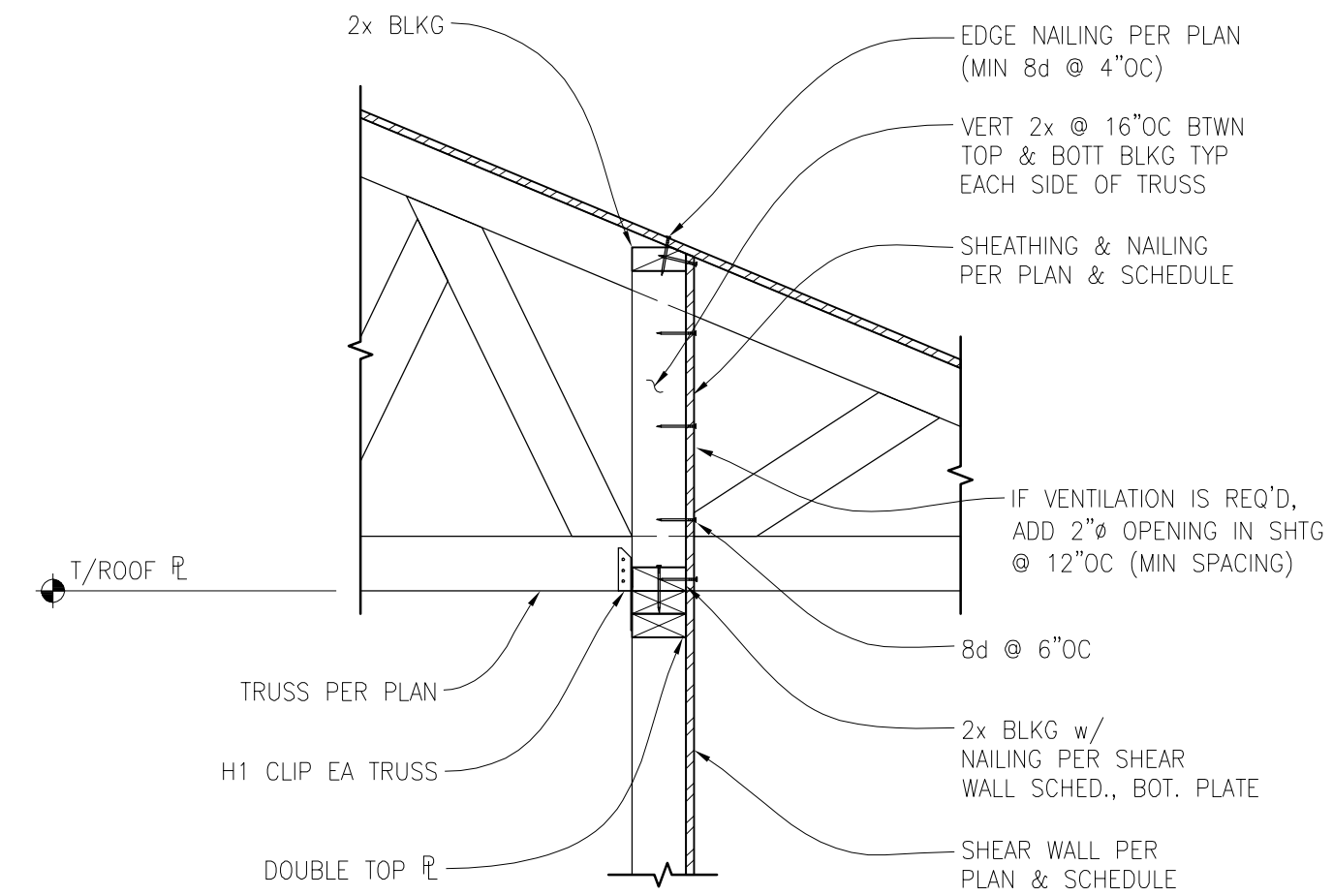
4



INTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS CONNECTION

SCALE: 3/4" = 1'-0"

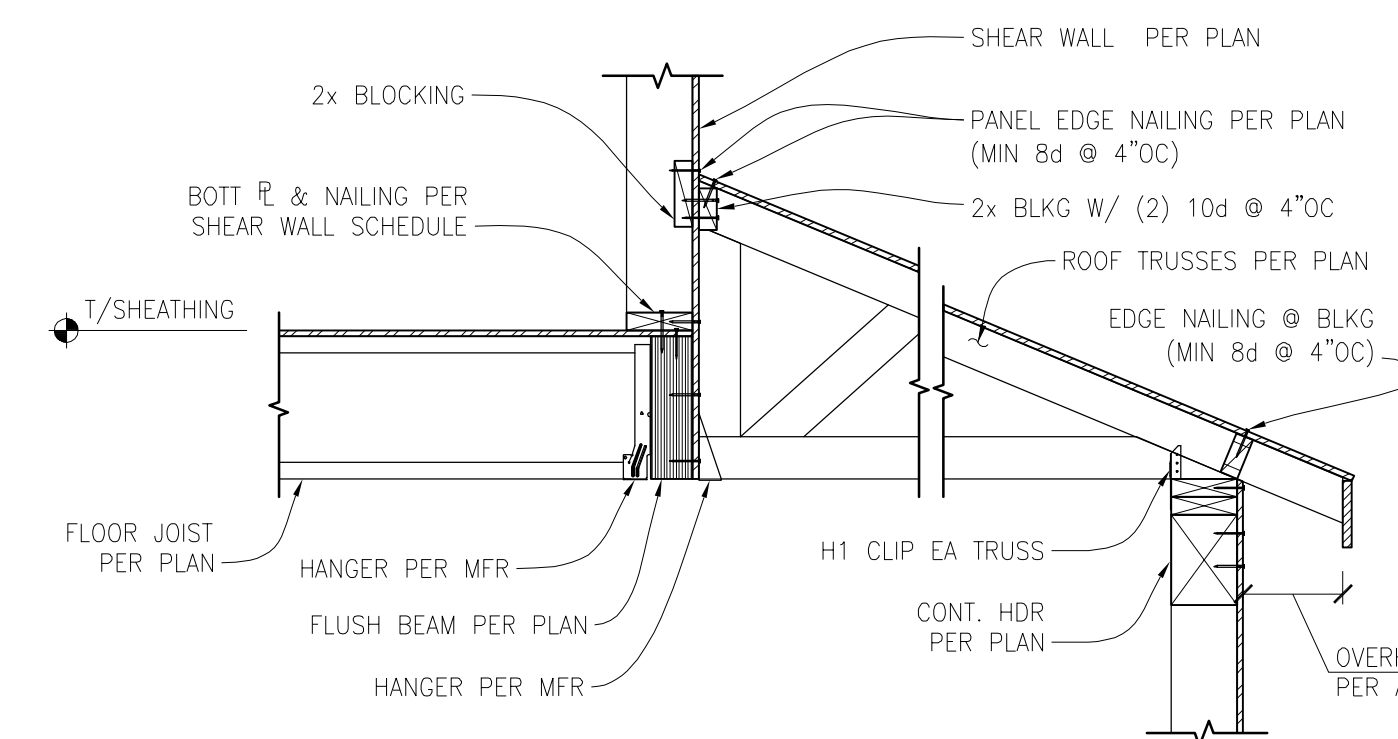
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INTERIOR SHEAR WALL PERPENDICULAR TO ROOF TRUSS

SCALE: 1" = 1'-0"

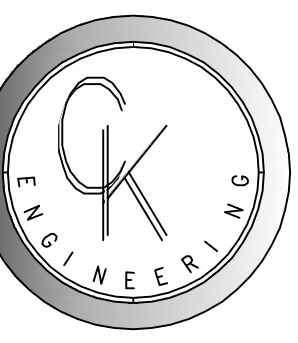
6



UPPER FLOOR SHEAR WALL TO MAIN FLOOR SHEAR WALL CONNECTION

SCALE: 3/4" = 1'-0"

7



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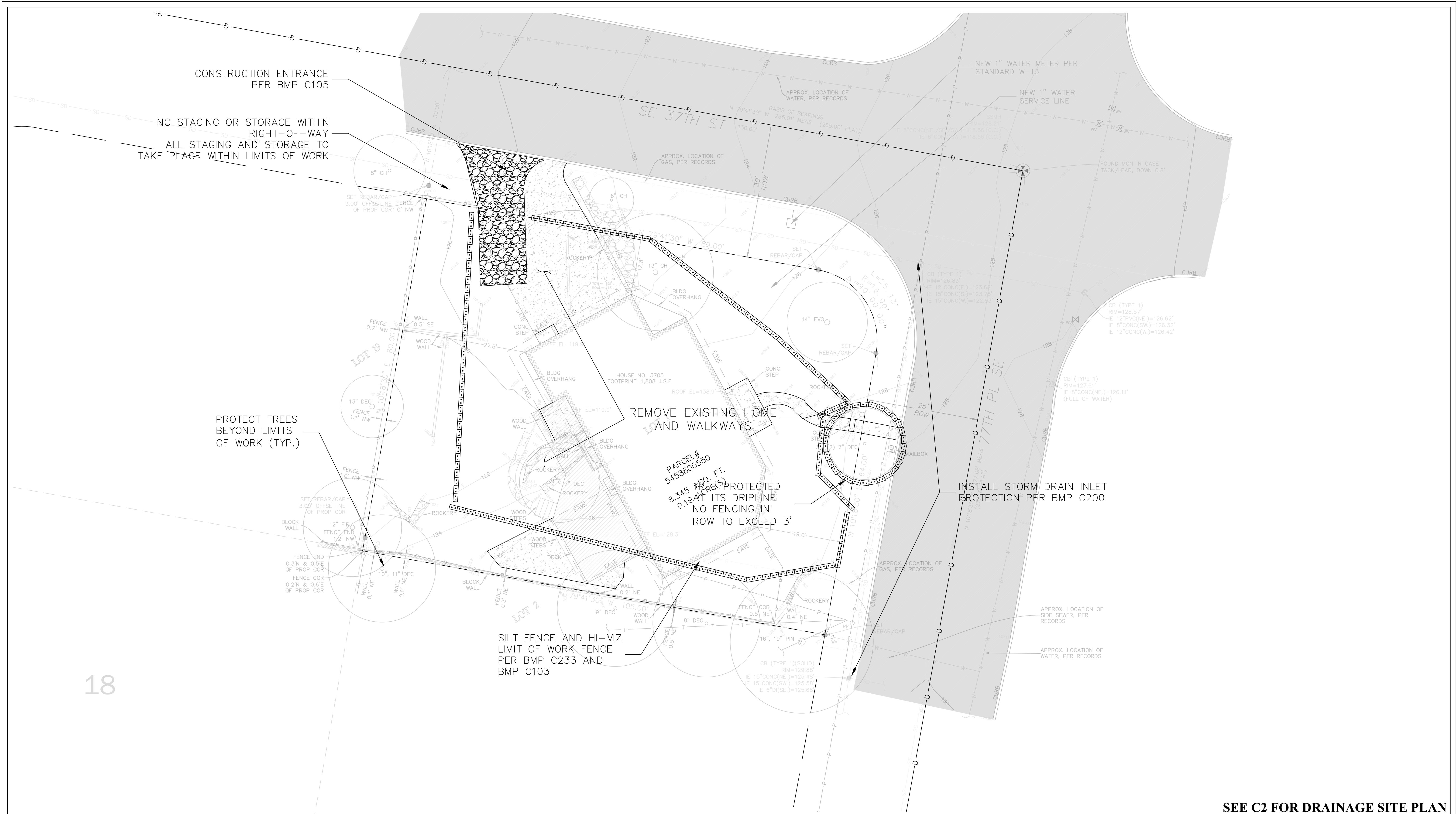
REVISION #	DATE	DESCRIPTION

Drawn By: PK
Checked By: SC
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CK JOB NO.
22-028

STRUCTURAL
DETAILS

S-4.0



18

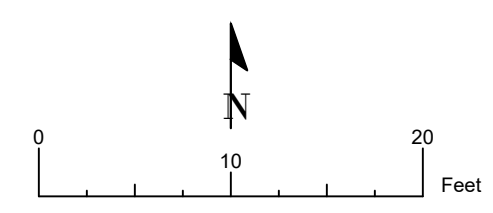
SEE C2 FOR DRAINAGE SITE PLAN

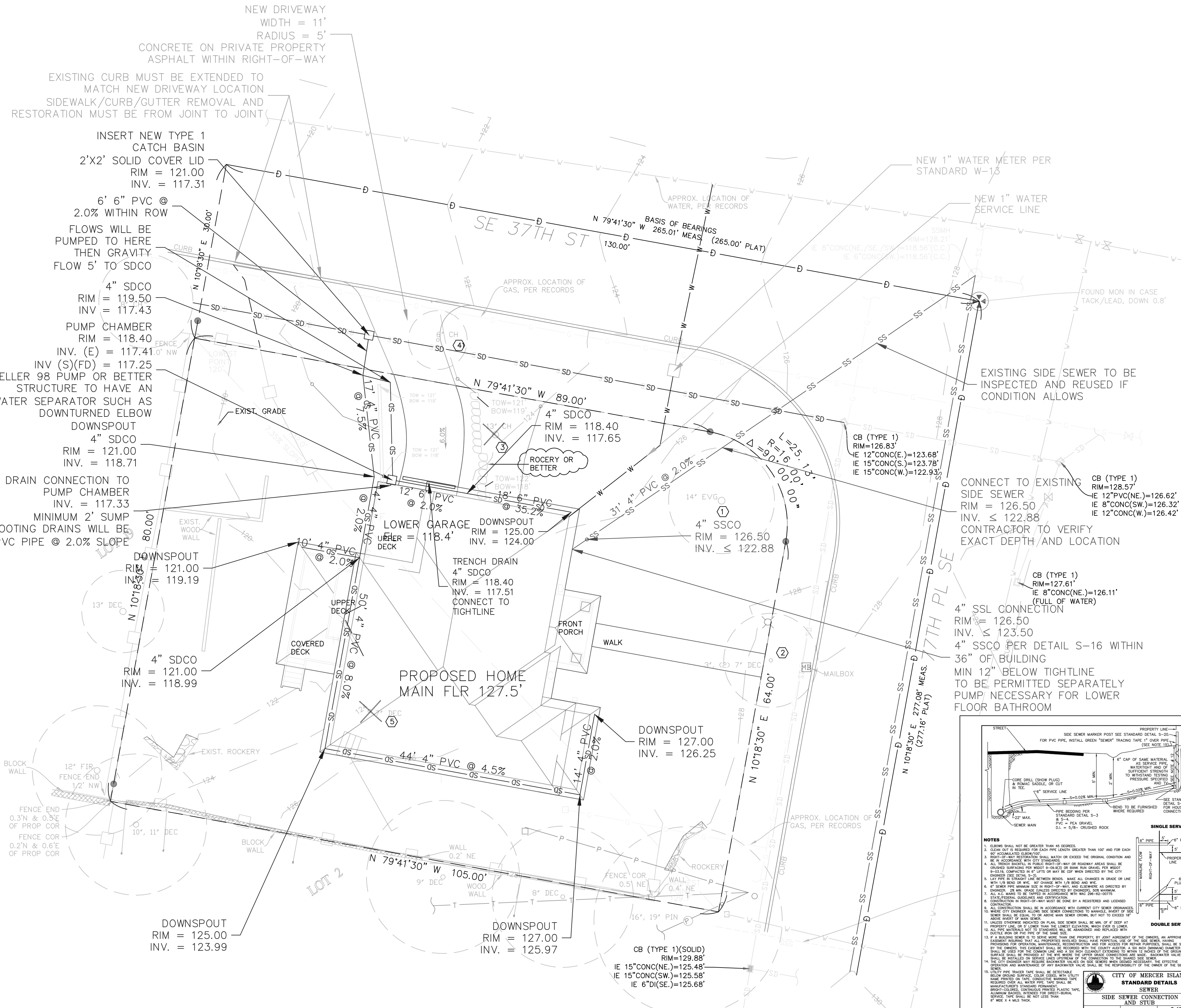
77th PI SE SFR
 Site Address: 3705 77th PI SE
 Jurisdiction: Mercer Island
 Parcel No.: 545880-0550
 Applicant: Charlie Chen
 Permit No.: 2206-263
 Interlaken Project No.: SEA-22-074

Interlaken Engineering and Design, PLLC
 Seattle, WA | (206) 470-9572
 www.interlakenengineering.com

Revisions:
2023-07-28: Updated for City of Mercer Island comments

C1
 TESC/ Demo/ CSWPPP
 Scale: 1" = 10'

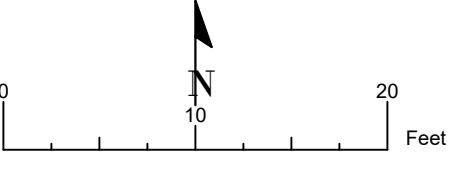




Hard Surface Data	
Lot Size	8345 sf
New Roof	1939 sf
New Driveway/ Walkway	496 sf
New Patio	222 sf
Total Proposed Hard Surface	2657 sf
Proposed Vegetation	5688 sf

LEGAL DESCRIPTION

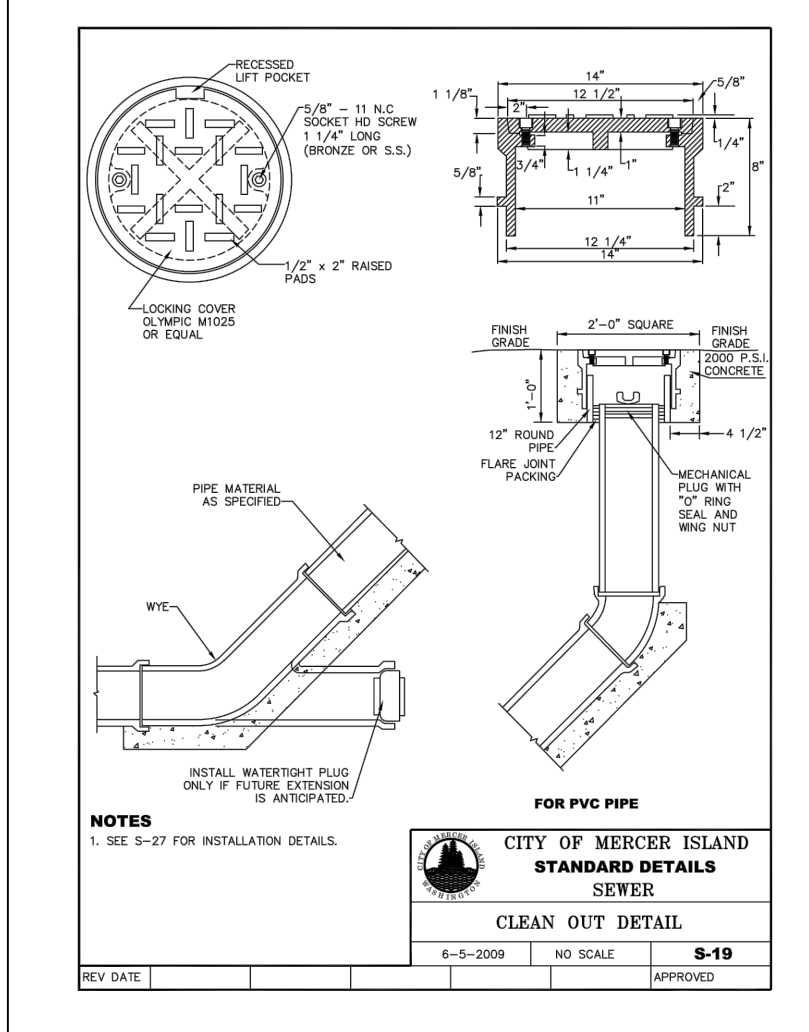
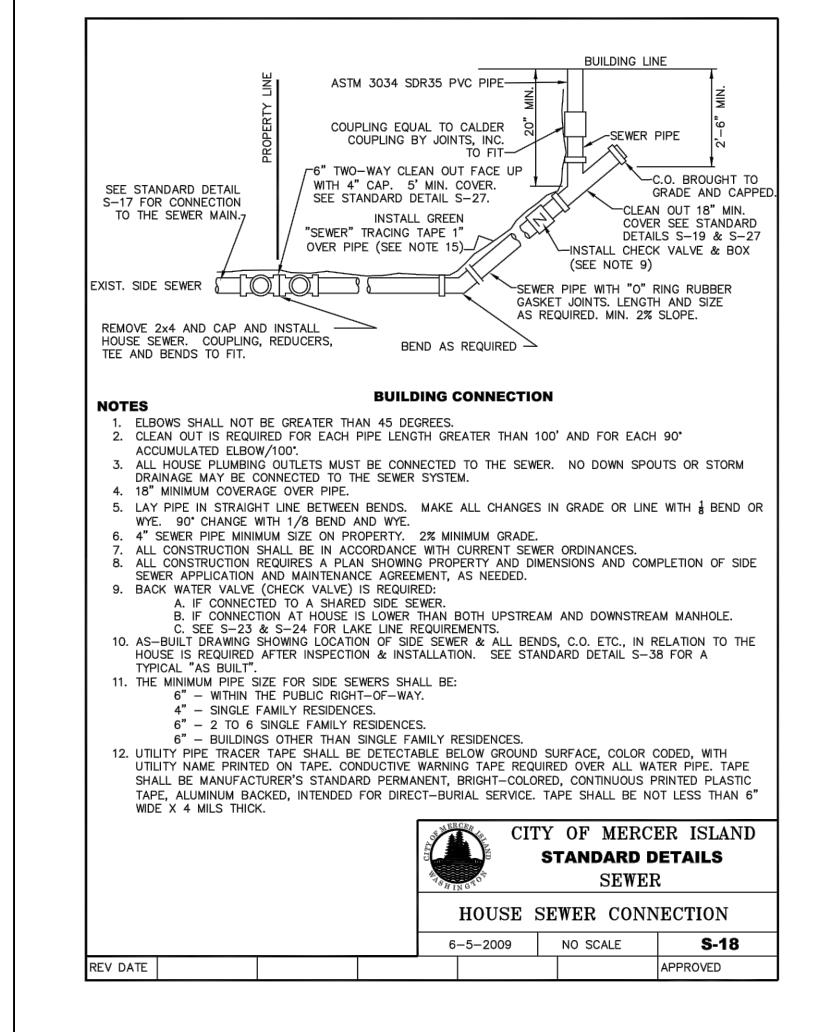
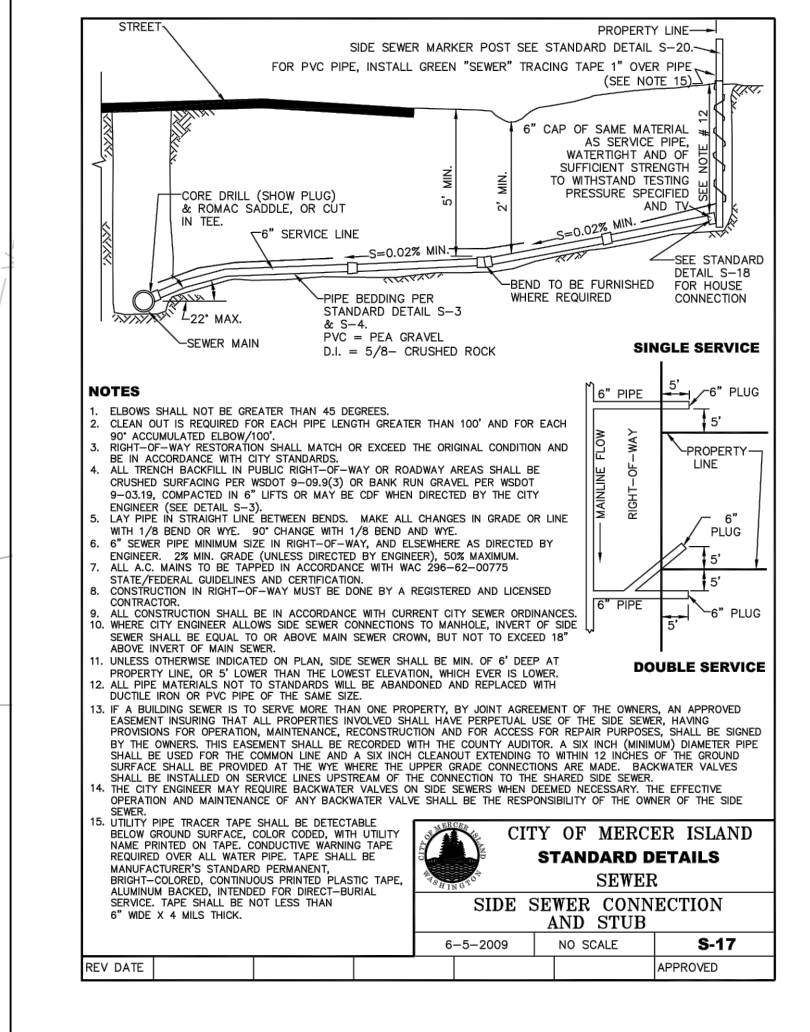
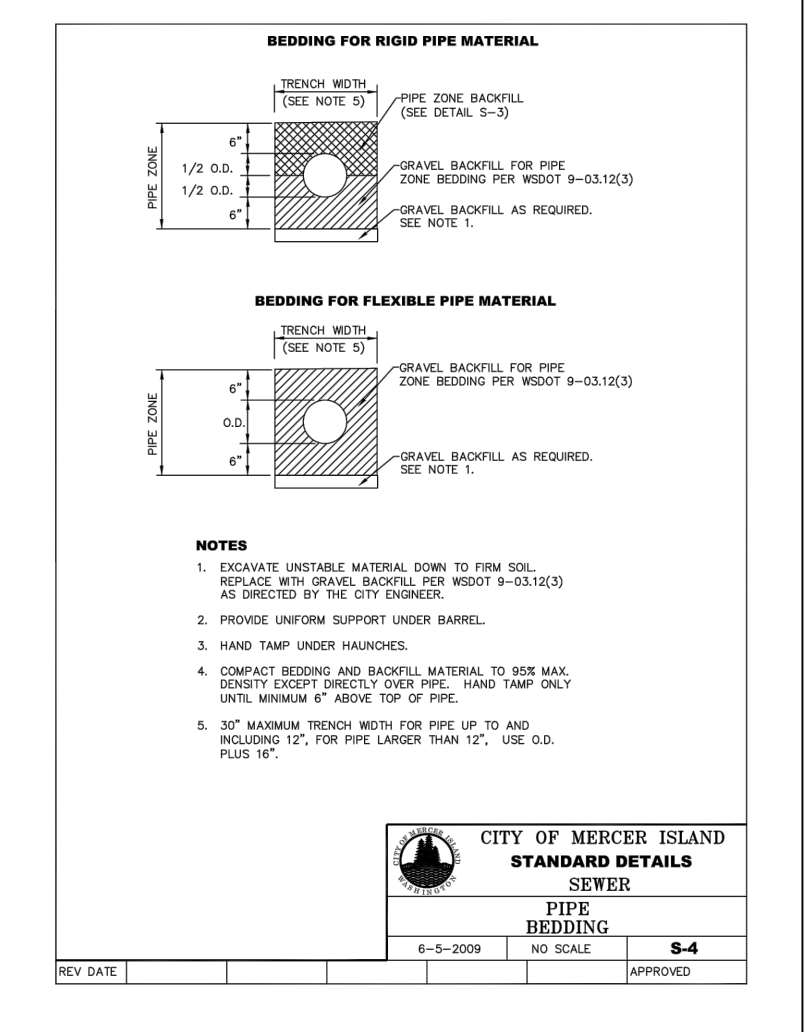
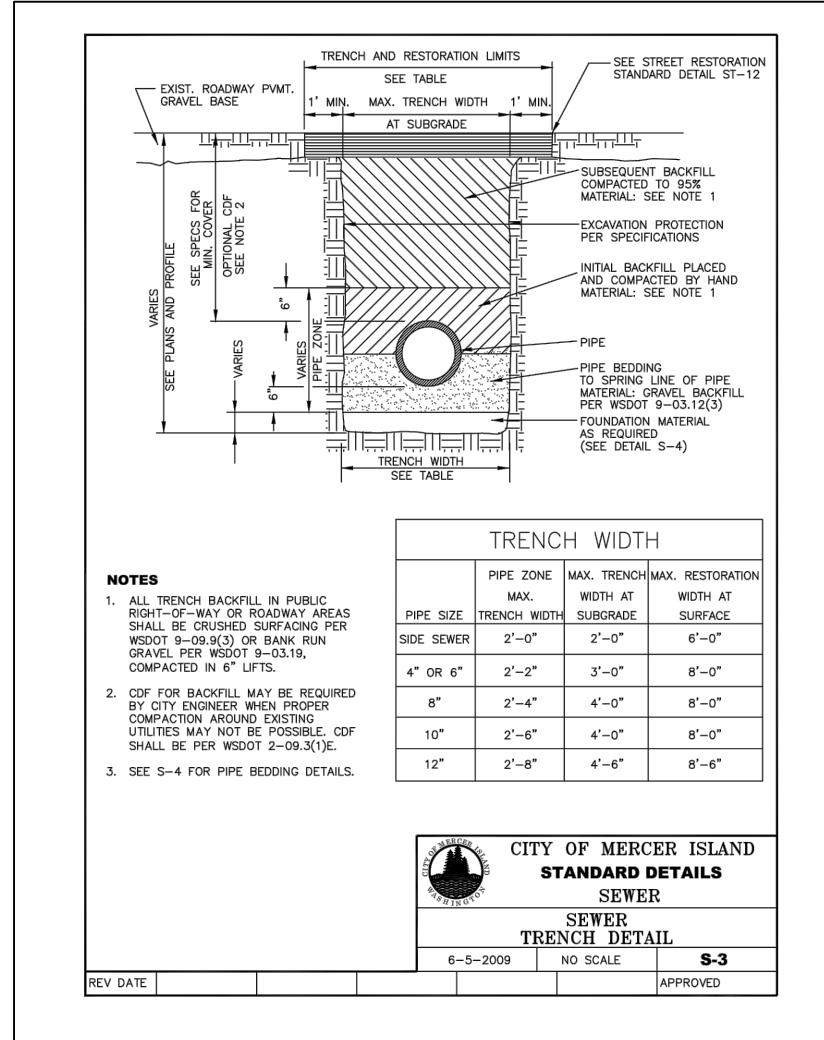
(PER STATUTORY WARRANTY DEED RECORDING # 199411230981)
LOT 1, BLOCK 7, MERCERDALE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 59 OF PLATS, PAGES 94, 95 AND 96, IN KING COUNTY, WASHINGTON.



THE LAWN AND LANDSCAPE AREAS ARE REQUIRED TO PROVIDE POST-CONSTRUCTION SOIL QUALITY AND DEPTH IN ACCORDANCE WITH BMP T5.13. THE PROJECT CIVIL ENGINEER MUST PROVIDE A LETTER OF CERTIFICATION TO ENSURE THAT THE LAWN AND LANDSCAPE AREAS ARE MEETING THE POST-CONSTRUCTION SOIL QUALITY AND DEPTH REQUIREMENTS SPECIFIED ON THE APPROVED PLAN SET PRIOR TO FINAL INSPECTION ON THE PROJECT.

ALL AREAS SUBJECT TO CLEARING AND GRADING THAT HAVE NOT BEEN COVERED BY IMPERVIOUS SURFACE, INCORPORATED INTO A DRAINAGE FACILITY OR ENGINEERED AS STRUCTURAL FILL OR SLOPE SHALL, AT PROJECT COMPLETION, DEMONSTRATE THE FOLLOWING:
1. A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
2. MULCH PLANTING BEDS WITH 2 INCHES OF ORGANIC MATERIAL.
3. USE COMPOST AND OTHER MATERIALS THAT MEET THESE ORGANIC CONTENT REQUIREMENTS:
A. THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE COMPOST SPECIFICATION FOR BIORETENTION (BMP T7.30), WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1. THE CARBON TO NITROGEN RATIO MAY BE AS HIGH AS 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PLANTS NATIVE TO THE PUGET SOUND LOWLANDS REGION.
B. CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF COMPOSTED MATERIAL MEETING (A) ABOVE, OR OTHER ORGANIC MATERIALS AMENDED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS, AND NOT EXCEEDING THE CONTAMINANT LIMITS IDENTIFIED IN TABLE 220-B, TESTING PARAMETERS, IN WAC 173-350-220.
THE RESULTING SOIL SHOULD BE CONDUCTIVE TO THE TYPE OF VEGETATION TO BE ESTABLISHED.
IMPLEMENTATION OPTIONS: THE SOIL QUALITY DESIGN GUIDELINES LISTED ABOVE CAN BE MET BY USING ONE OF THE METHODS LISTED BELOW:
1. LEAVE UNDISTURBED NATIVE VEGETATION AND SOIL, AND PROTECT FROM COMPACTION DURING CONSTRUCTION.
2. AMEND EXISTING SITE TOPSOIL OR SUBSOIL EITHER AT DEFAULT "PRE-APPROVED" RATES, OR AT CUSTOM CALCULATED RATES BASED ON TESTS OF THE SOIL AND AMENDMENT.
3. STOCKPILE EXISTING TOPSOIL DURING GRADING, AND REPLACE IT PRIOR TO PLANTING. STOCKPILED TOPSOIL MUST ALSO BE AMENDED IF NEEDED TO MEET THE ORGANIC MATTER OR DEPTH REQUIREMENTS, EITHER AT A DEFAULT "PRE-APPROVED" RATE OR AT A CUSTOM CALCULATED RATE.
4. IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET THE REQUIREMENTS.
MORE THAN ONE METHOD MAY BE USED ON DIFFERENT PORTIONS OF THE SAME SITE. SOIL THAT ALREADY MEETS THE DEPTH AND ORGANIC MATTER QUALITY STANDARDS, AND IS NOT COMPACTED, DOES NOT NEED TO BE AMENDED.

PRE-APPROVED AMENDMENT METHOD:
TURF: 6247 SF x 5.4 CY / 1,000 SF = 33.73 CY
TOTAL QUANTITY = 33.73 CY



SEE C1 FOR TESC/ DEMO CSWPPP

77th PI SE SFR
Site Address: 3705 77th PI SE
Jurisdiction: Mercer Island
Parcel No.: 545880-0550
Applicant: Charlie Chen
Permit No.: 2206-263
Interlaken Project No.: SEA-22-074



Revisions:

C2
Drainage Site Plan
Scale: 1" = 10'