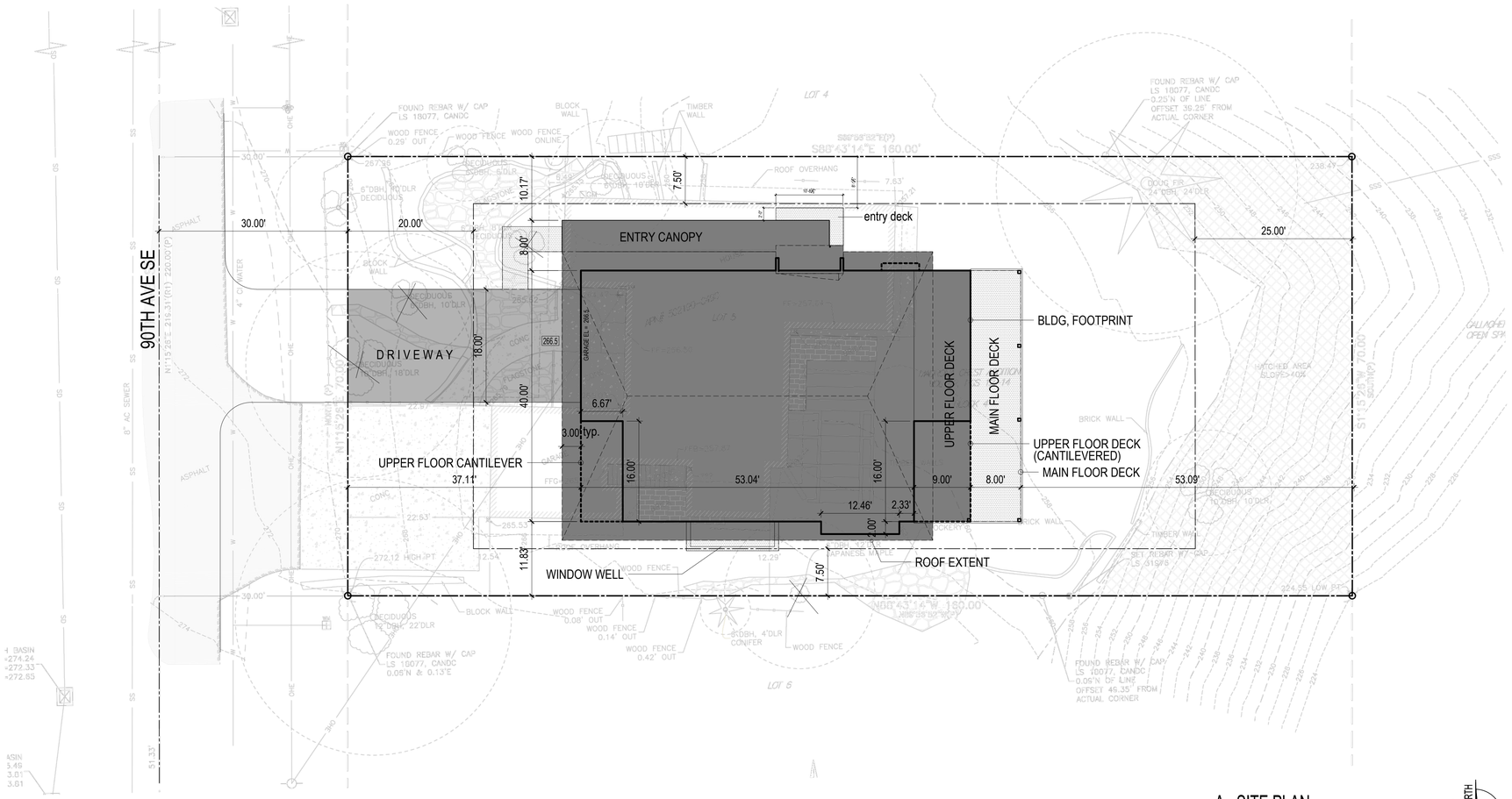

A. SITE PLAN

1/10" = 1'-0"

NORTH

327 = SPOT ELEVATION, FINAL

= EAVE/ROOF LINE

= EXTENT OF LIVING AREA

= BUILDING FOOTPRINT (FOUNDATION EXTENTS)

SHADED AREA = BLDG EXTENTS TO EAVE

EXISTING HOUSE, DRIVEWAY AND ALL HARDSCAPE ON PROPERTY TO BE REMOVED

= EXISTING TOPOGRAPHY

All 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, shall be removed from the property.

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.

NFPA 13d Fire Sprinkler System and NFPA "Chapter 29" Monitored Fire Alarm Required. Monitored Alarm may substitute for typical "line voltage" smoke detectors as noted on the floor plans.

LOT SLOPE

HIGH POINT = 272.12'
LOW POINT = 224.55'
LOT SLOPE = 47.57'/160' = 29.73%
LOT COVERAGE = 35%

F.A.R. CALCULATION

Main Floor FA= 2222.75 sf (inc. gar)
Lower Floor FA = 2256 sf (with aadu)
Upper Floor FA = 2120 sf
6598.75

excepted FA = (-1504.22 sf)
stairs = (74 sf x 2 = 148 sf)

TOTAL chargeable FA = 4946.5 sf
allowable = 11,200 x .45 (w/adu) = 5040 sf
5020.5 / 11,200 = 44.17%

LOT COVERAGE (SHADED AREA)

House Roof to eaves (shaded x 2) = 2871 sf
covered porches/decks = 295 sf
driveway (shaded) = 615.3 sf
TOTAL = 3781.3 sf
allowable = 11,200 x .35 = 3,920 sf

amount available for hardscape = 138.7 sf

HARDSCAPE (DOTTED AREA)

DECKS, PATIOS , WALKS ETC = 437.4 sf

allowable = 11,200 x .09 = 1008 sf
extra lot cov. = 138.7
TOTAL allow. = 1146.7 sf

Civil Engineer

Nick Bossoff
191 NE Tari Lane
Stevenson WA 98648
425.881.5904

Geotechnical Engineer

Sam Adettiwar, MS, PE, GE, P.Eng
American Geoservices
24 Roy Street #727
Seattle, WA 98109
(206) 418-6634

Structural Engineer

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

Contractor

Mike Yeganeh
Aspen Homes NW
(206) 799-3016

Project Description

Demolish existing and build new single family residence with attached accessory dwelling unit.

Parcel Number/Legal

Parcel # = 502190-0490
Legal Description:
MADRONA CREST ADD
Plat Block: 4
Plat Lot: 5
ZONING = R-8.4
lot size = 11,200 sf

Owner

ANANTA & SATYA GUDIPATY
3737 77TH AVE SE
MERCER ISLAND WA 98040

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Site Plan

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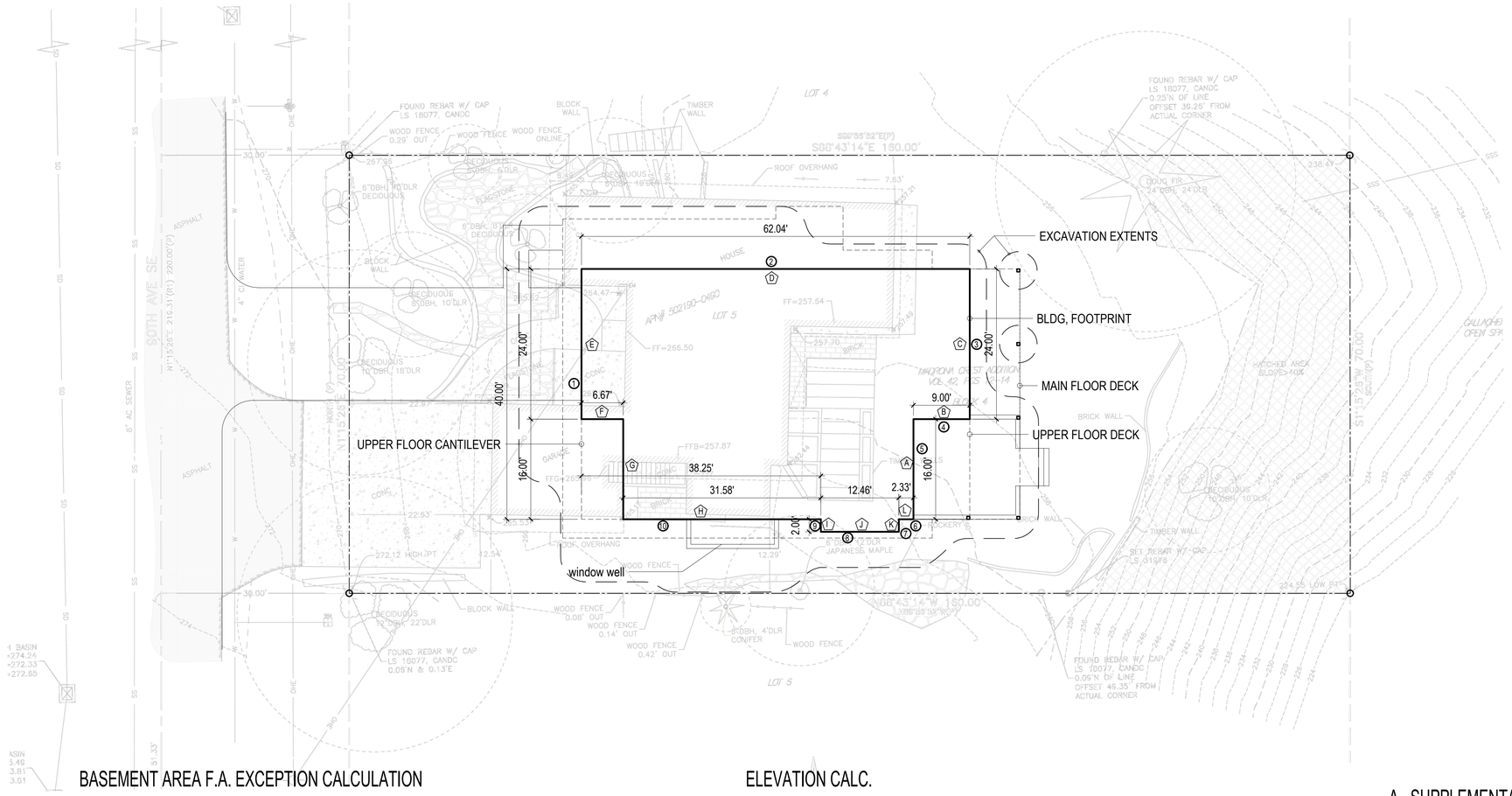
1a



BASEMENT AREA F.A. EXCEPTION CALCULATION

segment	length	beginning elev.	end elev.	begin cov	end cover	avg cover	%cover	wtd
a	16	261.5	**256**	5.50	0.00	2.75	31.1%	4.97
b	9	**256**	258.5	0.00	2.50	1.25	14.1%	1.27
c	24	258.4	257	2.40	1.00	1.7	19.2%	4.61
d	62.04	257	265.5	1.00	9.50	5.25	59.3%	36.80
e	24	265.5	265.5	9.50	9.50	9.5	100.0%	24.00
f	6.67	265.5	265.5	9.50	9.50	9.5	100.0%	6.67
g	16	265.5	265.5	9.50	9.50	9.5	100.0%	16.00
h	31.63	265.5	263.5	9.50	7.50	8.5	96.0%	30.38
i	2	263.5	263.5	7.50	7.50	7.5	84.7%	1.69
j	12.46	263.5	262	7.50	6.00	6.75	76.3%	9.50
k	2	262	262	6.00	6.00	6	67.8%	1.36
l	2.33	262	261.5	6.00	5.50	5.75	65.0%	1.51
perim=	208.13							138.77
						avg.	66.7%	

raw FAR 2256

basement slab elev = 256
full cover = 8.9 ft (fin. clg.)

excepted area = 1504.22
BOLD elevations are lower than existing grade, all others existing = final
segment is footprint on the ground

ELEVATION CALC.

	EL @ MIDPOINT	segment (ft)	wtd sgmnt
1	265.50	40	10620.00
2	257.70	62.04	15987.71
3	257.50	24	6180.00
4	**256.00**	9	2304.00
5	**256.00**	16	4096.00
6	261.80	2.33	609.99
7	262.00	2	524.00
8	263.00	12.46	3276.98
9	263.00	2	526.00
10	265.00	38.25	10136.25
		208.08	54260.93

AVG. EL = 260.7696
BOLD = NEW EL LOWER THAN EXIST
all others exist = final

A. SUPPLEMENTAL SITE PLAN

1/10" = 1'-0"

NORTH

(A) = WALL SEGMENT TAG FOR BASEMENT FAR EXCEPTION
(1) = WALL SEGMENT TAG FOR HEIGHT CALCULATION
= EAVE/ROOF LINE
= BUILDING FOOTPRINT (FOUNDATION EXTENTS)

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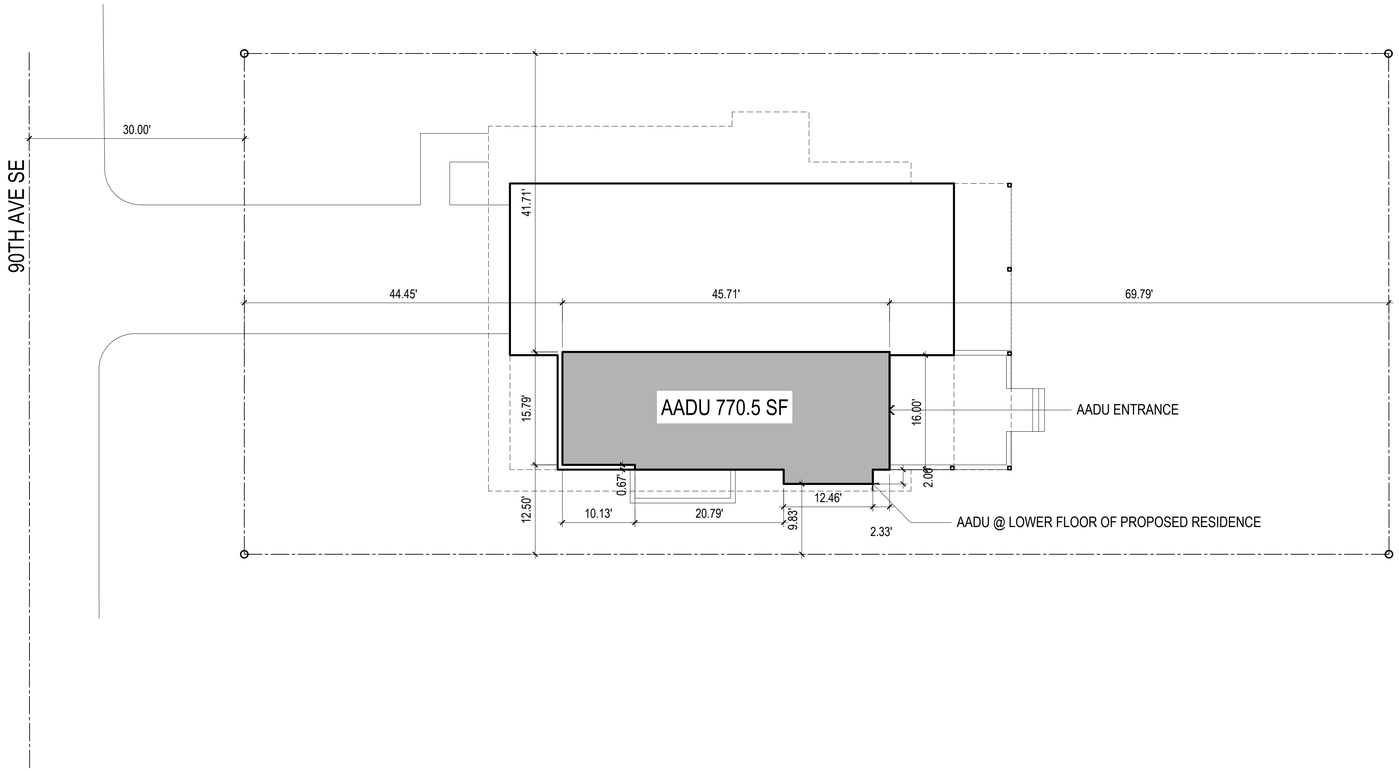
1b



A. AADU LOCATION DIAGRAM

1/10" = 1'-0"

NORTH

- - - - - = EAVE/ROOF LINE

——— = BUILDING FOOTPRINT (FOUNDATION EXTENTS)

ADU project narrative

An ADU attached to a new SFR as part of the new construction project (permit 2210-198) will include 770.5 sq. ft of living space, it will include a full kitchen with its own dishwasher, sink, oven, refrigerator, microwave and washer and dryer. There will be a separate entrance that connects by walkway to 90th ave SE. The ADU will include a living room and bedroom with an attached full bathroom. Heating control will be separate from the main house.

The ADU is within the size limits of 19.02.030 B4.
The location meets 19.02.030 B5.
The entrance of the ADU meets 19.02.030 B6
Parking for the ADU meets 19.02.030 B9

The ADU will be recorded as such with the King County Department of records and elections which runs with the land and identifies the address of the property, states the owner resides in either principle dwelling unit or the accessory dwelling unit, includes a statement that the owners will notify any prospective purchasers of the limitations of this section, and provides for the removal of the accessory dwelling unit if any of the requirements of this chapter are violated.

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ADU Site Plan

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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 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated

⊘ = 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

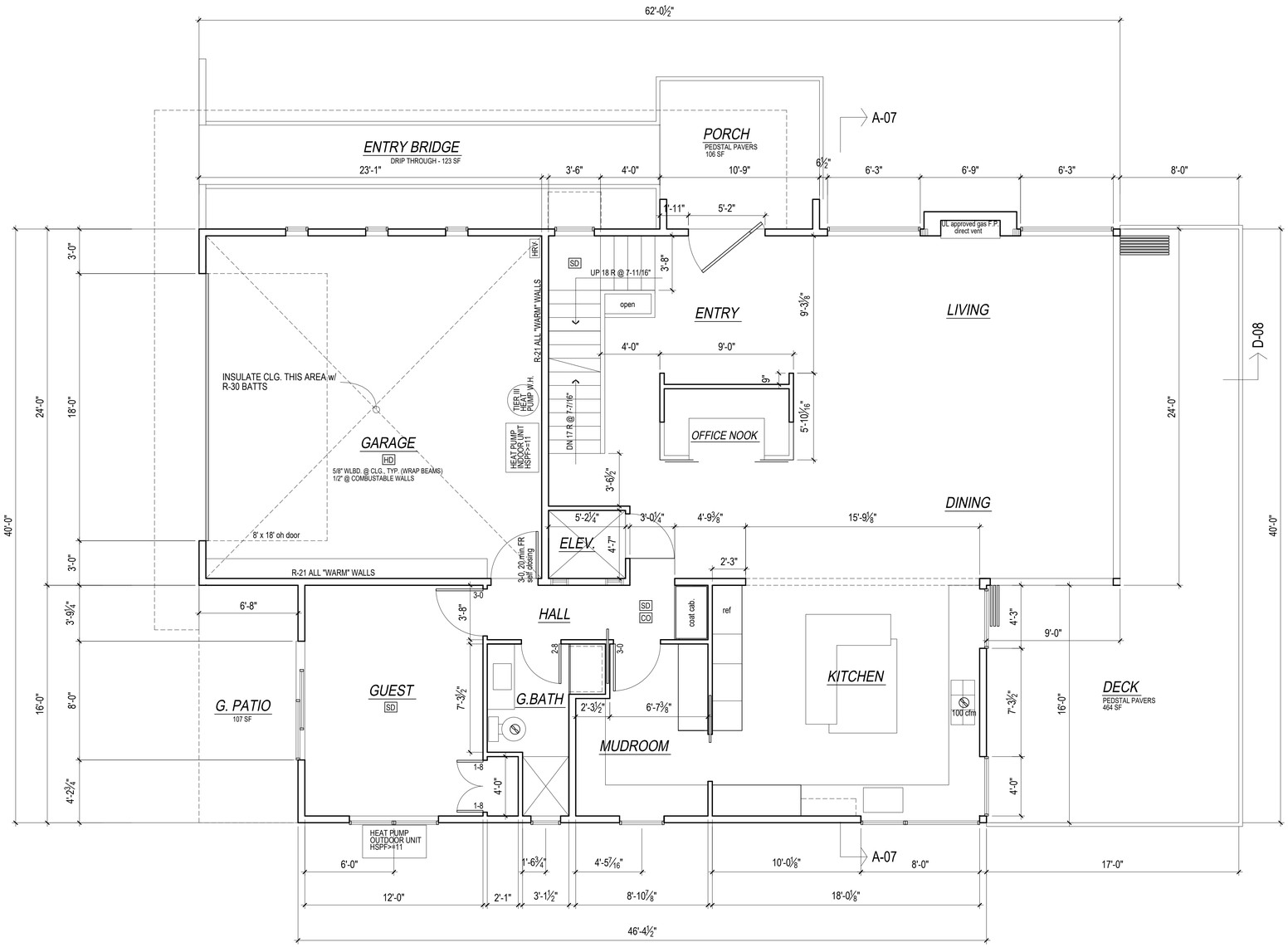
(E) =EGRESS WINDOWS

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 HIEGHT UNLESS OTHERWISE INDICATED

(T) =TEMPER/SAFETY GLAZE WINDOWS

ALL GAS F.P. TO BE APPROVED DIRECT VENT



A. MAIN FLOOR PLAN

1/4" = 1'-0"

LIVING SPACE (TO O.S. WALLS) = 1684.5 sf
GARAGE (TO O.S. WALLS) = 538.25 sf
TOTAL F.A. THIS FLOOR = 2222.75 sf
STAIR AREA = 74 SF

NORTH

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CONTENTS
Main Floor

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NOTES

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CO = CARBON MONOXIDE DETECTOR, HARDWIRE w/ BATTERY BACK-UP
HD = HEAT DETECTOR, HARDWIRE w/ BATTERY BACK-UP

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated

⊘ = 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

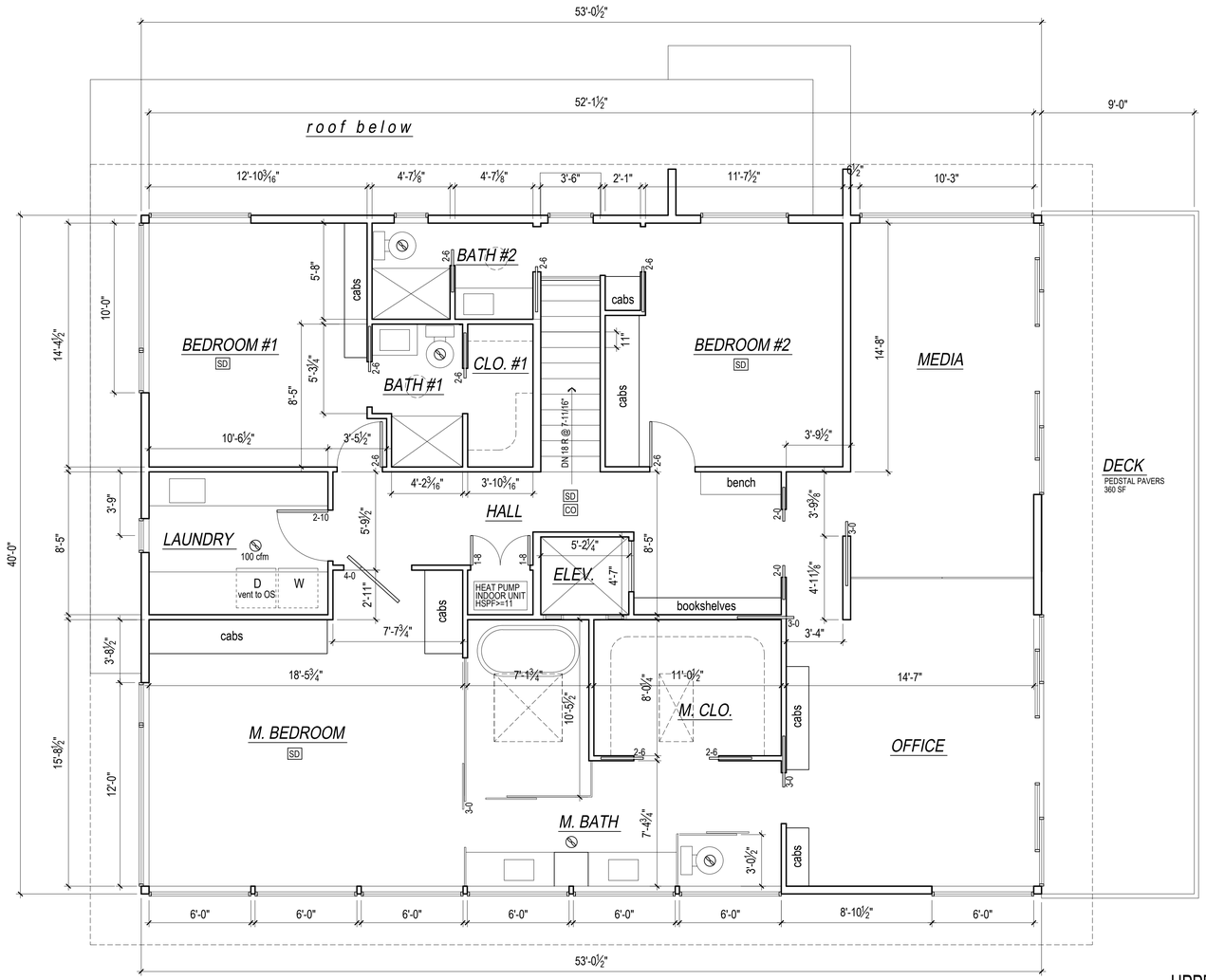
(E) =EGRESS WINDOWS

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 HIEGHT UNLESS OTHERWISE INDICATED

(T) =TEMPER/SAFETY GLAZE WINDOWS

ALL GAS F.P. TO BE APPROVED DIRECT VENT



A. UPPER FLOOR PLAN
1/4" = 1'-0"
FLOOR AREA (TO O.S. WALLS) = 2120 sf

NORTH

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Upper Floor

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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 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated

⊘ = 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

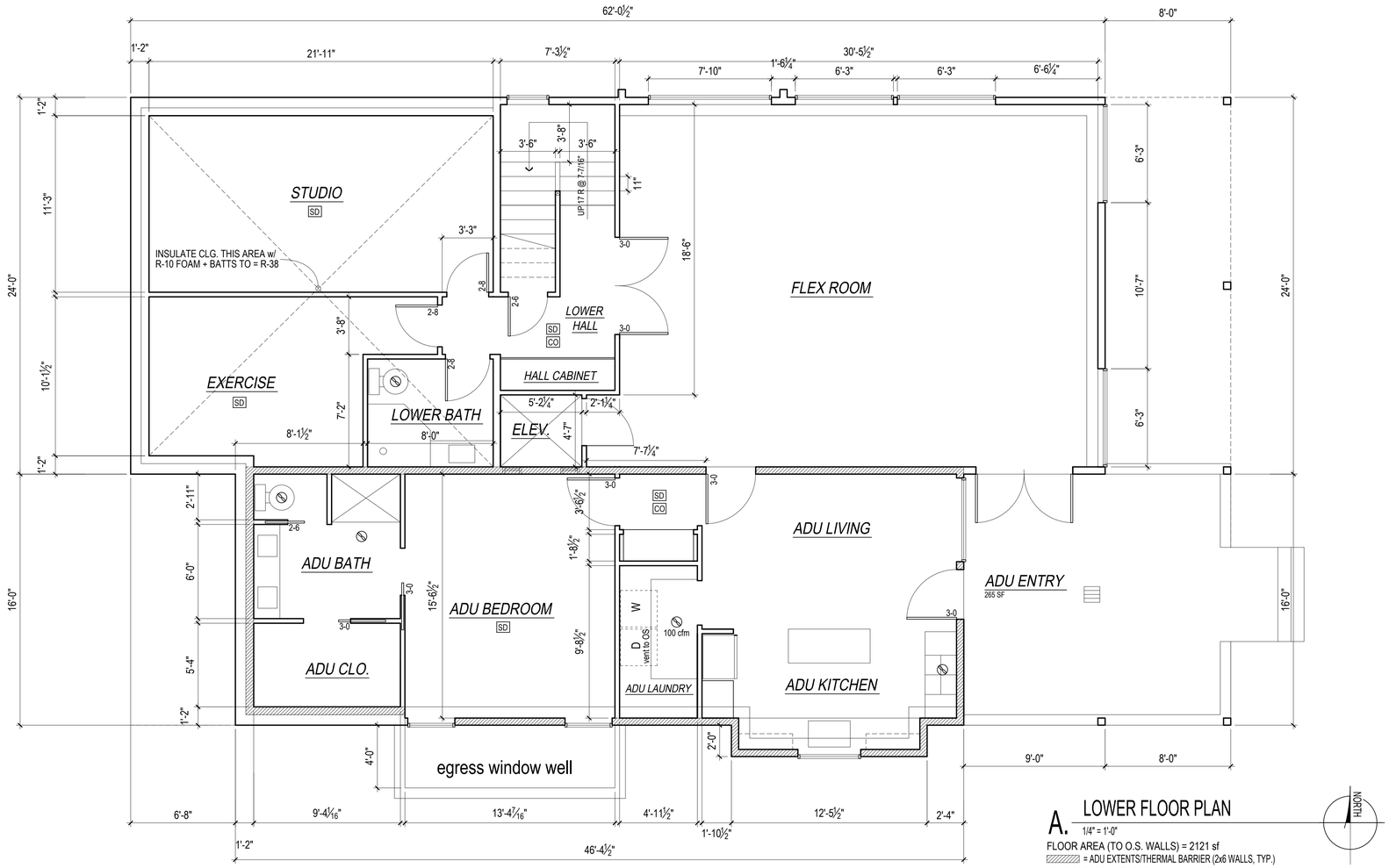
(E) =EGRESS WINDOWS

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 HIEGHT UNLESS OTHERWISE INDICATED

(T) =TEMPER/SAFETY GLAZE WINDOWS

ALL GAS F.P. TO BE APPROVED DIRECT VENT



A. LOWER FLOOR PLAN

1/4" = 1'-0"

FLOOR AREA (TO O.S. WALLS) = 2121 sf

▨ = ADU EXTENTS/THERMAL BARRIER (2x6 WALLS, TYP.)

ADU FLOOR AREA = 770.5 SF
PRIMARY RESIDENCE FLOOR AREA = 1485.5 SF
TOTAL FLOOR AREA = 2256 SF
EXCEPTED F.A. FOR BASEMENT = 1504.22 sf
CHARGEABLE F.A. = 751.8 sf

FOAM INSULATION NOTES

Closed cell spray foam directly applied to underside of sheathing (min R-10) + batts to = r-49 (R-38 min. @ vaulted areas)
Spray foam product to be "Spraytite 178" as manufactured by BASF (ESR-2642), 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.

ADU CLG. SOUND/FIRE REQUIREMENTS

Provide sound insulation (STC rating of at least 45 & ICC rating of at least 50) and 1 hr fire resistance in the entire ADU ceiling (including under stairs) . See ESR-1153 Assembly B.
Requirements:
1. 48/24 tongue-and-groove span rated sheathing (Exposure 1).
1. Two layers of 1/2 inch thick Type X gypsum board.
2. TJI Joist.
3. Optional minimum 3-1/2 inch thick glass fiber insulation or non-combustible insulation that is rated R-30 or less, with resilient channels

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Lower Floor

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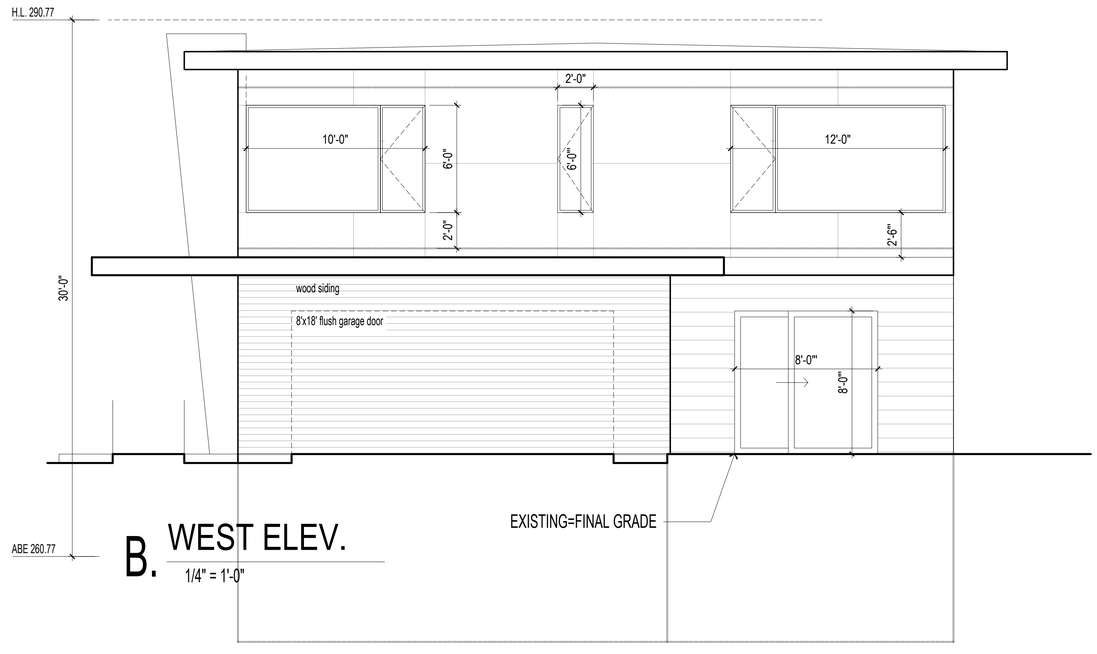
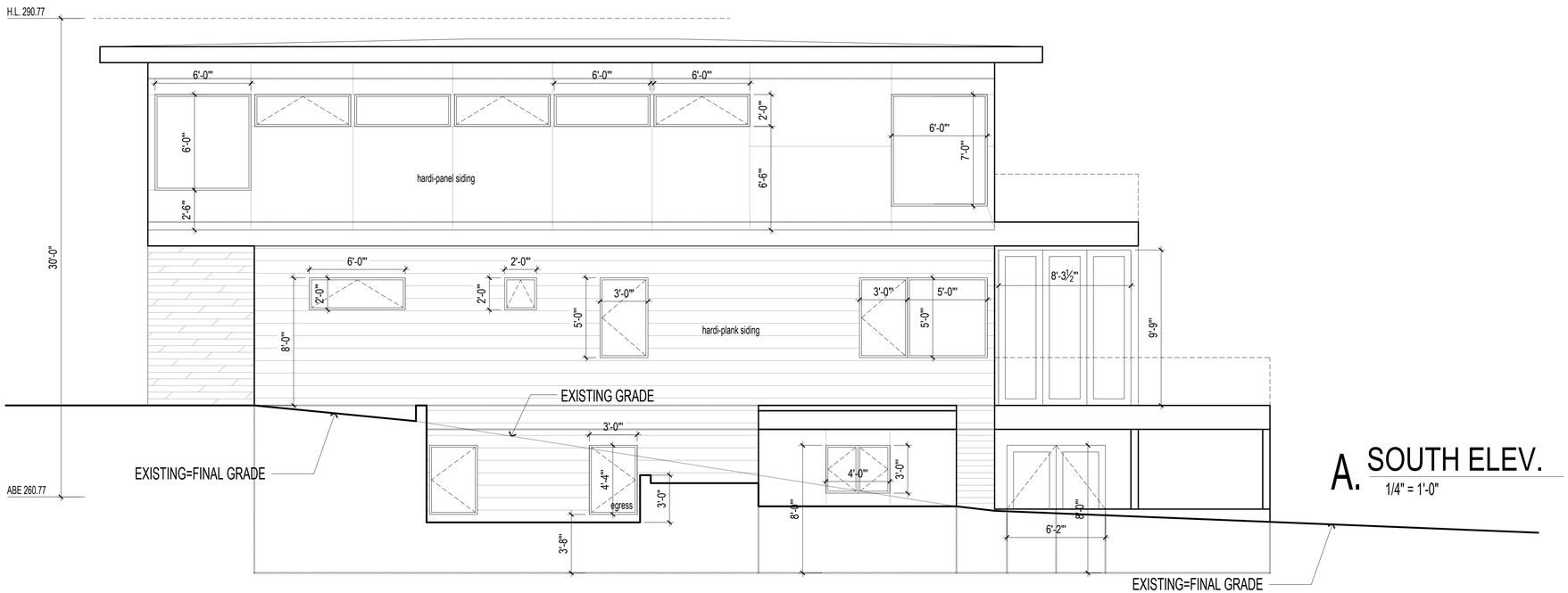


B. WEST ELEV.

1/4" = 1'-0"



A. SOUTH ELEV.

1/4" = 1'-0"

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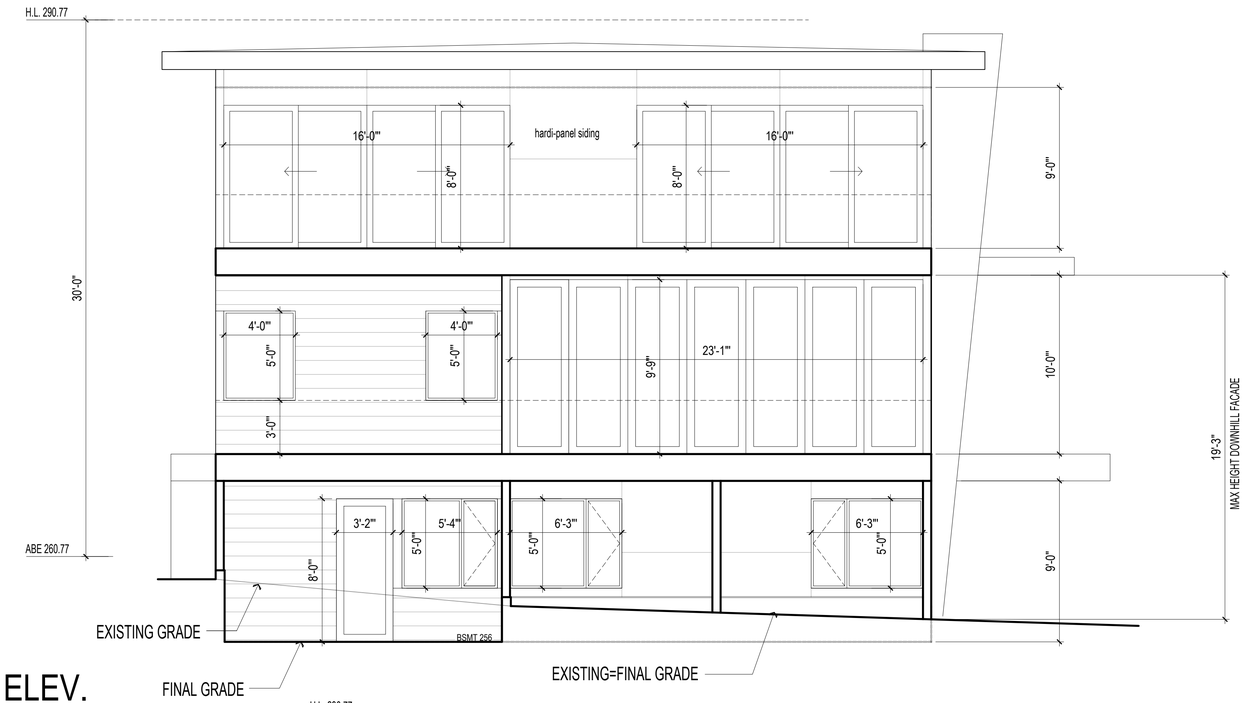
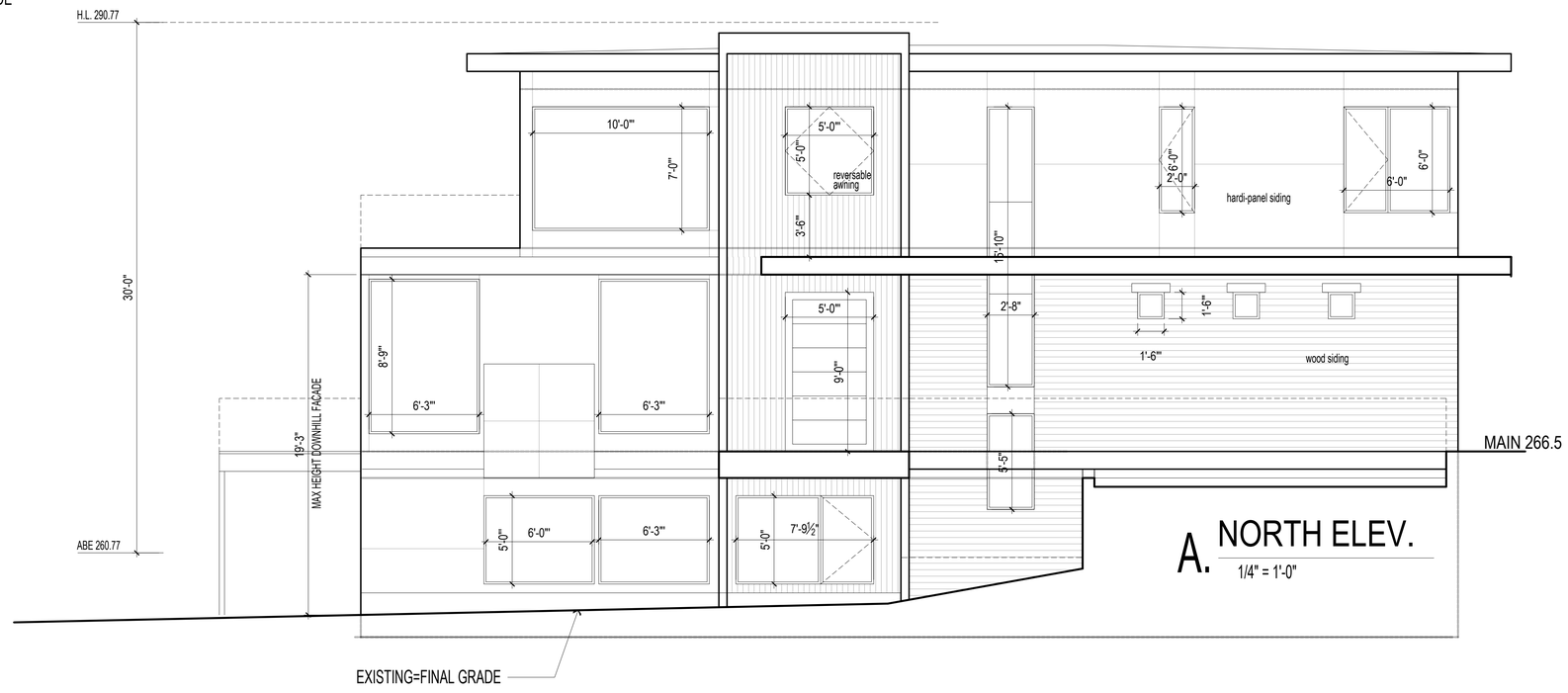


B. EAST ELEV.

1/4" = 1'-0"



A. NORTH ELEV.

1/4" = 1'-0"

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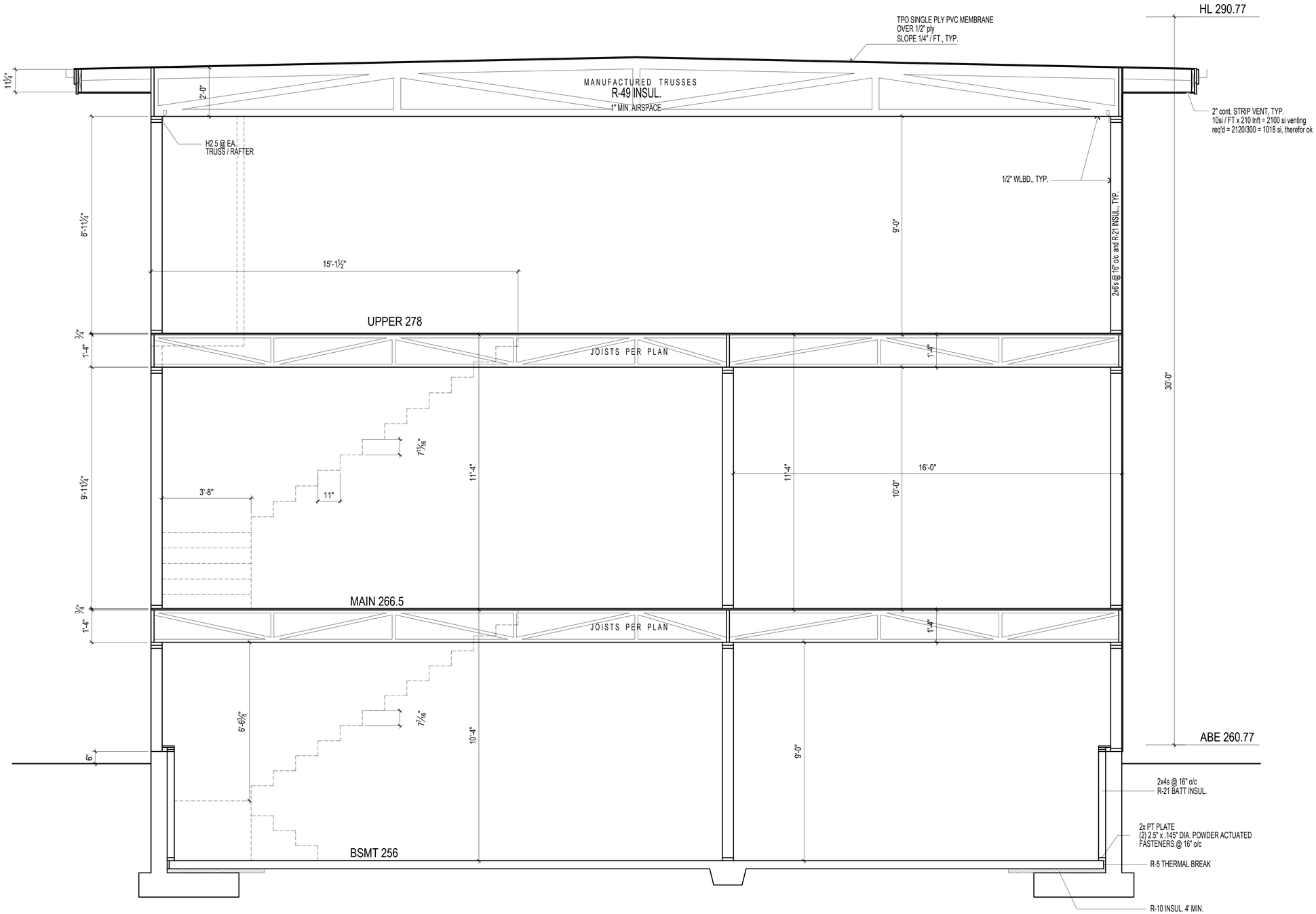

A. TYP. BUILDING SECTION

1/2" = 1'-0"

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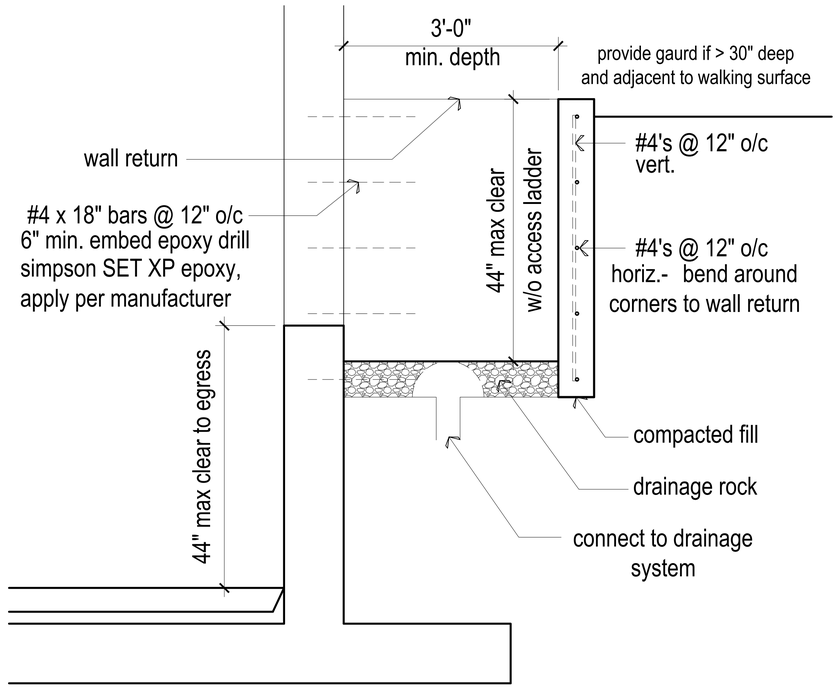
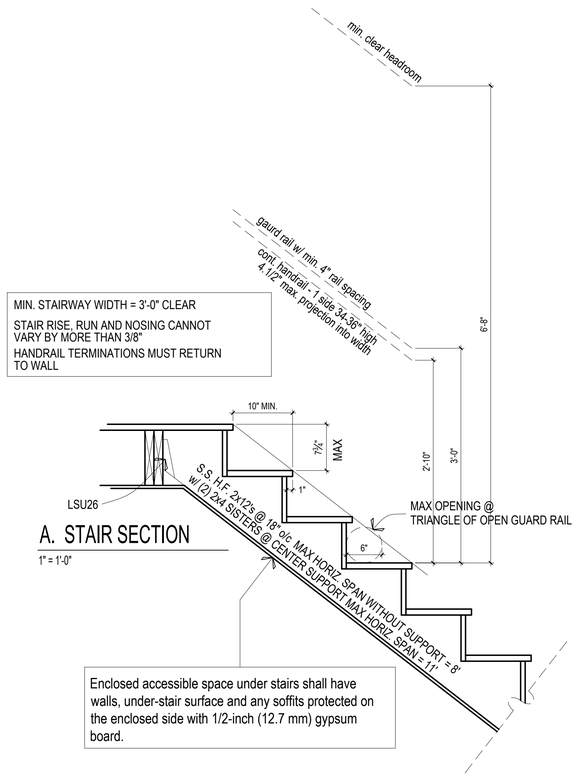
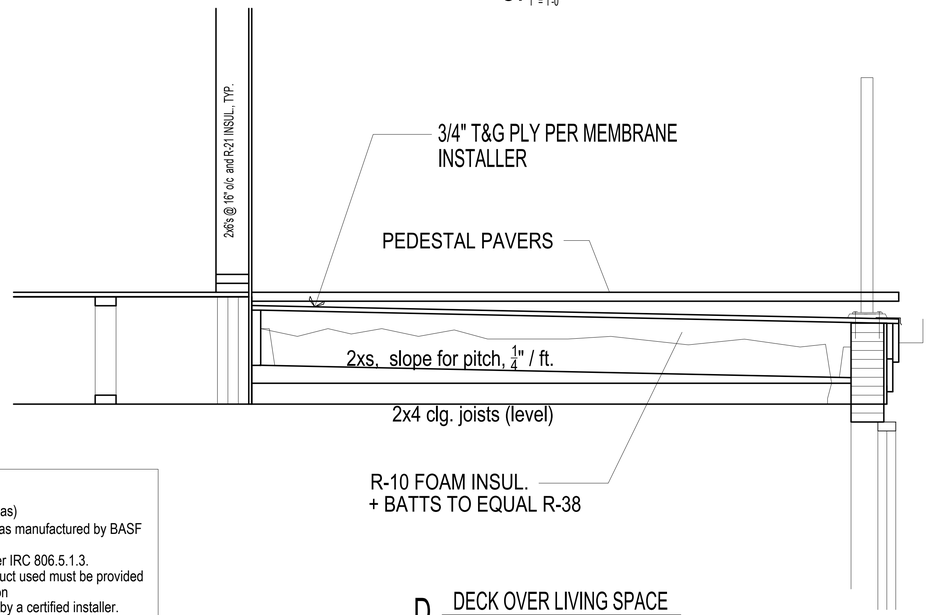




A. STAIR SECTION
1" = 1'-0"

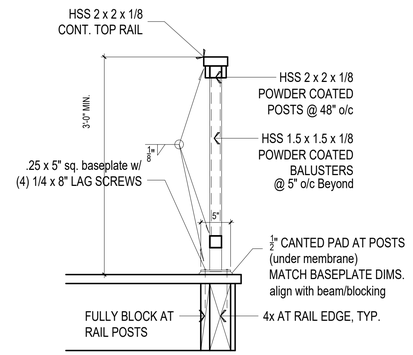
C. WINDOW WELL DETAIL
1" = 1'-0"



D. DECK OVER LIVING SPACE
1" = 1'-0"

FOAM INSULATION NOTES

Closed cell spray foam directly applied to
underside of sheathing (min R-10)
+ batts to = r-49 (R-38 min. @ vaulted areas)
Spray foam product to be "Spraytite 178" as manufactured by BASF (ESR-2642), 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.



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

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Energy Code Info - Primary

2018 WA STATE PRESCRIPTIVE PATH
OVER 5000 SF HEATED SPACE - 7 CREDITS REQ.

energy credit option	credit value	summary
1.7	0.5	ins. over wall, .28 windows
2	1	heat pump
2.2	1	2.0 ACH + HRV
3.5	1.5	central HP, HSPF>=11
4.1	0.5	AH in heated space
5.5	2	elec. HP WH
7.1	0.5	appliance package

total credits 7

PRIMARY RESIDENCE HVAC NOTES

DUCTED HEAT PUMP (HSPF>11.0) INT. AIR HANDLER
HEAT RECOVERY VENTILATION
REQUIRED VENTING = CONTINUOUS 120CFM
SET TO OPERATE AT 240 CFM FOR 2 HOURS IN EA. 4 HR PERIOD (50%)
PROVIDED BY VARIABLE SPEED HIGH EFF. FAN (MAX .35 WATTS/CFM)
CONTOLLED 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 75 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps.

All Climate Zones (Table R402.1.1)		
	R-Value [a]	U-Factor [a]
Fenestration U-Factor [b]	n/a	~~0.30~~ .28 (primary only) .30 OK AT ADU
Skylight U-Factor [b]	n/a	0.50
Glazed Fenestration SHGC [b,e]	n/a	n/a
Ceiling [e]	49	0.026
Wood Frame Wall [g,h]	21 int	0.056
Floor	30	0.029
Below Grade Wall [c,h]	10/15/21 int + TB	0.042
Slab [d,f] R-Value & Depth	10, 2 ft	n/a
a	*R*-values are minimums. *U*-factors and SHGC are maximums. When insulation is installed in a cavity that is less than the label or design thickness of the insulation, the compressed *R*-value of the insulation from Appendix Table A101.4 shall not be less than the *R*-value specified in the table.	
b	The fenestration *U*-factor column excludes skylights.	
c	"10/15/21 +5TB" means R-10 continuous insulation on the exterior of the wall, or R-15 continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21 +5TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "5TB" means R-5 thermal break between floor slab and basement wall.	
d	R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1.	
e	For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38 if the full insulation depth extends over the top plate of the exterior wall.	
f	R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.	
g	For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for *climate zone* 5 of ICC 400.	
h	Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.	

Energy Code Info - AADU

2018 WA STATE PRESCRIPTIVE PATH
LESS THAN 1500 SF HEATED SPACE - 3 CREDITS REQ.

energy credit option	credit value	summary
2	1	heat pump
3.6	2	mini-split

total credits 3

AADU RESIDENCE HVAC NOTES

MINI-SPLIT HEAT PUMP (HSPF>10.0)
HEAT RECOVERY VENTILATION
REQUIRED VENTING = CONTINUOUS 120CFM
SET TO OPERATE AT 240 CFM FOR 2 HOURS IN EA. 4 HR PERIOD (50%)
PROVIDED BY VARIABLE SPEED HIGH EFF. FAN (MAX .35 WATTS/CFM)
CONTOLLED TO OPERATE AT LOW SPEED IN VENTILATION
MODE ONLY.

ENERGY CREDIT DESCRIPTIONS

1.7

Advanced framing and raised heel trusses or rafters
Vertical Glazing U-0.28
R-49 Advanced (U-0.020) as listed in Section A102.2.1, Ceilings below a vented attic and R-49 vaulted ceilings with full height of uncompressed insulation extending over the wall top plate at the eaves.

2.2

Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 2.0 air changes per hour at maximum 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/sf 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.

3.5

Air-source, centrally ducted heat pump with minimum HSPF of 11.0.

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.

5.5

Water heating system shall include one of the following: Electric heat pump water heater meeting the standards for Tier III of NEEA's advanced water heating specification or
For R-2 Occupancy, electric heat pump water heater(s), meeting the standards for Tier III of NEEA's advanced water heating specification, shall supply domestic hot water to all units. If one water heater is serving more than one dwelling unit, all hot water supply and recirculation piping shall be insulated with R-8 minimum pipe insulation.

7.1

All of the following appliances shall be new and installed in the dwelling 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 minimum CEF rating of 5.2

To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall show the appliance type and provide documentation of Energy Star compliance. At the time of inspection, all appliances shall be installed and connected to utilities. Dryer ducts and exterior dryer vent caps are not permitted to be installed in the dwelling unit.

Window, Skylight and Door Schedule

Project Information: MITHILA PRIMARY
Contact Information:

	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)								0.0	0.00
Exempt Glazed Fenestration (15 sq. ft. max.)								0.0	0.00

Vertical Fenestration (Windows and doors)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
ENTRY		0.28	1	5	0	9	0	45.0	12.60
LR		0.28	2	6	0	8	0	109.4	30.63
LR		0.28	1	9	0	23		225.1	63.02
LR		0.28	1	9	0	8	1/2	80.8	22.64
KITCHEN		0.28	2	4	0	5	0	40.0	11.20
KITCHEN		0.28	1	8	0	5	0	40.0	11.20
MUD		0.28	1	3	0	5	0	15.0	4.20
G BATH		0.28	1	2	0	2	0	4.0	1.12
G BED		0.28	1	6	0	2	0	12.0	3.36
G BED		0.28	1	8	0	8	0	64.0	17.92
GAR DOOR		0.28	1	3	0	8	0	25.3	7.09
STAIR		0.28	1	2	8	15	10	42.2	11.82
BATH 2		0.28	1	2	0	6	0	12.0	3.36
BED 1		0.28	1	6	0	6	0	36.0	10.08
BED 1		0.28	1	10	0	6	0	60.0	16.80
LAUNDRY		0.28	1	2	0	6	0	12.0	3.36
M BED		0.28	1	12	0	6	0	72.0	20.16
M BED		0.28	1	6	0	6	0	36.0	10.08
M BATH		0.28	5	6	0	2	0	60.0	16.80
OFFICE		0.28	1	6	0	7	0	42.0	11.76
OFFICE		0.28	1	16	0	8	0	128.0	35.84
MEDIA		0.28	1	16	0	8	0	128.0	35.84
MEDIA		0.28	1	10	0	7	0	71.8	20.09
BED2		0.28	1	5	0	5	0	25.0	7.00
STAIR		0.28	1	2	8	5	0	14.4	4.04
FLEX		0.28	1	7	3/8	5	0	39.0	10.91
FLEX		0.28	1	6	0	5	0	30.0	8.40
FLEX		0.28	3	6	0	5	0	93.8	26.25
FLEX		0.28	1	6	0	8	0	49.3	13.81
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
Sum of Vertical Fenestration Area and UA								1612.1	451.38
Vertical Fenestration Area Weighted U = UA/Area									0.28

Overhead Glazing (Skylights)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
M BATH		0.50	1	4	0	4	0	16.0	8.00
M CLO		0.50	1	2	0	4	0	8.0	4.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
Sum of Overhead Glazing Area and UA								24.0	12.00
Overhead Glazing Area Weighted U = UA/Area									0.50
Total Sum of Fenestration Area and UA *(for heating system sizing calculations)*								1636.1	463.38

Window, Skylight and Door Schedule

Project Information: MITHILA AADU
Contact Information:

	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)								0.0	0.00
Exempt Glazed Fenestration (15 sq. ft. max.)								0.0	0.00

Vertical Fenestration (Windows and doors)

Component Description	Ref.	U-factor	Qt.	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
LIVING		0.30	1	5	4	5	0	26.7	8.00
LIVING		0.30	1	3	2	8	0	25.3	7.60
KITCHEN		0.30	1	4	0	3	0	12.0	3.60
BED		0.30	2	3	0	4	0	26.0	7.80
								0.0	0.00
								0.0	0.00
								0.0	0.00

TOTAL = 90sf 27UA

9317 REGISTERED ARCHITECT
CHRIS LUTHI
STATE OF WASHINGTON

Mithala
3632 90th Ave SE Mercer Island Wa

CONTENTS
Energy Info

DRAWN BY
CRL
DATE
10.21.21

09

General Structural Notes (GSN's)

CRITERIA:

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC) WITH WASHINGTON STATE ADMINISTRATIVE CODE AMENDMENTS, 2018 EDITION.

2. DESIGN LOADING CRITERIA
   RISK CATEGORY SBC TABLE 1604.5 II
   ROOF SNOW LOAD . . . . 25 PSF ($I_S = 1.0$)
   + 5 PSF RAIN ON SNOW SURCHARGE
   ROOF DEAD LOAD . . . . 15 PSF+10 PSF PV SYSTEM
   LIVE LOAD . . . . 40 PSF
   DECK LIVE LOAD . . . . 60 PSF
   FLOOR DEAD LOAD . . . . 25 PSF

   EARTHQUAKE . . . . SEISMIC DESIGN CATEGORY D
   $S_S = 1.403$, $S_1 = 0.488$, $S_{DS} = 1.122$, $S_{D1} = 0.590$
   EQUIVALENT LATERAL FORCE PROCEDURE
   LIGHT FRAME (WOOD) WALLS AND ROOFS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR
   $R = 6.5$, $\Omega_0 = 2\frac{1}{2}$, $I_E = 1.0$, $C_d = 4$, $C_s = 0.172$
   BASE SHEAR V = 50.9 K – LRFD
   WIND . . . . 110 MPH, EXPOSURE "B", Kzt = 1.6
   COMPONENTS & CLADDING . . . . −35.5/−21.3 PSF MAX. AT WALLS (LRFD/ASD)
   −60.0/−36.0 GROSS UPLIFT AT ROOF (LRFD/ASD)
   WIND PRESSURES BASED ON LESS THAN 10 SQUARE FOOT TRIBUTARY 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 ERECTED 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:
    - CONNECTOR PLATE WOOD TRUSSES

GEOTECHNICAL:

11. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH THE RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT REFERENCED BELOW, THE SPECIFICATIONS, OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER. FOOTINGS SHALL BEAR DIRECTLY ON SUBGRADE COMPACTED WITH A HOEPACK OR HAND–HELD PLATE COMPACTER. EXTERIOR FOOTINGS AND FOOTINGS IN UNHEADED AREAS SHALL BEAR AT LEAST 36" BELOW EXISTING GRADE AND AT LEAST 18" BELOW FINISHED EXTERIOR GRADES SHALLOWER THAN 5H:1V. THE OWNER APPOINTED GEOTECHNICAL ENGINEER SHALL APPROVE FOOTING EXCAVATION/PREPARATION PRIOR TO PLACEMENT OF ALL FOOTINGS. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING, GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE GEOTECHNICAL REPORT REFERENCED BELOW, THE SPECIFICATIONS, OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER
    ALLOWABLE SOIL PRESSURE . . . . 2,000 PSF
    LATERAL EARTH PRESSURE (UNRESTRAINED, LEVEL) . . . . 50 PCF
    (RESTRAINED, LEVEL) . . . . 65 PCF
    SEISMIC SURCHARGE PRESSURE . . . . 9H, UNIFORM
    PASSIVE EARTH PRESSURE . . . . 300 PCF
    BASE COEFFICIENT OF FRICTION 0.40
    GEOTECHNICAL REFERENCE: "Geotechnical Evaluation Report; 3632 90th Ave SE; Mercer Island, WA; American Geoservices; Project No. 0531–WA21; September 15, 2022"

12. PIPE PILES SHALL BE 4"ø (12–TON CAPACITY) SCHEDULE 40, ASTM A–53 GRADE A GALVANIZED STEEL. INSTALLATION, FINAL PENETRATION RATE, FINISH, CONNECTION, ETC. SHALL CONFORM STRICTLY WITH THE RECOMMENDATIONS GIVEN IN THE ABOVE GEOTECHNICAL REPORT REFERENCE. PIPES SHALL BE DRIVEN TO REFUSAL PER THE GEOTECHNICAL REPORT REFERENCE AND REPLICATED BELOW. MINIMUM PILE LENGTH SHALL BE 10 FEET BELOW THE BOTTOM OF FOOTING, WITH MINIMUM 5 FEET EMBEDMENT INTO DENSE GLACIAL TILL. ALL PILES SHOULD BE PROOF LOADED IN THE PRESENCE OF THE PROJECT GEOTECHNICAL ENGINEER (OR REPRESENTATIVE). LOAD TESTS SHOULD BE PERFORMED ON 3% OF INSTALLED PILES OR A MAXIMUM OF 5 PILES. AT LEAST ONE LOAD TEST SHOULD BE PERFORMED. FULL TIME PILE LOAD TESTING AND PILE INSTALLATION SHOULD BE PERFORMED BY THE PROJECT GEOTECHNICAL ENGINEER (OR REPRESENTATIVE) AND ALL PILES SHOULD BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE. PILE COUPLINGS SHALL USE THREADED OR SLIP COUPLERS IF THEY FIT TIGHTLY AND TRANSFER LOAD WITHOUT LOSS OF CAPACITY. WELDING OF PIPE SECTIONS MAY ALSO BE SUED.

ANCHORAGE:

13. DRIVE PINS AND OTHER POWDER–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: "TE SERIES" (0.157" DIAMETER) AS MANUFACTURED BY ITW RAMSET (ICC–ES NO. 1799); OR "X–U" (0.157" DIAMETER) AS MANUFACTURED BY HILTI, INC. (ICC–ES NO. 2269); OR "STRONG–TIE PDPA" (0.157" DIAMETER) AS MANUFACTURED BY SIMPSON STRONG–TIE COMPANY, INC. (ICC–ES NO. 2138); OR "CSI 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 CONCRETE EDGE.

CONCRETE:

14. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 318–14 CHAPTER 26 AND ACI 301. CONCRETE SHALL ATTAIN A 28–DAY STRENGTH OF f'c = 2,500 PSI. THE CONTRACTOR SHALL USE 5–1/2 SACK 2500 PSI CONCRETE MIXES PER CODE ALTERNATE R402.2 IN THE SEATTLE RESIDENTIAL CODE. IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE SECTION 1904.2, 5–1/2 SACK 2500 PSI CONCRETE MIXES ARE EQUIVALENT TO 3000 PSI CONCRETE FOR WEATHERING POTENTIAL. IN ADDITION, AIR–ENTRAINMENT IS NOT REQUIRED TO ADDRESS WEATHERING.

15. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, fy = 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 315–99 AND 318–14. 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 AND PERMANENTLY EXPOSED TO EARTH . . . . 3"
    FORMED SURFACES EXPOSED TO EARTH
    (i.e. WALLS BELOW GROUND)OR WEATHER (#5 BARS OR SMALLER). . . . . 1½"

18. BONDING AGENT SHALL BE "MASTEREMACO 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	PERIODIC	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, MAXIMUM 5/16"; AND C. INSPECT ALL OTHER WELDS	--- X	X X	AWSD1.4 ACI 318 26.5.4	---
YES	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 INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A	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 31 ACI 318: 26.4.5, 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: 26.4.7–26.4.9	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'L 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(b)	---

* EXCEPTIONS 2 PER IBC 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.	DOUGLAS FIR NO. 3 OR STUD GRADE
LIGHT FRAMING:	MIN. BASIC DESIGN STRESS, F_b = 525 PSI, E = 1400 KSI F_c = 775 PSI, F_t = 325 PSI
JOISTS & RAFTERS:	DOUGLAS FIR NO. 2 MIN. BASIC DESIGN STRESS, F_b = 900 PSI, E = 1600 KSI F_c = 1350 PSI, F_t = 575 PSI
BEAMS:	DOUGLAS FIR NO. 1
4x_	MIN. BASIC DESIGN STRESS, F_b = 1000 PSI, E = 1700 KSI F_c = 1500 PSI, F_t = 675 PSI
6x_	MIN. BASIC DESIGN STRESS, F_b = 1350 PSI, E = 1600 KSI F_c = 925 PSI, F_t = 675 PSI
COLUMNS:	DOUGLAS FIR NO. 1
4x_	MIN. BASIC DESIGN STRESS, F_b = 1000 PSI, E = 1700 KSI F_c = 1500 PSI, F_t = 675 PSI
6x_	MIN. BASIC DESIGN STRESS, F_b = 1200 PSI, E = 1600 KSI F_c = 1000 PSI, F_t = 825 PSI

20. 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 VENNER LUMBER (LVL, LAMINATED STRAND LUMBER (LSL), OR PARALLEL STRAND LUMBER (PSL). THE MINIMUM ALLOWABLE DESIGN VALUES ARE AS FOLLOWS:
    LVL – F_b = 2,600 F_v = 290 PSI E = 2,000,000 PSI
    LSL – F_b = 1,900 F_v = 150 PSI E = 1,300,000 PSI

21. 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 INCLINED MEMBERS OF LESS THAN 1:1 SLOPE SHALL HAVE A RADIUSED CAMBER OF 3,500 FT. UNLESS OTHERWISE NOTED.
    SIMPLE SPAN BEAMS DOUGLAS FIR COMBINATION 24F–V4
    F_b = 2400 PSI; F_v = 265 PSI; E = 1,800,000 PSI
    CONTINUOUS OR CANTILEVERED BEAMS DOUGLAS FIR COMBINATION 24F–V8
    F_b = 2400 PSI; F_v = 265 PSI; E = 1,800,000 PSI
    THESE MEMBERS ARE NOTED AS '*' 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 ANSI/TPI I–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 + 5 PSF, RAIN ON SNOW SURCHARGE
BOTTOM CHORD LIVE LOAD	0 PSF
TOP CHORD DEAD LOAD	15 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, HIPS, VALLEYS, ETC. EXACT COMPOSITION OF SPECIAL HIP, VALLEY, AND INTERSECTION AREAS (USE OF GIRDER TRUSSES, JACK TRUSSES, STEP–DOWN TRUSSES, ETC.) SHALL BE DETERMINED BY THE MANUFACTURER UNLESS 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 DOC PS 1–09, PS 2–10, OR APA PRP–108 PERFORMANCE STANDARDS AND POLICIES FOR STRUCTURAL USE PANELS. SEE DRAWINGS FOR THICKNESS, SPAN RATING, AND NAILING REQUIREMENTS.

25. AT NON–SHEAR WALL EXTERIOR WALLS, UNLESS OTHERWISE NOTED, WALL SHEATHING SHALL BE ½" (NOMINAL) WITH SPAN RATING OF 24/0; 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 PRESSURE–TREATED WITH DOT SODIUM BORATE (SBX) WITHOUT $NaSiO_2$. AT LOCATIONS PERMANENTLY EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, WOOD MEMBERS SHALL BE PRESSURE–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 N THEIR WOOD CONSTRUCTION CONNECTORS 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 PRESSURE–TREATED WOOD THAT USED PRESERVATIVE CHEMICALS OTHER THAN DOT SODIUM BORATE (SBX) WITHOUT $NaSiO_2$ SHALL BE MANUFACTURED FROM Z_{MAX} STEEL BY SIMPSON (G185 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 2304.9.1 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 2012 NDS SECTION 11.1.4, AND INSTALLATION OF BOLTS SHALL CONFORM TO 2012 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 ⅝"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 AF&PA SDPWS–2008 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 GRAIN 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 ALLOW ⅛" 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 2¼"
	10d	0.148" x 2½"
FRAMING NAILS	10d	0.148" x 3"
	16d	0.148" x 3¼"

Minimum Connectors and Fasteners for Wood Members per IBC 2018

DESCRIPTION OF BUILDING 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, 7/16" 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
	2–16d 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
2. CEILING JOISTS TO TOP PLATE	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, 7/16" CROWN	EACH JOIST, TOENAIL
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 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
4. CEILING JOIST ATTACHED TO PARALLEL RAFTER (HEEL JOINT)	PER TABLE 2308.7.3.1	FACE NAIL
5. COLLAR TIE TO RAFTER	3–10d COMMON (3" x 0.148"); or 4–10d BOX (3" x 0.128"); or 4–3" x 0.131" NAILS; or 4–3" x 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
6. RAFTER OR ROOF TRUSS TO TOP PLATE (SEE 2308.7.5, TABLE 2308.7.5)	3–10d COMMON (3" x 0.148"); or 3–16d BOX (3½" x 0.135"); or 4–10d BOX (3" x 0.128"); or 4–3" x 0.131" NAILS; or 4–3" x 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
7. ROOF RAFTERS TO RIDGE VALLEY OR HIP RAFTERS; OR ROOF RAFTER TO 2" RIDGE BEAM	2–16d COMMON (3½" x 0.162"); or 3–10d BOX (3" x 0.128"); or 3–3" x 0.131 NAILS; or 3–3" x 14 GAGE STAPES, 7/16" CROWN	END NAIL
	3–10d COMMON (3½" x 0.148"); or 3–16d BOX (3½" x 0.135"); or 4–10d BOX (3" x 0.128"); or 4–3" x 0.131 NAILS; or 4–3" x 14 GAGE STAPES, 7/16" CROWN	TOENAIL
WALL		
8. STUD TO STUD (NOT AT SHEARWALL CHORDS)	16d COMMON (3½" x 0.162")"	24" oc FACE NAIL
	10d BOX (3" x 0.128"); or 3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	16" oc FACE NAIL
9. STUD TO STUD AND ABUTTING STUDS AT INTERSECTION WALL CORNERS	16d COMMON (3½" x 0.162")"; or	16" oc FACE NAIL
	16d BOX (3½" x 0.135")"; or	12" oc FACE NAIL
	3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	12" oc FACE NAIL
10. BUILT–UP HEADER (2" TO 2" HDR.)	16d COMMON (3½" x 0.162")"; or	16" oc EA. EDGE, FACE NAIL
	16d BOX (3½" x 0.135")	12" oc EA. EDGE, FACE NAIL
11. CONTINUOUS HEADER TO STUD	4–8d COMMON (2½" x 0.131"); or 4–10d BOX (3" x 0.128")	TOENAIL
12. TOP PLATE TO TOP PLATE	16d COMMON (3½" x 0.162"); or	16" oc FACE NAIL
	10d BOX (3" x 0.128"); or 3" x 0.131" NAILS; or 3" x 14 GAGE STAPLES, 7/16" CROWN	12" oc FACE NAIL
13. TOP PLATE TO TOP PLATE, AT END JOINTS	8–16d COMMON (3½" x 0.162"); or 12–10d BOX (3" x 0.128"); or 12–3" x 0.131" NAILS; or 12–3" x 14 GAGE STAPLES, 7/16" CROWN	EACH SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP SPLICE LENGTH EA. SIDE OF END JOINT
14. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING NOT AT SHEARWALL	16d COMMON (3½" x 0.162")"; or	16" oc FACE NAIL
	16d BOX (3½" x 0.135")"; or 3" x 0.131" NAILS; or 3" x 14 GAGE STAPLES, 7/16" CROWN	12" oc FACE NAIL
15. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING AT SHEARWALL	2–16d COMMON (3½" x 0.162"); or 3–16d BOX (3½" x 0.135"); or 4–3" x 0.131" NAILS; or 4–3" x 14 GAGE STAPLES, 7/16" CROWN	16" oc FACE NAIL
16. STUD TO TOP OR BOTTOM PLATE	4–8d COMMON (2½" x 0.131"); or 4–10d BOX (3" x 0.128"); or 4–3" x 0.131" NAILS; or 4–3" x 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
	2–16d COMMON (3½" x 0.162"); or 3–10d BOX (3" x 0.128"); or 3–3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	END NAIL
17. TOP OR BOTTOM PLATE TO STUD	2–16d COMMON (3½" x 0.162"); or 3–10d BOX (3" x 0.128"); or 3–3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	END NAIL

DESCRIPTION OF BLDG. ELEMENT	NUMBER AND TYPE OF FASTENERS	SPACING & LOCATION
WALL (CONTINUED)		
18. TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	2–16d COMMON (3½" x 0.162"); or 3–10d BOX (3" x 0.128"); or 3–3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
19. 1" BRACE TO EACH STUD AND PLATE	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128"); or 2–3" x 0.131" NAILS; or 2–3" x 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
20. 1" x 6" SHEATHING TO EACH BEARING	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128"); or	FACE NAIL
21. 1" x 8" AND WIDER SHEATHING TO EACH BEARING	3–8d COMMON (2½" x 0.131"); or 3–10d BOX (3" x 0.128"); or	FACE NAIL
FLOOR		
22. JOIST TO SILL, TOP PLATE, OR GIRDER	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, 7/16" CROWN	TOENAIL
23. RIM JOIST, BAND JOIST, OR BLOCKING TO TOP PLATE, SILL, OR OTHER FRAMING BELOW	8d COMMON (2½" x 0.131"); or 10d BOX (3" x 0.128"); or 3" x .131" NAILS; r 3" x 14 GAGE STAPLES, 7/16" CROWN	6" o.c., TOENAIL
24. 1" x 6" SUBFLOOR OR LESS TO EACH JOIST	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128")	FACE NAIL
25. 2" SUBFLOOR TO JOIST OR GIRDER	2–16d COMMON (3½" x 0.162")	FACE NAIL
26. 2" PLANKS (PLANK & BEAM – FLOOR & ROOF)	2–16d COMMON (3½" x 0.162")"	EA. BEARING, FACE NAIL
27. BUILT–UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	20d COMMON (4" x 0.192")	32" o.c., FACE NAIL TOP & BOT. STAGGERED ON OPPOSITE SIDES
	10d BOX (3" x 0.128"); or 3" x 0.131" NAILS; or 3" x 14 GAGE STAPLES, 7/16" CROWN	24" o.c., FACE NAIL AT TOP & BOT. STAGGERED ON OPP. SIDES
	AND: 2–20d COMMON (4" x 0.192"); or 3–10d BOX (3" x 0.128"); or 3–3" x 0.131" NAILS; or 3–3" x 14 GAGE STAPLES, 7/16" CROWN	ENDS AND AT EACH SPLICE, FACE NAIL
28. LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	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 14 GAGE STAPLES, 7/16" CROWN	EACH JOIST OR RAFTER, FACE NAIL
29. JOIST TO BAND JOIST OR RIM JOIST	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 14 GAGE STAPLES, 7/16" CROWN	END NAIL
30. BRIDGING OR BLOCKING TO JOIST, RAFTER, OR TRUSS	2–8d COMMON (2½" x 0.131"); or 2–10d BOX (3" x 0.128"); or 2–3" x 0.131" NAILS; or 2–3" x 14 GAGE STAPLES, 7/16" CROWN	EACH END, TOENAIL

MULTIPLE LVL MEMBER FASTENING PER WEYERHAUSER

PIECE WIDTH	NUMBER OF PLIES	FASTENER				
		TYPE$^{(1)}$	MIN. LENGTH	# ROWS	O.C. SPACING	LOCATION
1¾"	2	10d NAILS	3"	3$^{(2)}$	12"	ONE SIDE
		12d – 16d NAILS	3¼"	2$^{(2)}$		
		SCREWS	3⅜" or 3½'	2	24"	
	3	10d NAILS	3"	3$^{(2)}$	12"	BOTH SIDES
		12d – 16d NAILS	3¼"	2$^{(2)}$		
		SCREWS	3⅜" or 3½'	2	24"	BOTH SIDES
			5"			ONE SIDE
	4	10d NAILS	3"	3$^{(2)}$	12"	ONE SIDE (PER PLY)
		12d – 16d NAILS	3¼"	2$^{(2)}$		
		SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
3½"	2	SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
		½"ø BOLTS	8"	2	24"	–

(1) 10d NAILS ARE 0.128" DIAMETER; 12d – 16d NAILS ARE 0.148" – 0.162" DIAMETER; SCREWS ARE SDS, USP WP, TrussLOK, OR SDW
(2) AN ADDITIONAL ROW OF NAILS IS REQUIRED WITH DEPTHS OF 14" OR GREATER
(3) WHEN CONNECTING 4–PLY MEMBERS, NAIL EACH PLAY TO THE OTHER AND OFFSET NAIL ROWS BY 2" FROM ROWS IN THE PLY BELOW

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Strucural Notes

DRAWN BY
JDA
DATE
10.18.22

S1.1

LEGEND

- CONCRETE FOOTING
- CONCRETE WALL
- STEP IN FOOTING PER 9/S3.1
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- STRUCTURAL WOOD STUDWALL BELOW
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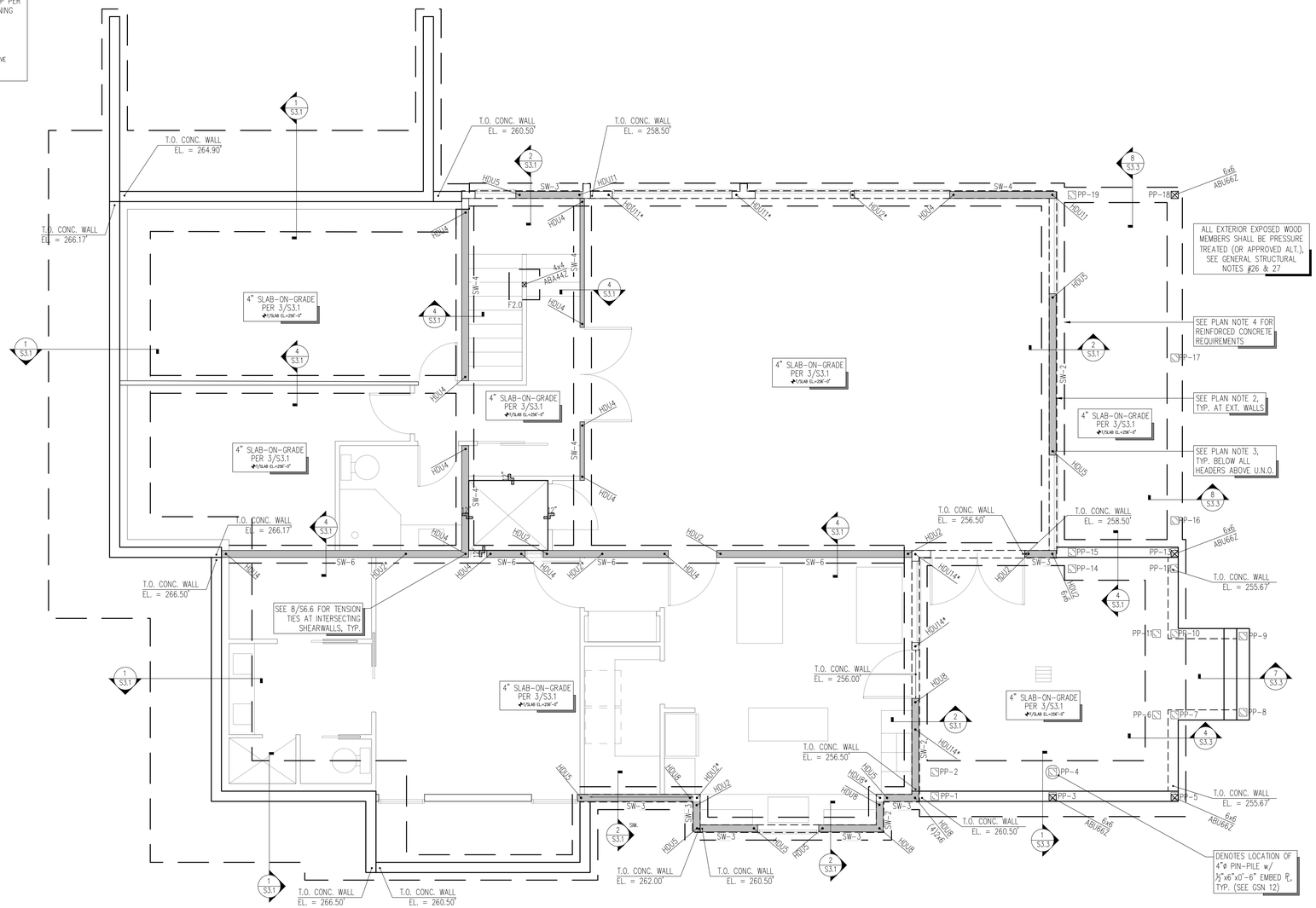
  - * – DENOTES TRANSFER TIE FROM TIE ABOVE
  - ^ – DENOTES TIE ATOP FRAMING MEMBER



FOUNDATION & FIRST FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE FIRST FLOOR LEVEL (FROM FIRST FLOOR TO SECOND FLOOR).
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 16" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.02, 5/S6.2, AND 2/S6.2 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. ALL HEADERS ABOVE (SEE 1/S2.2) 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
4. SEE STRUCTURAL GENERAL NOTES #13 – 18 FOR CONCRETE AND CONCRETE REINFORCING REQUIREMENTS.

1 / S2.1 FOUNDATION AND FIRST FLOOR PLAN

1/4" = 1'-0"

NORTH

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Foundation and Lower Floor Plan

DRAWN BY
JDA

DATE
10.18.22

S2.1

LEGEND

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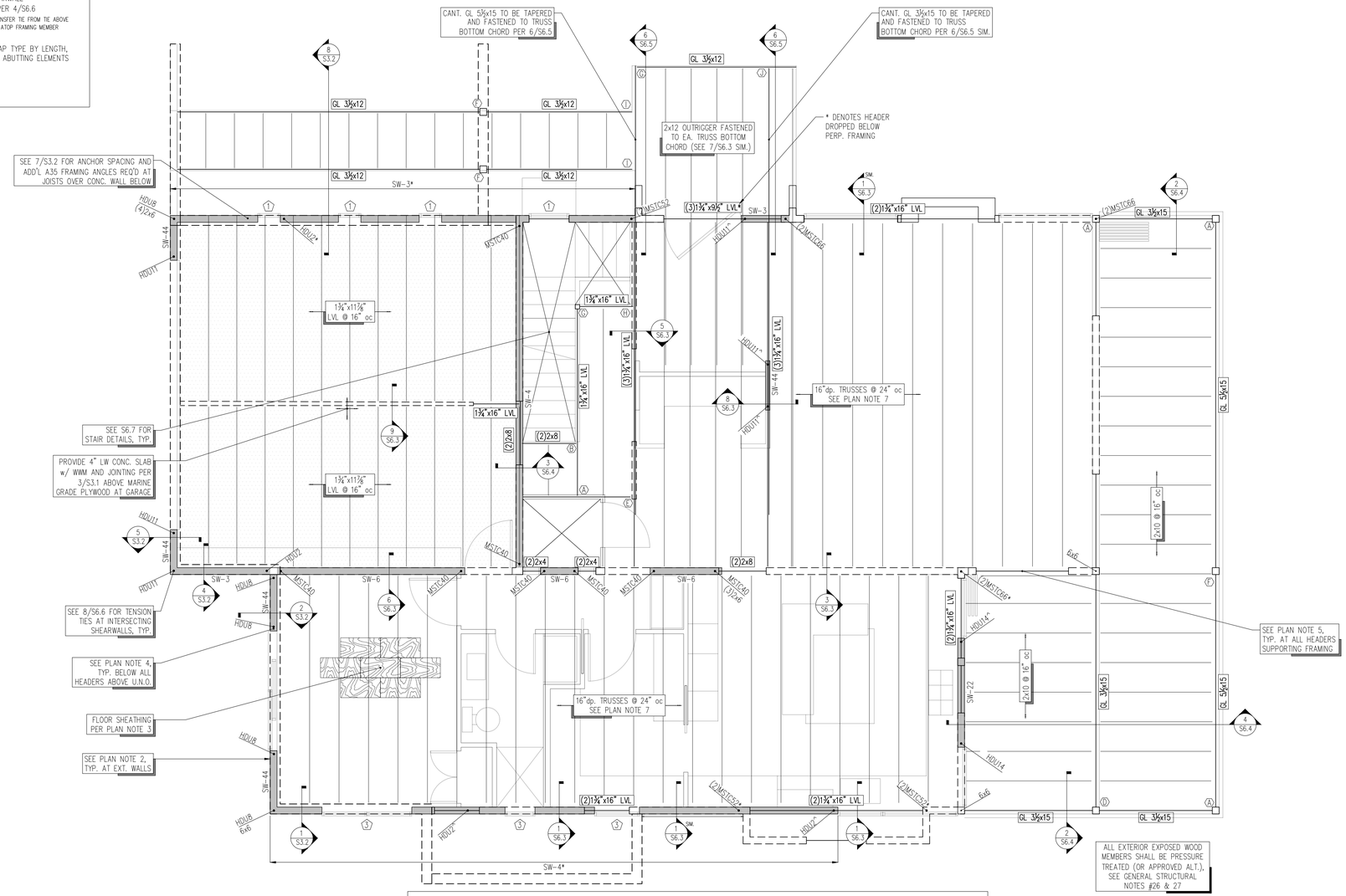
- STRUCTURAL WOOD STUDWALL ABOVE
- POST BELOW
- POST ABOVE
- WOOD JOIST
- WOOD BEAM or HEADER
- WOOD RAFTER
- SW-_ — DENOTES EXTENT OF SHEARWALL TYPE SW-_ PER 1/S6.6
- SW-_* — DENOTES STRAPPED SHEARWALL PER 7/S6.6, WITH ⌂ DENOTING STRAP PER SCHEDULE ABOVE & BELOW OPENING
- HDU_ / MSTC_ — DENOTES SHEARWALL TENSION TIE PER 4/S6.6
  - * – DENOTES TRANSFER TIE FROM TIE ABOVE
  - ^ – DENOTES TIE ATOP FRAMING MEMBER
- DENOTES STRAP TYPE BY LENGTH, CENTERED ON ABUTTING ELEMENTS (STRAP x LENGTH)

CONNECTOR TABLE

	SIMPSON DESIGNATION	NOTES
(A)	ECCLQ, ECCRQ	L-POST CAP
(B)	HUS ~or~ BU	HANGER
(C)	HGU ~or~ EGQ	HANGER
(D)	CCT	T-POST CAP
(E)	IUS ~or~ ITS	HANGER
(F)	CCQ	COLUMN CAP
(G)	HUCQ	CONCEALED FLANGE HANGER
(H)	IUS ~or~ MIT	HANGER
(I)	LUS ~or~ HWPH	HANGER
(J)	HHUS	HANGER



MAIN FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE FRAMING LEVEL. DASHED WALLS SHOWN IN PLAN ARE BELOW FRAMING LEVEL.
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 16" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.1, 5/S6.2, AND 2/S6.2 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. FLOOR SHEATHING SHALL CONSIST OF ¾" T&G SHEATHING (PANEL SPAN RATING 48/24). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.2). GLUE SHEATHING AT ALL SUPPORTS w/ ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.
4. ALL HEADERS ABOVE (SEE 1/S2.3) 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 SHALL BE PER DETAIL 6/S6.1 U.N.O. IN PLAN.
6. AT AREA(S) INDICATED AS BLOCKED DIAPHRAGM, INSTALL 2x FLAT BLOCKING AT ALL UNFRAMED PANEL EDGES. NAIL SHEATHING PER PLAN NOTE 3.
7. SEE GENERAL STRUCTURAL NOTE #23 FOR FLOOR TRUSS REQUIREMENTS.

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

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CONTENTS
Main Floor Framing Plan

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DATE
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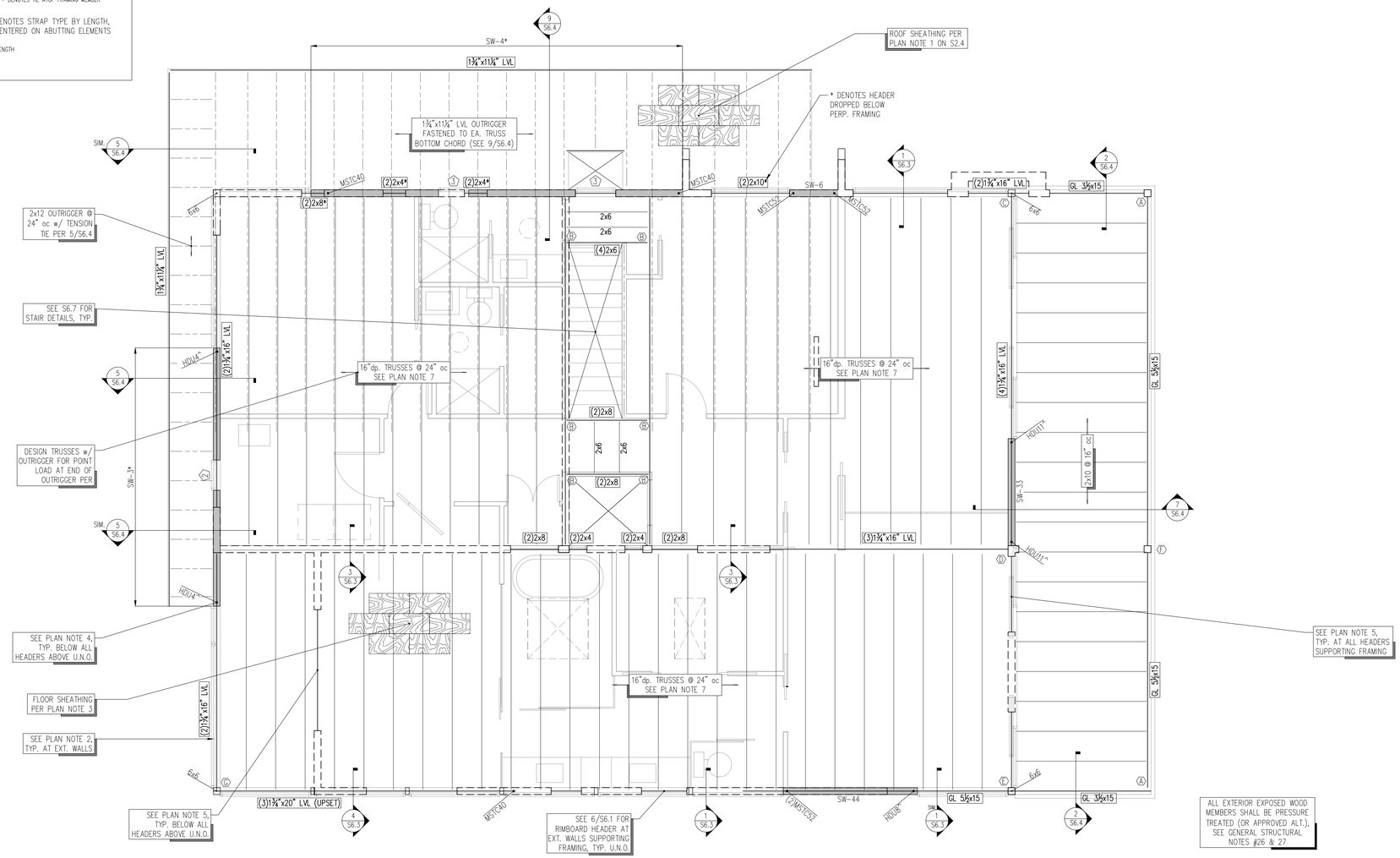
S2.2

LEGEND

- STRUCTURAL WOOD STUDWALL BELOW
- STRUCTURAL WOOD STUDWALL ABOVE
- POST BELOW
- POST ABOVE
- WOOD JOIST
- WOOD BEAM or HEADER
- WOOD RAFTER
- SW–_ — DENOTES EXTENT OF SHEARWALL TYPE SW–_ PER 1/S6.6
- SW–_* — DENOTES STRAPPED SHEARWALL PER 7/S6.6, WITH ⏀ DENOTING STRAP PER SCHEDULE ABOVE & BELOW OPENING
- HDU_ / MSTC_ — DENOTES SHEARWALL TENSION TIE PER 4/S6.6
  - * – DENOTES TRANSFER TIE FROM TIE ABOVE
  - ^ – DENOTES TIE ATOP FRAMING MEMBER
- STRAP x LENGTH — DENOTES STRAP TYPE BY LENGTH, CENTERED ON ABUTTING ELEMENTS

CONNECTOR TABLE

	SIMPSON DESIGNATION	NOTES
(A)	ECCLQ, ECCRQ	L-POST CAP
(B)	HUS ~or~ BU	HANGER
(C)	HGU ~or~ EGQ	HANGER
(D)	CCT	T-POST CAP
(E)	IUS ~or~ ITS	HANGER
(F)	CCQ	COLUMN CAP
(G)	HUCQ	CONCEALED FLANGE HANGER
(H)	IUS ~or~ MIT	HANGER
(I)	LUS ~or~ HWPH	HANGER
(J)	HHUS	HANGER



UPPER FLOOR PLAN NOTES

1. SOLID WALLS AND SHEARWALLS SHOWN IN PLAN ARE ABOVE FRAMING LEVEL. DASHED WALLS SHOWN IN PLAN ARE BELOW FRAMING LEVEL.
2. EXTERIOR STUDWALLS SHALL BE 2x6 STUDS @ 16" oc (MAX). SEE ARCHITECTURAL FOR INTERIOR STUDWALLS. SEE 6/6.1, 5/S6.2, AND 2/S6.2 FOR ALLOWABLE HOLES & NOTCHES IN STUDWALL STUDS AND TOP & BOTTOM PLATES.
3. FLOOR SHEATHING SHALL CONSIST OF ¾" T&G SHEATHING (PANEL SPAN RATING 48/24). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, AND SHEAR WALLS w/ 10d @ 6" oc; AND AT ALL INTERMEDIATE SUPPORTS w/ 10d @ 12" oc (SEE 3/S6.2). GLUE SHEATHING AT ALL SUPPORTS w/ ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.
4. ALL HEADERS ABOVE (SEE 1/S2.4) 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. AT AREA(S) INDICATED AS BLOCKED DIAPHRAGM, INSTALL 2x FLAT BLOCKING AT ALL UNFRAMED PANEL EDGES. NAIL SHEATHING PER PLAN NOTE 3.
7. SEE GENERAL STRUCTURAL NOTE #23 FOR FLOOR TRUSS REQUIREMENTS.

1 / S2.3 UPPER FLOOR FRAMING PLAN

1/4" = 1'–0"

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Upper Floor Framing Plan

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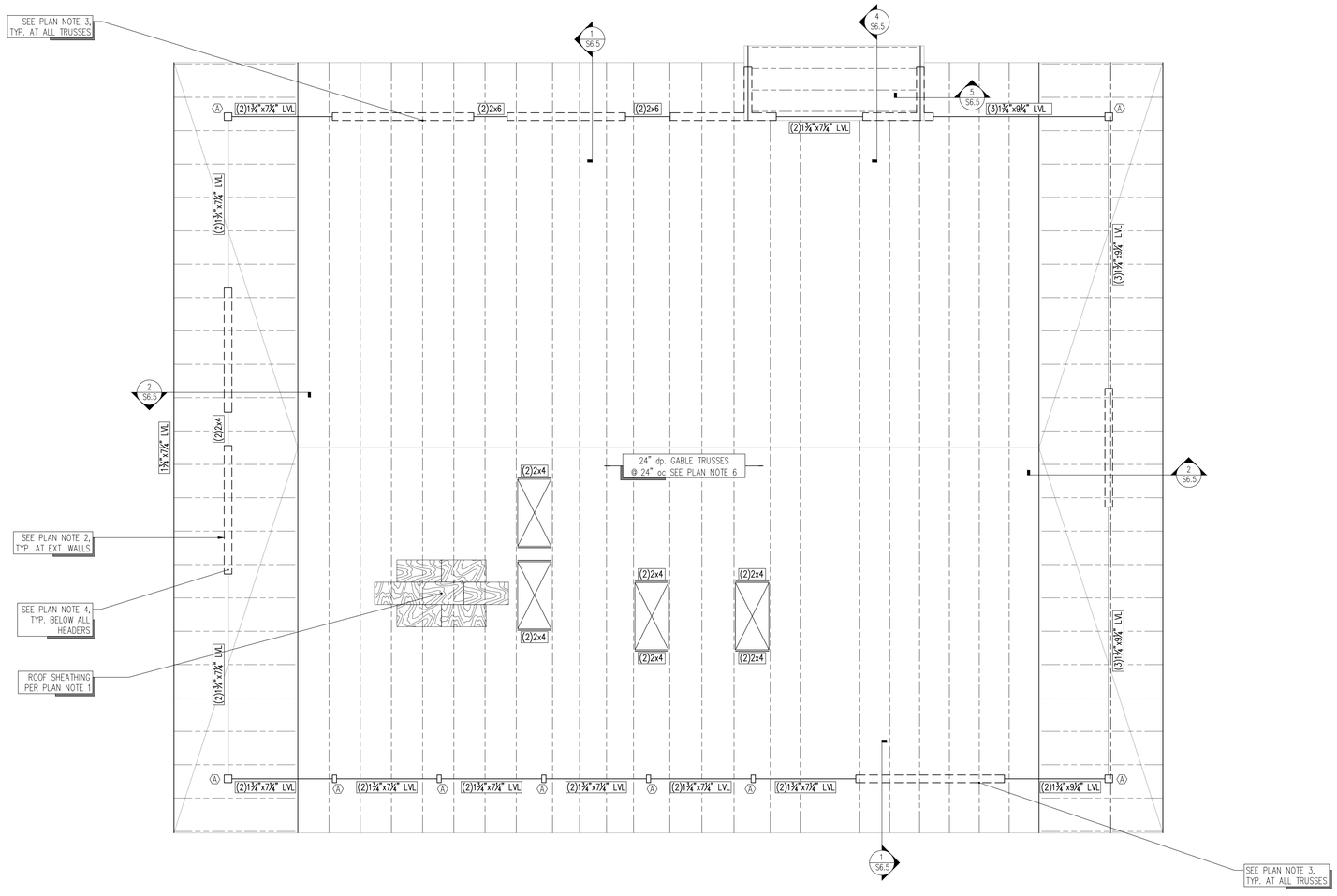
S2.3

LEGEND

- STRUCTURAL WOOD STUDWALL BELOW
- POST BELOW
- WOOD RAFTER
- WOOD BEAM or HEADER
- DENOTES STRAP TYPE BY LENGTH, CENTERED ON ABUTTING ELEMENTS
  - STRAP x LENGTH

CONNECTOR TABLE

	SIMPSON DESIGNATION	NOTES
A	ECCLQ, ECCRQ	L-POST CAP
B	HUS ~or~ BU	HANGER
C	HGU ~or~ EGQ	HANGER
D	CCT	T-POST CAP
E	IUS ~or~ ITS	HANGER
F	CCQ	COLUMN CAP
G	HUCQ	CONCEALED FLANGE HANGER
H	IUS ~or~ MIT	HANGER
I	LUS ~or~ HWPH	HANGER
J	HHUS	HANGER



ROOF PLAN NOTES

1. ROOF SHEATHING SHALL CONSIST OF 5/8" SHEATHING (PANEL SPAN RATING 32/16) NAILED AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES, BLOCKING, 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 (i.e. FROM THIRD FLOOR TO UNDERSIDE OF ROOF).
3. PROVIDE H2.5A HURRICANE TIES AT END OF ALL EXISTING RAFTERS.
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 #23 FOR ROOF TRUSS REQUIREMENTS.

1 / S2.4 ROOF FRAMING PLAN

1/4" = 1'-0"

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Roof
Framing Plan

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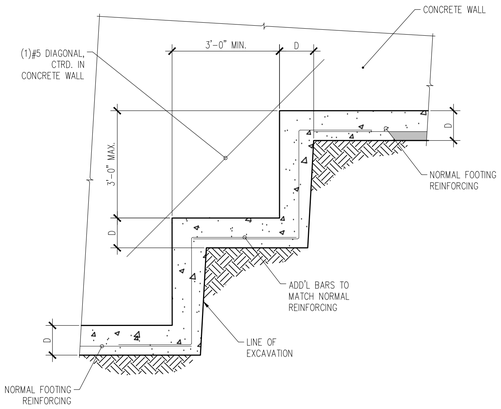
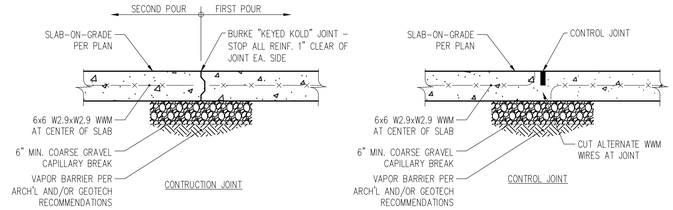
S2.4

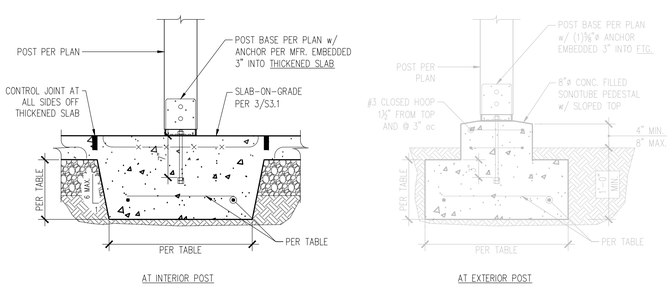


6 S3.1 TYPICAL STEPPED FOOTING
N.T.S.

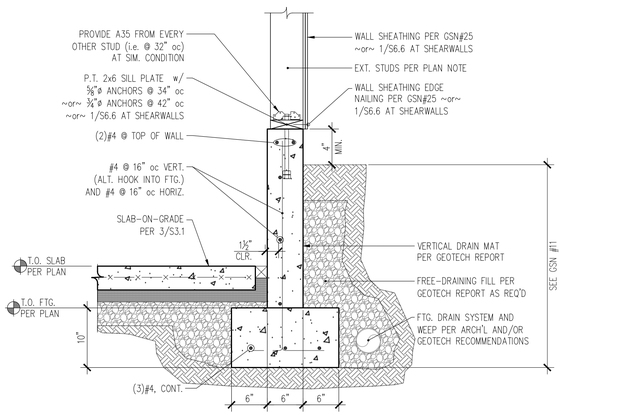


3 S3.1 TYPICAL SLAB-ON-GRADE JOINTING
1" = 1'-0"

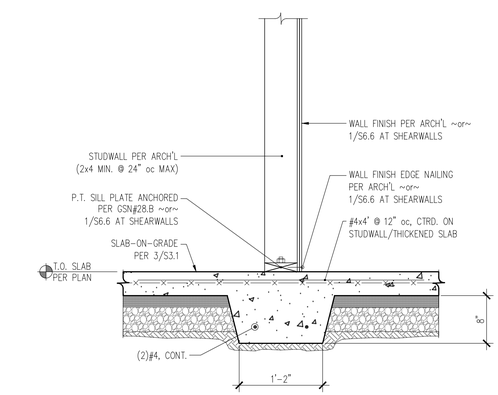
FTG. MARK	DIMENSIONS			REINFORCING DIRECTION	
	LENGTH	WIDTH	DEPTH	SHORT	LONG
F2.0	2'-0"	2'-0"	10"	(3)#4	(3)#4
F2.5	2'-6"	2'-6"	10"	(4)#4	(4)#4
F3.0	3'-0"	3'-0"	10"	(4)#4	(4)#4
F3.6	3'-6"	3'-6"	12"	(5)#4	(5)#4
F4.0	4'-0"	4'-0"	12"	(6)#4	(6)#4



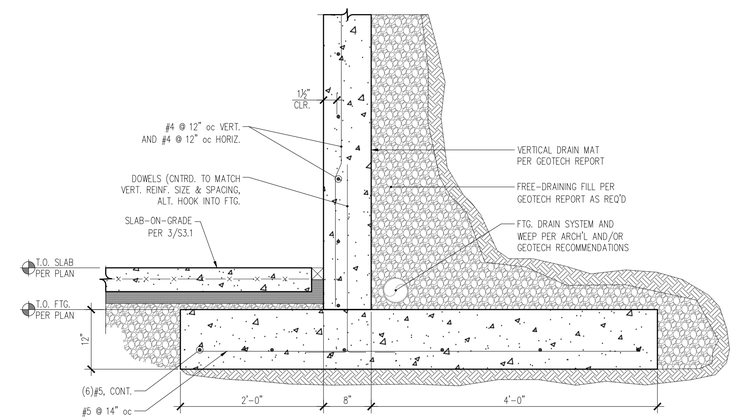
5 S3.1 SPREAD FOOTING
1" = 1'-0"



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



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



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

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S3.1

MIN. STRAIGHT DEVELOPMENT LENGTH		
BAR SIZE	TOP BARS	OTHER BARS
#4	25"	19"
#5	31"	24"

MIN. LAP SPLICE LENGTH (CLASS B)		
BAR SIZE	TOP BARS	OTHER BARS
#4	33"	25"
#5	41"	31"

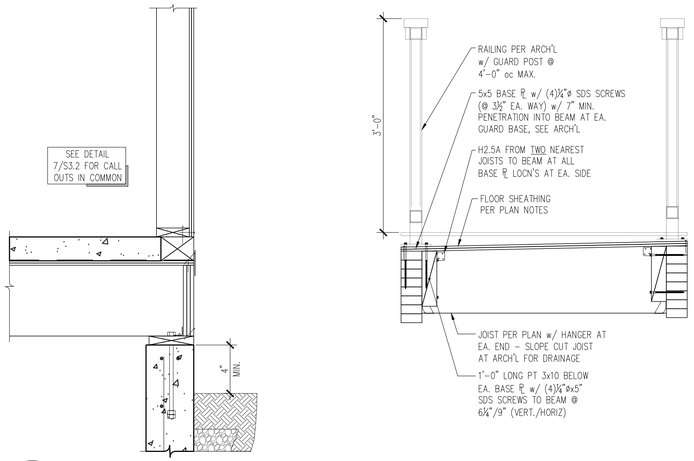
"TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM

IF CLEAR CONCRETE COVER IS LESS THAN 1x THE DIAMETER OF THE BAR OR THE CENTER-TO-CENTER SPACING IS LESS THAN (3) BAR DIAMETERS, THEN VALUES SHALL BE INCREASED BY 50%

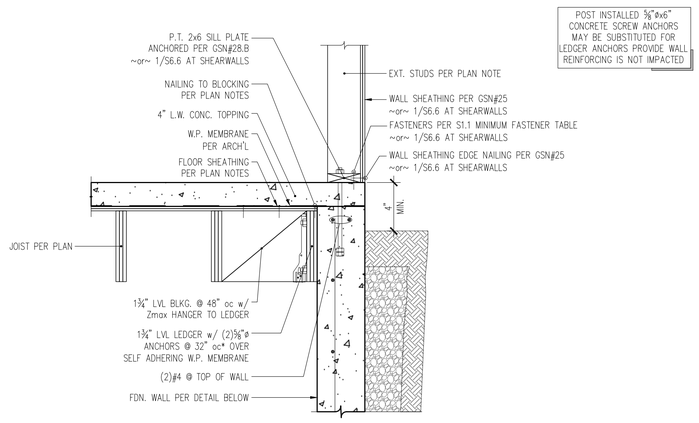
MIN. EMBEDMENT LENGTH FOR STANDARD END HOOKS	
BAR SIZE	LENGTH
#4	7"
#5	9"

1. SIDE COVER MUST BE EQUAL TO OR GREATER THAN 2½"
2. END COVER FOR 90° HOOKS MUST BE EQUAL TO OR GREATER THAN 2"

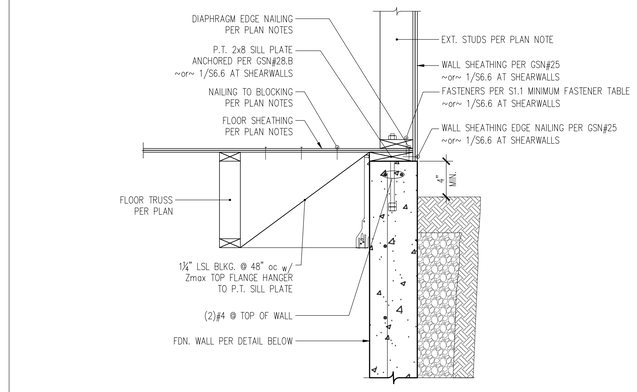
3 S3.2 CONCRETE REINFORCING DEVELOPMENT AND SPLICE LENGTH TABLES
N/A



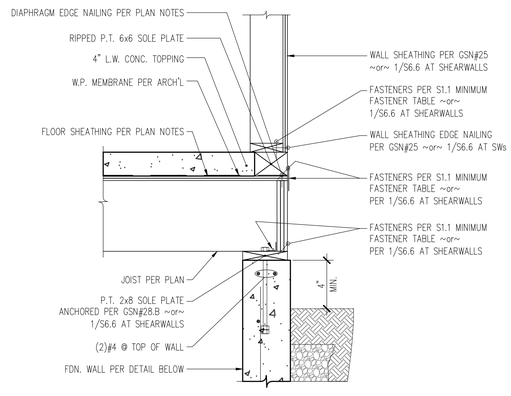
8 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR GARAGE JOISTS
1" = 1'-0"



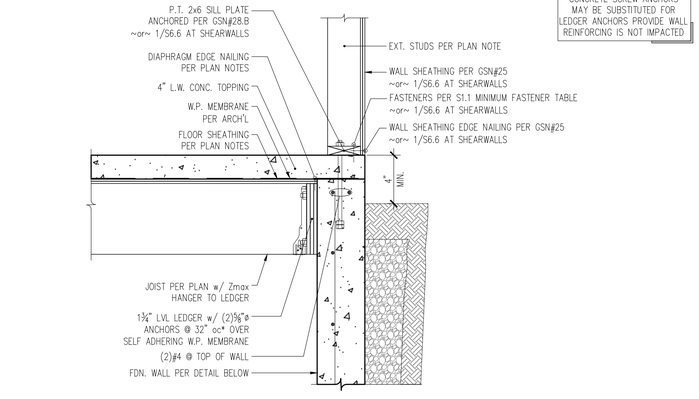
5 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR GARAGE JOISTS
1" = 1'-0"



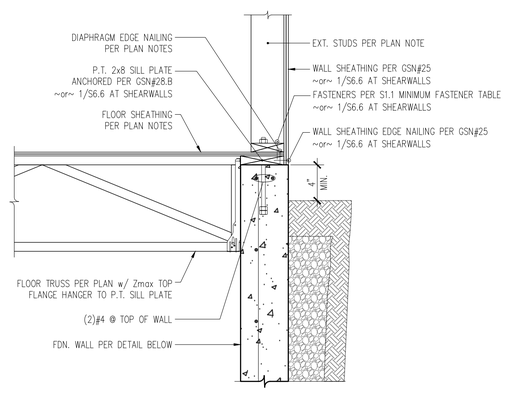
2 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR FLOOR TRUSS
1" = 1'-0"



7 S3.2 SECTION THROUGH HIGH FOUNDATION WALL
1" = 1'-0"



4 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR GARAGE JOISTS
1" = 1'-0"



1 S3.2 SECTION THROUGH HIGH FOUNDATION WALL AND HUNG PERPENDICULAR FLOOR TRUSS
1" = 1'-0"

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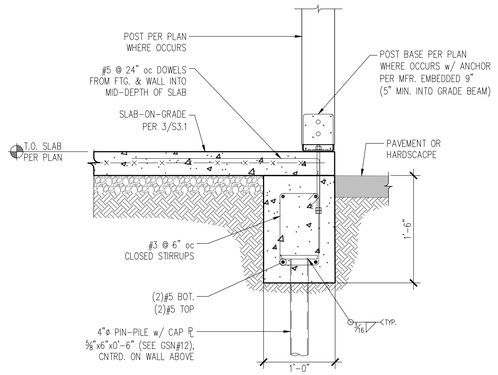
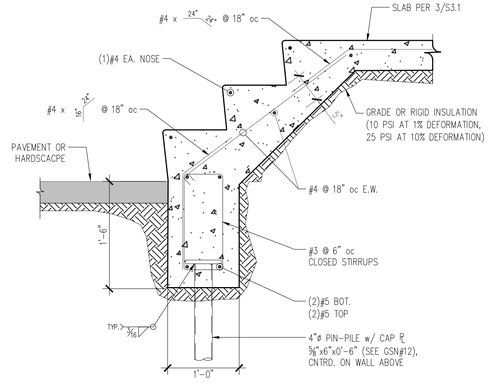
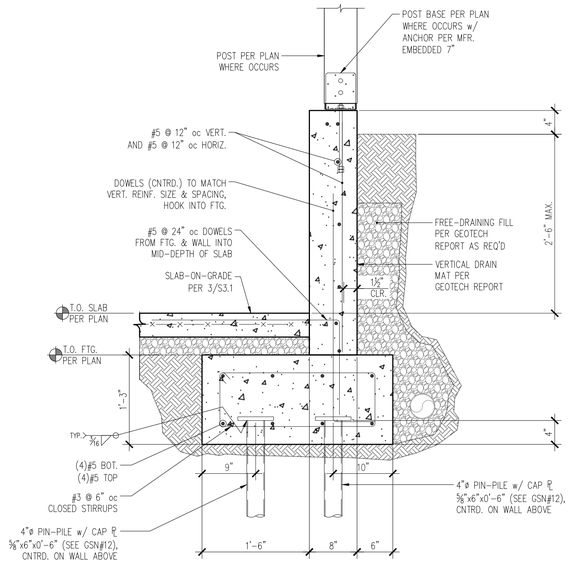
S3.2



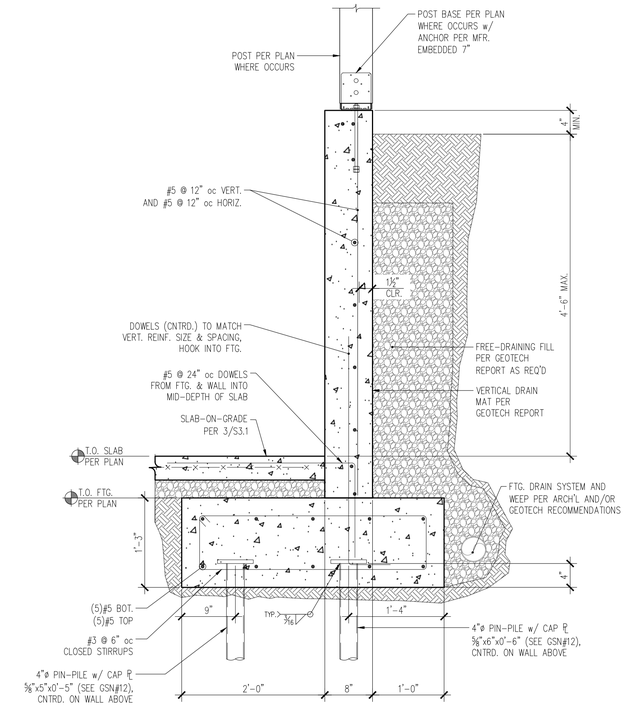
8 / S3.3 PIN-PILE SUPPORTED GRADE BEAM
1" = 1'-0"



7 / S3.3 PIN-PILE SUPPORTED CAST-IN-PLACE STAIR
1" = 1'-0"



4 / S3.3 SECTION THROUGH PIN-PILE SUPPORTED EAST/NORTH RETAINING WALL
1" = 1'-0"



1 / S3.3 SECTION THROUGH PIN-PILE SUPPORTED SOUTH RETAINING WALL
1" = 1'-0"

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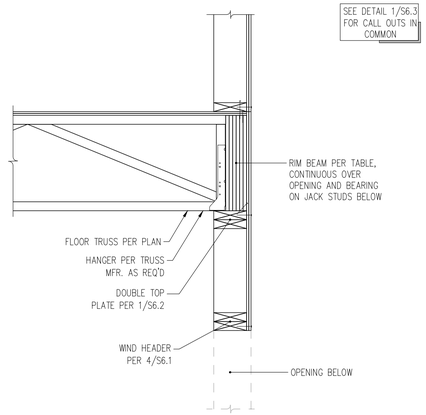
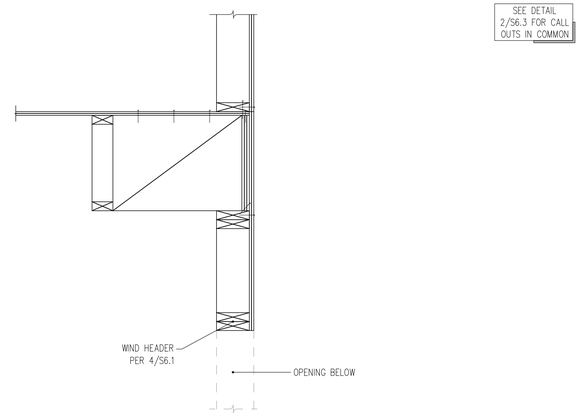
S3.3

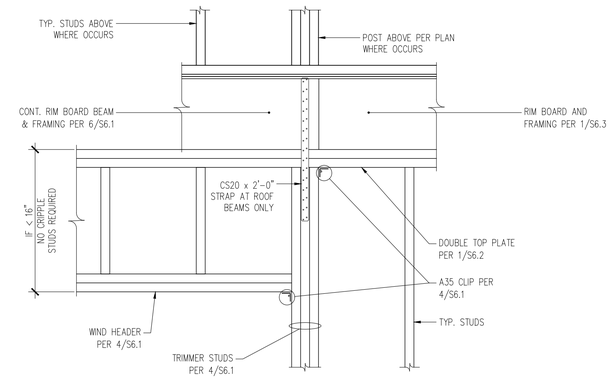
UPPER FLOOR		
OPENING WIDTH, L	RIM/HEADER SIZE	MINIMUM No. OF STUD
L ≤ 3'-6"	1¾"x16" LVL	(1)2x6
L ≤ 6'-6"	1¾"x16" LVL	(2)2x6
MAIN FLOOR		
L ≤ 3'-6"	1¾"x16" LVL	(2)2x6
L ≤ 6'-6"	1¾"x16" LVL	(2)2x6



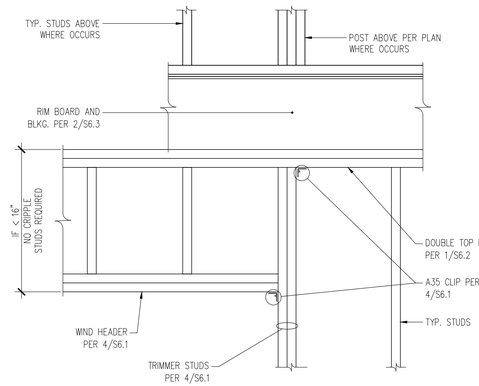
6 S6.1 TYPICAL RIMBOARD HEADER & WIND HEADER IN LOAD BEARING EXTERIOR WALL
NTS



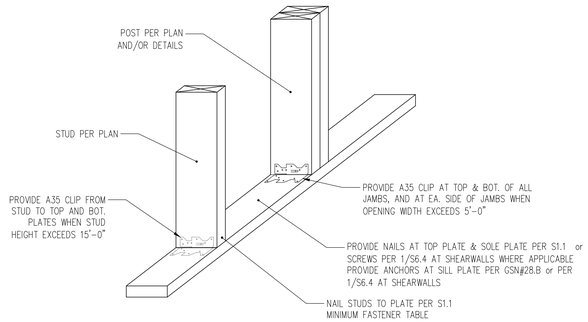
3 S6.1 TYPICAL WIND HEADER IN NON-LOAD BEARING EXTERIOR WALL
NTS



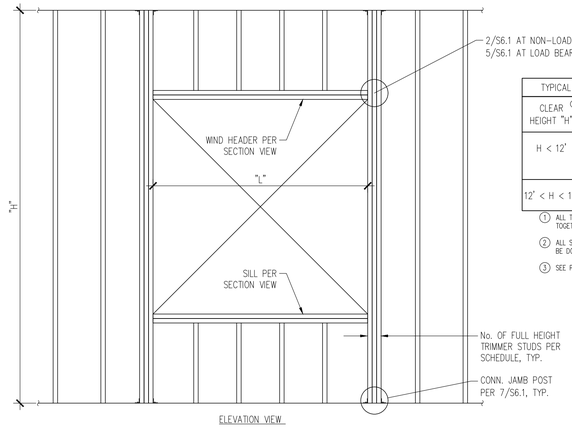
5 S6.1 TYPICAL FLUSH BEAM/HEADER IN EXTERIOR WALL
NTS



2 S6.1 TYPICAL WIND HEADER DETAIL
NTS



7 S6.1 CONNECTION OF EXTERIOR STUDS AT TOP & BOTTOM PLATES
NTS



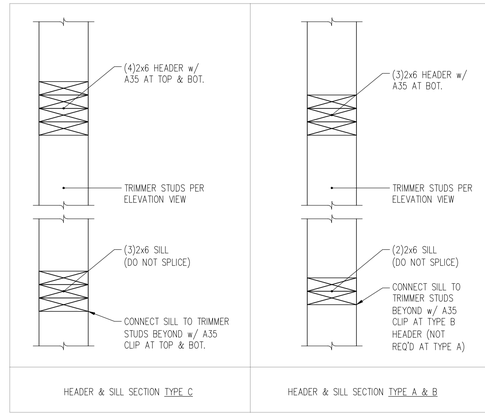
TYPICAL EXTERIOR WALL OPENING FRAMING SCHEDULE ②			
CLEAR ③ HEIGHT "H"	OPENING WIDTH "L"	HDR./SILL TYPE PER SECTION AT RIGHT	No. OF FULL HEIGHT TRIMMER STUDS ①
H < 12'	L ≤ 6'-0"	A	2
	6' < L < 10'	B	2
	10' ≤ L ≤ 15'	C	3
12' < H < 16'	L ≤ 10'	B	3
	10' ≤ L ≤ 15'	C	6x8

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 LVL STUD WALL LOCATIONS, WHERE APPLICABLE

4 S6.1 TYPICAL WIND HEADER
NTS



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Typical Wood Details

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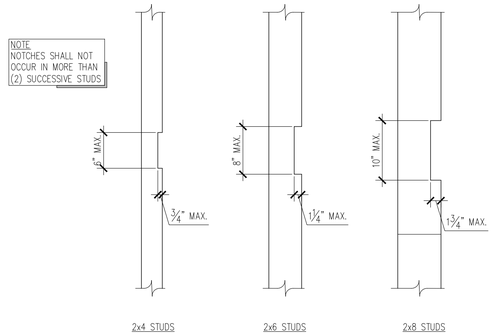
S6.1

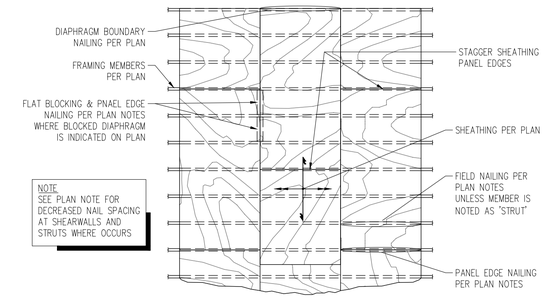
PIECE WIDTH	NUMBER OF PLIES	FASTENER TYPE[1]	MIN. LENGTH	# ROWS	O.C. SPACING	LOCATION
1¾"	2	10d NAILS	3"	3[2]	12"	ONE SIDE
		12d – 16d NAILS	3¼"	2[2]		
		SCREWS	3⅜" or 3½"	2	24"	
	3	10d NAILS	3"	3[2]	12"	BOTH SIDES
		12d – 16d NAILS	3¼"	2[2]		
		SCREWS	3⅜" or 3½"	2	24"	BOTH SIDES
			5"			ONE SIDE
	4	10d NAILS	3"	3[2]	12"	ONE SIDE (PER PLY)
		12d – 16d NAILS	3¼"	2[2]		
		SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
3½"	2	SCREWS	5" or 6"	2	24"	BOTH SIDES
			6¾"			ONE SIDE
		½"ø BOLTS	8"	2	24"	–

(1) 10d NAILS ARE 0.128" DIAMETER; 12d – 16d NAILS ARE 0.148" – 0.162" DIAMETER; SCREWS ARE SDS, USP WP, TrussLOK, OR SDW.
(2) AN ADDITIONAL ROW OF NAILS IS REQUIRED WITH DEPTHS OF 14" OR GREATER
(3) WHEN CONNECTING 4-PLY MEMBERS, NAIL EACH PLAY TO THE OTHER AND OFFSET NAIL ROWS BY 2" FROM ROWS IN THE PLY BELOW

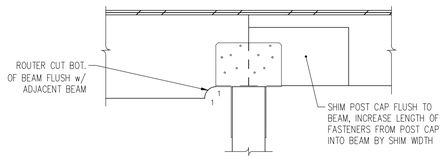
9 S6.2 MULTIPLE LVL MEMBER FASTENING FOR TOP-LOADED BEAM PER WEYERHAUSER
NTS



6 S6.2 ALLOWABLE HOLES IN STUDWALL STUDS
NTS

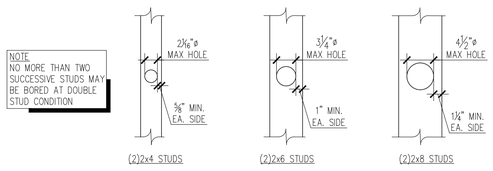


3 S6.2 TYPICAL DIAPHRAGM NAILING
NTS



INTERIOR CONDITION AT ABUTTING BEAMS OF DIFFERENT WIDTH or DEPTHS

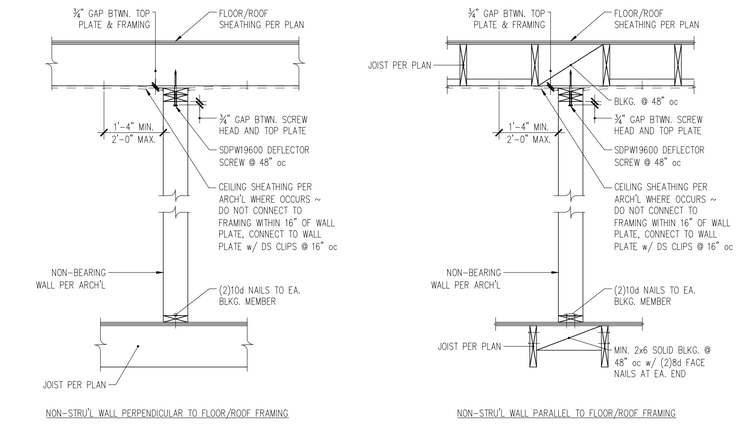
8 S6.2 TYPICAL POST CAP INSTALLATION
NTS



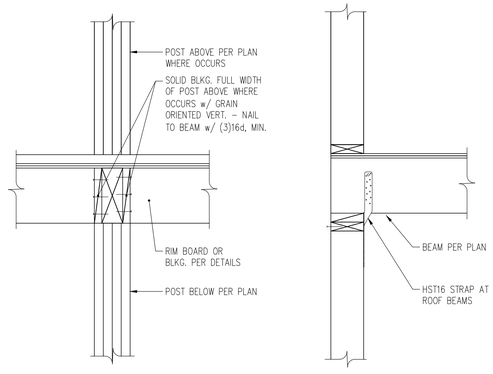
5 S6.2 ALLOWABLE HOLES IN STUDWALL STUDS
NTS

	NO REINF. REQUIRED	STRAP REINF. REQUIRED
2x4 PLATES	1½"ø MAX. HOLE ¾" MIN. EA. SIDE	2⅝"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) ⅜" MIN. EA. SIDE
2x6 PLATES	2¼"ø MAX. HOLE 1⅜" MIN. EA. SIDE	3¾"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) ¾" MIN. EA. SIDE
2x8 PLATES	3¼"ø MAX. HOLE 2" MIN. EA. SIDE	5"ø MAX. HOLE CMSTC16x3'-0" (CS16x2'-0" AT BOT. PLATES) 1¾" MIN. EA. SIDE

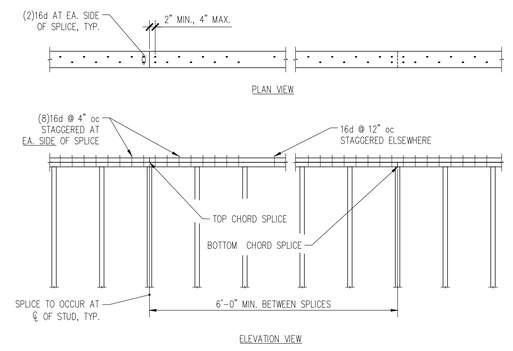
2 S6.2 ALLOWABLE HOLES THROUGH TOP PLATES
NTS



7 S6.2 CONNECTION OF NON-STRUC'L PARTITION WALL TO STRUCTURE
NTS



4 S6.2 TYPICAL BEAM PERPENDICULAR TO WALL
NTS



1 S6.2 TOP PLATE SPLICE
NTS

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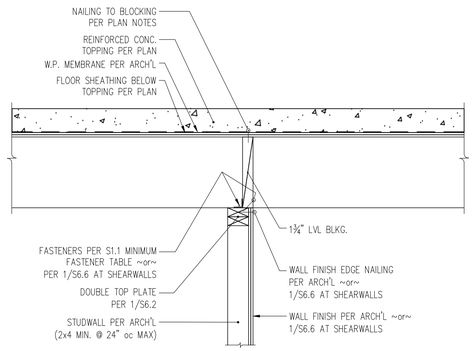
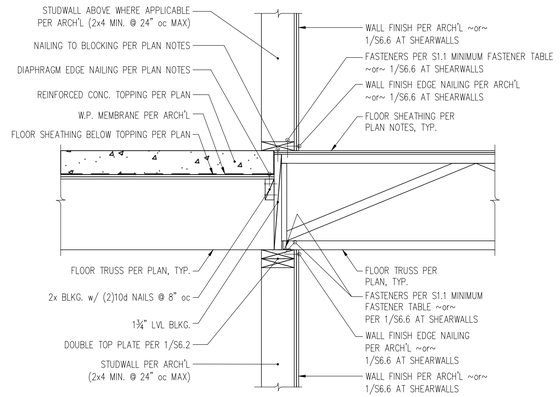
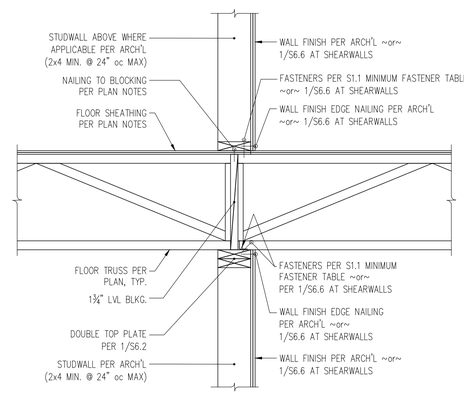


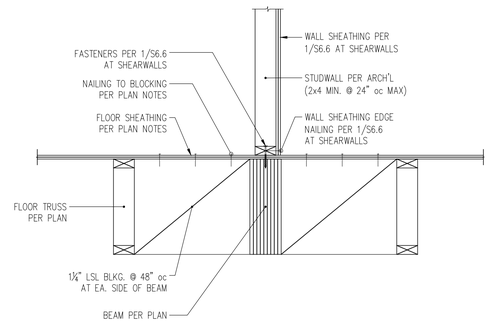
9 / S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PERPENDICULAR GARAGE JOISTS AT EA. SIDE
1" = 1'-0"



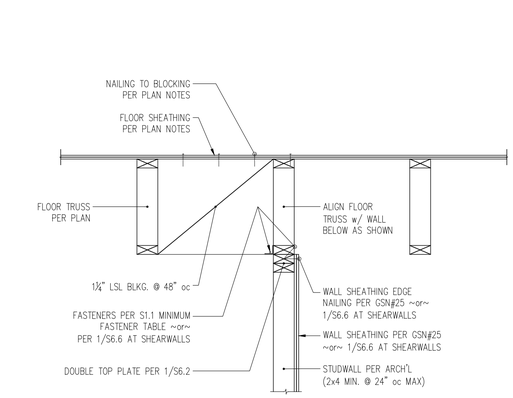
6 / S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PERPENDICULAR TRUSS AND JOIST AT OPP. SIDE
1" = 1'-0"



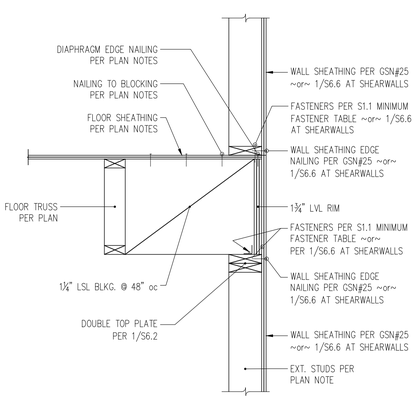
3 / S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PERPENDICULAR TRUSSES AT EA. SIDE
1" = 1'-0"



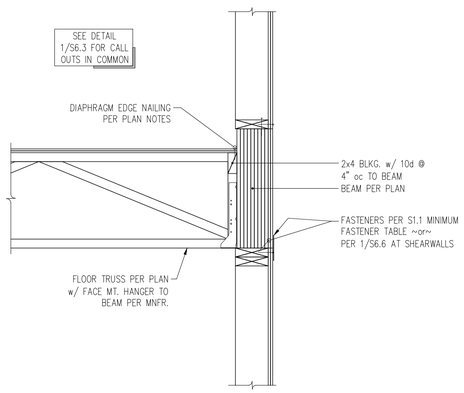
8 / S6.3 SECTION THROUGH FLUSH FRAMED BEAM w/ JOIST AT EACH SIDE
1" = 1'-0"



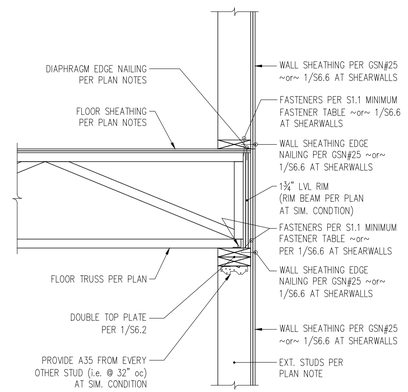
5 / S6.3 SECTION THROUGH INTERIOR STRUC'L WALL w/ PARALLEL TRUSSES AT EA. SIDE
1" = 1'-0"



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



4 / S6.3 SECTION THROUGH UPSET BEAM IN EXTERIOR WALL AT PERPENDICULAR FLOOR TRUSS
1" = 1'-0"



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

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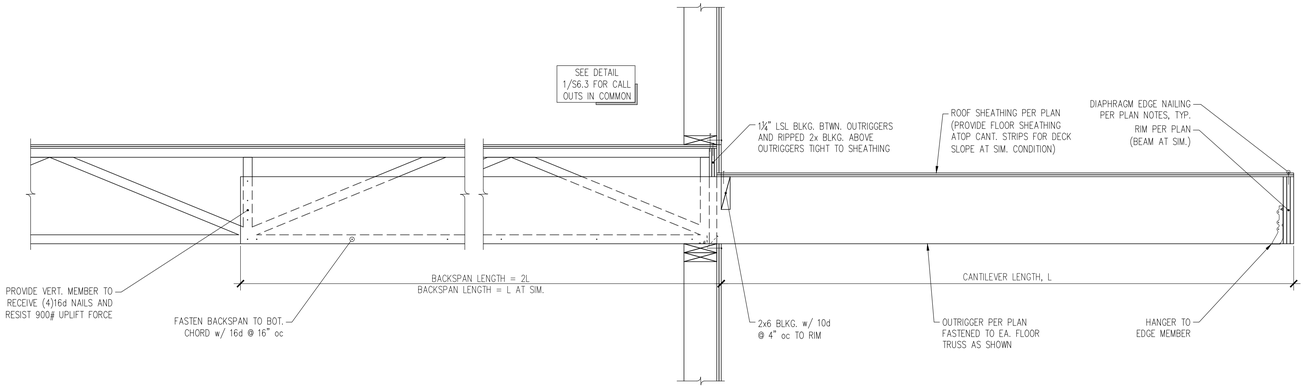
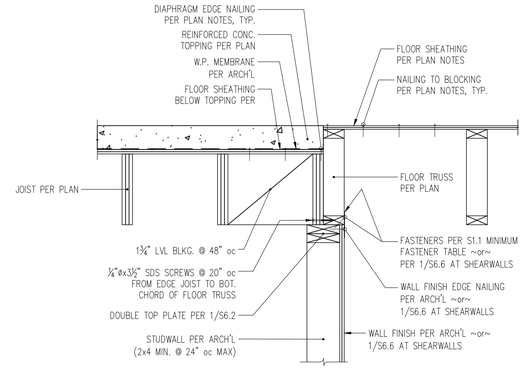
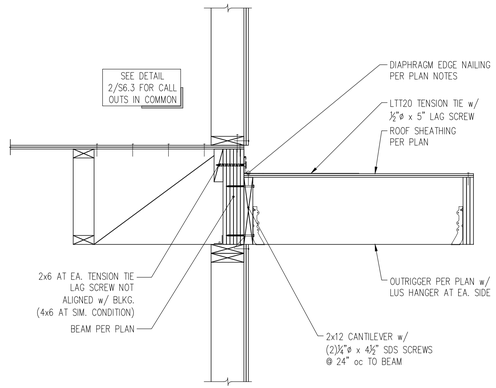


9 S6.4 SECTION AT CANTILEVERED FRAMING AND PERPENDICULAR INTERIOR FRAMING
1" = 1'-0"



3 S6.4 SECTION THROUGH INTERIOR STRUC'L WALL w/ PARALLEL TRUSS AND JOIST AT OPP. SIDE
1" = 1'-0"



5 S6.4 SECTION AT CANTILEVERED LOW ROOF AND UPPER FLOOR PARALLEL FRAMING
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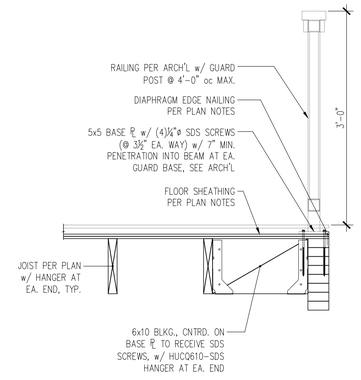
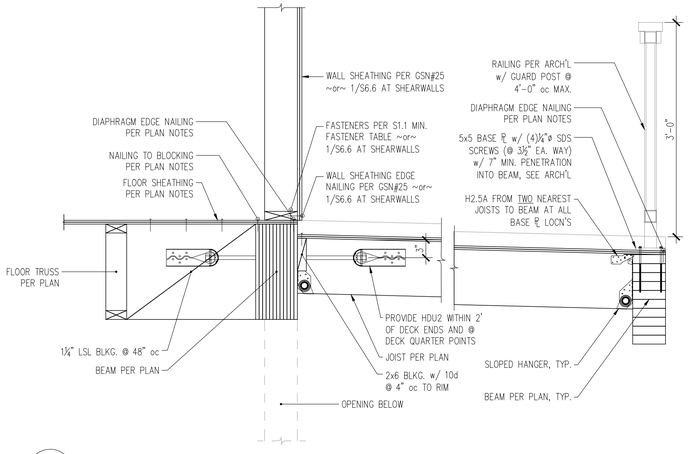
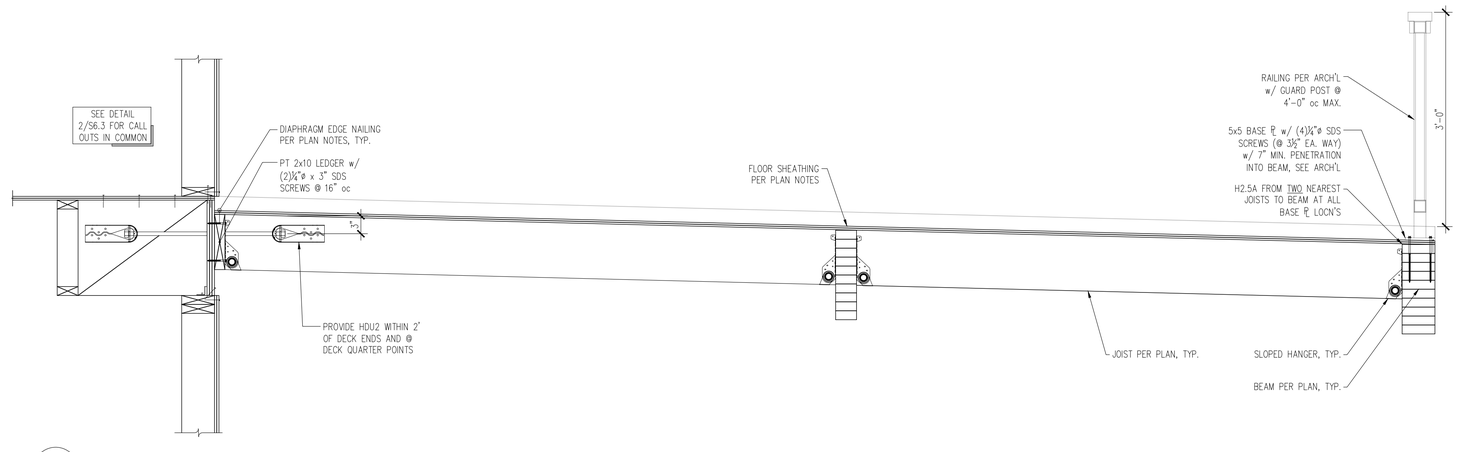


2 S6.4 SECTION AT RAILING ABOVE PARALLEL FRAMING
1" = 1'-0"



7 S6.4 SECTION AT UPPER FLOOR DECK PERPENDICULAR JOISTS
1" = 1'-0"



4 S6.4 SECTION AT MAIN FLOOR DECK PERPENDICULAR JOISTS
1" = 1'-0"

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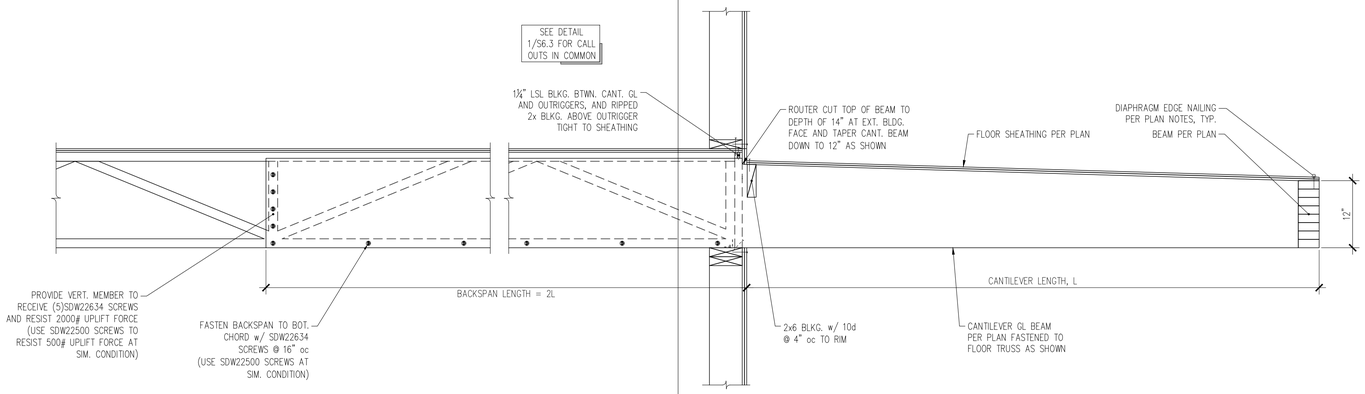
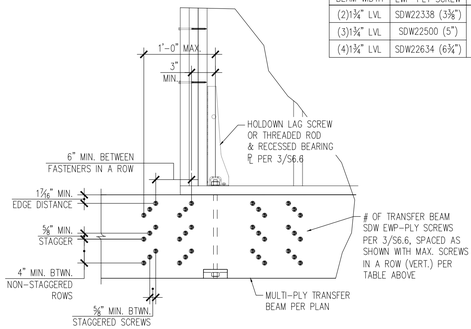
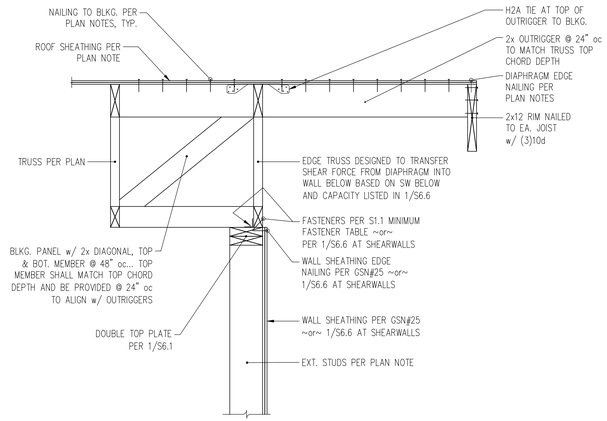


6 S6.5 SECTION AT CANTILEVERED FRAMING AND PERPENDICULAR INTERIOR FRAMING
1" = 1'-0"

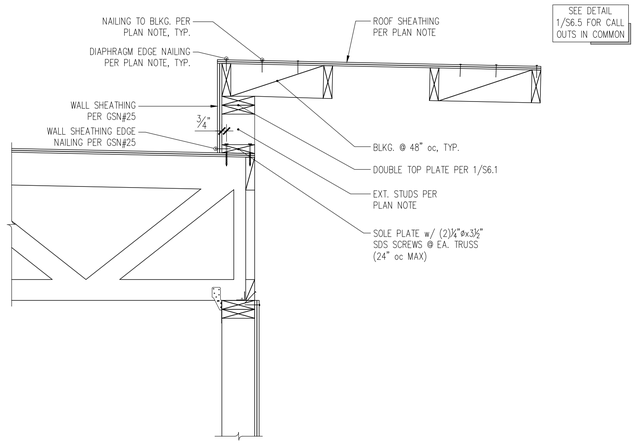
TRANSFER BEAM WIDTH	SIMPSON SDW EWP-PLY SCREW	TRANSFER BEAM DEPTH			
		7¼" to 9¼"	11¼" to 14"	16" to 18"	20" to 24"
(2)1¾" LVL	SDW22338 (3⅜")	2 ROWS OF SCREWS, MAX	3 ROWS OF SCREWS, MAX	4 ROWS OF SCREWS, MAX	5 ROWS OF SCREWS, MAX
(3)1¾" LVL	SDW22500 (5")				
(4)1¾" LVL	SDW22634 (6¾")				



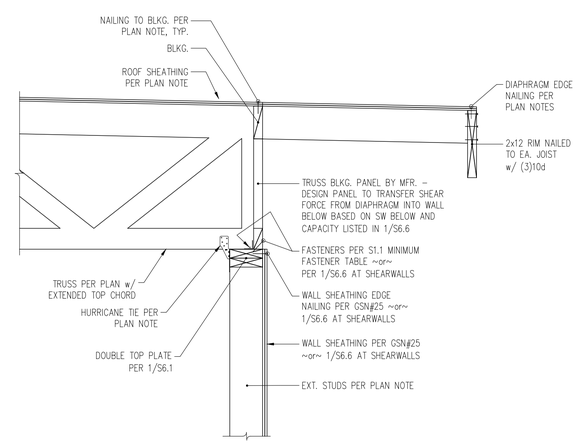
5 S6.5 MULTI-PLY TRANSFER BEAM CONNECTION DETAILS
1" = 1'-0"



2 S6.5 SECTION THROUGH EXTERIOR WALL AT PARALLEL ROOF TRUSSES
1" = 1'-0"



4 S6.5 SECTION THROUGH RAISED ROOF AT PERPENDICULAR ROOF TRUSSES
1" = 1'-0"



1 S6.5 SECTION THROUGH EXTERIOR WALL AT PERPENDICULAR ROOF TRUSSES
1" = 1'-0"

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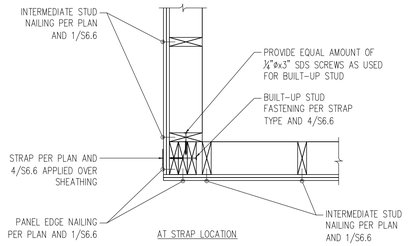
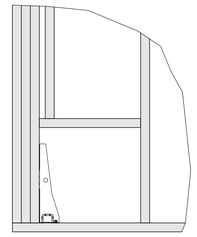
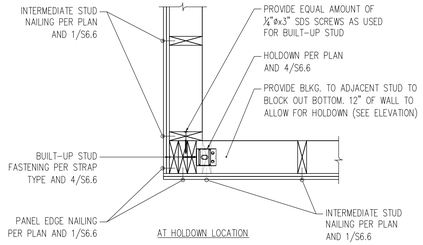


AT STRAP LOCATION



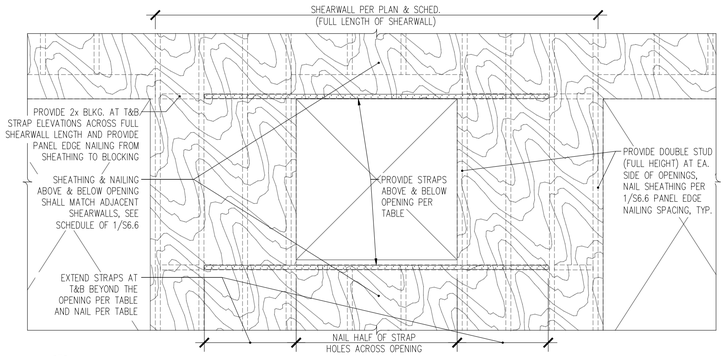
ELEVATION VIEW



AT HOLDOWN LOCATION

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

TYPE	STRAP	END LENGTH	NAILS
①	CS20	10"	(12)0.148"x2½"
②	CS20	24"	(12)0.148"x2½"
③	CS14	45"	(26)0.148"x2½"



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

STRAP TENSION TIE SCHEDULE

TIE ① MARK	Min. # of studs	CLEAR SPAN AND TOTAL FASTENERS ②	ASD ③ CAPACITY	BUILT-UP STUD FACE NAILS or SCREWS ④
MSTC28	(2)2x	18" – (12)0.148"ø x 3¼"	1,150#	10d @ 6" oc
MSTC40	(2)2x	18" – (28)0.148"ø x 3¼"	2,690#	10d @ 4" oc
MSTC52	(3)2x	18" – (44)0.148"ø x 3¼"	4,225#	(8)¼"ø x 4½" SDS
MSTC66	(3)2x	18" – (64)0.148"ø x 3¼"	5,850#	(12)¼"ø x 6" SDS
(2)MSTC52	(4)2x	18" – (64)0.148"ø x 3¼"	7,750#	(14)¼"ø x 6" SDS
(2)MSTC66	6x6	18" – (64)0.148"ø x 3¼"	9,800#	(12)¼"ø x 6" SDS

TENSION TIE ABOVE BEAM

TIE ① MARK	Min. # of studs	FASTENERS ②	ASD ③ CAPACITY	BUILT-UP STUD ④ FACE NAILS or SCREWS
HDU2^	(2)2x	(6)¼"ø x 2½" SDS	2,750#	10d @ 4" oc
HDU4^	(3)2x	(10)¼"ø x 2½" SDS	3,750#	(10)¼"ø x 4½" SDS
HDU8^	(4)2x	(20)¼"ø x 2½" SDS	7,750#	(15)¼"ø x 6" SDS
HDU11^	6x6	(30)¼"ø x 2½" SDS	9,800#	N/A
HDU14^	6x6	(36)¼"ø x 2½" SDS	14,000#	N/A

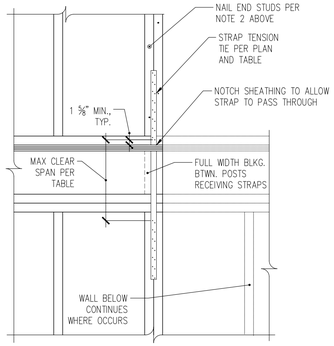
① TENSION TIE TYPES REFER TO SIMPSON STRONG-TIE CATALOG CALLOUTS.

② NAIL PLYWOOD SHEATHING TO STUDS RECEIVING HOLDOWN WITH SCHEDULED PANEL EDGE NAILING. STAGGER NAILS SO THAT EACH STUD IS NAILED.

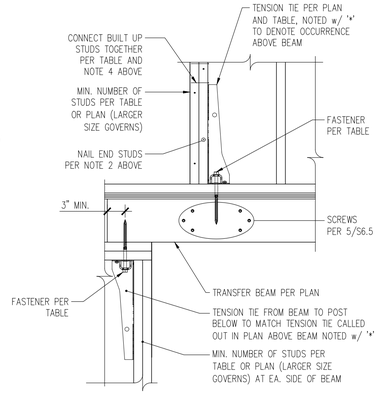
③ FASTENERS NOTED IN TABLE ABOVE REPRESENT THE TOTAL AMOUNT. FOR STRAPS, HALF OF THE FASTENERS SHALL BE PROVIDED INTO EACH STUD.

④ SCREWS SHALL BE SPACED EQUALLY ALONG FULL HEIGHT OF STUD ABOVE TENSION TIE. PROVIDE SCREWS AS NOTED IN TABLE AT ONE FACE OF BUILT-UP STUD, AND 10d @ 6" oc NAILS AT OPPOSITE FACE OF BUILT UP STUD.

^ DENOTES TENSION TIE THAT OCCURS ATOP OF A FRAMING MEMBER BELOW FOR:
- HDU2^ – ⅝"ø LAG SCREW WITH 7" MINIMUM PENETRATION INTO BEAM – 6 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
- HDU4^ – ⅝"ø LAG SCREW WITH 10" MINIMUM PENETRATION INTO BEAM – 6 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
- HDU8^ – ⅞"ø LAG SCREW WITH 14" MINIMUM PENETRATION INTO BEAM – 14 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
- HDU11^ – ⅞"ø ROD w/ BEARING @ ½"x5"x0'-5" AND RECESSED NUT & WASHER – 16 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5
- HDU14^ – ⅞"ø ROD w/ BEARING @ ½"x5"x0'-5" AND RECESSED NUT & WASHER – 22 TOTAL SDW EWP-PLY SCREWS, SEE 5/S6.5



ELEVATION VIEW – TYPICAL CONDITION



ELEVATION VIEW – TENSION TIE ABOVE BEAM

HOLDOWN TENSION TIE SCHEDULE

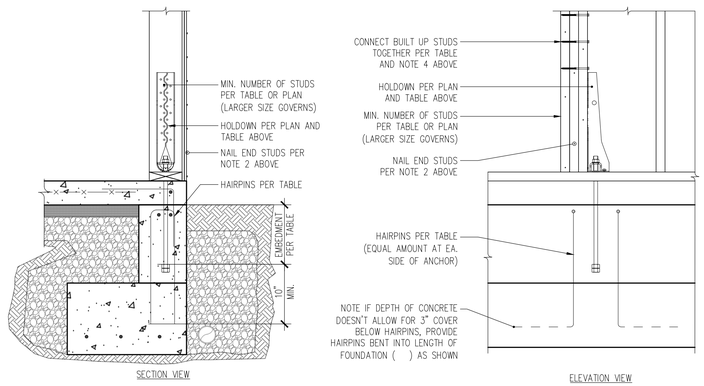
TIE ① MARK	MIN. NUMBER ② OF STUDS	ANCHOR (ø x EMBEDMENT) and No. OF HAIRPIN DOWELS ③	FASTENERS FROM TIE TO STUD	ASD CAPACITY	BUILT-UP STUD FACE NAILS or SCREWS ④
HDU2	(2)2x	⅝"ø x 10" – (2)#4 HAIRPIN	(6)¼"ø x 2½" SDS SCREWS	3,075#	10d @ 4" oc
HDU4	(3)2x	⅝"ø x 10" – (2)#4 HAIRPIN	(10)¼"ø x 2½" SDS SCREWS	4,565#	(9)¼"ø x 4½" SDS
HDU5	(3)2x	⅞"ø x 10" – (2)#4 HAIRPIN	(14)¼"ø x 2½" SDS SCREWS	5,645#	(10)¼"ø x 4½" SDS
HDU8	(4)2x	⅞"ø x 10" – (4)#4 HAIRPIN	(20)¼"ø x 2½" SDS SCREWS	7,870#	(15)¼"ø x 6" SDS
HDU11	6x6	1"ø x 10" – (4)#4 HAIRPIN	(30)¼"ø x 2½" SDS SCREWS	11,175#	N/A
HDU14	6x6	1"ø x 10" – (6)#4 HAIRPIN	(36)¼"ø x 2½" SDS SCREWS	14,445#	N/A

① TENSION TIE TYPES REFER TO SIMPSON STRONG-TIE CATALOG CALLOUTS.

② NAIL PLYWOOD SHEATHING TO STUDS RECEIVING HOLDOWN WITH SCHEDULED PANEL EDGE NAILING. STAGGER NAILS SO THAT EACH STUD IS NAILED.

③ ANCHORS SHALL BE HEAVY HEX HEAD WITH DOUBLE NUT CAST INTO CONCRETE.
ASTM F 1554 Gr. 36 FOR ⅝"ø ANCHOR
ASTM F 1554 Gr. 55 FOR ⅞"ø AND 1"ø ANCHORS

④ SCREWS SHALL BE SPACED EQUALLY ALONG FULL HEIGHT OF STUD ABOVE TENSION TIE. PROVIDE SCREWS AS NOTED IN TABLE AT ONE FACE OF BUILT-UP STUD, AND 10d @ 6" oc NAILS AT OPPOSITE FACE OF BUILT UP STUD.



SECTION VIEW

ELEVATION VIEW

4 S6.6 HOLDOWN DETAIL AND SCHEDULE
1" = 1'-0"

SHEARWALL PANEL TYPE	① SHEATHING THICKNESS	② 0.148" x 2½" PANEL NAILING	③ STUD/BLKG. AT ABUTTING PANEL EDGES & SILL PLATE THICKNESS	⑦ CONN. OF BLKG. OR FRAMING to TOP PLATE; AND SOLE PLATE TO SILL PLATE: ④ ¼"ø x 3½" SDS SCREWS	⑤ A35 CLIPS	⑥ LTP4 PLATES	⑧ ⑨ ANCHOR BOLTS TO CONC. ⅝"ø	¾"ø	ASD CAPACITY, PLF
SW-6	½"	6" oc	2x	15" oc	25" oc	24" oc	48" oc	48" oc	310
SW-4	½"	4" oc	3x	10" oc	16" oc	16" oc	38" oc	48" oc	460
SW-3	½"	3" oc	3x	8" oc	13" oc	12" oc	29" oc	40" oc	600
SW-2	½"	2" oc	3x	6" oc	10" oc	9" oc	23" oc	31" oc	770
SW-44	½"	4" oc EA. SIDE	3x	5" oc	8" oc	8" oc	19" oc	26" oc	920
SW-33	½"	3" oc EA. SIDE	3x	4" oc	6" oc	6" oc	14" oc	20" oc	1200
SW-22	½"	2" oc EA. SIDE	3x	3" oc	5" oc	4" oc	11" oc	15" oc	1540

① SHEATHING SHALL CONSIST OF ½" PLYWOOD AND HAVE A MINIMUM SPAN RATING OF 24/0. AT INTERIOR SHEARWALLS ONLY, 15/32" OSB MAY BE USED

② PANEL NAILING APPLIES TO ALL SHEATHING PANEL EDGES. INSTALL BLOCKING AT ALL UNFRAMED PANEL EDGES. ENSURE SHEATHING IS NAILED TO ALL INTERMEDIATE STUDS/BLOCKING WITH PANEL NAILS AT 12"oc

③ DOUBLE 2x MEMBERS MAY BE SUBSTITUTED FOR 3x MEMBERS AT WALLS WITH ONLY ONE LAYER OF SHEATHING. 2x MEMBERS SHALL BE NAILED TOGETHER WITH 8d FACE: @ 4" oc FOR SW-6, @ 3" oc FOR SW-4, @ 2" oc FOR SW-3, AND (2)@ 3" oc FOR SW-2 (116#/NAIL)

④ ROWS OF NAILS AND SDS SCREWS SHALL BE OFFSET AT LEAST ½" AND STAGGERED. MINIMUM EDGE DISTANCE FOR NAILS AND SDS SCREWS INTO EDGE OF MEMBERS SHALL BE ⅜" (400#/SCREW)

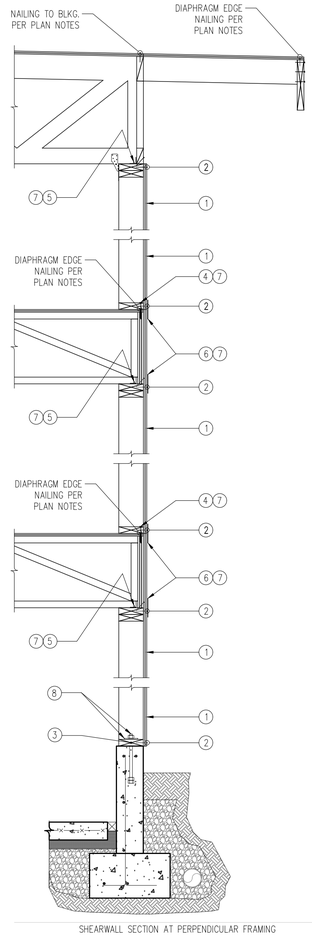
⑤ A35 CLIPS SHALL BE INSTALLED w/ (12)0.131 x 1½ " NAILS (650#/CLIP)

⑥ LTP4 LATERAL TIE PLATES MAY BE INSTALLED OVER SHEATHING w/ (12)0.131 x 2½" NAILS (625#/CLIP)

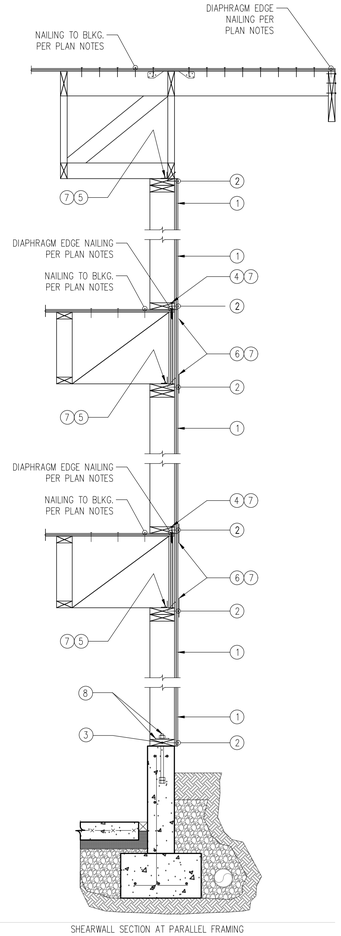
⑦ CONTRACTOR SHALL USE A35 CLIPS TO CONNECT ROOF TRUSS TO DOUBLE TOP PLATE.
SDS SCREWS or LTP4 CLIPS TO CONNECT SOLE PLATE TO FLOOR TRUSS RIM BOARD
A35 or LT4P CLIPS TO CONNECT FLOOR TRUSS TIM BOARD TO DOUBLE TOP PLATE

⑧ PLATE WASHERS IN 2x4 STUD WALLS AND ALL SINGLE SIDED SHEAR WALLS SHALL BE 3"x3"x0.229". DOUBLE SIDED 2x6 SHEAR WALLS SHALL HAVE 4½"x3"x0.229" PLATE WASHERS. THE EDGE OF PLATE WASHERS SHALL BE LOCATED WITHIN ½" OF THE EDGE OF BOTTOM PLATE ON THE SIDE WITH SHEATHING.

⑨ CAST ANCHORS A MINIMUM OF 7" INTO CONCRETE. INSTALL ADDITIONAL ANCHOR BOLTS AT EACH SIDE OF PLATE BREAKS AND PENETRATIONS EXCEEDING THE "NO REINFORCING" HOLE SIZE PER 2/S6.1.



SHEARWALL SECTION AT PERPENDICULAR FRAMING



SHEARWALL SECTION AT PARALLEL FRAMING

1 S6.6 SHEARWALL SECTION AND SCHEDULE
1" = 1'-0"

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Lateral Force Resisting System Schedules & Details

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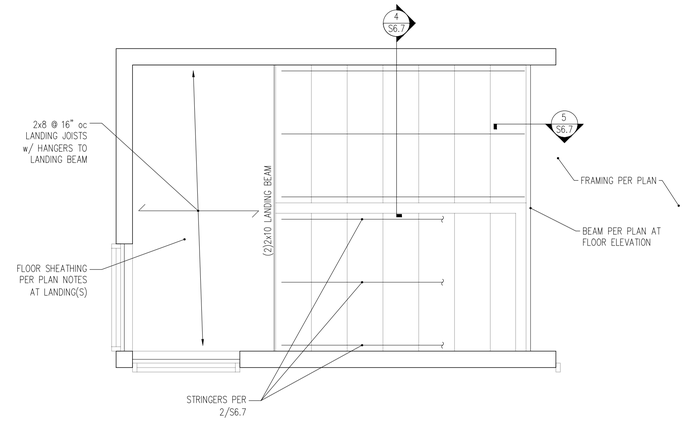
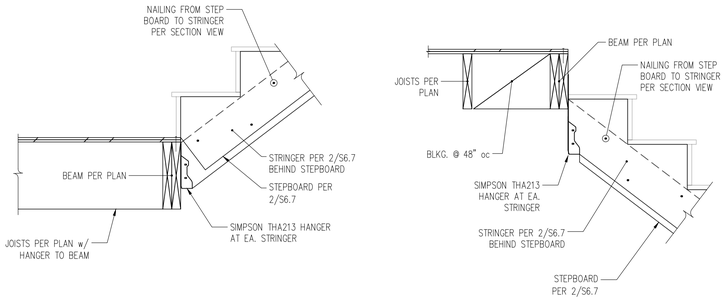
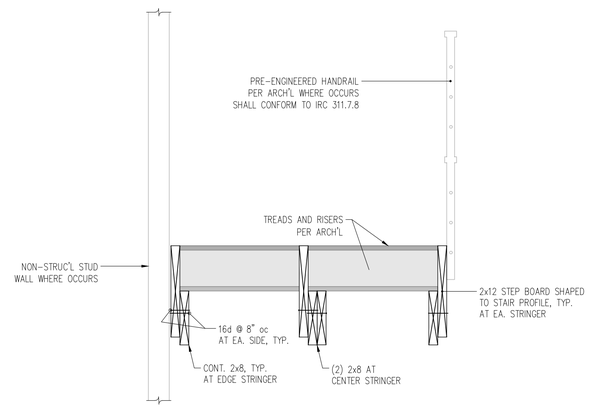
S6.6



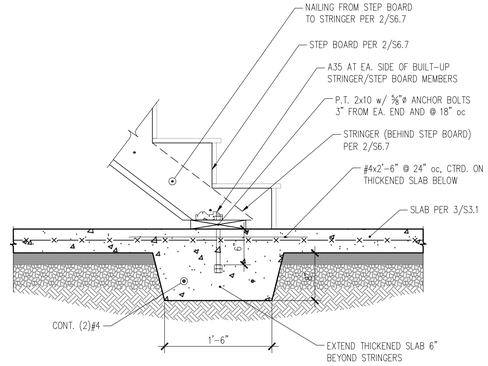
3 S6.7 TYPICAL STAIR FRAMING/LANDING PLAN VIEW
1" = 1'-0"



5 S6.7 SECTION THROUGH ROOF BREAK AT INTERIOR WALL
1" = 1'-0"



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



1 S6.7 SECTION THROUGH THICKENED SLAB-ON-GRADE AT STAIR STRINGERS
1" = 1'-0"

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Typical Stair
Framing Details

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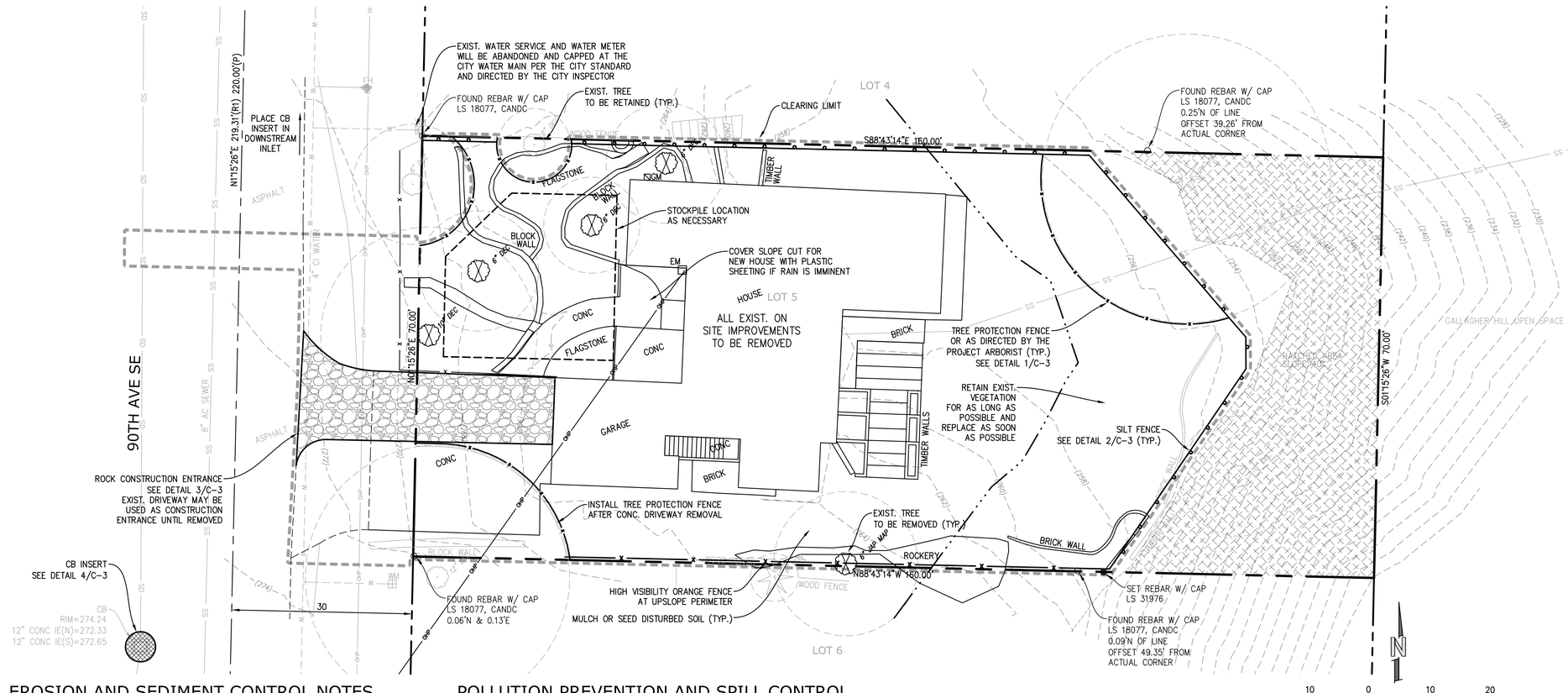
S6.7

SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.



BASIS OF BEARINGS

BEARINGS AND COORDINATES USED FOR THIS SURVEY ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83) WASHINGTON NORTH ZONE AND WERE ESTABLISHED USING RTK GPS WITH SMARTNET REFERENCE NETWORK.

LEGAL DESCRIPTION

LOT 5, BLOCK 4 OF MADRONA CREST ADDITION ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 42 OF PLATS, PAGES 12–14, RECORDS OF KING COUNTY WASHINGTON.
SITUATE IN COUNTY OF KING, STATE OF WASHINGTON.

VERTICAL DATUM

ELEVATIONS SHOWN ON THIS DRAWING ARE BASE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND WERE ESTABLISHED USING RTK GPS.

EROSION AND SEDIMENT CONTROL NOTES

1. APPROVAL OF THIS EROSION AND SEDIMENT CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY A CONTINUOUS LENGTH OF SURVEY TAPE (OR FENCING, IF REQUIRED) PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.
4. 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.
5. 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 SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.).
6. 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 DURING THE WET SEASON (OCT. 1 TO APRIL 30) AND OF MONTHLY REVIEWS DURING THE DRY SEASON (MAY 1 TO SEPT. 30).
7. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO 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.).
8. ANY AREA NEEDING ESC MEASURES NOT REQUIRING IMMEDIATE ATTENTION SHALL BE ADDRESSED WITHIN FIFTEEN (15) DAYS.
9. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN FORTY–EIGHT (48) HOURS FOLLOWING A STORM EVENT.
10. 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.
11. STABILIZED CONSTRUCTION ENTRANCES AND ROADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
12. ANY PERMANENT FLOW CONTROL 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 GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.
13. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2 TO 3 INCHES.
14. PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON. A SKETCH MAP OF THOSE AREAS TO BE SEEDED AND THOSE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE DDES INSPECTOR. THE DDES INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

POLLUTION PREVENTION AND SPILL CONTROL

STORAGE AND HANDLING OF LIQUIDS
1. MINIMIZE AMOUNT OF LIQUIDS STORED ON SITE.
2. STORE AND CONTAIN LIQUID MATERIALS IN SUCH A MANNER THAT IF A VESSEL IS RUPTURED OR LEAKS, THE CONTENTS WILL NOT DISCHARGE, FLOW, OR BE WASHED INTO THE STORM DRAINAGE SYSTEM, SURFACE WATERS, OR GROUNDWATER. TYPICALLY THIS MEANS INSTALLING SECONDARY CONTAINMENT, SUCH AS A LINED EXCAVATION, LARGER CONTAINER, OR USING A DOUBLE–WALLED TANK OR SIMILAR COMMERCIALLY AVAILABLE CONTAINMENT FACILITY.
3. PLACE TIGHT–FITTING LIDS ON ALL CONTAINERS.
4. ENCLOSE OR COVER THE CONTAINERS WHERE THEY ARE STORED TO PROTECT FROM RAIN. THE LOCAL FIRE DISTRICT MUST BE CONSULTED FOR LIMITATIONS ON CLEARANCE OF ROOF COVERS OVER CONTAINERS USED TO STORE FLAMMABLE MATERIALS.
5. RAISE THE CONTAINERS OFF THE GROUND BY USING A SPILL CONTAINMENT PALLET OR SIMILAR METHOD THAT HAS PROVISIONS FOR SPILL CONTROL.
6. PLACE DRIP PANS OR ABSORBENT MATERIALS BENEATH ALL MOUNTED CONTAINER TAPS, AND AT ALL POTENTIAL DRIP AND SPILL LOCATIONS DURING FILLING AND UNLOADING OF CONTAINERS. ANY COLLECTED LIQUIDS OR SOILED ABSORBENT MATERIALS MUST BE REUSED, RECYCLED, OR PROPERLY DISPOSED OF.
7. STORE AND MAINTAIN ABSORBENT PADS OR APPROPRIATE SPILL CLEANUP MATERIALS NEAR THE CONTAINER STORAGE AREA, IN A LOCATION KNOWN TO ALL. ENSURE THAT EMPLOYEES ARE FAMILIAR WITH THE SITE'S SPILL PLAN AND/OR PROPER SPILL CLEANUP PROCEDURES.
8. CHECK CONTAINERS (AND ANY CONTAINMENT SUMPS) DAILY FOR LEAKS AND SPILLS. REPLACE CONTAINERS THAT ARE LEAKING, CORRODED, OR OTHERWISE DETERIORATING. IF THE LIQUID CHEMICALS ARE CORROSIVE, CONTAINERS MADE OF COMPATIBLE MATERIALS MUST BE USED INSTEAD OF METAL DRUMS. NEW OR SECONDARY CONTAINERS MUST BE LABELED WITH THE PRODUCT NAME AND HAZARDS.
9. PLACE DRIP PANS OR ABSORBENT MATERIALS BENEATH A CONTAINER THAT IS FOUND TO BE LEAKING. REMOVE THE DAMAGED CONTAINER AS SOON AS POSSIBLE. MOP UP THE SPILLED LIQUID WITH ABSORBENT PADS OR RAGS. ANY COLLECTED LIQUIDS OR SOILED ABSORBENT MATERIALS MUST BE REUSED, RECYCLED, OR PROPERLY DISPOSED OF.

FUELING
1. LOCATE THE FUELING OPERATION TO ENSURE LEAKS OR SPILLS WILL NOT DISCHARGE, FLOW, OR BE WASHED INTO THE STORM DRAINAGE SYSTEM, SURFACE WATER, OR GROUNDWATER.
2. USE DRIP PANS OR ABSORBENT PADS TO CAPTURE DRIPS OR SPILLS DURING FUELING OPERATIONS.
3. IF FUELING IS DONE DURING EVENING HOURS, LIGHTING MUST BE PROVIDED.
4. STORE AND MAINTAIN APPROPRIATE SPILL CLEANUP MATERIALS IN THE MOBILE FUELING VEHICLE. ENSURE THAT EMPLOYEES ARE FAMILIAR WITH PROPER SPILL CONTROL AND CLEANUP PROCEDURES.
5. IMMEDIATELY MOP UP ANY SPILLED FUEL WITH ABSORBENT PADS OR RAGS. ANY COLLECTED LIQUIDS OR SOILED ABSORBENT MATERIALS MUST BE REUSED, RECYCLED, OR PROPERLY DISPOSED OF.

CONCRETE SAW CUTTING, SLURRY, AND WASHWATER DISPOSAL
1. SLURRY FROM SAW CUTTING THE SIDEWALK SHALL BE VACUUMED SO THAT IT DOES NOT ENTER NEARBY STORM DRAINS.
2. CONCRETE TRUCK CHUTES, PUMPS, AND INTERNALS SHALL BE WASHED OUT ONLY INTO FORMED AREAS AWAITING INSTALLATION OF CONCRETE.
3. UNUSED CONCRETE REMAINING IN THE TRUCK AND PUMP SHALL BE RETURNED TO THE ORIGINATING BATCH PLANT FOR RECYCLING.
4. HAND TOOLS INCLUDING, BUT NOT LIMITED, SCREEDS, SHOVELS, RAKES, FLOATS, AND TROWELS SHALL BE WASHED OFF ONLY INTO FORMED INTO FORMED AREAS AWAITING INSTALLATION OF CONCRETE OR IMPERMEABLE ASPHALT.
5. EQUIPMENT THAT CANNOT BE EASILY MOVED, SUCH AS CONCRETE PAVERS, SHALL ONLY BE WASHED IN AREAS THAT DO NOT DIRECTLY DRAIN TO NATURAL OR CONSTRUCTED STORMWATER CONVEYANCES.
6. WASHDOWN FROM AREAS SUCH AS CONCRETE AGGREGATE DRIVEWAY SHALL NOT DRAIN DIRECTLY TO NATURAL OR CONSTRUCTED STORMWATER CONVEYANCES.
7. WHEN NO FORMED AREAS ARE AVAILABLE, WASHWATER AND LEFTOVER PRODUCT SHALL BE CONTAINED IN A LINED CONTAINER. CONTAINED CONCRETE SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY STANDARDS.
8. CONTAINERS SHALL BE CHECKED FOR HOLES IN THE LINER DAILY DURING CONCRETE POURS AND REPLACED THE SAME DAY.

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Nick Bossoff Engineering, Inc.
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Stevenson, WA 98648-4201
Phone: (425) 881-5904

BOSSOFF NICHOLAS J. STATE OF WASHINGTON 29631 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 7/2/23

NO.	DATE	REVISION
	08/1/22	PERMIT SUBMITTAL

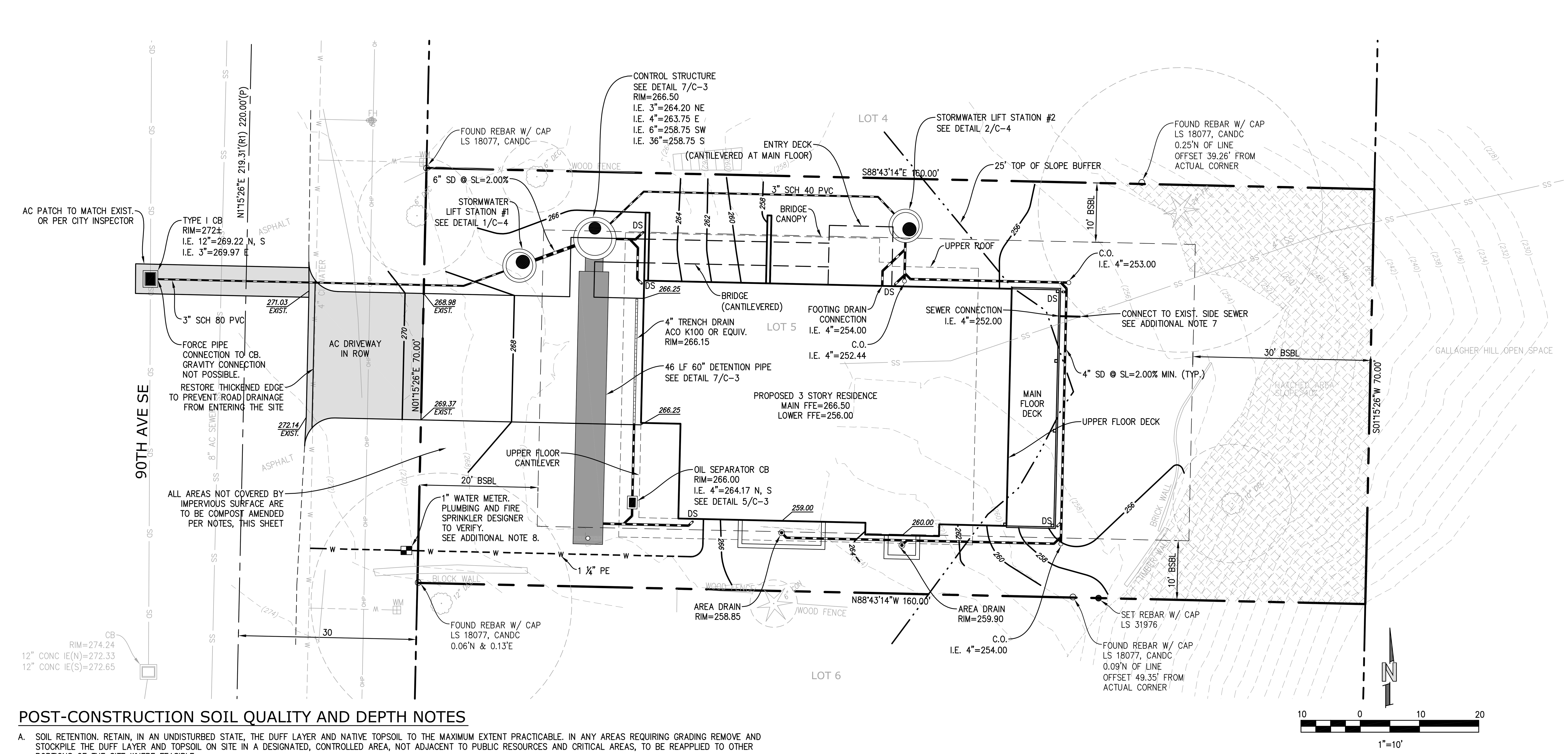
N. BOSSOFF, P.E.
PROJECT MANAGER:
NB
DESIGNED:
TKB
DRAWN:
GUDI–2201
JOB NUMBER:
GUDI–2201pln.dwg
FILE NAME:

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

TITLE:
T.E.S.C. PLAN

SHEET:
C-1

SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.



POST-CONSTRUCTION SOIL QUALITY AND DEPTH NOTES

A. SOIL RETENTION. RETAIN, IN AN UNDISTURBED STATE, THE DUFF LAYER AND NATIVE TOPSOIL TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND CRITICAL AREAS, TO BE REAPPLIED TO OTHER PORTIONS OF THE SITE WHERE FEASIBLE.

B. SOIL QUALITY. 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 DEFINITION OF "COMPOSTED MATERIALS" IN WAC 173-350-220, 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 CONDUCIVE TO THE TYPE OF VEGETATION TO BE ESTABLISHED.

C. 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 "PREAPPROVED" 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.

ADDITIONAL NOTES:

1. ALL CONSTRUCTION MATERIALS AND PRACTICE SHALL CONFORM TO THE CITY OF MERCER ISLAND STANDARDS AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARDS.
2. EXISTING UTILITIES AS SHOWN ARE FROM CITY RECORDS AND ARE APPROXIMATE. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO IDENTIFY, LOCATE AND PROTECT ABOVE AND BELOW GRADE UTILITIES. CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION IF A CONFLICT EXISTS BETWEEN EXISTING UTILITIES AND THE PROPOSED IMPROVEMENTS.
3. THE CONTRACTOR IS RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL AND SHALL MAINTAIN THE NECESSARY SAFEGUARDS AND MANAGE THE CONSTRUCTION SO AS TO PREVENT WATERBORNE SEDIMENTS FROM LEAVING THE SITE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR.
5. ON-SITE PRIVATE STORM AND SEWER PIPE SHALL BE SOLVENT WELDED SCHEDULE 40 PVC OR PVC ASTM D3034 SDR35 UNLESS SHOWN OTHERWISE. PVC PIPE LAID AT A SLOPE IN EXCESS OF 20% SHALL BE SOLVENT WELDED SCHEDULE 40 PVC. STORM PIPE IN THE RIGHT-OF-WAY SHALL BE HIGH-DENSITY POLYETHYLENE DOUBLE-WALLED SMOOTH INTERIOR PIPE SUCH AS ADS N-12 OR EQUIVALENT.
6. FOOTING DRAINS SHALL BE INSTALLED AROUND THE BASE OF ALL FOUNDATION FOOTINGS THAT ENCLOSE A CRAWL SPACE, CELLAR, BASEMENT, GARAGE OR OTHER BUILDING SPACE. FOOTING DRAINS SHALL BE PERFORATED 4-INCH DIAMETER PVC CONFORMING TO D2729, PERFORATIONS DOWN. GRANULAR BACKFILL SHALL BE PLACED AROUND AND ABOVE THE DRAIN TO A DEPTH OF 2/3 OF THE WALL HEIGHT. FILTER FABRIC (MIRAFI 140N OR EQUIVALENT) SHALL BE PLACED BETWEEN THE GRANULAR BACKFILL AND NATIVE SOILS. TIE THE FOOTING DRAIN INTO THE STORM LINE AT A LOCATION WHERE THE FOOTING DRAIN ELEVATION IS AT LEAST 12-INCHES ABOVE THE STORM LINE.
7. EXISTING SIDE SEWER AND STORM DRAIN DEPTH AND LOCATION SHALL BE DETERMINED PRIOR TO ANY CONSTRUCTION, INCLUDING BUILDING CONSTRUCTION. REPORT CONFLICTS WITH PROPOSED CONSTRUCTION TO ENGINEER. NEW SIDE SEWER CONNECTION TO MAIN OR SEWER EJECTOR PUMP MAY BE NECESSARY FOR BASEMENT.
8. PROPOSED METER LOCATION, IF SHOWN, IS APPROXIMATE. CONTRACTOR TO COORDINATE EXACT LOCATION OF NEW SERVICE/METER/ SUPPLY LINE WITH CITY WATER DEPARTMENT DURING CONSTRUCTION.
9. EACH DOWNSPOUT SHALL CONNECT TO A RIGID NON-PERFORATED PIPE AT THE BUILDING PERIMETER. UNDER NO CIRCUMSTANCES SHALL DOWNSPOUTS CONNECT DIRECTLY TO THE PERFORATED FOOTING DRAIN.
10. USE SAND COLLARS FOR PVC PIPE CONNECTIONS TO MANHOLES.
11. VERTICAL BENDS ON THE STORM DRAINS MAY BE NECESSARY TO MAINTAIN MIN. 1.5' SOIL COVER OVER PIPE. MAX. PIPE BENDS TO BE 45°.
12. DOWNSPOUT LOCATIONS SHOWN ARE PRELIMINARY. REFER TO ARCHITECTURAL PLANS FOR FINAL DOWNSPOUT LOCATIONS.
13. AN UNDERSLAB DRAINAGE SYSTEM MAY BE NECESSARY DEPENDENT ON GEOTECHNICAL EVALUATION BY OTHERS.
14. WINDOW WELLS SHALL BE DESIGNED FOR PROPER DRAINAGE BY CONNECTING TO THE BUILDING'S FOUNDATION DRAINAGE SYSTEM REQUIRED PER SECTION R310.2.3.2 OF THE INTERNATIONAL RESIDENTIAL CODE. A DRAINAGE SYSTEM FOR WINDOW WELLS IS NOT REQUIRED WHERE THE FOUNDATION IS ON WELL-DRAINED SOIL OR SAND-GRAVEL MIXTURE SOILS IN ACCORDANCE WITH THE UNITED SOIL CLASSIFICATION SYSTEM, GROUP I SOILS, AS DETAILED IN TABLE R405.1 OF THE IRC

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NIKOL I. BOSSOFF — STATE OF WASHINGTON — PROFESSIONAL ENGINEER — EXPIRES 7/2/23

NO.	DATE	REVISION
△	08/11/22	PERMIT SUBMITTAL
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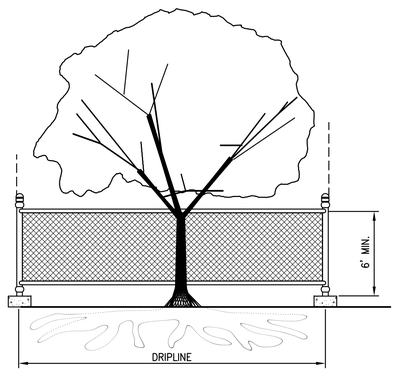
PROJECT MANAGER: N. BOSSOFF, P.E.
DESIGNED: NB
DRAWN: TKB
JOB NUMBER: GUDI-2201
FILE NAME: GUDI-2201pln.dwg

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

TITLE: DRAINAGE PLAN

SHEET: C-2

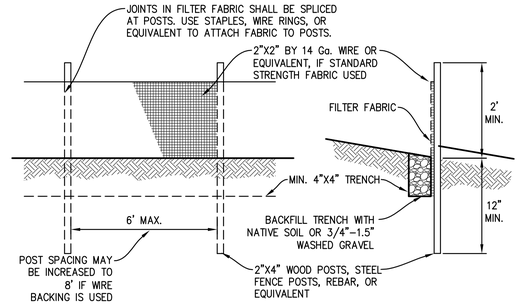


TREE PROTECTION DURING CONSTRUCTION

1. 6–FT. HIGH TEMPORARY CHAIN LINK FENCE SHALL BE PLACED AT THE DRIPLINE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE THE TREE(S). INSTALL FENCE POSTS USING PIER BLOCKS ONLY. AVOID DRIVING POSTS OR STAKES INTO MAJOR ROOTS.
2. FOR ROOTS OVER 1–IN DIA. THAT ARE DAMAGED DURING CONSTRUCTION, MAKE A CLEAN, STRAIGHT CUT TO REMOVE THE DAMAGED PORTION. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND SHALL BE COVERED WITH SOIL AS SOON AS POSSIBLE.
3. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING.

TREE PROTECTION

SCALE: NTS — 1



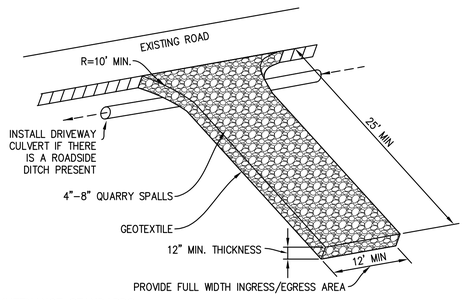
NOTE: FILTER FABRIC FENCE SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE.

MAINTENANCE STANDARDS

1. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT TRAP OR POND.
3. IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGN OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF THIS OCCUR, REPLACE THE FENCE AND/OR REMOVE THE TRAPPED SEDIMENT.
4. SEDIMENT MUST BE REMOVED WHEN THE SEDIMENT IS 6" HIGH.
5. IF THE FILTER FABRIC HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE REPLACED.

SILT FENCE

SCALE: NTS — 2

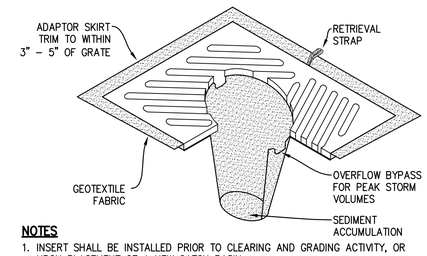


MAINTENANCE STANDARDS

1. QUARRY SPALLS (OR HOG FUEL) SHALL BE ADDED IF THE PAD IS NO LONGER IN ACCORDANCE WITH THE SPECIFICATIONS.
2. IF THE ENTRANCE IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT, THEN ALTERNATIVE MEASURES TO KEEP THE STREETS FREE OF SEDIMENT SHALL BE USED. THIS MAY INCLUDE STREET SWEEPING, AN INCREASE IN THE DIMENSIONS OF THE ENTRANCE, OR THE INSTALLATION OF A WHEEL WASH. IF WASHING IS USED, IT SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK, AND WASH WATER SHALL DRAIN TO A SEDIMENT TRAP OR POND.
3. ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED IMMEDIATELY BY SWEEPING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED OR STABILIZED ON–SITE. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREET, THE CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. THE SEDIMENT WOULD THEN BE WASHED INTO THE SUMP.
4. ANY ROCK SPALLS THAT ARE LOOSENED FROM THE PAD AND END UP ON THE ROADWAY SHALL BE REMOVED IMMEDIATELY.
5. IF VEHICLES ARE ENTERING OR EXITING THE SITE AT POINTS OTHER THAN THE CONSTRUCTION ENTRANCE(S), FENCING (SECTION 5.4.1) SHALL BE INSTALLED TO CONTROL TRAFFIC.

ROCK CONSTRUCTION ENTRANCE

SCALE: NTS — 3

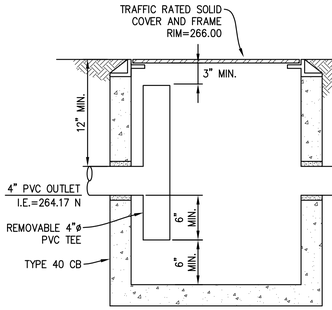


NOTES

1. INSERT SHALL BE INSTALLED PRIOR TO CLEARING AND GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
2. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL.
3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING, AND RE–INSERTING IT INTO THE CATCH BASIN.

CB INSERT

SCALE: NTS — 4



OIL SEPARATOR CB

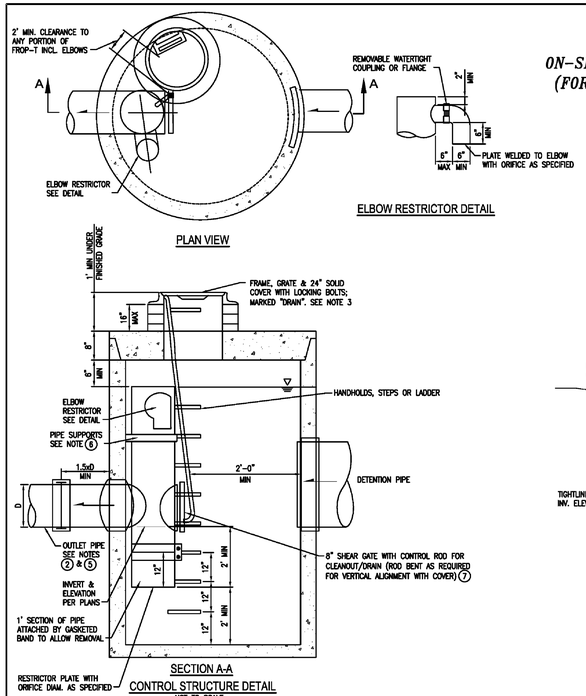
SCALE: NTS — 5

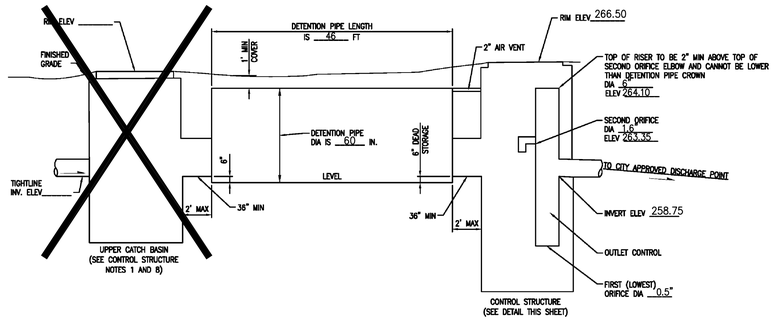
ATTACHMENT 1
CITY OF MERCER ISLAND
ON–SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)

OWNER: GUDIPATY
PERMIT #: _____
NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 4,796
SOIL TYPE: B

ADDRESS: 3632 90TH AVE SE
MERCER ISLAND
DETENTION PIPE DIA (INCH): 60"
PIPE MATERIAL: ADS N–12
DETENTION PIPE LENGTH (FT): 46

PREPARED BY: NICK BOSSOFF ENG
PHONE: (425) 881–5904
DATE: _____
ORIFICE #1 DIA 0.5 INCH, ELEV 258.75
ORIFICE #2 DIA 1.6 INCH, ELEV 263.35





ON–SITE DETENTION SYSTEM
NOT TO SCALE (ENGINEER TO FILL IN BLANKS)

CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON–GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB–DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'–0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZIC324; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL–LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON–SITE DETENTION SYSTEM NOTES:

1. CALL DEVELOPMENT SERVICES (206–275–7605) 24 HOURS IN ADVANCE FOR A DETENTION SYSTEM INSPECTION BEFORE BACKFILLING AND FOR FINAL INSPECTIONS.
2. RESPONSIBILITY FOR OPERATION AND MAINTENANCE OF DRAINAGE SYSTEMS ON PRIVATE PROPERTY IS RESPONSIBILITY OF THE PROPERTY OWNER. MATERIAL ACCUMULATED IN THE STORAGE PIPE MUST BE REMOVED FROM CATCH BASINS TO ALLOW PROPER OPERATION. THE OUTLET CONTROL ORIFICE MUST BE KEPT OPEN AT ALL TIMES.
3. PIPE MATERIAL, JOINT, AND PROTECTIVE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 7.04 AND 9.05 OF THE WSDOT STANDARD SPECIFICATION FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST VERSION. SUCH MATERIALS INCLUDE THE FOLLOWING, LINED CORRUGATED POLYETHYLENE PIPE (LCPE), ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE AND PIPE ARCH (MEETS AASHTO DESIGNATIONS M274 AND M36), CORRUGATED OR SPIRAL RIB ALUMINUM PIPE, OR REINFORCED CONCRETE PIPE. CORRUGATED STEEL PIPE IS NOT ALLOWED.
4. FOOTING DRAINS SHALL NOT BE CONNECTED TO THE DETENTION SYSTEM.

DETENTION PIPE AND CONTROL STRUCTURE

SCALE: NTS — 7

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EXPIRES 7/2/23

NO.	DATE	REVISION
	08/1/22	PERMIT SUBMITTAL

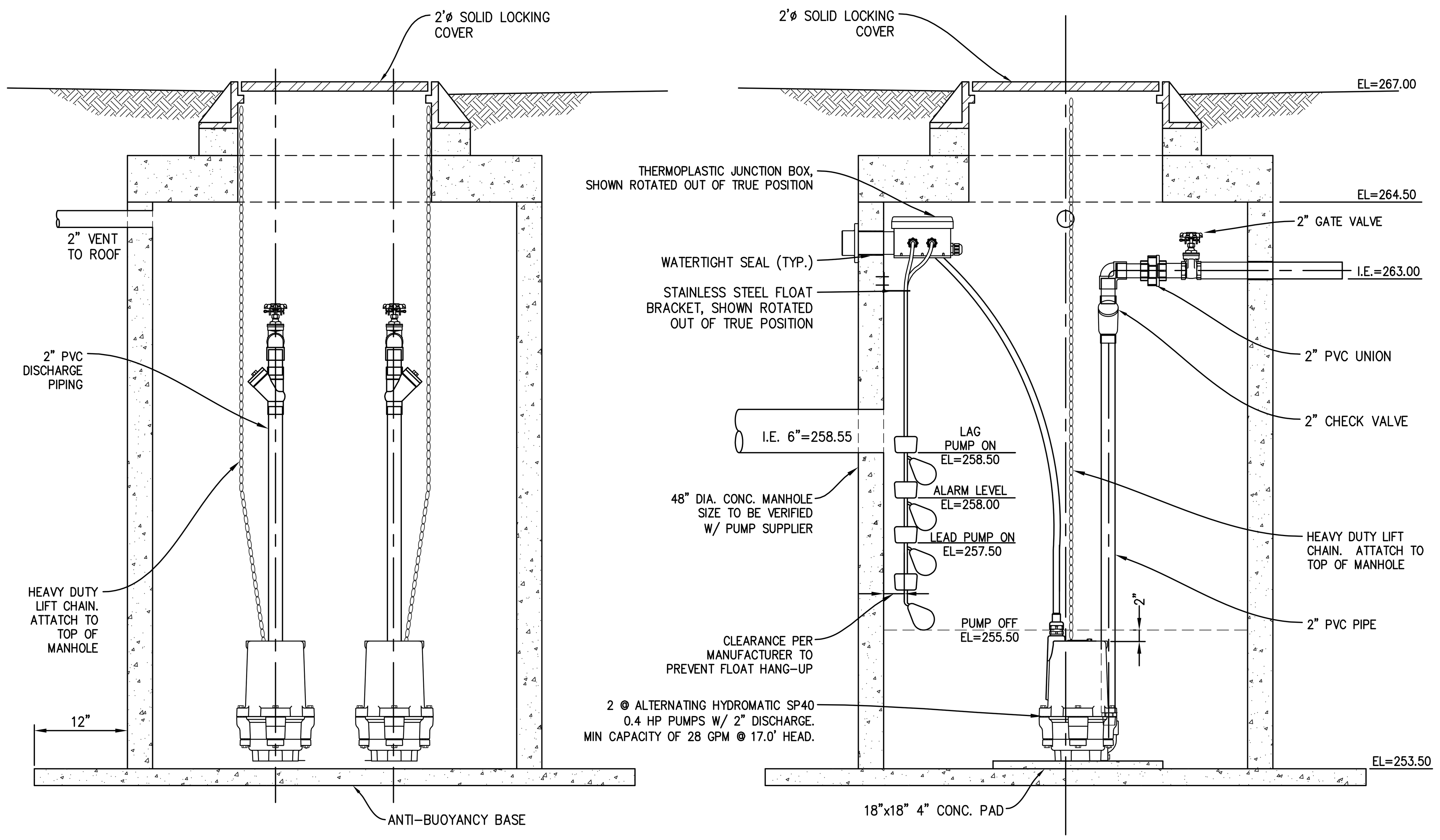
N. BOSSOFF, P.E.
PROJECT MANAGER: NB
DESIGNED: TKB
DRAWN: GUDI–2201
JOB NUMBER: GUDI–2201pln.dwg
FILE NAME:

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

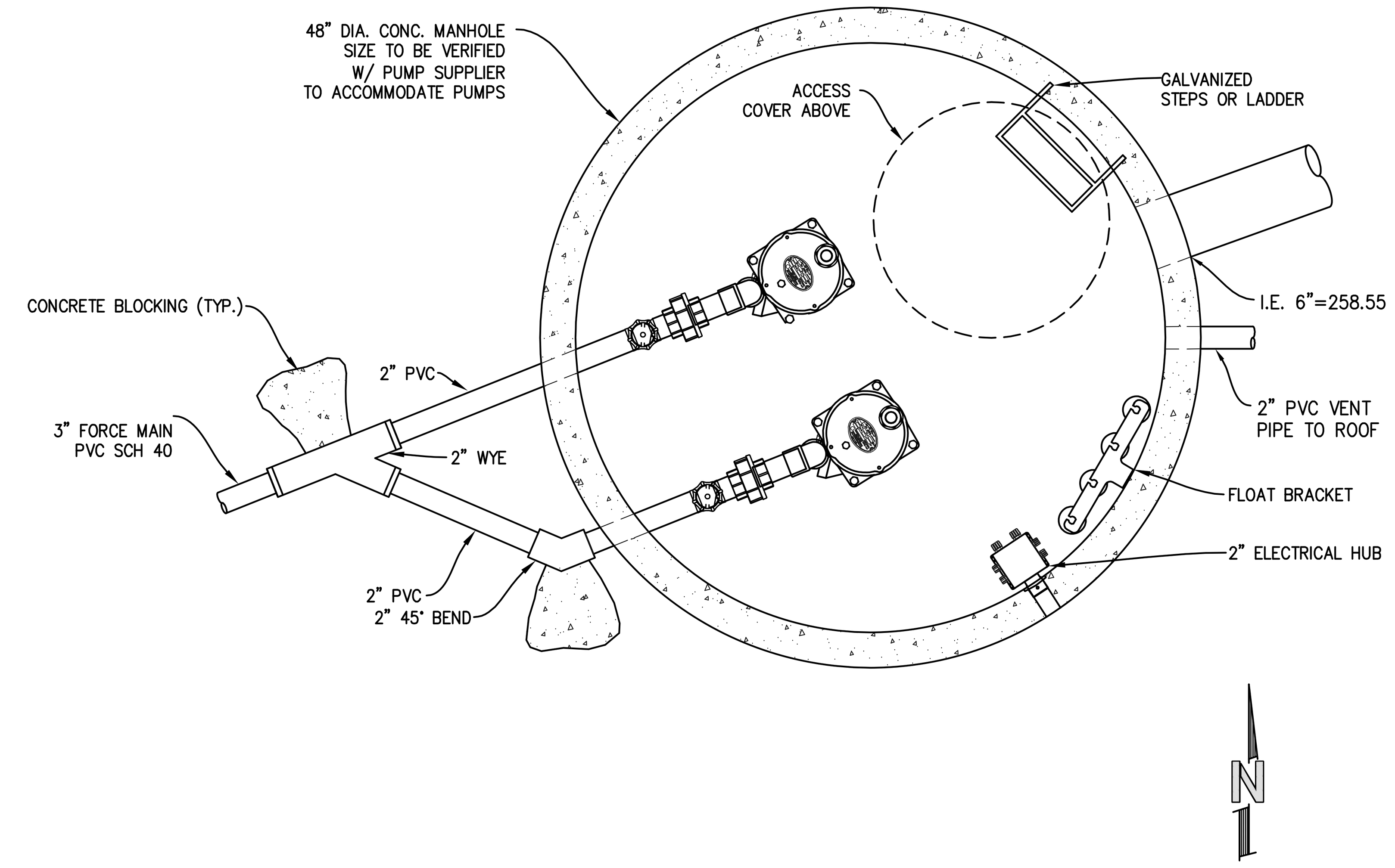
TITLE: DETAILS

SHEET: C-3

SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.



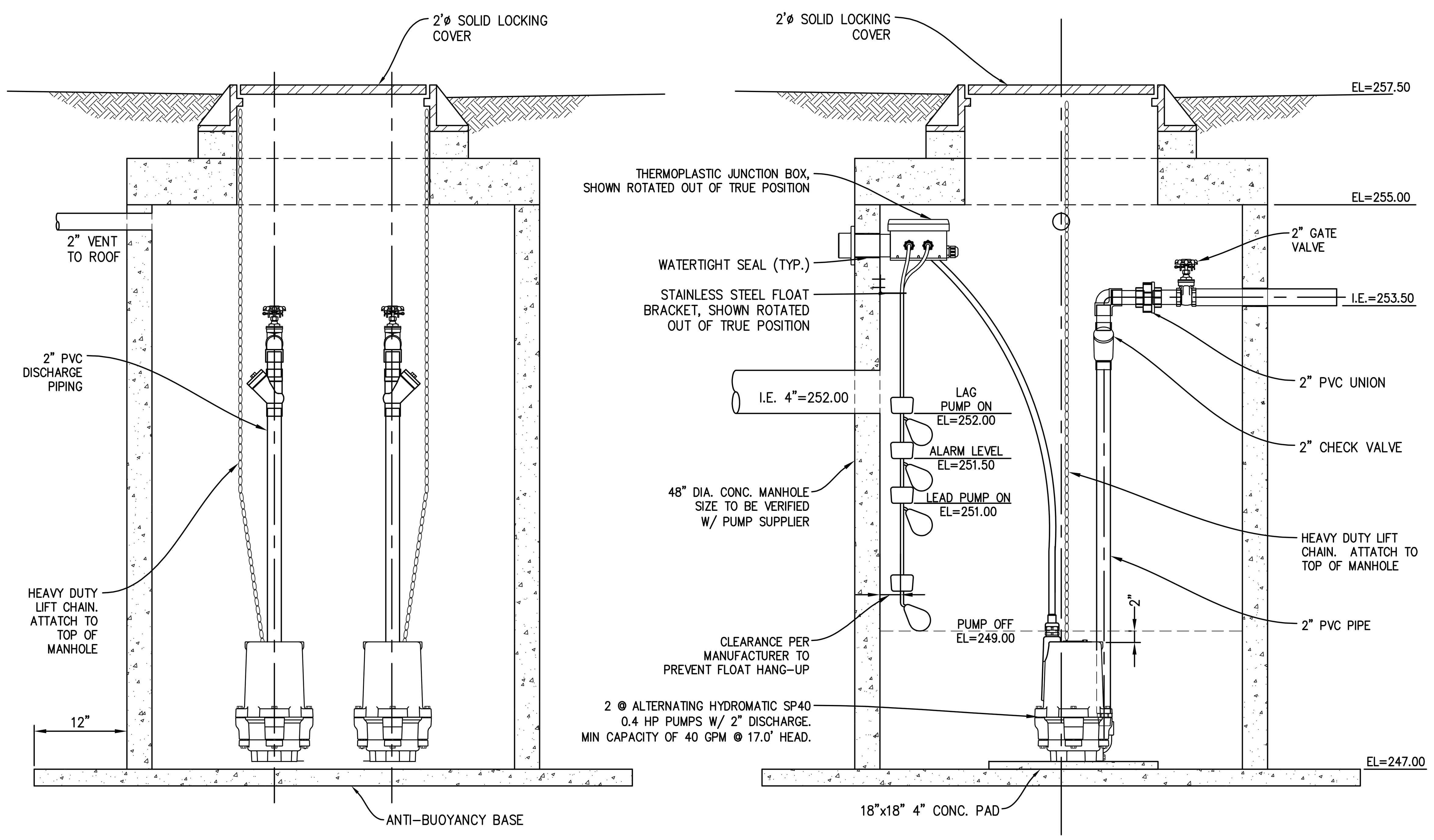
NOTES:
- THE SYSTEM IS TO BE AN ALTERNATING DUPLEX SYSTEM.
- LOCATE CONTROL PANEL AND ALARM ON EXTERIOR BUILDING WALL. USE HYDROMATIC PANEL OR APPROVED EQUIVALENT.
- SYSTEM TO BE FULLY AUTOMATIC WITH MANUAL OVERRIDE.
- ALARM TO BE AUDIO (BELL) AND VISUAL (LIGHT).
- BOTH PUMPS TO OPERATE AT "LAG PUMP ON" FLOAT LEVEL.
- SCH 80 PVC PIPE INSIDE MANHOLE.
- FOLLOW MANUFACTURER'S INSTRUCTIONS FOR ALL INSTALLATION.
- PROVIDE ELECTRICAL SUPPLY TO PANEL AND LIFT STATION PER MANUFACTURER'S SPECIFICATIONS. POWER TO PANEL AND PUMP SHALL BE ON A DEDICATED CIRCUIT.
- ELECTRICAL CONNECTIONS AND SERVICES WITHIN THE PUMP WETWELL SHOULD BE WATERTIGHT.
- THE PRIVATE PROPERTY OWNER(S) SHALL BE RESPONSIBLE FOR ANY AND ALL CLAIMS FOR INJURIES AND DAMAGE DUE TO THE OPERATION OR NON-OPERATION OF THE PUMP SYSTEM.

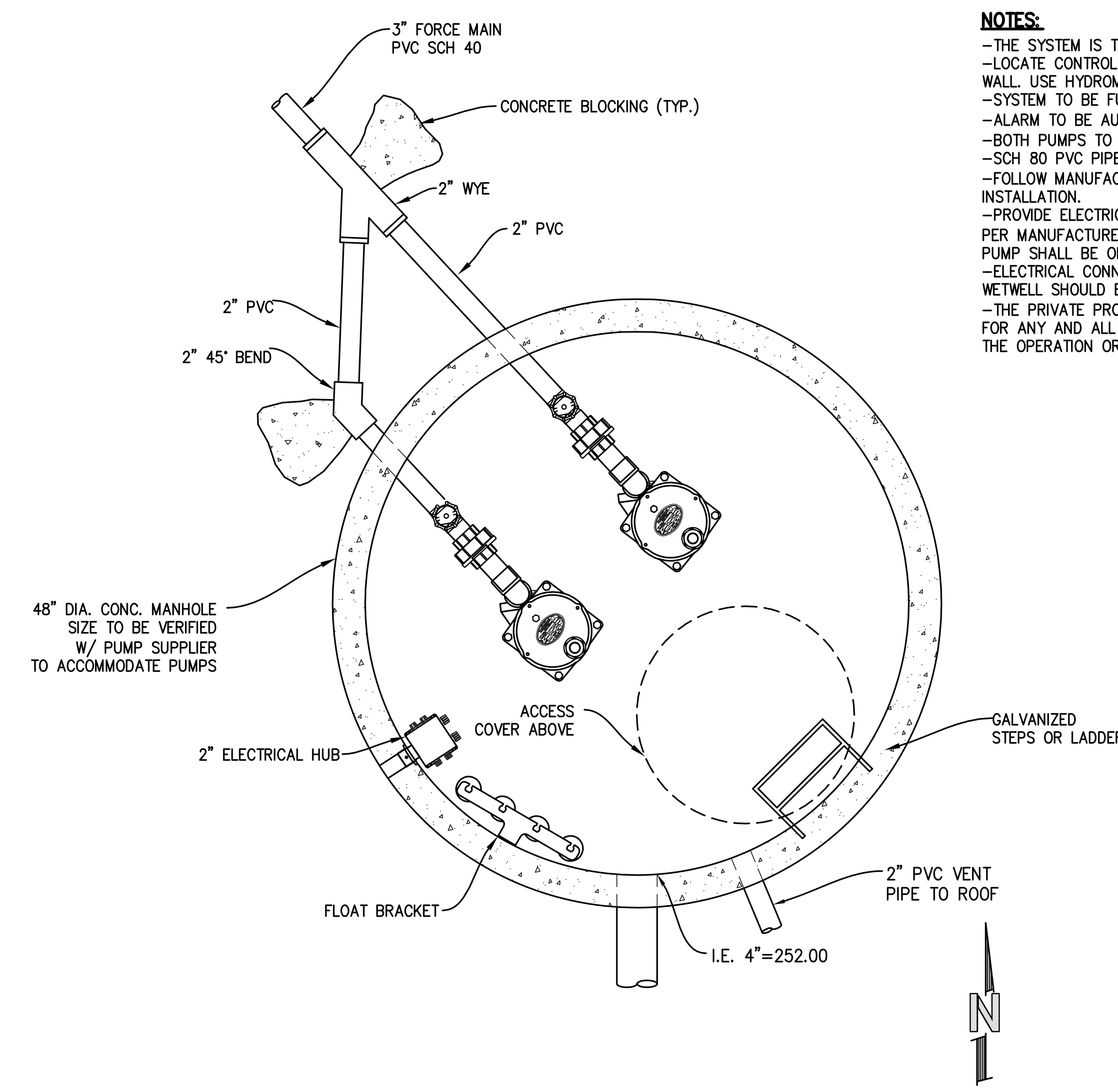


DRAIN LIFT STATION #1

SCALE: NTS

1





NOTES:
- THE SYSTEM IS TO BE AN ALTERNATING DUPLEX SYSTEM.
- LOCATE CONTROL PANEL AND ALARM ON EXTERIOR BUILDING WALL. USE HYDROMATIC PANEL OR APPROVED EQUIVALENT.
- SYSTEM TO BE FULLY AUTOMATIC WITH MANUAL OVERRIDE.
- ALARM TO BE AUDIO (BELL) AND VISUAL (LIGHT).
- BOTH PUMPS TO OPERATE AT "LAG PUMP ON" FLOAT LEVEL.
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- ELECTRICAL CONNECTIONS AND SERVICES WITHIN THE PUMP WETWELL SHOULD BE WATERTIGHT.
- THE PRIVATE PROPERTY OWNER(S) SHALL BE RESPONSIBLE FOR ANY AND ALL CLAIMS FOR INJURIES AND DAMAGE DUE TO THE OPERATION OR NON-OPERATION OF THE PUMP SYSTEM.

DRAIN LIFT STATION #2

SCALE: NTS

2

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NIKOLAI BOSSOFF STATE OF WASHINGTON 29631 REGISTERED PROFESSIONAL ENGINEER

EXPIRES 7/2/23

NO.	DATE	REVISION
	08/11/22	PERMIT SUBMITTAL

N. BOSSOFF, P.E. — PROJECT MANAGER
NB — DESIGNED
TKB — DRAWN
GUDI-2201 — JOB NUMBER
GUDI-2201pln.dwg — FILE NAME

MITHILA
3632 90TH AVE SE
MERCER ISLAND WASHINGTON

TITLE: DETAILS

SHEET: C-4

TOPOGRAPHIC SURVEY NOTES

1. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS, UTILITY LOCATES BY THIRD PARTIES, AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
2. CONTOURS SHOWN ARE BASED ON A FIELD SURVEY.
3. TREE IDENTIFICATION WAS PERFORMED BY SURVEY FIELD PERSONNEL AND SHOULD BE CONSIDERED A BEST GUESS. AN ARBORIST SHOULD BE RELIED UPON FOR MORE ACCURATE AND DETAILED IDENTIFICATION OF TREE SPECIES AND HEALTH.
4. MERCER ISLAND LOT SLOPE IS CALCULATED FROM THE HIGH POINT OF THE LOT AT THE SW CORNER (EL=272.12) TO THE LOW POINT OF THE LOT AT THE SE CORNER (EL=224.55) OVER A DISTANCE OF 160.00'. THE RESULTING SLOPE = 29.7%

BOUNDARY SURVEY NOTES

1. INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND LEICA VIVA TS15 SMART POLE TOTAL STATION/RTK GPS.
2. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090. SURVEY WAS COMPLETED BY A FIELD TRAVERSE.
3. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.
4. ENCROACHMENTS NOTED AS "IN" OR "OUT" ARE RELATIVE TO THE SUBJECT PROPERTY
5. FENCE DIMENSIONS ARE GENERALLY TO THE CENTERLINE OF THE FENCE UNLESS OTHERWISE NOTED.
6. STRUCTURE LOCATIONS ARE MEASURED TO THE FINISHED FASCIA UNLESS OTHERWISE NOTED.
7. TREE LOCATIONS ARE MEASURED TO THE ESTIMATED CENTER OF THE TREE.
8. ALL DIMENSIONS ARE IN DECIMAL FEET.

VERTICAL DATUM & CONTOUR INTERVAL

ELEVATIONS SHOWN ON THIS DRAWING ARE BASE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND WERE ESTABLISHED USING RTK GPS.

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

LEGAL DESCRIPTION

LOT 5, BLOCK 4 OF MADRONA CREST ADDITION ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 42 OF PLATS, PAGES 12–14, RECORDS OF KING COUNTY WASHINGTON.

SITUATE IN COUNTY OF KING, STATE OF WASHINGTON.

HORIZONTAL DATUM & BASIS OF BEARINGS

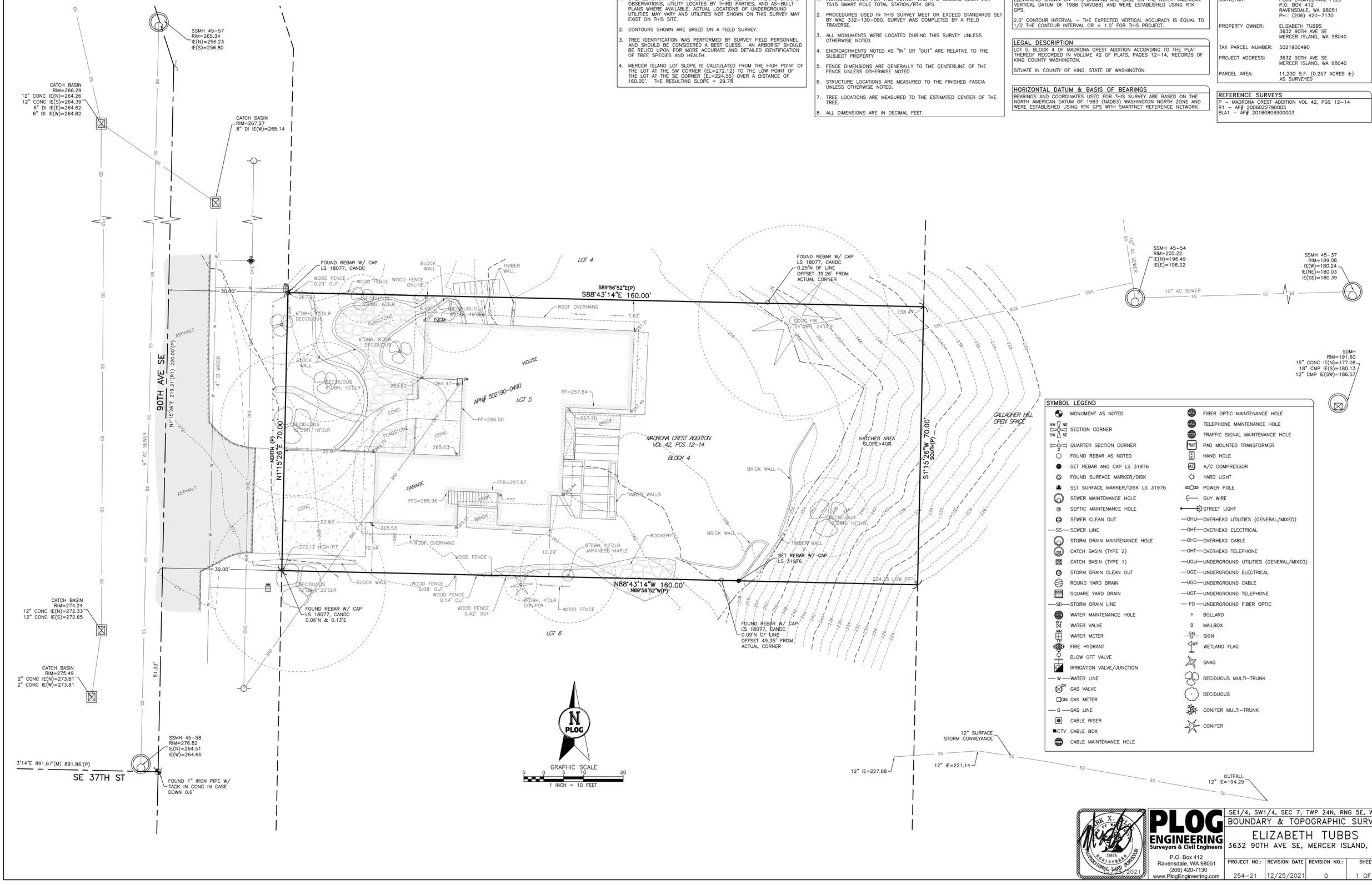
BEARINGS AND COORDINATES USED FOR THIS SURVEY ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83) WASHINGTON NORTH ZONE AND WERE ESTABLISHED USING RTK GPS WITH SMARTNET REFERENCE NETWORK.

PROJECT INFORMATION

SURVEYOR:	PLOG ENGINEERING, PLLC P.O. BOX 412 RAVENSDALE, WA 98051 PH.: (206) 420-7130
PROPERTY OWNER:	ELIZABETH TUBBS 3632 90TH AVE SE MERCER ISLAND, WA 98040
TAX PARCEL NUMBER:	5021900490
PROJECT ADDRESS:	3632 90TH AVE SE MERCER ISLAND, WA 98040
PARCEL AREA:	11,200 S.F. (0.257 ACRES ±) AS SURVEYED

REFERENCE SURVEYS

P – MADRONA CREST ADDITION VOL 42, PGS 12–14
R1 – AF# 20060227900005
BLA1 – AF# 20180806900003



SYMBOL LEGEND

- MONUMENT AS NOTED
- SECTION CORNER
- QUARTER SECTION CORNER
- FOUND REBAR AS NOTED
- SET REBAR AND CAP LS 31976
- FOUND SURFACE MARKER/DISK
- SET SURFACE MARKER/DISK LS 31976
- SEWER MAINTENANCE HOLE
- SEPTIC MAINTENANCE HOLE
- SEWER CLEAN OUT
- SS — SEWER LINE
- STORM DRAIN MAINTENANCE HOLE
- CATCH BASIN (TYPE 2)
- CATCH BASIN (TYPE 1)
- STORM DRAIN CLEAN OUT
- ROUND YARD DRAIN
- SQUARE YARD DRAIN
- SD — STORM DRAIN LINE
- WATER MAINTENANCE HOLE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- BLOW OFF VALVE
- IRRIGATION VALVE/JUNCTION
- W — WATER LINE
- GAS VALVE
- GM GAS METER
- G — GAS LINE
- CABLE RISER
- CTV CABLE BOX
- CABLE MAINTENANCE HOLE
- FIBER OPTIC MAINTENANCE HOLE
- TELEPHONE MAINTENANCE HOLE
- TRAFFIC SIGNAL MAINTENANCE HOLE
- PAD MOUNTED TRANSFORMER
- HAND HOLE
- A/C COMPRESSOR
- YARD LIGHT
- POWER POLE
- GUY WIRE
- STREET LIGHT
- OHU — OVERHEAD UTILITIES (GENERAL/MIXED)
- OHE — OVERHEAD ELECTRICAL
- OHC — OVERHEAD CABLE
- OHT — OVERHEAD TELEPHONE
- UGU — UNDERGROUND UTILITIES (GENERAL/MIXED)
- UGE — UNDERGROUND ELECTRICAL
- UGC — UNDERGROUND CABLE
- UGT — UNDERGROUND TELEPHONE
- FO — UNDERGROUND FIBER OPTIC
- BOLLARD
- MAILBOX
- SIGN
- WETLAND FLAG
- SNAG
- DECIDUOUS MULTI-TRUNK
- DECIDUOUS
- CONIFER MULTI-TRUNK
- CONIFER

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SE1/4, SW1/4, SEC 7, TWP 24N, RNG 5E, W.M.

BOUNDARY & TOPOGRAPHIC SURVEY

ELIZABETH TUBBS

3632 90TH AVE SE, MERCER ISLAND, WA

PROJECT NO.:	REVISION DATE	REVISION NO.:	SHEET
254-21	12/25/2021	0	1 OF 1