



SUZANNE ZAHR INC.

2441 SE 76TH AVE, SUITE 160
MERCER ISLAND, WASHINGTON 98040
T. 206 354 1567
WWW.SUZANNEZAHR.COM

ROSS PARKS
RESIDENTIAL REMODEL ADDITION
7010 93RD AVE SE
MERCER ISLAND, WA 98040

PROJECT NUMBER

20001

9221

REGISTERED ARCHITECT

SUZANNE ZAHR
STATE OF WASHINGTON

ISSUED / REVISIONS DATE

ISSUE DATE: 07.29.22

DRAWN BY: LT

CHECKED BY: SZ

SCHEDULES

SHEET NUMBER

A0.2

PERMIT SET

Property address: _____

Builder/registered design professional name: _____

Builder/reg. design pro. signature: _____

Conditioned floor area: _____ ft² (per building permit)

R-Values (R303.1.1)

Ceiling/Vaulted R-____ Floors: Over unconditioned space R-____
Attic: Attic R-____ Slab-on-grade floor R-____

Walls: Above grade R-____ Fully insulated slab? Y/N (Circle one)
Below, int. R-____ Doors: R-____, R-____, R-____
Below, ext. R-____

U-Value of Windows, Skylights and Doors (R303.1.1.3)

Average area weighted U-value from Glazing Worksheet Average U- ____

Fuel Normalization (Tables R406.2) and Energy Credits (Table R406.3)

System Type Number (1 to 5) _____ (Select one)

Energy Credits selected (1 to 7) _____

Fuel Normalization Credit _____ + Total Energy Credits _____ = Total Credits _____

Heating, Cooling and Domestic Hot Water

System Type (Manufacturer and Model Number)	Efficiency
Heating	
Cooling	
DHW	
Drain water heat recovery	

Onsite Renewable Energy Electric Power System

System type _____ System design capacity _____ kW
Rated annual generation _____ kWh/yr

Appliances	Energy Star?
Manufacturer and Model	(Circle one)
Dish washer	Y or N
Refrigerator	Y or N
Washer	Y or N
Dryer	Y or N
Vented or unvented? If vented, CEF rating _____	

Gas fireplace / heating stove (Section R402.4.2) Fireplace efficiency (FE) _____
Heating or Decorative? (Circle one)

HVAC System Duct Leakage Testing (R403.3) Circle one

All ductwork and air handler in conditioned space? (See Option 4.2) Y or N
All ductwork in unconditioned spaces buried and tested at 3% total leakage, and air handler in conditioned space? (See Option 4.1.) Y or N
All ductwork & air handler outside conditioned space insulated to minimum R-8? Y or N
Air handler present at duct leakage test? (Total leakage 4% if yes, 3% if no) Y or N
HVAC leakage to outside test conducted at final? Y or N
Do HVAC duct leakage tests include GPS and time stamp verification? Y or N

HVAC system leakage test calculated design target: _____ CFM @ 25 Pa
HVAC system leakage test measured results: _____ CFM @ 25 Pa

Building Leakage Testing (R402.4.1.2)

Dwelling unit leakage test calculated design target: _____ ACH @ 50 Pa
Dwelling unit leakage test, measured results: _____ ACH @ 50 Pa
Whole Building Leakage test (R2 non-corridor only) design target: _____ CFM/sf @ 50 Pa
Whole Building Leakage test (R2 non-corridor only) measured: _____ CFM/sf @ 50 Pa

Do building leakage tests include GPS and time stamp verification? Y or N
Whole House Ventilation System Measured Flow Rates (M1505.4 IRC-WA) Circle one

Are the system controls correctly labeled? Y or N
The Whole House Ventilation (WHV) system operation and maintenance (O&M) instructions were provided to the building owner? Y or N
Provided to: _____ on _____ (date)

Whole House Ventilation System Type: (Circle one)
(1) Whole house exhaust fan, location _____
(2) Balanced HRV/ERV, location _____
For R2 low-rise, serves more than one unit? Y or N
(3) Supply or HRV WHV integral to the air handler. Describe system control sequence of operations or reference to design submittal: _____

Specify run-time: _____ hours per day _____ CFM
WHV calculated design minimum flow rate per plan submittal: _____
WHV measured min flow rate at commissioning: Exhaust _____ CFM, Supply _____ CFM

Do WHV flow tests include GPS & time stamp verification? Y or N
HRV/ERV sensible heat recovery efficiency: _____

Commissioning Notes: _____

Other Mandatory Requirements Circle one

All other mandatory requirements of WSEC-R have been met? Y or N

EXTERIOR DOOR SCHEDULE

TAG	LOCATION	MANUFACTURER	DOOR WIDTH	DOOR HEIGHT	AREA	SAFETY GLASS	U-VALUE
109.1	MASTER	TBD	6' - 0"	7' - 9"	47 SF	YES	0.3
117.1	DINING	TBD	6' - 0"	7' - 9"	47 SF	YES	0.3

WINDOW SCHEDULE

TAG	LOCATION	MANUFACTURER	QTY.	WIDTH	HEIGHT	SILL	AREA	SAFETY GLASS	U-VALUE
W-1	KITCHEN	TBD	1	9' - 7"	5' - 0"	3' - 0"	48 SF		0.3
W-2	KITCHEN	TBD	2	6' - 3"	5' - 0"	3' - 0"	31 SF		0.3
W-3	EATING	TBD	1	2' - 0"	4' - 0"	4' - 0"	8 SF		0.3

R402.1.1 Insulation and Fenestration Criteria

The building thermal envelope shall meet the requirements of Table R402.1.1 based on the climate zone specified in Chapter 3.

TABLE R402.1.1

INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE 5 AND MARINE 4	
Fenestration U-Factor ^b	0.30
Skylight ^b U-Factor	0.50
Ceiling R-Value	49
Wood Frame Wall ^{c,h} R-Value	21 int
Floor R-Value	30
Below-Grade ^{c,h} Wall R-Value	10/15/21 int + STB
Slab ^{d,f} R-Value and Depth	10, 2 ft

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

LOT 12, BLOCK 6, FLOOD'S LAKE SIDE TRACTS DIVISION NO. 5, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 34 OF PLATS, PAGE(S) 6, RECORDS OF KING COUNTY, WASHINGTON; EXCEPT THOSE PORTIONS LYING NORTHERLY OF THE FOLLOWING DESCRIBED LINES.

(A) BEGINNING AT THE NORTHWEST CORNER OF LOT 10 OF SAID PLAT, THENCE S00°09'30"W 25 FEET ALONG THE WEST LINE THEREOF, THENCE CONTINUING S00°09'30"W 130 FEET TO THE TRUE POINT OF BEGINNING OF SAID DESCRIBED LINE, THENCE EAST 141.40 FEET TO THE END OF SAID DESCRIBED LINE;

(B) BEGINNING AT THE NORTHWEST CORNER OF SAID LOT 10, THENCE S00°09'30"W 25 FEET ALONG THE WEST LINE THEREOF, THENCE EAST 93.50 FEET, THENCE S42°33'59"E 70.61 FEET; THENCE S00°09'30"W 78 FEET TO THE TRUE POINT OF BEGINNING OF SAID DESCRIBED LINE, THENCE EAST 27.49 FEET, MORE OR LESS, TO THE NORTHWESTERLY MARGIN OF SOUTHEAST 70TH PLACE, AND THE END OF SAID DESCRIBED LINE.

REFERENCES

1. RECORD OF SURVEY, VOL. 23, PG. 61, RECORDS OF KING COUNTY, WASHINGTON
2. RECORD OF SURVEY, VOL. 125, PG. 180, RECORDS OF KING COUNTY, WASHINGTON
3. UNRECORDED SURVEY PREPARED BY M.W. MARSHALL UNDER JOB NO. 5022, DATED 9-5-2014.

SURVEYOR'S NOTES

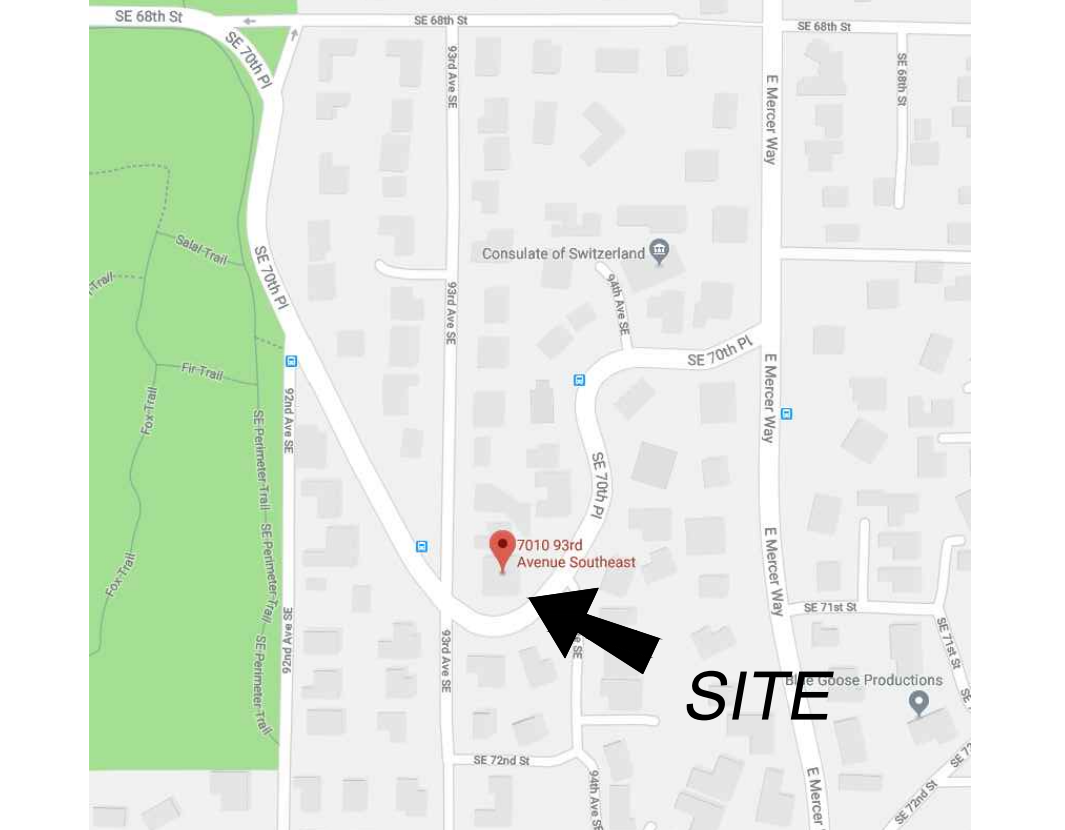
1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN FEBRUARY OF 2019. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES. TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 258190-0300
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 13,938 S.F. (0.32 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

LEGEND

	AREA DRAIN		BIRCH
	ASPHALT SURFACE		BUILDING
	BUILDING		CENTER CHANNEL
	CENTERLINE ROW		CATCH BASIN
	CONCRETE SURFACE		CEDAR
	DECK		COLUMN
	FENCE LINE (WOOD)		CONCRETE
	FIRE HYDRANT		CORNER
	GAS METER		DECIDUOUS
	HEDGE FOLIAGE LINE		EVERGREEN
	INLET (TYPE 1)		FINISH FLOOR
	MAILBOX (RESIDENTIAL)		HOSE BID
	MONUMENT IN CASE (FOUND)		LAND SURVEYOR NUMBER
	PAVER SURFACE		MEASURED
	POWER POLE W/LIGHT		MONUMENT
	REBAR AS NOTED (FOUND)		PIN
	ROCKERY		PROPERTY
	SEWER LINE		RECORD DATA
	SEWER MANHOLE		SPRUCE
	STORM DRAIN LINE		SANITARY SEWER MANHOLE
	TREE (AS NOTED)		SANITARY SIDE SEWER
	WATER LINE		
	WATER METER		
	WATER VALVE		

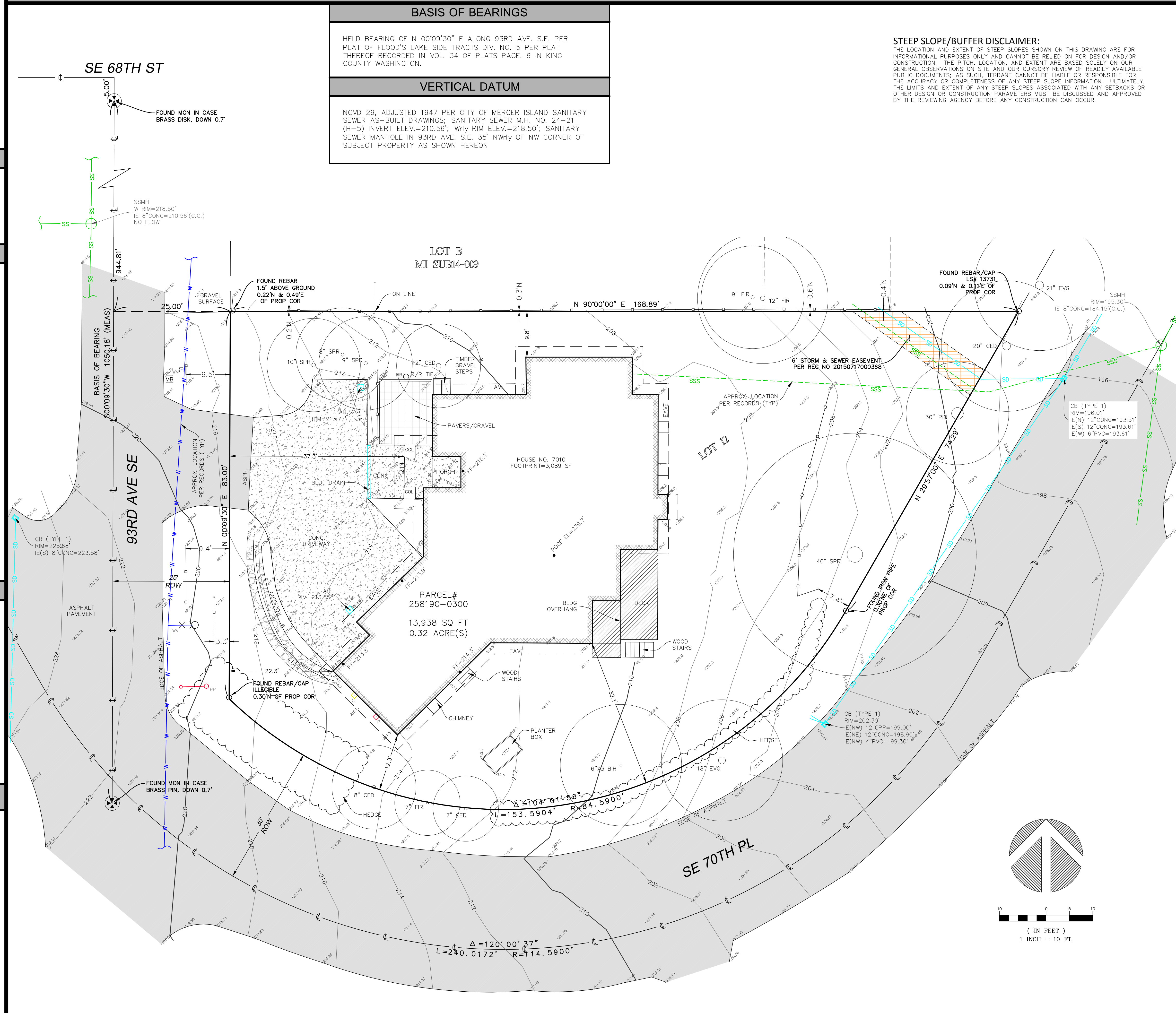
VICINITY MAP

N.T.S.



BASIS OF BEARINGS
HELD BEARING OF N 00°09'30" E ALONG 93RD AVE. S.E. PER PLAT OF FLOOD'S LAKE SIDE TRACTS DIV. NO. 5 PER PLAT THEREOF RECORDED IN VOL. 34 OF PLATS PAGE. 6 IN KING COUNTY WASHINGTON.
VERTICAL DATUM
NGVD 29, ADJUSTED 1947 PER CITY OF MERCER ISLAND SANITARY SEWER AS-BUILT DRAWINGS; SANITARY SEWER M.H. NO. 24-21 (H-5) INVERT ELEV.=210.56'; WRY RIM ELEV.=218.50'; SANITARY SEWER MANHOLE IN 93RD AVE. S.E. 35' NWLY OF NW CORNER OF SUBJECT PROPERTY AS SHOWN HEREON

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



measure success

TOPOGRAPHIC & BOUNDARY SURVEY
 SW 1/4 OF NE 1/4 SEC 30, TWP. 24N., RGE 05E., W.M.
 PARCEL NO. 258190-0300
 Ross / Parks Residence
 7010 93RD AVE SE
 MERCER ISLAND, WA 98004



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

JOB NUMBER:	190100
DATE:	2/22/19
DRAFTED BY:	TLR
CHECKED BY:	EJG/TMM
SCALE:	1" = 10'
REVISION HISTORY	
SHEET NUMBER	
1 OF 1	

SZ

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REGISTERED
ARCHITECT

SUZANNE ZAHR
STATE OF WASHINGTON

ISSUED / REVISIONS DATE

1 REVISION 10.11.2022

ISSUE DATE: 07.29.22

DRAWN BY: SA

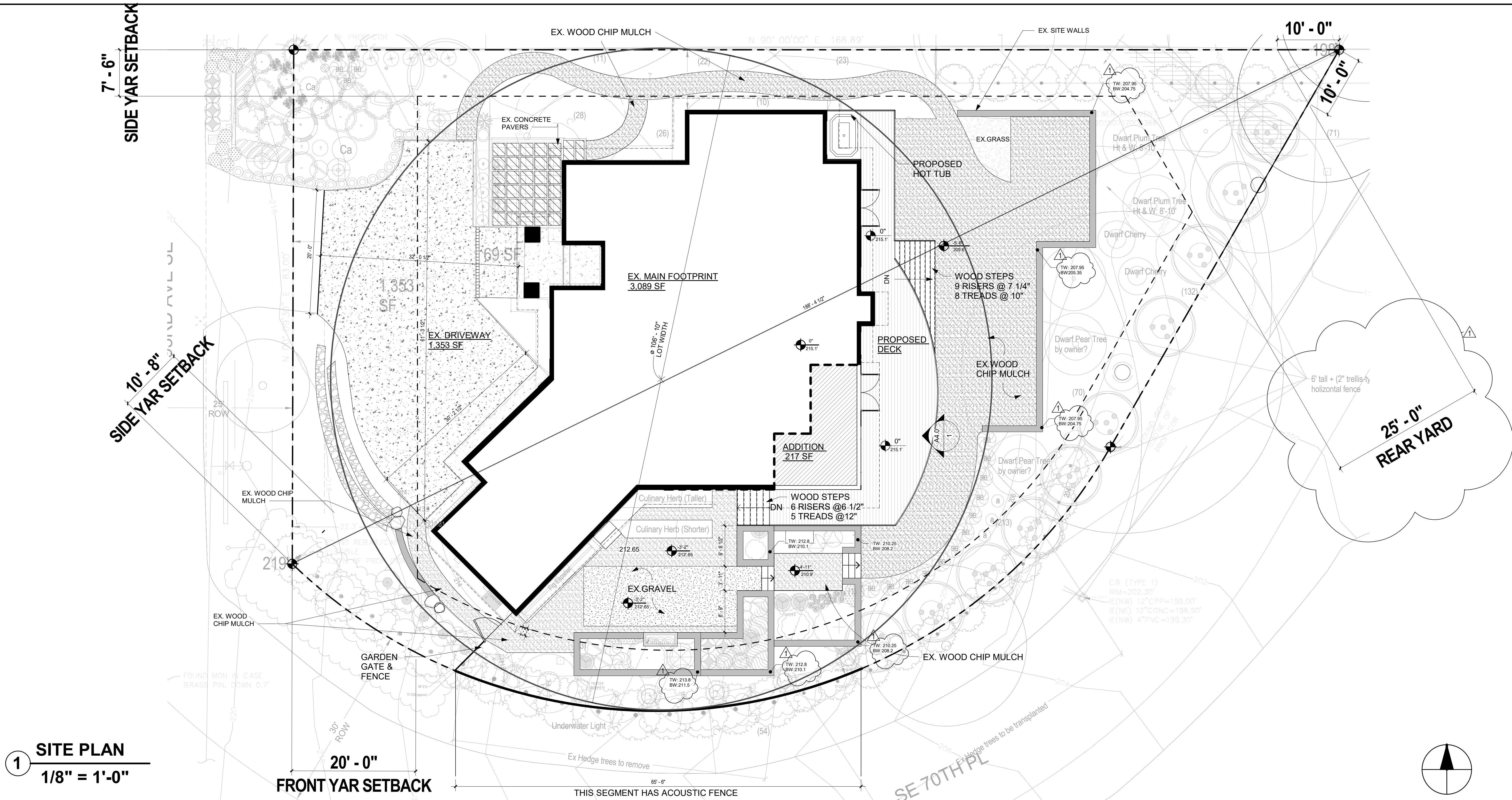
CHECKED BY: SZ

SITE PLAN

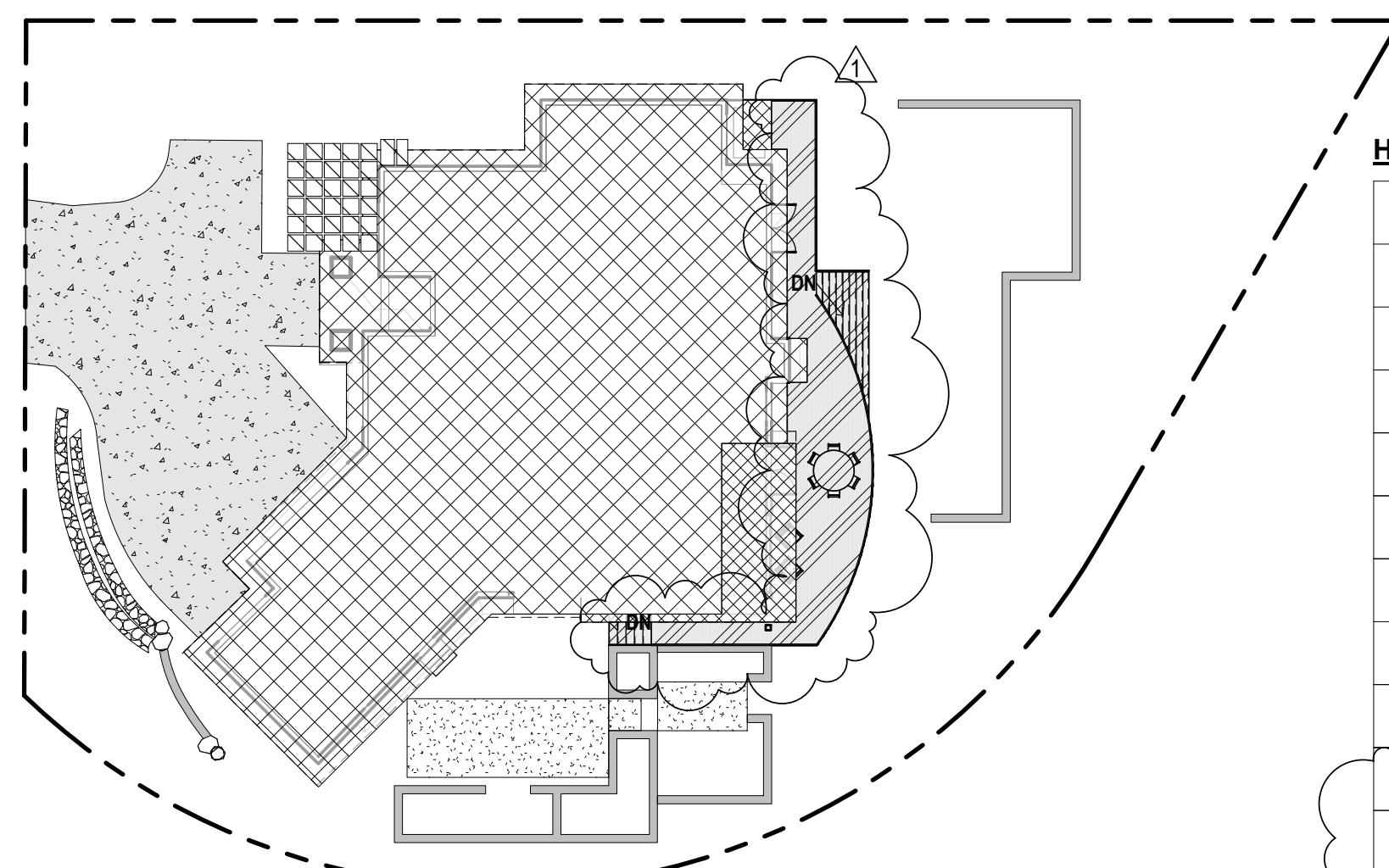
SHEET NUMBER

A1.0

PERMIT SET



1 SITE PLAN
1/8" = 1'-0"



2 SITE PLAN DIAGRAM
1" = 20'-0"

HARDSCAPE

LOT AREA	13,938 SF SF	
AREA BORROWED FROM LOT COVERAGE	98	
ALLOWED HARDSCAPE AREA = 9% OF LOT AREA + 98	1,352 SF	
EX. SITE WALLS	256 SF	
EX. ROCKERIES	95 SF	
EX. GRAVEL PATH & PAVING	256 SF	
EX. CONCRETE STEPS	20 SF	
EX. CONCRETE PAVERS	130 SF	
TOTAL EX. HARDSCAPE AREA	757 SF < 1,352 SF	
PROPOSED. OPEN SLAT WOOD DECK	544 SF	
TOTAL PROPOSED HARDSCAPE AREA	1301 SF < 1,352 SF	

LOT COVERAGE - PROPOSED

LOT AREA	13,938 SF SF	
EX. HOUSE/GARAGE+ OVERHANG	3,815 SF	
DRIVEWAY	1,422 SF	
EXISTING LOT COVERAGE (IMPERVIOUS SURFACE)	5,237 SF (37.17 %)	
ADDITION+ OVERHANG + DECK UNDER HOT TUB	240 SF	
TOTAL IMPERVIOUS SURFACE	5,477 SF	
TOTAL LOT COVERAGE	(5,477 SF) 39.3 % < (5,575 SF) 40 %	
REMAINING IMPERVIOUS SURFACE	98 SF	

OWNER'S NAME:
MICHAEL ROSS + MARIANNE PARKS

SITE AND OWNERS ADDRESS:
7010 93RD AVE SE
MERCER ISLAND, WA 98040

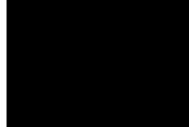
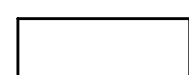
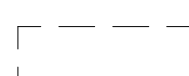
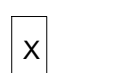
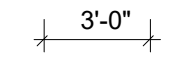
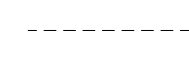
LEGAL DISCRPTION:
FLOODS LAKESIDE TRS DIV #5 LESS N 20 FT THOF
AKA PAR 1 HENNING SHORT PLAT APPROVE BY
MERCER ISLAND 2-12-70
PLat Block: 6
Plat Lot: 12

ASSESSOR'S PARCEL NUMBER:
258190-0300

ZONE: R-8.4

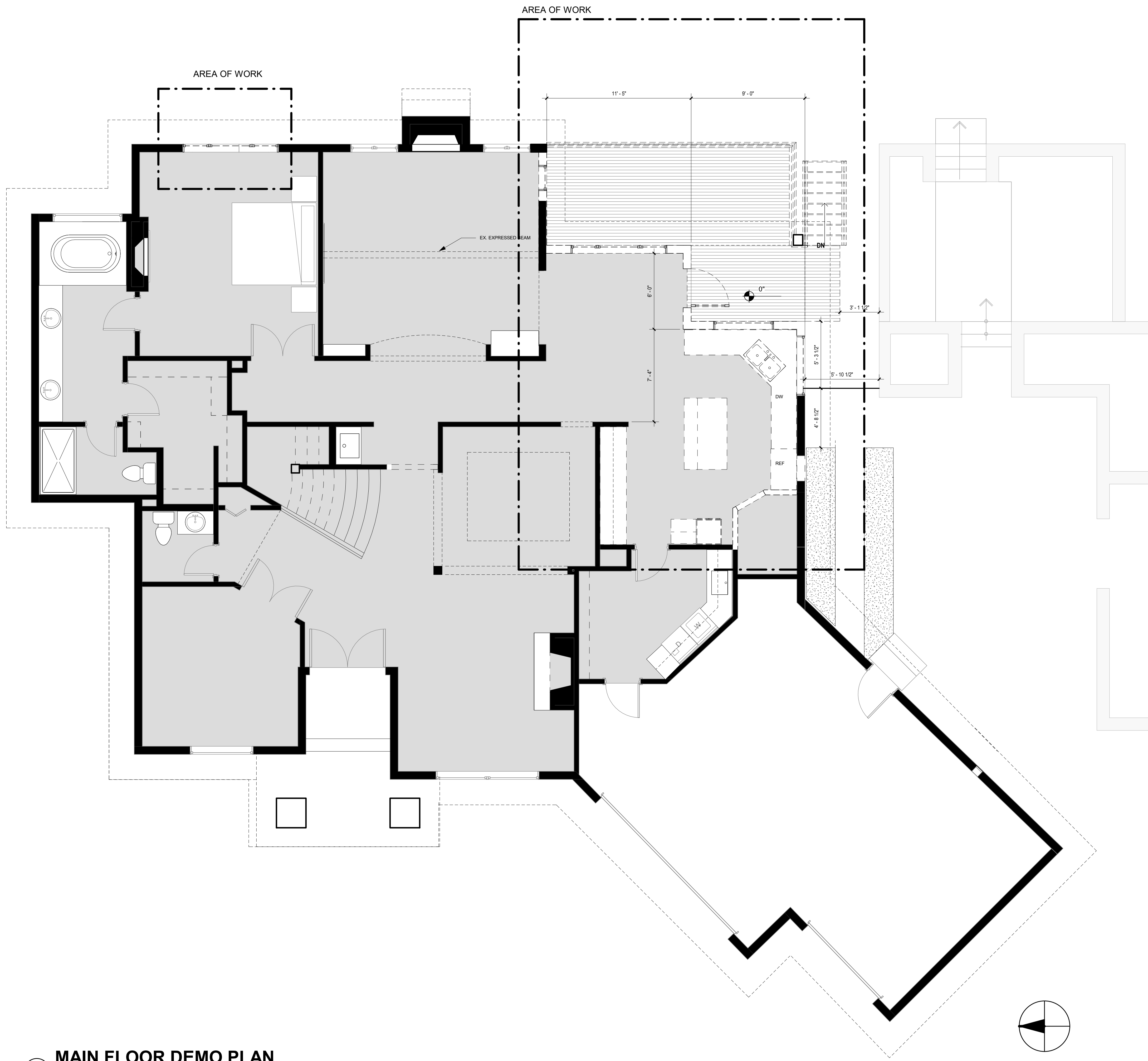
LOT WIDTH: 106'-10"
SIDE YARDS TOTAL: 17 % OF 106'-10" = 18'-2"
SIDEYARD 1: 7'-6"
SIDEYARD 2: 10'-8"

LOT SLOPE CALCULATIONS:
HIGHEST ELEVATION POINT OF LOT: 219 FT
LOWEST ELEVATION POINT OF LOT: 198
ELEVATION DIFFERENCE: 21
HORIZONTAL DISTANCE BETWEEN HIGH AND LOW
POINTS: 188.3
LOT SLOPE: 11.1%

LEGEND	
	BLACK SOLID INFILL REPRESENTS EXISTING BUILDING WALLS TO REMAIN (BLOCKWORK, STOREFRONT, STRUCTURE, ETC.)
	REPRESENTS NEW WALL.
	REPRESENTS EXISTING WALL TO BE DEMOLISHED.
	REPRESENTS WALL TAG.
	REPRESENTS WALL DIMENSION FROM FACE OF STRUCTURE UNLESS NOTED OTHERWISE
	REPRESENTS OVERHEAD OR BELOW.

NOTES

- PLAN SHOWS EXISTING CONDITION TO BE DEMOLISHED AND EXISTING CONDITION TO REMAIN, U.N.O.



1 MAIN FLOOR DEMO PLAN
 1/4" = 1'-0"

SZ

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9221 REGISTERED ARCHITECT
 SUZANNE ZAHR
 STATE OF WASHINGTON

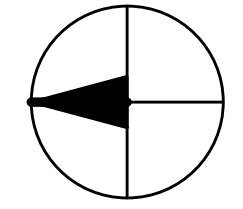
ISSUED / REVISIONS	DATE

ISSUE DATE: 07.29.22
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 CHECKED BY: SZ

MAIN FLOOR DEMO PLAN

SHEET NUMBER
A2.0

PERMIT SET



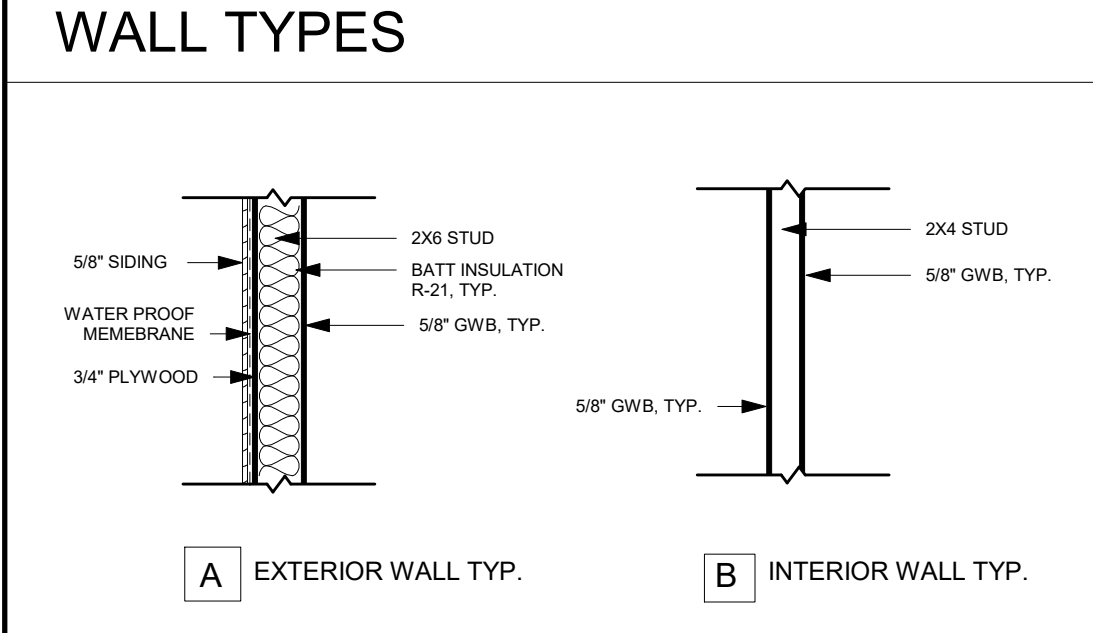
LEGEND	
	BLACK SOLID INFILL REPRESENTS EXISTING BUILDING WALLS TO REMAIN (BLOCKWORK, STOREFRONT, STRUCTURE, ETC.)
	REPRESENTS NEW WALL.
	REPRESENTS INSULATION
	REPRESENTS A WALL TAG.
	REPRESENTS WALL DIMENSION FROM FACE OF STRUCTURE UNLESS NOTED OTHERWISE
	REPRESENTS A DOOR TAG.
	REPRESENTS A WINDOW TAG.
	REPRESENTS A ROOM TAG.
	REPRESENTS OVERHEAD OR BELOW.
	REPRESENTS OVERHEAD EXHAUST FAN (MIN. 80 CFM).
	REPRESENTS OVERHEAD SMOKE DETECTOR.
	REPRESENTS OVERHEAD CARBON MONOXIDE DETECTOR

NOTES

R503.1.1 BUILDING ENVELOPE. BUILDING ENVELOPE ASSEMBLIES THAT ARE PART OF THE ALTERATION SHALL COMPLY WITH SECTION R402.1.1 OR R402.1.4, SECTIONS R402.2.1 THROUGH R402.2.11, R402.3.1, R402.3.2, R402.4.3 AND R402.4.4.

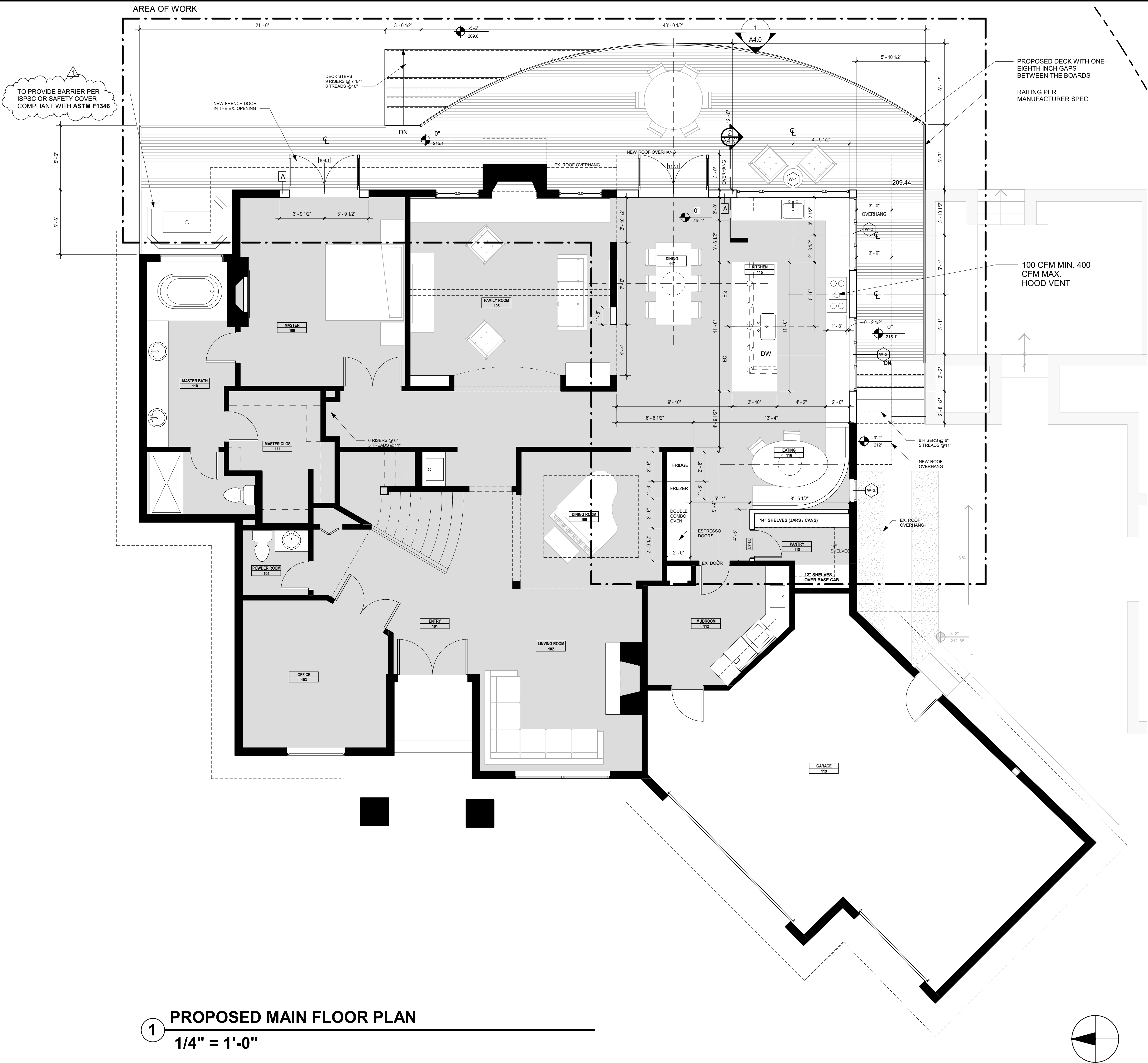
EXCEPTION: THE FOLLOWING ALTERATIONS NEED NOT COMPLY WITH THE REQUIREMENTS FOR NEW CONSTRUCTION PROVIDED THE ENERGY USE OF THE BUILDING IS NOT INCREASED:

1. STORM WINDOWS INSTALLED OVER EXISTING FENESTRATION.
2. EXISTING CEILING, WALL OR FLOOR CAVITIES EXPOSED DURING CONSTRUCTION PROVIDED THAT THESE CAVITIES ARE FILLED WITH INSULATION. 2X4 FRAMED WALLS SHALL BE INSULATED TO A MINIMUM OF R-15 AND 2X6 FRAMED WALLS SHALL BE INSULATED TO A MINIMUM OF R-21.
3. CONSTRUCTION WHERE THE EXISTING ROOF, WALL OR FLOOR CAVITY IS NOT EXPOSED.
4. ROOF RECOVER.
5. ROOFS WITHOUT INSULATION IN THE CAVITY AND WHERE THE SHEATHING OR INSULATION IS EXPOSED DURING REROOFING SHALL BE INSULATED EITHER ABOVE OR BELOW THE SHEATHING.
6. SURFACE-APPLIED WINDOW FILM INSTALLED ON EXISTING SINGLE PANE FENESTRATION ASSEMBLIES TO REDUCE SOLAR HEAT GAIN PROVIDED THE CODE DOES NOT REQUIRE THE GLAZING FENESTRATION TO BE REPLACED.



SEC R406.2 & 406.3 ENERGY CREDITS

3.1 HIGH EFFICIENCY HVAC	1
7.1 APPLIANCE PACKAGE	0.5
TOTAL CREDITS:	1.5



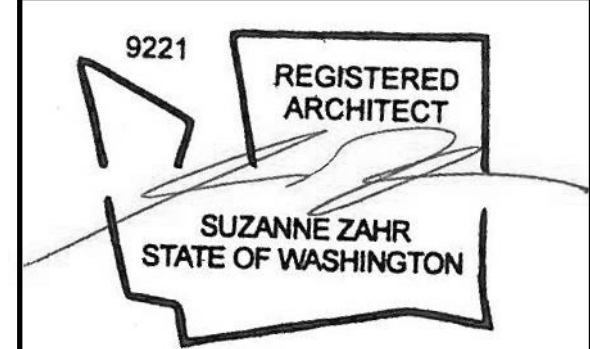
1 PROPOSED MAIN FLOOR PLAN
1/4" = 1'-0"



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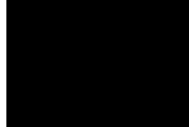
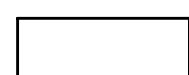

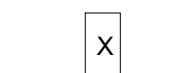
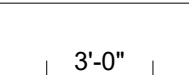
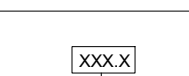
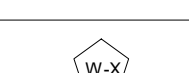
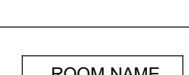




ISSUED / REVISIONS	DATE
1 REVISION	10.11.2022

ISSUE DATE: **07.29.22**
 DRAWN BY: **SA**
 CHECKED BY: **SZ**

MAIN FLOOR CONSTRUCTION PLAN

SHEET NUMBER
A2.1

PERMIT SET

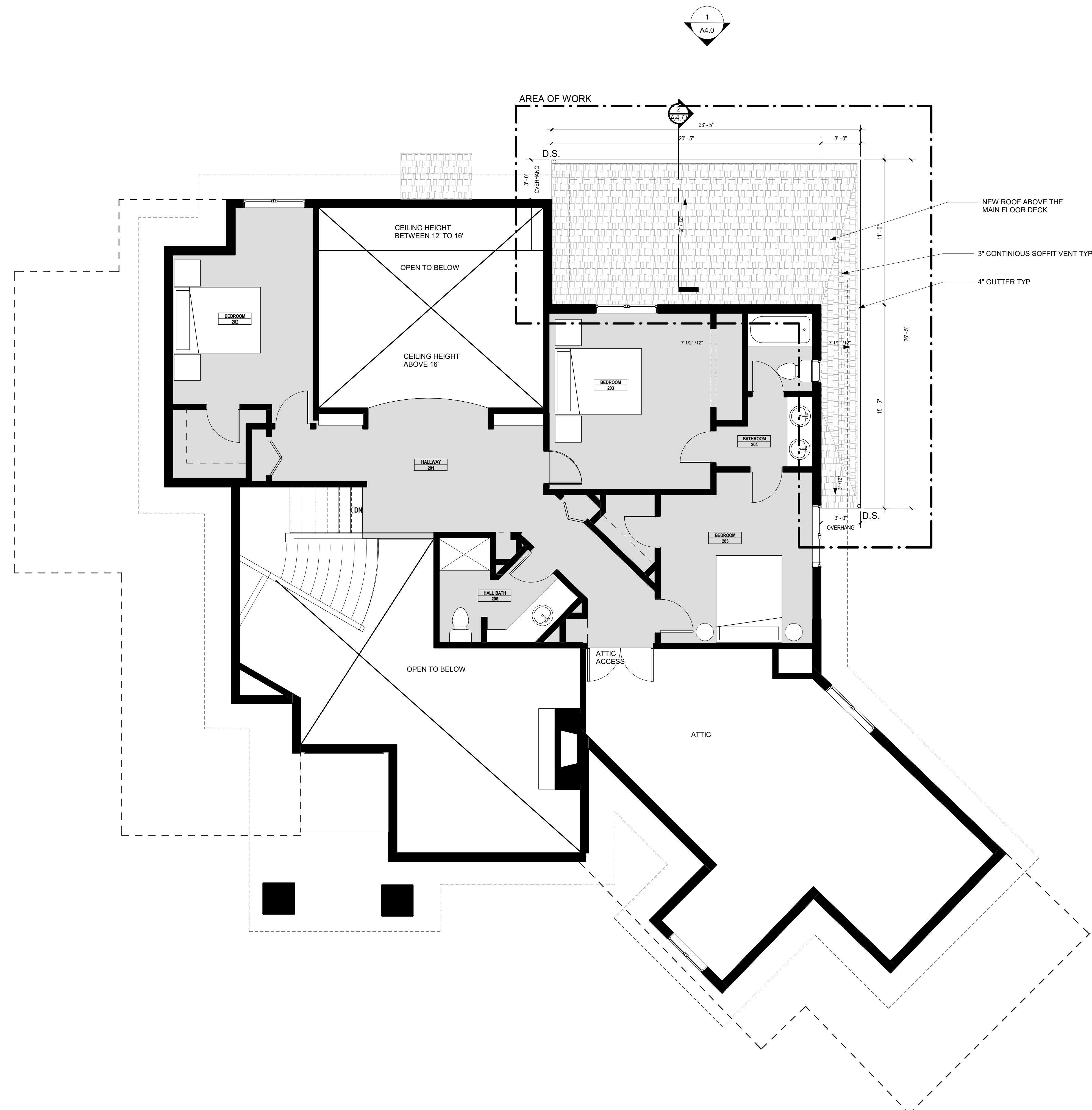
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	REPRESENTS A WINDOW TAG.
	REPRESENTS A ROOM TAG.
	REPRESENTS OVERHEAD OR BELOW.
	REPRESENTS OVERHEAD EXHAUST FAN (MIN. 80 CFM).
	REPRESENTS OVERHEAD SMOKE DETECTOR.
	REPRESENTS OVERHEAD CARBON MONOXIDE DETECTOR.

NOTES

NEW ADDED ROOF
 ROOF VENTILATION TO CONFORM TO IRC SECTION R806.

ROOF AREA: 316 sf
 VENTILATION REQUIRED: (316 SG /150) x 144 si/sf = 303.36 si 18 sim ea.
 3" SCREENED VENT: 439.68si / 18 si/lf = 17 lf
 TOTAL VENTILATION REQUIRED: VENTILATION PROVIDED: 17 FT LINEAR FEET OF COR-A-VENT

NOTE: VENTILATION REQUIREMENTS MET BY CONTINUOUS SOFFIT VENT.
 LINEAR FEET OF SOFFIT VENT: 17FT



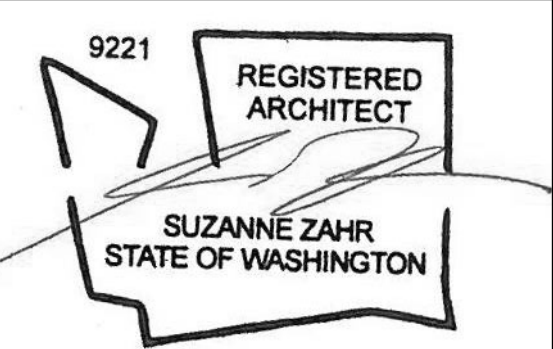
1 PROPOSED UPPER FLOOR PLAN
 1/4" = 1'-0"



SUZANNE ZAHR INC.
 2441 SE 76TH AVE, SUITE 160
 MERCER ISLAND, WASHINGTON 98040
 T. 206 354 1567
 WWW.SUZANNEZAHR.COM

ROSS PAARKS
 RESIDENTIAL REMODEL ADDITION
 7010 93RD AVE SE
 MERCER ISLAND, WA 98040

PROJECT NUMBER
20001



ISSUED / REVISIONS	DATE
1 REVISION	10.11.2022

ISSUE DATE: 07.29.22
 DRAWN BY: SA
 CHECKED BY: SZ

UPPER FLOOR CONSTRUCTION PLAN

SHEET NUMBER
A2.2

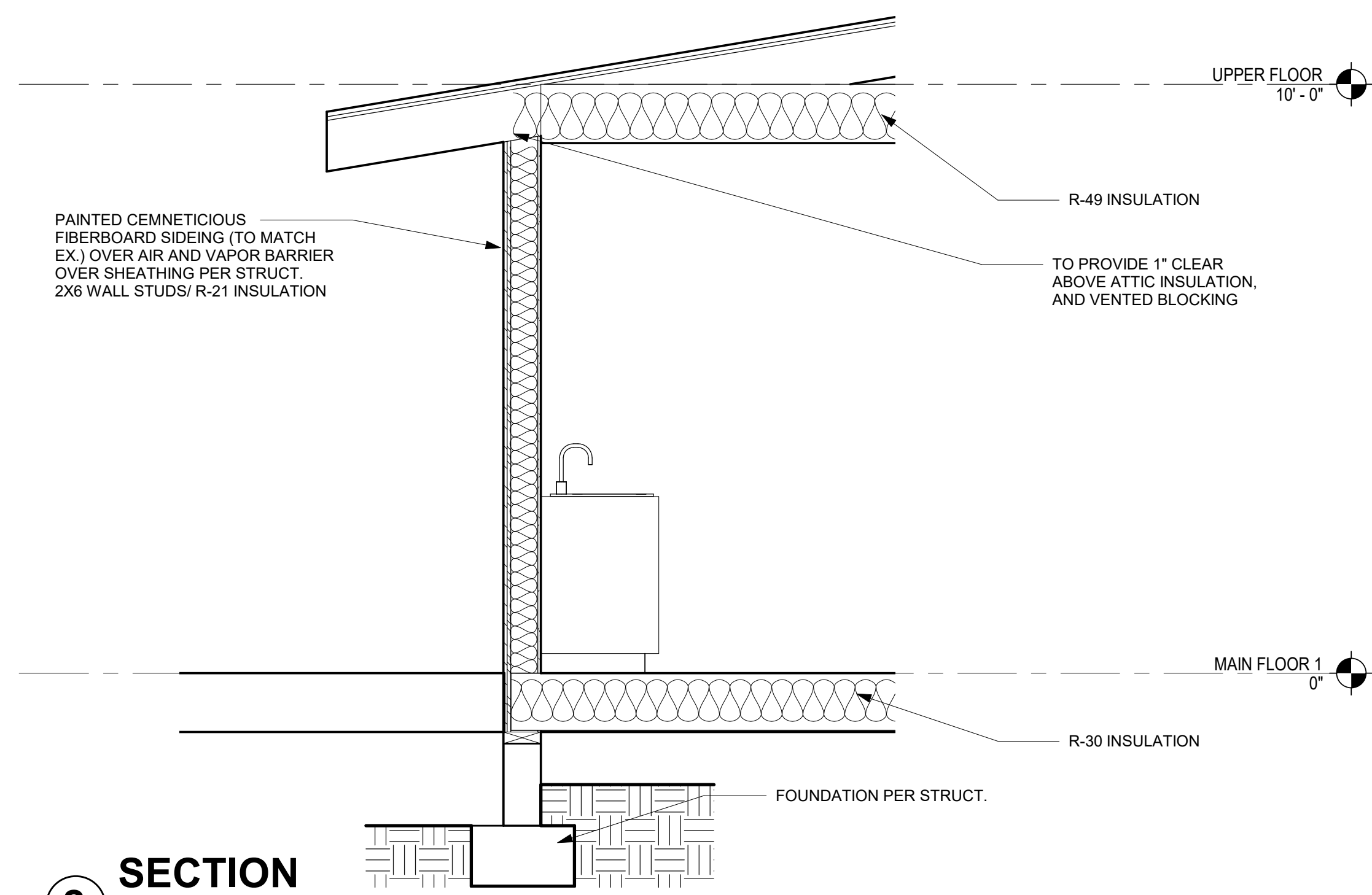
PERMIT SET

ISSUED / REVISIONS	DATE
1 REVISION	10.11.2022

ISSUE DATE:	07.29.22
DRAWN BY:	SA
CHECKED BY:	SZ



1 ELEVATION - EAST
 1/4" = 1'-0"



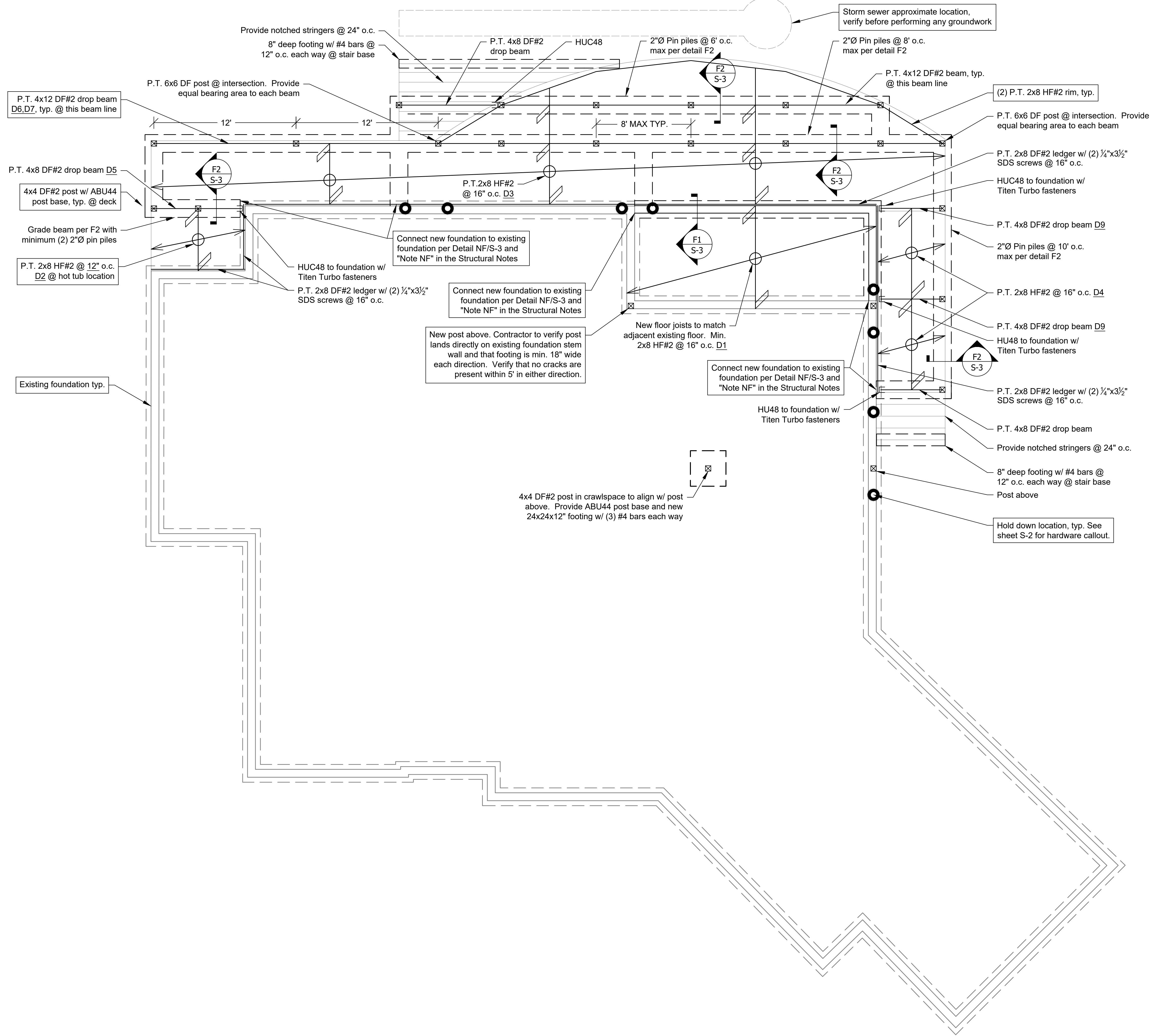
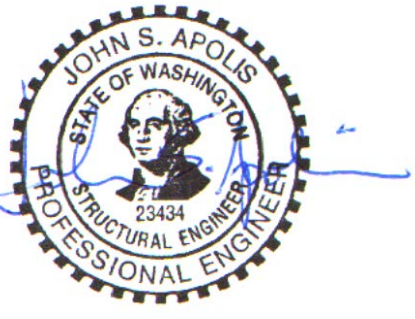
2 SECTION
 1/2" = 1'-0"



BUILDING VIEW - SOUTH



BUILDING VIEW - EAST



NOTES:

- Contractor to verify existing foundation stem wall extends up to deck level.
- Railing system by others.

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Phone: 206-527-1288
Email: john@cses-engineering.com

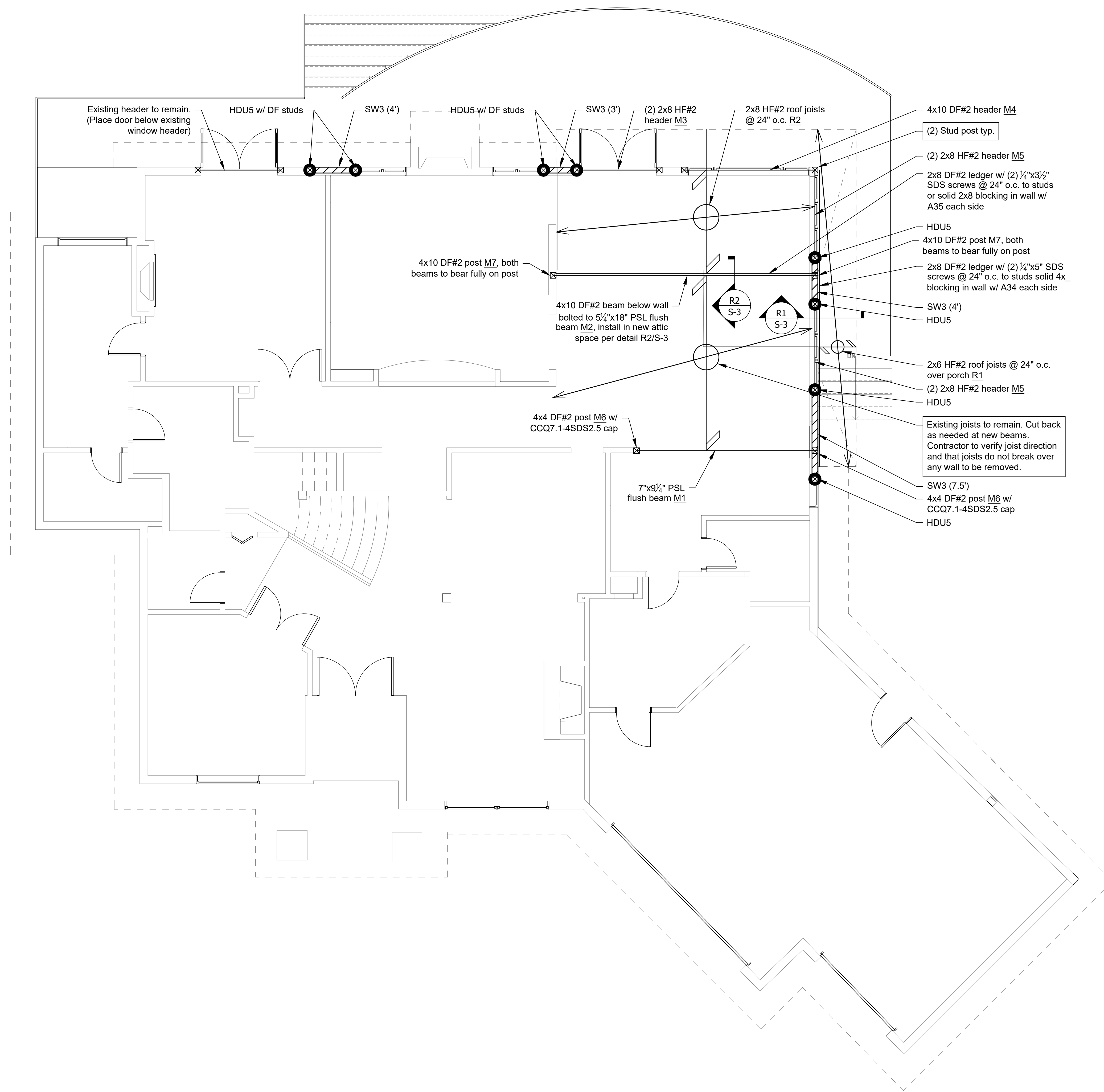
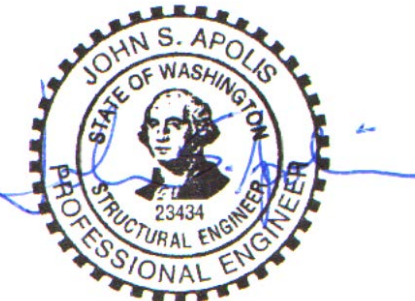
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Revisions:

Date:
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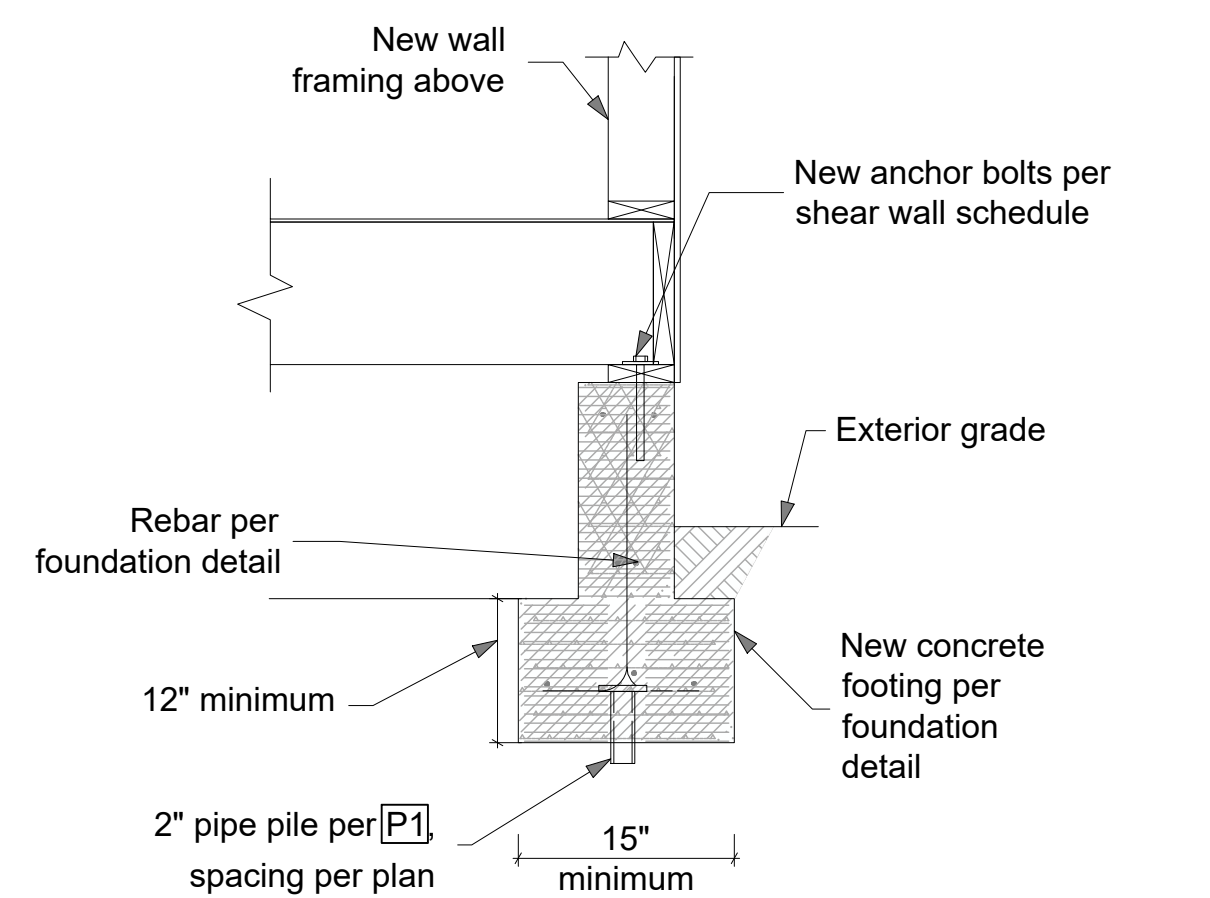
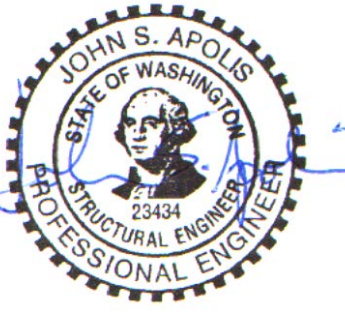
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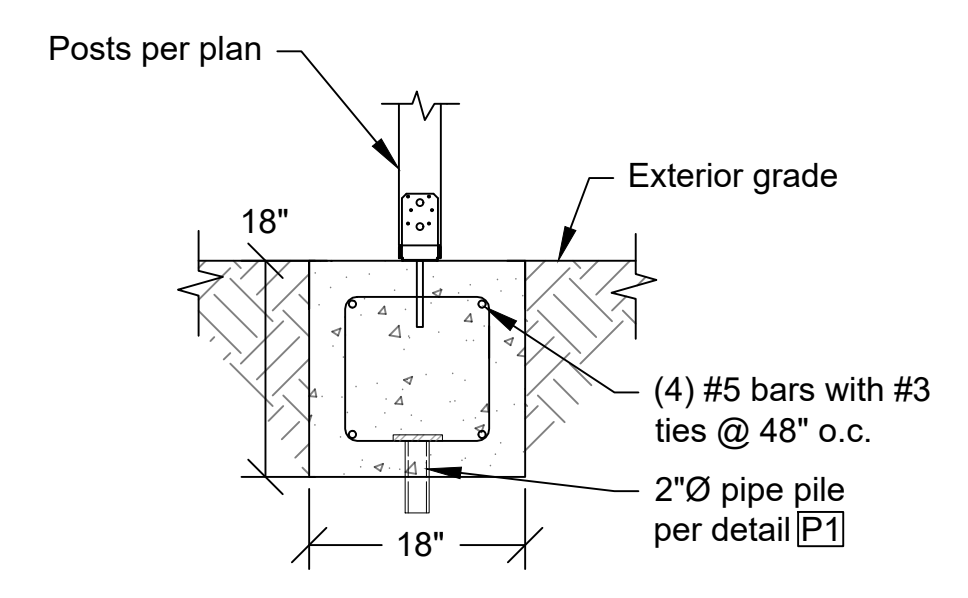
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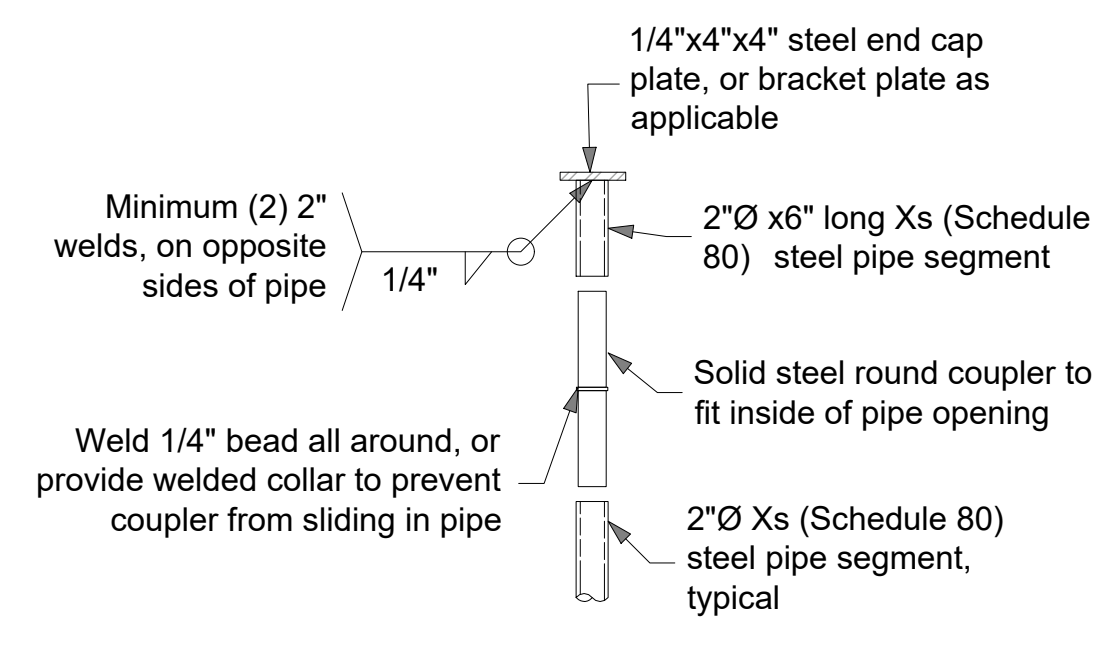
S-2



F1 Pipe Pile Foundation Detail
Scale: 3/4" = 1'-0"

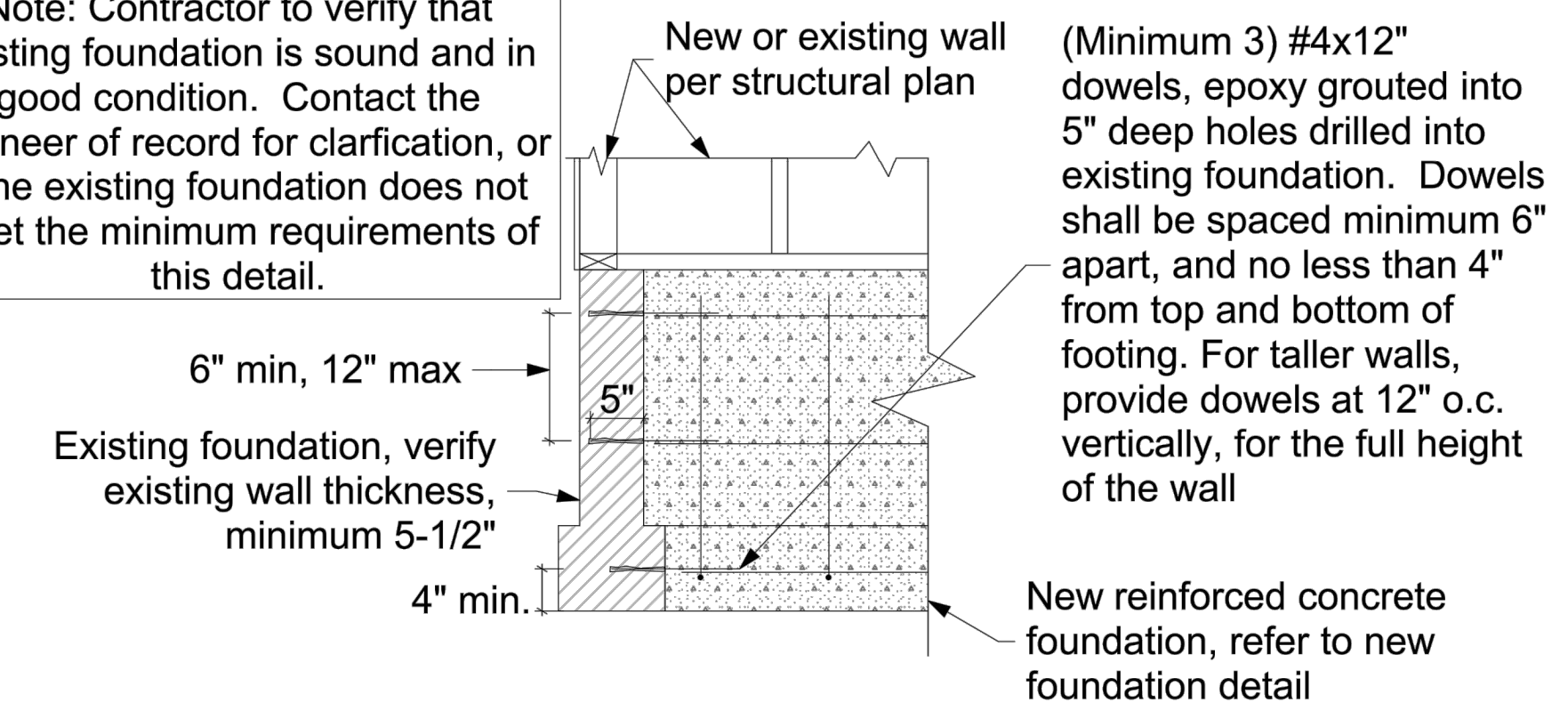


F2 Exterior Grade Beam with Pipe Pile Detail
Scale: 3/4" = 1'-0"

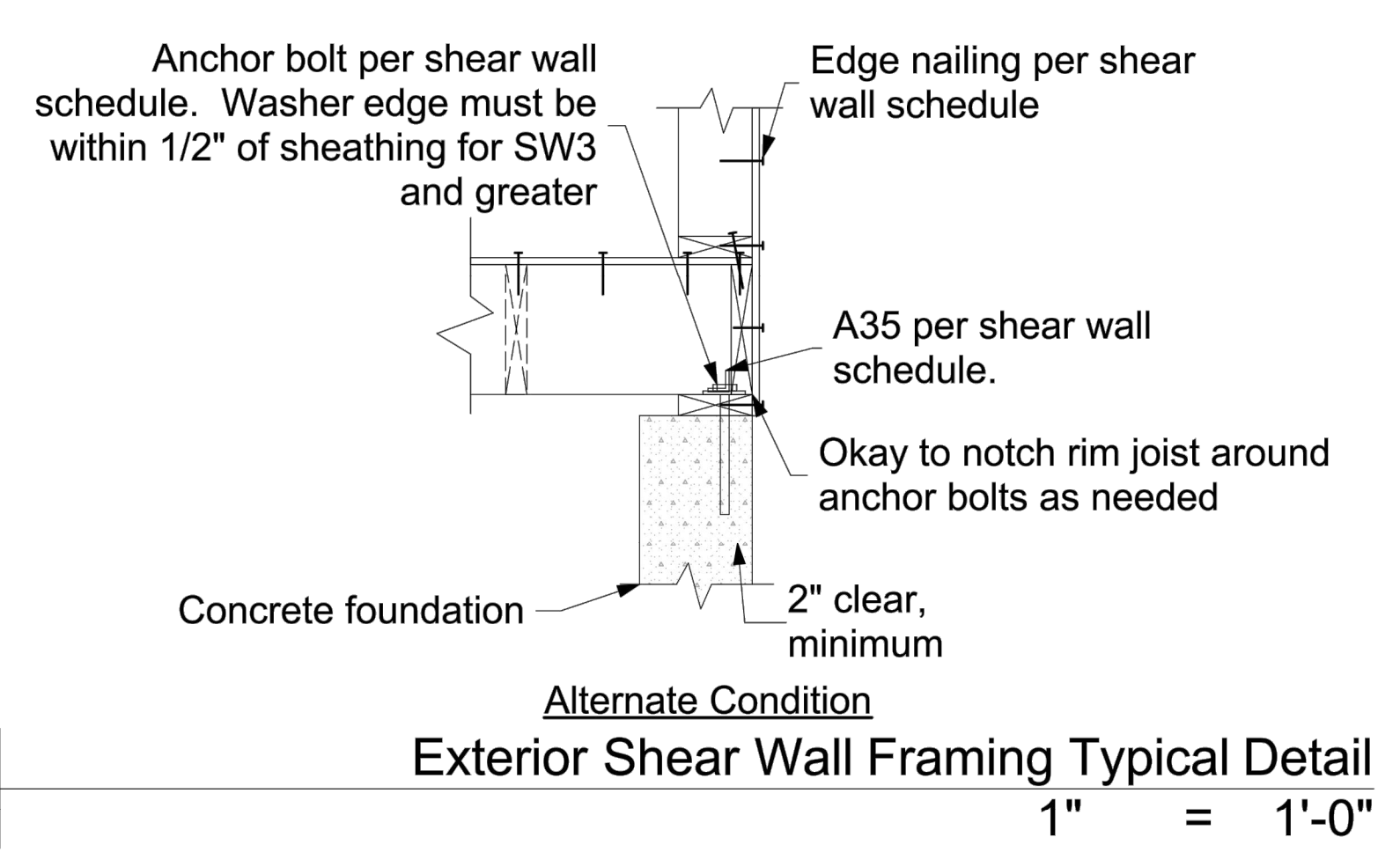
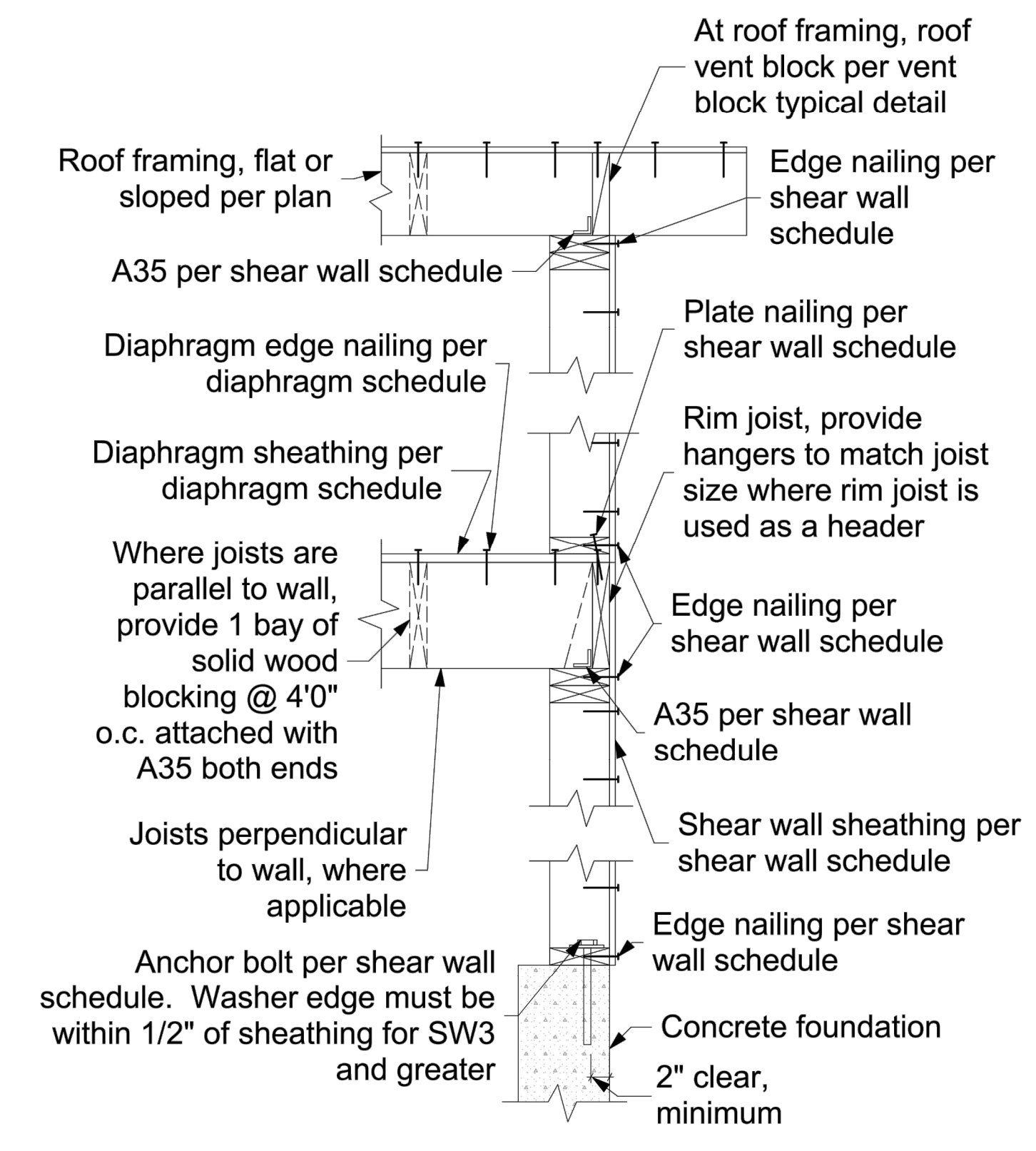


P1 2"Ø Pipe Pile Detail
Scale: 1" = 1'-0"

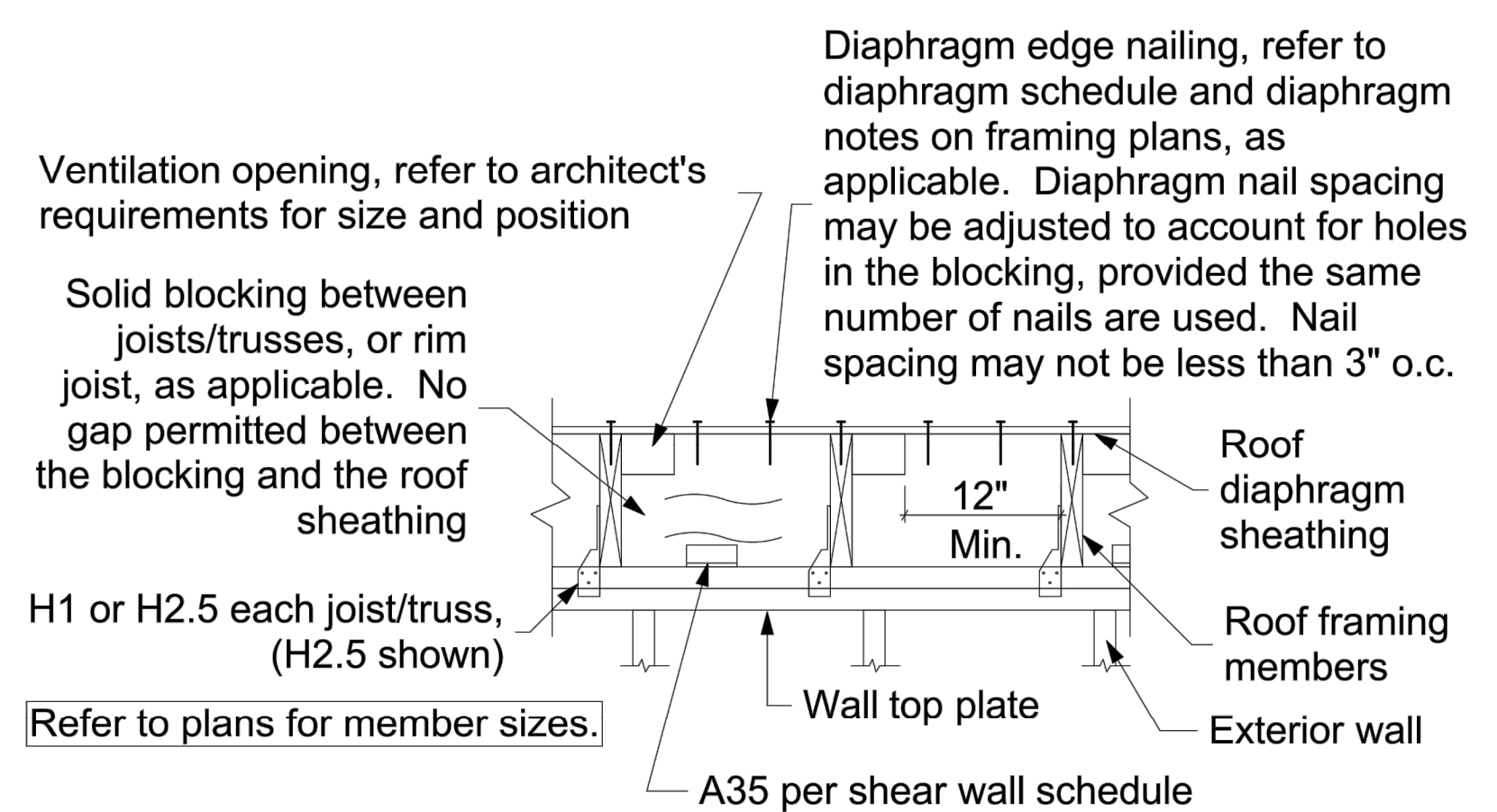
Note: Contractor to verify that existing foundation is sound and in good condition. Contact the engineer of record for clarification, or if the existing foundation does not meet the minimum requirements of this detail.



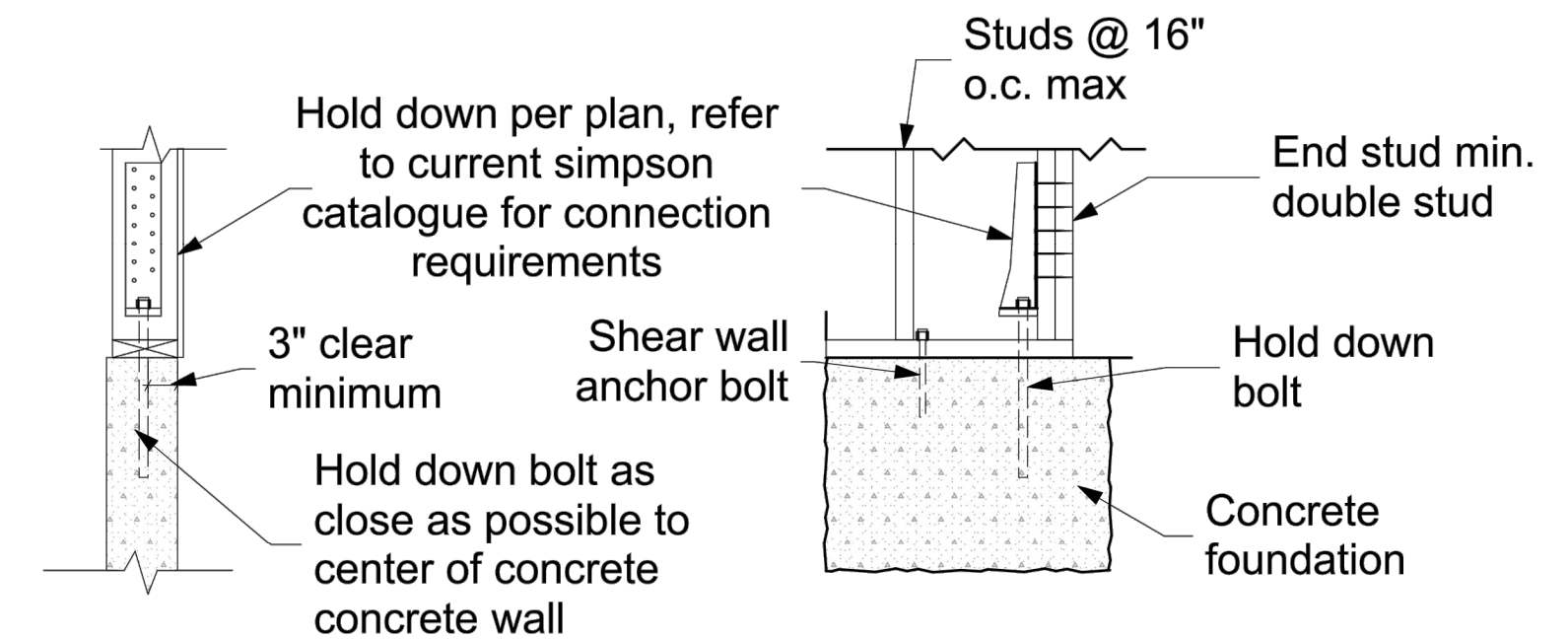
NF New Foundation to Existing Detail
Scale: 3/4" = 1'-0"



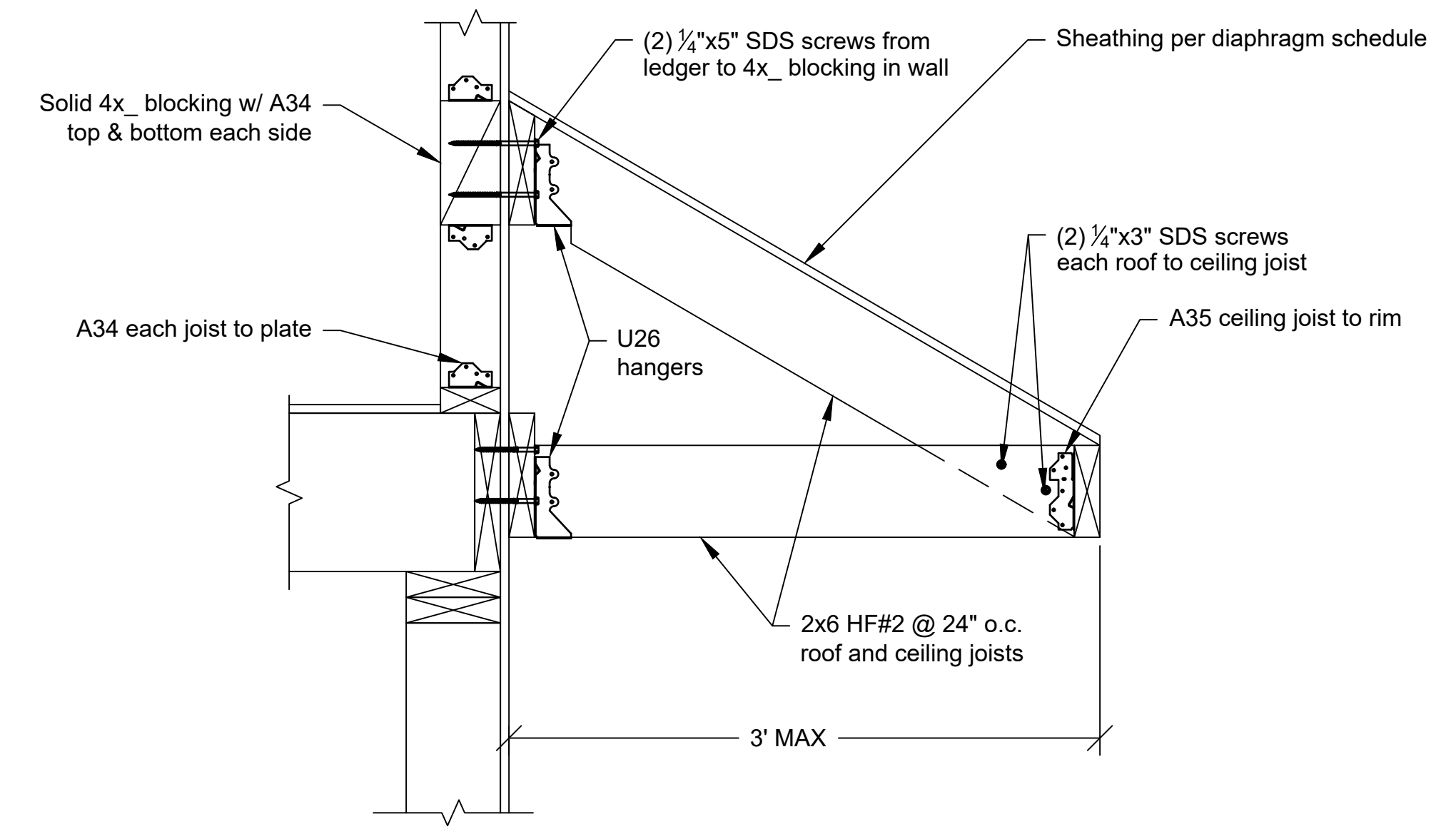
Alternate Condition
Exterior Shear Wall Framing Typical Detail
1" = 1'-0"



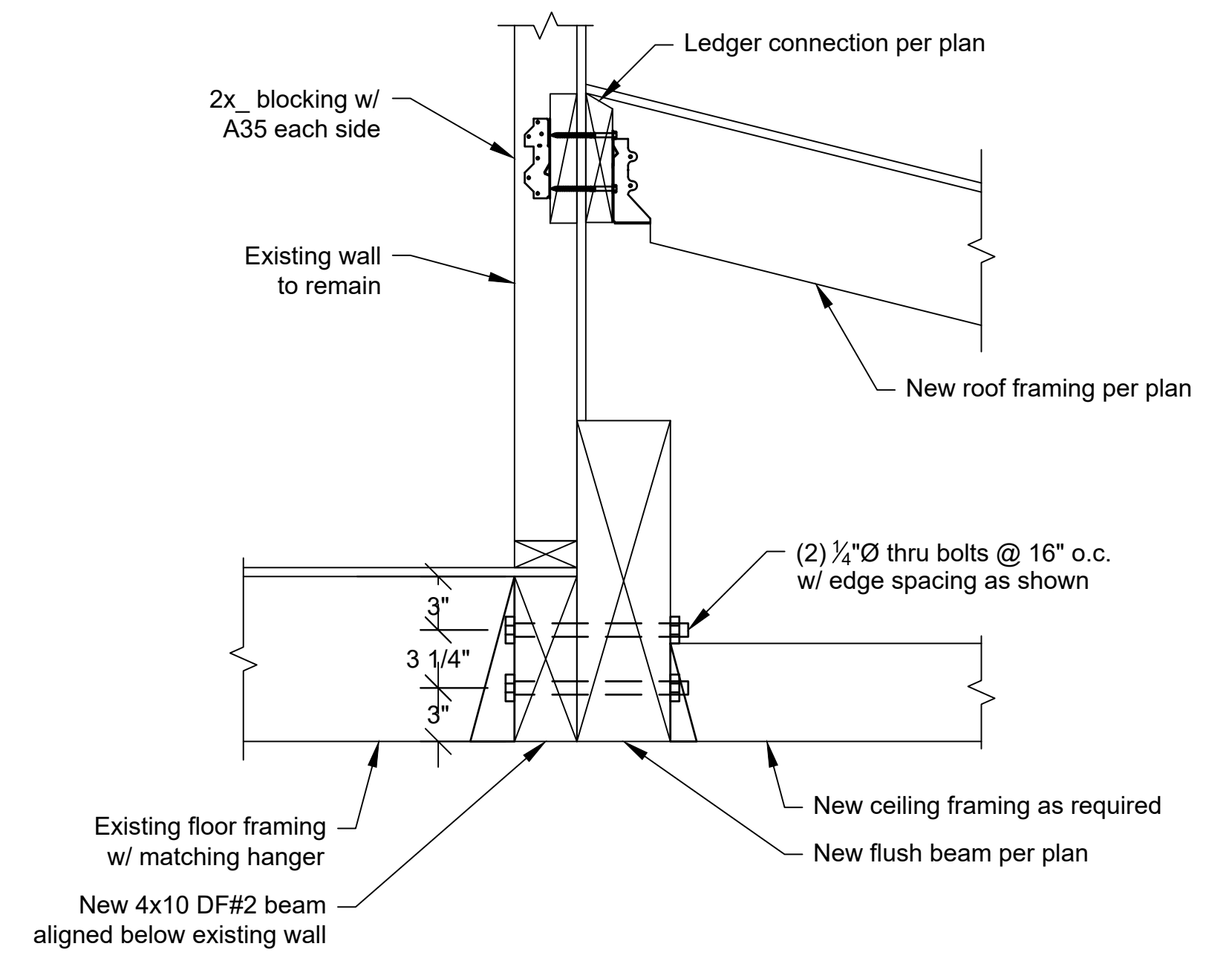
Roof Ventilation Typical Detail
1" = 1'-0"



Retrofit HDU Hold Down Typical Detail
3/4" = 1'-0"



R1 Porch Roof Framing Detail
Scale: 1-1/2" = 1'-0"



R2 Flush Beam @ Existing Wall Framing Detail
Scale: 1-1/2" = 1'-0"

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5-5-22

Sheet:

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Structural Notes:

Applicable Codes and Standards:

2018 International Building Code (IBC) and other applicable local building codes.
ASCE/SEI 7-16 - "Minimum Design Loads for Buildings and Other Structures"
2018 NDS for wood structures.
American Wood Preservers Bureau - AWPB Standards for Pressure Treated Material.
American Concrete Institute - ACI 315, ACI 318, ACI 301, ACI 307.

Structural design shall be in accordance with the latest edition of above codes and standards. Contractor shall comply with the latest edition of all applicable codes and standards.

Design Loads:

Live load:	roof	25 psf (snow)
	floors	40 psf (60 psf decks)
Dead load:	solar panels	4 psf

Wind load: Basic wind speed 110 mph, exposure C, KzT=1.0
Building Category: Enclosed, Wind Important Factor Iw = 1.0
Refer to calculation page L1 for design wind forces.
Internal pressure 5 psf, Components and cladding design per 1609.6.4.4.1

Seismic loading per IBC Section 1613, Site Class D.

The basic structural type is a bearing wall system with light framed walls with shear panels. Rw = 6.5 (wood structural panels), soil type D.
Seismic importance factor 1.0, Seismic Use Group I
Design and Analysis by Simplified Design Procedure
Peak Ground Accelerations (PGA) based on USGS Hazards Program, by lat/long.
PGA 1 sec = 0.503 PGA 2 sec = 1.454
Seismic base shear = 0.149 * Dead Load

Foundations:

Soil parameters (assumed): Vertical allowable soil pressure: 1,500 psf
All soil conditions are to be field verified during construction. Footings shall bear on firm natural soils or on structural fill placed over firm natural soils, and inspected in place. Footings shall extend 18 inches minimum below adjacent exterior finished grade and shall extend 12 inches minimum below existing interior grade unless otherwise noted on plans. Structural fill shall be placed in 12-inch maximum horizontal lifts (loose thickness) and compacted to 90 percent of maximum dry density in accordance with ASTM D-1557. Imported structural fill shall be granular material containing no more than 5 percent fines, passing no. 200 sieve. Structural fill in place shall be tested by a licensed soil engineer or approved by the building inspector.

Drainage behind the concrete walls shall be provided conforming to the construction details.

Cast in Place Concrete:

Concrete shall attain a minimum compressive strength of 2,500 psi at 28 days (5-1/2 sack mix). An alternate mix provided by the concrete supplier and pre-approved by the building department is acceptable. Reinforcing steel shall conform to ASTM A-615, Grade 60 (Fy=60,000 psi) for all bars. Provide all wall and footing horizontal bars with 2'-0" x 2'-0" corner bars of the same size at all corners and wall intersections. Minimum lap splice 48 bar diameters.

Concrete protection for reinforcement shall be:	
Concrete exposed to earth or weather	1.5" (#5 & smaller) 2" (#6 & larger)
Concrete cast against earth	3"
Slabs	0.75"

Steel Pipe Piles:

Steel pipe piles shall be installed per the geotechnical report by Nelson Geotechnical Associates, Inc., dated April 29, 2022.

The design strength for 2" piles is 6,000 lbs. The Structural Steel pipe shall conform to ASTM A53, Fy = 35 ksi. Galvanized 2" diameter schedule 80 pipe may be used. The pipes shall be driven to refusal, defined as less than 1" of movement in 60 seconds of driving with a 140-pound jackhammer. The steel pipe pile refusal shall be witnessed by the geotechnical engineer of record or the structural engineer of record.

Bolts:

Anchor bolts shall conform to F1554. All other bolts shall conform to ASTM A307.
Minimum anchor bolt size and spacing shall be 1/2" diameter bolts @ 6' o.c. Shear wall anchor bolts per the shear wall schedule.
For cast-in-place anchors, provide 7" minimum embedment into the new concrete foundation.
For retrofitted anchors, provide 5" minimum embedment into the existing concrete foundation. Epoxy grout with Simpson SET epoxy.
Provide 3"x3" square x 0.229" thick bolt washers where anchor bolts connect the sill plate to the concrete foundation.

Wood Framing Specifications:

All sill plates and other wood framing which is in contact with concrete or masonry must be preservative-treated in accordance with AWPA U1 and M4 standards. For anchor bolts connecting wood sill plates to concrete or masonry, provide galvanized steel washers and nuts on top of the sill, minimum washer size 3" x 3" x 1/4" thick.

Where toenails are used for stud wall construction, a minimum of (2) toenails at top and bottom of each stud shall be provided. Toenails shall be 16d nails driven at approximately a 45 degree angle, with a minimum of 1-1/2" of the nail shank shall be embedded in both the stud and the plate. End nails driven through the plate and into the stud end grain are not permitted. Simpson A34 clips at top and bottom of each stud are permitted where correct toenailing is not provided.

Wherever joists bear on a wall or beam, either a continuous rim joist or solid wood blocking must be provided. Blocking shall be connected to the joists with A35 angles at each end. Individual blocks may be omitted to allow for ducting or other openings. Consult with the engineer of record if more than 25% of the blocking is omitted.

Unless noted otherwise, the following grades and species shall be used for structural lumber:

2x joists	Hem-Fir #2
2x, 3x, and 4x studs	DF/L standard for plywood or WSP shear walls Hem-Fir standard for other walls
4x and 6x beams	DF-L #2
Parallam lumber	2.2 WS, Fb = 2900 psi, Fv = 290 psi (minimums)

All framing connections shall be per Table 2304.10.1 of the IBC, unless otherwise noted.

Preservative-Treated Wood and Fasteners:

All wood in contact with concrete or masonry shall be preservative-treated, in accordance with AWPA U1 and M4 standards.

All fasteners installed in preservative-treated wood shall be hotdipped zinc-coated galvanized with a minimum coating weight complying with ASTM A 153.

Fasteners other than nails and timber rivets are permitted to be mechanically deposited zinc-coated with coating weights complying with ASTM B 695, Class 55 minimum. Plain carbon steel fasteners in wood preservative-treated with SBX/DOT or zinc borate are not required to be galvanized.

Plywood Thickness, Grade, and Nailing:

Install plywood sheets with face grain perpendicular to framing. Stagger joints in adjacent sheets. If not otherwise noted, use nailing schedule, Table 2304.6.1 of the IBC.

Metal Framing Connectors:

Unless otherwise noted: Metal framing connectors shall be manufactured by the Simpson company, or approved equal. Unless noted otherwise, use U-series joist hangers to match joist size (e.g., U210 for 2x10 joist). Provide H1 or H2.5 hurricane ties, or other connectors with similar capacity, at every roof joist or truss, and H6 or H7 at ends of roof beams and girder trusses. Where supported by wood posts, wood beams shall be connected to the tops of the posts using Simpson AC, PCZ or EPCZ post caps, and to the bottoms of the posts bearing on wood framing using Simpson AC connectors or A35 clips. Where supported by perpendicular beams, wood beams shall be connected by HU-series face mount beam hangers. Provide Simpson AR_ or PB post bases to connect posts to concrete foundations. Unless otherwise specified, the maximum number of nails or screws should always be installed on any connector.

Bearing Walls:

All walls supported by continuous concrete footings shall be connected to the foundation per 2018 IRC section 403.1.6. 1/2" diameter anchor bolts shall be provided at 4' o.c., or two per wall segment, minimum. Anchor bolts shall penetrate 7" into the concrete foundation.

Connection of New Foundation to Existing, Note NE:

At each location where the new concrete foundation abuts the existing foundation, connect the new to the existing using minimum (3) #4 by 18" long rebar dowels, epoxy grouted into 5/8" diameter by 5" deep holes drilled into the existing foundation. Each dowel shall be no closer than 3" to any edge or corner of concrete. Minimum spacing between dowels shall be 6". For concrete wall intersections longer than 3'-0" in any direction, additional dowels shall be located at 12" o.c. for the full height or length of the new foundation concrete.

Contact the engineer (prior to construction) for evaluation and approval of the existing foundation system, if there are any significant cracks in the existing foundation within 6 feet of the new foundation, or if there is any indication that the existing foundation is in poor condition, including visible rock pockets, non-uniform concrete, spalling, noticeable settlement of the existing footing, or other distress.

Hold Down Notes

Convention for showing shear walls and hold downs: Shear walls are shown on the framing plan for the floor above. (For example, first floor shear walls will be shown on the second floor framing plan, and the shear walls for the topmost floor will be shown on the roof framing plan.) Hold downs are located at the bottom of that shear wall, and connect the end of the shear wall to wall framing or a structural beam located in the floor below the shear wall. Contact the engineer of record for clarification if needed.

Hold downs for each floor must be continuously connected to hold downs on the floor below (or to other intermediate wood framing where so indicated), until they are finally connected to the concrete foundation.

Hold downs shall be installed so as to be as far apart as is reasonable. Hold downs may be located on either the near side or the far side of the post or double stud to which they are attached. In no case shall a hold down bolt be located farther than 6" from the end of the shear wall, except with prior written approval of the engineer. Refer to the latest edition of the Simpson Catalog for details.

Where multiple studs are called out at a hold down, nail studs together with (2) 16d nails at 8" o.c. or 1/4" x 3" Simpson SDS Screws at 12" o.c.

Where a hold down post lands on a rim joist, provide full depth vertically oriented blocking under the post.

Rod Hold Downs:

HDUx denotes a Simpson HDU(2,4,5,8, or 11)-SDS2.5 hold down. For hold down bolts at existing concrete foundations, use the following bolts:

For HDU2,4,5: 5/8" diameter A307 threaded steel rod may be used, which shall be epoxy grouted into a 3/4" diameter hole with a minimum embedment of 10". See Retrofit HDU Typical Detail.

For hold downs at new concrete foundations, provide the following bolts.

For HDU2,4,5: Simpson SB5/8x24 may be used, installed per the most recent edition of the Simpson Strong-Tie Literature.

The PAB anchor shall be continuous through the foundation stem wall, into the footing. Footings containing an anchor bolt shall be a minimum of 16" wide by 12" deep. The embedment depth shall be as shown in the Hold Down Bolt Embedment Table. The PAB threaded rod may be extended using an ASTM A194-2H coupler connecting to a 1" diameter ASTM A449 threaded rod.

Special Note:

All holes for hold down bolts which are installed into existing foundations must be inspected during the installation of the hold down. Either the building inspector, the structural engineer of record, or the special inspection agency must perform the inspection and approve it before the bolts may be epoxy grouted into the holes. The epoxy grout used must be Simpson SET-XP unless otherwise noted by the engineer of record.

For drilled holes into existing concrete, no less than 2" must be provided between the edge of the hole and the face of concrete. The Engineer of Record or Special Inspector must witness the installation of hold down bolts, including cleaning the holes with compressed air and a wire brush before the anchor is installed. The hole shall be filled with enough epoxy that when the anchor is inserted, the epoxy rises to the top of the concrete. Care shall be taken that no air bubbles persist in the epoxy.

The contractor must verify that the existing foundation stem wall is uncracked and continuous, and is sound and in good condition, within 5 feet of any retrofitted shear wall or hold down, in any direction, except with prior written approval of the engineer. The existing concrete foundation stem wall shall be at least 6" thick and 2'-6" in height. The concrete shall be of good quality, hard and uniform, with appropriate aggregate type, size and distribution, and with no visible rock pockets or other similar deficiencies.

Any existing cracks located within 10' of any hold down must be completely filled with an appropriate epoxy based concrete repair product. The product to be used shall be approved in writing by the engineer prior to filling the cracks.

Contact the engineer of record prior to proceeding if any of these requirements are not met, or if the installation of the hold downs results in any visible damage to the existing foundation.

SHEAR WALL SCHEDULE

(Lumber for shear walls is HF#2 or better, unless otherwise noted.)

Type	Material	Edge Nailing	Field Nailing	A.B. Size/Spacing	Plate Nailing	Plates	A35 Spacing	Shear Capacity
SW0	15/32" WSP one side, unblocked	8d @ 6"	8d @ 12"	1/2"Ø @ 72"	(2) 16d @ 12"	2x_	24"	100 plf
SW1	15/32" WSP one side	8d @ 6"	8d @ 12"	1/2"Ø @ 48"	(2) 16d @ 9"	2x_	24"	230 plf
SW2	15/32" WSP one side	8d @ 4"	8d @ 12"	1/2"Ø @ 32"	(2) 16d @ 6"	2x_	16"	350 plf
SW3	15/32" WSP one side	10d @ 3"	10d @ 12"	5/8"Ø @ 24"	(2) 16d @ 4"	3x_	12"	550 plf

For shear wall callouts on the Structural Framing Plans: SW x (y') denotes a shear wall type "x" with a minimum length of "y" feet.

• For SW3 and greater; studs, plates, and blocking where two WSP panels abut shall have a minimum 3" nominal thickness. Double 2x_ members may be used for studs if the members are connected by plate nailing. Note 10d nails at WSP panel edges.

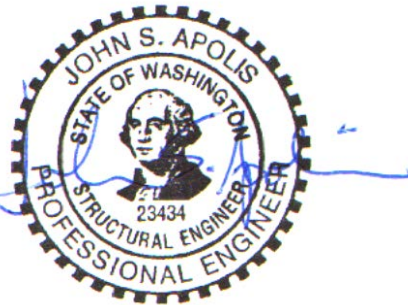
• "WSP" refers to "Wood Structural Panel", either plywood or other wood materials.
• Provide double stud minimum at both ends of all shear walls.
• At the roof or top level of any shear wall, "A35 spacing", and all other relevant connector specifications, apply to assemblies at both the top and bottom of the shear wall. At lower levels, apply to the bottom of the wall only.
• Provide floor diaphragm edge nailing per diaphragm schedule through floor plywood into blocking, parallel joist framing, or top plates (whichever applies) of all shear walls.
• Where shear wall edge nails are spaced closer than 3" o.c., or spaced 3" o.c. with 10d nails, foundation sill plates and all framing members receiving edge nailing from abutting panels shall not be less than a single 3x_ member.
• Provide 4x_ or double 2x_ framing where A35 angles are used on both sides of one piece of wood.
• Where a shear wall terminates above the foundation level (no shear wall below), provide minimum 4x_ blocking or double joist framing (as applicable) below the shear wall."&" Plate nailing per this schedule shall be nailed into this blocking at the bottom of the shear wall.
• Shear wall nails shall be placed no closer than 3/8" from a panel edge or perpendicular face of stud.
• Maximum spacing between nails shall not exceed 12".
• Shear wall nailing shall be common or galvanized box nails, unless lag screws are noted. Galvanized nails shall be hot dipped or tumbled.
• Where hold downs are specified, the shear wall bolt shall be located within 6 inches of the end of the shear wall, unless otherwise approved by the engineer of record. Minimum end studs shall be as specified in the most recent Simpson catalog.
• Shear wall edge nailing through shear wall sheathing shall be provided into all studs attached to a hold down.
• Retrofit anchor bolts shall have a minimum embedment of 5" into the concrete foundation.
• Cast in place anchor bolts shall have a minimum embedment of 7" into the concrete foundation.
• For SW3 and greater, foundation anchor bolt plate washers shall extend to within 1/2" of the edge of the sheathing.
• Plate nails shall be nailed into a solid wood rim joist.
• 2x_ plates may be substituted for 3x_ plates if panels are nailed with edge nailing directly to the rim joist.
• Where 3x_ plates are used, (2) 20d common nails must be used instead of (2) 16d common nails to connect studs to the bottom plate.
• Where Roof ventilation is required over a shear wall, see roof ventilation detail.

Diaphragm Schedule

(Lumber for diaphragm construction is HF#2 or better, unless otherwise noted.)

Type	Material	Edge Nailing	Field Nailing	Edge Blocking	Remarks
Roof	15/32" CDX 24/0	8d @ 6" o.c.	8d @ 12" o.c.	no	Minimum Standard
Floor	23/32" CDX 48/24	8d @ 6" o.c.	8d @ 12" o.c.	no	Minimum Standard

• "WSP" refers to "Wood Structural Panel", either plywood or other wood materials.
• Rim joists at exterior walls shall be continuous for tension. At rim joist splice locations, provide (2) CS16 horizontal straps, minimum 24"
• Where roof or floor framing is cantilevered over an exterior wall below, provide solid blocking with Diaphragm edge nailing between joists.
• This is the minimum required diaphragm construction. Where otherwise noted on the plans, additional blocking or nailing may be required.



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