



INSPECTION REQUESTS:

online	2:
	MyBuildingPermit.com
L	

PHONE: 206.275.7605 www.mercergov.org		MyBuildingPermit.com
HUNE: 200.275.7005 www.mercergov.org	SHIM	voicemail:
deplan	.1114	(206) 275-7730
MASHINGOO		
ONTACT INFORMATION:	PUBLIC	C DISCLOSURE AS REQUIRED BY RCW 42.56
CONTACT INFORMATION: Applicant is to complete the following information.		
Applicant Contact information <i>prior</i> to permit issuance:	A	Applicant Contact information <i>post</i> permit issuance:
Name:	 N	Name:
Address:	A	Address:
Phone:	P!	Phone:
Email:	Eı	imail:
REQUIRED SPECIAL INSPECTIONS / STRUCT		
It is the Engineer of Record's responsibility to specify all required The owner is responsible for hiring an approved private Special I Inspectors (except Geotechnical) must be WABO certified. When Special Inspection or Structural Observation is required, the Inspection. Note: Inspection by the City Inspector is required in a below. Do not cover or conceal any work prior to the City inspector.	Inspecto e report s addition	or for the checked inspections noted below. All Special shall be submitted to the City Building Inspector prior to the City
STRUCTURAL OBSERVATION BY ENGINEER OF RECORD (EOR) Engineer of Record:	=	Phone:
General Conformance to Construction Documents		Other:
SOILS / GEOTECHNICAL:	_	
Special Inspector: Cor		Phone:
☐ Erosion control measures		Subsurface drainage placement Verify fill material and compaction
Shoring installation and monitoringObserve and monitor excavation		Verify fill material and compaction Rockery installation
☐ Verification of soil bearing		Pile placement (auger cast/driven pile)
Other:	L	Other:
REINFORCED CONCRETE: Special Inspector: Cor	mnany:_	Phone:
Concrete strength		Retaining wall construction
Reinforcing steel and concrete placement		Prestressed / Precast construction Other:
Shotcrete placementOther:		Other: Other:
STRUCTURAL STEEL: (AISC 360, Chapter N)	_	,
Special Inspector: Cor		
·		Moment Frame construction Other:
Structural steel erection, field welds and boltingOther:		Other: Other:
STRUCTURAL MASONRY:		
Special Inspector: Cor		Phone:
Mortar strengthMasonry unit strength		Glass unit masonry installation Wall panel and veneer installation
Other:		Other:
Other:	⊔	Other:
WOOD:		
Special Inspector / Engineer of Record: Cor	mpany:_	Phone:
Lateral resisting system construction	· 	High strength diaphragm construction
Other:	L	Other:
OTHER SPECIAL INSPECTIONS: Special Inspector: Cor	`~any'	Phone:
Special Inspector: Cor Epoxy grout installations	трану 	Stucco installation
Expansion anchor installations		Infiltration System
Other post installed anchorsAlternative construction methods:	L	Exterior Insulation Finish System (EIFS) installation Other:
Alternative construction materials:		Other:
DEFERRED SUBMITTALS: The Applicant is required to select all deferred submittals / shop fabrication / construction.) drawinį	gs for submittal to the City for review and approval prior to item
Connector plate wood trusses		Post tension layout
Metal joist / metal trussesPremanufactured structures (stairs, etc.)		Exterior cladding Window wall / curtain wall construction
Precast concrete elements		Other:
Other:		Other:
Prescriptive Compliance (RECPC) Form into the drawing set.		Alternatively, incorporate or include the Residential Energy Code
Sheet:		
Building envelope: wsec Table 402.1.1	_ 🗹	Air Leakage Testing. IRC Section R402.4.1.2 WA Amendments
(include U-factors, insulation and moisture control) Whole house ventilation: IRC Section M1507 WA Amended		✓ Provide air leakage test report verifying air leakage rate
(include ventilation option and duct sizing if applicable)		does not to exceed 5 air changes per hour. Duct Leakage Testing. wsec R403.2.2
Energy Credit Information: wsec Table 406.2	_ 🗸	Postconstruction Test. wsec R403.2.2.1
(include specific, written requirements) RECPC Form Information:	- -	Rough-in Test. wsec R403.2.2.3
(if incorporated within drawing set) http://www.mercergov.org/files/2012ResidentialEnergyCalcForm.pdf	_	

2[PROJECT ALERTS: Construction of the project shall be from supregred plans only. No deviation from the approved project plans is allowed without prior.	DSG
רבובט פז ו	Construction of the project shall be from <i>approved plans only</i> . No deviation from the approved project plans is allowed without prior approval from the City of Mercer Island. Approved plans must be kept on site and maintained in good condition. Refer to "Conditions of Permit Approval" provided at permit issuance for required construction rules and regulations, including: Site Considerations ROW restrictions ROW restrictions Planning Requirements Planning Requirements Sewer Requirements Noise Abatement Certification	COMPLETED BY [
	 Acess Road Requirements Water Service Requirements Tree Requirements Refer to "Preconstruction Meeting Checklist" provided at the preconstruction meeting for development related requirements. Temporary site address with minimum 6" high numbers visible from the street must be installed. Erosion control measures must be as shown on approved project drawings. All erosion control is to be in place and inspected prior to the start of any site work. 	BE
┧	A City of Mercer Island Business License is required for all subcontractors. Call (206) 275-7783 for more information. TREE PROTECTION REQUIREMENTS:	1
	 ✓ Tree protection as shown on approved drawings shall be installed at tree dripline prior to start of any site work and must remain in place throughout the project. ✓ No trees shall be cut without a City of Mercer Island tree permit. ☐ Replacement trees must be a minimum of six feet tall at installation. They must be planted and approved prior to final inspection. ☐ For this project, trees are authorized to be removed and replaced with trees. ☐ This project appears to be within a protected eagle nest area. Contact Federal Fish and Wildlife at (360) 534-9304 or visit their website at http://www.fws.gov/pacific/eagle 	
	FIRE PROTECTION REQUIREMENTS: Separate Permits are required for ALL fire protection systems. For more information, see http://www.mercergov.org/Page.asp?NavID=2614	
	☐ Fire Sprinkler ☐ Monitored Household ☐ Monitored Household ☐ Fire Alarm per NFPA 72 ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	
	Plus Monitored Sprinkler	
	□ NFPA 13R Water Flow Alarm □ NFPA 13 □ Other:	
	□ Approved Fire Code Alternatives:□ FCA1□ FCA3	
	□ FCA2 □ FCA4	
Į	WATER SUPPLY REQUIREMENTS:	
	 Fire sprinkler design calculations must be provided prior to determining water supply system requirements. Water Supply system upgrade required City Installation. Applicant Installation. 	
	Required Service Line Size: Required Supply Line Size: Required Meter Size: Required Meter Size:	
	Abandonment of existing service and meter required at main.	(5)
7	Pressure reducing valve required if pressure exceeds 80 psi. Reduced pressure backflow assembly (RPBA) required for all lots with waterfront or non-city water supply (private wells	DSG
ם פ	or lake irrigation). Additional water supply requirements:	B⊀
ť	DRAINAGE REQUIREMENTS:	ËD
	On site detention system required Direct discharge into the lake	COMPLETED
<u>}</u>	☐ On site infiltration system required☐ As-built Utility drawings required☐ Connection to public storm drainage conveyance system req'd.	ΔP
۲ <u>۱</u>	☐ Full Size drawings required. ☐ Other:	8
<u> </u>	SIDE SEWER REQUIREMENTS:	BE
	 ✓ Side sewer requires a backflow preventer when connecting to the lake line or when the elevation of the lowest plumbing fixture is lower than the elevation of the upstream manhole rim or when side sewer is shared with one or more properties. ✓ Video tape of existing sewer required (see standard details) ✓ New connection. ✓ Connect to existing. ✓ Disconnect permit required. ✓ Reconnect permit required. 	2
	Other: Note: When side sewer is to be connected to the lake line you will need to schedule three (3) days in advance with the City of Mercer Island Maintenance Department at (206) 275-7800.	
l	APPROVED CODE ALTERNATIVES: Code alternatives must be Inspected. Refer to the Inspection Checklist	
	☐ CA1: ☐ CA2:	
Ì	SURVEY REQUIREMENTS (The following survey information must be submitted when checked): Surveyor shall verify points chosen for height calculations and point verification shall be submitted at the time of City foundation Inspection. A property survey may be required to verify setbacks and in some cases buildings must be surveyed onto the lot. The City	
ŀ	reserves the right to request an impervious area survey at any time prior to issuance of Certificate of Occupancy.	
	Surveyor:Phone:Phone:Phone:Phone:	
	Other: MAXIMUM 40 PERCENT ALTERATION INSPECTION: MICC 19.01.050(D)(1)(b)(i)	
	A Building Inspection prior to demolition is required for all legally nonconforming single family dwelling to ensure no more than 40 percent of the dwelling's exterior walls are structurally altered. Contact the Building Inspector at (206) 275-7730.	
_	GEOTECHNICAL INFORMATION: Land clearing, grading, filling and foundation work within geologic hazard areas is NOT PERMITTED between October 1 and April 1 without an approved Seasonal Development Limitation Waiver.	
	Geotechnical Report provided. All construction must comply with the recommendations of the Geotechnical Report. A copy of report and other geotechnical information must be kept on site at all times. Geotechnical Engineer Phone	r DSG
PLE I EU DI	SEASONAL DEVELOPMENT LIMITATION RESTRICTION: Applies (Geologic Hazard area). Grading not permitted between October 1 through April 1. Waiver approved. Grading and excavation permitted subject to all conditions noted in Seasonal Development Limitation Waiver Permit.	COMPLETED BY
<u> </u>	Permit number Approved by Date	COM
		BE

It is the applicant's resp www.MyBuildingPermit	.com or by calling the Inspection Hotline at (206)	ions appropriate for the project. Request inspections online at 275-7730. Allow at least 24 hours (48 hours for Reinforcing steel)		
Inspector shall initial applicants responsible	ity to apply for and obtain all City of Mercer Islar	I. Note: <i>Items marked with an "*" require a separate permit.</i> It is the nd permits.		PERMIT NUMBER
INSPECTIONS: (Listed in Inspector Date App	order of typical sequencing)			N
	Pre-construction Meeting to Review Conditions	of Permit Approval.		RMI
*	Tree protection Erosion control			PEI
*	Sewer disconnect and cap. If applicable, separate	e side-sewer permit required		
*	Right-of-way use or work / easement, material d	lelivery, etc. If applicable,		
	separate ROW permit required Land clearing, grading and demolition		Geen	
	Temporary power		Ω Ω	
	Pilings / Shoring / Shotcrete. If applicable, provid (property line); Geotechnical Engineer / Special I		PA	
_	reports of inspections (pile and shoring installati	on, etc.)	ons ved.	
	Footings, setbacks, UFER ground. If applicable, p (building height and setbacks); Special Inspector		CCU ections proved	
	(soil bearing capacity, compaction, earthwork, p		insp.	
	Foundation walls / concrete columns		O P	
	Roof and footing drains Foundation damproofing		TE (require	
*	Storm drainage, including (but not limited to):		AT all re	
	• Connections to storm main in ROW	Area drains Conveyance piping / cleanouts	FICA after all perfo	
	• Detention systems	• Storm drain in ROW		
	• Infiltration systems	• Control structures / manholes	RT	
	 Catch basins including oil-water separator tees 	Pump systems Retaining wall drainage		
*	Water Service			
	Water Supply Water as-built drawings			
*	Side sewer installation, including (but not limited	d to):		
	• Connections to side sewer main	Back-flow valves Grinder pump systems		
	Connections to existing	Sewer manholes		
	_side sewer			
	Driveway / Access road Underslab electrical / mechanical / plumbing			
	Underslab insulation / vapor barrier / reinforcing	<u>g</u>		
	Underfloor framing Nailing-Roof sheathing. If applicable, provide Spe	ecial Inspection		
	letter for lateral wood inspection.			
	Nailing-Exterior wall and Shearwall. If applicable Inspection letter for lateral wood inspection.	, provide Special		
□	Rough hydronic installation			
	Rough electric installation			
*	Rough fire alarm (wiring inspection) Rough plumbing installation (DWV, water)			
	Rough mechanical			
*	Gas Piping Rough fire sprinkler / hydrostatic and flow (buck	ret) test		
	Framing and glazing. If applicable, provide Specia	al Inspection letter for		
	lateral wood inspection, welding epoxy anchors, Masonry construction (fireplace / walls / veneer			
	Insulation installation	7 610.7		
	Stucco (paper and lath)			
	Shower pan (or tub) Miscellaneous			
	Code Alternative CA1:			
	Code Alternative CA2: Impact Fees Paid (If applicable)			
	impact rees raid (ir applicable)			
	Final Inspection: Tree Restoration	and limited to):	TT	
	Final Inspection: Fire protection, including (but r • Sprinkler	• Fuel Tank Installation	TF	
	• Access Road	Fire Extinguishing System		
	• Fire Code Alternatives (see below) FCA1:	• Fire Alarm System FCA3:		
	FCA2:	FCA4:		
	Final Inspection: Water supply protection, include backflow devices for:	ding (but not limited to)	ΓW	
	Waterfront property	Well water on property	⊢ ⊢	F
	• Fire / lawn sprinkler	• Boiler		
	Final Inspection: Site and utility: includes landscrestoration complete and as-built drawings read			
	Final Inspection: Building, including electrical / n	mechanical / plumbing. If		
	applicable, provide closeout (summary) letters for Inspectors, Geotechnical Engineer, and exterior			ב
90 DAY TEMPO	RARY CERTIFICATE OF OCCUPAN			_
		prior to occupancy. TCO requires tree plantings be completed.		
			BE KEPT TIMES	
			_ # F. #	
Approved	OLUDED CITY INCRECTIONS	Start Date End Date	ST ALL	
	QUIRED CITY INSPECTIONS: tact to arrange the inspection.		MU AT 8	
Required Inspection(s	Cont	tact: Phone: Scheduling:	111	
			LDING FOR C	
			DRAWINGS ILDING SITE FOR CODE	
IMPACT FEES:		PLAN REVIEW APPROVALS:		
If applicable.		Not all review disciplines may be required to review the documents.		
☐ Impact fees ap	oly and are due <i>prior</i> to Final Inspection or on		APPROV ON THE REVIEW	
Date	, whichever occurs first.	Ruilding Planning Engineering Tree Fire	APP ON REV	

REVISED: JULY 2019

LEGAL DESCRIPTION TOPOGRAPHIC & BOUNDARY SURVEY (PER STATUTORY WARRANTY DEED RECORDING# 199411230981) LOT 1, BLOCK 7, MERCERDALE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 59 OF PLATS, PAGES 94, 95 AND 96, IN KING COUNTY, WASHINGTON. BASIS OF BEARINGS N 79°41'30" W BETWEEN SURVEY MONUMENTS FOUND ON THE CENTERLINE OF S.E. 37TH ST., PER R1. └FOUND MON IN CASE REFERENCES TACK/LEAD, DOWN 0.7' R1. MERCERDALE, RECORDED IN VOLUME 59 OF PLATS, PAGES S 94-96, RECORDS OF KING COUNTY, WASHINGTON. APPROX. LOCATION OF **VERTICAL DATUM** N 79°41'30" W 265.01" MEAS. (265.00' PLAT) WATER, PER RECORDS NAVD88 PER GPS OBSERVATIONS CB (TYPE 1) RIM=111.07' IE 8"CONC(NE./SE/SW.)=118.56'(C.C. IE 15"CONC(N.)=107.37" IE 15"CONC(E.)=107.67" APPROX. LOCATION OF GAS, PER RECORDS FOUND MON IN CASE TACK/LEAD, DOWN 0.8' SURVEYOR'S NOTES . THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN SET REBAR/CAP -MARCH OF 2021. THE FIELD DATA WAS COLLECTED AND 3.00' OFFSET NE FENCE OF PROP COR 1.0' NW 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 N 79°41'30" W 89.00' ELEVATIONS. 2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE REBAR/CAP COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED. 3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS CB (TYPE 1) DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY RIM=126.83 OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE HE 12"CONC(E.)=123.68" PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING IE 15"CONC(S.)=123.78' MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED IE 15"CONC(W.)=122.93" BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL 14" EVG 1 INCH = 10 FT.⊣E 12"PVC(NE.)=126.62' PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN IE 8"CONC(SW.)=126.32" OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR IE 12"CONC(W.)=126.42' LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE REBAR/CAP/ CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555). 4. SUBJECT PROPERTY TAX PARCEL NO. 545880-0550 /// CB (TYPE 1) FOOTPRINT=1,808 ±S.F. RIM=127.61' 5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 8,345 ±S.F. ROOF EL=138.9' IE 8"CONC(NE.)=126.11" 6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE FENCE Z 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 SET/REBAR/CAP \ ASPHALT SURFACE P POWER METER 3.00' OFFSET NE OF PROP COR **BUILDING** PPO POWER POLE WALL FENCE END CONCRETE SURFACE REBAR & CAP (SET) EL=128.3' ROCKERY RETAINING WALL FENCE END -SEWER MANHOLE -X X FENCE LINE (CHAIN LINK) OF PROP COR TGAS, PER RECORDS ——— FENCE LINE (WOOD) FENCE COR 0.2'N & 0.6'E FIRE HYDRANT TELEPHONE (OVERHEAD) OF PROP COR FLAGSTONE SURFACE SIZE TYPE (\circ) TREE (AS NOTED) APPROX. LOCATION OF WM□ WATER METER —SIDE SEWER, PER GAS METER WV M WATER VALVE GAS VALVE YARD LIGHT INLET (TYPE 1) SSS SANITARY SIDE SEWER MAILBOX (RESIDENTIAL) _APPROX. LOCATION OF MONUMENT IN CASE (FOUND) WATER, PER RECORDS CB (TYPE 1)(SOLID) RIM=129.88' VICINITY MAP 15"CONC(NE.)=125.48'-15"CONC(SW.)=125.58' N.T.S. IE 6"DI(SE.)=125.68" 210282 JOB NUMBER: 03/09/21 DRAFTED BY: IDV / DSS DRT / JGM CHECKED BY: /_FOUND MON IN CASE TACK/LEAD, DOWN 0.9' REVISION HISTORY STEEP SLOPE/BUFFER DISCLAIMER: RIM=135.62' IE 8"CONC(N./S.)=127.52'(C.C.) THE LOCATION AND EXTENT OF STEEP SLOPES SHOWN ON THIS DRAWING ARE FOR INDEXING INFORMATION INFORMATIONAL PURPOSES ONLY AND CANNOT BE RELIED ON FOR DESIGN AND/OR CONSTRUCTION. THE PITCH, LOCATION, AND EXTENT ARE BASED SOLELY ON OUR <u>SW</u> 1/4 <u>SE</u> 1/4 GENERAL OBSERVATIONS ON SITE AND OUR CURSORY REVIEW OF READILY AVAILABLE SECTION: 12 PUBLIC DOCUMENTS; AS SUCH, TERRANE CANNOT BE LIABLE OR RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY STEEP SLOPE INFORMATION. ULTIMATELY, TOWNSHIP: 24N THE LIMITS AND EXTENT OF ANY STEEP SLOPES ASSOCIATED WITH ANY SETBACKS OR

SHEET NUMBER

1 OF 1

OTHER DESIGN OR CONSTRUCTION PARAMETERS MUST BE DISCUSSED AND APPROVED

BY THE REVIEWING AGENCY BEFORE ANY CONSTRUCTION CAN OCCUR.

RANGE: <u>04E, W.M.</u>

COUNTY: KING

AVERAGE BUILDING ELEVATION PROPOSED RESIDENCE | WALL SEGMENT | MIDPT. ELEV. | WALL SEGMENT x ELEV 3949 126.0' 2333<u>.</u>5 126.0' 120.0' 43Ø8 120.0' 8138<u>.53</u> 120.0' 4389.17 121*.*Ø' 126.0' 752*Ø.*1 21623.5 AVERAGE BUILDING ELEVATION = 21623.5/175' =123.56' MAXIMUM BUILDING HEIGHT = 123.56' + 30.0' = 153.56'

BAS	BASEMENT FLOOR AREA CALCULATION				
WALL	LENGTH	COVERAGE	RESULT		
Д	9.Ø8	100%	9.08%		
m	1'	100%	1%		
C	12'	100%	12%		
Ω	19.33'	6.3	1.22%		
Ш	19.5'	18.6%	3.63%		
TOTAL	60.91'		26.93%		

PROPOSED BUILDING HEIGHT = 151.95'

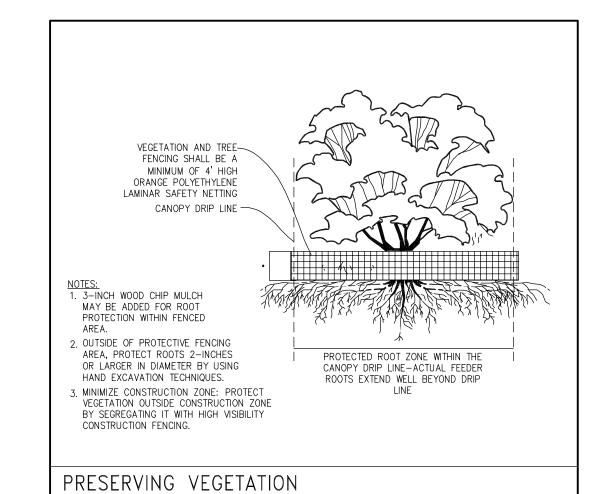
PORTION OF EXCLUDED BASEMENT FLOOR AREA:
619 (ACTUAL SQ, FT. W/ GARAGE) X (26.93/60.91) = 273.7 SQ. FT.

AREA OF BASEMENT EXCLUDED = 619-273.7 = 336 SQ. FT.

GROSS FLOOR AREA		
LOWER FLOOR W/ GARAGE MAIN FLOOR W/ GARAGE UPPER FLOOR	619 1635 1360	SQ. FT. SQ. FT. SQ. FT.
TOTAL BASEMENT EXCLUDED	3614 336	SQ. FT. SQ. FT.
TOTAL	3278	SQ. FT.
LOT AREA	8,345	SQ. FT.
SQUARE FOOTAGE ALLOWED (40%)	3338	SQ. FT.

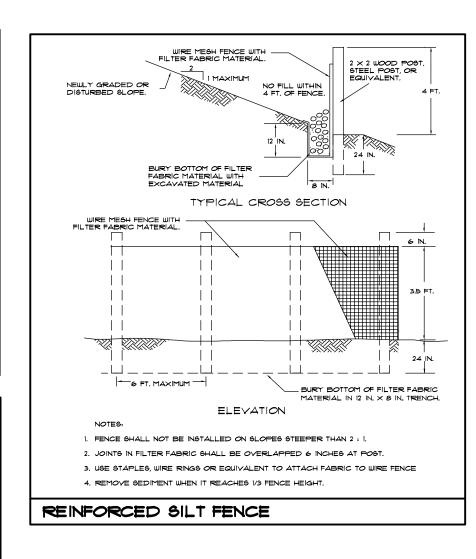
IMPERVIOUS SURFACE PROPOSED HOME W/ O.H. 1860 SQ. FT. COVERED DECK 210 SQ. FT. FRONT PORCH 19 SQ. FT. WALKS AND DRIVE 743 SQ. FT. TOTAL 2,892 SQ. FT. (34.7%) LOT AREA 8,345 SQ. FT.

ALLOWABLE



3,338 SQ. FT. (40%)

	TREE INVENTORY				
EXISTING TREES	SPECIES	DIAMETER	RETAINED		
4	CHERRY	6"	YES	R.O.W.	
3	CHERRY	12"	NO		
1>	EYRGN	14"	YES		
2	DEC.	3"(2) T"	YES	R.O.W.	
Æ	DEC	-	NO		



8″ CH^O

POINT 120

- EXIST. GRADE

BLOCK / WALL -FIN. GRADE

		` \
LOT COVERAGE		
MAIN STRUCTURE ROOF AREA DRIVEWAYS COVERED DECK TOTAL	1958 745 21Ø 2913	SQ. FT. SQ. FT. SQ. FT. SQ. FT.
LOT AREA	8,345	SQ. FT.
PROPOSED LOT COVERAGE	34.9	3%
SQUARE FOOTAGE ALLOWED (40%)	3338	SQ. FT.
	~~~	~~~~

FENCE \END →

0.3'N & 0.5'E | OF PROP COR \

0.2'N & 0.6'E OF PROP COR

FENCE COR +

>	HARDSCAPE CALC		
	LOT AREA COVERED DECK FRONT WALK ROCKERY TOTAL	8,345 210 117 50 377	9Q. FT. 9Q. FT. 9Q. FT. 9Q. FT. 9Q. FT.
(	HARDSCAPE ALLOWED	9% (778 SQ. F	T.)
(	PROPOSED HARDSCAPE	4.5% (377 SQ	. FT.)

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

LEGAL:

(PER STATUTORY WARRANTY DEED RECORDING# 199411230981)

LOT 1, BLOCK 7, MERCERDALE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 59 OF PLATS, PAGES 94, 95 AND 96, IN KING COUNTY, WASHINGTON.

NFPA 13d FIRE SPRINKLER SYSTEM REQUIRED

SITE PLAN

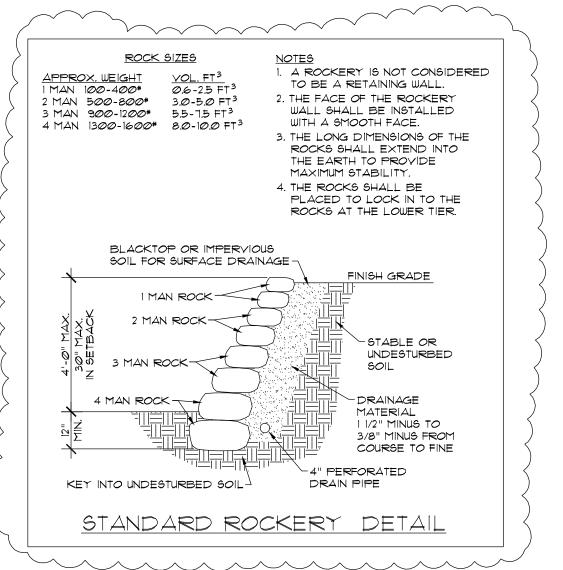
3705 77TH PL. SE

ZONING: R-8.4

MERCER ISLAND, WA 98040

PARCEL #5458800550

SCALE 1"= 10'



CB (TYPE 1)(SOLID) RIM=129.88'

IE 15"CONC(NE.)=125.48'-IE 15"CONC(SW.)=125.58'

IE 6"DI(SE.)=125.68'

APPROX. LOCATION OF WATER, PER RECORDS

RIM=128.21'

FOUND MON IN CASE

RIM=128.57'

RIM=127.61'

IE 8"CONC(NE.)=126.11" (FULL OF WATER)

→E 12"PVC(NE.)=126.62'
IE 8"CONC(SW.)=126.32'
IE 12"CONC(W.)=126.42'

TACK/LEAD, DOWN 0.8'

IE 8"CONC(NE./SE./SW.)=118.56'(C.C.)

IE 6"CONC(SW.)=118.56'(C.C.)

⊣E 12"CONC(E.)=123.6\$

IE 15"CONC(S.)=123.78"

IE 15"CONC(W.)=122.∳3

APPROX. LOCATION OF \$ GAS, PER RECORDS

N 79.41'30" W 265.01' MEAS. (265.00' PLAT)

EXISTING HOME

TO BE REMOVED

APPROX. LOCATION OF

ROCERY OR

BETTERT

GAS, PER RECORDS

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

APPROX. LOCATION OF —SIDE SEWER, PER

_APPROX. LOCATION OF WATER, PER RECORDS

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

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

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

Fence height deviation required for 4' retaining walls.

CHARLIE HOMES

P.O. BOX 317

MERCER ISLAND, WA. 98040

LIU RESIDENCE

JOB NO: 21006 DATE: 6/13/22 DRWN. BY: TH REVISED: 9/8/22

6/1/23

SHEET NO.

 $\triangleleft$ 



#### GENERAL NOTES

ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION SHALL CONFORM TO THE 2018 EDITION OF THE I.B.C. / I.R.C. BUILDING CODE REQUIREMENTS AND ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION.

#### BUILDING

TYPE V-B SITE CLASS: D OCCUPANCY GROUP: R3 WIND EXPOSURE: B

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD, PROVIDE TEMPORARY BRACING AS REQUIRED UNTIL ALL PERMANENT CONNECTIONS AND STIFFENINGS HAVE BEEN INSTALLED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL DISCREPANCIES OR CONFUSIONS TO THE DESIGNER AT THE TIME THEY ARE NOTED.

#### FOUNDATION

UNLESS A SOILS INVESTIGATION BY A QUALIFIED SOILS ENGINEER IS PROVIDED, FOUNDATION DESIGN IS BASED ON AN ASSUMED AVERAGE SOIL BEARING OF 1500 PSF. EXTERIOR FOOTINGS SHALL BEAR 1'-6" (MINIMUM) BELOW FINISHED GRADE. ALL FOOTINGS TO BEAR ON FIRM UNDISTURBED EARTH BELOW ORGANIC SURFACE SOILS. BACKFILL TO BE THOROUGHLY COMPACTED PER SPECIFICATIONS, PROVIDE (2) *4 (MIN.) CONTINUOUS BOTTOM OF ALL WALLS AND FOOTINGS.

#### CONCRETE

CLASS AND USE	f'c	SLUMP	SACKS/C.Y
A - FOOTINGS AND FOUNDATIONS	2000	3 - 4	5-1/2
B - SLABS ON GRADE	25 <i>00</i>	3 - 4	5-1/2

NOTE: 3000 PSI CONCRETE IS FOR WEATHERING PURPOSES ONLY. NO SPECIAL INSPECTION REQUIRED

- 1. AIR-ENTRAINING AGENT (5% TO 1%) TO BE USED IN ALL CONCRETE FLATWORK EXPOSED TO WEATHER
- 2. POZZOLITH 300 SERIES (4 OZ. PER 100* OF CEMENT) TO BE USED IN ALL CONCRETE.
- 3. MIX MAY BE DESIGNED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 1905 OF THE IBC.
- 4. WATER CEMENT RATIO PER IBC TABLE 1904.2.2 \$ 1904.3

#### REINFORCING STEEL

ASTM AGI5 GRADE 40, REINFORCING STEEL DETAILS SHALL BE PREPARED BY AN EXPERIENCED DETAILER APPROVED BY THE DESIGNER AND CONFORM TO STANDARD PRACTICE OUTLINED IN ACI REPORT 315. NOTE: GRADE 40 FOR *4 BARS AND SMALLER, GRADE 60 FOR *5 BARS AND LARGER.

#### CONCRETE COVER OF REINFORCING

- CONCRETE POURED AGAINST EARTH
- FORMED CONCRETE WITH EARTH BACKFILL.
- BEAMS AND COLUMNS (STIRRUPS, TIES) WALLS EXPOSED TO WEATHER, SLABS ON MOISTURE
- WALLS, INSIDE FACE.

LAP COLUMN VERTICALS, CLASS "A" CONCRETE AND MASONRY COLUMN AND WALL VERTICALS 40 DIAMETERS (2' MIN.) LAP ALL OTHER REINFORCING 30 DIAMETERS (2' MIN.). SPLICES AT TENSION REGIONS SHALL NOT BE PERMITTED.

#### FRAMING

ALL FRAMING TO COMPLY WITH 2018 IBC. NAIL SIZES AND SPACING TO CONFORM TO IRC TABLE 602.3(1)

ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED. EXTERIOR HANGERS TO BE SIMPSON ZMAX

STRUCTUAL DESIGN IS BASED ON THE FOLLOWING ALLOWABLE STRESSES (UNITES IN PSI):

## WOOD

FRAMING LUMBER SHALL BE KILN DRIED OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH W.C.L.B. STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 16. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

HEM-FIR NO. 2

JOISTS: (2X MEMBERS) MINIMUM BASE VALUE, Fb = 850 PSI (3× AND 4× MEMBERS) DOUGLAS FIR NO. 1 MINIMUM BASE VALUE, Fb = 1000 PSI BEAMS: (4x MEMBERS) HEM-FIR NO. 2 (INCL. 6X AND LARGER) DOUGLAS FIR NO. 1 MINIMUM BASE VALUE, Fb = 1350 PSI

DOUGLAS FIR NO. 2 POSTS: (4× MEMBERS) MINIMUM BASE VALUE, FC = 1300 PSI (6X AND LARGER) DOUGLAS FIR NO. 2 MINIMUM BASE VALUE, FC = 925 PSI

EXTERIOR TOP PLATES: DOUG-FIR STUD GRADE DECKING: (2×6 TO 4×8) HEM-FIR COMMERCIAL DEX MINIMUM BASE VALUE, Fb = 1350 PSI

STUDS, PLATES & MISC. FRAMING: HEM-FIR STANDARD GRADE

LOADING: ROOF: 15 PSF DEAD LOAD + 25 PSF LIVE LOAD = 40 PSF FLOOR: 10 PSF DEAD LOAD + 40 PSF LIVE LOAD = 50 PSF 5 PSF DEAD LOAD + 5 PSF LIVE LOAD = 10 PSF CEILING: DECK:

10 PSF DEAD LOAD + 60 PSF LIVE LOAD = 70 PSF INTERIOR PARTITION: EXTERIOR PARTITION: 10 PSF

BOLT HEADS AND NUTS BEARING AGAINST WOOD TO BE PROVIDED WITH FLAT CUT WASHERS. WOOD BEARING ON OR INSTALLED WITHIN 1" OF MASONRY OR CONCRETE TO BE TREATED WITH AN APPROVED PRESERVATIVE. SOLID BLOCKING OF NOT LESS THAN 2" THICKNESS SHALL BE PROVIDED AT ENDS AND AT ALL SUPPORT OF JOISTS AND RAFTERS. BETWEEN SUPPORTS PROVIDE BLOCKING OR APPRIVED BRIDGING AT 8'-0" O.C. FOR FLOOR JOISTS, 10'-0" FOR ROOF JOISTS, TYPICAL SILL BOLTS TO BE 5/8" DIAMETER AT 4'-0" O.C. EMBED 10", ALL METAIL FRAMING ANCHORS AND HANGERS SHOWN ON DRAWINGS SHALL BE "STRONG TIE CONNECTORS" AS MANUFACTURED BY SIMPSON COMPANY OR APPROVED EQUAL.

#### WOOD TRUSSES

SHALL BE FACTORY FABRICATED TRUSSES. DESIGN AND FABRICATION SHALL CONFORM TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE. ENGINEERING DESIGN AND SHOP DRAWINGS BEARING THE STAMP OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON AND SHOWING ALL DETAILS OF CONSTRUCTION INCLUDING BRACING.

#### TRUSSES SHALL BE DESIGNED FOR THE UNIFORM LOADING AS FOLLOWS:

33 PSF OF TRIBUTARY AREA BOTTOM CORD 10 PSF OF TRIBUTARY AREA

#### FABRICATOR SHALL BE APPROVED BY THE DESIGNER.

## DRAFTSTOPPING (IRC 302.12)

CONCEALED SPACES AT UPPER FLOOR OPEN TRUSS FRAMING SHALL BE DIVIDED IN APPROXIMATE EQUAL SPACES NOT TO EXCEED 1,000 S.F. AND SHALL CONSIST OF 1/2" GYPSUM BOARD OR 3/8" WOOD STRUCTURAL PANELS. DRAFTSTOPPING SHALL BE INSTALLED PARALLEL TO FRAMING MEMBERS. THE INTEGRITY OF THE DRAFTSOPS SHALL BE MAINTAINED.

#### STRUCTURAL GLUE-LAMINATED TIMBER

GLUE LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND AITC STANDARDS. EACH MEMBER SHALL BEAR AN A.I.T.C. IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN A.I.T.C. CERTIFICATE OF CONFORMANCE. ALL SIMPLE SPAN BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V4, Fb=2400 PSI. FV=165 PSI. ALL CANTILEVERED BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8, Fb=2400 PSI, FV=165 PSI. CAMBER ALL SIMPLE SPAN GLULAM BEAMS TO 2,000' RADIUS, UNLESS SHOWN OTHERWISE ON PLANS. GLULAM COLUMNS SHALL BE DOUGLAS FIR COMBINATION NO. 5, Fc=2400 PSI, E=2,000,000 PSI.

EACH SHEET SHALL BEAR THE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION, ALL GRADING SHALL CONFORM

3) RECESSED LIGHTING FIXTURES: WHEN INSTALLED IN CONTACT WITH THE TO PS 1. USE THICKNESS AND NAILING AS SHOWN ON THE DRAWINGS, ALL PLYWOOD SHALL BE C-D INTERIOR GRADE WITH EXTERIOR GLUE. EXCEPT AS OTHERWISE SHOWN OR NOTED, PROVIDE 8d AT 6" O.C. ON CENTER AT SUPPORTED PANEL EDGES AND 8d AT 12" ON CENTER ON OTHER SUPPORTING MEMBERS FOR WALLS, ROOF AND FLOORS. NOTE: EQUIVALENT RATED ORIENTED STRAND BOARD (0.5.B.) MAY BE USED IN LIEW OF PLYWOOD CALLED OUT. AND Ø.131" DIAMETER P-NAILS MAY BE USED IN LIEU OF 8d NAILS.

#### ROOF DIAPHRAGM: 1/2" PLYWOOD (PANEL INDEX = 24/16. WITH 8d NAILS AT 6" O.C. AT SUPPORTED PANEL AND AT 12" O.C. AT FIELD (TYPICAL UNLESS NOTED OTHERWISE).

FLOOR DIAPHRAGM: 3/4" PLYWOOD (PANEL INDEX = 24/16) WITH 10d NAILS AT 6" O.C. AT SUPPORTED PANEL EDGES AND AT 12" O.C. AT FIELD (TYPICAL UNLESS NOTED OTHERWISE ON PLAN). OPTIONAL TO USE Ø.148 DIAMETER P-NAILS IN LIEU OF 10D NAILS

#### STRUCTURAL STEEL

STRUCTURAL GRADE ASTM A36, Fy = 36,000 PSI. PIPE COLUMNS ASTM A53, GRADE B, Fy = 35,000 PSI. STRUCTURAL TUBING COLUMNŠ ASTM A500, GRADE B, Fy = 46,000 PSI. ALL STEEL EXCEPT STEEL EMBEDDED IN CONCRETE SHALL BE GIVEN ONE SHOP COAT OF APPROVED PAINT. WELDS TO BE 3/16" MINIMUM CONTINUOUS FILLET BY WABO CERTIFIED WELDERS, FIELD CONNECTIONS NOT SHOWN SHALL BE BOLTED FRAMED BEAM CONNECTIONS PER AISC. ALL BOLTS TO BE A325. DURING ERECTION, STRUCTURAL STEEL SHALL BE SECURED FROM COLLAPSING WITH TEMPORARY BRACING, WHERE EXPANSION ANCHORS ARE SPECIFIED, THE CONTRACTOR SHALL SUBMIT TO THE STRUCTURAL ENGINEER A SAMPLE OF THE ANCHOR TO BE USED WITH LABORATORY DATA OF PULL-OUT AND SHEAR STRENGTH.

#### FIREPLACES

MASONRY FIREPLACES AND CHIMNEYS ARE TO BE CONSTRUCTED TO CONFORM TO ALL APPLICABLE PORTIONS OF THE IBC SECTION 2111 AND IRC SECTION RID03. FLUE LINER MINIMUM 5/8" FIRE CLAY (OR EQUIV.) PER IBC SECTION RID03.12 AND TABLE RID03.14. FLUE AREA PER IBC TABLE RID01.1. CHIMNEYS SHALL SUPPORT ONLY THEIR OWN WEIGHT UNLESS SPECIFICALLY DESIGNED TO SUPPORT ADDITIONAL LOADS

ALL FIREPLACES ARE TO BE PROVIDED WITH TIGHTLY-FITTING FLUE DAMPERS, OPERATED WITH A READILY-ACCESSIBLE MANUAL OR APPROVED AUTOMATIC CONTROL AND AN OUTSIDE SOURCE OF COMBUSTION AIR, MINIMUM DUCT SIZE OF 6 SQUARE INCHES IN AREA, PROVIDED WITH READILY-OPERABLE DAMPER LOCATED IN

PREFABRICATED FIREPLACES, CHIMNEYS AND RELATED COMPONENTS TO BEAR U.L., HAVE WASHINGTON STATE CERTIFICATION SEAL OF APPROVAL AND BE INSTALLED PER ANY CONDITIONS OF APPROVAL. DIRECT VENT UNITS ARE REQUIRED WHEN GAS OPERATED

#### DOORS AND WINDOWS

ALL GLAZING TO BE DOUBLE GLAZING WITH MAXIMUM "U" VALUE OF 0.28. ALL SKYLIGHTS TO BE DOUBLE GLAZING, MAXIMUM "U" YALUE OF 0.50. FACTORY BUILT WINDOWS TO BE CONSTRUCTED TO PERMIT MAXIMUM INFILTRATION OF 0.5 CFM PER LINEAL FOOT OF OPERABLE \$46H PERIMETER AS TESTED BY STANDARD ASTM E 283.73. SITE BUILT AND MILLWORK SHOP BUILT WOODEN SASH ARE EXEMPT FROM INFILTRATION CRITERIA ABOVE, BUT MUST BE MADE TIGHTLY FITTING AND WEATHER-STRIPPED OR CAULKED. SLIDING GLASS DOORS TO PERMIT MAXIMUM INFILTRATION OF 0.5 CFM PER INFILTRATION OF 1.0 CFM PER SQUARE FOOT OF DOOR AREA.

CAULK OR WEATHER-STRIP WINDOWS, DOORS AND PENETRATIONS

GLAZING IN DOORS, AND GLAZING IN HAZARDOUS LOCATIONS DESCRIBED IN IRC SECTION R308, TO BE SAFETY GLAZING

GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS DEFINED IN SECTION R308.4 SHALL BE PROVIDED WITH A MANUFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION, THE TYPE OF GLASS AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLIES. THE DESIGNATION SHALL BE VISIBLE IN THE FINAL INSTALLATION AND CANNOT BE REMOVED FROM THE WINDOW WITHOUT BEING DESTROYED.

#### INSULATION

#### UNLESS OTHERWISE NOTED, INSULATION TO BE AS FOLLOWS:

	MINIMUM	MAXIMUM
LOCATION	INSULATION ADDED	ASSEMBLY "U" VALUE
CEILING & ROOFS	R-49, R-38 (ADV.)	.Ø3
EXTERIOR WALLS	R-21	.Ø5
WALLS BETWEEN HOUSE & GARAGE	<b>R</b> -21	.05
FLOORS OVER UNHEATED SPACE	R-38	.Ø3
SLAB PERIMETER: (2)	R-10	
ELECTRIC WATER HEATERS (3)	PER ASHRAE 90A-8	Ø
GAS WATER HEATERS (4)	PER ASHRAE 90A-8	Ø
DUCTS IN UNHEATED SPACES	PER WSEC TABLE 4-	16

#### FOOTNOTES:

(1) R-38 IN SINGLE RAFTER, JOIST VAULTED CEILINGS

(2) APPLIED TO PERIMETER OF SLAB FROM TOP OF SLAB DOWNWARD HORIZONTALLY MINIMUM 24" SEE BASIC FOUNTATION DETAILS.

(3) MUST BE INTEGRATED WITH UNIT, UNIT MUST DISLAY VERIFICATION.

(4) UNLESS UNIT CONFORMS TO ASHRAE 90A-80 AND IS LABELED TO SIGNIFY CONFORMANCE

#### SMOKE ALARMS (I.R.C. R314)

ALL SMOKE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 217 AND INSTALLED IN ACCORDANCE WITH THE HOUSEHOLD FIRE WARNING EQUIPMENT PROVISIONS OF NFPA 12. SMOKE ALARMS SHALL BE 110V INTERCONNECTED WITH BATTERY BACK-UP AND SHALL BE LOCATED IN: a. EACH SLEEPING ROOM

6. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS c. ON EACH ADDITIONAL STORY OF THE DWELLING

EFFECTIVE JAN. 1, 2011: SINGLE STATION CARBON MONOXIDE ALARMS COMPLYING WITH UL 2034 SHALL BE INSTALLED IN ACCORDANCE WITH THIS CODE AND MANUFACTURERS INSTRUCTIONS AND BE INSTALLED OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF BEDROOMS AND EACH FLOOR LEVEL.

HEAT ALARMS (I.R.C. R314)

R314.2.3 New attached garages. A heat detector or heat alarm rated for the ambient outdoor temperatures and humidity shall be installed in new garages that are attached to or located under new and existing dwellings. Heat detectors and heat alarms shall be installed in a central location and in accordance with the manufacturer's instructions.

R314.4.1 Heat detection interconnection. Heat detectors and heat alarms shall be connected to an alarm or a smoke alarm that is installed in the dwelling. Alarms and smoke alarms that are installed for this purpose shall be located in a hallway, room, or other location that will provide occupant notification.

#### INFILTRATION CONTROL (W.S.E.C. SECTION 402.4)

- 1) EXTERIOR JOINTS AROUND WINDOWS AND DOOR FRAMES, OPENINGS BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALLS AND ROOF AND BETWEEN WALL PANELS OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH WALLS, FLOOR AND ROOFS: AND ALL OTHER OPENINGS IN THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED AND GASKETED OR WEATHERSHTRIPPED TO LIMIT AIR LEAKAGE. OTHER EXTERIOR JOINTS AND SEAMS SHALL BE SIMILARLY TREATED, OR TAPED, OR COVERED WITH MOISTURE
- 2) ALL EXTERIOR DOORS OR DOORS SERVING AS ACCESS TO AN ENCLOSED UNHEATED AREA SHALL BE WEATHERSTRIPPED TO LIMIT LEAKAGE AROUND THEIR PERIMETER WHEN IN A CLOSED POSITION.
- BUILDING ENVELOPE SHALL BE a. TYPE IC RATED AND CERTIFIED UNDER A6TM E283 TO HAVE NO MORE THAN 2.0 CFM AIR
- b. THE LIGHTING FIXTURE SHALL BE TESTED AT 15 PASCALS OR 1.51 LBS/SF PRESSURE DIFFERENCE AND LABELED SHOWING COMPLIANCE c. SHALL BE INSTALLED WITH A GASKET OR CAULK AT THE CEILING TO PREVENT AIR LEAKAGE
- 4) BUILDING AIR LEAKAGE TESTING REQUIRED PER W.S.E.C 402.4.1.2 AND SHALL OCCUR ANYTIME AFTER ROUGH IN AND AFTER INSTALLATION OF PENETRATIONS OF THE BUILDING ENVELOPE. ACCEPTABLE AIR LEAKAGE TO BE LESS THAN 0.00030 SLA WITH A BLOWER DOOR AT A PRESS OF 50 PASCALS (0.2 INCH W.G.)

#### DUCTWORK

MOVEMENT

- A DUCT SYSTEMS SHALL BE OF METAL AS SET FORTH IN TABLE MIGØ1.1.(2) OR FACTORY-MADE
- AIR DUCTS COMPLYING WITH MIGO1.2, AND 1601.2.1 I.R.C. B - JOINTS AND SEAMS SHALL BE SUBSTANTIALLY AIRTIGHT (MIGØI.4.1 I.R.C.)
- C INSTALLATION OF DUCTS SHALL COMPLY WITH SECTION MIGOI.4 I.R.C. D - DUCT INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH SECTION MI601.3 I.R.C.
- E BUILDING CAVITIES MAY NOT BE USED AS DUCTS (WAC MIGØ1.1.1) F - INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION

#### SEAMS AND JOINTS: (MIGOI.4.1 I.R.C.)

DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH RS-33 USING THE MAXIMUM DUCT LEAKAGE RATES. ALL DUCTS, AIR HANDLERS, FILTER BOXES, AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION MIGOI.3 OF THE IRC OR 603.9 IMC. DUCT TIGHTNESS TESTING SHALL BE CONDUCTED TO VERIFY THAT DUCT ARE SEALED AND A SIGNED AFFIDAYIT DOCUMENTING THE TEST RESULTS SHALL BE PROVIDED TO THE JURISDICTION. DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER POST-CONSTRUCTION TESTING OR ROUGH-IN TESTING

#### 2018 WASHINGTON STATE ENERGY CODE

#### **TABLE R402.1.1** INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENTA

CLIMATE ZONE 5 AND MARINE 4			
Fenestration U-Factorb 0.30			
Skylightb U-Factor	0.50		
Ceiling R-Valuee	49		
Wood Frame Wallg,h R-Value	21 int		
Floor R-Value	30		
Below-Gradec,h Wall R-value	10/15/21 int + 5TB		
Slabd,f R-Value & Depth	10, 2 ft		

#### For SI: 1 foot = 304.8 mm, ci = continuous insulation, int = intermediate framing.

- a. R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which 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
- h. Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78 percent of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.

R402.1.2 R-value computation. Insulation R-value shall be determined as specified in Section R303.1.4. Insulation material used in layers, such as framing cavity insulation or continuous insulation, shall be summed to compute the corresponding component R-value. The manufacturer's settled Rvalue shall be used for blown insulation. Computed R-values shall not include an R-value for other building materials or air films. Where insulated siding is used for the purpose of complying with the continuous insulation requirements of Table R402.1.1, the manufacturer's labeled R-value for insulated siding shall be reduced by R-0.6.

R402.1.3 U-factor alternative. An assembly with a U-factor equal to or less than that specified in Table R402.1.3 shall be permitted as an alternative to the R-value in Table R402.1.1. U-factors shall be determined as specified in Section R402.1.5.

#### CERTIFICATE (WSEC R4013)

climate zone 5 of ICC 400.

A permanent certificate shall be completed by the builder or registered design professional and posted on a wall in the space where the furnace is located, a utility room, or an approved location inside the building. When located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label, or other required labels. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, below-grade wall, and/or floor) and ducts outside conditioned spaces + U-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.

#### LIGHTING (WSEC R404)

LIGHTING EQUIPMENT (MANDATORY). A MINIMUM IF 90% OF LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS IN ACCORDANCE WITH 2018 WSEC SECTION R404.1

#### INTERMITTENT WHOLE HOUSE VENTILATING

#### SYSTEM USING EXHAUST FANS

2018 INTERNATIONAL RESIDENTIAL CODE (IRC MI507.3) CHAPTER 51-52 W.A.C. - EFFECTIVE FEB. 1, 2021 ACCORDING TO WA STATE AMENDENTS VIA WAC 51-51

INTERMITTENT WHOLE HOUSE VENTILATION SYSTEMS SHALL OPERATE INTERMITTENTLY AND CONTINUOUSLY. THE SYSTEM SHALL HAVE A AUTOMATIC 24-HOUR CLOCK TIMER SET TO OPERATE PER FRACTIONAL OPERATION TIME IN MI5Ø1.3.2. CONTROLS SHALL BE CAPABLE OF OPERATING THE VENTILATION SYSTEM WITHOUT ENERGIZING OTHER ENERGY CONSUMING APPLIANCES. A LABEL SHALL BE AFFIXED TO THE CONTROLS THAT READS "WHOLE HOUSE VENTILATION (SEE OPERATING INSTRUCTIONS)". OUTDOOR AIR WILL BE DRAWN FROM AIR INLETS INSTALLED IN

- WHOLE HOUSE VENTILATION FANS:
- a. FAN AIRFLOW RATING AND DUCT SYSTEM SHALL BE DESIGNED AND INSTALLED TO DELIVER AT LEAST THE OUTDOOR AIRFLOW PER TABLE, ADJUSTED PER THE EXCEPTION b. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING
- PROCEDURES OF THE HOME VENTILATING INSTITUTE. c. DOORS WILL BE UNDERCUT BY 1/2" PER THE WASHINGTON STATE ADMENDMENTS RISØ1.3.4.4
- a. WHOLE HOUSE FANS LOCATED 4 FEET OR LESS FROM THE INTERIOR GRILLE SHALL HAVE A SONE RATING OF 1.0 OR LESS MEASURED AT Ø.10 INCHES WATER GAUGE.
- b. MANUFACTURER'S FAN NOISE RATINGS SHALL BE DETERMINED ACCORDING TO HVI 915 C. REMOTELY MOUNTED FANS SHALL BE ACOUSTICALLY ISOLATED FROM THE STRUCTURAL ELEMENTS OF THE BUILDING AND FROM ATTACHED DUCT WORK USING INSULATED FLEXIBLE DUCT OR OTHER APPROVED MATERIAL
- EXHAUST DUCTS (IRC 1506.1) a. SHALL TERMINATE OUTSIDE THE BUILDING.
- b. SHALL BE EQUIPPED WITH BACK-DRAFT DAMPERS
- c. ALL EXHAUST DUCTS IN UNCONDITIONED SPACES SHALL BE INSULATED TO A MINIMUM OF R-4.5 d. EXHAUST OUTLETS SHALL COMPLY WITH SECTION 501.2

EXHAUST FAN ONLY VENTILATION SYSTEMS SHALL PROVIDE OUTDOOR AIR THROUGH AIR INLETS INSTALLED IN WINDOWS. INLETS SHALL BE± CONTROLLABLE WITH SECURE OPENINGS, SHALL BE DESIGNED TO NOT COMPROMISE THE THERMAL PROPERTIES OF THE BUILDING ENVELOPE, ACCESSIBLE TO OCCUPANTS AND SCREENED. INLETS SHALL PROVIDE NOT LESS THAN 4 SQUARE INCHES OF NET FREE AREA OF OPENING FOR EACH IØCFM OF OUTDOOR AIR REQUIRED IN TABLE 1507.3.3. EACH OCCUPIABLE SPACE SHALL HAVE A MINIMUM OF ONE AIR INLET THAT HAS A MINIMUM OF 4 SQUARE INCHES OF NET FREE AREA.

#### SOURCE-SPECIFIC VENTILATION (IRC MIDOT):

SOURCE SPECIFIC EXHAUST VENTILATION IS REQUIRED IN EACH KITCHEN, BATHROOM, WATER CLOSET, LAUNDRY ROOM, INDOOR SWIMMING POOL, SPA, AND OTHER ROOMS WHERE EXCESS WATER VAPOR OR COOKING ODOR IS PRODUCED. THE MINIMUM SOURCE SPECIFIC VENTILATION EFFECTIVE EXHAUST CAPACITY SHALL NOT BE LESS THAN LEVELS SPECIFIED IN TABLE 1507.4

#### TABLE 1503.3.(1)

VENTILATION RATES FOR ALL GROUP R PRIVATE DWELLINGS (CONTINUOUSLY OPERATING SYSTEM):

#### NHOLE HOUSE VENTILATION PER SECTION MI505.4

INTERMITTENTLY OPERATION VENTILATION SYSTEM PER IRC SECTION MIDØ.1.2 REF TO TABLE MI505.4 (1) FOR MINIMUM OUTDOOR AIRFLOW RATES - CFM RUN TIME: ON ONCE EVERY THREE HOURS, FOR ONE HOUR PER TABLE MI5/01.3.2 OPERATION: TIME CLOCK TO OPEN DAMPER LOCATED IN FRESH AIR INTAKE DUCT BETWEEN THE OUTSIDE CAP AND THE RETURN AIR DUCT AT FURNACE, AND TIME CLOCK ALSO STARTS HE FURNACE FAN TO DISTRIBUTE FRESH AIR THROUGH THE HEAT DUCT SYSTEM THAT WAS BROUGHT IN THROUGHT THE AIR INTAKE DUCT. THE AIR VOLUME BROUGHT IN WILL BE FLOW TESTED AND ADJUSTED TO MATCH THE AMOUNT REQUIRED BY CALCULATIONS. (PRIOR TO THE FINAL INSPECTION)

FL <i>OOR</i>		BEDR	ROOMS		
AREA	Ø-1	2	3	4	5 OR MORE
LESS THAN 500	30 CFM	30 CFM	35 CFM	45 CFM	50 CFM
5 <i>0</i> 1-1 <i>,000</i>	30 CFM	35 CFM	40 CFM	50 CFM	55 CFM
1,001-1,500	30 CFM	40 CFM	45 CFM	55 CFM	60 CFM
1,501-2,000	35 CFM	45 CFM	50 CFM	60 CFM	65 CFM
2,001-2,500	40 CFM	50 CFM	55 CFM	65 CFM	70 CFM

55 CFM

60 CFM

# FRACTIONAL OPERATION TIME (f) OF 24-HR TIMER TO BE SET BY MECHANICAL CONTRACTOR. BASED ON

45 CFM | 55 CFM | 60 CFM | 10 CFM

50 CFM | 60 CFM | 65 CFM | 15 CFM

65 CFM | 15 CFM | 80 CFM | 90 CFM

65 CFM

4-HOUR CYCLE, <u>150CFM (116 cfm @ 0.25in WC) FAN</u>, ASHREA 62.2-2010 AND TABLE M1507.3.3(2) THE ON TIME SHALL BE±

70 CFM | 80 CFM

85 CFM

75 CFM

80 CFM

85 CFM

90 CFM

95 CFM

- CONTINUOUS FAN RATE 60 : f = .52 AND WILL RUN 125 MINUTES PER 4-HR CYCLE - CONTINUOUS FAN RATE 15  $\pm$   $\pm$  65 AND WILL RUN 156 MINUTES PER 4-HR CYCLE - CONTINUOUS FAN RATE 90' = .78 AND WILL RUN 187 MINUTES PER 4-HR CYCLE - CONTINUOUS FAN RATE 105±  $\frac{1}{2}$  AND WILL RUN 218 MINUTES PER 4-HR CYCLE

## EXHAUST FAN REQUIREMENTS (SECTION 303.3.2 V.I.A.Q.)

- a. BATHROOMS, LAUNDRIES, WATER CLOSETS OR SIMILAR ROOMS SHALL HAVE A MINIMUM FAN FLOW RATING NOT LESS THAN 50 cfm @ 0.25 WATER GAUGE.
- b. KITCHENS SHALL HAVE A MINIMUM FAN FLOW RATING NOT LESS THAN 100 cfm @ 0.25 WATER GAUGE. HOWEVER, WHERE A RANGE HOOD OR DOWN DRAFT EXHAUST FAN 16 USED THE MINIMUM
- FAN FLOW RATING SHALL NOT BE LESS THAN 100 cfm @ 0.10 WATER GAUGE. c. EXHAUST FANS CANNOT TERMINATE WITHING 3 FT. FROM ANY OPERABLE OPENING PER IRC RI506.3

#### SOURCE SPECIFIC VENTILATION DUCTS a. MUST TERMINATE OUTSIDE THE BUILDING

2,501-3,000

3,001-3,500

3,501-4,000

4,001-4,500

4,501-5,000

- b. EXHAUST DUCTS SHALL BE EQUIPPED WITH BACK-DRAFT DAMPERS c. VENTILATION DUCTS IN UNCONDITIONED SPACE WILL REQUIRE R-8 INSULATION PER WSEC R403.3.1
- d. TERMINAL ELEMENTS MUST BE SCREENED AND SIZED TO BE GREATER THAN OR EQUAL TO THE NET FREE AREA OF THE DUCT

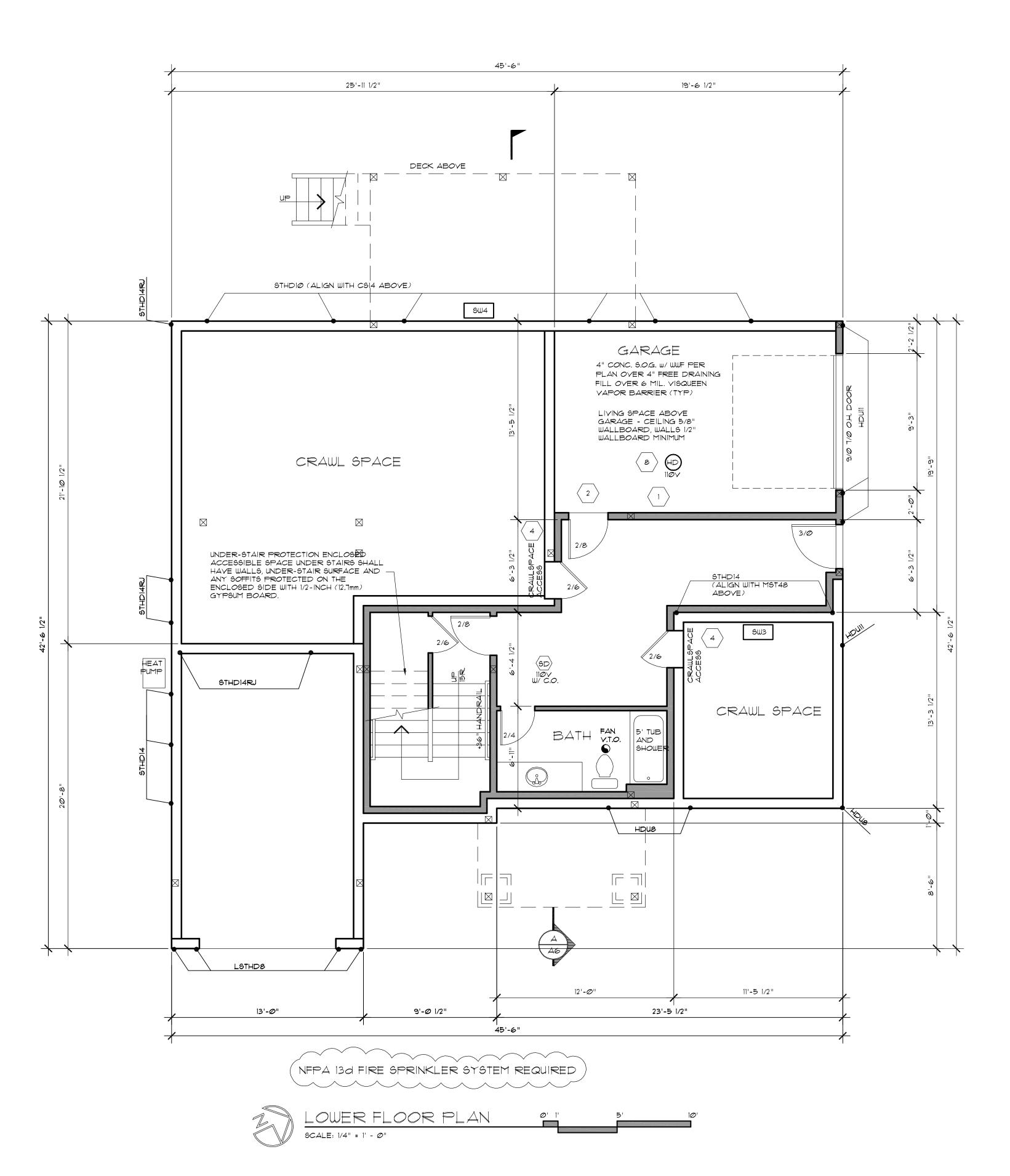
JOB NO: 21006 6/13/22 DRWN. BY: TH REVISED: 6/8/2023

SHEET NO.



70

<u>の</u>



2018 IRC R302.6: Dwelling/garage separation required: The garage shall be separated as required by Table R302.6. Openings in garage walls shall comply with Section R302.5. This provision does not apply to garage walls that are perpendicular to the adjacent dwelling unit wall. Ceilings and beams will be covered by 5/8" Type X gypsum run perpendicular to the floor joists (see 2018 IRC Table R702.3.5 footnote e)

Openings between the garage and residence shall be equipped with solid wood doors not less than 1-3/8-inches (35mm) in thickness, solid or honeycomb core steel doors not less than 1-3/8 inches (35mm) thick, or 20-minute fire-rated doors, equipped with a self-closing device.

R314.4.1 Heat detection interconnection. Heat detectors and heat alarms shall be connected to an alarm or a smoke alarm that is installed in the dwelling. Alarms and smoke alarms that are installed for this purpose shall be located in a hallway, room, or other location that will provide occupant notification.

18"x24" MIN. CRAWL SPACE ACCESS
WEATHERSTRIP & INSULATE TO
LEVEL EQUAL TO SUROUNDING
SURFACES.

NOTE: CONTRACTOR SHALL VERIFY TO INSPECTOR ALL GUARDS AND RAILINGS SHALL BE CAPABLE OF RESISTING 200 LB LOAD ON TOP RAIL IN ANY DIRECTION AS REQUIRED BY IRC TABLE 301.5 CHARLIE HOMES
P.O. BOX 317

<

 <!-- The state of the st

Щ

JOB NO: 21006

DATE: 6/13/22

DRWN. BY: TH

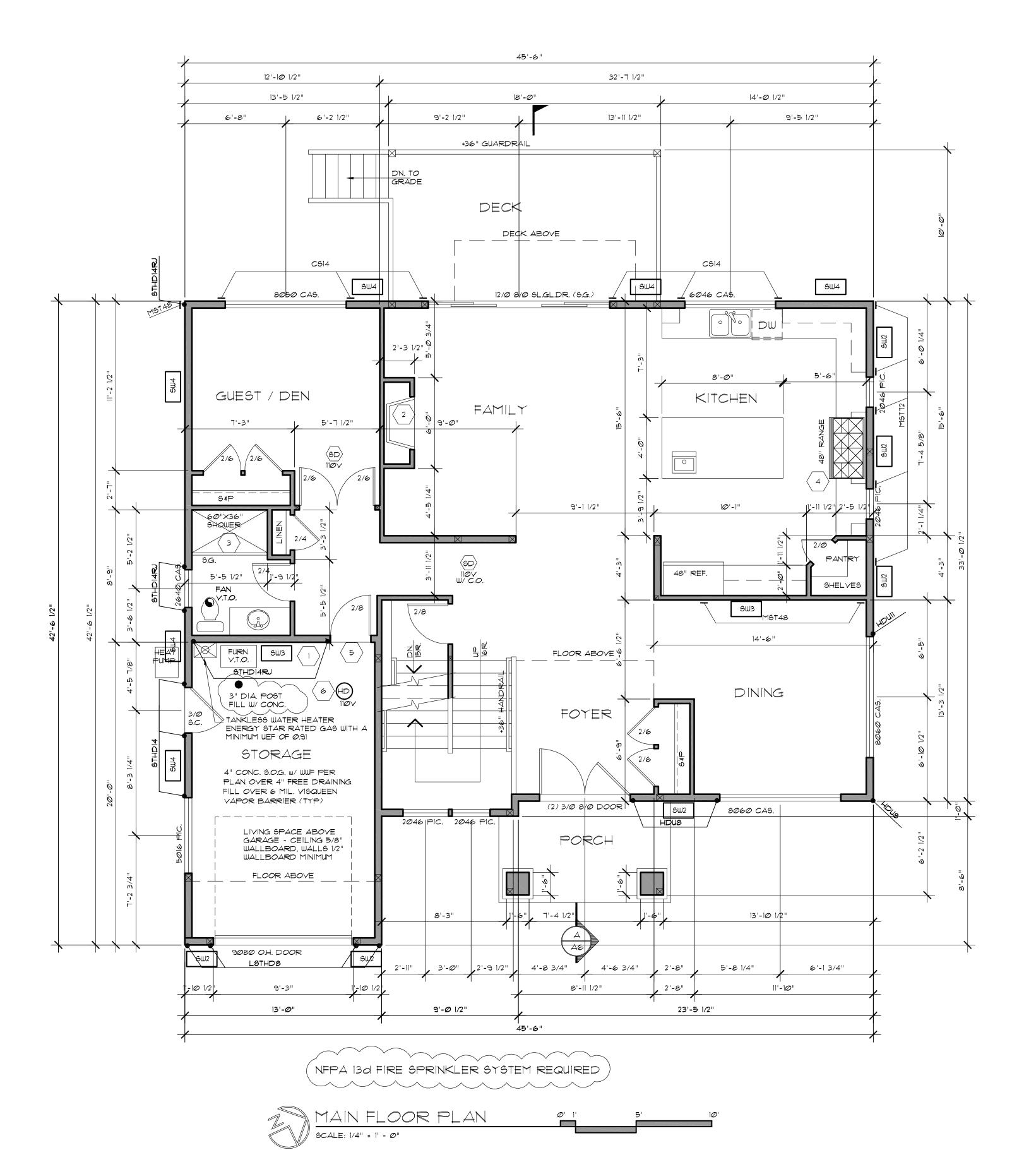
REVISED: 9/30/22

7/3/23

SIDENCE

SHEET NO.

A2



WHOLE HOUSE VENTILATION PER SECTION MI505.4

INTERMITTENTLY OPERATION VENTILATION SYSTEM PER IRC SECTION MISO.1.2

REF TO TABLE MISOS.4 (1) FOR MINIMUM OUTDOOR AIRFLOW RATES - CFM

RUN TIME: ON ONCE EVERY THREE HOURS, FOR ONE HOUR PER TABLE MISO.3.2

OPERATION: TIME CLOCK TO OPEN DAMPER LOCATED IN FRESH AIR INTAKE DUCT BETWEEN

THE OUTSIDE CAP AND THE RETURN AIR DUCT AT FURNACE, AND TIME CLOCK ALSO STARTS

THE FURNACE FAN TO DISTRIBUTE FRESH AIR THROUGH THE HEAT DUCT SYSTEM THAT WAS

BROUGHT IN THROUGHT THE AIR INTAKE DUCT. THE AIR VOLUME BROUGHT IN WILL BE FLOW

TESTED AND ADJUSTED TO MATCH THE AMOUNT REQUIRED BY CALCULATIONS.

(PRIOR TO THE FINAL INSPECTION)

| (PRIOR 10 THE FINAL INSPECTION) |                      |        |        |        |        |           |
|---------------------------------|----------------------|--------|--------|--------|--------|-----------|
|                                 | FLOOR                |        | BEDF   | ROOMS  |        |           |
|                                 | AREA                 | Ø-1    | 2      | 3      | 4      | 5 OR MORE |
|                                 | LESS THAN 500        | 30 CFM | 30 CFM | 35 CFM | 45 CFM | 50 CFM    |
|                                 | 501-1,000            | 30 CFM | 35 CFM | 40 CFM | 50 CFM | 55 CFM    |
|                                 | 1,001-1,500          | 30 CFM | 40 CFM | 45 CFM | 55 CFM | 60 CFM    |
|                                 | 1,501-2,000          | 35 CFM | 45 CFM | 50 CFM | 60 CFM | 65 CFM    |
|                                 | 2,001-2,500          | 40 CFM | 50 CFM | 55 CFM | 65 CFM | 70 CFM    |
|                                 | 2, <b>5</b> Ø1-3,ØØØ | 45 CFM | 55 CFM | 60 CFM | 70 CFM | 15 CFM    |
|                                 | 3,001-3,500          | 50 CFM | 60 CFM | 65 CFM | 75 CFM | 80 CFM    |
|                                 | 3,501-4,000          | 55 CFM | 65 CFM | 70 CFM | 80 CFM | 85 CFM    |
|                                 | 4,001-4,500          | 60 CFM | 70 CFM | 75 CFM | 85 CFM | 90 CFM    |
|                                 | 4,501-5,000          | 65 CFM | 75 CFM | 80 CFM | 90 CFM | 95 CFM    |

TABLE 406.3
2018 ENERGY CREDITS (DEBITS)
SEE RESIDENTIAL ENERGY EFFICIENCY SHEET ATTACHED
HEAT OPTION 2 - 1.0 PTS
OPTION 2.1 - .5 PTS
OPTION 2.2 - 1.5 PTS
OPTION 3.5 - 1.5 PTS
OPTION 4.1 - .5 PTS

OPTION 5.3 - 1.0 PTS

TOTAL POINTS - 6.0 PTS

1817 (21 8) (10 8) 2 (21 10

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

CLIMATE ZONES 5 AND MARINE 4

GLAZING U-FACTOR: VERTICAL U=.28, OVERHEAD U=.50

DOOR U-FACTOR: U=.28

INSULATION: CEILING: R-49, R-38 (ADV), VAULTED CEILING: R-38

ABOVE GRADE WALLS: R-21, BELOW GRADE WALLS: R-21

FLOOR OVER VENTED CRAWL SPACE: R-38

SLAB ON GRADE: R-10

ENERGY CODE COMPLIANCE

#### 3.5a Air-source, centrally ducted heat pump with minimum HSPF of 11.0.

To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.

unit and shall meet the following standards:

Dishwasher – Energy Star rated

Refrigerator (if provided) – Energy Star rated

Washing machine – Energy Star rated

Dryer – Energy Star rated, ventless dryer with a minimum CEF rating of 5.2.

MECHANICAL VENTILATION REQUIRED VENTILATION PER TABLE M1501.3.3 (1) <u>90 CFM</u> INTERMITTENT RUN TIME FACTOR 2 = <u>180 CFM</u> PROVIDE WHOLE HOUSE VENTILATION INTEGRATED

# WITH A FORCED AIR SYSTEM MIDO 1.3.5 A MINIMUM OF 15% OF ALL LIGHT FIXTURES WILL BE HIGH EFFICACY. (WSEC R404.1)

2018 IRC R302.6: Dwelling/garage separation required: The garage shall be separated as required by Table R302.6. Openings in garage walls shall comply with Section R302.5. This provision does not apply to garage walls that are perpendicular to the adjacent dwelling unit wall. Ceilings and beams will be covered by 5/8" Type X gypsum run perpendicular to the floor joists (see 2018 IRC Table R702.3.5 footnote e)

- DIRECT VENT FIREPLACE
  INSTALL PER MANUFACTURERS
  SPECIFICATIONS
- CONC. FIBERBOARD @ TUB & SHOWER SURROUND TO 6' ABOVE DRAIN
- NOTE: PER MI503.6, EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 400 CFM SHALL BE PROVIDED WITH MAKEUP AIR AT A RATE EQUAL TO THE EXHAUST RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH A MEANS OF CLOSURE AND SHALL BE AUTOMATICALLY CONTROLLED TO START AND OPERATE SIMULTANEOUSLY WITH THE EXHAUST
- Openings between the garage and residence shall be equipped with solid wood doors not less than 1-3/8-inches (35mm) in thickness, solid or honeycomb core steel doors not less than 1-3/8 inches (35mm) thick, or 20-minute fire-rated doors, equipped with a self-closing device.
- R314.4.1 Heat detection interconnection. Heat detectors and heat alarms shall be connected to an alarm or a smoke alarm that is installed in the dwelling. Alarms and smoke alarms that are installed for this purpose shall be located in a hallway, room, or other location that will provide occupant notification.

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

| SQUARE FOOT, | AGE S        | SUMMARY        |  |
|--------------|--------------|----------------|--|
| LOWER FLOOR  | 257          | SQ. FT.        |  |
| MAIN FLOOR   | 1332         | SQ. FT.        |  |
| UPPER FLOOR  | 13Ø5         | <u>SQ. FT.</u> |  |
| TOTAL        | 2894         | SQ. FT.        |  |
| LOWER GARAGE | 3 <b>0</b> 7 | SQ. FT.        |  |
| GARAGE       | 255          | SQ. FT.        |  |
| COVERED DECK | 210          | SQ. FT.        |  |
| UPPER DECKS  | 184          | SQ. FT.        |  |

DESIGN HOMES CHARLIE HOMES

IU RESIDENCE

Ш

O

JOB NO: 21006

DATE: 6/13/22

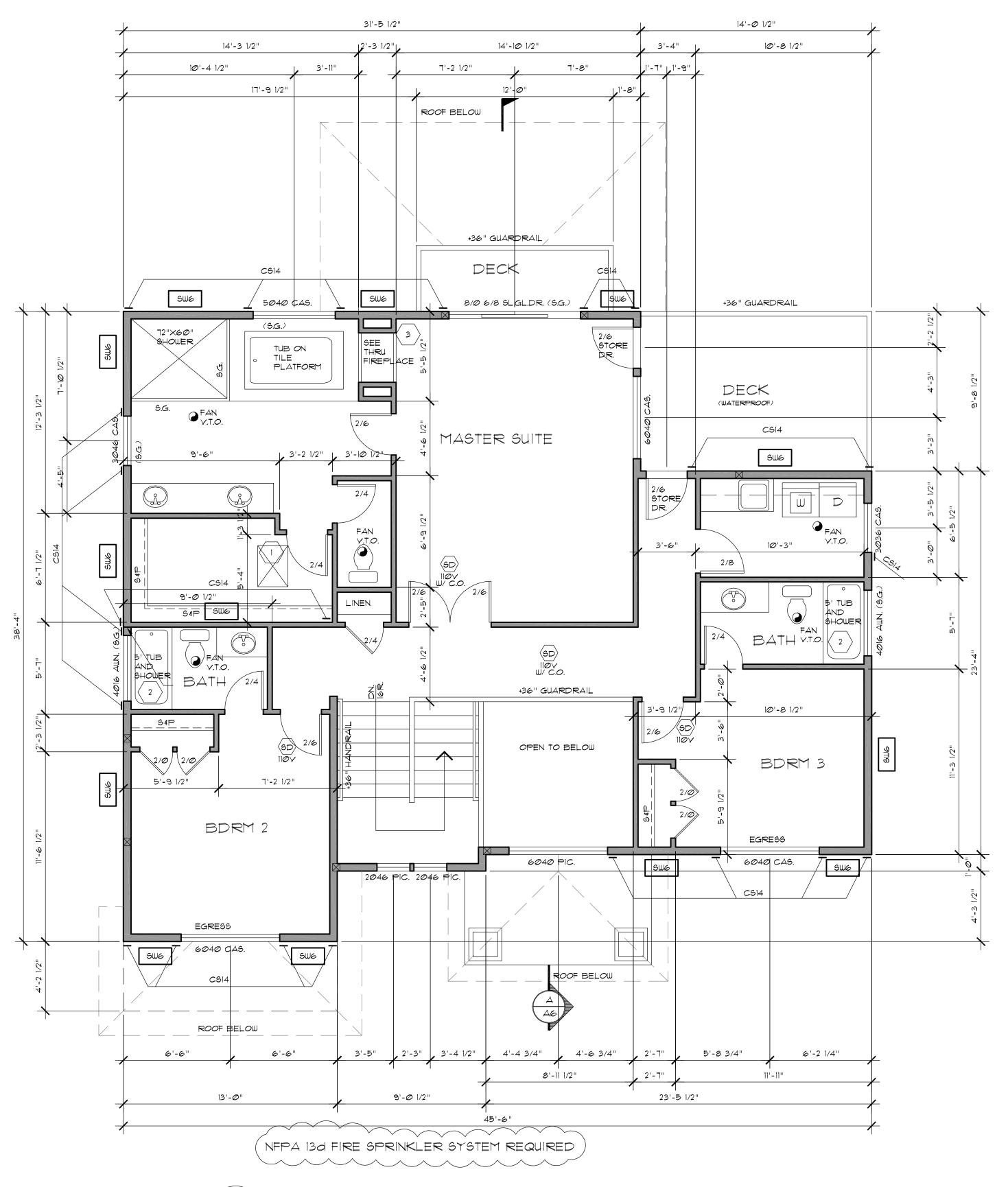
DRWN. BY: TH

REVISED: 9/30/22

7/3/23

SHEET NO.

43



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

22"x30" ATTIC ACCESS.
WEATHERSTRIP & INSULATE
OVER TO EQUAL CEILING
INSULATION, PROVIDE WOOD
SURROUND TO PREVENT LOOSE
INSULATION SPILLAGE TO
LIVING SPACE. (IBC SEC. R807.1)

- 2 CONC. FIBERBOARD @ TUB & SHOWER SURROUND TO 6' ABOVE DRAIN
- DIRECT VENT FIREPLACE

  1N6TALL PER MANUFACTURERS
  SPECIFICATIONS
- GUARDS ARE NOT OF GLASS BALUSTER
  CONSTRUCTION. IF GUARDS TO BE OF
  GLASS BALUSTER CONSTRUCTION, PROVIDE
  DETAILS OF CONSTRUCTION. GLASS INFILL

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

LIU RESIDENCE

JOB NO: 21006

DATE: 6/13/22

DRWN. BY: TH

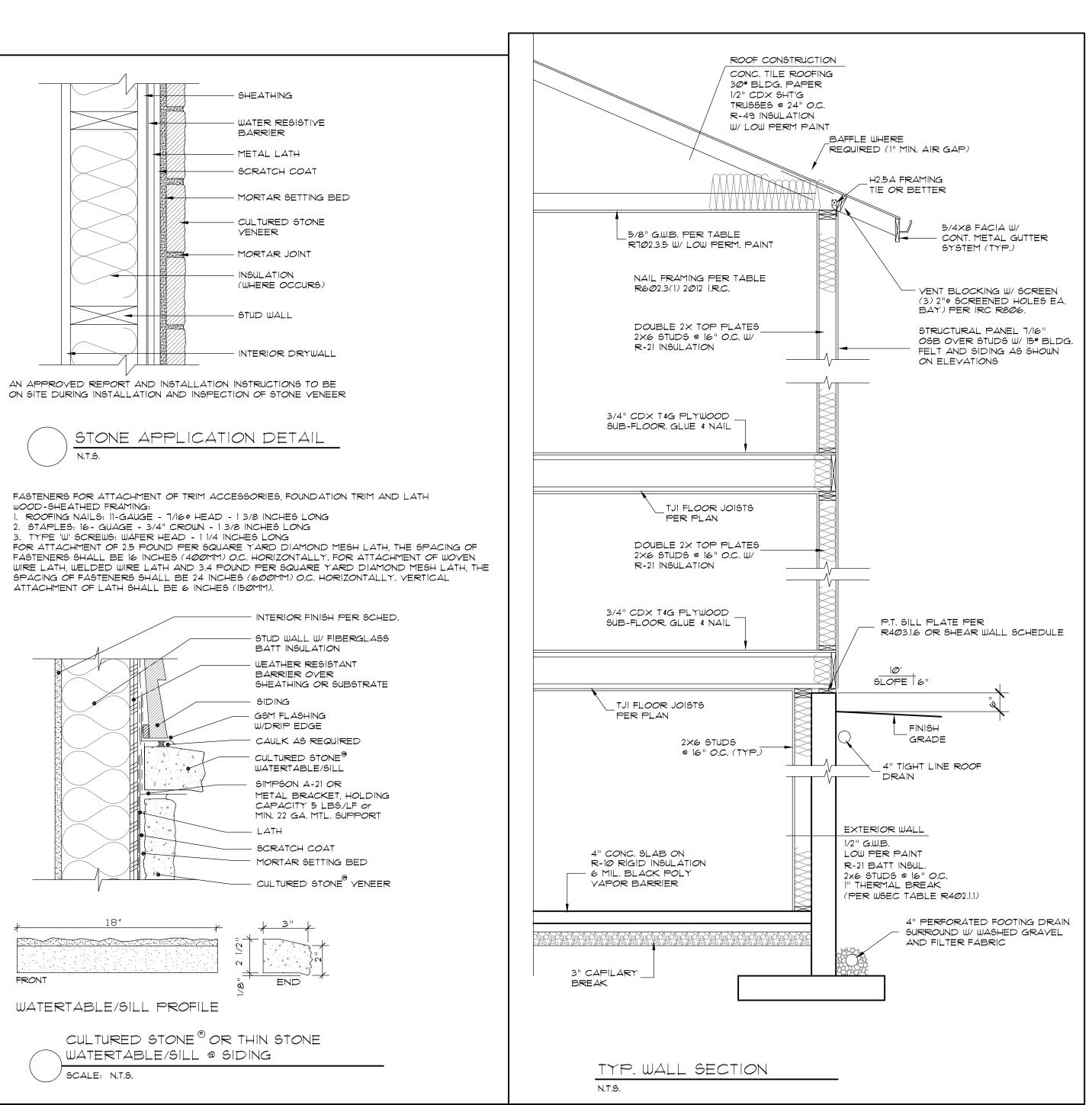
REVISED: 9/30/22

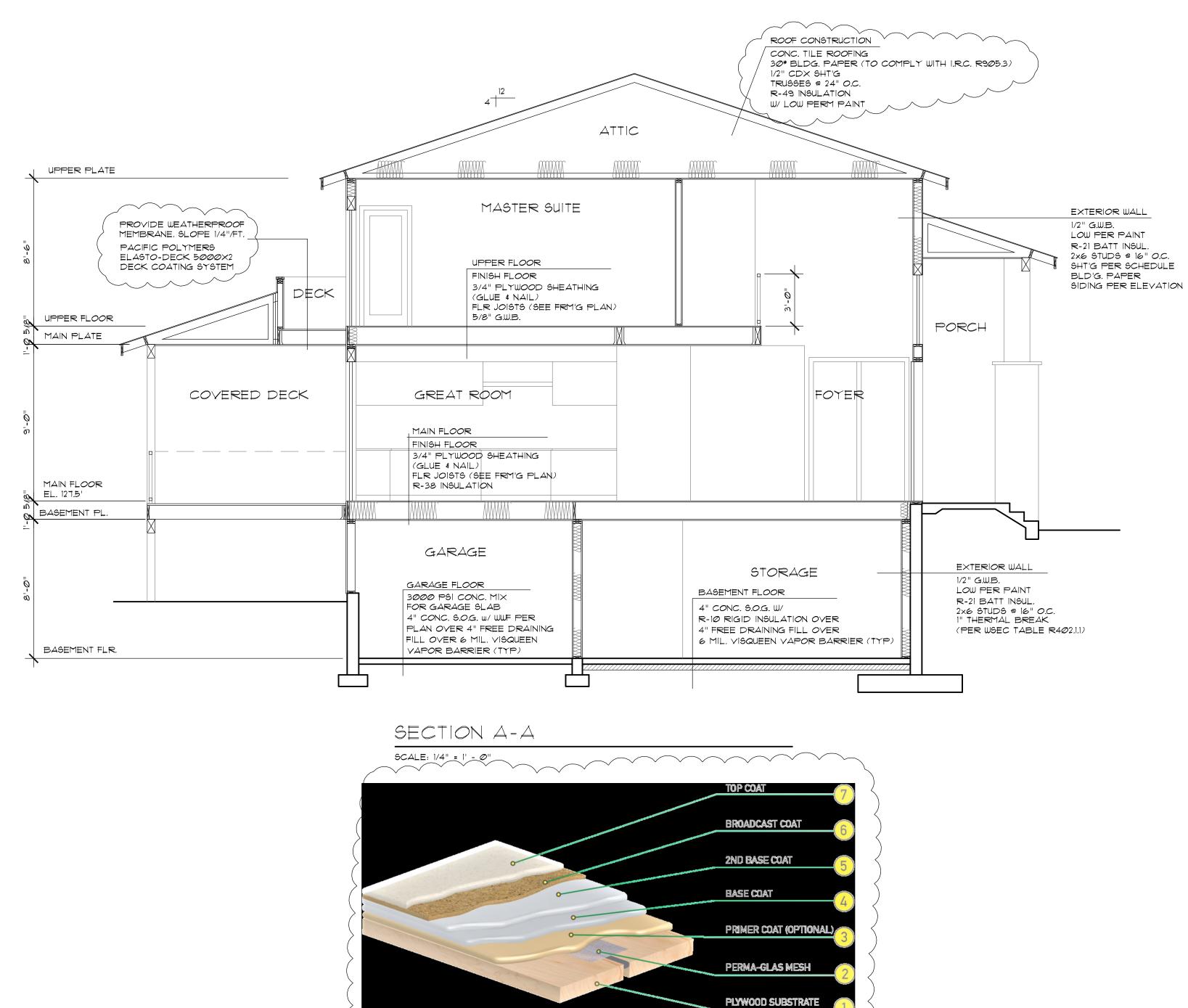
7/3/23

SHEET NO.

4







WATERPROOF DECK DETAIL

A NEW HOME FOR:

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

SIDENCE



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

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

1. Small Dwelling Unit: 3 credits

Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.

Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.

All dwelling units that are greater than 500 sf of heated floor area but less than 1,500 sf.

All dwelling units that are not included in #1 or #3

3. Large Dwelling Unit: 7 credits

Dwelling units exceeding 5,000 sf of conditioned floor area
4. Additions less than 500 square feet: 1.5 credits

All other additions shall meet 1-3 above

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

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

Energy Credits (2018 Code)

#### **TABLE 406.3** 2018 ENERGY CREDITS

| ODTICL! | DECODITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CRE              | EDIT(S)      |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|
| OPTION  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | All Other        | Group R-2    |
| Only o  | ENT BUILDING ENVELOPE OPTIONS  one option from Items 1.1 through 1.7 may be selected in this category.  Iiance with the conductive UA targets is demonstrated using Section R402.1.  Proposed UA/Target UA)] > the required %UA reduction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4, Total UA alte | rnative, whe |
| 1.3     | Prescriptive compliance is based on Table R402.1.1 with the following modifications:  Vertical fenestration U = 0.28 Floor R-38 Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab  or  Compliance based on Section R402.1.4: Reduce the Total conductive UA by 5%.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.5              | N/A          |
| 2.2     | Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 2.0 air changes per hour maximum at 50 Pascals  or For R-2 Occupancies, optional compliance based on Section R402.4.1.2: Reduce the tested air leakage to 0.25 cfm/ft2 maximum at 50 Pascals  and  All whole house ventilation requirements as determined by Section M1507.3 of the International Residential Code or Section 403.8 of the International Mechanical Code shall be met with a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.65.  To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the heat recovery ventilation system. | 1.0              | 1.5          |
| 3.5a    | Air-source, centrally ducted heat pump with minimum HSPF of 11.0.  To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.5              | N/A          |

#### **TABLE 406.3 2018 ENERGY CREDITS**

| PTION | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                               | CREDIT(S) |           |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|
| FIION | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                               | All Other | Group R-2 |
|       | 4. HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM OPTIONS                                                                                                                                                                                                                                                                                                                                                       |           |           |
|       |                                                                                                                                                                                                                                                                                                                                                                                                           |           |           |
| 4.1   | All supply and return ducts located in an unconditioned attic shall be deeply buried in ceiling insulation in accordance with Section R403.3.7.                                                                                                                                                                                                                                                           | 0.5       | 0.5       |
|       | 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.                                                                                                                                                                                                                                                                                                                                             |           |           |
|       | Water heating evetem shall include one of the following:                                                                                                                                                                                                                                                                                                                                                  | 1.0       | 1.0       |
| 5.3   | Water heating system shall include one of the following:  Energy Star rated gas or propane water heater with a minimum UEF of 0.91                                                                                                                                                                                                                                                                        | 1.0       | 1.0       |
|       | or                                                                                                                                                                                                                                                                                                                                                                                                        |           |           |
|       | Solar water heating supplementing a minimum standard water heater.                                                                                                                                                                                                                                                                                                                                        |           |           |
|       | Solar water heating will provide a rated minimum savings of 85 therms or 2000 kWh based on the Solar Rating and Certification Corporation (SRCC) Annual Performance of OG-300 Certified Solar Water Heating Systems                                                                                                                                                                                       |           |           |
|       | Solar water heating will provide a rated minimum savings of 85 therms or 2000 kWh based on the Solar Rating and Certification Corporation (SRCC) Annual Performance of OG-300 Certified Solar Water Heating Systems or                                                                                                                                                                                    |           |           |
|       | Solar water heating will provide a rated minimum savings of 85 therms or 2000 kWh based on the Solar Rating and Certification Corporation (SRCC) Annual Performance of OG-300 Certified Solar Water Heating Systems                                                                                                                                                                                       |           |           |

| LIU RESIDENCE                                                                      |                           |          | ation      |                              |          |       |
|------------------------------------------------------------------------------------|---------------------------|----------|------------|------------------------------|----------|-------|
|                                                                                    |                           |          |            |                              |          |       |
|                                                                                    |                           |          |            |                              |          |       |
|                                                                                    |                           |          |            |                              |          |       |
|                                                                                    |                           |          | Width      | n Hei                        | oht      |       |
|                                                                                    | Ref. U-factor             | O+ *     |            | ı nei<br>^{nch} Fee  |          | Area  |
| Exempt Swinging Door (24 sq. ft. max.)                                             | Rei. U-lactoi             | Qt.      | reet<br>T  | Tee                          | ; L      | 0.0   |
| Exempt Gwinging Door (24 sq. ii. max.)<br>Exempt Glazed Fenestration (15 sq. ft. m | .av )                     |          |            |                              |          |       |
| Exempt Glazed Fellestration (13 sq. it. III                                        | ax.)                      |          |            |                              |          | 0.0   |
| /oution   Compating (M/indows and d                                                |                           |          |            |                              |          |       |
| /ertical Fenestration (Windows and d                                               | oors)                     |          | المان (۱۸۷ | . Uai                        | 304      |       |
| Component                                                                          | Ref. U-factor             | O4.3     | Width      | n Heig<br>^{nch} Fee |          | ۸     |
| Description                                                                        |                           |          |            |                              | <b>∶</b> | Area  |
| ENTRY TRANS.                                                                       | 0.28                      | 1        | 6          | 1                            |          | 6.0   |
| DEN                                                                                | 0.28                      | 1        | 6          | 4                            |          | 24.0  |
| POWDER RM                                                                          | 0.28                      | 1        | 2          | 4                            |          | 8.0   |
| GREAT ROOM                                                                         | 0.28                      | 1        | 12         | 8                            |          | 96.0  |
| DINING                                                                             | 0.28                      | 1        | 5          | 8                            |          | 40.0  |
| DINING                                                                             | 0.28                      | 1        | 8          | 7                            |          | 56.0  |
| KITCHEN                                                                            | 0.28                      | 1        | 8          | 7                            |          | 56.0  |
| PANTRY                                                                             | 0.28                      | 1        | 1 (        | ³ 4               |          | 6.0   |
| LAUNDRY                                                                            | 0.28                      | 1        | 4          | 2                            |          | 8.0   |
| BEDROOM 3                                                                          | 0.28                      | 1        | 6          | 4                            |          | 24.0  |
| LEISURE                                                                            | 0.28                      | 1        | 6          | 4                            |          | 24.0  |
| BEDROOM 4                                                                          | 0.28                      | 1        | 6          | 4                            |          | 24.0  |
| MASTER SUITE                                                                       | 0.28                      | 1        | 8          | 4                            |          | 32.0  |
| MASTER BATH                                                                        | 0.28                      | 1        | 4          | 4                            |          | 16.0  |
| MASTER BATH                                                                        | 0.28                      | 1        | 4          | 3                            | 6        | 14.0  |
| MASTER BATH                                                                        | 0.28                      | 1        | 2          | 3                            |          | 6.0   |
| BEDROOM 2                                                                          | 0.28                      | 1        | 6          | 4                            |          | 24.0  |
| BEDROOM 2                                                                          | 0.28                      | 3        | 2          | 2                            |          | 12.0  |
|                                                                                    |                           |          |            |                              |          |       |
| HALL BATH                                                                          | 0.28                      | 2        | 2          | 2                            | 6        | 8.0   |
| UPSTAIRS BATHS                                                                     | 0.28                      | 2        | 4          | 1                            | +        | 12.0  |
|                                                                                    |                           |          | $\vdash$   |                              |          | 0.0   |
|                                                                                    |                           |          |            |                              |          | 0.0   |
|                                                                                    | O at Valle 1              | Fanceti  | 1: A       |                              |          | 400.0 |
|                                                                                    | Sum of Vertical i         | -enestra |            | ea and                       | I UA     | 496.0 |
|                                                                                    | Vertical Fenestration Are |          |            |                              | _        |       |

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

# These requirements apply to all IRC building types, including detached one- and two-family dwellings (townhouses).

| Project Information | Contact Information                                                                                       |
|---------------------|-----------------------------------------------------------------------------------------------------------|
|                     |                                                                                                           |
|                     |                                                                                                           |
|                     | e requirements of the Prescriptive Path below and<br>the size of the structure, the appropriate number of |

incorporate the minimum values listed. Based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Provide all information from the following tables as building permit drawings: Table R402.1 - Insulation and Fenestration Requirements by Component. Table R406.2 - Fuel Normalization Credits and 406.3 - Energy Credits.

| Authorized Representative                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                   | Date                                                                                                                      |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | All Climate Zones (Table R402.1.1)                                                                                                                                                                                                                                |                                                                                                                           |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | R-Value a                                                                                                                                                                                                                                                         | U-Factor a                                                                                                                |  |
| Fenestration U-Factor b                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | n/a                                                                                                                                                                                                                                                               | 0.30                                                                                                                      |  |
| Skylight U-Factor b                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | n/a                                                                                                                                                                                                                                                               | 0.50                                                                                                                      |  |
| Glazed Fenestration SHGC b,e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | n/a                                                                                                                                                                                                                                                               | n/a                                                                                                                       |  |
| Ceiling e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 49 j                                                                                                                                                                                                                                                              | 0.026                                                                                                                     |  |
| Wood Frame Wall g,h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 21 int                                                                                                                                                                                                                                                            | 0.056                                                                                                                     |  |
| Floor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 38                                                                                                                                                                                                                                                                | 0.026                                                                                                                     |  |
| Below Grade Wall c,h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 10/15/21 int + TB                                                                                                                                                                                                                                                 | 0.042                                                                                                                     |  |
| Slab d,f R-Value & Depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10, 2 ft<br>I-factors and SHGC are maximums. When insi                                                                                                                                                                                                            | n/a                                                                                                                       |  |
| The fenestration U-factor column excludes skylights.  "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. |                                                                                                                                                                                                                                                                   |                                                                                                                           |  |
| means R-5 thermal break                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                   | San Santian PANO 2 0 1                                                                                                    |  |
| means R-5 thermal break d R-10 continuous insulation i<br>For single rafter- or joist-v                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | is required under heated slab on grade floors<br>/aulted ceilings, the insulation may be reduce                                                                                                                                                                   |                                                                                                                           |  |
| means R-5 thermal break ld R-10 continuous insulation i  e For single rafter- or joist-vextends over the top plate R-7.5 continuous insulation slab insulation when appli                                                                                                                                                                                                                                                                                                                                                                                                            | is required under heated slab on grade floors<br>/aulted ceilings, the insulation may be reduce                                                                                                                                                                   | d to R-38 if the full insulation depth be equivalent to the required perimeter                                            |  |
| means R-5 thermal break ld R-10 continuous insulation i e For single rafter- or joist-vextends over the top plate R-7.5 continuous insulation slab insulation when appliment the requirements fo                                                                                                                                                                                                                                                                                                                                                                                     | is required under heated slab on grade floors vaulted ceilings, the insulation may be reduce e of the exterior wall. In installed over an existing slab is deemed to led to existing slabs complying with Section R or thermal barriers protecting foam plastics. | d to R-38 if the full insulation depth be equivalent to the required perimeter 503.1.1. If foam plastic is used, it shall |  |

# Simple Heating System Size: Washington State

at energycode@energy.wsu.edu or (360) 956-2042 for assistance.

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

| oject Information                |                                         |               | Contact Information                                       |                   |
|----------------------------------|-----------------------------------------|---------------|-----------------------------------------------------------|-------------------|
| J RESIDENCE                      |                                         |               | ON                                                        |                   |
|                                  |                                         |               | 6*                                                        |                   |
|                                  | All Other Systems                       |               | Heat Pump                                                 |                   |
| Heating System Ty                | rpe:                                    |               |                                                           |                   |
|                                  | -<br>s for each section, place your cu  | rear on the u | unrd "Instructions"                                       |                   |
| Design Tempera:                  | s for each section, place your cu       | isoi on me v  | iora mstructions                                          |                   |
| Instructions                     | Mercer Island                           | -             | Design Temperature D                                      | ifference (ΔT) 45 |
|                                  |                                         |               | $\Delta T = Indoor (70 \text{ degrees}) - 0$              |                   |
|                                  |                                         |               |                                                           |                   |
| Area of Building                 | 0                                       |               |                                                           |                   |
| Conditioned Floor                |                                         |               | 0.004                                                     |                   |
| CC                               | onditioned Floor Area (sq ft)           |               | 2,894                                                     |                   |
| Average Ceiling H                | =                                       |               |                                                           | itioned Volume    |
| Instructions Av                  | erage Ceiling Height (ft)               |               | 8.5 24,5                                                  | 599               |
| Glazing and Doc i                | F                                       |               | U-Factor X Are                                            | ea = UA           |
| Instructions                     | U-0.28                                  | ☑             | 0.280 49                                                  | 6 138.88          |
| <b></b>                          |                                         |               |                                                           |                   |
| Skylights<br>Instructions        |                                         |               | U-Factor X Are                                            | ea UA             |
| instructions                     |                                         |               | 0.50                                                      |                   |
| Insulation                       |                                         |               |                                                           |                   |
| Attic _                          | R-49                                    | <b>-</b>      | U-Factor X Are                                            | ea UA             |
| Instructions                     | # · · · · · · · · · · · · · · · · · · · |               | 0.026 1,4                                                 | 45 37.57          |
| Cinala Daffar or                 |                                         |               | II Fastan V An                                            | 114               |
| Single Rafter or . Instructions  | Select R-Value                          |               | U-Factor X Are                                            |                   |
| mod dodono                       |                                         |               | No selection                                              |                   |
| Above Grade Wall                 |                                         |               | U-Factor X Are                                            | ea UA             |
| Instructions                     | R-21 Intermediate                       | ×             | 0.056 2.58                                                |                   |
|                                  |                                         |               |                                                           |                   |
| Floors                           | R-38                                    |               | U-Factor X Are                                            | ea UA             |
| Instructions                     |                                         |               | 0.025 69                                                  | 6 17.40           |
| Dalaw Crada Wel                  |                                         |               | U.F4 V A                                                  | 116               |
| Below Grade Wa ।<br>Instructions | R-21 Interior                           | ×             | U-Factor X Are                                            |                   |
| man actions                      |                                         |               | 0.042 84                                                  | 8 35.62           |
| Slab Below Grac                  | 20000000000000000000000000000000000000  |               | F-Factor X Len                                            | gth UA            |
| Instructions                     | R-10 Fully insulated                    | *             | 0.303 10                                                  |                   |
|                                  |                                         |               |                                                           |                   |
| Slab on Grade (                  | Select R-Value                          | <b>∓</b> I    | F-Factor X <u>Len</u>                                     | gth UA            |
| Instructions                     |                                         |               | No selection                                              |                   |
|                                  |                                         |               |                                                           |                   |
| Location of Duc                  | Candition and Space                     |               |                                                           |                   |
| Instructions                     | Conditioned Space                       |               | Duct Leakage                                              |                   |
|                                  |                                         |               |                                                           | 1.00              |
|                                  |                                         | Sur           | n of UA                                                   | 406.51            |
| igure 1.                         |                                         | Env           | elope Heat Load                                           | 18,293 Btu / Hour |
| <u></u>                          |                                         | S             | um of UA x∆T                                              | ,                 |
|                                  |                                         |               | Leakage Heat Load                                         | 11,955 Btu / Hour |
|                                  |                                         |               | olume x 0.6 x ∆T x 0.018                                  | 00.040 =:         |
|                                  |                                         |               | lding Design Heat Load<br>ir leakage + envelope heat loss | 30,248 Btu / Hour |

**Building and Duct Heat Load** 

Ducts in unconditioned space: sum of building heat loss x 1.10 Ducts in conditioned space: sum of building heat loss x 1 Maximum Heat Equipment Output 42,347 Btu / Hour

Building and duct heat loss x 1.40 for forced air fumace Building and duct heat loss x 1.25 for heat pump

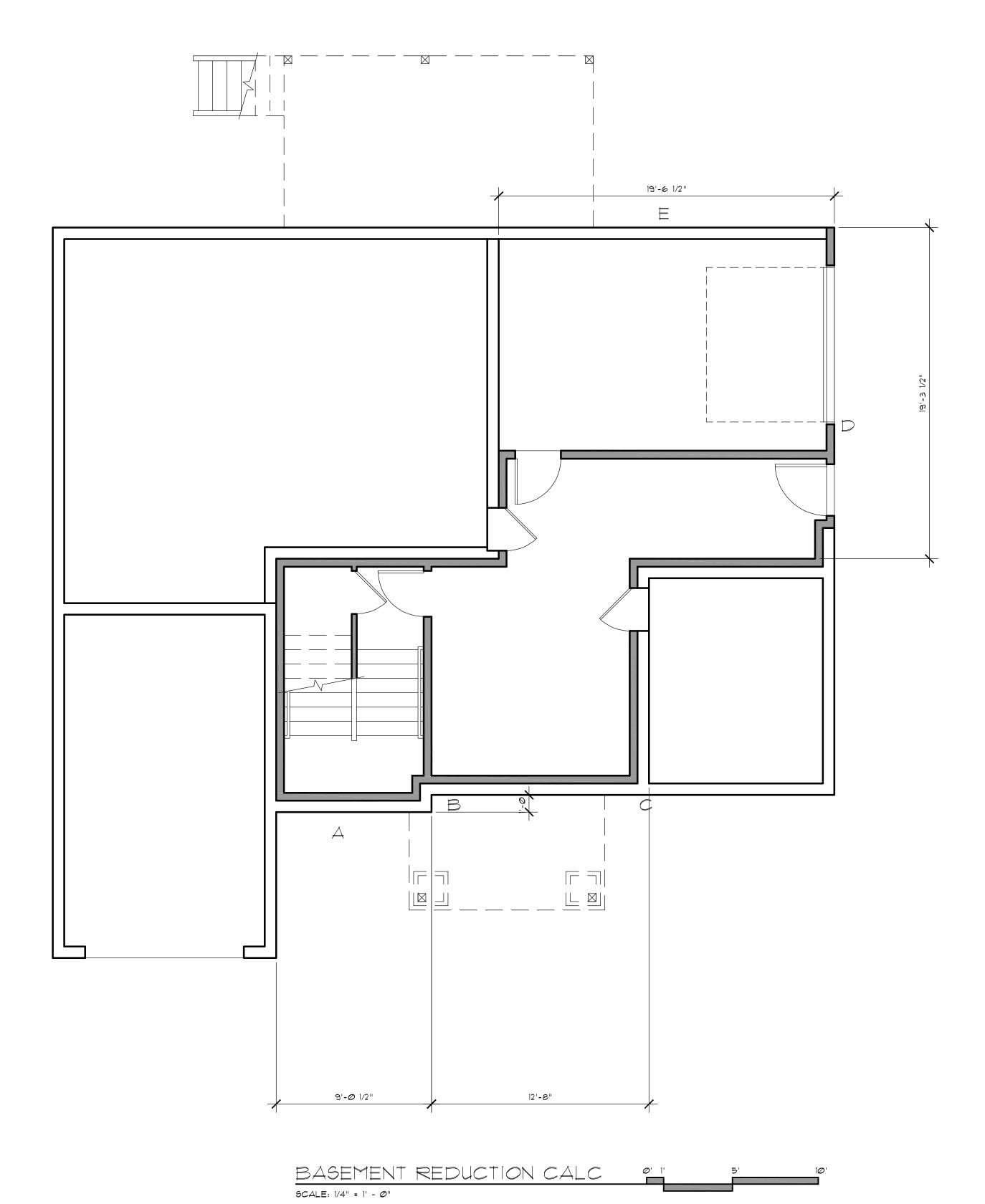
30,248 Btu / Hour

SIDENCE

JOB NO: 21006 DATE: 6/13/22 DRWN. BY: TH

REVISED: 7/3/23





| BASEMENT FLOOR AREA CALCULATION |        |          |        |  |  |  |  |
|---------------------------------|--------|----------|--------|--|--|--|--|
| WALL                            | LENGTH | COVERAGE | RESULT |  |  |  |  |
| Д                               | 9.08   | 100%     | 9.08%  |  |  |  |  |
| W                               | 1'     | 100%     | 1%     |  |  |  |  |
| $\bigcirc$                      | 12 '   | 100%     | 12%    |  |  |  |  |
| U                               | 19.33' | 6.3      | 1.22%  |  |  |  |  |
| Ш                               | 19.5'  | 18.6%    | 3.63%  |  |  |  |  |
| TOTAL                           | 60.91' |          | 26.93% |  |  |  |  |

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

AREA OF BASEMENT EXCLUDED = 619-273.7 = 336 SQ. FT.

| GROSS FLOOR AREA                                             |                     |                               |
|--------------------------------------------------------------|---------------------|-------------------------------|
| LOWER FLOOR W/ GARAGE<br>MAIN FLOOR W/ GARAGE<br>UPPER FLOOR | 619<br>1635<br>1360 | SQ. FT.<br>SQ. FT.<br>SQ. FT. |
| TOTAL<br>BASEMENT EXCLUDED                                   | 3614<br>336         | SQ. FT.<br>SQ. FT.            |
| TOTAL                                                        | 3278                | SQ. FT.                       |
| LOT AREA                                                     | 8,345               | SQ. FT.                       |
| SQUARE FOOTAGE ALLOWED (40%)                                 | 3338                | SQ. FT.                       |

CHARLIE HOMES
P.O. BOX 317

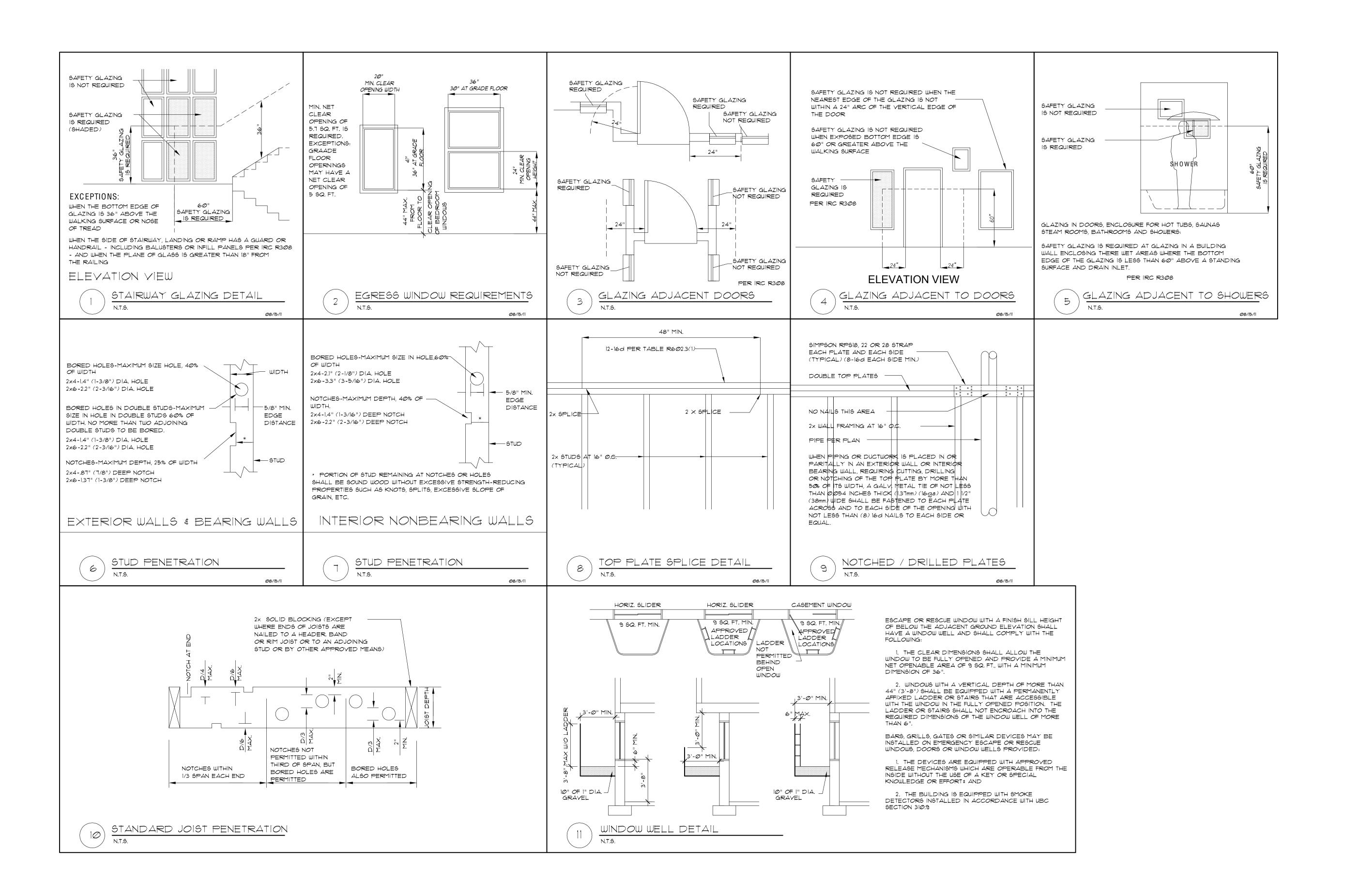
JOB NO: 21006

DATE: 6/13/22

DRWN. BY: TH

REVISED: 9/30/22





DESIGN HOMES

CHARLIE HOMES

P.O. BOX 317

RESIDENCE

E LIU RESIDEN

Ш

JOB NO: 21006 DATE: 6/13/22 DRWN. BY: TH REVISED: .



SKYLIGHT WELL DETAIL N.T.S.

INSULATED HEADER DETAIL

N.T.S.

WINDOW WELL DETAIL

09/16/2021

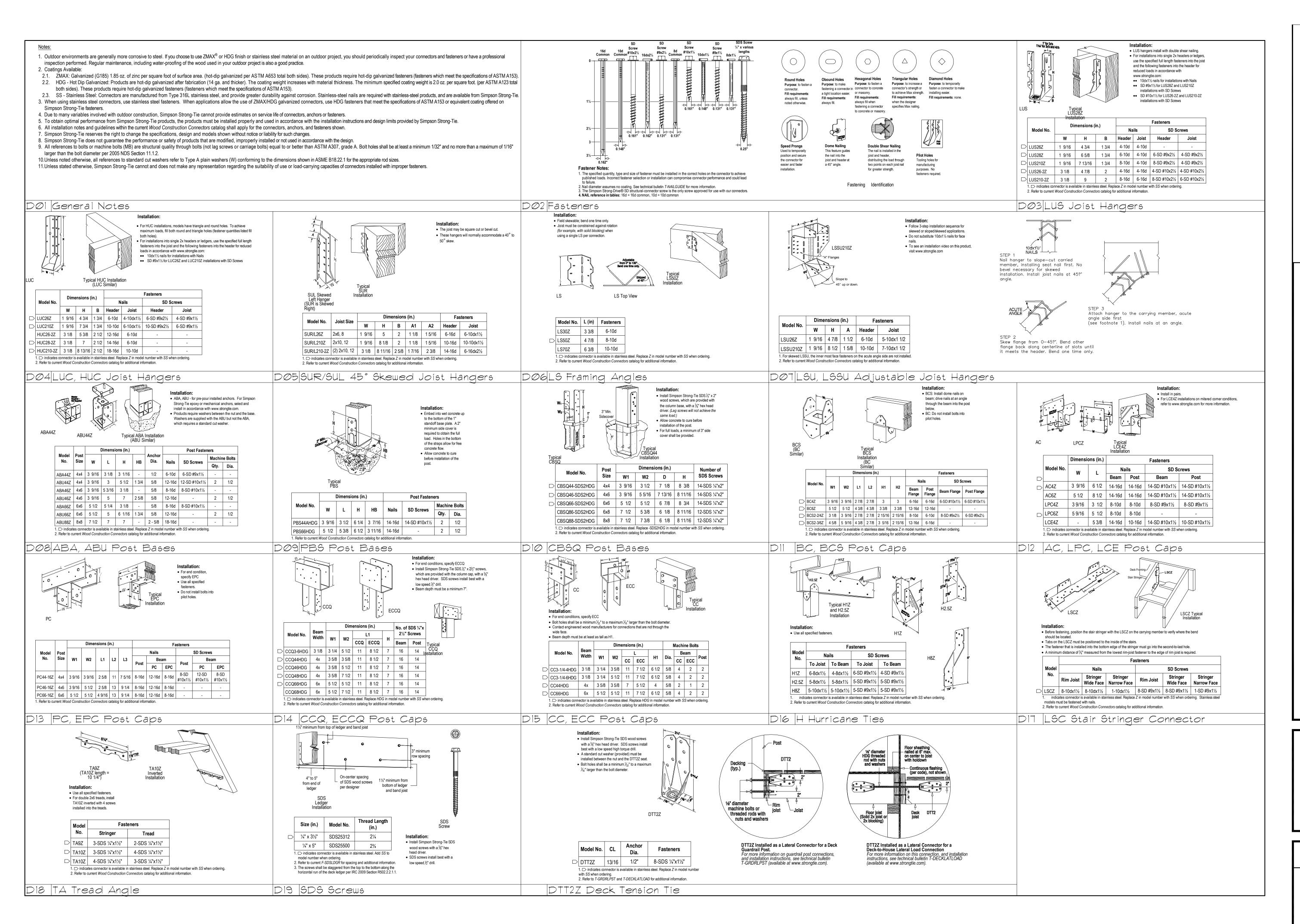
N.T.S. PER IRC R310.2.3

Щ

JOB NO: 21006
DATE: 6/13/22
DRWN. BY: TH
REVISED: .

SHEET NO.

**D**2



CHARLIE HOMES
P.O. BOX 317

HOME FOR:
IU RESIDENCE

JOB NO: 21006 DATE: 6/13/22 DRWN. BY: TH REVISED: .

HORIZ. AND VERT. (TYP.)

45'-6"

) FLOOR JOISTS PER FRAMING PLANS, REFER TO MFG. LAYOUT FOR ALL FRAMING DETAILS AND BLOCKING. REVIEW MFG. LAYOUT PRIOR TO FRAMING. OR ALL FLR JSTS AND RFTRS TO BE #2 HEM-FIR. DOUBLE UNDER BEARING PARTITIONS. PROVIDE SOLID BLOCKING OVER BEARING MEMBERS. ) ALL EXT. DR & WNDW HDRS. TO BE 4x8 DF#2 (UNO) ) ALL PRE-MANUFACTURED TRUSSES TO BE IDENTIFIED BY MFG'S STAMP. 4) FACTORY BLT FRPLC & CHIMNEY TO BE UL LABELED INSTALL PER MNFTRS SPECS O/SIDE CMBSTN AIR REQ'D (MIN 6 SQ IN) DUCTED TO F/BOX W/ OPERABLE O/SIDE DAMPER, TIGHTLY FITT'G FLUE DAMPER, AND TIGHT FITTING GLASS OR METAL DOORS OR FLUE DRAFT INDUCTION FAN. 6) H.W.T. TO BE LABELED PER ASHRAE STD. NO. 90A-80, AND MEET THE REQMNTS. PER NATIONAL APPLIANCE ENERGY CONSERVATION ACT. 1) FURN AND H.W. TANK + PILOTS, BURNERS, HEATING ELEMENTS, AND SWITCHES TO BE A MIN. OF 18" ABOVE FINISHED FLOOR. ) ALL SKYLITES TO COMPLY WITH I.R.C. SECTION R308.6 3) ALL SIDELITES, SLIDING GLASS DOORS AND TUB/SHOWER ENCLOSURES TO COMPLY WITH I.R.C. SECTION R308 10) HEAT REGISTERS TO BE PER LEGEND± LOCATE APPROXIMATELY AS SHOWN, 6" IN FROM EXTERIOR WALLS, 3" IN FROM INTERIOR WALLS. 1) VENT DRYER, OVEN/RANGE & EXHAUST FANS TO O/SIDE. DRYER EXH DUCTS HALL NOT EXCEED A TOTAL COMB HORIZ AND VERT LINGTH OF 14'-0", INCL 2 90d. ELBOWS. DEDUCT 2'-0" FOR EA. 90d. ELBOW EXCEDING 2. ALL EXHAUST DUCTS INSLT'D (MIN. OF R-4) ) ALL NAILING TO COMPLY WITH 2018 I.B.C., COLUMN, POST & BEAM CONNECTIONS TO COMPLY WITH 2018 I.B.C. ) TUB/SHOWER SURROUND WALLS TO HAVE WATER RSTNT GYP BRD AND A SMOOTH HARD SURFACE TO A MINIMUM HEIGHT OF 70" ABOVE DRAIN INLET ) PROVIDE SMK DETCTR AND CO ALARMS IN COMPLIANCE WITH I.R.C. R314 LL SMK DETCTRS W/BAT BACKUP.SMK DETCTRS WILL SOUND AN AUDIBLE ALARM IN ALL SLEEPING ROOMS. 5) DWELLING TO COMPLY W/ WA. ST ENERGY CODE, 2018 EDITION 16) SEAL, CAULK, GASKET,OR WEATHERSTRIP TO LIMIT AIR LEAKAGE: NT EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, OPNG'S BTWN WALL AND ROOF AND WALL PANELS, OPNG'S AT UTILITY PENETRATIONS THROUGH WALLS, FLRS, AND ROOFS, ALL OTHER OPNG'S IN BLD'G ENVELOPE. ALL EXTERIOR DOORS OR ACCESS HATCHES TO ENCLOSED UNHEATED AREAS MUST BE WEATHERSTRIPPED. 18) MINIMUM SOIL BEARING PRESSURE = 1500 PSF. 9) FOOTINGS TO BE PLACED ON FIRM, UNDISTURBED NATIVE SOIL. 20) DWELLING TO COMPLY WITH I.R.C. 2018 EDITION ) FIRE STOPS SHALL BE PRYD'D TO CUT OFF ALL CONCL'D DRAFT OPN'GS FROM VERT TO HRZNTL SPACES, INCL'G THE STAIR, TUB, SHWR, FRPLACE, ETC. 2) OSB ROOF SHEATHING W/COMP ROOFING AND PLYWD AT ALL OVERHANGS. SEE DETAIL SHT FOR ALL ADDITIONAL NOTES. 23) EXHAUST FANS CANNOT TERMINATE WITHIN 3' FROM AN OPERABLE OR UNOPERABLE OPENING PER THE IRC RI506.3

GENERAL NOTES:

690 UNDER-FLOOR AREA = 2,3 SQ. FT. NET FREE REQ'D. 2.3 NET FREE x 144 = 331 SQ. IN./SQ. FT. NET FREE REQ'D. PROVIDE I SQ. FT. PER 300 SQ. FT. OF UNDER FLOOR AREA. COVER VENTS WITH 1/4" CORROSION RESISTANT WIRE MESH. LOCATE VENTS AS CLOSE TO CORNERS AS PRACTICAL. EFFICIENT VENT AREA = 72.5 SQ. IN. SQ. IN. NET FREE 331 72.5 VENT AREA CRAWL VENTILATION CALCULATION

NOTE: STRUCTURAL FILL REQURED FOR ALL FOOTINGS AND SLAB

OF FRAMING INSPECTION, AND HAVE AN ORIGINAL

WASHINGTON SEAL AND SIGNATURE OF THE DESIGNER. PROCEEDING WITH FRAMING WITHOUT APPROVED DETAILS AND PLAN IS DONE SO AT THE CONTRACTORS/APPLICANTS

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

Ш

SHEET NO.



SIDENCE

NOTE: COL TO BE (2) 2×6 HF#2 TYP. (U.N.O.) HDR TO BE 4X8 HF#2 TYP. (U.N.O.)



#### FLOOR FRAMING NOTES:

- 1. ALL BEAMS AND HEADERS TO BE 4x8 HF#2 UNLESS NOTED OTHERWISE.
- 2. PROVIDE SOLID PRESSURE BLOCKING AT ALL POINT LOADS FROM ABOVE.
- 3. PROVIDE SOLID BLOCKING OR BRIDGING AT MID-SPAN OF ALL FLOOR JOISTS WITH SPANS OVER 10'-0" OR PER JOIST SPECIFICATIONS PER JOIST MANUFACTURER.
- 4. PROVIDE BLOCKING OR OTHER APPROVED MEANS OF LATERAL SUPPORT AT ALL JOIST BEARING LOCATIONS.
- 5. XXX DENOTES SHEARWALL CALLOUT PER SHEARWALL TABLE.
- 6. ALL HEADERS TO HAVE (1)  $2\times$  BEARING STUD AND (1)  $2\times$  KING STUD AT EACH END UNLESS NOTED OTHERWISE.

Joists shall be laterally supported at the ends by full-depth solid blocking not less than 2 inches nominal in thickness tor by attachment to a full-depth header, band or rim joist, or to an adjoining stud to provide lateral support to prevent rotation. Additionally, in Seismic Design Categories DØ, DI, and D2, lateral restraint shall be provided at each intermediate support. See IRC Sections 106.1.1 and 502.7.

|       |                            | ۱۸/                                           |                                            | A CHEAD WALL                                                       | ССПЕВШ                  | Г                                      |                                        |               |  |  |
|-------|----------------------------|-----------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|-------------------------|----------------------------------------|----------------------------------------|---------------|--|--|
|       |                            | VV                                            |                                            | ) SHEAR WALI<br>-FIR/DOUG-FIR STUD FRAMI                           |                         | <b>C</b>                               |                                        |               |  |  |
| SW    | SW SHEATHING               | NAIL SIZE &                                   | RIM JOIST OR BLOCKING                      | BOTTOM PLATE & 1<br>REQUIREM                                       |                         | SILL PLATE REQU                        | JIREMENTS                              | SHEAR LOAD    |  |  |
| TYPE  | APA-RATED [1, 2, 12]       | SPACING @ PANEL EDGES                         | ATTACHMENT TO<br>TOP PLATE BELOW<br>[8, 9] | SHEAR NAILING TO<br>WOOD FRAMING BELOW                             | BOTTOM PL<br>AT FRAMING | ANCHOR BOLT TO CONCRETE FOUNDATION     | SILL PL AT<br>FOUNDATION [11]          | CAPACITY (PLF |  |  |
| SW-6  | 15/32" CD-EXT              | 0.131"ø x $2^{1}/_{2}$ " @ 6"0C               | CLIP @ 18"0C                               | 0.148"ø x 3 ¹ / ₄ " @ 6"0C                   | 2x                      | ⁵ / ₈ "ø @ 48"0C | P.T. 2x                                | 260           |  |  |
| SW-4  | 15/32" CD-EXT              | $0.131$ "ø x $2^{1}/_{2}$ "                   | CLIP @ 14"OC                               | $0.148$ "ø x $3^{1}/_{4}$ " @ 4"OC                                 | [15]                    | ⁵ / ₈ "ø ⊚ 32"OC | P.T. 2x                                | 380           |  |  |
| 5W-4  | 13/32 CD-EXT               | @ 4"OC ¹²                          | CLIP @ 14 OC                               | 0.146 Ø X 3 /4 Ø 4 OC                                              | ZX                      | ⁵ / ₈ "ø @ 48"OC | P.T. 3x [15]                           | > T 3∨        |  |  |
| SW-3  | 15/32" CD-EXT              | $0.131$ "ø x $2^{1}/_{2}$ "                   | CLIP @ 12"0C                               | $0.148$ "ø x $3^{1}/_{4}$ " @ 4"OC                                 | [15]<br>3x              | ⁵ / ₈ "ø @ 24"OC | P.T. 2x                                | 490           |  |  |
| 5W-3  | 13/32 CD-EXT               | @ 3"OC, STAGGERED                             | CLIP @ 12 OC                               | & CLIP @ 18"OC                                                     | & CLIP @ 18"0C          |                                        | ⁵ / ₈ "ø @ 32"OC | P.T. 3x [15]  |  |  |
| SW-2  | 15/32" CD-EXT              | 0.131"ø x $2^{1}/_{2}$ "<br>@ 2"OC, STAGGERED | CLIP @ 8"OC                                | 0.148"ø x 3 ¹ / ₄ " @ 4"0C<br>& CLIP @ 16"0C | [15]<br>3x              | ⁵ / ₈ "ø @ 16"OC | [15]<br>P.T. 3x                        | 640           |  |  |
| 2SW-4 | 15/32" CD-EXT<br>BOTH SIDE | 0.131"ø x $2^{1}/_{2}$ "<br>@ 4"OC, STAGGERED | CLIP @ 6"OC                                | 0.148"ø x 3 ¹ / ₄ " @ 4"0C<br>& CLIP @ 12"0C | [15]<br>3x              | ⁵ / ₈ "ø @ 24"OC | [15]<br>P.T. 3x                        | 760           |  |  |
| 2SW-3 | 15/32" CD-EXT<br>BOTH SIDE | 0.131"ø x $2^{1}/_{2}$ "<br>@ 3"OC, STAGGERED | CLIP @ 8"OC<br>BOTH SIDES, STAGGERED       | 0.148"ø x 3 ¹ / ₄ " @ 4"0C<br>& CLIP @ 8"0C  | [15]<br>3x              | ⁵ / ₈ "ø @ 16"OC | [15]<br>P.T. 3x                        | 980           |  |  |
| 2SW-2 | 15/32" CD-EXT<br>BOTH SIDE | 0.131"ø x $2^{1}/_{2}$ "<br>@ 2"OC, STAGGERED | CLIP @ 6"OC<br>BOTH SIDES, STAGGERED       | 0.148"ø x 3 ¹ / ₄ " @ 4"0C<br>& CLIP @ 5"0C  | [15]<br>3x              | ⁵ / ₈ "ø @ 12"0C | P.T. 3x                                | 1280          |  |  |

- NOTES:

  1. INSTALL PANELS EITHER HORIZONTALLY OR VERTICALLY

  2. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF WALL, PANEL EDGE JOINTS ON 2x FRAMING SHALL BE STAGGERED SO THAT JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STAGE.
- 3. BLOCKING IS REQUIRED AT ALL PANEL EDGES.

  4. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF FULL HEIGHT WALLS ARE DESIGNATED BY WINDOWS, OR DOORWAYS OR AS DESIGNATED ON PLANS. HOLDOWN REQUIREMENTS PER PLANS.

  5. SHEAR WALLS DESIGNATED AS PERFORATED SHEAR WALLS REQUIRE SHEATHING, SHEAR WALL NAILING,

- SHEAR WALLS DESIGNATED AS PERFORATED SHEAR WALLS REQUIRE SHEATHING, SHEAR WALL INAILING, ETC. ABOVE AND BELOW ALL OPENINGS).
   SHEATHING EDGE NAILING IS REQUIRED AT ALL HOLDOWN POSTS. EDGE NAILING MAY ALSO BE REQUIRED TO EACH STUD USED IN BUILT—UP HOLDOWN POSTS. ADDITIONAL INFORMATION PER HOLDOWN SCHEDULE & DETAILS.
   INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH 0.148"Ø x 2¹/₂" NAILS AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND 0.148"Ø x 2¹/₂"
- NAILS AT 6"OC WHERE STUDS ARE SPACED AT 24"OC. 8. BASED ON 0.131" $0 \times 1\frac{1}{2}$ " NAILS USED TO ATTACH FRAMING CLIPS DIRECTLY TO FRAMING. USE 0.131" $0 \times 2\frac{1}{2}$ " NAILS WHERE INSTALLED OVER SHEATHING. 9. FRAMING CLIPS: SIMPSON "A35" OR "LTP5" OR APPROVED EQUIVALENT.
- 10. ANCHOR BOLTS SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED STEEL PLATE WASHERS 3"x3"x0.229"(MIN). THE HOLE IN THE PLATE WASHER MAY BE DIAGONALLY SLOTTED  $^{13}/_{16}$ "x1 $^{3}/_{4}$ " PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. PLATE WASHER TO EXTEND TO WITHIN  $\frac{1}{2}$ " OF THE EDGE OF THE SILL PLATE ON THE SIDE(S) WITH
- WASHER TO EXTEND TO WITHIN 1/2" OF THE EDGE OF THE SILL PLATE ON THE SIDE(S) WITH SHEATHING. WHERE SHEAR WALLS ARE SHEATHED ON BOTH SIDES OF 2x6 WALL FRAMING, USE 4.5"x4.5"x0.229"(MIN) PLATE WASHERS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE.

  11. PRESSURE TREATED MATERIAL CAN CAUSE EXCESSIVE CORROSION IN THE FASTENERS. PROVIDE HOT—DIPPED GALVANIZED (ELECTRO—PLATING IS NOT ACCEPTABLE) NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) FOR ALL CONNECTORS IN CONTACT WITH PRESSURE TREATED FRAMING MEMBERS. ADDITIONAL INFORMATION PER STRUCTURAL NOTES.

  12. WHERE WOOD SHEATHING IS APPLIED OVER GYPSUM SHEATHING, CONTACT THE ENGINEER OF RECORD FOR ALTERNATE NAILING REQUIREMENTS.
- 13. AT ADJOINING PANEL EDGES, (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2X STUDS SHALL BE CONNECTED TOGETHER BY NAILING THE STUDS TOGETHER WITH 3" LONG NAILS OF THE SAME SPACING AND DIAMETER AS THE PLATE NAILING.
- 14. CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR ADHESIVE OR EXPANSION BOLT ALTERNATIVES TO CAST-IN-PLACE ANCHOR BOLTS. SPECIAL INSPECTION MAY BE REQUIRED.

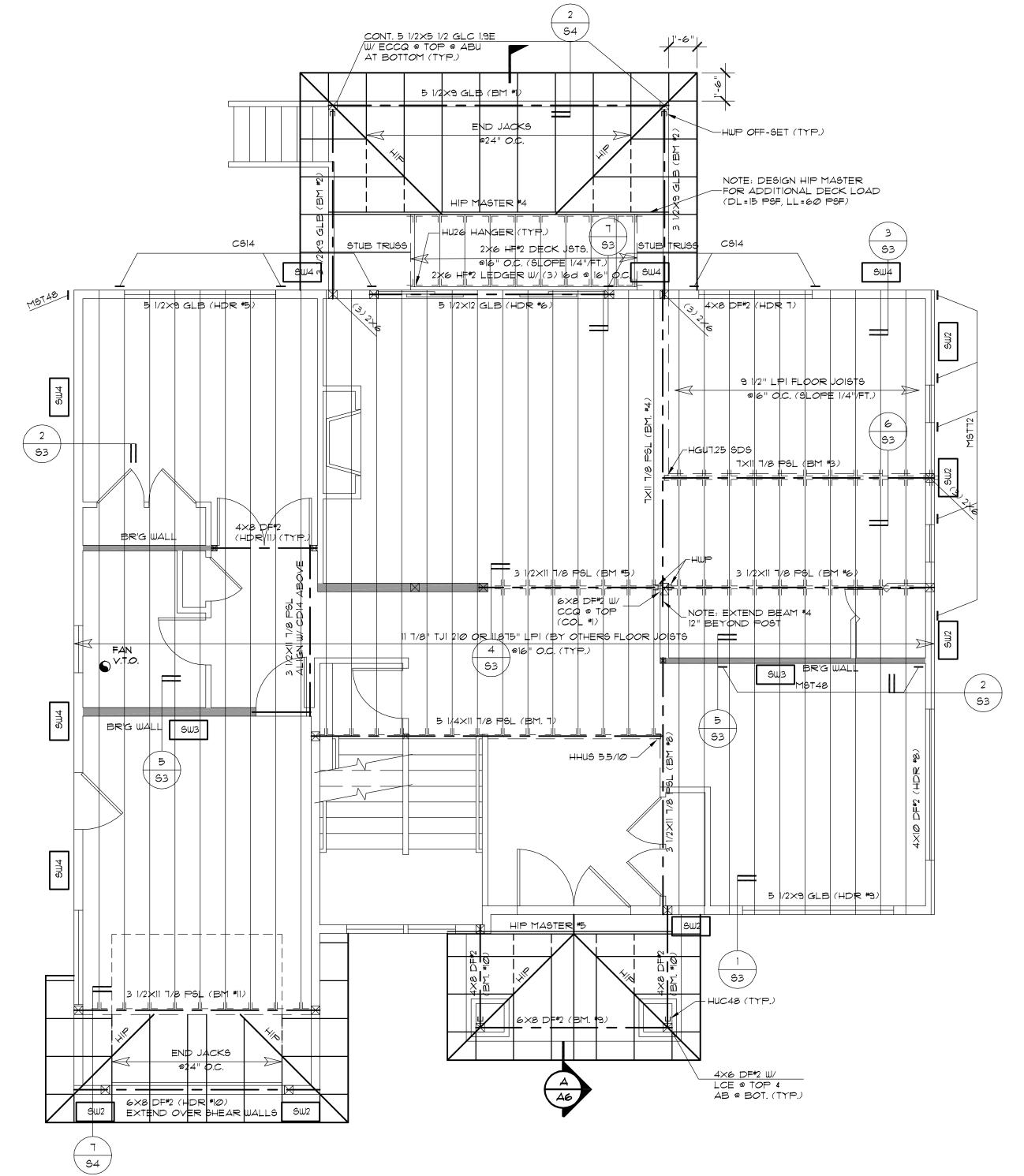
  15. NAIL STUDS TO 3x BOTTOM/SILL PLATES WITH EITHER (2) 0.148"Øx4" END NAILS OR (4) 0.131"Øx2 $\frac{1}{2}$ " TOENAILS.

SIDENCE Γ. ΔΝΟ ΟΝΟ

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

SHEET NO.

7/3/23



NOTE: COL TO BE (2) 2X6 HF#2 TYP. (U.N.O.) HDR TO BE 4X8 HF#2 TYP. (U.N.O.)



|       |                            | W                                             |                                      | ) SHEAR WALL<br>-FIR/DOUG-FIR STUD FRAMI                           |                         | E                                      |                               |                |
|-------|----------------------------|-----------------------------------------------|--------------------------------------|--------------------------------------------------------------------|-------------------------|----------------------------------------|-------------------------------|----------------|
| SW    | SW SHEATHING               | NAIL SIZE &                                   | RIM JOIST OR BLOCKING                | BOTTOM PLATE & E<br>REQUIREME                                      | EDGE MEMBER             | SILL PLATE REQU                        | JIREMENTS                     | SHEAR LOAD     |
| TYPE  | APA-RATED  [1, 2, 12]      | SPACING @ PANEL EDGES                         | ATTACHMENT TO TOP PLATE BELOW [8, 9] | SHEAR NAILING TO<br>WOOD FRAMING BELOW                             | BOTTOM PL<br>AT FRAMING | ANCHOR BOLT TO CONCRETE FOUNDATION     | SILL PL AT<br>FOUNDATION [11] | CAPACITY (PLF) |
| SW-6  | 15/32" CD-EXT              | 0.131"ø x $2^{1}/_{2}$ "<br>@ 6"0C            | CLIP @ 18"OC                         | 0.148"ø x 3 ¹ / ₄ " @ 6"0C                   | 2x                      | ⁵ / ₈ "ø @ 48"0C | P.T. 2x                       | 260            |
| SW-4  | 15/32" CD-EXT              | $0.131$ "ø x $2^{1}/_{2}$ "                   | CLIP @ 14"OC                         | 0.148"ø x 3 ¹ / ₄ " @ 4"0C                   | [15]<br>2x              | ⁵ ∕ ₈ "ø @ 32"OC | P.T. 2x                       | 380            |
| 5W-4  | 15/32 CD-EXI               | @ 4"OC                                        | CLIP @ 14 OC                         | 0.148 Ø X 37 ₄ @ 4 OC                                   | ZX                      | ⁵ / ₈ "ø ⊚ 48"0C | P.T. 3x [15]                  |                |
| SW-3  | 15/32" CD-EXT              | $0.131$ "ø x $2^{1}/_{2}$ "                   | CLIP @ 12"0C                         | $0.148$ "ø x $3^{1}/_{4}$ " @ 4"OC                                 | [15]<br>3x              | ⁵ / ₈ "ø @ 24"OC | P.T. 2x                       | 490            |
| 3W-3  | 13/32 CD-LX1               | @ 3"OC, STAGGERED                             | CLIP W 12 OC                         | & CLIP @ 18"OC                                                     | JX                      | ⁵ / ₈ "ø @ 32"OC | P.T. 3x [15]                  |                |
| SW-2  | 15/32" CD-EXT              | 0.131"ø x $2^{1}/_{2}$ "<br>@ 2"OC, STAGGERED | CLIP @ 8"OC                          | 0.148"ø x $3^{1}/_{4}$ " @ 4"OC & CLIP @ 16"OC                     | [15]<br>3x              | ⁵ / ₈ "ø @ 16"OC | [15]<br>P.T. 3x               | 640            |
| 2SW-4 | 15/32" CD-EXT<br>BOTH SIDE | 0.131"ø x $2^{1}/_{2}$ "<br>@ 4"OC, STAGGERED | CLIP @ 6"OC                          | 0.148"ø x 3 ¹ / ₄ " @ 4"0C<br>& CLIP @ 12"0C | [15]<br>3x              | ⁵ / ₈ "ø @ 24"OC | [15]<br>P.T. 3x               | 760            |
| 2SW-3 | 15/32" CD-EXT<br>BOTH SIDE | 0.131"ø x $2^{1}/_{2}$ "<br>@ 3"OC, STAGGERED | CLIP @ 8"OC<br>BOTH SIDES, STAGGERED | 0.148"ø x 3 ¹ / ₄ " @ 4"0C<br>& CLIP @ 8"0C  | [15]<br>3x              | ⁵ / ₈ "ø @ 16"OC | [15]<br>P.T. 3x               | 980            |
| 2SW-2 | 15/32" CD-EXT<br>BOTH SIDE | 0.131"ø x $2^{1}/_{2}$ "<br>@ 2"OC, STAGGERED | CLIP @ 6"OC<br>BOTH SIDES, STAGGERED | 0.148"ø x 3 ¹ / ₄ " @ 4"0C<br>& CLIP @ 5"0C  | [15]<br>3x              | ⁵ / ₈ "ø @ 12"OC | P.T. 3x                       | 1280           |

- NOTES:

  1. INSTALL PANELS EITHER HORIZONTALLY OR VERTICALLY
  2. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF WALL, PANEL EDGE JOINTS ON 2x FRAMING SHALL BE STAGGERED SO THAT JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUDS.
- 3. BLOCKING IS REQUIRED AT ALL PANEL EDGES.

  4. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF FULL HEIGHT WALLS ARE DESIGNATED BY WINDOWS, OR DOORWAYS OR AS DESIGNATED ON PLANS. HOLDOWN REQUIREMENTS PER PLANS.

  5. SHEAR WALLS DESIGNATED AS PERFORATED SHEAR WALLS REQUIRE SHEATHING, SHEAR WALL NAILING,

- SHEAR WALLS DESIGNATED AS PERFORAILD SHEAR WALLS REQUIRE SHEATHING, SHEAK WALL NAILING, ETC. ABOVE AND BELOW ALL OPENINGS).
   SHEATHING EDGE NAILING IS REQUIRED AT ALL HOLDOWN POSTS. EDGE NAILING MAY ALSO BE REQUIRED TO EACH STUD USED IN BUILT—UP HOLDOWN POSTS. ADDITIONAL INFORMATION PER HOLDOWN SCHEDULE & DETAILS.
   INTERMEDIATE FRAMING TO BE 2X MINIMUM MEMBERS. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH 0.148"Ø X 2¹/₂" NAILS AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND 0.148"Ø X 2¹/₂" NAILS AT 6"OC WHERE STUDS ARE SPACED AT 24"OC.
- 8. BASED ON 0.131"Ø x  $1\frac{1}{2}$ " NAILS USED TO ATTACH FRAMING CLIPS DIRECTLY TO FRAMING. USE 0.131"Ø x  $2\frac{1}{2}$ " NAILS WHERE INSTALLED OVER SHEATHING. 9. FRAMING CLIPS: SIMPSON "A35" OR "LTP5" OR APPROVED EQUIVALENT.
- 10. ANCHOR BOLTS SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED STEEL PLATE WASHERS 3"x3"x0.229"(MIN). THE HOLE IN THE PLATE WASHER MAY BE DIAGONALLY SLOTTED  $^{13}/_{16}$ "x1 $^{3}/_{4}$ " PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. PLATE
- WASHER TO EXTEND TO WITHIN  $\frac{1}{2}$ " OF THE EDGE OF THE SILL PLATE ON THE SIDE(S) WITH WASHER TO EXTEND TO WITHIN 72 OF THE EDGE OF THE SILL PLATE ON THE SIDE(S) WITH
  SHEATHING. WHERE SHEAR WALLS ARE SHEATHED ON BOTH SIDES OF 2x6 WALL FRAMING, USE
  4.5"x4.5"x0.229"(MIN) PLATE WASHERS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE.

  1. PRESSURE TREATED MATERIAL CAN CAUSE EXCESSIVE CORROSION IN THE FASTENERS. PROVIDE
  HOT—DIPPED GALVANIZED (ELECTRO—PLATING IS NOT ACCEPTABLE) NAILS AND CONNECTOR PLATES
  (FRAMING ANGLES, ETC.) FOR ALL CONNECTORS IN CONTACT WITH PRESSURE TREATED FRAMING
  MEMBERS. ADDITIONAL INFORMATION PER STRUCTURAL NOTES.
- WHERE WOOD SHEATHING IS APPLIED OVER GYPSUM SHEATHING, CONTACT THE ENGINEER OF RECORD FOR ALTERNATE NAILING REQUIREMENTS.
- 13. AT ADJOINING PANEL EDGES, (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2X STUDS SHALL BE CONNECTED TOGETHER BY NAILING THE STUDS TOGETHER WITH 3" LONG NAILS OF THE SAME SPACING AND DIAMETER AS THE PLATE NAILING. 14. CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR ADHESIVE OR EXPANSION BOLT ALTERNATIVES TO CAST-IN-PLACE ANCHOR BOLTS. SPECIAL INSPECTION MAY BE REQUIRED.

  15. NAIL STUDS TO 3x BOTTOM/SILL PLATES WITH EITHER (2) 0.148"Øx4" END NAILS OR

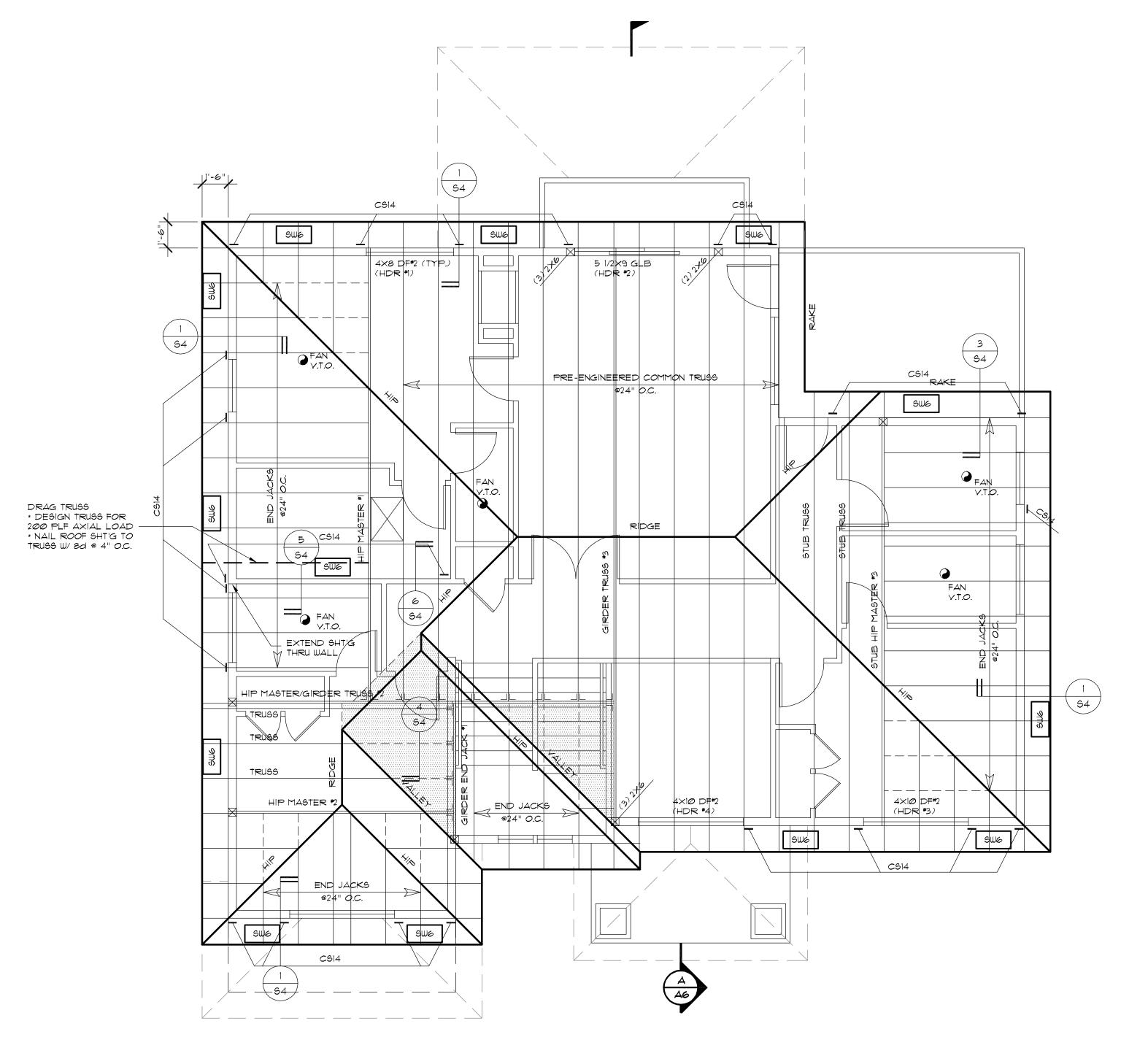
(4)  $0.131\text{"}0x2^{1}/2\text{"}$  TOENAILS.

SIDENCE Γ. ΔΝΟ ΟΝΟ

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

7/3/23





NOTE: COL TO BE (2) 2×6 HF#2 TYP. (U.N.O.) HDR TO BE 4×8 HF#2 TYP. (U.N.O.)

NFPA 13d FIRE SPRINKLER SYSTEM REQUIRED



-SHALL CARRY MANUFACTURERS STAMP -SHALL BE INSTALLED & BRACED TO MANUFACTURERS SPECIFICATIONS -WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT
APPROVAL OF ENGINEERING CALCULATIONS
-SHALL HAVE DESIGN DETAILS & DRAWINGS ON SITE FOR FRAMING INSPECTION

TRINOTE DWG 3/2/9

#### TRUSS NOTES

* TOTAL VENT. REQ'D.  $\frac{1445}{300}$  = 4.8 SF NET FREE

40% BY VENT. ABOVE EAVE  $4.8 \times .4 = 1.92 \,$  SF. MIN. 50% BY VENT. ABOVE EAVE  $4.8 \times .5 = 2.4 \,$  SF. MAX.

TOTAL VENTILATION PROVIDED: (MAX NUMBER OF JACKS W/O GE VENTS) AF-50 ROOF JACK YIELDS 50 IN NET FREE OR .35 SF * OF JACKS REQ'D. 1.92 VENTS OR (6 ) VENTS (MIN.)

AF-50 ROOF JACK YIELDS 50 IN NET FREE OR 35 SF * OF JACKS REQ'D. 2.4 VENTS OR (7 ) VENTS (MAX.)

EAVE VENTLTN (STANDARD) 143 LIN. FEET  $\times$  4.7 IN LF = 672 IN = 4.6 SF

*TOTAL VENTILATION PROVIDED:

ROOF JACKS =  $(7) \times 50 \text{ in}^2 = 2.4 \text{ SF}$ EAVE VENTS = 4,6 SF

1 SF PROVIDED > 4.8 SF REQUIRED

## ROOF VENTILATION CALCULATION

PROVIDE VENT BLOCKING EVERY BAY UNO, SEE ROOF PLAN FOR SOLID BLCKG AREAS

PROVIDE OPENING THRU SHEATHING FOR ACCESS AND VENTING AT OVERFRAMING



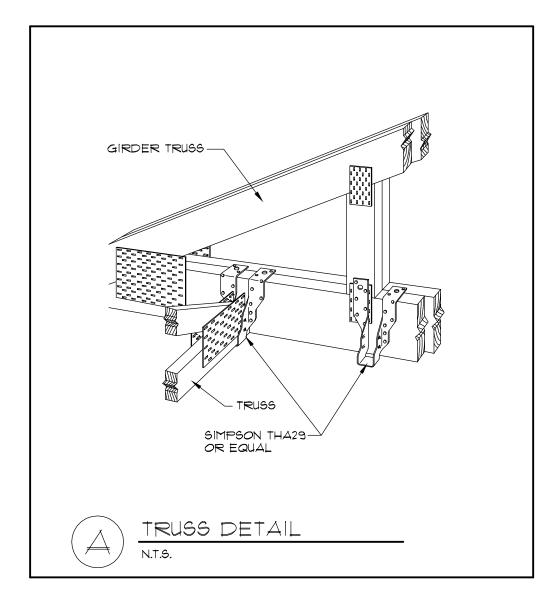
HATCHING DENOTES 2x OVERFRAMING

OVERFRAMING SPANS

1. 2x8 HF#2 RAFTERS @24" O.C. - 10'-11" MAXIMUM UNBRACED SPAN 2x10 HF#2 RIDGE BEAM - 8'-0" MAXIMUM UNBRACED SPAN 2x10 HF#2 FLAT VALLEY LAID DIAGONALLY ACROSS TRUSSES

2. 2x6 HF#2 RAFTERS @24" O.C. - 8'-3" MAXIMUM UNBRACED SPAN 2x8 HF#2 RIDGE BEAM - 7'-Ø" MAXIMUM UNBRACED SPAN 2x8 HF#2 FLAT VALLEY LAID DIAGONALLY ACROSS TRUSSES

3. 2x4 HF#2 RAFTERS @24" O.C. - 8'-0" MAXIMUM UNBRACED SPAN 2x6 HF#2 RIDGE BEAM - 5'-6" MAXIMUM UNBRACED SPAN 2x6 HF#2 FLAT VALLEY LAID DIAGONALLY ACROSS TRUSSES



#### ROOF FRAMING NOTES:

- 1. ALL BEAMS AND HEADERS TO BE 4x8 DF#2 UNLESS NOTED OTHERWISE.
- 2. ALL TRUSSES TO BE PRE ENGINEERED AND ARE TO CARRY THE STAMP OF THE TRUSS MANUFACTURER AND SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS. DESIGN DETAILS AND SPECIFICATIONS BY TRUSS MANUFACTURER TO BE ON SITE FOR FRAMING INSPECTION. PROVIDE TRUSS PACKAGE TO ENGINEER FOR SHOP DRAWING REVIEW PRIOR TO CONSTRUCTION.
- 3. NO TRUSS SHALL BE FIELD MODIFIED WITHOUT PRIOR CONSENT OF THE TRUSS ENGINEER AND
- THE BUILDING DEPARTMENT. 4. SEE ENGINEERING NOTES FOR SHEATHING REQUIREMENTS
- 5.  $\triangle$  DENOTES SHEARWALL CALLOUT PER SHEARWALL TABLE.
- 6. ☑ DENOTES SOLID 2x STUD BEARING BELOW END OF HEADER OR GIRDER. 7. ALL HEADERS TO HAVE (2) 2X POSTS UNLESS NOTED OTHERWISE
- 8. PROVIDE SOLID BEARING STUDS AT ALL BEARING LOCATIONS INCLUDING GIRDER TRUSSES
- 9. 4x6 POSTS MAY BE SUBSTITUTED FOR (2) 2x6 POSTS FOR ROOF FRAMING PLAN ONLY. 2-PLY BUILT UP POST SHALL BE FASTENED TOGETHER W/ 16d NAILS @ 8" O.C.

SE

S D

ω Σ Ξ Ξ

7/3/23

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



#### GENERAL REQUIREMENTS & DESIGN CRITERIA

BUILDING CODE & REFERENCE STANDARDS: THE "INTERNATIONAL BUILDING CODE", 2018 EDITION, GOVERNS THE DESIGN AND CONSTRUCTION OF THIS PROJECT. REFERENCE TO A SPECIFIC SECTION IN THE CODE DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE ENTIRE MATERIALS REFERENCE STANDARDS NOTED BELOW. THE LATEST EDITION OF THE MATERIALS REFERENCE STANDARDS SHALL BE USED.

ARCHITECTURAL DRAWINGS: REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION INCLUDING. BUT NOT LIMITED TO: DIMENSIONS, ELEVATIONS, SLOPES, DOOR AND WINDOW OPENINGS, NON-BEARING WALLS, STAIRS, CURBS, DRAINS, DEPRESSIONS, RAILINGS, WATERPROOFING, FINISHES AND OTHER NONSTRUCTURAL ITEMS.

STRUCTURAL RESPONSIBILITIES: THE PE IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE PRIMARY STRUCTURE IN ITS COMPLETED STATE.

CONTRACTOR RESPONSIBILITIES: THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA AND WSHA. THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.

DISCREPANCIES: IN CASE OF DISCREPANCIES BETWEEN THESE GENERAL NOTES, THE CONTRACT DRAWINGS AND SPECIFICATIONS, AND/OR REFERENCE STANDARDS, THE ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

SITE VERIFICATION: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR CONSTRUCTION. CONFLICTS BETWEEN THE DRAWINGS AND ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ALL UNDERGROUND UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO EXCAVATION OR DRILLING.

<u>WIND DESIGN:</u> BASIC WIND SPEED (3-SECOND GUST), V = 85 MPH(ASD); WIND IMPORTANCE FACTOR, IW = 1.0; OCCUPANCY CATEGORY = II; EXPOSURE CATEGORY = B;

SEISMIC DESIGN: SEISMIC IMPORTANCE FACTOR IE = 1.0; OCCUPANCY CATEGORY = II; SS = 1.412G: S1 = 0.491G; SITE CLASS = D; SDS = 1.13G; SD1 = 0.491G; SEISMIC DESIGN CATEGORY = D; BASIC SEISMIC FORCE RESISTING SYSTEM = A-13 (BEARING WALL SYSTEMS) LIGHT-FRAMED WALLS WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE; CS = 0.122; R = 6.5; ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE PER ASCE 7, SEC 12.8.

GROUND SNOW LOAD, PG = 20 PSF; FLAT ROOF SNOW LOAD, PF = 25 PSF (DRIFT LOADS CONSIDERED PER ASCE 7 WHERE APPLICABLE); SNOW EXPOSURE FACTOR, CE = 1.0; SNOW IMPORTANCE FACTOR, IS = 1.0; THERMAL FACTOR, CT = 1.0.

<u>LIVE LOADS:</u> ROOF (LIVE) 20 PSF ROOF (SNOW) 25 PSF RESIDENTIAL FLOOR 40 PSF RESIDENTIAL DECK 60 PSF

ROOF DEAD LOAD

<u>DESIGN-BY-OTHERS (DEFERRED SUBMITTALS) LOADS</u>: ALL PRE-ENGINEERED/FABRICATED/MANUFACTURED OR OTHER PRODUCTS DESIGNED BY OTHERS SHALL BE DESIGNED FOR THE TRIBUTARY DEAD AND LIVE LOADS PLUS WIND, EARTHQUAKE, AND COMPONENT AND CLADDING LOADS WHEN APPLICABLE. DESIGN SHALL CONFORM TO THE PROJECT DRAWINGS AND SPECIFICATIONS, REFERENCE STANDARDS, AND GOVERNING CODE.

> 15 PSF TOP CHORD DEAD LOAD 8 PSF 7 PSF BOTTOM CHORD DEAD LOAD TRUSS UPLIFT LOAD (GROSS) 10 PSF

DEFERRED SUBMITTALS: ITEMS DESIGNED BY OTHERS SHALL INCLUDE CALCULATIONS, SHOP DRAWINGS AND PRODUCT DATA. DESIGN SHALL BE PREPARED BY THE SSE AND SUBMITTED TO THE ARCHITECT AND SER FOR REVIEW PRIOR TO SUBMISSION TO THE JURISDICTION FOR APPROVAL. THE SSE SHALL SUBMIT TO THE ENGINEER FOR REVIEW CALCULATIONS AND SHOP DRAWINGS THAT ARE STAMPED AND SIGNED BY THE SSE. REVIEW OF THE SSE'S SHOP DRAWINGS IS FOR GENERAL COMPLIANCE WITH DESIGN CRITERIA AND COMPATIBILITY WITH THE DESIGN OF THE PRIMARY STRUCTURE AND DOES NOT RELIEVE THE SSE OF RESPONSIBILITY FOR THAT DESIGN. ALL NECESSARY BRACING, TIES, ANCHORAGE, AND PROPRIETARY PRODUCTS SHALL BE FURNISHED AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS OR THE SSE'S DESIGN DRAWINGS AND CALCULATIONS.

NSPECTIONS: ALL CONSTRUCTION IS SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL IN ACCORDANCE WITH IBC SEC 109. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE BUILDING OFFICIAL. SUBMIT COPIES OF ALL INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.

PREFABRICATED CONSTRUCTION: ALL PREFABRICATED CONSTRUCTION SHALL CONFORM TO IBC SEC 1703.6.

GEOTECHNICAL INSPECTION: THE GEOTECHNICAL ENGINEER OR BUILDING OFFICIAL SHALL INSPECT ALL PREPARED SOIL BEARING SURFACES PRIOR TO PLACEMENT OF CONCRETE AND REINFORCING STEEL AND PROVIDE A LETTER TO THE OWNER STATING THAT SOILS ARE ADEQUATE TO SUPPORT THE "ALLOWABLE FOUNDATION PRESSURE" SHOWN BELOW. SOIL VALUES SHALL BE FIELD VERIFIED BY THE BUILDING OFFICIAL OR THE GEOTECHNICAL

ENGINEER PRIOR TO PLACING CONCRETE <u>GEOTECHNICAL REPORT:</u> RECOMMENDATIONS CONTAINED IN "GEOTECHNICAL ENGINEERING REPORT" BY GEO GROUP NORTHWEST, INC., DATED AUGUST 29, 2022 WERE USED FOR FOOTING DESIGN.

<u>DESIGN SOIL VALUES:</u>
ALLOWABLE BEARING PRESSURE 2000 PSF PASSIVE LATERAL PRESSURE 300 PSF/FT ACTIVE LATERAL PRESSURE (UNRESTRAINED) 35 PSF/FT AT-REST LATERAL PRESSURE (RESTRAINED) 45 PSF/FT COEFFICIENT OF SLIDING FRICTION

_____ <u>SLABS-ON-GRADE & FOUNDATIONS</u>: ALL FOUNDATIONS SHALL BEAR ON STRUCTURAL COMPACTED FI COMPETENT NATIVE SOIL PER THE GEOTECHNICAL REPORT. ALL SLABS-ON-GRADE SHALL BE FOUNDED ON APPROPRIATE SUB-GRADE PREPARATION AS NOTED IN THE GEOTECHNICAL REPORT. EXTERIOR PERIMETER FOOTINGS SHALL BEAR NOT LESS THAN 18 INCHES BELOW FINISH GRADE, OR BY THE GEOTECHNICAL ENGINEER AND THE BUILDING OFFICIAL. INTERIOR FOOTINGS SHALL BEAR NOT LESS THAN 12 INCHES BELOW FINISH FLOOR.  $\overline{ ext{OVER}- ext{EXCAVATION:}}$  REMOVE THE MEDIUM STIFF SOILS PER GEOTECH DIRECTIONS TO EXPOSE COMPETENT SOIL. EOTECH OF RECORD TO BE PRESENT AT THE SITE DURING OVER-EXCAVATION.

COMPACTION: UNLESS OTHERWISE SPECIFIED BY A GEOTECHNICAL ENGINEER, FOOTINGS SHALL BE PLACED COMPACTED MATERIAL AND SHALL BE WELL-GRADED GRANULAR MATERIAL WITH NO MORE THAN 5% PASSING A #2 SIEVE. FILLS PLACED SHALL BE IN MAXIMUM 10" LIFTS AND ALL BEARING SOILS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT USING THE MODIFIED PROCTOR TEST.

#### CAST-IN-PLACE CONCRETE & REINFORCEMENT

REFERENCE STANDARDS: CONFORM TO:

(1) ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY". (2) IBC CHAPTER 19.

(3) ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE", SEC 3 "REINFORCEMENT AND REINFORCEMENT SUPPORTS."

FIELD REFERENCE: THE CONTRACTOR SHALL KEEP A COPY OF ACI FIELD REFERENCE MANUAL, SP-15, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) WITH SELECTED ACI AND ASTM REFERENCES."

CONCRETE MIXTURES: CONFORM TO ACI 318 CHAPTER 5 "CONCRETE QUALITY, MIXING, AND PLACING."

MATERIALS: CONFORM TO ACI 318 CHAPTER 3 "MATERIALS" FOR REQUIREMENTS FOR CEMENTITIOUS MATERIALS, AGGREGATES, MIXING WATER AND ADMIXTURES. REINFORCING BARS ASTM A615, GRADE 60, DEFORMED BARS.

DEFORMED WELDED WIRE FABRIC ASTM A497 BAR SUPPORTS CRSI MSP-2, CHAPTER 3 "BAR SUPPORTS." TIE WIRE 16.5 GAGE OR HEAVIER, BLACK ANNEALED.

MIX DESIGNS: PROVIDE A 5-SACK MINIMUM, 28-DAY COMPRESSIVE STRENGTH F'C = 2,500 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO FOR ALL ISOLATED POST AND CONTINUOUS WALL FOOTINGS, SLABS-ON-GRADE, AND BASEMENT WALLS EXTENDING NO MORE THAN 8" ABOVE FINISH GRADE ELEVATION. FOR BASEMENT WALLS EXTENDING MORE THAN 8" ABOVE FINISH GRADE AND ALL SITE WALLS, PROVIDE A 5-1/2 SACK MINIMUM F'C = 3,000 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO.

MIX DESIGN NOTES:

(1) W/C RATIO: WATER-CEMENTITIOUS MATERIAL RATIOS SHALL BE BASED ON THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS.

(2) CEMENTITIOUS CONTENT: THE USE OF FLY ASH, OTHER POZZOLANS, SILICA FUME, OR SLAG SHALL CONFORM TO ACI 301 SEC 4.2.2.8.B. MAXIMUM AMOUNT OF FLY ASH SHALL BE 20% OF TOTAL

CEMENTITIOUS CONTENT UNLESS REVIEWED AND APPROVED OTHERWISE BY SER. (3) AIR CONTENT: CONFORM TO ACI 301 SEC 4.2.2.4. HORIZONTAL EXTERIOR SURFACES IN CONTACT WITH THE SOIL REQUIRE ENTRAINED AIR. USE "MODERATE EXPOSURE". VERTICAL EXTERIOR SURFACES REQUIRE "MODERATE EXPOSURE". TOLERANCE IS +/- 1-1/2%. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT.

(4) SLUMP: CONFORM TO ACI 301 SEC 4.2.2.2. SLUMP SHALL BE DETERMINED AT POINT OF PLACEMENT. (5) NON-CHLORIDE ACCELERATOR: NON-CHLORIDE ACCELERATING ADMIXTURE MAY BE USED IN CONCRETE SLABS PLACED AT AMBIENT TEMPERATURES BELOW 50F AT THE CONTRACTOR'S OPTION.

FORMWORK: CONFORM TO ACI 301 SEC 2 "FORMWORK AND FORM ACCESSORIES." REMOVAL OF FORMS SHALL CONFORM TO SEC 2.3.2 EXCEPT STRENGTH INDICATED IN SEC 2.3.2.5 SHALL BE 0.75 F'C.

MEASURING, MIXING, AND DELIVERY: CONFORM TO ACI 301 SEC 4.3.

HANDLING, PLACING, CONSTRUCTING AND CURING: CONFORM TO ACI 301 SEC 5.

REBAR FABRICATION & PLACING: CONFORM TO ACI 301, SEC 3.2.2 "FABRICATION", AND ACI SP-66 "ACI DETAILING MANUAL." CONFORM TO ACI 301, SEC 3.3.2 "PLACEMENT." PLACING TOLERANCES SHALL CONFORM TO SEC 3.3.2.1 "TOLERANCES."

SPLICES: CONFORM TO ACI 301, SEC 3.3.2.7. REFER TO PLANS FOR TYPICAL SPLICES.

FIELD BENDING: CONFORM TO ACI 301 SEC 3.3.2.8. "FIELD BENDING OR STRAIGHTENING." BAR SIZES #3 THROUGH #5 MAY BE FIELD BENT COLD THE FIRST TIME. OTHER BARS REQUIRE PREHEATING, DO NOT TWIST BARS.

CORNERS BARS: PROVIDE MATCHING-SIZED "L" CORNER BARS FOR ALL HORIZONTAL WALL AND FOOTING BARS WITH THE APPROPRIATE SPLICE LENGTH, UNO.

CONCRETE COVER: CONFORM TO THE FOLLOWING COVER REQUIREMENTS FROM ACI 301, TABLE 3.3.2.3: CONCRETE CAST AGAINST EARTH

CONCRETE EXPOSED TO EARTH OR WEATHER (#5 & SMALLER) 1-1/2" BARS IN SLABS AND WALLS

CONSTRUCTION JOINTS: CONFORM TO ACI 301 SEC 2.2.2.5, 5.1.2.3A, 5.2.2.1, AND 5.3.2.6. CONSTRUCTION JOINTS SHALL BE LOCATED AND DETAILED AS ON THE CONSTRUCTION DRAWINGS. USE OF AN ACCEPTABLE ADHESIVE, SURFACE RETARDER, PORTLAND CEMENT GROUT, OR ROUGHENING THE SURFACE IS NOT REQUIRED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS. WHERE SHEAR BOND IS REQUIRED, ROUGHEN SURFACES TO 1/4" AMPLITUDE.

#### WOOD FRAMING

REFERENCE STANDARDS: CONFORM TO: (1) IBC CHAPTER 23 "WOOD",

> (2) NDS AND NDS SUPPLEMENT - "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION", (3) ANSI/TPI 1 "NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION",

DEFERRED SUBMITTALS: SUBMIT PRODUCT DATA AND PROOF OF ICC APPROVAL FOR FRAMING MEMBERS AND FASTENERS THAT HAVE BEEN DESIGNED BY OTHERS. SUBMIT CALCULATIONS PREPARED BY THE SSE IN THE STATE OF WASHINGTON FOR ALL MEMBERS AND CONNECTIONS DESIGNED BY OTHERS ALONG WITH SHOP DRAWINGS. ALL NECESSARY BRIDGING, BLOCKING, BLOCKING PANELS AND WEB STIFFENERS SHALL BE DETAILED AND FURNISHED BY THE SUPPLIER. TEMPORARY AND PERMANENT BRIDGING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DEFLECTION LIMITS SHALL BE AS NOTED UNDER DESIGN LOADS SECTION.

IDENTIFICATION: ALL SAWN LUMBER AND PRE-MANUFACTURED WOOD PRODUCTS SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION ISSUED BY THE CERTIFYING AGENCY.

- SAWN LUMBER: CONFORM TO GRADING RULES OF WWPA, WCLIB OR NLGA. FINGER JOINTED STUDS

| EPTABLE AT INTERIOR | WALLS ONLY. |           |       |
|---------------------|-------------|-----------|-------|
| MEMBER USE          | SIZE        | SPECIES   | GRADE |
| STUDS & POSTS       | 2x, 4x      | HEM-FIR   | NO. 2 |
| RAFTERS             | 2x4 - 2x10  | HEM-FIR   | NO. 2 |
| BEAMS               | 4x8 - 4x12  | HEM-FIR   | NO. 2 |
| BEAMS               | 6x8 - 6x12  | HEM-FIR   | NO. 2 |
| DOCTO A TIMEFOO     |             | DOLLO FID | NIO 0 |

POSTS & TIMBERS 6x, 8x DOUG-FIR NO. 2 - <u>GLUED LAMINATED TIMBER:</u> CONFORM TO AITC 117 "STANDARD SPECIFICATIONS FOR STRUCTURAL GLUE-LAMINATED TIMBER OF SOFTWOOD SPECIES, MANUFACTURING AND DESIGN" AND ANSI/AITC A190.1 "STRUCTURAL GLUED LAMINATED TIMBER." CAMBER ALL GLUED LAMINATED MEMBERS BEAMS TO 2000' RADIUS, UNLESS SHOWN OTHERWISE ON THE PLANS.

SIZES SPECIES MEMBER USE DF/DF 24F-1.8E BEAMS ALL SIMPLE SPANS DF/DF 24F-1.8E[(-FB)=(+FB)] CANTILEVER SPANS METAL PLATE CONNECTED WOOD ROOF TRUSSES: CONFORM TO IBC SEC 2303.4 "TRUSSES."

WOOD STRUCTURAL SHEATHING (PLYWOOD): WOOD APA-RATED STRUCTURAL SHEATHING INCLUDES: ALL VENEER PLYWOOD, ORIENTED STRAND BOARD, WAFERBOARD, PARTICLEBOARD, T1-11 SIDING, AND COMPOSITES OF VENEER AND WOOD BASED MATERIAL. CONFORM TO PRODUCT STANDARDS PS-1 AND PS-2 OF THE U.S. DEPT. OF COMMERCE AND THE AMERICAN PLYWOOD ASSOCIATION (APA).

|            |            | IVITATIVI O IVI | I A NATINO    |          |
|------------|------------|-----------------|---------------|----------|
| LOCATION   | THICKNESS  | SPAN RATING     | PLYWOOD GRADE | EXPOSURE |
| ROOF       | 15/32"     | 32/16           | C-D           | 1        |
| FLOOR      | 23/32" T&G | 24 OC           | STURD-I-FLOOR | 1        |
| WALLS      | 15/32"     | 32/16           | C-D           | 1        |
| WALLS(ALT) | 7/16" OSB  | 24/16           | C-D           | 1        |

JOIST HANGERS AND CONNECTORS: SHALL BE "STRONG TIE" BY SIMPSON COMPANY OR USP EQUIVALENT AS SPECIFIED IN THEIR LATEST CATALOGS. ALTERNATE CONNECTORS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUIVALENT OR GREATER LOAD CAPACITIES AND ARE REVIEWED AND APPROVED BY THE SER PRIOR TO ORDERING. CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE 1/2 OF THE NAILS OR BOLTS IN EACH MEMBER. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE FULL LENGTH COMMON. NAIL STRAPS TO WOOD FRAMING AS LATE AS POSSIBLE IN THE FRAMING PROCESS TO ALLOW THE WOOD TO SHRINK AND THE BUILDING TO SETTLE.

NAILS AND STAPLES: CONFORM TO IBC SEC 2303.6 "NAILS AND STAPLES." UNLESS NOTED ON PLANS, NAIL PER IBC TABLE 2304.9.1. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE COMMON. NAIL SIZES SPECIFIED

| ON | THE DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATION | VS:    |          |
|----|-------------------------------------------------------|--------|----------|
|    | SIZE                                                  | LENGTH | DIAMETER |
|    | 8d                                                    | 2-1/2" | 0.131"   |
|    | 10d                                                   | 3"     | 0.148"   |
|    | (8d & 10d ALTERNATIVE) PASLODE TETRAGRIP NAILS        | 2-3/8" | 0.113"   |
|    | 12d (16d SINKER)                                      | 3-1/4" | 0.148"   |
|    | 16d                                                   | 3-1/2" | 0.162"   |

- <u>LAG BOLTS/BOLTS</u>: CONFORM TO ASTM A307.

NAILING REQUIREMENTS: PROVIDE MINIMUM NAILING IN ACCORDANCE WITH IBC TABLE 2304.9.1 "FASTENING SCHEDULE" EXCEPT AS NOTED ON THE DRAWINGS. NAILING FOR ROOF/FLOOR DIAPHRAGMS/SHEAR WALLS SHALL BE PER DRAWINGS. NAILS SHALL BE DRIVEN FLUSH AND SHALL NOT FRACTURE THE SURFACE OF SHEATHING.

STANDARD LIGHT-FRAME CONSTRUCTION: UNLESS NOTED ON THE PLANS, CONSTRUCTION SHALL CONFORM TO IBC SEC 2308 "CONVENTIONAL LIGHT-FRAME CONSTRUCTION" AND IBC SEC 2304 "GENERAL CONSTRUCTION REQUIREMENTS."

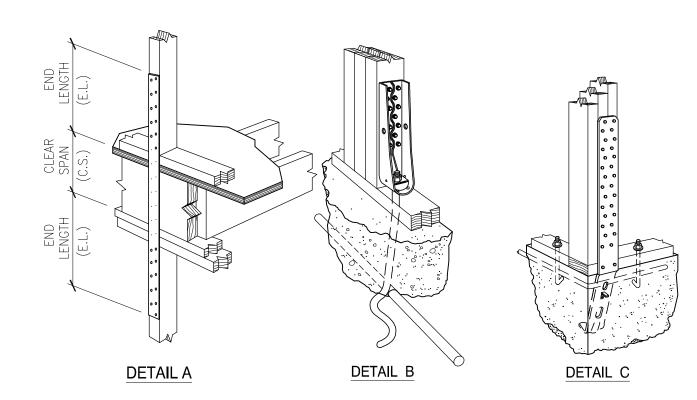
(1) WALL FRAMING: UNLESS OTHERWISE NOTED, ALL INTERIOR WALLS SHALL BE 2X4 @ 16"OC AND ALL EXTERIOR WALLS SHALL BE 2X6 @ 16"OC. PROVIDE (2)BUNDLED STUDS MIN AT WALL ENDS AND EACH SIDE OF ALL OPENINGS. UNO, ALL SOLID SAWN LUMBER HEADERS SHALL BE SUPPORTED BY A MINIMUM OF (1)TRIM AND (1)KING STUD AND ALL GLULAM OR ENGINEERED WOOD HEADERS BY (2)TRIM AND (2)KING STUDS. AT FRAMED WALLS, UNO, ALL SOLID SAWN LUMBER BEAMS SHALL BE SUPPORTED ON A MINIMUM OF (2) BUNDLED 2X STUDS AND ALL GLULAM OR ENGINEERED WOOD BEAMS ON A MINIMUM OF (3) BUNDLED 2X STUDS. STITCH-NAIL BUNDLED STUDS WITH (2)10D @ 12"OC. UNO. ALL INTERIOR AND EXTERIOR HEADERS SHALL BE 4X6. PROVIDE SOLID BLOCKING THRU FLOORS TO SUPPORTS BELOW FOR BEARING WALLS AND POSTS. UNO, ATTACH BOTTOM PLATES OF STUD WALLS TO WOOD FRAMING BELOW WITH 16D @ 12"OC OR TO CONCRETE WITH 5/8"-DIA. ANCHOR BOLTS X 7" EMBEDMENT AT 48"OC. REFER TO SHEAR WALL SCHEDULE FOR SPECIFIC SHEATHING, STUD, AND NAILING REQUIREMENTS AT SHEAR WALLS. UNO, PROVIDE GYPSUM SHEATHING ON INTERIOR SURFACES AND PLYWOOD SHEATHING ON EXTERIOR SURFACES.

(2) ROOF/FLOOR FRAMING: UNLESS OTHERWISE NOTED, PROVIDE DOUBLE JOISTS/RAFTERS UNDER ALL PARALLEL BEARING PARTITIONS AND SOLID BLOCKING AT ALL BEARING POINTS. PROVIDE DOUBLE JOISTS AROUND ALL ROOF/FLOOR OPENINGS. UNO, MULTI-JOISTS/RAFTERS SHALL BE STITCH-NAILED TOGETHER WITH (2)10D @ 12"OC. PROVIDE ROOF SHEATHING EDGE CLIPS CENTERED BETWEEN FRAMING AT UNBLOCKED PLYWOOD EDGES. ALL FLOOR SHEATHING SHALL HAVE TONGUE AND GROOVE JOINTS OR BE SUPPORTED BY SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF ROOF/FLOOR SHEATHING. ROOF/FLOOR SHEATHING SHALL BE LAID FACE GRAIN PERPENDICULAR TO FRAMING MEMBERS.

MOISTURE CONTENT: WOOD MATERIAL USED FOR THIS PROJECT SHALL HAVE MAXIMUM MOISTURE CONTENT OF 19% EXCEPT FOR THE PRESSURE-TREATED WOOD SILL PLATE.

PRESERVATIVE TREATMENT: WOOD MATERIALS ARE REQUIRED TO BE "TREATED WOOD" UNDER CERTAIN CONDITIONS IN ACCORDANCE WITH IBC SEC 2304.11 "PROTECTION AGAINST DECAY AND TERMITES". CONFORM TO THE APPROPRIATE STANDARDS OF THE AMERICAN WOOD-PRESERVERS ASSOCIATION (AWPA) FOR SAWN LUMBER, GLUED LAMINATED TIMBER, ROUND POLES, WOOD PILES AND MARINE PILES. FOLLOW AMERICAN LUMBER STANDARDS COMMITTEE (ALSC) QUALITY ASSURANCE PROCEDURES. PRODUCTS SHALL BEAR THE APPROPRIATE

METAL CONNECTORS/PT WOOD: CK ENGINEERING LLC RECOMMENDS THAT ALL METAL HARDWARE AND FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER BE STAINLESS STEEL TYPE 316L. AT THE OWNER'S RISK AND DISCRETION, HOT-DIPPED GALVANIZED METAL HARDWARE AND FASTENERS MAY BE INVESTIGATED FOR USE IN LIEU OF STAINLESS STEEL PROVIDED THAT THE FINISH HAS A MINIMUM ZINC CONTENT OF AT LEAST 1.85 OZ/SF AND ITS USE IS COORDINATED BY THE CONTRACTOR AND WOOD SUPPLIER FOR THE EXPECTED ENVIRONMENT AND MOISTURE EXPOSURE FOR APPROPRIATE USE BASED ON THE METHOD OF PRESERVATIVE TREATMENT OF THE



| MODEL        | ANCHORAGE TYPE (4,5,6)               | FASTENERS                                                                              | END STUD                  | CAPACITY (LBS) |         |  |
|--------------|--------------------------------------|----------------------------------------------------------------------------------------|---------------------------|----------------|---------|--|
| <b>#</b> (1) | ANOTION (4,5,6)                      | I AOTENERO                                                                             | REQUIRED (2,3)            | DOUG-FIR       | HEM-FIR |  |
| CS14         | FLR-TO-FLR STRAP<br>(E.L.=19")       | (30) 10d COMMON                                                                        | 2x STUD                   | 2,490          | 2,490   |  |
| MST48        | FLR-TO-FLR STRAP<br>(CNTR'D ON C.S.) | (32) 16d COMMON                                                                        | (2) 2x STUDS              | 3,960          | 3,425   |  |
| MST72        | FLR-TO-FLR STRAP<br>(CNTR'D ON C.S.) | (62) 16d COMMON                                                                        | (2) 2x STUDS              | 6,730          | 6,475   |  |
| LSTHD8/RJ    | CAST-IN-PLACE                        | (16) 16d SINKERS                                                                       | (2) 2x STUDS ⁷ | 1,975          | 1,975   |  |
| STHD10/RJ    | CAST-IN-PLACE                        | (18) 16d SINKERS                                                                       | (2) 2x STUDS ⁷ | 2,640          | 2,640   |  |
| STHD14/RJ    | CAST-IN-PLACE                        | (22) 16d SINKERS                                                                       | (2) 2× STUDS ⁷ | 3,695          | 3,695   |  |
| HDU8         | SSTB28                               | (20) ¹ / ₄ "øx2 ¹ / ₂ "<br>SDS WOOD SCREWS | (3) 2x STUDS              | 7,870          | 5,665   |  |
| HDU11        | SB1x30                               | (30) ¹ / ₄ "øx2 ¹ / ₂ "<br>SDS WOOD SCREWS | 6x6 DF#2 MIN.             | 9,335          |         |  |

1. HOLDOWNS SPECIFIED ARE AS MANUFACTURED BY SIMPSON ANCHOR TIE DOWN CO., INC; ACCEPTABLE EQUIVALENT PRODUCT SUBSTITUTIONS ARE AVAILABLE FROM OTHER MANUFACTURERS WITH SER APPROVAL. 2. LOCATE ALL HOLDOWNS AT ENDS OF ALL SHEAR WALLS & FASTEN TO BUNDLED END STUDS.

3. BUNDLED END STUDS SHOULD BE STITCH-NAILED TOGETHER USING MINIMUM (2) 16d @ 10"OC, UNO. 4. LOCATE "HDU#", "LSTHD#" & "STHD#" HOLDOWNS AT CONCRETE FOUNDATION LEVEL. (DETAIL B & C) LOCATE "CS#", "MST", "MSTC#" & "CMST#" STRAPS AT FLOOR-TO-FLOOR CONNECTIONS. (DETAIL A) 5. ALL HOLDOWN ANCHOR BOLTS SHALL BE MIN 5" FROM CONCRETE WALL ENDS.

6. USE "SSTB" FOR 2x SILL PLATES & "SSTBL" FOR 3x SILL PLATES. 7. ADDITIONAL END STUD REQUIRED TO MEET MINIMUM  $1\frac{1}{2}$ " EDGE DISTANCE FROM CONCRETE CORNER TO "STHD" STRAP.

USE "RJ" STYLE WITH "STHD" WHERE RIM JOIST IS PRESENT. 8. INSTALL ALL HOLDOWN HARDWARE PER MANUFACTURER'S INSTRUCTIONS & RECOMMENDATIONS.

#### HOLDOWN SCHEDULE

SCALE: N.T.S.

|                            |                       | W                                                   | OOD-FRAMED                             | SHEAR WALL                                       | SCHEDUL                                 | .E                                     |                |            |
|----------------------------|-----------------------|-----------------------------------------------------|----------------------------------------|--------------------------------------------------|-----------------------------------------|----------------------------------------|----------------|------------|
|                            |                       |                                                     | FOR HEM                                | -FIR/DOUG-FIR STUD FRAMIN                        | G                                       |                                        |                |            |
| SW SW SHEATHING            |                       | NAIL SIZE &                                         | RIM JOIST OR BLOCKING                  | BOTTOM PLATE & ED<br>REQUIREMEN                  |                                         | SILL PLATE REQU                        | IIREMENTS      | SHEAR LOAD |
| TYPE APA-RATED  [1, 2, 12] | SPACING @ PANEL EDGES | ATTACHMENT TO<br>TOP PLATE BELOW<br>[8, 9]          | SHEAR NAILING TO<br>WOOD FRAMING BELOW | BOTTOM PL<br>AT FRAMING                          | ANCHOR BOLT TO CONCRETE FOUNDATION [10] | SILL PL AT<br>FOUNDATION [11]          | CAPACITY (PLF) |            |
| SW-6                       | 15/32" CD-EXT         | 0.131"ø x 2 ¹ / ₂ "<br>@ 6"0C | CLIP @ 18"OC                           | 0.148"ø x 3 ¹ / ₄ " @ 6"0C | 2x                                      | ⁵ / ₈ "ø @ 48"0C | P.T. 2x        | 260        |
| SW-4                       | 15/32" CD-EXT         | $0.131$ "ø x $2^{1}/_{2}$ "                         | CLIP @ 14"OC                           | 0.148"ø x 3 ¹ / ₄ " @ 4"0C | 2x                                      | ⁵ / ₈ "ø ⊚ 32"0C | P.T. 2x        | 380        |
| JW 1                       | 10,02 00 2/11         | @ 4"OC _                                            | OLII G I I OO                          | 0.110 \$ 1 0 74 9 1 00                           | [15]                                    | ⁵ / ₈ "ø @ 48"0C | P.T. 3x [15]   |            |
| SW-3                       | 15/32" CD-EXT         | $0.131$ "ø x $2^{1}/_{2}$ "                         | CLIP @ 12"0C                           | 0.148"ø x 3 ¹ / ₄ " @ 4"0C | 3x                                      | ⁵ / ₈ "ø @ 24"0C | P.T. 2x        | 490        |
| 3₩ 3                       | 10/ 02 00 EXT         | @ 3"OC, STAGGERED & CLIP @ 12 OC & CLIP @ 18"OC     | & CLIP @ 18"0C                         | [15]                                             | ⁵ / ₈ "ø @ 32"0C  | P.T. 3x _[15]                | 130            |            |
| SW_2                       | 15/32" CD_FYT         | $0.131$ "ø x $2\frac{1}{2}$ "                       | CLIP @ 8"OC                            | 0.148"ø x 3 ¹ / ₄ " @ 4"0C | 3x                                      | ⁵ / ₈ "ø @ 16"0C | P.T. 2x        | 640        |
| 3111-2                     | SW-2 15/32" CD-EXT    | @ 2"OC, STAGGERED                                   | CLIP @ 8 UC                            | & CLIP @ 16"0C                                   | JX<br>[15]                              | ⁵ / ₈ "ø @ 24"0C | P.T. 3x [15]   | 040        |

SCALE: N.T.S.

1. INSTALL PANELS EITHER HORIZONTALLY OR VERTICALLY

- 2. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF WALL, PANEL EDGE JOINTS ON 2x FRAMING SHALL BE STAGGERED SO THAT JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME
- 3. BLOCKING IS REQUIRED AT ALL PANEL EDGES.
- 4. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF FULL HEIGHT WALLS ARE DESIGNATED BY WINDOWS, OR DOORWAYS OR AS
- DESIGNATED ON PLANS. HOLDOWN REQUIREMENTS PER PLANS. 5. SHEAR WALLS DESIGNATED AS PERFORATED SHEAR WALLS REQUIRE SHEATHING, SHEAR WALL NAILING, ETC. ABOVE AND BELOW ALL OPENINGS).
- REQUIRED TO EACH STUD USED IN BUILT-UP HOLDOWN POSTS. ADDITIONAL INFORMATION PER HOLDOWN SCHEDULE & DETAILS.

6. SHEATHING EDGE NAILING IS REQUIRED AT ALL HOLDOWN POSTS. EDGE NAILING MAY ALSO BE

- WITH 0.148"0 x  $2\frac{1}{2}$ " NAILS AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND 0.148"0 x  $2\frac{1}{2}$ " NAILS AT 6"OC WHERE STUDS ARE SPACED AT 24"OC. 8. BASED ON 0.131" $0 \times 1\frac{1}{2}$ " NAILS USED TO ATTACH FRAMING CLIPS DIRECTLY TO FRAMING. USE
- 0.131"0 x  $2^{1}/_{2}$ " NAILS WHERE INSTALLED OVER SHEATHING. 9. FRAMING CLIPS: SIMPSON "A35" OR "LTP5" OR APPROVED EQUIVALENT.
- WOOD-FRAMED SHEAR WALL SCHEDULE
- 10. ANCHOR BOLTS SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED STEEL PLATE WASHERS 3"x3"x0.229"(MIN). THE HOLE IN THE PLATE WASHER MAY BE DIAGONALLY SLOTTED  $\frac{13}{16}$ "x1 $\frac{3}{4}$ " PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. PLATE WASHER TO EXTEND TO WITHIN  $\frac{1}{2}$ " OF THE EDGE OF THE SILL PLATE ON THE SIDE(S) WITH SHEATHING. WHERE SHEAR WALLS ARE SHEATHED ON BOTH SIDES OF 2x6 WALL FRAMING, USE 4.5"x4.5"x0.229"(MIN) PLATE WASHERS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE. 11. PRESSURE TREATED MATERIAL CAN CAUSE EXCESSIVE CORROSION IN THE FASTENERS. PROVIDE HOT-DIPPED GALVANIZED (ELECTRO-PLATING IS NOT ACCEPTABLE) NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) FOR ALL CONNECTORS IN CONTACT WITH PRESSURE TREATED FRAMING

MEMBERS. ADDITIONAL INFORMATION PER STRUCTURAL NOTES. 12. WHERE WOOD SHEATHING IS APPLIED OVER GYPSUM SHEATHING, CONTACT THE ENGINEER OF RECORD FOR ALTERNATE NAILING REQUIREMENTS.

7. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS. ATTACH SHEATHING TO INTERMEDIATE FRAMING 13. AT ADJOINING PANEL EDGES, (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2X STUDS SHALL BE CONNECTED TOGETHER BY NAILING THE STUDS TOGETHER WITH

3" LONG NAILS OF THE SAME SPACING AND DIAMETER AS THE PLATE NAILING. 14. CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR ADHESIVE OR EXPANSION BOLT ALTERNATIVES TO CAST-IN-PLACE ANCHOR BOLTS. SPECIAL INSPECTION MAY BE REQUIRED. 15. NAIL STUDS TO 3x BOTTOM/SILL PLATES WITH EITHER (2) 0.148"Øx4" END NAILS OR

(4) 0.131" $0 \times 2^{1/2}$ " TOENAILS.

 $\sim$   $\sim$ 

Checked By: SC Date: 6-8-2023

Drawn By: PK

STRUCTURAL

CK JOB NO.

NOTES/SCHED.

-BUNDLED STUDS PER PLAN OR @ HOLDOWN LOCATIONS

- HOLDOWN PER PLAN &

-ADD'L P WASHER &

ANCHOR BOLTS PER

SHEAR WALL SCHEDULE

- ANCHOR BOLT & EMBED

PER HOLDOWN SCHEDULE

— CONCRETE STEM WALL

- CONCRETE FOOTING

T/GRADE VARIES

B/FOOTING

PER PLAN

PER PLAN

-WALL FRAMING PER PLAN,

SHEAR WALL WHERE OCCURS

-P.T. SILL  $\mathbb{R}$  W/ ANCHOR BOLTS

PER SW SCHEDULE OR NOTES

- EDGE NAILING

PANEL EDGE NAILING

T/FIN GRADE

NUT @ HOLDOWN

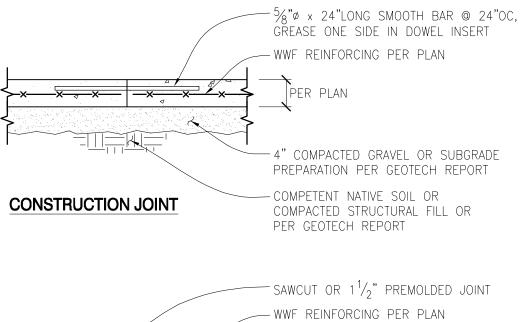
SCHEDULE

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

22-028

STRUCTURAL **DETAILS** 

S-2.0



4" COMPACTED GRAVEL OR SUBGRADE

T/FINISH GRADE

WALL VERTICAL REINFORCING

- PROVIDE FREE-DRAINING MATERIAL

W/ 4"ø FABRIC WRAPPED CORRUGATED PERFORATED

- FOOTING TOP & BOTT LONGIT

COMPETENT NATIVE SOIL OR

COMPACTED STRUCTURAL FILL PER GEOTECH REPORT

PIPE @ BACKSIDE - SLOPE

TO DAYLIGHT EA END

REINF PER SCHEDULE

-FOOTING PER PLAN

& SCHEDULE

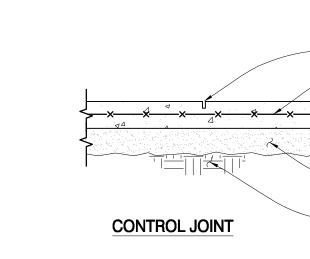
(W/ BEND) PER SCHEDULE

PER SCHDULE

PREPARATION PER GEOTECH REPORT

- COMPETENT NATIVE SOIL OR COMPACTED STRUCTURAL FILL OR

PER GEOTECH REPORT



SAWCUT ALONG SHORT DIRECTION OF POUR FIRST

SCALE: N.T.S.

1. FOR CONSTRUCTION OR CONTROL JOINT LOCATIONS REFERENCE FOUNDATION/SLAB PLAN 2. USE "SOFTCUT SAW" AS SOON AS POSSIBLE WITHOUT CAUSING RAVELING OF CONCRETE EDGES.

TYPICAL SLAB ON GRADE JOINT DETAILS

3. PROVIDE CONSTRUCTION/CONTROL JOINT TO ENCLOSE APPROXIMATE SQUARE AREAS OF 225 SF MAX

2. CORNER BARS SIZE & SPACING TO MATCH HORIZONTAL REINFORCING. TYPICAL CORNER BARS AT CONCRETE WALLS - SINGLE MAT

<u>OTES:</u>
WALL SIZE & REINFORCING PER PLAN.

AT CORNERS

BAR LENGTH 28" 36"

SPLICE LENGTH

AT INTERSECTIONS

CORNER BARS TO

REINFORCING

MATCH CROSS WALL

-INTERSECTING WALL

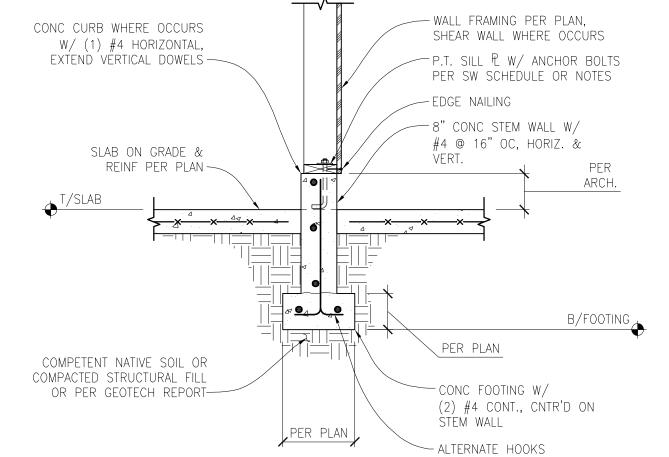
TYPICAL SHEAR WALL HOLDOWN CONNECTIONS AT FOUNDATION CONCRETE WALL SCALE: N.T.S.

# SCALE: N.T.S.

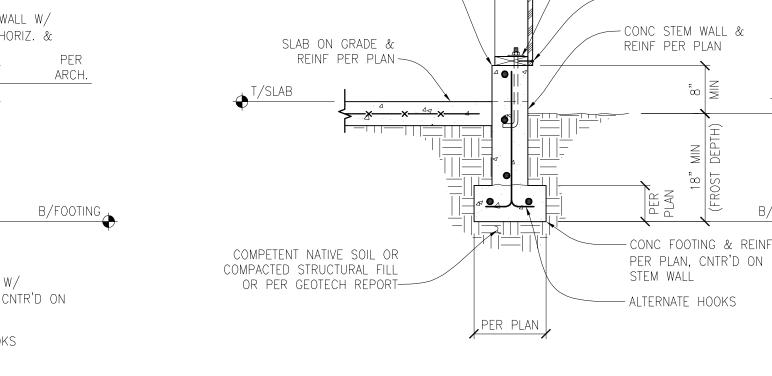
- CORNER BARS TO

REINFORCING

MATCH CROSS WALL



ALTERNATE HOOK ~



TYPICAL FOUNDATION FOOTING

SCALE:  $\frac{3}{4}$ " = 1'-0"

FLOOR JOIST PER PLAN —

AND STEM WALL WITH SLAB ON GRADE

ADD ADDITIONAL STUDS @ HOLDOWN

T/FOUNDATION WALL

CONC CURB WHERE OCCURS

W/ (1) #4 HORIZONTAL,

EXTEND VERTICAL DOWELS -

T/FOOTING

STRAPS OR FLOOR-TO-FLOOR

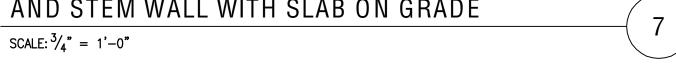
ANCHOR BOLTS & PL WASHERS

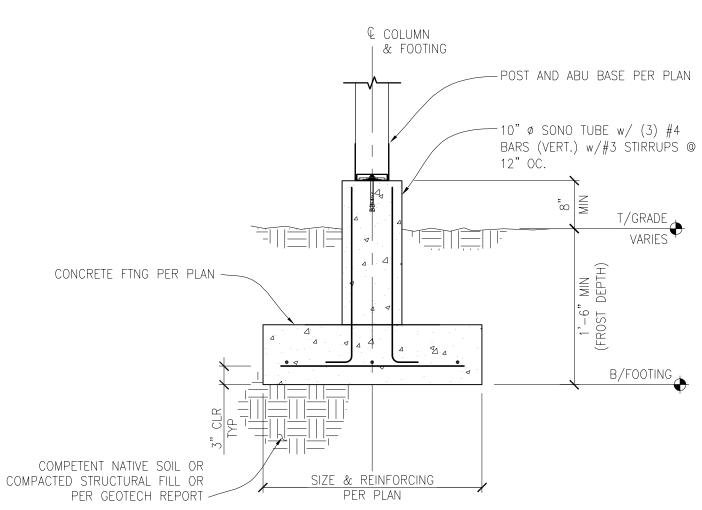
PER SHEAR WALL SCHEDULE —

P.T. BOTTOM PLATE —

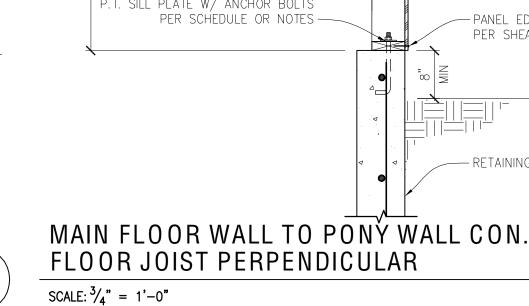
CONNECTIONS -

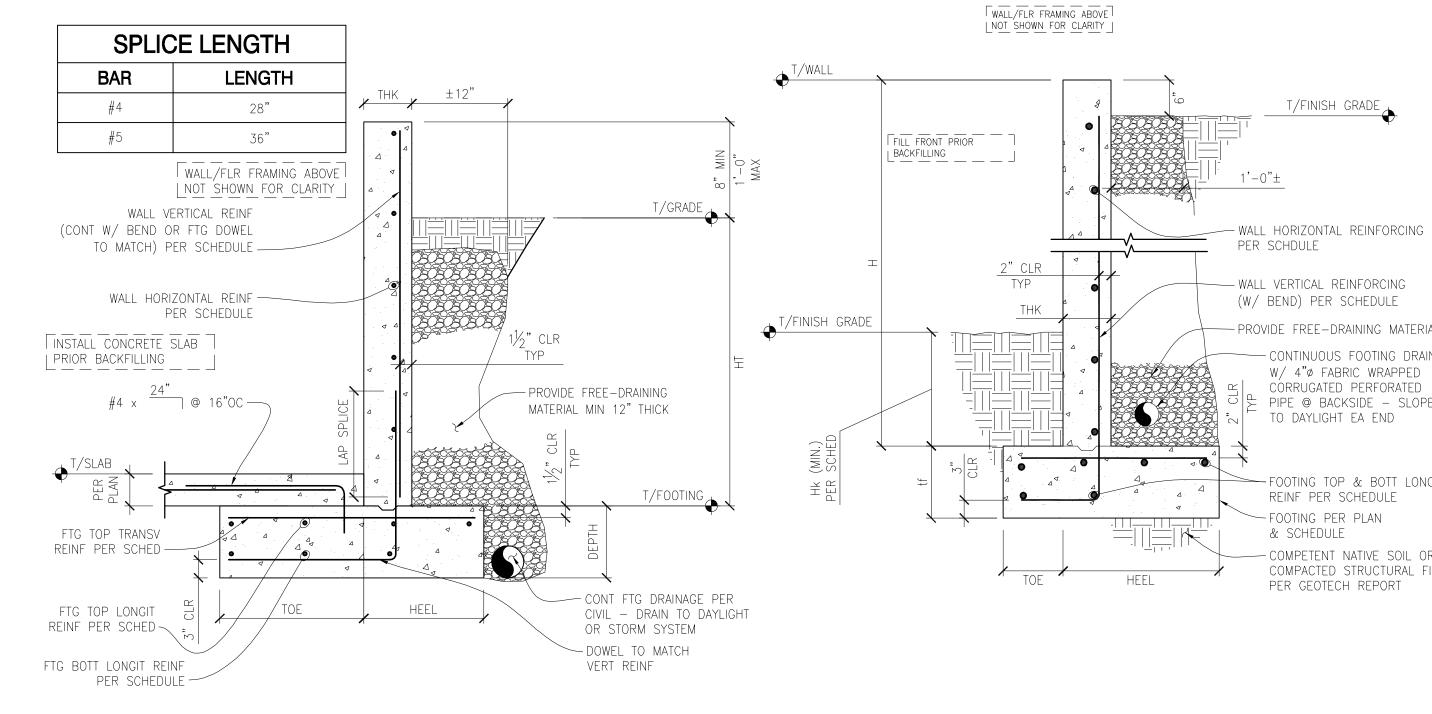
# TYPICAL INTERIOR FOUNDATION FOOTING AND STEM WALL WITH SLAB ON GRADE





| SHEATHING PER PLAN  T/SHTNG.                          | 1 1/4" LVL BLOCKING                                                  |
|-------------------------------------------------------|----------------------------------------------------------------------|
| (2) 10d NAILS TO SILL PLATE                           | PANEL EDGE NAILING PER SHEAR WALL SCHED.  LTP5 PER SHEAR WALL SCHED. |
| P.T. SILL PLATE W/ ANCHOR BOLTS PER SCHEDULE OR NOTES | WALL FRAMING PER PLAN, SHEAR WALL WHERE OCCURS  PANEL EDGE NAILING   |
| FER SCHEDOLL ON NOTES                                 | PER SHEAR WALL SCHED.  T/GRADE                                       |





-#4 x 24" @ 24"0C

-#4 CONTINUOUS, TOP

-SIDEWALK OR GRADE

ELEVATION PER PLAN

B/FOOTING

SLAB ON GRADE &

SUBGRADE PER 2/S3.0 —

STEEP AS POSSIBLE

COMPETENT NATIVE SOIL OR

COMPACTED STRUCTURAL FILL

OR PER GEOTECH REPORT —

REINF PER PLAN -

PER ARCH

<del>*</del> <del>*</del> <del>*</del> <del>*</del> <del>*</del> <del>*</del> <del>*</del>

TYPICAL THICKENED SLAB EDGE FOOTING

PER PLAN

REINFORCING PER PLAN —

◆ T/SLAB

SCALE:  $\frac{3}{4}$ " = 1'-0"

SCALE: N.T.S.

|          | RETAINING WALL/FOOTING SCHEDULE |            |            |                    |       |       |            |            |               |   |  |
|----------|---------------------------------|------------|------------|--------------------|-------|-------|------------|------------|---------------|---|--|
|          |                                 |            |            | FOOTING            | G     |       |            |            |               |   |  |
| SIZE     | SIZE REINFORCEMENT              |            |            | SIZE REINFORCEMENT |       |       |            | IENT       |               |   |  |
| HT (MAX) | THK                             | VERTICAL   | HORIZONTAL | TOE                | HEEL  | DEPTH | TOP/TRANSV | TOP/LONGIT | BOTTOM/LONGIT |   |  |
| 4'-0"    | 8"                              | #4 @ 12"OC | #4 @ 12"OC | 1'-0"              | 1'-3" | 10"   | #4 @ 10"OC | (3) #4     | (2) #4        |   |  |
| 6'-0"    | 8"                              | #4 @ 10"OC | #4 @ 12"OC | 2'-0"              | 1'-6" | 10"   | #4 @ 10"OC | (4) #4     | (3) #4        |   |  |
| 8'-0"    | 8"                              | #5 @ 12"OC | #4 @ 12"OC | 3'-3"              | 1'-9" | 14"   | #5 @ 10"OC | (5) #5     | (3) #5        |   |  |
| 9'-0"    | 10"                             | #5 @ 8"OC  | #4 @ 10"OC | 4'-3"              | 2'-0" | 14"   | #5 @ 10"OC | (7) #5     | (5) #5        | _ |  |

|                    |                      | VA/A I I                         |                                                                |                                                                                                 | RETAINING WALL/FOOTING SCHEDULE                                                                                 |                                                                                                                                  |                                                                                                                                              |                                                                                                                                                                               |                                                                                                                                                                                                          |                                                                                                                                                                                                                                    |  |  |  |  |  |
|--------------------|----------------------|----------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
|                    |                      | WALL                             |                                                                |                                                                                                 |                                                                                                                 |                                                                                                                                  | ALL FOOTING                                                                                                                                  |                                                                                                                                                                               |                                                                                                                                                                                                          |                                                                                                                                                                                                                                    |  |  |  |  |  |
| SIZE REINFORCEMENT |                      |                                  |                                                                |                                                                                                 | SIZE                                                                                                            |                                                                                                                                  | REI                                                                                                                                          | NFORCEM                                                                                                                                                                       | IENT                                                                                                                                                                                                     |                                                                                                                                                                                                                                    |  |  |  |  |  |
| HT (MAX)           | THK                  | VERTICAL                         | HORIZONTAL                                                     | TOE                                                                                             | HEEL                                                                                                            | DEPTH                                                                                                                            | TOP/TRANSV                                                                                                                                   | TOP/LONGIT                                                                                                                                                                    | BOTTOM/LONGIT                                                                                                                                                                                            | Hk                                                                                                                                                                                                                                 |  |  |  |  |  |
| 4'-0"              | 8"                   | #4 @ 12"OC                       | #4 @ 12"OC                                                     | 1'-0"                                                                                           | 1'-3"                                                                                                           | 10"                                                                                                                              | #4 @ 10"OC                                                                                                                                   | (3) #4                                                                                                                                                                        | (2) #4                                                                                                                                                                                                   | 15"                                                                                                                                                                                                                                |  |  |  |  |  |
| 6'-0"              | 8"                   | #4 @ 8"OC                        | #4 @ 12"OC                                                     | 2'-0"                                                                                           | 1'-6"                                                                                                           | 10"                                                                                                                              | #4 @ 10"OC                                                                                                                                   | (4) #4                                                                                                                                                                        | (3) #4                                                                                                                                                                                                   | 22"                                                                                                                                                                                                                                |  |  |  |  |  |
| 8'-0"              | 8"                   | #5 @ 12"OC                       | #4 @ 12"OC                                                     | 2'-0"                                                                                           | 2'-3"                                                                                                           | 12"                                                                                                                              | #5 @ 12"OC                                                                                                                                   | (5) #5                                                                                                                                                                        | (3) #5                                                                                                                                                                                                   | 30"                                                                                                                                                                                                                                |  |  |  |  |  |
|                    | HT (MAX) 4'-0" 6'-0" | HT (MAX) THK  4'-0" 8"  6'-0" 8" | HT (MAX) THK VERTICAL  4'-0" 8" #4 @ 12"0C  6'-0" 8" #4 @ 8"0C | HT (MAX) THK VERTICAL HORIZONTAL  4'-0" 8" #4 @ 12"0C #4 @ 12"0C  6'-0" 8" #4 @ 8"0C #4 @ 12"0C | HT (MAX) THK VERTICAL HORIZONTAL TOE  4'-0" 8" #4 @ 12"0C #4 @ 12"0C 1'-0"  6'-0" 8" #4 @ 8"0C #4 @ 12"0C 2'-0" | HT (MAX) THK VERTICAL HORIZONTAL TOE HEEL  4'-0" 8" #4 @ 12"0C #4 @ 12"0C 1'-0" 1'-3"  6'-0" 8" #4 @ 8"0C #4 @ 12"0C 2'-0" 1'-6" | HT (MAX) THK VERTICAL HORIZONTAL TOE HEEL DEPTH 4'-0" 8" #4 @ 12"0C #4 @ 12"0C 1'-0" 1'-3" 10" 6'-0" 8" #4 @ 8"0C #4 @ 12"0C 2'-0" 1'-6" 10" | HT (MAX) THK VERTICAL HORIZONTAL TOE HEEL DEPTH TOP/TRANSV 4'-0" 8" #4 @ 12"0C #4 @ 12"0C 1'-0" 1'-3" 10" #4 @ 10"0C 6'-0" 8" #4 @ 8"0C #4 @ 12"0C 2'-0" 1'-6" 10" #4 @ 10"0C | HT (MAX) THK VERTICAL HORIZONTAL TOE HEEL DEPTH TOP/TRANSV TOP/LONGIT  4'-0" 8" #4 @ 12"0C #4 @ 12"0C 1'-0" 1'-3" 10" #4 @ 10"0C (3) #4  6'-0" 8" #4 @ 8"0C #4 @ 12"0C 2'-0" 1'-6" 10" #4 @ 10"0C (4) #4 | HT (MAX) THK VERTICAL HORIZONTAL TOE HEEL DEPTH TOP/TRANSV TOP/LONGIT BOTTOM/LONGIT 4'-0" 8" #4 @ 12"0C #4 @ 12"0C 1'-0" 1'-3" 10" #4 @ 10"0C (3) #4 (2) #4 6'-0" 8" #4 @ 8"0C #4 @ 12"0C 2'-0" 1'-6" 10" #4 @ 10"0C (4) #4 (3) #4 |  |  |  |  |  |

TALL CRAWLL SPACE RETAINING WALL SCHEDULE SCALE: N.T.S.

EXTERIOR FOOTING/POST CONNECTION 11 SCALE:  $\frac{3}{4}$ " = 1'-0"

BASEMENT RETAINING WALL SCHEDULE

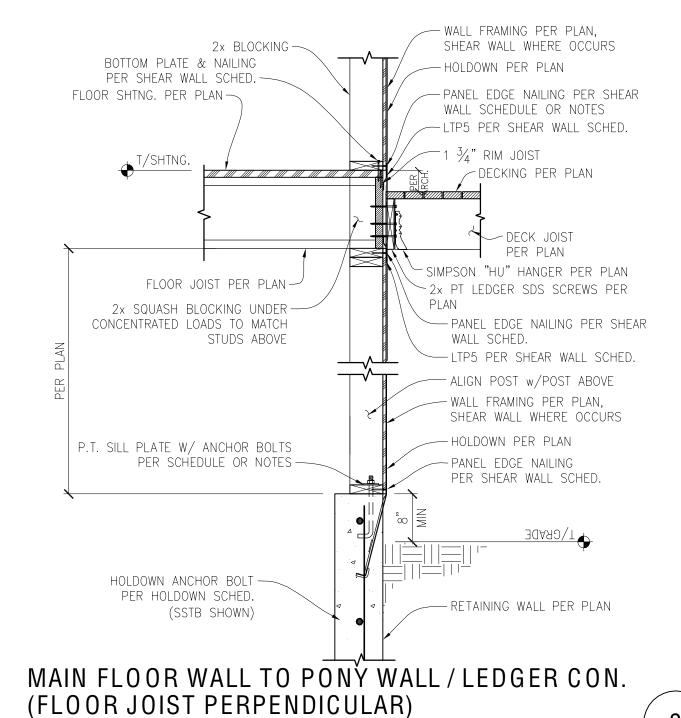
TYPICAL SHEAR WALL ELEVATION

SCALE: N.T.S.

TYPICAL PLAN VIEW -

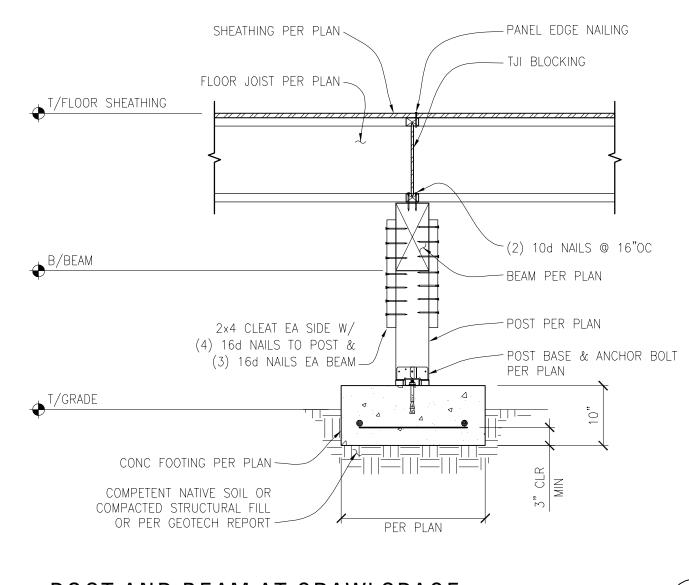
SCALE: 1" = 1'-0"

SHEAR WALL HOLDOWNS & ANCHOR BOLTS



SCALE:  $\frac{3}{4}$ " = 1'-0"

- FOOTING @ PERIMETER



POST AND BEAM AT CRAWLSPACE

SCALE:  $\frac{3}{4}$ " = 1'-0"

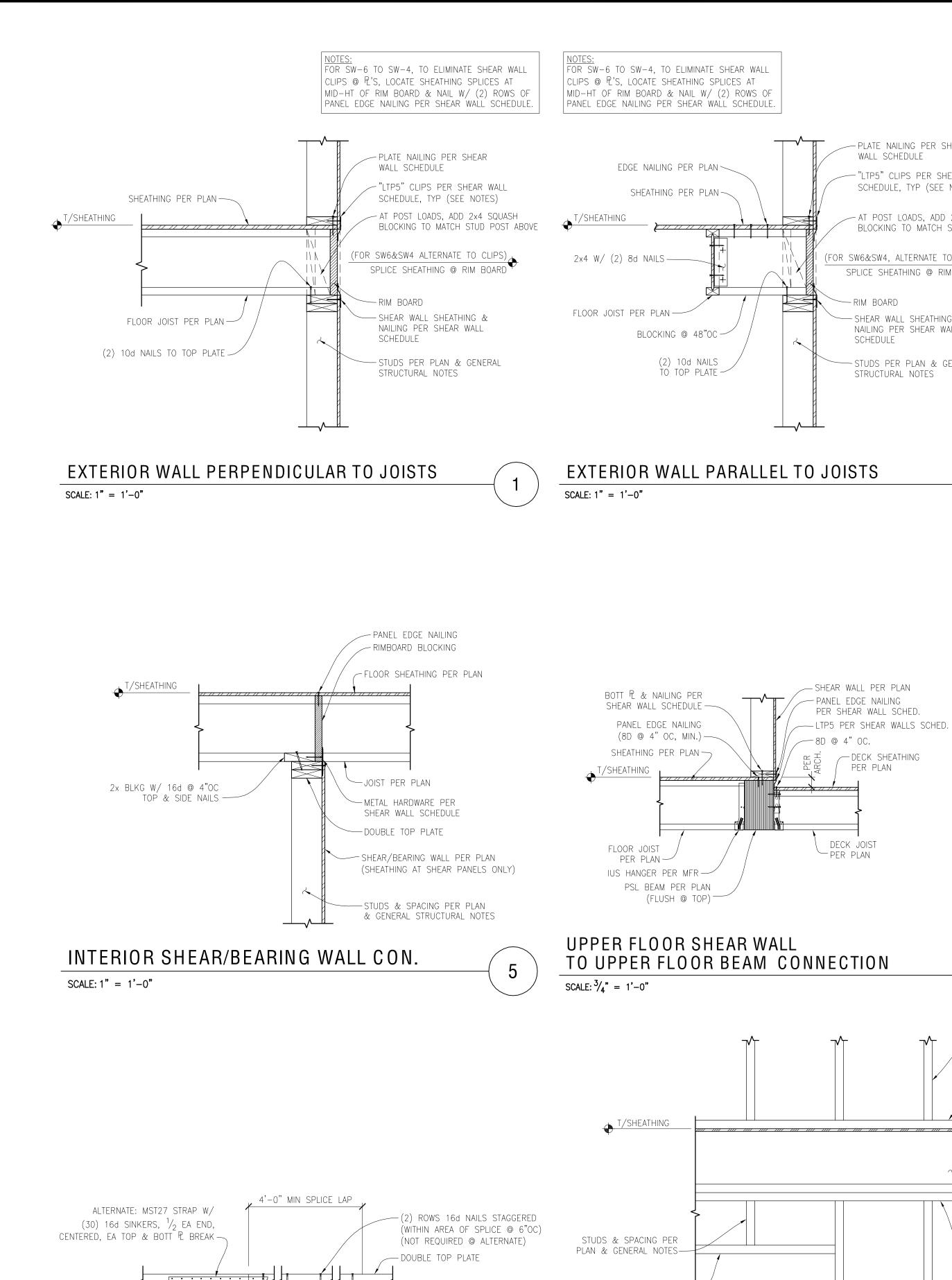
PL SE , WA 98040 SIDENC 77TH AND, 3705 7 MERCER ISL R

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

22-028

STRUCTURAL DETAILS

CKJOBNO.



— BREAK LOWER PLATE @ STUD CENTERLINE

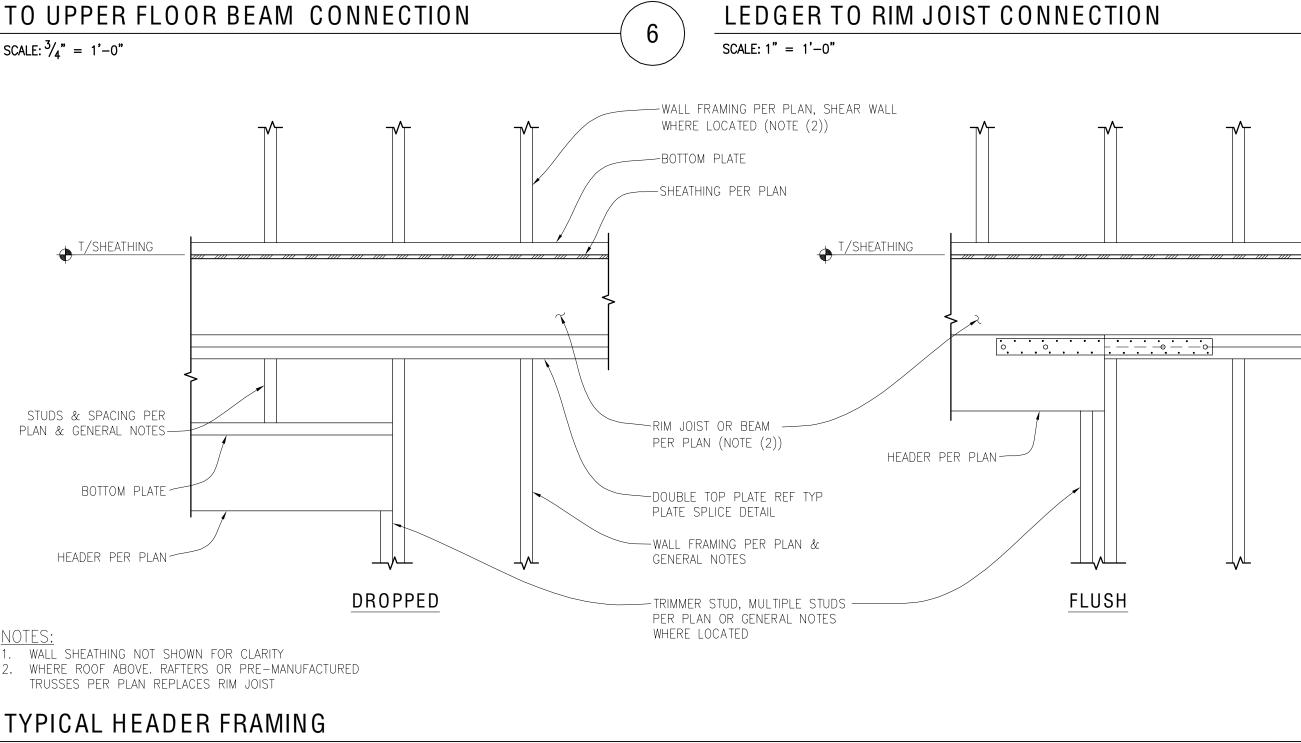
NOTE: FLOOR JOISTS NOT SHOWN FOR CLARITY.

SCALE: N.T.S.

TYPICAL PLATE SPLICE DETAIL

- STUDS & SPACING PER PLAN

SCALE: 1" = 1'-0"



-PLATE NAILING PER SHEAR

-"LTP5" CLIPS PER SHEAR WALL

SCHEDULE, TYP (SEE NOTES)

(FOR SW6&SW4, ALTERNATE TO CLIPS),

— SHEAR WALL SHEATHING &

NAILING PER SHEAR WALL

STRUCTURAL NOTES

— RIM BOARD

SCHEDULE

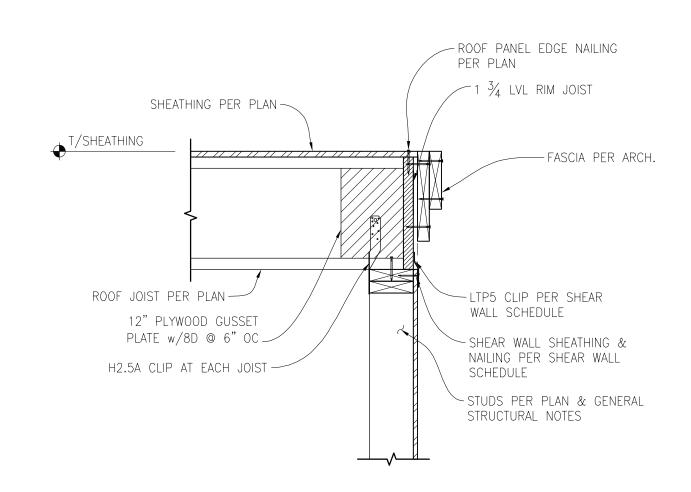
DECK JOIST

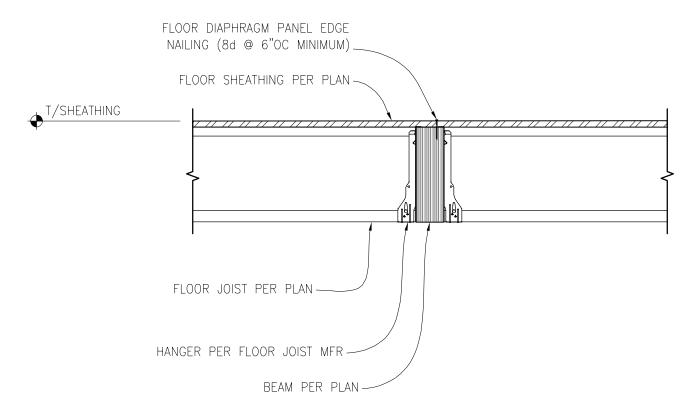
SPLICE SHEATHING @ RIM BOARD

— AT POST LOADS, ADD 2x4 SQUASH

BLOCKING TO MATCH STUD POST ABOVE

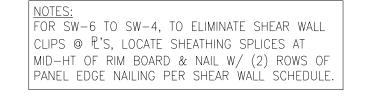
WALL SCHEDULE







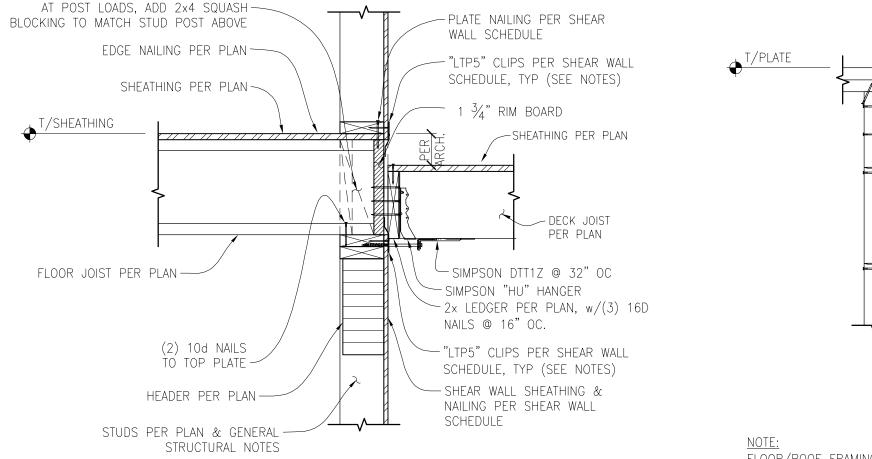
- HEADER PER PLAN

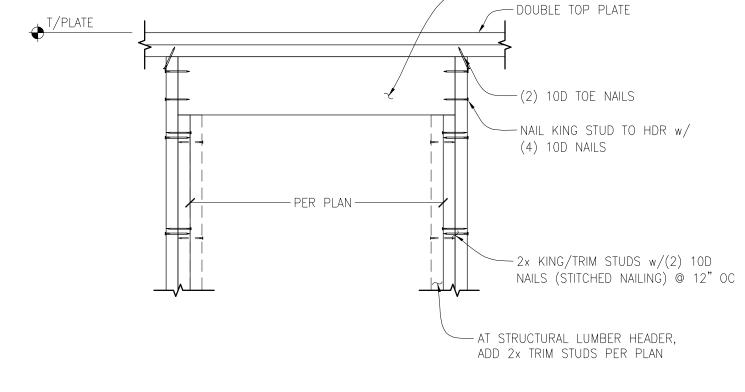


DECK JOIST PERPENDICULAR

TO BEARING/SHEAR WALL

SCALE: 1" = 1'-0"







TYPICAL HEADER CONNECTION SCALE: N.T.S.

PL SE , WA 98040

77TH AND,

3705 7 MERCER ISLA

SIDENC

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

22-028

STRUCTURAL

CKJOBNO.

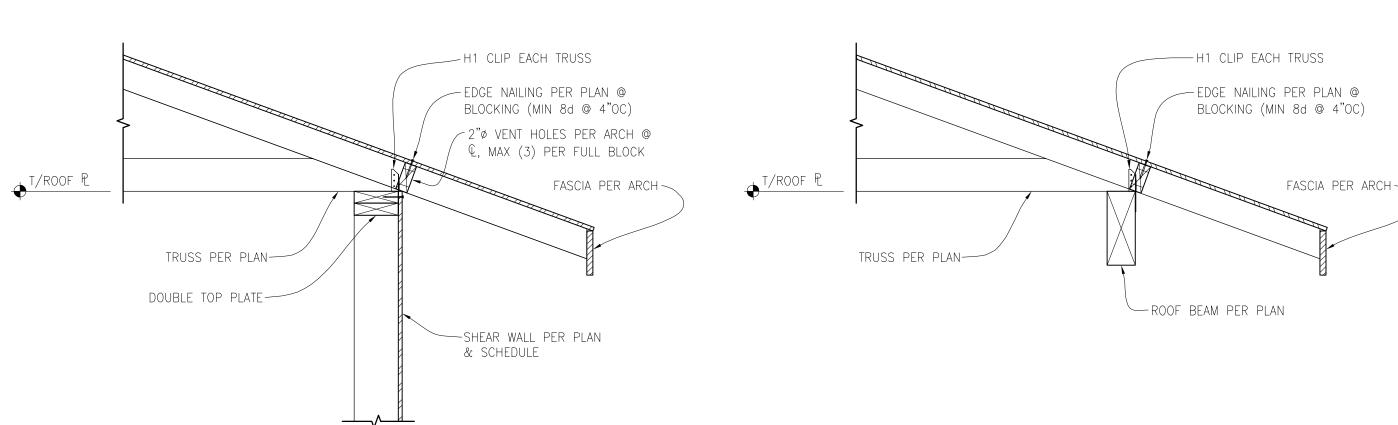
DETAILS

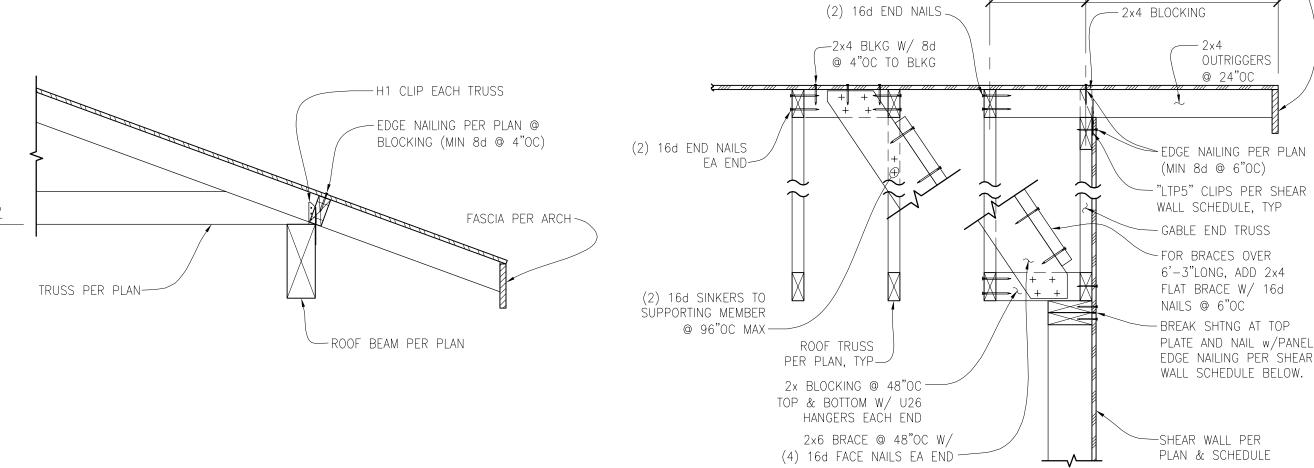
Drawn By: PK Checked By: SC Date: 06-10-2022

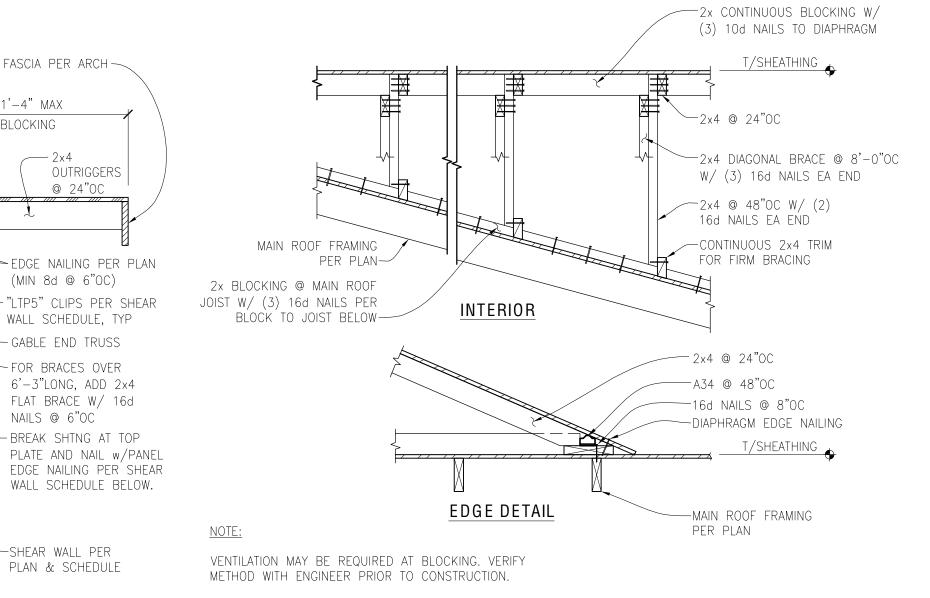
CKJOBNO. 22-028

STRUCTURAL **DETAILS** 

S-4.0







EXTERIOR ROOF TRUSS BEAM CONNECTION SCALE: 1" = 1'-0"

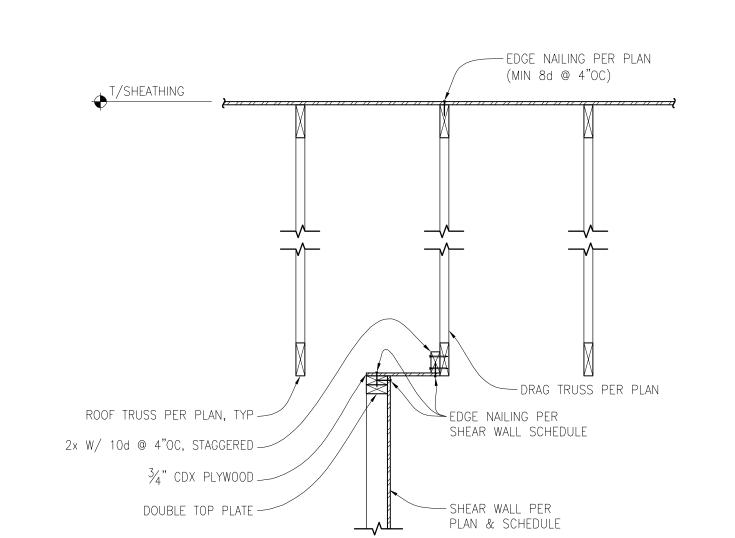
EXTERIOR SHEAR WALL PARALLEL TO ROOF TRUSS/ SCALE: N.T.S.

FASCIA PER ARCH —

1'-4" MAX

PER PLAN

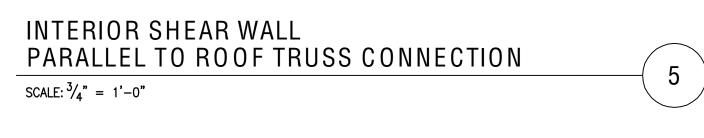
TYPICAL ROOF OVERFRAMING DETAIL SCALE: N.T.S.

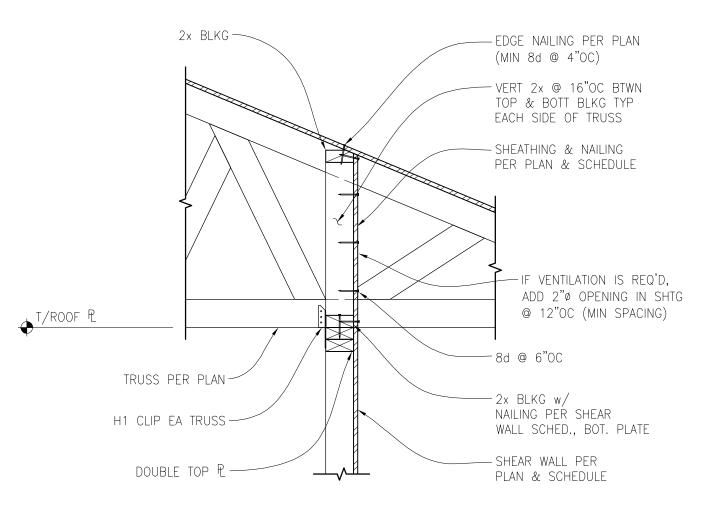


EXTERIOR SHEAR WALL

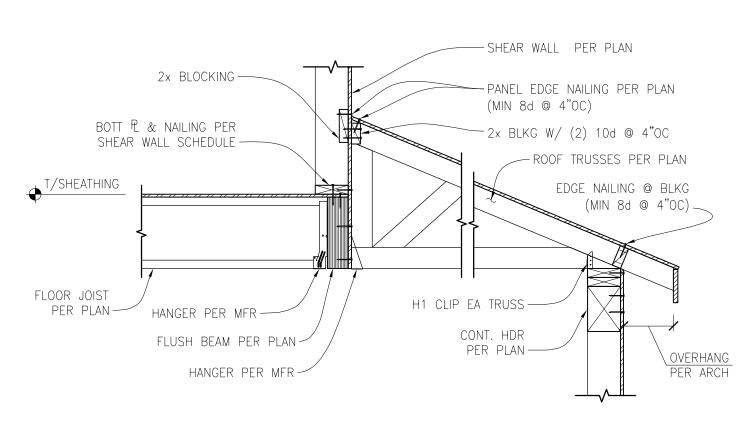
SCALE: 1'' = 1'-0''

PERPENDICULAR TO ROOF TRUSS









UPPER FLOOR SHEAR WALL TO MAIN FLOOR SHEAR WALL CONNECTION SCALE:  $\frac{3}{4}$ " = 1'-0"

