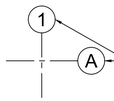
Scharhon Residence Addition & Alteration

SYMBOL LEGEND:



GRIDLINE

FACE OF SHEATHING / STUD (FOS)

VERTICAL DATUM

DIMENSION



FACE OF STUD

FACE OF FINISH



WALL THICKNESS DESIGNATION

USED FOR NON-TYPICAL CONDITIONS, REFER TO WALL ASSEMBLY FOR CLARIFICATION



CONSTRUCTION KEYNOTE

DEMOLITION KEYNOTE

SMOKE DETECTOR
(IBC-SECTION 907.2.10)
NOTE: ALL SMOKE DETECTORS TO BE "PHOTOELECTRIC SMOKE ALARM" TYPE PER SECTION IBC/IFC 907.2.10.3

CARBON MONOXIDE DETECTOR
(IBC – SECTION 915)



EXHAUST FAN
MIN. 50 CFM FOR BATHROOM AND LAUNDRY; MIN. 100 CFM FOR KITCHEN, WITH DIRECT VENT TO EXTERIOR



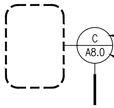
DOOR SYMBOL



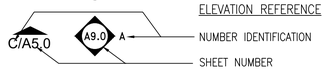
WINDOW SYMBOL



SECTION REFERENCE
NUMBER IDENTIFICATION
SHEET NUMBER



DETAIL REFERENCE
NUMBER IDENTIFICATION
SHEET NUMBER



ELEVATION REFERENCE
NUMBER IDENTIFICATION
SHEET NUMBER



DRAWING NUMBER & TITLE
DETAIL TITILE
DETAIL NUMBER



NORTH ARROW



REVISION TAG & CLOUD

ABBREVIATIONS:

ABV	ABOVE	FOS	FACE OF STUD	REBAR	REINFORCEMENT BAR
AFF	ABOVE FINISH FLOOR	FRMG	FRAMING	REFR	REFRIGERATOR
BLDG	BUILDING	FRZR	FREEZER	REQD	REQUIRED
BLKG	BLOCKING	FT	FOOT	REQTS	REQUIREMENTS
BM	BEAM	FTG	FOOTING	RAFT	RAFTER
BOT	BOTTOM	FV	FIELD VERIFY	RO	ROUGH OPENING
CIPC	CAST-IN-PLACE CONCRETE	FV	FOUNDATION VENT	R.O.W.	RIGHT-OF-WAY
℄	CENTERLINE	GA	GAUGE	RFT	RIP-TO-FIT
CLG	CEILING	GB	GYPSUM BOARD	RTS	RIP-TO-SLOPE
CLR	CLEAR	GLB	GLULAM BEAM	RV	RIM VENT
CMD	CARBON MONOXIDE DETECTOR	GSM	GALVANIZED SHEET METAL	SC	SOLID CORNER
CO	CLEANOUT	HDR	HEADER	SD	SMOKE DETECTOR
CONC	CONCRETE	HGR	HANGER	SF	SQUARE FEET
CONT	CONTINUOUS	h	HIGH	SG	SAFETY GLAZING
D	DRYER	HT	HEIGHT	SHWR	SHOWER
DBLE	DOUBLE	HVAC	HEATING, VENTILATION, & AIR-CONDITIONING	SIM	SIMILAR
DEMO	DEMOLISH			SPEC	SPECIFICATIONS
DIA	DIAMETER	IG	INSULATED GLASS	SQ FT	SQUARE FEET
DN	DOWN	INT	INTERIOR	SQ IN	SQUARE INCHES
DP	DEEP	LAV	LAVATORY	STD	STANDARD
DP	DIMENSION POINT	LBS	POUNDS	SUBFLR	SUBFLOOR
DS	DOWNSPOUT	LF	LINEAR FEET	T&G	TONGUE & GROOVE
DTL	DETAIL	LO	LOW	THK	THICK
DW	DISHWASHER	MAX	MAXIMUM	TOPO	TOPOGRAPHY
(E)	EXISTING	MFR	MANUFACTURER	TOW	TOP OF WALL
EA	EACH	MIN	MINIMUM	TYP	TYPICAL
ELEV	ELEVATION	(N)	NEW	UNO	UNLESS NOTED OTHERWISE
EQ	EQUAL	N/A	NOT APPLICABLE	VTO	VENT TO OUTSIDE
EXT	EXTERIOR	NIC	NOT IN CONTRACT	w	WIDE
EW	EACH WAY	O/	OVER	W	WASHER
*EW	EGRESS WINDOW	OC	ON CENTER	W/	WITH
FDN	FOUNDATION	OG	OBSCURE GLAZING	WC	WATER CLOSET
FG	FINISH GRADE	OH	OVERHANG	WFC	WOOD FRAME CONSTRUCTION
FIN	FINISH	P.L.	PROPERTY LINE	WH	WATER HEATER
FL	FLUSH	PL	PLATE	WIC	WALK-IN-CLOSET
FLR	FLOOR	PT	POINT	WP	WORK POINT
FOF	FACE OF FINISH	PTW	PRESERVATIVE TREATED WOOD	WWF	WELDED WIRE FABRIC



VICINITY PLAN:

SCALE: NOT TO SCALE

N

SITE LOT AREA

LOT AREA: (0.58 ACRES) 25,145 S.F.

PROJECT SQUARE FOOTAGES:

EXISTING RESIDENCE	
(E) 1ST FLOOR AREA:	3,060 SF
(E) BASEMENT AREA:	1,530 SF
(E) ATTACHED GARAGE AREA:	550 SF
(E) DECK AREA (TO BE REMOVED):	700 SF
(E) OPEN PORCH AREA (TO BE REMOVED):	170 SF
EXISTING TOTAL LIVING AREA:	4,590 SF
PROPOSED RESIDENCE	
(E) 1ST FLOOR AREA:	3,060 SF
(E) BASEMENT AREA:	1,530 SF
(E) ATTACHED GARAGE AREA:	550 SF
PROPOSED 1ST FLOOR ADDITION AREA:	607 SF
PROPOSED BASEMENT ADDITION AREA:	242 SF
PROPOSED DECK (COVERED & OPEN):	1,059 SF
PROPOSED TOTAL LIVING AREA:	5,439 SF

PROJECT CONTACT INFORMATION:

OWNER:
Scharhon Alan+Marie L
9150 SE 54th St
Mercer Island, WA 98040

DESIGNER:
Calvin Tam
10040 Sand Point Way NE
Seattle, WA 98125

PROJECT PROPERTY INFORMATION:

PROJECT ADDRESS:
9150 SE 54th St
Mercer Island, WA 98040

LEGAL DESCRIPTION:
PARKWOOD ESTATES ADD POR LOTS 14 & 15 & UNPL POR NE 19-24-05 ADJ DAF – BEG NW COR SD LOT 15 TH S 84-00 W ALG NLY LN LOT 14 25 FT TH S 10-45-39 W 77.66 FT TH S 20-00 W PLT ELY LN SD LOT 14 77.27 FT TO SLY LN SD LOTS 14-15 TH SELY ALG SD SL LN ARC DIST 31.55 FT TO MST SLY COR SD LOT 15 TH N 20-00-00 E 38.28 FT TO NW COR OF LOT 16 SD BLK 1 TH CONT N 20-00-00 E 4.99 FT TH N 71-13-41 E ALG A LN PLT THE SLY OF SD LOT 16 A DIST OF 100.50 FT TH S 18-46-19 E 0.60 FT TH N 71-48-39 E 132.23 FT TH N 00-21-21 W PLT THE ELY LN OF SD LOT 15 A DIST OF 79.06 FT TH S 84-00-00 W 35.17 FT TO NE COR OF SD LOT 15 TH CONT S 84-00-00 W 158.00 FT TO THE TPOB – AKA PARCEL A OF MERCER ISLAND LN REVISION NO 94-0036 REC NO. 9403229001
PLat Block: 1 &
Plat Lot: 14-15

ASSESSOR'S TAX NUMBER:
667290-0150

LAND USE ZONE
R-15

PROJECT DESCRIPTION:
INTERIOR ALTERATION & ADDITION TO AN EXISTING SINGLE FAMILY RESIDENCE, SCOPE OF WORK INCLUDES DECK REPLACEMENT AND ADDITION TO LIVING AREA IN EXISTING BATHROOM & LIVING AREA.

CODE INFORMATION:

APPLICABLE CODES (AS AMENDED BY WA STATE, KING COUNTY & LOCAL JURISDICTION):

2021 INTERNATIONAL RESIDENTIAL CODE (IRC)

2021 NATIONAL ELECTRICAL CODE

2021 UNIFORM PLUMBING CODE (UPC)

MECHANICAL CODE PER 2021 (IRC)

WASHINGTON STATE ENERGY CODE, 2021 EDITION (WSEC)

WASHINGTON STATE VENTILATION AND INDOOR AIR QUALITY CODE, 2021 EDITION (VIAQ)

OCCUPANCY: GROUP R-3 (SINGLE-FAMILY RESIDENTIAL)

SPRINKLER SYSTEM REQUIREMENT:
PROJECT SHALL INSTALL AN APPROVED RESIDENTIAL FIRE SPRINKLER SYSTEM. SEPARATE PLANS AND PERMITS REQUIRED FOR SUBMISSION BY THE INSTALLING CONTRACTOR. (A NFPA 13D FIRE SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA 13D AND CoMI STANDARDS SHALL BE INSTALLED THROUGHOUT THE RESIDENCE. THIS SYSTEM REQUIRES A MINIMUM OF 1"WATER METER AND 1"WATER SUPPLY LINE.)

NOTE: IF APPLICABLE FOR PROJECT SCOPE.

ELECTRICAL PLAN AND SYSTEM TO BE DESIGNED BY INSTALLING CONTRACTOR AND SHALL CONFORM TO ALL APPLICABLE CODES & REGULATIONS.

PLUMBING PLAN AND SYSTEM TO BE DESIGNED BY INSTALLING CONTRACTOR AND SHALL CONFORM TO ALL APPLICABLE CODES & REGULATIONS.

HEATING & MECHANICAL VENTILATION SYSTEM TO BE DESIGNED BY INSTALLING CONTRACTOR AND SHALL CONFORM TO ALL APPLICABLE CODES & REGULATIONS.

ELECTRICAL, PLUMBING & HVAC TO BE UNDER SEPARATE PERMIT SUBMITTAL.

INDEX OF DRAWINGS:

T1.0	GENERAL INFORMATION	S1.1	GENERAL STRUCTURAL NOTES
T2.0	EXISTING SITE PLAN	S1.2	SHEARWALL SCHEDULE AND NOTES
T3.0	SITE PLAN & NOTES	S1.3	HOLD DOWN SCHEDULE AND NOTES
T4.0	SITE PLAN CALCULATIONS	S1.4	SPECIAL INSPECTION TABLES & NOTES
T5.0	ENERGY FORM		
T6.0	CODE NOTES	S2.1	FOUNDATION PLAN
A1.1	BASEMENT DEMO PLAN	S2.2	1ST FLOOR FRAMING PLAN
A1.2	1ST FLOOR DEMO PLAN	S2.3	ROOF FRAMING PLAN
A1.3	ROOF DEMO PLAN	S2.4	CEILING FRAMING PLAN
A2.1	BASEMENT FLOOR PLAN	S6.1	FOUNDATION DETAILS
A2.2	1ST FLOOR PLAN	S8.1	STEEL FRAMING DETAILS
A3.1	EXISTING ELEVATIONS	S8.2	SSMF ELEVATIONS
A3.2	EXISTING ELEVATIONS	S9.1	FRAMING DETAILS
A3.3	ELEVATIONS		
A3.4	ELEVATIONS		
A4.0	SECTION & DETAILS		
D1.0	SCHEDULES		
D2.0	DETAILS		
D3.0	DETAILS		
D4.0	DECK DETAILS		
D5.0	SIMPSON STRONG-TIE DETAILS		

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE
Addition & Alteration
9150 SE 54th St, Mercer Island, WA 98040

Permit Set

Job # 2428-010

Description	Date
Permit Intake	12/09/24
Correction 01	04/03/25
Correction 02	04/30/25

Permit No.: 2408-010

Drawn:
Stamp/Approval:

Sheet Name:
GENERAL INFORMATION

Sheet No:
T1.0

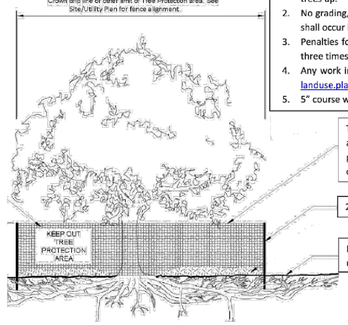
TREE PROTECTION AREA (TPZ)

KEEP OUT!

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

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

1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees/financial penalties
3. Arborist reports recommending mitigation



Notes

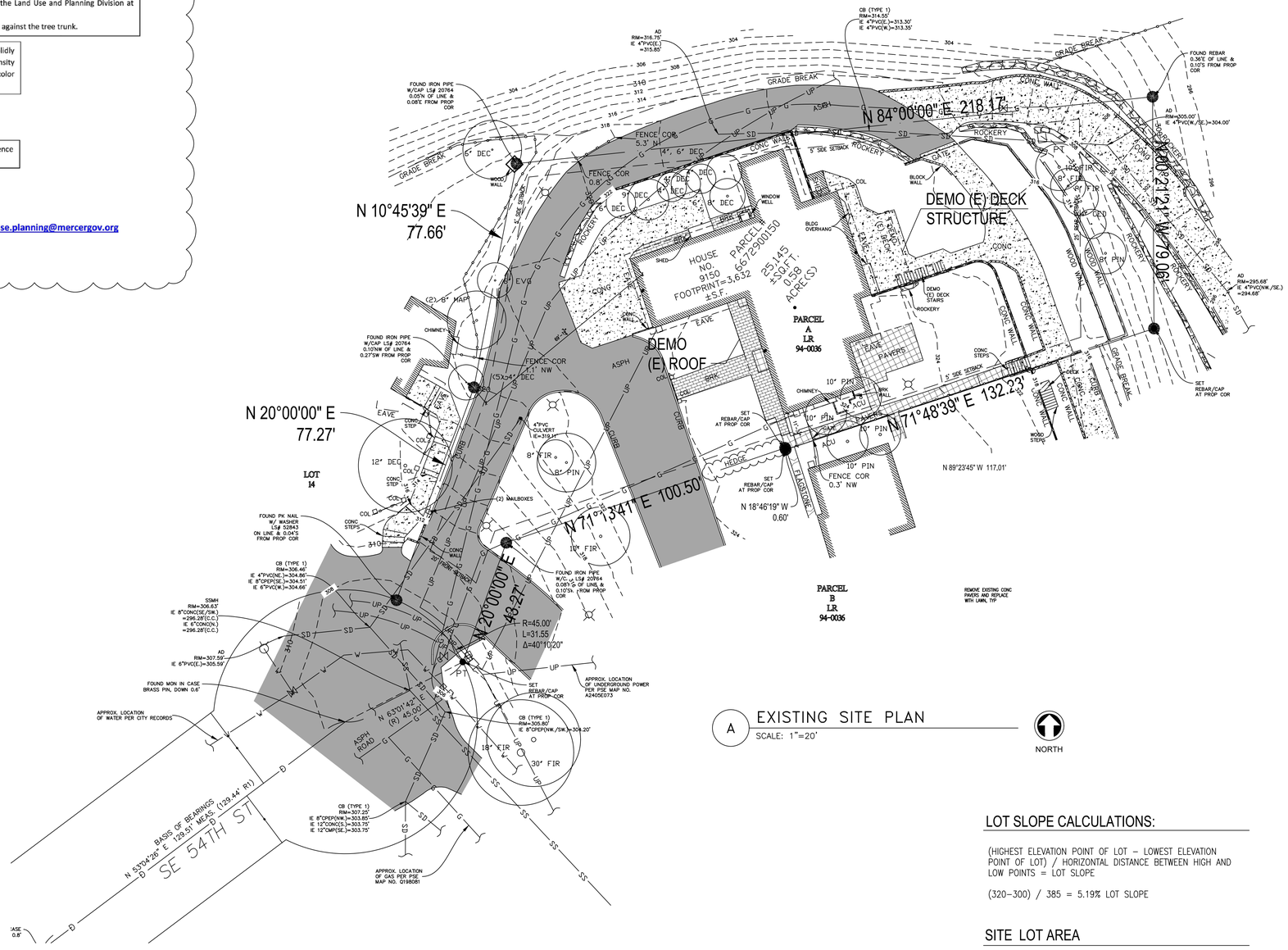
1. No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
2. No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
3. Penalties for damaging by root damage/compaction or removing a saved tree may be a fine up to three times the value of the tree plus restoration (MICC 19.10.160).
4. Any work in approved TPZ must be with the permission of the Land Use and Planning Division at landuse.planning@mercergov.org
5. 5" course woodchips within the tree protection zone, but not against the tree trunk.

Tree protection fence: 4-6" **chain link** fence, solidly anchored into the ground, or if authorized High-density polyethylene fencing with 3.5" x 1.5" openings; color orange. Steel posts installed at 8' o.c.

2" x 6" steel posts or approved equal

Maintain existing grade with the tree protection fence unless otherwise indication on the plans

Any Work in the protected area must be with the permission of the Land Use and Planning Division at landuse.planning@mercergov.org



A EXISTING SITE PLAN

SCALE: 1"=20'

NORTH

LOT SLOPE CALCULATIONS:

(HIGHEST ELEVATION POINT OF LOT – LOWEST ELEVATION POINT OF LOT) / HORIZONTAL DISTANCE BETWEEN HIGH AND LOW POINTS = LOT SLOPE

(320–300) / 385 = 5.19% LOT SLOPE

SITE LOT AREA

LOT AREA:	(0.58 ACRES)	25,145 S.F.

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration

9150 SE 54th St, Mercer Island, WA 98040

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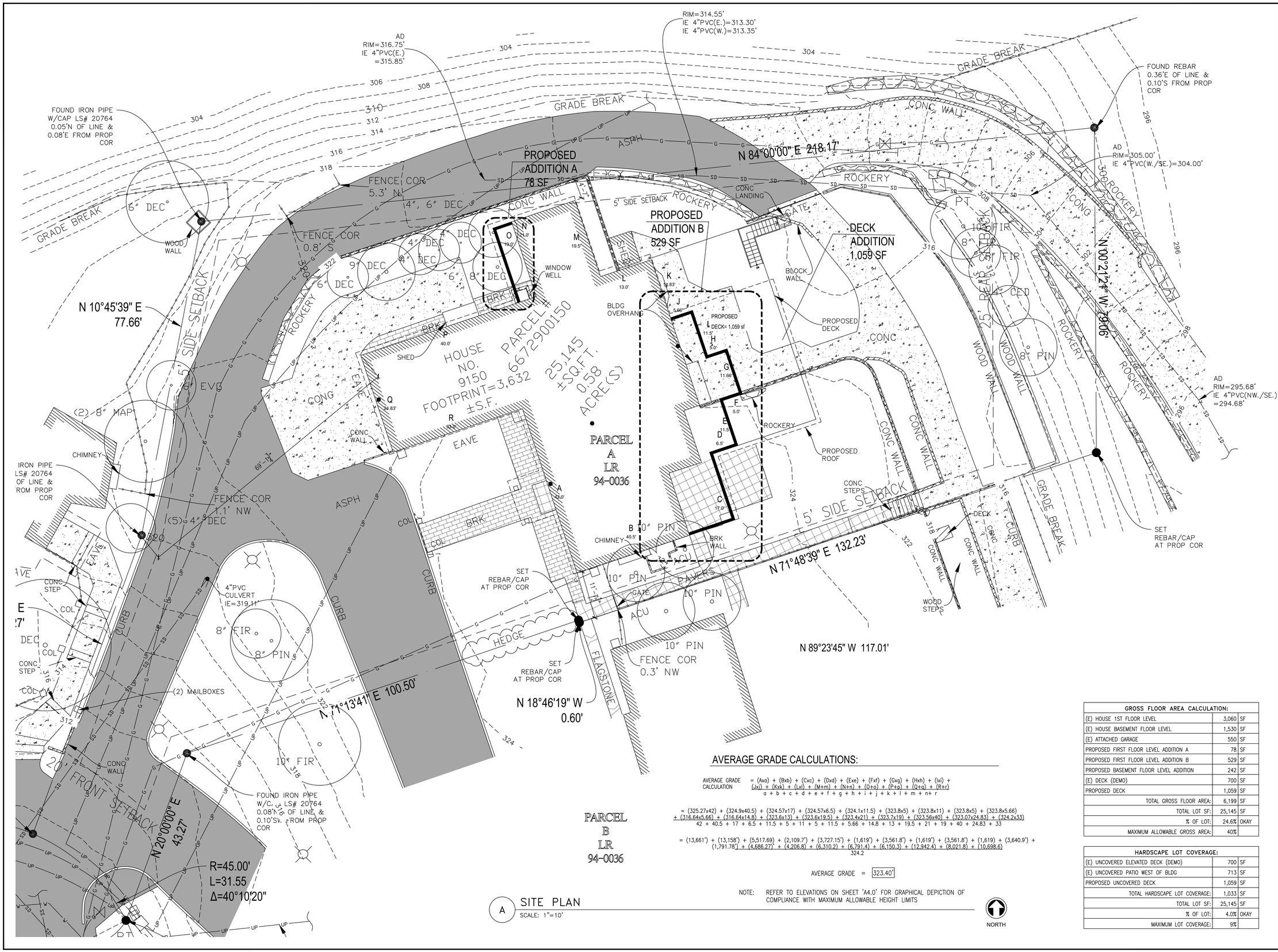
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Sheet Name:

EXISTING SITE PLAN

Sheet No:

T2.0



AVERAGE GRADE CALCULATIONS:

AVERAGE GRADE CALCULATION = $\frac{(Axa) + (Bxb) + (Cxc) + (Dxd) + (Exe) + (Fxf) + (Gxg) + (Hxh) + (Ixi) + (Jxj) + (Kxk) + (Lxl) + (Mxm) + (Nxn) + (Oxo) + (Pxp) + (Qxq) + (Rxr)}{a + b + c + d + e + f + g + h + i + j + k + l + m + n + r}$

$= \frac{(325.27x42) + (324.9x40.5) + (324.57x17) + (324.57x6.5) + (324.1x11.5) + (323.8x5) + (323.8x11) + (323.8x5) + (323.8x5.66) + (316.64x5.66) + (316.64x14.8) + (323.6x13) + (323.6x19.5) + (323.4x21) + (323.7x19) + (323.56x40) + (323.07x24.83) + (324.2x33)}{42 + 40.5 + 17 + 6.5 + 11.5 + 5 + 11 + 5 + 11.5 + 5.66 + 14.8 + 13 + 19.5 + 21 + 19 + 40 + 24.83 + 33}$

$= \frac{(13,661') + (13,158') + (5,517.69) + (2,109.7') + (3,727.15') + (1,619') + (3,561.8') + (1,619') + (3,561.8') + (1,619) + (3,640.9') + (1,791.78') + (4,686.27') + (4,206.8) + (6,310.2) + (6,791.4) + (6,150.3) + (12,942.4) + (8,021.8) + (10,698.6)}{324.2}$

AVERAGE GRADE = 323.40'

NOTE: REFER TO ELEVATIONS ON SHEET 'A4.0' FOR GRAPHICAL DEPICTION OF COMPLIANCE WITH MAXIMUM ALLOWABLE HEIGHT LIMITS

A SITE PLAN
SCALE: 1"=10'

NORTH

GROSS FLOOR AREA CALCULATION:		
(E) HOUSE 1ST FLOOR LEVEL	3,060	SF
(E) HOUSE BASEMENT FLOOR LEVEL	1,530	SF
(E) ATTACHED GARAGE	550	SF
PROPOSED FIRST FLOOR LEVEL ADDITION A	78	SF
PROPOSED FIRST FLOOR LEVEL ADDITION B	529	SF
PROPOSED BASEMENT FLOOR LEVEL ADDITION	242	SF
(E) DECK (DEMO)	700	SF
PROPOSED DECK	1,059	SF
TOTAL GROSS FLOOR AREA:	6,199	SF
TOTAL LOT SF:	25,145	SF
% OF LOT:	24.6%	OKAY
MAXIMUM ALLOWABLE GROSS AREA:	40%	

HARDSCAPE LOT COVERAGE:		
(E) UNCOVERED ELEVATED DECK (DEMO)	700	SF
(E) UNCOVERED PATIO WEST OF BLDG	713	SF
PROPOSED UNCOVERED DECK	1,059	SF
TOTAL HARDSCAPE LOT COVERAGE:	1,033	SF
TOTAL LOT SF:	25,145	SF
% OF LOT:	4.0%	OKAY
MAXIMUM LOT COVERAGE:	9%	

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
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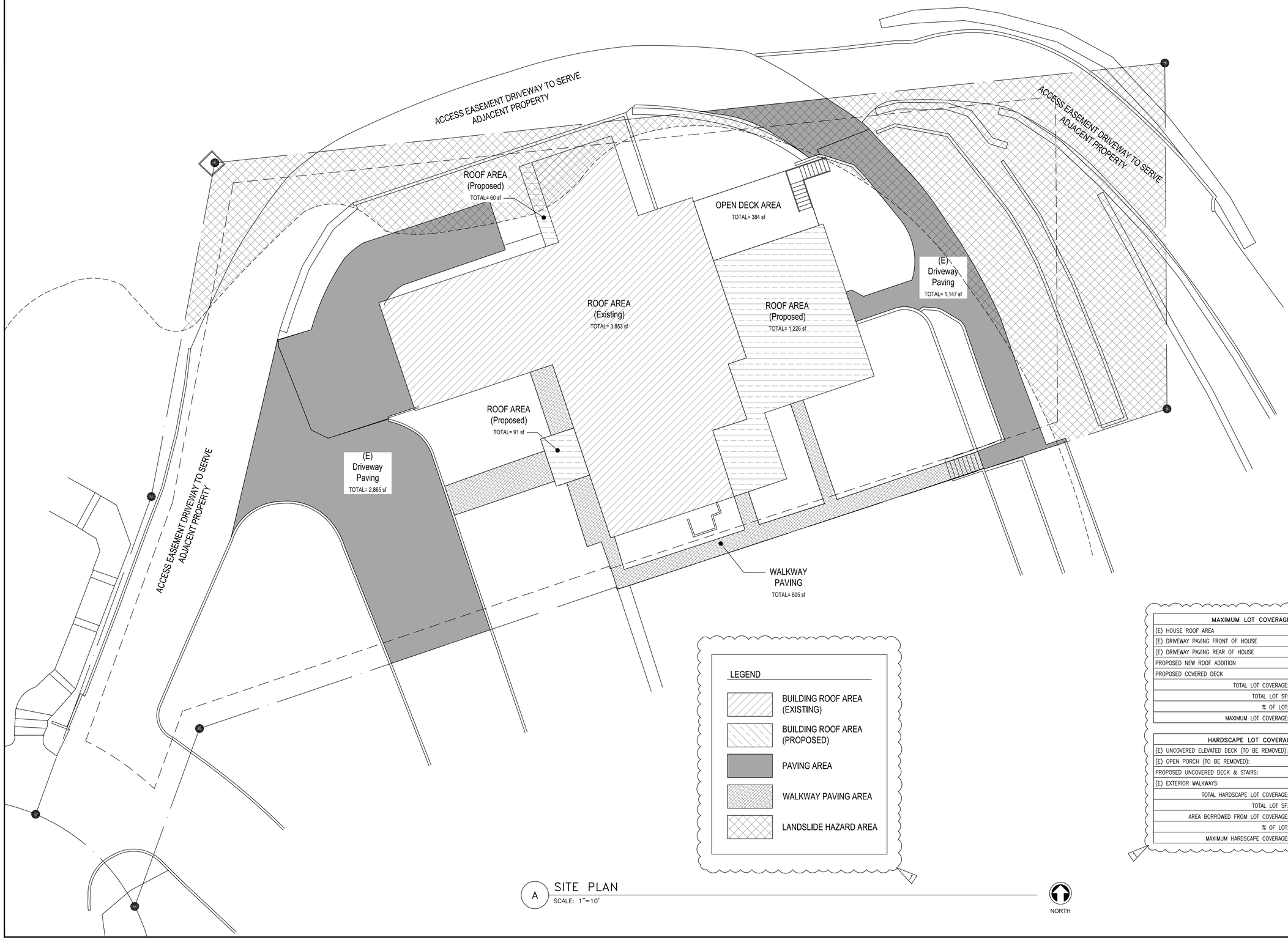
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SITE PLAN & NOTES

Sheet No:

T3.0



MAXIMUM LOT COVERAGE:		
(E) HOUSE ROOF AREA	4,118	SF
(E) DRIVEWAY PAVING FRONT OF HOUSE	2,865	SF
(E) DRIVEWAY PAVING REAR OF HOUSE	1,147	SF
PROPOSED NEW ROOF ADDITION	701	SF
PROPOSED COVERED DECK	676	SF
TOTAL LOT COVERAGE:	9,507	SF
TOTAL LOT SF:	25,145	SF
% OF LOT:	37.81%	OKAY
MAXIMUM LOT COVERAGE:	40%	

HARDSCAPE LOT COVERAGE:		
(E) UNCOVERED ELEVATED DECK (TO BE REMOVED):	700	SF
(E) OPEN PORCH (TO BE REMOVED):	170	SF
PROPOSED UNCOVERED DECK & STAIRS:	320	SF
(E) EXTERIOR WALKWAYS:	805	SF
TOTAL HARDSCAPE LOT COVERAGE:	1,125	SF
TOTAL LOT SF:	25,059	SF
AREA BORROWED FROM LOT COVERAGE:	0	SF
% OF LOT:	4.4%	OKAY
MAXIMUM HARDSCAPE COVERAGE:	9%	

A SITE PLAN
SCALE: 1"=10'

NORTH

CONSTRUCTION
AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
9150 SE 54th St, Mercer Island, WA 98040

Permit Set

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Permit No.: 2408-010

Drawn:
Stamp/Approval:

Sheet Name:

SITE PLAN CALCULATION

Sheet No:

T4.0

BUILDING THERMAL ENVELOPE PRESCRIPTIVE METHOD:

2021 WASHINGTON STATE ENERGY CODE (WAC 51-11R)
PRESCRIPTIVE COMPONENT TABLE R402.1.3 – ZONE 5 AND MARINE 4

LOCATION	INSULATION REQUIREMENTS
Fenestration[b,i,j] U-Factor	U=0.30 or Better
Skylight[b] U-Factor	U=0.50 or Better
Ceiling R-Value	R-60 or Better
Ceiling Vaulted[e] R-Value	R-38 or Better
Wood Frame Wall[g,j] R-Value	R-20+5ci or R-13+10ci or Better
Floor R-Value	R-30 or Better
Below-Grade[c,h] Wall R-Value	R-10/15/21 int + 5TB
Slab[d,f] R-Value and Depth	R-10, 4 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 A Table A101.4 of chapter 51-11C WAC shall not be less than the R-value specified in the table.

b. The fenestration U-factor column excludes skylights.

c. "10/15/21 +5TB" means R-10 continuous insulation on the exterior of the wall, or R-15 continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21 +5TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "5TB" means R-5 thermal break between floor slab and basement wall.

d. R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1.

e. For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38 if the full insulation depth extends over the top plate of the exterior wall.

f. R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.

g. For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for climate zone 5 of ICC 400.

h. Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78 percent of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.

i. The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, R13+10" means R-13 cavity insulation plus R-10 continuous insulation.

j. A maximum U-factor of 0.32 shall apply to vertical fenestration products installed in buildings located above 4000 feet in elevation above sea level, or in windborne debris regions where protection of openings is required under Section R301.2.1.2 of the International Residential Code.

ENERGY CREDITS CODE COMPLIANCE NOTES:

2021 WASHINGTON STATE ENERGY CODE CHAPTER 4
ADDITIONAL ENERGY EFFICIENCY REQUIREMENT PER SECTION R406.2 & R406.3

PROJECT TO MEET "Medium Dwelling Unit" REQUIREMENTS OF — 8.0 CREDITS

FROM TABLE 406.2 ENERGY EQUALIZATION CREDITS:

TYPE 4: For heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(2) or C403.3.2(9) — 3.0 CREDITS
or
Air to water heat pump units that are configured to provide both heating and cooling and are rated in accordance with AHRI 550/590

FROM TABLE 406.3 ENERGY CREDITS:

OPTION 2.1: AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION — 1.0 CREDITS
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 M1505.3 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.

OPTION 3.3: HIGH EFFICIENCY HVAC — 0.5 CREDITS
Air-source, centrally ducted heat pump with minimum (HSPF 9.5) HSPF2 8.5.

OPTION 7.1: APPLIANCE PACKAGE OPTION — 0.5 CREDITS
All of the following appliances shall be new and installed in the dwelling unit and shall meet the following standards:
1) Dishwasher, standard – Energy Star rated, Most Efficient 2021 or Dishwasher, compact – Energy Star rated (Version 6.0)
2) Refrigerator (if provided) – Energy Star rated (Version 5.1)
3) Washing machine (Residential) – Energy Star rated (Version 8.1)
4) Dryer – Energy Star rated, Most Efficient 2022

OPTION 6.1: RENEWABLE ELECTRIC ENERGY GENERATION — 3.0 CREDITS
A 3.6 kW DC rooftop photovoltaic system will be installed using the following components:

9 × REC 400 AA Pure panels (400W each)

9 × Enphase IQ7A microinverters

PVWatts simulation estimates a minimum of 4,260 kWh/year of solar generation in Seattle, WA (System Losses 14.08%, Tilt 27°, Azimuth 180°) (Report included see plan T-5.0)

This complies with WSEC R406.3 Option 6.1, and qualifies for 3.0 energy credits under the Washington State Energy Code 2021.

TOTAL PROPOSED ENERGY CREDITS — 8.0 CREDITS

4/30/25, 3:12 PM — PVWatts Calculator

NREL

Caution: Photovoltaic system performance predictions calculated by PVWatts® include many inherent assumptions and uncertainties and do not reflect variations between PV technologies nor afterspecific characteristics except as represented by PVWatts® inputs. For example, PV modules with better performance are not differentiated within PVWatts® from lesser performing modules. Both NREL and private companies provide more sophisticated PV modeling tools (such as the System Advisor Model at sam.nrel.gov) that allow for more precise and complex modeling of PV systems.

The expected range is based on 30 years of actual weather data at the given location and is intended to provide an indication of the variation you might see. For more information, please refer to this NREL report: The Error Report.

Disclaimer: The PVWatts® Model ("Model") is provided by the National Renewable Energy Laboratory ("NREL"), which is operated by the Alliance for Sustainable Energy, LLC ("Alliance") for the U.S. Department Of Energy ("DOE") and may be used for any purpose whatsoever.

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The energy output range is based on analysis of 30 years of historical weather data, and is intended to provide an indication of the possible interannual variability in generation for a Fixed (open rack) PV system at this location.

PVWatts Calculator

RESULTS

4,260 kWh/Year*

*System output may range from 4,066 to 4,404 kWh per year near this location.

Month	Solar Radiation (kWh / m² / day)	AC Energy (kWh)
January	1.59	158
February	2.61	236
March	3.29	323
April	5.02	464
May	5.08	482
June	5.41	486
July	6.14	559
August	5.98	548
September	4.78	432
October	2.82	272
November	1.60	156
December	1.43	144
Annual	3.81	4,260

Location and Station Identification

Requested Location	9150 SE 54th St, Mercer Island
Weather Data Source	Lat, Lng: 47.57, -122.22 1.1 mi
Latitude	47.57° N
Longitude	122.22° W

PV System Specifications

DC System Size	4 kW
Module Type	Standard
Array Type	Fixed (open rack)
System Losses	14.08%
Array Tilt	27°
Array Azimuth	180°
DC to AC Size Ratio	1.2
Inverter Efficiency	96%
Ground Coverage Ratio	0.4
Albedo	*From weather file*
Bifacial	No (0)
Monthly Irradiance Loss	Jan 0% Feb 0% Mar 0% Apr 0% May 0% June 0% July 0% Aug 0% Sept 0% Oct 0% Nov 0% Dec 0%

Performance Metrics

DC Capacity Factor	12.2%

NOTE: BUILDER TO COMPLETE AND POST THE BELOW "COMPLIANCE CERTIFICATE" AT DESIGNATED LOCATION FOR FINAL INSPECTION

CUT LINE

2018 WSEC Residential Energy Compliance Certificate (Effective February 1, 2021)

Property address:
Builder/registered design professional name:
Builder/reg. design pro. signature:
Conditioned floor area: _____ ft² **(per building permit)**

R-Values (R303.1.1)

Ceiling/Attic: Vaulted R-_____ Attic R-_____
Walls: Above grade R-_____ Below, int. R-_____ Below, ext. R-_____
Floors: Over unconditioned space R-_____ Slab-on-grade floor R-_____ Fully insulated slab? Y/N (Circle one)
Doors: R-_____, R-_____, R-_____

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

Average area weighted U-value from Glazing Worksheet **Average U-** _____

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

System Type Number (1 to 5) _____ (Select one)
Energy Credits selected (1 to 7)_____
Fuel Normalization Credit _____ **+ Total Energy Credits** _____ **= Total Credits**_____

Heating, Cooling and Domestic Hot Water

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

Onsite Renewable Energy Electric Power System

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

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

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

HVAC System Duct Leakage Testing (R403.3)	Circle one
All ductwork and air handler in conditioned space? (See Option 4.2)	Y or N
All ductwork in unconditioned spaces buried and tested at 3% total leakage, and air handler in conditioned space? (See Option 4.1.)	Y or N
All ductwork & air handler outside conditioned space insulated to minimum R-8?	Y or N
Air handler present at duct leakage test? (Total leakage 4% if yes, 3% if no)	Y or N
HVAC leakage to outside test conducted at final?	Y or N
Do HVAC duct leakage tests include GPS and time stamp verification?	Y or N
HVAC system leakage test calculated design target:	_____ CFM @ 25 Pa
HVAC system leakage test measured results:	_____ CFM @ 25 Pa
Building Leakage Testing (R402.4.1.2)	
Dwelling unit leakage test calculated design target:	_____ ACH @ 50 Pa
Dwelling unit leakage test, measured results:	_____ ACH @ 50 Pa
Whole Building Leakage test (R2 corridor only) design target:	_____ CFM/sf @ 50 Pa
Whole Building Leakage test (R2 corridor only) measured:	_____ CFM/sf @ 50 Pa
Do building leakage tests include GPS and time stamp verification?	Y or N
Whole House Ventilation System Measured Flow Rates (M1505.4 IRC-WA)	Circle one
Are the system controls correctly labeled?	Y or N
The Whole House Ventilation (WHV) system operation and maintenance (O&M) instructions were provided to the building owner?	Y or N
Provided to: _____ on _____(date)	

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

Specify run-time: _____ **hours per day** _____ **CFM**
WHV calculated design minimum flow rate per plan submittal:
WHV measured min flow rate at commissioning: Exhaust _____**CFM, Supply** _____**CFM**
Do WHV flow tests include GPS & time stamp verification? Y or N
HRV/ERV sensible heat recovery efficiency: _____
Commissioning Notes:

Other Mandatory Requirements	Circle one
All other mandatory requirements of WSEC-R have been met?	Y or N

CUT LINE

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
9150 SE 54th St, Mercer Island, WA 98040

Permit Set

Job # 2428-010

Description	Date
Permit Intake	12/09/24
Correction 01	04/03/25
Correction 02	04/30/25

Permit No.: 2408-010

Drawn:
Stamp/Approval:

Sheet Name:

ENERGY FORM

Sheet No:

T5.0

WHOLE HOUSE MECHANICAL VENTILATION (M1505.4):

EACH DWELLING UNIT SHALL BE EQUIPPED WITH A VENTILATION SYSTEM. THE WHOLE–HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE DESIGNED IN ACCORDANCE WITH SECTIONS M1505.4.1 THROUGH M1505.4.4.

M1505.4.1 SYSTEM DESIGN

THE WHOLE–HOUSE VENTILATION SYSTEM SHALL CONSIST OF ONE OR MORE SUPPLY FANS, ONE OR MORE EXHAUST FANS, OR AN ERV/HRV WITH INTEGRAL FANS, ASSOCIATED DUCTS AND CONTROLS. WHOLE–HOUSE MECHANICAL VENTILATION SYSTEM WITH SUPPLY AND EXHAUST FANS PER SECTIONS M1505.4.1.2, M1505.4.1.3, M1505.4.1.4, AND M1505.4.1.5. LOCAL EXHAUST FANS ARE PERMITTED TO SERVE AS PART OF THE WHOLE–HOUSE VENTILATION SYSTEM WHEN PROVIDED WITH THE PROPER CONTROLS PER SECTION M1505.4.2. THE SYSTEMS SHALL BE DESIGNED AND INSTALLED TO EXHAUST AND/OR SUPPLY THE MINIMUM OUTDOOR AIRFLOW RATES PER SECTION M1505.4.3 AS MODIFIED BY THE WHOLE–HOUSE VENTILATION SYSTEM COEFFICIENTS IN SECTION M1505.4.3.1 WHERE APPLICABLE. THE WHOLE–HOUSE VENTILATION SYSTEM SHALL OPERATE CONTINUOUSLY AT THE MINIMUM VENTILATION RATE DETERMINED PER SECTION M1505.4.2 UNLESS CONFIGURED WITH INTERMITTENT OFF CONTROLS PER SECTION M1505.4.3.2.

M1505.4.1.1 WHOLE–HOUSE SYSTEM COMPONENT REQUIREMENTS

WHOLE–HOUSE VENTILATION SUPPLY AND EXHAUST FANS SPECIFIED IN THIS SECTION SHALL HAVE A MINIMUM EFFICACY AS PRESCRIBED IN THE WASHINGTON STATE ENERGY CODE. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURERS' INSTALLATION INSTRUCTIONS. WHOLE–HOUSE VENTILATION FANS SHALL BE RATED FOR SOUND AT NO LESS THAN THE MINIMUM AIRFLOW RATE REQUIRED BY SECTION M1505.4.3.1. VENTILATION FANS SHALL BE RATED FOR SOUND AT A MAXIMUM OF 1.0 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN. W.C. (25 PA) STATIC PRESSURE IN ACCORDANCE WITH HVI PROCEDURES SPECIFIED IN SECTIONS M1505.4.1.2 AND M1505.4.1.3.

EXCEPTION: HVAC AIR HANDLERS, ERV/HRV UNITS, AND REMOTE MOUNTED FANS NEED NOT MEET THE SOUND REQUIREMENTS. TO BE CONSIDERED FOR THIS EXCEPTION, A REMOTE MOUNTED FAN MUST BE MOUNTED OUTSIDE THE HABITABLE SPACES, BATHROOMS, TOILETS, AND HALLWAYS, AND THERE MUST BE AT LEAST 4 FEET (1.3 M) OF DUCTWORK BETWEEN THE FAN AND THE INTAKE GRILLE.

THE WHOLE–HOUSE SUPPLY FAN SHALL PROVIDE DUCTED OUTDOOR VENTILATION AIR TO EACH HABITABLE SPACE WITHIN THE RESIDENTIAL UNIT.

EXCEPTION: INTERIOR JOINING SPACES PROVIDED WITH A 30 CFM WHOLE–HOUSE TRANSFER FAN OR A PERMANENT OPENING WITH AN AREA OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF THE INTERIOR ADJOINING SPACE BUT NOT LESS THAN 25 SQUARE FEET DO NOT REQUIRE DUCTED OUTDOOR VENTILATION AIR TO BE SUPPLIED DIRECTLY TO THE SPACE. WHOLE–HOUSE TRANSFER FANS SHALL MEET THE SONE RATING OF SECTION M1505.4.1.1 AND SHALL HAVE WHOLE–HOUSE VENTILATION CONTROLS THAT COMPLY WITH SECTION M1505.4.2.

M1505.4.1.2 EXHAUST FANS

EXHAUST FANS REQUIRED SHALL BE DUCTED DIRECTLY TO THE OUTSIDE. EXHAUST AIR OUTLETS SHALL BE DESIGNED TO LIMIT THE PRESSURE DIFFERENCE TO THE OUTSIDE AND EQUIPPED WITH BACKDRAFT DAMPERS OR MOTORIZED DAMPERS IN ACCORDANCE WITH THE WASHINGTON STATE ENERGY CODE. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE, HVI 916, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). EXHAUST FANS REQUIRED IN THIS SECTION MAY BE USED TO PROVIDE LOCAL VENTILATION. BATHROOM EXHAUST FANS THAT ARE DESIGNED FOR INTERMITTENT EXHAUST AIRFLOW RATES HIGHER THAN THE CONTINUOUS EXHAUST AIRFLOW RATES IN TABLE M1505.4.3.2 SHALL BE PROVIDED WITH OCCUPANCY SENSORS OR HUMIDITY SENSORS TO AUTOMATICALLY OVERRIDE THE FAN TO THE HIGH SPEED AIRFLOW RATE. THE EXHAUST FANS SHALL BE TESTED AND THE TESTING RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.6.

M1505.4.1.3 SUPPLY FANS

SUPPLY FANS USED IN MEETING THE REQUIREMENTS OF THIS SECTION SHALL SUPPLY OUTDOOR AIR FROM INTAKE OPENINGS IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE SECTIONS 401.4 AND 401.5. WHEN DESIGNED FOR INTERMITTENT OFF OPERATION, SUPPLY SYSTEMS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS IN ACCORDANCE WITH THE WASHINGTON STATE ENERGY CODE. SUPPLY FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE, HVI 916, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). WHERE OUTDOOR AIR IS PROVIDED BY SUPPLY FAN SYSTEMS THE OUTDOOR AIR SHALL BE FILTERED. THE FILTER SHALL BE ACCESSIBLE FOR REGULAR MAINTENANCE AND REPLACEMENT. THE FILTER SHALL HAVE A MINIMUM EFFICIENCY RATING VALUE (MERV) OF AT LEAST 8.

M1505.4.1.4 BALANCED WHOLE–HOUSE VENTILATION SYSTEM

A BALANCED WHOLE–HOUSE VENTILATION SYSTEM SHALL INCLUDE BOTH SUPPLY AND EXHAUST FANS. THE SUPPLY AND EXHAUST FANS SHALL HAVE AIRFLOW THAT IS WITHIN 10 PERCENT OF EACH OTHER. THE TESTED AND BALANCED TOTAL MECHANICAL EXHAUST AIRFLOW RATE IS WITHIN 10 PERCENT OR 5 CFM, WHICHEVER IS GREATER, OF THE TOTAL MECHANICAL SUPPLY AIRFLOW RATE. THE FLOW RATE TEST RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7. THE EXHAUST FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.2. THE SUPPLY FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.3. BALANCED VENTILATION SYSTEMS WITH BOTH SUPPLY AND EXHAUST FANS IN A PACKAGED PRODUCT, SUCH AS AN ERV/HRV SHALL MEET THE REQUIREMENTS OF HVI 920, AS APPLICABLE. LOCAL EXHAUST SYSTEMS THAT ARE NOT A COMPONENT OF THE WHOLE–HOUSE MECHANICAL VENTILATION SYSTEM ARE EXEMPT FROM THE BALANCED AIRFLOW CALCULATION.

M1505.4.1.5 FURNACE INTEGRATED SUPPLY

SYSTEMS USING SPACE HEATING AND/OR COOLING AIR HANDLER FANS FOR OUTDOOR AIR SUPPLY DISTRIBUTION ARE NOT PERMITTED.

EXCEPTION: AIR HANDLER FANS SHALL HAVE MULTISPEED OR VARIABLE SPEED SUPPLY AIRFLOW CONTROL CAPABILITY WITH A LOW SPEED OPERATION NOT GREATER THAN 25 PERCENT OF THE RATED SUPPLY AIRFLOW CAPACITY DURING VENTILATION ONLY OPERATION. OUTDOOR AIR INTAKE OPENINGS MUST MEET THE PROVISIONS OF SECTIONS R303.5 AND R303.6 AND MUST INCLUDE A MOTORIZED DAMPER THAT IS ACTIVATED BY THE WHOLE–HOUSE VENTILATION SYSTEM CONTROLLER. THE MOTORIZED DAMPER MUST BE CONTROLLED TO MAINTAIN THE OUTDOOR AIRFLOW INTAKE AIRFLOW WITHIN 10 PERCENT OF THE WHOLE–HOUSE MECHANICAL EXHAUST AIRFLOW RATE. THE FLOW RATE FOR THE OUTDOOR AIR INTAKE MUST BE TESTED AND VERIFIED AT THE MINIMUM VENTILATION FAN SPEED AND THE MAXIMUM HEATING OR COOLING FAN SPEED. THE RESULTS OF THE TEST SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7.

M1505.4.1.6 TESTING

WHOLE–HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY SECTIONS M1505.4.3 AND M1505.4.4.1. TESTING SHALL BE PERFORMED ACCORDING TO THE VENTILATION EQUIPMENT MANUFACTURER'S INSTRUCTIONS, OR BY USING A FLOW HOOD, FLOW GRID, OR OTHER AIRFLOW MEASURING DEVICE AT THE MECHANICAL VENTILATION FAN'S INLET TERMINALS, OUTLET TERMINALS OR GRILLES OR IN THE CONNECTED VENTILATION DUCTS. WHERE REQUIRED BY THE BUILDING OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BUILDING OFFICIAL AND BE POSTED IN THE DWELLING UNIT PER SECTION M1505.4.1.7.

M1505.4.1.7 CERTIFICATE

A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR, TEST AND BALANCE CONTRACTOR OR OTHER APPROVED PARTY 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 FLOW RATE DETERMINED FROM THE DELIVERED AIRFLOW OF THE WHOLE–HOUSE MECHANICAL VENTILATION SYSTEM AS INSTALLED AND THE TYPE OF MECHANICAL WHOLE–HOUSE VENTILATION SYSTEM USED TO COMPLY WITH SECTION M1505.4.3.1.

M1505.4.2 SYSTEM CONTROLS

THE WHOLE–HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:

1. THE WHOLE–HOUSE VENTILATION SYSTEM SHALL BE CONTROLLED WITH MANUAL SWITCHES, TIMERS OR OTHER MEANS THAT PROVIDE FOR AUTOMATIC OPERATION OF THE VENTILATION SYSTEM THAT ARE READILY ACCESSIBLE BY THE OCCUPANT;
2. WHOLE–HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OFF OF THE SYSTEM BY THE OCCUPANT DURING PERIODS OF POOR OUTDOOR AIR QUALITY. CONTROLS SHALL INCLUDE PERMANENT TEXT OR A SYMBOL INDICATING THEIR FUNCTION. RECOMMENDED CONTROL PERMANENT LABELING TO INCLUDE TEXT SIMILAR TO THE FOLLOWING: "LEAVE ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." MANUAL CONTROLS SHALL BE READILY ACCESSIBLE BY THE OCCUPANT;
3. WHOLE–HOUSE VENTILATION SYSTEMS SHALL BE CONFIGURED TO OPERATE CONTINUOUSLY EXCEPT WHERE INTERMITTENT OFF CONTROLS AND SIZING ARE PROVIDED IN ACCORDANCE WITH SECTION M1505.4.3.2.

M1505.4.3 MECHANICAL VENTILATION RATE

THE WHOLE–HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR AT A CONTINUOUS RATE AS DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(1) OR EQUATION 15–1.

EQUATION 15–1

VENTILATION RATE IN CUBIC FEET PER MINUTE = (0.01 x TOTAL SQUARE FOOT AREA OF HOUSE) + [7.5 x (NUMBER OF BEDROOMS + 1)] BUT NOT LESS THAN 30 CFM FOR EACH DWELLING UNIT.

TABLE M1505.4.3(1)
CONTINUOUS WHOLE–HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS

DWELLING UNIT FLOOR AREA (SQUARE FEET)	NUMBER OF BEDROOMS				
	0–1	2	3	4	5 OR MORE
	AIRFLOW IN CFM				
< 500	30	30	35	45	50
501–1,000	30	35	40	50	55
1,001–1,500	30	40	45	55	60
1,501–2,000	35	45	50	60	65
2,001–2,500	40	50	55	65	70
2,501–3,000	45	55	60	70	75
3,001–3,500	50	60	65	75	80
3,501–4,000	55	65	70	80	85
4,001–4,500	60	70	75	85	90
4,501–5,000	65	75	80	90	95

For SI: 1 square foot = 0.0929 m2, 1 cubic foot per minute = 0.0004719 m^3/s.

TABLE M1505.4.3(2)
SYSTEM COEFFICIENT (C_{SYSTEM})

SYSTEM TYPE	DISTRIBUTED	NOT DISTRIBUTED
BALANCE	1.0	1.25
NOT BALANCED	1.25	1.5

M1505.4.3.2 INTERMITTENT OFF OPERATION

WHOLE–HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE PROVIDED WITH ADVANCED CONTROLS THAT ARE CONFIGURED TO OPERATE THE SYSTEM WITH INTERMITTENT OFF OPERATION SHALL OPERATE FOR A LEAST TWO HOURS IN EACH FOUR–HOUR SEGMENT. THE WHOLE–HOUSE VENTILATION AIRFLOW RATE DETERMINED IN ACCORDANCE WITH SECTION M1505.4.3 AS CORRECTED BY SECTION M1505.4.3.1 IS MULTIPLIED BY THE FACTOR DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3.2.

TABLE M1505.4.3.2
INTERMITTENT WHOLE–HOUSE MECHANICAL VENTILATION RATE FACTORS[a, b]

RUN–TIME PERCENTAGE IN EACH 4–HOUR SEGMENT	50%	66%	75%	100%
FACTOR[a]	2	1.5	1.3	1.0

a. For ventilation system run time values between those given, the factors are permitted to be determined by interpolation.

b. Extrapolation beyond the table is prohibited.

M1505.4.4 LOCAL EXHAUST RATES

LOCAL EXHAUST SYSTEMS SHALL BE DESIGNED TO HAVE THE CAPACITY TO EXHAUST THE MINIMUM AIRFLOW RATE DETERMINED IN ACCORDANCE WITH TABLE M1505.4.4(1). IF THE LOCAL EXHAUST FAN IS INCLUDED IN THE WHOLE–HOUSE VENTILATION SYSTEM, IN ACCORDANCE WITH SECTION 1505.4.1, THEN THE EXHAUST FAN SHALL BE CONTROLLED TO OPERATE AS SPECIFIED IN SECTION M1505.4.2.

M1505.4.4.1 LOCAL EXHAUST

BATHROOMS, TOILET ROOMS, AND KITCHENS SHALL INCLUDE A LOCAL EXHAUST SYSTEM. SUCH LOCAL EXHAUST SYSTEMS SHALL HAVE THE CAPACITY TO EXHAUST THE MINIMUM AIRFLOW RATE IN ACCORDANCE WITH TABLE M1505.4.4.1. FANS REQUIRED BY THIS SECTION SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OR AUTOMATIC OCCUPANCY SENSOR, HUMIDITY SENSOR, TIMER CONTROLS, OR POLLUTANT SENSOR CONTROLS. AN "ON/OFF" SWITCH SHALL MEET THIS REQUIREMENT FOR MANUAL CONTROLS. MANUAL FAN CONTROLS SHALL BE READILY ACCESSIBLE IN THE ROOM SERVED BY THE FAN.

TABLE M1505.4.4.1
MINIMUM LOCAL EXHAUST RATES

AREA TO BE EXHAUSTED	EXHAUST RATES	
	INTERMITTENT	CONTINUOUS
OPEN KITCHENS	IN ACCORDANCE WITH SECTION M1505.4.4.3	NOT PERMITTED
ENCLOSED KITCHENS	IN ACCORDANCE WITH SECTION M1505.4.4.3	5 ACH BASED ON KITCHEN VOLUME
BATHROOM – TOILET ROOMS	50 CFM	20 CFM

NOTE: REFER TO TABLE M1505.4.4.2 FOR PRESCRIPTIVE EXHAUST DUCT SIZING.

M1505.4.4.2 LOCAL EXHAUST FANS. EXHAUST FANS SHALL MEET THE FOLLOWING CRITERIA:

1. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE, HVI 916, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE).
2. FAN AIRFLOW RATING AND DUCT SYSTEM SHALL BE DESIGNED AND INSTALLED TO DELIVER AT LEAST THE EXHAUST AIRFLOW REQUIRED BY TABLE M1505.4.4.1. THE AIRFLOWS REQUIRED REFER TO THE DELIVERED AIRFLOW OF THE SYSTEM AS INSTALLED AND TESTED USING A FLOW HOOD, FLOW GRID, OR OTHER AIRFLOW MEASUREMENT DEVICE. LOCAL EXHAUST SYSTEMS SHALL BE TESTED, BALANCED, AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY THIS SECTION.
3. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURERS' INSTALLATION INSTRUCTIONS.
4. INTERMITTENT LOCAL EXHAUST SYSTEMS SERVING KITCHENS SHALL BE RATED FOR SOUND AT A MAXIMUM OF 3 SONES AT ONE OR MORE AIRFLOW SETTINGS NOT LESS THAN 100 CFM AT A STATIC PRESSURE NOT LESS THAN THAT DETERMINED AT WORKING SPEED AS SPECIFIED IN HVI 916 SECTION 7.2.
5. CONTINUOUS LOCAL EXHAUST SYSTEMS SERVING KITCHENS SHALL BE RATED FOR SOUND AT A MAXIMUM OF 1 SONE AT ONE OR MORE AIRFLOW SETTINGS NOT LESS THAN 100 CFM AT A STATIC PRESSURE NOT LESS THAN THAT DETERMINED AT WORKING SPEED AS SPECIFIED IN HVI 916 SECTION 7.2.

EXCEPTIONS:

1. THE INSTALLED AIRFLOW IS NOT REQUIRED TO BE FIELD–VERIFIED WHERE AN EXHAUST AIRFLOW RATING AT A PRESSURE OF 0.25 IN. W.G. IS USED, PROVIDED THE DUCT SIZING MEETS THE PRESCRIPTIVE REQUIREMENTS OF TABLE M1505.4.4.2.

2. REMOTE MOUNTED FANS NEED NOT MEET SOUND REQUIREMENTS. TO BE CONSIDERED FOR THIS EXCEPTION, A REMOTE MOUNTED FAN SHALL BE MOUNTED OUTSIDE THE KITCHEN, AND THERE SHALL BE AT LEAST 4 FEET (1 M) OF DUCTWORK BETWEEN THE FAN AND THE INTAKE GRILLE.

TABLE M1505.4.4.3
KITCHEN RANGE HOOD AIRFLOW RATES (CFM) AND ASTM E3087 CAPTURE EFFICIENCY (CE) RATINGS ACCORDING TO KITCHEN RANGE FUEL TYPE

HOOD OVER ELECTRIC RANGE	HOOD OVER COMBUSION RANGE
65% CE OR 160 CFM	80% CE OR 250 CFM

REFER TO SECTION M1505.4.4.3.1 FOR FIELD VERIFICATION AND DIAGNOSTIC TESTING FOR LOCAL INTERMITTENT KITCHEN EXHAUST SYSTEM.

EMERGENCY ESCAPE AND RESCUE:

ONE WINDOW (OR DOOR) IN THE BASEMENT, A HABITABLE ATTIC, AND IN EACH BEDROOM, MUST MEET THESE REQUIREMENTS (IRC R310):

- THE MINIMUM NET CLEAR OPEN AREA IS 5.7 SQUARE FEET, (HOWEVER, OPENINGS AT GRADE FLOOR MAY BE A MINIMUM OF 5 SQUARE FEET).
- THE MINIMUM CLEAR OPEN WIDTH IS 20"
- THE MINIMUM CLEAR OPEN HEIGHT IS 24"
- THE MAXIMUM ALLOWED SILL HEIGHT IS 44"
- THE INSIDE OF THE WINDOW WELLS MUST BE A MINIMUM OF 9 SQUARE FEET IN AREA, WITH A MINIMUM 3'WIDTH, AND MUST ALLOW THE WINDOW TO OPEN ALL THE WAY. A LADDER IS REQUIRED IF THE BOTTOM OF THE WINDOW WELL IS MORE THAN 44" BELOW THE ADJACENT GROUND.
- WINDOW OPENING CONTROL DEVICES CANNOT BE LOCATED MORE THAN 70" ABOVE THE FINISHED FLOOR.

SAFETY GLAZING FOR DOORS & WINDOWS:

SAFETY GLAZING IS GENERALLY REQUIRED AS FOLLOWS (IRC R308.4):

- GLAZING IN OR WITHIN 24" OF THE ARC OF A DOOR.
- GLAZING CLOSE TO THE FLOOR.
- GLAZING ADJACENT TO STAIRS AND STAIR LANDINGS.
- GLAZING NEAR WET FLOOR SURFACES.

ROOF VENTILATION:

VENTILATION IS REQUIRED ON THE COLD SIDE OF ATTIC/ROOF INSULATION (IRC R806). SEE IRC R806.5 FOR UNVENTED ROOF CONSTRUCTION REQUIREMENTS

- THE VENTILATION OPENINGS MUST HAVE AT LEAST 1 SQUARE FOOT OF VENTING PER 150 SQUARE FEET OF AREA BEING VENTED. THIS CAN BE REDUCED TO 1 SQUARE FOOT OF VENTING PER 300 SQUARE FEET OF ARE TO BE VENTED IF YOU PROVIDE VENTILATORS IN THE UPPER PORTION OF THE AREA TO BE VENTED.
- THE VENT MUST HAVE AT LEAST 1" OF AIR SPACE ABOVE THE ROOF INSULATION.
- CROSS–VENTILATION IS REQUIRED.

ATTIC ACCESS:

ATTIC ACCESS (IRC R807).

- THE ATTIC OPENING MUST BE AT LEAST 22" X 30".
- THE ATTIC HEADROOM MUST BE AT LEAST 30" AT THE ACCESS POINT TO THE ATTIC.

CRAWL SPACE VENTILATION:

VENTILATION IS REQUIRED IN CRAWLSPACE (IRC R408).

- CROSS–VENTILATION IS REQUIRED IN CRAWL SPACES. (SEE ALSO SRC R317.1 FOR CRAWL SPACE CLEAR HEIGHTS: 18" MINIMUM FOR JOISTS; 12" MINIMUM FOR WOOD GIRDERS WITHOUT PRESSURE TREATING.)
- THE MINIMUM AREA OF CROSS–VENTILATION OPENINGS IS 1 SQUARE FOOT PER 300 SQUARE FEET OF CRAWL SPACE AREA.

CRAWL SPACE ACCESS:

CRAWLSPACE ACCESS (IRC R408.4).

- THE MINIMUM CRAWL SPACE ACCESS OPENING IS 24" X 18" THROUGH A FLOOR OR 24"X 16"THROUGH THE WALL.

FIRE & DRAFTSTOPS:

(IRC R302.11 AND I302.12)

- FIREBLOCKING AND DRAFT STOPS ARE REQUIRED IN FLOORCEILINGASSEMBLIES SO THAT THE CONCEALED SPACE DOES NOT EXCEED 1,000 SQUARE FEET.
- FIRE BLOCKS ARE REQUIRED BETWEEN CONNECTED, CONCEALED SPACES PER R302.11.

ROOM DIMENSION REQUIREMENTS:

(IRC R304 AND R305):

- THE REQUIRED CEILING HEIGHT IS 7'–0" MINIMUM FOR HABITABLE SPACES. THE MINIMUM CEILING HEIGHT FOR BATHROOMS, LAUNDRY ROOMS, BASEMENTS AND HALLWAYS IS 6 FEET 8 INCHES.
- ROOMS WITH SLOPED CEILINGS MUST MEET THE MINIMUM HEIGHT FOR AT LEAST 50% OF THE AREA (AREAS WITH CEILINGS LESS THAN 5'HIGH DON'T COUNT TOWARDS THE MINIMUM REQUIRED ROOM AREA).
- WHEN A BATHROOM HAS A SLOPING CEILING, A MINIMUM 6'–8" HEIGHT AT THE CENTER LINE OF BATHROOM FIXTURES IS REQUIRED.
- HABITABLE ROOMS SHALL BE NOT LESS THAN 70 SQUARE FEET (EXCEPT KITCHENS).
- HABITABLE ROOMS SHALL NOT BE LESS THAN 7'–0" IN ANY HORIZONTAL DIRECTION (NOT REQUIRED FOR CLOSETS, STORAGE, KITCHENS OR UTILITY ROOMS).

BUILDING SEPARATION REQUIREMENTS:

FOR WALLS, OPENINGS AND EAVES CLOSE TO THE PROPERTY LINE YOU NEED TO FOLLOW THESE SEPARATION REQUIREMENTS (IRC R302.1):

- A ONE–HOUR FIRE–RATED WALL IS REQUIRED IF THE WALL IS LESS THAN 5' FROM THE PROPERTY LINE. (CARPORT POSTS DEFINE AN EXTERIOR WALL, AND THE SPACE BETWEEN POSTS IS CONSIDERED AN OPENING.) SEE THE DESCRIPTION IN THE ADJACENT BOX FOR A TYPICAL ONE HOUR RATED WALL.
- NO OPENINGS (DOORS AND WINDOWS) ARE ALLOWED IN WALLS LESS THAN 3' FROM THE PROPERTY LINE.
- OPENINGS IN THE WALL CAN'T EXCEED 25% OF THE TOTAL WALL AREA OF THE STORY IN WALLS THAT ARE 3' TO 5' FROM THE PROPERTY LINE.
- EAVES ARE NOT ALLOWED TO BE CLOSER THAN 2' TO THE PROPERTY LINE.
- UNDER–EAVE OR SOFFIT VENTS ARE NOT ALLOWED IN EAVES LESS THAN 5' FROM THE PROPERTY LINE; INSTEAD, SOLID BLOCKING IS REQUIRED FROM THE TOP OF THE WALL FRAMING TO THE ROOF SHEATHING.

GARAGE FIRE SEPARATION REQUIREMENT:

(IRC R302.5.1 AND TABLE R302.6):

- 1/2" REGULAR GYPSUM BOARD (ON THE GARAGE SIDE) IS REQUIRED AT WALLS SEPARATING THE GARAGE FROM THE DWELLING, INCLUDING GARAGES LESS THAN 3'FROM A DWELLING UNIT ON THE SAME LOT.
- WHEN A DWELLING IS ABOVE A GARAGE, THE GARAGE CEILINGS MUST BE COVERED WITH 5/8" TYPE X GYPSUM BOARD. THE STRUCTURE SUPPORTING THE DWELLING UNIT (WALLS, BEAMS AND POSTS) MUST BE COVERED WITH 1/2" REGULAR GYPSUM BOARD.
- DOORS BETWEEN A GARAGE AND A DWELLING MUST BE 1–3/8" THICK (MINIMUM) SOLID WOOD OR STEEL (SOLID OR HONEY–COMB CORE), OR BE A 20–MINUTE FIRE–RATED DOOR. THE DOOR MUST ALSO BE SELF–CLOSING.
- NO FIRE SEPARATION IS REQUIRED BETWEEN A CARPORT AND DWELLING UNIT. (CARPORTS HAVE AT LEAST TWO OPEN SIDES WITH NO PORTION OF THE DWELLING LOCATED ABOVE. SEE R309.2).

STAIR REQUIREMENTS:

STAIRS MUST MEET THE FOLLOWING REQUIREMENTS (IRC R311.7).

- MINIMUM OF 36" CLEAR WIDTH.
- MAXIMUM OF 7–3/4" RISER (HEIGHT OF EACH STEP).
- MINIMUM OF 10" TREAD DEPTH (A TREAD NOSING MAY BE REQUIRED).
- MINIMUM OF 6'–8" HEADROOM CLEAR.
- HANDRAIL WITH A 34"–38" HEIGHT.
- HANDRAIL GRASPING DIMENSION OF AT LEAST 1–1/4" AND NO MORE THAN 2".
- WINDING STAIR TREADS: EACH STEP MUST BE AT LEAST 10" MEASURED 12" FROM THE NARROWEST POINT AND AT LEAST 6" AT THE NARROWEST POINT.

GUARDRAILS & WINDOW FALL PROTECTION:

GUARDRAILS MUST MEET THE FOLLOWING REQUIREMENTS (IRC R312).

- A GUARD (GUARDRAIL) IS REQUIRED FOR WALKING SURFACES 30" ABOVE ADJACENT GRADE OR FLOOR.
- MINIMUM OF 36" FOR THE GUARD HEIGHT.
- MAXIMUM OF 4" CLEAR SPACE BETWEEN INTERMEDIATE RAILS IN GUARDS.
- FALL PROTECTION IS REQUIRED FROM OPERABLE WINDOWS MORE THAN 6 FEET ABOVE GRADE, WHEN LOWEST EDGE OF WINDOW OPENING IS WITHIN 24" OF FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED.

SMOKE ALARM:

THE FOLLOWING RULES APPLY FOR SMOKE ALARMS (IRC R314).

- YOU MUST INSTALL SMOKE ALARMS IN NEW CONSTRUCTION AND EXISTING DWELLING UNITS.
- THE ALARMS MUST BE POWERED BY INTERCONNECTED BUILDING WIRING, AND HAVE BATTERY BACK–UP IN NEW CONSTRUCTION AND NEW ADDITIONS.
- SMOKE ALARMS MAY BE BATTERY–POWERED IF YOU ARE ALTERING OR REPAIRING A DWELLING UNIT, EXCEPT WHEN YOU CAN INSTALL INTERCONNECTED BUILDING WIRING WITHOUT REMOVING THE INTERIOR FINISHES.
- ALARMS ARE REQUIRED IN SLEEPING ROOMS, OUTSIDE SLEEPINGAREAS, AND ON OTHER FLOORS (INCLUDING BASEMENTS). AN ALARM OUTSIDE OF THE BEDROOMS MUST BE CLEARLY AUDIBLE IN THE BEDROOMS. SHOW THE ALARM LOCATION ON YOUR PLANS.
- HEAT ALARM: A HEAT DETECTOR OR HEAT ALARM RATED FOR AMBIENT OUTDOOR TEMPERATURES AND HUMIDITY IS REQUIREDFOR NEW GARAGES ATTACHED TO OR LOCATED UNDER NEW OR EXISTING DWELLINGS.

CARBON MONOXIDE ALARM:

INSTALL CARBON MONOXIDE ALARMS ACCORDING TO THESE REQUIREMENTS (SEE IRC R315)

- YOU MUST INSTALL CARBON MONOXIDE ALARMS IN NEW CONSTRUCTION AND IN EXISTING DWELLING UNITS.
- CARBON MONOXIDE ALARMS ARE REQUIRED OUTSIDE SLEEPINGAREAS, AND ON ALL FLOORS (INCLUDING BASEMENTS). SHOW THE ALARM LOCATION(S) ON YOUR PLANS

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
9150 SE 54th St, Mercer Island, WA 98040

Permit Set

Job # 2428-010

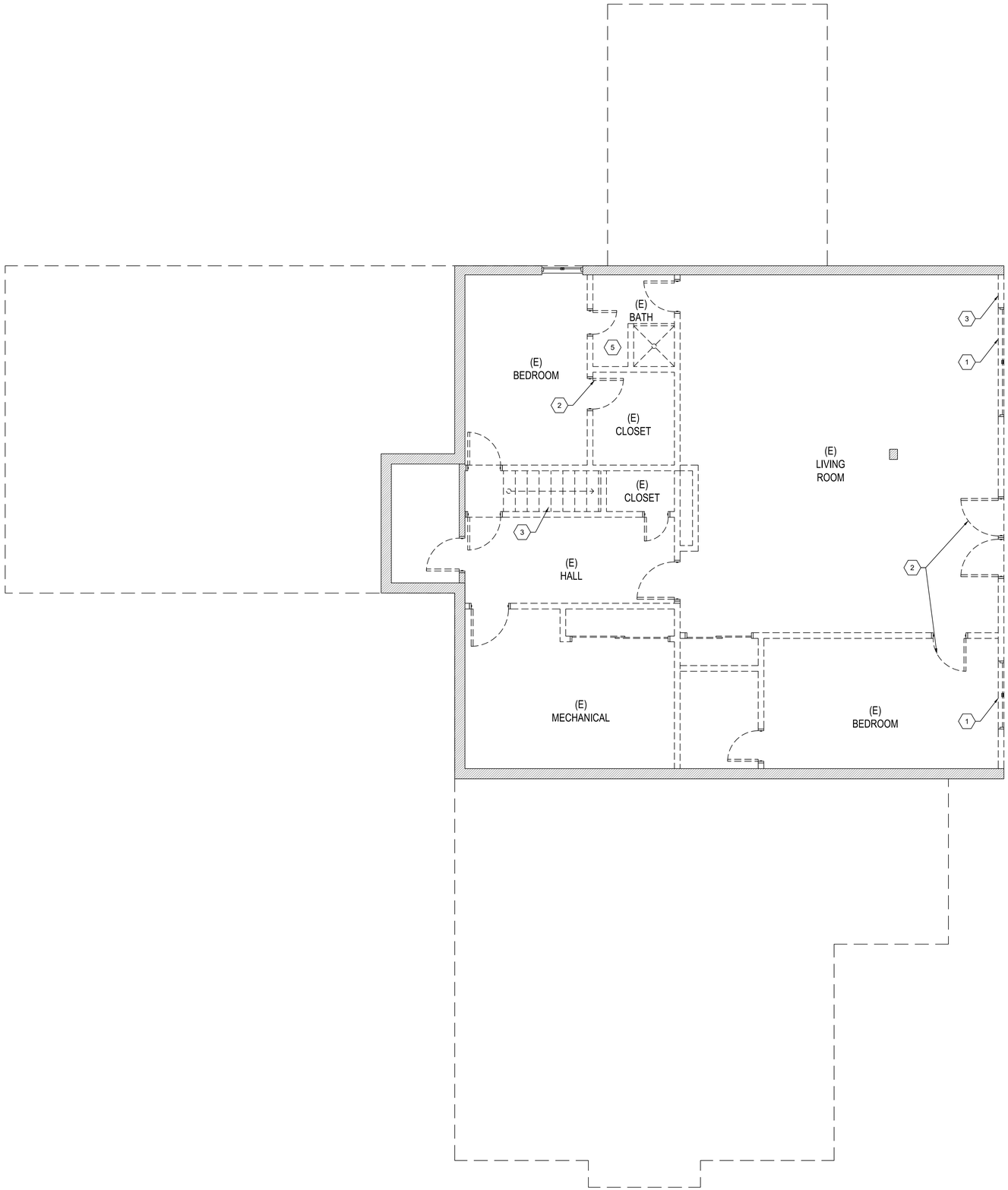
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CODE NOTES

Sheet No:
T6.0



LEGEND

(E) 2x WALL CONSTRUCTION.

EXISTING CONSTRUCTION TO BE REMOVED.

(E) DOOR TO BE SALVAGED OR REMOVED

(E) DOOR TO REMAIN

(E) WINDOW TO BE SALVAGED OR REMOVED

(E) WINDOW TO REMAIN

(E) INDICATES EXISTING FIXTURE

DEMOLITION PLAN NOTES:

1. REMOVE (E) WINDOW, & WINDOW FRAME, TYP.
2. REMOVE (E) DOOR & DOOR FRAME, TYP.
3. DEMO (E) STAIRS. BRACE (E) FLOOR FRAMING.
4. DEMO (E) EXTERIOR WALL & PREPARE FOR ADDITION FRAMING PER PLAN A/A2.1.
5. REMOVE (E) SHOWER, SINK, TOILET, ALL BATH ACCESSORIES & FINISHES.

A BASEMENT FLOOR DEMO PLAN

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

NORTH

0 5 10

GRAPHIC SCALE

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration

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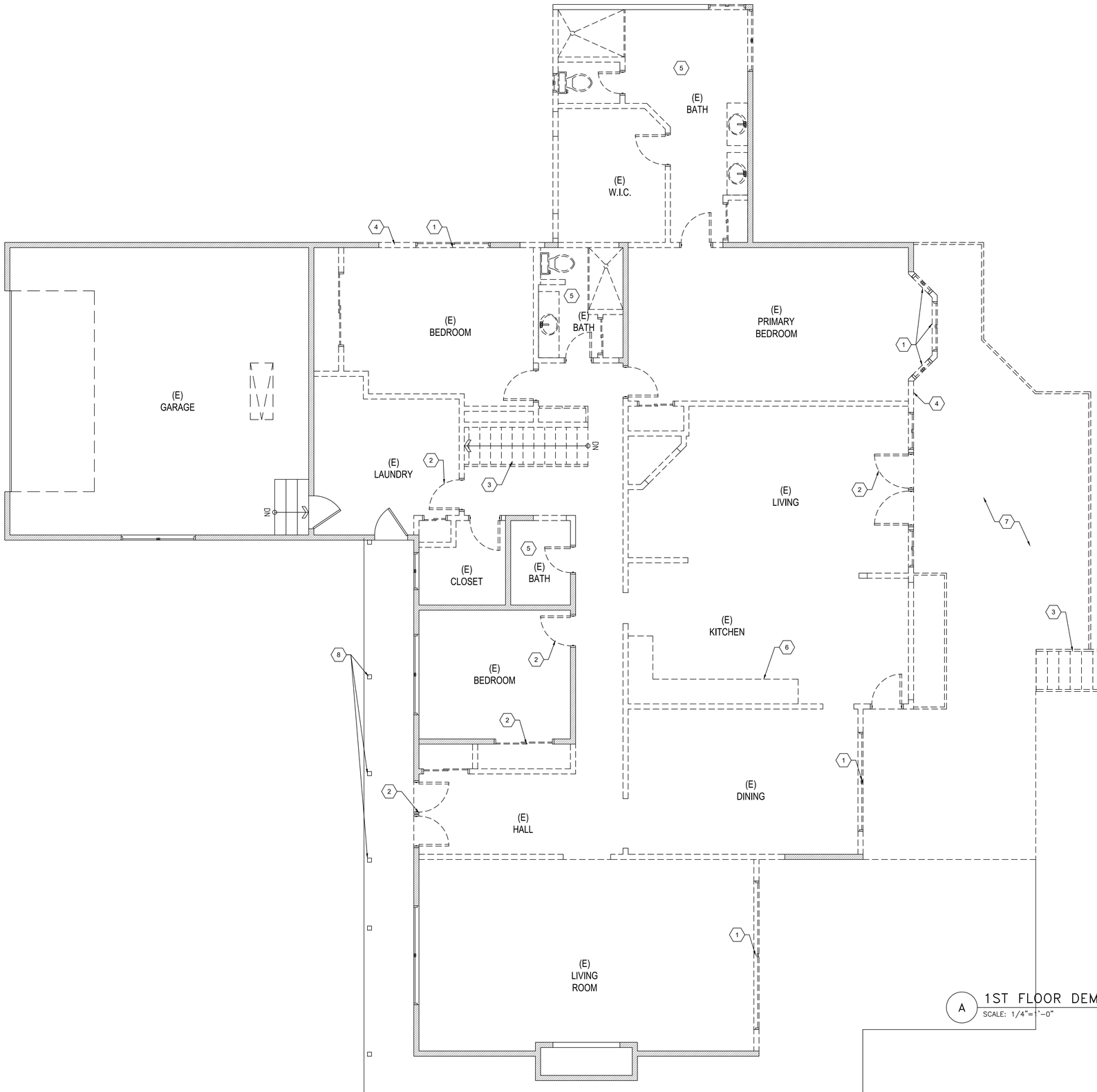
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BASEMENT DEMO PLAN

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A1.1



A 1ST FLOOR DEMO PLAN
SCALE: 1/4"=1'-0"

NORTH

0 5 10
GRAPHIC SCALE

LEGEND

(E) 2x WALL CONSTRUCTION.

EXISTING CONSTRUCTION TO BE REMOVED.

(E) DOOR TO BE SALVAGED OR REMOVED

(E) DOOR TO REMAIN

(E) WINDOW TO BE SALVAGED OR REMOVED

(E) WINDOW TO REMAIN

(E) INDICATES EXISTING FIXTURE

DEMOLITION PLAN NOTES:

1. REMOVE (E) WINDOW & WINDOW FRAME, TYP.
2. REMOVE (E) DOOR & DOOR FRAME, TYP.
3. DEMO (E) STAIRS.
4. DEMO (E) EXTERIOR WALL & PREPARE FOR ADDITION FRAMING PER PLAN A/A2.1.
5. REMOVE (E) SHOWER, SINK, TOILET, ALL BATH ACCESSORIES & FINISHES.
6. REMOVE (E) SINK, APPLIANCES & KITCHEN CABINETRY & PREPARE ELECTRICAL, PLUMBING & VENTING FOR NEW LAYOUT PER A/A2.2.
7. DEMO & REMOVE (E) DECK & DECK STRUCTURE. PREPARE FOR NEW DECK PER A/A2.2
8. DEMO (E) PORCH COLUMNS.

CONSTRUCTION AND REMODELING

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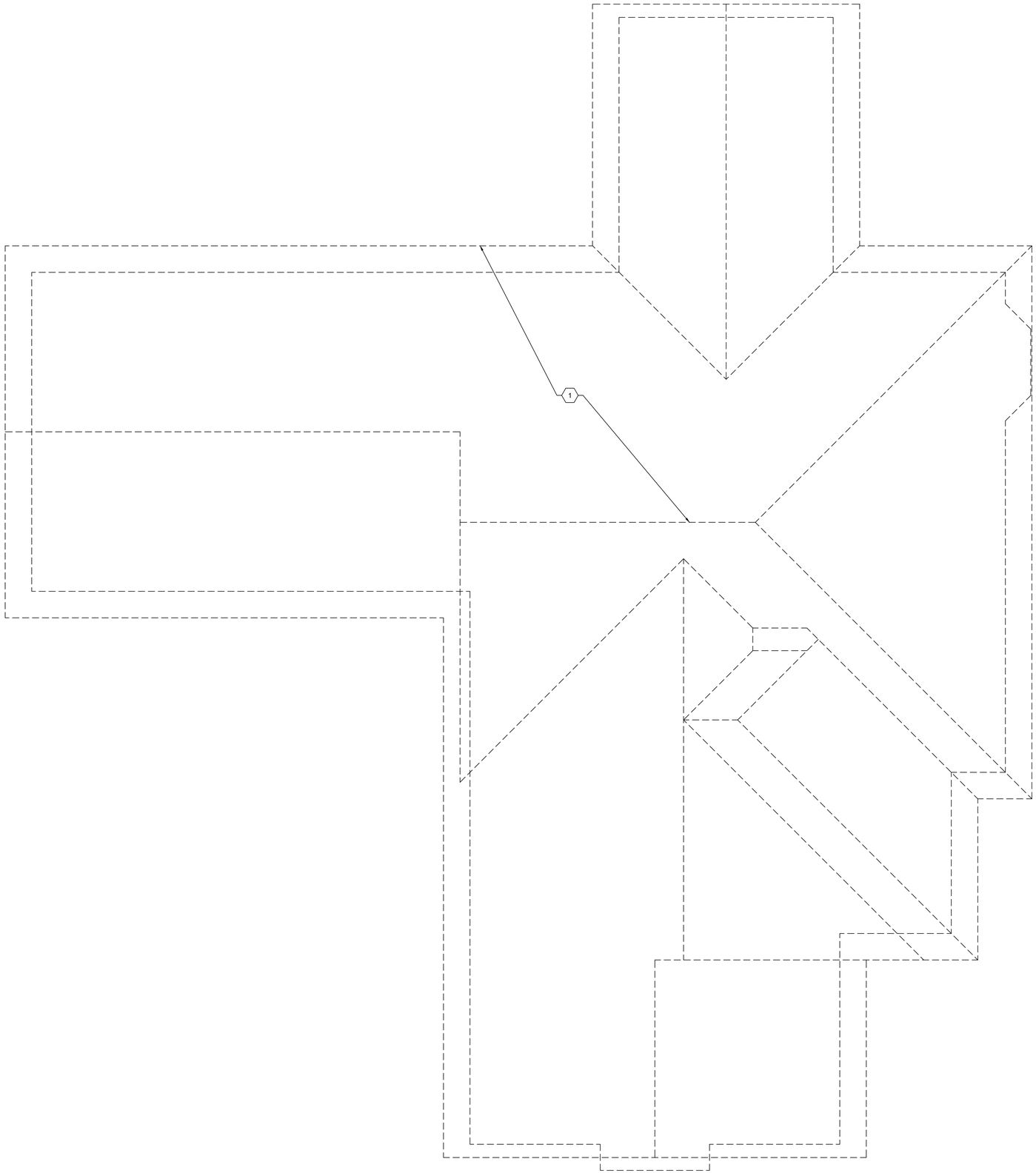
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1ST FLOOR DEMO PLAN

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A1.2



LEGEND

(E) 2x WALL CONSTRUCTION.

EXISTING CONSTRUCTION TO BE REMOVED.

(E) DOOR TO BE SALVAGED OR REMOVED

(E) DOOR TO REMAIN

(E) WINDOW TO BE SALVAGED OR REMOVED

(E) WINDOW TO REMAIN

(E) INDICATES EXISTING FIXTURE

DEMOLITION PLAN NOTES:

1. DEMO (E) ROOF & GUTTERS, TYP.

A ROOF DEMO PLAN

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

NORTH

0 5 10

GRAPHIC SCALE

CONSTRUCTION AND REMODELING

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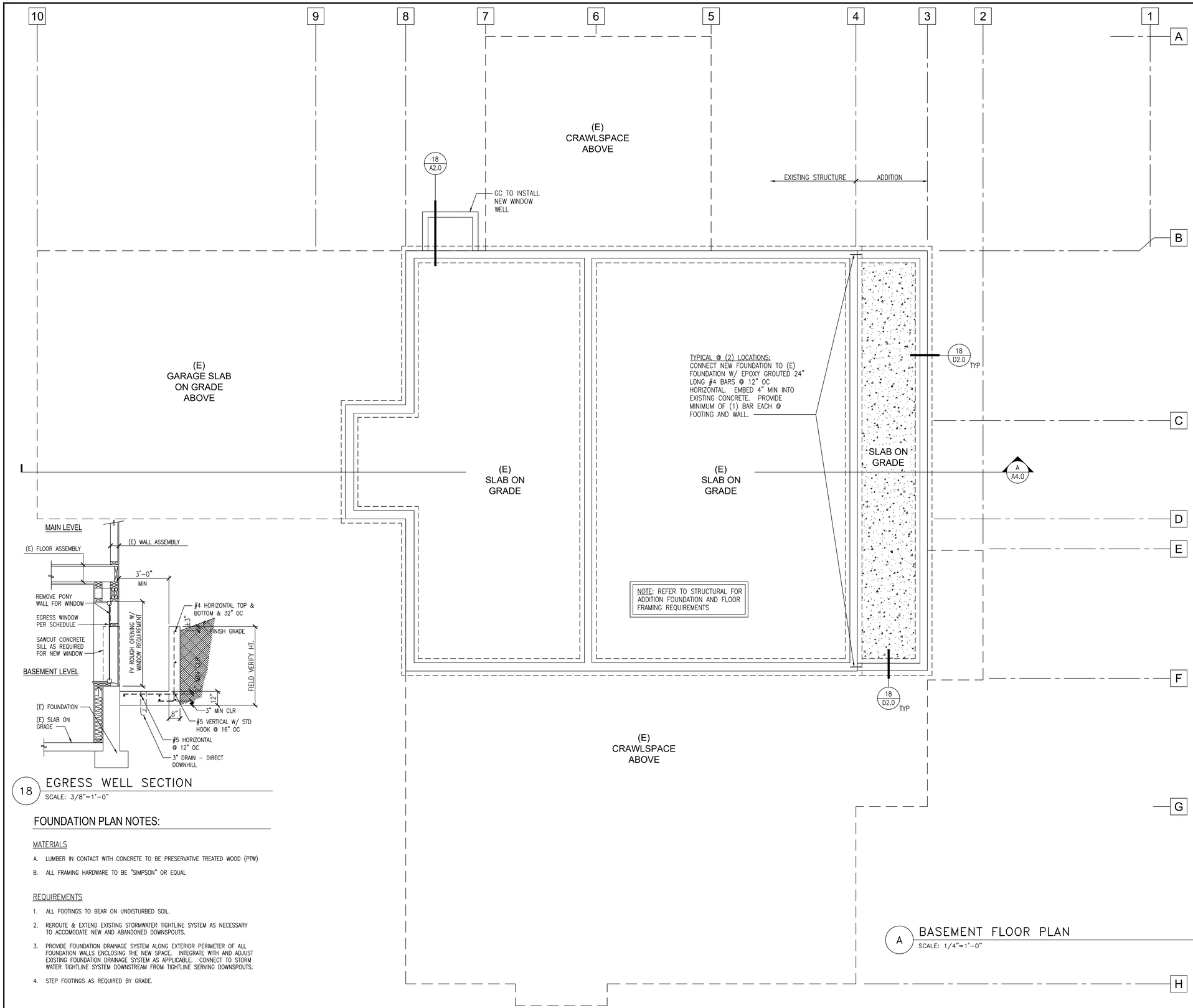
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ROOF DEMO PLAN

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A1.3



18 EGRESS WELL SECTION

SCALE: 3/8"=1'-0"

FOUNDATION PLAN NOTES:

MATERIALS

A. LUMBER IN CONTACT WITH CONCRETE TO BE PRESERVATIVE TREATED WOOD (PTW)

B. ALL FRAMING HARDWARE TO BE "SIMPSON" OR EQUAL

REQUIREMENTS

1. ALL FOOTINGS TO BEAR ON UNDISTURBED SOIL.
2. REROUTE & EXTEND EXISTING STORMWATER TIGHTLINE SYSTEM AS NECESSARY TO ACCOMODATE NEW AND ABANDONED DOWNSPOUTS.
3. PROVIDE FOUNDATION DRAINAGE SYSTEM ALONG EXTERIOR PERIMETER OF ALL FOUNDATION WALLS ENCLOSING THE NEW SPACE. INTEGRATE WITH AND ADJUST EXISTING FOUNDATION DRAINAGE SYSTEM AS APPLICABLE. CONNECT TO STORM WATER TIGHTLINE SYSTEM DOWNSTREAM FROM TIGHTLINE SERVING DOWNSPOUTS.
4. STEP FOOTINGS AS REQUIRED BY GRADE.

A BASEMENT FLOOR PLAN

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

NORTH

0 5 10

GRAPHIC SCALE

CONSTRUCTION
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FOUNDATION PLAN

Sheet No:

A2.0

CONSTRUCTION PLAN NOTES:

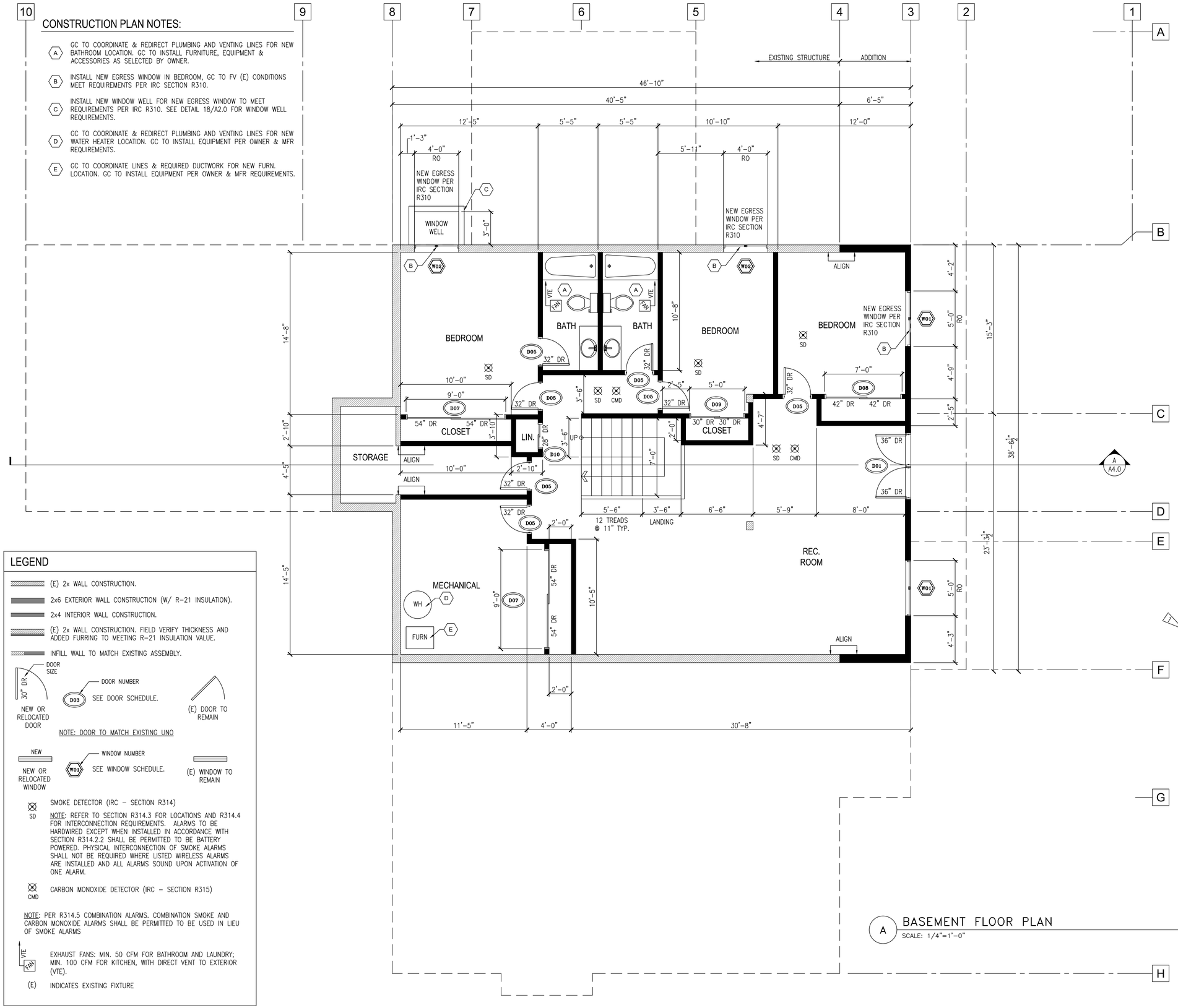
A. GC TO COORDINATE & REDIRECT PLUMBING AND VENTING LINES FOR NEW BATHROOM LOCATION. GC TO INSTALL FURNITURE, EQUIPMENT & ACCESSORIES AS SELECTED BY OWNER.

B. INSTALL NEW EGRESS WINDOW IN BEDROOM, GC TO FV (E) CONDITIONS MEET REQUIREMENTS PER IRC SECTION R310.

C. INSTALL NEW WINDOW WELL FOR NEW EGRESS WINDOW TO MEET REQUIREMENTS PER IRC R310. SEE DETAIL 18/A2.0 FOR WINDOW WELL REQUIREMENTS.

D. GC TO COORDINATE & REDIRECT PLUMBING AND VENTING LINES FOR NEW WATER HEATER LOCATION. GC TO INSTALL EQUIPMENT PER OWNER & MFR REQUIREMENTS.

E. GC TO COORDINATE LINES & REQUIRED DUCTWORK FOR NEW FURN. LOCATION. GC TO INSTALL EQUIPMENT PER OWNER & MFR REQUIREMENTS.



LEGEND

- (E) 2x WALL CONSTRUCTION.
- 2x6 EXTERIOR WALL CONSTRUCTION (W/ R-21 INSULATION).
- 2x4 INTERIOR WALL CONSTRUCTION.
- (E) 2x WALL CONSTRUCTION. FIELD VERIFY THICKNESS AND ADDED FURRING TO MEETING R-21 INSULATION VALUE.
- INFILL WALL TO MATCH EXISTING ASSEMBLY.

DOOR SIZE — 30" DR — NEW OR RELOCATED DOOR

DOOR NUMBER — D03 — SEE DOOR SCHEDULE.

(E) DOOR TO REMAIN

NOTE: DOOR TO MATCH EXISTING UNO

NEW — NEW OR RELOCATED WINDOW

WINDOW NUMBER — W01 — SEE WINDOW SCHEDULE.

(E) WINDOW TO REMAIN

SD — SMOKE DETECTOR (IRC – SECTION R314)

NOTE: REFER TO SECTION R314.3 FOR LOCATIONS AND R314.4 FOR INTERCONNECTION REQUIREMENTS. ALARMS TO BE HARDWIRED EXCEPT WHEN INSTALLED IN ACCORDANCE WITH SECTION R314.2.2 SHALL BE PERMITTED TO BE BATTERY POWERED. PHYSICAL INTERCONNECTION OF SMOKE ALARMS SHALL NOT BE REQUIRED WHERE LISTED WIRELESS ALARMS ARE INSTALLED AND ALL ALARMS SOUND UPON ACTIVATION OF ONE ALARM.

CMD — CARBON MONOXIDE DETECTOR (IRC – SECTION R315)

NOTE: PER R314.5 COMBINATION ALARMS. COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE PERMITTED TO BE USED IN LIEU OF SMOKE ALARMS

VTE / FAN — EXHAUST FANS: MIN. 50 CFM FOR BATHROOM AND LAUNDRY; MIN. 100 CFM FOR KITCHEN, WITH DIRECT VENT TO EXTERIOR (VTE).

(E) INDICATES EXISTING FIXTURE

7

EXHAUST FANS:

403.4.7.3 LOCAL INTERMITTENT KITCHEN EXHAUST SYSTEM. KITCHEN RANGE HOODS FOR DOMESTIC COOKING APPLIANCES SHALL MEET OR EXCEED EITHER THE MINIMUM AIRFLOW OR THE MINIMUM CAPTURE EFFICIENCY IN ACCORDANCE WITH TABLE 403.4.7.3. CAPTURE EFFICIENCY RATINGS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM E3087.

EXCEPTION: OTHER INTERMITTENT KITCHEN EXHAUST FANS, INCLUDING DOWNDRAFT, SHALL MEET OR EXCEED 300 CFM AIRFLOW.

TABLE 403.4.7.3
KITCHEN RANGE HOOD AIRFLOW RATES (CFM) AND ASTM E3087 CAPTURE EFFICIENCY (CE) RATINGS ACCORDING TO KITCHEN RANGE FUEL TYPE

HOOD OVER ELECTRIC RANGE	HOOD OVER COMBUSTION RANGE
65 PERCENT CE OR 160 CFM	80 PERCENT CE OR 250 CFM

NORTH

0 5 10

GRAPHIC SCALE

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

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
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BASEMENT FLOOR PLAN

Sheet No:

A2.1

CONSTRUCTION PLAN NOTES:

A. GC TO COORDINATE & REDIRECT PLUMBING AND VENTING LINES FOR NEW BATHROOM LOCATION. GC TO INSTALL FURNITURE, EQUIPMENT & ACCESSORIES AS SELECTED BY OWNER.

B. GC TO COORDINATE & REDIRECT PLUMBING AND VENTING LINES FOR NEW SINK & APPLIANCE LOCATION IN KITCHEN. APPLIANCE TO MEET APPLIANCE PACKAGE OPTION 7.1 PER ENERGY CREDIT COMPLIANCE FORM. GC TO COORDINATE & REDIRECT LINES FOR NEW KITCHEN LAYOUT.

C. INSTALL NEW CABINETS, APPLIANCES & COUNTERTOPS AS SELECTED BY OWNER. GC TO COORDINATE APPLIANCE INSTALL W/ MFR.

D. INSTALL NEW EGRESS WINDOW IN BEDROOM, GC TO FV (E) CONDITIONS MEET REQUIREMENTS PER IRC SECTION R310.

E. GC TO FV NEW CRAWLSPACE ACCESS W/ STRUCTURE. GC TO INSTALL A 24x18 THROUGH FLOOR ACCESS TO (E) CRAWLSPACE PER CONSTRUCTION NOTES ON SHEET A1.0.

F. GC TO FV NEW ATTIC ACCESS W/ STRUCTURE. GC TO INSTALL NEW ATTIC ACCESS PER DETAIL 3/D2.0.

G. GC TO INSTALL HOT TUB ON DECK, MAKE & MODEL PER OWNER.

PER WAC R314.2.3 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. HEAT ALARMS SHALL BE INTERCONNECTED WITH SMOKE AND CARBON MONOXIDE ALARMS.

BARRIER HEIGHTS AND CLEARANCES ADJACENT TO HOT TUB MUST COMPLY WITH 2021 ISPSC 205.2.1 OR PROVIDE A SAFETY COVER PER ASTM F1346.

LEGEND

- (E) 2x WALL CONSTRUCTION.
- 2x6 EXTERIOR WALL CONSTRUCTION (W/ R-21 INSULATION).
- 2x4 INTERIOR WALL CONSTRUCTION.
- (E) 2x WALL CONSTRUCTION. FIELD VERIFY THICKNESS AND ADDED FURRING TO MEETING R-21 INSULATION VALUE.
- INFILL WALL TO MATCH EXISTING ASSEMBLY.

DOOR SIZE — 30" DR — NEW OR RELOCATED DOOR

DOOR NUMBER — D03 — SEE DOOR SCHEDULE.

(E) DOOR TO REMAIN

NOTE: DOOR TO MATCH EXISTING UNO

NEW — NEW OR RELOCATED WINDOW

WINDOW NUMBER — W01 — SEE WINDOW SCHEDULE.

(E) WINDOW TO REMAIN

SD — SMOKE DETECTOR (IRC – SECTION R314)

NOTE: REFER TO SECTION R314.3 FOR LOCATIONS AND R314.4 FOR INTERCONNECTION REQUIREMENTS. ALARMS TO BE HARDWIRED EXCEPT WHEN INSTALLED IN ACCORDANCE WITH SECTION R314.2.2 SHALL BE PERMITTED TO BE BATTERY POWERED. PHYSICAL INTERCONNECTION OF SMOKE ALARMS SHALL NOT BE REQUIRED WHERE LISTED WIRELESS ALARMS ARE INSTALLED AND ALL ALARMS SOUND UPON ACTIVATION OF ONE ALARM.

CMD — CARBON MONOXIDE DETECTOR (IRC – SECTION R315)

NOTE: PER R314.5 COMBINATION ALARMS. COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE PERMITTED TO BE USED IN LIEU OF SMOKE ALARMS

VTE FAN — EXHAUST FANS: MIN. 50 CFM FOR BATHROOM AND LAUNDRY; MIN. 100 CFM FOR KITCHEN, WITH DIRECT VENT TO EXTERIOR (VTE).

(E) INDICATES EXISTING FIXTURE

EXHAUST FANS:

403.4.7.3 LOCAL INTERMITTENT KITCHEN EXHAUST SYSTEM. KITCHEN RANGE HOODS FOR DOMESTIC COOKING APPLIANCES SHALL MEET OR EXCEED EITHER THE MINIMUM AIRFLOW OR THE MINIMUM CAPTURE EFFICIENCY IN ACCORDANCE WITH TABLE 403.4.7.3. CAPTURE EFFICIENCY RATINGS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM E3087.

EXCEPTION: OTHER INTERMITTENT KITCHEN EXHAUST FANS, INCLUDING DOWNDRAFT, SHALL MEET OR EXCEED 300 CFM AIRFLOW.

TABLE 403.4.7.3
KITCHEN RANGE HOOD AIRFLOW RATES (CFM) AND ASTM E3087 CAPTURE EFFICIENCY (CE) RATINGS ACCORDING TO KITCHEN RANGE FUEL TYPE

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65 PERCENT CE OR 160 CFM	80 PERCENT CE OR 250 CFM

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

NORTH

0 5 10
GRAPHIC SCALE

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
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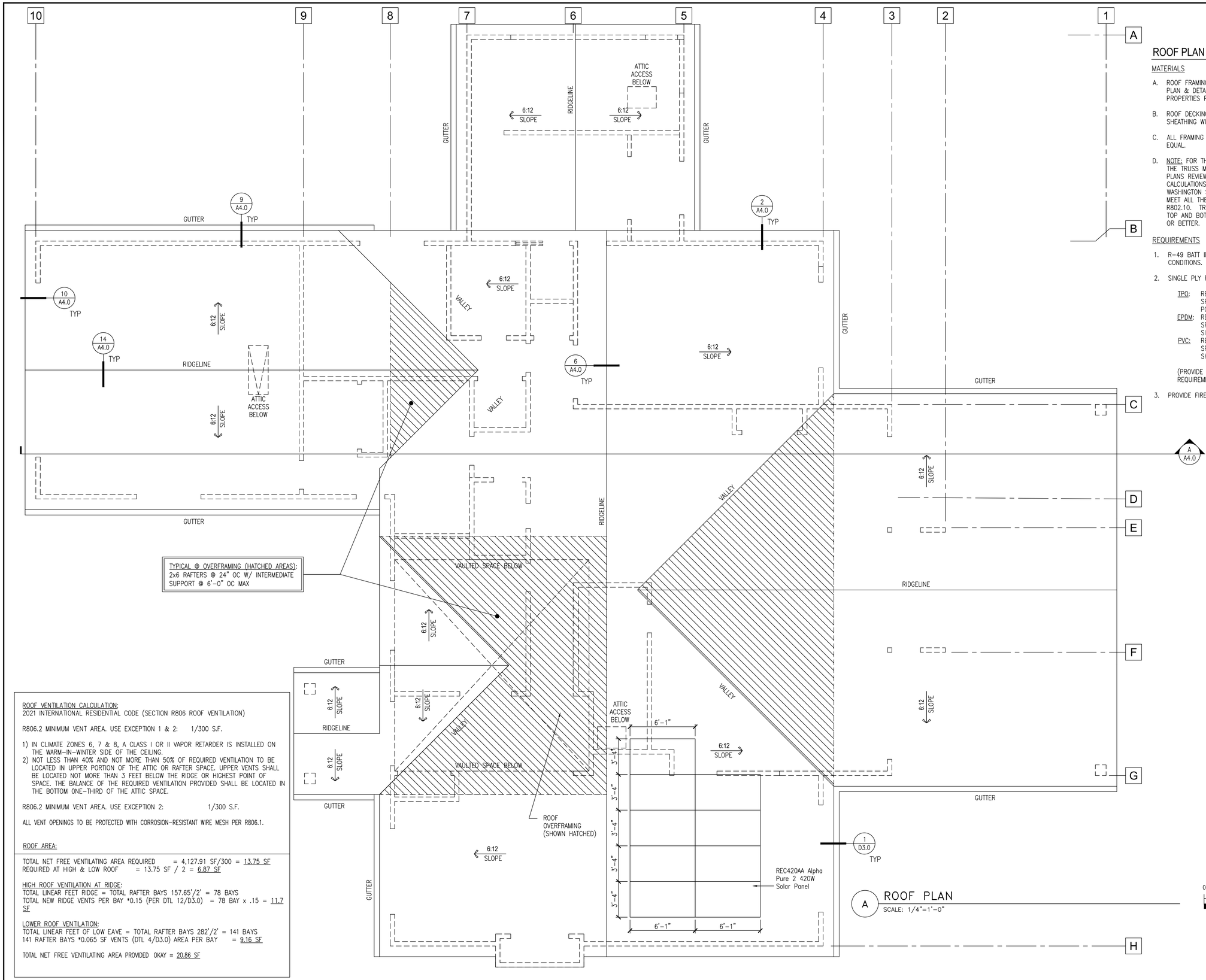
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1ST FLOOR PLAN

Sheet No:
A2.2



ROOF PLAN NOTES:

MATERIALS

A. ROOF FRAMING – MEMBER SIZE AND SPACING PER PLAN & DETAILS. WOOD SPECIES AND MECHANICAL PROPERTIES PER STRUCTURAL.

B. ROOF DECKING TO BE 1/2" EXTERIOR GRADE ROOF SHEATHING WITH 32/16 SPAN RATING.

C. ALL FRAMING HARDWARE TO BE "SIMPSON" OR EQUAL.

D. NOTE: FOR THE 2x ENGINEERED ROOF TRUSSES, THE TRUSS MANUFACTURER SHALL SUBMIT TO THE PLANS REVIEWER, SHOP DRAWINGS AND CALCULATIONS STAMPED, SIGNED, AND DATED BY A WASHINGTON STATE LICENSED ENGINEER WHICH MEET ALL THE REQUIREMENTS OF SECTION R802.10. TRUSS PLATES TO BE ICC APPROVED. TOP AND BOTTOM CHORDS SHALL BE D.F. NO. 2 OR BETTER.

REQUIREMENTS

1. R-49 BATT INSULATION @ ALL ATTIC CEILING CONDITIONS.
2. SINGLE PLY ROOFING MEMBRANE:
   - TPO: REFER TO ASTM D6878 STANDARD SPECIFICATION FOR THERMOPLASTIC POLYOLEFIN BASED SHEET ROOFING
   - EPDM: REFER TO ASTM D4637 STANDARD SPECIFICATION FOR EPDM SHEET USED IN SINGLE-PLY ROOF MEMBRANE
   - PVC: REFER ASTM D4434 STANDARD SPECIFICATION FOR POLY(VINYL CHLORIDE) SHEET ROOFING

   (PROVIDE UNDERLAYMENT PER MFR'S REQUIREMENT.)
3. PROVIDE FIREBLOCKING PER SECTION R602.8.

ROOF VENTILATION CALCULATION:
2021 INTERNATIONAL RESIDENTIAL CODE (SECTION R806 ROOF VENTILATION)

R806.2 MINIMUM VENT AREA. USE EXCEPTION 1 & 2: 1/300 S.F.

1) IN CLIMATE ZONES 6, 7 & 8, A CLASS I OR II VAPOR RETARDER IS INSTALLED ON THE WARM-IN-WINTER SIDE OF THE CEILING.
2) NOT LESS THAN 40% AND NOT MORE THAN 50% OF REQUIRED VENTILATION TO BE LOCATED IN UPPER PORTION OF THE ATTIC OR RAFTER SPACE. UPPER VENTS SHALL BE LOCATED NOT MORE THAN 3 FEET BELOW THE RIDGE OR HIGHEST POINT OF SPACE. THE BALANCE OF THE REQUIRED VENTILATION PROVIDED SHALL BE LOCATED IN THE BOTTOM ONE-THIRD OF THE ATTIC SPACE.

R806.2 MINIMUM VENT AREA. USE EXCEPTION 2: 1/300 S.F.

ALL VENT OPENINGS TO BE PROTECTED WITH CORROSION-RESISTANT WIRE MESH PER R806.1.

ROOF AREA:

TOTAL NET FREE VENTILATING AREA REQUIRED = 4,127.91 SF/300 = 13.75 SF
REQUIRED AT HIGH & LOW ROOF = 13.75 SF / 2 = 6.87 SF

HIGH ROOF VENTILATION AT RIDGE:
TOTAL LINEAR FEET RIDGE = TOTAL RAFTER BAYS 157.65'/2' = 78 BAYS
TOTAL NEW RIDGE VENTS PER BAY *0.15 (PER DTL 12/D3.0) = 78 BAY x .15 = 11.7 SF

LOWER ROOF VENTILATION:
TOTAL LINEAR FEET OF LOW EAVE = TOTAL RAFTER BAYS 282'/2' = 141 BAYS
141 RAFTER BAYS *0.065 SF VENTS (DTL 4/D3.0) AREA PER BAY = 9.16 SF

TOTAL NET FREE VENTILATING AREA PROVIDED OKAY = 20.86 SF

A ROOF PLAN
SCALE: 1/4"=1'-0"

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
9150 SE 54th St, Mercer Island, WA 98040

Permit Set

Job # 2428-010

Description	Date
Permit Intake	12/09/24
Correction 01	04/03/25
Correction 02	04/30/25

Permit No.: 2408-010

Drawn:
Stamp/Approval:

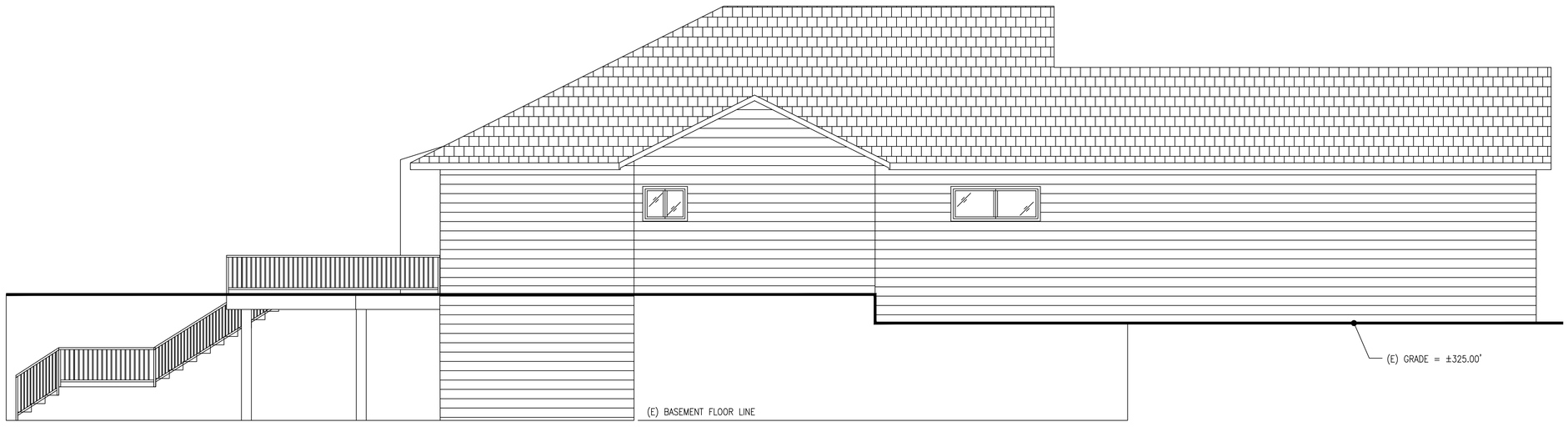
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ROOF PLAN

Sheet No:
A2.3



B EXISTING EAST ELEVATION
SCALE: 1/4"=1'-0"

0 5 10
GRAPHIC SCALE



A EXISTING NORTH ELEVATION
SCALE: 1/4"=1'-0"

0 5 10
GRAPHIC SCALE

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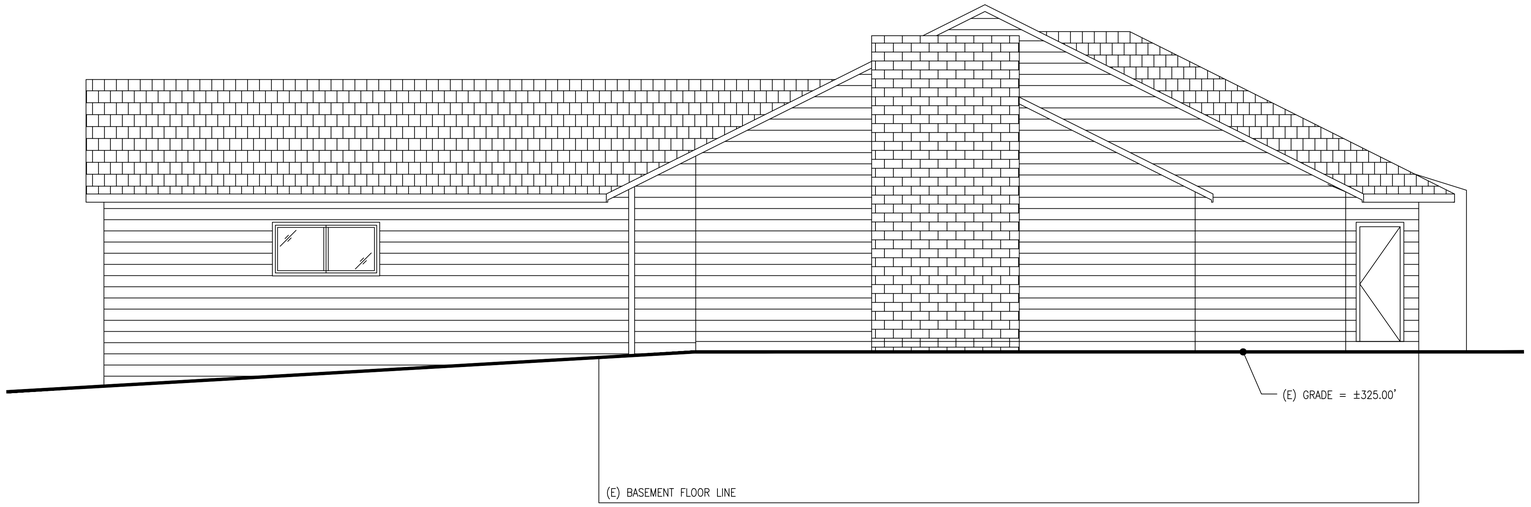
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EXISTING ELEVATIONS

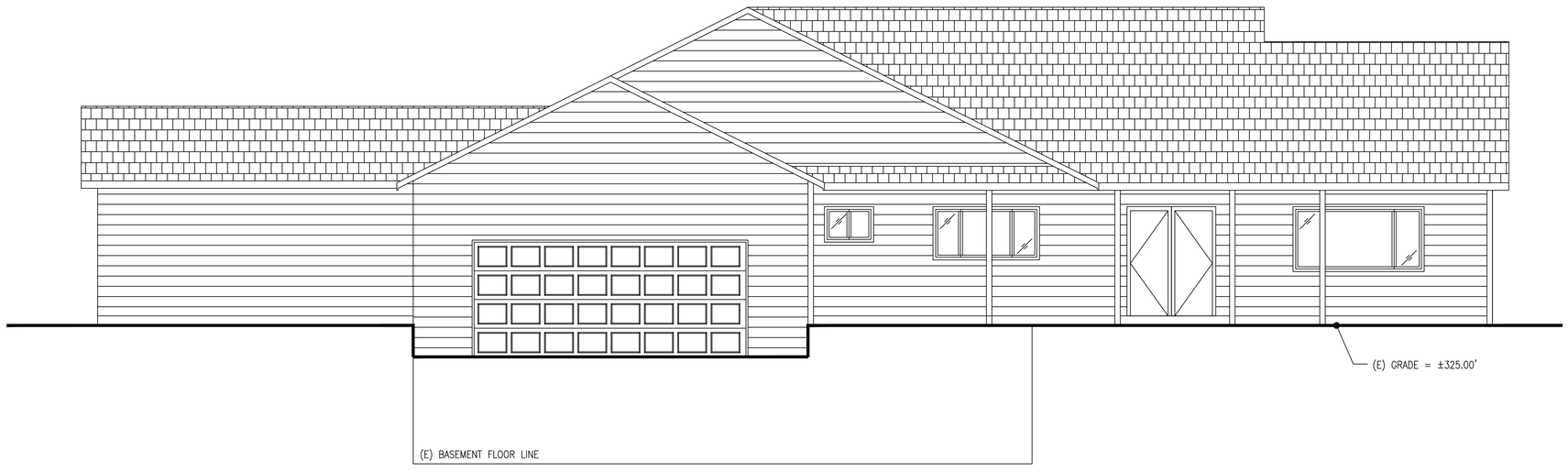
Sheet No:

A3.1



B EXISTING SOUTH ELEVATION
SCALE: 1/4"=1'-0"

0 5 10
GRAPHIC SCALE



A EXISTING WEST ELEVATION
SCALE: 1/4"=1'-0"

0 5 10
GRAPHIC SCALE

CONSTRUCTION
AND REMODELING

SCHARHON - RESIDENCE

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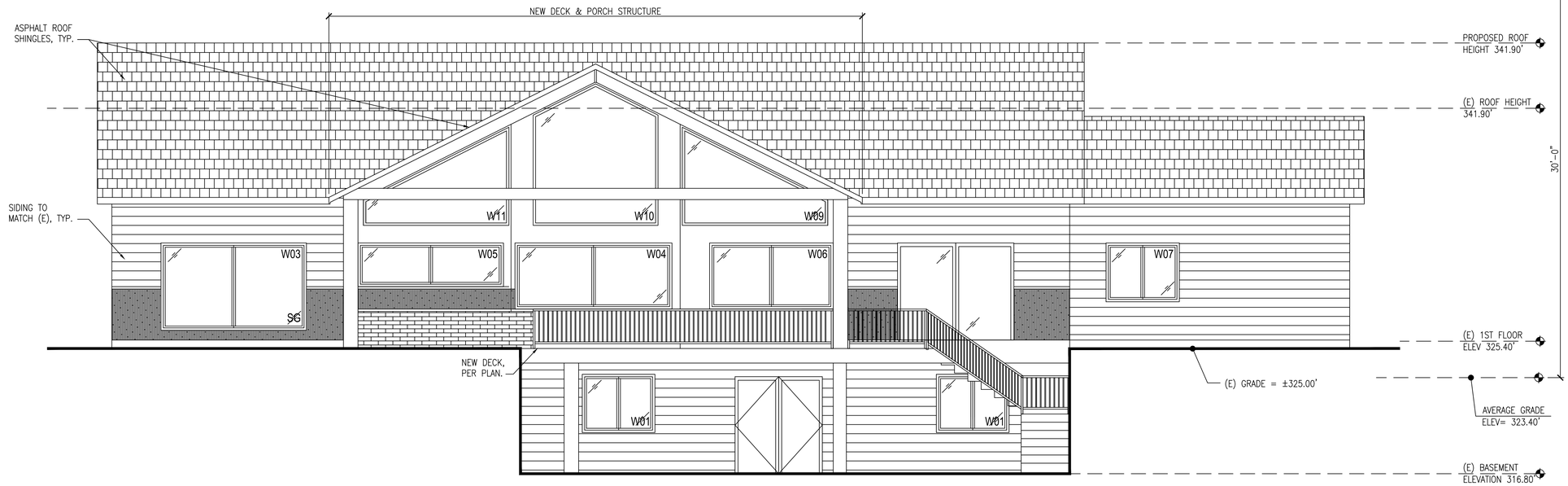
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Stamp/Approval:

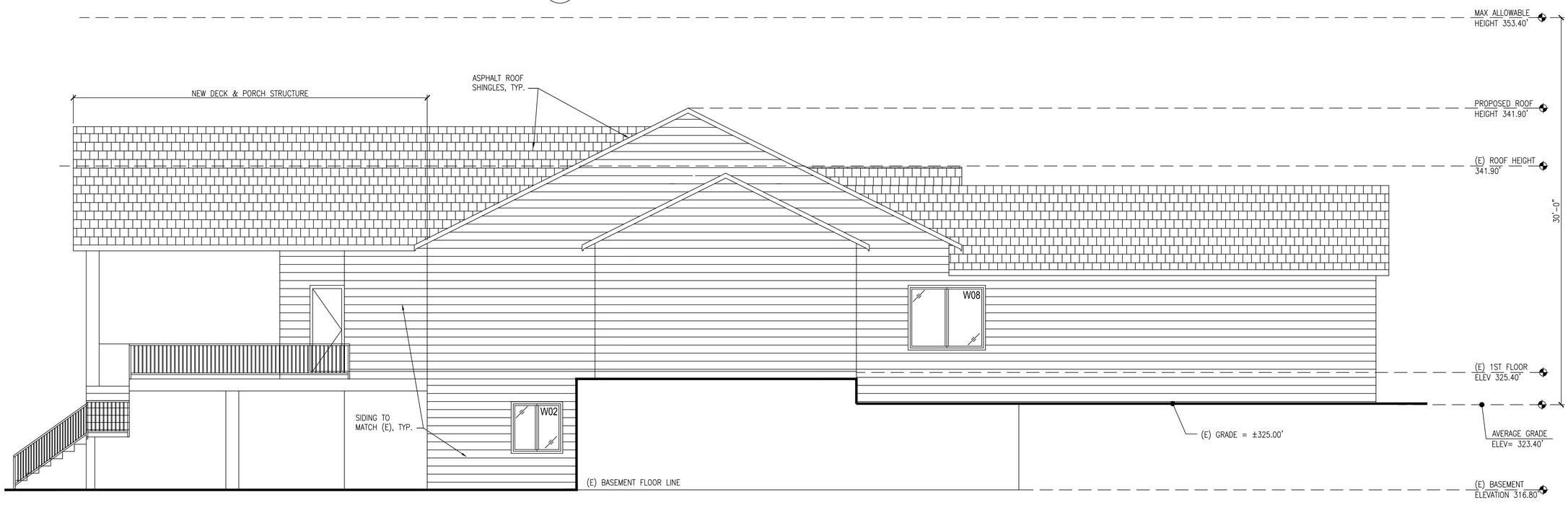
Sheet Name:
EXISTING ELEVATIONS

Sheet No:
A3.2



B EAST ELEVATION
SCALE: 1/4"=1'-0"

0 5 10



A NORTH ELEVATION
SCALE: 1/4"=1'-0"

0 5 10

GRAPHIC SCALE

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
9150 SE 54th St, Mercer Island, WA 98040

Permit Set

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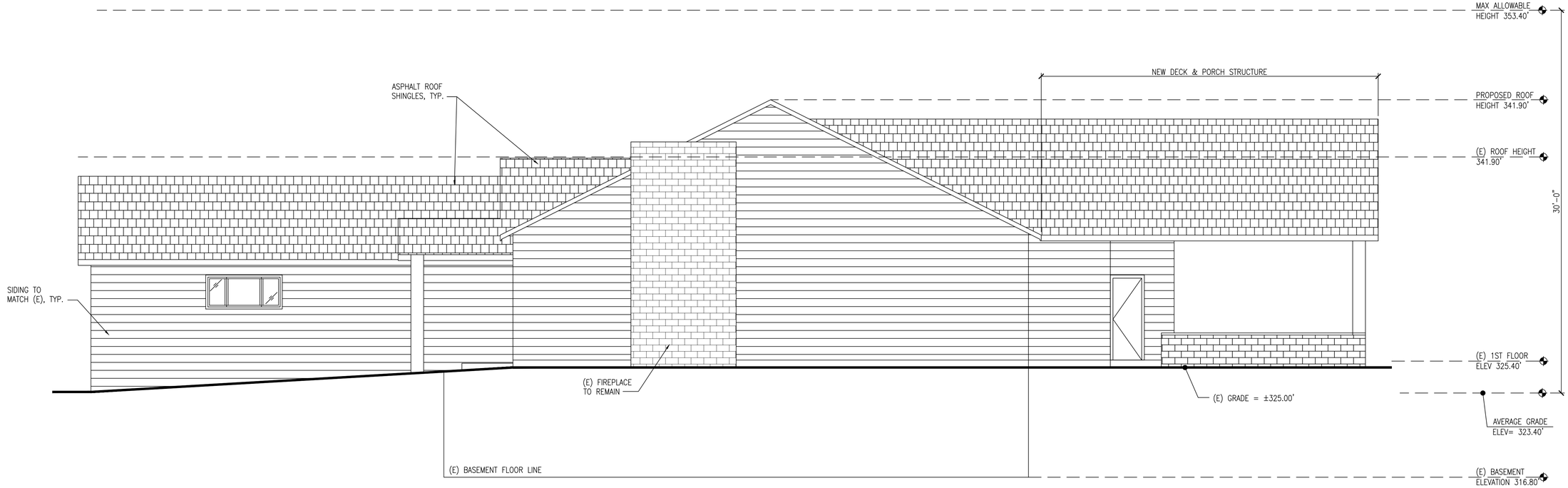
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Sheet Name:

ELEVATIONS

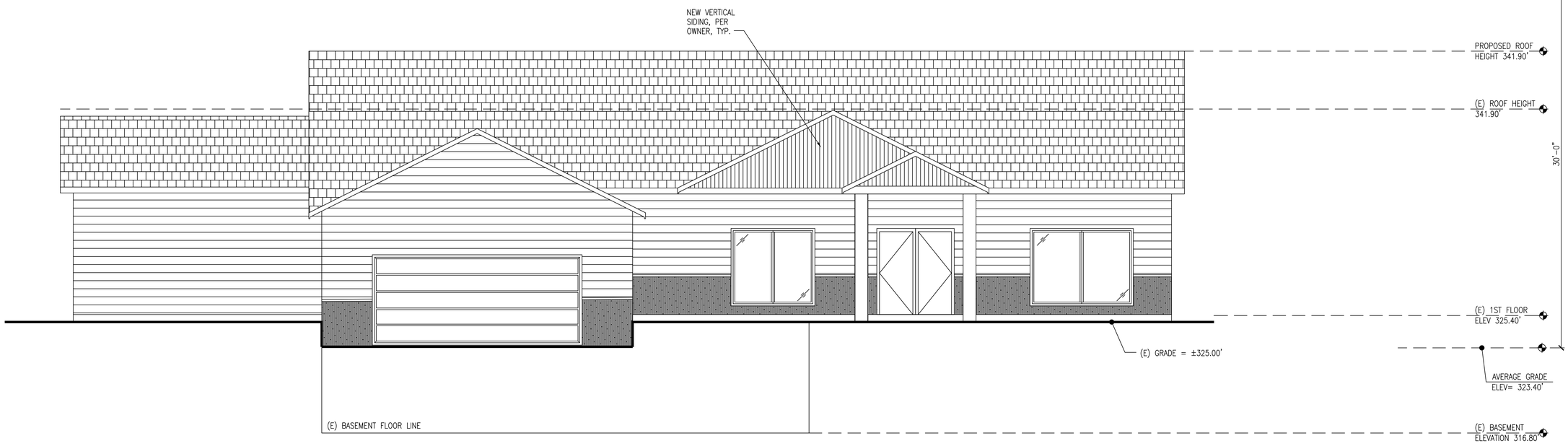
Sheet No:

A3.3



B SOUTH ELEVATION
SCALE: 1/4"=1'-0"

0 5 10
GRAPHIC SCALE



A WEST ELEVATION
SCALE: 1/4"=1'-0"

0 5 10
GRAPHIC SCALE

CONSTRUCTION
AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
9150 SE 54th St, Mercer Island, WA 98040

Permit Set

Job # 2428-010

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Permit No.: 2408-010

Drawn:
Stamp/Approval:

Sheet Name:

ELEVATIONS

Sheet No:

A3.4

SECTION NOTES:

TYPICAL ROOF CONSTRUCTION

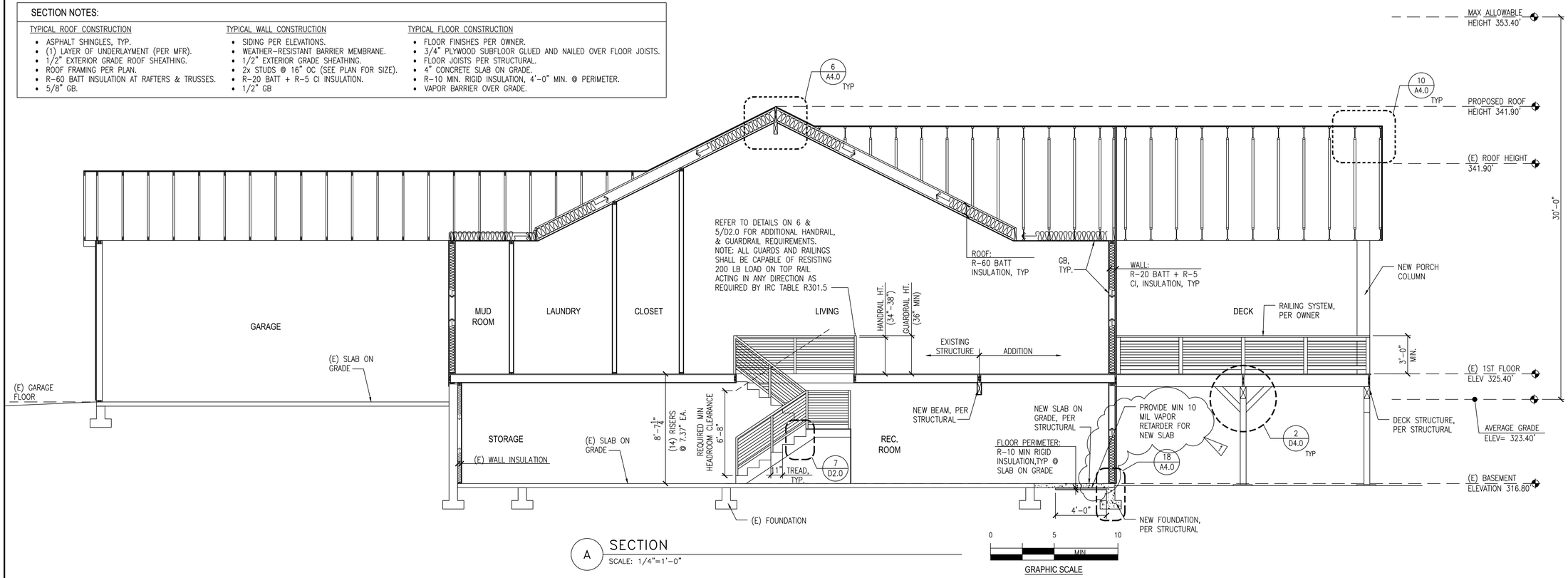
- ASPHALT SHINGLES, TYP.
- (1) LAYER OF UNDERLAYMENT (PER MFR).
- 1/2" EXTERIOR GRADE ROOF SHEATHING.
- ROOF FRAMING PER PLAN.
- R-60 BATT INSULATION AT RAFTERS & TRUSSES.
- 5/8" GB.

TYPICAL WALL CONSTRUCTION

- SIDING PER ELEVATIONS.
- WEATHER-RESISTANT BARRIER MEMBRANE.
- 1/2" EXTERIOR GRADE SHEATHING.
- 2x STUDS @ 16" OC (SEE PLAN FOR SIZE).
- R-20 BATT + R-5 CI INSULATION.
- 1/2" GB

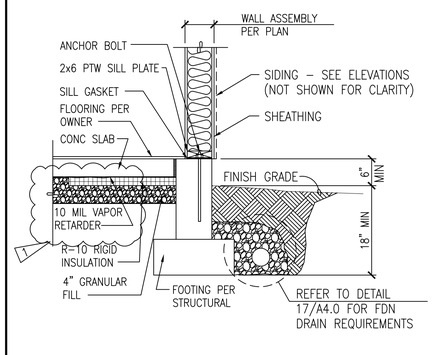
TYPICAL FLOOR CONSTRUCTION

- FLOOR FINISHES PER OWNER.
- 3/4" PLYWOOD SUBFLOOR GLUED AND NAILED OVER FLOOR JOISTS.
- FLOOR JOISTS PER STRUCTURAL.
- 4" CONCRETE SLAB ON GRADE.
- R-10 MIN. RIGID INSULATION, 4'-0" MIN. @ PERIMETER.
- VAPOR BARRIER OVER GRADE.

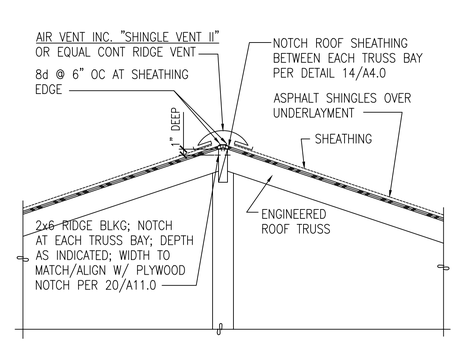


A SECTION
SCALE: 1/4"=1'-0"

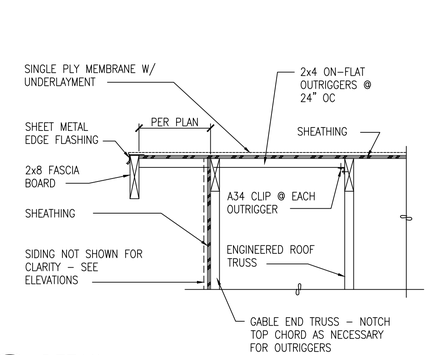
0 5 10
MIN
GRAPHIC SCALE



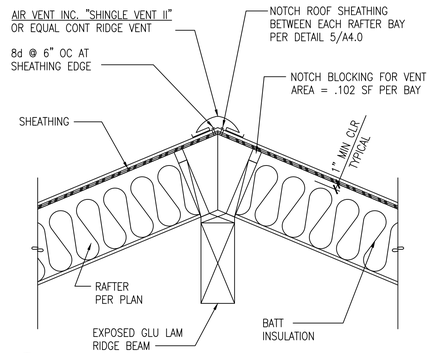
18 DETAIL
SCALE: 3/4"=1'-0"



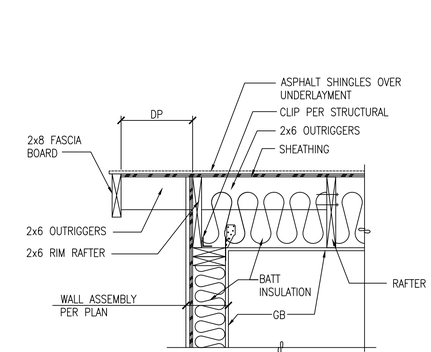
14 DETAIL
SCALE: 1"=1'-0"



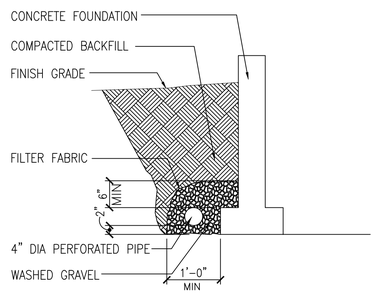
10 DETAIL
SCALE: 1"=1'-0"



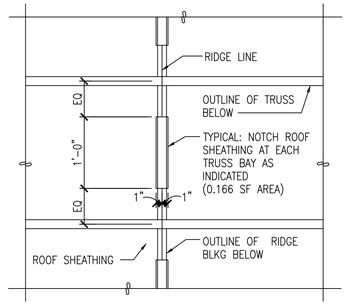
6 DETAIL
SCALE: 1"=1'-0"



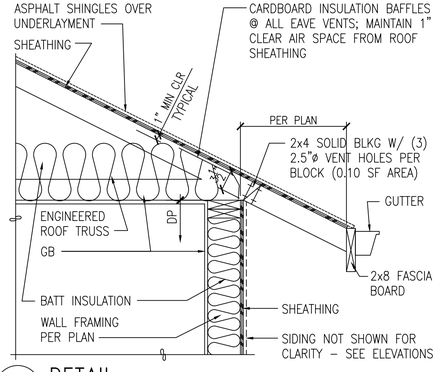
2 DETAIL
SCALE: 1"=1'-0"



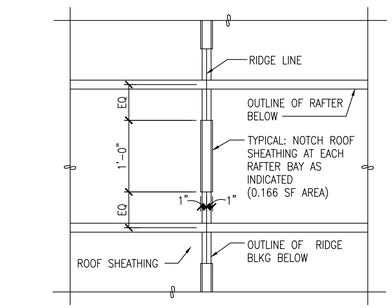
17 FOUNDATION DRAINAGE SYSTEM
SCALE: 3/4"=1'-0"



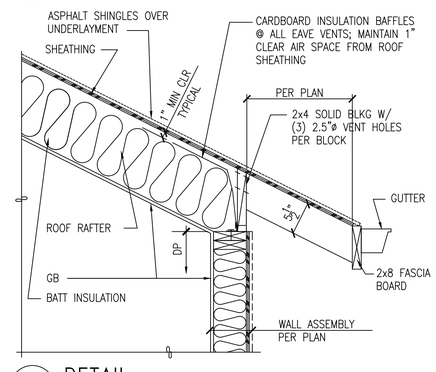
13 DETAIL
SCALE: 1"=1'-0"



9 DETAIL
SCALE: 1"=1'-0"



5 DETAIL
SCALE: 1"=1'-0"



1 DETAIL
SCALE: 1"=1'-0"

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
9150 SE 54th St, Mercer Island, WA 98040

Permit Set

Job # 2428-010

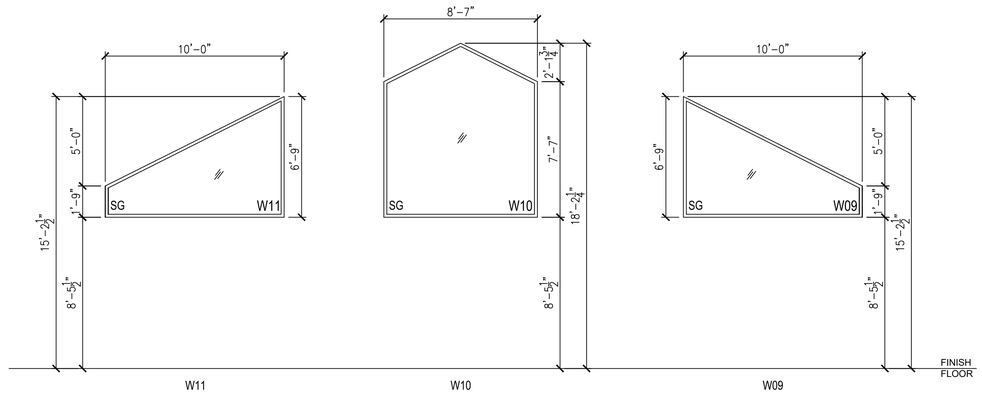
Description	Date
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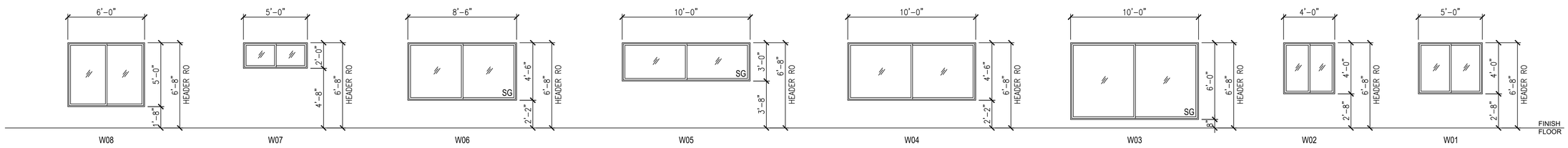
Permit No.: 2408-010

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Stamp/Approval:

Sheet Name:
SECTION & DETAILS

Sheet No:
A4.0





WINDOW SCHEDULE

IDEN	TYPE	MATERIAL	SIZE		ROUGH OPENING		QUANTITY	TOTAL AREA	SPEC	DESCRIPTION
			WIDTH	HEIGHT	WIDTH	HEIGHT				
W01	SLIDER	VINYL	5'–0"	4'–0"	PER ELEVATION		2	40.00 SF	(A)	
W02	SLIDER	VINYL	4'–0"	4'–0"	PER ELEVATION		2	32.00 SF	(A)	
W03	FIXED	VINYL	10'–0"	6'–0"	PER ELEVATION		1	60.00 SF	(A)	SG REQUIRED
W04	FIXED	VINYL	10'–0"	4'–6"	PER ELEVATION		1	45.00 SF	(A)	
W05	SLIDER	VINYL	10'–0"	3'–0"	PER ELEVATION		1	30.00 SF	(A)	SG REQUIRED
W06	FIXED	VINYL	8'–6"	4'–6"	PER ELEVATION		1	38.25 SF	(A)	SG REQUIRED
W07	FIXED	VINYL	5'–0"	2'–0"	PER ELEVATION		1	10.00 SF	(A)	
W08	FIXED	VINYL	6'–0"	5'–0"	PER ELEVATION		1	30.00 SF	(A)	
W09	TRANSOM FIXED	VINYL	PER ELEV	PER ELEV	PER ELEVATION		1	42.40 SF	(A)	SG REQUIRED
W10	TRANSOM FIXED	VINYL	PER ELEV	PER ELEV	PER ELEVATION		1	74.21 SF	(A)	SG REQUIRED
W11	TRANSOM FIXED	VINYL	PER ELEV	PER ELEV	PER ELEVATION		1	42.40 SF	(A)	SG REQUIRED
						TOTAL QUANTITY	13	444.26 SF	TOTAL AREA (SQUARE FEET)	

NOTES:
(1)

SPECIFICATION:
(A) ALL VERTICAL FENESTRATION TO HAVE U–FACTOR = 0.30 MAX OR BETTER; NFRC–CERTIFIED

DOOR SCHEDULE (MFR & MODEL OR EQUAL)

IDEN	TYPE	DOOR SIZE		ROUGH OPENING		MATERIAL	QUANTITY	TOTAL AREA	U–FACTOR (MIN OR BETTER NFRC–CERTIFIED)	DESCRIPTION
		WIDTH	HEIGHT	WIDTH	HEIGHT					
D01	FRENCH DOOR	6'–0"	6'–8"	6'–2"	6'–10.5"	FIBERGLASS WOODCLAD	2	80	0.30	INSULATED DOOR
D02	SINGLE PANEL	2'–8"	6'–8"	2'–10"	6'–10.5"	FIBERGLASS WOODCLAD	3	53.15	0.30	INSULATED DOOR
D03	SLIDING PANEL	8'–0"	6'–8"	8'–2"	6'–10.5"	FIBERGLASS WOODCLAD	1	53.28	0.30	INSULATED, FULL RELITE, SG REQUIRED, REFER TO ELEVATIONS FOR DOOR CONFIGURATION
D04	FRENCH DOOR	5'–0"	6'–8"	5'–2"	6'–10.5"	WOOD	1	–	–	–
D05	SINGLE PANEL	2'–8"	6'–8"	2'–10"	6'–10.5"	WOOD	11	–	–	–
D06	SINGLE PANEL	2'–4"	6'–8"	2'–6"	6'–10.5"	WOOD	1	–	–	–
D07	BY PASS	9'–0"	6'–8"	9'–2"	6'–10.5"	WOOD	2	–	–	–
D08	BY PASS	7'–0"	6'–8"	7'–2"	6'–10.5"	WOOD	1	–	–	–
D09	BY PASS	5'–0"	6'–8"	5'–2"	6'–10.5"	WOOD	1	–	–	–
D10	BY PASS	2'–4"	6'–8"	2'–6"	6'–10.5"	WOOD	1	–	–	–
D11	SLIDER DOORS	5'–0"	6'–8"	5'–2"	6'–10.5"	WOOD	1	–	–	–
D12	BY PASS	6'–0"	6'–8"	6'–2"	6'–10.5"	WOOD	1	–	–	–
D13	BY PASS	4'–0"	6'–8"	4'–2"	6'–10.5"	WOOD	1	–	–	–
D14	BY PASS	3'–4"	6'–8"	3'–6"	6'–10.5"	WOOD	1	–	–	–
D15	POCKET PANEL	2'–6"	6'–8"	2'–8"	6'–10.5"	WOOD	1	–	–	–

NOTES:
1) VERIFY WITH DOOR MFR FOR ACTUAL ROUGH OPENING REQUIREMENTS.

NOTES:
(A) ALL VERTICAL FENESTRATION TO HAVE U–FACTOR = 0.30 OR BETTER (ENERGY CREDIT OPTION 1.3); NFRC–CERTIFIED

CONSTRUCTION
AND REMODELING

SCHARHON - RESIDENCE

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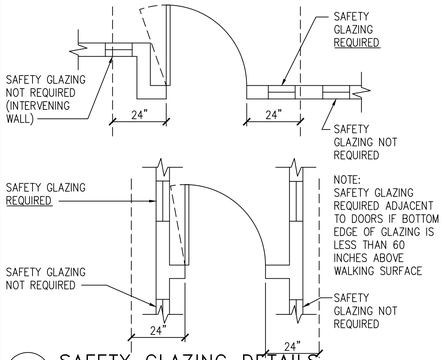
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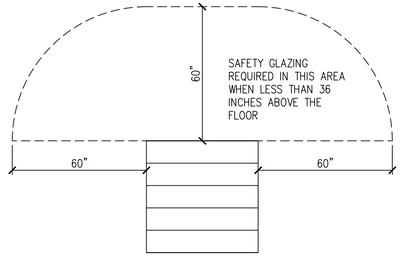
SCHEDULES

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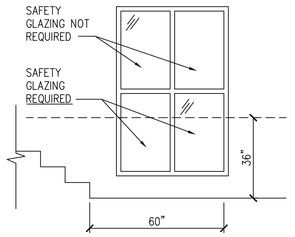
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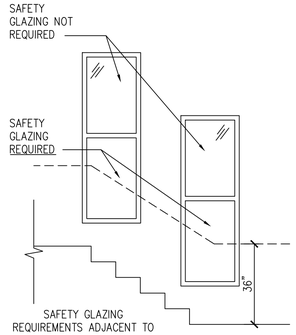
SAFETY GLAZING REQUIREMENTS AT WET SURFACES



SAFETY GLAZING REQUIREMENTS ADJACENT TO BOTTOM STAIR LANDINGS



SAFETY GLAZING REQUIREMENTS ADJACENT TO BOTTOM STAIR LANDINGS



SAFETY GLAZING REQUIREMENTS ADJACENT TO STAIRS & RAMPS

SAFETY GLAZING IN WINDOWS:

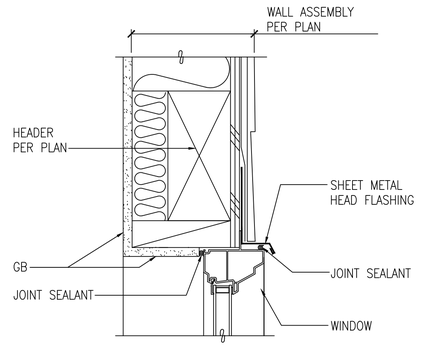
REQUIRED IF THE INDIVIDUAL PANEL MEETS ALL THE FOLLOWING REQUIREMENTS:
- A. EXPOSED INDIVIDUAL PANEL IS GREATER THAN 9 SQ FT
- B. BOTTOM EDGE OF GLAZING IS LESS THAN 18 INCHES FROM FLOOR
- C. TOP EDGE OF THE GLAZING IS MORE THAN 36 INCHES ABOVE FLOOR
- D. A WALKING SURFACE WITHIN 36 INCHES, MEASURED HORIZONTALLY, FROM THE GLAZING

EXCEPTIONS
- I. DECORATIVE GLAZING
- II. A HORIZONTAL RAIL CAPABLE OF RESISTING 50 LBS PER LINER FOOT OF FORCE W/OUT MAKING CONTACT WITH THE GLAZING IS INSTALLED ON ACCESSIBLE SIDE OF GLAZING 34 TO 38 INCHES ABOVE THE WALKING SURFACE.

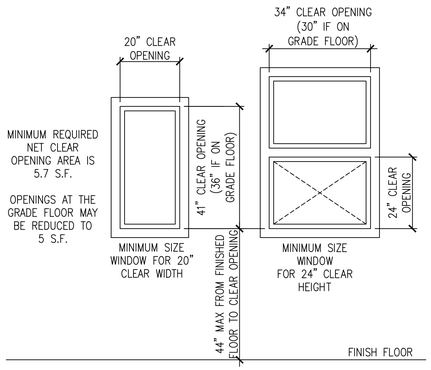
SAFETY GLAZING AT STAIRS & RAILINGS:

1. WHERE HORIZONTAL RAIL CAPABLE OF RESISTING 50 LBS PER LINEAR FOOT OF FORCE W/OUT MAKING CONTACT WITH THE GLAZING IN IS INSTALLED ON THE ACCESSIBLE SIDE OF THE GLAZING 34 TO 38 INCHES ABOVE THE WALKING SURFACE.
2. GLAZING MORE THAN 36 INCHES HORIZONTALLY FROM THE WALKING SURFACE IS NOT REQUIRED TO BE SAFETY GLAZING.

A SAFETY GLAZING DETAILS
SCALE: 3/8"=1'-0"

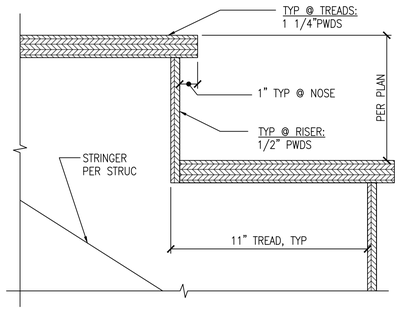


19 HEAD DETAIL
SCALE: 3"=1'-0"

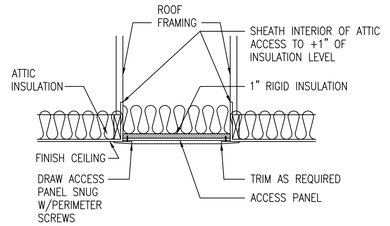


BASEMENTS, HABITABLE ATTICS AND EVERY SLEEPING ROOM SHALL NOT HAVE LESS THAN ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING. WHERE BASEMENTS CONTAIN ONE OR MORE SLEEPING ROOMS, AN EMERGENCY ESCAPE AND RESCUE OPENING SHALL BE REQUIRED IN EACH SLEEPING ROOM. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL OPEN DIRECTLY INTO A PUBLIC WAY, OR TO A COURT OR YARD THAT OPENS TO A PUBLIC WAY.

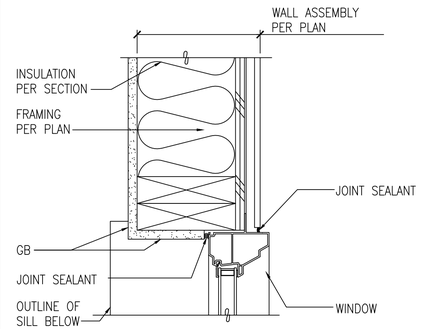
15 MINIMUM EMERGENCY EGRESS OPENING REQUIREMENTS
SCALE: 1/2"=1'-0"



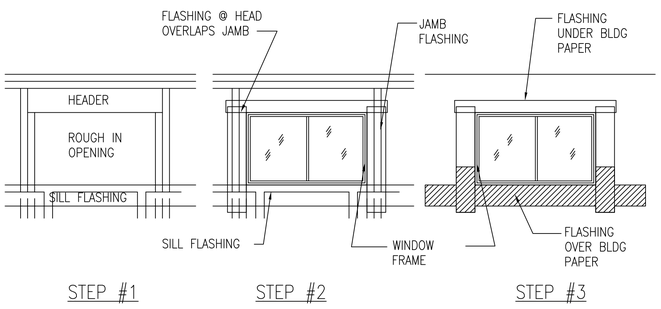
7 TYPICAL INTERIOR TREAD RISER DETAIL
SCALE: NTS



3 ATTIC ACCESS PANEL DETAIL
SCALE: 3/4"=1'-0"



18 JAMB DETAIL
SCALE: 3"=1'-0"



FLASHING OF EXTERIOR WALL OPENINGS:

INDIVIDUALLY FLASH ALL EXTERIOR OPENINGS FOR FIXTURE SUCH AS WINDOWS, DOORS, AND VENTS TO MAKE THEM WATERRPROOF. FLASHING MATERIAL SHALL BE MOISTOP BY MANFUL. SEALANT SHALL BE COMPATIBLE AND APPROVED BY MANFUL. IN HIGH WIND AREAS W.R. GRACE ICE & WATER SHIELD SHALL BE USED, OVER SOLID BACKING. FLASHING MATERIAL AT LEAST 9" WIDE SHALL BE APPLIED IN A WEATHER BOARD FASHION, BEGINNING WITH THE SILL WITH A STRIP LONG ENOUGH TO PROJECT BEYOND THE JAMB FLASHING TO BE APPLIED. THE TWO JAMB FLASHING ARE THEN APPLIED WITH SUFFICIENT LENGTH TO EXTEND BEYOND THE SILL FLASHING, AND WITH THE SAME DISTANCE AT THE TOP.

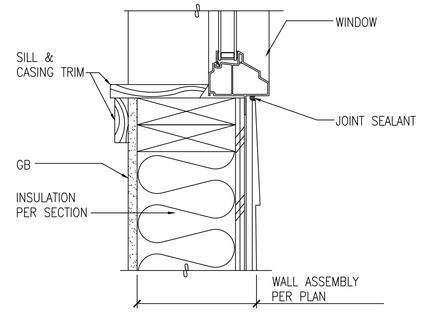
FOR FIXTURES WITHOUT NAIL-ON FLANGES, THE FLASHING SHALL BE 12" MIN. WIDTH AND EXTEND INTO THE ROUGH FRAME AT THE SILL AND JAMB.

FOR NAIL-ON FLANGE FIXTURE, INSTALL BY PRESSING FLANGE POSITIVELY INTO A CONTINUOUS BEAD OF SEALANT WHICH EXTENDS AROUND THE BOTTOM AND SIDES OF THE FIXTURE.

APPLY THE TOP HORIZONTAL FLASHING LAST, WITH SUFFICIENT LENGTH TO EXTEND BEYOND THE JAMB FLASHING.
OVERLAP AND SEAL AGAINST THE THE TOP NAILING FLANGE OR G.S.M. HEAD FLASHING WITH A CONTINUOUS BEAD OF SEALANT.

APPLY REMAINING WALL SHEATHING PAPER IN A WEATHERBOARD FASHION WITH THE SILL FLASHING LAPPING OVER THE TOP AND THE HEAD AND JAMB FLASHING BELOW.

13 TYPICAL WINDOW OPENING FLASHING REQUIREMENTS
SCALE: NTS



17 SILL DETAIL
SCALE: 3"=1'-0"

HANDRAIL AND GUARDRAILS SHALL BE CONSTRUCTED AS FOLLOWS:

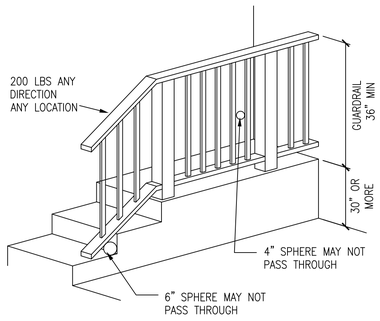
GUARDRAILS SHALL NOT BE LESS THAN 36" IN HEIGHT. HANDRAILS SHALL NOT BE LESS THAN 34" OR MORE THAN 38" IN HEIGHT ABOVE THE STAIR NOSING.

OPEN RAILS SHALL HAVE INTERMEDIATE RAILS OR AN ORNAMENTAL PATTERN SUCH AS A 4" DIAMETER SPHERE CANNOT PASS THROUGH.

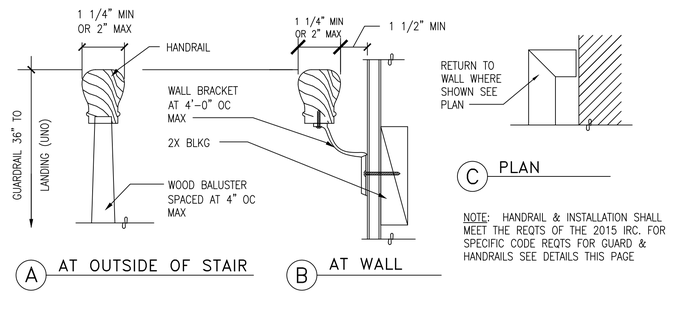
THE TRIANGULAR OPENINGS AT STAIR TREAD, RISER & BOTTOM SHALL BE SUCH AS A 6" DIAMETER SPHERE CANNOT PASS THROUGH.

THE HANDRAIL CONSTRUCTION SHALL BE ABLE TO RESIST A LOAD OF 200 LBS APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP RAIL.

THIS DIAGRAM ILLUSTRATES THE SPECIFIC REQUIREMENTS OF THE BUILDING CODE AND IS ONLY AN AID FOR CONSTRUCTION



6 TYPICAL HANDRAIL / GUARDRAIL DETAIL
SCALE: NTS



NOTE: HANDRAIL & INSTALLATION SHALL MEET THE REQTS OF THE 2015 IRC. FOR SPECIFIC CODE REQTS FOR GUARD & HANDRAILS SEE DETAILS THIS PAGE

5 TYPICAL HANDRAIL REQUIREMENT
SCALE: NTS

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE
Addition & Alteration
9150 SE 54th St, Mercer Island, WA 98040

Permit Set

Job # 2428-010

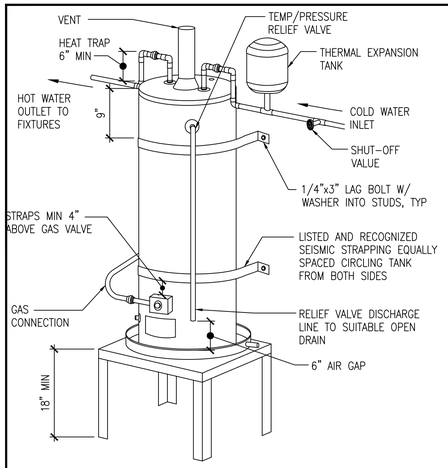
Description	Date
Permit Intake	12/09/24
Correction 01	04/03/25
Correction 02	04/30/25

Permit No.: 2408-010

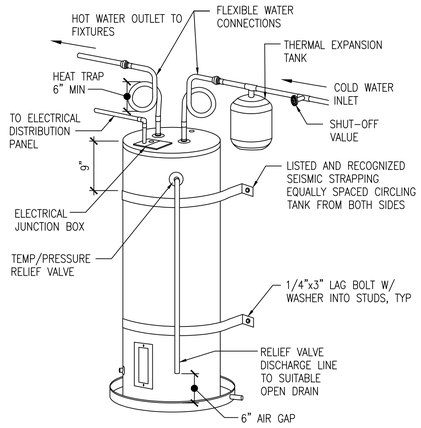
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Stamp/Approval:

Sheet Name:
DETAILS

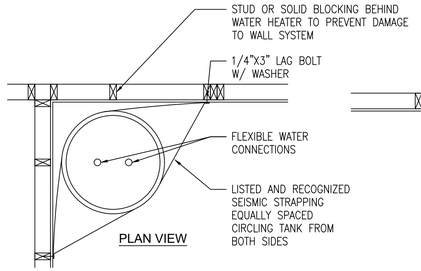
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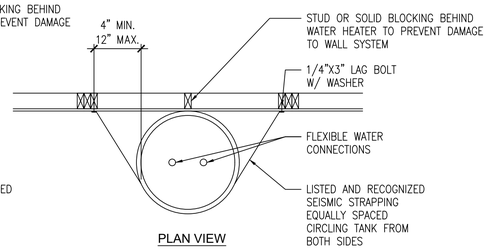
GAS



ELECTRIC



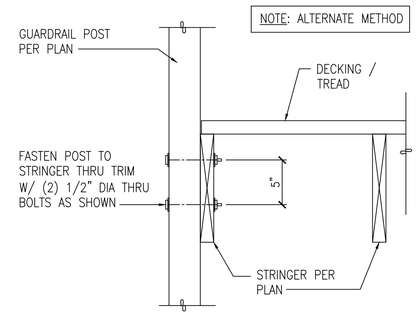
PLAN VIEW



PLAN VIEW

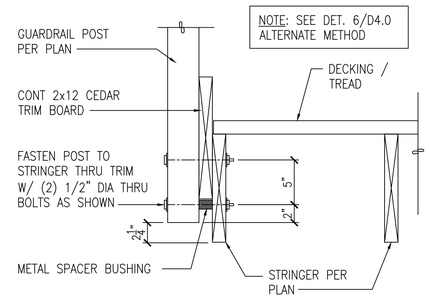
19 WATER HEATER SEISMIC STRAPPING TYP. OPTIONS

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



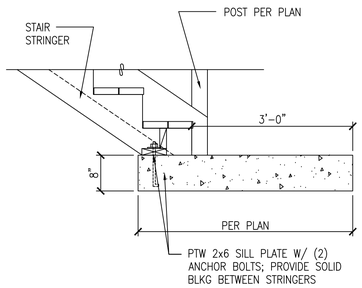
6 DETAIL – STAIR STRINGER

SCALE: 1-1/2"=1'-0"



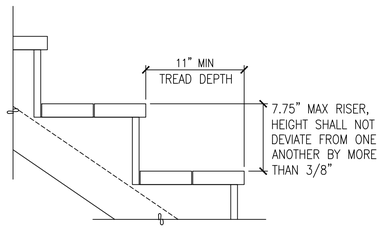
2 DETAIL

SCALE: 1-1/2"=1'-0"



5 DETAIL

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



1 TYPICAL TREAD/RISER DETAIL

SCALE: 1-1/2"=1'-0"

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration

9150 SE 54th St, Mercer Island, WA 98040

Permit Set

Job # 2428-010

Description	Date
Permit Intake	12/09/24
Correction 01	04/03/25
Correction 02	04/30/25

Permit No.: 2408-010

Drawn:

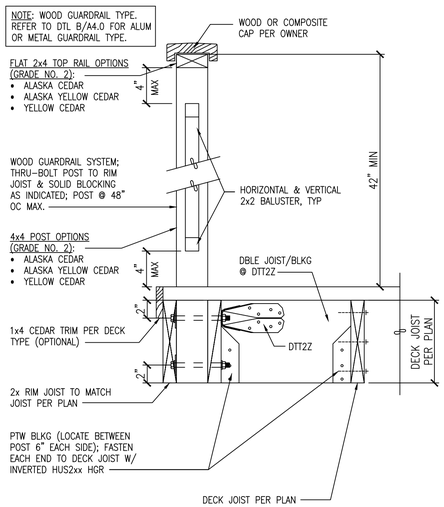
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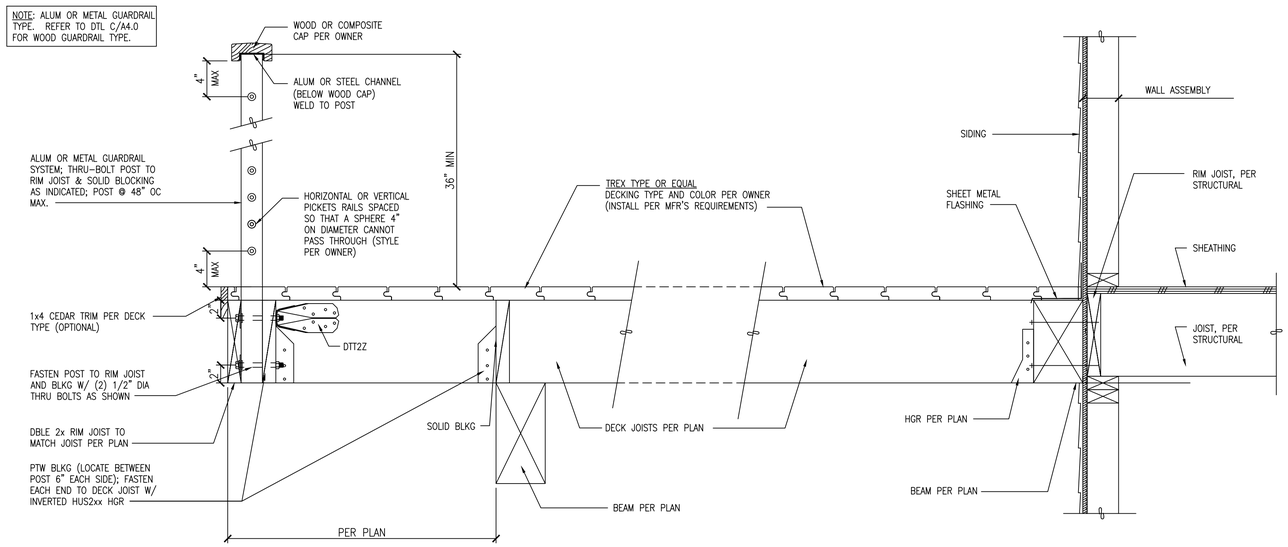
DETAILS

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D3.0



C DETAIL – TYPICAL SIDE CONDITION
SCALE: 1 1/2"=1'–0"



B DETAIL – TYPICAL CANTILEVER CONDITION
SCALE: 1 1/2"=1'–0"

A DETAIL – TYPICAL LEDGER CONNECTION
SCALE: 1 1/2"=1'–0"

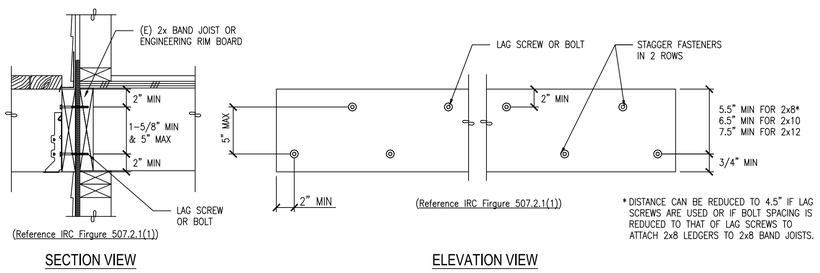
Placement of Lag Screws and Bolts in Ledgers and Band Joists

(Reference IRC Table 507.9.1.3(2))

Minimum End and Edge Distances and Spacing Between Rows				
	Top Edge	Bottom Edge	Ends	Row Spacing
Ledger [a]	2 inches [d]	3/4 inch	2 inches [b]	1 5/8 inches [b]
Band Joist [c]	3/4 inch	2 inches [e]	2 inches [b]	1 5/8 inches [b]

For SI: 1 inch = 25.4 mm

a. Lag screws or bolts must be staggered from the top and bottom along the horizontal run. See figure below
b. Maximum 5 inches
c. For engineered rim joists, the manufacturer's reccomendations govern
d. The minimum distance from the bottom row to the top edhe of the ledger must be in accordance with figure below
e. 2 inches may be reduced to 3/4 inch when the band joist is directly supported by a mudsill, header, or by double top wall plates



4 PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS
SCALE: NTS

Deck Ledger Connection to Band Joist [a, b]

(Reference IRC Table R507.9.1.3(1) – Deck live load = 60 psf, deck dead load, = 10 psf, snow load ≤ 40 psf)
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

Connection Details	Joist Span						
	6' and less	6'1" and 8'		10'1" and 12'	12'1" and 14'	14'1" and 16'	16'1" and 18'
	On-center spacing of fasteners						
½ inch diameter lag screw with ½ inch maximum sheathing [c,d]	22	16	13	11	9	8	7
½ inch diameter bolt with ½ inch maximum sheathing [d]	30	22	18	15	13	11	10
½ inch diameter bolt with 1 inch maximum sheathing [e]	26	19	16	13	11	10	9

a. Ledgers shall be flashed in accordance with Section R703.4 to prevent water from contacting the house band joist.
b. Snow load shall not be assumed to act concurrently with live load.
c. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
d. Sheathing shall be wood structural panel or solid sawn lumber
e. Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard, lumber or foam sheathing. Up to 1/2–inch thickness of stacked washers shall be permitted to substitute for up to 1/2–inch of allowable sheathing thickness where combined with wood structural panel or lumber sheathing.

Deck Connections

(All fasteners, nails, bolts, screws, and connectors must be corrosion resistant.)

Connection	Fastening:
Manufactured Connectors	Follow manufacturer's instructions
Post to Footing	Post base is required
Post to Footing (High Winds)	Consult with jurisdiction about additional uplift loads where wind exposure is greater than Risk Categroy B.
Post to Beam	Connector is required
Ledger to House Framing	See information on Details 3 and 4
Joist to Beam or Girder	(3) 8d - Toe nailed or per connector equirement
Blocking or Bridging to Joist	(2) 10d - Toe nailed @ each end or per connector equirement
Wooden Deck Boards	(2) 8d threaded nails OR (2) No. 8 screws
Composite Decking	Follow manufacturer's instructions

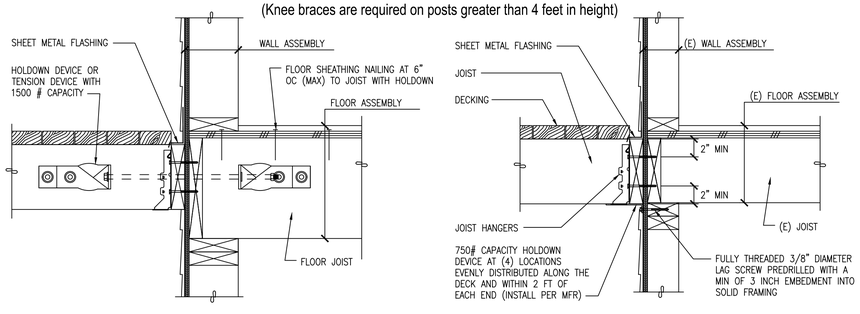
Span Table and Footing Schedule for Decks

Spans and footings assume the maximum 24" cantilever using Hem–Fir/Doug Fir No. 2 or better framing lumber.
Table uses 70 psf. loading (10 psf. dead load + 60 psf live load) and 2000 psf. soil bearing pressure.

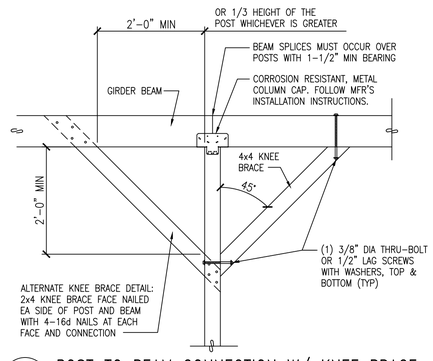
Joist Size	Joist Spacing	Max. Joist Span	Girder Beam Size and Max. Span Between Support Post / Footing Type							
			4x6	Footing	4x8	Footing	4x10	Footing	4x12	Footing
2x6	12" OC	7'–5"	5'–11"	14x14	7'–9"	16x16	9'–6"	18x18	11'–1"	18x18
	16" OC	6'–9"	5'–11"	14x14	7'–9"	16x16	9'–6"	18x18	11'–1"	18x18
	24" OC	5'–9"	6'–3"	14x14	8'–9"	16x16	11'–0"	18x18	12'–10"	18x18
2x8	12" OC	9'–7"	4'–11"	14x14	6'–6"	16x16	8'–3"	18x18	10'–0"	20x20
	16" OC	8'–8"	4'–11"	14x14	6'–6"	16x16	8'–3"	18x18	10'–0"	18x18
	24" OC	7'–7"	5'–11"	14x14	7'–9"	16x16	9'–6"	18x18	11'–1"	18x18
2x10	12" OC	13'–3"	3'–6"	14x14	4'–8"	16x16	5'–11"	18x18	7'–2"	18x18
	16" OC	11'–6"	4'–1"	14x14	5'–5"	16x16	6'–11"	18x18	8'–5"	20x20
	24" OC	9'–5"	4'–11"	14x14	6'–6"	16x16	8'–3"	18x18	10'–0"	20x20
2x12	12" OC	15'–5"	3'–1"	14x14	4'–1"	16x16	5'–2"	18x18	6'–3"	18x18
	16" OC	13'–4"	3'–6"	14x14	4'–8"	16x16	5'–11"	18x18	7'–2"	18x18
	24" OC	10'–11"	4'–1"	14x14	5'–5"	16x16	6'–11"	18x18	8'–5"	18x18

Footings must have a minimum reinforcement of (2) #4 bars each way with a 3" clearance to the bottom of the footing.
Note: Footing sizes are based on decks designed with single span joists where there is no center bearing beam.

(Knee braces are required on posts greater than 4 feet in height)

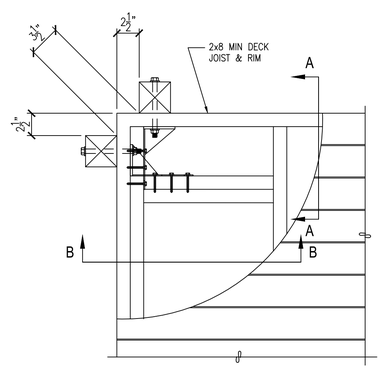


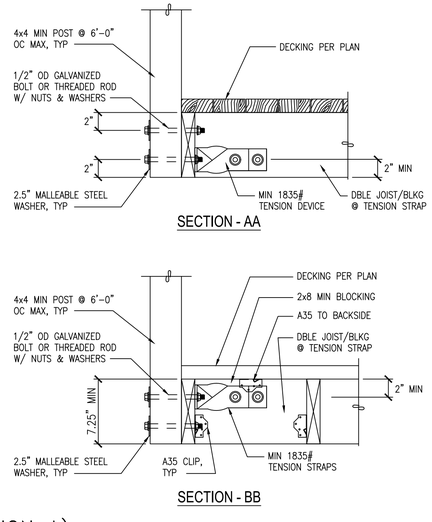
3 LEDGER ATTACHMENT FOR LATERAL LOADS
SCALE: NTS



2 POST TO BEAM CONNECTION W/ KNEE BRACE
SCALE: 3/4"=1'–0"

(Guardrails are required when the deck is more than 30 inches above grade)





1 GUARDRAIL ATTACHMENT DETAIL (OPTION A)
SCALE: NTS

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
9150 SE 54th St, Mercer Island, WA 98040

Permit Set

Job # 2428-010

Description	Date
Permit Intake	12/09/24
Correction 01	04/03/25
Correction 02	04/30/25

Permit No.: 2408-010

Drawn:
Stamp/Approval:

Sheet Name:

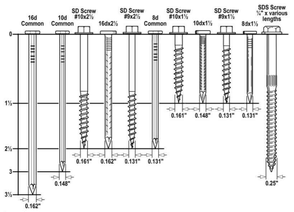
DECK DETAILS

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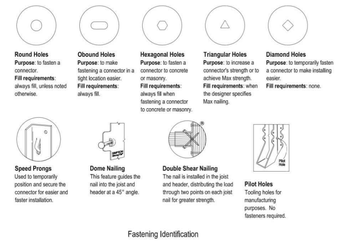
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General Notes:

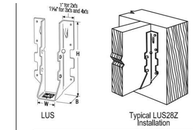
1. Outdoor environments are generally more corrosive to steel. If you choose to use ZMAX® or HDG finish or stainless steel material on an outdoor project, you should periodically inspect your connectors and fasteners or have a professional inspection performed. Regular maintenance, including water-proofing of the wood used in your outdoor project is also a good practice.
2. Coatings Available:
   - 2.1. ZMAX: Galvanized (G185) 1.85 oz. of zinc per square foot of surface area. (hot-dip galvanized per ASTM A653 total both sides). These products require hot-dip galvanized fasteners (fasteners which meet the specifications of ASTM A153).
   - 2.2. HDG - Hot Dip Galvanized: Products are hot-dip galvanized after fabrication (14 ga. and thicker). The coating weight increases with material thickness. The minimum specified coating weight is 2.0 oz. per square foot. (per ASTM A123 total both sides). These products require hot-dip galvanized fasteners (fasteners which meet the specifications of ASTM A153).
   - 2.3. SS - Stainless Steel: Connectors are manufactured from Type 316L stainless steel, and provide greater durability against corrosion. Stainless-steel nails are required with stainless-steel products, and are available from Simpson Strong-Tie.
3. When using stainless steel connectors, use stainless steel fasteners. When applications allow the use of ZMAX/HDG galvanized connectors, use HDG fasteners that meet the specifications of ASTM A153 or equivalent coating offered on Simpson Strong-Tie fasteners.
4. Due to many variables involved with outdoor construction, Simpson Strong-Tie cannot provide estimates on service life of connectors, anchors or fasteners.
5. To obtain optimal performance from Simpson Strong-Tie products, the products must be installed properly and used in accordance with the installation instructions and design limits provided by Simpson Strong-Tie.
6. All installation notes and guidelines within the current *Wood Construction Connectors* catalog shall apply for the connectors, anchors, and fasteners shown.
7. Simpson Strong-Tie reserves the right to change the specifications, design and models shown without notice or liability for such changes.
8. Simpson Strong-Tie does not guarantee the performance or safety of products that are modified, improperly installed or not used in accordance with the cesign.
9. All references to bolts or machine bolts (MB) are structural quality through bolts (not lag screws or carriage bolts) equal to or better than ASTM A307, grade A. Bolt holes shall be at least a minimum 1/32" and no more than a maximum of 1/16" larger than the bolt diameter per 2005 NDS Section 11.1.2.
10. Unless noted otherwise, all references to standard cut washers refer to Type A plain washers (W) conforming to the dimensions shown in ASME B18.22.1 for the appropriate rod sizes.
11. Unless stated otherwise, Simpson Strong-Tie cannot and does not make any representation regarding the suitability of use or load-carrying capacities of connectors installed with improper fasteners.



Fastener Notes:
1. The specified quantity, type and size of fastener must be installed in the correct holes on the connector to achieve published loads. Incorrect fastener selection or installation can compromise connector performance and could lead to failure.
2. Nail diameter assumes no coating. See technical bulletin *T-NAILGUIDE* for more information.
3. The Simpson Strong-Drive® SD structural-connector screw is the only screw approved for use with our connectors.
4. **NAIL reference in tables:** 16d = 16d common, 10d = 10d common



Fastening Identification

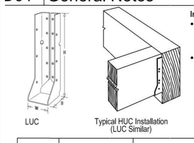


Installation:
- LUS hangers install with double shear nailing.
- For installations into single 2x headers or ledgers, use the specified full length fasteners into the joist and the following fasteners into the header for reduced loads in accordance with www.strongtie.com:
  - •• 10dx1½ nails for installations with Nails
  - •• SD #9x1½ for LUS28Z and LUS210Z installations with SD Screws
  - •• SD #10x1½ for LUS26-2Z and LUS210-2Z installations with SD Screws

Model No.	Dimensions (in.)			Fasteners			
				Nails		SD Screws	
	W	H	B	Header	Joist	Header	Joist
▷ LUS26Z	1 9/16	4 3/4	1 3/4	4-10d	4-10d	-	-
▷ LUS28Z	1 9/16	6 5/8	1 3/4	6-10d	4-10d	6-SD #9x2½	4-SD #9x2½
▷ LUS210Z	1 9/16	7 13/16	1 3/4	8-10d	4-10d	8-SD #9x2½	4-SD #9x2½
▷ LUS26-2Z	3 1/8	4 7/8	2	4-16d	4-16d	4-SD #10x2½	4-SD #10x2½
▷ LUS210-2Z	3 1/8	9	2	8-16d	6-16d	8-SD #10x2½	6-SD #10x2½

1. ▷ indicates connector is available in stainless steel. Replace *Z* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

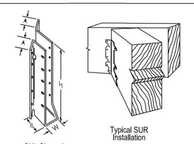
D01 General Notes



Installation:
- For HUC installations, models have triangle and round holes. To achieve maximum loads, fill both round and triangle holes (fastener quantities listed fill both holes).
- For installations into single 2x headers or ledgers, use the specified full length fasteners into the joist and the following fasteners into the header for reduced loads in accordance with www.strongtie.com:
  - •• 10dx1½ nails for installations with Nails
  - •• SD #9x1½ for LUC26Z and LUC210Z installations with SD Screws

Model No.	Dimensions (in.)			Fasteners			
				Nails		SD Screws	
	W	H	B	Header	Joist	Header	Joist
▷ LUC26Z	1 9/16	4 3/4	1 3/4	6-10d	4-10dx1½	6-SD #9x2½	4-SD #9x1½
▷ LUC210Z	1 9/16	7 3/4	1 3/4	10-10d	6-10dx1½	10-SD #9x2½	6-SD #9x1½
HUC26-2Z	3 1/8	5 3/8	2 1/2	12-16d	6-10d	-	-
▷ HUC28-2Z	3 1/8	7	2 1/2	14-16d	6-10d	-	-
▷ HUC210-2Z	3 1/8	8 13/16	2 1/2	18-16d	10-10d	-	-

1. ▷ indicates connector is available in stainless steel. Replace *Z* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.



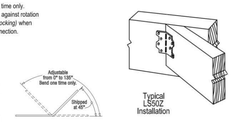
Installation:
- The joist may be square cut or bevel cut.
- These hangers will normally accommodate a 40° to 50° skew.

Model No.	Joist Size	Dimensions (in.)					Fasteners	
		W	H	B	A1	A2	Header	Joist
SUR/L26Z	2x6, 8	1 9/16	5	2	1 1/8	1 5/16	6-16d	6-10dx1½
SUR/L210Z	2x10, 12	1 9/16	8 1/8	2	1 1/8	1 5/16	10-16d	10-10dx1½
SUR/L210-2Z	(2) 2x10, 12	3 1/8	8 11/16	2 5/8	1 7/16	2 3/8	14-16d	6-16dx2½

1. ▷ indicates connector is available in stainless steel. Replace *Z* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

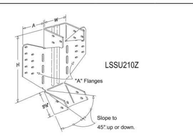
D02 Fasteners

Installation:
- Field skewable; bend one time only.
- Joist must be constrained against rotation (for example, with solid blocking) when using a single LS per connection.



Model No.	L (in)	Fasteners
LS30Z	3 3/8	6-10d
▷ LS50Z	4 7/8	8-10d
LS70Z	6 3/8	10-10d

1. ▷ indicates connector is available in stainless steel. Replace *Z* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

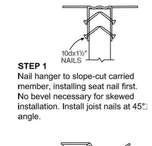


Installation:
- Follow 3-step installation sequence for skewed or sloped/skewed applications.
- Do not substitute 10dx1½ nails for face nails.
- To see an installation video on this product, visit www.strongtie.com

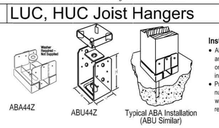
Model No.	Dimensions (in.)			Fasteners	
	W	H	A	Header	Joist
LSU26Z	1 9/16	4 7/8	1 1/2	6-10d	5-10dx1 1/2
LSSU210Z	1 9/16	8 1/2	1 5/8	10-10d	7-10dx1 1/2

1. For skewed LSSU, the inner most face fasteners on the acute angle side are not installed.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

D03 LUS Joist Hangers



D04 LUC, HUC Joist Hangers

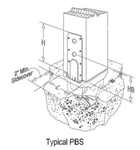


Installation:
- ABA, ABU - for pre-pour installed anchors. For Simpson Strong-Tie epoxy or mechanical anchors, select and install in accordance with www.strongtie.com.
- Products require washers between the nut and the base. Washers are supplied with the ABU but not the ABA, which requires a standard cut washer.

Model No.	Post Size	Dimensions (in.)				Anchor Dia.	Post Fasteners			
		W	L	H	HB		Nails	SD Screws	Machine Bolts Qty.	Machine Bolts Dia.
ABA44Z	4x4	3 9/16	3 1/8	3 1/16	-	1/2	6-10d	6-SD #9x1½	-	-
ABU44Z	4x4	3 9/16	3	5 1/2	1 3/4	5/8	12-16d	12-SD #10x1½	2	1/2
ABA46Z	4x6	3 9/16	5 3/16	3 1/8	-	5/8	8-16d	8-SD #10x1½	-	-
ABU46Z	4x6	3 9/16	5	7	2 5/8	5/8	12-16d	-	2	1/2
ABA66Z	6x6	5 1/2	5 1/4	3 1/8	-	5/8	8-16d	8-SD #10x1½	-	-
ABU66Z	6x6	5 1/2	5	6 1/16	1 3/4	5/8	12-16d	-	2	1/2
ABU88Z	8x8	7 1/2	7	7	-	2 - 5/8	18-16d	-	-	-

1. ▷ indicates connector is available in stainless steel. Replace *Z* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

D05 SUR/SUL 45° Skewed Joist Hangers

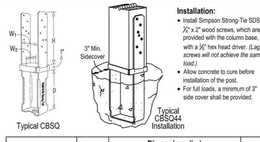


Installation:
- Embed into wet concrete up to the bottom of the 1" standoff base plate. A 2" minimum side cover is required to obtain the full load. Holes in the bottom of the straps allow for free concrete flow.
- Allow concrete to cure before installation of the post.

Model No.	Dimensions (in.)				Post Fasteners			
	W	L	H	HB	Nails	SD Screws	Machine Bolts Qty.	Machine Bolts Dia.
PBS44AHDG	3 9/16	3 1/2	6 1/4	3 7/16	14-16d	14-SD #10x1½	2	1/2
PBS66HDG	5 1/2	5 3/8	6 1/2	3 11/16	14-16d	-	2	1/2

1. Refer to current *Wood Construction Connectors* catalog for additional information.

D06 LS Framing Angles

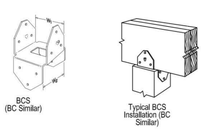


Installation:
- Install Simpson Strong-Tie SDS wood screws with a ¼" hex head driver. SDS screws install best with a low speed high torque drill.
- A standard cut washer (provided) must be installed between the nut and the DTT2Z seat.
- Bolt holes shall be a minimum ³⁄₃₂" to a maximum ¹⁄₁₆" larger than the bolt diameter.

Model No.	Post Size	Dimensions (in.)				Number of SDS Screws
		W1	W2	D	H	
▷ CBSQ44-SDS2HDG	4x4	3 9/16	3 1/2	7 1/8	8 3/8	14-SDS ¼"x2"
▷ CBSQ46-SDS2HDG	4x6	3 9/16	5 5/16	7 13/16	8 11/16	14-SDS ¼"x2"
▷ CBSQ66-SDS2HDG	6x6	5 1/2	5 1/2	6 7/8	8 3/4	14-SDS ¼"x2"
CBSQ86-SDS2HDG	6x8	7 1/2	5 3/8	6 1/8	8 11/16	12-SDS ¼"x2"
CBSQ88-SDS2HDG	8x8	7 1/2	7 3/8	6 1/8	8 11/16	12-SDS ¼"x2"

1. ▷ indicates connector is available in stainless steel. Replace *-SDS2HDG* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

D07 LSU, LSSU Adjustable Joist Hangers

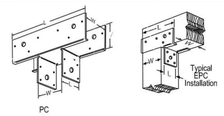


Installation:
- BCS: Install dome nails on beam; drive nails at an angle through the beam into the post below.
- BC: Do not install bolts into pilot holes.

Model No.	Dimensions (in.)					Fasteners			
	W1	W2	L1	L2	H1	H2	Nails		SD Screws	
							Beam Flange	Post Flange	Beam Flange	Post Flange
▷ BC4Z	3 9/16	3 9/16	2 7/8	2 7/8	3	3	6-16d	6-16d	6-SD #10x1½	6-SD #10x1½
▷ BC6Z	5 1/2	5 1/2	4 3/8	4 3/8	3 3/8	3 3/8	12-16d	12-16d	-	-
▷ BCS2-2/4Z	3 1/8	3 9/16	2 7/8	2 7/8	2 15/16	2 15/16	8-10d	6-10d	8-SD #9x2½	6-SD #9x2½
BCS2-3/6Z	4 5/8	5 9/16	4 3/8	2 7/8	3 5/16	2 15/16	12-16d	6-16d	-	-

1. ▷ indicates connector is available in stainless steel. Replace *Z* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

D08 ABA, ABU Post Bases

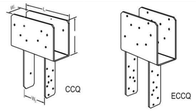


Installation:
- For end condition, specify EPC
- Use all specified fasteners.
- Do not install bolts into pilot holes.

Model No.	Post Size	Dimensions (in.)					Fasteners				
		W1	W2	L1	L2	L3	Nails			SD Screws	
							Post	Beam		Post	Beam
								PC	EPC		PC EPC
PC44-16Z	4x4	3 9/16	3 9/16	2 5/8	11	7 5/16	8-16d	12-16d	8-16d	8-SD #10x1½	12-SD #10x1½ 8-SD #10x1½
PC46-16Z	4x6	3 9/16	5 1/2	2 5/8	13	9 1/4	8-16d	12-16d	8-16d	-	- -
PC66-16Z	6x6	5 1/2	5 1/2	4 9/16	13	9 1/4	8-16d	12-16d	8-16d	-	- -

1. Refer to current *Wood Construction Connectors* catalog for additional information.

D09 PBS Post Bases

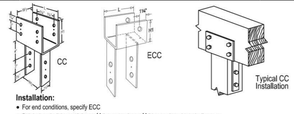


Installation:
- For end conditions, specify ECCQ
- Install Simpson Strong-Tie SDS ¼" x 2½" screws, which are provided with the column cap, with a ¼" hex head driver. SDS screws install best with a low speed ½" drill.
- Beam depth must be a minimum 7".

Model No.	Beam Width	Dimensions (in.)					No. of SDS ¼"x 2½" Screws	
		W1	W2	L1 CCQ	L1 ECCQ	H	Beam	Post
▷ CCQ3-6HDG	3 1/8	3 1/4	5 1/2	11	8 1/2	7	16	14
▷ CCQ44HDG	4x	3 5/8	3 5/8	11	8 1/2	7	16	14
▷ CCQ46HDG	4x	3 5/8	5 1/2	11	8 1/2	7	16	14
▷ CCQ48HDG	4x	3 5/8	7 1/2	11	8 1/2	7	16	14
▷ CCQ66HDG	6x	5 1/2	5 1/2	11	8 1/2	7	16	14
CCQ68HDG	6x	5 1/2	7 1/2	11	8 1/2	7	16	14

1. ▷ indicates connector is available in stainless steel. Replace *HDG* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

D10 CBSQ Post Bases

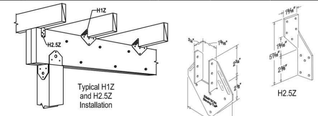


Installation:
- For end conditions, specify ECC
- Bolt holes shall be a minimum ³⁄₃₂" to a maximum ¹⁄₁₆" larger than the bolt diameter.
- Contact engineered wood manufacturers for connections that are not through the wide face.
- Beam depth must be at least as tall as H1.

Model No.	Beam Width	Dimensions (in.)					Machine Bolts		
		W1	W2	L1 CC	L1 ECC	H1	Dia.	Beam CC	Beam ECC	Post
▷ CC3-1/4-4HDG	3 1/8	3 1/4	3 5/8	11	7 1/2	6 1/2	5/8	4	2	2
▷ CC3-1/4-6HDG	3 1/8	3 1/4	5 1/2	11	7 1/2	6 1/2	5/8	4	2	2
▷ CC44HDG	4x	3 5/8	3 5/8	7	5 1/2	4	5/8	2	1	2
▷ CC66HDG	6x	5 1/2	5 1/2	11	7 1/2	6 1/2	5/8	4	2	2

1. ▷ indicates connector is available in stainless steel. Replace *HDG* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

D11 BC, BCS Post Caps

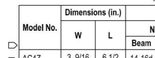


Installation:
- Use all specified fasteners.

Model No.	Fasteners			
	Nails		SD Screws	
	To Joist	To Beam	To Joist	To Beam
H1Z	6-8dx1½	4-8dx1½	6-SD #9x1½	4-SD #9x1½
H2.5Z	5-8dx1½	5-8dx1½	5-SD #9x1½	5-SD #9x1½
H8Z	5-10dx1½	5-10dx1½	5-SD #9x1½	5-SD #9x1½

1. ▷ indicates connector is available in stainless steel. Replace *Z* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

D12 AC, LPC, LCE Post Caps

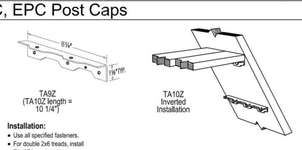


Installation:
- Install in pairs.
- For LCE4Z installations on interest corner conditions, refer to www.strongtie.com for more information.

Model No.	Dimensions (in.)		Fasteners			
	W	L	Nails		SD Screws	
			Beam	Post	Beam	Post
▷ AC4Z	3 9/16	6 1/2	14-16d	14-16d	14-SD #10x1½	14-SD #10x1½
AC6Z	5 1/2	8 1/2	14-16d	14-16d	14-SD #10x1½	14-SD #10x1½
LPC4Z	3 9/16	3 1/2	8-10d	8-10d	8-SD #9x1½	8-SD #9x1½
▷ LPC6Z	5 9/16	5 1/2	8-10d	8-10d	-	-
LCE4Z	-	5 3/8	14-16d	10-16d	14-SD #10x1½	10-SD #10x1½

1. ▷ indicates connector is available in stainless steel. Replace *Z* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

D13 PC, EPC Post Caps

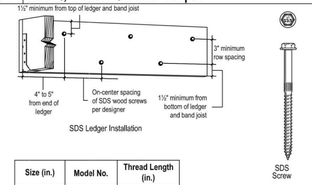


Installation:
- Use all specified fasteners.
- For double 2x6 treads, install TA10Z inverted with 4 screws installed into the treads.

Model No.	Fasteners	
	Stringer	Tread
▷ TA9Z	3-SDS ¼"x1½"	2-SDS ¼"x1½"
▷ TA10Z	3-SDS ¼"x1½"	4-SDS ¼"x1½"
▷ TA10Z	4-SDS ¼"x1½"	3-SDS ¼"x1½"

1. ▷ indicates connector is available in stainless steel. Replace *Z* in model number with *SS* when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

D14 CCQ, ECCQ Post Caps



Size (in.)	Model No.	Thread Length (in.)
▷ ¼" x 3½"	SDS25312	2¼
¼" x 5"	SDS25500	2¾

1. ▷ indicates connector is available in stainless steel. Add *SS* to model number when ordering.
2. Refer to current *F-SDSLDGR* for spacing and additional information.
3. The screws shall be staggered from the top to the bottom along the horizontal run of the deck ledger per IRC 2009 Section R502.2.2.1.1.

Installation:
- Install Simpson Strong-Tie SDS wood screws with a ¼" hex head driver.
- SDS screws install best with a low speed ¼" drill.

D15 CC, ECC Post Caps

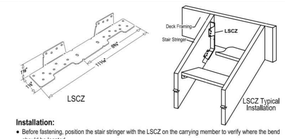
Installation:
- Install Simpson Strong-Tie SDS wood screws with a ¼" hex head driver. SDS screws install best with a low speed high torque drill.
- Bolt holes shall be a minimum ³⁄₃₂" to a maximum ¹⁄₁₆" larger than the bolt diameter.

Model No.	CL	Anchor Dia.	Fasteners
▷ DTT2Z	13/16	1/2"	8-SDS ¼"x1½"

1. ▷ indicates connector is available in stainless steel. Replace *Z* in model number with *SS* when ordering.
2. Refer to *T-GRDRLPST* and *T-DECKLATLOAD* for additional information.

D16 H Hurricane Ties

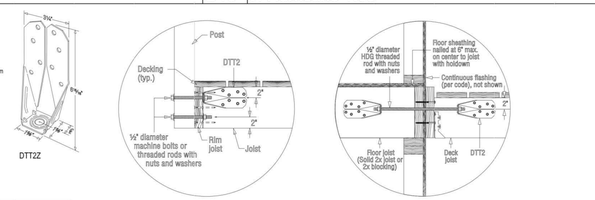
D17 LSC Stair Stringer Connector



Installation:
- Before fastening, position the stair stringer with the LSCZ on the carrying member to verify where the bend should be located.
- Tabs on the LSCZ must be positioned to the inside of the stairs.
- The fastener that is installed into the bottom edge of the stringer must go into the second-to-last hole.
- A minimum distance of ½" measured from the lowest rim-joist fastener to the edge of rim joist is required.

Model No.	Fasteners					
	Nails			SD Screws		
	Rim Joist	Stringer Wide Face	Stringer Narrow Face	Rim Joist	Stringer Wide Face	Stringer Narrow Face
▷ LSCZ	8-10dx1½	8-10dx1½	1-10dx1½	8-SD #9x1½	8-SD #9x1½	1-SD #9x1½

1. ▷ indicates connector is available in stainless steel. Replace *Z* in model number with *SS* when ordering. Stainless steel models must be fastened with nails.
2. Refer to current *Wood Construction Connectors* catalog for additional information.



DTT2Z Installed as a Lateral Connector for a Deck Guardrail Post.
For more information on guardrail post connections, and installation instructions, see technical bulletin T-GRDRLPST (available at www.strongtie.com).

DTT2Z Installed as a Lateral Connector for a Deck-to-House Lateral Load Connection
For more information on this connection, and installation instructions, see technical bulletin T-DECKLATLOAD (available at www.strongtie.com).

D18 TA Tread Angle

D19 SDS Screws

D20 DTT2Z Deck Tension Tie

SIMPSON STRONG-TIE COMPANY INC.
NORTHEAST: 2600 International Street, Columbus, Ohio 43228
NORTHWEST: 5151 South Airport Way, Stockton, California 94588
SOUTHEAST: 2221 Country Lane, McKinney, Texas 75069
SOUTHWEST: 12246 Holly Street, Riverside, California 92509

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

Addition & Alteration
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Rev. 1
8/27/2012

Permit Set

Job # 2428-010

Description	Date
Permit Intake	12/09/24
Correction 01	04/03/25
Correction 02	04/30/25

Permit No.: 2408-010

Drawn:
Stamp/Approval:

Sheet Name:
SIMPSON STRONG-TIE DETAILS

Sheet No:
D5.0

Installation Details for Simpson Strong-Tie® Connectors and Fasteners Used in the Construction of Wood Decks

TESC GENERAL NOTES

1. VERITY WITH LOCAL JURISDICTION IF A FIRST GROUND DISTURBANCE INSPECTION IS REQUIRED PRIOR TO START OF WORK ON ALL SITES WITH LAND DISTURBING ACTIVITY.
2. THE APPLICANT SHALL DESIGNATE AN EROSION AND SEDIMENT CONTROL (ESC) SUPERVISOR WHO SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS). FOR LARGE CONSTRUCTION PROJECTS, THE ESC SUPERVISOR SHOULD BE A CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL). PROVIDE THE NAME AND PHONE NUMBER OF THE ESC SUPERVISOR TO THE SITE INSPECTOR AT THE FIRST GROUND DISTURBANCE INSPECTION.
3. BMPS SHALL BE INSTALLED PRIOR TO STARTING CONSTRUCTION TO ENSURE SEDIMENT-LADEN WATER DOES NOT LEAVE THE PROJECT SITE OR ENTER ROADSIDE DITCHES, STORM DRAINS, SURFACE WATERS, OR WETLANDS.
4. THE BMPS INCLUDED IN THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. THE APPLICANT IS RESPONSIBLE FOR ENSURING THAT BMPS ARE MODIFIED AS NEEDED FOR UNEXPECTED STORM EVENTS OR OTHER UNFORESEEN CIRCUMSTANCES, AND TO ACCOUNT FOR CHANGING SITE CONDITIONS.
5. ANY AREAS OF DISTURBED SOIL THAT WILL NOT BE WORKED FOR TWO CONSECUTIVE DAYS DURING THE WET SEASON (OCT 1 TO APRIL 30) OR SEVEN DAYS DURING THE DRY SEASON (MAY 1 TO SEPT 30) SHALL BE IMMEDIATELY STABILIZED WITH APPROVED BMPS METHODS (E.G. STRAW, MULCH, PLASTIC COVERING, COLD MIX, ETC.)
6. GRADING AND/OR SOIL DISTURBING ACTIVITIES MAY BE LIMITED OR PROHIBITED FOR CERTAIN SITES SUBJECT TO ECA STANDARDS (I.E. ECA STEEP SLOPES, LANDSLIDE PRONE AREAS, ETC.) BETWEEN OCTOBER 31ST AND APRIL 1ST. VERIFY WITH LOCAL JURISDICTION FOR COMPLIANCE REQUIREMENTS.
7. CITY STREETS AND SIDEWALKS SHALL BE KEPT CLEAN AT ALL TIMES. NO MATERIAL SHALL BE STORED ON CITY STREETS OR SIDEWALKS.
8. POLLUTION CONTROL MEASURES SHALL BE FOLLOWED TO ENSURE THAT NO LIQUID PRODUCTS OR CONTAMINATED WATER ENTERS ANY STORM DRAINAGE FACILITIES OR OTHERWISE LEAVES THE PROJECT SITE. ANY HAZARDOUS MATERIALS OR LIQUID PRODUCTS THAT HAVE THE POTENTIAL TO POLLUTE RUNOFF SHALL BE STORED AND DISPOSED OF PROPERLY.
9. ENSURE THAT WASHOUT FROM CONCRETE TRUCKS IS PERFORMED OFF-SITE OR IN DESIGNATED CONCRETE WASHOUT AREAS ONLY. DO NOT WASH OUT CONCRETE TRUCKS ONTO THE GROUND, OR TO STORM DRAINS OR OPEN DITCHES. DO NOT DUMP EXCESS CONCRETE ONSITE, EXCEPT IN DESIGNATED CONCRETE WASHOUT AREAS.
10. ALL AREAS OF DISTURBED SOIL SHALL BE FULLY STABILIZED WITH THE APPROPRIATE SOIL AMENDMENT AND COVER MEASURES AT COMPLETION OF THE PROJECT. TYPICAL COVER MEASURES INCLUDE LANDSCAPING OR HYDROSEED WITH MULCH.

CONSTRUCTION STORMWATER CONTROL (CSC) PLAN REQUIREMENTS / NARRATIVE

THIS PLAN IS REQUIRED FOR ALL PROJECTS WITH GREATER THAN 750 SQUARE FEET OF LAND DISTURBING ACTIVITIES.

SHOW TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES (BMPS) IN THE PLAN VIEW OF THIS SHEET THAT WILL ACCOMPLISH THE MINIMUM REQUIREMENTS DESCRIBED IN THE NARRATIVE BELOW.

THE BMPS SHOWN IN THE PLAN VIEW OF THIS PLAN ARE THE MINIMUM REQUIRED. ADDITIONAL BMPS ARE REQUIRED WHEN MINIMUM CONTROLS ARE NOT SUFFICIENT TO PREVENT EROSION OR TRANSPORT OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE.

- MARK CLEARING LIMITS
- DELINEATE ENVIRONMENTALLY CRITICAL AREAS
- RETAIN TOP LAYER AND NATIVE VEGETATION
- ESTABLISH CONSTRUCTION ACCESS
- PROTECT DOWNSTREAM PROPERTIES AND RECEIVING WATERS
- PREVENT EROSION AND SEDIMENT TRANSPORT FROM THE SITE
- STABILIZE SOILS
- PROTECT SLOPES
- PROTECT STORM DRAINS
- STABILIZE CHANNEL AND OUTLETS
- CONTROL POLLUTANTS
- CONTROL DEWATERING
- MAINTAIN AND INSPECT BMPs
- EXECUTE CONSTRUCTION STORMWATER CONTROL PLAN
- MINIMIZE OPEN TRENCHES
- PHASE THE PROJECT
- INSTALL PERMANENT FLOW CONTROL AND WATER QUALITY FACILITIES
- PROTECT STORMWATER BMPs PRIOR TO, DURING, AND AFTER CONSTRUCTION

POST CONSTRUCTION SOIL MANAGEMENT PLAN

AT THE END OF PROJECT, ALL AREAS DISTURBED AND NOT COVERED WITH A HARD SURFACE MUST BE AMENDED PER THE SOIL AMENDMENT DETAIL BELOW AND PROBE TO 12-INCHES AT THE SITE FINAL INSPECTION.

> LABEL ALL AREAS DISTURBED AND NOT COVERED WITH A HARD SURFACE WITHIN THE SITE AS ONE OF THE FOLLOWING: SA (SOIL AMENDMENT AREA) or ND (NON-DISTURBED AREA). SEE DEFINITIONS BELOW. DO NOT REFERENCE AN ALTERNATE PLAN SHEET.

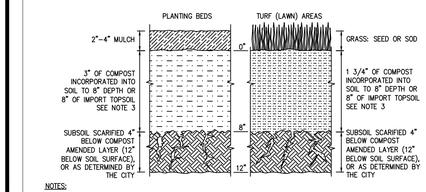
DEFINITIONS:

- NON-DISTURBED AREA (ND): VEGETATED AREAS THAT WILL NOT BE SUBJECT TO LAND DISTURBING ACTIVITY DO NOT REQUIRE SOIL AMENDMENT IF THEY ARE FENCED AND CONTINUOUSLY PROTECTED THROUGHOUT CONSTRUCTION. THE FENCING MUST BE IN PLACE AT THE FIRST GROUND DISTURBANCE INSPECTION. THIS WILL BE MONITORED BY THE DPD SITE INSPECTOR. NO DISTURBANCE, INCLUDING VEHICLE TRAFFIC OR MATERIAL STORAGE, IS ALLOWED IN THESE AREAS UNTIL FINAL INSPECTION. LABEL THESE AREAS AS (ND) IN THE PLAN VIEW.
- SOIL AMENDMENT AREA (SA): VEGETATED OR COMPOST AREAS (TURF AND LANDSCAPE) MUST BE AMENDED PER THE SOIL AMENDMENT DETAIL AND THE SUBSOIL MUST BE LOOSENED SO IT WILL PROBE TO A DEPTH OF 12 INCHES PRIOR TO SITE FINAL INSPECTION. THIS INCLUDES AREAS IMPACTED BY CLEARING AND GRADING, STOCKPILING, SITE ACCESS, PATHWAYS AND MATERIALS OR EQUIPMENT STORAGE. LABEL THESE AREAS AS (SA) IN THE PLAN VIEW.

ESTIMATED COMPOST REQUIRED FOR SOIL AMENDMENT

608	(SQUARE FEET) X 0.0062 =	3.8	(CUBIC YARDS)
AREA REQUIRING AMENDMENT (SA)		REQUIRED COMPOST	

SOIL AMENDMENT

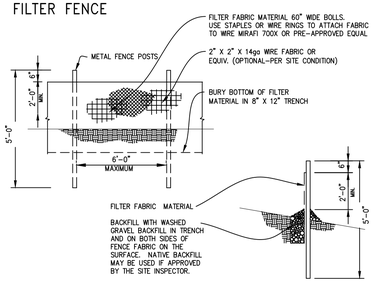


NOTES:

1. POST CONSTRUCTION SOIL AMENDMENT IS REQUIRED ON ALL AREAS NOT COVERED BY IMPERVIOUS SURFACE WHERE SOIL IS DISTURBED DURING CONSTRUCTION.
2. STOCKPILE AND REUSE EXISTING TOPSOIL (AMEND IF NEEDED TO MEET 5% ORGANICMATTER CONTENTFORTURF AREAS; 10% ORGANIC MATTER CONTENT FOR PLANTING BEDS).
3. IMPORT TOPSOIL, IF USED, OF COMPOST AMENDED TOPSOIL (25% COMPOST FOR TURF AREAS; 40% COMPOST FOR PLANTING BEDS).

SYMBOL: (SA) AREA REQUIRING SOIL AMENDMENT (ND) NON-DISTURBED AREA (SOIL AMENDMENT NOT REQUIRED)

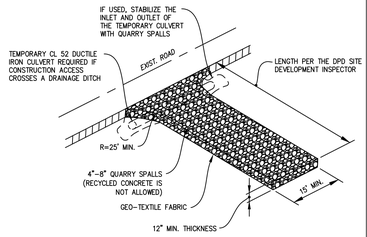
FILTER FENCE



NOTE: ANGLE SILT FENCE BACK UP THE SLOPE AT THE END OF RUN.

SYMBOL: (FF)

STABILIZED CONSTRUCTION ACCESS



STABILIZED ACCESS SHALL BE USED IN ALL AREAS OF THE SITE WITH VEHICLE TRAFFIC AND PARKING, INCLUDING PLANTING STRIPS. RECYCLED CONCRETE IS NOT ALLOWED.

SYMBOL: (CE)

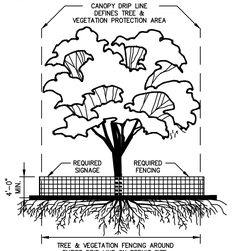
TREE & VEGETATION PROTECTION

TREE PROTECTION FENCING AND SIGN

1. CHAIN LINK, WIRE MESH, OR SIMILAR OPEN RIGID MATERIAL (NO PLYWOOD)
2. MUST BE INSTALLED PRIOR TO DEMOLITION OR GROUND DISTURBANCE
3. KEPT IN PLACE FOR THE DURATION OF CONSTRUCTION
4. NO SOIL DISTURBANCE OR ACTIVITY ALLOWED WITHIN FENCED AREA: MATERIAL STORAGE/STOCKPILING, PARKING, EXCAVATION, DUMPING, OR WASHING
5. MODIFICATIONS OF THESE REQUIREMENTS BY APPROVAL OF SDCI PLANNER ONLY
6. IF ROOTS GREATER THAN 2 INCH FOUND OUTSIDE OF FENCING, PROTECT BY HAND EXCAVATION AND, IF NECESSARY, CUT CLEANLY AND KEEP MOIST
7. USE 3 INCHES OR DEEPER WOOD CHIP MULCH OUTSIDE FENCED AREAS TO PROTECT FEEDER ROOTS

VEGETATION PROTECTION

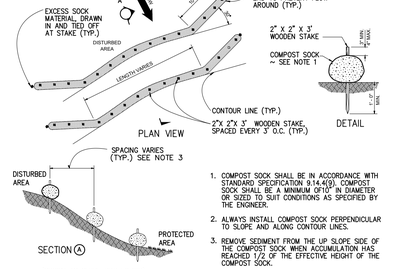
1. ORANGE MESH OR SIMILAR OPEN MATERIAL
2. MINIMIZE CONSTRUCTION ZONE
3. PROTECT VEGETATION OUTSIDE CONSTRUCTION ZONE WITH FENCING AS SHOWN
4. USE 3 INCHES OR DEEPER WOOD CHIP MULCH OUTSIDE FENCED AREAS TO PROTECT FEEDER ROOTS



TREE & VEGETATION FENCING AROUND ENTIRE DRIP LINE ON PERMIT SITE. ALTERNATIVE TREE PROTECTION, IF APPROVED BY SDCI, AS SHOWN ON SITE PLAN

SYMBOL: (VEG)

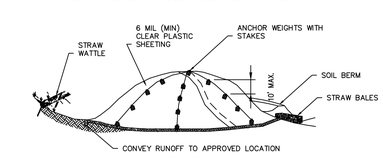
COMPOST SOCK



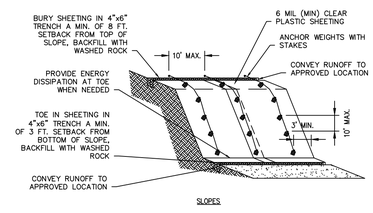
1. COMPOST SOCK SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION 9.14.4(9). COMPOST SOCK SHALL BE A MINIMUM OF10" IN DIAMETER OR SIZED TO SUIT CONDITIONS AS SPECIFIED BY THE ENGINEER.
2. ALWAYS INSTALL COMPOST SOCK PERPENDICULAR TO SLOPE AND ALONG CONTOUR LINES.
3. REMOVE SEDIMENT FROM THE UP SLOPE SIDE OF THE COMPOST SOCK WHEN ACCUMULATION HAS REACHED 1/2 OF THE EFFECTIVE HEIGHT OF THE COMPOST SOCK.
4. MAY BE USED IN PLACE OF FILTER FENCE FOR PREMIER CONTROL.

SYMBOL: (CS)

STOCKPILE AND EXPOSED SLOPE COVERING

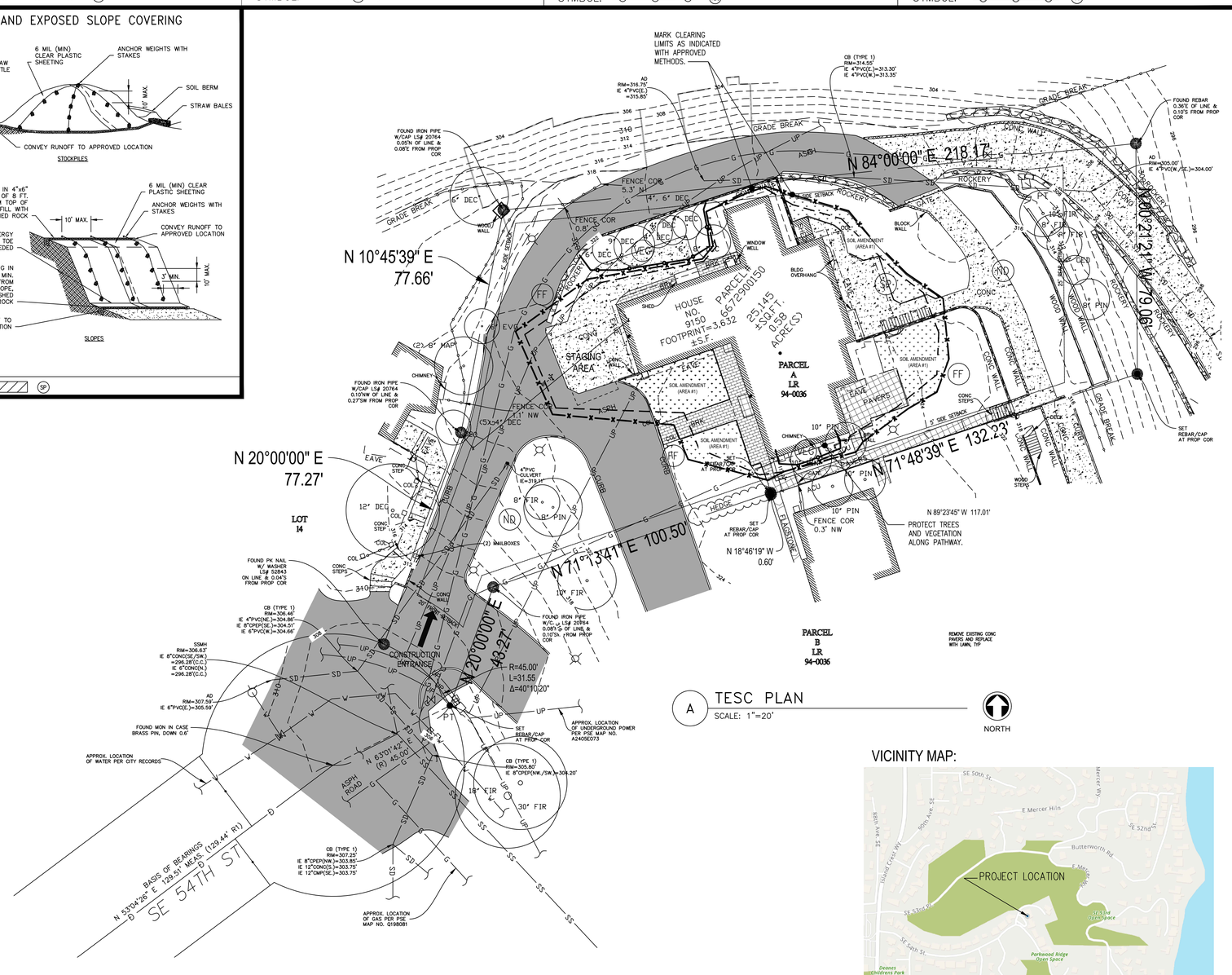


STOCKPILES



SLOPES

SYMBOL: (SP)



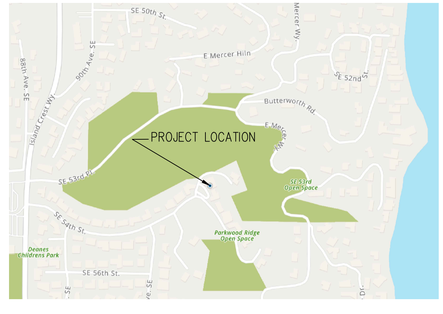
A TESC PLAN
SCALE: 1"=20'

NORTH

TEMPORARY EROSION & SEDIMENT CONTROL PLAN & POST CONSTRUCTION SOIL MANAGEMENT PLAN

NOTE: THIS PLAN IDENTIFIES THE MINIMUM MEASURES REQUIRED; ADDITIONAL MEASURES MAY BE REQUIRED BASED ON CONSTRUCTION METHODS AND ACTUAL AREA OF DISTURBANCE.

VICINITY MAP:



SITE LOT AREA

LOT AREA: (0.58 ACRES) 25,145 S.F.

ALEX P. LUPULYAK
STATE OF WASHINGTON
24009987
REGISTERED
PROFESSIONAL ENGINEER

10/30/2024

SCHARHON RESIDENCE

STORMWATER DRAINAGE

9150 SE 54TH ST,
MERCER ISLAND, WA 98040

NO.	DATE	REVISION

CLIENT:

FM CONSTRUCTION AND REMODELING

HRC
HERITAGE REWARD CONSULTING
Heritage Reward Consulting PLLC
4935 Mill Pond Loop SE
Auburn, WA 98092
(253) 753-0092

SHEET # C1.0

SHEET TILE
TESC AND SOIL AMENDMENT

PAGE # 1 OF 2

PROPOSED ADDITION A
ADDING NET 93 SQFT
IMPERVIOUS SURFACE

PROPOSED ADDITION B
ADDING NET 119 SQFT
IMPERVIOUS SURFACE

DECK ADDITION
ADDING NET 453 SQFT
IMPERVIOUS SURFACE

INSTALL NEW AD
RIM=314.9'
IE 4"PVC(W)=313.81'
IE 4"PVC(E)=313.80'
IE 6"PVC(S)=313.80

CB (TYPE 1)
RIM=314.55'
IE 4"PVC(E.)=313.30'
IE 4"PVC(W.)=313.35'

AD
RIM=316.75'
IE 4"PVC(E.)
=315.85'

AD
RIM=305.00'
IE 4"PVC(W./SE.)=304.00'

FOUND IRON PIPE W/CAP LS# 20764 0.05'N OF LINE & 0.08'E FROM PROP COR

FOUND REBAR 0.36'E OF LINE & 0.10'S FROM PROP COR

FOUND IRON PIPE W/CAP LS# 20764 0.10'NW OF LINE & 0.27'SW FROM PROP COR

FOUND IRON PIPE W/CAP LS# 20764 0.08'N OF LINE & 0.10'SW FROM PROP COR

PK NAIL W/ WASHER LS# 52843 0.10'W & 0.04'S FROM PROP COR

SET REBAR/CAP AT PROP COR

54" CONTROL STRUCTURE PER ATTACHMENT 1 DETAIL

60" CORRUGATED HDPE DETENTION SYSTEM PER ATTACHMENT 1 DETAIL

4" PVC MIN 1% SLOPE

CONNECT ROOF DOWNSPOUTS TO ROOF DRAIN

ROUTE ROOF DRAIN TO EXISTING DRAIN

ROUTE ROOF DOWNSPOUTS OF NEW DECK AND HOUSE ROOF TOWARDS ROOF DRAIN

ADJUST FINAL GRADE TO PROVIDE MIN. 1' COVER OVER DETENTION PIPE

4.85% PIPE SLOPE

PROPOSED DECK

PROPOSED ROOF

BLDG OVERHANG

WINDOW WELL

HOUSE NO. 9150
FOOTPRINT=3,632 ±S.F.

PARCEL # 6672900150
25,145 ±SQ.FT.
0.58 ACRE(S)

PARCEL A
LR 94-0036

PARCEL B
LR 94-0036

N 84°00'00" E 218.17'

N 10°45'39" E 77.66'

N 20°00'00" E 77.27'

N 20°00'00" E 43.27'

R=45.00'
L=31.55
Δ=40°10'20"

N 71°48'39" E 132.23'

N 89°23'45" W 117.01'

N 71°13'41" E 100.50'

N 18°46'19" W 0.60'

N 00°22'14" W 69.09'

5' SIDE SETBACK

20' FRONT SETBACK

GRADE BREAK

CONC WALL

ROCKERY

WOOD WALL

BLOCK WALL

BRK WALL

FENCE COR 0.8' S

FENCE COR 1.1' NW

FENCE COR 0.3' NW

(2) MAILBOXES

4"PVC CULVERT IE=319.11'

SHED

CHIMNEY

EAVE

CONC STEP

CONC STEPS

WOOD STEPS

GATE

PAVERS

HEDGE

FLAGSTONE

ASPH

CONC

BRK

COL

CURB

DECK

(5) 4" DEC

6" DEC

12" DEC

9" DEC

8" EVG

(2) 8" MAP

8" FIR

10" FIR

8" PIN

10" PIN

ACU

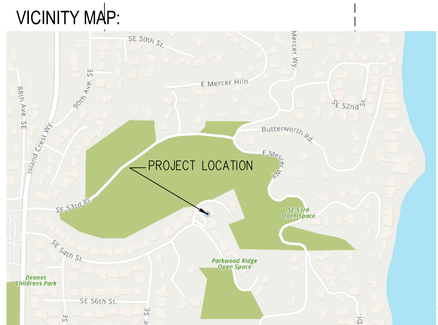
PT

CED

SITE PLAN
SCALE: 1"=10'

NORTH

VICINITY MAP:



SITE LOT AREA

LOT AREA: (0.58 ACRES) 25,145 S.F.

ALEX P. LUPULYAK
STATE OF WASHINGTON
24009987
REGISTERED
PROFESSIONAL ENGINEER
05/01/2025

SCHARHON RESIDENCE

STORMWATER DRAINAGE

9150 SE 54TH ST,
MERCER ISLAND, WA 98040

NO.	DATE	REVISION

CLIENT:

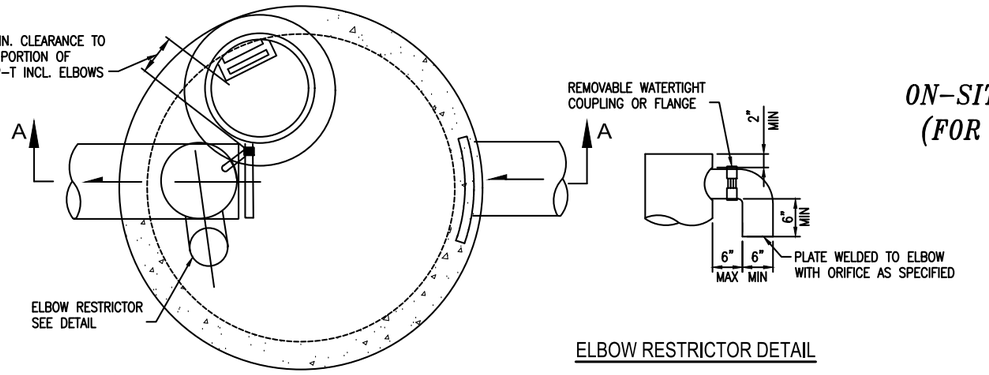
FM CONSTRUCTION
AND REMODELING

HRC
HERITAGE REWARD CONSULTING
Heritage Reward Consulting PLLC
4935 Mill Pond Loop SE
Auburn, WA 98092
(253) 753-0092

SHEET # C2.0

SHEET TILE
STORM DRAINAGE SITE PLAN

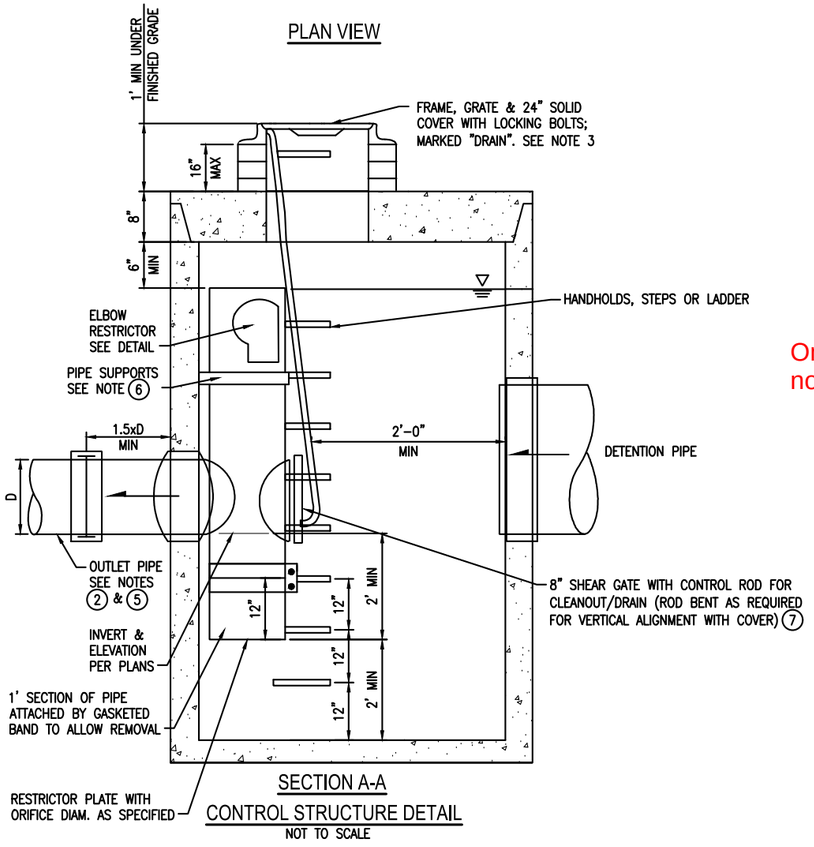
ATTACHMENT 1
CITY OF MERCER ISLAND
ON-SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)



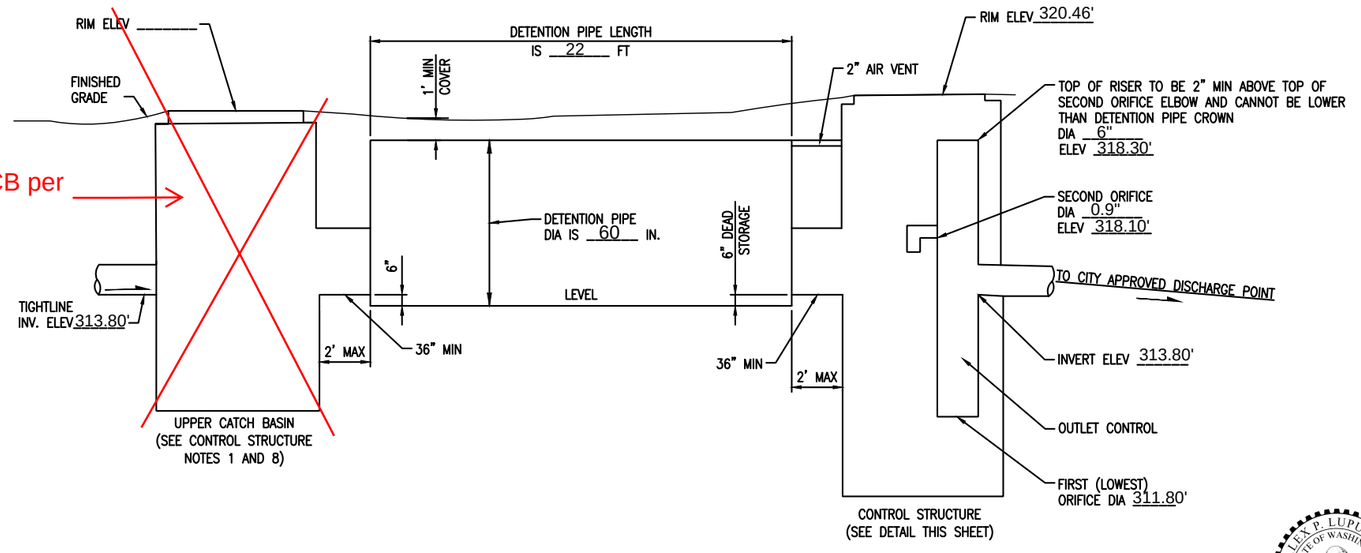
PLAN VIEW

ELBOW RESTRICTOR DETAIL

OWNER: Alan Scharhon	ADDRESS: 9150 SE 54th St	PREPARED BY: Alex Lupulyak	
PERMIT #: 2408-010	Mercer Island, WA 98040	PHONE: (253) 753-0092	
		DATE: 5/1/25	
NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 1,377	DETENTION PIPE DIA (INCH): 60	DETENTION PIPE LENGTH (FT): 22	ORIFICE #1 DIA 0.5 INCH, ELEV 311.80'
SOIL TYPE: B	PIPE MATERIAL: CORR. HDPE		ORIFICE #2 DIA 0.9 INCH, ELEV 318.10'



SECTION A-A
CONTROL STRUCTURE DETAIL
NOT TO SCALE



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

ALEX P. LUPULYAK
STATE OF WASHINGTON
24009987
REGISTERED PROFESSIONAL ENGINEER
05/01/2025

CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STANLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZG32A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B.
   THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED.
   A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE.
   INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED.
   THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT.
   ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON-SITE DETENTION SYSTEM NOTES:

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

CITY OF MERCER ISLAND

DEVELOPMENT SERVICES GROUP
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org
Inspection Requests: Online: www.MyBuildingPermits.com VM: 206.275.7730

ON-SITE DETENTION DESIGN REQUIREMENTS

General Requirements

This guidance applies only to projects that meet the thresholds specified below in "Is On-site Detention Required for My Project?" if all of the on-site stormwater BMPs included on List #1 and List #2 are determined to be infeasible for roofs and/or other hard surfaces.

Is On-site Detention Required For My Project?

YES, if my project:

1) Results in 2,000 square feet, or greater, of new plus replaced hard surface area, or
2) Has a land disturbing activity or 7,000 square feet or greater, or
3) Results in a ***net increase*** of impervious surface of 500 square feet or greater.

AND

1) All of the on-site stormwater BMPs included on List #1 and List #2 are determined to be infeasible for roofs and/or other hard surfaces, and
2) Drainage from the site will be discharged to a storm and surface water system that includes a watercourse or there is a capacity constraint in the system.

NO, if my project:

1) Results in less than 2,000 square feet of new plus replaced hard surface area, and
2) Has a land disturbing activity less than 7,000 square feet, and
3) Results in a **net increase of less than 500 square feet** of impervious surface area.
4) The project discharges ***directly*** to Lake Washington, or findings from a ¼-mile downstream analysis confirm that the downstream system is free of capacity constraints.

Designing Your On-Site Detention System

All on-site detention system designs must be prepared by a professional engineer registered in the State of Washington. The Standard On-site Detention System worksheet (Attachment 1) must be submitted on 18" x 24" (minimum) size sheets.

Construction that results in 500 to 9,500 square feet of new plus replaced impervious surfaces: Size system according to Table 1. The configuration of the on-site detention system shall be as shown on Attachment 1 (Standard On-Site Detention Systems Worksheet) or as specifically designed by the engineer for the site.

Note:

- The applicant may pay a fee-in-lieu-of constructing an on-site detention system when allowed by the City Engineer. The fee will not be an option when in the opinion of the City Engineer, undetained runoff from the development may adversely exacerbate an existing problem (MICC 15.11) or if flow control is required by Minimum Requirement #7.
- **Construction that results in more than 9,500 square feet of new plus replaced impervious surfaces and/or exceeds a 100-year flow frequency of 0.15 cubic feet per second (for moderate and steep sloped sites greater than a 5% slope):** Size system according to Minimum Requirement #7 (Flow Control) in the Stormwater Management Manual for Western Washington (Ecology 2014).

Table 1

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

New and Replaced Impervious Surface Area (sf)	Detention Pipe Diameter (in)	Detention Pipe Length (ft)		Lowest Orifice Diameter (in)[3]		Distance from Outlet Invert to Second Orifice (ft)		Second Orifice Diameter (in)	
		B soils	C soils	B soils	C soils	B soils	C soils	B soils	C soils
500 to 1,000 sf	36"	30	22	0.5	0.5	2.2	2.0	0.5	0.8
	48"	18	11	0.5	0.5	3.3	3.2	0.9	0.8
	60"	11	7	0.5	0.5	4.2	3.4	0.5	0.6
1,001 to 2,000 sf	36"	66	43	0.5	0.5	2.2	2.3	0.9	1.4
	48"	34	23	0.5	0.5	3.2	3.3	0.9	1.2
	60"	22	14	0.5	0.5	4.3	3.6	0.9	0.9
2,001 to 3,000 sf	36"	90	66	0.5	0.5	2.2	2.4	0.9	1.9
	48"	48	36	0.5	0.5	3.1	2.8	0.9	1.5
	60"	30	20	0.5	0.5	4.2	3.7	0.9	1.1
3,001 to 4,000 sf	36"	120	78	0.5	0.5	2.4	2.2	1.4	1.6
	48"	62	42	0.5	0.5	2.8	2.9	0.8	1.3
	60"	42	26	0.5	0.5	3.8	3.9	0.9	1.3
4,001 to 5,000 sf	36"	134	91	0.5	0.5	2.8	2.2	1.7	1.5
	48"	73	49	0.5	0.5	3.6	2.9	1.6	1.5
	60"	46	31	0.5	0.5	4.6	3.5	1.6	1.3
5,001 to 6,000 sf	36"	162	109	0.5	0.5	2.7	2.2	1.8	1.6
	48"	90	59	0.5	0.5	3.5	2.9	1.7	1.5
	60"	54	37	0.5	0.5	4.6	3.6	1.6	1.4
6,001 to 7,000 sf	36"	192	128	0.5	0.5	2.7	2.2	1.9	1.8
	48"	102	68	0.5	0.5	3.7	2.9	1.9	1.6
	60"	64	43	0.5	0.5	4.6	3.6	1.8	1.5
7,001 to 8,000 sf	36"	216	146	0.5	0.5	2.8	2.2	2.0	1.9
	48"	119	79	0.5	0.5	3.8	2.9	2.2	1.7
	60"	73	49	0.5	0.5	4.5	3.6	2.0	1.6
8,001 to 8,500 sf[1]	36"	228	155	0.5	0.5	2.8	2.2	2.1	1.9
	48"	124	84	0.5	0.5	3.7	2.9	1.9	1.8
	60"	77	53	0.5	0.5	4.6	3.6	2.0	1.6
8,501 to 9,000 sf	36"	NA [1]	164	0.5	0.5	NA [1]	2.2	NA [1]	1.9
	48"	NA [1]	89	0.5	0.5	NA [1]	2.9	NA [1]	1.9
	60"	NA [1]	55	0.5	0.5	NA [1]	3.6	NA [1]	1.7
9,001 to 9,500 sf[2]	36"	NA [1]	174	0.5	0.5	NA [1]	2.2	NA [1]	2.1
	48"	NA [1]	94	0.5	0.5	NA [1]	2.9	NA [1]	2.0
	60"	NA [1]	58	0.5	0.5	NA [1]	3.7	NA [1]	1.7

Notes:

▪ Minimum Requirement #7 (Flow Control) is required when the 100-year flow frequency causes a 0.15 cubic feet per second increase (when modeled in WWHM with a 15-minute timestep). Breakpoints shown in this table are based on a flat slope (0-5%). The 100-year flow frequency will need to be evaluated on a site-specific basis for projects on moderate (5-15%) or steep (> 15%) slopes.

▪ Soil type to be determined by geotechnical analysis or soil map.

▪ Sizing includes a Volume Correction Factor of 120%.

▪ Upper bound contributing area used for sizing.

[1] On Type B soils, new plus replaced impervious surface areas exceeding 8,500 sf trigger Minimum Requirement #7 (Flow Control)

[2] On Type C soils, new plus replaced impervious surface areas exceeding 9,500 sf trigger Minimum Requirement #7 (Flow Control)

[3] Minimum orifice diameter = 0.5 inches

in = inch

ft = feet

sf = square feet

Basis of Sizing Assumptions:

Sized per MR#5 in the Stormwater Management Manual for Puget Sound Basin (1992 Ecology Manual)

SBUH, Type 1A, 24-hour hydrograph

2-year, 24-hour storm = 2 in; 10-year, 24-hour storm = 3 in; 100-year, 24-hour storm = 4 in

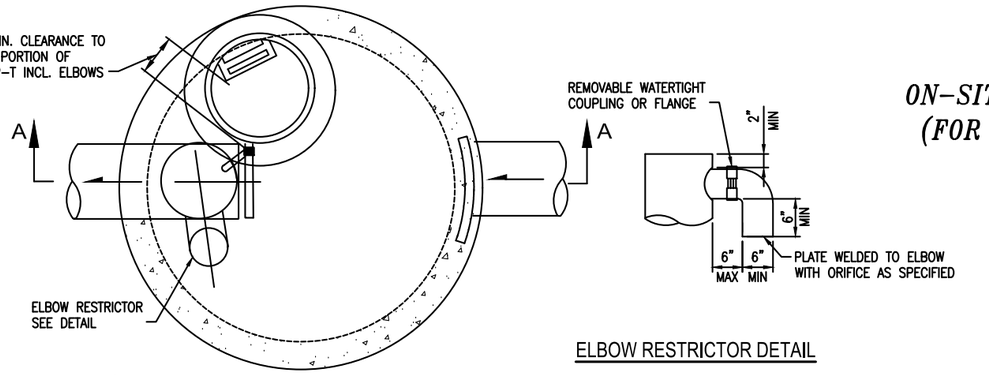
Predeveloped = second growth forest (CN = 72 for Type B soils, CN = 81 for Type C soils)

Developed = impervious (CN = 98)

0.5 foot of sediment storage in detention pipe

Overland slope = 5%

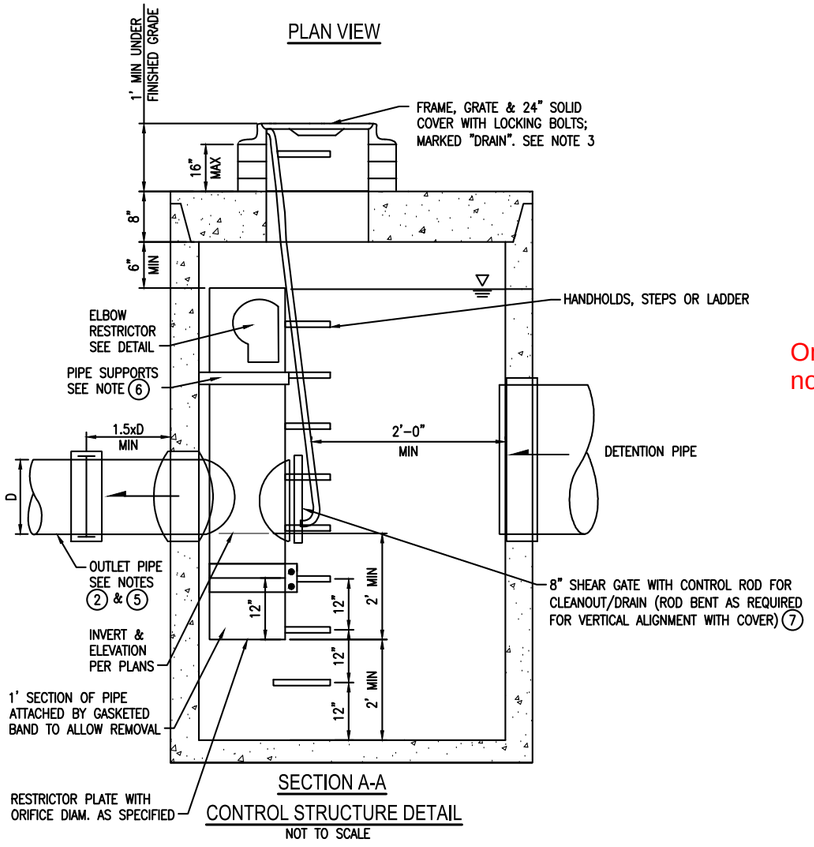
ATTACHMENT 1
CITY OF MERCER ISLAND
ON-SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)



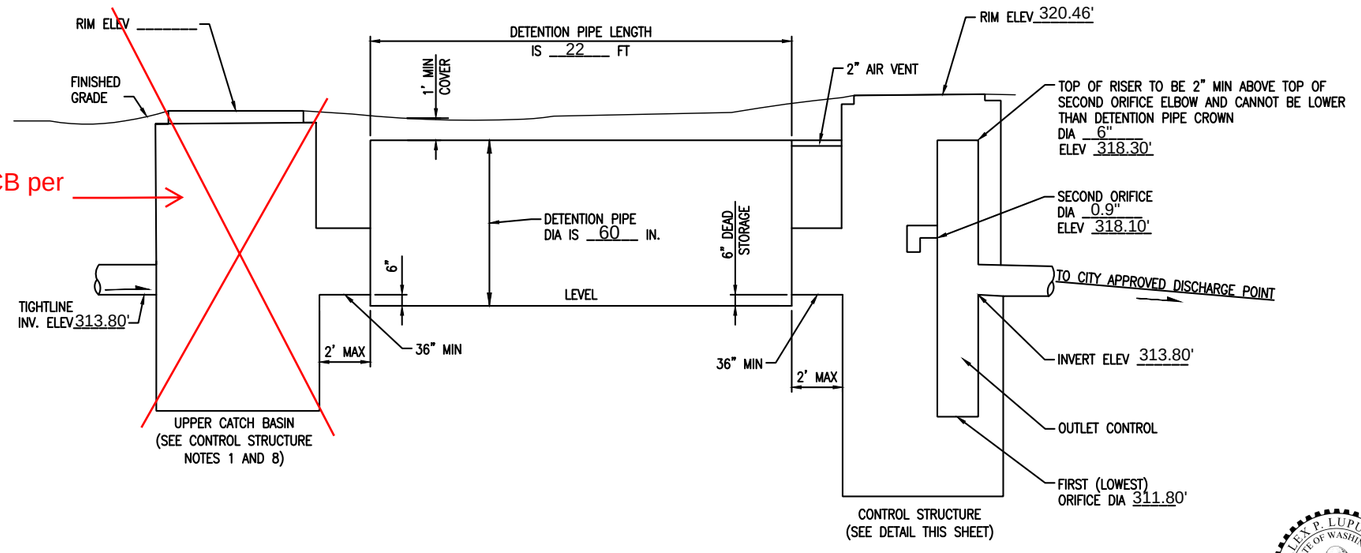
PLAN VIEW

ELBOW RESTRICTOR DETAIL

OWNER: Alan Scharhon	ADDRESS: 9150 SE 54th St	PREPARED BY: Alex Lupulyak	
PERMIT #: 2408-010	Mercer Island, WA 98040	PHONE: (253) 753-0092	
		DATE: 5/1/25	
NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 1,377	DETENTION PIPE DIA (INCH): 60	DETENTION PIPE LENGTH (FT): 22	ORIFICE #1 DIA 0.5 INCH, ELEV 311.80'
SOIL TYPE: B	PIPE MATERIAL: CORR. HDPE		ORIFICE #2 DIA 0.9 INCH, ELEV 318.10'



SECTION A-A
CONTROL STRUCTURE DETAIL
NOT TO SCALE



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

ALEX P. LUPULYAK
STATE OF WASHINGTON
24009987
REGISTERED PROFESSIONAL ENGINEER
05/01/2025

CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STANLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZG32A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B.
   THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED.
   A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE.
   INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED.
   THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT.
   ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON-SITE DETENTION SYSTEM NOTES:

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



Map Scale: 1:389 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 15 30 60 90

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: King County Area, Washington
Survey Area Data: Version 20, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AgC	Alderwood gravelly sandy loam, 8 to 15 percent slopes	0.7	100.0%
Totals for Area of Interest		**0.7**	**100.0%**

King County Area, Washington

AgC—Alderwood gravelly sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2t626
Elevation: 50 to 800 feet
Mean annual precipitation: 20 to 60 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 160 to 240 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Alderwood and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Alderwood

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Nose slope, talf
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Glacial drift and/or glacial outwash over dense glaciomarine deposits

Typical profile

A - 0 to 7 inches: gravelly sandy loam
Bw1 - 7 to 21 inches: very gravelly sandy loam
Bw2 - 21 to 30 inches: very gravelly sandy loam
Bg - 30 to 35 inches: very gravelly sandy loam
2Cd1 - 35 to 43 inches: very gravelly sandy loam
2Cd2 - 43 to 59 inches: very gravelly sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s

Hydrologic Soil Group: B
Ecological site: F002XA004WA - Puget Lowlands Forest
Forage suitability group: Limited Depth Soils (G002XN302WA), Limited Depth Soils (G002XS301WA), Limited Depth Soils (G002XF303WA)
Other vegetative classification: Limited Depth Soils (G002XN302WA), Limited Depth Soils (G002XS301WA), Limited Depth Soils (G002XF303WA)
Hydric soil rating: No

Minor Components

Indianola
Percent of map unit: 5 percent
Landform: Terraces, kames, eskers
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Everett
Percent of map unit: 5 percent
Landform: Kames, moraines, eskers
Landform position (two-dimensional): Shoulder, footslope
Landform position (three-dimensional): Base slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Shalcar
Percent of map unit: 3 percent
Landform: Depressions
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Norma
Percent of map unit: 2 percent
Landform: Drainageways, depressions
Landform position (three-dimensional): Dip
Down-slope shape: Linear, concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: King County Area, Washington
Survey Area Data: Version 20, Aug 27, 2024

STRUCTURAL NOTES

01000: GENERAL REQUIREMENTS
THE STRUCTURAL NOTES SUPPLEMENT THE PLANS AND SPECIFICATIONS. ANY DISCREPANCY FOUND BETWEEN THE DRAWINGS, NOTES, SPECIFICATIONS, SITE CONDITIONS, AND ARCHITECTURAL PLANS SHALL BE REPORTED TO THE ARCHITECT WHO SHALL CORRECT THE DISCREPANCY IN WRITING. ANY WORK COMPLETED AFTER DISCOVERY OF THE DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S RISK. REFER TO ARCHITECTURAL PLANS FOR OPENINGS, ARCHITECTURAL TREATMENTS, AND DIMENSIONS NOT SHOWN. CONSULT MECHANICAL PLANS FOR DUCTS AND PIPES ETC. NOT SHOWN.

THE CONTRACTOR SHALL PROVIDE BRACING AND SUPPORT REQUIRED FOR TEMPORARY CONSTRUCTION LOADS AND FOR STRUCTURAL COMPONENTS AS REQUIRED DURING ERECTION. BACKFILL BEHIND WALLS SHALL NOT BE PLACED UNTIL THE WALLS ARE PROPERLY SUPPORTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE EXCAVATION, SHORING, AND OTHER WORK WITH ALL UTILITIES AND ADJACENT PROPERTIES. CALL THE UTILITY LOCATE SERVICE PRIOR TO ANY WORK AT 1-800-424-5555.

01100: CODE REQUIREMENTS
ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE 2021 INTERNATIONAL BUILDING CODE AS ADOPTED BY THE CITY OF MERCER ISLAND.

01200: DESIGN LOADS
LIVE LOADS

ROOF LIVE	20 PSF
FLOORS (RESIDENTIAL)	40 PSF
DECK	60 PSF

SNOW LOAD DESIGN DATA:
SNOW LOAD DESIGN DATA:
ROOF RAIN-ON-SNOW 25 PSF [SEAW WHITE PAPER, SITE ~322FT EL.]

AUXILLARY LOAD:
ROOF SOLAR-READY (PV) 5 PSF (ENTIRE ROOF)

WIND DESIGN DATA:

BASIC WIND SPEED:	100 MPH (RISK CATEGORY II)
WIND IMPORTANCE FACTOR:	Iw = 1.0
WIND EXPOSURE:	EXPOSURE C [MERCER IS. MAP]
TOPOGRAPHICAL FACTOR:	Kzt = 1.00 [MERCER IS. MAP]
INTERNAL PRESSURE COEFFICIENT:	GCpi = +/- 0.18
COMPONENT/CLADDING WIND PRESSURE:	P(C) = 42 PSF*Kzt (ULT)

EARTHQUAKE DESIGN DATA (BOTH BUILDINGS):

SEISMIC IMPORTANCE FACTOR:	Ie = 1.0
SPECTRAL RESPONSE ACCELERATIONS:	Ss = 1.444, S1 = 0.501
SITE CLASS:	SITE CLASS D [DEFAULT]
SPECTRAL RESPONSE COEFFICIENTS:	SDS = 1.155 SD1 = N/A
SEISMIC DESIGN CATEGORY:	SEISMIC DESIGN CATEGORY D
BASIC FORCE RESISTING SYSTEM:	BEARING WALL SYSTEM
RESPONSE MODIFICATION FACTOR:	R = 6.5 (LIGHT FRAME WALLS)
ANALYSIS PROCEDURE:	EQUIVALENT LATERAL FORCE

01300: FOUNDATIONS
ASSUMED 1500 PSF ALLOWABLE SOIL BEARING PRESSURE. FILLS TO BE 95% MODIFIED PROCTOR PER ASTM D-1557. ALL NEW EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 18 INCHES BELOW LOWEST ADJACENT GRADE. PROVIDE A MINIMUM OF 8" FROM EXISTING GRADE TO WOOD SIDING OR PLATES THAT DO NOT HAVE A NATURAL RESISTANCE TO DECAY. ALL FOUNDATIONS SHALL BE FOUNDED ON COMPETENT NATIVE MATERIAL.

FOUNDATIONS HAVE BEEN DESIGNED WITH THE FOLLOWING PARAMETERS:

ACTIVE EARTH PRESSURE (YIELDING)	35 PCF
ACTIVE EARTH PRESSURE (AT-REST)	55 PCF
PASSIVE EARTH PRESSURE	250 PCF
COEFFICIENT OF FRICTION	0.35
SOIL PROFILE	SITE CLASS D
FROST DEPTH (MIN. B.O.F. BLW. GRADE)	18 INCHES

NO FOOTINGS SHALL BE FOUNDED ON OR ABOVE LOOSE, ORGANIC OR EXISTING FILL SOILS. THE SAND SUBGRADE SHALL BE COMPACTED OR CLEANED OF LOOSE OR DISTURBED SOIL.

01330: SHOP DRAWING SUBMITTAL PROCESS
SHOP DRAWINGS ARE TO BE SUBMITTED TO THE ARCHITECT AND ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION. IF SHOP DRAWINGS DIFFER FROM THE APPROVED DESIGN DRAWINGS, NEW DESIGN DRAWINGS BEARING THE SEAL AND SIGNATURE OF A LICENSED WASHINGTON STATE STRUCTURAL ENGINEER SHALL BE SUBMITTED ALONG WITH THE SHOP DRAWINGS TO THE APPROPRIATE JURISDICTION FOR APPROVAL PRIOR TO FABRICATION.

SHOP DRAWINGS SHALL BE REQUIRED FOR THE FOLLOWING:
1. PREFABRICATED WOOD I-JOIST

CALCULATIONS BEARING THE SEAL AND SIGNATURE OF A LICENSED WASHINGTON STATE STRUCTURAL ENGINEER SHALL BE SUBMITTED ALONG WITH THE SHOP DRAWINGS FOR PREFABRICATED PLATED WOOD TRUSSES.

01400: INSPECTIONS AND SPECIAL INSPECTIONS
THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL INSPECTIONS REQUIRED BY THE LOCAL BUILDING DEPARTMENT.

SPECIAL INSPECTIONS ARE NOT REQUIRED FOR GROUP R-3 OCCUPANCIES UNLESS OTHERWISE REQUIRED BY THE BUILDING OFFICIAL.

01401: STRUCTURAL OBSERVATION
STRUCTURAL OBSERVATION IS NOT REQUIRED.

01700: EXECUTION REQUIREMENTS
INSTALLATION OF ALL STRUCTURAL COMPONENTS SHALL BE AS REQUIRED PER ALL LOCAL CODES.

02000: SITE CONSTRUCTION
ALL SITE CONSTRUCTION SHALL BE CONSISTENT WITH THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS AS NOTED IN THE GEOTECHNICAL ENGINEERING REPORT (SEE SECTION 01300) AND IN SUBSEQUENT DIRECTIVES.

02260: EXCAVATION SUPPORT AND PROTECTION
EXCAVATION FOR FOUNDATIONS SHALL BE PER PLAN DOWN TO UNDISTURBED NATIVE MATERIAL PER THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS. OVER-EXCAVATED AREAS SHALL BE BACKFILLED WITH LEAN CONCRETE OR PER GEOTECHNICAL RECOMMENDATIONS AT THE CONTRACTOR'S EXPENSE.

EXCAVATION SLOPES SHALL BE SAFE AND SHALL NOT BE GREATER THAN THE LIMITS SPECIFIED BY LOCAL, STATE, AND NATIONAL SAFETY REGULATIONS.

INSTALLATION OF CONSTRUCTION SHORING, IF REQUIRED, SHALL BE PER THE SHORING DRAWINGS, NOTES, AND SPECIFICATIONS.

02300: BACKFILL AND COMPACTION
BACKFILL SHALL NOT BE PLACED UNTIL THE REMOVAL OF FORMWORK AND OF ANY DEBRIS. BACKFILL BEHIND ALL WALLS SHALL NOT BE PLACED UNTIL THE WALLS ARE PROPERLY SUPPORTED. ALL BACKFILL MATERIAL AND PLACEMENT PROCEDURES SHALL BE CONSISTENT WITH THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS.

02832: SEGMENTAL RETAINING WALLS
SEGMENTAL RETAINING WALLS AND MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS SHALL BE DESIGNED BY OTHERS.

03000: CONCRETE
CONCRETE CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE STANDARD ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".

CEMENT AND CONCRETE SHALL CONFORM TO IBC SECTION 1903. ADMIXTURES SHALL BE APPROVED BY THE ENGINEER OF RECORD AND SHALL COMPLY WITH ACI 318 SECTION 3.6. CONCRETE EXPOSED TO FREEZING AND THAWING SHALL HAVE AN AIR ENTRAINING ADMIXTURE CONFORMING TO IBC SECTION 1904.2. THE USE OF WATER SOLUBLE CHLORIDE ION SHALL NOT BE USED.

THE CONTRACTOR SHALL SUBMIT MIX DESIGNS TO ENGINEER OF RECORD FOR APPROVAL FOUR WEEKS PRIOR TO PLACING CONCRETE. MIX DESIGNS SHALL BE REVIEWED FOR CONFORMANCE TO IBC SECTIONS 1904 AND 1905.

CONCRETE HAS BEEN DESIGNED FOR f'c=2500 PSI. FOR QUALITY ASSURANCE, CONCRETE MIX DESIGNS SHALL MEET THE FOLLOWING REQUIREMENTS:

28 DAY f'c (PSI)	MAX. W/C RATIO (INCHES)	MAX. SLUMP (PERCENT)	AIR ENTRAINMENT	SPECIAL INSPECTION REQUIRED	LOCATION AND APPLICATION
3000	0.45	4±1	0±1	NO	FOOTINGS
3000	0.45	4±1	5±1	NO	FOUNDATION WALLS
3000	0.45	4±1	5±1	NO	SLAB ON GRADE, PATIOS
3000	0.45	4±1	5±1	NO	CURBS, WALKS, DRIVES

ONE COMPRESSION TEST MINIMUM SHALL BE COMPILED FOR EVERY 150 CUBIC YARDS OR 5000 SQUARE FEET OF SURFACE AREA FOR EACH MIX DESIGN PLACED EACH DAY. A TEST SHALL BE THE AVERAGE STRENGTH OF TWO CYLINDERS MADE FROM THE SAME SAMPLE AND TESTED AT THE SPECIFIED AGE. ADDITIONAL CYLINDERS MAY BE MADE FOR INFORMATION REGARDING POST TENSIONING, FORM REMOVAL, STRENGTH DEVELOPMENT, OR OTHER PURPOSES. CONCRETE SHALL BE ACCEPTABLE IF:
1. NO TEST FALLS 500 PSI BELOW THE SPECIFIED STRENGTH
2. THE AVERAGE OF ALL SETS OF 3 CONSECUTIVE TESTS DOES NOT FALL BELOW THE SPECIFIED STRENGTH.

CONCRETE NOT MEETING THE ABOVE CRITERIA SHALL BE SUBJECT TO FURTHER TESTING AT NO ADDITIONAL EXPENSE TO THE OWNER.

RESHORING, WHERE REQUIRED, SHALL CONFORM TO ACI 301 SECTION 4.6. SUBMIT PROPOSED RESHORING PLANS TO THE ENGINEER OF RECORD FOR REVIEW.

CHAMFER ALL EXPOSED CORNERS PER THE ARCHITECTURAL PLANS OR 3/4 INCH IF NOT SPECIFIED BY THE ARCHITECT.

REFER TO "01300" FOR APPROVAL PRIOR TO FORMWORK.

03100: REINFORCING STEEL
REINFORCING STEEL DETAILING, FABRICATION, AND PLACEMENT SHALL BE PER ACI 318. REINFORCING STEEL SHALL MEET THE FOLLOWING REQUIREMENTS:

ASTM A-615 DEFORMED BARS GRADE 40 (fy=40 KSI) FOR #3 BARS ONLY
ASTM A-615 DEFORMED BARS GRADE 60 (fy=60 KSI) FOR #4 BARS AND LARGER
ASTM A-706 DEFORMED BARS GRADE 60 (fy=60 KSI) FOR ALL WELDABLE BARS
ASTM A-185 SMOOTH BAR (fy=60 KSI) FOR WELDED WIRE FABRIC

REINFORCING FOR SLABS ON GRADE SHALL BE 12X12 W5XW5 WELDED WIRE FABRIC OR FIBER MESH UNLESS NOTED OTHERWISE. PROVIDE LAP SPLICES PER THE LAP SPLICE SCHEDULE ON SHEET S6.1. REINFORCING STEEL AT ALL WALLS, SLABS, AND FOOTINGS SHALL BE CONTINUOUS AROUND CORNERS ELSE CORNER BARS SHALL BE PROVIDED.

COVER REQUIREMENTS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

CONCRETE CAST AGAINST EARTH
ALL BAR SIZES . . . . . 3"
FORMED SURFACE EXPOSED TO EARTH OR WEATHER
#6 AND LARGER . . . . . 2"
#5 AND SMALLER . . . . . 1 1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER
WALLS AND JOISTS
#14 AND #18 BARS . . . . . 1 1/2"
#11 BARS AND SMALLER . . . . . 3/4"
SLABS AND JOISTS
#14 AND #18 BARS . . . . . 1 1/2"
#11 BARS AND SMALLER . . . . . 1"
BEAMS, COLUMNS
PRIMARY REINFORCEMENT . . . . . 1 1/2"
TIES, STIRRUPS, AND SPIRALS . . . . 1 1/2"

REINFORCING STEEL SHALL BE ACCURATELY PLACED AND ADEQUATELY SECURED IN PLACE PRIOR TO CONCRETE PLACEMENT. REINFORCING STEEL SHALL NOT BE FIELD BENT EXCEPT AS NOTED IN THE DESIGN DRAWINGS. WELDING OF REINFORCING STEEL SHALL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER OF RECORD EXCEPT AS NOTED ON THE DESIGN DRAWINGS.

05120: STRUCTURAL STEEL
DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "AISC SPECIFICATION FOR STRUCTURAL STEEL FOR BUILDINGS". MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

STRUCTURAL W SHAPES	ASTM A-992	Fy = 50 KSI
S, M, AND C SHAPES	ASTM A-36	Fy = 36 KSI
STEEL ANGLES	ASTM A-36	Fy = 36 KSI
PLATE MATERIAL	ASTM A-36	Fy = 36 KSI
STRUCTURAL PIPE	ASTM A-53 GRADE B	Fy = 35 KSI
STRUCTURAL TUBE	ASTM A-500 GRADE B	Fy = 46 KSI
HEADED STUDS	ASTM A-108	
WELDING ELECTRODES	E70-XX TYPICAL, U.N.O.	
HIGH STRENGTH BOLTS	ASTM A-325N BEARING TYPE (SNUG TIGHT)	
ANCHOR RODS	ASTM A-307 OR ASTM A-36	
WOOD CONNECTION BOLTS	ASTM A-307	

ALL WELDING SHALL CONFORM TO THE AWS D1-1 "STRUCTURAL WELDING CODE". ALL WELDING SHALL BE PERFORMED BY A WASHINGTON ASSOCIATION OF BUILDING OFFICIALS (WABO) AND AMERICAN WELDING SOCIETY (AWS) CERTIFIED WELDERS. ALL COMPLETE PENETRATION (CP) WELDS SHALL BE ULTRASONICALLY TESTED. ALL FILLET WELDS SHALL BE VISUALLY INSPECTED.

STRUCTURAL STEEL AND CONNECTIONS EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH ASTM A-153. ALL FIELD WELDS EXPOSED TO WEATHER SHALL BE COATED WITH BRUSH APPLIED ZINC-RICH PAINT COMPLYING WITH ASTM A-780.

06071: PRESERVATIVE TREATED WOOD PRODUCTS
PRESERVATIVE TREATED WOOD SHALL BE REQUIRED FOR;

ALL WOOD THAT FORMS THE STRUCTURAL SUPPORT OF THE BUILDING, BALCONIES PORCHES, OR SIMILAR PERMANENT BUILDING APPURTUENCES THAT ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE PROTECTION FROM A ROOF, EAVE, OVERHANG OR OTHER COVERING TO PREVENT MOISTURE OR WATER ACCUMULATION AT THE SURFACE OR AT JOINTS BETWEEN MEMBERS.

ALL WOOD INSTALLED ABOVE GROUND AND RESTING ON AN EXTERIOR CONCRETE OR MASONRY FOUNDATION WALL LESS THAN 8 INCHES FROM EXPOSED EARTH.

POSTS OR COLUMNS SUPPORTING PERMANENT STRUCTURES AND SUPPORTED BY A CONCRETE SLAB OR FOOTING THAT IS IN DIRECT CONTACT WITH THE EARTH. EXCEPT;

1. IF LOCATED IN BASEMENTS ON A CONCRETE PIER OR METAL PEDESTAL 1 INCH ABOVE THE SLAB AND SEPARATED THEREFROM BY AN IMPERVIOUS MOISTURE BARRIER.
2. IF IN AN ENCLOSED CRAWL SPACE OR AN UNEXCAVATED AREA WITHIN THE BUILDING PERIPHERY AND SUPPORTED BY A CONCRETE PIER OR PEDESTAL MORE THAN 8 INCHES FROM EXPOSED GROUND AND SEPARATED THEREFROM BY AN IMPERVIOUS MOISTURE BARRIER.
3. SLEEPERS AND SILLS ON A CONCRETE SLAB ON GRADE THAT DOES NOT HAVE AN IMPERVIOUS MOISTURE BARRIER SEPARATION WITH EXPOSED EARTH.
4. LEDGERS AND FURRING ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR CONCRETE OR MASONRY WALLS BELOW GRADE.

PRESERVATIVE TREATMENT SHALL BE PER AMERICAN WOOD PRESERVERS' ASSOCIATION (AWPA) SPECIFICATION C2 AND C9 OR APPLICABLE STANDARDS.

ALL FASTENERS (NAILS, BOLTS, MASAS, ANCHORS, PLATES, HANGERS, ETC.) IN CONTACT WITH TREATED LUMBER SHALL BE CORROSION RESISTANT G-185 HOT DIPPED GALVANIZED PER ASTM A153 OR STAINLESS STEEL.

06100: ROUGH FRAMING
SAWN LUMBER SHALL CONFORM TO WEST COAST LUMBER INSPECTION BUREAU (WCLIB) "GRADING AND DRESSING RULES" NO. 17 LATEST EDITION. SAWN LUMBER SHALL BE S4S AND SURFACED DRIED, 19 PERCENT MAXIMUM MOISTURE CONTENT. PROTECT LUMBER FROM WEATHER AND PROVIDE FURTHER DRYING OF ASSEMBLED FRAMING TO MINIMIZE WOOD SHRINKAGE POTENTIAL. ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED U.N.O. PER PLAN. LUMBER SPECIES, GRADE, AND PROPERTIES FOR EACH USE/LOCATION SHALL BE AS FOLLOWS U.N.O. PER PLAN/SCHEDULE:

SIZE	SPECIES	GRADE	Fb (PSI)	Fv (PSI)	Fcp (PSI)	Fc (PSI)	E (PSI)
2X,4X	DOUGLAS FIR-LARCH	NO. 2	900	180	625	1350	1.6E6
6X	DOUGLAS FIR-LARCH	NO. 1	1200	170	625	1000	1.6E6

06101: STRUCTURAL FINGER JOINTED LUMBER
STRUCTURAL FINGER JOINTED LUMBER SHALL BE PERMITTED TO BE USED INTERCHANGEABLY WITH SAWN LUMBER MEMBERS OF THE SAME SPECIES AND GRADE. STRUCTURAL FINGER JOINTED LUMBER SHALL BE GRADED UNDER AMERICAN LUMBER STANDARD COMMITTEE "PRODUCT STANDARD PS 20-99". LUMBER CLASSIFIED AS STUD USE ONLY SHALL BE LIMITED TO VERTICAL APPLICATIONS ONLY. LUMBER WITH CERTIFIED EXTERIOR JOINTS IS NOT RESTRICTED TO ANY TYPE OF LOADING.

06102: FRAMING NOTES
FRAMING CONNECTORS, ACCESSORIES, AND FASTENERS AS NOTED IN THE PLANS AND DETAILS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE. EQUIVALENT HARDWARE MAY BE USED WITH PRIOR APPROVAL BY ENGINEER OF RECORD. INSTALL ALL HARDWARE PER MANUFACTURERS' SPECIFICATIONS. WHERE STRAPS CONNECT TWO MEMBERS TOGETHER, PLACE HALF OF THE REQUIRED FASTENERS INTO EACH MEMBER. PROVIDE SOLID BLOCKING AT ALL BEARING POINTS. SEE SECTION 06071 FOR FASTENER REQUIREMENTS AT TREATED LUMBER. TYPICAL NAILING NOT SHOWN PER PLAN, DETAIL, OR SCHEDULE SHALL CONFORM TO FASTENING SCHEDULE PER IBC TABLE 2304.10.1 OR TO THE FASTENING SCHEDULE ON SHEET S1.0.

NAILS SHALL BE COMMON UNLESS NOTED OTHERWISE COMMON NAIL DIMENSIONS ARE AS FOLLOWS:

NAIL SIZE	DIAMETER	LENGTH
8d	0.131"	2.5"
10d	0.148"	3.0"
12d	0.148"	3.25"
16d	0.162"	3.5"

UNLESS NOTED OTHERWISE PER SHEARWALL SCHEDULE OR PLANS, ⅝"ø ANCHOR BOLTS AT SILL PLATES SHALL BE PLACED AT 48" O.C. PER S/S1.2. THERE SHALL BE A MINIMUM OF 2 BOLTS PER SILL PIECE WITH ONE BOLT LOCATED NOT MORE THAN 12 INCHES NOR LESS THAN 8 INCHES FROM EACH END OF THE PIECE.

06103: JOIST AND BEAM HANGERS
JOIST AND BEAM HANGERS AS NOTED IN THE PLANS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE. EQUIVALENT HARDWARE MAY BE USED WITH PRIOR APPROVAL BY ENGINEER OF RECORD. JOIST AND BEAM HANGERS SHALL BE INSTALLED PER MANUFACTURERS' SPECIFICATIONS AND SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE PER PLANS OR DETAILS:

MEMBER SIZE	HANGER
SAWN LUMBER	"HUS" SERIES TO MATCH LUMBER SIZE [0.162x3½" NAILS]
MANUF. WOOD "I" JOIST	"IUS" SERIES TO MATCH "I" JOIST SIZE TO WOOD BM.
	"BA" SERIES TO 2X MIN. NAILER ON STL. BM.
1.75" WIDE PSL OR LVL BEAM	"HUS1.81" SERIES TO MATCH DEPTH [0.162x3½" NAILS]
3.5" WIDE PSL OR LVL BEAM	"HGUS3.63" SERIES TO MATCH DEPTH [SDS25212 SCREWS]
5.25" WIDE PSL OR LVL BEAM	"HGUS5.5" SERIES TO MATCH DEPTH [SDS25212 SCREWS]
7" WIDE PSL BEAM	"HGU7.25" SERIES TO MATCH DEPTH [SDS25212 SCREWS]

06104: SHRINKAGE OF WOOD FRAMING
SHRINKAGE IN WOOD FRAMING IS DUE TO LOSS OF MOISTURE CONTENT AND TO COMPRESSION OF ASSEMBLIES OF WOOD COMPONENTS. PLUMBING, ELECTRICAL, AND MECHANICAL SYSTEMS AS WELL AS EXTERIOR FINISHES SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8 INCH PER FLOOR WOOD SHRINKAGE. THE USE OF KILN DRIED LUMBER AND PROVIDING A DRYING PROCESS TO THE FRAMING MEMBERS PRIOR TO APPLICATION OF FINISHES WILL HELP CONTROL BUT WILL NOT ELIMINATE SHRINKAGE.

06160: WOOD SHEATHING
WOOD STRUCTURAL PANELS (WSP) SHALL HAVE APA GRADE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION. WOOD SHEATHING PANELS SHALL BE C-D INT APA WITH EXTERIOR GLUE (CDX). ORIENTED STRAND BOARD (OSB) PANELS SHALL BE EXPOSURE 1. PANELS SHALL HAVE THE FOLLOWING THICKNESS, SPAN RATING, AND FASTENING UNLESS NOTED OTHERWISE PER PLAN:

		(P.E.N.) EDGE NAILS	FIELD NAILS
ROOF:	7/16" APA 24:16 [16" O.C. MAX. SPAN] OR ½" APA 32:16 [24" O.C. MAX. SPAN] C-D W/EXTERIOR GLUE	8d AT 6"	8d AT 12"
FLOORS:	¾" STURD-I-FLOOR OSB 48/24 T&G	10d AT 6"	10d AT 12"
SHEARWALL:	½" C-D W/EXTERIOR GLUE, U.N.O.	RE: SCHEDULE SHEET S1.2	

ALL ROOF AND FLOOR SHEATHING PANELS SHALL BE INSTALLED FACE GRAIN PERPENDICULAR TO SUPPORTS AND IN A STAGGERED PATTERN UNLESS NOTED OTHERWISE PER PLAN. BLOCKING AT INTERMEDIATE FLOOR AND ROOF SHEATHING JOINTS SHALL NOT BE REQUIRED UNLESS NOTED OTHERWISE PER PLAN. SHEARWALL SHEATHING SHALL BE BLOCKED AT ALL EDGES WITH 2X OR 3X FRAMING PER SHEARWALL SCHEDULE. WHERE FRT ROOF PLY IS REQUIRED AT PARTY WALL STRENGTH PER MFR. SHALL BE EQUAL OR BETTER THAN 24/16 APA-RATED SPAN.

06175 SHOP FABRICATED METAL PLATE CONNECTED WOOD TRUSSES
PREMANUFACTURED PLATED WOOD TRUSSES SHALL BE MANUFACTURER DESIGNED AND SHALL COMPLY WITH THE TRUSS PLATE INSTITUTE (ANSI/TPI 1, NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION" AND IBC SECTION 2303.4. SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED PER THE REQUIREMENTS OF SECTION 01330. DESIGN FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS, LOADS PER SECTION 01200, AND THE FOLLOWING:

TOP CHORD LIVE LOAD	SEE SECTION 01200
TOP CHORD DEAD LOAD	11 PSF
TOP CHORD NET WIND UPLIFT	12 PSF
BOTTOM CHORD DEAD LOAD	7 PSF
LIVE LOAD DEFLECTION	L/360

WOOD DURATION FACTORS:

SNOW & LIVE	Cp=1.0
CONSTRUCTION	Cp=1.25
WIND	Cp=1.6

06185: STRUCTURAL GLUED LAMINATED TIMBER
GLUED LAMINATED MEMBERS SHALL HAVE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) IDENTIFICATION MARK. EXPOSED MEMBERS SHALL RECEIVE ONE COAT OF END SEALER APPLIED IMMEDIATELY AFTER TRIMMING IN EITHER SHOP OR FIELD. SHOP DRAWINGS SHALL BE SUBMITTED PER THE REQUIREMENTS OF SECTION 01330. DESIGN MATERIAL PROPERTIES SHALL BE AS FOLLOWS:

USE	COMBINATION SYMBOL	SPECIES	LAYOUT
SIMPLE SPAN BEAM	24F-V4	DF/DF	STANDARD
CONTINUOUS BEAM	24F-V8	DF/DF	BALANCED
CANTILEVER BEAM	24F-V8	DF/DF	BALANCED

UNEXPOSED GLUED LAMINATED TIMBER SHALL BE INDUSTRIAL GRADE. TYPICAL, UNLESS NOTED OTHERWISE. EXPOSED GLUED LAMINATED TIMBER SHALL BE APPEARANCE CLASS PER ARCHITECT.

06190: MANUFACTURED WOOD BEAMS
MANUFACTURED/ENGINEERED WOOD BEAMS SHALL BE THE SIZE AND TYPE SHOWN ON THE DRAWINGS AS MANUFACTURED BY TRUS-JOIST OR APPROVED EQUAL. STORAGE, ERECTION, AND INSTALLATION SHALL BE PER MANUFACTURER SPECIFICATIONS. MICROLAM AND PARALLAM MEMBERS SHALL NOT HAVE NOTCHES OR DRILLED HOLES WITHOUT PRIOR ENGINEER OF RECORD APPROVAL. SHOP DRAWINGS SHALL BE SUBMITTED PER THE REQUIREMENTS OF SECTION 01330. DESIGN MATERIAL PROPERTIES SHALL BE AS FOLLOWS:

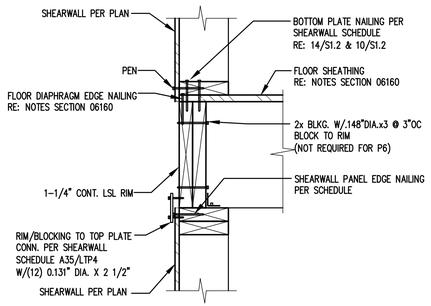
MEMBER	E	Fb	Fcp	Fv	E MIN.
LVL (MICROLAM)	1.9E6	2600	750	285	965,710
PSL (PARALLAM)	2.0E6	2900	750	290	1,016,535
1.55E LSL (TIMBERSTRAND)	1.55E6	2325	800	310	787,815
LSL RIM (TIMBERSTRAND)	1.3E6	1700	680	400	660,750

STRUCTURAL DETAILS & NOTES SHEET INDEX

SHEET	DESCRIPTION	DATE
S1.1	STRUCTURAL GENERAL NOTES	07/29/24
S1.2	SHEARWALL SCHEDULE AND NOTES	07/29/24
S1.3	HOLD DOWN SCHEDULE AND NOTES	07/29/24
S1.4	SPECIAL INSPECTION TABLES AND NOTES	07/29/24
S2.1	FOUNDATION PLAN	07/29/24
S2.2	1ST FLOOR FRAMING PLAN	07/29/24
S2.3	ROOF FRAMING PLAN	07/29/24
S2.4	CEILING FRAMING PLAN	07/29/24
DETAILS		
S6.1	FOUNDATION DETAILS	07/29/24
S8.1	STEEL FRAMING DETAILS	07/29/24
S8.2	SSMF ELEVATION	07/29/24
S9.1	FRAMING DETAILS	07/29/24

ABBREVIATIONS

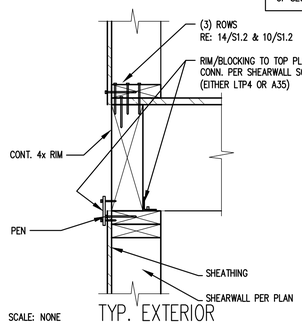
&	AND	JST.	JOIST
@	AT	JT.	JOINT
'	FEET(FOOT)		
"	INCH (INCHES)	K	KIPS(1000)
#	POUND(S), NUMBER		
=	EQUAL(S)	LAT.	LATERAL
/	PER, OF	LB.	POUND(S)
		L.B.	LAG BOLT(S)
A.B.	ANCHOR BOLT	LG.	LONG(ITUDINAL)
ABV.	ABOVE	LGTH.	LENGTH
ADD.	ADDITIONAL	LGMF	LIGHT GAUGE METAL FRAMING
ADJ.	ADJACENT	LLH	LONG LEG HORIZONTAL
ALUM.	ALUMINUM	LLV	LONG LEG VERTICAL
ALT.	ALTERNATE	LSH	LONG SLOTTED HOLE(S)
APPRX.	APPROXIMATE(LY)	LSL	LAMINATED STRAND LUMBER
ARCH.	ARCHITECT(URAL)	LT. WT.	LIGHT WEIGHT
ASSY	ASSEMBLY	LVL	LAMINATED VENEER LUMBER
B.	BOTTOM	L.W.	LIGHT WEIGHT
BEL.	BELOW		
BEN	BOUNDARY EDGE NAILING	MAS.	MASONRY
B.F.	BRACED FRAME	MASN.	MASONRY
BLDG.	BUILDING	MAT.	MATERIAL
BLK.	BLOCK	MAX.	MAXIMUM
BLKG.	BLOCKING	M.B.	MACHINE BOLT
BLW.	BELOW	MBM	METAL BUILDING MANUFACTURER
BM.	BEAM	MECH.	MECHANICAL
BMU	BRICK MASONRY UNIT	M.E.J.	MASONRY EXPANSION JOINT
BN	BOUNDARY NAILING	MEZZ.	MEZZANINE
BNDRY.	BOUNDARY	MFR.	MANUFACTURER
B.O.	BOTTOM OF	MIN.	MINIMUM
B.O.E.	BOTTOM OF EXCAVATION	MISC.	MISCELLANEOUS
B.O.F.	BOTTOM OF FOOTING	MTL.	METAL
BRDG.	BRIDGE(ING)		
BRG.	BEARING	(N)	NEW
BTM.	BOTTOM	N/A	NOT APPLICABLE
BTWN.	BETWEEN	N.L.B.	NON-LOAD BEARING
		NO.	NUMBER
C	CAMBER	N.S.	NEAR SIDE
CAMB.	CAMBER(ED)	N.T.S.	NOT TO SCALE
CANT.	CANTILEVER(ED)	N.W.C.	NORMAL WEIGHT CONCRETE
CF	CUBIC FOOT		
C.I.P.	CAST IN PLACE	O/	OVER
C.J.	CONSTRUCTION JOINT	O.C.	ON CENTER
CL	CENTER LINE	O.D.	OUTSIDE DIAMETER
CLG.	CEILING	O.F.	OUTSIDE FACE
CLR.	CLEAR	O.H.	OPPOSITE HAND
COL.	COLUMN	OPNG.	OPENING
CONC.	CONCRETE	OPP.	OPPOSITE
CONN.	CONNECTION	O.R.	OUTRIGGERS
CONST.	CONSTRUCTION	ORNT.	ORIENTATE(ION)
CONT.	CONTINUOUS	OSB	ORIENTED STRAND BOARD
CTSK.	COUNTERSINK	O.W.J.	OPEN WEB JOIST
CTR.	CENTER(ED)	O.W.T.	OPEN WEB TRUSS
CVR	COVER VERTICAL REINF.		
CY	CUBIC YARD	PAF	POWDER ACTUATED FASTENER
		PAR.	PARALLEL
d, D	PENNY(NAILS)	P/C	PRECAST
DB	DROPPED BEAM	PEN	PANEL EDGE NAIL
DBA	DEFORMED BAR ANCHORS	PEN.	PENETRATION
DBL.	DOUBLE	PERP.	PERPENDICULAR
DCW	DEMAND CRITICAL WELD	PL.	PLATE
DEPT.	DEPARTMENT	PL	PROPERTY LINE
DET.	DETAIL	PLN	PLAN
DF	DOUGLAS FIR	PLMBG.	PLUMBING
DIA.	DIAMETER	PLYWD.	PLYWOOD
DIAG.	DIAGONAL	PMT	PREMANUF. WOOD TRUSS
DIAPH.	DIAPHRAGM	PSF	POUNDS PER SQUARE FOOT
DIM.	DIMENSION	PSL	PARALLAM STRAND LUMBER
DN.	DOWN	PSI	POUNDS PER SQUARE INCH
D.O.	DIT



SCALE: NONE

1 TYPICAL EXTERIOR SHEARWALL CONNECTION P6, P4 & P3

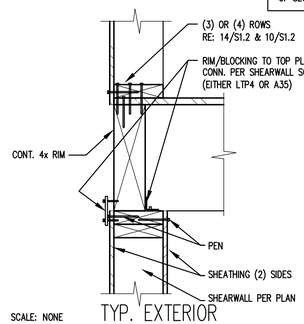
RE: 1/S1.2 FOR BALANCE OF SECTION



SCALE: NONE

2 TYP. EXTERIOR SHEARWALL CONNECTION P2

RE: 1/S1.3 FOR BALANCE OF SECTION



SCALE: NONE

3 TYP. EXTERIOR SHEARWALL CONNECTION 2P4, 2P3, 2P2

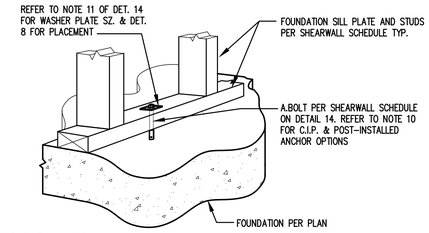
(F) REFER TO DETAIL 12

SHEARWALL SCHEDULE – 7/16" APA RATED SHEATHING

WALL TYPE	SHEATHING	PANEL EDGE NAILING ③	FIELD NAILING ④	BOTTOM PLATE NAILING ⑦		RIM OR BLOCKING TO TOP PLATE CONN.			FRAMING AT ADJOINING PANEL EDGES ⑤	FOUNDATION SILL PLATE ⑫	ANCHOR BOLT SPACING 5/8" DIA. 7" EMBED ⑬
				ROWS	SPACING	0.148"x3.25" TOENAIL	LTP4 DIRECT TO FRAMING	A35 ONLY ⑩			
UNMARKED EXTERIOR P6	7/16" SHT. ONE SIDE	6" O.C.	12" O.C.	(1)	4" O.C.	N/A	24" O.C.	16" O.C.	2x	2x 3x	48" O.C. 48" O.C.
P4	7/16" SHT. ONE SIDE	4" O.C.	12" O.C.	(2)	6" O.C.	N/A	16" O.C.	12" O.C.	(2)2x OR 3x	2x 3x	32" O.C. 40" O.C.
P3	7/16" SHT. ONE SIDE	3" O.C.	12" O.C.	(2)	4" O.C.	N/A	12" O.C.	10" O.C.	(2)2x OR 3x	2x 3x	24" O.C. 22" O.C.
P2	7/16" SHT. ONE SIDE	2" O.C.	12" O.C.	(3)	6" O.C.	N/A	10" O.C.	10" O.C.	(2)2x OR 3x	2x 3x	18" O.C. 24" O.C.
2P4	7/16" SHT. BOTH SIDES	4" O.C.	12" O.C.	(3)	5" O.C.	N/A	10" O.C.	10" O.C.	(2)2x OR 3x	2x 3x	16" O.C. 20" O.C.
2P3	7/16" SHT. BOTH SIDES	3" O.C.	12" O.C.	(3)	4" O.C.	N/A	8" O.C.	8" O.C.	(2)2x OR 3x	2x 3x	12" O.C. 16" O.C.
2P2	7/16" SHT. BOTH SIDES	2" O.C.	12" O.C.	(3)	3" O.C.	N/A	6" O.C.	6" O.C.	(2)2x OR 3x	2x 3x	8" O.C. 12" O.C.
PF	APA SITE-BUILT PORTAL FRAME PER DETAIL REFERENCED ON PLAN										
WSWH__X__	SIMPSON STRONG-WALL; REFER TO DETAILS REFERENCED IN PLANS										

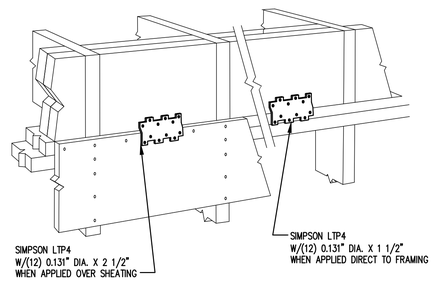
SHEARWALL SCHEDULE NOTES:

A. STUDS SHALL NOT BE SPACED MORE THAN 16" O.C..
B. RE: S1.1 SECTION 06100 "ROUGH FRAMING" FOR REQUIRED WALL STUD AND PLATE SPECIES AND GRADE.
C. RE: S1.1 SECTION 06160 "WOOD SHEATHING" FOR REQUIRED SHEAR WALL SHEATHING, THICKNESS AND GRADE. ALL SHEAR WALL PANELS SHALL BE APPLIED DIRECTLY TO FRAMING.
D. SHEATHING PANELS MAY BE INSTALLED EITHER HORIZONTALLY OR VERTICALLY WITH ALL PANEL EDGES BACKED/BLOCKED WITH 2" NOMINAL OR WIDER FRAMING. SEE NOTE 5.
E. FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN 3" NOMINAL AND NAILS SHALL BE STAGGERED FOR ALL SHEARWALL MARKS EXCEPT "P6".
F. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6" O.C. ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3" NOMINAL OR THICKER AND NAILS SHALL BE STAGGERED.
G. NAILS FOR PLYWOOD AND OSB PANEL EDGE AND FIELD NAILING SHALL BE 8d COMMON (0.131" X 2 1/2").
[REMODELS: SHEATHING MAY BE INSTALLED OVER (E)1X HORZ. LUMBER SHEATHING USING 0.131"x3" NAILS]
H. NAILS FOR BOTTOM PLATE FRAMING SHALL BE 12d COMMON (0.148" X 3.25").
I. FLOOR DIAPHRAGM NAILING SHALL BE PLACED BETWEEN THE SPACING CALLED OUT FOR BOTTOM PLATE NAILING. DO NOT OVER NAIL THE BLOCKING.
J. ANCHOR BOLTS SHALL BE GALVANIZED 5/8"ø BOLTS. C.I.P. J-BOLTSX10" EMBEDDED 7" OR POST-INSTALLED TITEN HD@6".
K. GALVANIZED 3" X 3" X 0.229" (MIN.) PLATE WASHERS ARE REQUIRED AT EACH ANCHOR BOLT – SEE DETAIL 8 THIS SHEET FOR PLACEMENT DETAILS. RECESSING PLATE WASHERS IN PLATES IS NOT ALLOWED.
L. LTP4 FRAMING PLATES SHALL BE INSTALLED WITH 12-8d X 1 1/2" (0.131" X 2 1/2") NAILS. RE: DETAILS 1, 2, 3 & 6/S1.2.
M. A35 FRAMING ANGLES SHALL BE INSTALLED WITH 12-8d X 1 1/2" (0.131" X 1 1/2") NAILS. RE: DETAILS 1, 2 & 3S1.2.
N. ALL NAILS INTO PRESSURE TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED CONFORMING TO ASTM 153 OR STAINLESS STEEL.
O. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED.
P. WHERE BOTTOM PLATE NAILING SPECIFIES A SPACING OF 4 INCHES OR LESS NAILS SHALL BE INSTALLED IN TWO ROWS OFFSET 1/2 INCH AND STAGGERED.
Q. GALVANIZED EXPANSION ANCHORS OF SIMILAR DIAMETER AND EMBEDMENT ALLOWED AT INTERIOR BEARING AND PARTY WALLS.
R. 2-2x'S IN LIEU OF 3x'S AT PANEL EDGES ACCEPTABLE PROVIDED STUDS ARE ATTACHED PER 10/S1.2 SIM. AND BOTTOM PLATE NAILING.
S. WHERE BUILDING OFFICIALS ALLOW, OSB SHEATHING MAY BE APPLIED OVER 1/2" OR 3/8" GYPSUM WALL BOARD PROVIDED SHEATHING IS NAILED WITH 10d NAILS (0.148" DIA X 3" LONG)



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

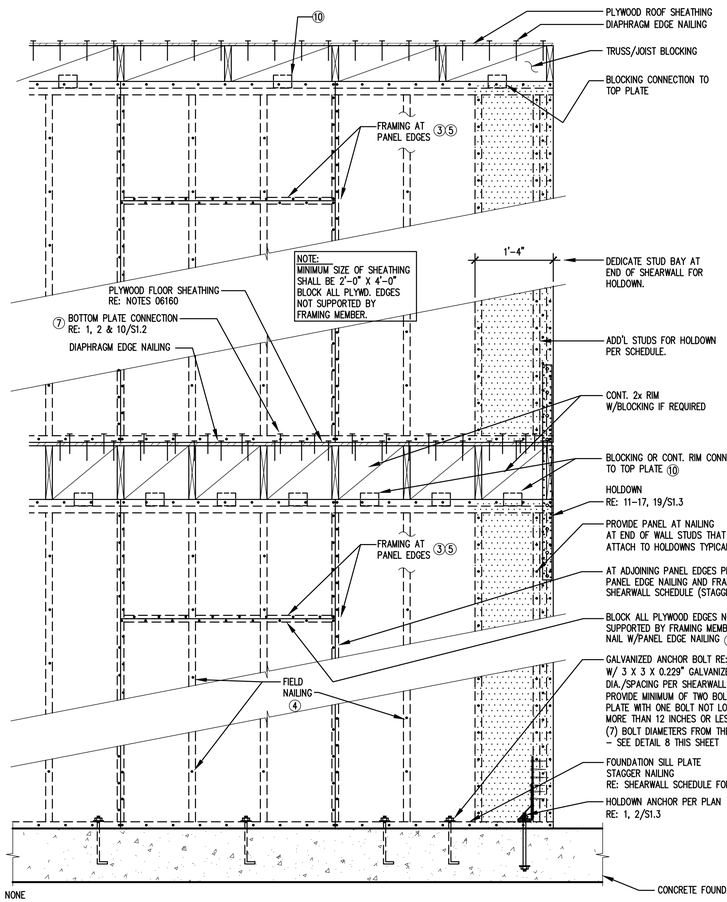
5 TYP. SHEARWLL ANCHOR BOLT TO CONCRETE



SCALE: NONE

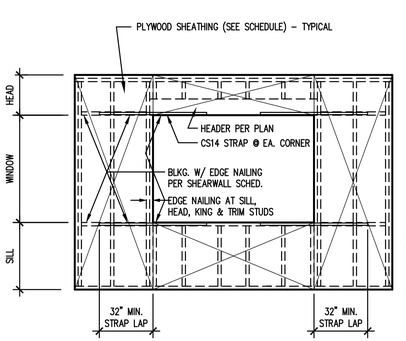
6 TYPICAL SIMPSON LTP4

14 SHEARWALL SCHEDULE



SCALE: NONE

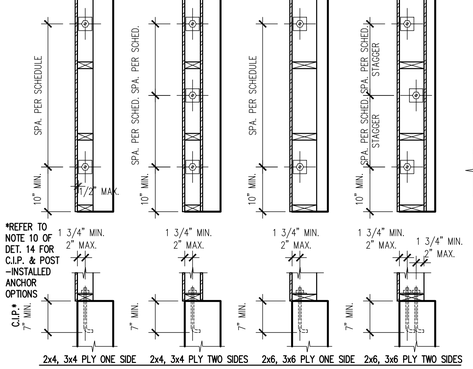
12 TYPICAL SHEARWALL NOMENCLATURE (ELEVATION)



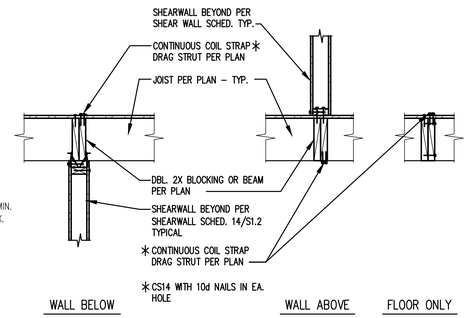
SCALE: NONE

7 STRAPPING at OPENING

NOTE: PLATE WASHER SHALL EXTEND WITHIN 1/2" OF EDGE OF BOTTOM PLATE ON SIDE(S) WITH SHEATHING. PROVIDE STAGGERED/OFFSET PLACEMENT AS SHOWN ELSE OVESIZE PLATE WASHERS AS REQUIRED.

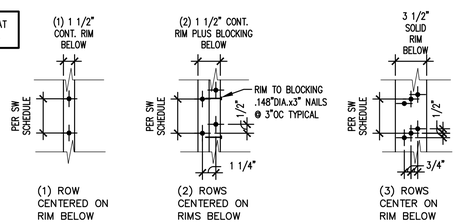


8 ANCHOR BOLT PLACEMENT DETAILS



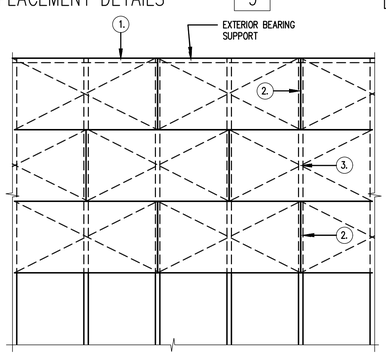
9 DRAG STRUT DETAILS

SIM. @ (2) 2x FRAMING AT ADJOINING PANEL EDGES.



SCALE: NONE

10 BOTTOM PLATE NAILING PATTERN



ROOF/FLOOR SHEATHING NOTES

1. BOUNDARY NAILING AT ROOF/FLOOR PERIMETER, AT CONT. PANEL EDGES (B.N.)
2. EDGE NAILING (P.E.N.) AT ALL EDGES OF ALL PLYWOOD SHEETS AT SUPPORTS AND AT INTERIOR SHEARWALLS
3. INTERIOR FIELD NAILING (F.N.) 12" O.C. AT BEARING SUPPORTS
4. SEE PLANS FOR PLYWOOD THICKNESS & NAILING SCHEDULE
5. LONG DIMENSION OF PLYWOOD SHALL RUN PERPENDICULAR TO TRUSS SYSTEM FRAMING & FLOOR FRAMING.
6. MIN. EDGE DISTANCE FOR NAILS SHALL BE 3/8"
7. MINIMUM PLYWOOD SHEET SIZE 2'-0" X 4'-0"
8. NAILS SHALL NOT BE OVER DRIVEN

11 ROOF/FLOOR SHEATHING LAYOUT

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

9150 SE 54th St, Mercer Island, WA 98040

Permit check set

TE Job # 24310

Description	Date
Permit Intake	12/09/24

Tryg·stad ENGINEERING
nels@trygstadeng.com
(208)262-6884

Stamp/Approval:

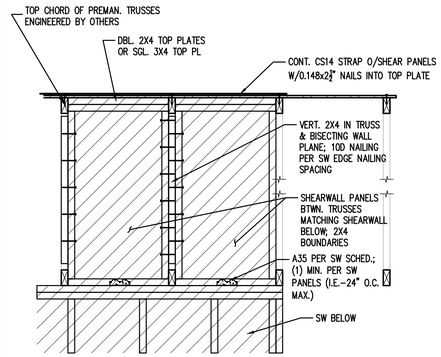


Sheet Name:

SHEARWALL SCHEDULE & NOTES

Sheet No:

S1.2



1 ATTIC SHEATHING BTWN. TRUSSES

2

3

4

HOLDOWN & FASTENER SCHEDULE

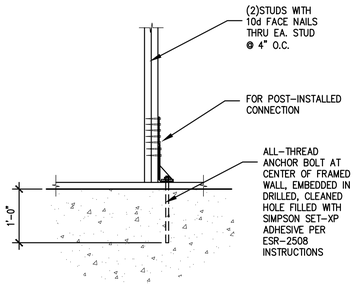
HARDWARE TYPE	WOOD MEMBER/POST		FASTENERS	NOTES	DETAILS
	2X4 WALL	2X6 WALL			
CS14	2X4	2X6	(13) 10d PER END	16" MIN. LAP PER END	15/S1.3
STHD14	(2)2X4	(2)2X6	(30) 12d	16" MIN. LAP PER END	14/S1.3
MST60	(2)2X4	(2)2X6	(36) 16d	--	13/S1.3
HTT5	(2)2X4	(2)2X6	(26) 0.148x3	5/8" DIA. ANCHOR BOLT	12/S1.3

HOLDOWN & FASTENER NOTES:

1. HOLDOWNS SHALL BE AS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY.
2. 16D = .162" DIA. X 3 1/2" LONG.
3. HTT5 ANCHOR MAY BE REPLACED WITH POST-INSTALLED ⅝" DIA. THREADED ROD EMBEDDED IN ¾" DRILLED, CLEANED HOLE x 15" DEEP WITH SIMPSON 'SET' OR 'AT' ADHESIVE (RE: TEMPERATURE LIMITS ON PRODUCT); HDU8 HOLD DOWN AND ANCHOR IS TO BE REPLACED WITH POST-INSTALLED STRAPS INSTALLED PER DETAIL 6.
4. SCREWS ARE SDS 1/4" X 2 1/2" MANUFACTURED BY SIMPSON STRONG-TIE COMPANY.
5. HOLDOWNS ANCHORS SHALL BE SECURED IN PLACE PRIOR TO PLACING CONCRETE.
6. ANCHOR BOLT NUT SHOULD BE FINGER-TIGHT PLUS 1/3 - 1/2" TURN WITH HAND WRENCH. CARE SHOULD BE TAKEN TO NOT OVER-TORQUE THE NUT. IMPACT WRENCHES SHOULD NOT BE USED.
7. HDU HOLDOWNS SHALL BE INSTALLED CENTERED ALONG THE WIDTH OF THE ATTACHED POST.
8. RE: NOTES SECTION 06100 "ROUGH FRAMING" FOR THE REQUIRED POST SPECIES AND GRADE.
9. HOLDOWNS ATTACH TO SHEARWALL END POST OR TO POST WITH STRAP ABOVE. LOCATE PER STRUCTURAL PLANS AND ARCHITECTURAL DIMENSIONS. INSTALL PER SIMPSON INSTALLATION RECOMMENDATIONS.

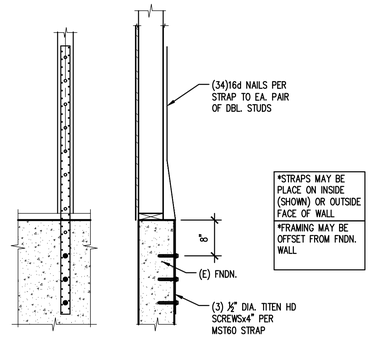
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7



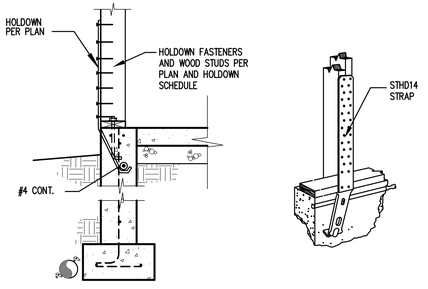
12 POST-INSTALLED HOLD DOWN

8



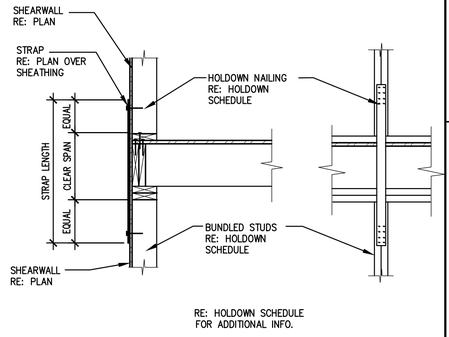
13 NEW HOLD DOWN

9

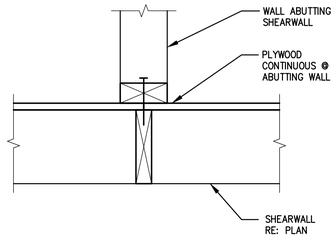


14 EXTERIOR HOLDOWN @ FOUNDATION

10 HOLDOWN & FASTENER SCHEDULE



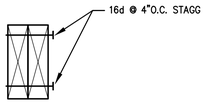
11



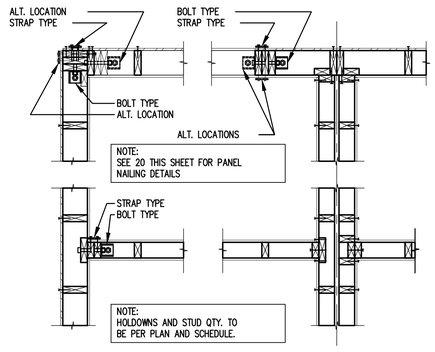
16 TYP. ABUTTING WALL

17

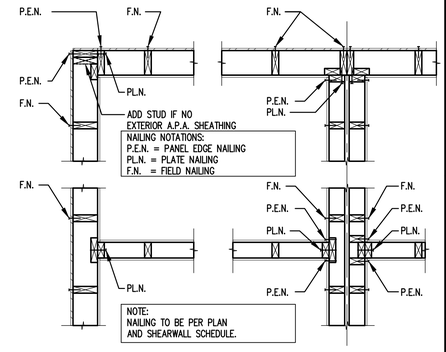
18 TYP. MULTIPLE STUD ATTACHMENT



15 EXTERIOR HOLDOWN @ FLOOR



19 HOLDOWN PLACEMENTS



20 STRUCTURAL SHEARWALL INTERSECTIONS

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

9150 SE 54th St, Mercer Island, WA 98040

Permit check set

TE Job # 24310

Description	Date
Permit Intake	12/09/24

Tryg·stad ENGINEERING
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(208)262-6884

Stamp/Approval:



Sheet Name:

HOLD DOWN SCHEDULE & NOTES

Sheet No:

S1.3

SPECIAL INSPECTIONS, TESTING and STRUCTURAL OBSERVATION SCHEDULE

GENERAL NOTE:

1. SCREENED/HALFTONE ITEMS DO NOT APPLY FOR THIS BUILDING. THEY ARE SHOWN FOR REFERENCE AS THE CODE TABLE ITEMS MAY REFERENCE TO THEM.

TABLE 1705.3 REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
1.	INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS AND PLACEMENT.	-	X	ACI 318: 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2.	INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 5b.	-	-	AWS D1.4, ACI 318: 26.6.4	-
3.	INSPECTION OF ANCHORS CAST IN CONCRETE.	-	X	ACI 318: 17.8.2	-
4.	INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	-	X		-
	a. ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	-	ACI 318: 17.8.2.4	-
	b. MECHANICAL AND ADHESIVE ANCHORS NOT DEFINED IN 4a.	-	X	ACI 318: 17.8.2	-
5.	VERIFYING USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6.	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF CONCRETE.	X	-	ASTM C 172, ASTM C 31, ACI 318: 26.4, 26.12	1908.10
7.	INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8.	INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 26.5.3 - 26.5.5	1908.9
9.	INSPECTION OF PRESTRESSED CONCRETE:				
	a. APPLICATION OF PRESTRESSING FORCES.	X	-	ACI 318: 26.10	-
	b. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM.	X	-	ACI 318: 26.10	-
10.	ERECTION OF PRECAST CONCRETE MEMBERS.	-	X	ACI 318: CH 26.8	-
11.	VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENSONS IN POST TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X	ACI 318: 26.11.2	-
12.	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.11.1.2(b)	-

IBC 2021 SECTION 1705.5 INSPECTIONS FOR WOOD CONSTRUCTION

		INSPECTIONS REQUIRED
1705.5		SPECIAL INSPECTIONS OF PREFABRICATED WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES SHALL BE IN ACCORDANCE WITH IBC 1704.2.5
1705.5.1		HIGH-LOAD DIAPHRAGMS (ALL DESIGNATED DIAPHRAGMS PER IBC 2306.2) SHALL BE INSTALLED ACCORDING TO THE PROVISIONS OF IBC 1704.2. THE FOLLOWING SHALL BE INSPECTED:
	a.	WOOD STRUCTURAL PANEL SHEATHING - CONFIRM GRADE AND THICKNESS PER APPROVED CONSTRUCTION DOCUMENTS
	b.	VERIFY SIZE OF FRAMING MEMBERS AT ADJOINING PANEL DEGES
	c.	VERIFY NAIL OR STAPLE DIAMETER AND LENGTH
	d.	VERIFY NUMBER OF FASTENER LINES AND THE SPACING BETWEEN EACH FASTENER LINE AND AT EDGE MARGINS
1705.5.2		FOR METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 60FT OR MORE, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE TEMPORARY RESTRAINT/BRACING AND PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED ACCORDING TO THE APPROVED TRUSS SUBMITTAL PACKAGE
1705.12.2		SEISMIC RESISTING ELEMENTS: PERIODIC SPECIAL INSPECTION IS REQUIRED FOR NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE SEISMIC FORCE-RESISTING SYSTEM - INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG-STRUTS, BRACES AND HOLDOWNS - EXCEPT THAT SUCH IS NOT REQUIRED WHERE THE FASTENER SPACING IS MORE THAN 4"OC.

IBC 2021 TABLE 1705.6 REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

	VERIFICATION AND INSPECTION TASK	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
4	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACITON OF COMPACTED FILL.	X	-
5	PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

OSSC 2019 SECTION 1705.12.5
REQUIRED SPECIAL INSPECTIONS of ARCHITECTURAL COMPONENTS

	VERIFICATION AND INSPECTION TASK	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1	ERECTION AND FASTENING OF EXTERIOR CLADDING, INTERIOR AND EXTERIOR NONBEARING WALLS, AND EXTERIOR VENEER.	-	X

INSPECTION SCHEDULE NOTES:

1. ITEMS MARKED WITH AND "X" SHALL BE INSPECTED IN ACCORDANCE WITH IBC 1704 AND 1705 BY A CERTIFIED SPECIAL INSPECTOR FROM AN AGENCY APPROVED BY THE JURISDICTION.
2. SPECIAL INSPECTION SHALL NOT BE REQUIRED FOR WORK PERFORMED IN AN APPROVED FABRICATOR'S PER IBC 1705.2 VERIFY APPROVAL WITH JURISDICTION PRIOR TO FABRICATION.
3. CONTINUOUS SPECIAL INSPECTION REQUIRES THE INSPECTOR SHALL BE ONSITE AT ALL TIMES AND THAT WORK REQUIRING SPECIAL INSPECTION IS PERFORMED. PERIODIC SPECIAL INSPECTION SHALL ALLOW INSPECTION AT THE INTERVALS NECESSARY TO CONFORM THAT WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE WITH THE REQUIREMENTS.
4. ALL WELDS SHALL BE VISUALLY INSPECTED.
5. ALL COMPLETE PENETRATION WELDS SHALL BE TESTED ULTRASONICALLY.
6. PERIODIC SPECIAL INSPECTION SHALL BE ALLOWED FOR SHOP WELDING OF ASTM A706 REINFORCEMENT NO. 5 OR SMALLER USED FOR EMBEDDED ITEMS, PROVIDED THAT, THE MATERIALS AND THE QUALIFICATIONS OF WELDING PROCEDURES AND WELDERS ARE VERIFIED PRIOR TO THE START OF WORK, THAT PERIODIC INSPECTIONS ARE MADE OF WORK IN PROGRESS, AND THAT A VISUAL INSPECTION OF ALL WELDS IS MADE PRIOR TO SHIPMENT OF SHOP WELDED ITEMS.
7. STRUCTURAL OBSERVATION SHALL MEAN THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY THE ENGINEER OF RECORD FOR THE GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL FRAMING SYSTEM PRIOR TO COVER. THE CONTRACTOR SHALL PROVIDE AT LEAST TWO WORKING DAYS NOTICE TO THE ENGINEER OF RECORD PRIOR TO COVERING OF SYSTEMS REQUIRING OBSERVATION. STRUCTURAL OBSERVATION BY THE ENGINEER OF RECORD DOES NOT REPLACE OR WAVE REQUIREMENTS FOR BUILDING INSPECTION BY THE JURISDICTION NOR REQUIREMENTS FOR SPECIAL INSPECTIONS.
8. STRUCTURAL OBSERVATION FOR CONCRETE CONSTRUCTION SHALL CONSIST OF OBSERVATION AT OR NEAR THE COMPLETION OF FORMWORK, REBAR, AND PT TENDON PLACEMENT AND PRIOR TO CONCRETE PLACEMENT ON ALL PT SLABS.
9. STRUCTURAL OBSERVATION FOR WOOD CONSTRUCTION SHALL CONSIST OF OBSERVATION AT OR NEAR THE COMPLETION OF THE FIRST ELEVATED WOOD FLOOR FOR ANCHOR BOLT AND HOLDOWN INSTALLATION, SHEATHING AND STRAPPING NAILING. AND AT OR NEAR COMPLETION OF THE ROOF FRAMING PRIOR TO PLACEMENT OF THE ROOFING.
10. THE SPECIAL INSPECTOR SHALL PROVIDE THE BUILDING OFFICIAL, OWNER, ARCHITECT, ENGINEER OF RECORD, AND CONTRACTOR WITH COPIES OF ALL REPORTS AND TEST RESULTS (IBC 1704.2.4)

THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON EMPLOYED BY AN APPROVED AGENCY. THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF INSPECTIONS AND FURNISH THEM TO THE BUILDING OFFICIAL AND THE ENGINEER OF RECORD ON A REGULAR BASIS. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND THE CORRECTION OF ANY DISCREPANCIES SHALL BE PROVIDED PRIOR TO COMPLETION OF BUILDING FINISHES. WHERE FABRICATION OF STRUCTURAL COMPONENTS AND ASSEMBLES IS BEING PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTION OF THE FABRICATED ITEMS SHALL BE REQUIRED EXCEPT WHERE THE FABRICATOR IS REGISTERED AND APPROVED TO DO SUCH WORK WITHOUT SPECIAL INSPECTION IN ACCORDANCE WITH IBC SECTION 1704.2.2. PERIODIC INSPECTION ALLOWS INSPECTION AT INTERVALS NECESSARY TO CONFIRM THAT WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE WITH REQUIREMENTS. CONTINUOUS SPECIAL INSPECTION REQUIRES THAT THE INSPECTOR BE ONSITE AT ALL TIMES THAT WORK REQUIRING SPECIAL INSPECTION IS PERFORMED.

TABLE 1705.2 REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD (a)
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS.			
a. IDENTIFICATION MARKINGS CONFORMING TO ASTM STANDARDS AND SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	--	X	AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS
b. MANUFACTURERS CERTIFICATE OF COMPLIANCE REQUIRED	--	X	--
2. INSPECTION OF HIGH STRENGTH BOLTING			
a. SNUG TIGHT JOINTS	--	X	AISC 360 SECTION M2.5
b. PRESTENSIONED AND SLIP CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION	--	X	
c. PRESTENSIONED AND SLIP CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION	X	--	
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL			
a. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360	--	X	AISC 360, SECTION N2.1
b. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	--	X	APPLICABLE ASTM MATERIAL STANDARDS
c. MANUFACTURER'S CERTIFIED TEST REPORTS	--	X	--
4. MATERIAL VERIFICATION OF COLD FORMED STEEL DECK			
c. MANUFACTURER'S CERTIFIED TEST REPORTS	--	X	--
5. MATERIAL VERIFICATION OF WELD FILLER MATERIALS			
a. IDENTIFICATION MARKINGS TO CONFORM TO CONFORM TO AWS STANDARD SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS	--	X	AISC 360, SECTION A3.5 AND APPLICABLE AWS A5 DOCUMANTS
c. MANUFACTURER'S CERTIFICATION OF COMPLIANCE REQUIRED	--	X	--
6. INSPECTION OF WELDING			
a. STRUCTURAL STEEL AND COLD FORMED STEEL DECK			
1. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	X	--	AWS D1.1
2. MULTIPLE PASS FILLET WELDS	X	--	
3. SINGLE PASS FILLET WELDS > 5/16"	X	--	
4. PLUG AND SLOT WELDS	X	--	
5. SINGLE PASS FILLET WELDS < 5/16"	--	X	
6. FLOOR AND ROOF DECK WELDS			AWS D1.3
b. REINFORCING STEEL			
1. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706	--	X	AWS D1.4, ACI 318 SECTION 4.2.2
2. REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES OF INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCMENT	X	--	
3. SHEAR REINFORCEMENT	X	--	
4. OTHER REINFORCING STEEL	--	X	
7. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE			
a. DETAILS SUCH AS BRACING AND STIFFENING	--	X	--
b. MEMBER LOCATION	--	X	
c. APPLICATION OF JOINT DETAILS AT EACH SECTION	--	X	

a. WHERE APPLICABLE, SEE ALSO SECTION 1705.12, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE
9150 SE 54th St, Mercer Island, WA 98040

Permit check set

TE Job # 24310

Description	Date
Permit Intake	12/09/24

Tryg·stad ENGINEERING
nels@trygstadeng.com
(208)262-6884

Stamp/Approval:

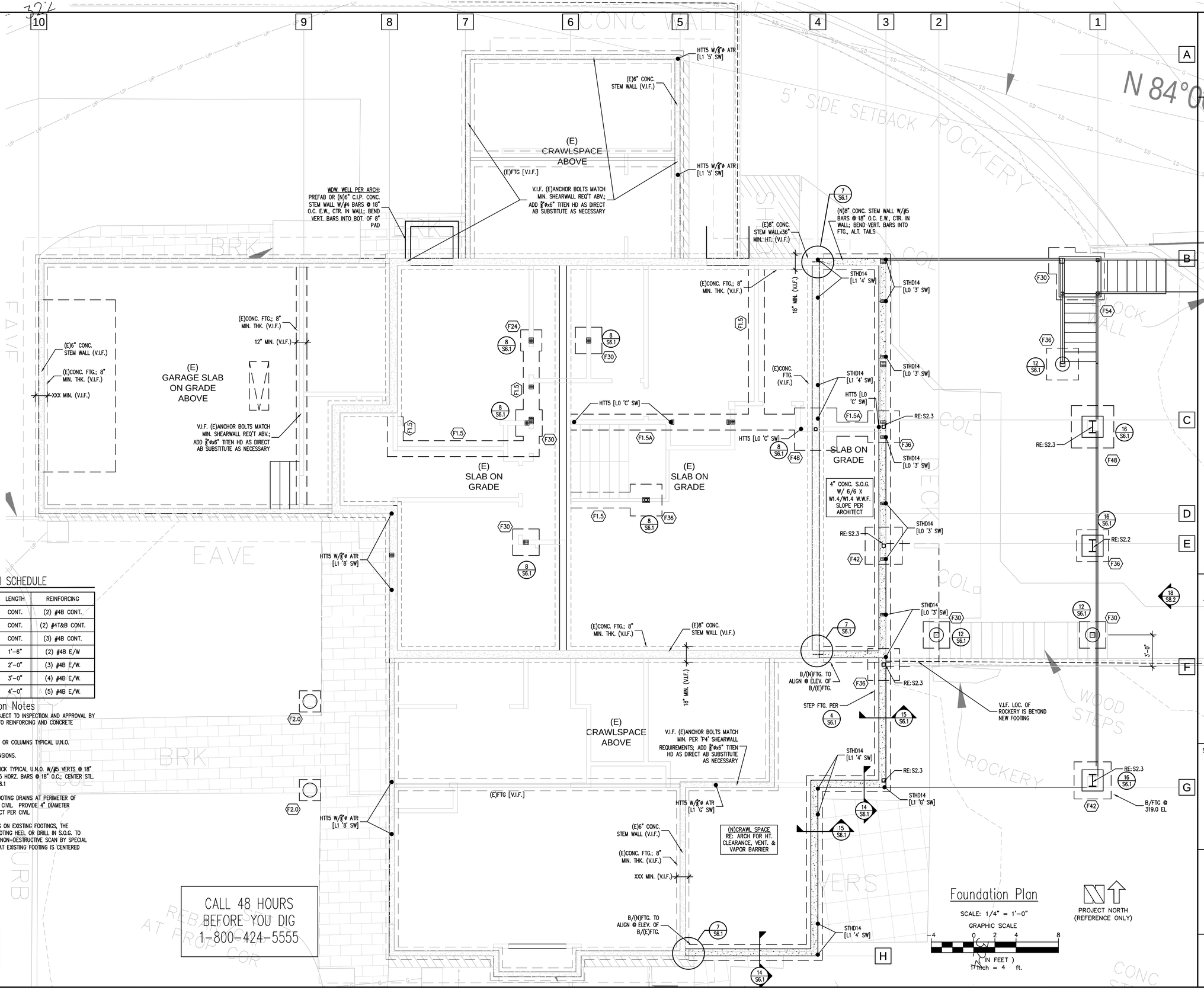


Sheet Name:

SPECIAL INSPECTION TABLES

Sheet No:

S1.4



FOUNDATION SCHEDULE

MARK	DEPTH	WIDTH	LENGTH	REINFORCING
F1.5	10"	1'–6"	CONT.	(2) #4B CONT.
F1.5A	15"	1'–6"	CONT.	(2) #4T&B CONT.
F2.0	10"	2'–0"	CONT.	(3) #4B CONT.
F18	10"	1'–6"	1'–6"	(2) #4B E/W
F24	10"	2'–0"	2'–0"	(3) #4B E/W.
F36	10"	3'–0"	3'–0"	(4) #4B E/W.
F48	10"	4'–0"	4'–0"	(5) #4B E/W.

Foundation Notes

1. ALL SOIL BEARING SURFACES ARE SUBJECT TO INSPECTION AND APPROVAL BY THE GEOTECHNICAL ENGINEER PRIOR TO REINFORCING AND CONCRETE PLACEMENT.
2. CENTER INTERIOR FOOTINGS ON WALLS OR COLUMNS TYPICAL U.N.O.
3. SEE ARCHITECTURAL PLANS FOR DIMENSIONS.
4. NEW FOUNDATION WALLS TO BE 8" THICK TYPICAL U.N.O. W/#5 VERTS @ 18" O.C. BENT INTO FOOTINGS (ALT.) & #5 HORZ. BARS @ 18" O.C.; CENTER STL. IN STEM WALL. REFER TO DETAIL 9/S6.1
5. PROVIDE 4" DIAMETER PERFORATED FOOTING DRAINS AT PERIMETER OF FOUNDATIONS TYPICAL, CONNECT PER CIVIL. PROVIDE 4" DIAMETER TIGHTLINES FOR DOWNSPOUTS, CONNECT PER CIVIL.
6. FOR V.I.F. (VERIFY IN FIELD) CALLOUTS ON EXISTING FOOTINGS, THE CONTRACTOR MAY DIG TO EXPOSE FOOTING HEEL OR DRILL IN S.O.G. TO PROBE FOR THICKNESS & WIDTH (OR NON-DESTRUCTIVE SCAN BY SPECIAL INSPECTOR); IT MAY BE ASSUMED THAT EXISTING FOOTING IS CENTERED BELOW FOUNDATION WALL.

Framing Legend

—Ⓢ FTG. STEP PER 4/S6.1

Note:
PLANS PREPARED USING ARCHITECTURAL BACKGROUNDS RECEIVED 07/23/2024

CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555

Foundation Plan

SCALE: 1/4" = 1'–0"

GRAPHIC SCALE
-4 0 2 4 8
(IN FEET)
1 inch = 4 ft.

PROJECT NORTH (REFERENCE ONLY)

FM CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

9150 SE 54th St, Mercer Island, WA 98040

Permit check set

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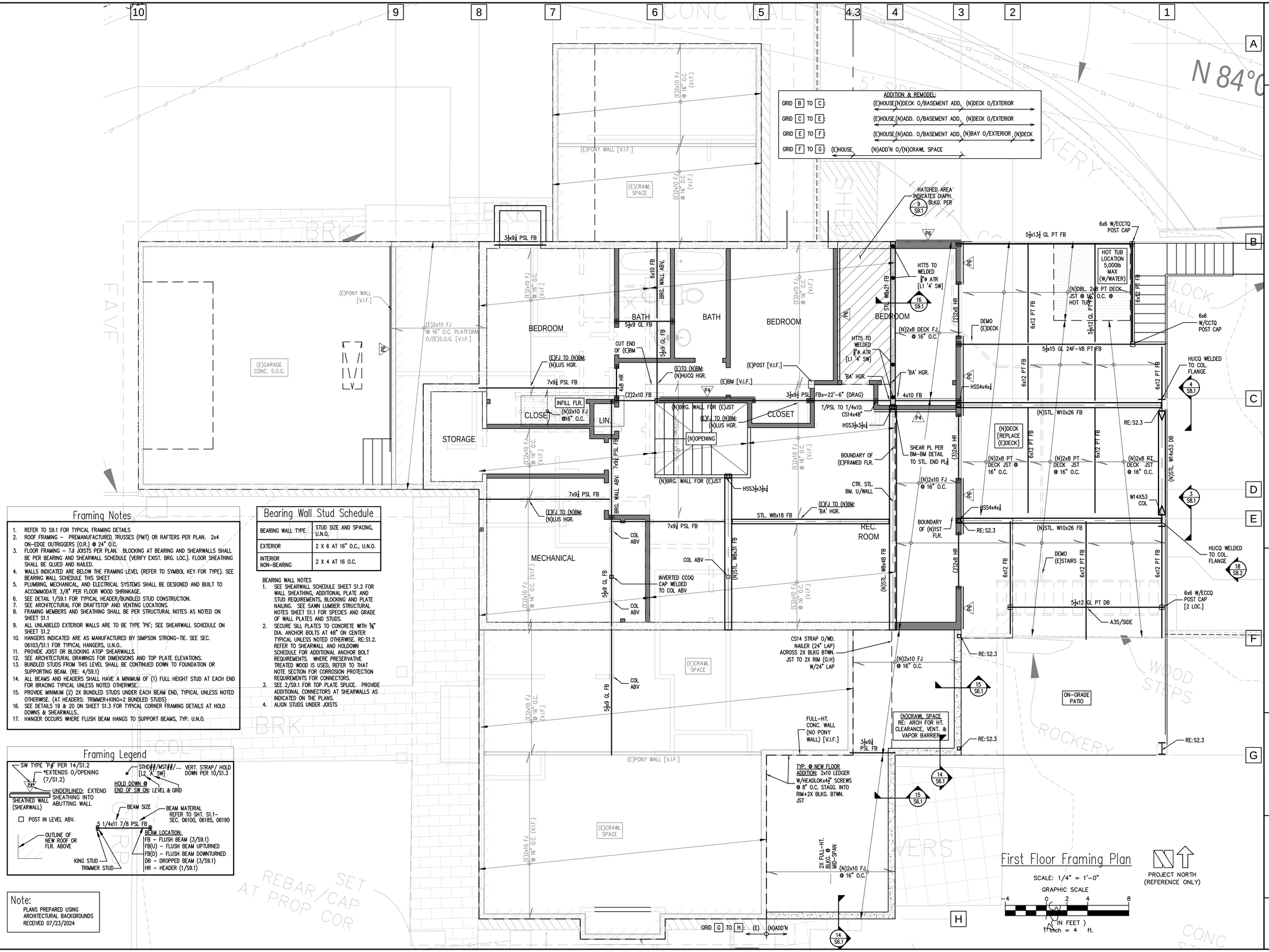
NELS R. TRYGSTAD — STATE OF WASHINGTON — 25559 — REGISTERED PROFESSIONAL ENGINEER — 4/25/24 — RENEWAL 4/25/26

Sheet Name:

FOUNDATION PLAN

Sheet No:

S2.1



Framing Notes

1. REFER TO S9.1 FOR TYPICAL FRAMING DETAILS
2. ROOF FRAMING – PREMANUFACTURED TRUSSES (PMT) OR RAFTERS PER PLAN. 2x4 ON-EDGE OUTRIGGERS (O.R.) @ 24" O.C.
3. FLOOR FRAMING – TJI JOISTS PER PLAN. BLOCKING AT BEARING AND SHEARWALLS SHALL BE PER BEARING AND SHEARWALL SCHEDULE (VERIFY EXIST. BRG. LOC.). FLOOR SHEATHING SHALL BE GLUED AND NAILED.
4. WALLS INDICATED ARE BELOW THE FRAMING LEVEL (REFER TO SYMBOL KEY FOR TYPE). SEE BEARING WALL SCHEDULE THIS SHEET
5. PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
6. SEE DETAIL 1/S9.1 FOR TYPICAL HEADER/BUNDLED STUD CONSTRUCTION.
7. SEE ARCHITECTURAL FOR DRAFTSTOP AND VENTING LOCATIONS.
8. FRAMING MEMBERS AND SHEATHING SHALL BE PER STRUCTURAL NOTES AS NOTED ON SHEET S1.1
9. ALL UNLABELED EXTERIOR WALLS ARE TO BE TYPE 'P6'; SEE SHEARWALL SCHEDULE ON SHEET S1.2
10. HANGERS INDICATED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE. SEE SEC. 06103/S1.1 FOR TYPICAL HANGERS, U.N.O..
11. PROVIDE JOIST OR BLOCKING ATOP SHEARWALLS.
12. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.
13. BUNDLED STUDS FROM THIS LEVEL SHALL BE CONTINUED DOWN TO FOUNDATION OR SUPPORTING BEAM. (RE: 4/S9.1)
14. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD AT EACH END FOR BRACING TYPICAL UNLESS NOTED OTHERWISE.
15. PROVIDE MINIMUM (2) 2X BUNDLED STUDS UNDER EACH BEAM END, TYPICAL UNLESS NOTED OTHERWISE. (AT HEADERS: TRIMMER+KING=2 BUNDLED STUDS)
16. SEE DETAILS 19 & 20 ON SHEET S1.3 FOR TYPICAL CORNER FRAMING DETAILS AT HOLD DOWNS & SHEARWALLS..
17. HANGER OCCURS WHERE FLUSH BEAM HANGS TO SUPPORT BEAMS, TYP. U.N.O.

Bearing Wall Stud Schedule

BEARING WALL TYPE	STUD SIZE AND SPACING, U.N.O.
EXTERIOR	2 X 6 AT 16" O.C., U.N.O.
INTERIOR NON-BEARING	2 X 4 AT 16 O.C.

BEARING WALL NOTES
1. SEE SHEARWALL SCHEDULE SHEET S1.2 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING AND PLATE NAILING. SEE SAWN LUMBER STRUCTURAL NOTES SHEET S1.1 FOR SPECIES AND GRADE OF WALL PLATES AND STUDS.
2. SECURE SILL PLATES TO CONCRETE WITH ⅝" DIA. ANCHOR BOLTS AT 48" ON CENTER TYPICAL UNLESS NOTED OTHERWISE. RE:S1.2. REFER TO SHEARWALL AND HOLDOWN SCHEDULE FOR ADDITIONAL ANCHOR BOLT REQUIREMENTS. WHERE PRESERVATIVE TREATED WOOD IS USED, REFER TO THAT NOTE SECTION FOR CORROSION PROTECTION REQUIREMENTS FOR CONNECTORS.
3. SEE 2/S9.1 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEARWALLS AS INDICATED ON THE PLANS.
4. ALIGN STUDS UNDER JOISTS

Framing Legend

Note:
PLANS PREPARED USING ARCHITECTURAL BACKGROUNDS RECEIVED 07/23/2024

First Floor Framing Plan
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE
−4 0 2 4 8
(IN FEET)
1 inch = 4 ft.

PROJECT NORTH (REFERENCE ONLY)

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE
9150 SE 54th St, Mercer Island, WA 98040

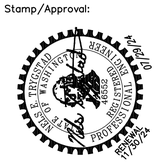
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TE Job # 24310

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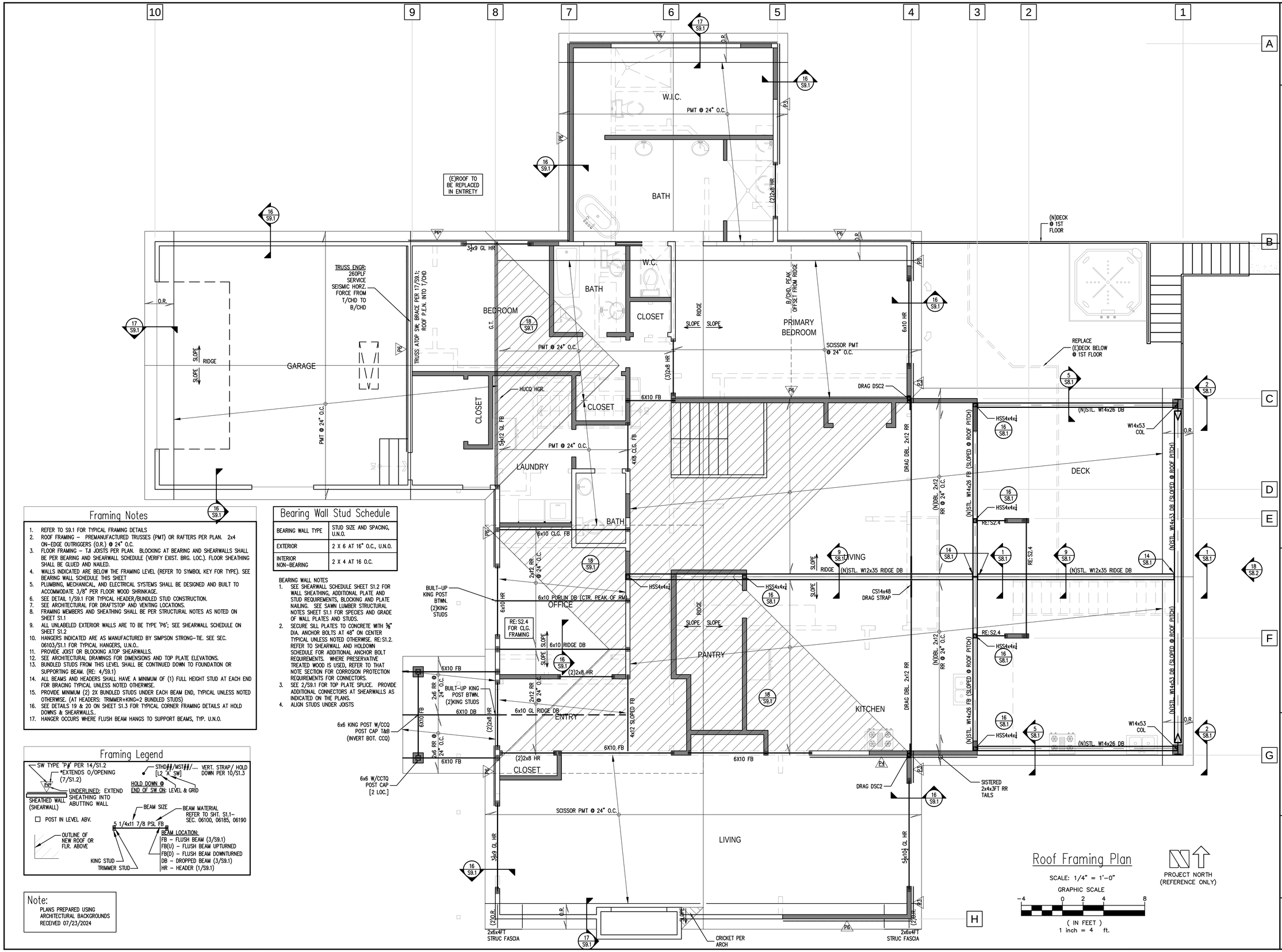
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Sheet Name:
FIRST FLOOR FRAMING PLAN

Sheet No:
S2.2



Framing Notes

1. REFER TO S9.1 FOR TYPICAL FRAMING DETAILS
2. ROOF FRAMING – PREMANUFACTURED TRUSSES (PMT) OR RAFTERS PER PLAN. 2x4 ON-EDGE OUTRIGGERS (O.R.) @ 24" O.C.
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4. ALIGN STUDS UNDER JOISTS

Framing Legend

Note:
PLANS PREPARED USING ARCHITECTURAL BACKGROUNDS RECEIVED 07/23/2024

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

9150 SE 54th St, Mercer Island, WA 98040

Permit check set

TE Job # 24310

Description	Date
Permit Intake	12/09/24

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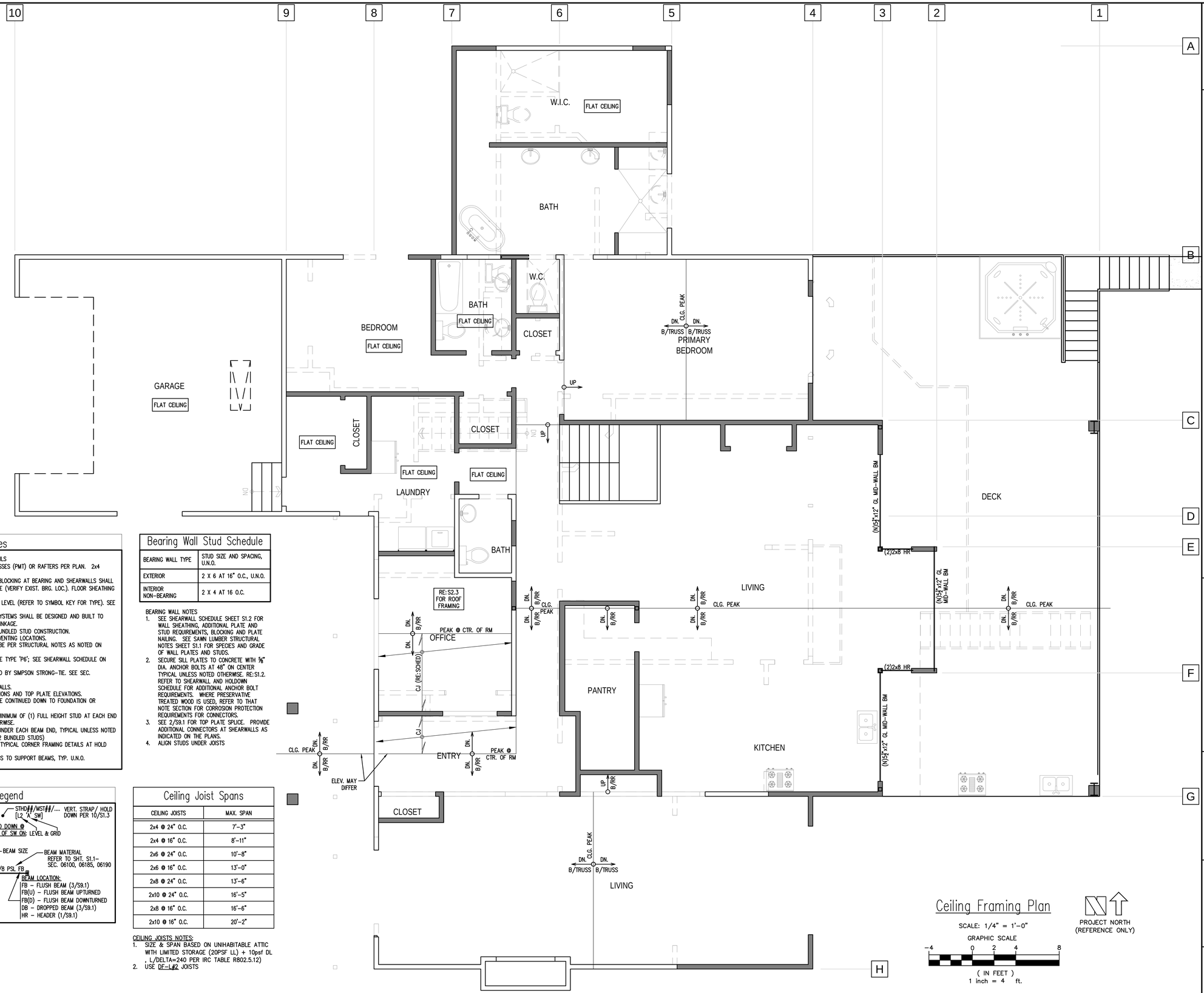


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ROOF FRAMING PLAN

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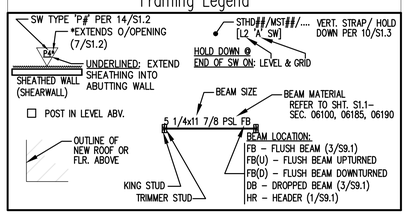
S2.3



Framing Notes

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Framing Legend



Bearing Wall Stud Schedule

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3. SEE 2/S9.1 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEARWALLS AS INDICATED ON THE PLANS.
4. ALIGN STUDS UNDER JOISTS

Ceiling Joist Spans

CEILING JOISTS	MAX. SPAN
2x4 @ 24" O.C.	7'-3"
2x4 @ 16" O.C.	8'-11"
2x6 @ 24" O.C.	10'-8"
2x6 @ 16" O.C.	13'-0"
2x8 @ 24" O.C.	13'-6"
2x10 @ 24" O.C.	16'-5"
2x8 @ 16" O.C.	16'-6"
2x10 @ 16" O.C.	20'-2"

CEILING JOISTS NOTES:

1. SIZE & SPAN BASED ON UNIHABITABLE ATTIC WITH LIMITED STORAGE (20PSF LL) + 10psf DL , L/DELTA=240 PER IRC TABLE R802.5.12)
2. USE DF-L#2 JOISTS

Note:
PLANS PREPARED USING ARCHITECTURAL BACKGROUNDS RECEIVED 07/23/2024

Ceiling Framing Plan

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

GRAPHIC SCALE
−4 0 2 4 8
(IN FEET)
1 inch = 4 ft.

PROJECT NORTH (REFERENCE ONLY)

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

9150 SE 54th St, Mercer Island, WA 98040

Permit check set

TE Job # 24310

Description	Date
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nels@trygstadeng.com
(208)262-6884

Stamp/Approval:



Sheet Name:

CEILING & 1ST FLOOR MID-WALL FRAMING PLAN

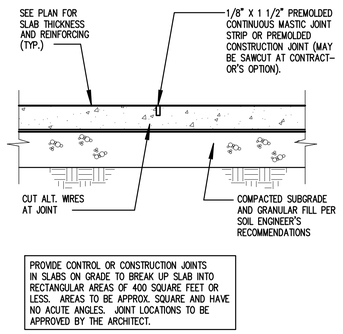
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S2.4

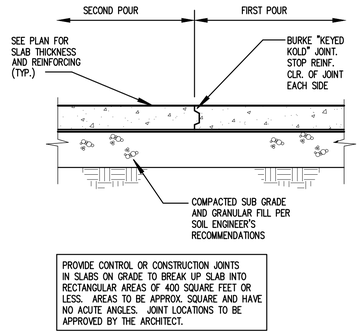
BAR SIZE	LAP CLASS	F'c = 3000PSI		F'c = 4000PSI		F'c = 5000PSI	
		TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	A	17	14	15	12	14	12
	B	23	17	20	15	18	14
#4	A	23	18	20	16	18	14
	B	30	23	26	20	23	18
#5	A	29	22	25	19	22	17
	B	37	29	32	25	29	22
#6	A	35	27	30	23	27	21
	B	45	35	39	30	35	27
#7	A	63	48	54	42	49	37
	B	81	63	70	54	63	49
#8	A	72	55	62	48	55	43
	B	93	72	80	62	72	55
#9	A	81	62	70	54	63	48
	B	105	81	91	70	81	63

1. LENGTHS SHOWN ARE IN INCHES.
2. TENSION LAP SPLICES SHALL BE CLASS B UNLESS ONE HALF OR LESS OF THE TOTAL REINFORCEMENT IS SPLICED WITHIN THE REQUIRED LAP LENGTH.
3. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS.
4. TENSION LAP SPLICE SHOWN ABOVE ARE FOR CONCRETE COVER GREATER THAN OR EQUAL TO BAR DIAMETER AND CENTER TO CENTER SPACING GREATER THAN TWO BAR DIAMETERS (SPACING AND COVER CASE 1).
5. INCREASE LAP SPLICE LENGTH BY 1.5 FOR EPOXY COATED REINFORCEMENT.
6. INCREASE LAP SPLICE LENGTH BY 1.3 FOR LIGHT WEIGHT CONCRETE.
7. COMPRESSION LAP SPLICES SHALL BE A MINIMUM OF 30 BAR DIAMETERS UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

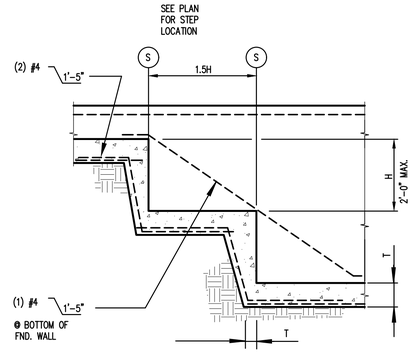
1 LAP SPLICE SCHEDULE



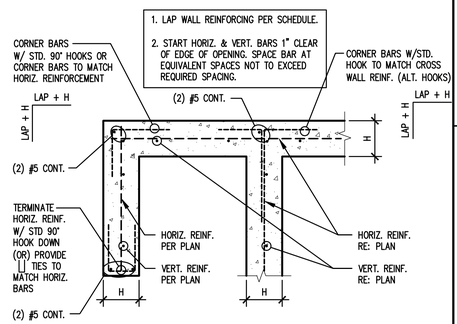
2 TYPICAL CONTROL JOINT



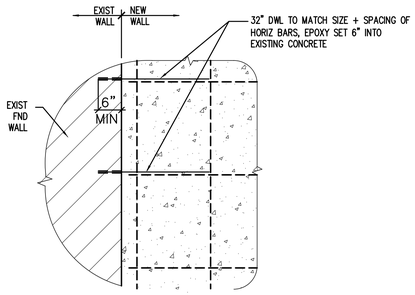
3 TYPICAL CONSTRUCTION JOINT



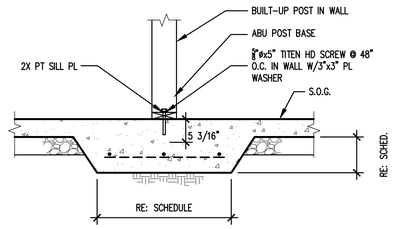
4 TYPICAL STEPPED FOOTING



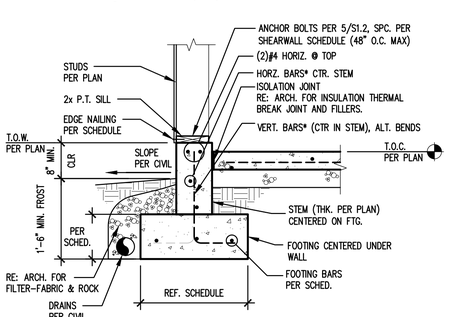
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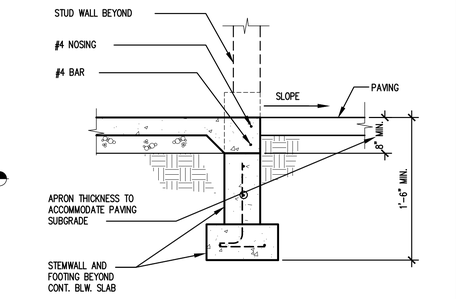
6 NEW FOUNDATION TO EXIST. FND CONN.



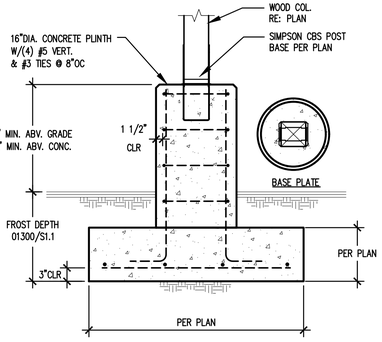
8 TYPICAL INTERIOR POST ON SLAB



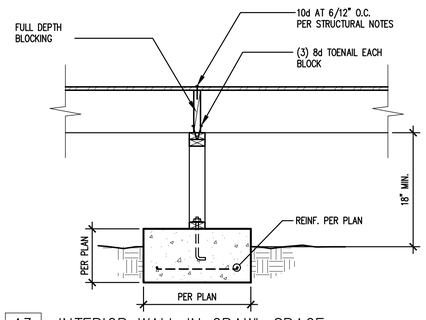
9 TYPICAL EXTERIOR FOOTING



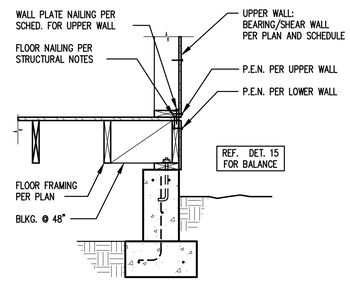
10 GARAGE APRON



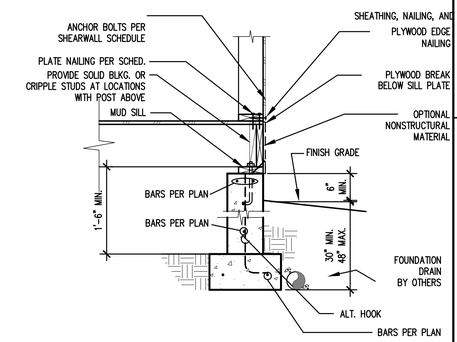
12 TYP. WOOD COL. ON CONC. PLINTH



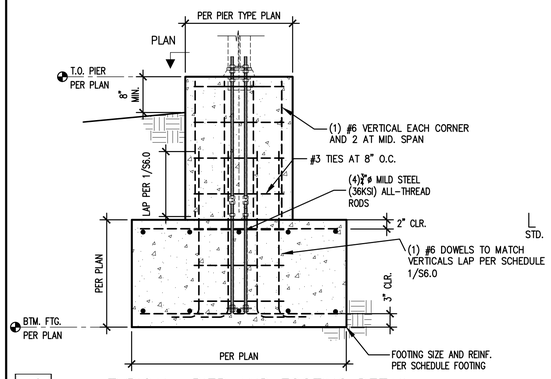
13 INTERIOR WALL IN CRAWL SPACE



14 FOOTING (FRAMING PARALLEL)

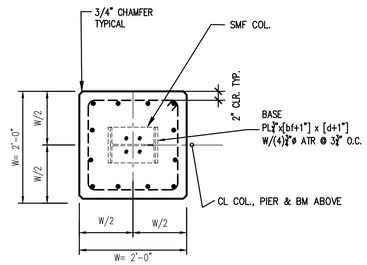


15 FOOTING (FRAMING PERP.)



16 TYPICAL PIER AND FOOTING DETAIL

PIER TYPE A



PLAN VIEW AT PIER W/ (1) COL. (ORIENT PER PLAN)

18

19

20

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

9150 SE 54th St, Mercer Island, WA 98040

Permit check set

TE Job # 24310

Description	Date
Permit Intake	12/09/24

Tryg·stad ENGINEERING
nels@trygstadeng.com
(208)262-6884

Stamp/Approval:

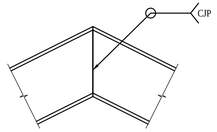


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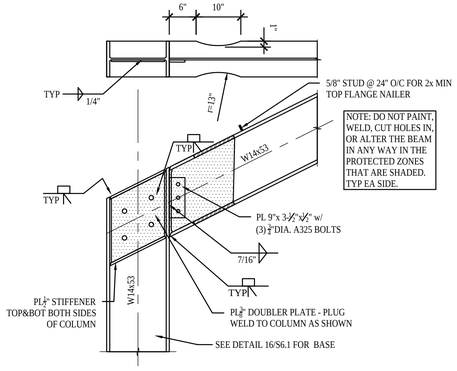
FOUNDATION DETAILS

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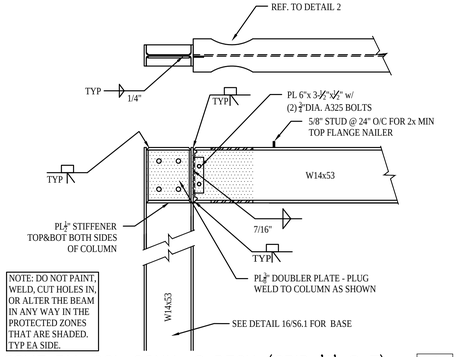
S6.1



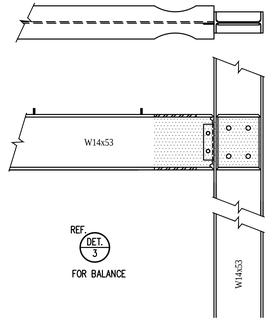
1 BENT STEEL FRAME @ PEACK



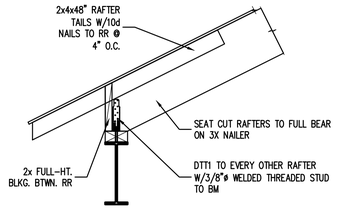
2 SSMF BM-COL CONN. @ ROOF (GRID '1' @ C&G)



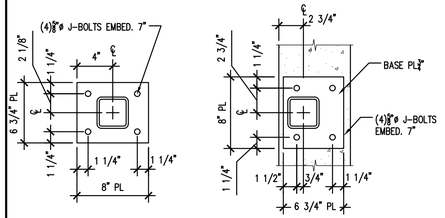
3 SSMF BM-COL CONN. @ DECK (GRID '1' @ E)

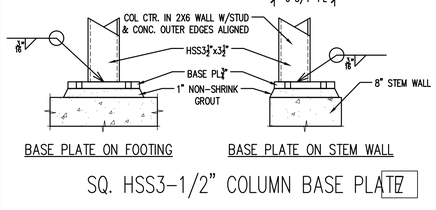


4 SSMF BM-COL CONN. @ DECK (GRID '1' @ C)

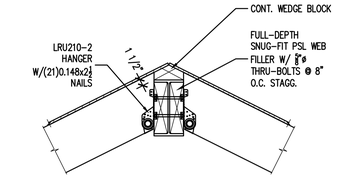


5 ROOF RAFTERS TO STL. BEAM

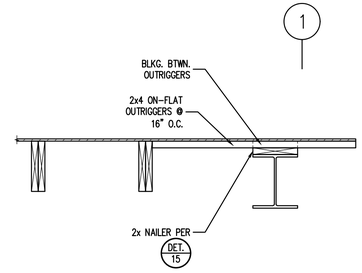




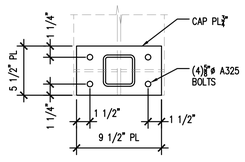
6 SQ. HSS3-1/2" COLUMN BASE PLATE



9 ROOF RAFTERS TO STEEL RIDGE BEAM

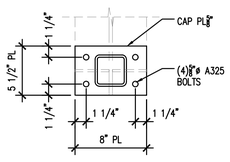


10 FLAT-OUTRIGGERS OVER STEEL BEAM



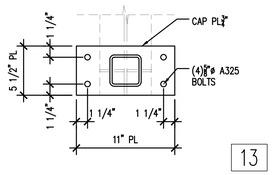
CAP PLATE TOP VIEW

11

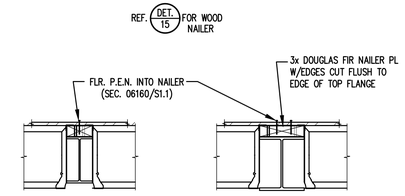


CAP PLATE TOP VIEW

13



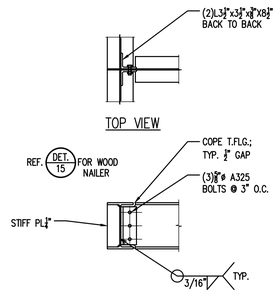
CAP PLATE TOP VIEW



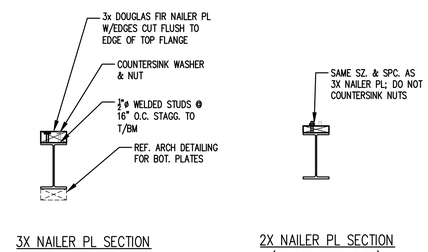
SECTION OF FLUSH W10

SECTION OF FLUSH W12

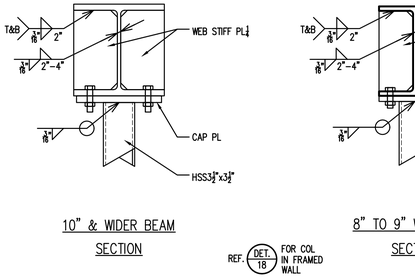
14 W10 STL. BM TO STL. BEAM



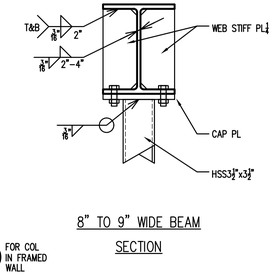
W10 STL. BM TO STL. BEAM



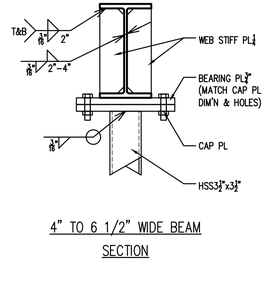
15 WOOD NAILER PLATE ON STEEL BEAM



10" & WIDER BEAM SECTION



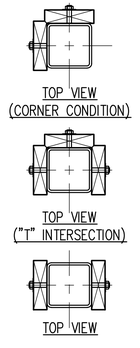
8" TO 9" WIDE BEAM SECTION

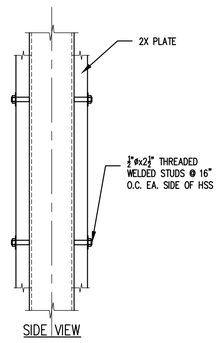


4" TO 6 1/2" WIDE BEAM SECTION

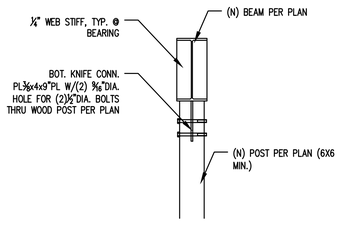
REF. DET. 18 FOR COL IN FRAMED WALL

16 STL. BM. TO SQ. HSS3-1/2" COLUMN

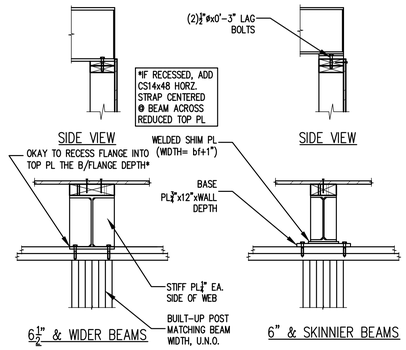




18 TYP. 2X NAILER TO HSS COLUMN



19 STEEL BEAM TO 6X6 POST



20 STEEL BEAM ON WOOD WALL

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

9150 SE 54th St, Mercer Island, WA 98040

Permit check set

TE Job # 24310

Description	Date
Permit Intake	12/09/24

Tryg·stad ENGINEERING
nels@trygstadeng.com
(208)262-6884

Stamp/Approval:

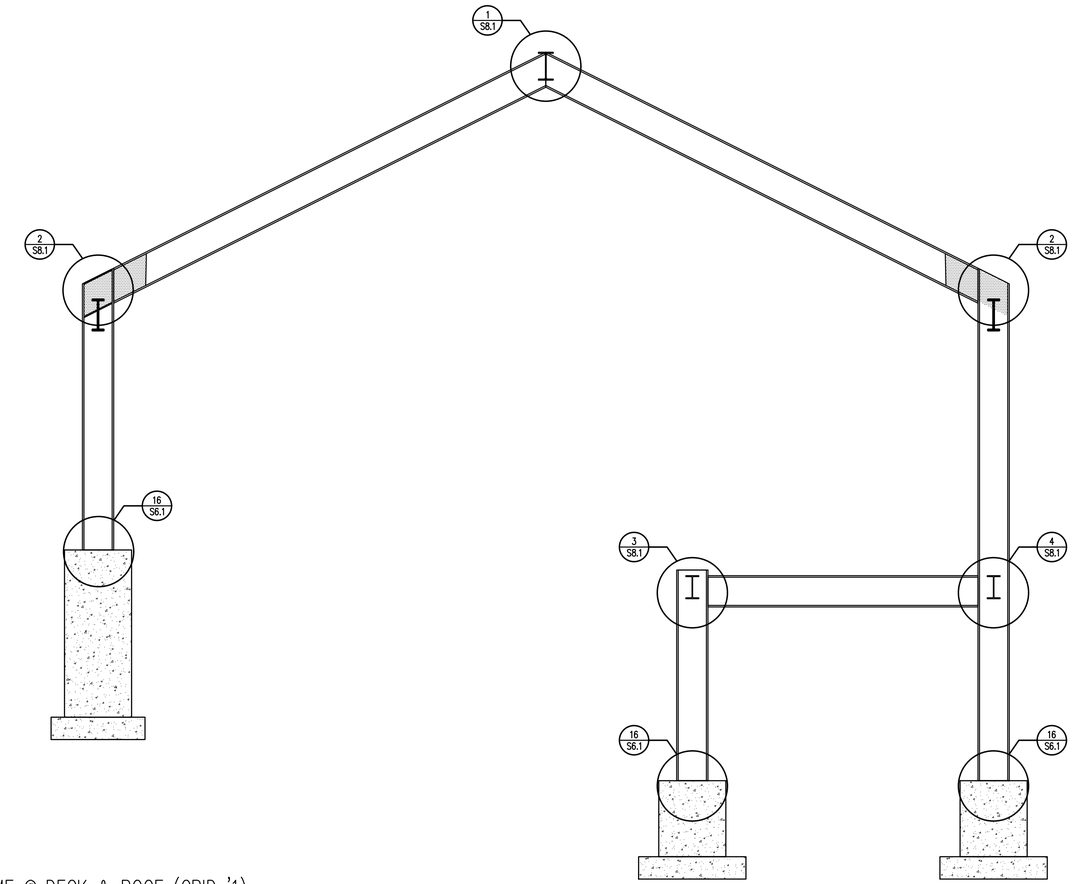


Sheet Name:

STEEL FRAMING DETAILS

Sheet No:

S8.1



18 ELEVATION OF SSMF @ DECK & ROOF (GRID '1)

CONSTRUCTION
AND REMODELING

SCHARHON - RESIDENCE

9150 SE 54th St, Mercer Island, WA 98040

Permit check set

TE Job # 24310

Description	Date
Permit Intake	12/09/24

Tryg·stad ENGINEERING
nels@trygstadeng.com
(208)262-6884

Stamp/Approval:

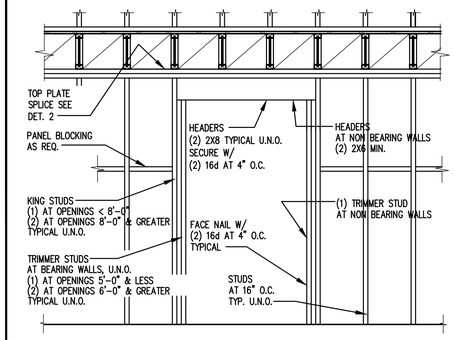


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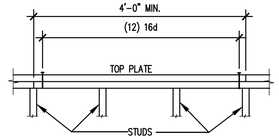
SPECIAL STEEL MOMENT FRAME ELEVATION

Sheet No:

S8.2



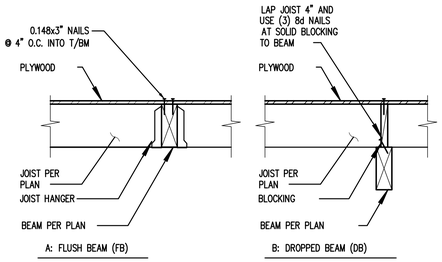
1 TYPICAL HEADER at WALL



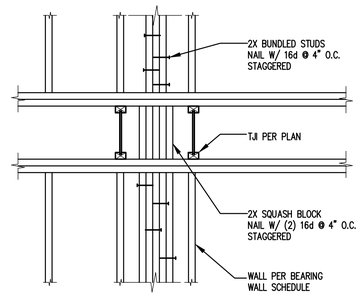
TOP PLATE SPLICE NOTES

1. SPLICE AND NAIL TOP PLATES AS SHOWN AT ALL EXTERIOR, PLUMBING, PARTY AND SHEARWALLS AT EACH FLOOR LEVEL AND AT ROOF.
2. PROVIDE (2) LSTA 36 STRAP W/(26) 10d NAIL ONE EACH SIDE WHERE DRILLED HOLES EXCEED THE FOLLOWING: 1" FOR 2X4 3" FOR 2X6 WALL PLATES. CENTER ALL HOLES MINIMUM EDGE DISTANCE = 1 1/4"

2 TYPICAL TOP PLATE SPLICE



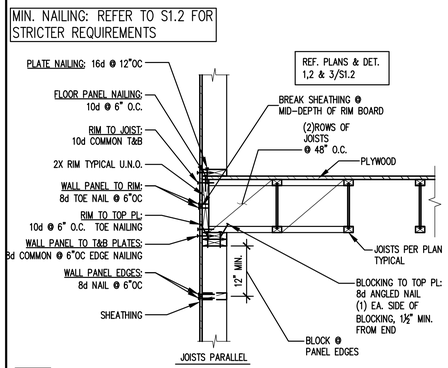
3 TYPICAL CONNECTION TO WOOD BEAM



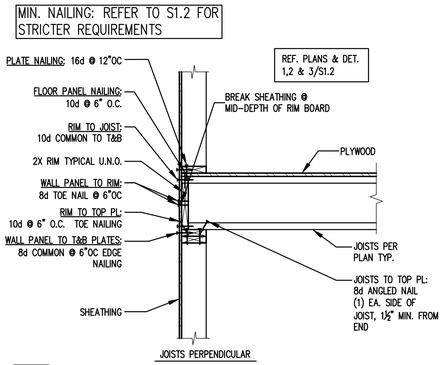
4 TYPICAL BLOCKING at BUNDLED STUDS

FASTENING SCHEDULE (IBC TABLE 2304.10.1)

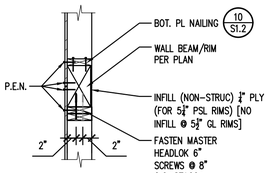
CONNECTION	FASTENING (a, m)	LOCATION
1. JOIST TO SILL OR GIRDER	(3) 8d COMMON (3) 3" X 0.131" NAILS	TOENAIL TOENAIL
2. BRIDGING TO JOIST	(3) 8d COMMON (3) 3" X 0.131" NAILS	TOENAIL EA. END TOENAIL EA. END
3. 1X6 OR LESS SUBFLOOR TO JST.	(2) 8d COMMON	FACE NAIL
4. 1X6 OR LESS SUBFLOOR TO JST.	(3) 8d COMMON	FACE NAIL
5. 2" SUBFLOOR TO JST./GIRDER	(2) 16d COMMON	BLIND & FACE NAIL
6. SOLE PLATE TO JST. OR BLKG.	16d AT 16" O.C. 3" X 0.131" NAILS AT 8" O.C.	TYP. FACE NAIL TYP. FACE NAIL
SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANEL	(3) 16d COMMON AT 16" O.C. (4) 3" X 0.131" NAILS AT 16" O.C.	BRACED WALL PANELS BRACED WALL PANELS
7. TOP PLATE TO STUD	(2) 16d COMMON (3) 3" X 0.131" NAILS	END NAIL END NAIL
8. STUD TO SOLE PLATE	(4) 8d COMMON (4) 3" X 0.131" NAILS	TOENAIL TOENAIL
	(2) 16d COMMON (3) 3" X 0.131" NAILS	END NAIL END NAIL
9. DOUBLE STUDS	16d COMMON AT 24" O.C. 3" X 0.131" NAILS AT 8" O.C.	FACE NAIL FACE NAIL
10. DOUBLE TOP PLATES	16d COMMON AT 16" O.C. 3" X 0.131" NAIL AT 12" O.C.	TYP. FACE NAIL TYP. FACE NAIL
DOUBLE TOP PLATE SPLICE	(8) 16d COMMON (12) 3" X 0.131" NAILS	LAP SPLICE LAP SPLICE
11. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	(3) 8d COMMON (3) 3" X 0.131" NAILS	TOENAIL TOENAIL
12. RIM JOIST TO TOP PLATE	8d COMMON AT 6" O.C. 3" X 0.131" NAILS AT 6" O.C.	TOENAIL TOENAIL
13. TOP PLATES, CORNER LAPS AND INTERSECTIONS	(2) 16d COMMON (3) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
14. CONTINUOUS HEADER, TWO PIECES	16d COMMON AT 16" O.C.	ALONG EDGE
15. CEILING JOISTS TO PLATE	(3) 8d COMMON (5) 3" X 0.131" NAILS	TOENAIL TOENAIL
16. CONTINUOUS HEADER TO STUD	(4) 8d COMMON	TOENAIL
17. CEILING JOISTS, LAPS OVER PARTITIONS (SECTION 2308.10.4.1)	(3) 16d COMMON MIN.,TABLE 2308.10.4.1 (4) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
18. CEILING JOISTS TO PARALLEL RAFTERS (SECTION 2308.10.4.1)	(3) 16d COMMON MIN.,TABLE 2308.10.4.1 (4) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
19. RAFTER TO PLATE (SECTION 2308.10.1) (TABLE 2308.10.1)	(3) 8d COMMON (3) 3" X 0.131" NAILS	TOENAIL TOENAIL
20. 1" DIAGONAL BRACE TO EACH STUD AND PLATE	(2) 8d COMMON (2) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
21. 1"X8" SHEATHING TO EACH BEARING	(2) 8d COMMON	FACE NAIL
22. WIDER THAN 1"X8" SHEATHING TO EACH BEARING	(3) 8d COMMON	FACE NAIL
23. BUILT UP CORNER STUDS	16d COMMON 3" X 0.131" NAILS	24" O.C. 16" O.C.
24. BUILT UP GIRDER AND BEAMS	16d COMMON AT 32" O.C. 3" X 0.131" NAILS AT 24" O.C.	FACE NAIL TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
	(2) 20d COMMON (3) 3" X 0.131" NAILS	FACE NAIL AT ENDS AND
25. 2" PLANKS	16d COMMON	AT EACH BEARING
26. COLLAR TIE TO RAFTER	(3) 10d COMMON (4) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
27. JACK RAFTER TO HIP	(3) 10d COMMON (4) 3" X 0.131" NAILS	TOENAIL TOENAIL
	(2) 16d COMMON (3) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
28. ROOF RAFTER TO 2-BY RIDGE BEAM	(2) 16d COMMON (3) 3" X 0.131" NAILS	TOENAIL TOENAIL
	(2) 16d COMMON (3) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
29. JOIST TO BAND JOIST	(3) 16d COMMON (5) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
30. LEDGER STRIP	(3) 16d COMMON (4) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
31. WOOD STRUCTURAL PANELS TO FRAMING	SEE SHEARWALL SCHEDULE	SHEET S1.10
SUBFLOOR TO FRAMING	SEE STRUCTURAL NOTES	SECTION 06160



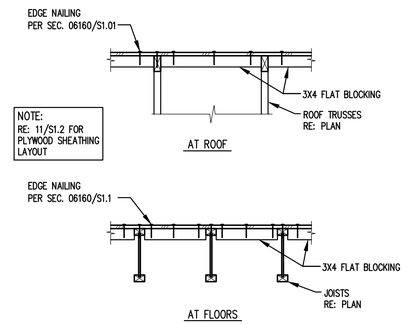
6 TYPICAL JOISTS PARALLEL TO WALL



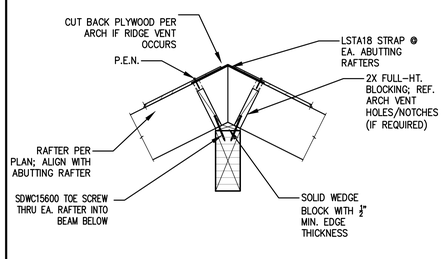
7 TYPICAL JOISTS PERPENDICULAR TO WALL



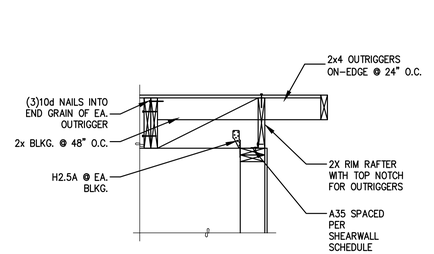
8 RIM BEAM @ STAIRS WELL



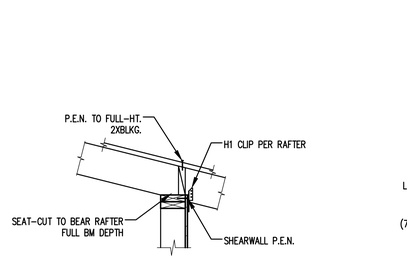
9 TYPICAL DIAPHRAGM FLAT BLOCKING



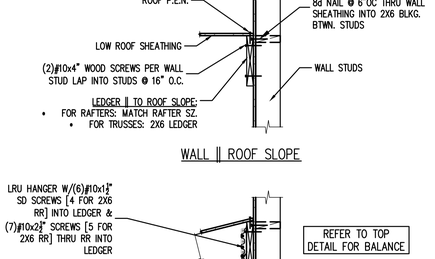
11 RAFTERS TO DROPPED RIDGE BEAM



12 TYP. OUTRIGGER TO WALL

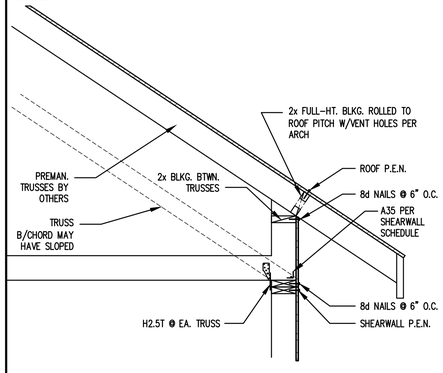


13 ROOF RAFTERS TO WALL

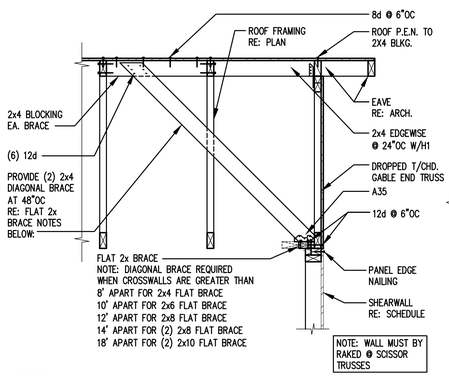


14 LOW ROOF TO WALL ⫴ ROOF SLOPE

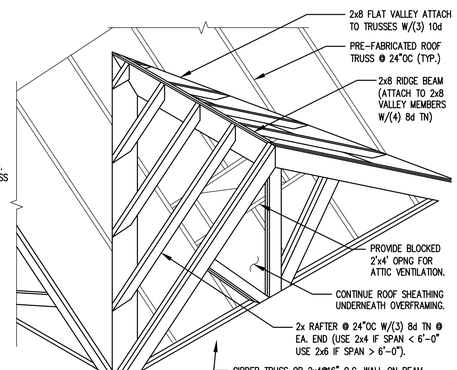
15 FASTENING SCHEDULE



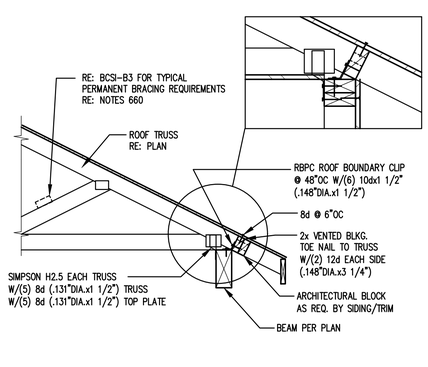
16 TRUSS TO WALL



17 TYPICAL TRUSS BRACING AT END WALLS



18 OVERFRAMING



19 TYPICAL TRUSS ON PORCH BEAM

20

CONSTRUCTION AND REMODELING

SCHARHON - RESIDENCE

9150 SE 54th St, Mercer Island, WA 98040

Permit check set

TE Job # 24310

Description	Date
Permit Intake	12/09/24

Tryg·stad ENGINEERING
nels@trygstadeng.com
(208)262-6884

Stamp/Approval:



Sheet Name:

FRAMING DETAILS

Sheet No:

S9.1