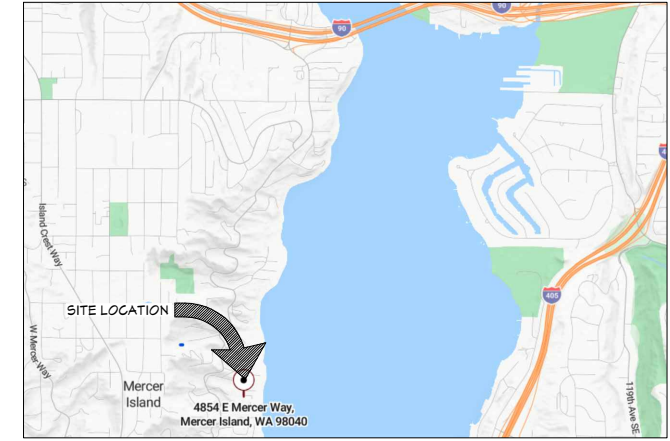


PROJECT NAME:

MERCER ISLAND REMODEL



VICINITY MAP
N.T.S.

IMPERVIOUS SURFACES

		H PROPOSED (SF)	I EXISTING (SF)
A	MAIN STRUCTURE		1,886 SF
B	ADDITION	210 SF	
C	ACCESSORY BUILDINGS (GARAGE, SHOP, SHED)		464 SF
D	DRIVEWAYS		2,268 SF
E	SIDEWALKS, PATHWAYS, PATIOS		19 SF
F	OTHER IMPERVIOUS AREAS		
G	TO BE REMOVED		
J	TOTAL (A+B+C+D+E+F)	210 SF	4,697 SF
K	TOTAL PROPOSED AND EXISTING (H+I)-(G)	4,697 SF	
L	SQUARE FEET OF PARCEL (ONE ACRE = 43,560 SQ. FT.)	14,607 SF	
M	PERCENTAGE OF IMPERVIOUS SURFACE COVERAGE (K DIVIDED BY L)	32.2%	

GENERAL NOTES

BUILDING CONTRACTOR/HOME OWNER TO REVIEW AND VERIFY ALL DIMENSIONS, SPECS, AND CONNECTIONS BEFORE CONSTRUCTION BEGINS.

TO THE BEST OF MY KNOWLEDGE THESE PLANS ARE DRAWN TO COMPLY WITH OWNER'S AND/OR BUILDER'S SPECIFICATIONS AND ANY CHANGES MADE ON THEM AFTER PRINTS ARE MADE WILL BE DONE AT OWNER'S AND/OR BUILDER'S EXPENSE AND RESPONSIBILITY. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ENCLOSED DRAWING. NORTHWEST PERMIT SOLUTIONS, INC. IS NOT LIABLE FOR ERRORS ONCE CONSTRUCTION HAS BEGUN. WHILE EVERY EFFORT HAS BEEN MADE IN THE PREPARATION OF THIS PLAN TO AVOID MISTAKES, THE MAKER CAN NOT GUARANTEE AGAINST HUMAN ERROR. THE CONTRACTOR OF THE JOB MUST CHECK ALL DIMENSIONS AND OTHER DETAILS PRIOR TO CONSTRUCTION AND BE SOLELY RESPONSIBLE THEREAFTER.



PROJECT DATA

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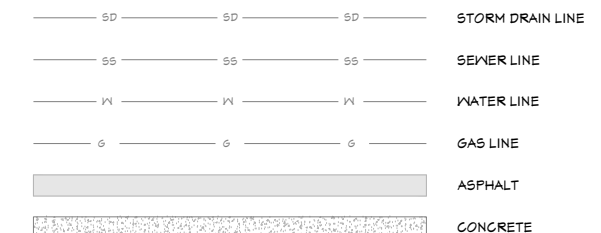
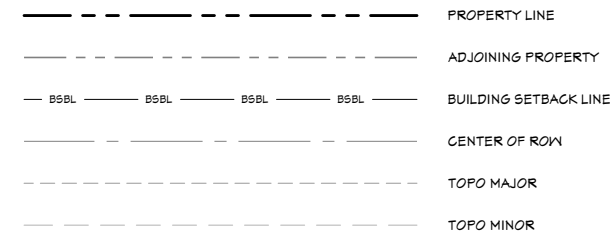
FOR OF GL 1 BEG S 00-11-00 W 415 FT & N 89-41-00 W 195 FT FR MDR COR ON N LN OF SEC TH S 89-41-00 E 163 FT TH S 00-11-00 W 76.72 FT M/L TO BNDRY LN DESC UNDER AUD # 6153296 TH N 88-52-25 W 193.20 FT TH NELY 68 FT M/L ALG LN IF EXTND WOULD BE 17 FT W OF BEG TH S 89-41-00 E TAP W/GH BEARS S 00-11-00 W FR BEG TH N 00-11-00 E 12 FT TO BEG

OWNER NAME: RACHEL SINDORF
 OWNER NUMBER: (907) 250-9611
 OWNER ADDRESS: 4854 E MERCER WAY
 MERCER ISLAND, WA 98040

PARCEL NO.: 1924059278
 PROPERTY TYPE: RESIDENTIAL
 ACRES: 0.34 AC (14,607 SF)
 JURISDICTION: MERCER ISLAND
 ADDRESS: 4854 E MERCER WAY
 MERCER ISLAND, WA 98040

ZONING: R-15
 MIN. SETBACKS: FRONT: 20'
 SIDES: 5'
 REAR: 25'

MAX HEIGHT: 30'
 WATER: PUBLIC
 SEWER/SEPTIC: PUBLIC
 ROAD ACCESS: PUBLIC
 STREET SURFACE: PAVED



MERCER ISLAND REMODEL
 4854 E MERCER WAY
 MERCER ISLAND, WA 98040
 TPN: 1924059278

MARK MEHLHAFF

DESIGNED BY: NWPS

DRAFTED BY: AAA

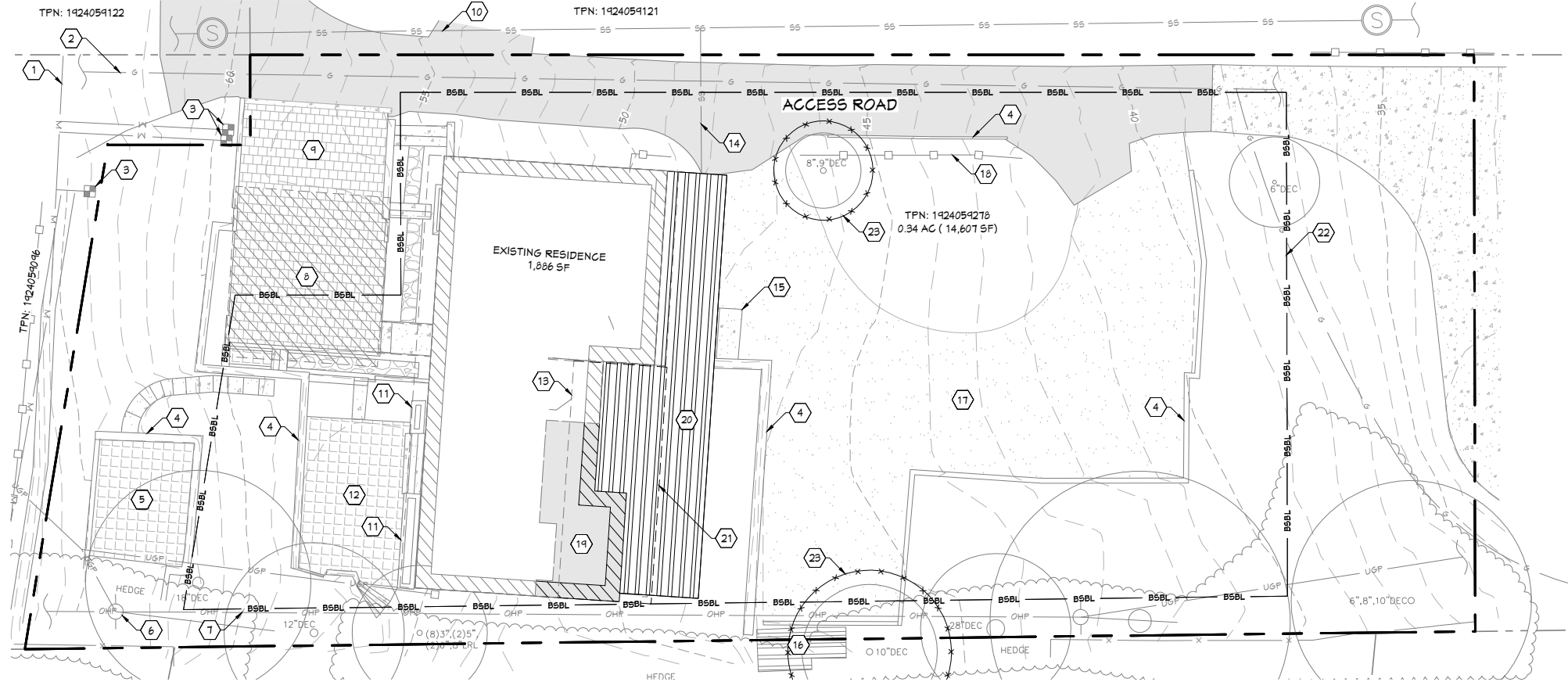
DATE: 10/7/2025

SHEET TITLE: PROJECT DATA

PROJECT NUMBER: 25-068

SHEET NUMBER: C-1

\\mapserver\Dat\NWPS\PROJECTS\2025\25-068-4854 EAST MERCER WAY\CADD\SUBS\CIVIL\SITE PLANS\25-068 E MERCER WAY 9F.dwg



LOT SLOPE CALCULATION	
HIGHEST ELEVATION POINT OF LOT:	67'
LOWEST ELEVATION POINT OF LOT:	34'
ELEVATION DIFFERENCE:	33'
HORIZONTAL DISTANCE BETWEEN HIGH AND LOW POINTS:	194.25'
LOT SLOPE*	16.68%

LOT COVERAGE CALCULATION	
GROSS LOT AREA:	14,607 SF
NET LOT AREA:	9,066 SF
ALLOWED LOT COVERAGE AREA:	5,112 SF
ALLOWED LOT COVERAGE:	35%
EXISTING LOT COVERAGE:	
-MAIN STRUCTURE ROOF AREA:	1,866 SF
-ACCESSORY BUILDING ROOF AREA:	464 SF
-VEHICULAR USE (DRIVEWAY, PAVED ACCESS, EASEMENTS [PORTION USED BY THE LOT FOR ACCESS] PARKING:	2,268 SF
-COVERED PATIOS AND COVERED DECKS:	79 SF
-TOTAL EXISTING LOT COVERAGE:	4,697 SF
TOTAL LOT COVERAGE AREA REMOVED:	0 SF
PROPOSED ADJUSTMENT FOR SINGLE STORY (AREA):	N/A
PROPOSED ADJUSTMENT FOR FLAG LOT:	N/A
TOTAL NEW LOT COVERAGE AREA:	
-MAIN STRUCTURE ROOF AREA:	210 SF
-ACCESSORY BUILDING ROOF AREA:	0 SF
-VEHICULAR USE (DRIVEWAY, PAVED ACCESS, EASEMENTS [PORTION USED BY THE LOT FOR ACCESS] PARKING:	0 SF
-COVERED PATIOS AND COVERED DECKS:	0 SF
-TOTAL NEW LOT COVERAGE AREA:	210 SF
TOTAL PROJECT LOT COVERAGE:	4,697 SF (32.2%)

HARDSCAPE CALCULATION	
GROSS LOT AREA:	14,607 SF
NET LOT AREA:	9,066 SF
AREA BORROWED FROM LOT COVERAGE:	0
ALLOWED HARDSCAPE AREA = 9% OF LOT AREA + C:	9%
ALLOWED HARDSCAPE AREA:	816
TOTAL EXISTING HARDSCAPE AREA:	
-UNCOVERED DECKS:	332 SF
-UNCOVERED PATIOS:	280 SF
-WALKWAYS:	96 SF
-STAIRS:	75 SF
-ROCKERIES/RETAINING WALLS:	251 SF
-OTHER:	0
TOTAL EXISTING HARDSCAPE AREA:	1,034 SF
TOTAL NEW HARDSCAPE AREA:	
-UNCOVERED DECKS:	357
-UNCOVERED PATIOS:	0
-WALKWAYS:	0
-STAIRS:	0
-ROCKERIES/RETAINING WALLS:	0
-OTHER:	0
TOTAL NEW HARDSCAPE AREA:	357
TOTAL PROJECT HARDSCAPE AREA:	1,391SF (15.3%)

- KEYNOTES**
- EXISTING WATER LINE
 - EXISTING GAS LINE
 - EXISTING WATER METERS
 - EXISTING BRICK WALL LESS THEN 4FT TALL
 - EXISTING PAVERS
 - EXISTING POWER POLL
 - EXISTING OVERHEAD POWER
 - EXISTING COVERED CAR PORT : 464 SF
 - EXISTING PAVERS
 - EXISTING SEWER MAIN
 - EXISTING FLOWER BED
 - EXISTING PAVERS
 - EXISTING ROOF OVERHANG: 1,554 SF
 - EXISTING SEWER LATERAL
 - EXISTING CONCRETE STEP: 20 SF
 - EXISTING DECK: 59 SF
 - EXISTING GRAVEL DRIVE: 2,268 SF
 - EXISTING WOODEN FENCE
 - PROPOSED ADDITION: 210 SF
 - PROPOSED DECK: 548 SF
 - PROPOSED ADDITION: 343
 - BUILDING SETBACK LINE
 - EXISTING TREES TO BE PROTECTED WITH A TREE PROTECTION FENCE.

TREE PROTECTION AREA (TPZ)

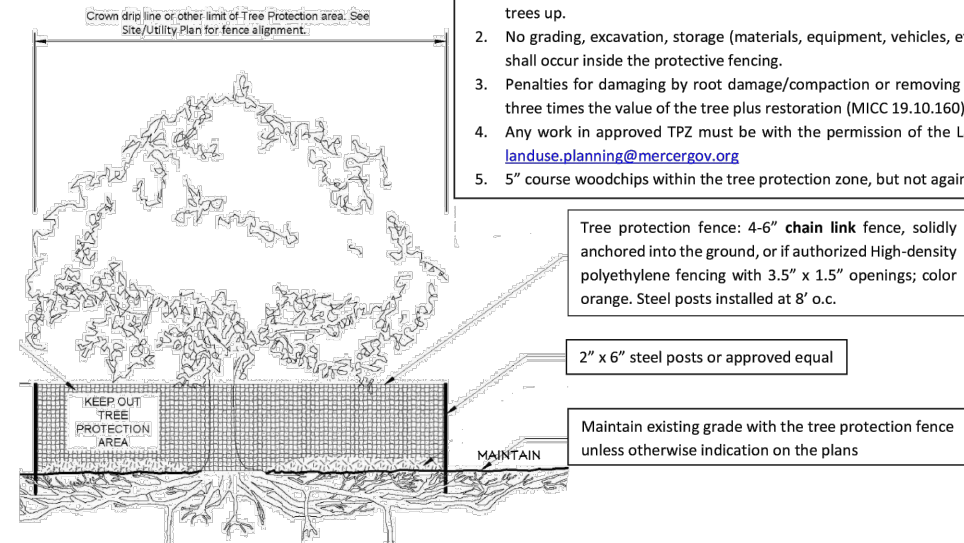
KEEP OUT!

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:

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

- Notes**
- No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
 - No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
 - 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).
 - Any work in approved TPZ must be with the permission of the Land Use and Planning Division at landuse.planning@mercergov.org
 - 5" course woodchips within the tree protection zone, but not against the tree trunk.

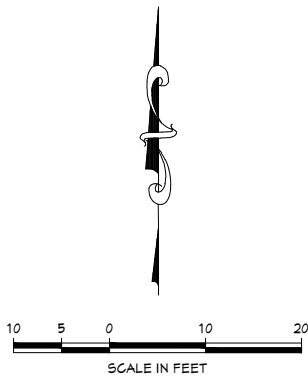


Tree protection fence: 4-6" chain link fence, solidly anchored into the ground, or if authorized High-density polyethylene fencing with 3.5" x 1.5" openings; color orange. Steel posts installed at 8' o.c.

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



PROJECT NAME:

EAST MERCER ADDITION



3D ISOMETRIC DRAWINGS ARE FOR ILLUSTRATION PURPOSES ONLY. PLANS, DETAILS, AND ENGINEERING TAKE PRECEDENCE OVER ANY 3D DRAWINGS WITHIN THIS PLAN.



Vicinity Map

PROJECT DATA:

LEGAL DESCRIPTION:

POR OF GL 1 BEG S 00-11-00 W 415 FT & N 89-41-00 W 195 FT FR MDR COR ON N LN OF SEC TH S 89-41-00 E 163 FT TH S 00-11-00 W 76.72 FT MIL TO BNDRY LN DESC UNDER AUD # 6153246 TH N 88-52-25 W 193.20 FT TH NELY 68 FT MIL ALG LN IF EXTND WOULD BE 17 FT W OF BEG TH S 89-41-00 E TAP WCH BEARS S 00-11-00 W FR BEG TH N 00-11-00 E 12 FT TO BEG

Owner Name: WALLIN JOSEPH

Owner Address: 4854 E MERCER WAY
MERCER ISLAND, WA 98040

PARCEL NO.: 192405-9278
 PROPERTY TYPE: R
 ACRES: 0.34 AC (14,607 SF)
 JURISDICTION: MERCER ISLAND
 ADDRESS: 4854 E MERCER WAY
 MERCER ISLAND, WA 98040
 ZONING: R-15
 MIN SETBACKS: FRONT: 20'
 SIDE: 5'
 REAR: 25'
 MAX HEIGHT: 30 FT.
 WATER: PUBLIC
 SEWER/SEPTIC: PUBLIC
 ROAD ACCESS: PUBLIC
 STREET SURFACE: PAVED

APPLICABLE BUILDING CODES:

- 2021 INTERNATIONAL BUILDING CODE (IBC)
- 2021 INTERNATIONAL RESIDENTIAL CODE (IRC)
- 2021 WASHINGTON STATE ENERGY CODE
- 2021 INTERNATIONAL MECHANICAL CODE (IMC)
- 2021 INTERNATIONAL FIRE CODE
- 2021 UNIFORM PLUMBING CODE

DESIGN CRITERIA:

SEE STRUCTURAL ENGINEERING SHEETS & REPORT FOR STRUCTURAL SPECIFICATIONS

ARCHITECTURAL SYMBOL LEGEND:

	ELEVATION CALLOUT		LEVEL ELEVATION		ELEVATION DATUM		DOOR TAG SEE SCHEDULE		CENTERLINE
	SECTION CALLOUT		GRID LINE		WINDOW TAG SEE SCHEDULE		BREAK LINE		ROOF SLOPE IN PLAN
	DETAIL CALLOUT		INTERIOR ELEVATION CALLOUT		REVISED IN PLAN		REVISION #		ROOF SLOPE IN ELEVATION & SECTION

PROJECT SCOPE:

ADDITION & REMODEL OF EXISTING RESIDENCE.

DESIGN TEAM:

PROJECT LEAD:
 NW PERMIT SOLUTIONS, LLC
 2646 RW JOHNSON BLVD SW, STE. 112
 TUMWATER, WA 98512
 303.834.7752
 CHRIS@NWPERMITSOLUTIONS.COM
 CONTACT: CHRIS ARNOLD

STRUCTURAL ENGINEER:

T.B.D.
 XXX
 XXX, WA 98XXX
 (XXX)XXX-XXXX
 XXX@XXX.COM
 CONTACT: XXX

BUILDER:

T.B.D.
 XXX
 XXX, WA 98XXX
 (XXX)XXX-XXXX
 XXX@XXX.COM
 CONTACT: XXX

CIVIL ENGINEER:

T.B.D.
 XXX
 XXX, WA 98XXX
 (XXX)XXX-XXXX
 XXX@XXX.COM
 CONTACT: XXX

GENERAL DISCLAIMER

THESE PLANS ARE DRAWN TO COMPLY WITH OWNER'S AND/OR BUILDER'S SPECIFICATIONS AND ANY CHANGES MADE AFTER PRINTED DATE WILL BE DONE AT THE OWNER'S AND/OR BUILDER'S EXPENSE. THE OWNER/CONTRACTOR SHALL VERIFY ALL DIMENSIONS, BUILDING LAYOUT, MATERIALS AND ASSEMBLIES REPRESENTED IN THESE PLANS PRIOR TO CONSTRUCTION.

DRAWING INDEX

SHEET #	SHEET TITLE
	ARCHITECTURAL PLAN
C-1	SITE PLAN
A-1	COVER SHEET
A-2	GENERAL NOTES
A-3	EXISTING & DEMOLITION PLANS
A-4	BASEMENT PLAN
A-5	FIRST FLOOR PLAN
A-6	ROOF PLAN
A-7	PROPOSED ELEVATIONS
A-8	BUILDING SECTIONS
A-9	ENERGY CREDIT OPTIONS
A-10	DETAILS
A-11	DETAILS
A-12	PROPOSED FLOOR FRAMING, SEE STRUCTURAL
A-13	PROPOSED ROOF FRAMING, SEE STRUCTURAL
A-14	DETAILS
	STRUCTURAL ENGINEERING PLAN BY OTHERS



EAST MERCER ADDITION
 4854 E MERCER WAY,
 MERCER ISLAND, WA 98040
 PARCEL NO.: 192405-9278

PREPARED FOR:
MARK MEHLAFF

DESIGNED BY:
 NWPS

DRAFTED BY:
 CJD

DATE: 8/18/2025

SHEET TITLE:
 COVER SHEET

PROJECT NUMBER:
 25-068

SHEET NUMBER:
 A-1

GENERAL NOTES:

INTERNATIONAL RESIDENTIAL CODE 2021 EDITION WITH WASHINGTON AMENDMENTS AND ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION TO BE FOLLOWED. 2021 INTERNATIONAL RESIDENTIAL CODE 2021 WASHINGTON STATE ENERGY CODE

CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS OF PROJECT AND REPORT ANY OMISSIONS / DISCREPANCIES TO DESIGNER PRIOR TO COMMENCING WORK. CONTRACTOR SHALL VERIFY ALL ROUGH-IN DIMENSIONS FOR ALL EQUIPMENT TO BE INSTALLED. DESIGNER SHALL NOT BE RESPONSIBLE FOR DISCREPANT CONDITIONS RESULTING FROM UNAUTHORIZED WORK PERFORMED BY THE CONTRACTOR.

CONTRACTOR TO PROVIDE TEMPORARY BRACING AS REQUIRED UNTIL ALL PERMANENT CONNECTIONS HAVE BEEN INSTALLED.

CERTIFICATE (INSEC R401.9):

A PERMANENT CERTIFICATE SHALL BE COMPLETED AND POSTED ON OR WITHIN THREE FEET OF ELECTRICAL DISTRIBUTION PANEL. THE CERTIFICATE MUST LIST THE ENERGY FEATURES OF THE STRUCTURE.

SITE WORK:

GENERAL:
UNLESS A SOILS INVESTIGATION BY A QUALIFIED SOILS ENGINEER IS PROVIDED, FOUNDATION DESIGN IS BASED ON AN ASSUMED AVERAGE SOIL BEARING OF 1500 PSF. FOUNDATION WALLS SHALL HAVE ALL VEGETATION, TOP SOIL, AND FOREIGN MATERIAL REMOVED PER R506.2. EXTERIOR FOOTINGS SHALL BEAR 1 1/2" (MINIMUM) BELOW FINISHED GRADE. ALL FOOTINGS TO BEAR ON FIRM UNDISTURBED EARTH BELOW ORGANIC SURFACE SOILS. BACK FILL TO BE THOROUGHLY COMPACTED. FOUNDATION VENTS SHALL NOT INTERFERE WITH DIRECT LOAD PATH OF COLUMNS.

CONCRETE:

MIX AND 28 DAY STRENGTH OF CONCRETE
-CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 2500 OR 3,000 PER TABLE R402.2.
● 2,500 - BASEMENT WALLS & FOUNDATIONS & OTHER CONCRETE NOT EXPOSED TO WEATHER;
● 2,500 - BASEMENT SLABS & INTERIOR SLABS & INTERIOR SLABS ON GRADE, EXCEPT GARAGE DOOR SLABS
● 2,500 - BASEMENT WALLS & FOUNDATION WALLS, EXTERIOR WALLS & OTHER VERTICAL CONCRETE WORK EXPOSED TO THE WEATHER;
● 3,000 - PORCHES, CARPORT SLABS & STEPS EXPOSED TO WEATHER, & GARAGE

FLOOR SLABS:

GARAGE FLOORS TO BE A MINIMUM 3.5" THICK.
GARAGE FLOORS TO SLOPE 1/8" FT. MIN. TOWARDS OPENING AS REQUIRED FOR DRAINAGE. CONCRETE SLABS TO HAVE CONTROL JOINTS AT 25' FT. (MAX.) INTERVALS EACH WAY. SLABS ARE TO BE 5-AIR ENTRAINED CONCRETE SIDEWALKS TO HAVE 3/4" IN. TOOLED JOINTS AT 5' FT. (MIN.) O.C.

CONCRETE COVER OF REINFORCING:

3" CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH. 1 1/2" CONCRETE EXPOSED TO EARTH OR WEATHER. 1 1/2" BEAMS AND COLUMNS NOT EXPOSED TO EARTH OR WEATHER. 3/4" SLABS AND WALLS NOT EXPOSED TO EARTH OR WEATHER. LAP COLUMN VERTICALS. CLASS "A" CONCRETE AND MASONRY COLUMN AND WALL VERTICALS 5/2 DIAMETERS. LAP ALL OTHER REINFORCING 24 DIAMETERS. SPLICES AT TENSION REGIONS SHALL NOT BE PERMITTED.

CARPENTRY:

GENERAL:
● ALL FRAMING TO COMPLY WITH ENGINEERING S-SHEETS FOR NAIL SIZES AND SPACING.
● ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESURE TREATED.
● 6" MIN. CLEARANCE BETWEEN WOOD AND EARTH.
● 18" MIN. CLEARANCE BETWEEN FLOOR JOIST AND EARTH.
● 12" MIN. CLEARANCE BETWEEN FLOOR BEAMS AND EARTH.
● FASTENERS FOR PRESURE PRESERVATIVE AND FIRE-RETARDANT-TREATED WOOD SHALL BE OF HOT-DIPPED GALVANIZED STEEL.

REFERENCE STRUCTURAL SHEETS FOR SPECIES AND GRADE (BASE DESIGN VALUES):

BOLT HEADS AND NUTS BEARING AGAINST WOOD TO BE PROVIDED WITH 3"x3"x22" PLATE WASHERS. WOOD BEARING ON OR INSTALLED WITHIN 1" OF MASONRY OR CONCRETE TO BE TREATED WITH AN APPROVED PRESERVATIVE. SOLID BLOCKING OF NOT LESS THAN 2X THICKNESS SHALL BE PROVIDED AT ENDS AND AT ALL SUPPORT OF JOISTS AND RAFTERS. BETWEEN SUPPORTS PROVIDED AT ENDS AND AT ALL SUPPORT OF JOISTS AND RAFTERS, JOISTS, 10'-0" FOR ROOF JOISTS. TYPICAL SILL BOLTS TO BE 5/8" DIAMETER AT 6'-0" O.C. MINIMUM 1" EMBED. ALL METAL FRAMING ANCHORS AND HANGERS SHOWN ON DRAWINGS SHALL BE STRONG TIE CONNECTORS AS MANUFACTURED BY SIMPSON COMPANY.

PLYWOOD:

PLYWOOD WALL AND ROOF SHEATHING SHALL BE 3/4" CDX, UNLESS OTHERWISE SPECIFIED. PLYWOOD FLOOR SHEATHING SHALL BE 3/4" CDX T&G. UNLESS OTHERWISE SPECIFIED. STAGGER END LAPS AT ROOF AND FLOOR SHEATHING. OSB SHEATHING PRODUCTS OF EQUIVALENT SPAN RATINGS SHALL BE ALLOWED.

WOOD TRUSSES:

ALL ROOF TRUSSES SHALL BE FRAMED AND TIED INTO THE FRAME WORK AND SUPPORTING WALLS SO AS TO FORM AN INTEGRAL PART OF THE WHOLE BUILDING. ROOF TRUSSES SHALL HAVE JOINTS WELL FITTED AND SHALL HAVE ALL TENSION MEMBERS WELL TIGHTENED BEFORE ANY LOAD IS PLACED UPON THE TRUSS. DIAGONAL AND SWAY BRACING SHALL BE USED TO BRACE ALL TRUSSES.

NOTE:

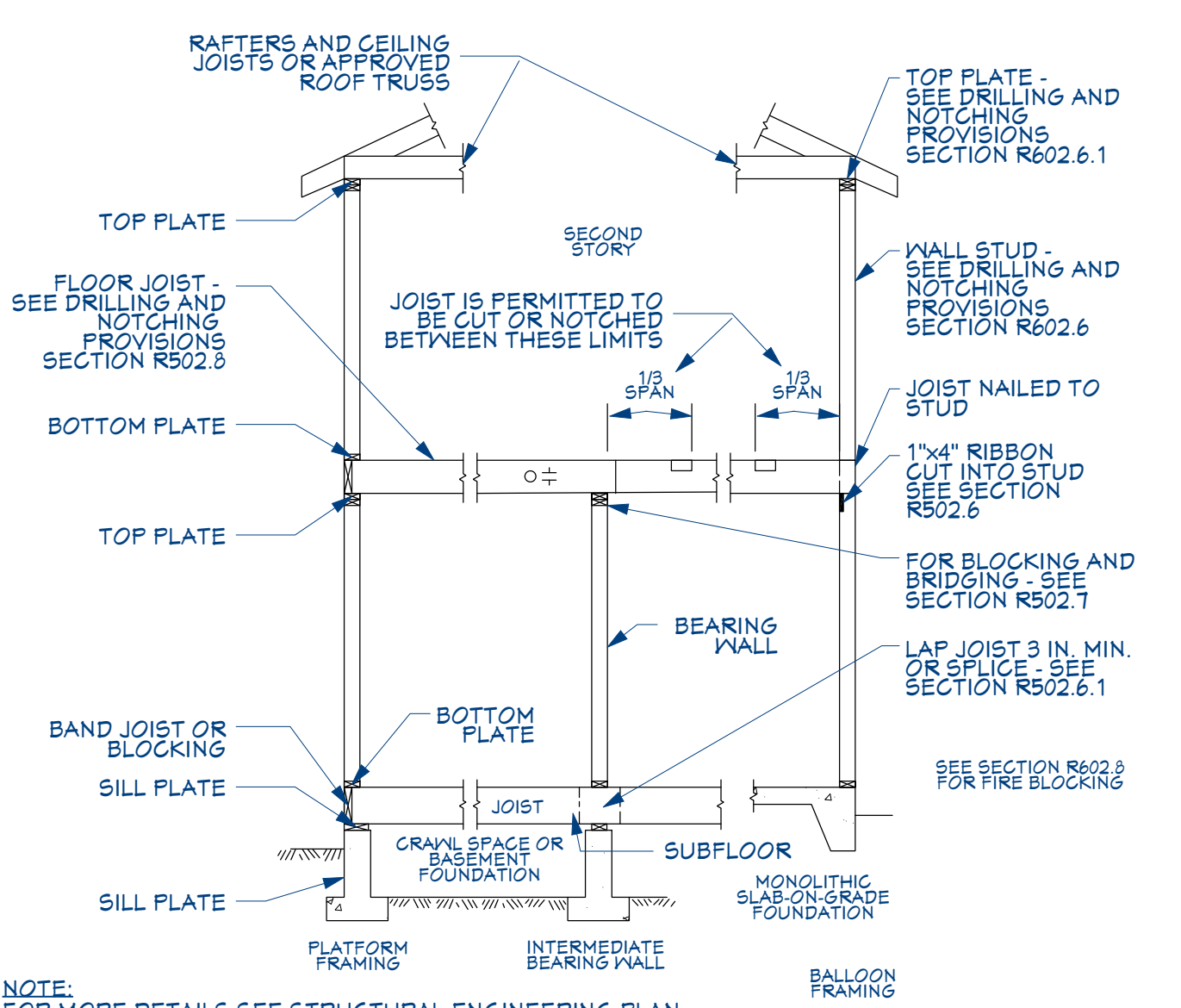
- REFER TO STRUCTURAL ENGINEERING SHEETS FOR FOUNDATION/CRAWL SPACE VENTILATION.
- REFER TO STRUCTURAL SHEETS FOR SHEAR WALL SCHEDULE AND ENGINEERING PLAN WHICH CONTAIN REFERENCES AND/OR INSTRUCTIONS PERTAINING TO EACH SHEAR WALL INDICATED IN THIS PLAN

STRUCTURAL NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CONTRACT DRAWINGS.
2. DURING THE CONSTRUCTION PERIOD THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING.
3. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF ENGINEER.
5. ALL DETAILS DESIGNATED AS STANDARD OR TYPICAL SHALL OCCUR IN ADDITION TO ANY OTHER SPECIFIC DETAIL CALLED OUT.
6. COORDINATE WITH MECHANICAL, PLUMBING, AND ELECTRICAL REQUIREMENTS FOR SIZE AND LOCATION OF ALL OPENINGS REQUIRED FOR DUCTS, PIPES, AND PIPE SLEEVES, ELECTRICAL CONDUITS, AND OTHER ITEMS TO BE EMBEDDED IN CONCRETE OR OTHERWISE INCORPORATED IN STRUCTURAL WORK.
7. PROVIDE OPENINGS AND SUPPORTS, AS REQUIRED PER STANDARD DETAILS FOR HEATERS, MECHANICAL EQUIPMENT, VENTS, DUCTS, PIPING, ETC. ALL SUSPENDED MECHANICAL EQUIPMENT SHALL BE SWAY OR LATERALLY BRACED.

TYPE OF CONSTRUCTION:

Y-B UNPROTECTED WOOD FRAME (EXAMPLES OF CONSTRUCTION ARE SINGLE FAMILY HOMES AND GARAGES. THEY OFTEN HAVE EXPOSED WOOD SO THERE IS NO FIRE RESISTANCE.)



NOTE: FOR MORE DETAILS SEE STRUCTURAL ENGINEERING PLAN.

SMOKE & CARBON MONOXIDE ALARMS:

SMOKE AND CARBON MONOXIDE ALARMS MUST BE PROVIDED IN ALL REQUIRED LOCATIONS AND MUST BE:
● AUDIBLE IN ALL PARTS OF THE HOUSE
● INSTALLED PER MANUFACTURER'S INSTRUCTIONS

NEW HOUSES (IRC R314 & R315)

SMOKE ALARMS AND CARBON MONOXIDE ALARMS ARE REQUIRED AND MUST BE CONNECTED TO THE MAIN ELECTRICAL SYSTEM WITH BATTERY BACKUP.

CARBON MONOXIDE ALARMS ARE REQUIRED IN ALL NEW AND EXISTING HOMES, APARTMENTS, CONDOMINIUMS, AND OTHER MULTI-FAMILY UNITS.

REQUIRED LOCATIONS:

1. SMOKE ALARMS SHALL BE LOCATED IN EACH SLEEPING ROOM AND IN NAPPING AREAS IN A FAMILY HOME CHILD CARE.
2. SMOKE ALARMS AND CARBON MONOXIDE ALARMS SHALL BE LOCATED OUTSIDE EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
3. SMOKE ALARMS AND CARBON MONOXIDE ALARMS SHALL BE LOCATED ON EVERY FLOOR LEVEL, INCLUDING BASEMENTS (DOES NOT INCLUDE CRAWLSPACE AND UNINHABITABLE ATTICS).
4. IN SPLIT LEVEL FLOOR PLANS, AT THE UPPER LEVEL, PROVIDED THERE IS NO INTERVENING DOOR BETWEEN ADJACENT LEVELS AND THE LOWER LEVEL IS LESS THAN A FULL STORY BELOW THE UPPER LEVEL.
5. A CARBON MONOXIDE ALARM IS REQUIRED IN A BEDROOM WHEN A FUEL-BURNING APPLIANCE IS INSTALLED IN THE BEDROOM OR ITS ATTACHED BATHROOM.
6. A COMBINATION ALARM (COMBINED SMOKE AND CARBON MONOXIDE ALARM) IS ACCEPTABLE IN ANY REQUIRED LOCATION.

NOTE:

- ALL MOUNTED ALARMS MUST BE NOT MORE THAN 12 INCHES FROM THE ADJOINING CEILING SURFACE.
- AVOID PLACING ALARMS LESS THAN 3 FEET FROM SUPPLY REGISTERS OF A FORCED AIR HEATING OR COOLING SYSTEM AND DO NOT PLACE ALARMS IN THE DIRECT AIRFLOW OF THE REGISTERS.
- AVOID PLACING ALARMS WITHIN 3 FEET HORIZONTALLY FROM DOORS TO BATHROOMS CONTAINING A BATHTUB OR SHOWER.
- DO NOT PLACE ALARMS IN SPACES WHERE TEMPERATURES MAY BE ABOVE OR BELOW THE ALARM'S OPERATING TEMPERATURE RANGE.
- DO NOT PLACE ALARMS WITHIN 3 FEET OF THE BLADES OF A CEILING FAN.
- ALARMS IN PEAKED OR SLOPED CEILINGS MUST BE WITHIN 3 FEET OF THE PEAK, MEASURED HORIZONTALLY, BUT NOT IN THE HIGHEST 4 INCHES OF THE CEILING, MEASURED VERTICALLY.
- PHOTOELECTRIC SMOKE ALARMS MUST NOT BE LESS THAN 6 FEET FROM A PERMANENT COOKING APPLIANCE.
- IONIZATION SMOKE ALARMS WITH AN ALARM-SILENCING SWITCH MUST NOT BE LESS THAN 10 FT FROM A PERMANENT COOKING APPLIANCE.
- IONIZATION SMOKE ALARMS WITHOUT AN ALARM-SILENCING SWITCH MUST NOT BE LESS THAN 20 FEET FROM A PERMANENT COOKING APPLIANCE

CARBON MONOXIDE ALARM LOCATION LIMITATIONS:

- DO NOT PLACE ALARMS DIRECTLY ABOVE OR BESIDE FUEL-BURNING APPLIANCES.
- DO NOT PLACE ALARMS IN DIRECT SUNLIGHT.
- DO NOT PLACE ALARMS IN LOW AREAS WHERE CHILDREN CAN REACH.
- DO NOT PLACE ALARMS BEHIND CURTAINS OR ANY STRUCTURE THAT MIGHT PREVENT CARBON MONOXIDE FROM REACHING THE SENSOR.

SECTION 312.12: RODENT PROOFING:

STRAINER PLATES ON DRAIN INLETS SHALL BE DESIGNED AND INSTALLED SO THAT NO OPENING EXCEEDS 1/2 OF AN INCH IN THE LEAST DIMENSION.

312.12.1: METER BOXES SHALL BE CONSTRUCTED IN SUCH A MANNER THAT RATS CANNOT ENTER A BUILDING BY FOLLOWING THE SERVICE PIPES FROM THE BOX INTO THE BUILDING.

312.12.2: METAL COLLARS: IN OR ON BUILDINGS WHERE OPENINGS HAVE BEEN MADE IN WALLS, FLOORS, OR CEILINGS FOR THE PASSAGE OF PIPES, SUCH OPENINGS SHALL BE CLOSED AND PROTECTED BY THE INSTALLATION OF APPROVED METAL COLLARS SECURELY FASTENED TO THE ADJOINING STRUCTURE.

312.12.3: TUB WASTE OPENINGS: TUB WASTE OPENINGS IN FRAMED CONSTRUCTION TO CRAWL SPACES AT OR BELOW THE FIRST FLOOR SHALL BE PROTECTED BY THE INSTALLATION OF APPROVED METAL COLLARS OR METAL SCREEN SECURELY FASTENED TO THE ADJOINING STRUCTURE WITH NO OPENING GREATER THAN 1/2 OF AN INCH IN THE LEAST DIMENSION.

* 2021 UNIFORM PLUMBING CODE WITH WASHINGTON STATE AMENDMENTS (UPC)

2021 IRC SECTION R302.11 FIREBLOCKING

IN COMBUSTIBLE CONSTRUCTION, FIREBLOCKING SHALL BE PROVIDED TO CUT OFF BOTH VERTICAL AND HORIZONTAL CONCEALED DRAFT OPENINGS AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE.

1. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS AS FOLLOWS:
1.1) VERTICALLY AT THE CEILING AND FLOOR LEVELS.
1.2) HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.
2. AT INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILING.
3. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
4. AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS.
5. FOR THE FIREBLOCKING OF CHIMNEYS AND FIREPLACES, SEE SECTION R1003.14.
6. FIREBLOCKING OF CORNICES OF A TWO-FAMILY DWELLING IS REQUIRED AT THE LINE OF DWELLING UNIT SEPARATION.
7. FIRE BLOCKING MATERIALS SHALL CONSIST OF MATERIAL LISTED IN SECTION R302.11.1.
8. DRAFTSTOPPING SHALL BE PER R302.12

GARAGE MAN DOOR:

1. R302.5.1: GARAGE MAN DOOR BETWEEN GARAGE AND LIVING SPACE SHALL BE A SOLID DOOR WITH NOT LESS THAN 1 3/8" IN THICKNESS, SOLID OR HONEYCOMB-CORE STEEL DOORS NOT LESS THAN 1 3/8" THICK, OR 20- MINUTE FIRE-RATED DOORS, EQUIPPED WITH A SELF-CLOSING OR AUTOMATIC CLOSING DEVICE.

DUCTS (INSEC R403.2.2):

DUCTS MUST BE LEAK TESTED IN ACCORDANCE WITH INSR R5-33 USING THE MAXIMUM DUCT LEAKAGE RATES SPECIFIED. DUCT TIGHTNESS MUST BE VERIFIED BY EITHER THE POSTCONSTRUCTION TEST OR ROUGH-IN TEST PER INSEC R403.2.2. TOTAL LEAKAGE MUST BE LESS THAN OR EQUAL TO 4 CFM PER 100 S.F. OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1" W.G. (25 Pa) ACROSS THE ENTIRE SYSTEM. PROVIDE GENERAL NOTES TO ADDRESS THIS REQUIREMENT.

DUCTS (INSMC 601)

DUCT SYSTEMS USED FOR THE MOVEMENT OF AIR IN AIR-CONDITIONING, HEATING, VENTILATING AND EXHAUST SYSTEMS SHALL CONFORM TO THE PROVISIONS OF THIS CHAPTER (CHAPTER 6 OF THE 2021 INSMC) EXCEPT AS OTHERWISE SPECIFIED IN CHAPTERS 5 & 7.

PER INSEC R403.1.1, AT LEAST ONE THERMOSTAT PER DWELLING UNIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE.

EXTERIOR LOCATIONS FOR ENVIRONMENTAL AIR DUCT EXHAUST & INTAKE OPENINGS TO BE A MINIMUM OF 3'-0" FROM PROPERTY LINE & MINIMUM 3'-0" FROM BUILDING OPENINGS. EQUIP ALL DUCTS W/ BACK-DRAFT DAMPERS.

AIR EXHAUST & INTAKE OPENINGS THAT TERMINATE OUTDOORS SHALL BE PROTECTED W/ CORROSION RESISTANT SCREENS, LOUVERS, OR GRILLS W/ 1/4" MINIMUM & 1/2" MAX OPENINGS IN ANY DIMENSION. OPENINGS SHALL BE PROTECTED AGAINST LOCAL WEATHER CONDITIONS PER 2018 IRC.

DUCTS FOR KITCHEN RANGES SHALL BE OF METAL AND BE EQUIPPED W/ BACK-DRAFT DAMPERS PER CODE.

ENERGY EFFICIENCY:

PER INSEC R402.4, THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE. THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL (R402.4.1.2).

PER INSEC R404.1, ALL PERMANENTLY INSTALLED LIGHTING FIXTURES, EXCLUDING KITCHEN APPLIANCE LIGHTING FIXTURES, SHALL CONTAIN ONLY HIGH-EFFICACY LIGHTING SOURCES.

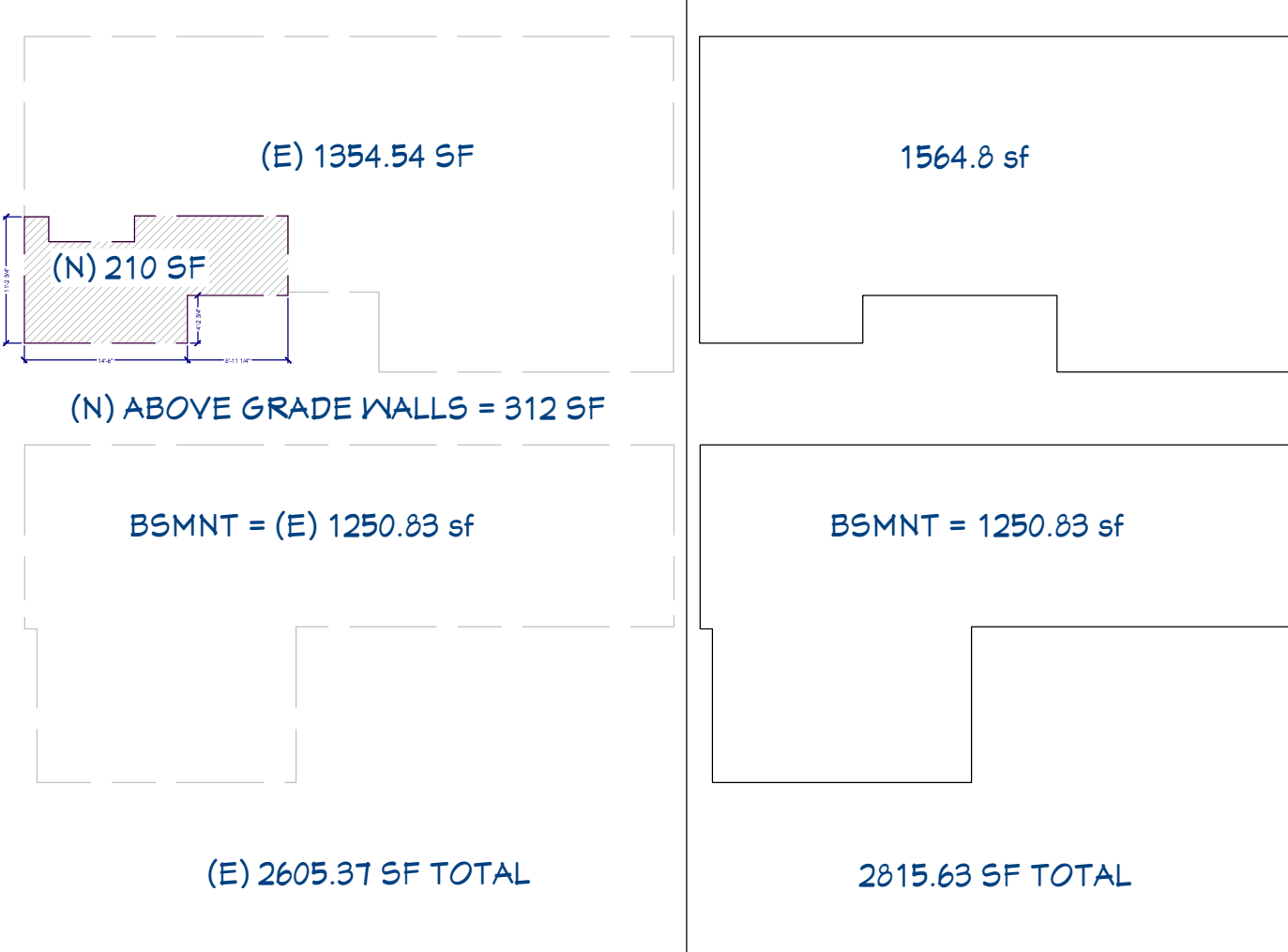
ALL SHOWERHEAD AND KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM OR LESS. ALL OTHER LAVATORY FAUCETS SHALL BE RATED AT 1.0 GPM OR LESS.

EV CHARGING REQUIREMENTS

SECTION 424 ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SECTION 424.2 NEW ONE- AND TWO-FAMILY DWELLINGS, AND TOWNHOUSES WITH ATTACHED PRIVATE GARAGES.

A MINIMUM OF 40-AMPERE DEDICATED 208/240-VOLT BRANCH CIRCUIT SHALL BE INSTALLED FOR EACH DWELLING UNIT. THE BRANCH CIRCUIT SHALL TERMINATE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF EV CHARGING EQUIPMENT.



EXISTING & PROPOSED AREAS

INSULATION & MOISTURE PROTECTION:

GENERAL:

- INSULATION BAFFLES TO MAINTAIN 1" ABOVE BATT INSULATION.
- BAFFLES TO EXTEND 6" ABOVE BATT INSULATION.
- BAFFLES TO EXTEND 12" ABOVE LOOSE FILL INSULATION.
- INSULATE BETWEEN TUBS/SHOWERS, PARTITIONS AND CORNERS FACE STAPLE BATTS FRICTION FIT FACED BATTS.
- USE 4 MIL POLY VAPOR RETARDER AT WALLS. * R-10 RIGID FOAM INSULATION ON 4X EVADERS AT EXTERIOR WALLS.

INFILTRATION CONTROL:

ASPHALT-SATURATED FELT, FREE FROM HOLES OR BREAKS, WEIGHING NOT LESS THAN 14 POUNDS PER 100 SQUARE FEET AND COMPLYING WITH ASTM D 226 OR OTHER APPROVED WEATHER RESISTANT MATERIAL SHALL BE APPLIED OVER SHEATHING OF ALL EXTERIOR WALLS. APPROVED ALTERNATIVE WEATHERPROOF MEMBRANES SHALL BE USED FOR OPEN JOINT RAIN SCREEN SIDING. WEATHER RESISTANT MATERIALS SHALL BE APPLIED HORIZONTALLY PER MANUFACTURERS RECOMMENDATIONS, WITH THE UPPER LAYER LAPPED OVER THE LOWER LAYER NOT LESS THAN 2 INCHES AND NOT LESS THAN 6 INCHES WHERE JOINTS OCCUR PER CODE.

APPROVED CORROSION-RESISTIVE FLASHING SHALL BE PROVIDED IN THE EXTERIOR WALL ENVELOPE IN SUCH A MANNER AS TO PREVENT ENTRY OF WATER INTO THE WALL CAVITY OR PENETRATION OF WATER TO THE BUILDINGS STRUCTURAL FRAMING COMPONENTS. THE FLASHING SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL SURFACE AND SHALL BE INSTALLED TO PREVENT WATER FROM REENTERING THE EXTERIOR WALL ENVELOPE. FLASHING SHALL BE INSTALLED AT, BUT NOT LIMITED TO THE FOLLOWING LOCATIONS:

- AT THE TOP OF ALL EXTERIOR WINDOW & DOOR OPENINGS
- -INTERSECTIONS OF FRAME WALLS AND MASONRY OR STUCCO
- -UNDER MASONRY, WOOD OR METAL COPINGS AND SILLS
- -CONTINUOUSLY ABOVE ALL PROJECTING WOOD TRIM
- -WHERE EXTERIOR PORCHES, DECKS OR STAIRS ATTACH TO A WALL
- -AT WALL AND ROOF OR SOFFIT INTERSECTIONS
- -AT BUILT
- -IN GUTTERS

EXTERIOR JOINTS AROUND WINDOWS AND DOOR FRAMES, OPENINGS BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALLS AND ROOF AND BETWEEN WALL PANELS, OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH WALLS, FLOOR AND ROOFS, AND ALL OTHER SUCH OPENINGS IN THE BUILDING ENVELOPE, INCLUDING ACCESS PANELS INTO UNHEATED SPACES, SHALL BE SEALED, CAULKED, GASKETED OR WEATHER-STRIPPED TO LIMIT AIR LEAKAGE. ALL OPENINGS SHALL BE FLASHED. APPROVED CORROSION-RESISTIVE FLASHING SHALL BE PROVIDED IN THE EXTERIOR WALL ENVELOPE IN SUCH A MANNER AS TO PREVENT ENTRY OF WATER INTO THE WALL CAVITY OR PENETRATION OF WATER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS. THE FLASHING SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH AND SHALL BE INSTALLED TO PREVENT WATER FROM REENTERING THE EXTERIOR WALL ENVELOPE. APPROVED CORROSION-RESISTANT FLASHING SHALL BE INSTALLED AT ALL OF THE FOLLOWING LOCATIONS:

1. AT TOP OF ALL EXTERIOR WINDOW AND DOOR OPENINGS IN SUCH A MANNER AS TO BE LEAKPROOF, EXCEPT THAT SELF-FLASHING WINDOWS HAVING A CONTINUOUS LAP OF NOT LESS THAN 1-1/8" OVER THE SHEATHING MATERIAL AROUND THE PERIMETER OF THE OPENING, INCLUDING CORNERS, DO NOT REQUIRE ADDITIONAL FLASHING; JAMB FLASHING MAY ALSO BE OMITTED WHEN SPECIFICALLY APPROVED BY THE BUILDING OFFICIALS.
2. AT THE INTERSECTION OF CHIMNEYS OR OTHER MASONRY CONSTRUCTION WITH FRAME OR WALLS, WITH PROJECTING LIPS ON BOTH SIDES UNDER STUCCO COPINGS.
3. UNDER AND AT THE ENDS OF MASONRY, WOOD OR METAL COPINGS AND SILLS.
4. CONTINUOUSLY ABOVE ALL PROJECTING WOOD TRIM.
5. WHERE EXTERIOR PORCHES, DECKS OR STAIRS ATTACH TO A WALL OR FLOOR ASSEMBLY OF WOOD-FRAME CONSTRUCTION.
6. AT WALL AND ROOF INTERSECTIONS.
7. AT BUILT-IN GUTTERS.

-ALL EXTERIOR DOORS, OTHER THAN FIRE-RATED DOORS, SHALL BE DESIGNED TO LIMIT AIR LEAKAGE AROUND THEIR PERIMETER WHEN IN A CLOSED POSITION. DOORS BETWEEN RESIDENCE AND GARAGE ARE NOT CONSIDERED FIRE-RATED AND MUST MEET THE ABOVE REQUIREMENT.
-ALL EXTERIOR WINDOWS SHALL BE DESIGNED TO ADMIT INFILTRATION INTO OR FROM THE BUILDING ENVELOPE. RECESSED LIGHTING FIXTURES: WHEN INSTALLED IN THE BUILDING ENVELOPE, RECESSED LIGHTING FIXTURES SHALL BE TYPE IC RATED AND CERTIFIED TO HAVE NO MORE THAN 2.0 CFM AIR MOVEMENT FROM THE CONDITIONED SPACE TO THE CEILING CAVITY. THE LIGHTING FIXTURE SHALL BE TESTED AT 75 PASCALLS OR 1.57 LBS/FT2 PRESSURE DIFFERENCE AND HAVE A LABEL ATTACHED, SHOWING COMPLIANCE WITH THIS TEST METHOD. RECESSED LIGHTING FIXTURES SHALL BE INSTALLED WITH A GASKET OR CAULK BETWEEN THE FIXTURE AND CEILING TO PREVENT AIR LEAKAGE.

VAPOR BARRIERS/ GROUND COVERS:

AN APPROVED VAPOR BARRIER SHALL BE PROPERLY INSTALLED IN ROOF DECKS, IN ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS, AND AT EXTERIOR WALLS. INSET STAPLED BATTS WITH A PERM RATING LESS THAN ONE MAY BE INSTALLED IF THE VAPOR BARRIER IS TO THE WARM SIDE, STAPLES ARE PLACED NOT MORE THAN 8 INCHES ON CENTER AND GAPS BETWEEN THE FACING AND THE FRAMING DO NOT EXCEED 1/16 INCH.

A GROUND COVER OF 6 MIL (0.006")BLACK POLYETHYLENE OR EQUIVALENT, SHALL BE LAID OVER THE GROUND IN ALL CRAWL SPACES. THE GROUND COVER SHALL BE OVERLAPPED ONE FOOT AT EACH JOINT AND SHALL EXTEND TO THE FOUNDATION WALL.

WINDOWS, DOORS, HVAC, & ELECT. EQUIP.:

- GLAZING MAXIMUM:
- ALL CLIMATE ZONES:
- GLAZING "U" VALUE: VERTICAL (MAX): .3
- OVERHEAD (MAX): .50
- DOOR "U" VALUE (MAX): .3 (DOORS W/ MORE THAN 50 CONSIDERED A WINDOW)
- HVAC PERFORMANCE: "MED" OR AFUE = .91
- RECESSED LIGHT FIXTURES: IC RATED

DOORS, WINDOWS AND SKYLIGHTS:

GENERAL:

-DOORS TO THE EXTERIOR SHALL HAVE MAX. 3" STEP TO MIN 36" DEEP LANDING.

-BEDROOM EMERGENCY EGRESS WINDOWS MINIMUM NET CLEAR OPENING OF 5.7 SQ. FT. MIN. NET CLEAR OPEN ABLE WIDTH OF 20" AND MINIMUM NET CLEAR OPENING HEIGHT OF 24", MAXIMUM FINISHED SILL HEIGHT OF 44" ABOVE FLOOR.
IRC R310 & IRC 1030.

-FACTORY BUILT WINDOWS TO BE CONSTRUCTED TO PERMIT MAXIMUM INFILTRATION OF 0.5 CFM PER LINEAL FOOT OF OPERABLE SASH

-PERIMETER AS TESTED BY ASTM STANDARDS. SITE BUILT AND MILL WORK SHOP BUILT WOODEN SASH ARE EXEMPT FROM INFILTRATION CRITERIA ABOVE, BUT MUST BE MADE TIGHTLY FITTING AND WEATHER STRIPPED OR CAULKED. SLIDING GLASS DOORS TO PERMIT MAXIMUM INFILTRATION OF 0.5 CFM INFILTRATION PER SQUARE FOOT OF DOOR AREA.

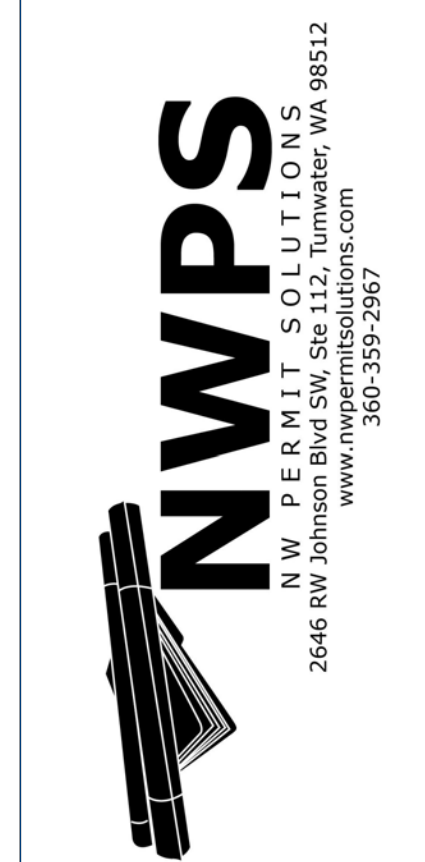
-SAFETY GLAZING:

SAFETY GLAZING SHALL BE PROVIDED PER R308.4 - R308.4.7 OF THE 2021 IRC.

(R308.1) EXCEPT AS INDICATED IN SECTION R308.1.1, EACH PANE OF GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS DEFINED IN SECTION R308.4 SHALL BE PROVIDED WITH A MANUFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION, THE TYPE OF GLASS AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLIES, AND THAT IS VISIBLE IN THE FINAL INSTALLATION. THE DESIGNATION SHALL BE ACID ETCHED, SANDBLASTED, CERAMIC-FIRED, LASER ETCHED, EMBOSSED OR BE OF A TYPE THAT ONCE APPLIED CANNOT BE REMOVED WITHOUT BEING DESTROYED. A LABEL SHALL BE PERMITTED IN LIEU OF THE MANUFACTURER'S DESIGNATION.

GROSS FLOOR AREA:

LOT AREA: 14,607 SF
ALLOWED: 40% = 5,842.8 SF
PROPOSED: 22.45% OR 3,280 SF



PROJECT NAME:
EAST MERCER ADDITION
4854 E MERCER WAY,
MERCER ISLAND, WA 98040
PARCEL NO.: 192405-9278

PREPARED FOR:
MARK MEHLAFF

DESIGNED BY:
NWPS

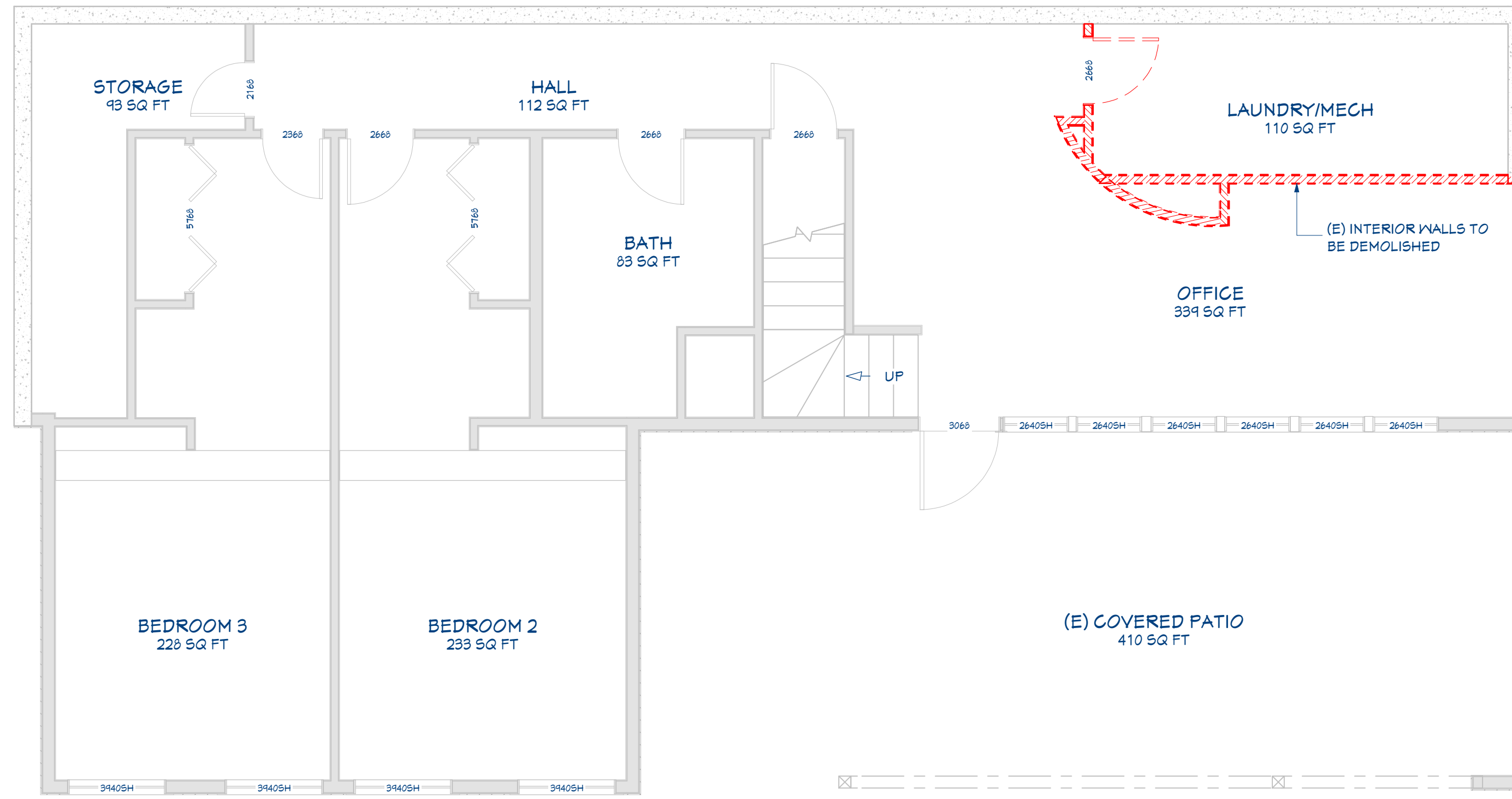
DRAFTED BY:
CJD

DATE:
8/18/2025

SHEET TITLE:
GENERAL NOTES

PROJECT NUMBER:
25-068

SHEET NUMBER:
A-2



GENERAL DEMOLITION NOTES:

- 1) G.C. SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK. G.C. IS RESPONSIBLE FOR INFORMING THE DESIGNER OF ANY CONDITIONS THAT DIFFER FROM PLAN.
- 2) PROTECT ALL EXISTING BUILDING COMPONENTS WHICH ARE TO REMAIN. REPAIR ANY DAMAGED AREAS AS REQUIRED TO RETURN THEM TO THEIR ORIGINAL CONDITION.
- 3) VERIFY EXTENT OF DEMOLITION WORK WITH INFORMATION SHOWN.
- 4) ALL WORK SHALL COMPLY WITH APPLICABLE CODES & REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING ALL INSPECTIONS DURING CONSTRUCTION.
- 5) ALL MATERIALS, FIXTURES & DEVICES REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER IF THEY WISH TO RETAIN. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL MATERIALS NOT RETAINED BY OWNER PER LOCAL REGULATIONS.
- 6) DISCONNECT AND REMOVE ALL ELECTRICAL DEVICES, CONDUIT AND WIRING BACK TO PANEL OR LAST REMAINING DEVICE IN BRANCH.
- 7) CONTRACTOR IS RESPONSIBLE FOR RELOCATING AND RECONNECTING ALL BRANCH CIRCUITS THAT CONFLICT WITH (N) CONSTRUCTION.
- 8) ALL ABANDONED PLUMBING SHALL BE CAPPED AND COVERED IN A WAY THAT THEY ARE COMPLETELY CONCEALED.
- 9) REMOVE AND REPLACE ALL DAMAGED/ROTTEN FRAMING WHEN FOUND AND REPLACE W/ SIMILAR.

WALL LEGEND:

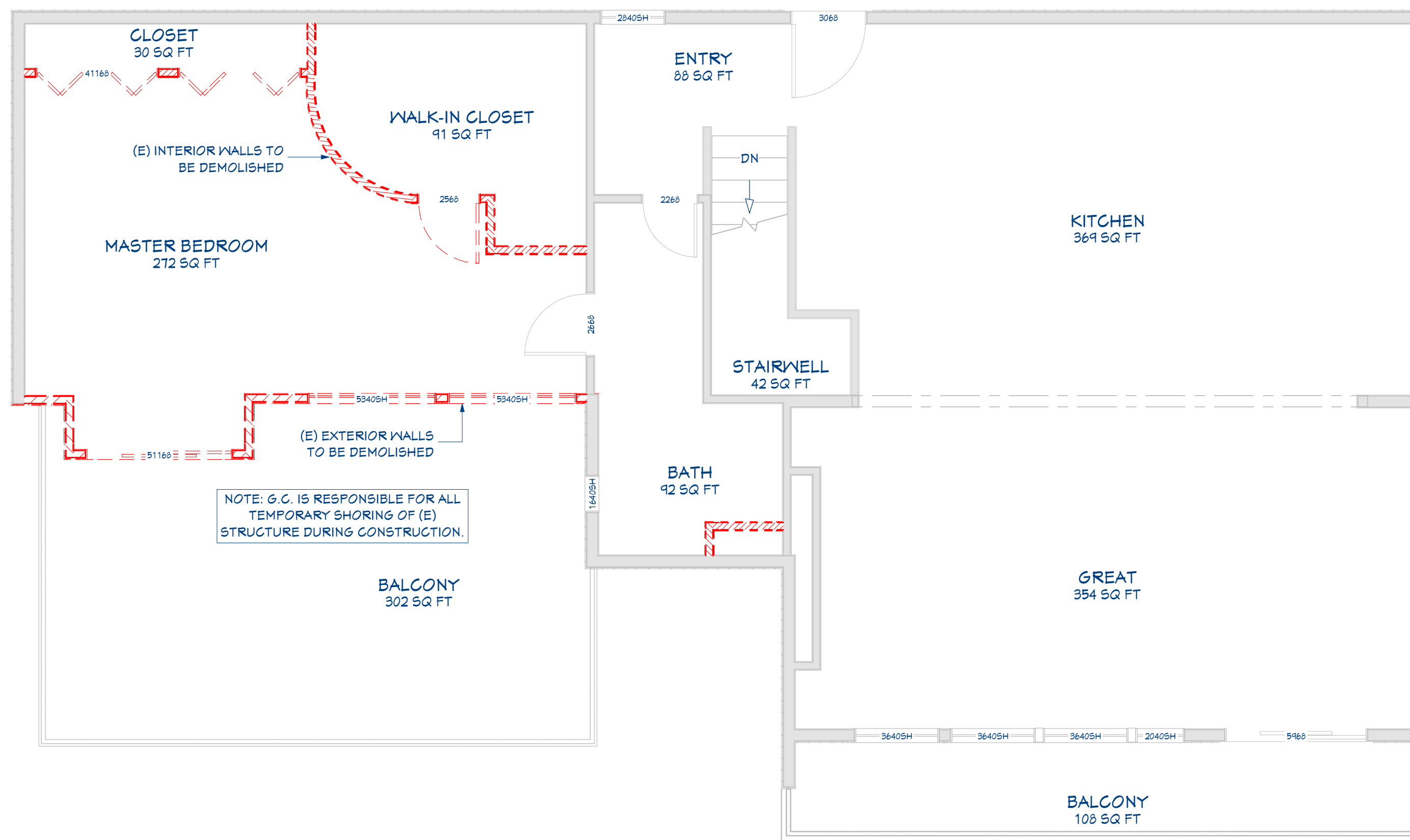
- (E) 8" CONCRETE WALL
- (E) EXTERIOR 2x6 WALL TO REMAIN
- (E) INTERIOR 2x4 WALL TO REMAIN
- (E) INTERIOR 2x6 WALL TO REMAIN
- (E) EXTERIOR 2x4 WALL TO BE DEMOLISHED
- (E) INTERIOR 2x4 WALL TO BE DEMOLISHED
- Interior Railing



PROJECT NAME:
EAST MERCER ADDITION
 4854 E MERCER WAY,
 MERCER ISLAND, WA 98040
 PARCEL NO.: 192405-9278

1 EXISTING BASEMENT & DEMOLITION PLAN

SCALE: 1/4 IN = 1 FT



2 EXISTING FIRST FLOOR & DEMOLITION PLAN

SCALE: 1/4 IN = 1 FT

PREPARED FOR:
MARK MEHLAFF

DESIGNED BY:
 NWPS

DRAFTED BY:
 CJD

DATE:
 8/18/2025

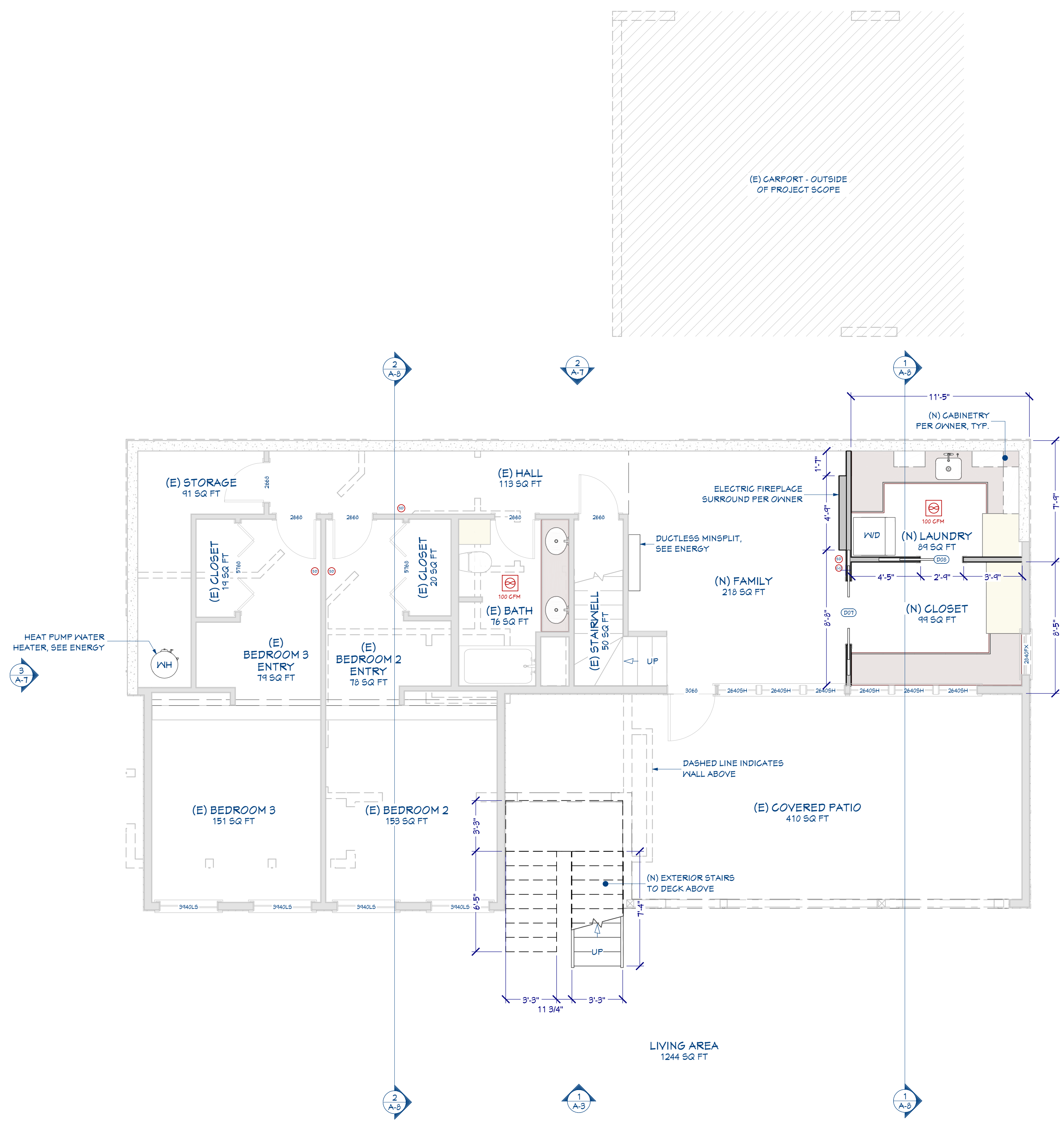
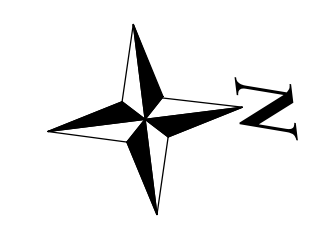
SHEET TITLE:
EXISTING & DEMOLITION PLANS

PROJECT NUMBER:
 25-068

SHEET NUMBER:
A-3

1 BASEMENT PLAN

SCALE: 1/4 IN = 1 FT



TYPICAL PLAN NOTES:

- 1) ALL INTERIOR WALLS TO BE 2x4 @ 16" O.C. (U.N.O.)
- 2) ALL EXTERIOR WALLS TO BE 2x6 @ 16" O.C. (U.N.O.)
- 3) MAIN FLOOR HEADERS PER STRUCTURAL @ 8'-0" A.F.F. (U.N.O.)
- 4) WINDOW SIZES ARE NOMINAL ROUGH OPENING, WIDTH AND HEIGHT.
- 5) DOOR SIZES NOTED ARE SLABS NOT ROUGH OPENINGS. EACH DOOR TO BE UNDERCUT A MINIMUM OF 1/2-INCH TO ASSURE FREE FLOW OF FRESH AIR THROUGHOUT HABITABLE ROOMS
- 6) PROVIDE SOLID BLOCKING OVER SUPPORTS.
- 7) ALL INTERIOR FINISHES TO MEET MINIMUM FLAME SPREAD INDEX AND SMOKE DEVELOPMENT INDEX AS REQUIRED BY 2018 IRC.
- 8) UNDER FLOOR CLEANOUT NOT MORE THAN 20' FROM ACCESS DOOR WITH AN UNOBSTRUCTED 30" WIDE X 18" HIGH PATH PATHWAY. CLEANOUTS ARE ACCESSIBLE. 12" CLEARANCE REQUIRED AT LINES LESS THAN OR EQUAL TO 2'. 18" CLEARANCE AT LINES GREATER THAN 2'. (UPC 707.9)
- 9) REFER TO STRUCTURAL SHEETS FOR SHEAR WALL SCHEDULE AND ENGINEERING PLAN WHICH CONTAIN REFERENCES AND/OR INSTRUCTIONS PERTAINING TO EACH SHEAR WALL INDICATED IN THIS PLAN.
- 10) SEE SHEET A-2 FOR ADDITIONAL GENERAL NOTES

WALL LEGEND:

- (E) 8" Concrete Wall
- (E) EXTERIOR 2x6 WALL TO REMAIN
- (E) INTERIOR 2x4 WALL TO REMAIN
- (E) INTERIOR 2x6 WALL TO REMAIN
- Room Divider
- (N) FURRED FIREPLACE WALL

WINDOW SCHEDULE

TAG	QTY	FLOOR	SIZE & TYPE	U-FACTOR
WN01	3	2	3650FX	0.3
WN02	1	2	6020AVN	0.3
WN03	1	2	6021FX	0.3
WN04	1	2	3016FX	0.3
WN05	1	2	3024FX	0.3
WN06	1	2	60405H	0.3

DOOR SCHEDULE

TAG	QTY	FLOOR	SIZE
D01	1	2	2468 R IN
D02	2	2	2668 R IN
D03	1	2	2568 R EX
D04	1	2	3068 R EX
D05	2	2	5068 L EX
D07	1	1	4068 L/R
D08	1	1	2868 L
D09	1	2	2868 L EX



PROJECT NAME:
 EAST MERCER ADDITION
 4854 E MERCER WAY,
 MERCER ISLAND, WA 98040
 PARCEL NO.: 192405-9278

PREPARED FOR:
MARK MEHLAFF

DESIGNED BY:
 NWPS

DRAFTED BY:
 CJD

DATE:
 8/18/2025

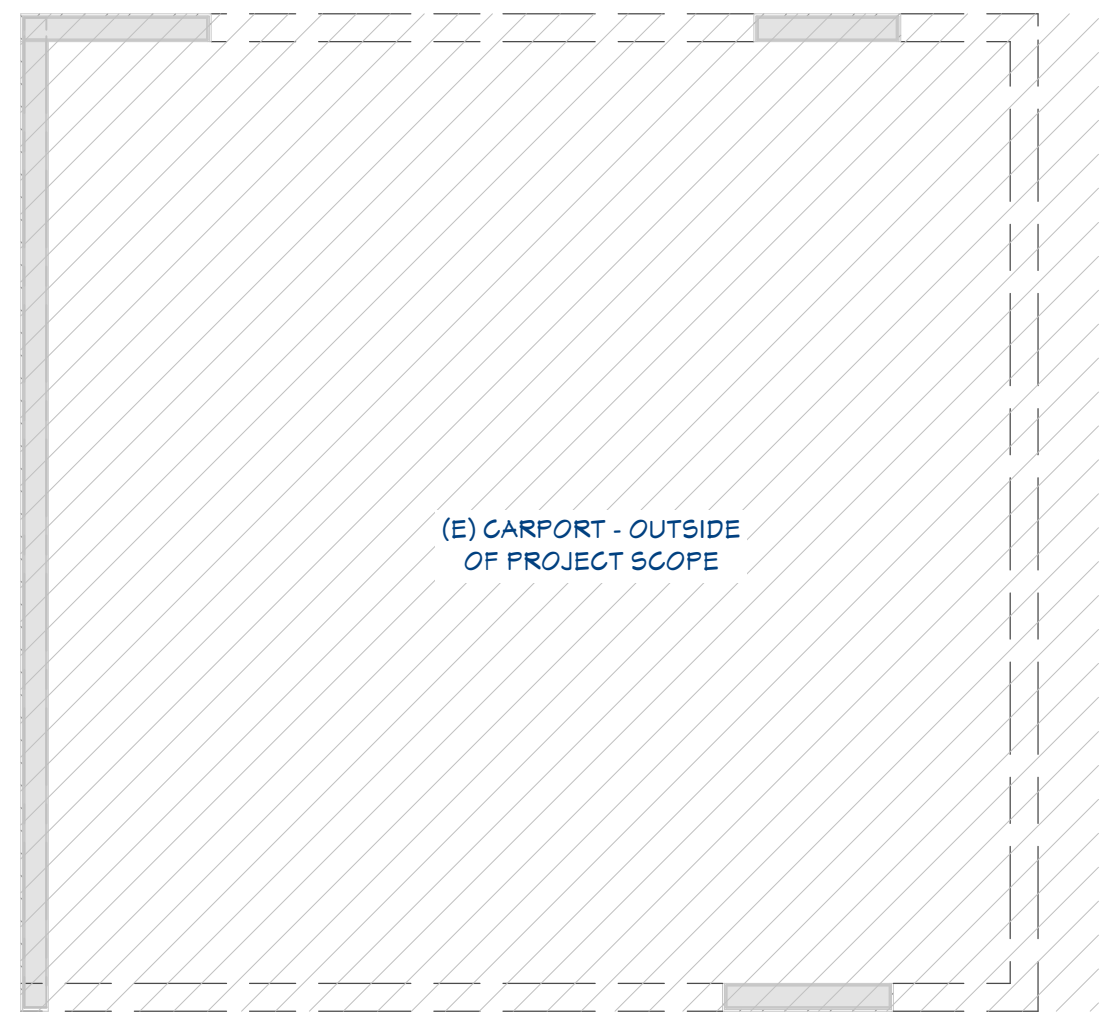
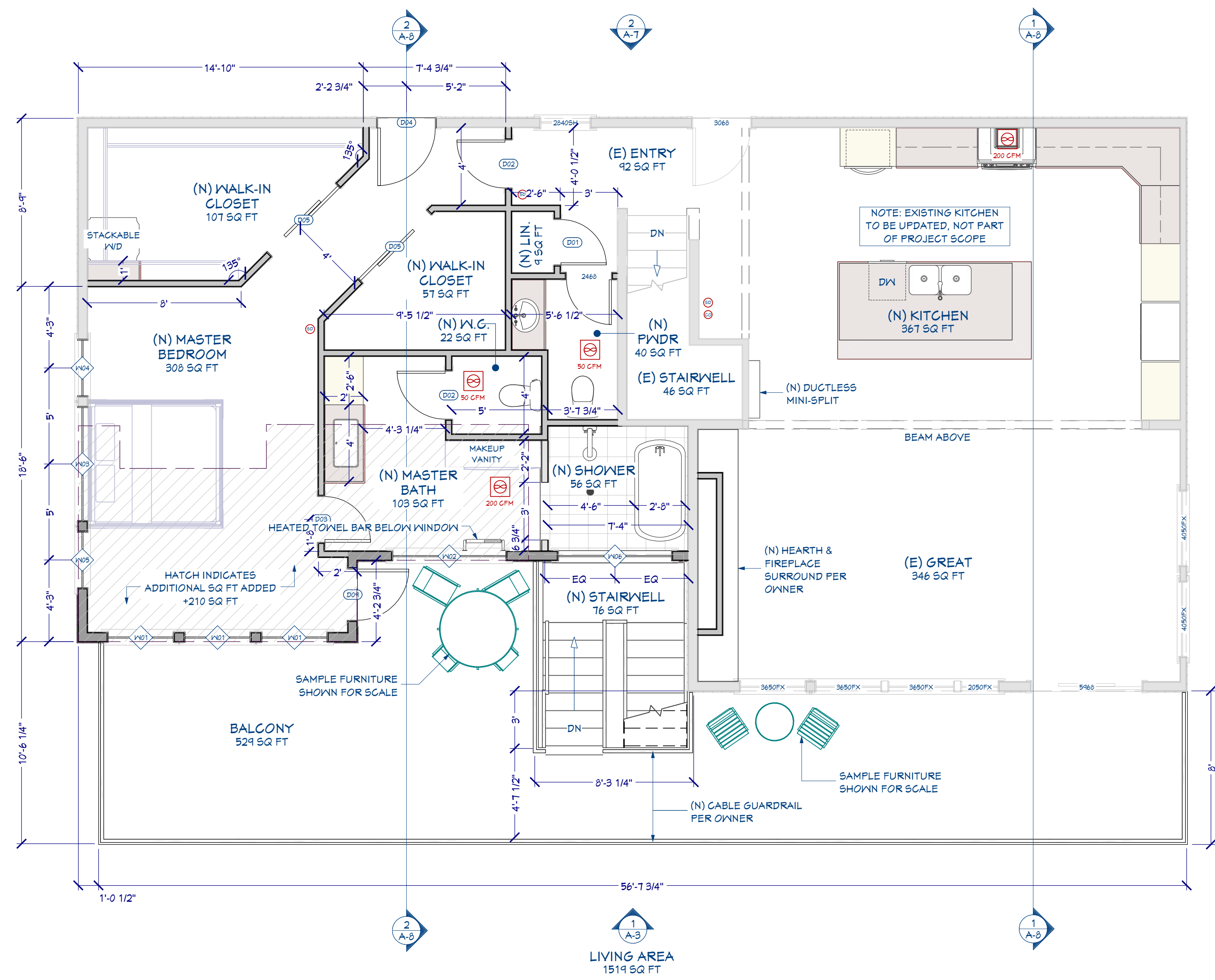
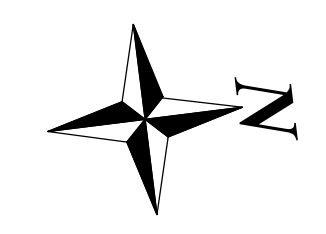
SHEET TITLE:
BASEMENT PLAN

PROJECT NUMBER:
 25-068

SHEET NUMBER:
A-4

1 FIRST FLOOR PLAN

SCALE: 1/4 IN = 1 FT



TYPICAL PLAN NOTES:

- 1) ALL INTERIOR WALLS TO BE 2x4 @ 16" O.C. (U.N.O.)
- 2) ALL EXTERIOR WALLS TO BE 2x6 @ 16" O.C. (U.N.O.)
- 3) MAIN FLOOR HEADERS PER STRUCTURAL @ 8'-0" A.F.F. (U.N.O.)
- 4) WINDOW SIZES ARE NOMINAL ROUGH OPENING, WIDTH AND HEIGHT.
- 5) DOOR SIZES NOTED ARE SLABS NOT ROUGH OPENINGS. EACH DOOR TO BE UNDERCUT A MINIMUM OF 1/2-INCH TO ASSURE FREE FLOW OF FRESH AIR THROUGHOUT HABITABLE ROOMS
- 6) PROVIDE SOLID BLOCKING OVER SUPPORTS.
- 7) ALL INTERIOR FINISHES TO MEET MINIMUM FLAME SPREAD INDEX AND SMOKE DEVELOPMENT INDEX AS REQUIRED BY 2018 IRC.
- 8) UNDER FLOOR CLEANOUT NOT MORE THAN 20' FROM ACCESS DOOR WITH AN UNOBSTRUCTED 30" WIDE X 18" HIGH PATH PATHWAY. CLEANOUTS ARE ACCESSIBLE. 12" CLEARANCE REQUIRED AT LINES LESS THAN OR EQUAL TO 2', 18" CLEARANCE AT LINES GREATER THAN 2'. (UPC 707.9)
- 9) REFER TO STRUCTURAL SHEETS FOR SHEAR WALL SCHEDULE AND ENGINEERING PLAN WHICH CONTAIN REFERENCES AND/OR INSTRUCTIONS PERTAINING TO EACH SHEAR WALL INDICATED IN THIS PLAN.
- 10) SEE SHEET A-2 FOR ADDITIONAL GENERAL NOTES

WALL LEGEND:

- (E) INTERIOR 2x4 WALL TO REMAIN
- (E) EXTERIOR 2x4 WALL TO REMAIN
- (E) INTERIOR 2x6 WALL TO REMAIN
- (E) EXTERIOR 2x6 WALL TO REMAIN
- (N) INTERIOR 2x4 WALL
- (N) EXTERIOR 2x6 WALL
- SHOWER ENTRY CURB
- Interior Railing

WINDOW SCHEDULE				
TAG	QTY	FLOOR	SIZE & TYPE	U-FACTOR
W01	3	2	3650FX	0.3
W02	1	2	6020AVN	0.3
W03	1	2	6021FX	0.3
W04	1	2	3016FX	0.3
W05	1	2	3024FX	0.3
W06	1	2	60405H	0.3

DOOR SCHEDULE			
TAG	QTY	FLOOR	SIZE
D01	1	2	2468 R IN
D02	2	2	2668 R IN
D03	1	2	2568 R EX
D04	1	2	3068 R EX
D05	2	2	5068 L EX
D07	1	1	4068 L/R
D08	1	1	2868 L
D09	1	2	2868 L EX

NWPS
 NORTHWEST PERMIT SOLUTIONS
 2646 RW Johnson Rd., Suite 111, Dunbar, WA 98512
 www.nwpermitsolutions.com
 360-359-2967
EAST MERCER ADDITION
 4854 E MERCER WAY,
 MERCER ISLAND, WA 98040
 PARCEL NO.: 192405-9278

PROJECT NAME:
MARK MEHLAFF

PREPARED FOR:
 DESIGNED BY:
NWPS
 DRAFTED BY:
CJD

DATE:
8/18/2025
 SHEET TITLE:
FIRST FLOOR PLAN

PROJECT NUMBER:
25-068

SHEET NUMBER:
A-5

1 ROOF PLAN



SCALE: 1/4 IN = 1 FT

TYPICAL PLAN NOTES:

- 1) ALL INTERIOR WALLS TO BE 2x4 @ 16" O.C. (U.N.O.)
- 2) ALL EXTERIOR WALLS TO BE 2x6 @ 16" O.C. (U.N.O.)
- 3) MAIN FLOOR HEADERS PER STRUCTURAL @ 8'-0" A.F.F. (U.N.O.)
- 4) WINDOW SIZES ARE NOMINAL ROUGH OPENING, WIDTH AND HEIGHT.
- 5) DOOR SIZES NOTED ARE SLABS NOT ROUGH OPENINGS.
 - EACH DOOR TO BE UNDERCUT A MINIMUM OF 1/2-INCH TO ASSURE FREE FLOW OF FRESH AIR THROUGHOUT HABITABLE ROOMS
- 6) PROVIDE SOLID BLOCKING OVER SUPPORTS.
- 7) ALL INTERIOR FINISHES TO MEET MINIMUM FLAME SPREAD INDEX AND SMOKE DEVELOPMENT INDEX AS REQUIRED BY 2018 IRC.
- 8) UNDER FLOOR CLEANOUT NOT MORE THAN 20' FROM ACCESS DOOR WITH AN UNOBSTRUCTED 30" WIDE X 18" HIGH PATH PATHWAY. CLEANOUTS ARE ACCESSIBLE. 12" CLEARANCE REQUIRED AT LINES LESS THAN OR EQUAL TO 2'. 18" CLEARANCE AT LINES GREATER THAN 2'. (UPC 707.4)
- 9) REFER TO STRUCTURAL SHEETS FOR SHEAR WALL SCHEDULE AND ENGINEERING PLAN WHICH CONTAIN REFERENCES AND/OR INSTRUCTIONS PERTAINING TO EACH SHEAR WALL INDICATED IN THIS PLAN.
- 10) SEE SHEET A-2 FOR ADDITIONAL GENERAL NOTES



PROJECT NAME:
 EAST MERCER ADDITION
 4854 E MERCER WAY,
 MERCER ISLAND, WA 98040
 PARCEL NO.: 192405-9278

PREPARED FOR:
MARK MEHLAFF

DESIGNED BY:
 NWPS

DRAFTED BY:
 CJD

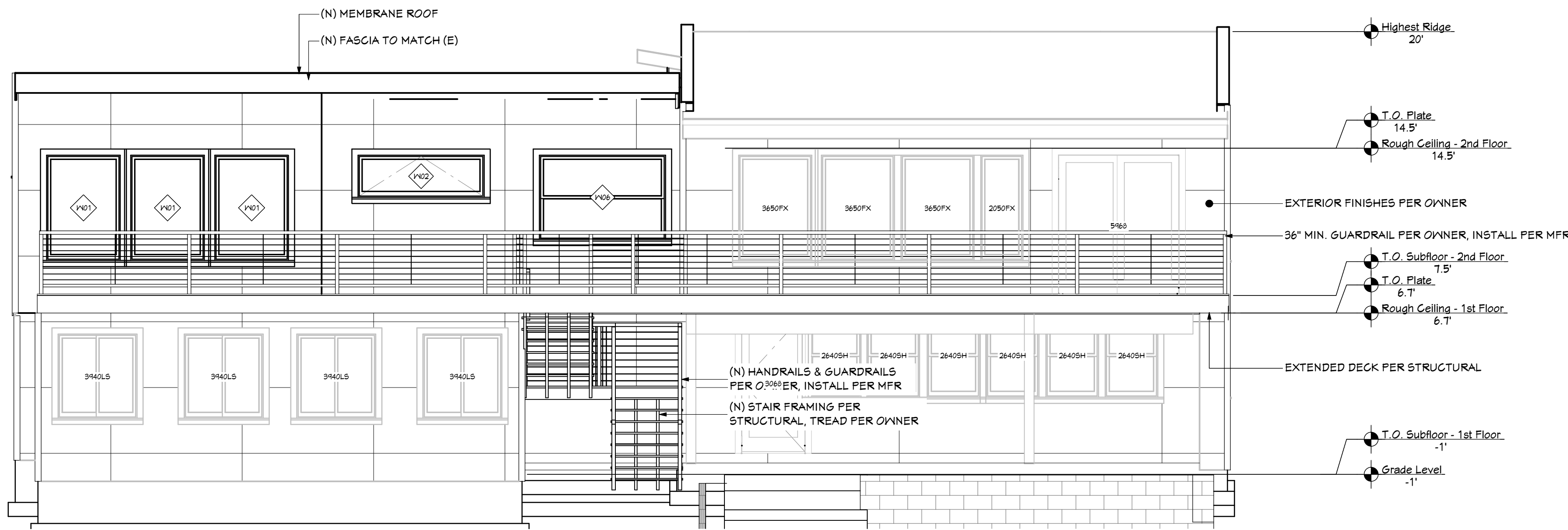
DATE:
 8/18/2025

SHEET TITLE:
ROOF PLAN

PROJECT NUMBER:
 25-068

SHEET NUMBER:
A-6

ROOF AREAS		
ROOF SURFACE	AREA, SURFACE	AREA, PROJECTED
BLACK STANDING SEAM, OSB-HRZ	75.93	72.03
ASPHALT ROOFING - BLACK, OSB-HRZ	1644.7	1560.29
TOTALS:	1720.63	1632.32

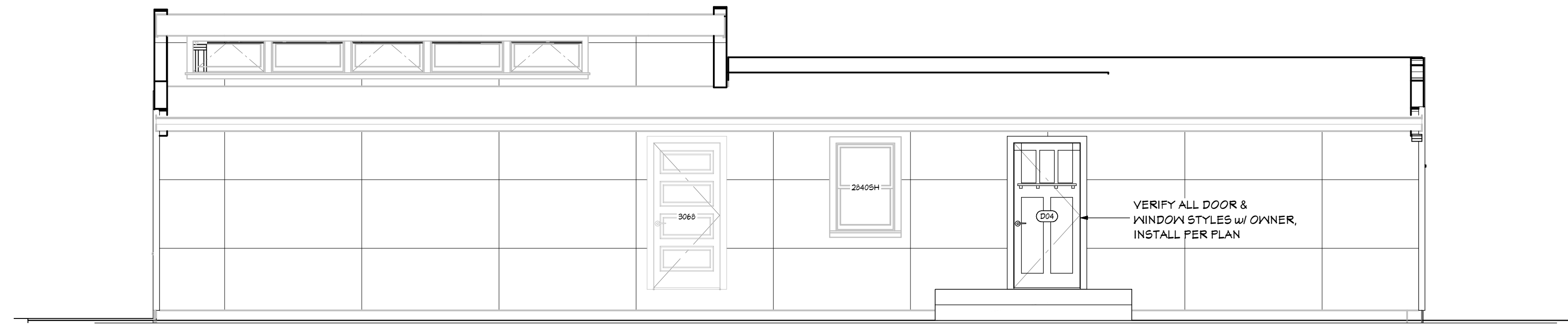


- ELEVATION NOTES:**
- 1) VERIFY SHEAR WALL NAILING & HOLDDOWNS PER ENGINEERING PLANS.
 - 2) CAULK ALL EXTERIOR JOINTS & PENETRATIONS.
 - 3) PROVIDE APPROVED CORROSION RESISTANT FLASHING AT EXTERIOR WALL ENVELOPE PER I.R.C. R103.8
 - 4) PROVIDE FLASHING AT ROOF PENETRATIONS PER I.R.C. R405.2.8
 - 5) PROVIDE WEATHER STRIPPING AT ALL EXTERIOR & GARAGE INTERIORDOORS.
 - 6) PROVIDE CONTINUOUS GUTTERS & DOWNSPOUTS @ ALL EAVES, TYP.
 - 7) ADDRESS OR HOUSE NUMBER TO BE POSTED AND PLAINLY VISIBLE FROM THE STREET FRONTAGE. MIN. 4" HEIGHT, 1/2" STROKE WIDTH AND CONTRASTING BACKGROUND.
 - 8) PROVIDE STAIRWAY ILLUMINATION PER I.R.C. R303.6
 - 9) SEE SHEET A1 FOR ADDITIONAL NOTES.
 - 10) PROVIDE SURFACE DRAINAGE 6" : 10' MIN. AWAY FROM HOUSE FOOTPRINT IRC R401.3



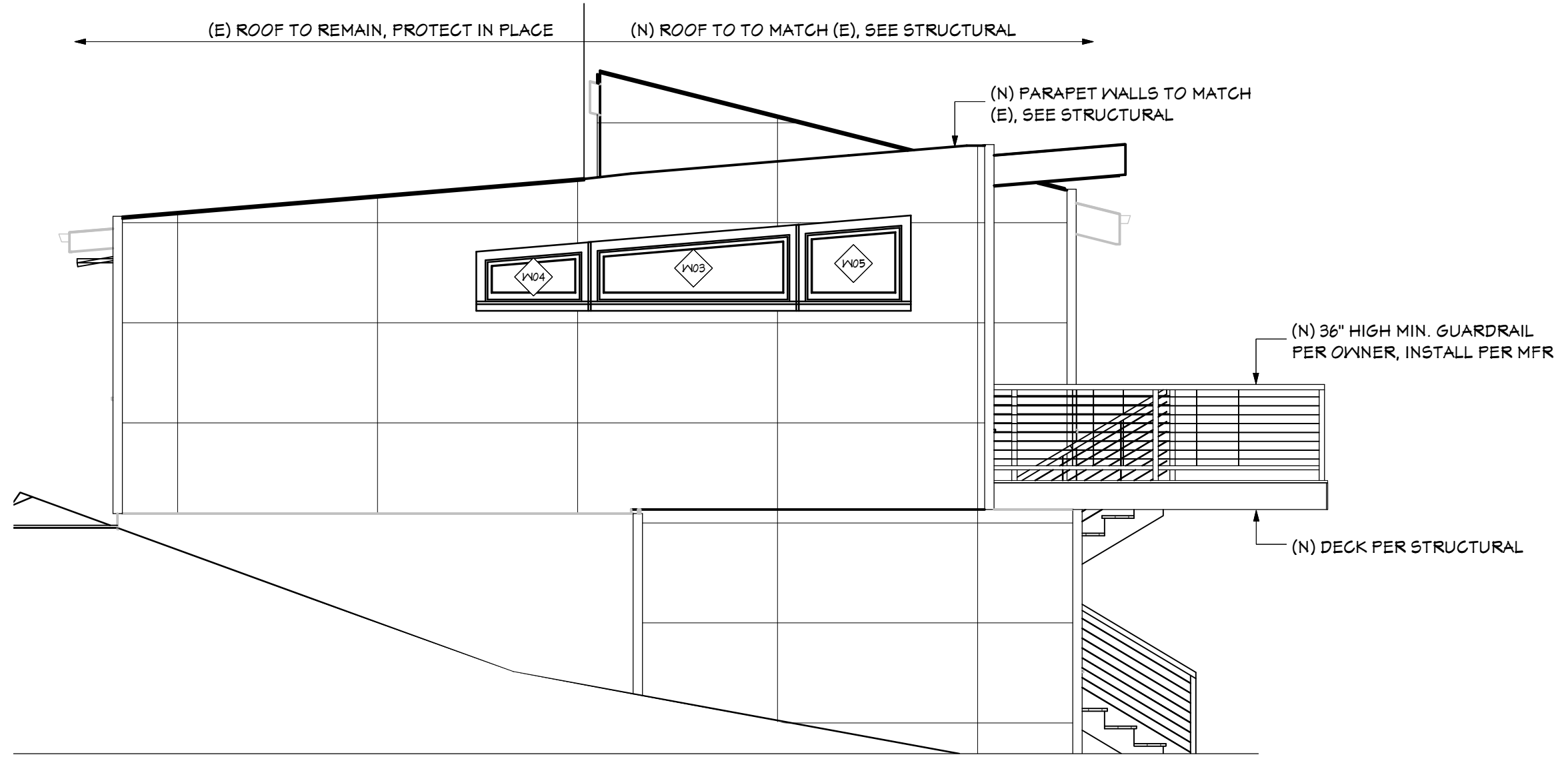
1 PROPOSED SOUTH ELEVATION

SCALE: 1/4 IN = 1 FT



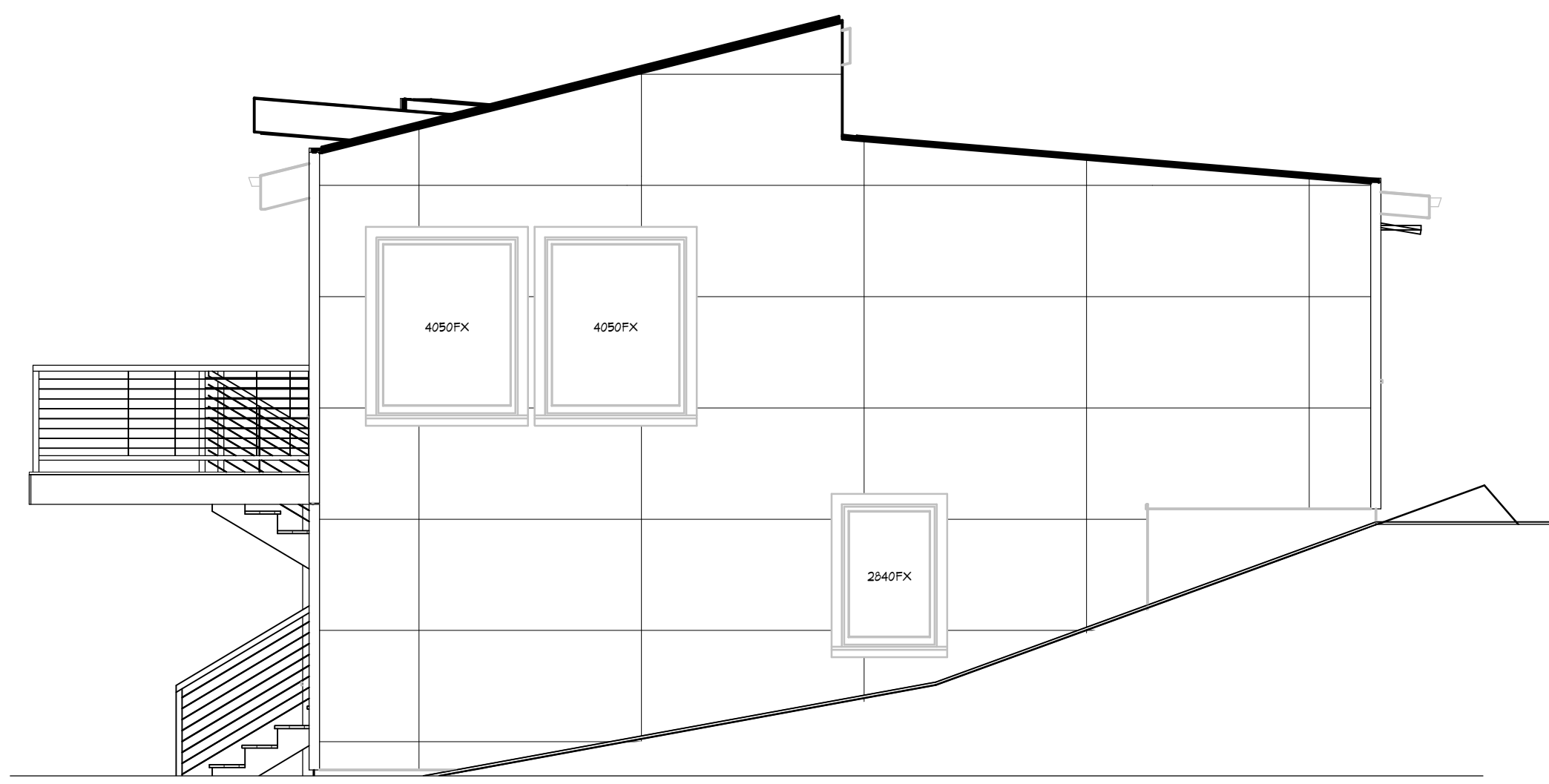
2 NORTH ELEVATION

1/4 IN = 1 FT



3 WEST ELEVATION

1/4 IN = 1 FT



4 EAST ELEVATION

1/4 IN = 1 FT

PROJECT NAME:
 EAST MERCER ADDITION
 4854 E MERCER WAY,
 MERCER ISLAND, WA 98040
 PARCEL NO.: 192405-9278

PREPARED FOR:
 MARK MEHLAFF

DESIGNED BY:
 NWPS

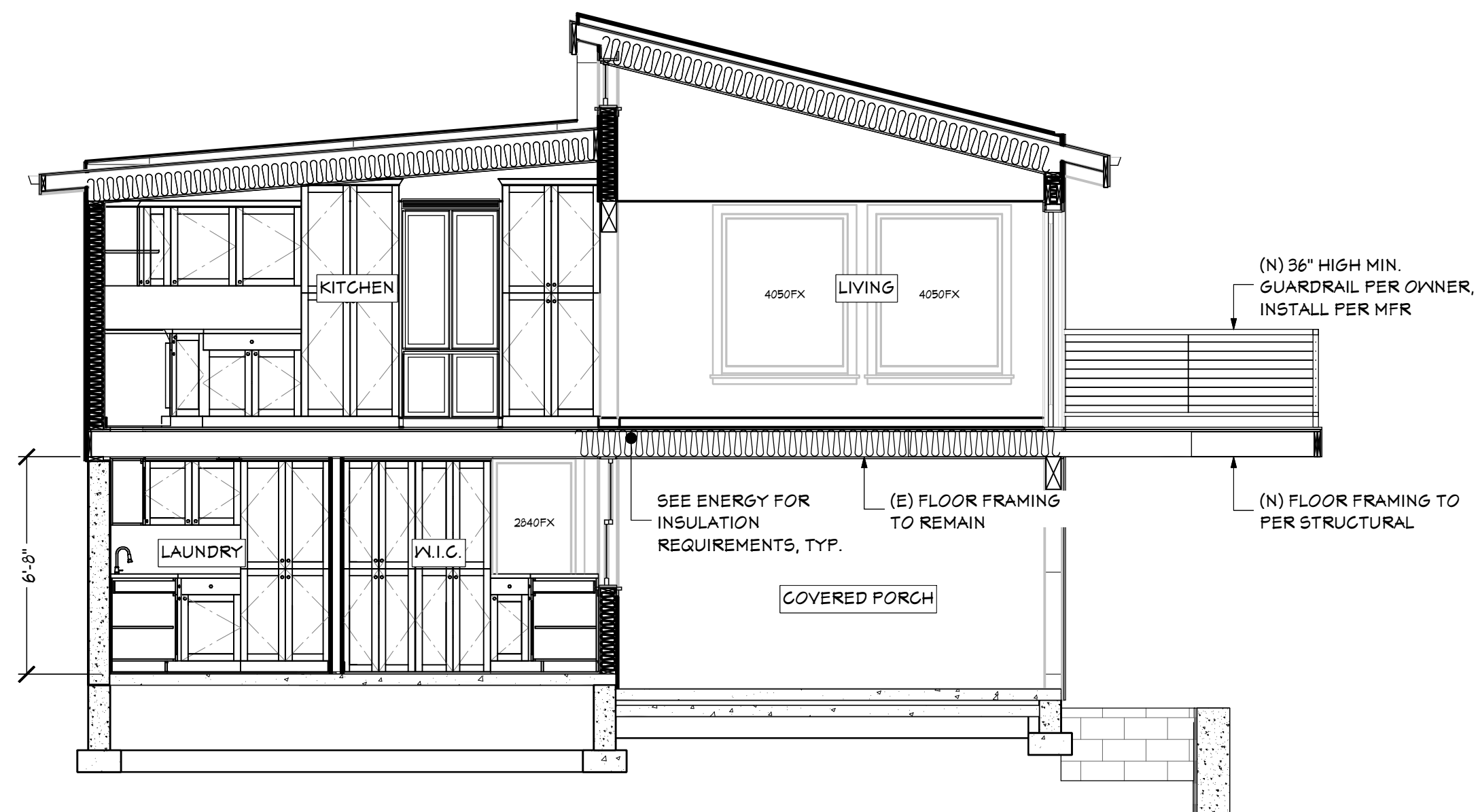
DRAFTED BY:
 CJD

DATE:
 8/18/2025

SHEET TITLE:
 PROPOSED ELEVATIONS

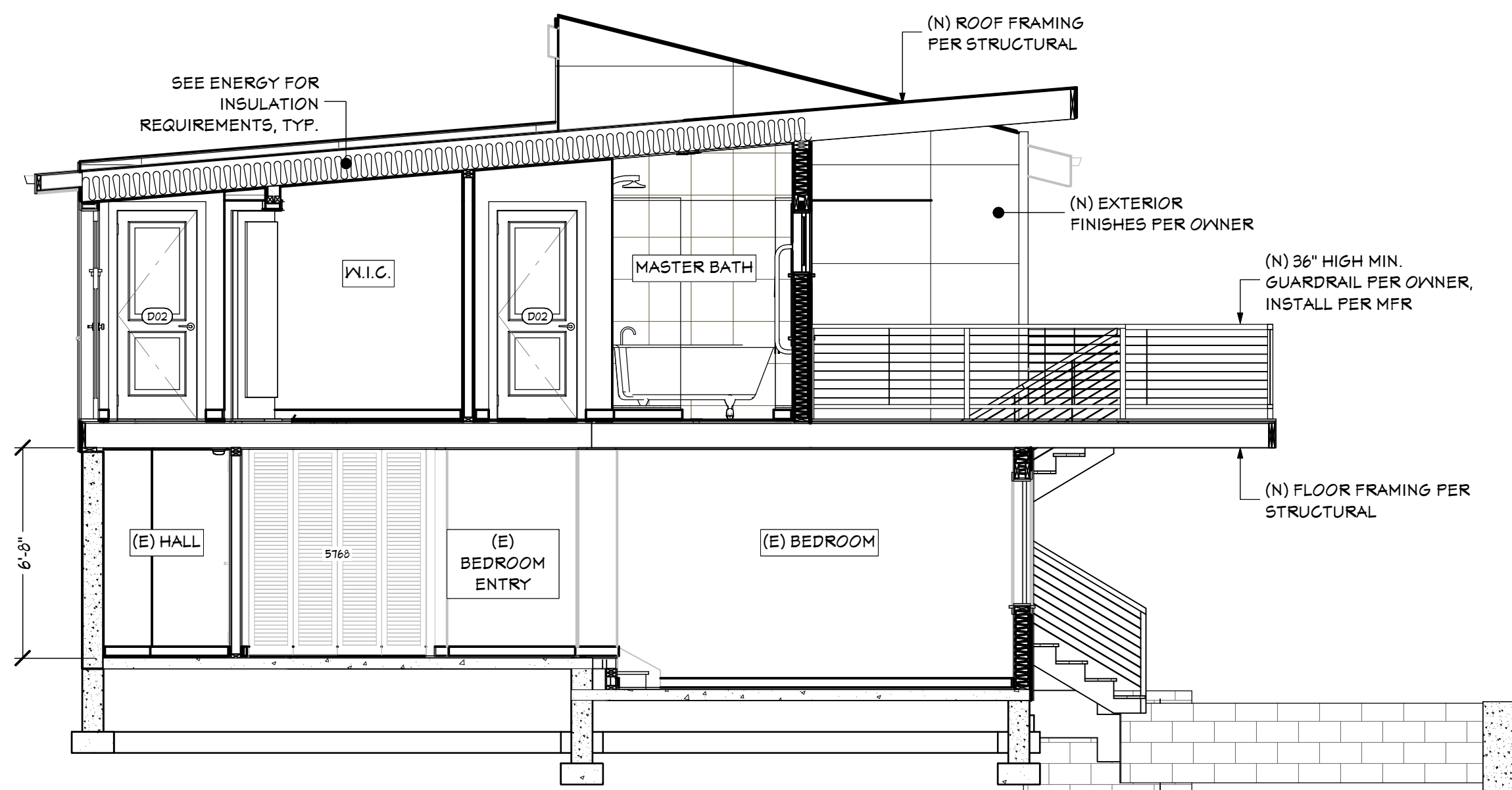
PROJECT NUMBER:
 25-068

SHEET NUMBER:
 A-7



1 BUILDING SECTION 1

1/4 IN = 1 FT



2 BUILDING SECTION 2

1/4 IN = 1 FT



PROJECT NAME:
 EAST MERCER ADDITION
 4854 E MERCER WAY,
 MERCER ISLAND, WA 98040
 PARCEL NO.: 192405-9278

PREPARED FOR:
 MARK MEHLAFF

DESIGNED BY:
 NWPS

DRAFTED BY:
 CJD

DATE:
 8/18/2025

SHEET TITLE:
 BUILDING SECTIONS

PROJECT NUMBER:
 25-068

SHEET NUMBER:
 A-8

Project Information
 E. MERCER ADDITION & REMODEL
 4854 E MERCER WAY
 MERCER ISLAND, WA 98040
 TPN: 192405-9278

Contact Information
 CHRIS ARNOLD - NW PERMIT SOLUTIONS, LLC
 CHRIS@NWPERMITSOLUTIONS.COM
 360-359-2967

Messages / Comments *

UA Reduction = 24.68, Proposed UA is better than baseline by 6.3%

Whole House Mechanical Ventilation Airflow Rate: 67.5 CFM with Run Time Percent of 100%, Unbalanced, Not Distributed

*Results assume your inputs are complete and correct. Results do not constitute an approval. Analysis should be reviewed by your AHJ.

ANALYSIS SET UP

What code compliance pathway are you using? **Total UA Alternative, Whole Building Trade Off Analysis**

Project Building Type? **Addition / Remodel / Alteration**

Occupancy Type? **R3 Single family dwellings and townhouses**

Code Version? **WSEC 2021**

Classification: **Medium Dwelling Unit - 2800 sq. ft.**

Baseline Description: **Code Baseline - Maximum baseline window area is 15% of floor area.**

About Your Selection: **No exempt window or door areas**

RESULTS - Comparison of Baseline and Proposed Design **

Component Performance, R occupancies	Baseline		Proposed Design	
	U *	UA	U	UA
Doors U *	0.300	118	0.300	118
Overhead Glazing U *	0.500	0	0	0.0
Vertical Glazing U *	0.300	360	0.300	199.9
Flat/Vaulted Ceilings U *	0.054	1,565	0.031	1,248
Wall (above grade) U *	0.056	1,248	0.054	1,248
Floors over Crawlspace U *	0.029	0	0	0.0
Slab on Grade F *	0.040	0	0	0.0
Below Grade Wall U *	0.055	600	0.058	600
Below Grade Slab F *	0.500	239	0.303	239

* Values from Table R402.1.2 (Oct 2022)

Baseline UA Total	363.3	Proposed UA Total	368.4
Required Credits	8.0	Proposed Credits	8.0
		UA Percent Reduction	6%
		UA Reduction	24.9

Proposed UA Total: 368.4
 Proposed Credits: 8.0
 UA Percent Reduction: 6%
 UA Reduction: 24.9

Table R406.2 Energy Equalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
4	For heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(2) or Table C403.3.2(5) OR Air-to-Water heat pump units that are configured to provide both heating and cooling and are rated in accordance with AHRI 550/990	Variable Refrigerant Heat Pump or Air-to-Water Heat Pump	3.0	5.0	8.0

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope			
2	Air Leakage Control and Efficient Ventilation	Option 2.1	1.0	Per Section R402.4.1.2 / 2.0 ACH50 / For R-2, 0.25 cfm per ft ² at 50 Pa / HRV with min. SFR of 0.05 per IRC Section M1505.3 or IMC Section 403.8
3.1-3.10	High Efficiency HVAC	Option 3.7	2.0	Ductless Split System with no electric resistance in primary living areas. HSPF2 of 9 (HSPF of 10), average HSPF2 of 8.1 (HSPF of 9) if heating load is 24000 BTUs or less.
3.11	High Efficiency HVAC: Smart Thermostat		0.0	
4	High Efficiency HVAC Distribution System		0.0	
5.1	Efficient Water Heating: Drain Heat Recovery		0.0	
5.2	Efficient Water Heating: Compact Hot Water Distribution	Not Selected	0.0	
5.3-5.8	Efficient Water Heating	Option 5.6	2.0	Electric heat pump water heater meeting NEA Tier 3.
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package		0.0	

*Refer to WSEC 2015 Table R406.2 for complete option descriptions and requirements

THERMAL ENVELOPE DETAILS - Proposed Design

Conditioned Floor Area, Proposed Design: 2,800 sq. ft.
 Classification: Medium Dwelling Unit

Notes: 209 SF ADDITION TO MASTER BEDROOM - EXISTING WINDOWS STAYING

Exterior Doors

Plan ID	Component Description	Ref.	Door U	Qt.	Feet	Height	Area	UA
D03	Code Baseline, U=0.30		0.30	2	3	6	18	5.4
EX	Code Baseline, U=0.30		0.30	1	3	6	6	1.8
EX	Code Baseline, U=0.30		0.30	1	5	6	30	9.0
EX	Code Baseline, U=0.30		0.30	1	3	6	6	1.8

Sum of Area and UA: 118 36.0
 Exterior Doors Area Weighted U: 0.300

Overhead Glazing

Plan ID	Component Description	Ref.	Glazing U	Qt.	Feet	Height	Area	UA

Sum of Area and UA: 0 0
 Overhead Glazing Area Weighted U: 0.0

Vertical Glazing Schedule

Plan ID	Component Description	Ref.	Glazing U	Qt.	Feet	Height	Area	UA
W01	U=0.30 (Code Baseline)	Table 406.2	0.30	2	4	4	32.0	9.60
W02	U=0.30 (Code Baseline)	Table 406.2	0.30	2	2.00	4	5.0	1.50
W03	U=0.30 (Code Baseline)	Table 406.2	0.30	1	4	3	12.0	3.60
W04	U=0.30 (Code Baseline)	Table 406.2	0.30	2	5	4	40.0	12.00
W05	U=0.30 (Code Baseline)	Table 406.2	0.30	1	3	4	12.0	3.60
W06	U=0.30 (Code Baseline)	Table 406.2	0.30	2	2	4	21.3	6.40
EXISTING	U=0.30 (Code Baseline)	Table 406.2	0.30	4	3	4	60.0	18.00
EXISTING	U=0.30 (Code Baseline)	Table 406.2	0.30	8	2	4	60.0	18.00
EXISTING	U=0.30 (Code Baseline)	Table 406.2	0.30	2	2	4	21.3	6.40
EXISTING	U=0.30 (Code Baseline)	Table 406.2	0.30	3	3	5	50.5	15.15
EXISTING	U=0.30 (Code Baseline)	Table 406.2	0.30	1	2	5	10.0	3.00
EXISTING	U=0.30 (Code Baseline)	Table 406.2	0.30	2	4	5	40.0	12.00

Sum of Area and UA: 366.2 108.9
 Vertical Glazing Area Weighted U: 0.300
 Vertical Glazing and Doors Area Weighted U: 0.300

Flat/Vaulted Ceilings

Plan ID	Component Description	Ref.	Attic U	Area	UA
	R30 blown Scissor 4.12 ADV baffled	10-7	0.031	1,565	48.5

Sum of Area and UA: 1,565 48.5

Walls (Above Grade)

Plan ID	Component Description	Ref.	Wall U	Net Area	UA
	R21 cavity+R6 foam INT ZXEW Lap (Code Baseline)	10-5	0.054	1,248	67

Sum of Area and UA: 1,248 67

Floor (over crawl or exterior)

Plan ID	Component Description	Ref.	Floor U	Area	UA

Sum of Area and UA: 0 0

Slab on Grade (less than 2 feet below grade)

Plan ID	Component Description	Ref.	Slab F	Slab Perim	FP

Sum of Perimeter and FP: 0 0

Below Grade Walls and Slabs

Plan ID	Component Description	Slab Depth	Ref.	Wall U	Wall Area	Wall UA	Slab F	Slab Perim	Slab UA
EX	R10 Foam Ext	7' depth	10-1	0.06	600	34.8	0.06	142	67
EX	R10 Foam Ext	7' depth	10-1	0.06	600	34.8	0.06	97	6

Sum of Area, Length and UA: 600 34.8 239 72

Links to Download Forms, Checklists and Other Resources

Compliance Certificate: [Insulation Certificate](#) [Instructions](#)

Insulation Certificate for Residential New Construction

Duct Testing Affidavits: [Existing Construction Affidavit](#) [New Construction Affidavit](#)

Prescriptive Checklist for 2018 WSEC Alterations (Remodel) Worksheet: [Worksheet](#)

EER SEER2 COP HSPF2 Converter: [https://www.edcoten.net/rna-com/sec-see2-cop-hspf2-converter](#)

Ventilation Requirements

Conditioned Floor Area: 2,800 sq. ft.

Number of Bedrooms: 1

Run-Time Percent in Each 4-Hour Segment: 100%

Is the system Balanced? **Unbalanced**

Is the system Distributed? **Not Distributed**

Ventilation Code Section: **IRC, Chapter 15**

Whole House Mechanical Ventilation Airflow Rate: **68** CFM

HVAC Thermal Distribution System

Download RS-33 (2018) <http://www.wa.gov/energy/Documents/Duct%20Testing%20Standards%202018>

Is this a hydronic heating system? **No**

Location of Ducts: **Unducted**

Location of Air Handler: **Unducted**

For Existing Construction: Are Any of These Exceptions True?
 Are duct systems documented to have been previously sealed as confirmed through field verification and diagnostic testing per RS-33? **No**
 Is there less than 40 linear feet in unconditioned spaces? (not exempted under WSEC 2021) **No**
 Are existing duct systems constructed, insulated or sealed with asbestos? **No**
 Is the project an Addition less than 750 sf of conditioned floor area? **No**
 Is Duct Testing Required? **No**

Heating System Sizing - Proposed Design

Try Out BetterBuildNW's HVAC Sizing Tool: <https://betterbuildnw.com/resources/hvac-sizing-tool>

Nearest Weather Station: **Leavenworth**

Indoor Design Temperature: 70 F

Outdoor Design Temperature: -3 F

Design Temperature Difference (ΔT): 73 F

Conditioned Floor Area, Proposed Design: 2,800 ft²

Conditioned Volume: 22,400 ft³
 (Levens blank to use default of 8.5 ft ceiling height)

HVAC System Type: **Heat Pump**

Location of HVAC Distribution System: **Unducted**

Sum of UA: 368

Envelope Heat Load: 26,894 Btu / Hour
 (Sum of UA x ΔT)

Air Leakage Heat Load: 17,690 Btu / Hour
 (Volume x 0.6 x ΔT x 0.018)

Building Design Heat Load: 44,551 Btu / Hour
 (Envelope + Air Leakage + Equipment Heat Loss)

Building and Duct Heat Load: 44,551 Btu / Hour
 (For ducts located in unconditioned space: Sum of Building Heat Loss x 1.1)

Maximum Heat Equipment Output: 55,699 Btu / Hour
 (Building and Duct Heat Loss x 1.25 for heat pumps)

Building and Duct Heat Loss x 1.43 for all other systems: 16.3 kW

ENERGY CREDITS DESCRIPTION



PROJECT NAME:
 EAST MERCER ADDITION
 4854 E MERCER WAY,
 MERCER ISLAND, WA 98040
 PARCEL NO.: 192405-9278

PREPARED FOR:
 MARK MEHLAFF

DESIGNED BY:
 NWPS

DRAFTED BY:
 CJD

DATE:
 8/18/2025

SHEET TITLE:
 ENERGY CREDIT OPTIONS

PROJECT NUMBER:
 25-068

SHEET NUMBER:
 A-9

Basic Stairs
This tip sheet reflects code requirements of the 2021 International Residential Code (IRC) with Washington State Amendments.

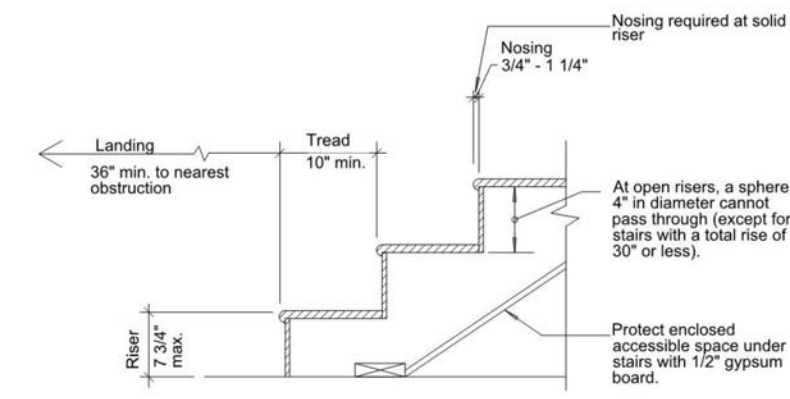


Figure 1: Typical Stair Treads and Risers

Stair Treads and Risers

- The largest tread or riser within any flight of stairs is not to exceed the smallest by more than 3/8 inches. (R311.7.5.1)

Illumination

- Interior stairways shall be provided with an artificial light source to illuminate the landings and treads. There shall be a wall switch at each floor level to control the light source where the stairway has 6 or more risers. (R303.7)

- Exterior stairways shall be provided with an artificial light source located at the top landing of the stairway and located at the bottom landing where accessing a basement. Stairway illumination shall receive primary power from the building wiring. (R303.8)

Handrails

- Handrails are required on at least one side for stairways with four or more risers. See Tip Sheet 2 for additional information regarding handrails. (R311.7.8)

Landings

- Landings are required at the top and the bottom of stairways. A floor landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs. (R311.7.6)
- A landing extending the width of the stairs and measuring a minimum of 36 inches in the direction of travel is required at the top and bottom of every stairway. (R311.7.6)

Circular, Winding, or Spiral Stairways

- For exceptions related to the construction of circular, winding, or spiral stairways, see IRC R311.7.5.2.1 and R311.7.10.

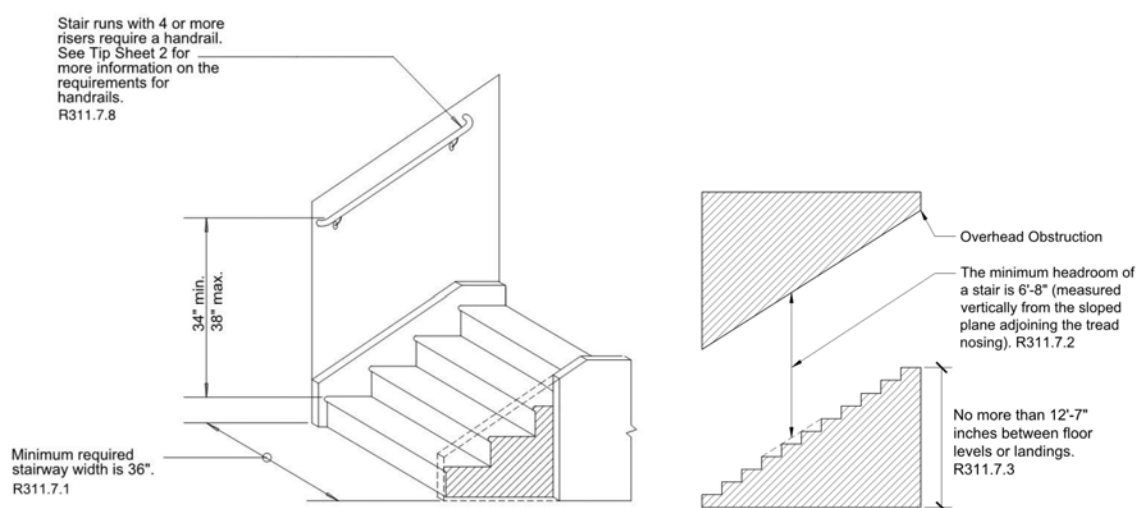


Figure 2: Typical Stair Elevation

Figure 3: Headroom Clearance Requirements

1 BASIC STAIRS DETAIL

Residential Guards (Guardrails)

This tip sheet reflects code requirements of the 2018 International Residential Code (IRC) with Washington State Amendments.

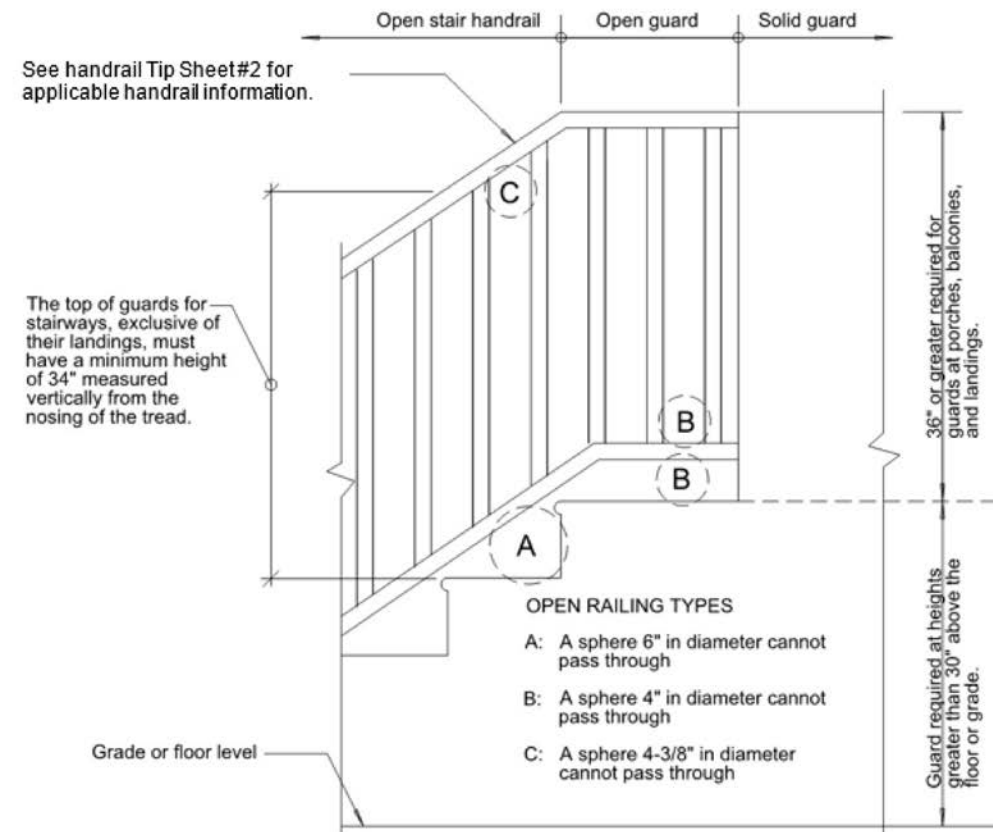


Figure 1: Guard Elevation (IRC R312)

Requirements

- Guards shall comply with IRC R312.1; refer to Figure 1 for major requirements.
- Guards shall be structurally designed to comply with IRC Table R301.5 (i.e., designed for a 200-pound load in any direction along the top and a 50-pound point load elsewhere).
- For glass guards or guards with glazing, see IRC R308.4.4.

2 GUARDRAILS DETAIL

Smoke, Heat, and Carbon Monoxide Alarms

This tip sheet reflects code requirements of the 2021 International Residential Code (IRC) with Washington State Amendments and NFPA 72 - 2019.

Definitions

- Smoke alarm:** A device designed to respond when it senses smoke, typically as an indicator of fire.
- Heat alarm:** A device designed to respond when it senses a rise in temperature, typically as an indicator of fire.
- Carbon monoxide alarm:** A device designed to respond when it senses carbon monoxide, a poisonous gas.

- All alarms shall be UL listed and installed per manufacturer instructions. (R314.1.1, R315.1.1)

New Construction

- Smoke alarms and carbon monoxide alarms shall be installed throughout each dwelling unit in all required locations. (R314.2.1, R315.2.1)
- A heat detector shall be provided in each new attached garage. (R314.2.3)
- Smoke alarms, heat alarms, and carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. (R314.6, R315.6)
- Where more than one smoke alarm is required to be installed within an individual dwelling unit, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual dwelling unit. (R314.4, R315.4)
- Heat alarms shall be connected to a heat alarm or smoke alarm that is installed in the dwelling unit. Alarms that are installed for this purpose shall be located in a hallway, room, or other location that will provide occupant notification. (R314.4.1)
- Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm. (R314.4, R315.5)

Alterations, Repairs, and Additions

- In a dwelling unit where alterations, repairs or additions occur, smoke alarms and carbon monoxide alarms shall be installed throughout each dwelling unit, in all required locations, where not already present. (R314.2.2, R315.2.2)
- Smoke and carbon monoxide alarms can be powered by the building wiring or batteries. (R314.6, R315.6)
- Smoke alarms shall be interconnected within an individual dwelling except where such existing smoke alarms are not interconnected or where such new smoke alarm or alarm is not capable of being interconnected to the existing smoke alarms. (R314.4)
- Carbon monoxide alarms shall be interconnected except where the permit related work does not provide access to the building wiring (such as removing interior walls or ceiling finishes) and there is no attic, crawlspace, or basement available. (R315.6)

Required Locations

- A smoke alarm shall be located in each sleeping room. (R314.3)
- A smoke alarm shall be located in each rapping area of a family home childcare. (R314.3)
- A smoke alarm and a carbon monoxide alarm (or combination smoke and carbon monoxide alarm) shall be located outside each sleeping area in the immediate vicinity of the bedroom(s). (R314.3, R315.3)
- At least one smoke alarm and one carbon monoxide alarm shall be located on each floor level, including basements and habitable attics. (R314.3, R315.3)
- In split level floor plans, at the upper level, provided there is no intervening door between adjacent levels and the lower level is less than a full story below the upper level. (R314.3)
- A smoke alarm shall be located in the hallway and in the room open to the hallway in dwelling units where the ceiling height of a room open to a hallway serving bedrooms exceeds that of the hallway by 24 inches or more. (R314.3)
- Within the room to which a loft is open, in the immediate vicinity of the loft. (R314.3)
- A carbon monoxide alarm is required in a bedroom when a fuel-burning appliance is installed in the bedroom or its attached bathroom. (R315.3)
- A combination alarm (combined smoke and carbon monoxide alarm) is acceptable in any required location. (R314.5, R315.4)
- A heat alarm is required in each new attached garage. (R314.2.3)

Alarms and Detectors on Walls and Sloped/Peak/Coffered Ceilings per NFPA 72 - 2019.

- Alarms and detectors in a peaked ceiling must be within 3 feet horizontally and no closer than 4 inches vertically to the peak. Avoid placing alarms in dead air spaces; refer to Figure 1. (NFPA 72 29.11.3.1)
- Alarms and detectors mounted on a sloped ceiling having a rise greater than 1-foot in 8-feet horizontally (1/8) shall be located within 36-inches of the high side of the ceiling, but not closer than 4-inches from the adjoining wall surface. Refer to Figure 1. (NFPA 72 29.11.3.2)

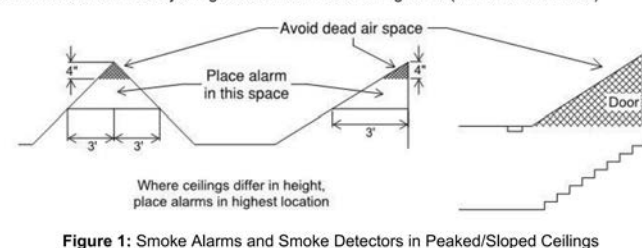


Figure 1: Smoke Alarms and Smoke Detectors in Peaked/Sloped Ceilings

- Where stairs lead to other occupiable levels, alarms and detectors shall be located so that smoke rising in the stairway cannot be prevented from reaching the alarm or detector by an intervening door or obstructions. For stairways leading up from a basement, alarms and detectors shall be located on the basement ceiling near the entry to the stairs. Refer to Figure 1. (NFPA 72 29.11.3.4 (10), (11))

- Wall mounted alarms and detectors must be not more than 12 inches from the adjoining ceiling surface. (NFPA 72 29.11.3.3)

- Alarms and detectors installed in rooms with joists or beams shall comply with NFPA 72 17.3.2.4 and 17.6.3. (NFPA 72 29.11.3.4 (13), (14))

- For coffered ceilings (and ceilings with soffits), alarms and detectors shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12 inches vertically down from the highest point. Refer to Figure 2. Provide the manufacturer's installation instructions to confirm the maximum horizontal distance from the alarm or detector. (NFPA 72 29.11.3.4 (12))

- Do not place alarms within 3 feet from a supply register of a forced air heating or cooling system and it shall be installed outside of the direct airflow from those registers. (NFPA 72 29.8.3.4 (7))

- Do not place alarms within 3 feet of the blades of a ceiling fan. (NFPA 72 29.8.3.4 (8))

- Do not place alarms in direct sunlight.

- Do not place alarms in low areas where children can reach. Do not place alarms behind curtains or any structure that might prevent carbon monoxide from reaching the sensor.

Carbon Monoxide Alarm Location Limitations

- Do not place alarms directly above or beside fuel-burning appliances.

- Do not place alarms in direct sunlight.

Alarms and Detectors Near Cooking Appliances per NFPA 72 Refer to Figure 3:

The following are guidelines for safe installation near a cooking appliance.

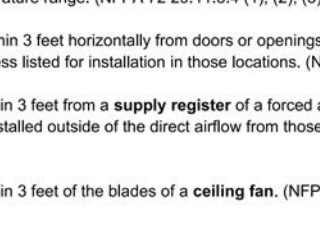


Figure 2: Coffered ceilings or ceilings with soffits.

- Photoelectric smoke alarms shall not be installed less than 6 feet horizontally from a permanently installed cooking appliance. (NFPA 72 29.8.3.4 (4))

- Ionization smoke alarms with an alarm-silencing switch must not be less than 10 feet from a permanent cooking appliance. (NFPA 72 29.8.3.4 (4))

- Initiation smoke alarms without an alarm-silencing switch must not be less than 20 feet from a permanent cooking appliance. (NFPA 72 29.8.3.4 (4))

- Smoke alarms listed and marked "helps reduce cooking nuisance alarms" shall not be installed less than 6 feet horizontally from a permanently installed cooking appliance. (NFPA 72 29.11.3.4 (9))

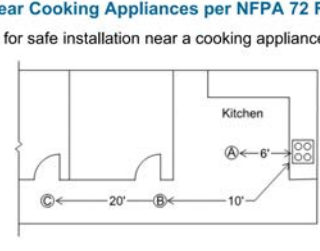


Figure 3: Smoke Alarms and Smoke Detectors Near Cooking Appliances

- Photoelectric smoke alarms shall not be installed less than 6 feet horizontally from a permanently installed cooking appliance. (NFPA 72 29.8.3.4 (4))

- Ionization smoke alarms with an alarm-silencing switch must not be less than 10 feet from a permanent cooking appliance. (NFPA 72 29.8.3.4 (4))

- Initiation smoke alarms without an alarm-silencing switch must not be less than 20 feet from a permanent cooking appliance. (NFPA 72 29.8.3.4 (4))

- Smoke alarms listed and marked "helps reduce cooking nuisance alarms" shall not be installed less than 6 feet horizontally from a permanently installed cooking appliance. (NFPA 72 29.11.3.4 (9))

2 GUARDRAILS DETAIL

3 ALARMS DETAIL

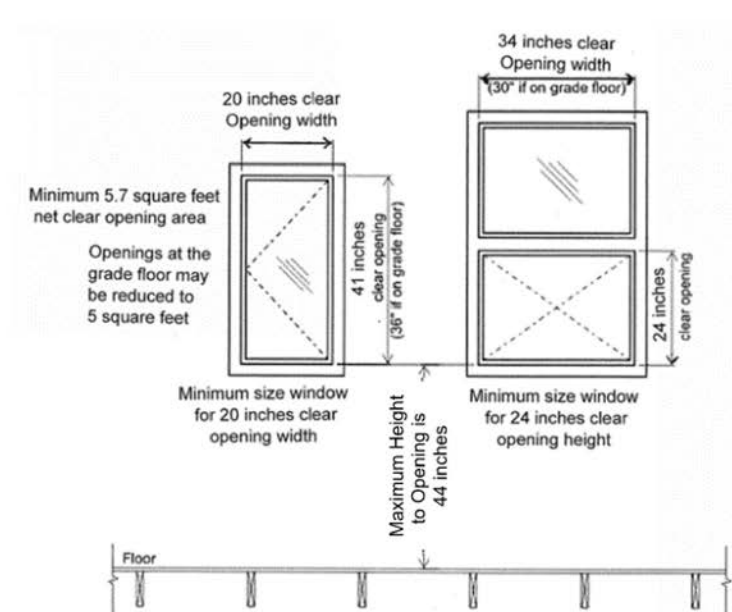
Residential Emergency Egress Openings

This tip sheet reflects code requirements of the 2021 International Residential Code (IRC) with Washington State Amendments.

Emergency Escape and Rescue Opening

- Basements, habitable attics and every sleeping room shall have not 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 be operational from the inside without the use of keys, tools, or special knowledge, and open directly into a public way, or to a yard or court providing an unobstructed path with a width of not less than 36 inches (914 mm) that opens to a public way. (R310.1)

- Where bars, grilles, covers, screens, or opening control devices are placed on emergency escape and rescue openings the minimum net clear opening sizes shall comply, and such devices shall be releasable or removable from the inside without the use of key, tool, special knowledge, or force greater than that required for normal operation of the escape and rescue opening. (R310.4)



Minimum Emergency Egress and Rescue Opening Dimensions

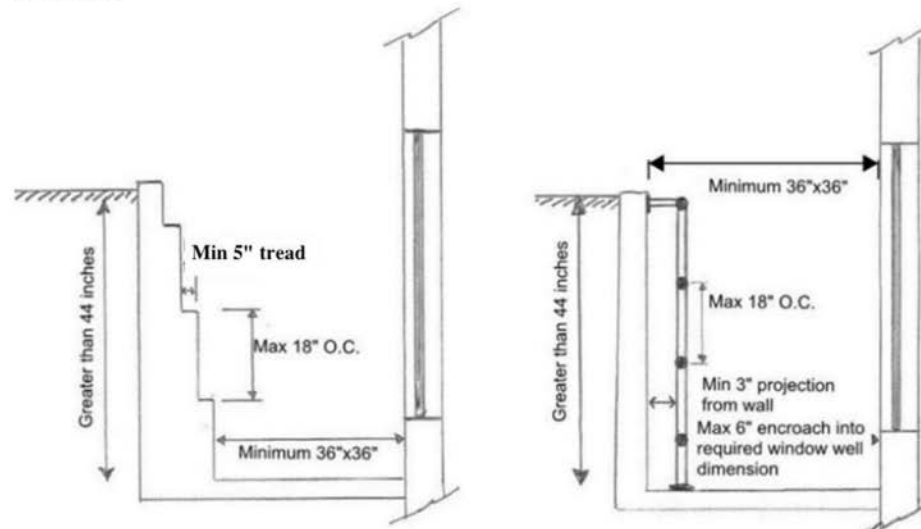
Area Wells in Conjunction with Emergency Escape and Rescue Openings

- The horizontal area of the area well shall be not less than 9 square feet, with a horizontal projection and width not less than 36 inches. The size of the area well shall allow the emergency escape and rescue opening to be fully opened. (R310.4.1)

- Area wells with a vertical depth greater than 44 inches shall be equipped with a permanently affixed ladder or steps useable with the emergency escape and rescue opening in the fully opened position and shall not encroach into the required dimensions of the window well. (R310.4.2)

- Ladders, rungs, and steps shall have an inside width of not less than 12 inches, shall project not less than 3 inches from the wall or have a minimum 5-inch tread depth, and be spaced not more than 18 inches on center vertically for the full height of the area well. (R310.4.2.1 / R310.4.2.2)

- Where bars, grilles, covers, screens or similar devices are placed bulkhead enclosures or area wells that serve emergency escape and rescue openings, the minimum net clear opening size shall be no less than the emergency escape and rescue opening as shown in the figures above. Such devices shall be releasable or removable from the inside without the use of a key or tool or force greater than that required for the normal operation of the escape and rescue opening, and shall not obstruct access to or from the emergency escape and rescue opening. (R310.4.4)



Area Well Dimensions and Access Features

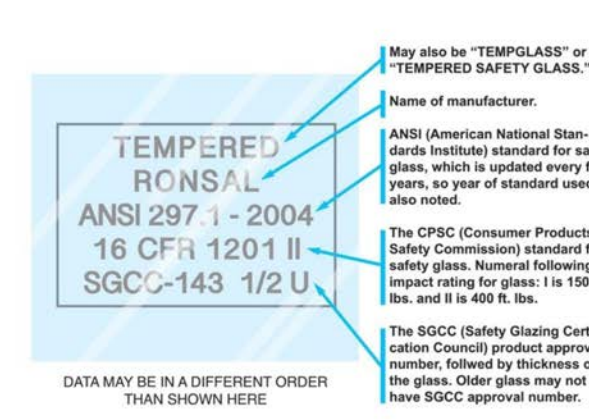
Safety Glazing

This tip sheet reflects code requirements of the 2021 International Residential Code (IRC) with Washington State Amendments.

What is Safety Glazing?

Safety glazing is glass that is less dangerous when it breaks, such as tempered or laminated glass.

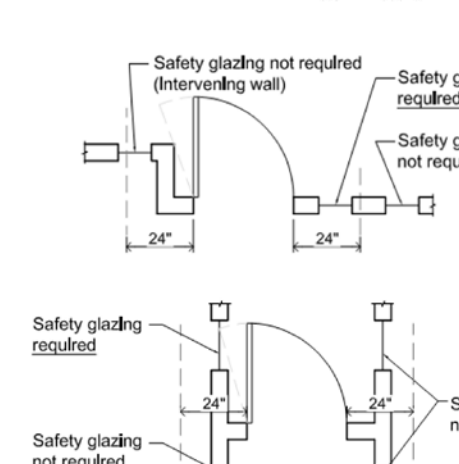
Per R308.1, where safety glazing is required, each pane must be provided with a manufacturer's label defining the type of glass and safety glazing standard to which it complies. For tempered glazing the label must be permanently etched, fired, or embossed, on the glass or be a type that once applied cannot be removed without being destroyed. For other types of safety glazing (such as laminated glass), a certificate, affidavit or other evidence confirming compliance with the code must be provided at time of inspection.



Hazardous Locations where Safety Glazing is Required

- Glazing in Doors:** Safety glazing is required in fixed and operable panels of swinging, sliding, and bifold doors. Safety glazing is not required in a door if the glazed openings do not allow the passage of a 3-inch sphere, or if the glazing in the door is decorative. (R308.4.1)

- Glazing Adjacent to Doors:** Glazing adjacent to doors is required in the following locations if the bottom edge of the glazing is less than 60 inches above the walking surface: Within 24 inches of either side of the door in the plane of the door in a closed position, or if glazing is in a wall less than 180 degrees from the plane of the door in a closed position and within 24 inches of the hinge side of an in-swinging door. Safety glazing is not required if there is an intervening wall or permanent barrier between the door and the glazing. (R308.4.2)

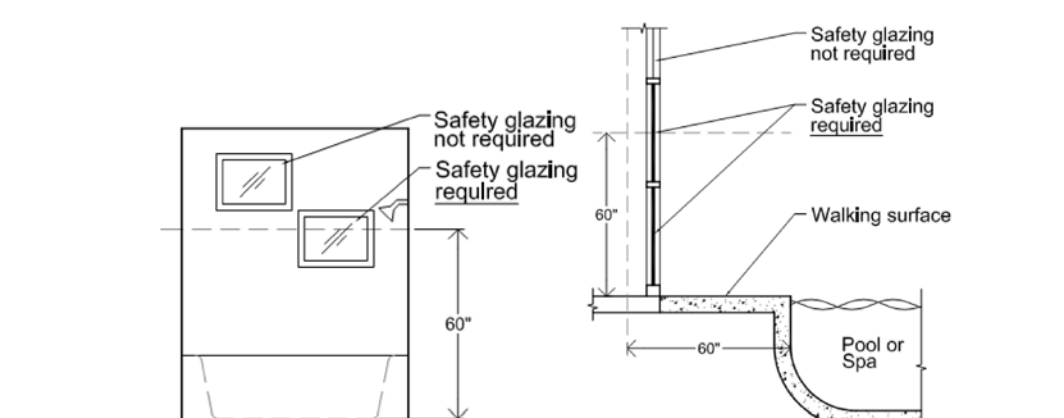


- Glazing in Windows:** Safety glazing in windows is required if the individual panel meets all of the following requirements (R308.4.3):
 - Exposed area of the individual panel is greater than 9 square feet.
 - The bottom edge of the glazing is less than 18 inches from the floor.
 - The top edge of the glazing is more than 36 inches above the floor.
 - There is a walking surface within 36 inches, measured horizontally, from the glazing.
 Exceptions:
 - Decorative glazing.
 - Where a horizontal rail capable of resisting 50 pounds per linear foot of force without making contact with the glass is installed on the accessible side of the glazing 34 to 38 inches above the walking surface.

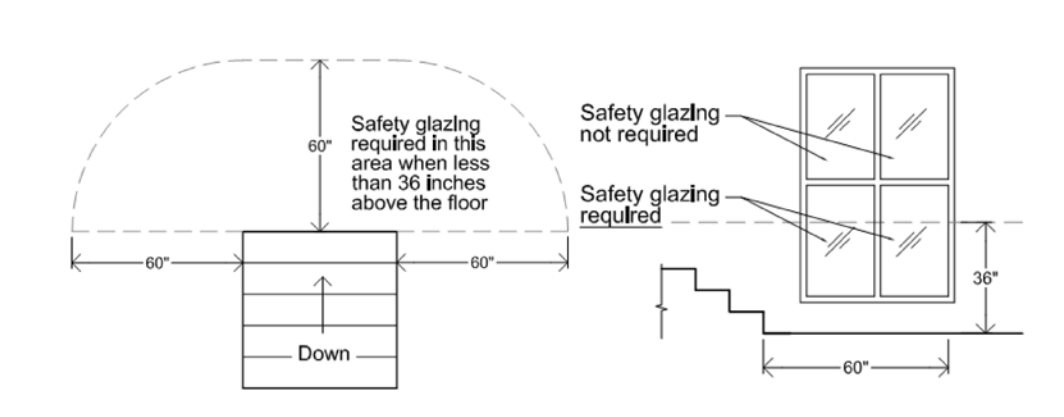
- Glazing in Railings and Guards:** All glazing in railings and guards, including structural baluster panels and nonstructural in-fill panels, is required to be safety glazing.

Guards with structural glass baluster panels shall be installed with an attached top rail or handrail. The top rail or handrail shall be supported by not less than three glass baluster panels, or shall be otherwise supported to remain in place should one glass baluster panel fail. Exception: An attached top rail or handrail is not required where the glass baluster panels are laminated glass with two or more glass plies of equal thickness and of the same glass type. (R308.4.4)

- Glazing and Wet Surfaces:** Glazing in walls, enclosures, or fences adjacent to hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and indoor or outdoor swimming pools where the bottom edge of the glazing is less than 60 inches from the standing or walking surface is required to be safety glazing. Safety glazing is not required where the glazing is more than 60 inches, horizontally, from the edge of the water. (R308.4.5)



- Glazing Adjacent to Bottom Stair Landings:** Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches above the landing and within a 60-inch horizontal arc from the bottom tread must be safety glazing. (R308.4.7)



4 EMERGENCY EGRESS DETAIL

5 SAFETY GLAZING DETAIL

Window Fall Protection

This tip sheet reflects code requirements of the 2021 International Residential Code (IRC) and the 2021 International Building Code (IBC) with Washington State Amendments.

Requirements

- Where the sill height above finished grade on the exterior side of an operable window opening is greater than 72 inches, and the sill height above the finished floor on the interior side of the operable window opening is less than 24 inches (or 36 inches in dwelling units regulated by the IBC) (see Figure 1), then window fall protection shall be provided by one of the following (R312.2.1, R312.2.2; IBC 1015.8):
 - Operable windows with openings that, when in their largest opened position, will not allow the passage of a 4-inch sphere (see Figure 2).
 - Operable windows that are provided with opening control or fall prevention devices that comply with ASTM F 2090 (see Figure 2) (IBC 1015.8.1).
 - In dwelling units regulated by the IBC where the sill height of an operable window above exterior finished grade is more than 75 feet, provide window fall prevention devices complying with ASTM F 2090 (see Figure 2).

- Where operable windows serve as emergency escape and rescue openings, any window opening control or fall prevention devices, after operation to release the devices allowing the windows to fully open, shall not reduce the net clear opening area of the window units to less than the area required by R310.2.1 and R310.2.2 (R312.2.2) (IBC 1015.8.1). See Egress Windows below.

- ASTM F 2090: Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms.

Standards

- ASTM F 2090: Standard Safety Specification for Window Fall Prevention Devices for Non-Emergency Escape (Egress) and Rescue (Ingress) Windows
- ASTM F 2090: Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms.

Egress Windows

- Egress windows must meet minimum size requirements. Minimum clear opening size of 5.7 square feet (5 square feet on the grade level) with minimum clear height of 24 inches and minimum clear width of 20 inches.

- For additional emergency egress window requirements refer to Tip Sheet 10.

Safety Glazing

- For additional safety glazing requirements refer to Tip Sheet 19.

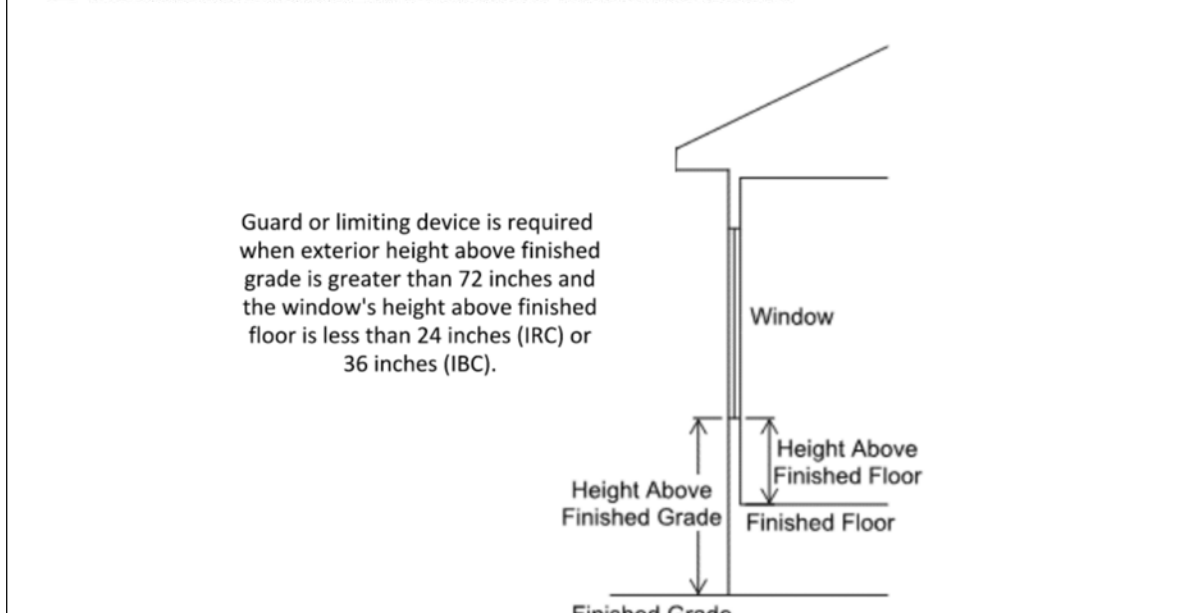


Figure 1: Sill height above finished grade on the exterior side of an operable window opening.

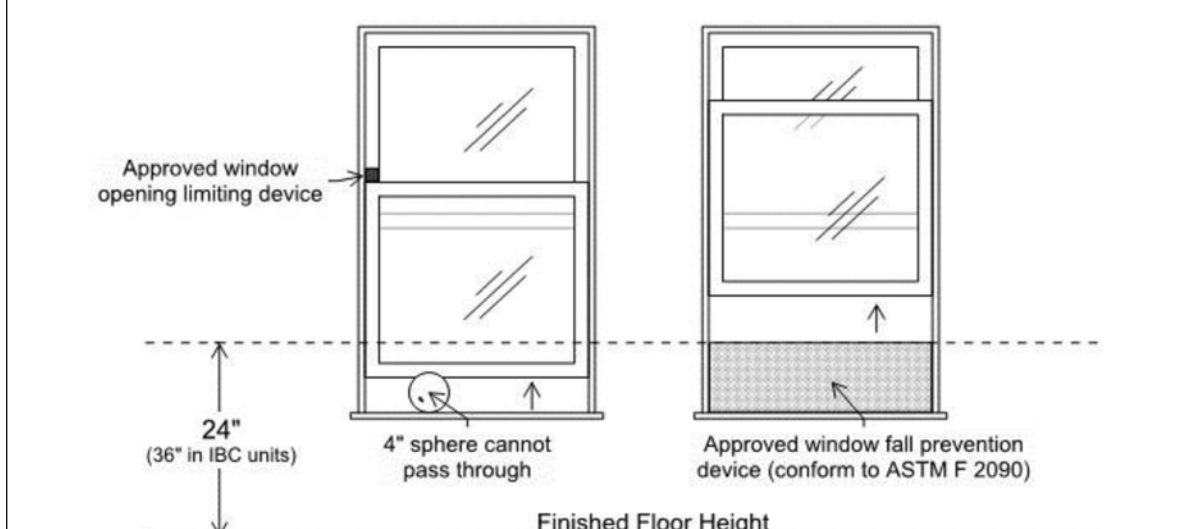


Figure 2: Window fall protection

Table 1: Summary of Requirements

Exterior Sill Height Above Finished Grade	Interior Sill Height Above Finished Floor	Can be used for Egress	Safety Glazing Required	Fall Protection Required
72 inches or less	Greater than 44 inches	No	-	No
	Between 18 and 44 inches	Yes	-	No
Greater than 72 inches	Sill below 18 inches, top of window above 36 inches, and individual pane of glass is greater than 9 square feet	Yes	Yes	No
	Greater than 44 inches	No	-	No
	Between 24 and 44 inches (IRC dwelling units)	Yes	-	No
Greater than 72 inches	Less than 24 inches (IRC dwelling units)	Yes	-	Yes
	Between 36 and 44 inches (IBC dwelling units)	Yes	-	No
Greater than 75 feet	Less than 36 inches (IBC dwelling units)	Yes	-	Yes
	Sill below 18 inches, top of window above 36 inches, and individual pane of glass is greater than 9 square feet	Yes	Yes	Yes

Table 1: Summary of Requirements

NWPS
NORTHWEST PROFESSIONAL SERVICES
10101 1st Avenue, Suite 112, Mercer Island, WA 98040
20646 RW Johnson Rd, Suite 112, Mercer Island, WA 98040
www.nwpsolutions.com
360-359-2967

PROJECT NAME:
EAST MERCER ADDITION
4854 E MERCER WAY,
MERCER ISLAND, WA 98040
PARCEL NO.: 192405-9278

PREPARED FOR:
MARK MEHLAFF

DESIGNED BY:
NWPS

DRAFTED BY:
CJD

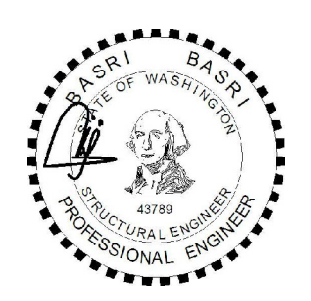
DATE:
8/18/2025

SHEET TITLE:
DETAILS

PROJECT NUMBER:
25-068

SHEET NUMBER:
A-10

6 WINDOW FALL PROTECTION



MERCER ISLAND REMODEL

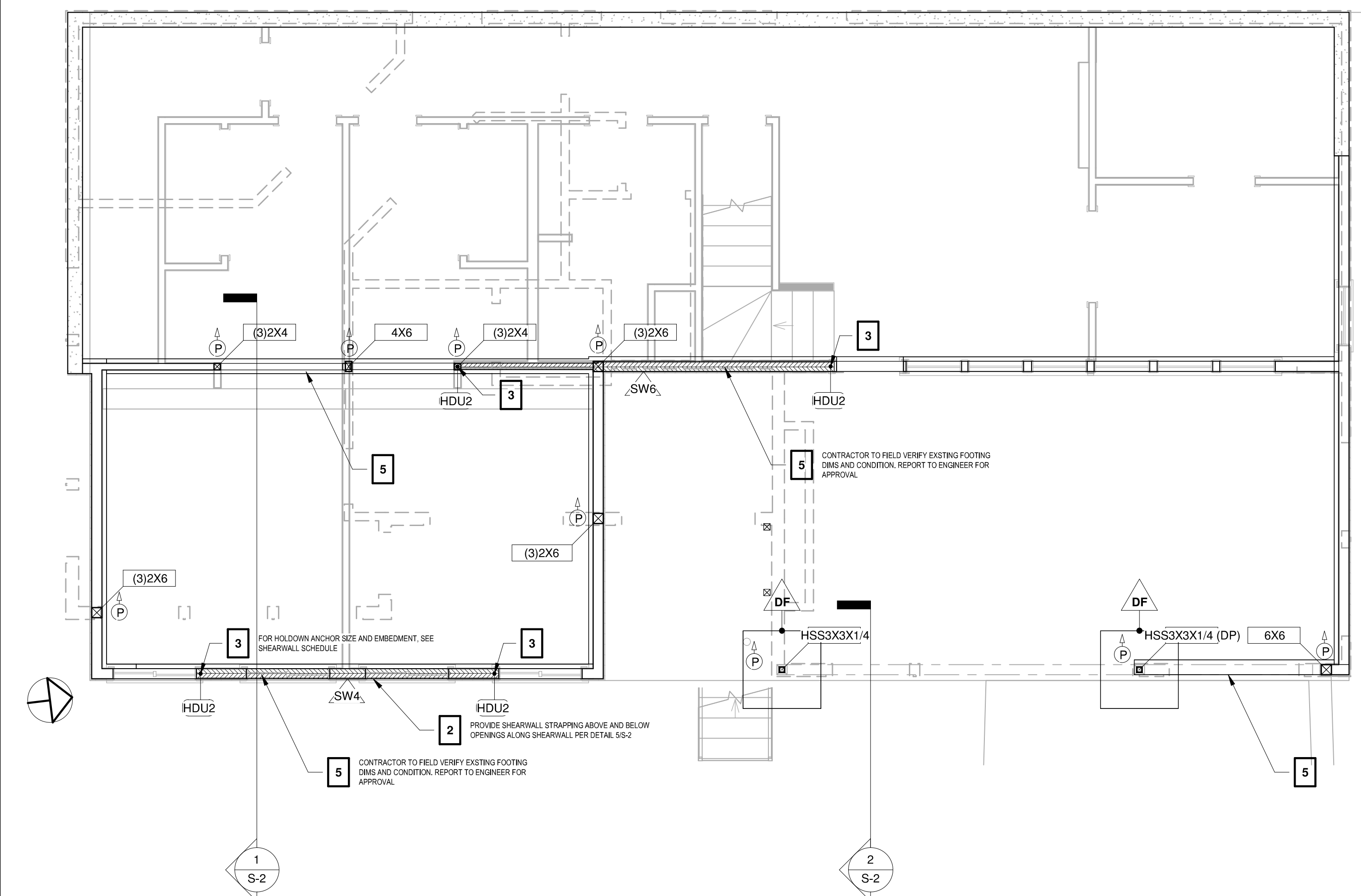
4854 E MERCER WAY,
MERCER ISLAND, WA
98040

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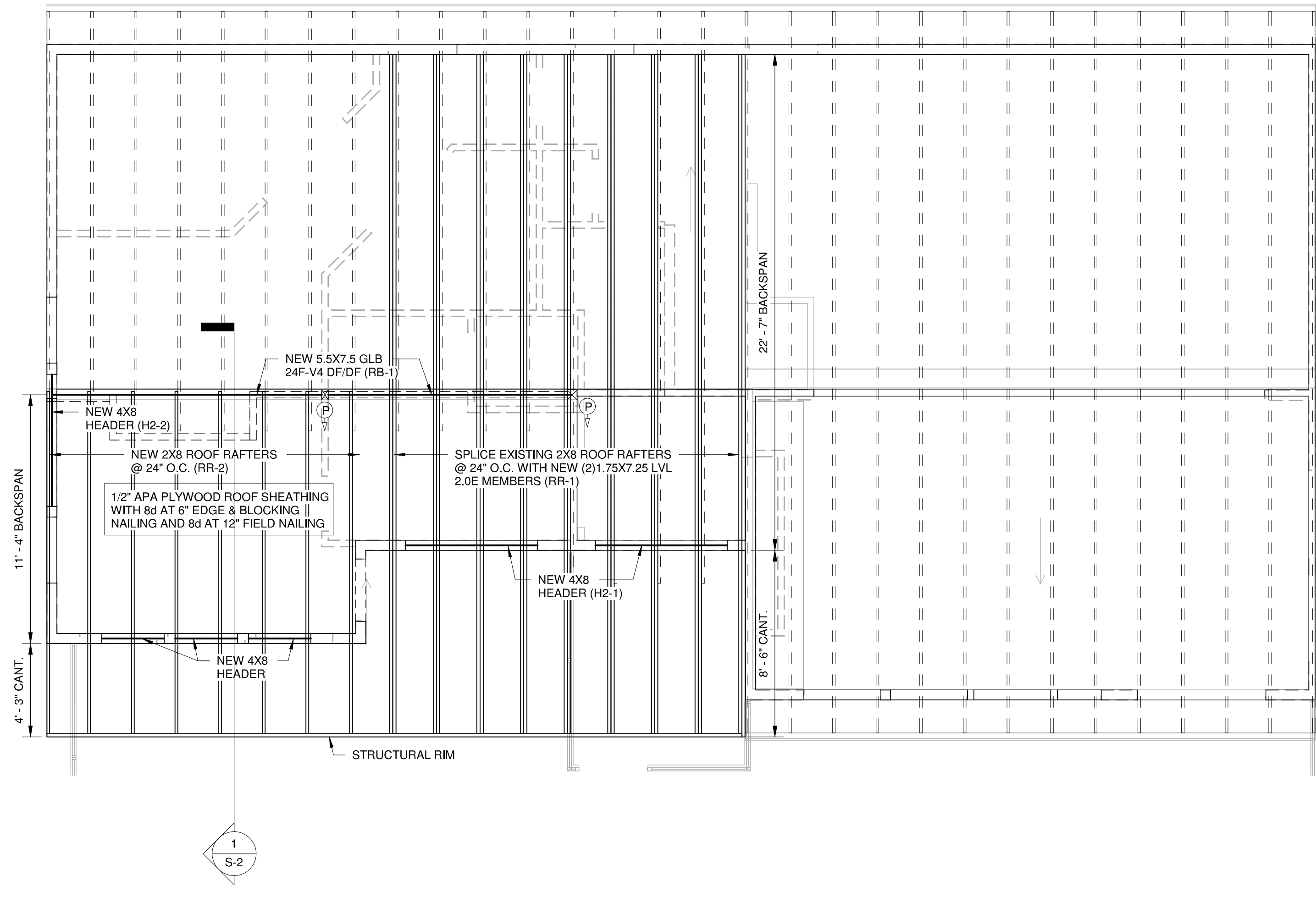
ISSUE DATE	08-31-25	
ISSUED FOR	REVIEW	
PROJECT NO.	25194	
ENGINEER	BB	
REVISION SCHEDULE		
NO.	DATE	DESCRIPTION

FRAMING PLANS

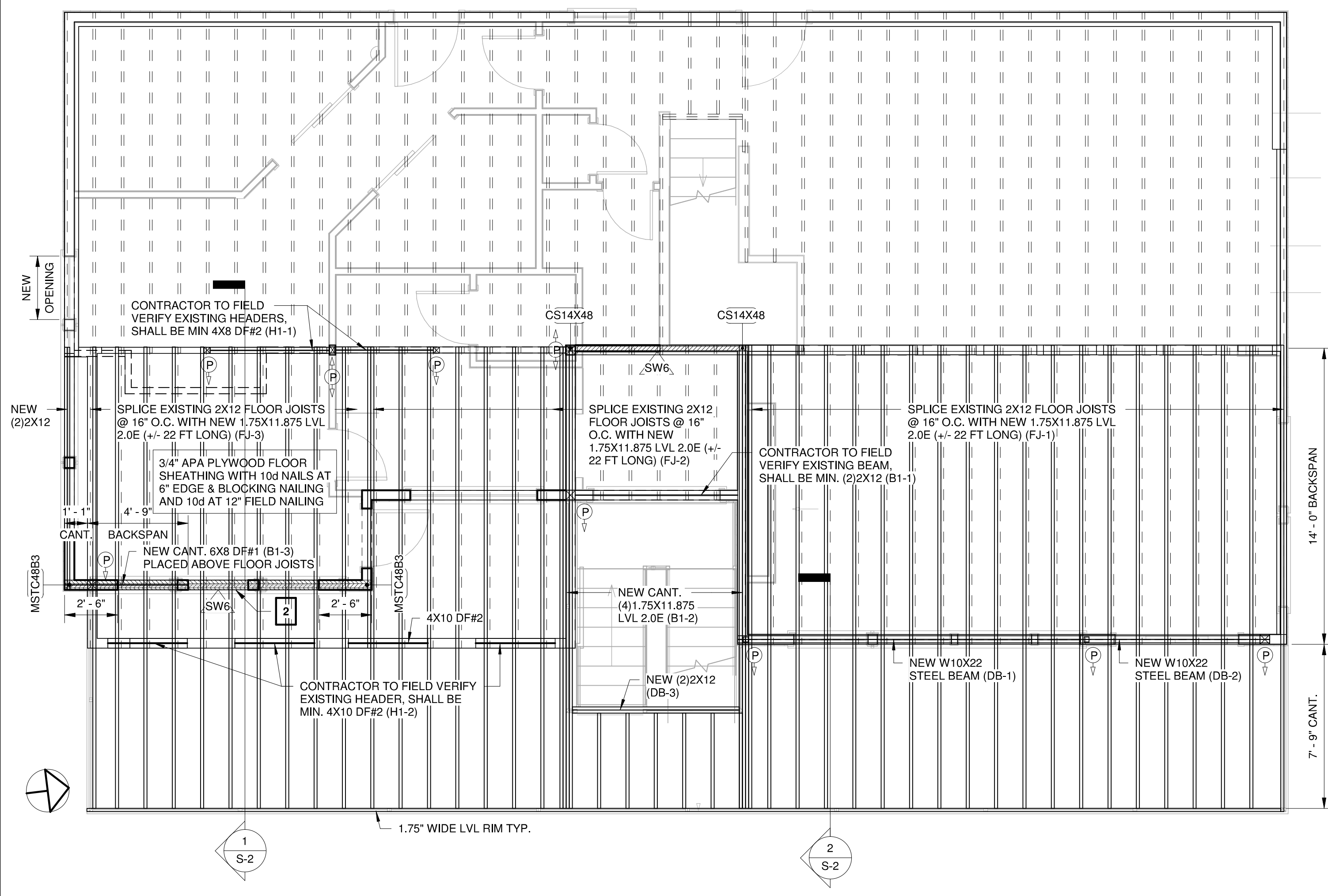
S-1



B BASEMENT
1/4" = 1'-0"



R ROOF PLAN
1/4" = 1'-0"



1 1ST FLOOR
1/4" = 1'-0"

PLAN CALLOUT AND DESCRIPTION

NUMBER	DESCRIPTION
1	ALL FOOTINGS SHALL BEAR ON SUBGRADE PREPARATION PER GEOTECHNICAL REPORT
2	PROVIDE SHEARWALL STRAPPING ABOVE AND BELOW OPENINGS ALONG SHEARWALL PER DETAIL 5/S-2
3	FOR HOLDOWN ANCHOR SIZE AND EMBEDMENT, SEE SHEARWALL SCHEDULE
4	FOR COMMON OPENING FRAMING DETAIL, SEE DETAIL 4/S-2
5	CONTRACTOR TO FIELD VERIFY EXISTING FOOTING DIMS AND CONDITION. REPORT TO ENGINEER FOR APPROVAL

ISOLATED FOOTING SCHEDULE

ID	TYPE	WIDTH	LENGTH	THICKNESS	COUNT	REINFORCEMENT
DF	RECTANGULAR	42"	42"	14"	2	4- #5 E.W. BOTTOM

IMPORTANT NOTES ON DRAWING REVIEW, FIELD VERIFICATION, TEMPORARY SHORING AND WATERPROOFING:

- CONTRACTOR MUST REVIEW STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION & NOTIFY DESIGN TEAM/OWNER OF ANY DISCREPANCY IN COMPARISON WITH ARCHITECTURAL DOCUMENTS OR FIELD CONDITIONS.
- IN REMODEL/RETROFIT PROJECTS, CONTRACTOR MUST FIELD VERIFY & NOTIFY DESIGN TEAM/OWNER OF EXISTING MECHANICAL, PLUMBING, AND ELECTRICAL LINES THAT MAY INTERFERE WITH STRUCTURAL WORK PRIOR TO CONSTRUCTION. STRUCTURAL DRAWINGS MAY NOT REFLECT ALL EXISTING FRAMING CONDITIONS DUE TO LIMITED AVAILABLE INFORMATION.
- CONTRACTOR IS SOLELY RESPONSIBLE IN PROVIDING PROPER TEMPORARY SHORING PRIOR TO REMOVING ANY STRUCTURAL ELEMENTS.
- ENGINEER IS NOT RESPONSIBLE FOR WATERPROOFING SYSTEM OR DETAILS. CONTRACTOR/OWNER SHALL CONSULT WITH QUALIFIED PROFESSIONALS AS REQUIRED.

IMPORTANT NOTES ON FOUNDATION AND FRAMING:

- ALL FOOTINGS SHALL BEAR ON SUITABLE SOIL SUCH AS AT MIN. OF MEDIUM DENSE NATIVE SOIL OR COMPACTED STRUCTURAL FILL TO AT LEAST 95% OF MAX. DRY DENSITY BASED ON ASTM D1557. GEOTECHNICAL ENGINEER MAY INSPECT TO VERIFY THAT THE FOUNDATION WILL BEAR ON SUITABLE MATERIAL.
- FOR FRAMING LUMBER TYPES AND GRADES, AND CONCRETE MIX REQUIREMENTS PLEASE SEE S-0
- FOR PLYWOOD/OSB SHEARWALL SCHEDULE & HOLDOWN ANCHOR SIZE AND EMBEDMENT, PLEASE SEE S-XX
- FOR COMMON HEADER FRAMING DETAIL AND HEADER SIZE, SEE S-XX
- PROVIDE (2) 2X6 OR (3) 2X4 STUD POSTS AT EACH END OF BEAMS, UNLESS NOTED OTHERWISE ON PLAN
- SLAB ON GRADE SHALL BE MIN. 4" THICK WITH #3 AT 18" EACH WAY (AT MID-DEPTH) ON 6" COMPACTED CRUSHED ROCK. SAWCUT JOINT (1" DEEP) AT 15 FT MAX. SPACING EACH WAY SHALL BE DONE WITHIN 4 TO 12 HOURS AFTER FINISHING, DEPENDING ON WEATHER.
- FLOOR SHEATHING SHALL BE 3/4" PLYWOOD OR OSB WITH 10d AT 6" NAILING AT EDGES & BLOCKING AND AT 12" AT FIELD
- ROOF SHEATHING SHALL BE 1/2" PLYWOOD OR OSB WITH 8d AT 6" NAILING AT EDGES & BLOCKING AND AT 12" AT FIELD

IMPORTANT NOTES ON TRUSS AND LUMBER PACKAGE/LUMBER PACKAGE REVIEW:

- TRUSS FRAMING LAYOUT SHOWN IS GENERAL CONCEPT ONLY. CONTRACTOR/TRUSS SUPPLIER MUST SUBMIT TRUSS SHOP DRAWINGS INCLUDING TRUSS TEMPORARY PERMANENT BRACING PLANS FOR ENGINEER'S REVIEW
- TRUSS FRAMING PROFILE/LAYOUT SHOULD CONFORM TO BOTH STRUCTURAL AND ARCHITECTURAL DRAWINGS. ANY DEVIATIONS SHALL BE APPROVED BY ENGINEER/ARCHITECT PRIOR TO TRUSS DESIGN WORK.
- TRUSS DEFLECTION CRITERIAS:
FLOOR/DECK TOTAL LOAD = L/480
FLOOR/DECK LIVE LOAD = L/600
ROOF TOTAL LOAD = L/240
ROOF SNOW LOAD = L/300
** MAXIMUM TOTAL LOAD DEFLECTION SHOULD NOT EXCEED 1.0" IN ALL CASES
- FLOOR/ROOF FRAMING LAYOUT AND CONNECTORS (SUCH AS LUMBER PACKAGE BY SUPPLIERS) MUST BE SUBMITTED FOR ENGINEER'S REVIEW PRIOR TO CONSTRUCTION

FRAMING SYMBOLS:

	SIMPSON WSW WOOD STRONG WALL (24" WIDE)		CONTINUOUS POST
	PLYWOOD SHEARWALL		POST STOPS BELOW THIS FLOOR
	SHEARWALL HOLDOWN		POST STARTS AT THIS FLOOR

LEGEND AND NOTES
1/4" = 1'-0"



MERCER ISLAND REMODEL

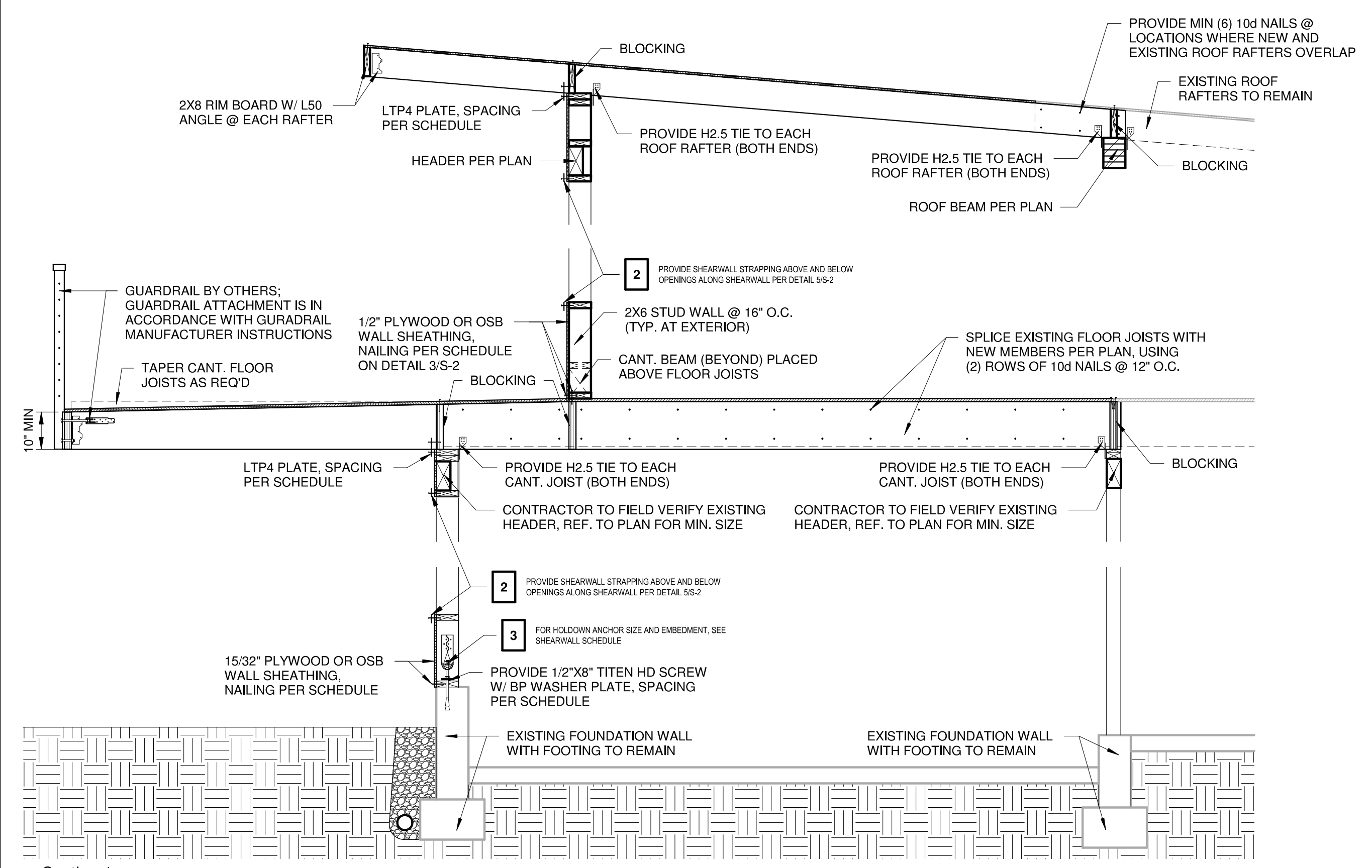
4854 E MERCER WAY,
MERCER ISLAND, WA
98040

DRAWING INFO

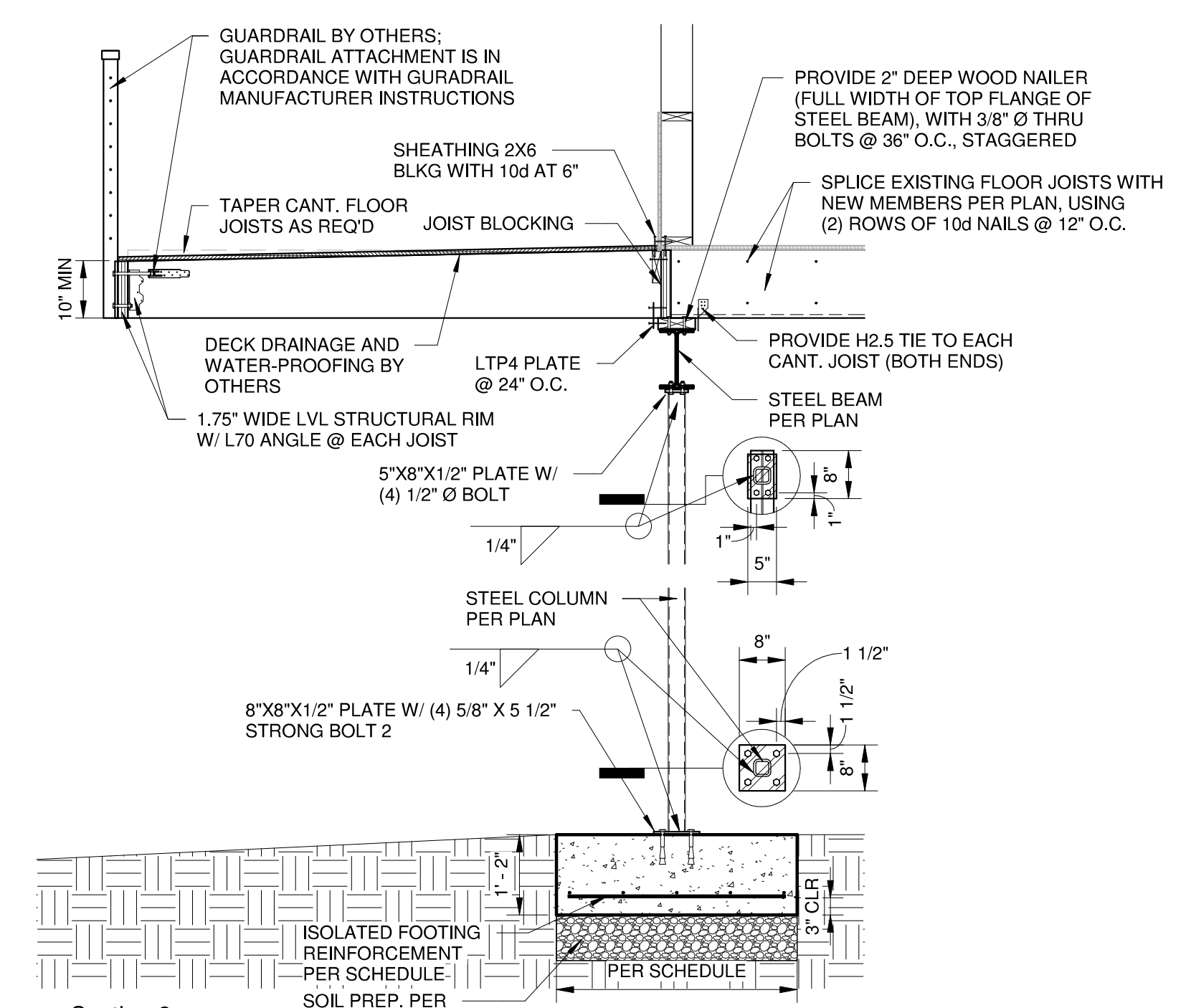
ISSUE DATE	08-31-25
ISSUED FOR	REVIEW
PROJECT NO.	25194
ENGINEER	BB

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION

FRAMING DETAILS



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



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

TYPE	PLYWOOD OR OSB SHEATHING (NOTE 7)	PANEL EDGE NAILING (NOTE 4)	PANEL EDGE STUDS AND BLKG	ANCHOR BOLTS AT SILL PLATE (NOTE 8)	TOP/SILL PLATE TO BLOCKING/ RIM (NOTE 9)	BOTTOM PLATE TO BLOCKING/ RIM (NOTE 4)	CAPACITY (LRFD) (SEISMIC/WIND)
SW6	15/32" PLY/OSB ONE SIDE	10d COM AT 6"	2x	5/8" AT 36" O.C.-2x	SIMPSON LTP4 AT 24" O.C.	16d COM AT 6" O.C.-NARROW	496 PLF/ 696 PLF
SW4	15/32" PLY/OSB ONE SIDE	10d COM AT 4"	2x (SEE NOTE 5)	5/8" AT 24" O.C.-2x	SIMPSON LTP4 AT 16" O.C.	16d COM AT 4" O.C.-NARROW	736 PLF/ 1032 PLF
SW3	15/32" PLY/OSB ONE SIDE	10d COM AT 3"	3x	5/8" AT 18" O.C.-2x	SIMPSON LTP4 AT 12" O.C.	16d COM AT 3" O.C.-WIDE	960 PLF/ 1344 PLF
SW2	15/32" PLY/OSB ONE SIDE	10d COM AT 2"	3x	5/8" AT 12" O.C.-2x	SIMPSON LTP4 AT 8" O.C.	16d COM AT 2" O.C.-WIDE	1232 PLF/ 1724 PLF
SW66	15/32" PLY/OSB TWO SIDES	10d COM AT 6"	2x	5/8" AT 24" O.C.-3x	SIMPSON LTP4 AT 24" O.C. B.S.	(2) 16d COM AT 6" O.C.-WIDE	992 PLF/ 1392 PLF
SW44	15/32" PLY/OSB TWO SIDES	10d COM AT 4"	2x (SEE NOTE 5)	5/8" AT 18" O.C.-3x	SIMPSON LTP4 AT 16" O.C. B.S.	(2) 16d COM AT 4" O.C.-WIDE	1472 PLF/ 2064 PLF
SW33	15/32" PLY/OSB TWO SIDES	10d COM AT 3"	3x	5/8" AT 16" O.C.-3x	SIMPSON LTP4 AT 12" O.C. B.S.	(2) 16d COM AT 3" O.C.-WIDE	1920 PLF/ 2688 PLF
SW22	15/32" PLY/OSB TWO SIDES	10d COM AT 2"	3x	5/8" AT 12" O.C.-3x	SIMPSON LTP4 AT 8" O.C. B.S.	(2) 16d COM AT 2" O.C.-WIDE	2464 PLF/ 3448 PLF

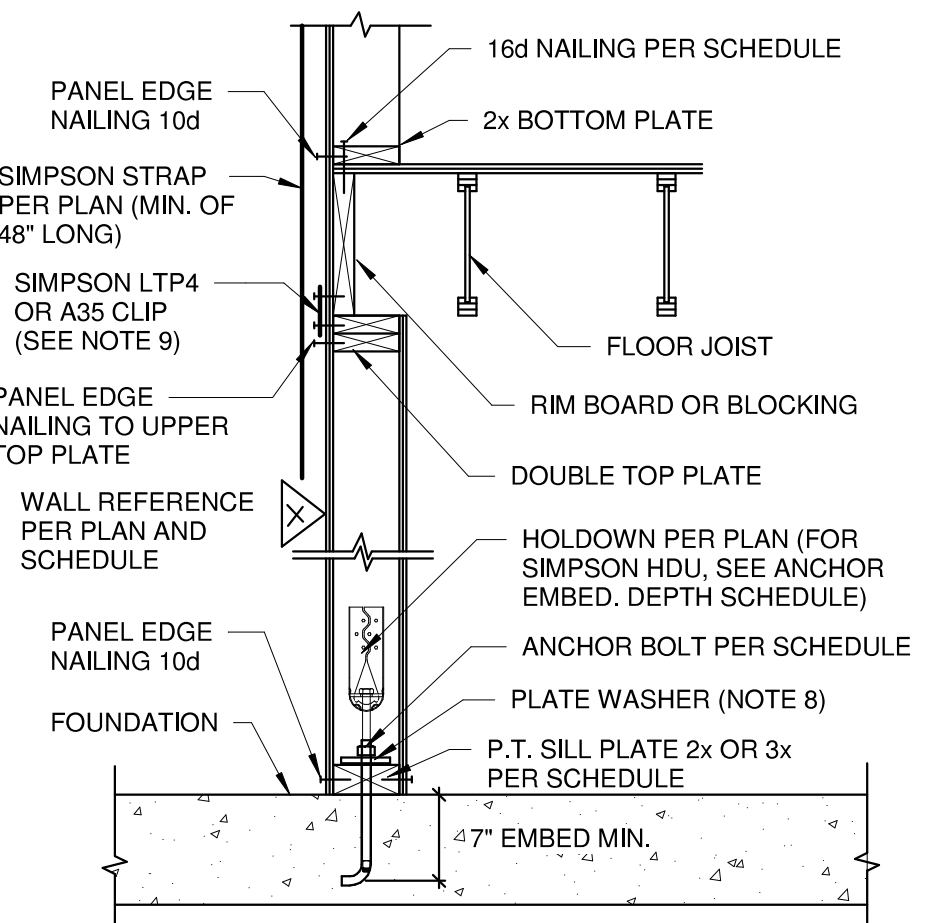
SHEARWALL SCHEDULE NOTES:

- ALL PANEL EDGES TO OCCUR OVER STUDS, PLATES, RIMS OR HORIZONTAL BLOCKING AT WALLS
- NAIL SHEATHING TO INTERMEDIATE SUPPORTS/ FIELD NAILING 10d AT 12" O.C.
- ALL NAILS INTO 3x MEMBERS SHALL BE STAGGERED.
(2)2x STUDS MAY BE USED IN LIEU OF 3x STUDS AT PANEL JOINTS. NAIL STUDS TOGETHER W/ 2 ROWS 16d COMMON AT 6" O.C. AT SINGLE SIDE SHEATHING AND NAIL WITH 2 ROWS OF 16d COMMON AT 3" O.C. AT DOUBLE SHEATHED WALLS.
- COM DENOTES COMMON NAILS. MIN. NAIL PENETRATION INTO PLATE, RIM OR BLOCKING SHALL BE 1 5/8". STAGGER BOTTOM PLATE NAILING
- FOR SHEARWALL SW4, ALL FRAMING MEMBERS RECEIVING EDGE NAILINGS FROM ABUTTING PANELS SHALL BE 3x OR (2) 2x NAILED TOGETHER WITH 16d AT 6"
- WHERE SHEATHING IS APPLIED TO BOTH SIDES OF WALL, OFFSET PANEL EDGES TO FALL ON DIFFERENT STUDS.
- PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF WALLS NOTED ON PLAN. PROVIDE HOLDOWNS PER PLAN AT EACH END OF WALL, UNO. PROVIDE (2) 2x STUDS AT ENDS OF ALL SHEARWALL. FACE NAIL MULTIPLE STUDS WITH 16d AT 12" PROVIDE PANEL EDGE NAILING IN EACH HOLDOWN STUD AT END OF WALL.
- ALL FOUNDATION SILL PLATES SHALL BE PT MEMBERS AND THE ANCHOR BOLTS SHALL HAVE MIN. OF 7" EMBEDMENT WITH SIMPSON'S BP/ BPS WASHER PLATE. END OF WALL ANCHOR BOLTS SHALL BE LOCATED MAX 12" AND MIN 5" FROM END OF THE PLATE.
- WHERE NOTED IN DETAILS, USE SIMPSON A35 IN LIEU OF LTP4 PLATES SPACE AT 2/3 OF LTP4 SPACING.

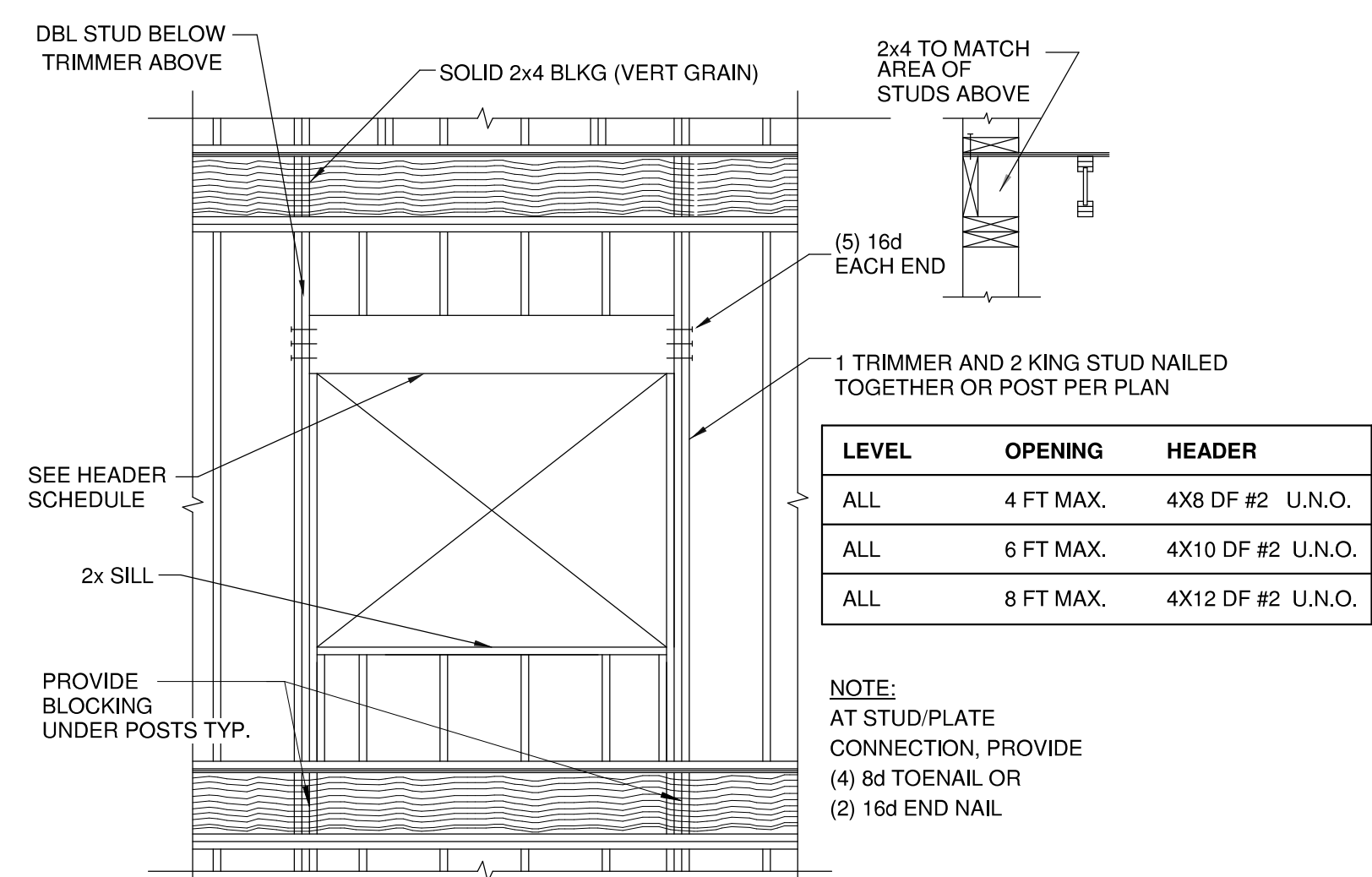
SIMPSON HOLDOWN	SIMPSON CAST IN PLACE ANCHOR BOLTS*	SIMPSON EPOXY ALL THREAD ANCHORS*
HDU2	SST16 (5/8" ANCHOR WITH 12 5/8" MIN. EMBED.)	5/8" (12" EMBED WITH SET-3G)
HDU4	SB 5/8X 24 (5/8" ANCHOR WITH 18" MIN. EMBED.)	5/8" (14" EMBED WITH SET-3G)
HDU5	SB 5/8X 24 (5/8" ANCHOR WITH 18" MIN. EMBED.)	5/8" (16" EMBED WITH SET-3G)
HDU8	SB 7/8X 24 (7/8" ANCHOR WITH 18" MIN. EMBED.)	
HDU11	SB 1X 30 (1" ANCHOR WITH 24" MIN. EMBED.)	
HDU14	SB 1X 30 (1" ANCHOR WITH 24" MIN. EMBED.)	

* ALL ANCHORS SHALL BE 2.5" MIN. FROM EDGE OF CONCRETE WALL

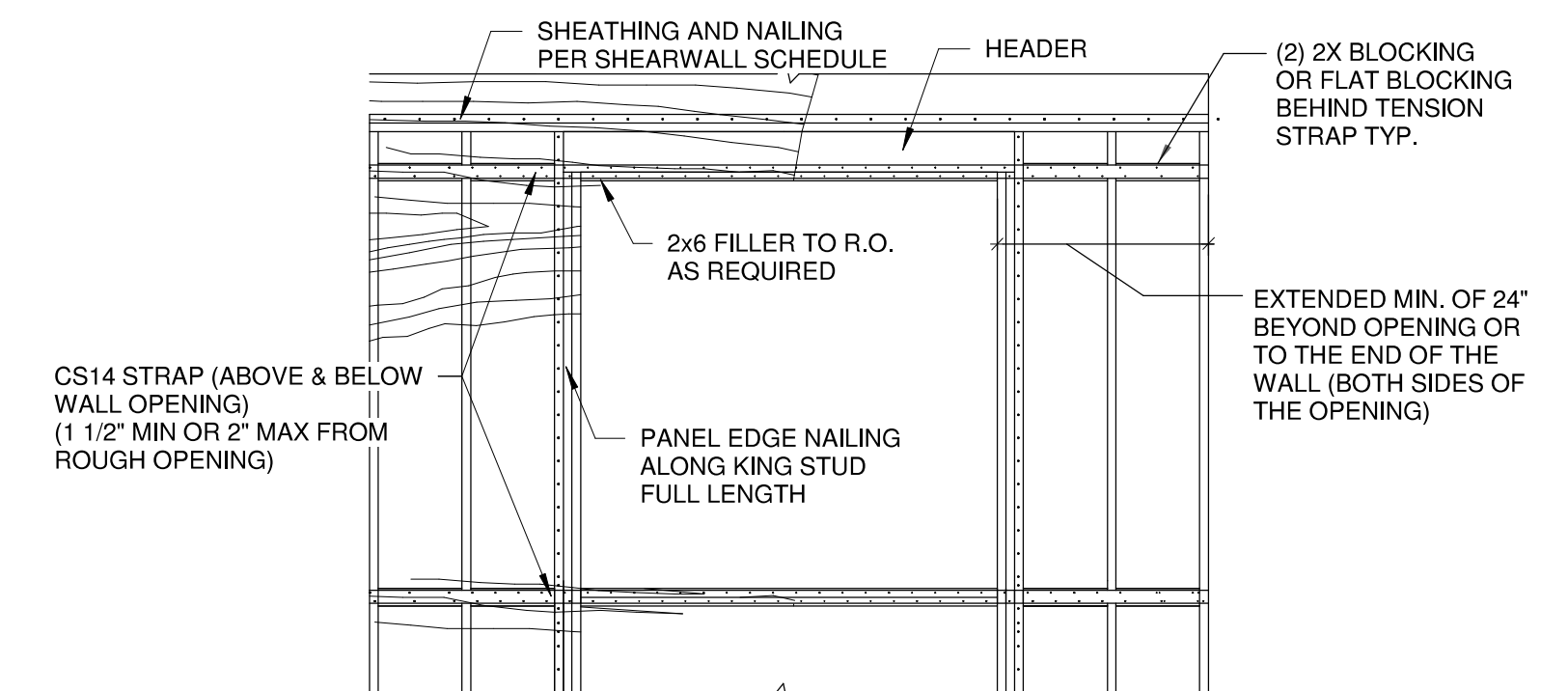
3 SHEARWALL SCHEDULE
N.T.S.



4 TYP. WALL OPENING FRAMING
N.T.S.



5 SHEAR WALL OPENING STRAPPING
N.T.S.



5 SHEAR WALL OPENING STRAPPING
N.T.S.

TOPOGRAPHIC & BOUNDARY SURVEY

We are the measure | terrane.net

LEGAL DESCRIPTION

(PER STATUTORY WARRANTY DEED RECORDING NO. 20190628001567)
 THAT PORTION OF GOVERNMENT LOT 1, SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:
 BEGINNING AT THE NORTH QUARTER CORNER OF SAID SECTION 19, THENCE SOUTH 89 DEGREES 41 MINUTES 00 SECONDS EAST ALONG THE NORTH LINE THEREOF 1,468.82 FEET, MORE OR LESS, TO THE MEANDER CORNER,
 THENCE SOUTH 0 DEGREES 11 MINUTES 00 SECONDS WEST A DISTANCE OF 415.00 FEET;
 THENCE NORTH 89 DEGREES 41 MINUTES 00 SECONDS WEST 195.00 FEET TO THE TRUE POINT OF BEGINNING;
 THENCE SOUTH 89 DEGREES 41 MINUTES 00 SECONDS EAST 163.00 FEET; THENCE SOUTH 0 DEGREES 11 MINUTES 00 SECONDS WEST 76.72 FEET, MORE OR LESS, TO A LINE DESCRIBED IN DEED AND BOUNDARY LINE AGREEMENT RECORDED UNDER RECORDING NO. 6153296;
 THENCE NORTH 88 DEGREES 52 MINUTES 25 SECONDS WEST ALONG SAID COMMON LINE 193.20 FEET;
 THENCE NORTHEASTERLY IN A STRAIGHT LINE 68.00 FEET, MORE OR LESS, ALONG A LINE WHICH IF EXTENDED WOULD INTERSECT THE NORTH LINE OF THIS PARCEL AT A POINT 17.00 FEET WESTERLY OF THE TRUE POINT OF BEGINNING, TO AN INTERSECTION WITH A LINE 12.00 FEET SOUTHERLY OF AND PARALLEL TO SAID NORTH LINE; THENCE SOUTH 89 DEGREES 41 MINUTES 00 SECONDS EAST TO A POINT WHICH BEARS SOUTH 0 DEGREES 11 MINUTES 00 SECONDS WEST FROM THE TRUE POINT OF BEGINNING;
 THENCE NORTH 0 DEGREES 11 MINUTES 00 SECONDS EAST 12.00 FEET TO THE TRUE POINT OF BEGINNING;

VERTICAL DATUM

NAVD 88 PER GPS OBSERVATIONS
 SITE TEMP. BENCHMARK
 DESCRIPTION: PK NAIL W/ RED WASHER
 LOCATION: 14'S & 67'E OF NW PROPERTY COR
 ELEVATION: 47.24'

SURVEYOR'S NOTES

1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN APRIL OF 2025. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES. TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 1924059278
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 15,180 S.F. (0.35 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. EXISTING STRUCTURE(S) LOCATION AND DIMENSIONS ARE MEASURED FROM THE FACE OF THE SIDING UNLESS OTHERWISE NOTED.
8. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 3-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

LEGAL DESCRIPTION CONT.

TOGETHER WITH AN EASEMENT FOR INGRESS, EGRESS AND UTILITIES BY INSTRUMENT RECORDED UNDER RECORDING NO. 4811436; TOGETHER WITH AN EASEMENT FOR ROADWAY AND UTILITIES BY INSTRUMENT RECORDED UNDER RECORDING NO. 4819696, EXCEPT THAT PORTION THEREOF LYING WITHIN THE ABOVE DESCRIBED MAIN TRACT;
 TOGETHER WITH AN EASEMENT FOR ROADWAY AND UTILITY PURPOSES DESCRIBED AS FOLLOWS:
 BEGINNING AT THE NORTHWEST CORNER OF SAID GOVERNMENT LOT 1; THENCE SOUTH 89 DEGREES 41 MINUTES 00 SECONDS EAST 1,468.82 FEET TO THE MEANDER CORNER ON THE NORTH LINE OF SAID SECTION 19;
 THENCE SOUTH 0 DEGREES 11 MINUTES 00 SECONDS WEST PARALLEL WITH THE NORTH-SOUTH CENTERLINE OF SAID SECTION 19 A DISTANCE OF 355 FEET;
 THENCE NORTH 89 DEGREES 41 MINUTES 00 SECONDS WEST 205 FEET TO THE TRUE POINT OF BEGINNING OF SAID EASEMENT;
 THENCE SOUTH 89 DEGREES 41 MINUTES 00 SECONDS EAST 25 FEET THENCE SOUTH 0 DEGREES 11 MINUTES 00 SECONDS WEST 60 FEET TO THE BEGINNING OF A CURVE TO THE LEFT;
 THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE TO THE LEFT HAVING A RADIUS OF 25 FEET, TO AN INTERSECTION WITH A LINE LYING 415 FEET SOUTH OF AND PARALLEL WITH THE NORTH LINE OF SAID SECTION 19;
 THENCE WESTERLY ALONG SAID PARALLEL LINE TO A POINT WHICH BEARS SOUTH 0 DEGREES 11 MINUTES 00 SECONDS WEST FROM THE TRUE POINT OF BEGINNING; THENCE NORTH 0 DEGREES 11 MINUTES 00 SECONDS EAST 80 FEET TO THE TRUE POINT OF BEGINNING; AND TOGETHER WITH AN EASEMENT FOR ROADWAY AND UTILITY PURPOSES DESCRIBED AS FOLLOWS:
 BEGINNING AT THE NORTHWEST CORNER OF SAID GOVERNMENT LOT 1; THENCE SOUTH 89 DEGREES 41 MINUTES 00 SECONDS EAST 1,468.82 FEET TO THE MEANDER CORNER ON THE NORTH LINE OF SAID SECTION 19;
 THENCE SOUTH 0 DEGREES 11 MINUTES 00 SECONDS WEST PARALLEL WITH THE NORTH-SOUTH CENTERLINE OF SAID SECTION 19, A DISTANCE OF 415 FEET;
 THENCE NORTH 89 DEGREES 41 MINUTES 00 SECONDS WEST 32 FEET TO THE TRUE POINT OF BEGINNING OF THIS EASEMENT;
 THENCE SOUTH 0 DEGREES 11 MINUTES 00 SECONDS WEST 10 FEET; THENCE NORTH 89 DEGREES 41 MINUTES 00 SECONDS WEST 113 FEET;
 THENCE SOUTH 0 DEGREES 11 MINUTES 00 SECONDS WEST 2 FEET; THENCE NORTH 89 DEGREES 41 MINUTES 00 SECONDS WEST 68.98 FEET, MORE OR LESS, TO THE MOST WESTERLY NORTHWEST CORNER OF THE ABOVE DESCRIBED MAIN TRACT;
 THENCE NORTHEASTERLY ALONG THE EXTENSION OF THE WESTERLY LINE OF SAID MAIN TRACT 12.16 FEET, MORE OR LESS, TO A POINT WHICH BEARS NORTH 89 DEGREES 41 MINUTES 00 SECONDS WEST DISTANT 180 FEET FROM THE TRUE POINT OF BEGINNING;
 THENCE SOUTH 89 DEGREES 41 MINUTES 00 SECONDS EAST 180 FEET TO THE TRUE POINT OF BEGINNING;
 SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

BASIS OF BEARINGS

A LINE COMPUTED PER REFERENCE NOS. 1 & 2 BETWEEN FOUND MONUMENTS BEARS N 87°37'43" W, AS SHOWN HEREON.

REFERENCES

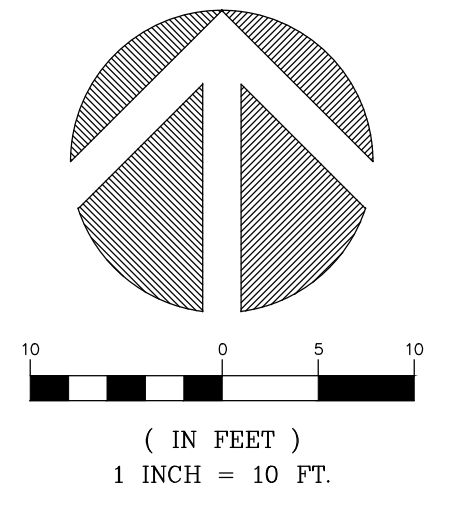
- R1. RECORD OF SURVEY, VOL. 41, PG. 80,
 - R2. RECORD OF SURVEY, VOL. 181, PG. 148,
 - R3. RECORD OF SURVEY, VOL. 326, PG. 211,
- ALL PER RECORDS OF KING COUNTY, WASHINGTON.

STEEP SLOPE/BUFFER DISCLAIMER:

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

INDEXING INFORMATION

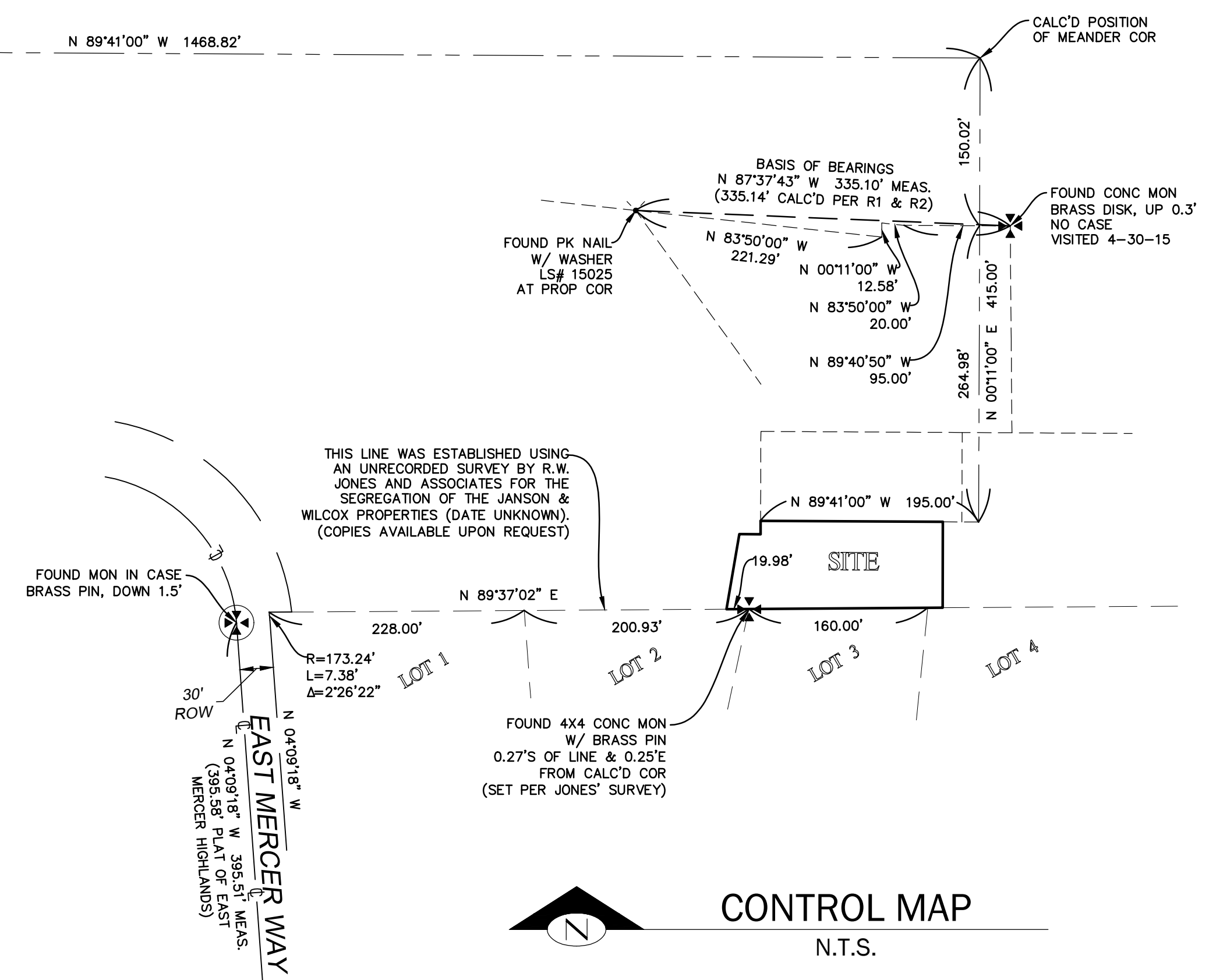
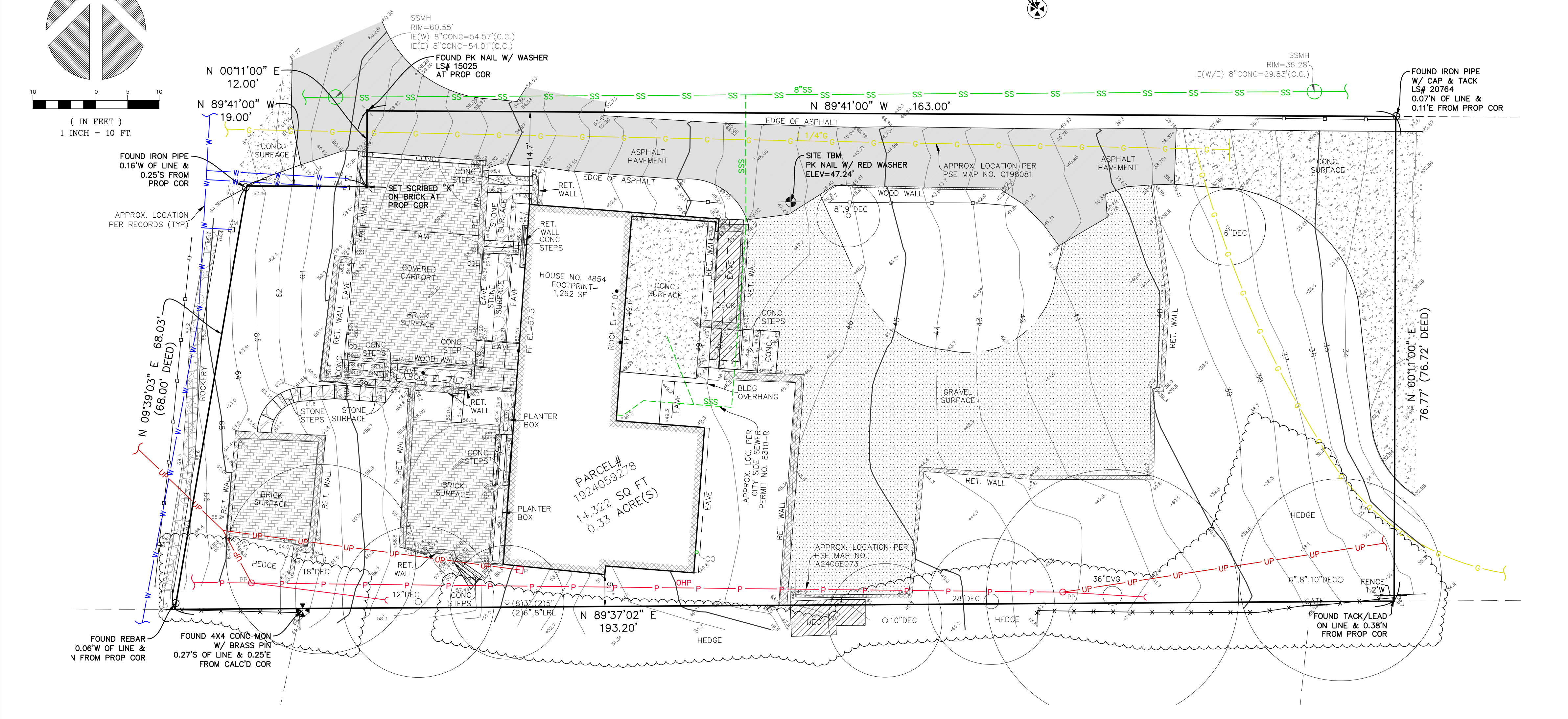
NE 1/4	NE 1/4
SECTION: 19	
TOWNSHIP: 24N	
RANGE: 05E, W.M.	
COUNTY: KING	



LEGEND

- | | | | |
|--|---------------------------|--|---------------------|
| | BENCHMARK | | BRICK SURFACE |
| | IRON PIPE (FOUND) | | CONCRETE SURFACE |
| | MONUMENT (IN CASE, FOUND) | | DECK |
| | MONUMENT (SURFACE, FOUND) | | FLAGSTONE SURFACE |
| | NAIL AS NOTED | | GRAVEL SURFACE |
| | REBAR AS NOTED (FOUND) | | ROCKERY |
| | CENTERLINE ROW | | GUY ANCHOR |
| | PROPERTY LINE (SUBJECT) | | POWER METER |
| | RIGHT-OF-WAY LINES | | POWER POLE |
| | SUBDIVISION LINES | | POWER (OVERHEAD) |
| | FENCE LINE (CHAIN LINK) | | POWER (UNDERGROUND) |
| | FENCE LINE (WOOD) | | CLEANOUT |
| | TREE (AS NOTED) | | SEWER MANHOLE |
| | HEDGE FOLIAGE LINE | | SEWER LINE |
| | RETAINING WALL | | WATER METER |
| | BUILDING | | WATER LINE |
| | ASPHALT SURFACE | | COLUMN |

VICINITY MAP



TOPOGRAPHIC & BOUNDARY SURVEY
 PARCEL NO. 1924059278

4854 EAST MERCER WAY
 MERCER ISLAND, WA 98040



TERRANE

11235 SE 6th St, Suite 130
 Bellevue, WA 98004
 p: 425-458-4488 | e: info@terrane.net

JOB NUMBER:	250776
DATE:	05/18/25
DRAFTED BY:	MHR
CHECKED BY:	CSP
SCALE:	1" = 10'
REVISION HISTORY	
SHEET NUMBER	
1 OF 1	