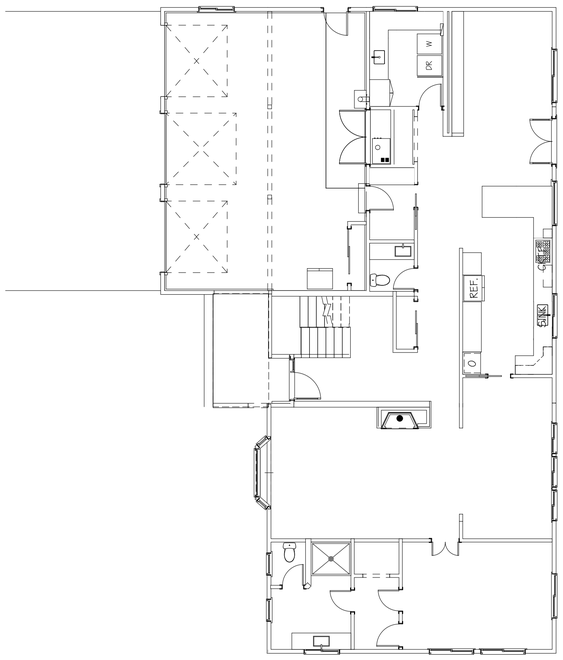
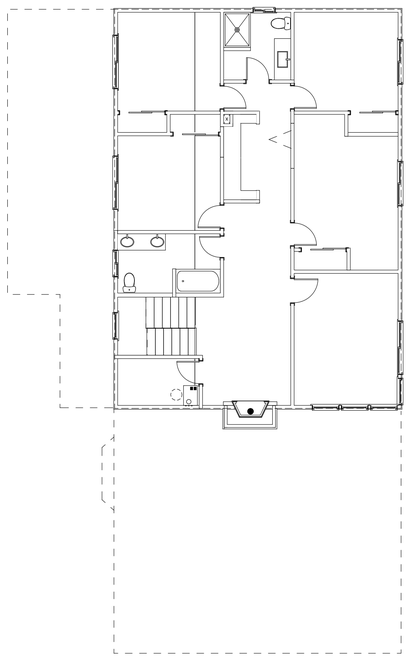


AS BUILT - MAIN FLOOR

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



AS BUILT - UPPER FLOOR

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

GENERAL NOTES

1. CODES/REGULATIONS:
-CONSTRUCTION TO CONFORM TO THE 2018 INTERNATIONAL RESIDENTIAL CODE (IRC), WASHINGTON STATE LAWS AND REGULATIONS, CURRENT WASHINGTON STATE RESIDENTIAL ENERGY CODE AND VARIOUS CODES IMPOSED BY LOCAL AUTHORITIES.
-A SEPARATE PERMIT MAY BE REQUIRED FOR PLUMBING, ELECTRICAL, AND/OR MECHANICAL WORK AS APPLICABLE.
-A COPY OF THE APPROVED PERMIT PLANS MUST BE ON THE JOB SITE DURING CONSTRUCTION.

2. CONTRACTOR'S RESPONSIBILITY:
-PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND STRUCTURAL MEMBER SIZES.
-DO NOT SCALE CONTRACT DOCUMENTS.
-IF ANY DISCREPANCIES IN THE DRAWINGS OR FROM THE CODES ARE NOTED, ARCHITECT IS TO BE NOTIFIED IMMEDIATELY.
-ALL CHANGES MADE BY THE CONTRACTOR SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
-THE ARCHITECT SHALL NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, SAFETY PRECAUTIONS, ACTS OR OMISSIONS OR PERFORMANCE OF THE CONTRACTOR.
-CONTRACTOR SHALL BE RESPONSIBLE FOR THE PERFORMANCE AND WEATHERPROOFING OF THE ENTIRE BUILDING, ITS COMPONENT EQUIPMENT, AND PARTS.
-ALL STRUCTURAL SYSTEMS SUCH AS WOOD TRUSSES WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER.
-ALL WORK MUST FOLLOW CURRENT RRP RULES AND REQUIREMENTS AS DEFINED BY THE EPA AND THE STATE OF WASHINGTON.
-ALL WASTE AND REFUSE CAUSED IN CONNECTION WITH THE WORK SHALL BE REMOVED FROM THE PREMISES AND DISPOSED OF BY THE CONTRACTOR. THE PREMISES SHALL BE LEFT CLEAR AND CLEAN TO THE SATISFACTION OF THE OWNER.
-CONTRACTOR SHALL DESIGN AND INSTALL SHORING AS REQUIRED TO PERFORM WORK. ENGINEERING, CONSTRUCTION AND SAFETY OF THE SHORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
-FOR ALL NEW CONSTRUCTION OR ADDITIONS DESIGNED WITHIN 1'-0" OF THE HEIGHT LIMIT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE SURVEYOR TO VERIFY THE ELEVATION OF THE STRUCTURE AS IT IS BEING BUILT TO VERIFY ANY ELEVATION DISCREPANCIES THROUGHOUT CONSTRUCTION. ELEVATIONS SHOULD BE VERIFIED FOR EACH FLOOR LEVEL PRIOR TO PROCEEDING WITH THE NEXT FLOOR OF FRAMING: TOP OF FOUNDATION, TOP OF SUBFLOOR, TOP PLATE AND RIDGE ELEVATIONS SHOULD BE VERIFIED DURING CONSTRUCTION. CONSULT ARCHITECT FOR CLARIFICATION PRIOR TO CONSTRUCTION.

3. SOILS:
-FOUNDATION DESIGN IS BASED ON AN ASSUMED AVERAGE SOIL BEARING OF 2,000 PSF OR PER GEOTECHNICAL REPORT. ALL FOOTINGS SHALL BE CAST ON UNDISTURBED FIRM NATURAL SOIL OR COMPACTED SOIL OF 2,000 PSF BEARING CAPACITY AT LEAST 1'-6" BELOW LOWEST ADJACENT GRADE, AND FREE OF ORGANIC MATERIALS. FOOTING EXCAVATION SHALL BE FREE OF LOOSE SOILS, DEBRIS, AND FREE WATER AT ALL TIMES. THIS OFFICE TAKES NO RESPONSIBILITY IN VERIFYING THE ACCURACY OF ENGINEERING DATA SUPPLIED BY OTHERS.

4. ATTIC REQUIREMENTS:
-APPLY ROOFING IN ACCORDANCE WITH IRC CHAPTER 9. PROVIDE ATTIC VENTILATION AS INDICATED ON DRAWINGS AND AS OUTLINED IN IRC SEC R806.
-THE NET FREE VENTILATING AREA SHALL BE NOT LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED, EXCEPT THAT THE AREA MAY BE 1/300 PROVIDED AT LEAST 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATION LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE EAVE OF CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS. (IRC SEC R806).
-ATTIC ACCESS: MINIMUM 22" X 30" WITH MINIMUM 30" HEADROOM, UNOBSTRUCTED, READILY ACCESSIBLE OPENING. IRC SEC R807. ACCESS DOORS SHALL BE WEATHERSTRIPPED AND INSULATED TO A LEVEL EQUIVALENT TO THE INSULATION ON THE SURROUNDING SURFACES.
-IN ROOMS NOT PROVIDED WITH AN OPERABLE WINDOW OF 1.5 SQ. FT. OR GREATER, A MECHANICAL VENTILATION SYSTEM CAPABLE OF PROVIDING 5 AIR CHANGES PER HOUR SHALL BE PROVIDED.
-VENT DRYER, BATH FANS, AND RANGES/OVENS TO THE OUTSIDE.

5. VENTILATION:
-VENT FANS SHALL TERMINATE AT THE EXTERIOR OF THE BUILDING PER IRC SECTION M1502.3 AND IMC SECTION 501.3.
-INSULATE ALL DUCTS OUTSIDE OF CONDITIONED SPACE PER WA STATE ENERGY CODE.
-KITCHEN RANGE HOODS: RANGE HOODS CAPABLE OF EXHAUSTING MORE THAN 400 CFM REQUIRE MAKE-UP AIR PER IRC M1503.6.

6. GLAZING:
-TO BE IN COMPLIANCE WITH IRC SEC R308 AND WASHINGTON STATE SAFETY GLASS LAW, EXCEPTIONS ARE AS OUTLINED IN IRC SEC R308.
-GLAZING IN LOCATIONS SUBJECT TO HUMAN IMPACT SUCH AS GLASS IN DOORS, GLAZING WITHIN 24" ON EITHER SIDE OF A DOOR OPENING, GLAZING CLOSER THAN 18" TO A FLOOR, SHOWER DOORS AND TUB ENCLOSURES SHALL BE WIRE REINFORCED, TEMPERED GLASS, LAMINATED SAFETY GLASS OR SHATTER RESISTANT PLASTIC.
-SLIDING GLASS DOORS TO BE SAFETY GLAZING, LAMINATED OR TEMPERED GLASS.
-SHOWER ENCLOSURES SHALL BE APPROVED WIRE REINFORCED, TEMPERED OR LAMINATED SAFETY GLASS OR SHATTER RESISTANT PLASTIC.
-GLAZING WITHIN 18" OF FLOOR AND GREATER THAN 18" IN LEAST DIMENSION SHALL COMPLY WITH IMPACT LOADS. SEE PLANS.
-ALL EXTERIOR WALL GLAZING SHALL BE DOUBLE GLAZED, UNLESS NOTED OTHERWISE, AND COMPLY WITH STATE OF WASHINGTON ENERGY CODE.
-EGRESS IN EVERY SLEEPING ROOM SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQ. FT. THE MINIMUM NET CLEAR OPENING HEIGHT DIMENSION SHALL BE 24", MINIMUM NET CLEAR OPENING WIDTH OF 20" AND A FINISHED SILL HEIGHT NOT MORE THAN 44" ABOVE THE FLOOR. IRC SEC R310.

7. ENERGY:
-ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION SHALL CONFORM TO IRC REQUIREMENTS AND THE WASHINGTON STATE ENERGY CODE, LATEST EDITION. VERIFY ALL CONDITIONS BEFORE PROCEEDING WITH WORK.
-APPLICATION AND INSTALLATIONS OF INSULATION AND VAPOR BARRIERS SHALL COMPLY WITH STATE OF WASHINGTON THERMAL INSULATION STANDARDS.
-BUILDING AIR LEAKAGE TESTING, PER SEC 402.4, IS REQUIRED PRIOR TO FINAL INSPECTION. THE TEST RESULTS SHALL BE POSTED ON THE RESIDENTIAL ENERGY COMPLIANCE CERTIFICATE.
-EACH DWELLING UNIT IS TO HAVE ONE PROGRAMMABLE THERMOSTAT FOR REGULATION OF TEMPERATURE PER SEC 403.1.
-A SIGNED AFFADAVIT DOCUMENTING THE DUCT LEAKAGE TEST RESULTS SHALL BE PROVIDED TO THE BUILDING INSPECTOR PRIOR TO AN APPROVED FINAL INSPECTION.
-DUCT LEAKAGE TEST RESULTS SHALL BE PROVIDED TO THE BUILDING INSPECTOR AND HOMEOWNER PRIOR TO AN APPROVED FINAL INSPECTION.
-MINIMUM 90% OF PERMANENTLY INSTALLED LAMPS IN LIGHTING FIXTURES SHALL BE HIGH EFFICACY LAMPS PER SEC 404.1.
-WHERE THE PRIMARY HEATING SYSTEM IS A FORCED-AIR FURNACE, AT LEAST ONE THERMOSTAT PER DWELLING UNIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE TO MAINTAIN DIFFERENT TEMPERATURE SET POINTS AT DIFFERENT TIMES OF THE DAY. THE THERMOSTAT SHALL ALLOW FOR, AT A MINIMUM, A 5-2 PROGRAMMABLE SCHEDULE (WEEKDAYS/WEEKENDS) AND BE CAPABLE OF PROVIDING AT LEAST TWO PROGRAMMABLE SETBACKS PER DAY.

8. STAIRS:
-MINIMUM HEADROOM 6'-8"; MINIMUM TREAD 10"; MAXIMUM RISER 7 3/4"
-HANDRAIL: REQUIRED AT ALL STAIRS WITH MORE THAN 4 RISERS PER IRC 311.7.8. MINIMUM 34" AND MAXIMUM 38" ABOVE TREAD NOSING. OPEN SIDES OF STAIRS MORE THAN 30" ABOVE ADJACENT FLOOR SHALL HAVE HANDRAILS AND GUARDRAILS. HANDRAIL TO BE 1 1/4"-2" CROSS SECTIONAL DIMENSION AND 1 1/2" AWAY FROM WALL.
-GUARDRAIL: SHALL BE MIN 36" IN HEIGHT WHERE ADJACENT SURFACE OR GRADE IS 30" OR MORE BELOW. RAILINGS SHALL BE SPACED TO NOT ALLOW THE PASSAGE OF A 4-3/8" SPHERE PER IRC 312.1.
-INSTALL FIRE BLOCKING AT MID-STRINGER SPAN AND AT WALL ALIGN STRINGER.
-COVER WALLS AND SOFFITS OF USABLE SPACE UNDER STAIR WITH 5/8" TYPE 'X' GYPSUM WALLBOARD.

9. INSULATION:
-INSULATION TO MEET THE CURRENT WASHINGTON STATE ENERGY CODE REQTS FOR TABLE R402.1.1, TABLE R402.1.3 AND SECTION R402. REFER TO PRESCRIPTIVE TABLE ON SHEET 01.
-EXISTING WALL AND FLOOR CAVITIES EXPOSED DURING CONSTRUCTION FOUND UNINSULATED, OR WITH DAMAGED INSULATION (DISCOLORED, WET, DAMAGED, OR DETERIORATED) SHALL BE FILLED WITH R-15 INSULATION AT 2X4 FRAMING AND WITH R-21 INSULATION AT 2X6 FRAMING. REF SEC R503.1.1-EXCEPTION 2..
-WALLS TO BE INSULATED WITH MINIMUM R-21 INSULATION. BELOW GRADE WALLS TO BE INSULATED WITH MINIMUM R-21 INSULATION, ALLOW FOR THERMAL BREAK BETWEEN FLOOR SLAB AND BASEMENT WALL UNLESS NOTED OTHERWISE.
-ROOF AND CEILING INSULATED WITH R-49 BLOWN-IN AT FLAT CEILINGS AND R-38 H.D. BATT AT VAULTED AREAS UNLESS NOTED OTHERWISE.
-ROOF: ALLOW FOR A MINIMUM 1" CLEAR BETWEEN TOP OF INSULATION AND BOTTOM OF SHEATHING FOR VENTING UNLESS NOTED OTHERWISE.
-VENTING IS REQUIRED IN EACH JOIST SPACE. WHERE CONTINUOUS VENTING WITH A JOIST SPACE IS INTERRUPTED BY A HEADER (FOR EXAMPLE AT A SKYLIGHT OR HIP), PROVIDE (2) 1 1/2" VENTING HOLES AT THE TOP OF THE RAFTER AT THE HEADER TO ALLOW FOR CONTINUOUS THRU-VENTING INTO THE NEXT JOIST SPACE UNLESS NOTED OTHERWISE.
-FLOORS: INSULATED WITH R-30 BATT INSULATION OVER UNHEATED SPACE UNLESS NOTED OTHERWISE.
-SLAB-ON-GRADE: PROVIDE EXTRUDED RIGID CLOSED CELL R-10 INSULATION. INSULATION TO PROVIDE THERMAL BREAK BETWEEN SLAB AND FOOTING AND RUN FROM THE TOP OF THE SLAB TO THE BOTTOM OF THE FOOTING. INSULATION MAY BE INTERRUPTED FOR 6" EVERY 2'-0" TO ALLOW FOR DOWELING TO TIE SLAB AND FOOTING TOGETHER. UNLESS NOTED OTHERWISE.

10. GARAGE SEPARATION:
-REQUIRES 1/2" GWB ON THE GARAGE SIDE. 5/8" TYPE 'X' GWB WHERE THERE IS LIVING SPACE ABOVE. SUPPORTING COLUMNS, WALLS AND BEAMS USE 1/2" GWB PER IRC R302.6
-OPENINGS INTO A GARAGE: OPENINGS INTO A GARAGE SHALL HAVE A SOLID WOOD OR HONEYCOMB-CORE STEEL DOOR NOT LESS THAN 1-3/8" THICK, OR 20-MINUTE FIRE RATING. DOORS SHALL BE EQUIPPED WITH A SELF-CLOSING DEVICE PER IRC R302.5.1.

11. VAPOR BARRIERS:
-AN APPROVED VAPOR BARRIER SHALL BE INSTALLED AT EXTERIOR WALLS AND AT ALL ROOF DECKS, BELOW ENCLOSED JOIST SPACES WHERE CEILING FINISHES ARE DIRECTLY INSTALLED TO JOISTS, AND ANY OTHER WALL OR CEILING SURFACES WHICH RECEIVE INSULATION. THIS VAPOR BARRIER MAY BE A COMPONENT OF THE INSULATION MATERIAL. APPLICATION AND INSTALLATIONS OF INSULATION AND VAPOR BARRIERS SHALL COMPLY WITH STATE OF WASHINGTON THERMAL INSULATION STANDARDS.

12. FIRE SAFETY:
-SMOKE ALARMS/DETECTORS (S.D.): SMOKE ALARMS/DETECTORS SHALL BE INSTALLED IN ALL SLEEPING ROOMS, IN THE AREA OUTSIDE THE SLEEPING ROOM AND IN OTHER LOCATIONS PER IRC R314. POWER SOURCE AND INTERCONNECTION PER IRC.
-CARBON MONOXIDE DETECTORS (C.M.D.): SHALL HAVE AN APPROVED CARBON MONOXIDE ALARM INSTALLED OUTSIDE OF EACH SLEEPING AREA IN DWELLING UNITS AND IN EACH LEVEL IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS PER IRC315. SINGLE STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH UL2034 AND SHALL BE INSTALLED IN ACCORDANCE WITH THIS CODE, NFPA 720-2012 AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
-CARBON MONOXIDE DETECTION SYSTEMS PER IRC 315.2 THAT INCLUDE CARBON MONOXIDE DETECTORS AND AUDIBLE NOTIFICATION APPLIANCES, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THIS SECTION FOR CARBON MONOXIDE ALARMS AND NFPA 720-2012, SHALL BE PERMITTED. THE CARBON MONOXIDE DETECTORS SHALL BE LISTED AS COMPLYING WITH UL 2075. WHERE A HOUSEHOLD CARBON MONOXIDE DETECTION SYSTEM IS INSTALLED, IT SHALL BECOME A PERMANENT FIXTURE OF THE OCCUPANCY.

13. CERTIFICATE & TESTING
- A PERMANENT CERTIFICATE SHALL BE COMPLETED AND POSTED ON OR WITHIN THREE FEET OF THE ELECTRICAL DISTRIBUTION PANEL BY THE BUILDER OR REGISTERED DESIGN PROFESSIONAL. THE CERTIFICATE SHALL BE COMPLETED BY THE BUILDER OR REGISTERED DESIGN PROFESSIONAL AND SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL LIST THE PREDOMINANT R-VALUES OF INSULATION INSTALLED IN OR ON CEILING/ROOF WALLS, FOUNDATION (SLAB, BELOW-GRADE WALL, AND/OR FLOOR) AND DUCTS OUTSIDE CONDITIONED SPACES; U-FACTORS FOR FENESTRATION AND THE RESULTS FROM ANY REQUIRED DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING DONE ON THE BUILDING. WHERE THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL LIST THE VALUE COVERING THE LARGEST AREA. THE CERTIFICATE SHALL LIST THE TYPES OF EFFICIENCIES OF HEATING, COOLING, AND SERVICE WATER HEATING EQUIPMENT.
- THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING 5 AIR CHANGES PER HOUR. TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. (50 PASCALS). WHERE REQUIRED BY THE CODE OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL ENVELOPE.

14. LIGHTING EQUIPMENT
- NOT LESS THAN 90 PERCENT OF LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS
- FUEL GAS LIGHTING SYSTEMS SHALL NOT HAVE CONTINUOUSLY BURNING PILOT LIGHTS

REV 1

SEASONAL DEVELOPMENT LIMITATION WAIVER

IF ANY LAND CLEARING, GRADING, FILLING OR FOUNDATION WORK WITHIN A GEOLOGICALLY HAZARDOUS AREA IS PROPOSED TO OCCUR BETWEEN OCTOBER 1 AND APRIL 1, A SEASONAL DEVELOPMENT WAIVER SHALL BE APPLIED FOR AND APPROVED BY THE CODE OFFICIAL.

PRESCRIPTIVE REQUIREMENTS - ALL CLIMATE ZONES

LOCATION	R-VALUE	U-FACTOR
FENESTRATION U-FACTOR	N/A	0.28
SKYLIGHT U-FACTOR	N/A	0.50
GLAZED FENESTRATION SHGC	N/A	N/A
CEILING	49	0.026
WOOD FRAME WALL	21 INT	0.056
MASS WALL R-VALUE	21/21	0.056
FLOOR	38	0.029
BELOW GRADE WALL	10/15/21 INT + TB	0.042
SLAB R-VALUE AND DEPTH	10, 2 FT	N/A

PROJECT INFORMATION

PROJECT OWNER:	KELLY AND MATTHEW RADER 7310 86TH AVE SE MERCER ISLAND WA 98040
PROJECT ARCHITECT: PROJECT DESIGNER:	HEIDI HELGESON SARAH THOMPSON/LAUREN GROTH H2D ARCHITECTURE + DESIGN 23020 EDMONDS WAY, #113 EDMONDS, WA 98020
STRUCTURAL ENGINEER:	DANIEL BUKER BUKER ENGINEERING 4303 STONE WAY N SEATTLE, WA 98103 206-258-6333
GEOTECHNICAL ENGINEER:	PHIL HABERMAN COBALT GEOSCIENCES, LLC P.O. BOX 1732 NORTH BEND, WA 98045 206-331-1097
PROJECT DESCRIPTION:	INTERIOR REMODEL AND ADDITION
PROJECT ADDRESS:	7310 86TH AVE SE
TAX LOT NUMBER:	5451200600
LEGAL DESCRIPTION:	MERCER ISLAND ESTATES #1, LOT 60, SW-30-24-5

REV 1

LAND USE CODE COMPLIANCE STATISTICS

ZONE:	R-9.6	
REQD SETBACKS:	FRONT:	20'
	REAR SETBACK:	25'
	SIDE SETBACK:	5' MIN, TOTAL 15'
PARKING:	3 PARKING SPACES	
BUILDING HEIGHT INFORMATION:	BUILDING HEIGHT LIMIT = 30' REFER TO SHEET A2.0 AND A2.1 FOR DETAILED HEIGHT INFORMATION	

*REFER TO 02 SHEET FOR ADDITIONAL LAND USE CODE COMPLIANCE STATISTICS

ENERGY CREDIT INFORMATION

ENERGY CREDIT FROM WASHINGTON STATE ENERGY CODE TABLE 406.3

SMALL DWELLING UNIT: 3 CREDITS
DWELLING UNITS LESS THAN 1500 SF IN CONDITIONED FLOOR AREA WITH LESS THAN 300 SF OF FENESTRATION AREA
ADDITIONS TO EXISTING BUILDINGS GREATER THAN 500SF OF HEATED FLOOR AREA BUT LESS THAN 1500 SF.

FUEL NORMALIZATION CREDIT FROM WASHINGTON STATE ENERGY CODE TABLE R406.2

SYSTEM TYPE 2 = 1 CREDIT:
FOR AN INITIAL HEATING SYSTEM USING A HEAT PUMP THAT MEETS FEDERAL STANDARDS FOR THE EQUIPMENT LISTED IN TABLE C403.3.2(1) OR C403.3.2(2)
OR
AIR TO WATER HEAT PUMP UNITS THAT ARE CONFIGURED TO PROVIDE BOTH HEATING AND COOLING AND ARE RATED IN ACCORDANCE WITH AHRI 550/590

1.3 EFFICIENT BUILDING ENVELOPE = 0.5
PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS:
VERTICAL FENESTRATION U=0.28
FLOOR R-38
SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB
BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB
OR
COMPLIANCE BASED ON SECTION R402.1.4: REDUCE THE TOTAL CONDUCTIVE UA BY 5%

3.2 HIGH EFFICIENCY HVAC EQUIPMENT = 1.0 CREDITS
AIR-SOURCE CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 9.5.

4.1 HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM = 0.5 CREDITS
ALL SUPPLY AND RETURN DUCTS LOCATED IN AN UNCONDITIONED ATTIC SHALL BE DEEPLY BURIED IN CEILING INSULATION IN ACCORDANCE WITH SECTION R403.3.7.

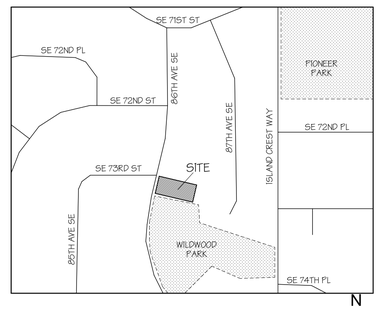
FOR MECHANICAL EQUIPMENT LOCATED OUTSIDE THE CONDITIONED SPACE, A MAXIMUM OF 10 LINEAR FEET OF RETURN DUCT AND 5 LINEAR FEET OF SUPPLY DUCT CONNECTIONS TO THE EQUIPMENT MAY BE OUTSIDE THE DEEPLY BURIED INSULATION. ALL METALLIC DUCTS LOCATED OUTSIDE THE CONDITIONED SPACE MUST HAVE BOTH TRANSVERSE AND LONGITUDINAL JOINTS SEALED WITH MASTIC. IF FLEX DUCTS ARE USED, THEY CANNOT CONTAIN SPLICES.

DUCT LEAKAGE SHALL BE LIMITED TO 3CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA.

AIR HANDLER(S) SHALL BE LOCATED WITHIN THE CONDITIONED SPACE.

SHEET INDEX

REV 1



VICINITY MAP (NTS)

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

H 2 D
ARCHITECTURE + DESIGN

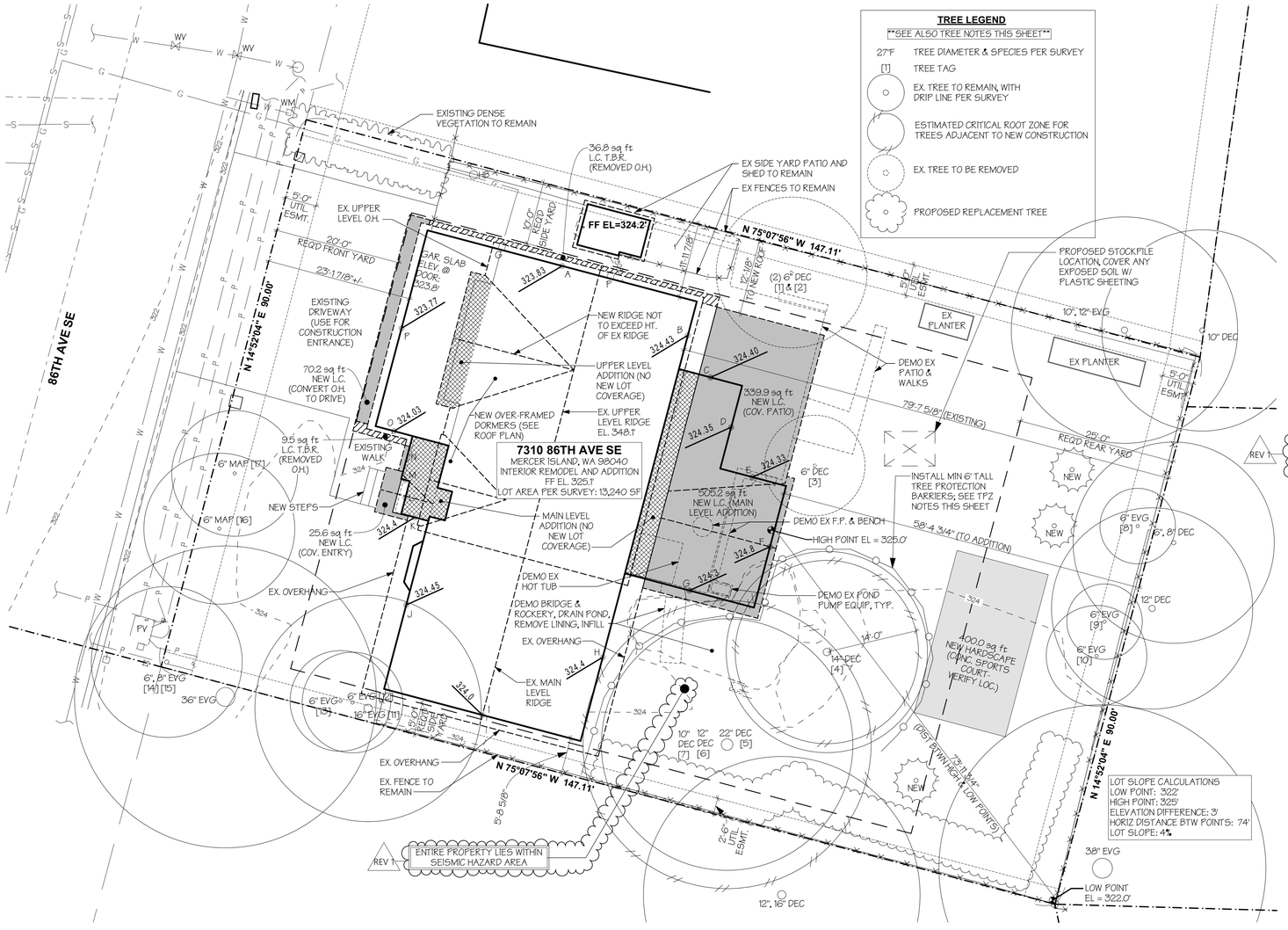
23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206. 542. 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

PROJECT INFORMATION, VICINITY MAP, GENERAL NOTES, AS-BUILT PLANS

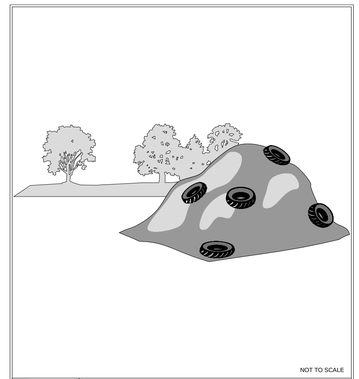
01



SITE PLAN

SCALE: 1" = 10'

NOTE:
1. REFER TO SURVEY FOR ADDITIONAL INFORMATION.
2. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO GROUND WORK.



REV 1

STORMWATER COMPLIANCE STATISTICS

SEE SHEET C3 FOR IMPERVIOUS AND HARD SURFACE AREA CALCULATIONS

LAND USE CODE COMPLIANCE STATISTICS

ZONE: R-9.6

EXISTING LOT COVERAGE:
- LOT AREA: 13,240 SF (PER SURVEY)
- EXISTING HOUSE (INCL OVERHANGS): 3,399.1 SF
- EXISTING DRIVEWAY: 730.5 SF
- TOTAL EXISTING LOT COVERAGE: 4,129.6 SF (31.2%)
- ALLOWED LOT COVERAGE: 13,240 SF X 40% = 5,296 SF..OK

PROPOSED LOT COVERAGE:
- EXISTING HOUSE - INCL OVERHANGS: 3,399.1 SF
- EXISTING DRIVEWAY: 730.5 SF
- PROPOSED ENTRY PORCH ROOF: 25.6 SF
- PROPOSED REAR COVERED PATIO: 339.9 SF
- PROPOSED ADDITION - INCL OVERHANGS: 505.2 SF
- OVERHANG AREA CONVERTED TO DRIVE: 70.2 SF
- TOTAL EXISTING + PROPOSED: 5,070.5 SF
- OVERHANG REMOVED: (46.3 SF)
- OVERHANG AREA CONVERTED TO DRIVE: (70.2 SF)
- TOTAL REMOVED: (116.5 SF)
- TOTAL NET LOT COVERAGE: 4,954.0 SF (37.4%)
- ALLOWED LOT COVERAGE: 13,240 SF X 40% = 5,296 SF..OK

EXISTING HARDSCAPE:
- EXISTING FRONT WALK: 112.0 SF
- EXISTING SIDE & REAR PATIOS/SHED/ BENCHES/PAVERS/EQUIP. PADS: 1,288.0 SF
- TOTAL EXISTING HARDSCAPE: 1,400.0 SF (10.6%)
- ALLOWED HARDSCAPE: 13,240 SF X 9% = 1,191.6 SF..OVER

PROPOSED HARDSCAPE:
- EXISTING FRONT WALK: 112.0 SF
- EXISTING SIDE & REAR PATIOS/SHED/ BENCHES/PAVERS/EQUIP. PADS: 1,288.0 SF
- PROPOSED SIDE PATIO - OVERHANG REMOVAL: 31.9 SF
- PROPOSED FRONT WALK - OVERHANG REMOVAL 9.5 SF
- PROPOSED SPORTS COURT: 400.0 SF
- TOTAL EXISTING + PROPOSED: 1,841.4 SF
- EXISTING FRONT WALK REMOVED: (21.4 SF)
- REAR PATIO/BENCHES/PAVERS/EQUIP. PADS REMOVED: (894.8 SF)
- TOTAL REMOVED: (916.2 SF)
- TOTAL NET HARDSCAPE: 925.2 SF (7%)
- ALLOWED HARDSCAPE: 13,240SF X 9% = 1,191.6 SF..OK

PROPOSED LANDSCAPE:
- PROPOSED LANDSCAPE AREA: 8,286.1 SF (62.6%)
- REQUIRED MIN. LANDSCAPE AREA: 13,240 X 60% = 7,944 SF..OK

EXISTING GROSS FLOOR AREA**:
- EXISTING MAIN FLOOR - INCL. GARAGE & STAIR: 2,686.47 SF
- EXISTING UPPER FLOOR - EXCL. STAIR: 1,369.6 SF
- TOTAL EXISTING FLOOR AREA: 4,056.07 SF (30.6%)
- ALLOWED FLOOR AREA*: 13,240 SF X 40% = 5,296.0 SF..OK

PROPOSED GROSS FLOOR AREA**:
- EXISTING MAIN FLOOR - INCL. STAIR: 1,958.62 SF
- EXISTING GARAGE: 727.85 SF
- EXISTING UPPER FLOOR - EXCL. STAIR: 1,369.6 SF
- PROPOSED MAIN FLOOR ADDITION - SINGLE STORY: 641.82 SF
- PROPOSED MAIN FLOOR @ ENTRY ADDITION (x2 HT): 21.64 SF
- PROPOSED ADDED DOUBLE HEIGHT TO EX. MAIN FLR: 32.32 SF
- PROPOSED MAIN FLOOR (GAR. CONVERTED TO HEATED): 91.52 SF
- PROPOSED UPPER FLOOR: 55.5 SF
- EXISTING UPPER FLOOR T.B.R.: (43.1 SF)
- EXISTING GARAGE T.B.R.: (91.52 SF)
- TOTAL PROPOSED GROSS FLOOR AREA: 4,764.25 SF (36.0%)
- ALLOWED GFA*: 13,240 SF X 40% = 5,296.0 SF..OK

*LESSER OF 8,000 SF OR 40% OF LOT AREA
**GROSS FLOOR AREA INCLUDES CONDITIONED AND UNCONDITIONED SPACE

TREE NOTES

TREES TO BE REMOVED		# REPLACEMENT TREES*
[1]	6" DEC	1
[2]	6" DEC	1
[3]	6" DEC	1

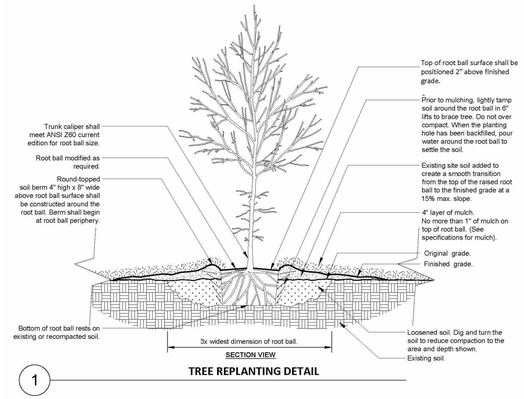
TREES TO BE RETAINED NEAR CONSTRUCTION		EST. CRZ RADIUS	% ENCROACHMENT
[4]	14" DEC	14'-0"	7% (12")
[5]	22" DEC	22'-0"	3% (8 5/8")

GENERAL NOTES:
1. REMOVAL, RETENTION, PROTECTION, AND REPLANTING OF TREES SHALL BE PER MICC CHAPTER 19.10.
2. NO LARGE OR EXCEPTIONAL TREES ARE PROPOSED TO BE REMOVED. VERIFY STATUS OF ALL TREES ADJACENT TO AREA OF CONSTRUCTION PRIOR TO START OF DEMOLITION.
3. *NUMBER OF REPLACEMENT TREES IS BASED ON TABLE IN MICC 19.10.070. LOCATION SHOWN ON SITE PLAN IS SCHEMATIC. SIZE, SPECIES, AND EXACT PLANTING LOCATION SHALL BE VERIFIED BY CITY OR PRIVATE QUALIFIED ARBORIST PRIOR TO PLANTING.
4. SEE DETAILS THIS SHEET FOR TREE PROTECTION AND PLANTING PER MICC CH. 19.
5. SEE TREE LEGEND THIS SHEET.

AVERAGE BUILDING ELEVATION CALCULATION				
MIDPOINT ELEVATION		WALL LENGTH		ELEV. x LENGTH
TAG	(DECIMAL FEET)	(FEET & INCHES)	(DECIMAL FEET)	(SF)
A	323.83	44'-3 11/16"	44.30	14345.67
B	324.43	11'-1 1/4"	11.10	3601.17
C	324.40	10'-4 3/4"	10.40	3373.76
D	324.35	13'-7 1/2"	13.63	4420.89
E	324.33	10'-10"	10.83	3512.49
F	324.80	20'-0"	20.00	6496.00
G	324.30	21'-2 3/4"	21.23	6884.89
H	324.40	27'-6 3/4"	27.56	8940.46
I	324.00	32'-4"	32.33	10474.92
J	324.45	27'-7 5/8"	27.64	8967.80
K	324.40	4'-5 3/4"	4.48	1453.31
L	324.30	5'-4 3/4"	5.40	1751.22
M	324.30	1'-4 3/4"	1.40	454.02
N	324.30	7'- 1/2"	7.04	2283.07
O	324.03	6'-1"	6.08	1970.10
P	323.77	32'-9 1/2"	32.80	10619.66
		TOTALS:	276.22	89549.44

Total Area	/	Total Length	=	Ave. Building Elev. (DECIMAL FEET)
89549.44	/	276.22	=	324.20
		30' Height Limit:		
324.20	+	30'	=	354.20

Notes:
1) LENGTHS MEASURED TO OUTSIDE OF EXTERIOR WALLS
2) BENCHMARK: (TEMP) SET PK NAIL W/ WASHER; LOCATION: NW OF CL INTERSECTION OF SE 73RD & 86TH AVE. SE; ELEVATION: 322.37'



1 **TREE REPLANTING DETAIL**

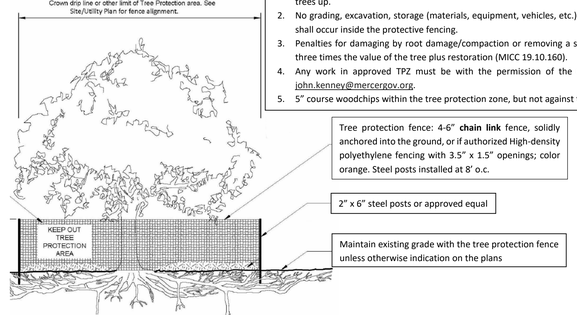
TREE PROTECTION AREA (TPZ)

KEEP OUT!

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

Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:
1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees/financial penalties
3. Arborist reports recommending mitigation

Notes
1. No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
2. No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
3. Penalties for damaging by root damage/compaction or removing a saved tree may be a fine up to three times the value of the tree plus restoration (MICC 19.10.160).
4. Any work in approved TPZ must be with the permission of the City Arborist (206) 275-7713, john.kenney@mercergov.org.
5. 5" course woodchips within the tree protection zone, but not against the tree trunk.



Any Work in the protected area must be with the permission of the City Arborist john.kenney@mercergov.org

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

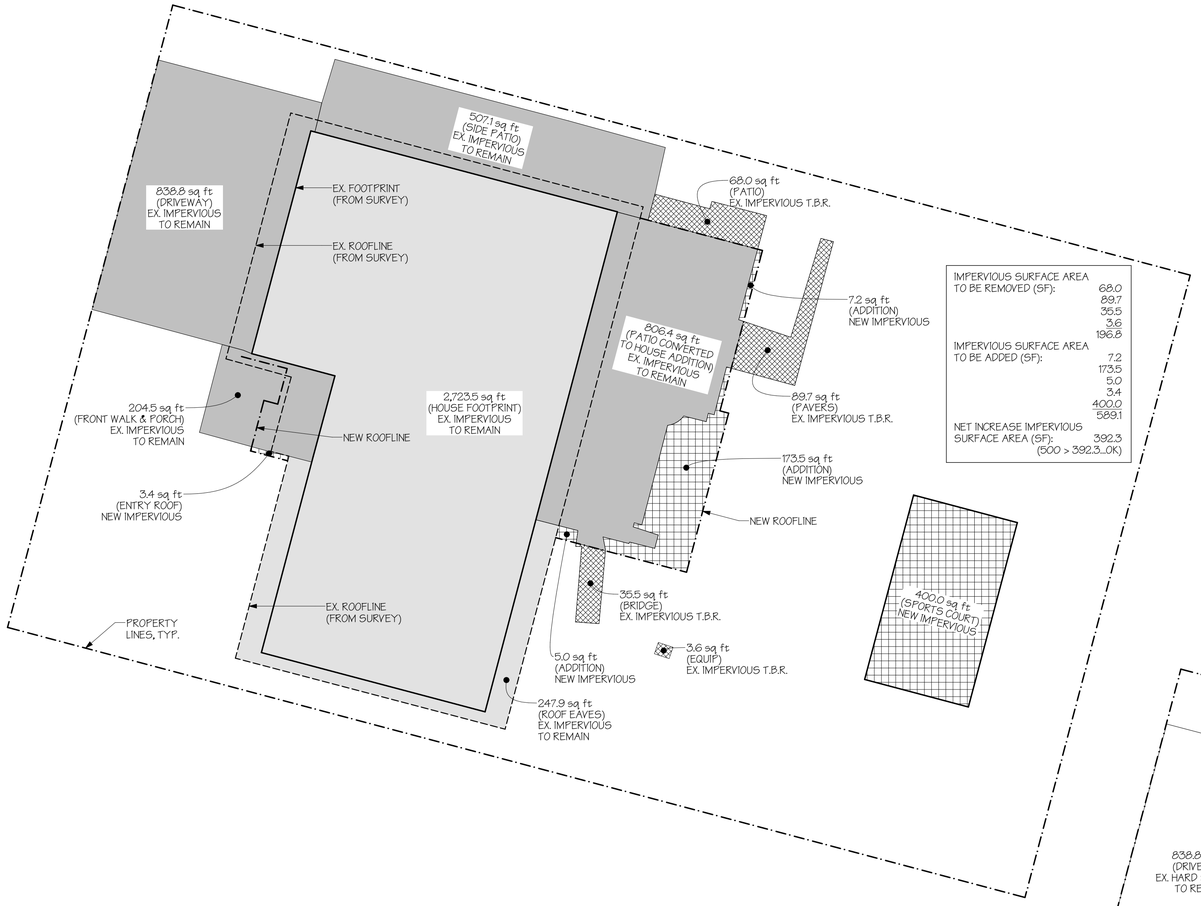
H 2 D ARCHITECTURE + D E S I G N
23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206 . 542 . 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

SITE PLAN

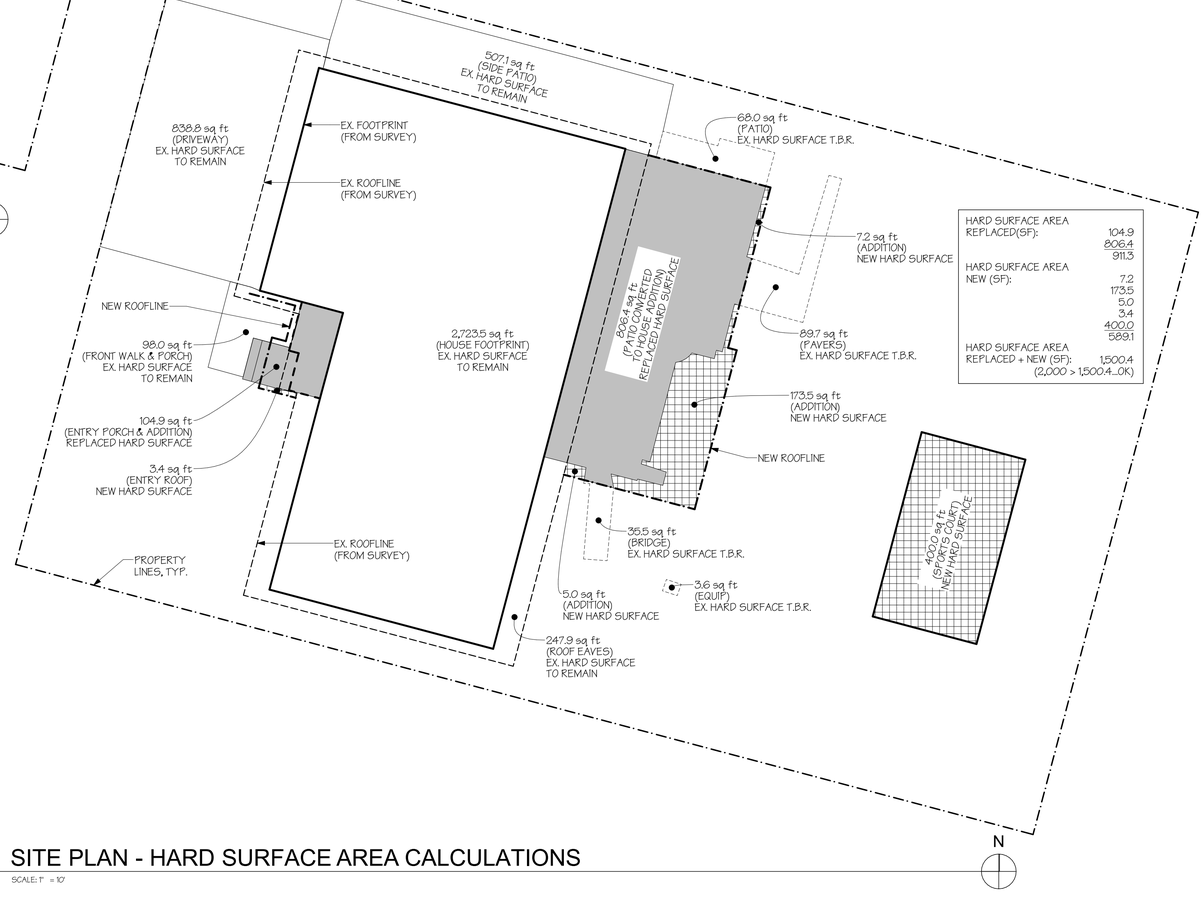
02



IMPERVIOUS SURFACE AREA	
TO BE REMOVED (SF):	68.0
	89.7
	35.5
	3.6
	196.8
IMPERVIOUS SURFACE AREA	
TO BE ADDED (SF):	7.2
	173.5
	5.0
	3.4
	400.0
	589.1
NET INCREASE IMPERVIOUS	
SURFACE AREA (SF):	392.3
	(500 > 392.3...OK)

SITE PLAN - IMPERVIOUS SURFACE AREA CALCULATIONS

SCALE: 1" = 10'



HARD SURFACE AREA	
REPLACED(SF):	104.9
	806.4
	911.3
HARD SURFACE AREA	
NEW (SF):	7.2
	173.5
	5.0
	3.4
	400.0
	589.1
HARD SURFACE AREA	
REPLACED + NEW (SF):	1,500.4
	(2,000 > 1,500.4...OK)

SITE PLAN - HARD SURFACE AREA CALCULATIONS

SCALE: 1" = 10'

RADER RESIDENCE

7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

H 2 D
ARCHITECTURE
+
D E S I G N

23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206 . 542 . 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

STORMWATER CALCULATIONS

03 REV 1

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

LOT 60, MERCER ISLAND ESTATES NO. 1, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 83 OF PLATS, PAGE 50 THROUGH 51, INCLUSIVE, IN KING COUNTY, WASHINGTON.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

BASIS OF BEARINGS

ACCEPTED THE BEARING OF N 14°52'04" E, BETWEEN MONUMENTS FOUND ALONG THE CENTERLINE OF 86TH AVE. SE, PER REFERENCE NO. 1.

REFERENCES

R1. MERCER ISLAND ESTATES NO. 1, VOL. 83, OF PLATS, PG. 50, RECORDS OF KING COUNTY, WASHINGTON.
R2. MERCER ISLAND ESTATES NO. 2, VOL. 94, OF PLATS, PG. 3, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD 88 PER CITY OF MERCER ISLAND BENCHMARK NO. 1668
DESCRIPTION: 3"X3" CONC. W/ TACK IN LEAD
LOCATION: SE 73RD ST/86TH AVE SE INTERSECTION
ELEVATION: 321.789'

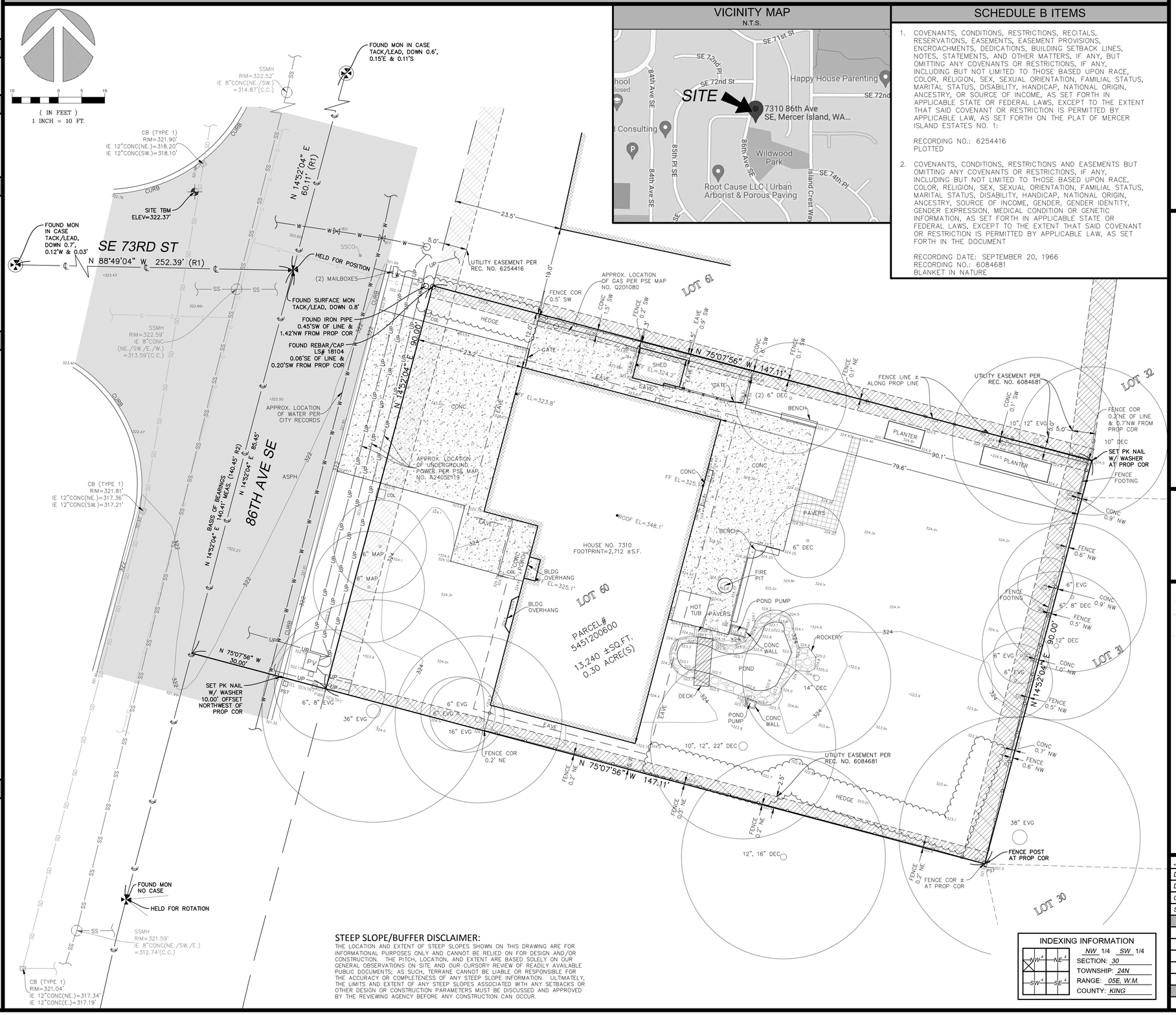
SITE TEMP. BENCHMARK
DESCRIPTION: SET PK NAIL W/ WASHER
LOCATION: NW OF CL INTERSECTION OF SE 73RD & 86TH AVE. SE
ELEVATION: 322.37'

SURVEYOR'S NOTES

1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN JULY OF 2022. 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. 545120-0600.
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 13,240 ±S.F. (0.30 ACRES)
6. ALL TITLE INFORMATION SHOWN ON THIS MAP HAS BEEN EXTRACTED FROM TICOR TITLE COMPANY, COMMITMENT NO. 70193528, DATED APRIL 01, 2022, IN PREPARING THIS MAP, TERRANE, INC. HAS CONDUCTED NO INDEPENDENT TITLE SEARCH NOR IS TERRANE, INC. AWARE OF ANY TITLE ISSUES AFFECTING THE SURVEYED PROPERTY OTHER THAN THOSE SHOWN ON THE MAP AND DISCLOSED BY THE REFERENCED COMMITMENT. TERRANE, INC. HAS RELIED WHOLLY ON TICOR TITLE COMPANY'S REPRESENTATIONS OF THE TITLE'S CONDITION TO PREPARE THIS SURVEY AND TERRANE, INC. QUALIFIES THE MAP'S ACCURACY AND COMPLETENESS TO THAT EXTENT.
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 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

LEGEND

- ASPHALT SURFACE
- BENCHMARK
- BUILDING
- CENTERLINE ROW
- CLEANOUT
- CONCRETE SURFACE
- DECK
- FENCE LINE (CHAIN LINK)
- FENCE LINE (WOOD)
- FIRE HYDRANT
- GAS LINE
- GAS METER
- HEDGE FOLIAGE LINE
- INLET (TYPE 1)
- MAILBOX (RESIDENTIAL)
- NAIL AS NOTED
- POWER (UNDERGROUND)
- MONUMENT (IN CASE, FOUND)
- MONUMENT (SURFACE, FOUND)
- HOSE BIB RISER
- PAVER SURFACE
- POST
- POWER METER
- POWER SENTRY
- POWER VAULT
- REBAR AS NOTED (FOUND)
- RETAINING WALL
- ROCKERY
- SEWER LINE
- SEWER MANHOLE
- STORM DRAIN LINE
- TELEPHONE SENTRY
- TREE (AS NOTED)
- WATER LINE
- WATER METER
- WATER VALVE
- UTILITY EASEMENT PER REC. NO. 6254416
- UTILITY EASEMENT PER REC. NO. 6084681



VICINITY MAP

N.T.S.

SCHEDULE B ITEMS

1. COVENANTS, CONDITIONS, RESTRICTIONS, RECITALS, RESERVATIONS, EASEMENTS, EASEMENT PROVISIONS, ENCROACHMENTS, DEDICATIONS, BUILDING SETBACK LINES, NOTES, STATEMENTS, AND OTHER MATTERS, IF ANY, BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, OR SOURCE OF INCOME, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH ON THE PLAT OF MERCER ISLAND ESTATES NO. 1:

   RECORDING NO.: 6254416
   PLOTTED

2. COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, SOURCE OF INCOME, GENDER, GENDER IDENTITY, GENDER EXPRESSION, MEDICAL CONDITION OR GENETIC INFORMATION, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH IN THE DOCUMENT

   RECORDING DATE: SEPTEMBER 20, 1966
   RECORDING NO.: 6084681
   BLANKET IN NATURE

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

NW 1/4 SW 1/4
SECTION: 30
TOWNSHIP: 24N
RANGE: 05E, W.M.
COUNTY: KING

We are the measure | terrane.net

TOPOGRAPHIC & BOUNDARY SURVEY
PARCEL NO. 5451200600

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND, WA 98040

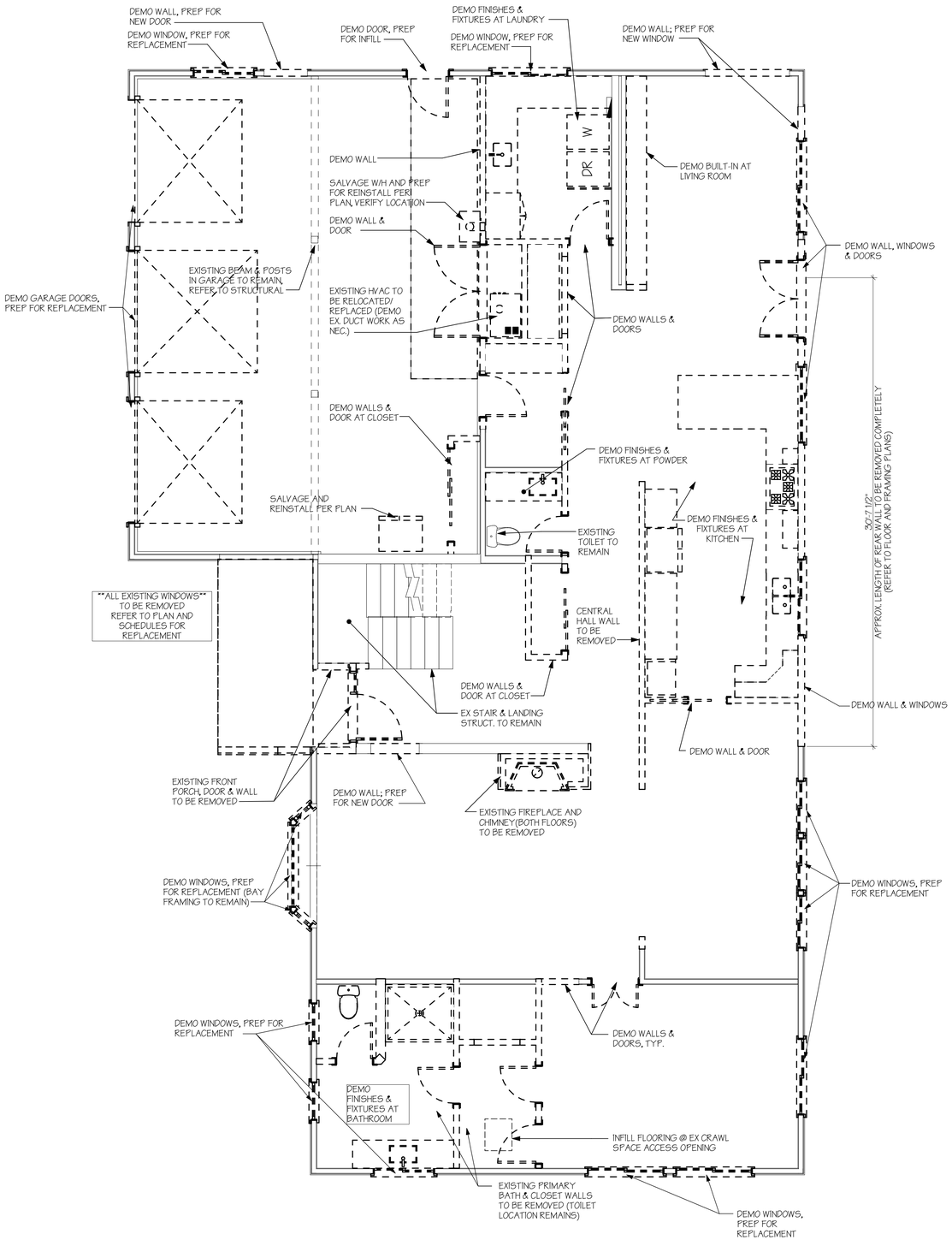
JASON SAVAGE — REGISTERED PROFESSIONAL LAND SURVEYOR — STATE OF WASHINGTON — 21202 — 08/02/22

TERRANE
10801 Main Street, Suite 102
Bellevue, WA 98004
p: 425-458-4488 | e: info@terrane.net

JOB NUMBER:	221302
DATE:	08/02/22
DRAFTED BY:	IDV/GKD
CHECKED BY:	JPS
SCALE:	1" = 10'

REVISION HISTORY

SHEET NUMBER
1 OF 1

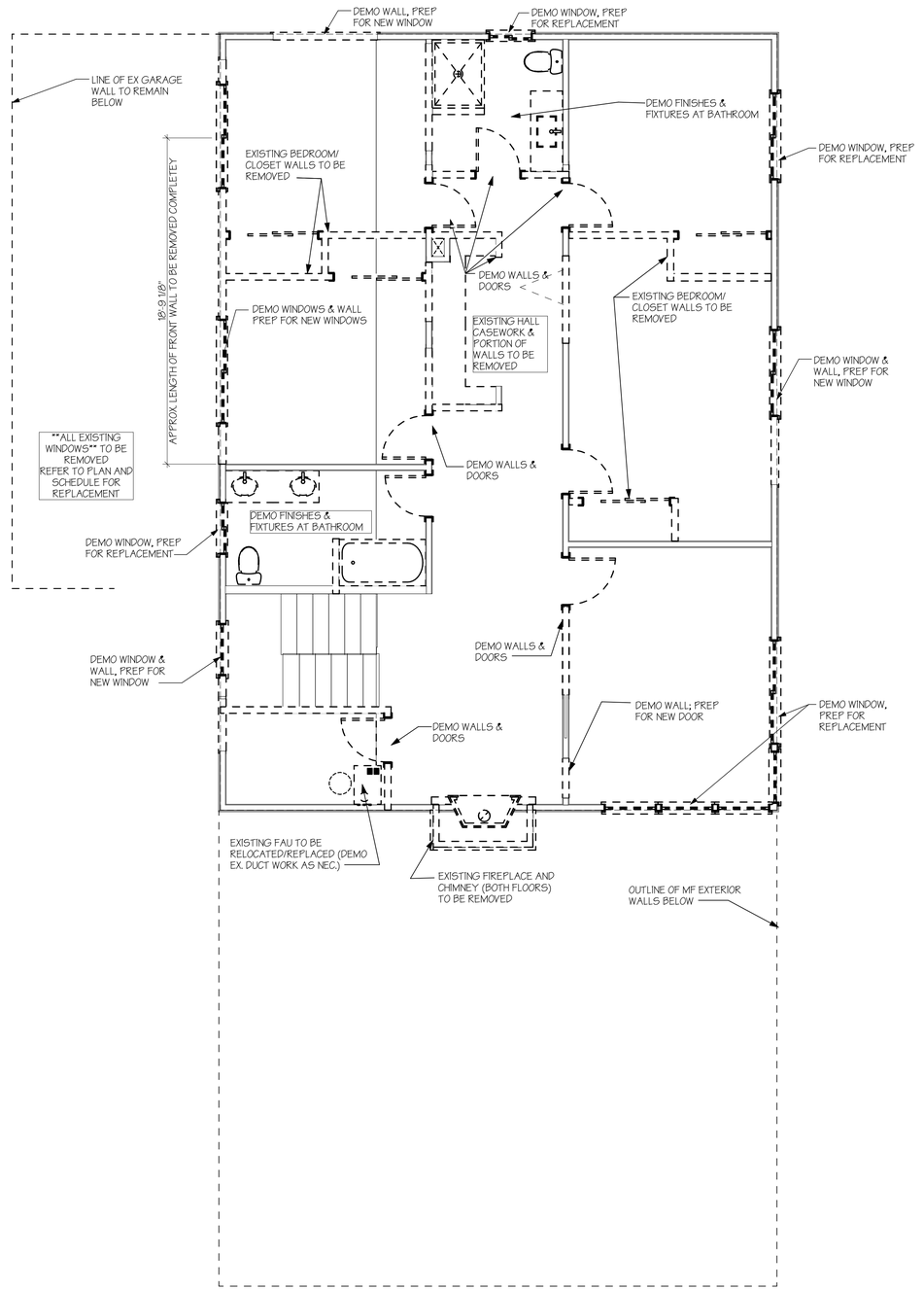


MAIN FLOOR DEMOLITION PLAN

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

EXISTING WALLS
DEMO WALLS

NOTES:
1. VERIFY SALVAGE ITEMS WITH OWNER PRIOR TO DEMOLITION.
2. ALL SHORING TO BE THE RESPONSIBILITY OF THE BUILDER. CONTACT THE STRUCTURAL ENGINEER WITH QUESTIONS.



UPPER FLOOR DEMOLITION PLAN

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

EXISTING WALLS
DEMO WALLS

NOTES:
1. VERIFY SALVAGE ITEMS WITH OWNER PRIOR TO DEMOLITION.
2. ALL SHORING TO BE THE RESPONSIBILITY OF THE BUILDER. CONTACT THE STRUCTURAL ENGINEER WITH QUESTIONS.

RADER RESIDENCE

7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

H 2 D
ARCHITECTURE
+
D E S I G N

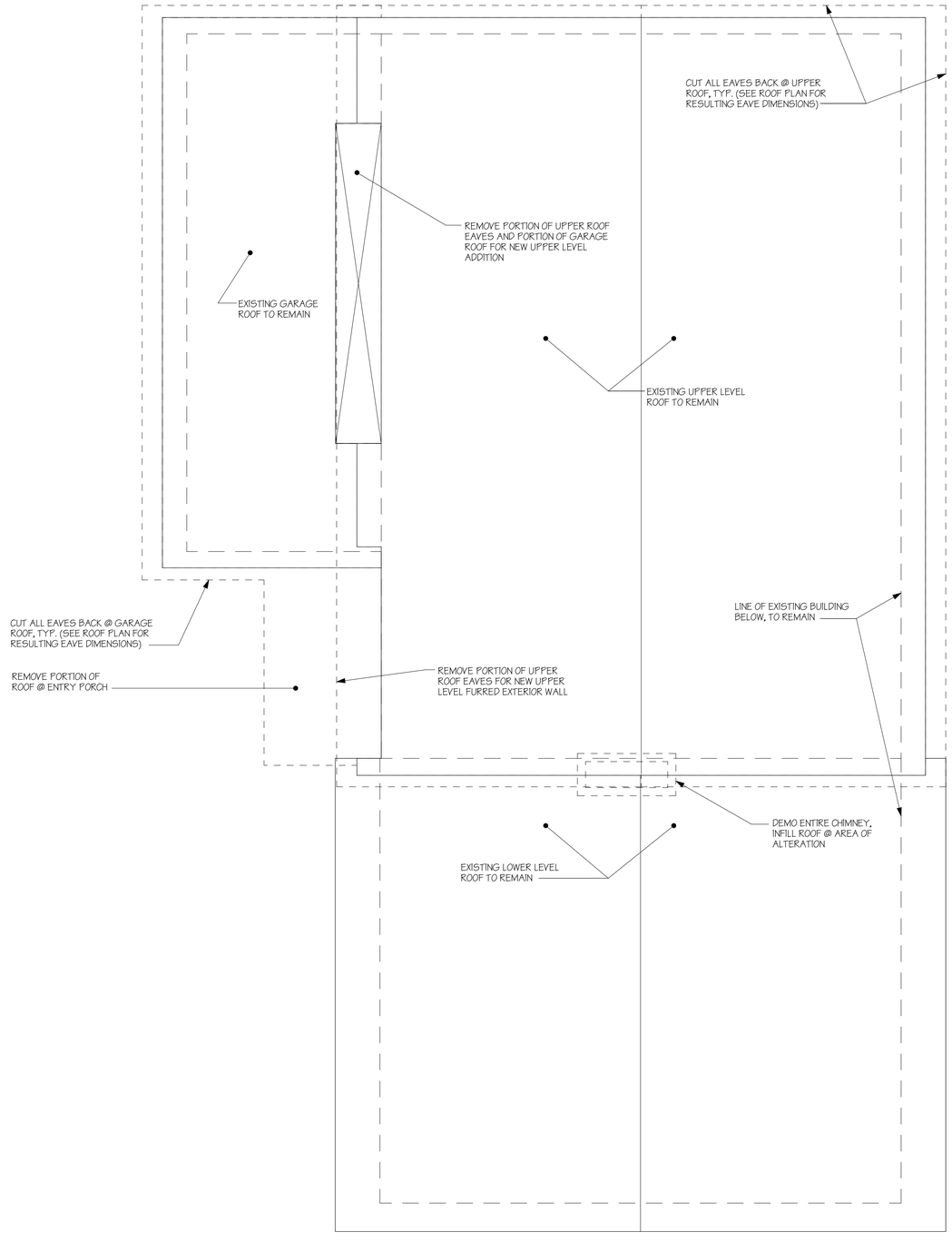
23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206 . 542 . 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

MAIN AND UPPER FLOOR DEMOLITION PLANS

A1.0



ROOF DEMOLITION PLAN

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

EXISTING ROOF
DEMO ROOF

NOTES:
1. VERIFY SALVAGE ITEMS WITH OWNER PRIOR TO DEMOLITION.
2. ALL SHORING TO BE THE RESPONSIBILITY OF THE BUILDER. CONTACT THE STRUCTURAL ENGINEER WITH QUESTIONS.

N

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

H 2 D
ARCHITECTURE + DESIGN

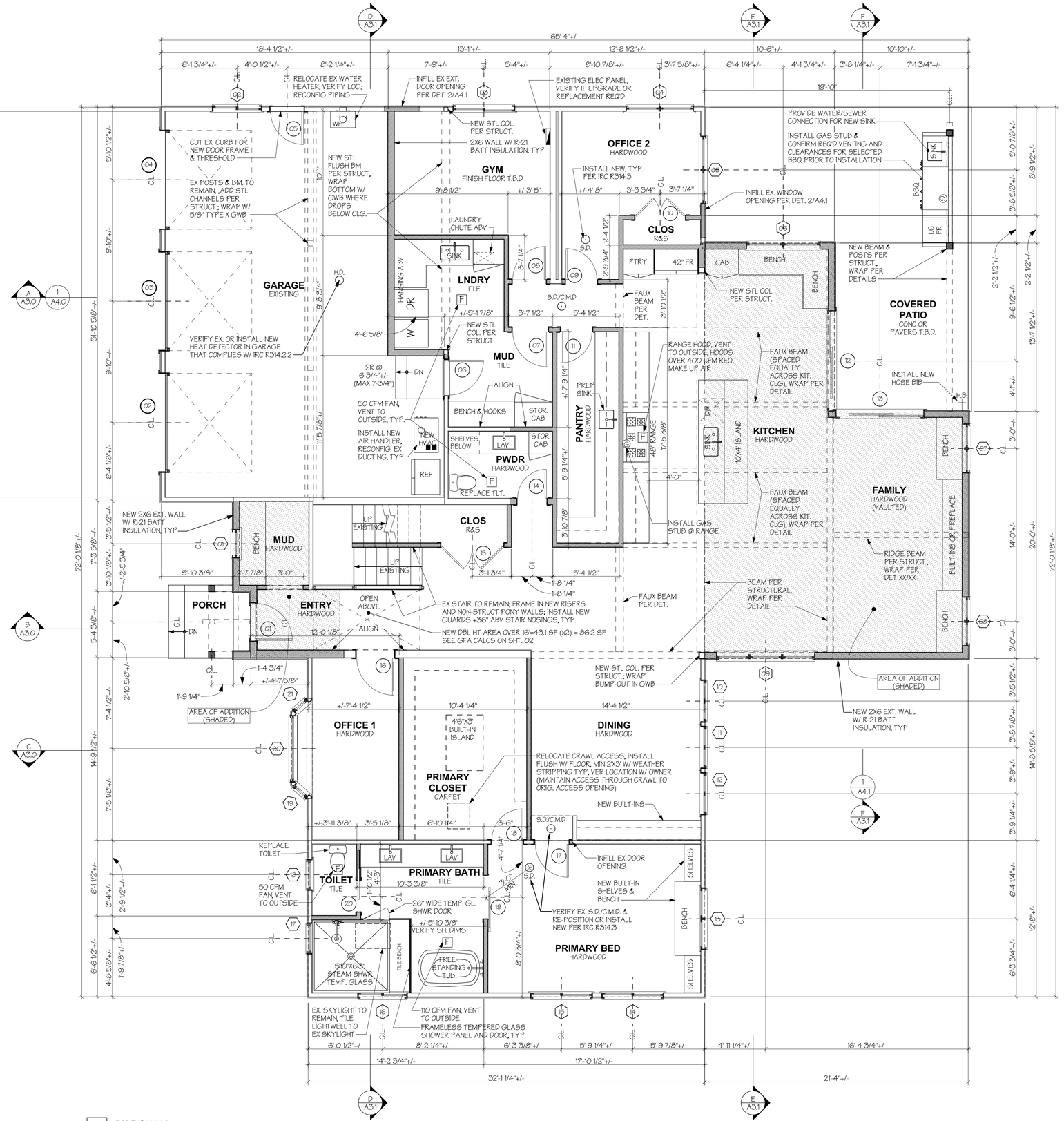
23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206 . 542 . 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

ROOF DEMOLITION PLAN

A1.1



MAIN FLOOR PLAN

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

EXISTING WALLS
NEW WALLS

R403.13 CONTINUOUSLY BURNING PILOT LIGHTS:
THE NATURAL GAS SYSTEMS AND EQUIPMENT LISTED BELOW ARE NOT PERMITTED TO BE EQUIPPED WITH CONTINUOUSLY BURNING PILOT LIGHTS

1. FAN-TYPE CENTRAL FURNACES
2. HOUSEHOLD COOKING APPLIANCES
   EXCEPTION: HOUSEHOLD COOKING APPLIANCES WITHOUT ELECTRICAL SUPPLY VOLTAGE CONNECTIONS AND IN WHICH EACH PILOT LIGHT CONSUMES LESS THAN 150 BTU/HR
3. POOL HEATERS
4. SPA HEATERS
5. FIREPLACES
   EXCEPTION: ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITION (AS DEFINED IN ANSI Z21.20) IS NOT CONSIDERED CONTINUOUS.

HVAC REQUIREMENTS

1. INSTALL NEW HEAT PUMP TO PROVIDE HEATING, COOLING AND VENTILATION TO ALL FLOORS OF THE HOME.
2. PER IRC 1505.4: PROVIDE WHOLE HOUSE VENTILATION SYSTEM INTEGRATED WITH THE FORCED AIR SYSTEM.
3. INTEGRATED WHOLE HOUSE VENTILATION SYSTEM SHALL OPERATE CONTINUOUSLY. PROVIDE CONTROLS TO ALLOW OPERATION OF VENTILATION SYSTEM WITHOUT NEED TO OPERATE HEATING SYSTEM. A LABEL SHALL BE AFFIXED TO THE CONTROLS THAT READS "WHOLE HOUSE VENTILATION (SEE OPERATING INSTRUCTIONS)".
4. CONTINUOUS WHOLE HOUSE MECHANICAL VENTILATION MINIMUM AIRFLOW RATE OF 105 CFM. REFER TO IRC TABLE M1505.4.3 (1).

WATER HEATER REQUIREMENTS

RELOCATE AND REINSTALL EXISTING WATER HEATER. VERIFY ALL MECHANICAL AND ELECTRICAL REQTS WITH MFR SPECS.

1. PROVIDE SHUTOFF VALVE @ CONNECTION TO APPLIANCE.
2. PER IRC M1307.2 ANCHOR OR STRAP WATER HEATER APPLIANCE TO RESIST HORIZONTAL DISPLACEMENT CAUSED BY EARTHQUAKE MOTION. STRAPPING SHALL BE AT POINTS WITHIN THE UPPER 1/3RD AND LOWER 1/3RD OF THE APPLIANCE'S VERTICAL DIMENSIONS. AT THE LOWER POINT, THE STRAPPING SHALL MAINTAIN A MINIMUM DISTANCE OF 4" ABOVE CONTROLS.
3. ALL ELECTRIC WATER HEATERS IN UNCONDITIONED SPACES, OR ON CONCRETE FLOORS IN CONDITIONED SPACES, SHALL BE PLACED ON AN INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE OF R-10, AND MINIMUM COMPRESSIVE STRENGTH OF 40PSI OR ENGINEERED TO SUPPORT THE APPLIANCE.

REV 1

CRAWLSPACE VENTILATION REQUIREMENTS

CRAWLSPACE: MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1 SQUARE FOOT FOR EACH 150 SQUARE FEET OF UNDER-FLOOR AREA, UNLESS THE GROUND SURFACE IS COVERED BY A CLASS 1 VAPOR RETARDER MATERIAL. WHEN CLASS 1 VAPOR RETARDER IS USED, THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1 SQUARE FOOT FOR EACH 1,500 SQUARE FEET OF UNDER-FLOOR SPACE AREA. ONE VENTILATION OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING, EXCEPT ONE SIDE OF THE BUILDING SHALL BE PERMITTED TO HAVE NO VENTILATION OPENINGS.

TOTAL NEW CRAWLSPACE AREA @ ENTRY ADDITION = 70.9 SF
REQUIRED VENTILATION AREA = 1.0 SF

(QTY 2) CRAWLSPACE VENTS @ 8"X16" PER ELEVATIONS = 1.8 SF

TOTAL NEW CRAWLSPACE AREA @ REAR ADDITION = 532 SF
REQUIRED VENTILATION AREA = 3.5 SF

(QTY 4) CRAWLSPACE VENTS @ 8"X16" PER ELEVATIONS = 3.6 SF

GROSS FLOOR AREA
(MEASURED FROM OUTSIDE FACE OF EXTERIOR STUD WALLS)
SEE ALSO CALCULATIONS ON SHEET 02

EXISTING MAIN FLOOR - INCL. STAIR:	1,958.62 SF
EXISTING GARAGE:	727.85 SF
EXISTING UPPER FLOOR - EXCL. STAIR:	1,369.6 SF
PROPOSED MAIN FLOOR ADDITION - SINGLE STORY:	641.82 SF
PROPOSED MAIN FLOOR @ ENTRY ADDITION (x2 HT):	21.64 SF
PROPOSED ADDED DOUBLE-HEIGHT TO EX. MAIN FLR:	32.32 SF
PROPOSED MAIN FLOOR (GAR. CONVERTED TO HEATED):	91.52 SF
PROPOSED UPPER FLOOR:	55.5 SF
EXISTING UPPER FLOOR T.B.R.:	(43.1 SF)
EXISTING GARAGE T.B.R.:	(91.52 SF)
TOTAL PROPOSED GROSS FLOOR AREA:	4,764.25 SF (36.0%)
ALLOWED GFA*:	13,240 SF X 40% = 5,296.0 SF...OK

NOTES:
1. ALL DIMENSIONS ARE GIVEN TO THE FACE OF STUD UNO.
2. ALL DOOR AND WINDOW DIMENSIONS ON THIS PLAN ARE TO CENTER LINE OF ROUGH OPENING, UNO.
3. SEE ATTACHED WSEC FORMS FOR ENERGY CODE COMPLIANCE INFORMATION.
4. INSTALL SMOKE DETECTORS (S.D.) AT LOCATIONS SHOWN. HARDWIRE AND INTERCONNECT DETECTORS TO POWER SUPPLY AND PROVIDE BATTERY BACKUP AS REQUIRED.
5. INSTALL CARBON MONOXIDE ALARMS (C.M.D.) OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS. THE ALARM AND SHALL BE LISTED AS COMPLYING WITH UL 2034 AND SHALL BE INSTALLED IN ACCORDANCE WITH IRC R315.3 AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS
6. SMOKE DETECTORS (S.D.) AND CARBON MONOXIDE ALARMS (C.M.D.) TO BE INSTALLED 3'-0" MINIMUM FROM BATHROOM DOORS.
7. ALL GAS FIREPLACE HEATERS RATED TO ANSI Z21.88 SHALL BE LISTED AND LABELED WITH A FIREPLACE EFFICIENCY (FE) RATING OF 50 PERCENT OR GREATER IN ACCORDANCE WITH CSA P.4.1. VENTED GAS FIREPLACES (DECORATIVE APPLIANCES) CERTIFIED TO ANSI Z21.50 SHALL BE LISTED AND LABELED, INCLUDING THEIR FE RATINGS, IN ACCORDANCE WITH CSA P.4.1.

N

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

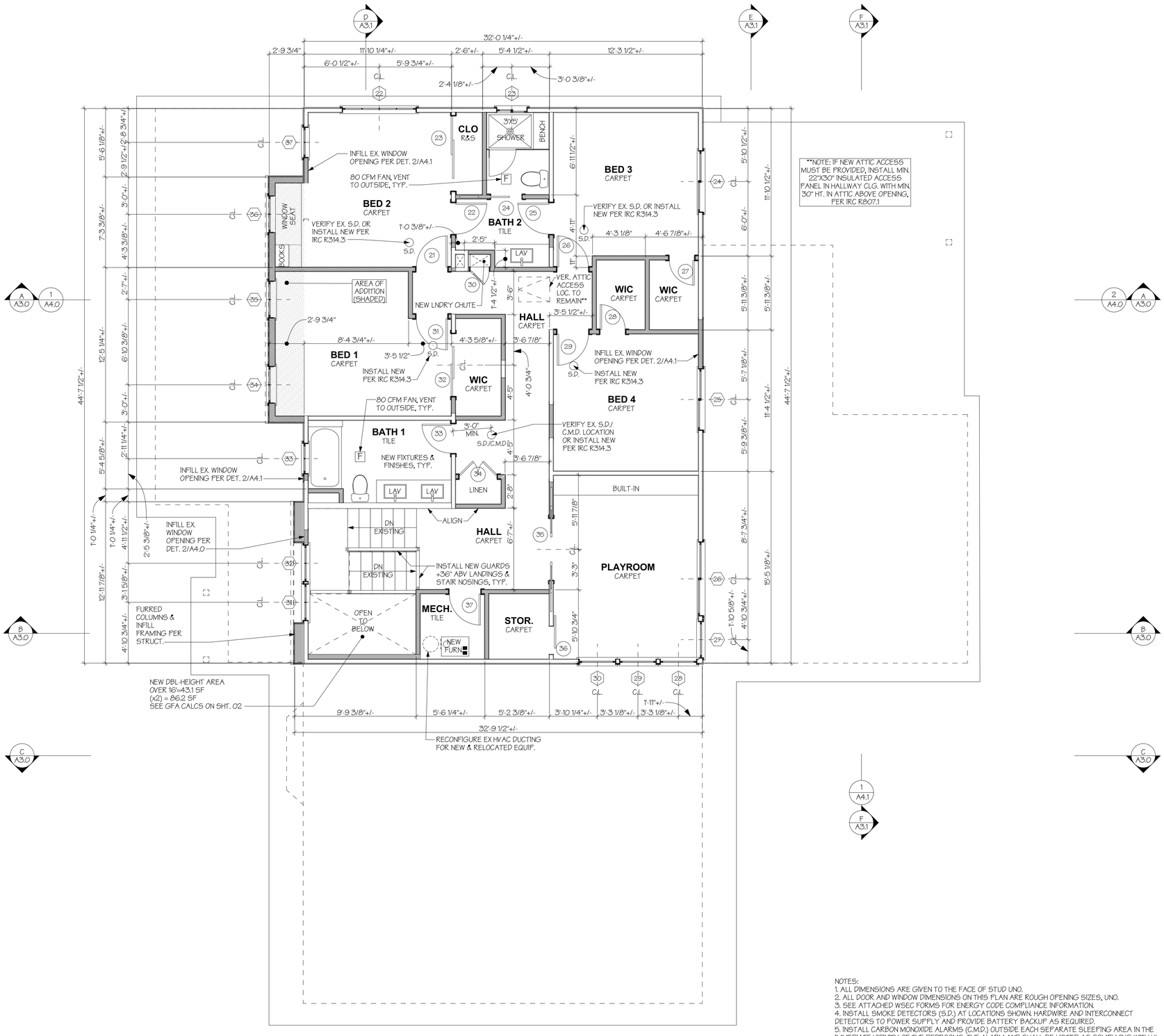
H 2 D
ARCHITECTURE + DESIGN
23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206 . 542 . 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

MAIN FLOOR PLAN

A1.2



UPPER FLOOR PLAN

EXISTING WALLS
NEW WALLS

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

GROSS FLOOR AREA
(MEASURED FROM OUTSIDE FACE OF EXTERIOR STUD WALLS)
SEE ALSO CALCULATIONS ON SHEET 02

EXISTING MAIN FLOOR - INCL. STAIR:	1,958.62 SF
EXISTING GARAGE:	727.85 SF
EXISTING UPPER FLOOR - EXCL. STAIR:	1,369.6 SF
PROPOSED MAIN FLOOR ADDITION - SINGLE STORY:	641.82 SF
PROPOSED MAIN FLOOR @ ENTRY ADDITION (x2 HT):	21.64 SF
PROPOSED ADDED DOUBLE-HEIGHT TO EX. MAIN FLR:	32.32 SF
PROPOSED MAIN FLOOR (GAR. CONVERTED TO HEATED):	91.52 SF
PROPOSED UPPER FLOOR:	55.5 SF
EXISTING UPPER FLOOR T.B.R.:	(43.1 SF)
EXISTING GARAGE T.B.R.:	(91.52 SF)
TOTAL PROPOSED GROSS FLOOR AREA:	4,764.25 SF (36.0%)
ALLOWED GFA*:	13,240 SF X 40% = 5,296.0 SF...OK

NOTES:
1. ALL DIMENSIONS ARE GIVEN TO THE FACE OF STUD UNO.
2. ALL DOOR AND WINDOW DIMENSIONS ON THIS PLAN ARE ROUGH OPENING SIZES, UNO.
3. SEE ATTACHED WSEC FORMS FOR ENERGY CODE COMPLIANCE INFORMATION.
4. INSTALL SMOKE DETECTORS (S.D.) AT LOCATIONS SHOWN. HARDWIRE AND INTERCONNECT DETECTORS TO POWER SUPPLY AND PROVIDE BATTERY BACKUP AS REQUIRED.
5. INSTALL CARBON MONOXIDE ALARMS (C.M.D.) OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS. THE ALARM AND SHALL BE LISTED AS COMPLYING WITH UL 2034 AND SHALL BE INSTALLED IN ACCORDANCE WITH IRC R315.3 AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. HARDWIRE AND INTERCONNECT DETECTORS TO POWER SUPPLY AND PROVIDE BATTERY BACKUP AS REQUIRED.
6. SMOKE DETECTORS (S.D.) AND CARBON MONOXIDE ALARMS (C.M.D.) TO BE INSTALLED 3'-0" MINIMUM FROM BATHROOM DOORS.
7. ALL GAS FIREPLACE HEATERS RATED TO ANSI Z21.88 SHALL BE LISTED AND LABELED WITH A FIREPLACE EFFICIENCY (FE) RATING OF 50 PERCENT OR GREATER IN ACCORDANCE WITH CSA P.4.1. VENTED GAS FIREPLACES (DECORATIVE APPLIANCES) CERTIFIED TO ANSI Z21.50 SHALL BE LISTED AND LABELED, INCLUDING THEIR FE RATINGS, IN ACCORDANCE WITH CSA P.4.1.

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

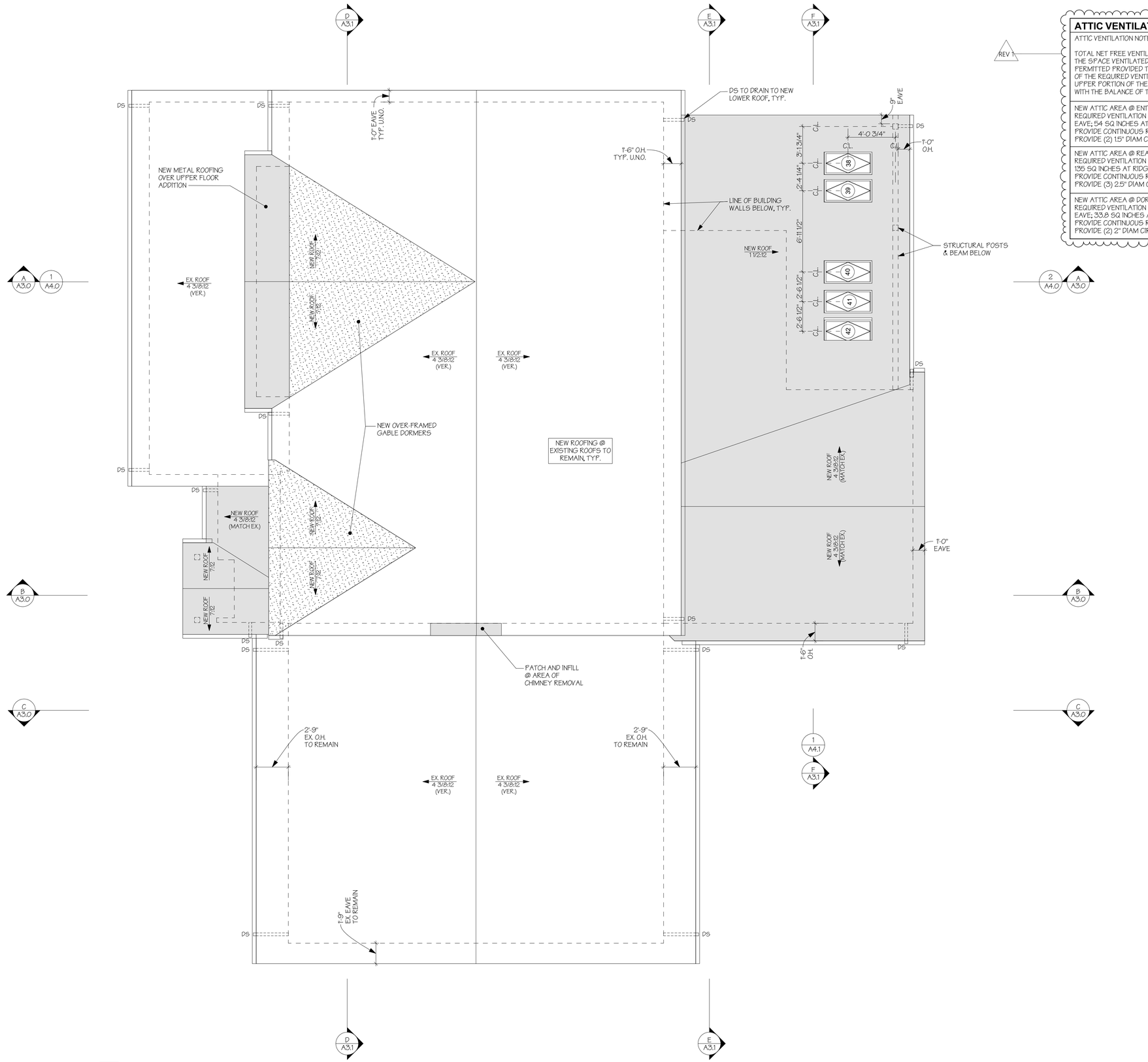
H 2 D
ARCHITECTURE + DESIGN
23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206. 542. 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

UPPER FLOOR PLAN

A1.3



ATTIC VENTILATION REQUIREMENTS

REV 1

ATTIC VENTILATION NOTES:

TOTAL NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED EXCEPT THAT REDUCTION OF THE TOTAL TO 1/300 IS PERMITTED PROVIDED THAT AT LEAST 40 PERCENT AND NOT MORE THAN 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3' ABOVE THE EAVE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY THE EAVE VENTS.

NEW ATTIC AREA @ ENTRY ADDITION = 53.8 SF
REQUIRED VENTILATION AREA = .36 SF OR 51.8 SQ INCHES (17.7 SQ INCHES AT THE EAVE; 54 SQ INCHES AT RIDGE)
PROVIDE CONTINUOUS RIDGE VENT (4 LIN. FT @ 13.5 SQ IN PER LIN FT) = 54 SQ IN
PROVIDE (2) 1.5" DIAM CIRCLES PER BAY (5 BAYS) = 17.7 SQ INCHES MIN

NEW ATTIC AREA @ REAR ADDITION = 535.4 SF
REQUIRED VENTILATION AREA = 1.8 SF OR 259.2 SQ INCHES (162 SQ INCHES AT THE EAVE; 135 SQ INCHES AT RIDGE)
PROVIDE CONTINUOUS RIDGE VENT (10 LIN. FT @ 13.5 SQ IN PER LIN FT) = 135 SQ IN (45%)
PROVIDE (3) 2.5" DIAM CIRCLES PER BAY (11 BAYS) = 162 SQ INCHES MIN

NEW ATTIC AREA @ DORMER ADDITION = 44.3 SF
REQUIRED VENTILATION AREA = .29 SF OR 41.7 SQ INCHES (12.6 SQ INCHES AT THE EAVE; 33.8 SQ INCHES AT RIDGE)
PROVIDE CONTINUOUS RIDGE VENT (2.5 LIN. FT @ 13.5 SQ IN PER LIN FT) = 33.8 SQ IN
PROVIDE (2) 2" DIAM CIRCLES PER BAY (2 BAYS) = 12.6 SQ INCHES MIN

ROOF PLAN

EXISTING ROOF
NEW ROOF

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

N

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

H 2 D
ARCHITECTURE
+
D E S I G N

23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206 . 542 . 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

ROOF PLAN

A1.4

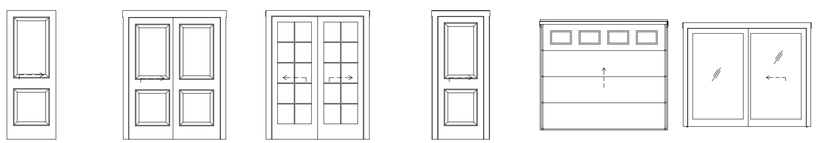
DOOR SCHEDULE

	ID	R.O. DIMENSIONS *SEE NOTE 1 WIDTH	R.O. DIMENSIONS *SEE NOTE 1 HEIGHT	DOOR LEAF DIMENSIONS W	DOOR LEAF DIMENSIONS HT	TYPE	THICK	AREA (SF)	NOTES	U-VAL
MAIN FLOOR										
	01	3'-2"	6'-10 1/2"	3'-0"	6'-8"	SWING 1	0'-1 3/4"	21.77	CONFIRM DOOR SELECTION W/ OWNER	0.20
	02	8'-1"	7'-1 3/4"	8'-0"	7'-0"	ROLL UP	0'-1 3/4"	0.00	GARAGE DOOR, CONFIRM STYLE/SIZE W/ OWNER	
	03	8'-1"	7'-1 3/4"	8'-0"	7'-0"	ROLL UP	0'-1 3/4"	0.00	GARAGE DOOR, CONFIRM STYLE/SIZE W/ OWNER	
	04	8'-1"	7'-1 3/4"	8'-0"	7'-0"	ROLL UP	0'-1 3/4"	0.00	GARAGE DOOR, CONFIRM STYLE/SIZE W/ OWNER	
	05	2'-10"	6'-10 1/2"	2'-8"	6'-8"	SWING 2	0'-1 3/4"	0.00		
	06	3'-0"	6'-10 1/2"	2'-10"	6'-8"	SWING 3	0'-1 3/8"	18.89	1-3/8" S.C. 20 MIN RATED DR W/ SELF CLOSER	
	07	3'-0"	6'-10 1/2"	2'-10"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	08	2'-10"	6'-10 1/2"	2'-8"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	09	2'-8"	6'-10 1/2"	2'-6"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	10	4'-2"	6'-10 1/2"	4'-0"	6'-8"	SWING 5	0'-1 3/8"	0.00	FRENCH STYLE CLOSET DOOR	
	11	2'-8"	6'-10 1/2"	2'-6"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	12	8'-2"	6'-10 1/2"	8'-0"	6'-8"	S.G.D.	0'-1 3/4"	56.15	TEMPERED	0.28
	13	7'-2"	6'-10 1/2"	7'-0"	6'-8"	S.G.D.	0'-1 3/4"	49.27	TEMPERED	0.28
	14	2'-6"	6'-10 1/2"	2'-4"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	15	5'-2"	6'-10 1/2"	5'-0"	6'-8"	SWING 5	0'-1 3/8"	0.00	FRENCH STYLE CLOSET DOOR	
	16	3'-2"	6'-10 1/2"	3'-0"	6'-8"	SWING 6	0'-1 3/8"	0.00	TEMPERED, CLEAR GLAZING	
	17	2'-10"	6'-10 1/2"	2'-8"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	18	2'-8"	6'-10 1/2"	2'-6"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	19	3'-7"	6'-10 1/2"	3'-6"	6'-8"	BARN	0'-1 3/8"	0.00	VER PANEL MIN 3" WIDER @ EA SIDE AND TOP THAN F.O.	
	20	2'-7"	6'-10 1/2"	2'-6"	6'-8"	POCKET	0'-1 3/8"	0.00	VER R.O. W/ SELECTED PCKT DR MFR	
UPPER FLOOR										
	21	2'-8"	6'-10 1/2"	2'-6"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	22	2'-8"	6'-10 1/2"	2'-6"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	23	6'-2"	6'-10 1/2"	6'-0"	6'-8"	BI-PASS	0'-1 3/8"	0.00		
	24	2'-7"	6'-10 1/2"	2'-6"	6'-8"	POCKET	0'-1 3/8"	0.00	VER R.O. W/ SELECTED PCKT DR MFR	
	25	2'-8"	6'-10 1/2"	2'-6"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	26	2'-8"	6'-10 1/2"	2'-6"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	27	2'-2"	6'-10 1/2"	2'-0"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	28	2'-2"	6'-10 1/2"	2'-0"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	29	2'-8"	6'-10 1/2"	2'-6"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	30	1'-8"	3'-2 1/2"	1'-6"	3'-0"	VERIFY STYLE	0'-1 3/8"	0.00	1-3/8" S.C. DR W/ SELF-CLOSER, VERIFY INSTALL HT.	
	31	2'-8"	6'-10 1/2"	2'-6"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	32	5'-2"	6'-10 1/2"	5'-0"	6'-8"	BI-PASS	0'-1 3/8"	0.00		
	33	2'-6"	6'-10 1/2"	2'-4"	6'-8"	SWING 4	0'-1 3/8"	0.00		
	34	3'-2"	6'-10 1/2"	3'-0"	6'-8"	SWING 5	0'-1 3/8"	0.00		
	35	5'-0 1/2"	6'-10 1/2"	5'-0"	6'-8"	DBL POCKET	0'-1 3/8"	0.00	VER R.O. W/ PCKET DR MFR; TEMPERED	
	36	2'-4"	6'-9"	2'-6"	6'-10"	BARN	0'-1 3/8"	0.00	VER PANEL 3" WIDER @ EA SIDE AND TOP THAN F.O.	
	37	2'-8"	6'-10 1/2"	2'-6"	6'-8"	SWING 4	0'-1 3/8"	0.00		
TOTAL EXTERIOR DOOR AREA:								146.08		

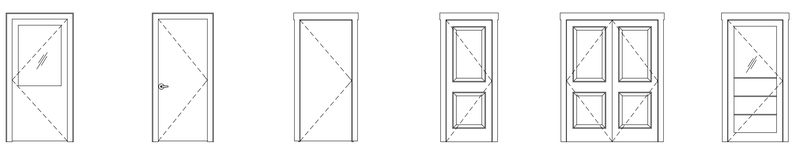
MANUFACTURER: INTERIOR: SIMPSON OR EQUAL SOLID CORE DR, PANEL STYLE PER INTERIOR DESIGNER, PAINT GRADE OR PER INTERIOR DESIGNER
EXTERIOR: TO BE SELECTED

EXTERIOR DOORS TO BE NFRC 100 LABELED AND CERTIFIED BY THE MANUFACTURER.

NOTES:
1. VERIFY ROUGH OPENING SIZES WITH SELECTED MANUFACTURER REQUIREMENTS
2. SEE ELEVATIONS FOR CONFIGURATION
3. VERIFY ALL SIZES AND ROUGH OPENINGS PRIOR TO CONSTRUCTION
4. CONTACT ARCHITECT IMMEDIATELY WITH QUESTIONS
5. SEE SCHEDULE FOR DOOR SIZES



BARN | BI-PASS | DBL POCKET | POCKET | ROLL UP | S.G.D.



SWING 1 | SWING 2 | SWING 3 | SWING 4 | SWING 5 | SWING 6

WINDOW SCHEDULE

	ID	ROUGH OPENING *SEE NOTE 1 WIDTH	ROUGH OPENING *SEE NOTE 1 HEIGHT	ROUGH HEAD FROM SUBFLR.	TYPE	OPER	AREA (SF)	NOTES	U-VAL
MAIN FLOOR									
	01	2'-4"	2'-4"	6'-10 1/2"	B	P	5.40		0.28
	02	4'-0"	4'-0"	6'-6 1/4"	F	H.S.	16.00	VERIFY H.H. FROM EX GARAGE SLAB, VER FIT EX R.O.	N/A
	03	5'-0"	3'-0"	6'-10 1/2"	F	H.S.	15.00	VERIFY FIT IN EX R.O.	0.28
	04	5'-6"	4'-0"	6'-10 1/2"	A	C/C	22.00	FRENCH CASEMENT	0.28
	05	5'-6"	4'-0"	6'-10 1/2"	A	C/C	22.00	FRENCH CASEMENT	0.28
	06	6'-0"	5'-0"	6'-10 1/2"	A	C/C	30.00	FRENCH CASEMENT	0.28
	07	4'-0"	5'-0"	6'-10 1/2"	A	C/C	20.00	FRENCH CASEMENT	0.28
	08	4'-0"	5'-0"	6'-10 1/2"	A	C/C	20.00	FRENCH CASEMENT	0.28
	09	8'-0"	5'-0"	6'-10 1/2"	C	C/C	40.00	FRENCH CASEMENT	0.28
	10	3'-5"	5'-0"	6'-10 1/2"	A	C/C	17.00	FRENCH CASEMENT; VER FIT EX R.O.	0.28
	11	3'-5"	5'-0"	6'-10 1/2"	A	C/C	17.00	FRENCH CASEMENT; VER FIT EX R.O.	0.28
	12	3'-5"	5'-0"	6'-10 1/2"	A	C/C	17.00	FRENCH CASEMENT; VER FIT EX R.O.	0.28
	13	5'-0"	5'-0"	6'-10 1/2"	A	C/C	25.00	FRENCH CASEMENT; EGRESS	0.28
	14	5'-0"	2'-0"	6'-10 1/2"	F	H.S.	10.00	VER FIT IN EX R.O.	0.28
	15	5'-0"	2'-0"	6'-10 1/2"	F	H.S.	10.00	VER FIT IN EX R.O.	0.28
	16	4'-0"	1'-4"	6'-10 1/2"	F	H.S.	5.30	TEMPERED; TRANSLUCENT; VER FIT IN EX R.O.	0.28
	17	2'-6"	1'-6"	6'-10 1/2"	E	A	3.75	TEMPERED; TRANSLUCENT; VER FIT IN EX R.O.	0.28
	18	2'-6"	1'-6"	6'-10 1/2"	E	A	3.75	VER FIT IN EX R.O.	0.28
	19	1'-5"	5'-5"	6'-10 1/2"	D	C	7.67	VER FIT IN EX R.O.	0.28
	20	5'-5"	5'-5"	6'-10 1/2"	B	P	29.34	VER FIT IN EX R.O.	0.28
	21	1'-5"	5'-5"	6'-10 1/2"	D	C	7.67	VER FIT IN EX R.O.	0.28
UPPER FLOOR									
	22	6'-0"	2'-0"	6'-10 1/2"	E	A	1.00	VERIFY FIT IN EX R.O.	0.28
	23	2'-6"	2'-0"	6'-10 1/2"	F	H.S.	5.00	VERIFY FIT IN EX R.O.	0.28
	24	5'-0"	4'-0"	6'-10 1/2"	F	H.S.	20.00	EGRESS	0.28
	25	5'-0"	4'-0"	6'-10 1/2"	F	H.S.	20.00	EGRESS	0.28
	26	6'-0"	3'-0"	6'-10 1/2"	F	H.S.	18.00	VERIFY FIT IN EX R.O.	0.28
	27	3'-0"	3'-0"	6'-10 1/2"	B	P	9.00	VERIFY FIT IN EX R.O.	0.28
	28	3'-0"	3'-0"	6'-10 1/2"	B	P	9.00	VERIFY FIT IN EX R.O.	0.28
	29	3'-0"	3'-0"	6'-10 1/2"	B	P	9.00	VERIFY FIT IN EX R.O.	0.28
	30	3'-0"	3'-0"	6'-10 1/2"	B	P	9.00	VERIFY FIT IN EX R.O.	0.28
	31	3'-0"	4'-6"	7'-4"	B	P	13.50		0.28
	32	3'-0"	4'-6"	7'-4"	B	P	13.50		0.28
	33	2'-6"	2'-6"	6'-10 1/2"	D	C	6.25		0.28
	34	3'-0"	3'-8"	6'-10 1/2"	D	C	11.00	EGRESS	0.28
	35	3'-0"	3'-8"	6'-10 1/2"	D	C	11.00		0.28
	36	3'-0"	3'-8"	6'-10 1/2"	D	C	11.00	EGRESS	0.28
	37	2'-6"	2'-6"	6'-10 1/2"	D	C	6.25		0.28
ROOF - RIDGE									
	38	1'-10"	4'-0"	---		FIXED	7.33	SKYLIGHT, VELUX OR EQ CURB MTD, FIXED	0.50
	39	1'-10"	4'-0"	---		FIXED	7.33	SKYLIGHT, VELUX OR EQ CURB MTD, FIXED	0.50
	40	1'-10"	4'-0"	---		FIXED	7.33	SKYLIGHT, VELUX OR EQ CURB MTD, FIXED	0.50
	41	1'-10"	4'-0"	---		FIXED	7.33	SKYLIGHT, VELUX OR EQ CURB MTD, FIXED	0.50
	42	1'-10"	4'-0"	---		FIXED	7.33	SKYLIGHT, VELUX OR EQ CURB MTD, FIXED	0.50
TOTAL EXTERIOR WINDOW AREA:							553.03		

NFRC 100 LABELED AND CERTIFIED BY THE MANUFACTURER

MANUFACTURER: MARVIN OR SELECTED
SERIES: ALUMINUM CLAD, T.B.S.

NOTES:
1. ADD 1/2" TO THE BOTTOM OF THE ROUGH OPENING, UNLESS NOTED OTHERWISE FOR INSTALLATION OF BEVEL SILL
1. VERIFY ROUGH OPENING SIZES WITH SELECTED MANUFACTURER REQUIREMENTS
2. SEE ELEVATIONS FOR CONFIGURATION
3. VERIFY ALL SIZES AND ROUGH OPENINGS PRIOR TO CONSTRUCTION
4. VERIFY EXISTING ROUGH OPENINGS WHERE WINDOWS ARE BEING REPLACED IN THE EXISTING OPENINGS PRIOR TO ORDERING THE WINDOWS
5. CONTACT ARCHITECT IMMEDIATELY WITH QUESTIONS
6. TRANSLUCENT GLASS TO BE SATIN ETCH. PROVIDE GLASS SAMPLE TO OWNER/ARCH FOR APPROVAL PRIOR TO ORDERING
7. ALL WINDOWS IN SHOWERS TO BE VINYL, FIBERGLASS OR RATED FOR USE IN WET LOCATION. VERIFY CONFIGURATION OF SHOWER WINDOWS WITH OWNER PRIOR TO ORDERING.
8. "EGRESS" MEANS EMERGENCY ESCAPE AND RESCUE OPENING PER IRC SEC R310.2. WINDOW SHALL HAVE CLEAR OPENING DIMENSIONS OF 5.7 SF, WITH MIN. NET CLEAR HT OF 24" AND NET CLEAR WIDTH OF 20", AND A SILL HT. OF NOT MORE THAN 44" ABOVE FIN. FLR.

KEY
A = AWNING
C = CASEMENT
C/C = FRENCH CASEMENT
H.S. = HORIZONTAL SLIDER
P = PICTURE
S.H. = SINGLE HUNG
H = HOPPER

A | B | C | D | E | F

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

H 2 D
ARCHITECTURE + DESIGN

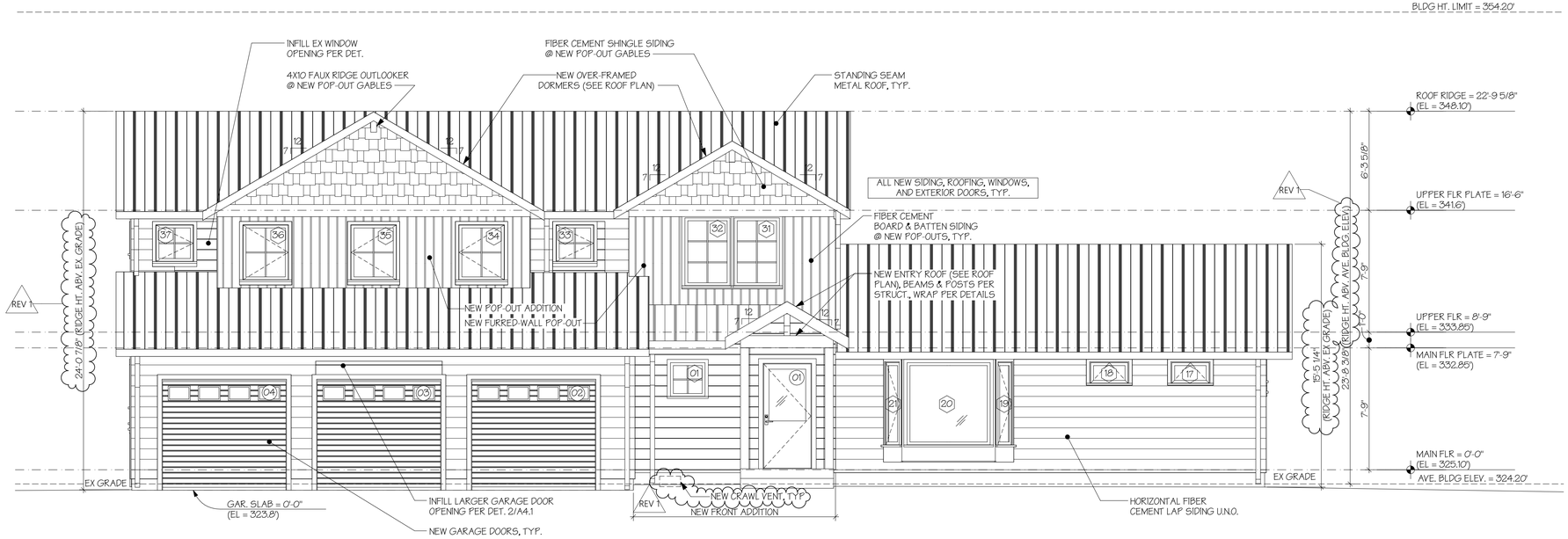
23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206 . 542 . 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

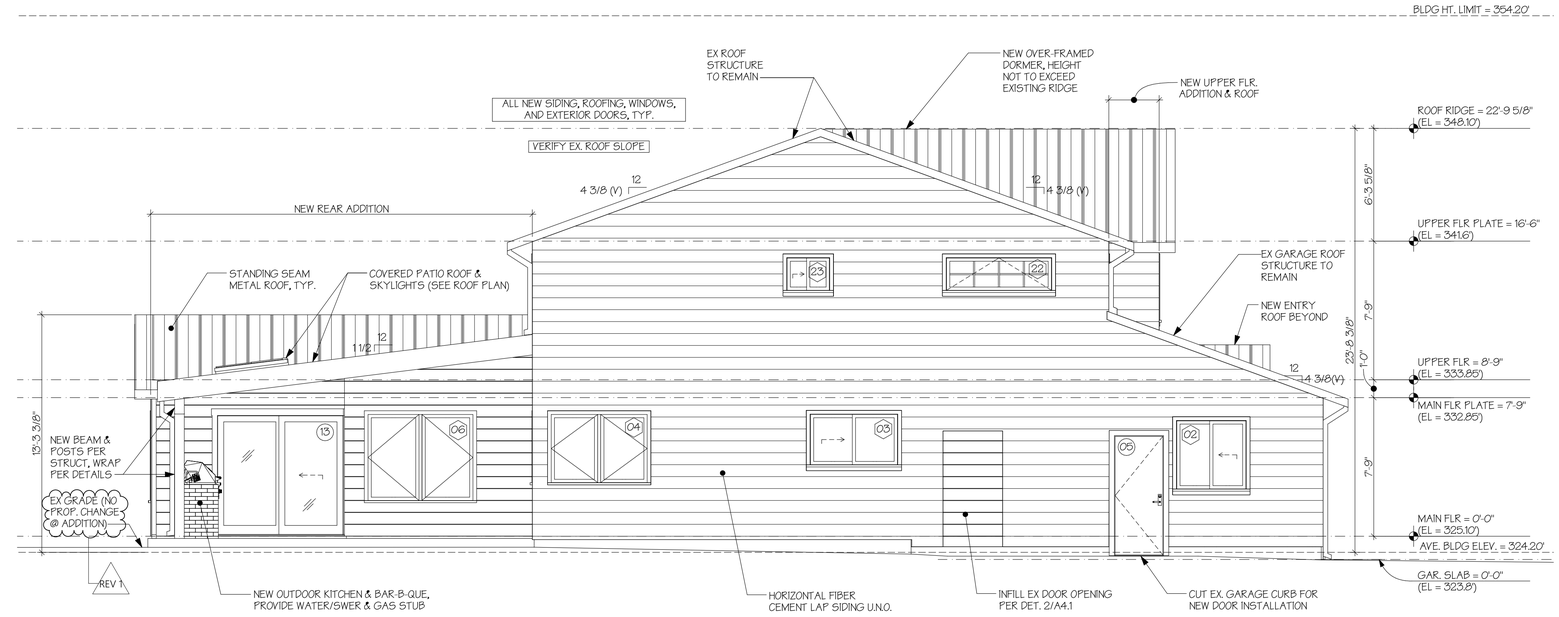
WINDOW AND DOOR SCHEDULES

A1.5



WEST ELEVATION (FRONT)

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



NORTH ELEVATION

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

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

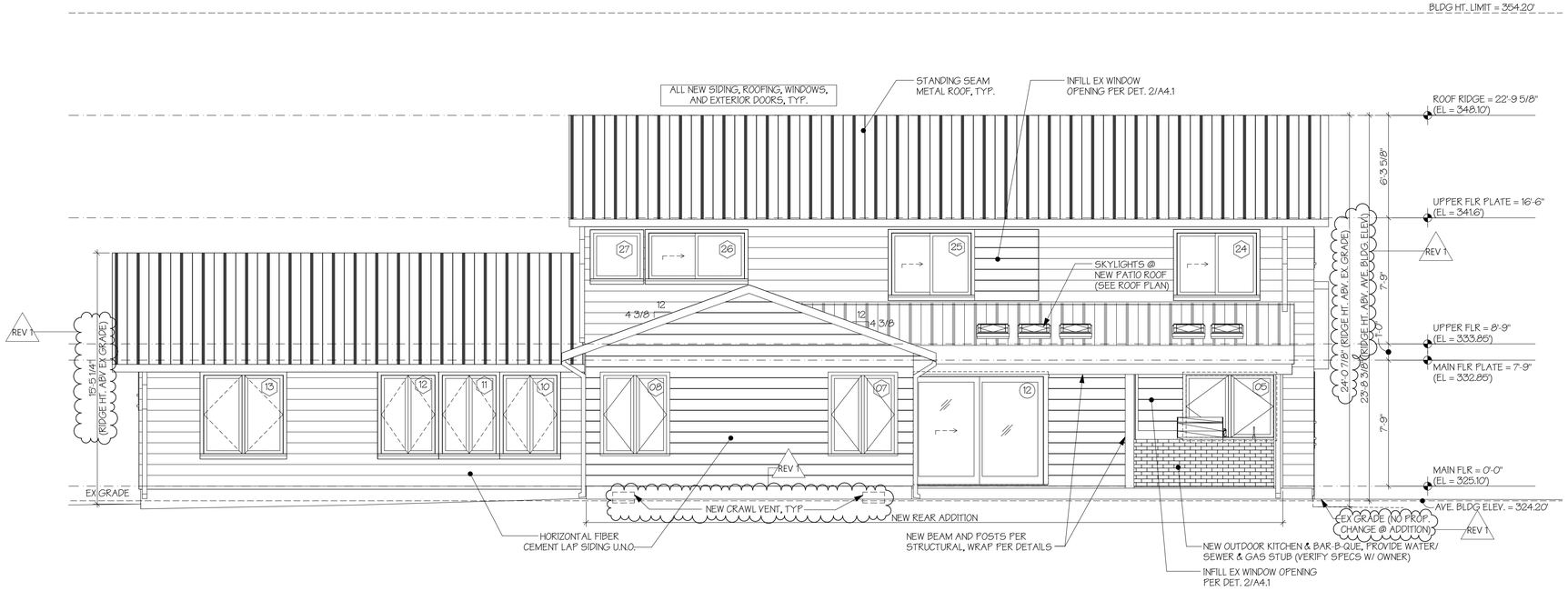
H 2 D
ARCHITECTURE + DESIGN
23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206 . 542 . 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

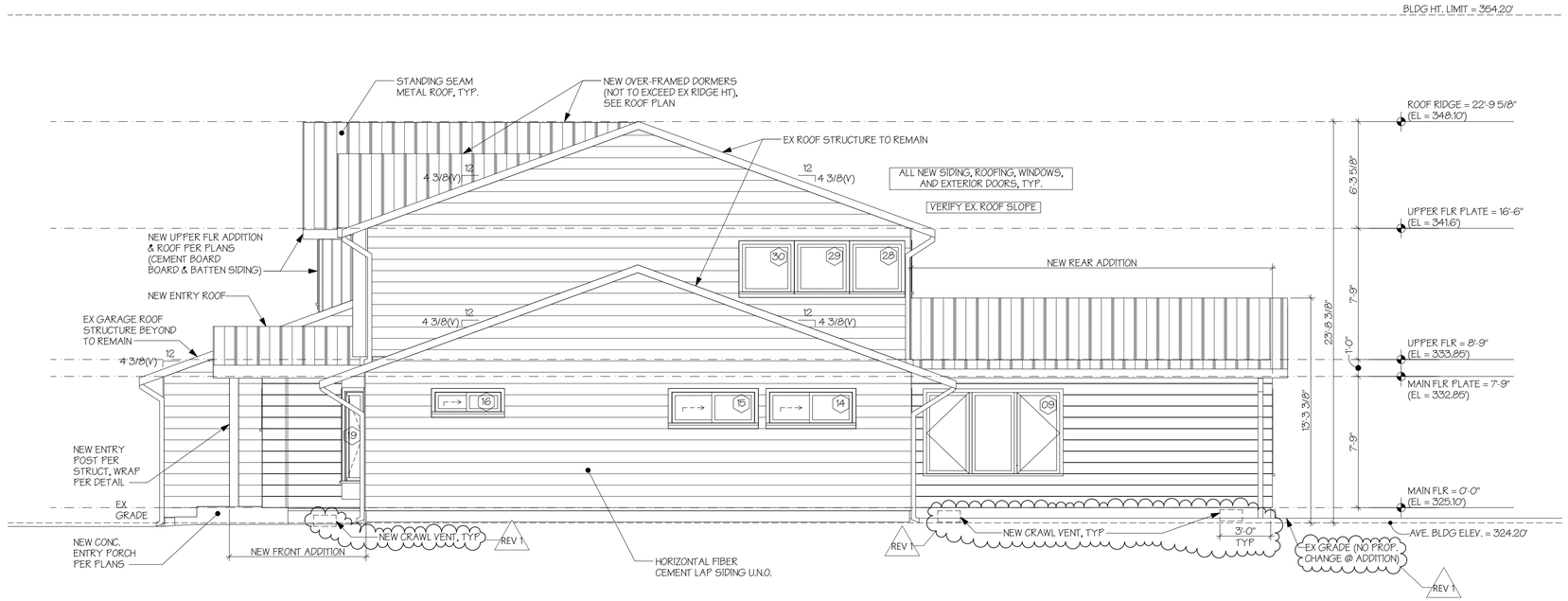
EXTERIOR ELEVATIONS

A2.0



EAST ELEVATION

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



SOUTH ELEVATION

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

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

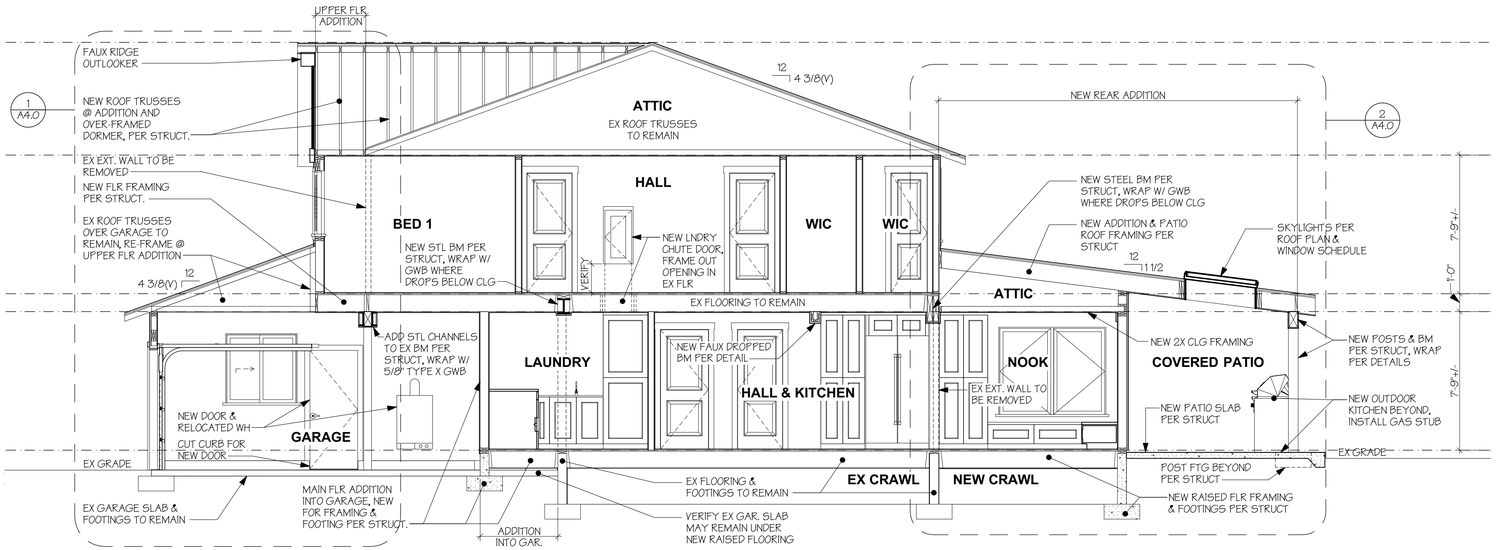
H 2 D
ARCHITECTURE + DESIGN
23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206 . 542 . 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

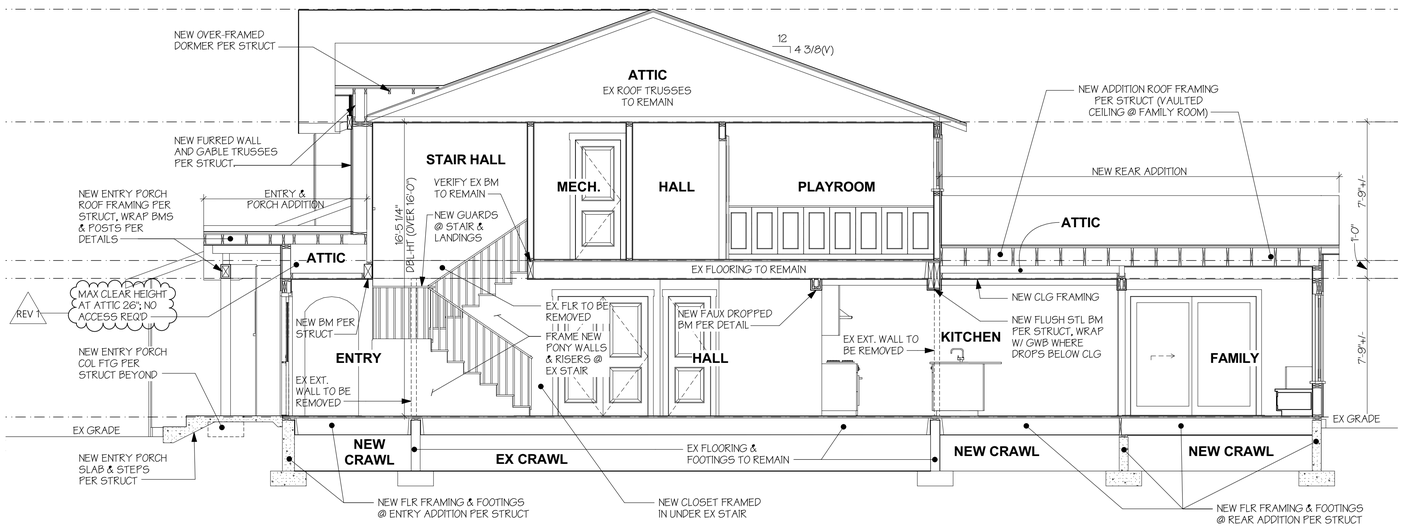
EXTERIOR ELEVATIONS

A2.1



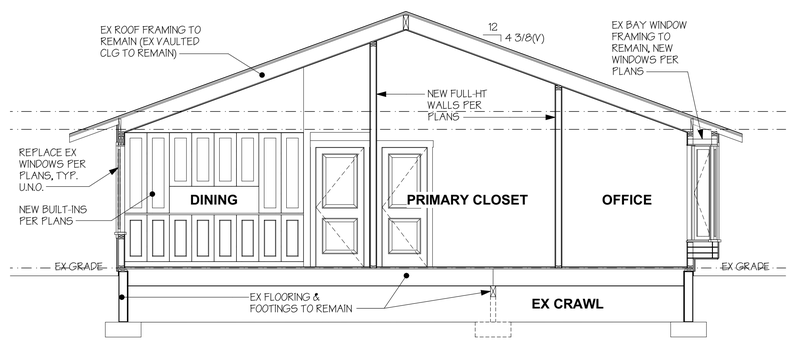
A BUILDING SECTION

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



B BUILDING SECTION

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



C BUILDING SECTION

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

RADER RESIDENCE

7310 86TH AVE SE

MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT

HEIDI MICHELLE HELGESON

STATE OF WASHINGTON

H 2 D
ARCHITECTURE + DESIGN

23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206. 542. 3734
www.h2darchitects.com

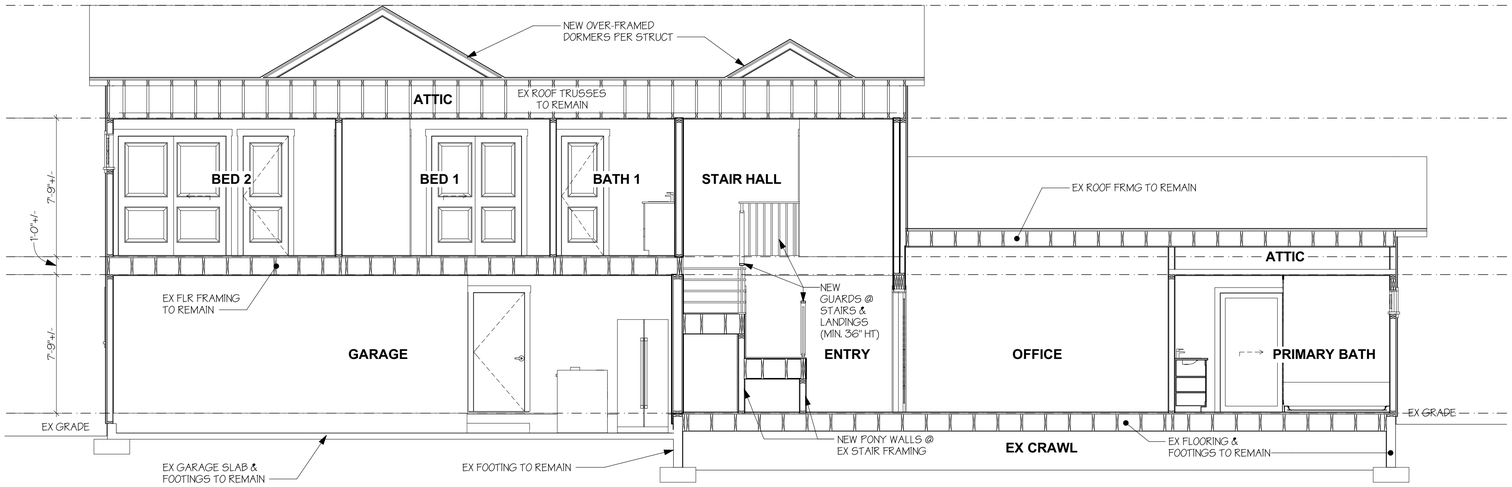
DATE: 12/23/2022

REV 1: 2/13/2023

PERMIT SET

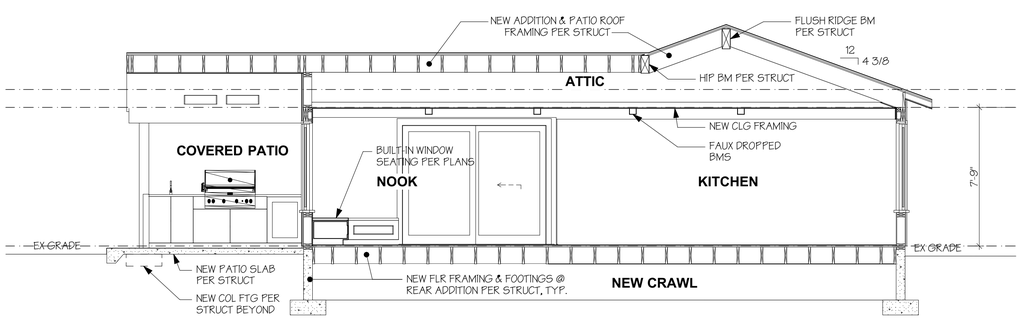
BUILDING SECTIONS

A3.0



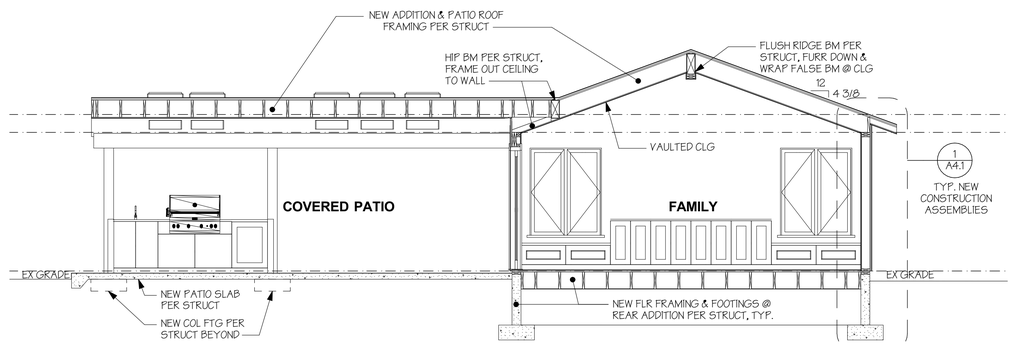
D BUILDING SECTION

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



E BUILDING SECTION

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



F BUILDING SECTION

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

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

H 2 D
ARCHITECTURE + DESIGN

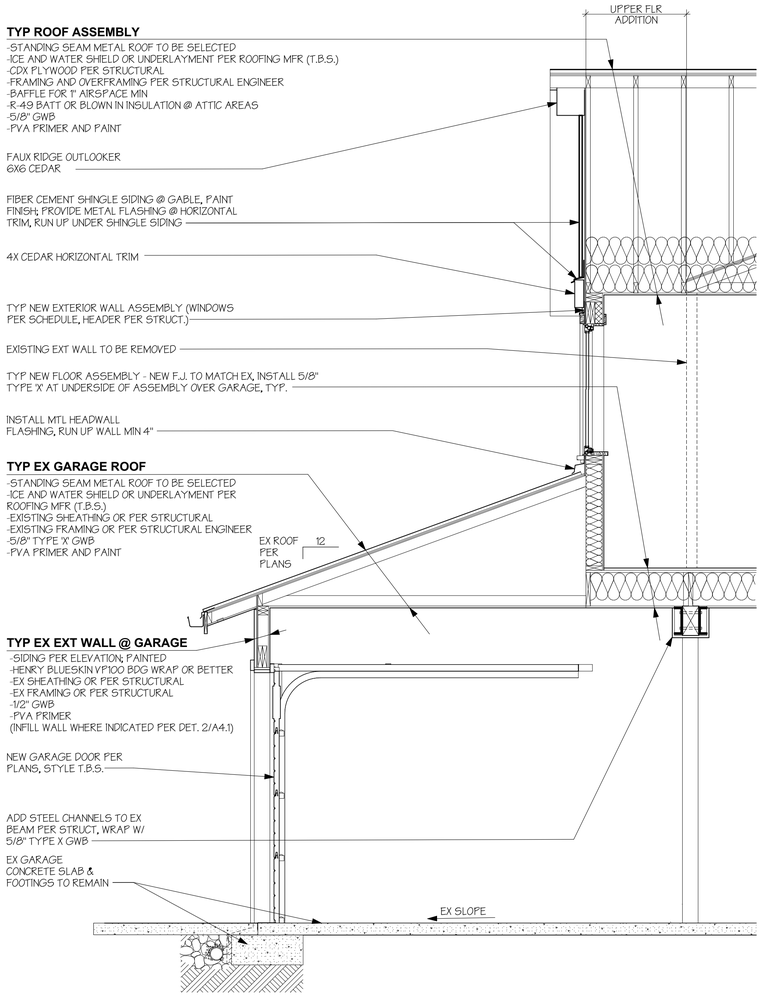
23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206 . 542 . 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

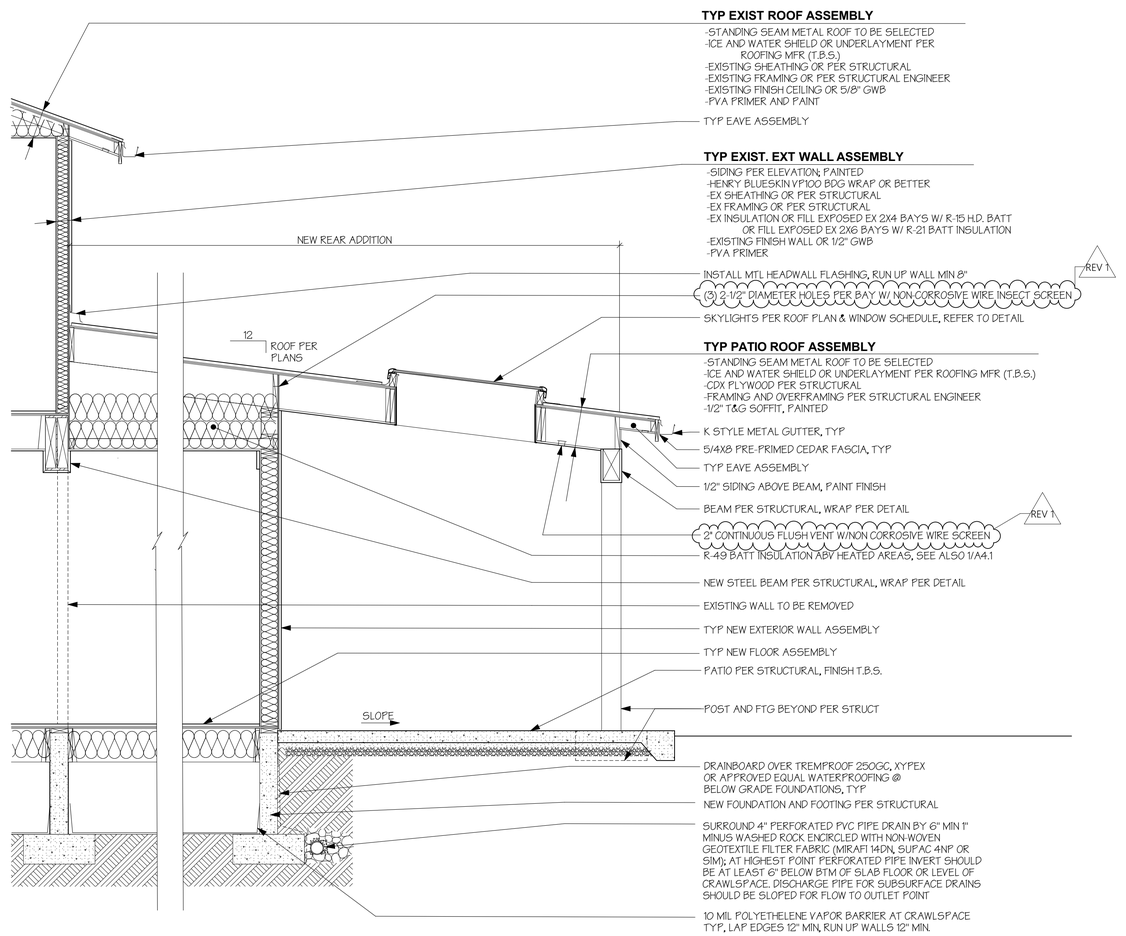
BUILDING SECTIONS

A3.1



1 TYP WALL SECTION

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



2 WALL SECTION

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

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

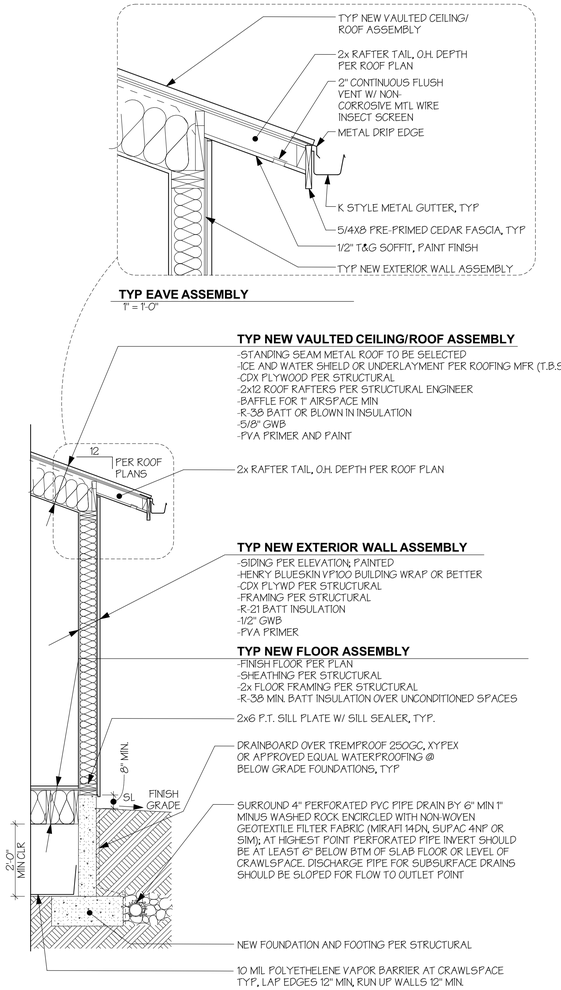
H 2 D
ARCHITECTURE + DESIGN
23020 EDMONDS WAY. #113
EDMONDS, WA 98020
P.206.542.3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

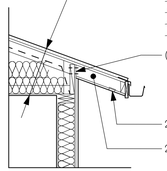
WALL SECTIONS

A4.0



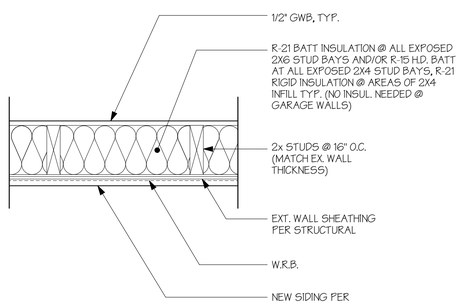
TYP EAVE ASSEMBLY
1" = 1'-0"

TYP NEW ROOF TRUSS ASSEMBLY
-STANDING SEAM METAL ROOF TO BE SELECTED
-ICE AND WATER SHIELD OR UNDERLAYMENT PER ROOFING MFR (T.B.S.)
-CDX PLYWOOD PER STRUCTURAL
-PREMANUFACTURED TRUSSES
-BAFFLE FOR 2" MIN AIR SPACE
-R-49 BATT OR BLOWN-IN INSULATION (RIGID INSUL. AT PERIMETER AS REQ'D)
-5/8" GWB
-PVA PRIMER & PAINT



1 TYP WALL SECTION

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



2 TYP. EXISTING WALL INFILL

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

RADER RESIDENCE
7310 86TH AVE SE
MERCER ISLAND WA 98040

9716 REGISTERED ARCHITECT
HEIDI MICHELLE HELGESON
STATE OF WASHINGTON

H 2 D
ARCHITECTURE + DESIGN

23020 EDMONDS WAY, #113
EDMONDS, WA 98020
P. 206 . 542 . 3734
www.h2darchitects.com

DATE: 12/23/2022
REV 1: 2/13/2023

PERMIT SET

WALL SECTIONS

A4.1

General Structural Notes

The Following Apply Unless Noted Otherwise on the Drawings

Criteria

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE 2018 INTERNATIONAL BUILDING CODE.
2. DESIGN LOAD CRITERIA

FLOOR LIVE LOAD (RESIDENTIAL)	40 PSF
SNOW	Pf=25 PSF
WIND	Iw=1.0, GCpi=0.18, 97 MPH (ULTIMATE), EXPOSURE "B", KZT=1.00
EARTHQUAKE	
ANALYSIS PROCEDURE:	EQUIVALENT LATERAL FORCE PROCEDURE
LATERAL SYSTEM:	LIGHT FRAMED SHEAR WALLS
BASE SHEAR (ULTIMATE)	V=23.91 KIPS
SITE CRITERIA	SITE CLASS=D, Ss=1.461, Sds=1.169, S1=0.505, SD1=0.606, Cs=0.180 SDC D, Ie=1.0, R=6.5

SEE PLANS FOR ADDITIONAL LOADING CRITERIA

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES, AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED.
5. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, REQUIRED TO PERFORM THE CONTRACTORS WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES TO THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.
7. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.
8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.
9. SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

   STRUCTURAL STEEL

   CONTRACTOR SHALL SUBMIT WALL ELEVATION DRAWINGS OF AT LEAST 1/8"=1'-0" SCALE INDICATING LOCATIONS OF CONNECTION EMBEDMENTS AND WALL OPENINGS FOR REVIEW PRIOR TO CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH REINFORCEMENT SHOP DRAWINGS.

   APPROVED SETS OF ALL SHOP DRAWINGS SHALL ALSO BE SUBMITTED TO THE BUILDING DEPARTMENT.
10. SHOP DRAWING REVIEW: DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY ENGINEER OF RECORD. CONTRACTOR SHALL REVIEW DRAWINGS FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATIONS OF CONSTRUCTION, AND ALL SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO. SUBMITTALS SHALL INCLUDE A REPRODUCIBLE AND ONE COPY; REPRODUCIBLE WILL BE MARKED AND RETURNED WITHIN TWO WEEKS OF RECEIPT WITH A NOTATION INDICATING THAT THE SUBMITTAL HAS BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE SUBMITTED ITEMS SHALL NOT BE INSTALLED UNTIL THEY HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

    SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT, BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

Quality Assurance

1. SPECIAL INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SECTIONS 110 AND 1704 OF THE INTERNATIONAL BUILDING CODE BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE ARCHITECT, AND RETAINED BY THE BUILDING OWNER. THE ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING DEPARTMENT SHALL BE FURNISHED WITH COPIES OF ALL INSPECTION AND TEST RESULTS. SPECIAL INSPECTION IS REQUIRED OF THE FOLLOWING TYPES OF CONSTRUCTION:

EXPANSION BOLTS AND THREADED EXPANSION INSERTS	PER MANUFACTURER
EPOXY GROUTED INSTALLATIONS	PER MANUFACTURER

Geotechnical

1. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH RECOMMENDATIONS GIVEN IN THE SOILS REPORT OR AS DIRECTED BY THE SOILS ENGINEER. FOOTINGS SHALL BEAR ON SOLID UNDISTURBED EARTH AT LEAST 18" BELOW LOWEST ADJACENT FINISHED GRADE. FOOTING DEPTHS/ELEVATIONS SHOWN ONPLANS (OR IN DETAILS) ARE MINIMUM AND FOR GUIDANCE ONLY; THE ACTUAL ELEVATIONS OF FOOTINGS MUST BE ESTABLISHED BY THE CONTRACTOR IN THE FIELD WORKING WITH THE TESTING LAB AND SOILS ENGINEER. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE SOILS REPORT.

ALLOWABLE SOIL PRESSURE	1500 PSF
LATERAL EARTH PRESSURE (RESTRAINED/UNRESTRAINED)	55 PCF/35 PCF
COEFICIENT OF FRICTION (FACTOR OF SAFETY OF 1.5 INCLUDED)	0.3
PILE CAPACITY (COMPRESSION/TENSION/LATERAL)	

SOILS REPORT REFERENCE: Geotechnical Evaluation, Cobalt Geosciences, 2-13-2023

1

Renovation

1. DEMOLITION: CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS BEFORE COMMENCING ANY DEMOLITION. SHORING SHALL BE INSTALLED TO SUPPORT EXISTING CONSTRUCTION AS REQUIRED AND IN A MANNER SUITABLE TO THE WORK SEQUENCES. DEMOLITION DEBRIS SHALL NOT BE ALLOWED TO DAMAGE OR OVERLOAD THE EXISTING STRUCTURE. LIMIT CONSTRUCTION LOADING (INCLUDING DEMOLITION DEBRIS) ON EXISTING FLOOR SYSTEMS TO 40 PSF.
2. EXISTING REINFORCING SHALL BE SAVED WHERE AND AS NOTED ON THE PLANS. SAW CUTTING, IF AND WHERE USED, SHALL NOT CUT EXISTING REINFORCING THAT IS TO BE SAVED.
   A. ALL NEW OPENINGS THROUGH EXISTING WALLS, SLABS AND BEAMS SHALL BE ACCOMPLISHED BY SAW CUTTING WHEREVER POSSIBLE.
   B. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND LOCATION OF MEMBERS PRIOR TO CUTTING ANY OPENINGS.
   C. SMALL ROUND OPENINGS SHALL BE ACCOMPLISHED BY CORE DRILLING, IF POSSIBLE.
   D. WHERE NEW REINFORCING TERMINATES AT EXISTING CONCRETE, DOWELS EPOXY GROUTED INTO EXISTING CONCRETE SHALL BE PROVIDED TO MATCH HORIZONTAL REINFORCING, UNLESS OTHERWISE NOTED ON PLANS.
3. CONTRACTOR SHALL CHECK FOR DRYROT AT ALL AREAS OF NEW WORK. ALL ROT SHALL BE REMOVED AND DAMAGED MEMBERS SHALL BE REPLACED OR REPAIRED AS DIRECTED BY THE STRUCTURAL ENGINEER OR ARCHITECT.

Concrete

1. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH IBC SECTION 1905, 1906 AND ACI 301, INCLUDING TESTING PROCEDURES. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF f'c=3,000 PSI AND MIX SHALL CONTAIN NOT LESS THAN 5-1/2 SACKS OF CEMENT PER CUBIC YARD AND SHALL BE PROPORTIONED TO PRODUCE A SLUMP OF 5" OR LESS. (STRUCTURAL DESIGN OF FOUNDATION IS BASED ON A f'c=2,500 PSI, PER IBC 1705.3.2.3, SPECIAL INSPECTION IS NOT REQUIRED.)
2. THE MINIMUM AMOUNTS OF CEMENT MAY BE CHANGED IF A CONCRETE PERFORMANCE MIX IS SUBMITTED TO THE STRUCTURAL ENGINEER AND THE BUILDING DEPARTMENT FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE. THE PERFORMANCE MIX SHALL INCLUDE THE AMOUNTS OF CEMENT, FINE AND COARSE AGGREGATE, WATER AND ADMIXTURES AS WELL AS THE WATER CEMENT RATIO, SLUMP, CONCRETE YIELD AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH IBC 1905.6. THE USE OF A PERFORMANCE MIX REQUIRES BATCH PLANT INSPECTION, THE COST OF WHICH SHALL BE PAID BY THE GENERAL CONTRACTOR. REVIEW OF MIX SUBMITTALS BY THE ENGINEER OF RECORD INDICATES ONLY THAT INFORMATION PRESENTED CONFORMS GENERALLY TO THE CONTRACT DOCUMENTS. CONTRACTOR OR SUPPLIER MAINTAINS FULL RESPONSIBILITY FOR SPECIFIED PERFORMANCE.
3. ALL CONCRETE WITH SURFACES EXPOSED TO WEATHER OR STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260, C494, AND C618. TOTAL AIR CONTENT FOR FROST-RESISTANT CONCRETE SHALL BE IN ACCORDANCE WITH TABLE ACI 318 TABLE 4.2.1 MODERATE EXPOSURE.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENT S1), GRADE 60, fy=60,000 PSI. EXCEPTIONS: ANY BARS SPECIFICALLY SO NOTED ON THE DRAWINGS SHALL BE GRADE 40, fy=40,000 PSI. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185. SPIRAL REINFORCEMENT SHALL BE PLAIN WIRE CONFORMING TO ASTM A615, GRADE 60, fy=60,000 PSI.
5. DETAILING OF REINFORCING STEEL (INCLUDING HOOKS AND BENDS) SHALL BE IN ACCORDANCE WITH ACI 315-99 AND 318-14. LAP ALL REINFORCEMENTS IN ACCORDANCE WITH "THE REINFORCING SPLICE AND DEVELOPMENT LENGTH SCHEDULE." PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.

   NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.
6. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSEDTO EARTH	3"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#5 BARS OR SMALLER)	1-1/2"
SLABS AND WALLS (INT. FACE)	GREATER OF BAR DIAMETER PLUS 1/8" OR 3/4"

7. CONCRETE WALL REINFORCING - PROVIDE THE FOLLOWING UNLESS DETAILED OTHERWISE:

6" WALLS	#4 @ 16 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN
8" WALLS	#4 @ 12 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN

8. CAST-IN-PLACE CONCRETE: SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF DOOR AND WINDOW OPENINGS IN ALL CONCRETE WALLS. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF MISCELLANEOUS MECHANICAL OPENINGS THROUGH CONCRETE WALLS. SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES, BOTH CAST-IN-PLACE AND PRECAST.
9. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (3000 PSI MINIMUM).

Anchorage

1. EXPANSION BOLTS INTO CONCRETE AND CONCRETE MASONRY UNITS SHALL BE “KWIK BOLT TZ” AS MANUFACTURED BY THE HILTI CORP., INSTALLED IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. ESR-1917, INCLUDING MINIMUM EMBEDMENT REQUIREMENTS. BOLTS INTO CONCRETE MASONRY OR BRICK MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ICC REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. SPECIAL INSPECTION IS REQUIRED FOR ALL EXPANSION BOLT INSTALLATION.
2. EPOXY-GROUTED ITEMS (THREADED RODS OR REINFORCING BAR) SPECIFIED ON THE DRAWINGS SHALL BE INSTALLED USING “HIT RE 500-V3” AS MANUFACTURED BY HILTI CORP. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. ESR-2322. SPECIAL INSPECTION OF INSTALLATION IS REQUIRED. RODS SHALL BE ASTM A-36 UNLESS OTHERWISE NOTED.

Steel

1. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON:
   A. EITHER AISC 360 AND SECTION 2205.2 OF THE INTERNATIONAL BUILDING CODE.
   B. MARCH 18, 2005 AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, AMENDED AS FOLLOWS.
      i) AS NOTED IN THE CONTRACT DOCUMENTS.
      ii) BY THE DELETION OF PARAGRAPH 4.4.1.
      iii) REVISE REFERENCE FROM “STRUCTURAL DESIGN DRAWINGS” TO “CONTRACT DOCUMENTS” IN PARAGRAPH 3.1.
2. WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992, Fy=50 KSI. OTHER ROLLED SHAPES INCLUDING PLATES, SHALL CONFORM TO ASTM A36, Fy=36 KSI. STEEL PIPE SHALL CONFORM TO ASTM A-53, TYPE E OR S, GRADE B, Fy=35 KSI. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B, Fy=42 KSI (ROUND), Fy=46 KSI (SQUARE AND RECTANGULAR). CONNECTION BOLTS SHALL CONFORM TO ASTM A307.
3. ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SHALL CONFORM TO SECTION 10 OF THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
4. ALL A-325N CONNECTION BOLTS NEED ONLY BE TIGHTENED TO A SNUG TIGHT CONDITION, DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. THIS MAY BE ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH.
5. ALL ANCHORS EMBEDDED IN MASONRY OR CONCRETE SHALL BE A307 HEADED BOLTS OR A36 THREADED ROD WITH AN ASTM 563 HEAVY HEX NUT TACK WELDED ON THE EMBEDDED END.
6. ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.C. AND A.W.S. STANDARDS AND SHALL BE PERFORMED BY W.A.B.O. CERTIFIED WELDERS USING E70 XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY A.W.S.) SHALL BE USED. ALL COMPLETE JOINT PENETRATION GROOVE WELDS SHALL BE MADE WITH A FILLER MATERIAL THAT HAS A MINIMUM CVN TOUGHNESS OF 20 FT-LBS AT -20 DEGREES F AND 40 FT-LBS AT 70 DEGREES F, AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION.

Wood

1. FRAMING LUMBER SHALL BE KILN DRIED OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH W.C.L.B. STANDARD GRADING RULES FOR WEST COAST LUMBER NO.17. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

JOISTS AND BEAMS:	(2X & 3X MEMBERS)	HEM-FIR NO. 2 MINIMUM BASE VALUE, Fb=850 PSI
	(4X MEMBERS)	DOUGLAS FIR-LARCH NO. 2 MINIMUM BASE VALUE, Fb=900 PSI
BEAMS:	(INCL. 6X AND LARGER)	DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fb=1350 PSI
POSTS:	(4X MEMBERS)	DOUGLAS FIR-LARCH NO. 2 MINIMUM BASE VALUE, Fc=1350 PSI
	(6X AND LARGER)	DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fc=1000 PSI
STUDS, PLATES & MISC. FRAMING:		DOUGLAS-FIR-LARCH OR HEM-FIR NO. 2

2. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND AITC STANDARDS. EACH MEMBER SHALL BEAR AN A.I.T.C. IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN A.I.T.C. CERTIFICATE OF CONFORMANCE. ALL SIMPLE SPAN BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V4, Fb=2,400 PSI, Fv=265 PSI. ALL CANTILEVERED BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8, Fb=2400 PSI, Fv=265 PSI. CAMBER ALL SIMPLE SPAN GLULAM BEAMS TO 3,000' RADIUS, UNLESS SHOWN OTHERWISE ON THE PLANS.
3. MANUFACTURED LUMBER, PSL, LVL, AND LSL, SHALL BE MANUFACTURED UNDER A PROCESS APPROVED BY THE NATIONAL RESEARCH BOARD. EACH PIECE SHALL BEAR A STAMP OR STAMPS NOTING THE NAME AND PLANT NUMBER OF THE MANUFACTURER, THE GRADE, THE NATIONAL RESEARCH BOARD NUMBER, AND THE QUALITY CONTROL AGENCY. ALL PSL, LVL, AND LSL LUMBER SHALL BE MANUFACTURED IN ACCORDANCE WITH ICC-ES REPORT ESR-1387 USING DOUGLAS FIR VENEER GLUED WITH A WATERPROOF ADHESIVE MEETING THE REQUIREMENTS OF ASTM D2559 WITH ALL GRAIN PARALLEL WITH THE LENGTH OF THE MEMBER. THE MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PSL (2.0E)	Fb=2900 PSI, E=2000 KSI, Fv=290 PSI
LVL (1.9E)	Fb=2600 PSI ,E=1900 KSI, Fv=285 PSI
LSL (1.55E)	Fb=2325 PSI ,E=1550 KSI, Fv=310 PSI

   DESIGN SHOWN ON PLANS IS BASED ON LUMBER MANUFACTURED BY THE WEYERHAEUSER CORPORATION. ALTERNATE MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER, ALTERNATE JOIST HANGERS AND OTHER HARDWARE MAY BE SUBSTITUTED FOR ITEMS SHOWN PROVIDED THEY HAVE ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. ALL JOIST HANGERS AND OTHER HARDWARE SHALL BE COMPATIBLE IN SIZE WITH MEMBERS PROVIDED.

   MANUFACTURED LUMBER PRODUCTS SHALL BE INSTALLED WITH A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCTION TO PREVENT THE MOISTURE CONTENT OF INSTALLED BEAMS FROM EXCEEDING 12%. EXCESSIVE DEFLECTIONS MAY OCCUR IF MOISTURE CONTENT EXCEEDS THIS VALUE.
4. PREFABRICATED CONNECTOR PLATE WOOD ROOF TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE "NATIONAL DESIGN STANDARD FOR METAL PLATE-CONNECTED WOOD TRUSS CONSTRUCTION, ANSI/TPI 1" BY THE TRUSS PLATE INSTITUTE FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. LOADING SHALL BE AS FOLLOWS:

TOP CHORD LIVE LOAD	25 PSF
TOP CHORD DEAD LOAD	10 PSF
BOTTOM CHORD DEAD LOAD	5 PSF
TOTAL LOAD	40 PSF
WIND UPLIFT (TOP CHORD)	5 PSF
BOTTOM CHORD LIVE LOAD	10 PSF

   (BOTTOM CHORD LIVE LOAD DOES NOT ACT CONCURENTLY WITH THE ROOF LIVE LOAD)

   WOOD TRUSSES SHALL UTILIZE APPROVED CONNECTOR PLATES (GANGNAIL OR EQUAL). SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. SUBMITTED DOCUMENTS SHALL BE SIGNED AND STAMPED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON. PROVIDE FOR SHAPES, BEARING POINTS, INTERSECTIONS, HIPS, VALLEYS, ETC., SHOWN ON THE DRAWINGS. THE EXACT COMPOSITION OF SPECIAL HIP, VALLEY, AND INTERSECTION AREAS (USE OF GIRDER TRUSSES, JACK TRUSSES, STEP-DOWN TRUSSES, ETC.) SHALL BE DETERMINED BY THE MANUFACTURER UNLESS SPECIFICALLY INDICATED ON THE PLANS. PROVIDE ALL TRUSS TO TRUSS AND TRUSS TO GIRDER TRUSS CONNECTION DETAILS AND REQUIRED CONNECTION MATERIALS. PROVIDE FOR ALL TEMPORARY AND PERMANENT TRUSS BRACING AND BRIDGING.
5. PLYWOOD SHEATHING SHALL BE GRADE C-D, EXTERIOR GLUE OR STRUCTURAL II, EXTERIOR GLUE IN CONFORMANCE WITH DOC PS 1. ORIENTED STRAND BOARD OF EQUIVALENT THICKNESS, EXPOSURE RATING AND PANEL INDEX MAY BE USED IN LIEU OF PLYWOOD.
   A. ROOF SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 32/16.
   B. FLOOR SHEATHING SHALL BE 3/4" (NOMINAL) WITH SPAN RATING 48/24.
   C. WALL SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 24/0.
   D. REFER TO WOOD FRAMING NOTES BELOW FOR TYPICAL NAILING REQUIREMENTS.

Wood (Con't)

6. ALL WOOD IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED WITH AN APPROVED PRESERVATIVE OR (2) LAYERS OF ASPHALT IMPREGNATED BUILDING PAPER SHALL BE PROVIDED BETWEEN UNTREATED WOOD AND CONCRETE OR MASONRY.
7. PRESSURE TREATED WOOD SHALL BE TREATED PER AWPA STANDARD. PRESSURE TREATED WOOD FOR ABOVE GROUND USE SHALL BE TREATED TO A RETENTION OF 0.25 PCF. WOOD IN CONTINUOUS CONTACT WITH FRESH WATER OR SOIL SHALL BE TREATED TO A RETENTION OF 0.40 PCF. WOOD FOR USE IN PERMANENT FOUNDATIONS SHALL BE TREATED TO A RETENTION OF 0.60 PCF. SODIUM BORATE (SBX) TREATED WOOD SHALL NOT BE USED WHERE EXPOSED TO WEATHER. FASTENERS AND TIMBER CONNECTORS IN DIRECT CONTACT WITH ACQ-A, CBA-A, CA-B, OR SBX TREATED WOOD SHALL BE G185 OR A185 HOT DIPPED OR CONTINUOUS HOT-GALVANIZED PER ASTM A653. FASTENERS AND TIMBER CONNECTORS IN DIRECT CONTACT WITH ACZA TREATED WOOD SHALL BE TYPE 304 OR 316 STAINLESS STEEL.
8. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NUMBER C-C-2015. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE ICC-ES APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

   ALL 2X JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "LUS" SERIES JOIST HANGERS. ALL TJI JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "ITT" SERIES JOIST HANGERS. ALL DOUBLE-JOIST BEAMS SHALL BE CONNECTED TO FLUSH BEAMS WITH "MIT" SERIES JOIST HANGERS.

   WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE ONE-HALF OF THE NAILS OR BOLTS IN EACH MEMBER.

   ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED.
9. WOOD FASTENERS
   A. NAIL SIZES SPECIFIED ON DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
8d	2-1/2"	0.131"
10d	3"	0.148"
12d	3-1/4"	0.148"

   IF CONTRACTOR PROPOSES THE USE OF ALTERNATE NAILS, THEY SHALL SUBMIT NAIL SPECIFICATIONS TO THE STRUCTURAL ENGINEER (PRIOR TO CONSTRUCTION) FOR REVIEW AND APPROVAL.

   NAILS - PLYWOOD (APA RATED SHEATHING) FASTENERS TO FRAMING SHALL BE DRIVEN FLUSH TO FACE OF SHEATHING WITH NO COUNTERSINKING PERMITTED.

   B. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG BOLTS BEARING ON WOOD. INSTALLATION OF LAG BOLTS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (2005 EDITION) WITH A LEAD BORE HOLE OF 60 TO 70 PERCENT OF THE SHANK DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8” AND SMALLER LAG SCREWS.
10. WOOD FRAMING NOTES--THE FOLLOWING APPLY UNLESS OTHERWISE SHOWN ON THE PLANS:
    A. ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE INTERNATIONAL BUILDING CODE. MINIMUM NAILING, UNLESS OTHERWISE NOTED, SHALL CONFORM TO TABLE 2304.10.1. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.
    B. WALL FRAMING: REFER ARCHITECTURAL DRAWINGS FOR THE SIZE OF ALL WALLS. ALL STUDS SHALL BE SPACED AT 16" O.C. UNO. TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS, AND AT BEAM OR HEADER BEARING LOCATIONS. TWO 2x8 HEADERS SHALL BE PROVIDED OVER ALL OPENINGS NOT OTHERWISE NOTED. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW. PROVIDE CONTINUOUS SOLID BLOCKING AT MID-HEIGHT OF ALL STUD WALLS OVER 10'-0" IN HEIGHT.

       ALL WALLS SHALL HAVE A SINGLE BOTTOM PLATE AND A DOUBLE TOP PLATE. END NAIL TOP PLATE TO EACH STUD WITH TWO 16d NAILS, AND TOENAIL OR END NAIL EACH STUD TO BOTTOM PLATE WITH TWO 16d NAILS. FACE NAIL DOUBLE TOP PLATE WITH 16d @ 12" O.C. AND LAP MINIMUM 4'-0" AT JOINTS AND PROVIDE EIGHT 16d NAILS @ 4" O.C. EACH SIDE JOINT.

       ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH TWO ROWS OF 16d NAILS @ 12" ON-CENTER, OR ATTACHED TO CONCRETE BELOW WITH 5/8" DIAMETER ANCHOR BOLTS @ 4'-0" ON-CENTER EMBEDDED 7" MINIMUM, UNLESS INDICATED OTHERWISE. INDIVIDUAL MEMBERS OF BUILT-UP POSTS SHALL BE NAILED TO EACH OTHER WITH TWO ROWS OF 16d @12" ON-CENTER. UNLESS OTHERWISE NOTED, GYPSUM WALLBOARD SHALL BE FASTENED TO THE INTERIOR SURFACE OF ALL STUDS AND PLATES WITH NO. 6 X 1-1/4" TYPE S OR W SCREWS @ 8" ON-CENTER. UNLESS INDICATED OTHERWISE, 1/2" (NOMINAL) APA RATED SHEATHING (SPAN RATING 24/0) SHALL BE NAILED TO ALL EXTERIOR SURFACES WITH 8d NAILS @ 6" ON-CENTER AT PANEL EDGES AND TOP AND BOTTOM PLATES (BLOCK UN-SUPPORTED EDGES) AND TO ALL INTERMEDIATE STUDS AND BLOCKING WITH 8d NAILS @ 12" ON-CENTER ALLOW 1/8" SPACING AT ALL PANEL EDGES AND PANEL ENDS.
    C. FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS UNLESS OTHERWISE NOTED. PROVIDE SOLID BLOCKING AT ALL BEARING POINTS. TOENAIL JOISTS TO SUPPORTS WITH TWO 16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI-JOIST BEAMS TOGETHER WITH TWO ROWS 16d @ 12" ON-CENTER.

       UNLESS OTHERWISE NOTED ON THE PLANS, PLYWOOD ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS AND NAILED AT 6" ON-CENTER WITH 8d NAILS TO FRAMED PANEL EDGES, STRUTS AND OVER STUD WALLS AS SHOWN ON PLANS AND @ 12" ON-CENTER TO INTERMEDIATE SUPPORTS. PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED T&G JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 16d @ 12" ON-CENTER UNLESS OTHERWISE NOTED.

buker ENGINEERING LLC

4303 Stone Way N
Seattle, WA 98103
206.258.6333

DANIEL R. BUKER
STATE OF WASHINGTON
44090
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Rader Residence

7310 86th Ave SE
Mercer Island, WA, 98040

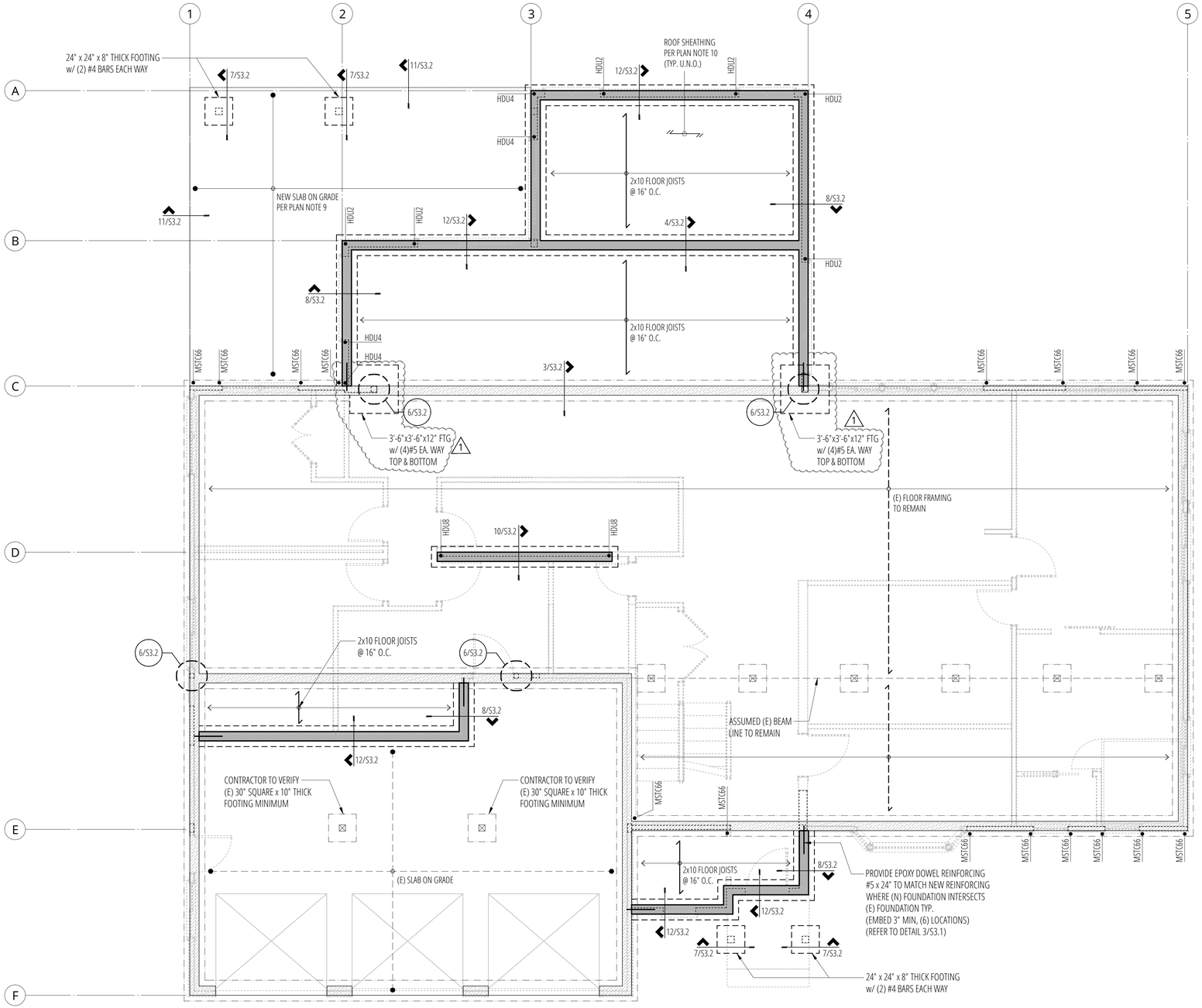
No.	Date	Issue
	12/23/22	Permit
1	02/13/23	Changes Per Client

Sheet Contents

General Structural Notes

Sheet No.

S1.1



Foundation Plan

SCALE: ¼"=1'-0"

PLAN NOTES

1. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS (S1.1).
2. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS UNLESS SPECIFICALLY NOTED ON STRUCTURAL PLANS.
3. ALL FOOTINGS SHALL BEAR ON FIRM, NATIVE SOIL.
4. PROVIDE DRAINAGE BEHIND ALL FOUNDATION WALLS.
5. REINFORCE FOOTING AND WALL CORNERS AND INTERSECTIONS PER 11/S3.1.
6. "HDUx" REFERS TO HOLDOWNS PER 9/S3.1.
   "MSTC" REFERS TO HOLDOWNS PER 5/S3.1.
7. REFER 4/S3.1 WHERE PIPES PENETRATE FOUNDATION.
8. CONTRACTOR TO VERIFY TOP OF FOOTING ELEVATION w/ ARCHITECTURAL PLANS.
9. 4" CONCRETE SLAB ON GRADE REINFORCED WITH #3 @ 12" OC EACH WAY, CENTERED IN SLAB. PROVIDE A BASE OF 4" COMPACTED, CLEAN ¾" MINUS GRAVEL COVERED WITH 6 MIL. VAPOR BARRIER. PROVIDE JOINTS PER 7/S3.1.
10. FLOOR SHEATHING SHALL BE ½" T&G PLYWOOD SHEATHING WITH 48/24 SPAN RATING. NAIL FRAMED PANEL EDGES w/ 8d COMMON (0.131" DIA. x 2½") @ 6" O.C., FIELD @ 12" O.C. (REFER TO 9/S4.1)
11. CRAWLSPACE VENTILATION SHALL BE PROVIDED PER ARCH.

LEGEND

- (N) CONCRETE WALL ABOVE THIS LEVEL
- (E) CONCRETE WALL ABOVE THIS LEVEL
- (N) CONCRETE FOOTING
- (E) CONCRETE FOOTING
- STRUCTURAL WOOD WALL or POST ABOVE THIS LEVEL
- (E) SPAN DIRECTION
- SPAN DIRECTION
- EXTENT OF SPAN
- (E) JOIST OR BEAM
- HD HOLDOWN

buker ENGINEERING LLC
4303 Stone Way N
Seattle, WA 98103
206.258.6333

DANIEL R. BUKER
STATE OF WASHINGTON
44090
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Rader Residence

7310 86th Ave SE
Mercer Island, WA, 98040

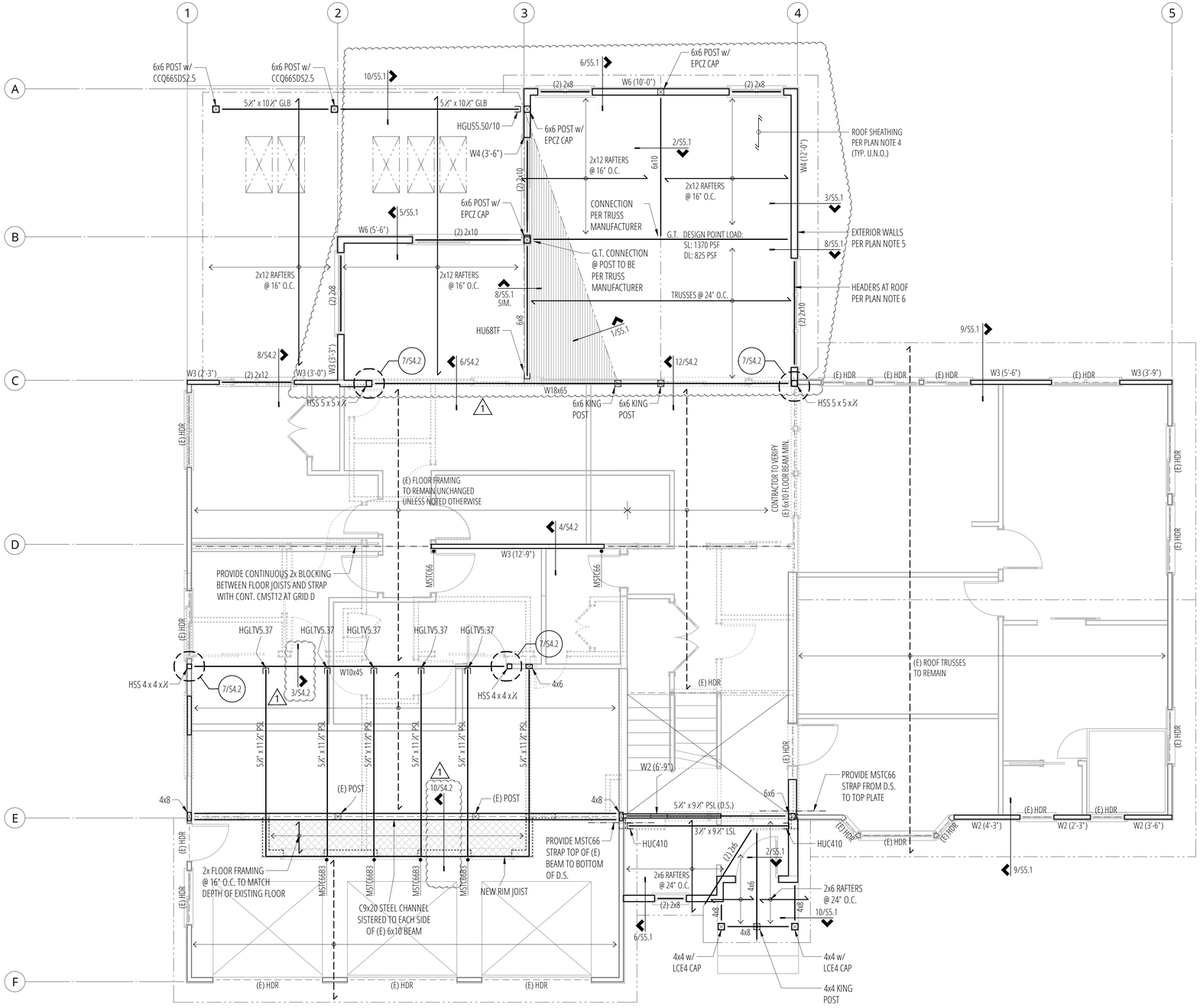
No.	Date	Issue
	12/23/22	Permit
1	02/13/23	Changes Per Client

Sheet Contents

FOUNDATION PLAN

Sheet No.

S2.1



Second Floor / Low Roof Framing Plan

SCALE: ¼"=1'-0"

PLAN NOTES

1. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS (S1.1)
2. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS UNLESS SPECIFICALLY NOTED ON STRUCTURAL PLANS.
3. FLOOR SHEATHING SHALL BE ⅞" T&G PLYWOOD SHEATHING WITH 48/24 SPAN RATING. NAIL FRAMED PANEL EDGES w/ 8d COMMON (0.131" DIA. x 2 ½") @ 6" O.C., FIELD @ 12" O.C. (REFER TO 9/S4.1)
4. ROOF SHEATHING SHALL BE ½" CDX PLYWOOD SHEATHING WITH 40/20 SPAN RATING. NAIL FRAMED PANEL EDGES w/ 8d COMMON (0.131" DIA x 2 ½") @ 6" O.C., FIELD @ 12" O.C. (REFER TO 9/S4.1)
5. "W#" REFERS TO SHEARWALL TYPE PER 3/S4.1 & 7/S4.1. ALL OTHER NON-DESIGNATED EXTERIOR WALLS SHALL BE SHEARWALL TYPE W6. WHERE INDICATED, "(x-x)" REFERS TO MINIMUM SHEARWALL LENGTH. COORDINATE ACTUAL LENGTH WITH ARCHITECTURAL.
6. "MSTC66" REFERS TO HOLDOWNS PER DETAIL 11/S4.2.
7. PROVIDE TOP PLATE SPLICES PER 5/S4.1
8. REFER TO 11/S4.1 AT SHEARWALL INTERSECTIONS.
9. FOR TYPICAL HEADER FRAMING REQUIREMENTS, REFER TO DETAIL 6/S4.1.
10. "D.S." REFERS TO DRAG STRUT. NAIL FLOOR SHEATHING TO DRAG STRUT WITH (2) ROWS OF 8d COMMON (0.131" DIA. x 2 ½") @ 4" O.C. (REFER TO 2/S4.1)
11. CONTRACTOR TO VERIFY THAT ALL POSTS HAVE CONTINUOUS BEARING THROUGH TO THE FOUNDATION.
12. WHERE OVERFRAMING IS INDICATED, OVERFRAME WITH 2x6 @ 24" O.C. w/ 4'-0" MAX SPAN. (REFER TO DETAIL 1/S5.1 FOR CONNECTION OF OVERFRAMING TO PRIMARY ROOF) 1

LEGEND

- STRUCTURAL WOOD WALL or POST BELOW THIS LEVEL
- STRUCTURAL WOOD WALL or POST ABOVE THIS LEVEL
- (E) STRUCTURAL WOOD WALL OR POST BELOW THIS LEVEL
- (E) SPAN DIRECTION
- SPAN DIRECTION
- EXTENT OF SPAN
- (E) ROOFLINE
- ROOFLINE
- JOIST or BEAM
- (E) JOIST OR BEAM
- HD HOLDOWN
- STRAP PER PLAN
- BLOCK DIAPH. 2X'S LAID FLAT @ ALL PANEL EDGES. 8D @ 4"OC @ ALL PANEL EDGES & 12"OC IN FIELD. (REFER TO 9/S4.1)
- OVERFRAMING 1

buker ENGINEERING LLC
4303 Stone Way N
Seattle, WA 98103
206.258.6333

DANIEL R. BUKER — STATE OF WASHINGTON — 44080 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

Rader Residence

7310 86th Ave SE
Mercer Island, WA, 98040

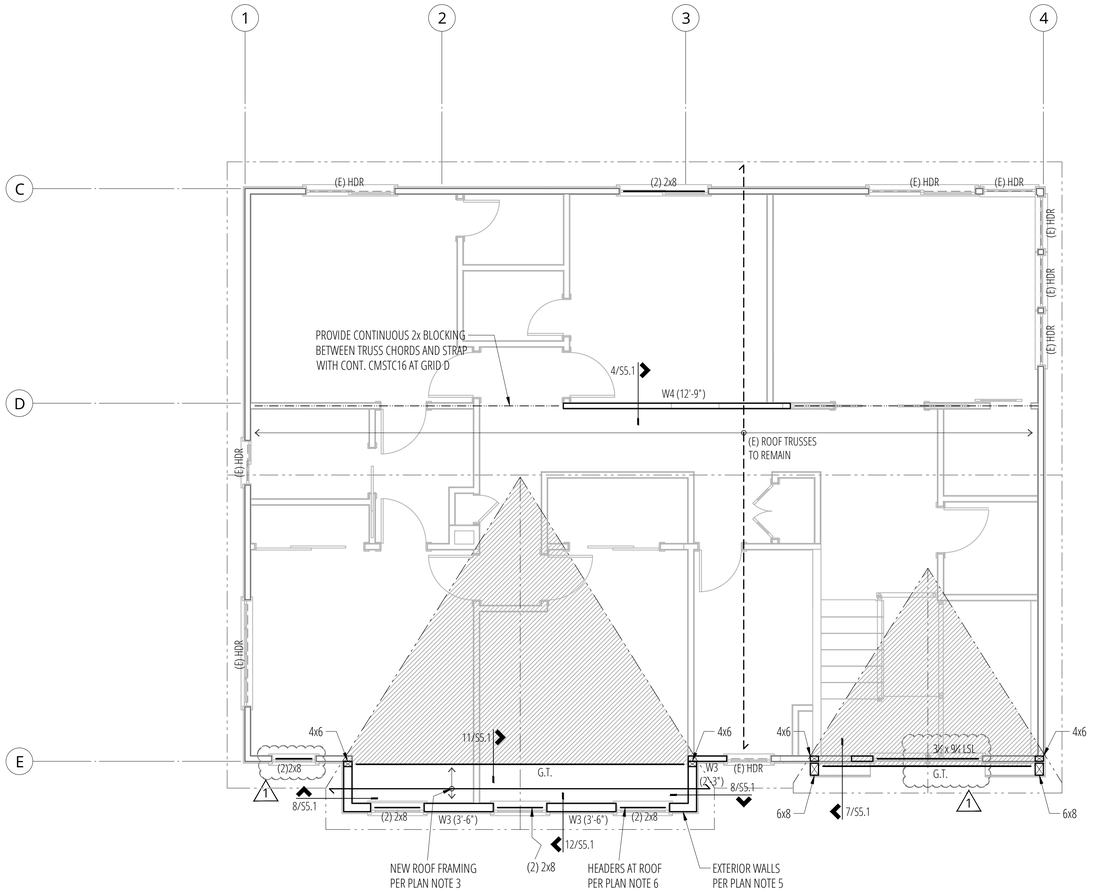
No.	Date	Issue
	12/23/22	Permit
1	02/13/23	Changes Per Client

Sheet Contents

SECOND FLOOR / LOW ROOF FRAMING PLAN

Sheet No.

S2.2



Roof Framing Plan

SCALE: ¼"=1'-0"

PLAN NOTES

1. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS (S1.1)
2. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS UNLESS SPECIFICALLY NOTED ON STRUCTURAL PLANS.
3. ROOF FRAMING SHALL BE PRE-MANUFACTURED ROOF TRUSSES @ 24" O.C. (TRUSS DESIGN BY OTHERS).
4. ROOF SHEATHING SHALL BE ⅜" CDX PLYWOOD SHEATHING WITH 40/20 SPAN RATING. NAIL FRAMED PANEL EDGES w/ 8d COMMON (0.131" DIA. x 2½") @ 6" O.C., FIELD @ 12" O.C. (REFER TO 9/S4.1)
5. "W#" REFERS TO SHEARWALL TYPE PER 3/S4.1 & 7/S4.1. ALL OTHER NON-DESIGNATED EXTERIOR WALLS SHALL BE SHEARWALL TYPE W6. WHERE INDICATED, "(x-x)" REFERS TO MINIMUM SHEARWALL LENGTH. COORDINATE ACTUAL LENGTH WITH ARCHITECTURAL.
6. FOR TYPICAL HEADER FRAMING REQUIREMENTS, REFER TO DETAIL 6/S4.1.
7. PROVIDE TOP PLATE SPLICES PER 5/S4.1
8. WHERE OVERFRAMING IS INDICATED, OVERFRAME WITH 2x6 @ 24" O.C. w/ 4'-0" MAX SPAN. (REFER TO DETAIL 2/S5.1 FOR CONNECTION OF OVERFRAMING TO PRIMARY ROOF)
9. REFER TO 11/S4.1 AT SHEARWALL INTERSECTIONS.

LEGEND

- STRUCTURAL WOOD WALL or POST BELOW THIS LEVEL
- (E) STRUCTURAL WOOD WALL OR POST BELOW THIS LEVEL
- (E) SPAN DIRECTION
- SPAN DIRECTION
- EXTENT OF SPAN
- (E) ROOFLINE
- ROOFLINE
- JOIST or BEAM
- (E) JOIST OR BEAM
- G.T. GIRDER TRUSS
- OVERFRAMING

buker ENGINEERING LLC
4303 Stone Way N
Seattle, WA 98103
206.258.6333

DANIEL R BUKER
STATE OF WASHINGTON
44090
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Rader Residence

7310 86th Ave SE
Mercer Island, WA, 98040

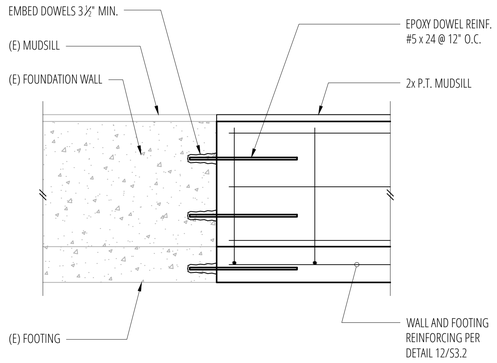
No.	Date	Issue
	12/23/22	Permit
1	02/13/23	Changes Per Client

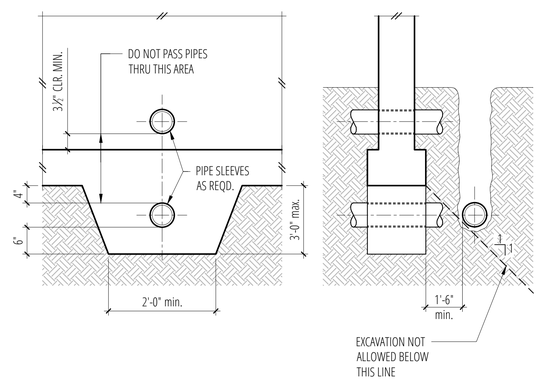
Sheet Contents

ROOF FRAMING PLAN

Sheet No.

S2.3



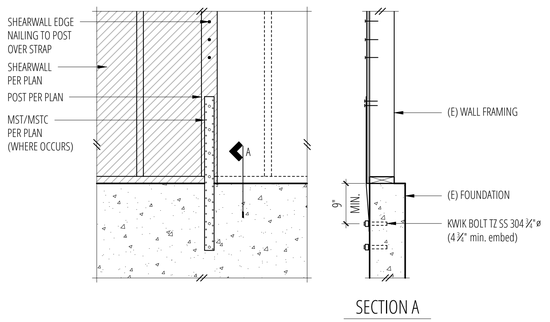


1 SCALE: 3/4"=1'-0"

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

3 Epoxy Dowel Connection at (E) Foundation
SCALE: 3/4"=1'-0"

4 Pipe and Trench Locations
SCALE: 3/4"=1'-0"



SECTION A

REINFORCING SPLICE AND DEVELOPMENT LENGTH SCHEDULE

FOR F'c = 2500 psi, GRADE 60 REINFORCING

I MINIMUM STRAIGHT DEVELOPMENT LENGTH (ℓd)

BAR SIZE	TOP BARS	OTHER BARS
#3	23"	18"
#4	31"	24"
#5	40"	30"
#6	47"	36"
#7	68"	53"
#8	78"	60"
#9	88"	68"
#10	99"	77"
#11	110"	85"

II MINIMUM LAP SPLICE LENGTHS (ℓs)

BAR SIZE	TOP BARS	OTHER BARS
#3	31"	23"
#4	41"	31"
#5	51"	40"
#6	62"	47"
#7	89"	68"
#8	102"	78"
#9	114"	88"
#10	130"	99"
#11	143"	110"

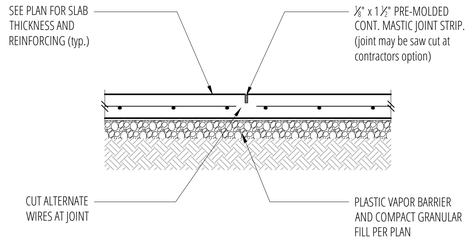
TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM.

IF CLEAR CONCRETE COVER IS NOT GREATER THAN THE DIAMETER OF THE BAR, OR THE CENTER TO CENTER SPACING IS NOT GREATER THAN 3 BAR DIAMTERS, THEN LENGTHS SHALL BE INCREASED BY 50%

III MINIMUM EMBEDMENT LENGTHS (ℓdh) FOR STANDARD END HOOKS

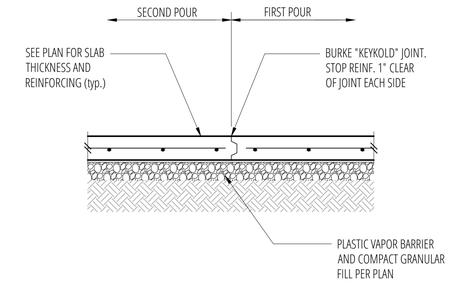
BAR SIZE	LENGTH
#3	7"
#4	9"
#5	11"
#6	13"
#7	14"
#8	17"
#9	19"
#10	21"
#11	24"

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



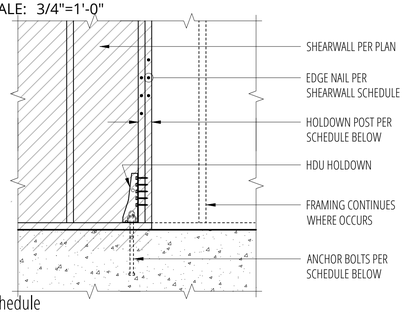
CONTROL JOINT

PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLABS ON GRADE TO BREAK UP SLAB INTO RECTANGULAR AREAS OF 400 SQUARE FEET OR LESS. AREAS TO BE APPROX. SQUARE AND HAVE NO ACUTE ANGLES. JOINT LOCATIONS TO BE APPROVED BY THE ARCHITECT.



CONSTRUCTION JOINT

5 Typical MST/MSTC Holdown at Foundation
SCALE: 3/4"=1'-0"

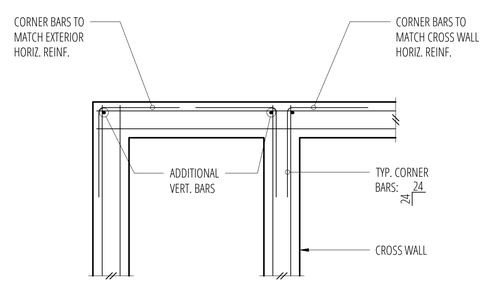


Holdown Schedule

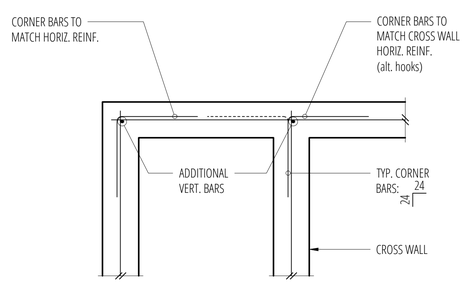
Plan Mark	Screws	Anchor Bolt ②	A.B. Embed	Holdown Post ① IF 2x4	Holdown Post ① IF 2x6	Capacity #
HDU2-SDS2.5	(6) SDS ¼" x 2½"	SSTB16	12⅛"	(2) 2x4	4x6	2215/3075
HDU4-SDS2.5	(10) SDS ¼" x 2½"	SB ⅝ x 24	18"	4x4	4x6	4565
HDU8-SDS2.5	(20) SDS ¼" x 2½"	SB ⅝ x 24	18"	4x4	4x6	6970

① MINIMUM SIZE OF POST AT END OF WALL UNLESS NOTED OTHERWISE ON FRAMING PLANS.
② "SSTB" & "SB" REFER TO ANCHOR BOLTS BY SIMPSON STRONG-TIE. INSTALL PER MANUFACTURER.
③ AT (E) FOUNDATION, PROVIDE EPOXY GROUTED THREADED ROD (DIA. PER MFG), EMBED 10".

7 Typical Slab Joints
SCALE: 3/4"=1'-0"



DOUBLE CURTAIN



SINGLE CURTAIN

9 HDU Holdown Schedule
SCALE: 3/4"=1'-0"

10 Lap Splice and Development Schedule
SCALE: 3/4"=1'-0"

11 Typical Corner Bars at Concrete Walls and Footings
SCALE: 3/4"=1'-0"

buker ENGINEERING LLC
4303 Stone Way N
Seattle, WA 98103
206.258.6333

DANIEL R. BUKER — STATE OF WASHINGTON — 44090 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

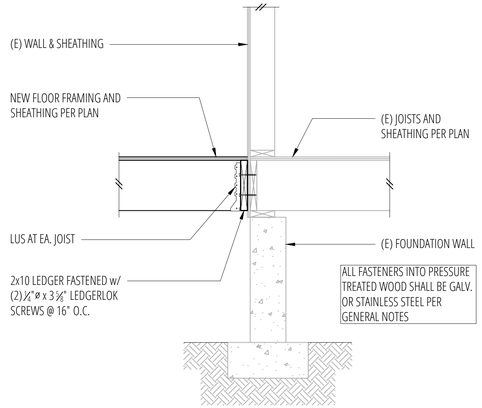
Rader Residence

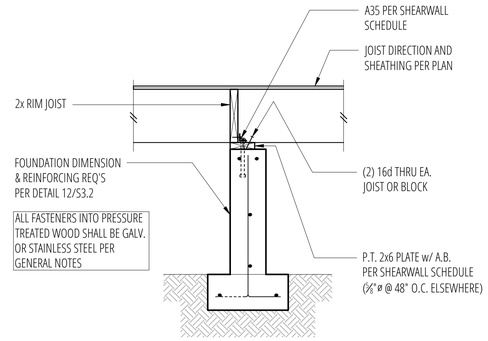
7310 86th Ave SE
Mercer Island, WA, 98040

No.	Date	Issue
	12/23/22	Permit
1	02/13/23	Changes Per Client

Sheet Contents: CONCRETE DETAILS

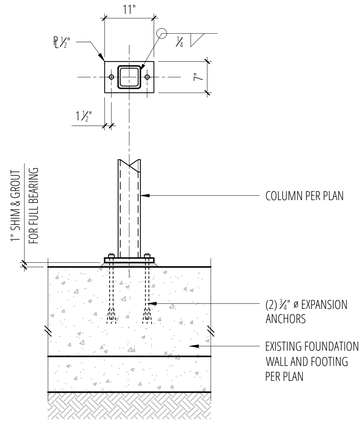
Sheet No.: S3.1





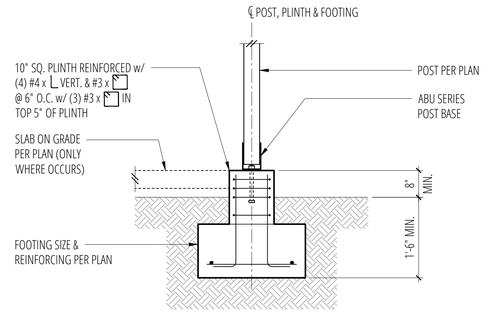
1 SCALE: 3/4"=1'-0"

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



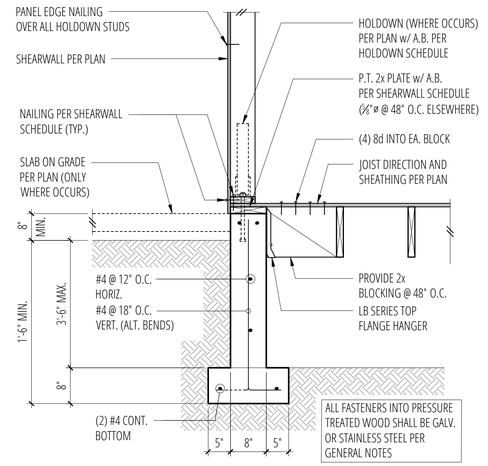
3 Ledger and Framing at Existing Fnd. Wall

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



4 Interior Foundation Wall at Crawlspace

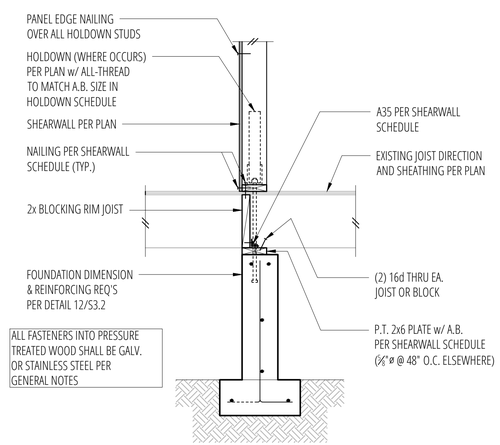
SCALE: 3/4"=1'-0"



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

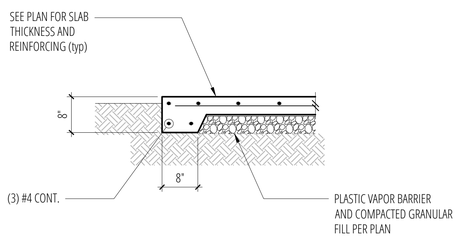
6 Steel Column Baseplate at Existing Wall

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



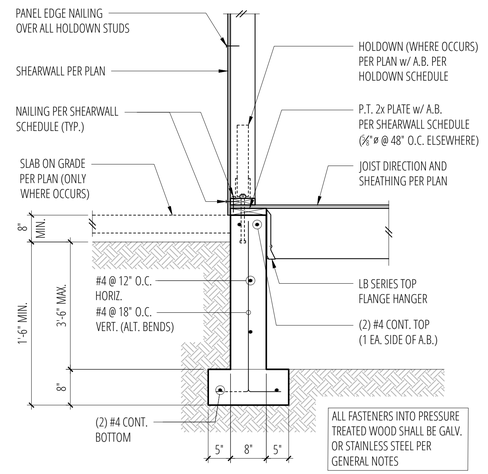
7 Canopy Post Footing

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



8 Exterior Framing at Crawlspace (Parallel)

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



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

10 Foundation Wall at Interior Shearwall

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

11 Typical Slab Edge

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

12 Exterior Framing at Crawlspace (Perpendicular)

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

buker ENGINEERING LLC
4303 Stone Way N
Seattle, WA 98103
206.258.6333

DANIEL R. BUKER — STATE OF WASHINGTON — 44090 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

Rader Residence

7310 86th Ave SE
Mercer Island, WA, 98040

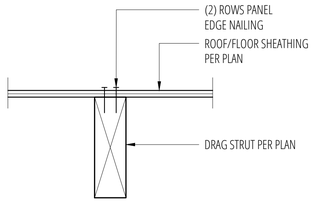
No.	Date	Issue
	12/23/22	Permit
1	02/13/23	Changes Per Client

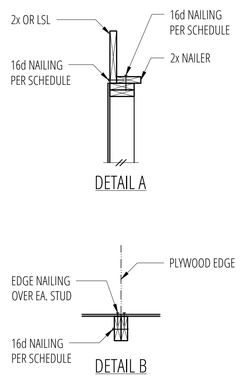
Sheet Contents

CONCRETE DETAILS

Sheet No.

S3.2





PLAN VIEW AT ABUTTING PANEL EDGES OF W3 & W2

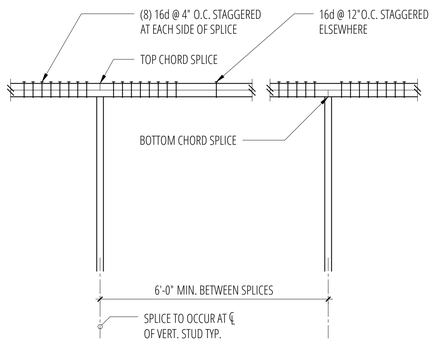
SHEARWALL SCHEDULE ①②③⑤⑥⑦

MARK	SHEATHING	PANEL EDGE NAILING	TOP PLATE CONNECTION		BASE PLATE CONNECTION	
			IF TJI	IF 2x OR LSL ⑧⑧	AT WOOD	AT CONCRETE
W6	15/32" CDX PLYWOOD	8d @ 6" OC	16d @ 6" OC	A35 @ 24" OC	16d @ 6" OC	⅝" ø A.B. @ 48" OC
W4	15/32" CDX PLYWOOD	8d @ 4" OC	16d @ 4" OC	A35 @ 16" OC	16d @ 4" OC	⅝" ø A.B. @ 32" OC
W3 ④	15/32" CDX PLYWOOD	8d @ 3" OC	(2) ROWS 16d @ 6" OC	A35 @ 12" OC	16d @ 3" OC ⑩	⅝" ø A.B. @ 16" OC
W2 ④	15/32" CDX PLYWOOD	8d @ 2" OC	(2) ROWS 16d @ 4½" OC	A35 @ 9" OC	(2) ROWS 16d @ 4½" OC ⑪	⅝" ø A.B. @ 12" OC

1. BLOCK PANEL EDGES WITH 2x MIN. LAID FLAT AND NAIL PANELS TO INTERMEDIATE SUPPORTS WITH 8d @ 12" o.c.
2. 8d NAILS SHALL BE 0.131" x 2½" (common) - 16d NAILS SHALL BE 0.135"ø x 3½" (box)
3. EMBED ANCHOR BOLTS AT LEAST 7" EXPANSION BOLTS MAY BE SUBSTITUTED FOR ANCHOR BOLTS WITH 4" EMBEDMENT. ALL BOLTS SHALL HAVE 3" x 3" x ¼" PLATE WASHERS. EXTEND TO WITHIN ½" OF THE PLYWOOD SHEATHING.
4. 3x STUDS OR DOUBLE STUDS NAILED TOGETHER W/ BASE PLATE NAILING ARE REQUIRED AT ABUTTING PANEL EDGES OF W3 AND W2. SEE DETAIL B. WHERE 3x STUDS ARE USED FOR W2, STAGGER NAILS AT ADJOINING PANEL EDGES.
5. TWO STUDS MINIMUM ARE REQUIRED AT EACH END OF ALL SHEARWALLS AND ALL END STUDS SHALL RECEIVE PANEL EDGE NAILING.
6. ALL EXTERIOR WALLS SHALL BE W6, UNLESS NOTED OTHERWISE.
7. 7/16" O.S.B. MAY BE SUBSITUTED FOR 15/32" CDX.
8. LTP4's MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.
9. A 2x NAILER ATTACHED W/ BASE PLATE NAILING PER DETAIL A MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.
10. STAGGER NAILS IN ROW W/ ½" MIN. OFFSET.
11. MINIMUM OFFSET BETWEEN ROWS ½, AND MINIMUM RIM OR JOIST 3½" WIDE.

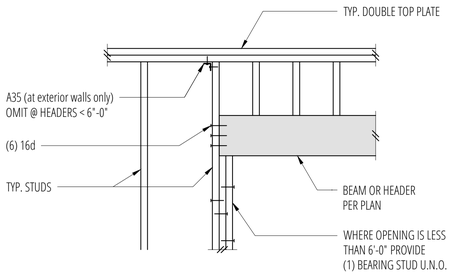
1

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



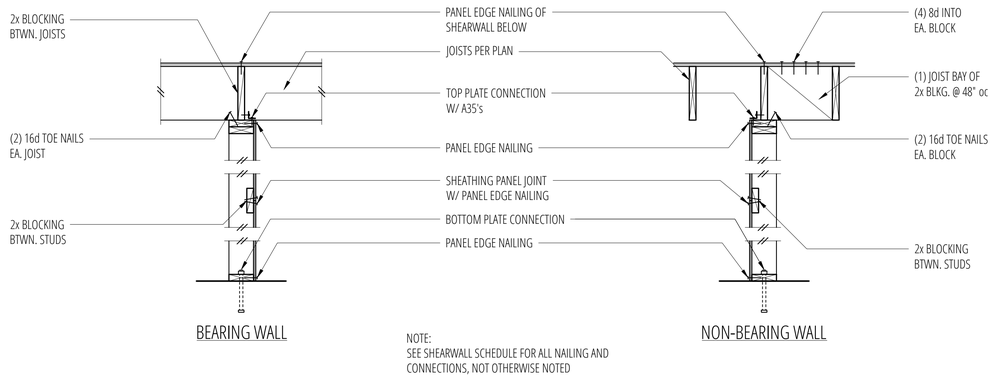
2 Typical Drag Strut

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



3 Shearwall Schedule

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



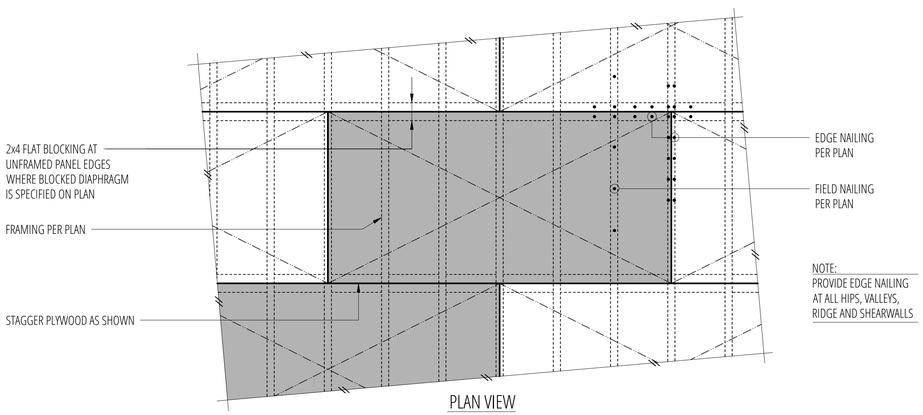
NOTE:
SEE SHEARWALL SCHEDULE FOR ALL NAILING AND CONNECTIONS, NOT OTHERWISE NOTED

5 Typical Top Plate Splice

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

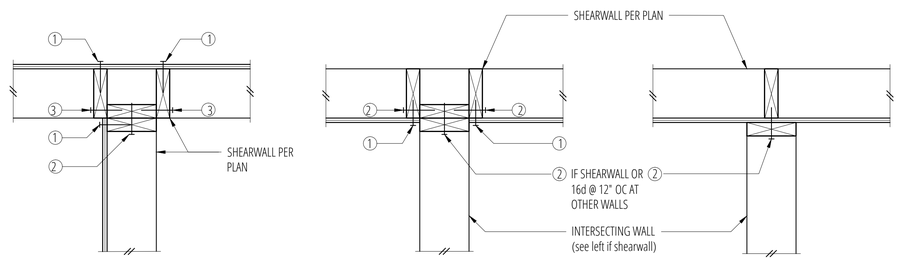
6 Typical Header Support

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



7 Typical Shearwall Construction

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



① PLYWOOD PANEL EDGE NAILING PER SHEARWALL SCHEDULE

② BASE PLATE NAILING PER SHEARWALL SCHEDULE

③ 16d @ 8" OC

9 Typical Diaphragm Sheathing and Nailing

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

11 Typical Shearwall Intersection

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

buker ENGINEERING LLC
4303 Stone Way N
Seattle, WA 98103
206.258.6333

DANIEL R. BUKER — STATE OF WASHINGTON — 44090 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

Rader Residence

7310 86th Ave SE
Mercer Island, WA, 98040

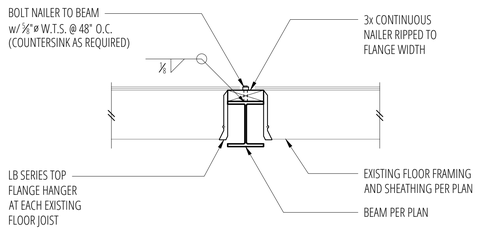
No.	Date	Issue
	12/23/22	Permit
1	02/13/23	Changes Per Client

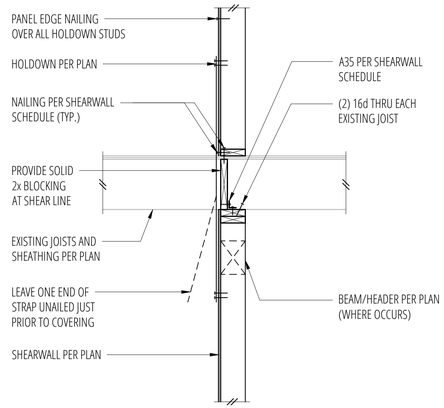
Sheet Contents

FLOOR FRAMING DETAILS

Sheet No.

S4.1



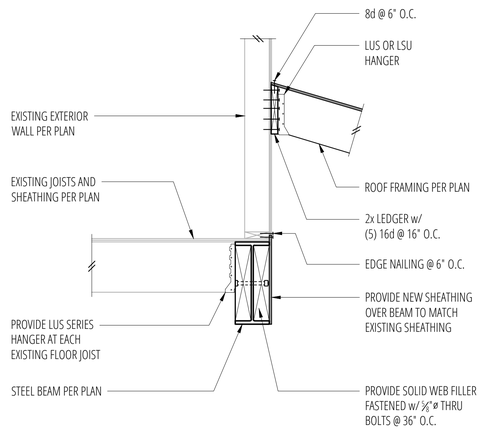


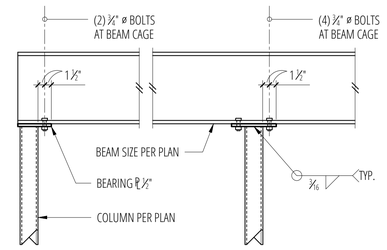
1
SCALE: 3/4"=1'-0"

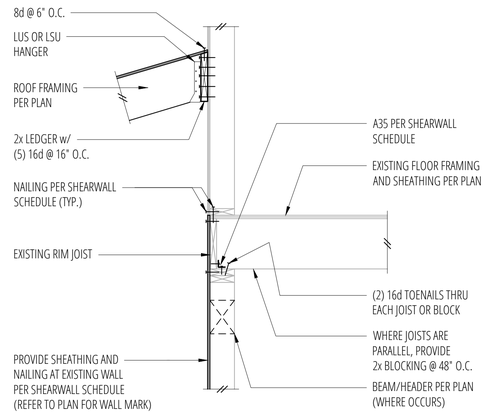
2
SCALE: 3/4"=1'-0"

3 Flush Steel Beam at Existing Floor
SCALE: 3/4"=1'-0"

4 Interior Shearwall at Existing Floor
SCALE: 3/4"=1'-0"





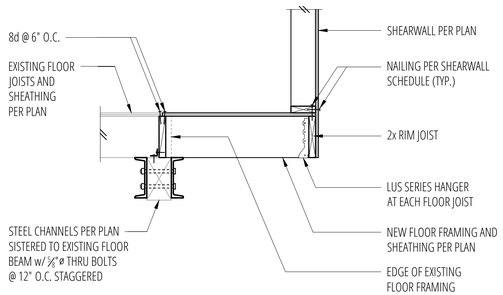


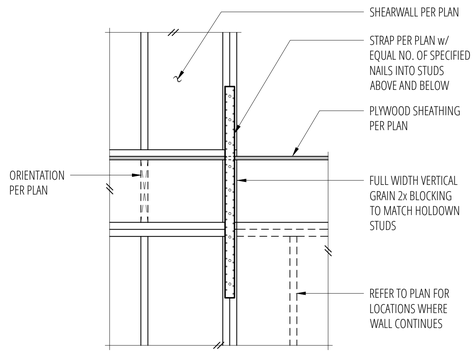
5
SCALE: 3/4"=1'-0"

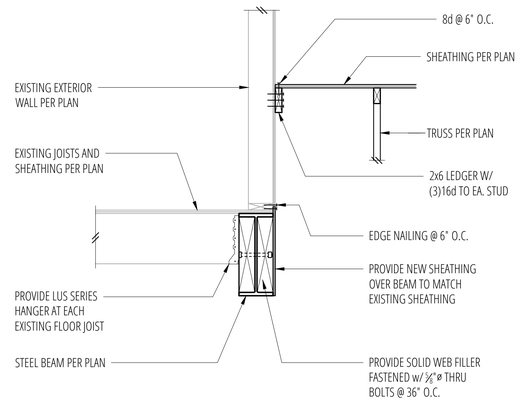
1
6 Steel Beam at Existing Floor
SCALE: 3/4"=1'-0"

7 Typical Beam Bearing on HSS Column
SCALE: 3/4"=1'-0"

8 New Shearwall at Existing Exterior Wall
SCALE: 3/4"=1'-0"







9
SCALE: 3/4"=1'-0"

10 Bumpout Addition Framing
SCALE: 3/4"=1'-0"

11 Typical MST/MSTC Holdown at Floor
SCALE: 3/4"=1'-0"

1
12 Steel Beam at Existing Floor
SCALE: 3/4"=1'-0"

buker ENGINEERING LLC
4303 Stone Way N
Seattle, WA 98103
206.258.6333

DANIEL R. BUKER
STATE OF WASHINGTON
44080
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Rader Residence

7310 86th Ave SE
Mercer Island, WA, 98040

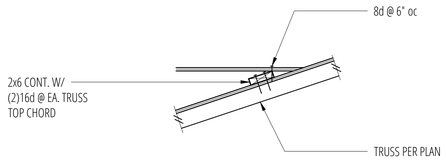
No.	Date	Issue
	12/23/22	Permit
1	02/13/23	Changes Per Client

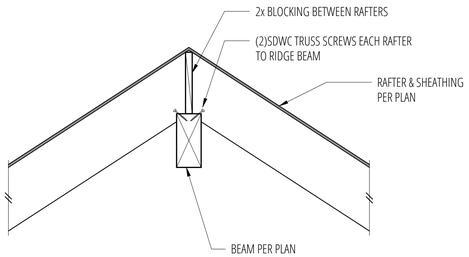
Sheet Contents

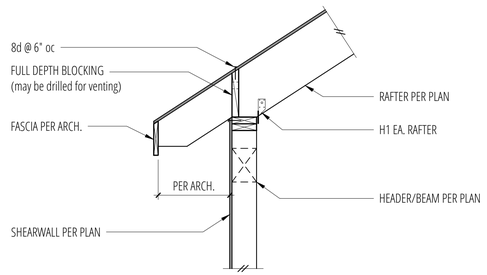
FLOOR FRAMING DETAILS

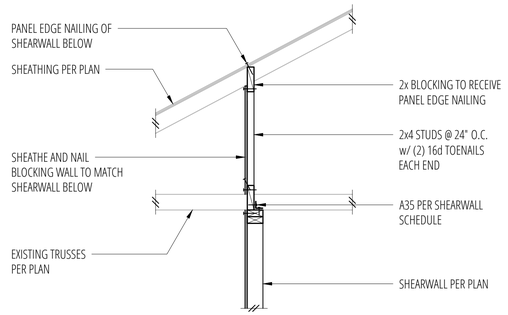
Sheet No.

S4.2









1

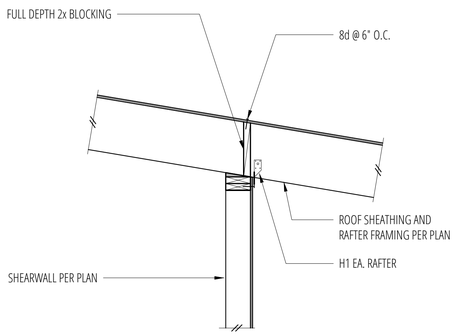
1 Overframing Connection
SCALE: 3/4"=1'-0"

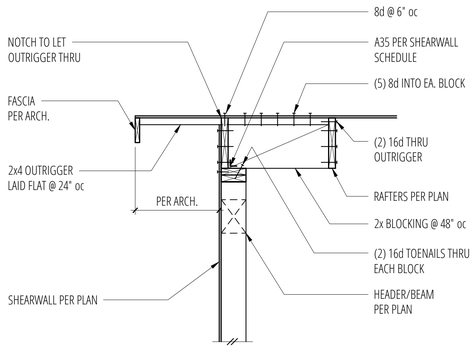
1

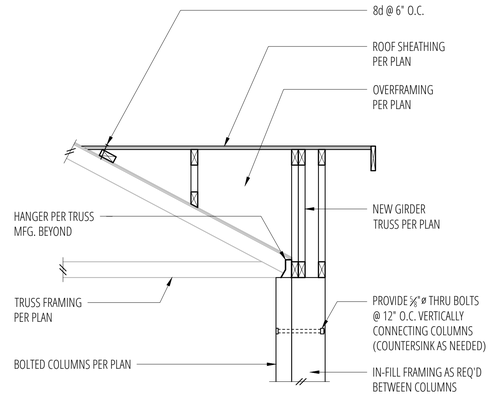
2 Ridge Beam
SCALE: 3/4"=1'-0"

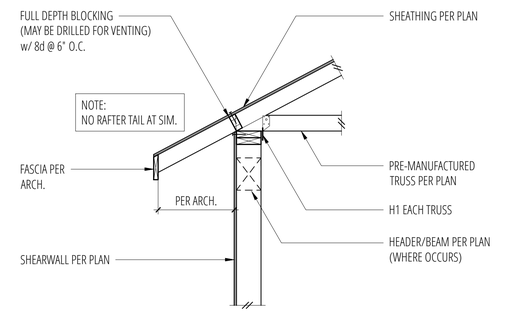
3 Exterior Bearing Wall at Roof (Rafter)
SCALE: 3/4"=1'-0"

4 Shearwall Extension Thru Existing Truss Depth
SCALE: 3/4"=1'-0"









1

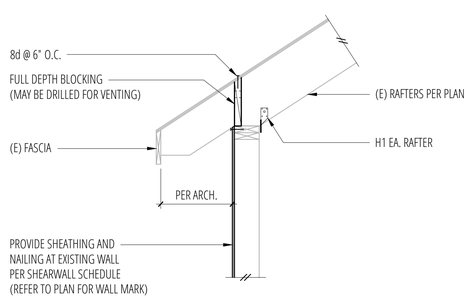
5 Shearwall Below Low Roof
SCALE: 3/4"=1'-0"

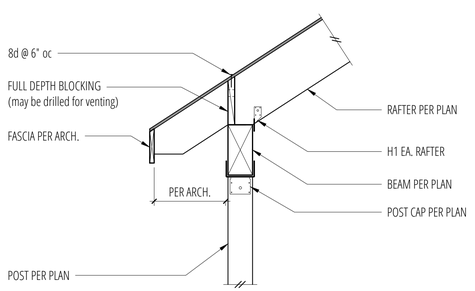
6 Exterior Non-Bearing Wall at Roof (Rafter)
SCALE: 3/4"=1'-0"

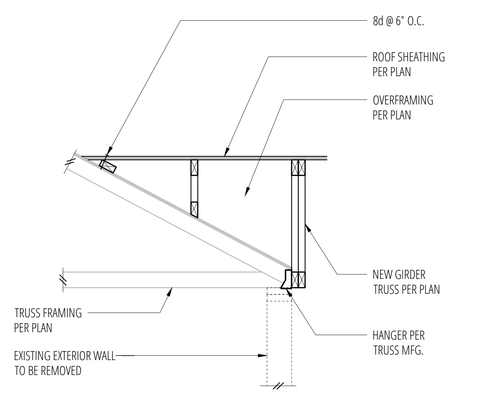
7 Girder Truss at Existing Roof (Bump-Out)
SCALE: 3/4"=1'-0"

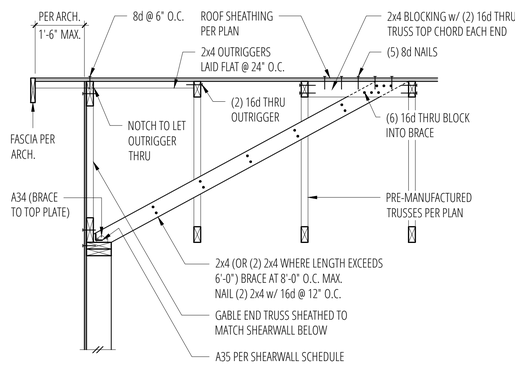
1

8 Exterior Bearing Wall at Roof
SCALE: 3/4"=1'-0"









9 New Shearwall at Existing Low Roof
SCALE: 3/4"=1'-0"

10 Post and Beam at Roof
SCALE: 3/4"=1'-0"

11 Girder Truss at Existing Roof
SCALE: 3/4"=1'-0"

12 Exterior Non-Bearing Wall at Roof
SCALE: 3/4"=1'-0"

buker ENGINEERING LLC
4303 Stone Way N
Seattle, WA 98103
206.258.6333

DANIEL R. BUKER
STATE OF WASHINGTON
44080
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Rader Residence

7310 86th Ave SE
Mercer Island, WA, 98040

No.	Date	Issue
	12/23/22	Permit
1	02/13/23	Changes Per Client

Sheet Contents
ROOF FRAMING DETAILS

Sheet No.
S5.1