# 7414 - 78th AVENUE SE • MERCER ISLAND • WASHINGTON • 98040

GENERAL NOTES
1. ALL WORK SHALL CONFORM TO APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO THE 2021 INTERNATIONAL BUILDING CODE, INTERNATIONAL RESIDENTIAL CODE, THE CURRENT WASHINGTON STATE ENERGY CODE, THE WASHINGTON STATE BUILDING CODES, THE AMERICANS WITH DISABILITIES ACT, AND ALL RULES, REGULATIONS AND ORDINANCES OF THE GOVERNING AUTHORITY.
2. ENGINEERED DESIGN IN ACCORDANCE WITH THE IBC IS PERMITTED.
3. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, AND SITE CONDITIONS, AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ANY DISCREPANCIES, ERRORS, OR OMISSIONS PRIOR TO PROCEEDING WITH THE WORK.
4. DO NOT SCALE THE DRAWINGS FOR CRITICAL DIMENSIONS, DIMENSIONS ARE SHOWN TO FACE OF STUDS, POSTS AND CONCRETE UNLESS INDICATED OTHERWISE.
5. THE PROJECT SHALL BE SCHEDULED AND INSTALLATION OF ELEMENTS COORDINATED AS NECESSARY BY THE CONTRACTOR TO PERMIT WORK BETWEEN DIFFERENT TRADES TO PROCEED WITHOUT UPSETTING PROPER CONSTRUCTION SEQUENCES OR DELAYING THE PROJECT SCHEDULE.
6. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION,
7. THE CONTRACTOR SHALL VERIFY ALL DOOR AND WINDOW ROUGH-OPENING DIMENSIONS WITH THE DOOR AND WINDOW MANUFACTURERS,
8. PLUMBING, ELECTRICAL AND MECHANICAL CONTRACTORS SHALL VERIFY ALL REQUIREMENTS FOR THIS PROJECT AND COMPLY WITH ALL LOCAL CODES, SUBMIT PLANS FOR APPROVAL AND OBTAIN PERMIT BEFORE STARTING WORK.
9. SHOWN ONLY ONCE, TYPICAL DETAILS ARE NOT REFERENCED AT ALL LOCATIONS; THE INTENT IS THAT THEY APPLY THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED.
10. ALL REQUIRED SHOP DRAWINGS AND SUBMITTALS SHALL BE REVIEWED BY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
11. ALL SHOP DRAWING DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR.
12. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY HIMSELF OR OTHER TRADES.
13. INSPECTIONS ARE TO BE PER IRC SECTION R109.
14. ADDRESS MUST BE POSTED AND VISIBLE AT CONSTRUCTION SITE PER IRC SEC R319: BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.
15. ANY DEVIATION IN CONSTRUCTION FROM APPROVED PLANS REQUIRES PRIOR REVIEW AND APPROVAL FROM THE CITY OF MERCER ISLAND, PLANNING AND BUILDING DEPARTMENT.

TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

| | |
|---|---|
| ROOF SNOW LOAD: | 25 PSF |
| WIND SPEED: | 98 MPH |
| SEISMIC DESIGN CATEGORY: | D2 |
| WEATHERING: | MODERATE |
| FROST LINE DEPTH: | 12 INCHES |
| TERMITE: | SLIGHT TO MODERATE |
| DECAY: | SLIGHT TO MODERATE |
| WINTER DESIGN TEMP: | 24 DEGREES FAHRENHEIT |
| ICE SHIELD UNDERLAYMENT REQUIRED: | NO |
| FLOOD HAZARDS: | NA |
| AIR FREEZING INDEX: | 113 |
| MEAN ANNUAL TEMP: | 53 DEGREES FAHRENHEIT |
| ASSUMED SOIL BEARING: | 3000 PSF STATIC (PER SOILS REPORT DATED 4/17/24) |

AUTOMATIC FIRE SPRINKLER SYSTEMS
FIRE SPRINKLERS ☒ ARE ☐ ARE NOT REQUIRED FOR THIS PROJECT, AUTOMATIC RESIDENTIAL FIRE SPRINKLER SYSTEMS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 13D AND COMI STANDARDS SHALL BE INSTALLED THROUGHOUT THE RESIDENCE. A SEPARATE FIRE PERMIT IS REQUIRED.
PERMIT APPROVAL IS CONTINGENT UPON PRIVATE HYDRANT (2409-158) SUPPLYING A MINIMUM DERATED FIRE FLOW OF 1,000 GPM AT 20 PSI RESIDUAL PRESSURE (MODELED). IF MINIMUM FIRE FLOW IS NOT AVAILABLE, ADDITIONAL FIRE REVIEW AND FIRE-CODE MITIGATIONS WILL BE REQUIRED. PRIVATE HYDRANT (2409-158) SHALL BE OPERATIONAL AND HAVE FINAL APPROVAL PRIOR TO COMBUSTIBLE CONSTRUCTION.

SECTION M1501 EXHAUST SYSTEMS
M1501.1 OUTDOOR DISCHARGE
THE AIR REMOVED BY EVERY MECHANICAL EXHAUST SYSTEM SHALL BE DISCHARGED TO THE OUTDOORS IN ACCORDANCE WITH SECTION M1504.3. AIR SHALL NOT BE EXHAUSTED INTO AN ATTIC, SOFFIT, RIDGE VENT OR CRAWL SPACE..

M1502 CLOTHES DRYER EXHAUST
M1502.1 GENERAL
CLOTHES DRYERS SHALL BE EXHAUSTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

M1502.2 INDEPENDENT EXHAUST SYSTEMS
DRYER EXHAUST SYSTEMS SHALL BE INDEPENDENT OF ALL OTHER SYSTEMS AND SHALL CONVEY THE MOISTURE TO THE OUTDOORS.
EXCEPTION; THIS SECTION SHALL NOT APPLY TO LISTED AND LABELED CONDENSING (DUCTLESS) CLOTHES DRYERS.

M1502.3 DUCT TERMINATION
EXHAUST DUCTS SHALL TERMINATE ON THE OUTSIDE OF THE BUILDING. EXHAUST DUCT TERMINATIONS SHALL BE IN ACCORDANCE WITH THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS. IF THE MANUFACTURER'S INSTRUCTIONS DO NOT SPECIFY A TERMINATION LOCATION, THE EXHAUST DUCT SHALL TERMINATE NOT LESS THAN 3 FEET IN ANY DIRECTION FROM OPENINGS INTO BUILDINGS, INCLUDING OPENINGS IN VENTILATED SOFFITS. EXHAUST DUCT TERMINATIONS SHALL BE EQUIPPED WITH A BACKDRAFT DAMPER. SCREENS SHALL NOT BE INSTALLED AT THE DUCT TERMINATION.

M1502.4 DRYER EXHAUST DUCTS
DRYER EXHAUST DUCTS SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS M1502.4.1 THROUGH M1502.4.8.

M1502.4.1 MATERIAL AND SIZE
EXHAUST DUCTS SHALL HAVE A SMOOTH INTERIOR FINISH AND SHALL BE CONSTRUCTED OF METAL NOT LESS THAN 0.0157 INCH IN THICKNESS (NO. 28 GAGE). THE DUCT SHALL BE 4 INCHES NOMINAL IN DIAMETER.

M1502.4.2 DUCT INSTALLATION
EXHAUST DUCTS SHALL BE SUPPORTED AT INTERVALS NOT TO EXCEED 12 FEET AND SHALL BE SECURED IN PLACE. THE INSERT END OF THE DUCT SHALL EXTEND INTO THE ADJOINING DUCT OR FITTING IN THE DIRECTION OF AIRFLOW. EXHAUST DUCT JOINTS SHALL BE SEALED IN ACCORDANCE WITH SECTION M1601.4.1 AND SHALL BE MECHANICALLY FASTENED. DUCTS SHALL NOT BE JOINED WITH SCREWS OR SIMILAR FASTENERS THAT PROTRUDE MORE THAN 1/8 INCH INTO THE INSIDE OF THE DUCT. WHERE DRYER EXHAUST DUCTS ARE ENCLOSED IN WALL OR CEILING CAVITIES, SUCH CAVITIES SHALL ALLOW THE INSTALLATION OF THE DUCT WITHOUT DEFORMATION.

M1502.4.3 TRANSITION DUCT
TRANSITION DUCTS USED TO CONNECT THE DRYER TO THE EXHAUST DUCT SYSTEM SHALL BE A SINGLE LENGTH THAT IS LISTED AND LABELED IN ACCORDANCE WITH UL 2158A. TRANSITION DUCTS SHALL BE NOT GREATER THAN 8 FEET IN LENGTH. TRANSITION DUCTS SHALL NOT BE CONCEALED WITHIN CONSTRUCTION.

M1502.4.4 DRYER EXHAUST DUCT POWER VENTILATORS
DOMESTIC DRYER EXHAUST DUCT POWER VENTILATORS SHALL CONFORM TO UL 705 FOR USE IN DRYER EXHAUST DUCT SYSTEMS. THE DRYER EXHAUST DUCT POWER VENTILATOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

M1502.4.6 DUCT LENGTH
THE MAXIMUM ALLOWABLE EXHAUST DUCT LENGTH SHALL BE DETERMINED BY ONE OF THE METHODS SPECIFIED IN SECTIONS M1502.4.6.1 THROUGH M1502.4.6.3.

M1502.4.6.1 SPECIFIED LENGTH
THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE 35 FEET FROM THE CONNECTION TO THE TRANSITION DUCT FROM THE DRYER TO THE OUTLET TERMINAL. WHERE FITTINGS ARE USED, THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE REDUCED IN ACCORDANCE WITH TABLE M1502.4.6.1. THE MAXIMUM LENGTH OF THE EXHAUST DUCT DOES NOT INCLUDE THE TRANSITION DUCT.

TABLE M1502.4.6.1 DRYER EXHAUST DUCT FITTING TYPE EQUIVALENT LENGTH

| DRYER EXHAUST DUCT FITTING TYPE | EQUIVALENT LENGHTH |
|---|---|
| 4-INCH RADIUS MITERED 45-DEGREE ELBOW | 2 FEET 6 INCHES |
| 4-INCH RADIUS MITERED 90-DEGREE ELBOW | 5 FEET |
| 6-INCH RADIUS MITERED 45-DEGREE ELBOW | 1 FOOT |
| 6-INCH RADIUS MITERED 90-DEGREE ELBOW | 1 FOOT 9 INCHES |
| 8-INCH RADIUS MITERED 45-DEGREE ELBOW | 1 FOOT |
| 8-INCH RADIUS MITERED 90-DEGREE ELBOW | 1 FOOT 7 INCHES |
| 10-INCH RADIUS MITERED 45-DEGREE ELBOW | 9 INCHES |
| 10-INCH RADIUS MITERED 90-DEGREE ELBOW | 1 FOOT 6 INCHES |

M1503 DOMESTIC COOKING EXHAUST EQUIPMENT
M1503.2 DOMESTIC COOKING EXHAUST
WHERE DOMESTIC COOKING EXHAUST EQUIPMENT IS PROVIDED, IT SHALL COMPLY WITH ONE OF THE FOLLOWING:
1. THE FAN FOR OVERHEAD RANGE HOODS AND DOWNDRAFT EXHAUST EQUIPMENT NOT INTEGRAL WITH THE COOKING APPLIANCE SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 507.
2. OVERHEAD RANGE HOODS AND DOWNDRAFT EXHAUST EQUIPMENT WITH INTEGRAL FANS SHALL COMPLY WITH UL 507.
3. DOMESTIC COOKING APPLIANCES WITH INTEGRAL DOWNDRAFT EXHAUST EQUIPMENT SHALL BE LISTED AND LABELED IN ACCORDANCE WITH ANSI Z21.1 OR UL 858.
4. MICROWAVE OVENS WITH INTEGRAL EXHAUST FOR INSTALLATION OVER THE COOKING SURFACE SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 923.

M1503.6 MAKEUP AIR REQUIRED
WHERE ONE OR MORE GAS, LIQUID OR SOLID FUEL-BURNING APPLIANCE THAT IS NEITHER DIRECT-VENT NOR USES A MECHANICAL DRAFT VENTING SYSTEM IS LOCATED WITHIN A DWELLING UNIT'S AIR BARRIER, EACH EXHAUST SYSTEM CAPABLE OF EXHAUSTING IN EXCESS OF 400 CUBIC FEET PER MINUTE SHALL BE MECHANICALLY OR PASSIVELY PROVIDED WITH MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST AIR RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH NOT FEWER THAN ONE DAMPER COMPLYING WITH SECTION M1503.6.2.
EXCEPTION: MAKEUP AIR IS NOT REQUIRED FOR EXHAUST SYSTEMS INSTALLED FOR THE EXCLUSIVE PURPOSE OF SPACE COOLING AND INTENDED TO BE OPERATED ONLY WHEN WINDOWS OR OTHER AIR INLETS ARE OPEN.
M1503.6.1 LOCATION
KITCHEN EXHAUST MAKEUP AIR SHALL BE DISCHARGED INTO THE SAME ROOM IN WHICH THE EXHAUST SYSTEM IS LOCATED OR INTO ROOMS OR DUCT SYSTEMS THAT COMMUNICATE THROUGH ONE OR MORE PERMANENT OPENINGS WITH THE ROOM IN WHICH SUCH EXHAUST SYSTEM IS LOCATED. SUCH PERMANENT OPENINGS SHALL HAVE A NET CROSS-SECTIONAL AREA NOT LESS THAN THE REQUIRED AREA OF THE MAKEUP AIR SUPPLY OPENINGS.
M1503.6.2 MAKEUP AIR DAMPERS
WHERE MAKEUP AIR IS REQUIRED BY SECTION M1503.6, MAKEUP AIR DAMPERS SHALL COMPLY WITH THIS SECTION. EACH DAMPER SHALL BE A GRAVITY DAMPER OR AN ELECTRICALLY OPERATED DAMPER THAT AUTOMATICALLY OPENS WHEN THE EXHAUST SYSTEM OPERATES. DAMPERS SHALL BE LOCATED TO ALLOW ACCESS FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION OR ANY OTHER DUCTS NOT CONNECTED TO THE DAMPER BEING INSPECTED, SERVICED, REPAIRED OR REPLACED. GRAVITY OR BAROMETRIC DAMPERS SHALL NOT BE USED IN PASSIVE MAKEUP AIR SYSTEMS EXCEPT WHERE THE DAMPERS ARE RATED TO PROVIDE THE DESIGN MAKEUP AIRFLOW AT A PRESSURE DIFFERENTIAL OF 0.01 IN. W.C. OR LESS.

M1504 EXHAUST DUCTS AND EXHAUST OPENINGS
TABLE M1505.4.4(1) MINIMUM LOCAL EXHAUST RATES

| AREA TO BE EXHAUSTED | EXHAUST RATES | |
|---|---|---|
| | INTERMITTENT | CONTINUOUS |
| KITCHENS | 100 CFM | 30 CFM |
| 1 BATHROOMS-TOILET ROOMS | 50 CFM | 20 CFM |

M1504.2 DUCT LENGTH
THE LENGTH OF EXHAUST AND SUPPLY DUCTS USED WITH VENTILATING EQUIPMENT SHALL NOT EXCEED THE LENGTHS DETERMINED IN ACCORDANCE WITH TABLE M1504.2.
EXCEPTION: DUCT LENGTH SHALL NOT BE LIMITED WHERE THE DUCT SYSTEM COMPLIES WITH THE MANUFACTURER'S DESIGN CRITERIA OR WHERE THE FLOW RATE OF THE INSTALLED VENTILATING EQUIPMENT IS VERIFIED BY THE INSTALLER OR APPROVED THIRD PARTY USING A FLOW HOOD, FLOW GRID OR OTHER AIRFLOW MEASURING DEVICE.

TABLE M1504.2 DUCT LENGTH

| DUCT TYPE | FLEX DUCT | | | | | | | | SMOOTH-WALL DUCT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FAN AIRFLOW RATING | 50 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 50 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
| DIAMETER[a] (INCHES) | MAXIMUM LENGTH[b,c,d,e] (FEET) | | | | | | | | | | | | | | | |
| 3 | X | X | X | X | X | X | X | X | 5 | X | X | X | X | X | X | X |
| 4 | 56 | 4 | X | X | X | X | X | X | 114 | 31 | 10 | X | X | X | X | X |
| 5 | NL | 81 | 42 | 16 | 2 | X | X | X | NL | 152 | 91 | 51 | 28 | 4 | X | X |
| 6 | NL | NL | 158 | 91 | 55 | 18 | 1 | X | NL | NL | NL | 168 | 112 | 53 | 25 | 9 |
| 7 | NL | NL | NL | NL | 161 | 78 | 40 | 19 | NL | NL | NL | NL | NL | 148 | 88 | 54 |
| 8 AND ABOVE | NL | NL | NL | NL | NL | 189 | 111 | 69 | NL | NL | NL | NL | NL | NL | 198 | 133 |

A. FAN AIRFLOW RATING SHALL BE IN ACCORDANCE WITH ANSI/AMCA 210-ANSI/ASHRAE 51.
B. FOR NONCIRCULAR DUCTS, CALCULATE THE DIAMETER AS FOUR TIMES THE CROSS-SECTIONAL AREA DIVIDED BY THE PERIMETER.
C. THIS TABLE ASSUMES THAT ELBOWS ARE NOT USED. FIFTEEN FEET OF ALLOWABLE DUCT LENGTH SHALL BE DEDUCTED FOR EACH ELBOW INSTALLED IN THE DUCT RUN.
D. NL = NO LIMIT ON DUCT LENGTH OF THIS SIZE.
E. X = NOT ALLOWED. ANY LENGTH OF DUCT OF THIS SIZE WITH ASSUMED TURNS AND FITTINGS WILL EXCEED THE RATED PRESSURE DROP.

M1504.3 EXHAUST OPENINGS
AIR EXHAUST OPENINGS SHALL TERMINATE AS FOLLOWS:
1. NOT LESS THAN 3 FEET FROM PROPERTY LINES,
2. NOT LESS THAN 3 FEET FROM GRAVITY AIR INTAKE OPENINGS, OPERABLE WINDOWS AND DOORS.
3. NOT LESS THAN 10 FEET FROM MECHANICAL AIR INTAKE OPENINGS EXCEPT WHERE EITHER OF THE FOLLOWING APPLY:
3.1 THE EXHAUST OPENING IS LOCATED NOT LESS THAN 3 FEET ABOVE THE AIR INTAKE OPENING.
3.2 THE EXHAUST OPENING IS PART OF A FACTORY-BUILT INTAKE/ EXHAUST COMBINATION TERMINATION FITTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, AND THE EXHAUST AIR IS DRAWN FROM A LIVING SPACE.
4. OPENINGS SHALL COMPLY WITH SECTIONS R303.5.2 AND R303.6.

M1505 MECHANICAL VENTILATION
M1505.4 WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM
M1505.4.1 SYSTEM DESIGN
THE WHOLE-HOUSE VENTILATION SYSTEM SHALL CONSIST OF ONE OR MORE SUPPLY FANS, ONE OR MORE EXHAUST FANS, OR AN ERV/HRV WITH INTEGRAL FANS, ASSOCIATED DUCTS AND CONTROLS. WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM WITH SUPPLY AND EXHAUST FANS PER SECTIONS M1505.4.1.2, M1505.4.1.3, M1505.4.1.4, AND M1505.4.1.5. LOCAL EXHAUST FANS ARE PERMITTED TO SERVE AS PART OF THE WHOLE-HOUSE VENTILATION SYSTEM WHEN PROVIDED WITH THE PROPER CONTROLS PER SECTION M1505.4.2. THE SYSTEMS SHALL BE DESIGNED AND INSTALLED TO EXHAUST AND/OR SUPPLY THE MINIMUM OUTDOOR AIRFLOW RATES PER SECTION M1505.4.3 AS MODIFIED BY THE WHOLE-HOUSE VENTILATION SYSTEM COEFFICIENTS IN SECTION M1504.5.3.1 WHERE APPLICABLE. THE WHOLE-HOUSE VENTILATION SYSTEM SHALL OPERATE CONTINUOUSLY AT THE MINIMUM VENTILATION RATE DETERMINED PER SECTION M1505.4.2 UNLESS CONFIGURED WITH INTERMITTENT OFF CONTROLS PER SECTION M1505.4.3.2.
M1505.4.1.1 WHOLE-HOUSE SYSTEM COMPONENT REQUIREMENTS
WHOLE-HOUSE VENTILATION SUPPLY AND EXHAUST FANS SPECIFIED IN THIS SECTION SHALL HAVE A MINIMUM EFFICACY AS PRESCRIBED IN THE WASHINGTON STATE ENERGY CODE. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURERS' INSTALLATION INSTRUCTIONS. WHOLE-HOUSE VENTILATION FANS SHALL BE RATED FOR SOUND AT NO LESS THAN THE MINIMUM AIRFLOW RATE REQUIRED BY SECTION M1505.4.3.1. VENTILATION FANS SHALL BE RATED FOR SOUND AT A MAXIMUM OF 1.0 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN. W.C. (25 PA) STATIC PRESSURE IN ACCORDANCE WITH HVI PROCEDURES SPECIFIED IN SECTIONS M1505.4.1.2 AND M1505.4.1.3.
EXCEPTION: HVAC AIR HANDLERS, ERV/HRV UNITS, AND REMOTE-MOUNTED FANS NEED NOT MEET THE SOUND REQUIREMENTS, TO BE CONSIDERED FOR THIS EXCEPTION, A REMOTE-MOUNTED FAN MUST BE MOUNTED OUTSIDE THE HABITABLE SPACES, BATHROOMS, TOILETS, AND HALLWAYS, AND THERE MUST BE AT LEAST 4 FEET (1219 MM) OF DUCTWORK BETWEEN THE FAN AND THE INTAKE GRILLE.
THE WHOLE-HOUSE SUPPLY FAN SHALL PROVIDE DUCTED OUTDOOR VENTILATION AIR TO EACH HABITABLE SPACE WITHIN THE RESIDENTIAL UNIT.
EXCEPTION: INTERIOR JOINING SPACES PROVIDED WITH A 30 CFM (0.0141 M3/S) WHOLE-HOUSE TRANSFER FAN OR A PERMANENT OPENING WITH AN AREA OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF THE INTERIOR ADJOINING SPACE BUT NOT LESS THAN 25 SQUARE FEET (2.3 M2) DO NOT REQUIRE DUCTED OUTDOOR VENTILATION AIR TO BE SUPPLIED DIRECTLY TO THE SPACE. WHOLE-HOUSE TRANSFER FANS SHALL MEET THE SONE RATING OF SECTION M1505.4.1.1 AND SHALL HAVE WHOLE-HOUSE VENTILATION CONTROLS THAT COMPLY WITH SECTION M1505.4.2.
M1505.4.1.2 EXHAUST FANS
EXHAUST FANS REQUIRED SHALL BE DUCTED DIRECTLY TO THE OUTSIDE. EXHAUST AIR OUTLETS SHALL BE DESIGNED TO LIMIT THE PRESSURE DIFFERENCE TO THE OUTSIDE AND EQUIPPED WITH BACKDRAFT DAMPERS OR MOTORIZED DAMPERS IN ACCORDANCE WITH THE WASHINGTON STATE ENERGY CODE. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE; HVI 916, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). EXHAUST FANS REQUIRED IN THIS SECTION MAY BE USED TO PROVIDE LOCAL VENTILATION. BATHROOM EXHAUST FANS THAT ARE DESIGNED FOR INTERMITTENT EXHAUST AIRFLOW RATES HIGHER THAN THE CONTINUOUS EXHAUST AIRFLOW RATES IN TABLE R1505.4.3(3) SHALL BE PROVIDED WITH OCCUPANCY SENSORS OR HUMIDITY SENSORS TO AUTOMATICALLY OVERRIDE THE FAN TO THE HIGH SPEED AIRFLOW RATE. THE EXHAUST FANS SHALL BE TESTED AND THE TESTING RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.6.
M1505.4.1.3 SUPPLY FANS
SUPPLY FANS USED IN MEETING THE REQUIREMENTS OF THIS SECTION SHALL SUPPLY OUTDOOR AIR FROM INTAKE OPENINGS IN ACCORDANCE WITH INTERNATIONAL MECHANICAL CODE SECTIONS 401.4 AND 401.5. WHEN DESIGNED FOR INTERMITTENT OFF OPERATION, SUPPLY SYSTEMS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS IN ACCORDANCE WITH THE WASHINGTON STATE ENERGY CODE. SUPPLY FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE; HVI 916, HVI AIRFLOW TEST PROCEDURE; AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). WHERE OUTDOOR AIR IS PROVIDED TO EACH HABITABLE DWELLING UNIT OR SLEEPING UNIT BY SUPPLY FAN SYSTEMS, THE OUTDOOR AIR SHALL BE FILTERED. THE FILTER SHALL BE ACCESSIBLE FOR REGULAR MAINTENANCE AND REPLACEMENT. THE FILTER SHALL HAVE A MINIMUM EFFICIENCY RATING VALUE (MERV) OF AT LEAST 8.
M1505.4.1.4 BALANCED WHOLE-HOUSE VENTILATION SYSTEM
A BALANCED WHOLE-HOUSE VENTILATION SYSTEM SHALL INCLUDE BOTH SUPPLY AND EXHAUST FANS. THE SUPPLY AND EXHAUST FANS SHALL HAVE AIRFLOW THAT IS WITHIN 10% OF EACH OTHER. THE TESTED AND BALANCED TOTAL MECHANICAL EXHAUST AIRFLOW RATE IS WITHIN 10% OR 5 CFM, WHICHEVER IS GREATER, OF THE TOTAL MECHANICAL SUPPLY AIRFLOW RATE. THE FLOW RATE TEST RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7. THE EXHAUST FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.2. THE SUPPLY FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.3. BALANCED VENTILATION SYSTEMS WITH BOTH SUPPLY AND EXHAUST FANS IN A PACKAGED PRODUCT, SUCH AS AN ERV/HRV, SHALL MEET THE REQUIREMENTS OF HVI 920, AS APPLICABLE. INTERMITTENT DRYER EXHAUST, INTERMITTENT RANGE HOOD EXHAUST, AND INTERMITTENT TOILET ROOM EXHAUST AIRFLOW RATES ABOVE THE RESIDENTIAL DWELLING OR SLEEPING UNIT MINIMUM VENTILATION RATE ARE EXEMPT FROM THE BALANCED AIRFLOW CALCULATION.
M1505.4.1.5 FURNACE INTEGRATED SUPPLY
SYSTEMS USING SPACE HEATING AND/OR COOLING AIR HANDLER FANS FOR OUTDOOR AIR SUPPLY DISTRIBUTION ARE NOT PERMITTED.
EXCEPTION: AIR HANDLER FANS SHALL HAVE MULTI-SPEED OR VARIABLE SPEED SUPPLY AIRFLOW CONTROL CAPABILITY WITH A LOW SPEED OPERATION NOT GREATER THAN 25% OF THE RATED SUPPLY AIRFLOW CAPACITY DURING VENTILATION ONLY OPERATION. OUTDOOR AIR INTAKE OPENINGS MUST MEET THE PROVISIONS OF SECTIONS R303.5 AND R303.6 AND MUST INCLUDE A MOTORIZED DAMPER THAT IS ACTIVATED BY THE WHOLE-HOUSE VENTILATION SYSTEM CONTROLLER. THE MOTORIZED DAMPER MUST BE CONTROLLED TO MAINTAIN THE OUTDOOR AIRFLOW INTAKE AIRFLOW WITHIN 10% OF THE WHOLE-HOUSE MECHANICAL EXHAUST AIRFLOW RATE. THE FLOW RATE FOR THE OUTDOOR AIR INTAKE MUST BE TESTED AND VERIFIED AT THE MINIMUM VENTILATION FAN SPEED AND THE MAXIMUM HEATING OR COOLING FAN SPEED. THE RESULTS OF THE TEST SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7.
M1505.4.1.6 TESTING
WHOLE-HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY SECTIONS M1505.4.3 AND M1505.4.4. TESTING SHALL BE PERFORMED ACCORDING TO THE VENTILATION EQUIPMENT MANUFACTURER'S INSTRUCTIONS, OR BY USING A FLOW HOOD, FLOW GRID, OR OTHER AIRFLOW MEASURING DEVICE AT THE MECHANICAL VENTILATION FAN'S INLET TERMINALS OUTLET TERMINALS OR GRILLES OR IN THE CONNECTED VENTILATION DUCTS, WHERE REQUIRED BY THE BUILDING OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BUILDING OFFICIAL AND BE POSTED IN THE DWELLING UNIT PER SECTION M1505.4.1.7.
M1505.4.1.7 CERTIFICATE
A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR, TEST AND BALANCE CONTRACTOR OR OTHER APPROVED PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING, WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL LIST THE FLOW RATE DETERMINED FROM THE DELIVERED AIRFLOW OF THE WHOLEHOUSE MECHANICAL VENTILATION SYSTEM AS INSTALLED AND THE TYPE OF MECHANICAL WHOLE-HOUSE VENTILATION SYSTEM USED TO COMPLY WITH SECTION M1505.4.3.1.
M1505.4.2 SYSTEM CONTROLS
THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:
THE WHOLE-HOUSE VENTILATION SYSTEM SHALL BE CONTROLLED WITH MANUAL SWITCHES, TIMERS OR OTHER MEANS THAT PROVIDE FOR AUTOMATIC OPERATION OF THE VENTILATION SYSTEM THAT ARE READILY ACCESSIBLE BY THE OCCUPANT;
WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OFF OF THE SYSTEM BY THE OCCUPANT DURING PERIODS OF POOR OUTDOOR AIR QUALITY. CONTROLS SHALL INCLUDE PERMANENT TEXT OR A SYMBOL INDICATING THEIR FUNCTION. RECOMMENDED CONTROL PERMANENT LABELING TO INCLUDE TEXT SIMILAR TO THE FOLLOWING: "LEAVE ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." MANUAL CONTROLS SHALL BE READILY ACCESSIBLE BY THE OCCUPANT;
WHOLE-HOUSE VENTILATION SYSTEMS SHALL BE CONFIGURED TO OPERATE CONTINUOUSLY EXCEPT WHERE INTERMITTENT OFF CONTROLS AND SIZING ARE PROVIDED PER SECTION M1505.4.3.2.

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

| DWELLING UNIT FLOOR AREA | NUMBER OF BEDROOMS | | | | |
|---|---|---|---|---|---|
| | 0 — 1 | 2-3 | 4-5 | 6-7 | >7 |
| | AIRFLOW IN CFM | | | | |
| < 1,500 | 30 | 45 | 60 | 75 | 90 |
| 1,501 — 3,000 | 45 | 60 | 75 | 90 | 105 |
| 3,001 — 4,500 | 60 | 75 | 90 | 105 | 120 |
| 4,501 — 6,000 | 75 | 90 | 105 | 120 | 135 |
| 6,001 — 7,500 | 90 | 105 | 120 | 135 | 150 |
| > 7,500 | 105 | 120 | 135 | 150 | 165 |

TABLE M1505.4.3(2) INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS[a,b]

| RUN-TIME PERCENTAGE IN EACH 4-HOUR SEGMENT | 25% | 33% | 50% | 66% | 75% | 100% |
|---|---|---|---|---|---|---|
| FACTOR (a) | 4 | 3 | 2 | 1.5 | 1.3 | 1.0 |

a. FOR VENTILATION SYSTEM RUN TIME VALUES BETWEEN THOSE GIVEN, THE FACTORS ARE PERMITTED TO BE DETERMINED BY INTERPOLATION.
b. EXTRAPOLATION BEYOND THE TABLE IS PROHIBITED.

WHOLE HOUSE VENTILATION OPTIONS (CHOOSE ONE):
☒ 1. WHOLE HOUSE VENTILATION USING EXHAUST FANS
☐ 2. WHOLE HOUSE VENTILATION INTEGRATED WITH A FORCED-AIR SYSTEM
☐ 3. WHOLE HOUSE VENTILATION USING A SUPPLY FAN
☐ 4. WHOLE-HOUSE VENTILATION USING A HEAT RECOVERY VENTILATION SYSTEM.

## VICINITY MAP

N.T.S.

PROJECT SITE (LOT 2)
CANYON PARK
SE 78TH ST
SE 76TH ST
SE 75TH PL
SE 74TH ST
SE 72ND PL
SE 71ST PL
SE 70TH PL
SE 69TH PL
SE 68TH ST
SE 67TH PL
SE 66TH ST
SE 65TH PL
SE 64TH PL
SE 63RD PL
SE 62ND PL
SE 61ST PL
SE 60TH PL
SE 59TH PL
SE 58TH PL
S

# BUILDING THERMAL ENVELOPE

R401 COMPLIANCE & CERTIFICATE POSTED
THE BUILDING THERMAL ENVELOPE SHALL MEET THE PRESCRIPTIVE REQUIREMENTS OF SECTION R402 OF THE WSEC.

**R401.3 CERTIFICATE.** A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE BUILDER OR OTHER *APPROVED* PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN *APPROVED* LOCATION INSIDE THE *BUILDING*. WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL INDICATE THE FOLLOWING:

1. 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.
2. *U*-FACTORS FOR FENESTRATION AND THE SOLAR HEAT GAIN COEFFICIENT (SHGC) OF FENESTRATION, WHERE THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL INDICATE THE AREA WEIGHTED AVERAGE VALUE.
3. THE RESULTS FROM ANY REQUIRED DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING DONE ON THE BUILDING.
4. THE RESULTS FROM THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FLOW RATE TEST.
5. THE TYPES, SIZES AND EFFICIENCIES OF HEATING, COOLING, WHOLE-HOUSE MECHANICAL VENTILATION, AND SERVICE WATER HEATING APPLIANCES. WHERE A GAS-FIRED UNVENTED ROOM HEATER, ELECTRIC FURNACE, OR BASEBOARD ELECTRIC HEATER IS INSTALLED IN THE RESIDENCE, THE CERTIFICATE SHALL LIST "GAS-FIRED UNVENTED ROOM HEATER," "ELECTRIC FURNACE" OR "BASEBOARD ELECTRIC HEATER," AS APPROPRIATE. AN EFFICIENCY SHALL NOT BE *LISTED* FOR GAS-FIRED UNVENTED ROOM HEATERS, ELECTRIC FURNACES OR ELECTRIC BASEBOARD HEATERS.
6. WHERE *ON-SITE PHOTOVOLTAIC PANEL* SYSTEMS HAVE BEEN INSTALLED, THE ARRAY CAPACITY, INVERTER EFFICIENCY, PANEL TILT, ORIENTATION AND ESTIMATED ANNUAL ELECTRICAL GENERATION SHALL BE NOTED ON THE CERTIFICATE.

# ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

**R406.1 SCOPE.** THIS SECTION ESTABLISHES ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS FOR ALL NEW CONSTRUCTION COVERED BY THIS CODE, INCLUDING ADDITIONS SUBJECT TO SECTION R502 AND CHANGE OF OCCUPANCY OR USE SUBJECT TO SECTION R505 UNLESS SPECIFICALLY EXEMPTED IN SECTION R406. CREDIT FROM BOTH SECTIONS R406.2 AND R406.3 ARE REQUIRED.

**R406.2 CARBON EMISSION EQUALIZATION.** THIS SECTION ESTABLISHES A BASE EQUALIZATION BETWEEN FUELS USED TO DEFINE THE EQUIVALENT CARBON EMISSIONS OF THE OPTIONS SPECIFIED. THE PERMIT SHALL DEFINE THE BASE FUEL SELECTION TO BE USED AND THE POINTS SPECIFIED IN TABLE R406.2 SHALL BE USED TO MODIFY THE REQUIREMENTS IN SECTION R406.3. THE SUM OF CREDITS FROM TABLES R406.2 AND R406.3 SHALL MEET THE REQUIREMENTS OF SECTION R406.3.

**R406.3 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS.** EACH DWELLING UNIT IN A RESIDENTIAL BUILDING SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R406.2 AND TABLE 406.3 TO ACHIEVE THE FOLLOWING MINIMUM NUMBER OF CREDITS. TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION SELECTED AND THE MAXIMUM TESTED BUILDING AIR LEAKAGE, AND SHOW THE QUALIFYING VENTILATION SYSTEM AND ITS CONTROL SEQUENCE OF OPERATION.

1. SMALL DWELLING UNIT: 5.0 CREDITS
   DWELLING UNITS LESS THAN 1500 SQUARE FEET IN CONDITIONED FLOOR AREA WITH LESS THAN 300 SQUARE FEET OF FENESTRATION AREA. ADDITIONS TO EXISTING BUILDING GREATER THAN 500 SQUARE FEET OF HEATED FLOOR AREA BUT LESS THAN 1500 SQUARE FEET.
2. MEDIUM DWELLING UNIT: 8.0 CREDITS
   ALL DWELLING UNITS THAT ARE NOT INCLUDED IN #1, #3 OR #4.
3. LARGE DWELLING UNIT: 9.0 CREDITS
   DWELLING UNITS EXCEEDING 5000 SQUARE FEET OF CONDITIONED FLOOR AREA.
4. R-2 OCCUPANCIES: 6.5 CREDITS
   SECTION R401.1 AND RESIDENTIAL BUILDING SECTION R202 FOR GROUP R-2.
5. ADDITIONS: 2.0 CREDITS
   150 SQUARE FEET TO 500 SQUARE FEET.

THE DRAWINGS INCLUDED WITH THE PERMIT APPLICATION SHALL IDENTIFY WHICH OPTIONS HAVE BEEN SELECTED AND THE POINT VALUE OF EACH OPTION, REGARDLESS OF WHETHER SEPARATE MECHANICAL, PLUMBING, ELECTRICAL, OR OTHER PERMITS ARE UTILIZED FOR THE PROJECT.

**ENERGY EQUALIZATION CREDITS, SYSTEM 2 (1.5 CREDITS)**
FOR AN INITIAL HEATING SYSTEM USING A HEAT PUMP THAT MEETS FEDERAL STANDARDS FOR THE EQUIPMENT LISTED IN TABLE C403.3.2(2) AND SUPPLEMENTAL HEATING PROVIDED BY ELECTRIC RESISTANCE OR A COMBUSTION FURNACE MEETING MINIMUM STANDARDS LISTED IN TABLE C403.3.2(5)B

1 EFFICIENT WATER HEATING OPTION 5.6 (2.0 CREDITS)
ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION.
TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE WATER HEATER EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.

**RENEWABLE ELECTRIC ENERGY OPTION 6.1 (4.5 CREDITS)**
FOR EACH 600 KWH OF ELECTRICAL GENERATION PER HOUSING UNIT PROVIDED ANNUALLY BY ON-SITE WIND OR SOLAR EQUIPMENT A 0.5 CREDIT SHALL BE ALLOWED, UP TO 4.5 CREDITS. GENERATION SHALL BE CALCULATED AS FOLLOWS: FOR SOLAR ELECTRIC SYSTEMS, THE DESIGN SHALL BE DEMONSTRATED TO MEET THIS REQUIREMENT USING THE NATIONAL RENEWABLE ENERGY LABORATORY CALCULATOR PVWATTS OR ALTERNATIVE APPROVED BY THE CODE OFFICIAL. DOCUMENTATION NOTING SOLAR ACCESS SHALL BE INCLUDED ON THE PLANS.
TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SHOW THE PHOTOVOLTAIC EQUIPMENT TYPE, PROVIDE DOCUMENTATION OF SOLAR ACCESS, AND INCLUDE A CALCULATION OF THE MINIMUM ANNUAL ENERGY POWER PRODUCTION.

MINIMUM ANNUAL POWER PRODUCTION OF THE RENEWABLE ELECTRIC ENERGY:

| | |
|---|---|
| SYSTEM SIZE (kWDC)= | 5kW |
| FIRST YEAR POWER OUTPUT (kWh)= | 5270 kWh |
| SPECIFIC PRODUCTION (kWh/m²/DAY)= | 3.77 kWh/m²/DAY |
| SYSTEM LOSES= | 14.08% |
| SYSTEM SPECIFICATIONS= | STANDARD MODULE AND FIXED ARRAY TYPE |
| ARRAY TILT= | 20 DEGREES |
| ARRAY AZIMUTH= | 180 DEGREES |

# MOISTURE CONTROL

R405.2.2 FOUNDATION VAPOR RETARDERS

A 10 MIL-THICK POLYETHYLENE VAPOR RETARDER SHALL BE APPLIED OVER THE POROUS LAYER WITH THE BASEMENT FLOOR CONSTRUCTED OVER THE POLYETHYLENE.

R702.7 WALL VAPOR RETARDERS

A VAPOR RETARDER SHALL BE PROVIDED ON THE INTERIOR SIDE OF FRAME WALLS OF THE CLASS INDICATED IN TABLE R702.7(2), INCLUDING COMPLIANCE WITH TABLE R702.7(3) OR R702.7(4) WHERE APPLICABLE.
EXCEPTIONS:
1. BASEMENT WALLS.
2. BELOW-GRADE PORTION OF ANY WALL.
3. CONTSTRUCTION WHERE ACCUMULATION, CONDENSATION OR FREEZING OF MOISTURE WILL NOT DAMAGE THE MATERIALS.
4. A VAPOR RETARDER SHALL NOT BE REQUIRED IN CLIMATE ZONES 1,2 AND 3.

TABLE R702.7(1) VAPOR RETARDER MATERIALS AND CLASSES

| CLASS | ACCEPTABLE MATERIALS |
|---|---|
| I | SHEET POLYETHELENE, NONPERFORATED ALUMINUM FOIL OR OTHER APPROVED MATERIALS WITH A PERM RATING LESS THAN OR EQUAL TO 0.1. |
| II | KRAFT-FACED FIBERGLASS BATTS, VAPOR RETARDER PAINT OR OTHER APPROVED MATERIALS APPLIED IN ACCORDANCE WITH THE MAUNUFACTURER'S INSTALLATION INSTRUCTIONS FOR A PERM RATING GREATER THAN 0.1 AND LESS THAN OR EQUAL TO 1.0. |
| III | LATEX PAINT, ENAMEL PAINT OR OTHER APPROVED MATERIALS APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR AS PERM RATING GREATER THAN 1.0 AND LESS THAN OR EQUAL TO 10.0. |

TABLE R702.7(2) VAPOR RETARDER OPTIONS

| CLIMATE ZONE | CLASS I[A] | CLASS II[A] | CLASS III |
|---|---|---|---|
| 1, 2 | NOT PERMITTED | NOT PERMITTED | PERMITTED |
| 3, 4 9EXCEPT MARINE 4) | NOT PERMITTED | PERMITTED[C] | PERMITTED |
| MARINE 4, 5, 6, 7, 8 | PERMITTED[B] | PERMITTED[C] | SEE TABLE R702.7(3) |

a. CLASS I AND II VAPOR RETARDERS WITH VAPOR PERMEANCE GREATER THAN 1 PERM WHEN MEASURED BY ASTM E96 WATER METHOD (PROCEDURE B) SHALL BE ALLOWED ON THE INTERIOR SIDE OF ANY FRAME WALL IN ALL CLIMATE ZONES.
b. USE OF A CLASS I VAPOR RETARDER IN FRAME WALLS WITH A CLASS I VAPOR RETARDER ON THE EXTERIOR SIDE SHALL REQUIRE AN APPROVED DESIGN.
c. WHERE A CLASS II VAPOR RETARDER IS USED IN COMBINATION WITH FOAM PLASTIC INSULATING SHEATHING INSTALLED AS CONTINUOUS INSULATION ON THE EXRERIOR SIDE OF FRAME WALLS, THE CONTINUOUS INSULATION SHALL COMPLY WITH TABLE R702.7(4) AND THE CLASS II VAPOR RETARDER SHALL HAVE A PERMEANCE GREATER THAN 1 PERM WHEN MEASURED BY ASTM E96 WATER METHOD (PROCEDURE B).

R805.1 CEILING INSTALLATION

CEILINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIEREMENTS FOR INTERIOR WALL FINIUSHES AS PROVIDED IN SECTIONS R702.1 THROUGH R702.6.

MAXIMUM HEAT EQUIPMENT OUTPUT

WASHINGTON STATE SIMPLE HEATING SYSTEM SIZING= 87,140 BTU/HR

## 2021 WSEC TABLE R402.1.1

* MODIFIED BY U-FACTOR COMPLIANCE

| CLIMATE ZONE 5 AND MARINE 4 | R VALUE | EQUIVALENT U-FACTORS |
|---|---|---|
| FENESTRATION U-FACTOR (b) | N/A | 0.30 |
| SKYLIGHT(b) U-FACTOR | N/A | 0.50 |
| CEILING ATTIC R-VALUE (e) | 60 | 0.024 |
| CEILING VAULT R-VALUE (e) | 49* | 0.021* |
| WOOD FRAMED WALL (g,i) R-VALUE | 21 int. + 0 c.i.* | 0.054* |
| FLOOR R-VALUE | 30 | 0.029 |
| BELOW GRADE (c,h) WALL R-VALUE | 21 int. + t.b. | 0.035 |
| SLAB (d,f) 7' DEPTH & R-VALUE | 10, ENTIRE SLAB | 0.50 |

FOR SI: 1 FOOT = 304.8 MM, CI = CONTINUOUS INSULATION, INT = INTERMEDIATE FRAMING.
a. *R*-VALUES ARE MINIMUMS. *U*-FACTORS AND SHGC ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE COMPRESSED *R*-VALUE OF THE INSULATION FROM APPENDIX TABLE A101,4 SHALL NOT BE LESS THAN THE *R*-VALUE SPECIFIED IN THE TABLE.
b. THE FENESTRATION *U*-FACTOR COLUMN EXCLUDES SKYLIGHTS.
c. "10/15/21 +5TB" MEANS R-10 CONTINUOUS INSULATION ON THE EXTERIOR OF THE WALL, OR R-15 CONTINUOUS INSULATION ON THE INTERIOR OF THE WALL, OR R-21 CAVITY INSULATION PLUS A THERMAL BREAK BETWEEN THE SLAB AND THE BASEMENT WALL AT THE INTERIOR OF THE BASEMENT WALL. "10/15/21 +5TB" SHALL BE PERMITTED TO BE MET WITH R-13 CAVITY INSULATION ON THE INTERIOR OF THE BASEMENT WALL PLUS R-5 CONTINUOUS INSULATION ON THE INTERIOR OR EXTERIOR OF THE WALL. "5TB" MEANS R-5 THERMAL BREAK BETWEEN FLOOR SLAB AND BASEMENT WALL.
d. R-10 CONTINUOUS INSULATION IS REQUIRED UNDER HEATED SLAB ON GRADE FLOORS. SEE SECTION R402.2.9.1.
e. FOR SINGLE RAFTER- OR JOIST-VAULTED CEILINGS, THE INSULATION MAY BE REDUCED TO R-38 IF THE FULL INSULATION DEPTH EXTENDS OVER THE TOP PLATE OF THE EXTERIOR WALL.
f. R-7.5 CONTINUOUS INSULATION INSTALLED OVER AN EXISTING SLAB IS DEEMED TO BE EQUIVALENT TO THE REQUIRED PERIMETER SLAB INSULATION WHEN APPLIED TO EXISTING SLABS COMPLYING WITH SECTION R503,1,1. IF FOAM PLASTIC IS USED, IT SHALL MEET THE REQUIREMENTS FOR THERMAL BARRIERS PROTECTING FOAM PLASTICS.
g. FOR LOG STRUCTURES DEVELOPED IN COMPLIANCE WITH STANDARD ICC 400, LOG WALLS SHALL MEET THE REQUIREMENTS FOR *CLIMATE ZONE* 5 OF ICC 400.
h. INT. (INTERMEDIATE FRAMING) DENOTES FRAMING AND INSULATION AS DESCRIBED IN SECTION A103.2.2 INCLUDING STANDARD FRAMING 16 INCHES ON CENTER, 78 PERCENT OF THE WALL CAVITY INSULATED AND HEADERS INSULATED WITH A MINIMUM OF R-10 INSULATION.
i. THE FIRST VALUE IS CAVITY INSULATION; THE SECOND VALUE IS CONTINUOUS INSULATION. THEREFORE, AS AN EXAMPLE, "R-13+10" MEANS R-13 CAVITY INSULATION PLUS R-10 CONTINUOUS INSULATION.
j. A MAXIMUM U-VALUE OF 0.32 SHALL APPLY TO VERTICAL FENESTRATION PRODUCTS INSTALLED IN BUILDINGS LOCATED ABOVE 4000 FEET IN ELEVATION ABOVE SEA LEVEL, OR IN WINDBORNE DEBRIS REGIONS WHERE PROTECTION OF OPENINGS IS REQUIRED UNDER SECTION R301.2.1.2 OF THE INTERNATIONAL RESIDENTIAL CODE.

## 2021 WSEC TABLE R406.3 ⚠

ADDITIONAL ENERGY REQUIREMENTS FOR MEDIUM DWELLING = 8.0 CREDITS REQUIRED

| ENERGY EQUALIZATION CREDIT | SYSTEM 2.0 | 1.5 CREDITS |
|---|---|---|
| ENERGY EFFICIENCY CREDIT | OPTION | CREDITS EARNED |
| OPTION 1 BUILDING ENVELOPE | NA | NA |
| OPTION 2 AIR LEAKAGE CONTROL | NA | NA |
| OPTION 3 HVAC EQUIPMENT | NA | NA |
| OPTION 4 HVAC DISTRIBUTION | NA | NA |
| OPTION 5 WATER HEATING | OPTION 5.6 | 2.0 |
| OPTION 6 RENEWABLE ENERGY | OPTION 6.1 | 4.5 CREDITS |
| OPTION 7 APPLIANCE OPTION | NA | NA |
| TOTAL CREDITS EARNED | | 8.0 CREDITS |

PVWATTS CALCULATOR RESULTS

RESULTS

**5,269 kWh/Year***

*System output may range from 5,029 to 5,447 kWh per year near this location.*

| Month | Solar Radiation ( kWh / m² / day ) | AC Energy ( kWh ) |
|---|---|---|
| January | 1.43 | 178 |
| February | 2.32 | 263 |
| March | 3.19 | 392 |
| April | 4.77 | 554 |
| May | 5.13 | 609 |
| June | 5.66 | 631 |
| July | 6.22 | 709 |
| August | 5.90 | 680 |
| September | 4.61 | 522 |
| October | 2.80 | 340 |
| November | 1.71 | 208 |
| December | 1.45 | 184 |
| Annual | 3.77 | 5,270 |

**Location and Station Identification**

| | |
|---|---|
| Requested Location | 7414 78th avenue se, mercer island |
| Weather Data Source | Lat, Lng: 47.53, -122.22 0.8 mi |
| Latitude | 47.53° N |
| Longitude | 122.22° W |

**PV System Specifications**

| | |
|---|---|
| DC System Size | 5 kW |
| Module Type | Standard |
| Array Type | Fixed (open rack) |
| System Losses | 14.08% |
| Array Tilt | 20° |
| Array Azimuth | 180° |
| DC to AC Size Ratio | 1.2 |
| Inverter Efficiency | 96% |
| Ground Coverage Ratio | 0.4 |

Simple Heating System Size: Washington State

| Project Information | Contact Information |
|---|---|
| SEARS PLAT - LOT 2 | McCullough Architects |
| 97414 - 78th Avenue SE | 5601 - 6th Ave S, #317 |
| Mercer Island, WA 98040 | Seattle, WA 98108 |

Heating System Type: ○ All Other Systems ● Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature — Instructions: Mercer Island — Delsgn Temperature 25 — Design Temperature Difference (ΔT) 45 (ΔT = Indoor (70 degrees) - Outdoor Design Temp)

Area of Building — Conditioned Floor Area — Instructions: Conditioned Floor Area (sq ft) 4,995 — Average Ceiling Height — Instructions: Average Ceiling Height (ft) 10.0 — Conditioned Volume 49,950

| | Instructions | U-Factor | X | Area | = | UA |
|---|---|---|---|---|---|---|
| Glazing and Doors | U-0.30 | 0.300 | | 1,588 | | 476.40 |
| Skylights | | 0.50 | | 0 | | 0.00 |
| Insulation: Attic | R-60 | 0.024 | | 2,282 | | 54.77 |
| Single Rafter or Joist Vaulted Ceilings | R-49 | 0.020 | | 177 | | 3.54 |
| Above Grade Walls (see Figure 1) | R-21 Intermediate | 0.056 | | 3,042 | | 170.35 |
| Floors | R-30 | 0.029 | | 1,444 | | 41.88 |

Below Grade Walls and Slabs (see Figure 1) — Instructions: Wall & Slab Depth: R21 Batt w/TB, 7' depth — Wall U-FactorX Area: 0.035, 1,305 — UA 45.68 — Slab F-FactorX Length: 0.500, 153 — UA 76.25

Slab on Grade (see Figure 1) — Instructions: None — F-Factor X Length — UA

Location of Ducts — Instructions: Unconditioned Space — Duct Leakage Coefficient 1.100

Figure 1.

| | |
|---|---|
| Sum of UA | 868.86 |
| Envelope Heat Load (Sum of UA x ΔT) | 39,099Btu / Hour |
| Air Leakage Heat Load (Volume x 0.6 x ΔT x 0.018) | 24,276Btu / Hour |
| Building Design Heat Load (Air leakage + envelope heat loss) | 63,374Btu / Hour |
| Building and Duct Heat Load (Ducts in unconditioned space: sum of building heat loss x 1.10; Ducts in conditioned space: sum of building heat loss x 1) | 69,712Btu / Hour |
| Maximum Heat Equipment Output (Building and duct heat loss x 1.40 for forced air furnace; Building and duct heat loss x 1.25 for heat pump) | 87,140Btu / Hour |

Window, Skylight and Door Schedule

| Project Information | Contact Information |
|---|---|
| SEARS PLAT - LOT 2 | McCullough Architects |
| 97414 - 78th Avenue NE | 5601 - 6th Ave S, #317 |
| Mercer Island, Wa 98040 | Seattle, Wa 98108 |

| Component Description | Ref. | U-factor | Width Qt. Feet | Inch | Height Feet | Inch | Area | UA |
|---|---|---|---|---|---|---|---|---|
| Exempt Swinging Door (24 sq. ft. max.) | | | | | | | | |
| Exempt Glazed Fenestration (15 sq. ft. max.) | | | | | | | | |
| **Vertical Fenestration (Windows and doors)** | | | | | | | | |
| **Upper Floor** | | | | | | | | |
| 3/0 x 3/0 FIX & AWN | | 0.30 | 5 | 3 | 3 | 0 | 45.0 | 13.50 |
| 3/0 x 5/0 FIX | | 0.30 | 1 | 3 | 5 | 0 | 15.0 | 4.50 |
| 3/0 x 8/0 FIX o/ FIX & CSMT o/ FIX | | 0.30 | 15 | 3 | 8 | 0 | 360.0 | 108.00 |
| 5/0 x 5/0 FIX | | 0.30 | 1 | 5 | 5 | 0 | 25.0 | 7.50 |
| 6/0 x 8/0 FIX o/ FIX | | 0.30 | 5 | 6 | 8 | 0 | 240.0 | 72.00 |
| 6/0 x 8/0 TRAP HEAD | | 0.30 | 1 | 6 | 6 | 9 | 40.5 | 12.15 |
| 7/0 x 8/0 FIX o/ FIX | | 0.30 | 1 | 7 | 8 | 0 | 56.0 | 16.80 |
| **Main Floor** | | | | | | | | |
| 3/0 x 4/0 FIX | | 0.30 | 2 | 3 | 4 | | 24.0 | 7.20 |
| 3/0 x 7/0 FIX | | 0.30 | 2 | 3 | 7 | | 42.0 | 12.60 |
| 3/0 x 10/0 FIX o/ FIX & CSMT o/ FIX | | 0.30 | 7 | 3 | 10 | | 210.0 | 63.00 |
| 3/6 x 9/0 FIX o/ FIX o/ FIX | | 0.30 | 1 | 3 | 9 | | 31.5 | 9.45 |
| 4/0 x 2/6 FIX | | 0.30 | 2 | 4 | 2 | 6 | 20.0 | 6.00 |
| 5/0 x 10/0 FIX o/ FIX | | 0.30 | 1 | 5 | 10 | | 50.0 | 15.00 |
| 6/0 x 4/0 FIX | | 0.30 | 1 | 6 | 4 | | 24.0 | 7.20 |
| 7/9 x 9/0 FIX o/ FIX | | 0.30 | 1 | 7 | 9 | | 69.8 | 20.93 |
| 8/0 x 10/0 FIX o/ FIX | | 0.30 | 1 | 8 | 10 | | 80.0 | 24.00 |
| 10/ x 10/0 2 PANEL SLIDER | | 0.30 | 1 | 10 | 10 | | 100.0 | 30.00 |
| 2/8 x 8/0 SWING | | 0.30 | 1 | 2 | 8 | | 21.3 | 6.40 |
| 3/6 x 9/0 SWING | | 0.25 | 1 | 3 | 9 | | 31.5 | 7.88 |
| **Lower Floor** | | | | | | | | |
| 5/0 x 2/6 FIX | | 0.30 | 1 | 5 | 2 | 6 | 12.5 | 3.75 |
| 6/0 x 2/6 FIX | | 0.30 | 3 | 6 | 2 | 6 | 45.0 | 13.50 |
| 9/0 x 5/0 CSMT-FIX-CSMT | | 0.30 | 1 | 9 | 5 | | 45.0 | 13.50 |
| Sum of Vertical Fenestration Area and UA | | | | | | | 1588.1 | 474.85 |
| Vertical Fenestration Area Weighted U = UA/Area | | | | | | | | 0.30 |


MCCULLOUGH ARCHITECTS
5601 - 6th Ave South, #317
Seattle, WA. 98108
206.443.1181
mccullougharchitects.com



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Revisions 09/26/25 -
Comment PLAN REVIEW -

Date: 2025.07.03
Job No: 24-008
Project No:
Drawn:
Approved:

Owner SAINTFIELD2 LLC

REGISTERED ARCHITECT 7806 MICHAEL J. MCCULLOUGH STATE OF WASHINGTON

**SEARS PLAT - LOT 2**
Mercer Island
Washington
98040

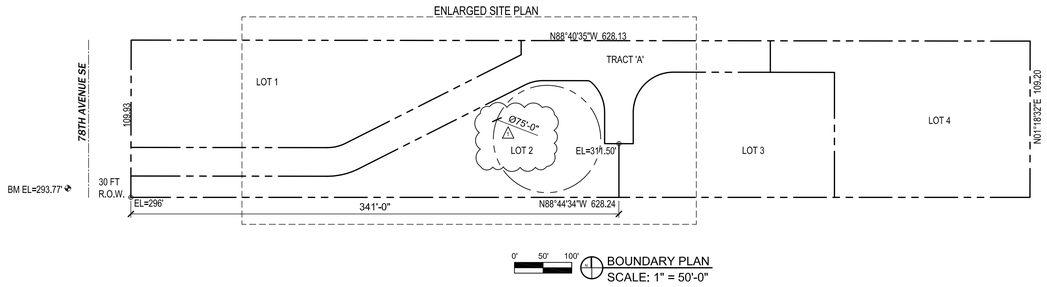
PLAN REVIEW 1

WSEC - Building Thermal Envelope

**A0.2**

## SITE PLAN KEY

- PROPERTY LINE
- SETBACK / BUFFER
- EXISTING TOPO. (MJR.) — 990
- EXISTING TOPO. (MNR.) — 992
- PROPOSED TOPO. — 990
- SILT FENCE
- TREE PROTECTION
- STRUCTURE (DEMO)
- EDGE OF PAVING
- LINE OF STRUCTURE
- LINE OF ROOF O.H.
- CRITICAL AREA
- CONCRETE PAVING
- CONCRETE PAVERS




DRAINAGE STRUCTURES
(PER CIVIL PLANS)

| | |
|---|---|
| AD | AREA DRAIN |
| CB | CATCHBASIN |
| CO | CLEANOUT |
| DS | DOWNSPOUT |
| YD | YARD DRAIN |

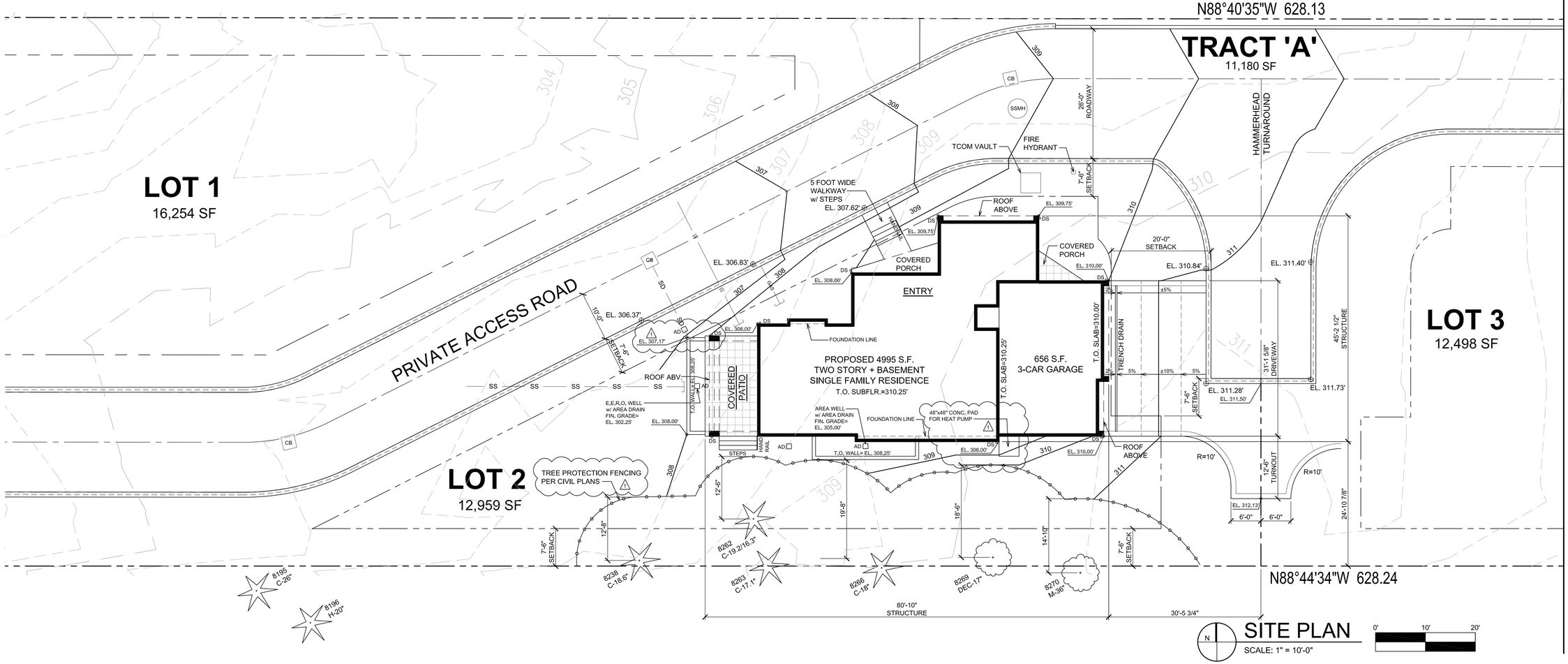
⚠ MICC 19.02.020(F)(3)(d) DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS A, REGULATED CLASS B, AND REGULATED CLASS C WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREAS ESTABLISHED PURSUANT TO SUBSECTION (F)(3)(A) OF THIS SECTION. NEW LANDSCAPING ASSOCIATED WITH NEW SINGLE-FAMILY HOME SHALL NOT INCORPORATE ANY WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED. PROVIDED, THAT REMOVAL SHALL NOT BE REQUIRED IF THE REMOVAL WILL RESULT IN INCREASED SLOPE INSTABILITY OR RISK OF LANDSLIDE OR EROSION.

| | SITE DATA : 7414 - 78th AVE. SE , MERCER ISLAND WA 98040 | |
|---|---|---|
| | TPN | 252404-9075 |
| | QSTR | SE-25-24N-4E |
| | ZONING | R-9.6 |
| 19.02.020.A. | LOT AREA - MIN. 9,600 S.F. | 12,959± sq.ft. |
| 19.02.020.B. | STREET FRONTAGE | PER STREET STANDARDS |
| 19.02.020.C. | FRONT SETBACK | 20' |
| | SIDE SETBACK | 7.5' (15' TOTAL) |
| | REAR SETBACK | 25' (N.A.) |
| 19.02.020.D. | GROSS FLOOR AREA ALLOWED | 5,184 S.F. (40%) |
| | CALCULATED G.F.A. | 4,935 S.F. (38.1%) ⚠ |
| 19.02.020.E. | MAX. BUILDING HEIGHT | 30 ft. above A.B.E. |
| | CALCULATED A.B.E.= | EL. 309.26' |
| | MAX. ALLOWED BLDG. HT.= | EL. 339.26' |
| | MAX. PROPOSED BLDG. HT.= | EL. 339.17' |
| 19.02.020.F. | LOT SLOPE = 4.54% < 15% | |
| | LOT COVERAGE ALLOWED (40%) | 5,184 S.F. |
| | LOT COVERAGE PROPOSED (26.7%) | 3,454 S.F. |
| | MAX. HARDSCAPE ALLOWED (9%) | 1,166 S.F. |
| | MAX. HARDSCAPE PROPOSED (2%) | 270 S.F. ⚠ |
| | MIN. LANDSCAPE COVERAGE (60%) | 7,775 S.F. |
| | LANDSCAPE COVERAGE PROPOSED (72%) | 9,319 S.F. |
| 19.02.020.G. | PARKING - SFR +3000 S.F. | 3 SPACES |

LEGAL DESCRIPTION:
LOT 2
E 1/2 OF NW 1/4 OF SE 1/4 LESS N 769.98 FT & LESS S 450 FT LESS CO RD

GEODETIC DATUM

MAX. PROPOSED ROOF HEIGHT= EL. 339.17'
UPPER UPR. SUBFLOOR LEVEL= EL. 323.31'
MAIN FLR. SUBFLOOR LEVEL= EL. 310.25'
GARAGE SLAB (FRONT)= EL. 310.00'
LOWER FLR. TOP OF SLAB= EL. 300.08'




N
SITE PLAN
SCALE: 1" = 10'-0"
0' 10' 20'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Seattle, WA 98108
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Revisions Comment
9/26/2025 PLAN REVIEW
- -
- -

Date: 2025.07.03
Job No: 24-008
Project No:
Drawn:
Approved:

Owner
SAINTFIELD2 LLC

7414 - 78th Ave. SE
Mercer Island
Washington
98040

REGISTERED ARCHITECT
PHILIP G. MCCULLOUGH
STATE OF WASHINGTON
7806

PLAN REVIEW 1

Site Plan

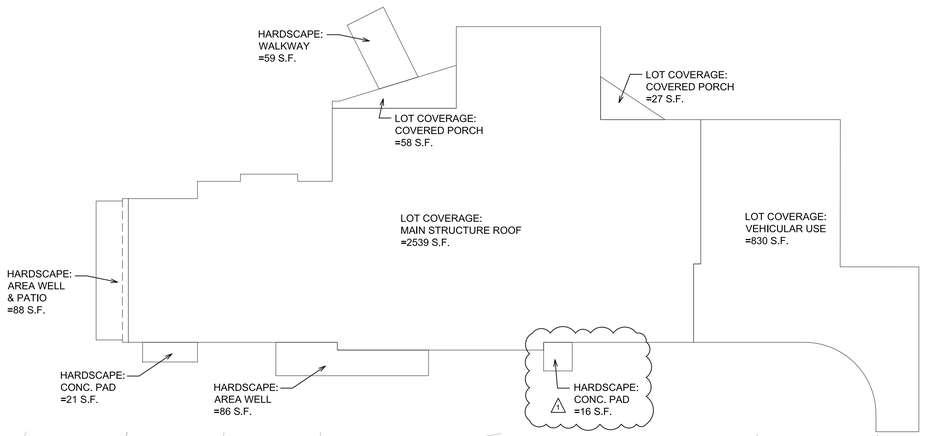
A1.0

## GROSS FLOOR AREA

| | |
|---|---|
| BASEMENT LEVEL: | 114 SF ⚠ |
| MAIN LEVEL: | 1,904 SF |
| UPPER LEVEL: | 2,261 SF |
| GARAGE: | 656 SF |
| TOTAL PROPOSED: | 4,935 SF ⚠ |
| TOTAL ALLOWED: | 5,184 SF |

## LOT COVERAGE

| | |
|---|---|
| MAIN STRUCTURE ROOF AREA= | 2,539 S.F. |
| ACCESSORY STRUCTURE ROOF AREA= | 0 S.F. |
| VEHICULAR USE= | 830 S.F. |
| COVERED PATIOS AND DECKS= | 85 S.F. |
| TOTAL NEW LOT COVERAGE AREA | 3,454 S.F. |
| ⚠ ALLOWED= 12,959 S.F. (0.40)= | 5,184 S.F. |




| Sears Lot 2 Average Building Elevation Calculation | | | | | | |
|---|---|---|---|---|---|---|
| Point | Length | Height | LxH | | | |
| A | 9.67 | 307.42 | 2972.7514 | | | |
| B | 18.83 | 308.25 | 5804.3475 | | | |
| C | 17.33 | 309.17 | 5357.9161 | | | |
| D | 20.17 | 309.67 | 6246.0439 | | | |
| E | 14 | 310.25 | 4343.5 | | | |
| F | 13 | 310 | 4030 | | | |
| G | 20.25 | 310.67 | 6291.0675 | | | |
| H | 10.83 | 310.92 | 3367.2636 | | | |
| I | 1.08 | 310.33 | 335.1564 | | | |
| J | 1 | 310.75 | 310.75 | | | |
| K | 21 | 310.67 | 6524.07 | | | |
| L | 28.83 | 309.67 | 8927.7861 | | | |
| M | 19.5 | 308.17 | 6009.315 | | | |
| N | 9.67 | 307.33 | 2971.8811 | | | |
| O | 1.08 | 308.75 | 333.45 | | | |
| P | 20.08 | 307.67 | 6178.0136 | | | |
| Q | 2.42 | 307.67 | 744.5614 | | | |
| R | 11.25 | 308.67 | 3472.5375 | | | |
| S | 10.42 | 309.33 | 3223.2186 | | | |
| T | | | 0 | | | |
| U | | | 0 | | | |
| totals | 250.41 | | 77443.6297 | | | |

| | |
|---|---|
| ABE: | 309.2673204 |
| Max Ht: | 339.2673204 |

⚠ **Basement GFA Calculation**
**9.23.2025** **Sears Plat 2**

| | Wall Segment Length | Exist or Finish Grade (which ever is lower) | Floor Elevation | Grade Height above floor | Total Wall Height | Wall Segment Coverage | Result= Coverage % x Wall Segment |
|---|---|---|---|---|---|---|---|
| A | 18.67 | 307.75 | 300.08 | 7.67 | 9.08 | 84.47% | 15.77080396 |
| B | 8.67 | 307.50 | 300.08 | 7.42 | 9.08 | 81.72% | 7.084955947 |
| C | 2.42 | 307.75 | 300.08 | 7.67 | 9.08 | 84.47% | 2.044207048 |
| D | 18.83 | 308.33 | 300.08 | 8.25 | 9.08 | 90.86% | 2.198788546 |
| E | 10.92 | 308.83 | 300.08 | 8.75 | 9.08 | 96.37% | 18.14564978 |
| F | 16.58 | 309.17 | 300.08 | 9.09 | 9.08 | 100.11% | 16.59825991 |
| G | 32.00 | 309.83 | 300.08 | 9.75 | 9.08 | 107.38% | 34.36123348 |
| H | 44.08 | 308.33 | 300.08 | 8.25 | 9.08 | 90.86% | 40.05066079 |

**152.17** = sum of wall segment lengths
**136.2545595** = sum of all results

0.89541013 = percentage of bsement wall which is below grade. ( x100)

| | | |
|---|---|---|
| **BASEMENT AREA** | 1089 | SF |
| **EXCLUDED AREA** | 975.102 | SF |
| **GFA AREA** | 113.898 | SF |

### LOT SLOPE:

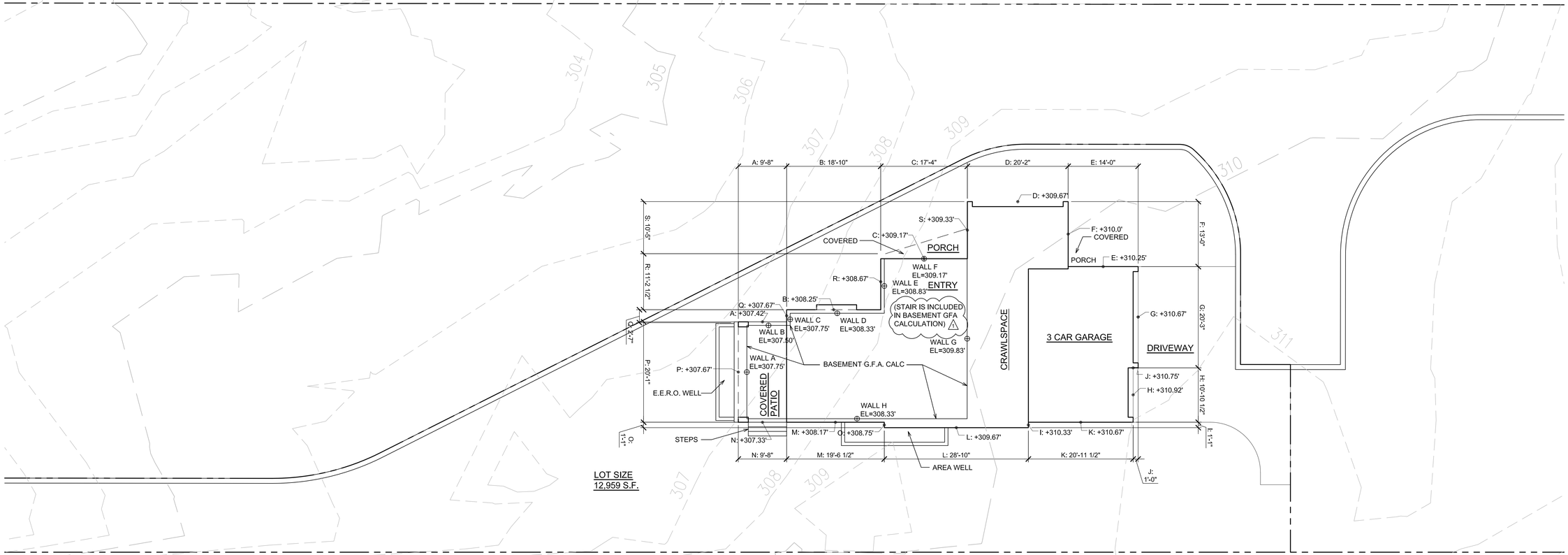
| | |
|---|---|
| HIGHEST ELEVATION POINT: | 311.50' |
| LOWEST ELEVATION POINT: | 296.00' |
| ELEVATION DIFFERENCE: | 15.50' |
| HORIZONTAL DISTANCE: | 341.00' |
| LOT SLOPE= | 4.54% |

(SEE BOUNDARY PLAN ON SHT A1.0 FOR DATA POINTS)

### PROPOSED HARDSCAPE:

| | |
|---|---|
| WALKWAY= | 59 S.F. |
| CONC. PAD= | 21 S.F. |
| CONC. PAD= | 16 S.F. ⚠ |
| AREA WELL= | 88 S.F. |
| AREA WELL= | 86 S.F. |
| TOTAL= | 270 S.F. ⚠ |

⚠ MICC 19.02.020(C)(3)(B): HARDSCAPE AND DRIVEWAYS NOT MORE THAN 30 INCHES ABOVE EXISTING GRADE OR FINISHED GRADE, WHICHEVER IS LOWER, MAY BE LOCATED IN ANY REQUIRED YARD; PROVIDED, THAT DRIVEWAYS MAY EXCEED THE 30-INCH LIMIT WHEN A PERMIT APPLICANT DEMONSTRATES THE PROPOSED HEIGHT IS THE MINIMUM FEASIBLE TO MEET THE STANDARDS IN MICC 19.09.040.




NORTH

## A.B.E. / G.F.A. / LOT COVERAGE

SCALE: 1" = 10'-0"

0' 10' 20'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REGISTERED ARCHITECT
PHILIP MCCULLOUGH
STATE OF WASHINGTON
7806

**7414 - 78th Ave. SE**
Mercer Island
Washington
98040

PLAN REVIEW 1

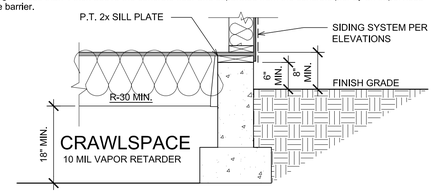
Site Calculations

**A1.1**

SECTION R317 PROTECTION OF WOOD AND WOOD-BASED PRODUCTS AGAINST DECAY

Protection of wood and wood-based products from decay shall be provided in the following locations by the use of naturally durable wood or wood that is preservative-treated in accordance with AWPA U1.

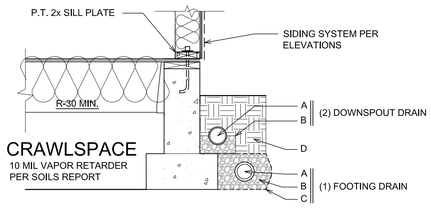
1. Wood joists or the bottom of a wood structural floor where closer than 18 inches or wood girders where closer than 12 inches to the exposed ground in crawl spaces or unexcavated area located within the periphery of the building foundation.
2. Wood framing members that rest on concrete or masonry exterior foundation walls and are less than 8 inches from the exposed ground.
3. Sills and sleepers on a concrete or masonry slab that is in direct contact with the ground unless separated from such slab by an impervious moisture barrier.
4. The ends of wood girders entering exterior masonry or concrete walls having clearances of less than 1/2 inch on tops, sides and ends.
5. Wood siding, sheathing and wall framing on the exterior of a building having a clearance of less than 6 inches from the ground or less than 2 inches measured vertically from concrete steps, porch slabs, patio slabs and similar horizontal surfaces exposed to the weather.
6. Wood structural members supporting moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier.
7. Wood furring strips or other wood framing members attached directly to the interior of exterior masonry walls or concrete walls below grade except where an approved vapor retarder is applied between the wall and the furring strips or framing members.
8. Portions of wood structural members that form the structural supports of buildings, balconies, porches or similar permanent building appurtenances where those members are exposed to the weather without adequate protection from a roof, eave, overhang or other covering that would prevent moisture or water accumulation on the surface or at joints between members.
9. Wood columns in contact with basement floor slabs unless supported by concrete piers or metal pedestals projecting not less than 1 inch above the concrete floor and separated from the concrete pier by an impervious moisture barrier.



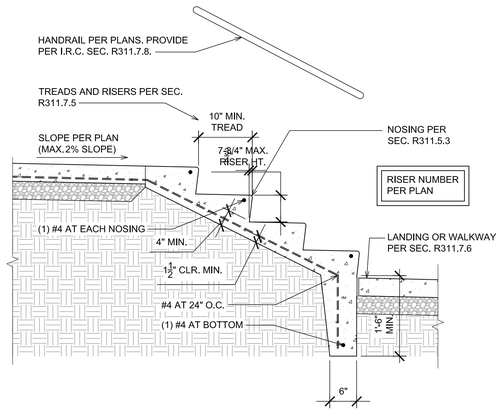

FOUNDATION - PROTECTION OF WOOD 9 A2.1
SCALE: 3/4" = 1'-0" SLAB ON GRADE

(1) FOOTING DRAINS:

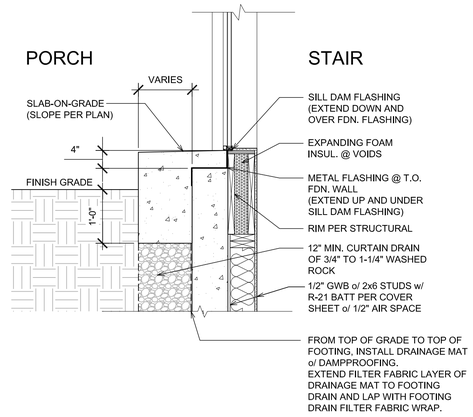
A. PIPE: SMOOTH WALL PERF PIPE, MIN. 4" DIAMETER (PERFS. DOWN.) INSTALL CLEANOUTS AT MAXIMUM 50 FOOT SPACING. INVERT AT LEAST 6" BELOW SLAB OR CRAWLSPACE. SLOPE TO DRAIN TO APPROPRIATE OUTFALL. 4" DIAMETER TIGHTLINE ROOF DRAIN, SMOOTH WALL, DO NOT CONNECT TO FOOTING DRAIN.
B. BEDDING: CLEAN, WASHED, ROUNDED GRAVEL W/ UNIFORM DIA. BETWEEN 3/4" & 1-1/4". PROVIDE AT LEAST 6-INCHES OF BEDDING ABOVE AND BESIDE FOOTING DRAIN PIPE.
C. FILTER FABRIC: NON-WOVEN GEOTEXTILE EQUIVALENT TO MIRAFI 140N. INSTALLED TO FULLY ENCAPSULATE CLEAN, WASHED ROUNDED GRAVEL (7/8" MIN.)
D. BACKFILL: IMPORTED OR NATIVE SOIL w/ MAX. PARTICLE SIZE OF 4".



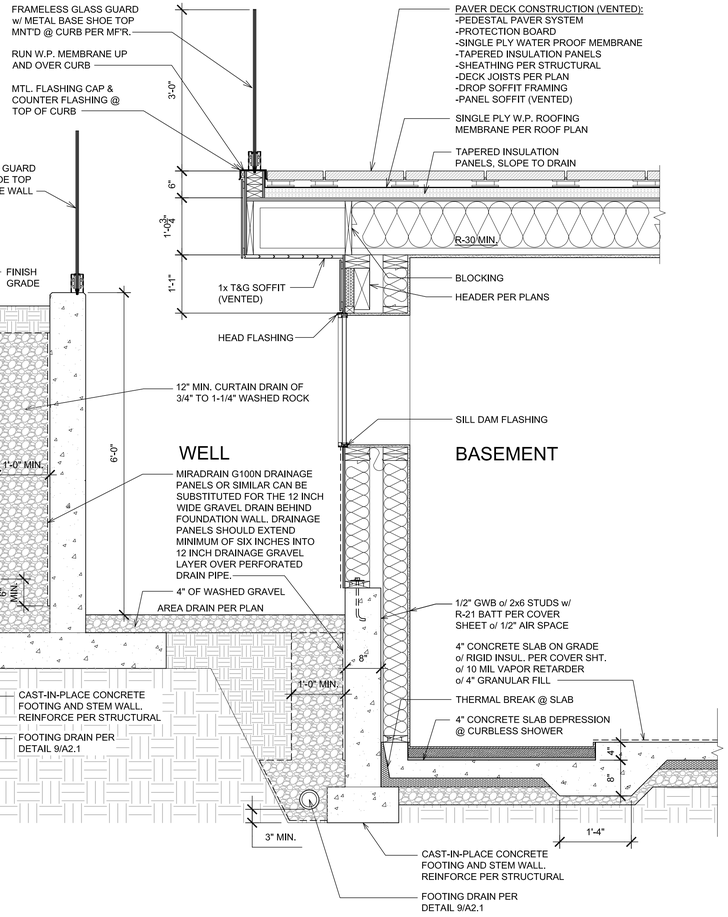

DRAINAGE NOTES 8 A2.1
SCALE: 3/4" = 1'-0" SLAB ON GRADE



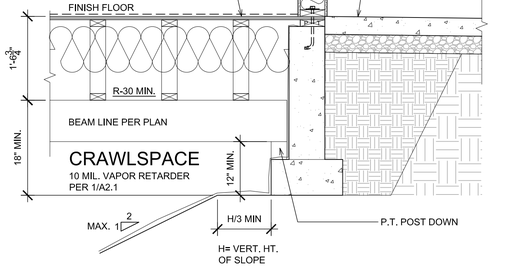

CONC. STEPS ON GRADE 7 A2.1
SCALE: 3/4" = 1'-0"



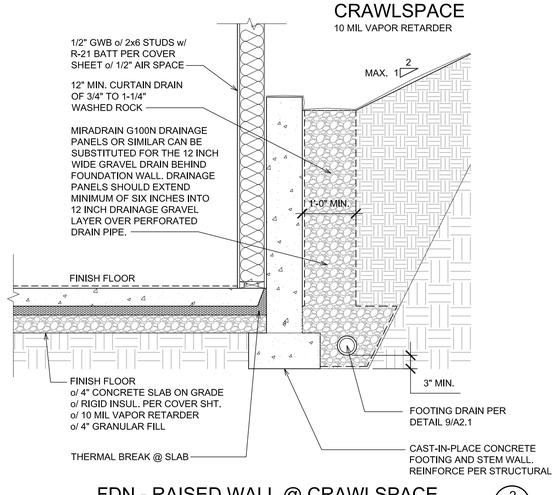

RAISED STEM WALL @ PORCH / STAIR 6 A2.1
SCALE: 3/4" = 1'-0"



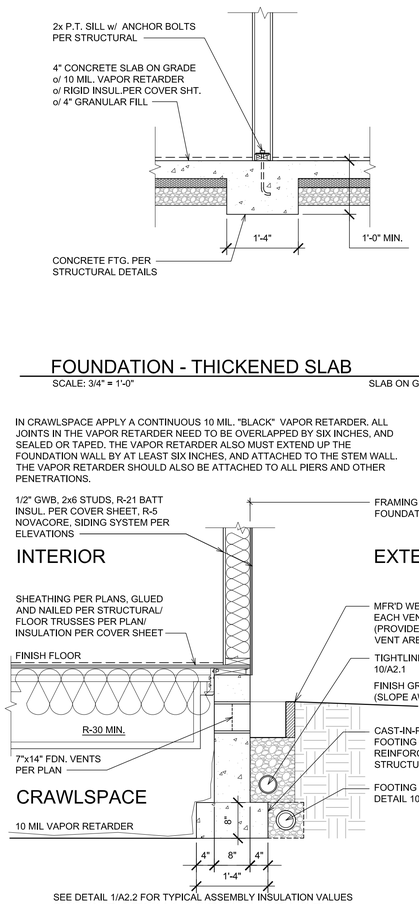

FOUNDATION - PARTIAL HEIGHT WALL 3 A2.1
SCALE: 3/4" = 1'-0" SLAB ON GRADE




FOUNDATION - CRAWLSPACE 5 A2.1
SCALE: 3/4" = 1'-0" CRAWLSPACE

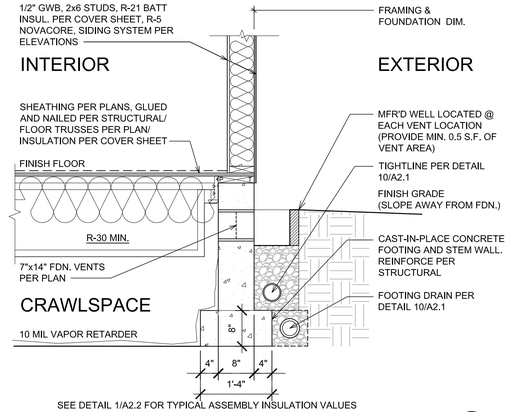



FDN - RAISED WALL @ CRAWLSPACE 2 A2.1
SCALE: 3/4" = 1'-0" SLAB ON GRADE / CRAWLSPACE




FOUNDATION - THICKENED SLAB 4 A2.1
SCALE: 3/4" = 1'-0" SLAB ON GRADE

IN CRAWLSPACE APPLY A CONTINUOUS 10 MIL. "BLACK" VAPOR RETARDER. ALL JOINTS IN THE VAPOR RETARDER NEED TO BE OVERLAPPED BY SIX INCHES, AND SEALED OR TAPED. THE VAPOR RETARDER ALSO MUST EXTEND UP THE FOUNDATION WALL BY AT LEAST SIX INCHES, AND ATTACHED TO THE STEM WALL. THE VAPOR RETARDER SHOULD ALSO BE ATTACHED TO ALL PIERS AND OTHER PENETRATIONS.




SEE DETAIL 1/A2.2 FOR TYPICAL ASSEMBLY INSULATION VALUES

FOUNDATION - CRAWLSPACE 1 A2.1
SCALE: 3/4" = 1'-0" CRAWLSPACE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STATE OF WASHINGTON
7805

**SEARS PLAT - LOT 2**
Mercer Island
Washington
98040

PERMIT APPLICATION

Foundation Details

**A2.1**

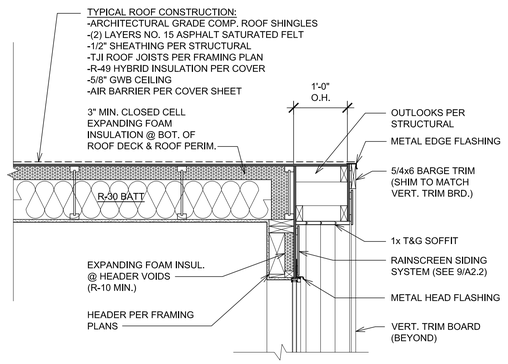
WINDOW INSTALLATION SEQUENCE
1. STRUCTURAL SHEATHING INSTALLED OVER FRAME WALL
2. INSTALL FLASHING AT SILL
3. INSTALL WINDOW PLUMB, LEVEL AND SQUARE
4. INSTALL FLASHING AT JAMBS
5. INSTALL FLASHING AT HEAD
6. AIR SEAL INT. OF WINDOW AROUND ENTIRE PERIMETER w/ SEALANT AND BACK ROD

TYPICAL ASSEMBLY INSULATION VALUES:

| | |
|---|---|
| ATTIC INSULATION | R-60 BLOWN-IN |
| VAULTED CL'G INSULATION | R-49 (R-30 BATT+3"SPF) |
| FLOOR INSULATION | R-30 BATT |
| ABV. GRADE EXT. WALL INSUL. | R-21 BATT |
| BELOW GRADE EXT. WALL INSUL. | R-21 BATT+R-5 C.I. |

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

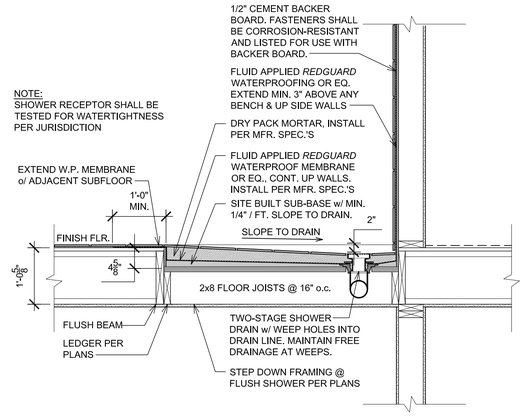
12 A2.2




VAULT ROOF AT ENTRY

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

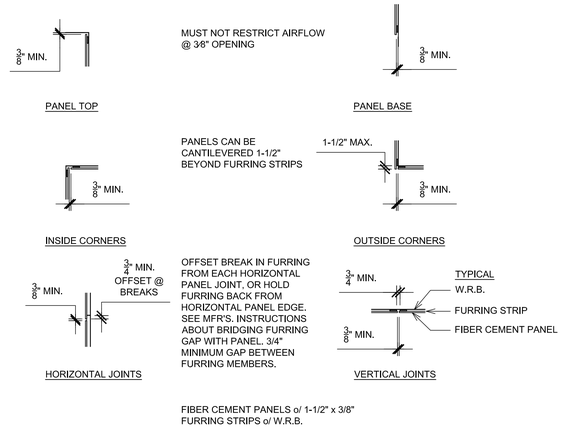
11 A2.2




RECESSED MUD SET SHOWER

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

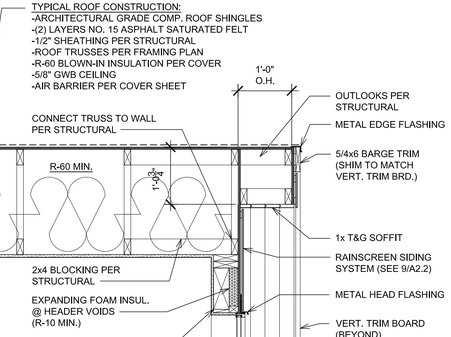
10 A2.2



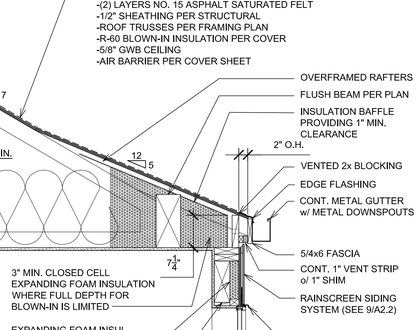

TYPICAL - RAINSCREEN SIDING DETAILS

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

9 A2.2




PLAN CORNER w/o WINDOW




PLAN CORNER w/ WINDOW

SIDING DETAIL @ GABLE ELEVATION

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

7 A2.2




PORCH PARAPET ROOF

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

6 A2.2




TYPICAL RAKE 0" O.H.

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

5 A2.2




TYPICAL RAKE O.H.

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

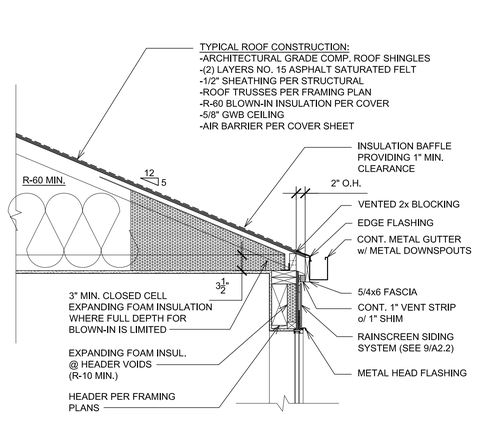
4 A2.2




5:12 ROOF OVERFRAME EAVE O.H.

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

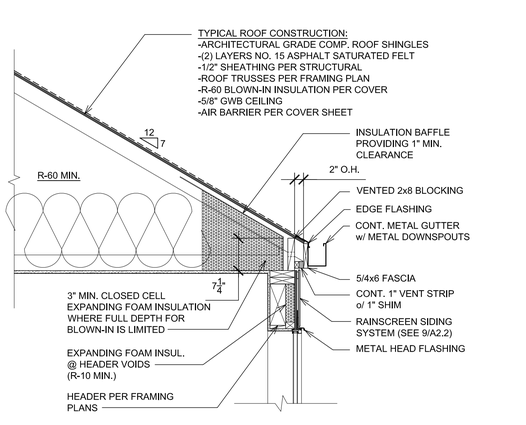
3 A2.2




TYPICAL - 5:12 ROOF EAVE O.H.

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

2 A2.2




TYPICAL - 7:12 ROOF EAVE O.H.

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

1 A2.2

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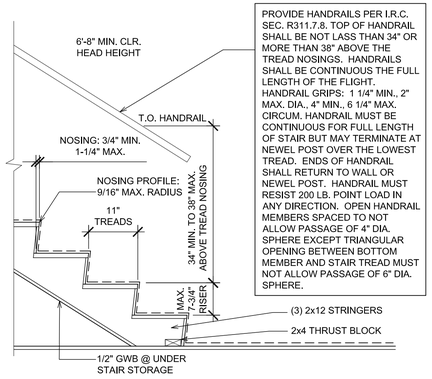
**SEARS PLAT - LOT 2**
Mercer Island
Washington
98040

PERMIT APPLICATION

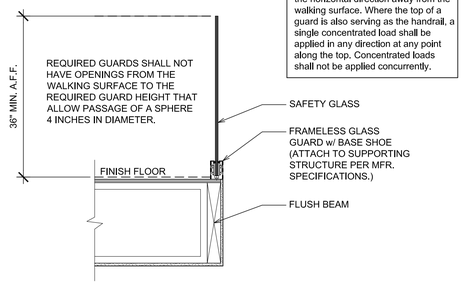
Wall Sections & Roof Details

**A2.2**



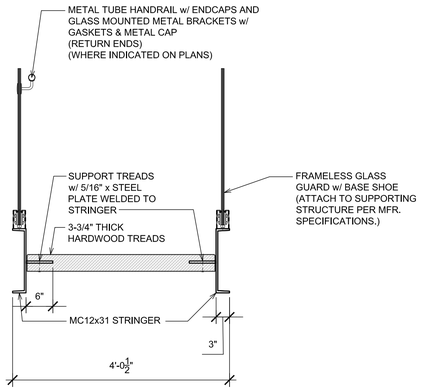

PROVIDE HANDRAILS PER I.R.C. SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT. HANDRAIL GRIPS: 1 1/4" MIN., 2" MAX. DIA., 4" MIN., 6 1/4" MAX. CIRCUM. HANDRAIL MUST BE CONTINUOUS FOR FULL LENGTH OF STAIR BUT MAY TERMINATE AT NEWEL POST OVER THE LOWEST TREAD. ENDS OF HANDRAIL SHALL RETURN TO WALL OR NEWEL POST. HANDRAIL MUST RESIST 200 LB. POINT LOAD IN ANY DIRECTION. OPEN HANDRAIL MEMBERS SPACED TO NOT ALLOW PASSAGE OF 4" DIA. SPHERE EXCEPT TRIANGULAR OPENING BETWEEN BOTTOM MEMBER AND STAIR TREAD MUST NOT ALLOW PASSAGE OF 6" DIA. SPHERE.

## CLOSED RISER STAIR
SCALE: 3/4" = 1'-0" — 7 / A2.3

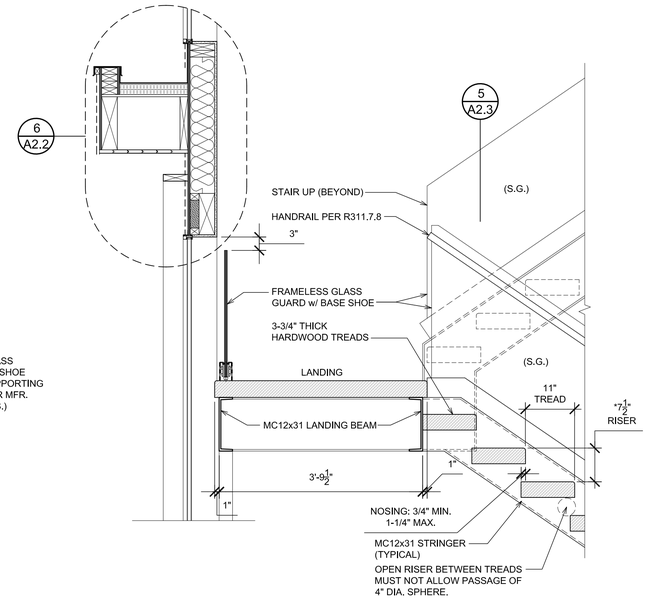



GUARDS
R301.5 LIVE LOADS
CONCENTRATED LOAD=200 LBS
Glazing used in handrail assemblies and guards shall be designed with a load adjustment factor of 4. The load adjustment factor shall be applied to each of the concentrated loads applied to the top of the rail, and to the load on the in-fill components. These loads shall be determined independent of one another, and loads are assumed not to occur with any other live load. Where the top of a guard system is not required to serve as a handrail, the single concentrated load shall be applied at any point along the top, in the vertical downward direction and in the horizontal direction away from the walking surface. Where the top of a guard is also serving as the handrail, a single concentrated load shall be applied in any direction at any point along the top. Concentrated loads shall not be applied concurrently.

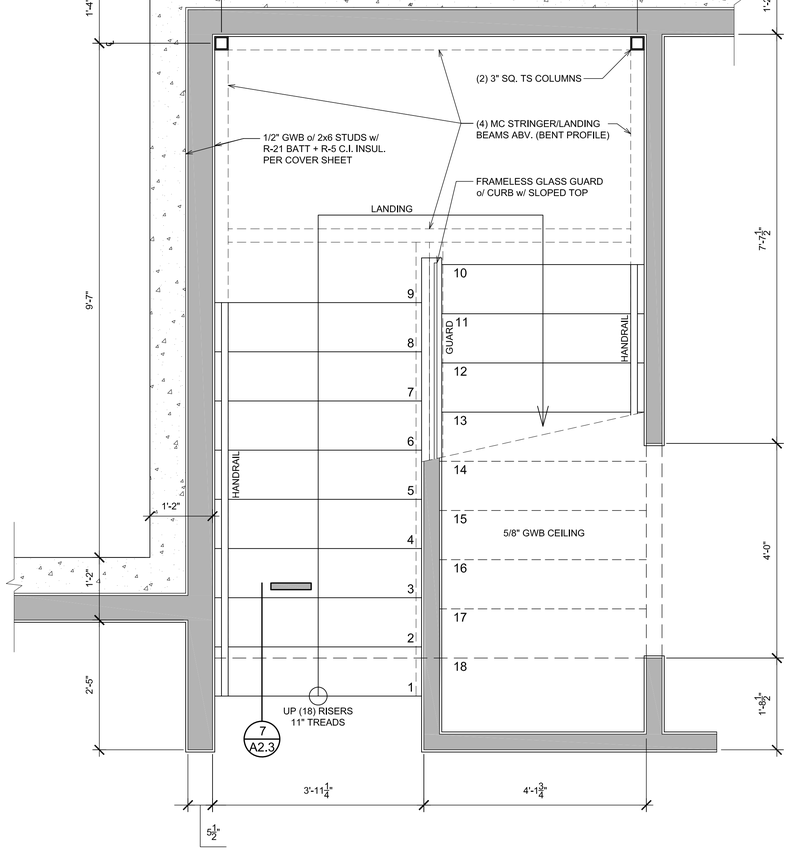
## GLASS GUARD SECTION
SCALE: 3/4" = 1'-0" — 6 / A2.3



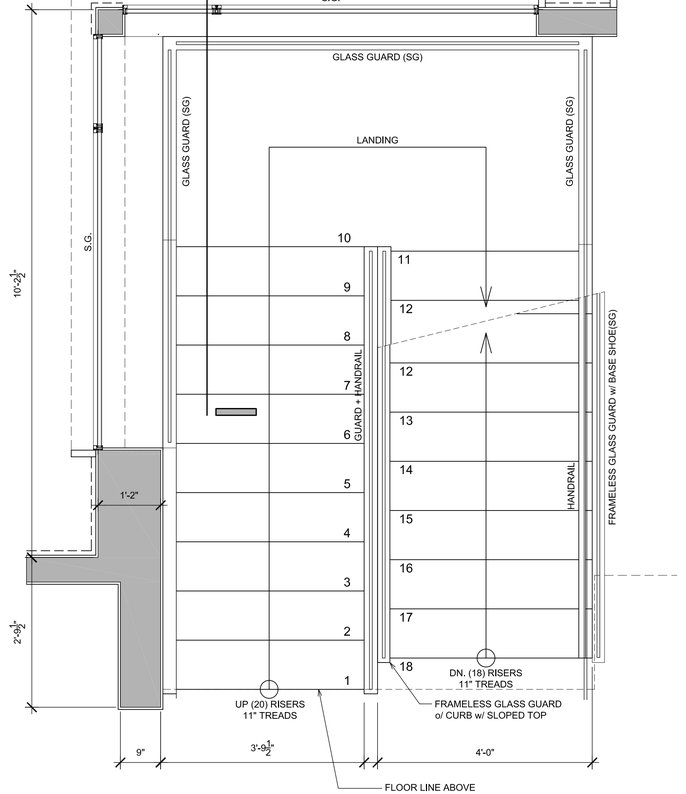

## STAIR STRINGER SECTION
SCALE: 3/4" = 1'-0" — 5 / A2.3



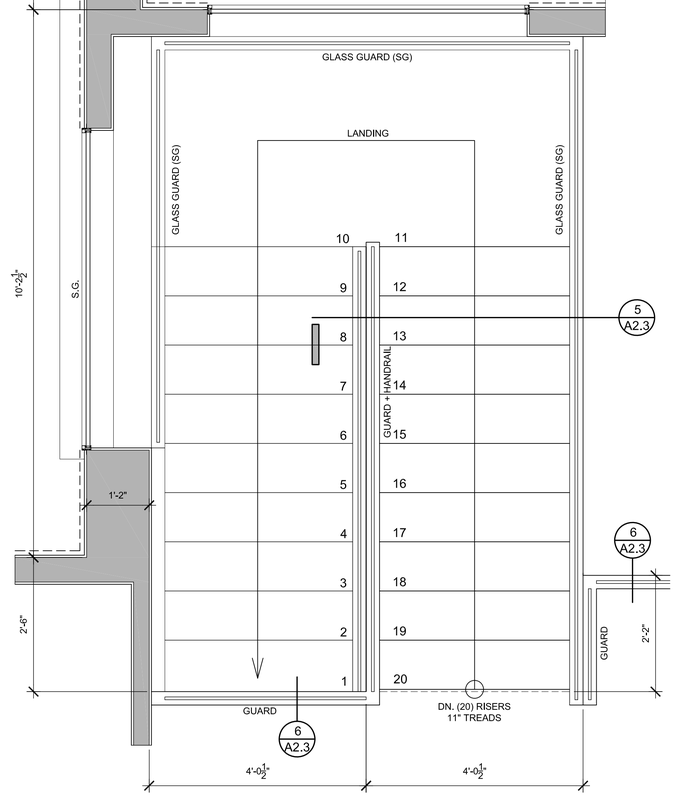

## STAIR LANDING SECTION
SCALE: 1-1/2" = 1'-0" — 4 / A2.3




## STAIR - LOWER FLOOR PLAN
SCALE: 3/4" = 1'-0" — 3 / A2.3




## STAIR - MAIN FLOOR PLAN
SCALE: 3/4" = 1'-0" — 2 / A2.3




## STAIR - UPPER FLOOR PLAN
SCALE: 3/4" = 1'-0" — 2 / A2.3

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Date: 2025.07.03
Job No: 24-008
Project No:
Drawn:
Approved:

Owner
SAINTFIELD2 LLC

REGISTERED ARCHITECT
7806
PHILIP J. McCULLOUGH
STATE OF WASHINGTON

**SEARS PLAT - LOT 2**
Mercer Island
Washington
98040

PERMIT APPLICATION

Stair Details

**A2.3**

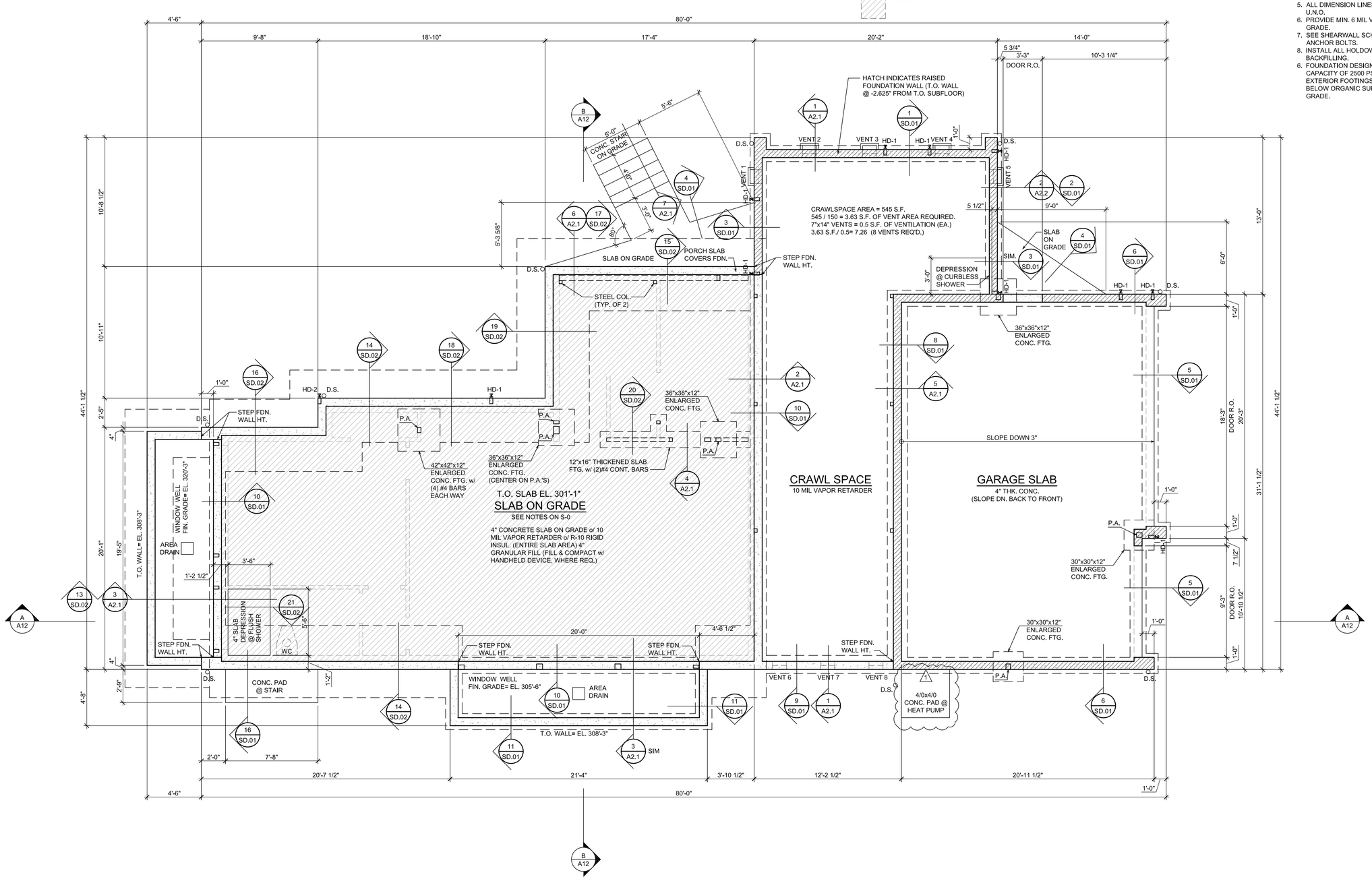
VENT — INDICATES LOC. OF 14"x7" FOUNDATION VENT w/ AREA WELL (PROVIDE MIN. 0.5 S.F. OF VENTILATION PER VENT)

PLAN KEY:

- INDICATES LOC. OF POINT LOAD FROM ABOVE (TYP.)
- DS — INDICATES LOC. OF DOWNSPOUT
- TYPICAL CONC. FDN. WALL
- RAISED STEM CONC. FDN. WALL
- BELOW SLAB RIGID INSULATION

GENERAL NOTES:

1. 8" MIN. CLEARANCE BETWEEN EXTERIOR GRADE & UNPROTECTED WOOD.
2. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED.
3. WOOD JOISTS OR THE BOTTOM OF A WOOD STRUCTURAL FLOOR WHEN CLOSER THAN 18" OR WOOD GIRDERS WHEN CLOSER THAN 12" TO THE EXPOSED GROUND IN CRAWL SPACES SHALL BE PROTECTED AGAINST DECAY WITH A PRESERVATIVE-TREATMENT IN ACCORDANCE WITH AWPA U1 AND THE IRC R317.1.
4. THE UNDER-FLOOR GRADE SHALL BE CLEANED OF ALL ORGANIC MATERIAL, AND CONSTRUCTION MATERIAL BEFORE THE BUILDING IS OCCUPIED.
5. ALL DIMENSION LINES ARE TO FACE OF FRAMING OR CONCRETE, U.N.O.
6. PROVIDE MIN. 6 MIL VAPOR BARRIER @ CRAWLSPACE & SLAB ON GRADE.
7. SEE SHEARWALL SCHEDULE FOR LOCATION & SPACING OF ANCHOR BOLTS.
8. INSTALL ALL HOLDOWNS AND HARDWARE PRIOR TO BACKFILLING.
6. FOUNDATION DESIGN IS BASED ON AN AVERAGE BEARING CAPACITY OF 2500 PSF PER SOILS REPORT DATED 5/30/23. EXTERIOR FOOTINGS TO BEAR ON FIRM UNDISTURBED SOIL BELOW ORGANIC SURFACE SOIL, A MINIMUM 1'-6" BELOW FINISH GRADE.




# FOUNDATION PLAN

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

Owner
SAINTFIELD2 LLC

REGISTERED ARCHITECT 7806 PHILIP MCCULLOUGH STATE OF WASHINGTON

**SEARS PLAT - LOT 2**
Mercer Island
Washington
98040

PLAN REVIEW 1

Foundation Plan

**A3**

## PLAN KEY:

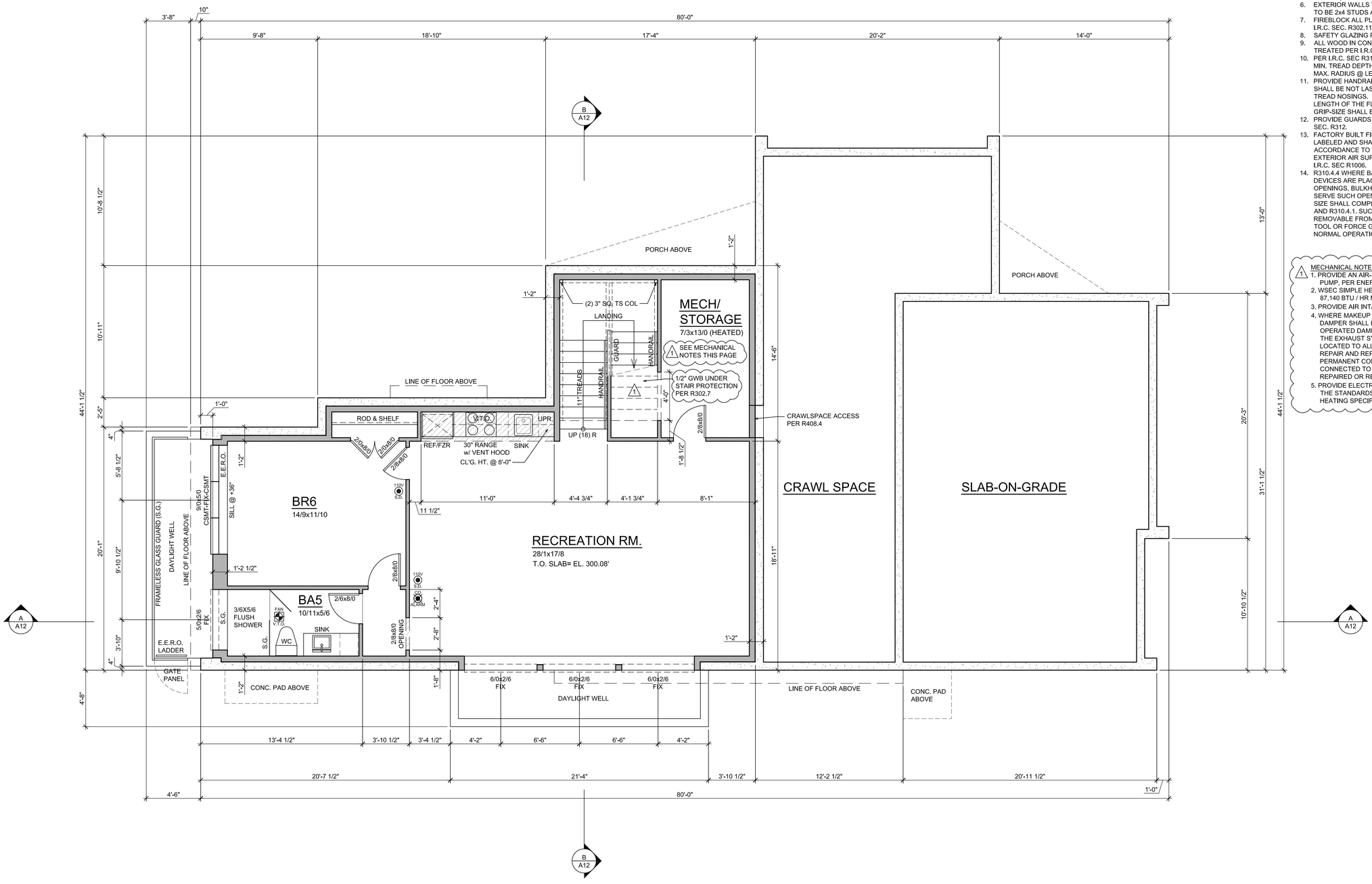
| | |
|---|---|
| 110V S.D. | INDICATES 110V SMOKE DET. PER I.R.C. 313.4 INTERCONNECTED W/ EMERGENCY BATTERY BACKUP |
| CO | INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1 |
| 1 FAN V.T.O. | INDICATES EXHAUST VENTILATION FAN PER COVER SHEET A0.1. |
| S.G. | INDICATES SAFETY GLAZING REQUIRED PER IRC SEC. R308.4 |
| FIX | INDICATES FIXED FRAME WINDOW |
| CSMT | INDICATES CASEMENT WINDOW |
| V.T.O. | INDICATES "VENT TO OUTSIDE" |

## GENERAL NOTES:

1. PLATE HEIGHT @ LOWER FLOOR IS 9'-1", U.N.O.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. WINDOW HEAD HEIGHT AT LOWER FLOOR IS 8'-0" ABOVE SUBFLOOR, U.N.O. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2/8-2/8= 2'-8"W x 2'-8"H)
6. EXTERIOR WALLS TO BE 2x6 STUDS AT 16" o.c., INTERIOR WALLS TO BE 2x4 STUDS AT 16" o.c., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER I.R.C. SEC. R302.11.
8. SAFETY GLAZING PER I.R.C. SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER I.R.C. SEC. R317.1.
10. PER I.R.C. SEC R311.7.5, MAX. RISER HEIGHT SHALL BE 7-3/4", MIN. TREAD DEPTH SHALL BE 10". STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
11. PROVIDE HANDRAILS PER I.R.C. SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.8.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.8.3.
12. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER I.R.C. SEC. R312.
13. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. PROVIDE EXTERIOR AIR SUPPLY TO ANY FACTORY-BUILT FIREPLACE PER I.R.C. SEC R1006.
14. R310.4.4 WHERE BARS, GRILLES, COVERS, SCREENS OR SIMILAR DEVICES ARE PLACED OVER EMERGENCY ESCAPE AND RESCUE OPENINGS, BULKHEAD ENCLOSURES OR AREA WELLS THAT SERVE SUCH OPENINGS, THE MINIMUM NET CLEAR OPENING SIZE SHALL COMPLY WITH SECTIONS R310.2 THROUGH R310.2.2 AND R310.4.1. SUCH DEVICES SHALL BE RELEASABLE OR REMOVABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR TOOL OR FORCE GREATER THAN THAT REQUIRED FOR THE NORMAL OPERATION OF THE ESCAPE AND RESCUE OPENING.

**1 MECHANICAL NOTES:**

1. PROVIDE AN AIR-SOURCED, CENTRALLY DUCTED GAS HEAT PUMP. PER ENERGY EQUALIZATION CREDITS, SYSTEM 2.
2. WSEC SIMPLE HEATING SYSTEM SIZE: 87,140 BTU / HR MAX. HEAT EQUIPMENT OUTPUT.
3. PROVIDE AIR INTAKE AT MECHANICAL ROOM CEILING.
4. WHERE MAKEUP AIR IS REQUIRED BY SECTION M1503.6 THE DAMPER SHALL BE A GRAVITY DAMPER OR AN ELECTRICALLY OPERATED DAMPER THAT AUTOMATICALLY OPENS WHEN THE EXHAUST SYSTEM OPERATES. DAMPERS SHALL BE LOCATED TO ALLOW ACCESS FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION OR ANY OTHER DUCTS NOT CONNECTED TO THE DAMPER BEING INSPECTED, SERVICED, REPAIRED OR REPLACED.
5. PROVIDE ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION.




# BASEMENT FLOOR PLAN

SCALE: 1/4" = 1'-0"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Owner
SAINTFIELD2 LLC

REGISTERED ARCHITECT 7806 PHILIP M. MCCULLOUGH STATE OF WASHINGTON

**SEARS PLAT - LOT 2**
Mercer Island
Washington
98040

PLAN REVIEW 1

Lower Floor Plan

**A4**

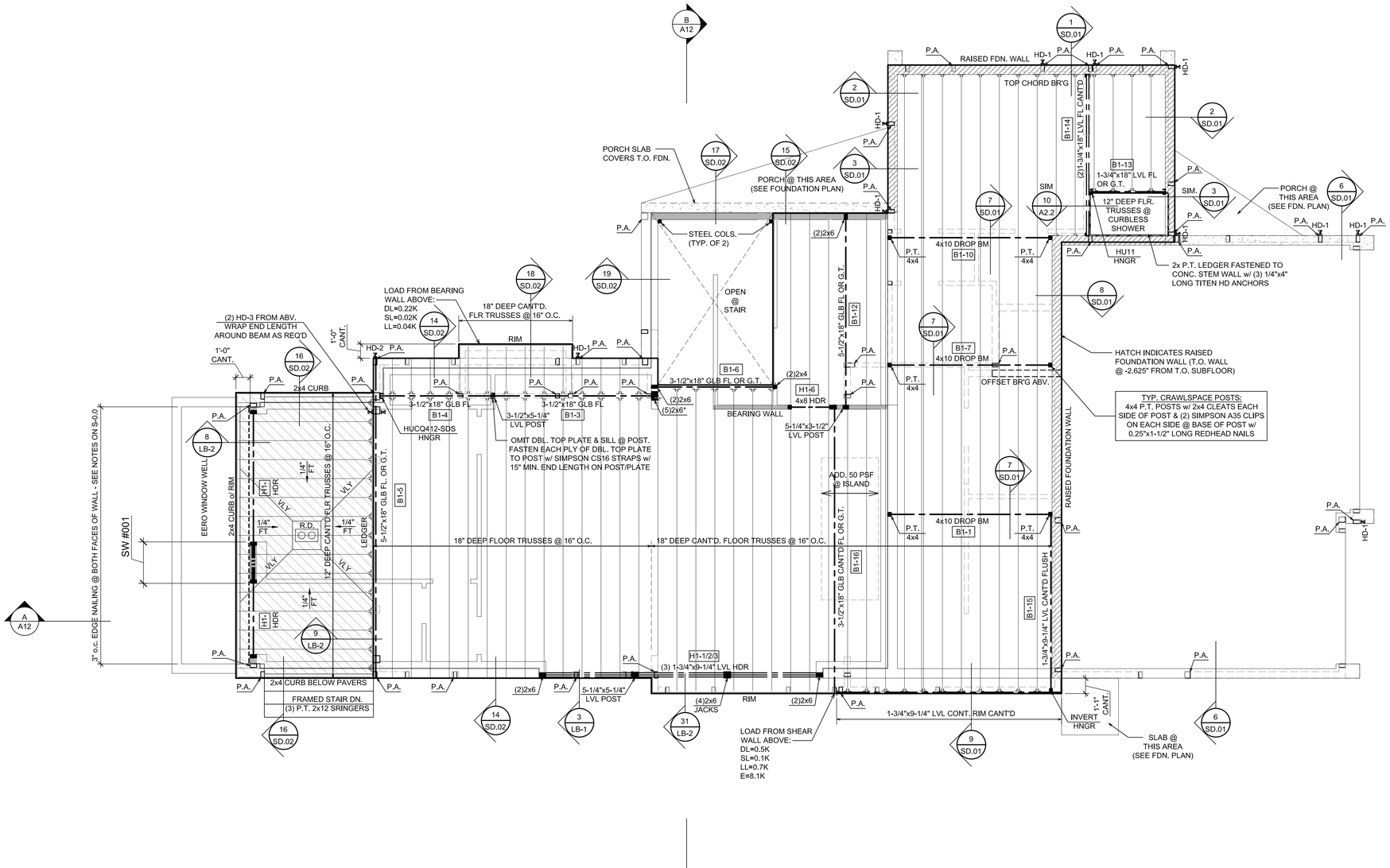
CREATE DECK SLOPE WITH RIDGID INSULATION PANELS

PLAN KEY:

- INDICATES LOC. OF POINT LOAD FROM ABOVE (TYP.)
- INDICATES LOC. OF SOLID SUPPORT (2) STUDS LAM'D W/ 16d @ 16" O.C., (2) 16d EA. END TYP. UNLESS NOTED OTHERWISE
- P.A. POST ABOVE
- TYPICAL FLOOR TRUSS HANGER
- TYPICAL BEAM HANGER
- TYPICAL WALL ABOVE
- TYPICAL BR'G WALL ABOVE
- TYPICAL WALL BELOW
- TYPICAL BR'G WALL BELOW
- TYPICAL SHEAR WALL BELOW
- SHEAR WALL w/ 3" EDGE NAILING
- INDICATES LOC. OF HOLD-DOWN

GENERAL NOTES:

1. TYPICAL FLOOR FRAMING CONSISTS OF 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER 18" FLOOR TRUSSES AT 16" o.c., U.N.O. PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH.
2. GLUE AND NAIL FLOOR SHEATHING w/ 8d AT 6"o.c. AT FRAMED PANEL EDGES AND AT 12" o.c. IN THE FIELD, UNO.
3. REFER TO SHEET SD-4 FOR TYPICAL FOUNDATION AND CONCRETE DETAILS.
4. REFER TO GENERAL STRUCTURAL NOTES SHEET S-0 FOR ADDITIONAL REQUIREMENTS.
5. DO NOT SCALE DRAWINGS. REFER TO LISTED DIMENSIONS.




0 4 8

# MAIN FLOOR FRAMING PLAN

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

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REGISTERED ARCHITECT 7806 J. PHILIP MCCULLOUGH STATE OF WASHINGTON

**SEARS PLAT - LOT 2**
Mercer Island
Washington
98040

PLAN REVIEW 1

Main Floor Plan

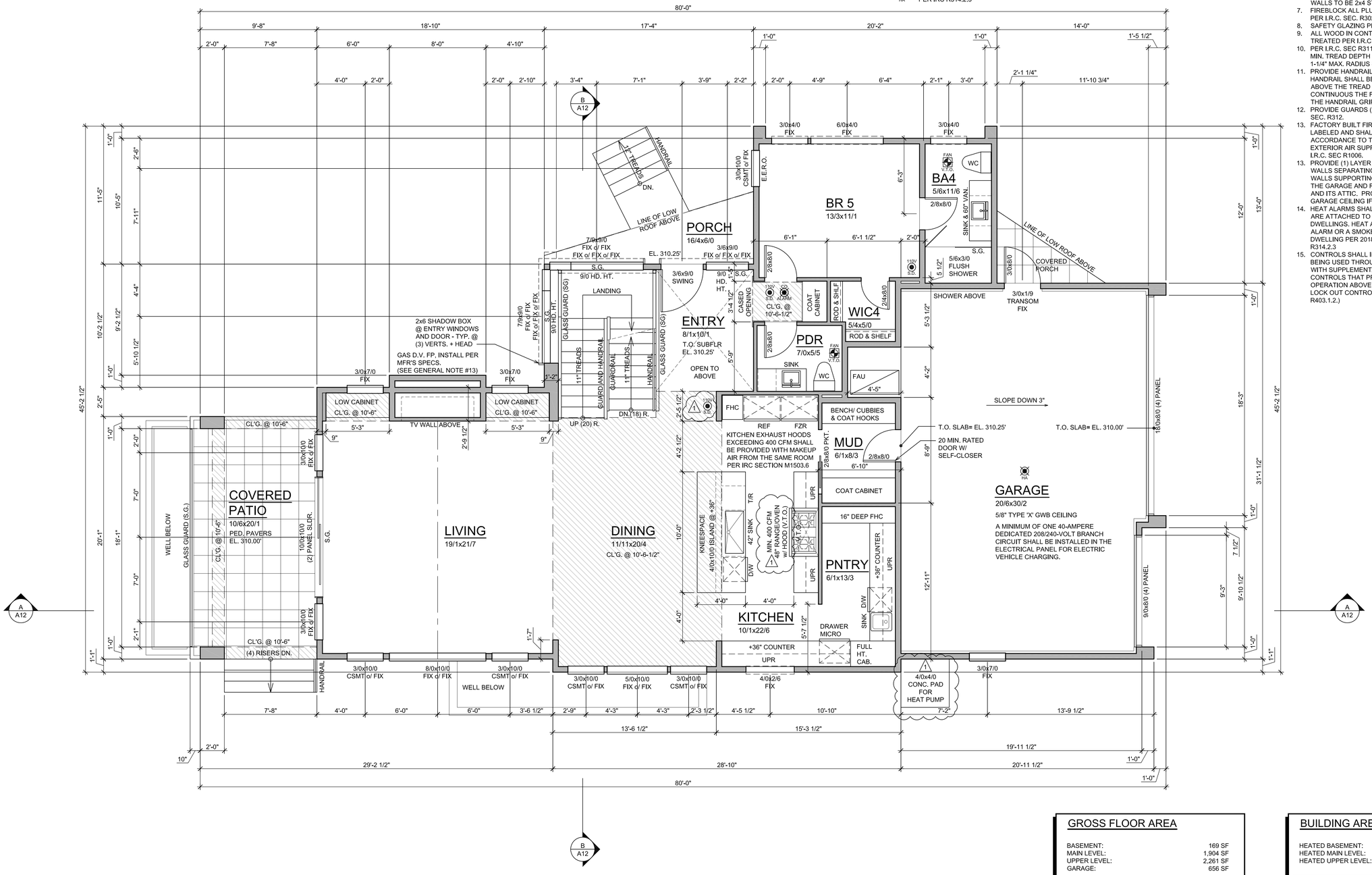
**A5**

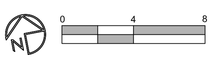
## PLAN KEY:

- 110V S.D. — INDICATES 110V SMOKE DET. PER I.R.C. 313.4 INTERCONNECTED W/ EMERGENCY BATTERY BACKUP
- CO — INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
- 1 FAN V.T.O. — INDICATES EXHAUST VENTILATION FAN PER COVER SHEET A0.1.
- HA — INDICATES HEAT ALARM ALARM PER IRC R314.2.3
- S.G. — INDICATES SAFETY GLAZING REQUIRED PER IRC SEC. R308.4
- FIX — INDICATES FIXED FRAME WINDOW
- CSMT — INDICATES CASEMENT WINDOW
- AWN — INDICATES AWNING WINDOW
- V.T.O. — INDICATES "VENT TO OUTSIDE"

## GENERAL NOTES:

1. PLATE HEIGHT @ MAIN FLOOR IS 11'-0", U.N.O.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. WINDOW HEAD HEIGHT AT MAIN FLOOR IS 10'-0" ABOVE SUBFLOOR, U.N.O. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2/8-2/8= 2'-8"W x 2'-8"H)
6. EXTERIOR WALLS TO BE 2x6 STUDS AT 16" o.c., INTERIOR WALLS TO BE 2x4 STUDS AT 16" o.c., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER I.R.C. SEC. R302.11.
8. SAFETY GLAZING PER I.R.C. SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER I.R.C. SEC. R317.1.
10. PER I.R.C. SEC R311.7.5, MAX. RISER HEIGHT SHALL BE 7-3/4", MIN. TREAD DEPTH SHALL BE 10", STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
11. PROVIDE HANDRAILS PER I.R.C. SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.8.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.8.3.
12. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER I.R.C. SEC. R312.
13. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. PROVIDE EXTERIOR AIR SUPPLY TO ANY FACTORY-BUILT FIREPLACE PER I.R.C. SEC R1006.
13. PROVIDE (1) LAYER OF 1/2" G.W.B. AT THE GARAGE SIDE OF ALL WALLS SEPARATING THE GARAGE FROM THE RESIDENCE, ALL WALLS SUPPORTING A FLOOR CEILING ASSEMBLY BETWEEN THE GARAGE AND RESIDENCE, AND BETWEEN THE GARAGE AND ITS ATTIC. PROVIDE (1) LAYER 5/8" TYPE 'X' G.W.B. TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
14. HEAT ALARMS SHALL BE INSTALLED IN NEW GARAGES THAT ARE ATTACHED TO OR LOCATED UNDER NEW AND EXISTING DWELLINGS. HEAT ALARMS SHALL BE CONNECTED TO AN ALARM OR A SMOKE ALARM THAT IS INSTALLED IN THE DWELLING PER 2018 WASHINGTON STATE ADMENDMENTS IRC R314.2.3
15. CONTROLS SHALL INDICATE WHEN SUPPLEMENTAL HEATING IS BEING USED THROUGH VISUAL MEANS. HEAT PUMPS EQUIPPED WITH SUPPLEMENTAL HEATERS SHALL BE INSTALLED WITH CONTROLS THAT PREVENT SUPPLEMENTAL HEATER OPERATION ABOVE 40°F. AT FINAL INSPECTION THE AUX. HEAT LOCK OUT CONTROL SHALL BE SET TO 35°F OR LESS. (WSEC R403.1.2.)




# MAIN FLOOR PLAN

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

## GROSS FLOOR AREA

| | |
|---|---|
| BASEMENT: | 169 SF |
| MAIN LEVEL: | 1,904 SF |
| UPPER LEVEL: | 2,261 SF |
| GARAGE: | 656 SF |
| TOTAL ALLOWED: | 5,184 SF |
| TOTAL PROPOSED: | 4,990 SF |

## BUILDING AREA SUMMARY

| | |
|---|---|
| HEATED BASEMENT: | 1,105 SF |
| HEATED MAIN LEVEL: | 1,629 SF |
| HEATED UPPER LEVEL: | 2,261 SF |
| TOTAL HEATED FLOOR AREA: | 4,995 SF |
| GARAGE AREA: | 656 S.F. |
| COVERED PORCH/PATIO: | 296 S.F. |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7805
T. PHILIP MCCULLOUGH
STATE OF WASHINGTON

**SEARS PLAT - LOT 2**
Mercer Island
Washington
98040

PLAN REVIEW 1

Main Floor Plan

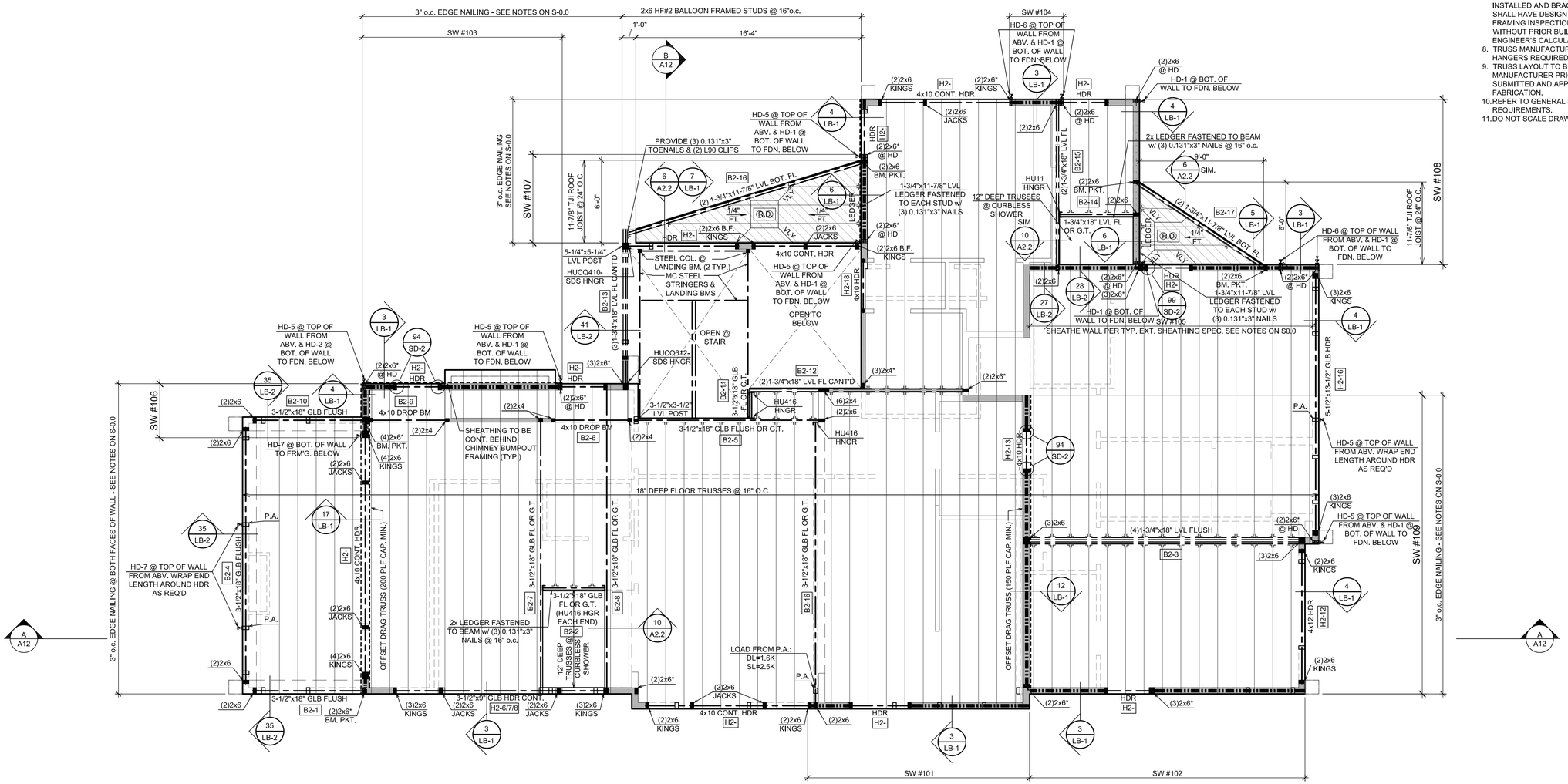
**A6**

## PLAN KEY:

- INDICATES LOC. OF POINT LOAD FROM ABOVE (TYP.)
- INDICATES LOC. OF SOLID SUPPORT (2) STUDS LAM'D W/ 10d @ 16" O.C., (2) 10d EA. END TYP. UNLESS NOTED OTHERWISE
- P.A. POST ABOVE, PROVIDE SOLID BLK'G (TYP.)
- TYPICAL JOIST HANGER (SIMPSON)
- TYPICAL BEAM HANGER (SIMPSON)
- TYPICAL WALL ABOVE
- TYPICAL BR'G WALL ABOVE
- TYPICAL WALL BELOW
- TYPICAL BR'G WALL BELOW
- TYPICAL SHEAR WALL
- SHEAR WALL w/ 3" EDGE NAILING
- INDICATES LOC. OF HOLD-DOWN

## GENERAL NOTES

1. MAIN FLOOR FRAMING TO BE 18" DEEP FLOOR TRUSSES @ 16" O.C. WITH 3/4" OSB SUBFLOOR, GLUED AND NAILED, U.N.O. ADHESIVES SHALL CONFORM TO APA SPEC. AFG 01. PROVIDE T&G EDGES AT LONG PANEL EDGES. STAGGER SUBFLOOR END JOINTS.
2. EXTERIOR HEADERS SHALL BE FL. BOT. 4x10 DF#2, OR FLOOR GIRDER TRUSS U.N.O. PROVIDE (1) 2x TRIMMER @ ALL HEADERS U.N.O. FILL HEADER CAVITY WITH R-10 INSULATION.
3. PROVIDE (2) BEARING (TRIMMER) STUDS AT EACH END OF HEADERS, BEAMS AND GIRDER TRUSSES 6'-0" IN LENGTH AND OVER, U.N.O.
4. WHERE POSTS OCCUR PROVIDE SOLID VERTICAL GRAIN BLOCKING THRU FLOOR TO MATCHING SUPPORTS BELOW, U.N.O. ALL MARKED POSTS ARE BELOW THE FRAMING SHOWN ON THIS PLAN.
5. PROVIDE SOLID BLOCKING IN FLOOR AT ALL WALLS AND POINT LOADS FROM ABOVE.
6. BEARING WALLS ARE SHADED.
7. ALL TRUSSES SHALL CARRY MANUFACTURER'S STAMP, SHALL BE INSTALLED AND BRACED TO MANUFACTURER'S SPECIFICATIONS, SHALL HAVE DESIGN DETAILS AND DRAWINGS ON SITE FOR FRAMING INSPECTION, AND WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEER'S CALCULATIONS.
8. TRUSS MANUFACTURER TO SUPPLY ALL BLOCKING AND HANGERS REQUIRED AT MANUFACTURED TRUSSES.
9. TRUSS LAYOUT TO BE REVIEWED AND APPROVED BY TRUSS MANUFACTURER PRIOR TO CONSTRUCTION. ALL CHANGES TO BE SUBMITTED AND APPROVED BY ARCHITECT PRIOR TO FABRICATION.
10. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
11. DO NOT SCALE DRAWINGS. REFER TO LISTED DIMENSIONS.




# UPPER FLOOR FRAMING PLAN

SCALE: 1/4" = 1'-0"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Seattle, WA. 98108
206.443.1181
mccullougharchitects.com



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| 9/26/25 | PLAN REVIEW |
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| - | - |

Date: 2025.07.03
Job No: 24-008
Project No:
Drawn:
Approved:

Owner
SAINTFIELD2 LLC

REGISTERED PROFESSIONAL ENGINEER
7805
T. PHILIP MCCULLOUGH
STATE OF WASHINGTON

**SEARS PLAT - LOT 2**
Mercer Island
Washington
98040

PLAN REVIEW 1

Upper Floor Plan

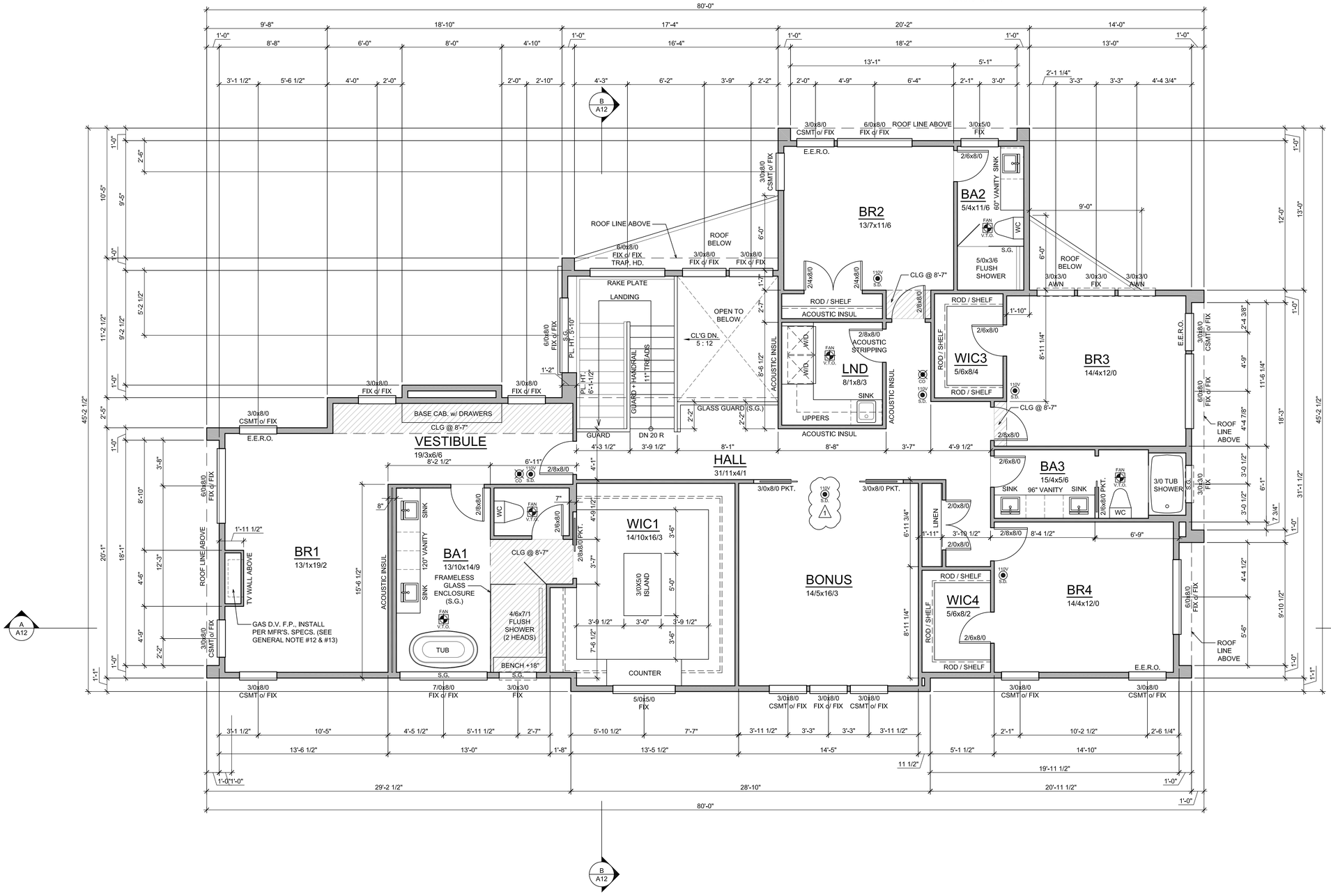
**A7**

## PLAN KEY:

- 110V S.D. — INDICATES 110V SMOKE DET. PER I.R.C. 313.4 INTERCONNECTED W/ EMERGENCY BATTERY BACKUP
- CO — INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
- 1 FAN V.T.O. — INDICATES EXHAUST VENTILATION FAN PER COVER SHEET A0.1.
- HA — INDICATES HEAT ALARM ALARM PER IRC R314.2.3
- S.G. — INDICATES SAFETY GLAZING REQUIRED PER IRC SEC. R308.4
- FIX — INDICATES FIXED FRAME WINDOW
- CSMT — INDICATES CASEMENT WINDOW
- AWN — INDICATES AWNING WINDOW
- V.T.O. — INDICATES "VENT TO OUTSIDE"

## GENERAL NOTES:

1. PLATE HEIGHT @ UPPER FLOOR IS 9'-1", U.N.O.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. WINDOW HEAD HEIGHT AT UPPER FLOOR IS 8'-0" ABOVE SUBFLOOR, U.N.O. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2/8-2/8= 2'-8"W x 2'-8"H)
6. EXTERIOR WALLS TO BE 2x6 STUDS AT 16" o.c., INTERIOR WALLS TO BE 2x4 STUDS AT 16" o.c., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER I.R.C. SEC. R302.11.
8. PROVIDE SAFETY GLAZING AT HAZARDOUS LOCATIONS PER I.R.C. SEC. R308.4.
9. PER I.R.C. SEC R311.7.5. MAX. RISER HEIGHT SHALL BE 7-3/4". MIN. TREAD DEPTH SHALL BE 10", STAIR NOSINGS; 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
10. PROVIDE HANDRAILS PER I.R.C. SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.8.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.8.3.
11. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER I.R.C. SEC. R312.
12. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS.
13. PROVIDE EXTERIOR AIR SUPPLY TO ANY FACTORY-BUILT FIREPLACE PER I.R.C. SEC R1006.

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# UPPER FLOOR PLAN

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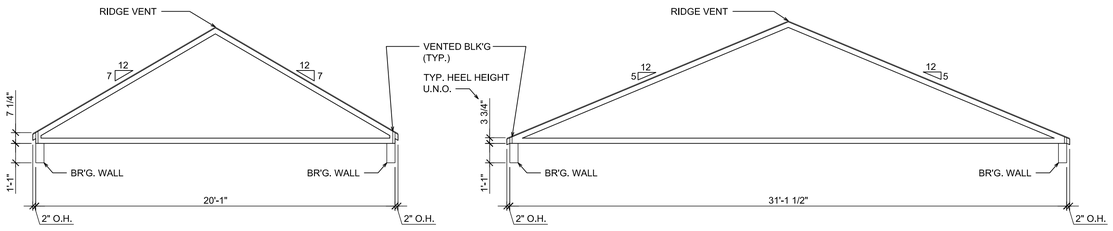
PLAN REVIEW 1

Upper Floor Plan

**A8**




COMMON TRUSS PROFILE "A1"

COMMON TRUSS PROFILE "B1"

TRUSS PROFILES INDICATE "TYPICAL" CONDITIONS AND DO NOT INDICATE MODIFICATIONS REQUIRED FOR SPECIFIC TRUSSES. TRUSS DIMENSIONS TO BE FIELD VERIFIED BY CONTRACTOR. REFER TO APPROVED TRUSS SHOP DRAWINGS FOR EXACT SIZE AND DIMENSION OF EACH TRUSS AND CONDITION.

## PLAN KEY:

- INDICATES LOC. OF SOLID SUPPORT (2) STUDS LAM'D W/ 10d @ 16" O.C., (2) 10d EA. END TYP. UNLESS NOTED OTHERWISE
- TYPICAL RAFTER HANGER (SIMPSON)
- TYPICAL BEAM HANGER (SIMPSON)
- D.S.O DOWNSPOUT
- TYPICAL WALL BELOW
- TYPICAL EXT. / INT. BR'G. WALL
- TYPICAL SHEAR WALL
- 3 INCH o.c. SHEAR WALL
- HDS INDICATES LOC. OF HOLD-DOWN
- HATCHED AREA INDICATES OVERFRAMING

## GENERAL NOTES:

1. BEARING WALLS ARE SHADED.
2. 5/12 ROOF PITCH, U.N.O.
3. EAVE OVERHANG TO BE 2", RAKE OVERHANG TO BE 0" U.N.O.
4. APPLY ROOF UNDERLAYMENT IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. ICE BARRIER IS REQUIRED FOR LOW SLOPE ROOFS.
5. APPLY SINGLE PLY ROOFING MEMBRANE IN ACCORDANCE WITH I.R.C. SEC. 905.12.
6. ROOF FRAMING TO BE MANUFACTURED TRUSSES @ 24" O.C., U.N.O.
7. H3- 4x10 AT ALL EXT. OPENINGS U.N.O. PROVIDE (1) 2x TRIMMER @ ALL HEADERS U.N.O. FILL HEADER CAVITY WITH R-10 INSULATION.
8. COLUMNS @ HEADERS, BEAMS, & GIRDERS TO BE (2) 2x STUDS (U.N.O.)
9. ALL MARKED POSTS ARE LOCATED BELOW THE FRAMING SHOWN ON THIS PLAN.
10. PROVIDE A SOLAR PANEL ELECTRICAL SYSTEM, PER THE PVWATTS CALCULATOR SPECIFICATIONS FOUND ON SHEET A0.2. 1 REFER TO THIS ROOF PLAN FOR SYSTEM LOCATION AND LAYOUT.

IRC SECTION R806 - ROOF VENTILATION
THE NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1 / 150 OF THE AREA OF SPACE TO BE VENTILATED, EXCEPT THAT THE AREA MAY BE 1 / 300, PROVIDED AT LEAST 40% (50% MAX.) OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE EAVE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE VENTS. THE OPENINGS SHALL BE COVERED WITH CORROSION-RESISTANT METAL MESH WITH MESH OPENINGS OF 1/16" MIN. & 1/4" MAX. IN DIMENSION. PROVIDE CROSS VENTILATION FOR EACH SEPARATE SPACE OF ENCLOSED ATTIC OR RAFTER SPACE. PROVIDE MIN. 1" CLEARANCE BETWEEN INSULATION AND ROOF SHEATHING.

ROOF ATTIC AREA= 2460 S.F. / 300 = 8.2 S.F. (1180 S.I.) REQ'D, VENT AREA
= 590 S.I. REQ'D. LOWER VENT AREA
= 590 S.I. REQ'D RIDGE VENT AREA

VENTED EAVE BLOCKING PROVIDES 16 S.I. OF VENTING PER EAVE BLOCK. PROVIDE (37) VENTED EAVE BLOCKS W/ (3) 1-1/2" DIA. SCREENED HOLES PER EAVE BLOCK. PROVIDE CONT. VENT STRIPS ALONG THE BUILDING PERIMETER @ ALL CLOSED SOFFITS.

# ROOF FRAMING PLAN

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

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**SEARS PLAT - LOT 2**
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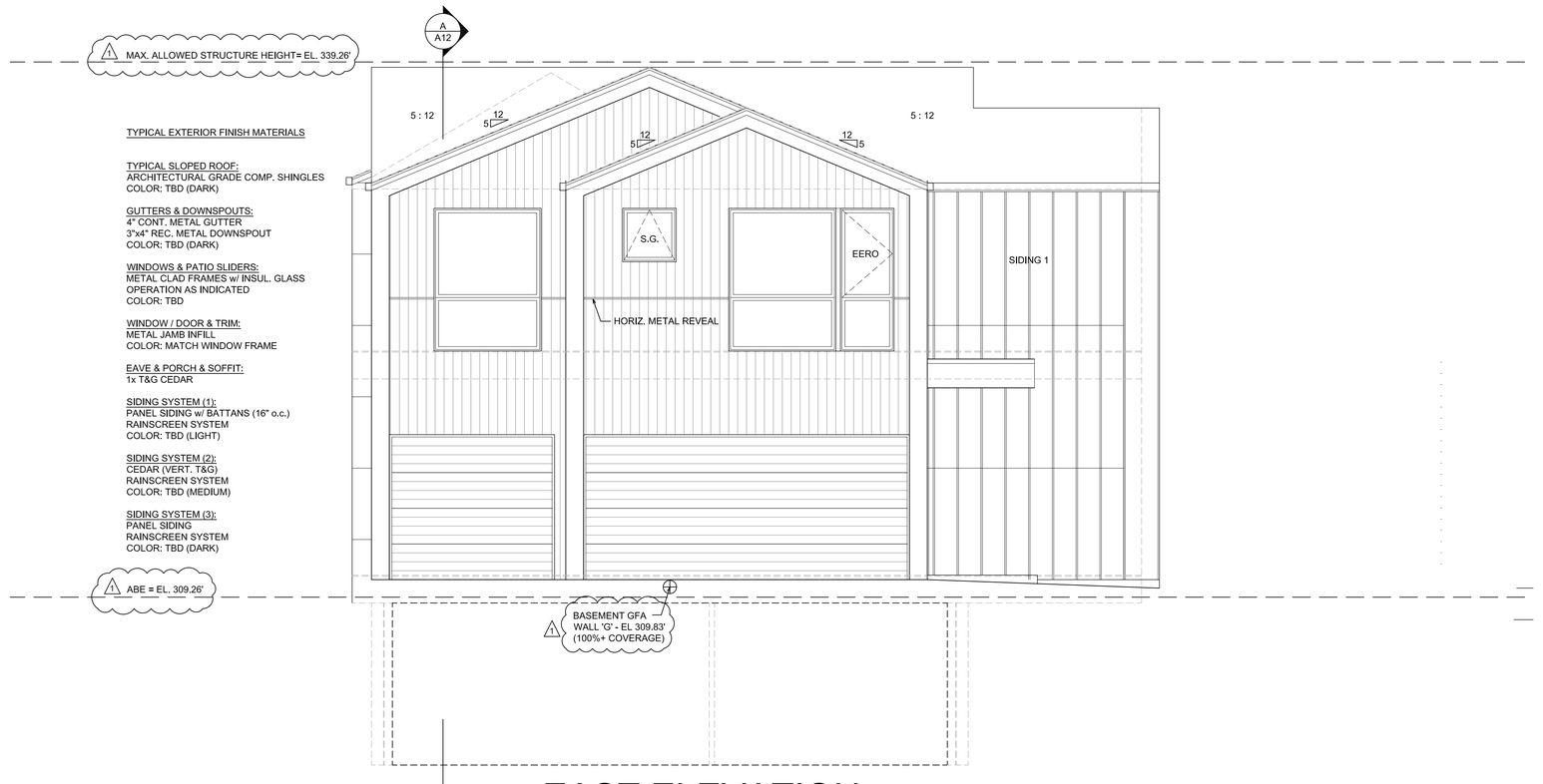
PLAN REVIEW 1

Roof Framing Plan

**A9**




TYPICAL EXTERIOR FINISH MATERIALS

TYPICAL SLOPED ROOF:
ARCHITECTURAL GRADE COMP. SHINGLES
COLOR: TBD (DARK)

GUTTERS & DOWNSPOUTS:
4" CONT. METAL GUTTER
3"x4" REC. METAL DOWNSPOUT
COLOR: TBD (DARK)

WINDOWS & PATIO SLIDERS:
METAL CLAD FRAMES w/ INSUL. GLASS
OPERATION AS INDICATED
COLOR: TBD

WINDOW / DOOR & TRIM:
METAL JAMB INFILL
COLOR: MATCH WINDOW FRAME

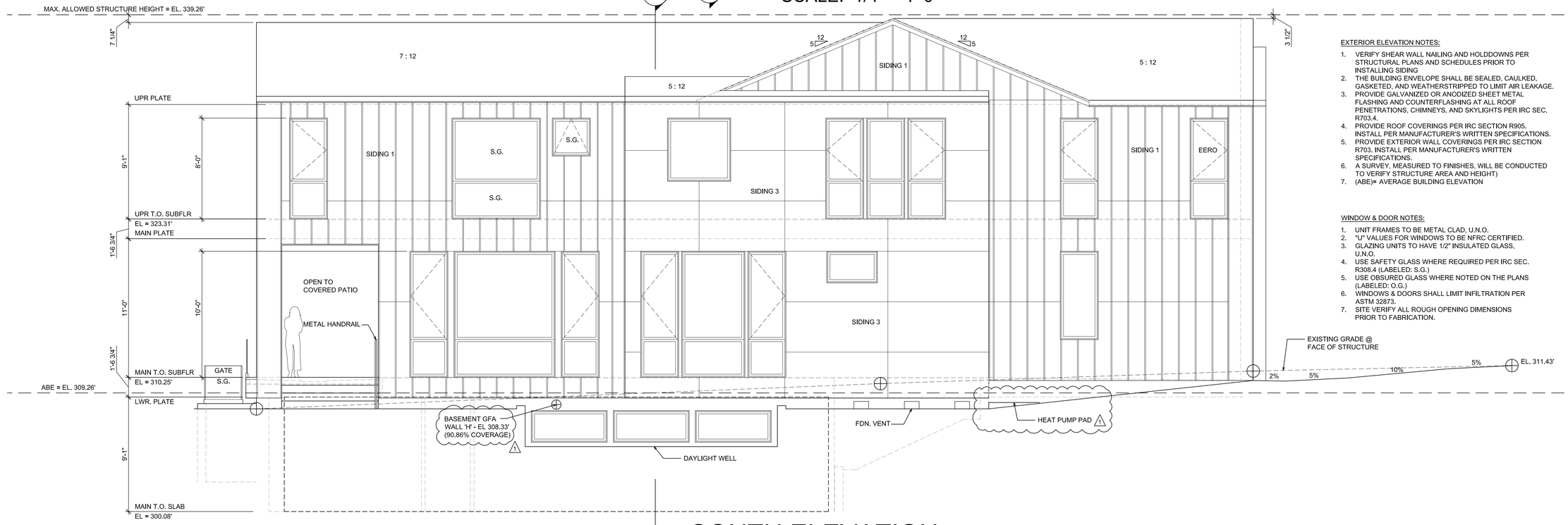
EAVE & PORCH & SOFFIT:
1x T&G CEDAR

SIDING SYSTEM (1):
PANEL SIDING w/ BATTANS (16" o.c.)
RAINSCREEN SYSTEM
COLOR: TBD (LIGHT)

SIDING SYSTEM (2):
CEDAR (VERT, T&G)
RAINSCREEN SYSTEM
COLOR: TBD (MEDIUM)

SIDING SYSTEM (3):
PANEL SIDING
RAINSCREEN SYSTEM
COLOR: TBD (DARK)

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




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

EXTERIOR ELEVATION NOTES:

1. VERIFY SHEAR WALL NAILING AND HOLDDOWNS PER STRUCTURAL PLANS AND SCHEDULES PRIOR TO INSTALLING SIDING
2. THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, AND WEATHERSTRIPPED TO LIMIT AIR LEAKAGE.
3. PROVIDE GALVANIZED OR ANODIZED SHEET METAL FLASHING AND COUNTERFLASHING AT ALL ROOF PENETRATIONS, CHIMNEYS, AND SKYLIGHTS PER IRC SEC. R703.4.
4. PROVIDE ROOF COVERINGS PER IRC SECTION R905. INSTALL PER MANUFACTURER'S WRITTEN SPECIFICATIONS.
5. PROVIDE EXTERIOR WALL COVERINGS PER IRC SECTION R703. INSTALL PER MANUFACTURER'S WRITTEN SPECIFICATIONS.
6. A SURVEY, MEASURED TO FINISHES, WILL BE CONDUCTED TO VERIFY STRUCTURE AREA AND HEIGHT)
7. (ABE)= AVERAGE BUILDING ELEVATION

WINDOW & DOOR NOTES:

1. UNIT FRAMES TO BE METAL CLAD, U.N.O.
2. "U" VALUES FOR WINDOWS TO BE NFRC CERTIFIED.
3. GLAZING UNITS TO HAVE 1/2" INSULATED GLASS, U.N.O.
4. USE SAFETY GLASS WHERE REQUIRED PER IRC SEC. R308.4 (LABELED: S.G.)
5. USE OBSURED GLASS WHERE NOTED ON THE PLANS (LABELED: O.G.)
6. WINDOWS & DOORS SHALL LIMIT INFILTRATION PER ASTM 32873.
7. SITE VERIFY ALL ROUGH OPENING DIMENSIONS PRIOR TO FABRICATION.

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**SEARS PLAT - LOT 2**
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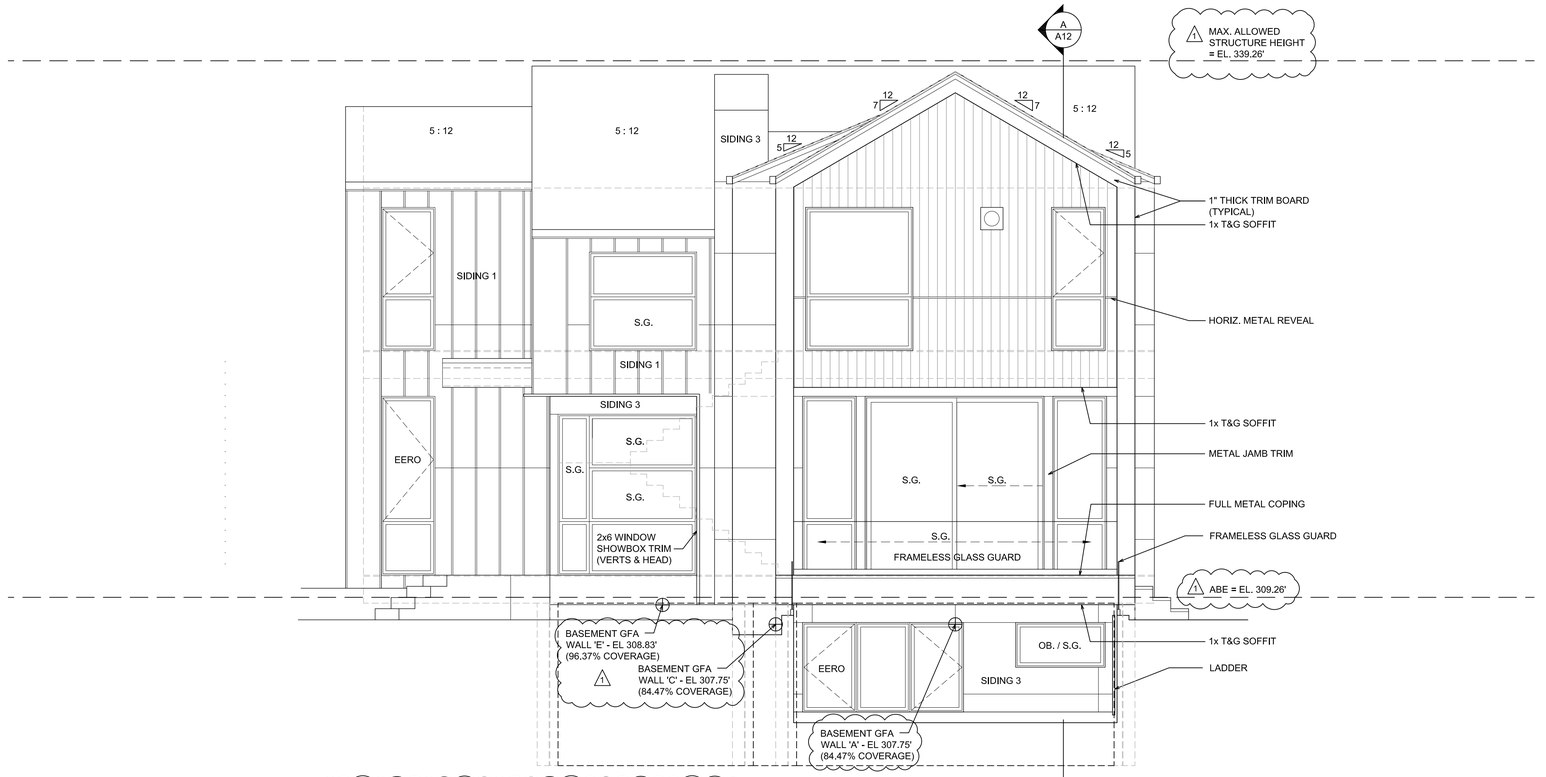
Washington
98040

PLAN REVIEW 1

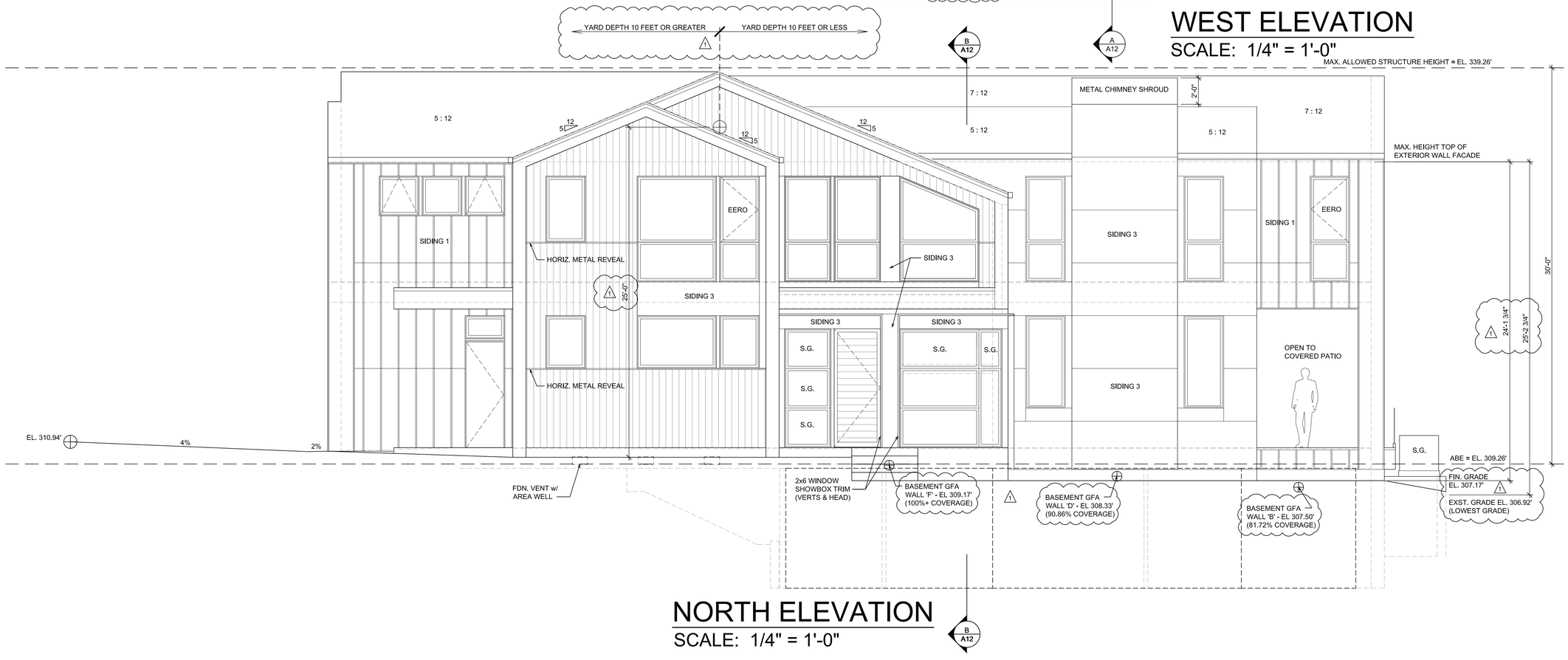
Elevations

**A10**




# WEST ELEVATION

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




# NORTH ELEVATION

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

B
A12

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STATE OF WASHINGTON

**SEARS PLAT - LOT 2**
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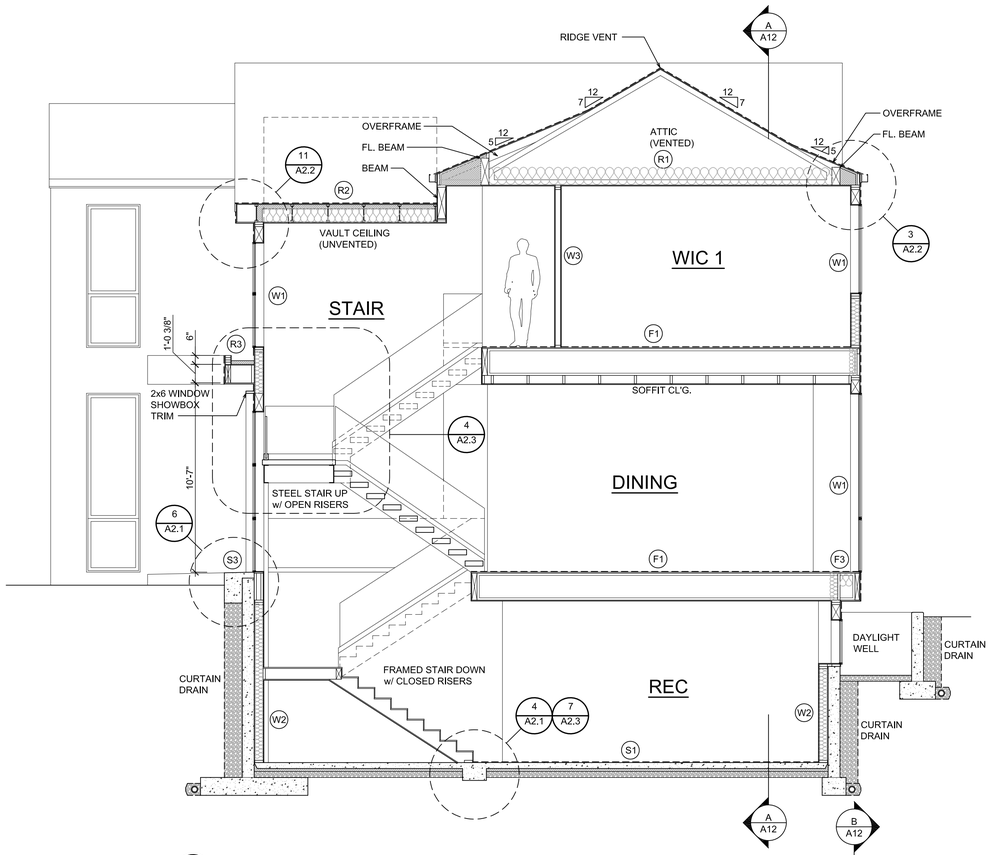
Washington
98040

PLAN REVIEW 1

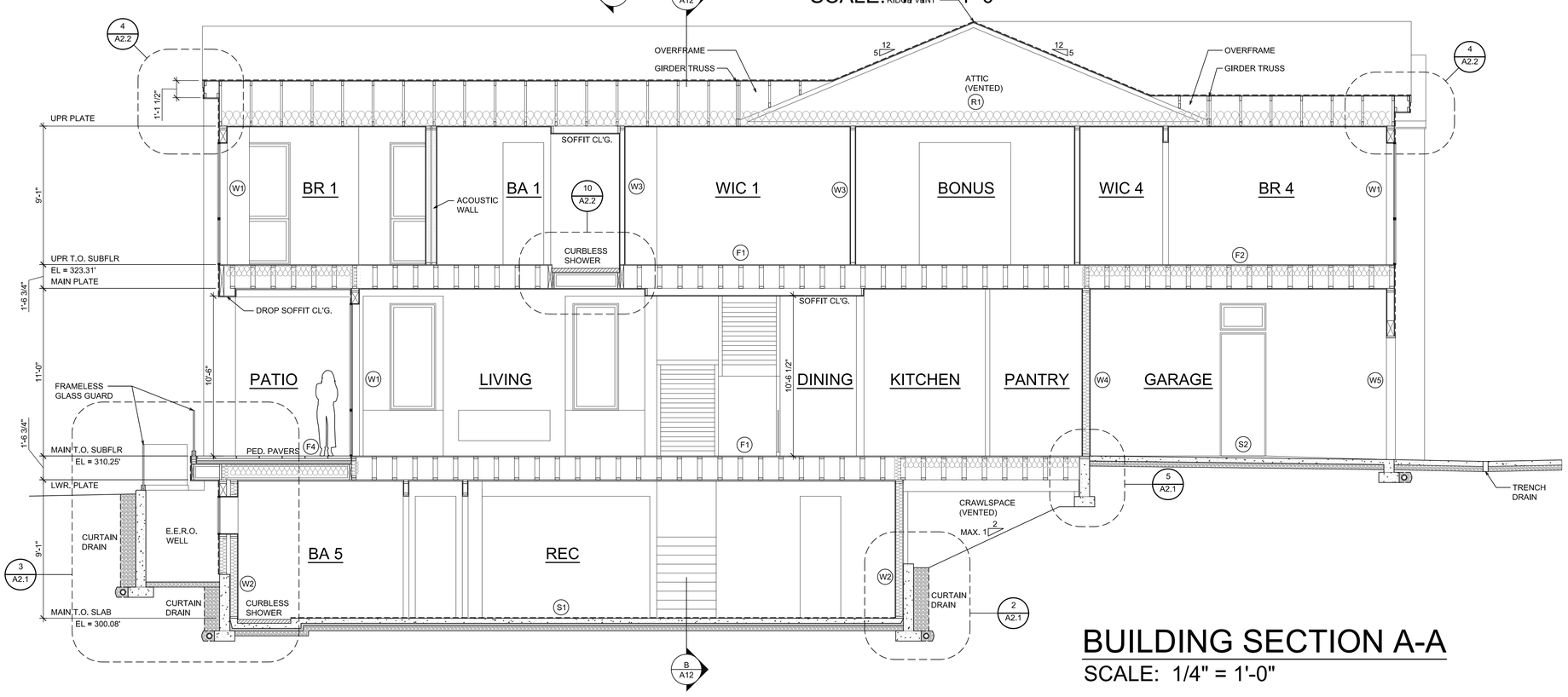
Elevations

**A11**




# BUILDING SECTION B-B

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




# BUILDING SECTION A-A

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

(W1) TYPICAL ABOVE GRADE EXTERIOR WALL:
-SIDING SYSTEM PER ELEVATIONS
-NO. 15 ASPHALT SATURATED FELT (WRB)
-1/2" SHEATHING PER STRUCTURAL
-2x6 STUDS PER STRUCTURAL
-R-21 BATT INSULATION PER COVER SHEET
-1/2" G.W.B. INTERIOR FINISH
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

(W2) TYPICAL BELOW GRADE EXTERIOR WALL:
-CURTAIN DRAIN SYSTEM
-CONCRETE WALL PER PLANS
-1/2" AIR SPACE
-2x6 STUDS PER STRUCTURAL
-R-21 BATT INSULATION PER COVER SHEET
-1/2" G.W.B. INTERIOR FINISH
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

(W3) TYPICAL INTERIOR WALL:
-1/2" G.W.B. INTERIOR FINISH
-2x4 STUDS PER STRUCTURAL (2x6 WHERE NOTED ON PLANS)
-1/2" G.W.B. INTERIOR FINISH

(W4) TYPICAL HOUSE/GARAGE WALL:
-1/2" G.W.B. INTERIOR FINISH
-2x6 STUDS PER STRUCTURAL
-R-21 BATT INSULATION PER COVER SHEET
-1/2" SHEATHING PER STRUCTURAL
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

(W5) TYPICAL GARAGE EXTERIOR WALL:
-SIDING SYSTEM PER ELEVATIONS
-NO. 15 ASPHALT SATURATED FELT (WRB)
-2x6 STUDS PER STRUCTURAL
-1/2" G.W.B. INTERIOR FINISH
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

(F1) TYPICAL FLOOR o/ HEATED SPACE:
-FINISH FLOOR PER PLAN
-3/4" T&G SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)
-FLOOR JOISTS OR TRUSSES PER FRAMING PLAN
-5/8" G.W.B. CEILING

(F2) TYPICAL FLOOR o/ GARAGE:
-FINISH FLOOR PER PLAN
-3/4" T&G SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)
-FLOOR JOISTS OR TRUSSES PER FRAMING PLAN
-R-30 BATT INSULATION PER COVER
-5/8" G.W.B. CEILING (TYPE 'X' WHERE INDICATED)
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

(F3) TYPICAL FLOOR o/ EXTERIOR SPACE:
-FINISH FLOOR PER PLAN
-3/4" T&G SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)
-FLOOR JOISTS OR TRUSSES PER FRAMING PLAN
-R-30 BATT INSULATION PER COVER
-VENTED SOFFIT PANEL
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

(F4) FLOOR @ DECK PAVERS o/ INTERIOR SPACE (UNVENTED):
-PEDESTAL PAVER SYSTEM
-PROTECTION BOARD
-SINGLE PLY WATER PROOF MEMBRANE
-TAPERED INSULATION PANELS
-1/2 SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)
-FLOOR JOISTS PER FRAMING PLAN
-FILL CAVITY w/ EXPANDING FOAM INSULATION
-5/8" GWB CEILING
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

(R1) TYPICAL ROOF CONSTRUCTION o/ HEATED (VENTED):
-ARCHITECTURAL GRADE COMPOSITION ROOF SHINGLES
-(SLOPE TO GUTTER)
-1/2" SHEATHING PER STRUCTURAL
-ROOF TRUSSES PER FRAMING PLAN
-R-60 BATT INSULATION PER COVER
-5/8" GWB CEILING
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

(R2) VAULT ROOF CONSTRUCTION o/ HEATED (VENTED):
-ARCHITECTURAL GRADE COMPOSITION ROOF SHINGLES
-(SLOPE TO GUTTER)
-1/2" SHEATHING PER STRUCTURAL
-ROOF TRUSSES PER FRAMING PLAN
-R-49 HYBRID (R-30 BATT + 3" SPF) INSULATION PER COVER
-5/8" GWB CEILING
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

(R3) FLAT ROOF CONSTRUCTION o/ EXTERIOR SPACE (VENTED):
-SINGLE PLY ROOF MEMBRANE SYSTEM
-TAPERED INSULATION PANELS (SLOPE TO EDGE)
-1/2" SHEATHING PER STRUCTURAL
-ROOF RAFTERS (FLAT, NO SLOPE) PER FRAMING PLAN
-1x T&G SOFFIT CEILING

(S1) TYPICAL SLAB-ON-GRADE (INTERIOR):
-FINISH FLOOR PER PLAN
-4" CAST-IN-PLACE CONCRETE
-10 MIL VAPOR RETARDER
-R-10 RIGID INSULATION PER COVER SHEET
-4" GRANULAR FILL

(S2) GARAGE SLAB-ON-GRADE (GARAGE):
-4" CAST-IN-PLACE CONCRETE (SLOPE PER PLAN)
-10 MIL VAPOR RETARDER
-4" GRANULAR FILL

(S3) PATIO SLAB-ON-GRADE:
-4" CAST-IN-PLACE CONCRETE (SLOPE ER PLAN)
-4" GRANULAR FILL

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PLAN REVIEW 1

Building Sections

**A12**

## BASEMENT SLAB

4" CONC. SLAB ON 10 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

## GARAGE SLAB

4" CONC. SLAB ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

## PORCH SLAB

4" CONC. SLAB ON GRADE ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

## GENERAL STRUCTURAL NOTES

### FOUNDATION

- DESIGN IS BASED ON 2021 INTERNATIONAL RESIDENTIAL CODE & 2021 INTERNATIONAL BUILDING CODE
- DESIGN LOADS:
  SOIL 1500 PSF ALLOWABLE BEARING PRESSURE
- CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS IN 28 DAYS, U.N.O.:
  f'c = 3,000 psi * ..... FOUNDATION WALLS
  3,000 psi * ..... FOOTINGS
  2,500 psi ..... INTERIOR SLABS ON GRADE
  3,500 psi * ..... GARAGE & EXT. SLABS ON GRADE
  fy = 60,000 psi

  * ALL CONCRETE HAS BEEN DESIGNED FOR 2500 PSI, ANYTHING GREATER THAN THIS SPECIFICATION IS FOR WEATHERING ONLY.
- ALL CONCRETE EXPOSED TO THE WEATHER SHALL NOT HAVE LESS THAN 5% OR MORE THAN 7% AIR ENTRAINMENT.
- FOUNDATION WALL DESIGN IS BASED ON BACKFILL SOIL PRESSURE OF 55 PCF AT-REST, 35 PCF ACTIVE & 7H SEISMIC SURCHARGE.
- TYPICAL REINFORCEMENT DETAILS: LAP ALL REBAR 24" MIN. BEND BARS AND LAP AT CORNERS; PROVIDE 6" HOOK INTO SUPPORTING FOOTINGS WHEN FOOTINGS INTERSECT; PROVIDE 3" MINIMUM COVER AT THE BOTTOM BARS AND 1 1/2" COVER AT THE SIDES.
- FOUNDATION WALLS SHALL BE BRACED, PRIOR TO BACKFILLING, BY EITHER ADEQUATE TEMPORARY BRACING OR INSTALLATION OF FIRST FLOOR DECK.
- ALL FOOTINGS SHALL BEAR BELOW FROST LINE. CONSULT SOILS REPORT/ LOCAL MUNICIPALITY FOR MINIMUM DEPTH BELOW GRADE.
- FOOTINGS AND SLABS ON GRADE SHALL BEAR ON VIRGIN SOIL OR 95% COMPACTED FILL.
- PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS OF SLAB EDGES, AND OTHER LOCATIONS WHERE SLAB CRACKS ARE LIKELY TO DEVELOP. (15'-0" O.C.)
- FASTEN SILL PLATES TO FOUNDATION WALLS WITH 5/8" DIA. ANCHOR BOLTS w/ MIN. 3"x3"x 1/4" PLATE WASHERS (EDGE OF WASHER TO BE LOCATED WITHIN 1/2" OF EXTERIOR EDGE OF SILL PLATE) PROVIDE A MINIMUM OF 2 ANCHORS PER PLATE, 12" MAXIMUM FROM PLATE ENDS, U.N.O. (SEE FND. DETAILS).
- ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT W/ CONCRETE OR MASONRY FOUNDATION SHALL BE PRESERVATIVE TREATED HEM FIR #2.
- ARCH/BUILDER TO VERIFY ALL DIMENSIONS

## HOLD-DOWN SCHEDULE

| SYMBOL | SPECIFICATION |
|---|---|
| HD-1 | SIMPSON STHD14 (R.J) HOLD-DOWN |
| HD-2 | SIMPSON HDU8-SDS2.5 HOLD-DOWN |
| HD-3 | SIMPSON MTS31 STRAP TIE (CENETER STRAP ON FLOOR SYSTEM U.N.O.) |
| HD-5 | SIMPSON CS16 STRAP TIE (14" END LENGTH) |
| HD-6 | SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.) |
| HD-7 | SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.) |

## MEANS & METHODS NOTES

THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS FINISHED AND ALL PLAN, DETAIL, AND NOTE SPECIFICATIONS HAVE BEEN COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURES AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS, AND TIE-DOWNS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED TO STABILIZE AND PROTECT EXISTING AND ADJACENT STRUCTURES AND SYSTEMS DURING COURSE OF DEMOLITION AND CONSTRUCTION OF THE PROJECT.

STRUCTURAL DESIGN AND SPECIFICATIONS ASSUME THAT ALL SUPPORTING AND NON-SUPPORTING ELEMENTS IN CONTACT WITH FLOOR FRAMING ARE LEVEL, INCLUDING, BUT NOT LIMITED TO; FOUNDATIONS, SLABS ON GRADE, BEAMS, WALLS, AND NON-BEARING ELEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LEVELNESS AND MAKE ADJUSTMENTS AS NECESSARY, INCLUDING CONSIDERATION OF THOSE AREAS THAT MAY BE WITHIN CONTRACTUAL, INDUSTRY, OR WARRANTY TOLERANCES.

## ADDITIONAL NOTES FOR TRUSS & I-JOIST MANUFACTURER

ROOF TRUSS, FLOOR TRUSS AND ENGINEERED JOISTS SHALL BE DESIGNED TO MEET THE DIFFERENTIAL DEFLECTION CRITERIA BELOW, UNLESS NOTED OTHERWISE ON PLAN. MULHERN & KULP CANNOT BE HELD RESPONSIBLE FOR ANY STRUCTURAL ISSUES RELATED TO ANY BUILDING COMPONENT IF COMPONENT SHOP DRAWINGS ARE NOT SUBMITTED TO M&K FOR REVIEW PRIOR TO FABRICATION, DELIVERY, OR INSTALLATION.

TRUSSES SHALL BE DESIGNED SO THAT DIFFERENTIAL DEFLECTION BETWEEN ADJACENT PARALLEL TRUSSES OR GIRDER TRUSSES DOES NOT EXCEED THE FOLLOWING:

A. ROOF TRUSSES:
   1/4" DEAD LOAD
B. FLOOR TRUSSES, ATTIC TRUSSES, & I-JOISTS:
   1/8" DEAD LOAD
C. FLOOR TRUSSES & ATTIC TRUSSES ADJACENT TO FLOOR FRAMING BY OTHERS:
   LIMIT ABSOLUTE TRUSS DEFLECTION TO
   3/16" DEAD LOAD. (NOT DIFFERENTIAL DEFLECTION)

## LOADING AND DESIGN PARAMETERS

GRAVITY DESIGN LOADS:

| | |
|---|---|
| DEAD LOAD (PSF): | |
| ROOF TRUSS TOP CHORD : | 10 |
| ROOF TRUSS BOTTOM CHORD : | 7 |
| ROOF RAFTERS : | 10 |
| FLOOR (TRUSSES) : | 15 |
| TILE FLOORS : | 10 |
| PEDESTAL PAVERS : | 10 |
| LIVE LOAD (PSF): | |
| ROOF : | 20 |
| RESIDENTIAL LIVING AREAS : | 40 |
| RESIDENTIAL SLEEPING AREAS : | 30 |
| RESIDENTIAL WOOD DECKS : | 60 |
| GARAGE : | 50 |
| SNOW LOAD: | |
| GROUND SNOW LOAD ($P_g$) (PSF) : | 25 |
| FLAT ROOF SNOW LOAD ($P_f$) (PSF) : | 25 |
| SNOW EXPOSURE FACTOR ($C_e$) : | 1.2 |
| SNOW LOAD IMPORTANCE FACTOR (I) : | 1.0 |
| THERMAL FACTOR ($C_t$) : | 1.2 |

LATERAL DESIGN LOADS:

| | |
|---|---|
| WIND LOAD. (IBC 1609) | |
| SPEED ($V_{ult}$) (MPH) : | 100 |
| WIND RISK CATEGORY : | II |
| IMPORTANCE FACTOR ($I_w$) : | 1.0 |
| EXPOSURE CATEGORY : | B |
| INTERNAL PRESSURE COEFF. ($GC_{pi}$) : | ±0.18 |
| TOPOGRAPHIC FACTOR ($K_{zt}$) : | 1.0 |
| SEISMIC LOAD. (IBC 1613) | |
| SEISMIC RISK CATEGORY : | II |
| SEISMIC IMPORTANCE FACTOR ($I_e$) : | 1.0 |
| MAPPED SPECTRAL RESPONSE : | |
| $S_s$: 1.471 | $S_1$: 0.508 |
| SITE CLASS : | D (DEFAULT) |
| SPECTRAL RESPONSE COEFF. : | |
| $S_{ds}$: 1.177 | $S_{d1}$:0.807 |
| SEISMIC DESIGN CATEGORY: | D |
| BASIC SEISMIC-FORCE-RESISTING SYS : | |
| LIGHT FRAMED WALLS w/ WOOD STRUCTURAL PANELS | |
| ULTIMATE BASE SHEAR: | |
| TRANS: 18k | LONG: 18k |
| SEISMIC RESPONSE COEFF. ($C_s$) : | |
| TRANS: 0.181 | LONG: 0.181 |
| RESPONSE MODIFICATION FACTOR (R) : | |
| TRANS: 6.5 | LONG: 6.5 |
| ANALYSIS PROCEDURE USED: | |
| EQUIVALENT LATERAL FORCE | |

## LATERAL BRACING NOTES

THIS HOME HAS BEEN ENGINEERED TO RESIST LATERAL FORCES RESULTING FROM:
100 MPH WIND SPEED, EXP. B
(ASCE 7-16 WIND MAP, PER IRC R301.2.1.1)
RISK CAT. 2 & SEISMIC CAT. D2.

100 MPH WIND IN 2021 IRC MAP

ENGINEERED DESIGN WAS COMPLETED PER 2021 IBC (SECTION 1609 & 1613) & ASCE 7-16, AS PERMITTED BY R301.1.3 OF THE 2021 IRC. ACCORDINGLY, THIS HOME, AS DOCUMENTED AND DETAILED HEREWITHIN, IS ADEQUATE TO RESIST THE CODE REQUIRED LATERAL FORCES, AND DOES NOT NEED TO CONFORM TO THE PRESCRIPTIVE PROVISIONS OF R602.10.

### STANDARD EXTERIOR WALL SHEATHING SPECIFICATIONS
(INTERIOR WALL SPECIFICATION WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:

  FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 6"o.c. AT ALL SUPPORTED PANEL EDGES AND 12" O.C. IN THE PANEL FIELD. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE. ALL EXTERIOR WALLS SHALL BE CONSTRUCTED PER THIS SPECIFICATION U.N.O. ON PLANS.

### 3" o.c. EDGE NAILING
(WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:

  ONLY AT LOCATIONS INDICATED ON PLANS - SHEATHE WALL SHOWN WITH 7/16" OSB. FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 3" O.C. AT EDGES AND 12" O.C. AT CENTER. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE AND 3" O.C. FASTENING.

NOTES:

1. LATERAL ANALYSIS ASSUMES STUD SPACING @ 16" o.c.
2. ALL SHEAR WALLS SHALL HAVE DOUBLE TOP PLATES FASTENED TOGETHER w/ 3"x0.131" NAILS @ 8" O.C. USE (12)8d's"x0.135" NAILS AT EACH LAP SPLICE, (6) EACH SIDE OF JOINT (TYP. U.N.O.)
3. ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED.
4. ALL EXTERIOR SHEAR WALLS AND EXTERIOR WALLS ARE SHEATHED ABOVE AND BELOW OPENINGS.

## LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- AREA OF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE (P.A.). PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.

## GENERAL STRUCTURAL NOTES

### DESIGN PARAMETERS

- DESIGN IS BASED ON 2021 INTERNATIONAL RESIDENTIAL CODE & 2021 INTERNATIONAL BUILDING CODE
- WOOD FRAME ENGINEERING IS BASED ON NDS, "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" - LATEST EDITION.

### GENERAL FRAMING

- EXTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- INTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- ALL NON-BEARING INTERIOR STUD WALLS SHALL BE CONSTRUCTED WITH 2x "STUD" GRADE MEMBERS SPACED @ 24" O.C. (MAX.)
- ALL WALLS TALLER THEN TYP. PLATE HEIGHT SHALL BE CONSIDERED BALLOON FRAMED & SHALL BE CONSTRUCTED FROM FLOOR TO UNDERSIDE OF FRAMING AT NEXT LEVEL. B.F. WALLS SHALL BE 2x6 HEM FIR (HF) #2 GRADE LUMBER, OR BETTER. U.N.O.
- ALL SHEATHING AND LEDGERS ARE TO BE DIRECTLY APPLIED AND FASTENED TO FRAMING. DO NOT PROVIDE CONTINUOUS INSULATION BETWEEN FRAMING AND SHEATHING/LEDGERS
- ALL HEADERS SHALL BE SUPPORTED BY (1)2x JACK STUD & (1)2x KING STUD, MINIMUM.
  - THE NUMBER OF STUDS SPECIFIED AT A SUPPORT INDICATES THE NUMBER OF JACK STUDS REQUIRED, U.N.O..
- BUILT-UP POSTS SHALL BE 2x4 OR 2x6 HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O. & SOLID WOOD COLUMNS SHALL BE SPRUCE PINE FIR (SPF) #2 GRADE LUMBER, OR BETTER, U.N.O.
- ALL 2x6 AND LARGER SOLID SAWN BEAMS/HEADERS SHALL BE HEM FIR #2 (HF #2) OR BETTER. ALL 4x6 AND LARGER SOLID SAWN LUMBER SHALL BE DOUG FIR #2 (DF #2) OR BETTER.
- ALL FRAMING LUMBER SHALL BE KILN DRIED TO 19% MC (KD-19).
- ALL TYP. NAIL FASTENER REQUIREMENTS ARE NOTED IN GENERAL NOTES, IN DETAILS, OR ON PLANS. ALL NAILS SPECIFIED ARE MIN DIAMETER AND LENGTH REQUIRED FOR CONNECTION. ALL HANGER NAILS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS FOR MAX CHARTED CAPACITY. NOTE: HANGERS USE COMMON NAIL DIAMETERS NOT TYPICAL FRAMING GUN NAILS.
- FASTEN ALL BEAMS TO COLUMNS, OR FLUSH BEAMS TO SUPPORTING BEAMS, w/ (4) 3"x0.131" TOENAILS (MIN.), TYP. U.N.O.
- PROVIDE SOLID BLOCKING IN FLOOR SYSTEM UNDER ALL POSTS & HOLD-DOWNS CONTINUOUS TO FOUNDATION/BEARING. BLOCKING TO MATCH POST ABOVE.
- ENGINEERED LUMBER TO MEET OR EXCEED THE FOLLOWING:
  - LSL MEMBERS - Fb=2325 PSI; Fv=310 PSI; E=1.55x10^6 PSI
  - LVL MEMBERS - Fb=2600 PSI; Fv=285 PSI; E=2.0x10^6 PSI
  - GLB MEMBERS - Fb(+)=2400 PSI; Fb(-)=1850 PSI; Fv=265 PSI; E=1.8x10^6 PSI; DF/DF; 24F-V4 (U.N.O.)
- ENGINEERED LUMBER POSTS TO MEET OR EXCEED THE FOLLOWING:
  - LVL MEMBERS - Fb=2400 PSI; Fc⊥=2500 PSI; E=1.8x10^6 PSI
- FACE NAIL MULTI-PLY 2x BEAMS & HEADERS W/ 3-ROWS OF 3"x0.131" NAILS (MIN.) @ 12" O.C. STAGGERED. APPLY NAILING FROM BOTH FACES @ 3-PLY OR MORE CONDITIONS. UTILIZE 2 ROWS OF NAILS FOR 2x6 & 2x8 MEMBERS.
- TRUSS SHOP DWGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PROPOSED CONSTRUCTION SHALL BE SUBMITTED TO BUILDING DESIGNER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY IN ACCORDANCE WITH TPI-1 2.3.2.3 & 2.3.4.3.
- REFER TO IRC FASTENING SCHEDULE TABLE R602.3(1) FOR ALL CONNECTIONS, TYP. U.N.O.
- BUILDER RESPONSIBLE TO DETERMINE CORROSION-RESISTANCE REQUIREMENTS AND COMPATIBILITY OF HARDWARE, FASTENERS AND CONNECTORS FOR ENVIRONMENTAL EXPOSURE AND IN CONTACT W/ PRESERVATIVE-TREATED WOOD OF ACTUAL FINAL CONDITIONS AND SOURCED MATERIALS. CONTACT LUMBER & HARDWARE SUPPLIERS TO COORD. IN THE ABSENCE OF MANUFACTURER'S RECOMMENDATIONS, NOT LESS THAN ASTM A653, TYPE G185 ZINC-COATED GALVANIZED STEEL, OR EQUIVALENT, SHALL BE USED.

### FLOOR FRAMING

- I-JOISTS/TRUSSES SHALL BE DESIGNED BY MANUF. TO MEET OR EXCEED L/480 LIVE LOAD DEFLECTION CRITERIA AND SHALL RUN CONTINUOUS OVER SUPPORTS WHEREVER POSSIBLE. ALL LOADS SHOWN ON PLAN FOR MANUF. DESIGNS ARE ASD LEVEL LOADS, U.N.O. (EXCLUDES STONE/MARBLE OR WET BED CONSTRUCTED FLOORS - CONTACT M&K FOR EXCLUDED DESIGNS).
- ALL METAL I-JOIST/TRUSS HANGERS SHALL BE SPECIFIED BY I-JOIST/TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- 2x FLOOR JOISTS HAVE BEEN DESIGNED TO MEET OR EXCEED L/360 LIVE LOAD DEFLECTION CRITERIA.
- TYPICAL 2x JOIST HANGERS (U.N.O. ON PLANS):
  SINGLE PLY: SIMPSON LUS210
  DOUBLES: SIMPSON LUS210-2
- FLOOR SHEATHING SHALL BE 23/32" A.P.A. RATED 'STURD-I-FLOOR' 24" O.C. EXPOSURE 1 (OR APPROVED EQUAL) WITH TONGUE AND GROOVE EDGES. FASTEN TO FRAMING MEMBERS W/ GLUE AND 2 ½" x 0.131" NAILS @ 6"o.c. @ PANEL EDGES & @ 12"o.c. FIELD.
- ALL FLUSH CONNECTIONS SHALL BE CONNECTED WITH HANGER APPROPRIATE FOR MEMBER SIZE. U.N.O.
- FASTEN HANGERS TO SINGLE PLY FLUSH BEAMS W/ ½" LONG NAILS.

### ROOF FRAMING

- FASTEN EACH ROOF TRUSS TO TOP PLATE W/ (4) 3"x0.131" TOENAILS (MIN.) & (1) 'SIMPSON' H2.5T CLIP @ ALL BEARING POINTS. PROVIDE (2) 'SIMPSON' H2.5T CLIPS AT 2-PLY GIRDER TRUSSES, (3) 'SIMPSON' H2.5T CLIPS AT 3-PLY GIRDER TRUSSES AT ALL BEARING POINTS.
- FASTEN EACH ROOF RAFTER TO TOP PLATE WITH (1) 'SIMPSON' H2.5T CLIP. PROVIDE (2) 'SIMPSON' H2.5T CLIPS AT FLUSH BEAMS IN THE ROOF - AT ALL BEARING POINTS.
- ROOF SHEATHING SHALL BE 7/16" A.P.A. RATED SHEATHING 24/16 EXPOSURE 1 (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS w/ 2 ½" x 0.131" NAILS @ 6"o.c. AT PANEL EDGES & @ 6" O.C. AT INTERMEDIATE SUPPORTS. ROOF SHEATHING SHALL EXTEND BELOW ALL INSTANCES OF OVERFRAMING. BLOCKING SHALL BE INSTALLED AS REQUIRED TO LIMIT ROOF SHEATHING SPANS TO 24" MAX.
- ALL METAL HANGERS SHALL BE SPECIFIED BY THE TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- ROOF TRUSS SHOP DRAWINGS & CALCULATIONS SHALL BE DESIGNED FOR UNBALANCED SNOW LOADING PER ASCE 7-16, SECTION 7.6.
- ERECT AND INSTALL ROOF TRUSSES PER WTCA & TPI'S BCSI 1-08 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."
- FASTEN OVER-FRAMED TRUSS SETS TO TRUSSES BELOW W/ (2) 3"x0.131" TOENAILS AT EA. TRUSS.
- FASTEN ALL INTERIOR NON-BEARING PARTITION WALLS TO TRUSS BOTTOM CHORD ABOVE WITH SIMPSON STC CLIPS AT 24" o.c. MAX. PROVIDE BLOCKING BETWEEN THE TRUSS BOTTOM CHORDS AS REQUIRED FOR THE PARALLEL CONDITIONS.

seal:

NICHOLAS J. MARTIGNETTI — STATE OF WASHINGTON — 56478 — REGISTERED PROFESSIONAL ENGINEER

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MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING
7220 Trade Street, Suite 255, San Diego, CA 92121
p 619-650-0010 ▸ mulhernkulp.com

M&K project number: 244-25011

project mgr: NJM
drawn by: RSC
issue date: 06-23-25

REVISIONS:

| date: | initial: |
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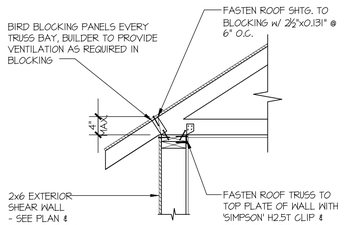
McCULLOUGH ARCHITECTS

STRUCTURAL NOTES

SEARS PLAT
LOT 2
MERCER ISLAND, WASHINGTON

sheet: S-0.0

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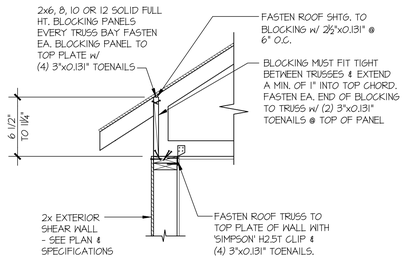


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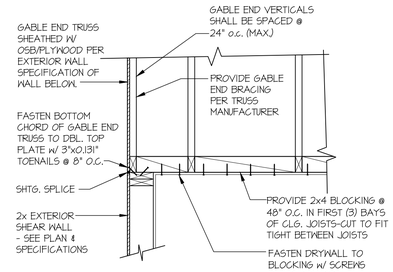


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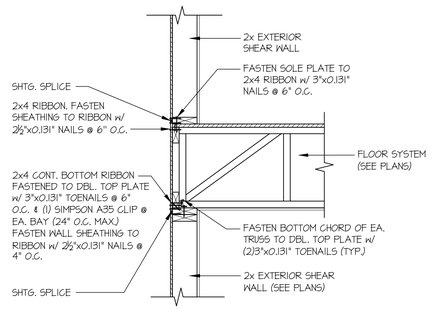


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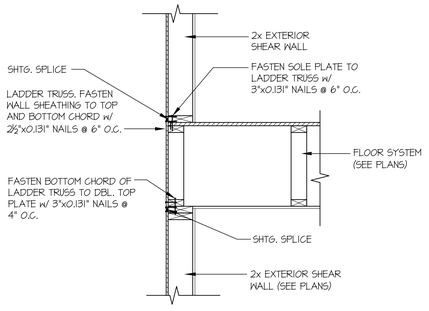


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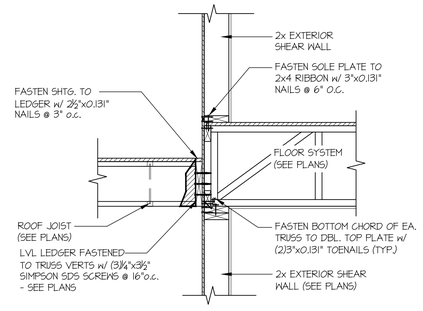


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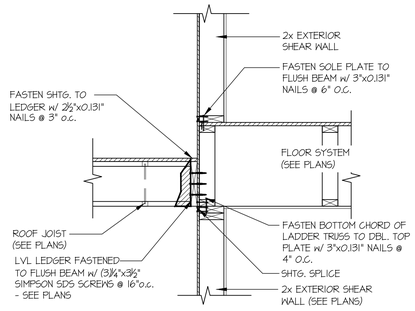


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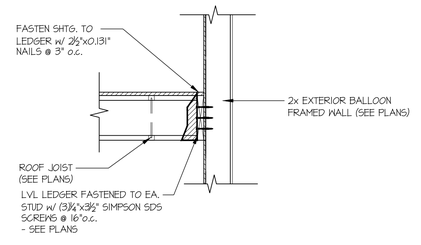


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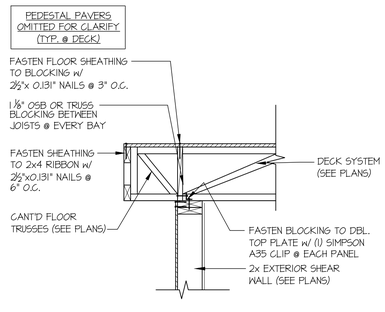


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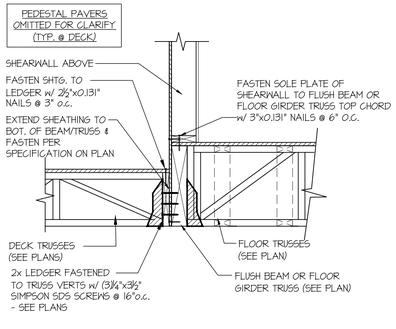


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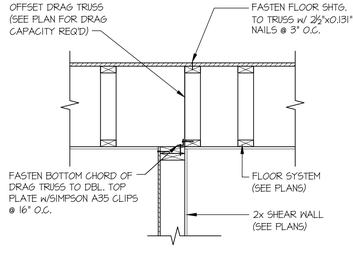


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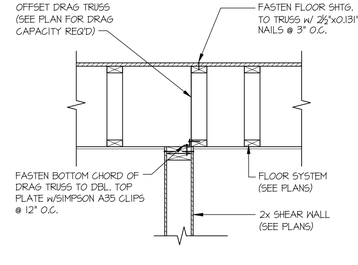


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RESIDENTIAL STRUCTURAL ENGINEERING
7220 Trade Street, Suite 255, San Diego, CA 92121
p 619-650-0010 ▸ mulhernkulp.com

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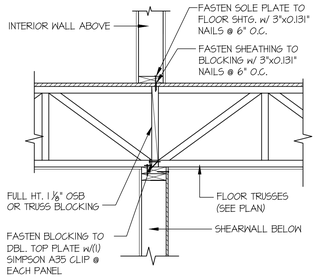
REVISIONS:
date: initial:

McCULLOUGH ARCHITECTS

STRUCTURAL DETAILS

SEARS PLAT
LOT 2
MERCER ISLAND, WASHINGTON

sheet:
LB-1

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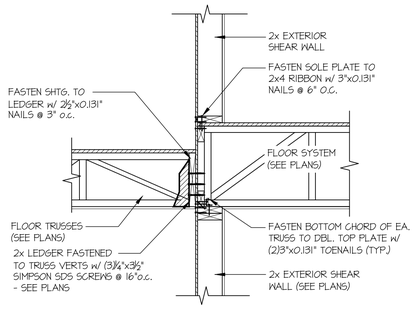


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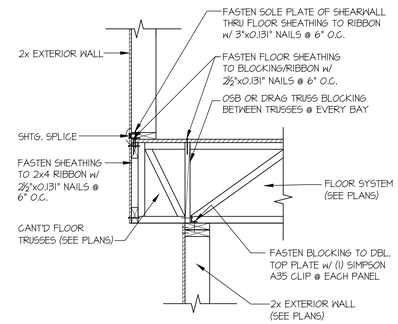


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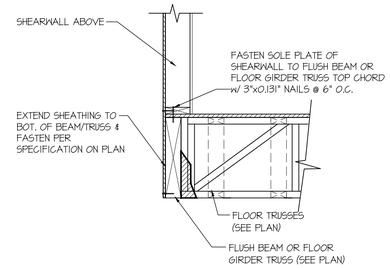


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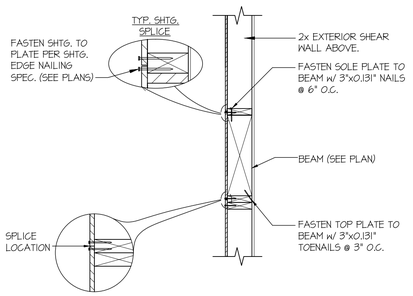


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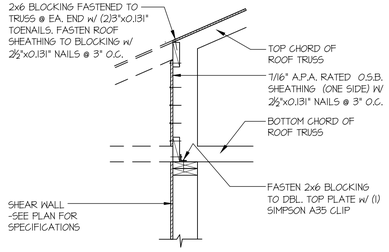


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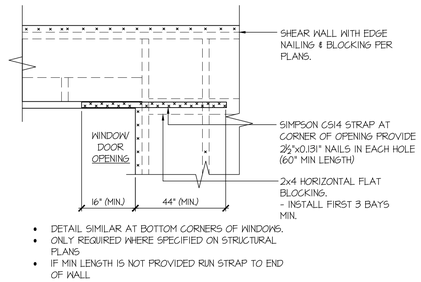
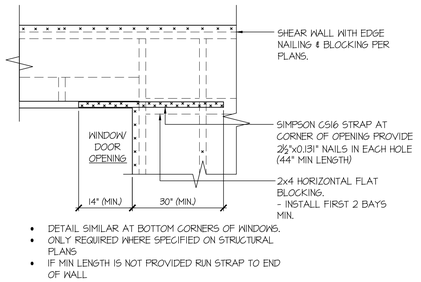


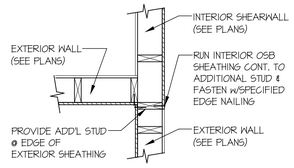

- DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.
- ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS
- IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

93 SECTION
SCALE: NTS

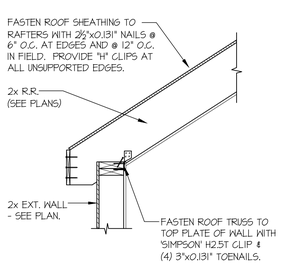



- DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.
- ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS
- IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

94 SECTION
SCALE: NTS




99 SECTION
SCALE: 3/4"=1'-0" SHTG. OPPOSITE FACES

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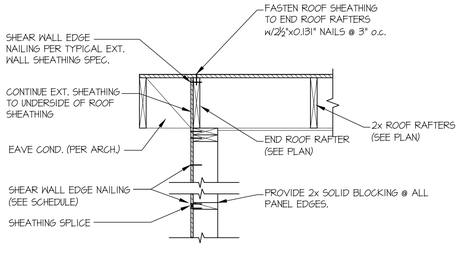


112 SECTION
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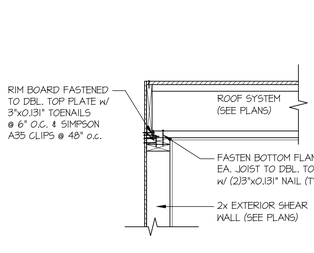
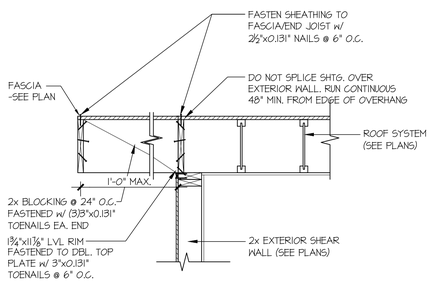



113 SECTION
SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING




114 SECTION
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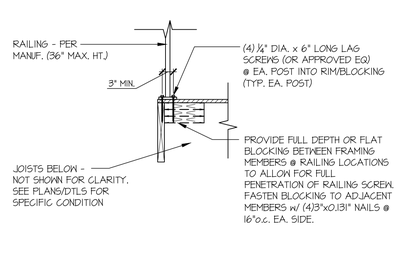


A TYP. RAILING CONNECTION
SCALE: 3/4"=1'-0" WOOD FRMS BELOW

seal:

NICHOLAS J. MARTIGNETTI
STATE OF WASHINGTON
56478
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M&K project number: 244-25011

project mgr: NJM
drawn by: RSC
issue date: 06-23-25

REVISIONS:

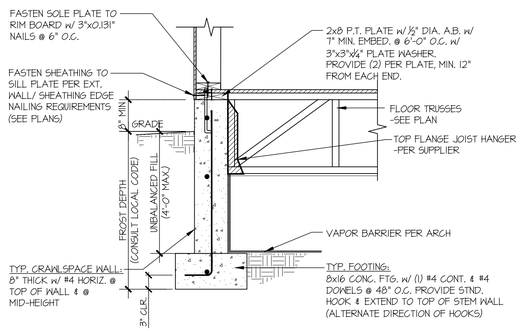
| date: | initial: |
|---|---|
| | |
| | |
| | |
| | |
| | |

McCULLOUGH ARCHITECTS

STRUCTURAL DETAILS

SEARS PLAT
LOT 2
MERCER ISLAND, WASHINGTON

sheet:
LB-2

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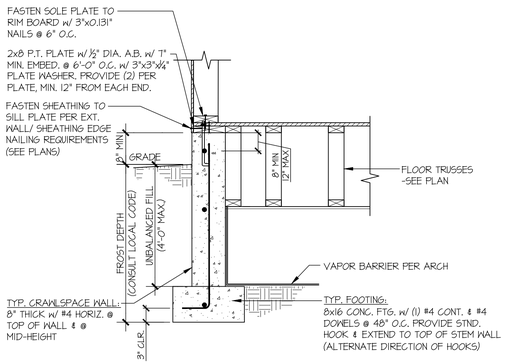


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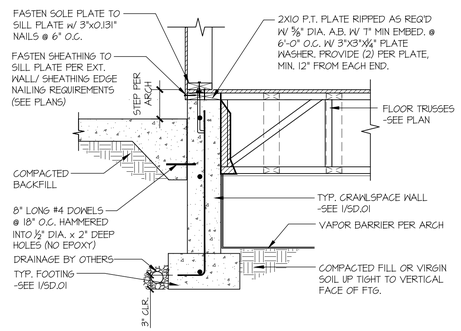
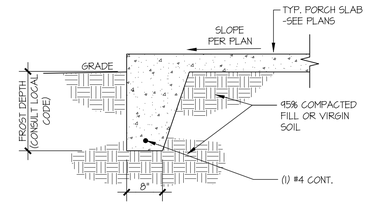



3 SECTION
SCALE: 3/4"=1'-0" @ PORCH SLAB

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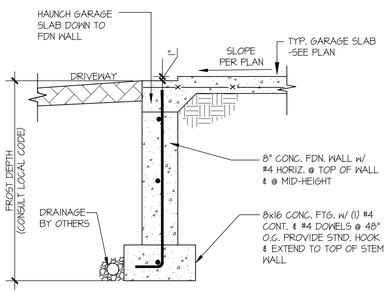


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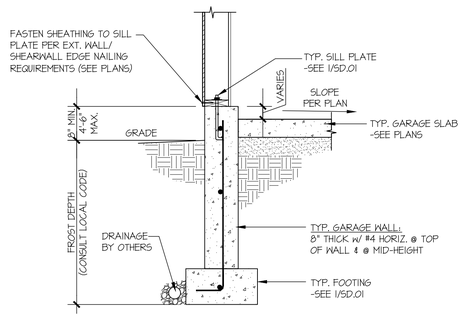


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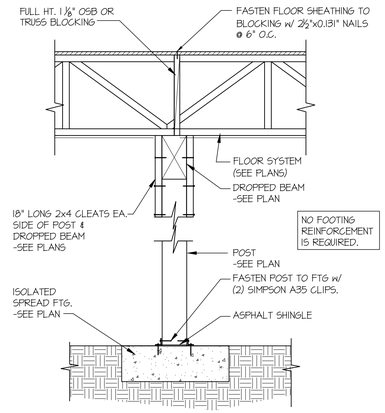


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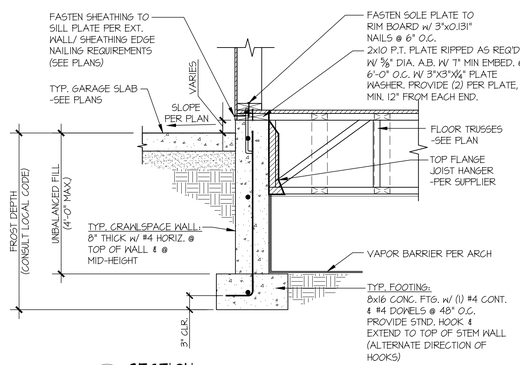


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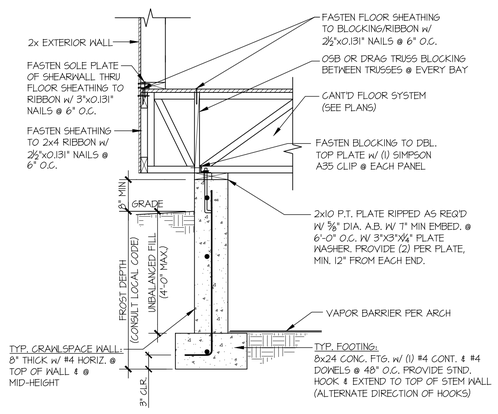


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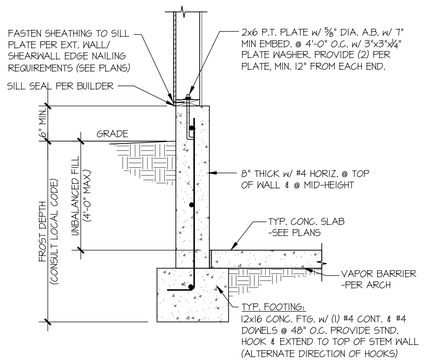


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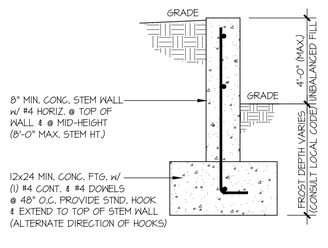


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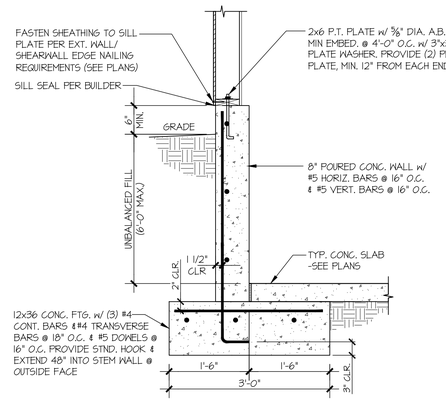


12 SECTION
SCALE: 3/4"=1'-0"

seal:
NICHOLAS J. MARTINOLICH
STATE OF WASHINGTON
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M&K project number: 244-25011

project mgr: NJM
drawn by: RSC
issue date: 06-23-25

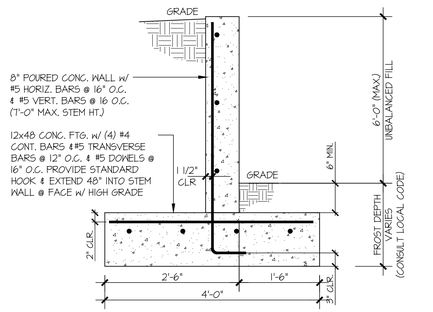
REVISIONS:
date: initial:

McCULLOUGH ARCHITECTS

# FOUNDATION DETAILS

## SEARS PLAT
LOT 2
MERCER ISLAND, WASHINGTON

sheet: SD.01

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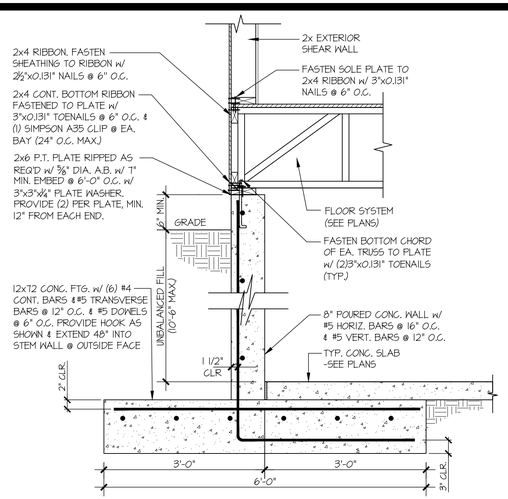


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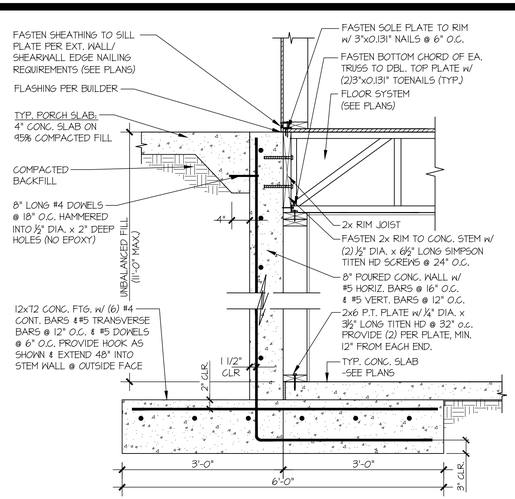


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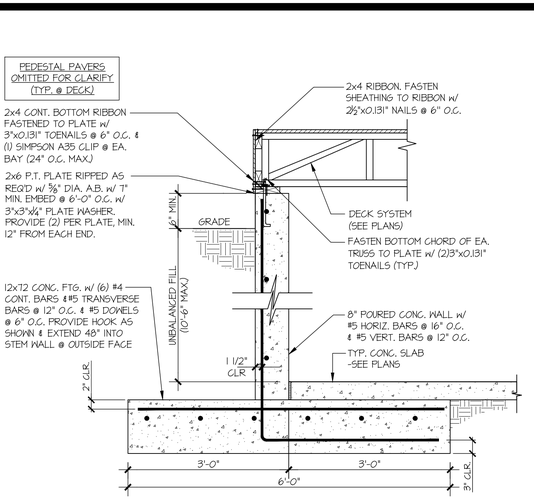


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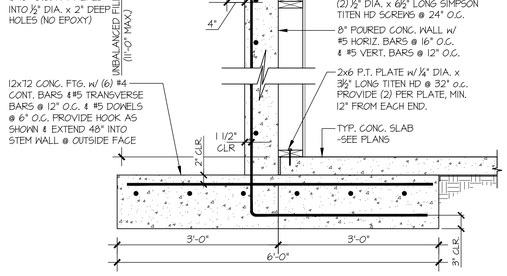


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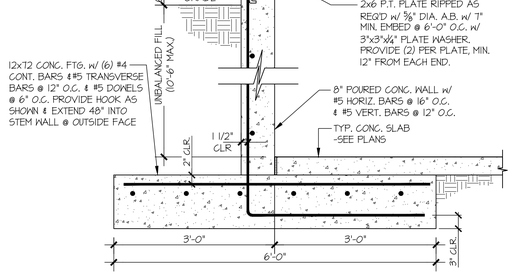


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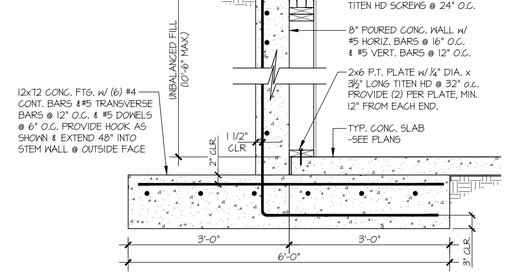


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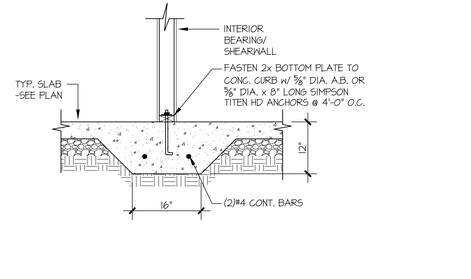


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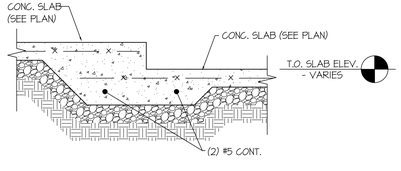
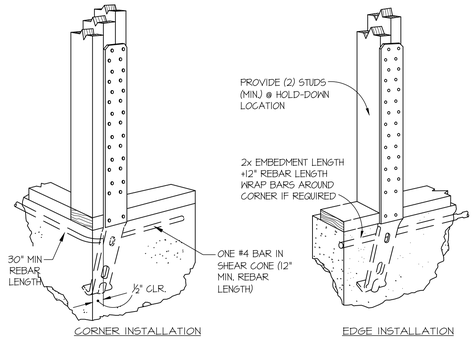
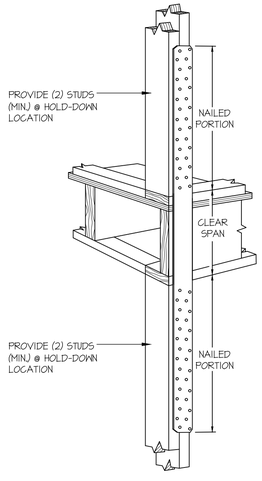


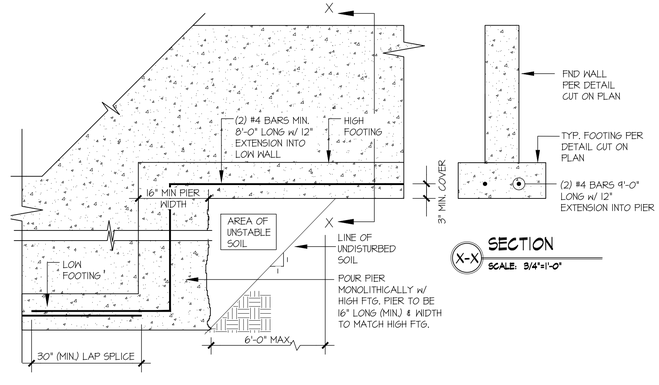

21 SECTION
SCALE: 3/4"=1'-0" LOCATE AS REQ'D




A TYPICAL HOLD-DOWN INSTALLATION
NOT TO SCALE
SIMPSON STHD HD @ FOUNDATION




C TYPICAL HOLD-DOWN INSTALLATION
NOT TO SCALE
SIMPSON STRAP HD @ FLOOR FRAMING




A TYPICAL STEPPED FOOTING
SCALE: 3/4"=1'-0"

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

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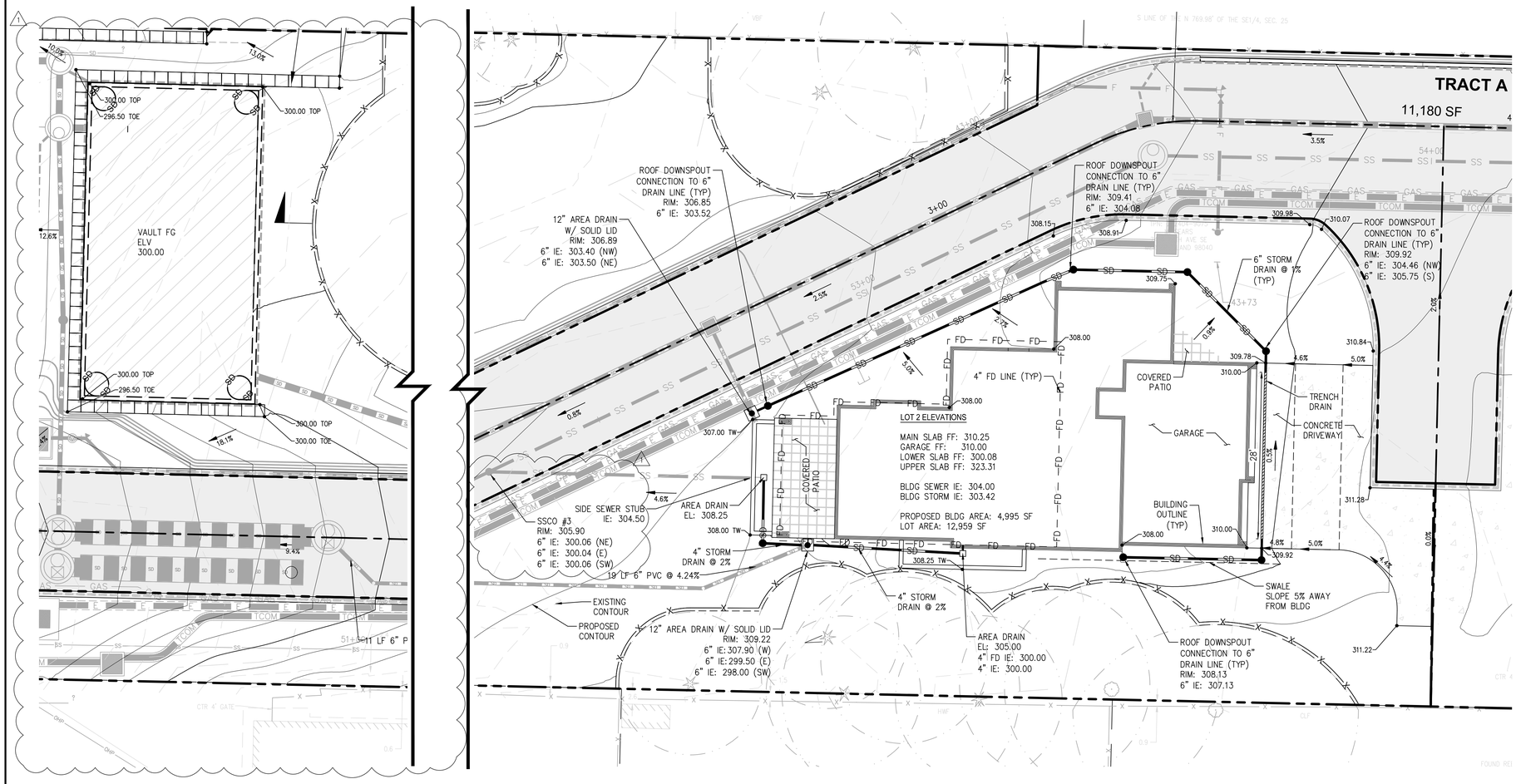
date: initial:

McCULLOUGH ARCHITECTS

FOUNDATION DETAILS

SEARS PLAT
LOT 2
MERCER ISLAND, WASHINGTON

sheet:
SD.02




## LEGEND

- PROPERTY LINE
- BUILDING LINE
- 401 MINOR CONTOUR
- 400 MAJOR CONTOUR
- RIDGE RIDGE LINE
- XXX.XX SPOT ELEVATION
- 1.3% SLOPE ARROWS
- ROCKERY
- CIP CONCRETE WALL
- ASPHALT
- CONCRETE DRIVEWAY
- LANDSCAPE
- FD 4" PERF PVC FOUNDATION DRAIN LINE
- 6" PVC ROOF STORM DRAIN LINE
- FD FOUNDATION DRAIN
- STORM CLEANOUT
- NYOPLAST DRAIN PER DETAIL 1 THIS SHEET

## LOT INFORMATION

| LOT# | LOT AREA (SF) | LOT COVERAGE CALCULATIONS | | | |
|---|---|---|---|---|---|
| | | GROSS MAX LOT COVERAGE ALLOWED (% / SF) | | GROSS MAX LOT COVERAGE PROVIDED (% / SF) | |
| 2 | 12,498 | 40% | 4,999 | 40% | 4,995 |

## GEOTECHNICAL SPECIAL INSPECTIONS

1. MONITORING OF EROSION CONTROL.
2. OBSERVATION AND MONITORING OF EXCAVATION.
3. SUBSURFACE DRAINAGE INSTALLATION.

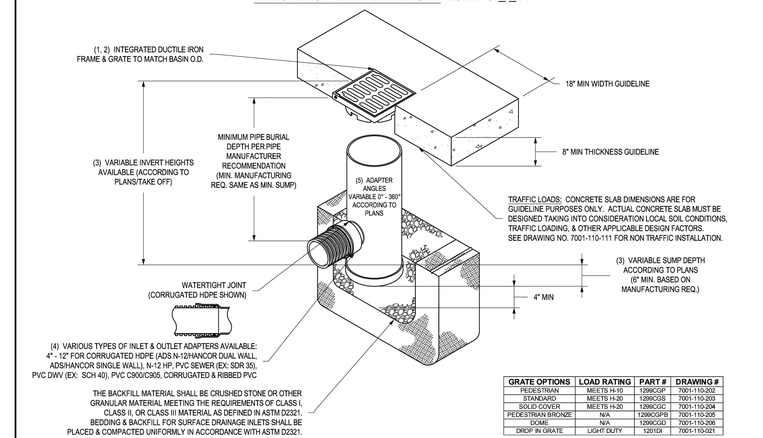
## GRADING NOTES (NAVIX)

1. THE SPOT ELEVATIONS INDICATED ON THIS PLAN REPRESENT THE DESIGN TOP OF PAVEMENT OR SURFACE, UNLESS OTHERWISE NOTED.
2. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE. UTILITIES ARE TO BE REMOVED TO THE RIGHT-OF-WAY.
3. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH LOCAL SPECIFICATION.
4. ALL CUT AND FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
5. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDING FOR ALL NATURAL AND PAVED AREAS AND SHALL GRADE ALL AREAS TO PRECLUDE PONDING OF WATER.
6. ALL POLLUTANTS OTHER THAN SEDIMENT ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER. THE CONTRACTOR SHALL ADHERE TO ALL TERMS AND CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S. PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
7. PROPERTIES AND WATERWAYS DOWNSTREAM OF THE SITE SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FROM PROJECT SITE.
8. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
9. CONTRACTOR TO REMOVE UNSUITABLE SOILS LOCATED WITHIN THE BUILDINGS FOOTING AREA.
10. FOR BOUNDARY AND TOPOGRAPHIC INFORMATION REFER TO PROJECT SURVEY AND FINAL ENGINEERING PLANS.
11. ALL GRADING, SITE PREPARATION, AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL ENGINEERING REPORT, PREPARED BY TERRA ASSOCIATES, INC, DATE SEPTEMBER 5, 2024.
12. ALL FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT AND COMPACTION.
13. IF NEW FILL IS PLACED OVER EXISTING SLOPES OF 20% OR GREATER, THE STRUCTURAL FILL SHOULD BE KEYED AND BENCHED INTO COMPETENT NATIVE SLOPE SOILS. SEE FIGURE 4 ON SHEET C-2.6.
14. ALL EXISTING TREES THAT CAN FEASIBLY BE RETAINED WILL BE PRESERVED. CONTRACTOR WILL WORK WITH CITY ARBORIST AND OTHER STAFF TO MAXIMIZE TREE RETENTION.
15. THE TOTAL IMPERVIOUS SURFACE ON LOT WILL NOT EXCEED THE NET MAXIMUM LOT COVERAGE AREA.

## POST CONSTRUCTION SOIL MANAGEMENT (NAVIX)

1. THE LAWN AND LANDSCAPE AREAS ARE REQUIRED TO PROVIDE POST-CONSTRUCTION SOIL QUALITY AND DEPTH IN ACCORDANCE WITH BMP T5.13. THE PROJECT CIVIL ENGINEER MUST PROVIDE A LETTER OF CERTIFICATION TO ENSURE THAT THE LAWN AND LANDSCAPE AREAS ARE MEETING THE POST-CONSTRUCTION SOIL QUALITY AND DEPTH REQUIREMENTS SPECIFIED ON THE APPROVED PLAN SET PRIOR TO FINAL INSPECTION OF THE PROJECT.
2. POST CONSTRUCTION SOIL AMENDMENT IS REQUIRED ON ALL AREAS NOT COVERED BY HARD SURFACE WHERE SOIL IS DISTURBED DURING CONSTRUCTION.
3. SOIL AMENDMENT MUST PASS A 12 INCH MINIMUM PROBE TEST.
4. IMPORT TOPSOIL, IF USED, MUST MEET THE REQUIREMENTS OF THE 2012 DEPARTMENT OF ECOLOGY STORMWATER, VOLUME 5.
5. A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
6. MULCH PLANTING BEDS WITH 2 INCHES OF ORGANIC MATERIAL.
7. THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE COMPOST SPECIFICATION FOR BMP T7.30: BIORETENTION, WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1.

## NYLOPLAST 12" DRAIN BASIN: 2812AG _ _ X




| GRATE OPTIONS | LOAD RATING | PART # | DRAWING # |
|---|---|---|---|
| PEDESTRIAN | MEETS H-10 | 1296CGP | 7001-110-202 |
| STANDARD | MEETS H-20 | 1296CGS | 7001-110-203 |
| SOLID COVER | MEETS H-20 | 1296CGC | 7001-110-204 |
| PEDESTRIAN BRONZE | N/A | 1296CGPB | 7001-110-205 |
| DOME | N/A | 1296CGD | 7001-110-206 |
| DROP IN GRATE | LIGHT DUTY | 1201DI | 7001-110-021 |

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-00-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

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| | | | |
|---|---|---|---|
| DRAWN BY | EBC | MATERIAL | |
| DATE | 03-29-06 | | |
| REVISED BY | NMH | PROJECT NO./NAME | |
| DATE | 03-11-16 | | |
| DWG SIZE | A | SCALE 1:20 | SHEET 1 OF 1 |

ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
DWG NO. 7001-110-189 REV E

**NYLOPLAST DRAIN BASIN**
N.T.S.

1

NAVIX
SITE | CIVIL
11235 s.e. 6th street | suite 150 bellevue, wa 98004
t: 425.453.9501 | f: 425-453-8208
www.navixeng.com

CLIENT/OWNER

**SAINTFIELD2 LLC**

PROJECT NAME

# SEARS

NAVIX PROJECT NUMBER: 50-215-004

PROJECT ADDRESS

7414 78TH AVE SE
MERCER ISLAND, WA 98040

STAMP

REVISIONS

| REV | ISSUED FOR: | DATE |
|---|---|---|
| | LOT 2 BP SUBMITTAL | 06/30/25 |
| 1 | LOT 2 BP RESUBMITTAL | 09/29/25 |

SECTION, TOWNSHIP, RANGE:

SECTION 25, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.

PROJECT TEAM

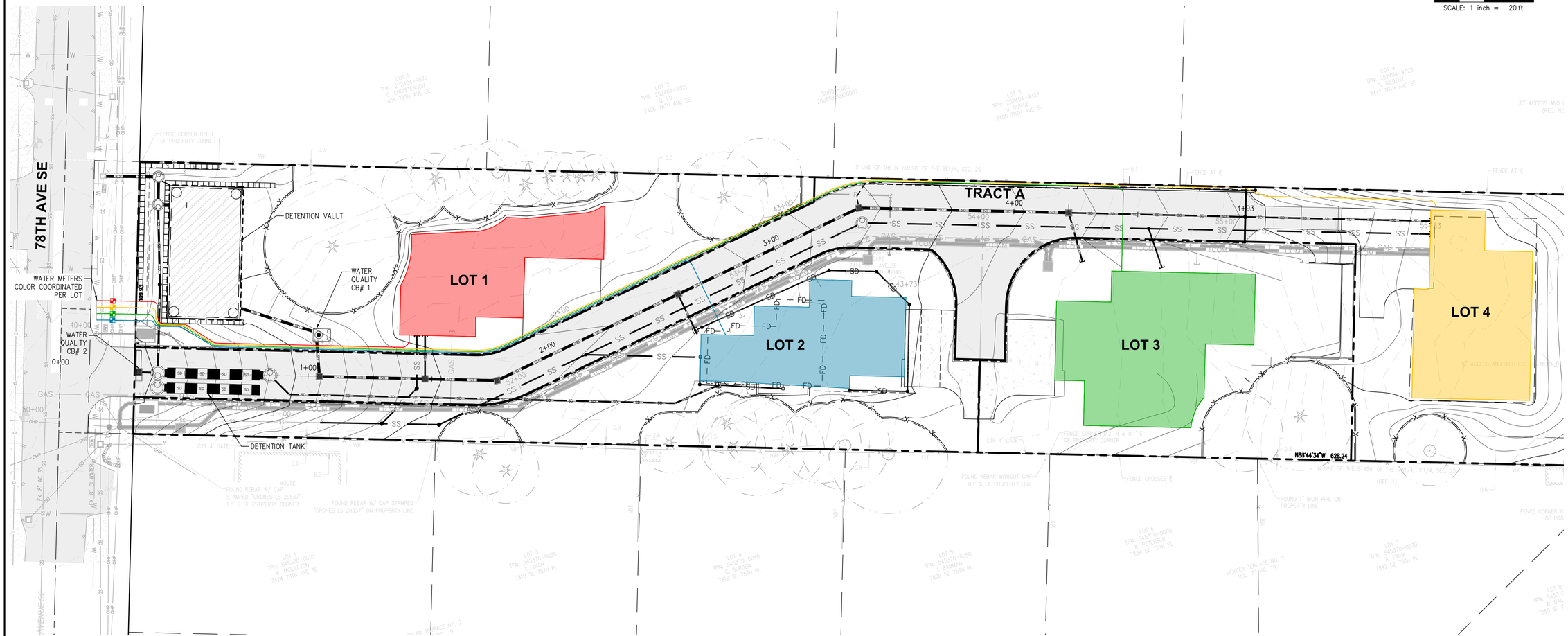
REVIEWED BY: J. TAFLIN
DESIGNED BY: B. MCMURTRY

SHEET NAME

## LOT 2 GRADING AND DRAINAGE PLAN

SHEET NUMBER

**C4.01**




## LEGEND:

- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE
- SANITARY PIPE
- 6" PVC SANITARY LOT STUB
- STORM DRAIN PIPE
- 6" PVC STORM LOT STUB
- ZURN Z886 TRENCH DRAIN OR APPROVED EQUAL, WITH SLOTTED HEEL–PROOF GRATE
- 4" FOUNDATION DRAINAGE
- CLEANOUT
- CATCH BASIN, TYPE 1
- MH/CATCH BASIN, TYPE 2
- WATER QUALITY VAULT
- WATER QUALITY CATCH BASIN
- STORM DRAINAGE VAULT

NAVIX
SITE | CIVIL

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PROJECT NAME

# SEARS

NAVIX PROJECT NUMBER: 50-215-004

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7414 78TH AVE SE
MERCER ISLAND, WA 98040

STAMP

JOSEPH WILLIAM TAFLIN — STATE OF WASHINGTON — 41871 — REGISTERED PROFESSIONAL ENGINEER

09/29/2025

REVISIONS

| REV | ISSUED FOR: | DATE |
|---|---|---|
| | LOT 2 BP SUBMITTAL | 06/30/25 |
| 1 | LOT 2 BP RESUBMITTAL | 09/29/25 |

SECTION, TOWNSHIP, RANGE:

SECTION 25, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.

PROJECT TEAM

REVIEWED BY: J. TAFLIN
DESIGNED BY: B. MCMURTRY

SHEET NAME

## LOT 2 OVERALL PLAN

SHEET NUMBER

**C8.0**