GENERAL NOTES & 2018 WSEC REQUIREMENTS + 2018 IRC REQUIREMENTS

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1. ALL WORK SHALL CONFORM TO APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO THE 2018 INTERNATIONAL BUILDING CODE, INTERNATIONAL RESIDENTIAL CODE, THE CURRENT WASHINGTON STATE ENERGY CODE, THE WASHINGTON STATE BUILDING CODE, CHAPTER 51-20 AND 51-21 WAC, 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 DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENT HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
12. ALL SHOP DRAWING DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR.
13. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY HIMSELF OR OTHER TRADES.
14. INSPECTIONS ARE TO BE PER IRC SECTION R109.
15. 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.

IRC M1505 (WA AMENDMENTS)

IRC M1505.4: WHOLE-HOUSE VENTILATION SYSTEM

WAC 51.51.1505 M1505.4: WHOLE HOUSE MECHANICAL VENTILATION SYSTEM. EACH DWELLING UNIT SHALL BE EQUIPPED WITH A VENTILATION SYSTEM. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH SECTIONS M1504.1 THROUGH 1505.4.4

IRC 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 WHOLE HOUSE VENTILATION SYSTEM COEFFICIENTS IN SECTION M1505.4.3.1 WHERE APPLICABLE. THE WHOLE HOUSE VENTILATION SYSTEM SHALL OPERATE CONTINUOUSLY AT THE MINIMUM VENTILATION RATE DETERMINED PER SECTION M1505.4.2 UNLESS CONFIGURED WITH INTERMITTENT OFF CONTROLS PER SECTION M1505.4.3.2.

WAC 51-51-1505 AMENDMENT 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 WAS STATE ENERGY CODE. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHOLE HOUSE VENTILATION FANS SHALL BE RATED FOR SOUND AT NO LESS THAN THE MINIMUM AIRFLOW RATE REQUIRED BY SECTION M1505.4.31. 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 M105.4.1.3.

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 FT. OF DUCTWORK BETWEEN THE FAN AND THE INTAKE GRILLE. THE WHOLE HOUSE SUPPLY FAN SHALL PROVIDE DUCTED OUTDOOR VENTILATION AIR TO EACH HABITABLE SPACE WITHIN THE RESIDENTIAL UNIT.

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

WAC 51-51-1505 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 WA 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 AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). EXHAUST FANS REQUIRED IN THIS SECTION MAY BE USED TO PROVIDE LOCAL VENTILATION. BATHROOM EXHAUST FANS THAT ARE DESIGNED FOR INTERMITTENT EXHAUST AIRFLOW RATES HIGHER THAN THE CONTINUOUS EXHAUST AIRFLOW RATES IN TABLE M1505.4.3(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.

WAC 51.51.1505 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 IMC SECTIONS 401.4 AND 401.5. WHEN DESIGNED FOR INTERMITTENT OFF OPERATION, SUPPLY SYSTEMS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS IN ACCORDANCE WITH THE WA STATE ENERGY CODE. SUPPLY FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW ANSD SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE, HVI 916, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). WHERE OUTDOOR AIR IS PROVIDED BY SUPPLY FAN SYSTEMS THE OUTDOOR AIR SHALL BE FILTERED. THE FILTER SHALL BE ACCESSIBLE FOR REGULAR MAINTENANCE AND REPLACEMENT. THE FILTER SHALL HAVE A MINIMUM EFFICIENCY RATING VALUE (MERVo OF AT LEAST 8.

WAC 51.51.1505 M1505.4.1.4: BALANCED WHOLE HOUSE VENTILATION SYSTEM. A BALANCED WHOLE HOUSE VENTILATING SYSTEM SHALL INCLUDE BOTH SUPPLY AND EXHAUST FANS. THE SUPPLY AND EXHAUST FANS SHALL HAVE AIRFLOW THAT IS WITHIN 10 PERCENT OF EACH OTHER. THE TESTED AND BALANCED TOTAL MECHANICAL EXHAUST AIRFLOW RATE IS WITHIN 10 PERCENT OR 5cfm, 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 AIRFLOW RATES ABOVE THE RESIDENTIAL DWELLING OR SLEEPING UNIT MINIMUM VENTILATION RATE ARE EXEMPT FROM THE BALANCED AIRFLOW CALCULATION.

WAC 51.51.1505 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 PERCENT OF THE RATED SUPPLY AIRFLOW CAPACITY DURING VENTILATION ONLY OPERATION. OUTDOOR AIR INTAKE OPENINGS MUST MEET THE PROVISIONS OF SECTIONS R303.2 AND R303.6 AND MUST INCLUDE A MOTORIZED DAMPER THAT IS ACTIVATED BY THE WHOLE HOUSE VENTILATION SYSTEM CONTROLLER. THE MOTORIZED DAMPER MUST BE CONTROLLED TO MAINTAIN THE OUTDOOR AIRFLOW INTAKE AIRFLOW WITHIN 10 PERCENT OF THE WHOLE HOUSE MECHANICAL EXHAUST AIRFLOW RATE. THE FLOW RATE FOR THE OUTDOOR AIR INTAKE MUST BE TESTED AND VERIFIED AT THE MINIMUM VENTILATION FAN SPEED AND THE MAXIMUM HEATING OR COOLING FAN SPEED. THE RESULTS OF THE TEST SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7.

WAC 51.51.1505 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.

WAC 51.51.1505 M1505.4.1.7: CERTIFICATE. A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR, TEST AND BALANCE CONTRACTOR OR OTHER APPROVED PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING. WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS THE CERTIFICATE SHALL LIST THE FLOW RATE DETERMINED FROM THE DELIVERED AIRFLOW OF THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AS INSTALLED AND THE TYPE OF MECHANICAL WHOLE HOUSE VENTILATION SYSTEM USED TO COMPLY WITH SECTION M1505.4.3.1.

WAC 51.51.1505 M1505.4.2: SYSTEM CONTROLS. THE WHOLE HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:

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

WAC 51.51.1505 M1505.4.3: MECHANICAL VENTILATION RATE. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR AT A CONTINUOUS RATE AS DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(1) OR EQUATION 15-1

EQUATION 15-1 VENTILATION RATE IN CUBIC FEET PER MINUTE = (0.01 X TOTAL SQ. FT.) + [7.5 X (NUMBER OF BEDROOMS +1)] BUT NOT LESS THAN 30 CFM FOR EACH DWELLING UNIT.

IRC TABLE 1505.4.3(1)

WHOLE-HOUSE MECHANICAL VENTILATION AIRFLOW RATE

EQUATION 15-1
VENTILATION RATE IN CUBIC FEET PER MINUTE = (0.1 x TOTAL SF AREA OF HOUSE) + [7.5 x (NUMBER OF BEDROOMS + 1)] BUT NOT LESS THAN 30 CFM FOR EACH DWELLING UNIT

DWELLING UNIT FLOOR AREA (Square feet)	NUMBER OF BEDROOMS / AIRFLOW IN CFM				
	0-1	2	3	4	5+
< 500	30	30	35	45	50
501 - 1,000	30	35	40	50	55
1,001 - 1,500	30	40	45	55	60
1,501 - 2,000	35	45	50	60	65
2,001 - 2,500	40	50	55	65	70
2,501 - 3,000	45	55	60	70	75
3,001 - 3,500	50	60	65	75	80
3,501 - 4,000	55	65	70	80	85
4,001 - 4,500	60	70	75	85	90
4,501 - 5,000	65	75	80	90	95

CFM = (0.01 x 9,966 SF) + [7.5 x (5+1)]
CFM = 99.66 + 45
CFM = 147

M1505.4.3.1 VENTILATION QUALITY ADJUSTMENT. THE MIN. WHOLE HOUSE VENTILATION RATE FROM SECTION 1505.4.3 SHALL BE ADJUSTED BY THE SYSTEM COEFFICIENT IN TABLE M1505.4.3(2) BASED ON THE SYSTEM TYPE NOT MEETING THE DEFINITION OF A *BALANCED WHOLE HOUSE VENTILATION* SYSTEM AND/OR NOT MEETING THE DEFINITION OF *DISTRIBUTED WHOLE HOSE VENTILATION* SYSTEM.

IRC TABLE 1505.4.3(2)

SYSTEM COEFFICIENT (Csystem)

SYSTEM TYPE	DISTRIBUTED	NOT DIST.
BALANCED	1.0	1.25
NOT BALANCED	1.25	1.5

M1505.4.3.2 INTERMITTENT OFF OPERATION. WHOLE-HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE PROVIDED WITH ADVANCED CONTROLS THAT ARE CONFIGURED TO OPERATE THE SYSTEM WITH INTERMITTENT OFF OPERATION SHALL OPERATE FOR AT LEAST A TWO HOURS IN EACH FOUR-HOUR SEGMENT. THE WHOLE HOUSE VENTILATION AIRFLOW RATE DETERMINED IN ACCORDANCE WITH SECTION M1505.4.3 AS CORRECTED BY SECTION M1505.4.3.1 IS ,MULTIPLIED BY THE FACTOR DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(3).

IRC TABLE 1505.4.3(3)

INTERMITTENT OFF WHOLE HOUSE MECHANICAL VENTILATION RATE FACTORS

RUN TIME % EA 4hr SEGMENT	50%	66%	75%	100%
FACTOR	2	1.5	1.3	1.0

M1505.4.4 LOCAL EXHAUST RATES. LOCAL EXHAUST SYSTEMS SHALL BE DESIGNED TO HAVE THE CAPACITY TO EXHAUST THE MIN. AIRLOW RATE DETERMINED IN ACCORDANCE WITH TABLE M1505.4.4(1). IF THE LOCAL EXHAUST FAN IS INCLUDED IN THE WHOLE HOUSE VENTILATION SYSTEM, IN ACCORDANCE WITH SECTION 1505.4.1 THEN THE EXHAUST FAN SHALL BE CONTROLLED TO OPERATE AS SPECIFIED IN SECTION M1505.4.2
M1505.4.4.1 LOCAL EXHAUST. BATHROOMS, TOILET ROOMS, AND KITCHENS SHALL INCLUDE A LOCAL EXHAUST SYSTEM. SUCH LOCAL EXHAUST SYSTEMS SHALL HAVE THE CAPACITY TO EXHAUST THE MIN. AIRFLOW RATE IN ACCORDANCE WITH TABLE M1505.4.4(1). FANS REQUIRED BY THIS SECTION SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OR AUTOMATIC OCCUPANCY SENSOR, HUMIDITY SENSOR OR POLLUTANT SENSOR CONTROLS. AN "ON/OFF" SWITCH SHALL MEET THIS REQUIREMENT FOR MANUAL CONTROLS. MANUAL FAN CONTROLS SHALL BE READILY ACCESSIBLE IN THE ROOM SERVED BY THE FAN.

IRC TABLE 1505.4.4(1)

MIN. LOCAL EXHAUST RATES

AREAS TO BE EXHAUSTED	INTERMITTENT	CONTINUOUS
KITCHEN	100 cfm	30 cfm
BATHROOMS - TOILET ROOMS	50 cfm	20 cfm

M1505.4.4 LOCAL EXHAUST FANS. EXHAUST FANS SHALL MEET THE FOLLOWING CRITERIA:

1. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS AND RATING PROCEDURE, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE).
   EXCEPTION: WHERE A RANGE HOOD OR DOWN DRAFT EXHAUST FAN IS USED FOR LOCAL EXHAUST FOR A KITCHEN, THE DEVICE IS NOT REQUIRED TO BE RATED PER THESE STANDARDS.
2. FAN AIRFLOW RATING AND DUCT SYSTEM SHALL BE DESIGNED AND INSTALLED TO DELIVER AT LEAST THE EXHAUST AIRFLOW REQUIRED BU TABLE M1505.4.4(1). THE AIRFLOWS REQUIRED REFER TO THE DELIVERED AIRFLOW OF THE SYSTEM AS INSTALLED AND TESTED USING A FLOW HOOD, FLOW GRID, OR OTHER AIRFLOW MEASUREMENT DEVICE. LOCAL EXHAUST SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY THIS SECTION.
3. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. FAN AIRFLOW RATING AND DUCT SYSTEM SHALL BE DESIGNED AND INSTALLED TO DELIVER AT LEAST THE EXHAUST AIRFLOW REQUIRED BY TABLE M1505.4.4(1).
   EXCEPTIONS: 1. AN EXHAUST AIRFLOW RATING AT A PRESSURE OF 0.25 IN. w.g. MAY BE USED, PROVIDED THE DUCT SIZING MEETS THE PRESCRIPTIVE REQUIREMENTS OF TABLE M1505.4.4(2).
   2. WHERE A RANGE HOOD OR DOWN DRAFT EXHAUST FAN IS USED TO SATISFY THE LOCAL VENTILATION REQUIREMENTS FOR KITCHENS, THE RANGE HOOD OR DOWN DRAFT EXHAUST SHALL NOT BE LESS THAN 100 cfm AT 0.10 IN. w.g.

IRC TABLE 1505.4.4(2)

PRESCRIPTIVE EXHAUST DUCT SIZING

FAN TESTED cfm @ 0.25 (Square feet)	MIN. FLEX DIA. (IN.)	MAX. LENGTH (FT.)	MIN. SMOOTH DIA. (IN.)	MAX. LENGTH (FT.)	MAX. ELBOWS
50	4	25	4	70	3
50	5	90	5	100	3
50	6	NO LIMIT	6	NO LIMIT	3
80	4	NA	4	20	3
80	5	15	5	100	3
80	6	90	6	NO LIMIT	3
100	5	NA	5	50	3
100	6	45	6	NO LIMIT	3
125	6	15	6	NO LIMIT	3
125	7	70	7	NO LIMIT	3

BUILDING THERMAL ENVELOPE

COMPLIANCE & CERTIFICATE POSTED

THE BUILDING THERMAL ENVELOPE SHALL MEET THE PRESCRIPTIVE REQUIREMENTS OF SECTION R401 THROUGH R404 OF THE WSEC. IN ADDITION, *DWELLING UNITS* AND *SLEEPING UNITS* IN A RESIDENTIAL BUILDING SHALL COMPLY WITH SECTION R406 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. THE CERTIFICATE SHALL LIST THE PREDOMINANT R-VALUES OF INSULATION INSTALLED IN OR ON CEILING/ROOF, WALLS, FOUNDATION (SLAB, *BELOW-GRADE WALL,* ADN/OR FLOOR) AND DUCTS OUTSIDE CONDITIONED SPACES; U-FACTORS FOR FENESTRATION AND THE SOLAR HEAT GAIN COEFFICIENT (SHGC) OF FENESTRATION; THE RESULTS FROM ANY REQUIRED DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING DONE ON THE BUILDING; AND THE RESULTS FROM THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FLOW RATE TEST. WHERE THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL LIST THE VALUE COVERING THE LARGEST AREA. THE CERTIFICATE SHALL LIST THE TYPES OF EFFICIENCIES OF HEATING, COOLING 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.
THE *CODE OFFICIAL* MAY REQUIRE THAT DOCUMENTATION FOR ANY REQUIRED TEST RESULTS INCLUDE AN ELECTRONIC RECORD OF THE TIME, DATE, AND LOCATION OF THE TEST. A DATE-STAMPED SMART PHONE PHOTO OR AIR LEAKAGE TESTING SOFTWARE MAY BE USED TO SATISFY THIS REQUIREMENT.

FENESTRATION

AN AREA-WEIGHTED AVERAGE OF FENESTRATION PRODUCTS SHALL BE PERMITTED TO SATISFY THE U-FACTOR REQUIREMENTS.

UP TO 15 SQUARE FEET OF GLAZED FENESTRATION PER DWELLING UNIT SHALL BE PERMITTED TO BE EXEMPT FROM U-FACTOR.

ONE SIDE-HINGED OPAQUE DOOR ASSEMBLY UP TO 24 SQUARE FEET IN AREA IS EXEMPTED FROM THE U-FACTOR REQUIREMENT.

INSULATION

A. CEILINGS (VAULTED)= R-38, MIN
1. PROVIDE MINIMUM R-10 SPRAY FOAM INSULATION @ BOTTOM SIDE OF SHEATHING. COMPLETELY FILL REMAINING JOIST CAVITY WITH BATT INSULATION. TOTAL INSULATION VALUE (SPRAY FOAM + BATT) TO BE R-38 MIN
2. SPRAY FOAM INSULATION TO MEET THE REQUIREMENTS SET FORTH IN IRC R806.5. ITEM 5.1.33

B. WOOD FRAMED WALLS = R-21 INT.
1. ALL EXTERIOR WALL CAVITIES, INCLUDING CAVITIES ISOLATED DURING FRAMING, MUST BE FILLED WITH UNCOMPRESSED INSULATION.
2. RIGID BOARD INSULATION IS TO BE PLACED BEHIND ALL RECESSED FIXTURES IN EXTERIOR WALLS.
3. FACED BATTS ARE LAPPED AND ARE TO BE STAPLED TO FACE OF STUDS.
4. INSULATE BEHIND TUB/ SHOWER PARTITIONS AND CORNERS.

C. FLOORS = R-38
1. FLOOR INSULATION SHALL BE INSTALLED TO MAINTAIN PERMANENT CONTACT WITH THE UNDERSIDE OF THE SUBFLOOR DECKING.
2. INSULATION SUPPORTS SHALL BE INSTALLED SO SPACING IS NO MORE THAN 24-INCHES ON CENTER.
3. FOUNDATION VENTS SHALL BE PLACED SO THAT THE TOP OF THE VENT IS BELOW THE LOWER SURFACE OF THE FLOOR INSULATION.

D. SLAB-ON-GRADE = R-10
1. R-10 CONTINUOUS INSULATION IS REQUIRED UNDER HEATED SLAB ON GRADE FLOORS. SEE SECTION R402.2.9.1.
2. A TWO-INCH BY TWO-INCH (MAXIMUM) PRESSURE TREATED NAILER MAY BE PLACED AT THE FINISHED FLOOR ELEVATION FOR ATTACHMENT OF INTERIOR FINISH MATERIALS.

E. 4X HEADERS = R-10

F. DUCTS = DUCTS SHALL BE INSULATED TO A MINIMUM OF R-8.
EXCEPTION: DUCTS OR PORTIONS THEREOF LOCATED COMPLETELY INSIDE THE BUILDING THERMAL ENVELOPE.

G. PIPING = MECHANICAL SYSTEM PIPING CAPABLE OF CARRYING FLUIDS ABOVE 105°F OR BELOW 55°F SHALL BE INSULATED TO A MINIMUM OF R-6.
1. PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT CAUSED BY SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE, AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED.

INSULATION FOR HOT WATER PIPE SHALL HAVE A MINIMUM THERMAL RESISTANCE (R-VALUE) OF R-4.

H. ELECTRIC WATER HEATERS = ALL ELECTRIC WATER HEATERS IN UNHEATED SPACES OR ON CONCRETE FLOORS SHALL BE PLACED ON AN INCOMPRESSIBLE, INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE OF R-10, AND A MIN. COMPRESSIVE STRENGTH OF 40 psi OR ENGINEERED TO SUPPORT THE APPLIANCE.

MOISTURE CONTROL

VAPOR RETARDERS

SLABS	CONTINUOUS GCP PREPRUFE 300R PLUS UNDERSLAB WATERPROOFING SYSTEM
FLOORS	3/4" CDX PLYWOOD or 3/4" O.S.B.
WALLS	KRAFT FACED FIBERGLASS BATTS
CEILING	NO PVA PAINT @ UNVENTED CEILING PER IRC R806.5, INTERIOR VAPOR RETARDER SHALL NOT BE INSTALLED ON THE CEILING SIDE @ UNVENTED CEILING CONDITIONS.

1. ATTIC ACCESS AND DOORS ARE TO BE BAFFLED, WEATHER-STRIPPED AND INSULATED.
2. EXTERIOR DOORS AND WINDOWS ARE TO BE CAULKED AND WEATHER-STRIPPED.
3. RECESSED LIGHT FIXTURES TO LIMIT AIR LEAKAGE PER WSEC 402.4.4.
4. ALL PLUMBING, ELECTRICAL AND HVAC PENETRATIONS IN FLOORS, WALLS AND CEILING ARE TO BE CAULKED AND SEALED.
5. ELECTRICAL OUTLET AND LIGHT SWITCH BOXES ON EXTERIOR WALLS MUST BE SEALED AT THE BACK OF THE RECEPTACLE WITH A FACE PLATE GASKET.
6. SILL PLATE TO BE CAULKED OR GLUED TO SUB-FLOOR.
7. CAULK/SEAL RIM JOISTS BETWEEN STORIES.
8. FIRE-STOP ALL PENETRATIONS AS REQUIRED BY THE CODE & BUILDING DEPARTMENT.

AIR LEAKAGE AND TESTING

THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS R402.4.1 THROUGH R402.4.4.

THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING 5 AIR CHANGES PER HOUR. TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. (50 PASCALS). FOR THIS TEST ONLY, THE VOLUME OF THE HOME SHALL BE THE CONDITIONED FLOOR AREA IN FT² MULTIPLIED BY 8.5 FEET. WHERE REQUIRED BY THE CODE OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL ENVELOPE.

R402.4.1.1 INSTALLATION. THE COMPONENTS OF THE BUILDING THERMAL ENVELOPE AS LISTED IN TABLE R402.4.1.1 SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE CRITERIA LISTED IN TABLE R402.4.1.1, AS APPLICABLE TO THE METHOD OF CONSTRUCTION. WHERE REQUIRED BY THE CODE OFFICIAL, AN APPROVED THIRD PARTY SHALL INSPECT ALL COMPONENTS AND VERIFY COMPLIANCE.

WINDOWS, SKYLIGHTS AND SLIDING GLASS DOORS SHALL HAVE AN AIR INFILTRATION RATE OF NO MORE THAN 0.3 CFM PER SQUARE FOOT, AND SWINGING DOORS NO MORE THAN 0.5 CFM PER SQUARE FOOT, WHEN TESTED ACCORDING TO NFRC 400 OR AAMA/WDMA/CSA 101/I.S.2/A440 BY AN ACCREDITED, INDEPENDENT LABORATORY AND LISTED AND LABELED BY THE MANUFACTURER.
EXCEPTIONS:
1. FIELD-FABRICATED FENESTRATION PRODUCTS (WINDOWS, SKYLIGHTS AND DOORS).
2. CUSTOM EXTERIOR FENESTRATION PRODUCTS MANUFACTURED BY A SMALL BUSINESS PROVIDED THEY MEET THE APPLICABLE PROVISIONS OF CHAPTER 24 OF THE INTERNATIONAL BUILDING CODE. ONCE VISUAL INSPECTION HAS CONFIRMED THE PRESENCE OF A GASKET, OPERABLE WINDOWS AND DOORS MANUFACTURED BY SMALL BUSINESS SHALL BE PERMITTED TO BE SEALED OFF AT THE FRAME PRIOR TO THE TEST.

RECESSED LUMINAIRES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE TYPE IC-RATED AND CERTIFIED UNDER ASTM E283 AS HAVING AN AIR LEAKAGE RATE NOT MORE THAN 2.0 CFM WHEN TESTED AT A 1.57 PSF PRESSURE DIFFERENTIAL AND SHALL HAVE A LABEL ATTACHED SHOWING COMPLIANCE WITH THIS TEST METHOD. ALL RECESSED LUMINAIRES SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND THE INTERIOR WALL OR CEILING COVERING.

ALL DUCTS MUST BE LEAK TESTED IN ACCORDANCE w/ WSU RS-33 USING THE MAXIMUM DUCT LEAKAGE RATE SPECIFIED. TOTAL LEAKAGE MUST BE VERIFIED BY EITHER THE ROUGH-IN TEST OR POST-CONSTRUCTION TEST PER WSEC R403.3.3. TOTAL LEAKAGE MUST BE LESS THAN OR EQUAL TO 4 CFM PER 100 SF OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1" WG (25PA) ACROSS THE ENTIRE SYSTEM.

ELECTRIC POWER & LIGHTING

LIGHTING EQUIPMENT

R404.1 A MINIMUM OF 90 PERCENT OF PERMANENTLY INSTALLED LAMPS IN LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS.
R404.1.1 FUEL GAS LIGHTING SYSTEMS SHALL NOT HAVE CONTINUOUSLY BURNING PILOT LIGHTS.

WA STATE ENERGY CREDITS

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

EACH DWELLING UNIT IN ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R406.2 SO AS TO ACHIEVE THE REQUIRED MINIMUM NUMBER OF CREDITS:

2018 WSEC TABLE R402.1.1

CLIMATE ZONE 5 AND MARINE 4	R-VALUE	EQUIV U-FACTORS
FENESTRATION U-FACTOR	N/A	0.28*
CEILING (VAULT) R-VALUE	38	0.026
WOOD FRAMED WALL R-VALUE	21 int.	0.056
FLOOR R-VALUE	38	0.026*
SLAB R-VALUE	10, entire slab	N/A

2018 WSEC CREDITS SELECTED

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS PER WSEC R406:
LARGE DWELLING UNIT (>/= 5,000 SF): 7.0 CREDITS REQUIRED

SYSTEM	FUEL NORMALIZATION CREDIT TABLE R406.2	CREDIT
2	HEAT PUMP. EQUIPMENT LISTED IN TABLE C403.3.2(1) or C403.3.2(2).	1.0
OPTION	EFFICIENT BUILDING ENVELOPE OPTIONS	
1.3	PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE 402.1.1 WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.28; SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB; FLOOR INSULATION R-38 MIN	0.5
	HIGH EFFICIENCY HVAC EQUIPMENT OPTIONS	
3.3	CLOSED-LOOP GROUND SOURCE HEAT PUMP; w/ A MIN COP OF 3.3	1.5
	EFFICIENT WATER HEATING OPTIONS	
5.3	WATER HEATING SYSTEM: ENERGY STAR RATED GAS OR P WATER HEATER WITH MIN. UEF OF 0.91 OR SOLAR WATER HEATING SUPPLEMENTING A MIN. STD. WATER HEATER.	1.0
	RENEWABLE ELECTRIC ENERGY (3 CREDITS MAX.)	
6.1	SUPPLY MIN 3600 kWh OF ELECTRICAL GENERATION ANNUALLY BY ON-SITE SOLAR EQUIPMENT. SOLAR DESIGN TO MEET NATIONAL RENEWABLE ENERGY LABORATORY CALC. PVWATTs	3.0
	FOR FULL TEXT AND INFORMATION, SEE WSEC, SECTION R406 TOTAL	7.0

KONERU [residence]

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DRAWING INDEX

PROJECT INFO

BUILDING AREA

MAIN FLOOR HEATED	5,469 SF
UPPER FLOOR HEATED	4,497 SF
TOTAL LIVING	9,966 SF
GARAGE	945 SF

PROJECT DESCRIPTION

DEMO EXISTING SFR HOME, CONSTRUCT NEW SFR AND SITE IMPROVEMENTS

RELATED PERMITS:	SUB21-008TYPE III - SHORT PLAT
PROJECT ADDRESS:	6610 EAST MERCER WAY
PARCEL NO.:	3024059153
LOT SIZE:	50,094 SF (1.15 AC)
ZONE:	R-15
SETBACKS:	
SHORELINE / REAR	ZONE 1 - 25'-0", NO STRUCTURES ALLOWED & 10% MAX IMPERVIOUS ZONE 2 - 25'-0", STRUCTURES ALLOWED & 30% MAX COVERAGE 50'-0" TOTAL
FRONT	20'-0"
SIDE	29'-0", 17% LOT WIDTH (170'-9")
BUILDING HEIGHT:	30'-0" ABOVE AVERAGE BUILDING ELEVATION
LOT COVERAGE:	40% @ LOT SLOPE LESS THAN 15% 20,0387.60 SF ALLOWED - 13,527 SF PROPOSED
GROSS FLOOR AREA:	12,000 SF or 40% OF THE LOT AREA, WHICHEVER IS LESS 10,911 SF PROPOSED
TREE RETENTION:	SEE ARBORIST REPORT AND CIVIL PLANS
SEISMIC DESIGN:	CATEGORY 'D2'
WIND DESIGN:	EXPOSURE 'C'
FIRE SUPPRESSION:	NFPA 13R FIRE SPRINKLER SYSTEM (>5,000 SF) NFPA 72 FIRE ALARM SYSTEM
CONSTRUCTION:	TYPE VB

LEGAL DESCRIPTION

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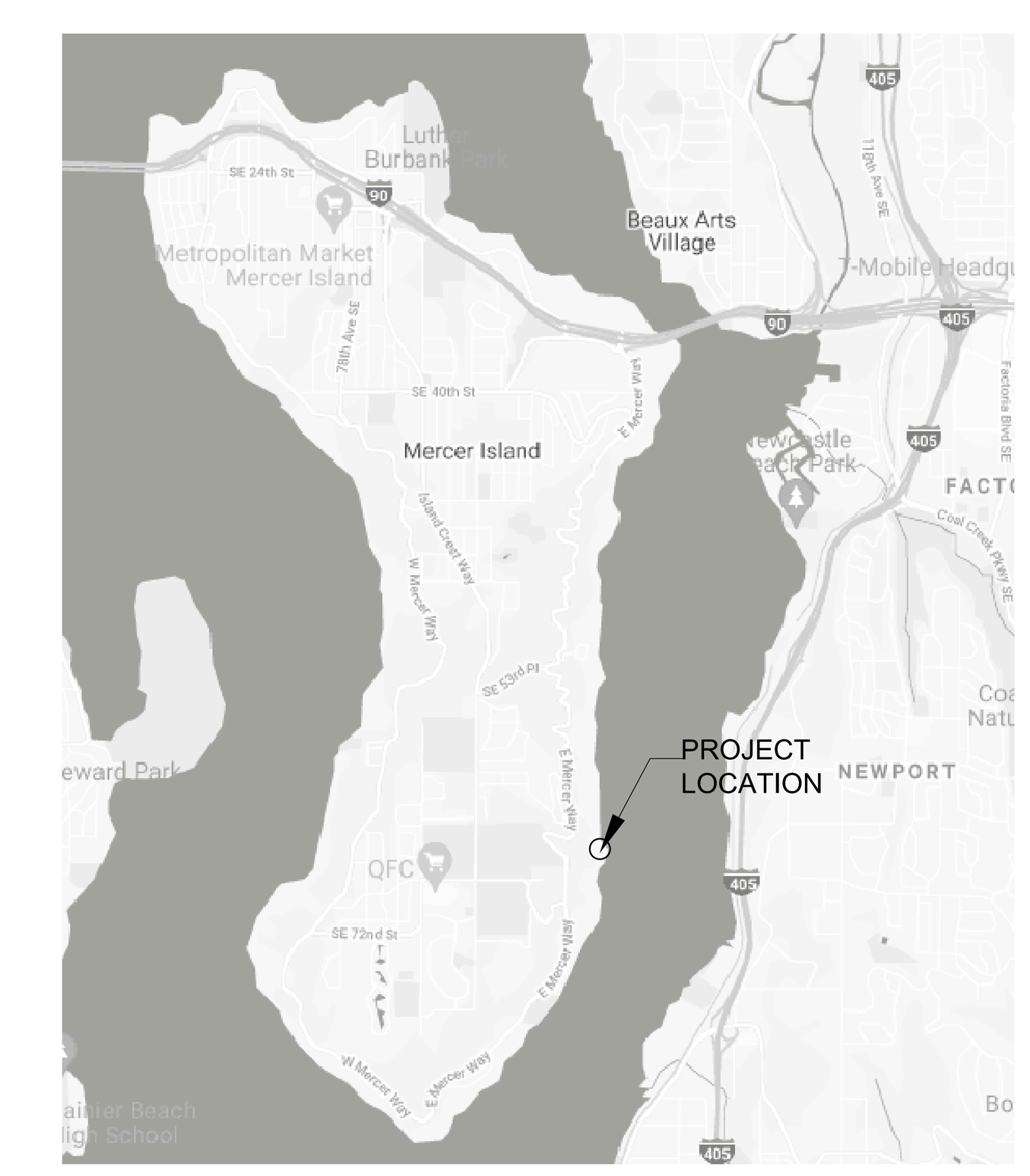
TOGETHER WITH SHORELANDS OF THE SECOND CLASS IN FRONT AND ABUTTING UPON SAID PORTION OF SADI GOVERNMENT LOT 1.

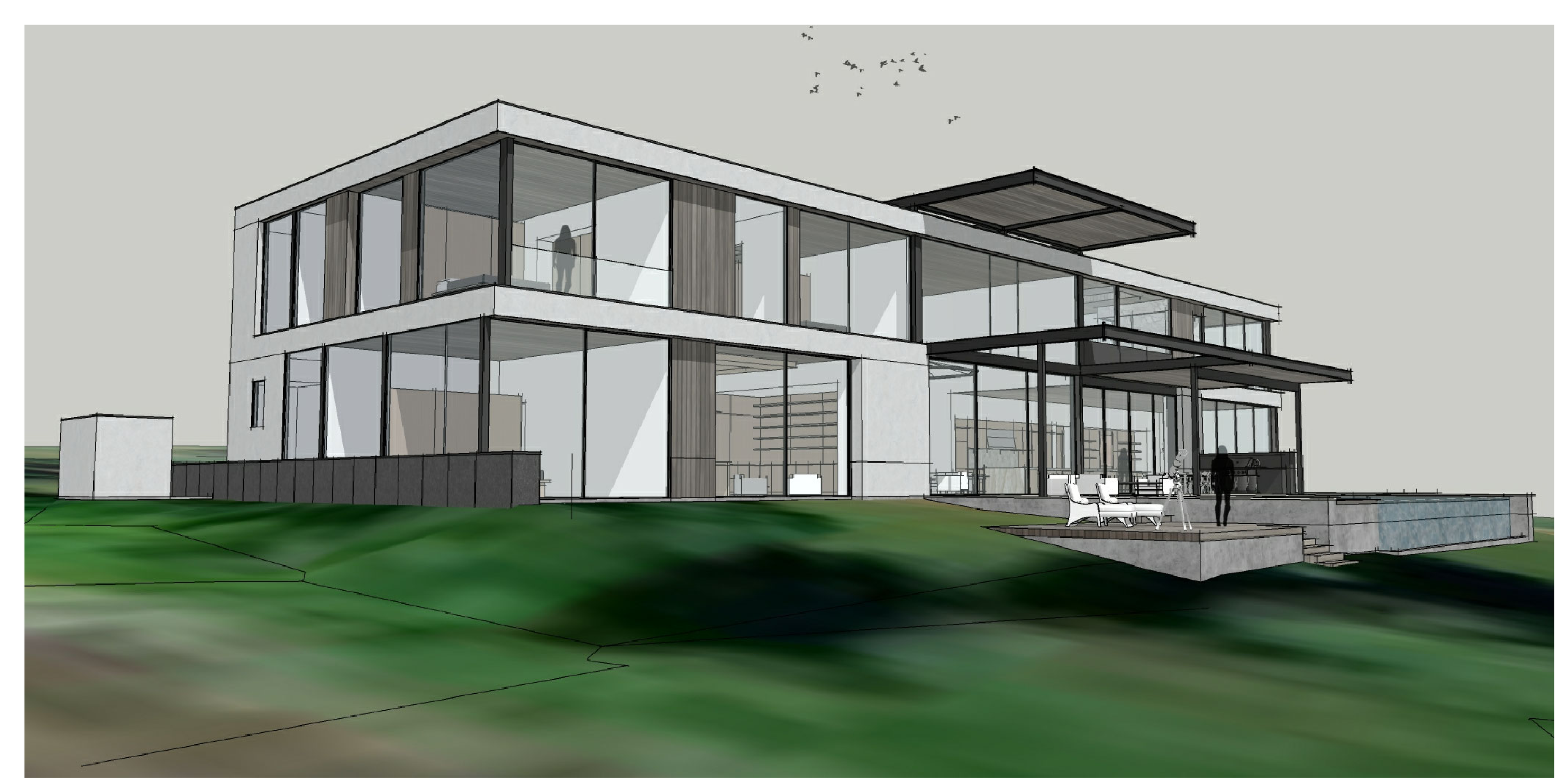
TOGETHER WITH AN EASEMENT FOR UNOBSTRUCTED INGRESS AND EGRESS OVER THE EXISTING PRIVATE ROADWAY EXTENDING NORTHWESTERLY TO EAST MERCER WAY APPURTENANT TO THE PROPERTY HEREBY CONVEYED.

SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

VICINITY MAP NTS



NORTHWEST PERSPECTIVE



NORTHEAST PERSPECTIVE

FINAL VENTILATION RATE
(147 CFM x 1.25 Csystem x 2 FACTOR)
= 367.5

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McCULLOUGH ARCHITECTS

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Project No:	
Drawn:	**DJR**
Approved:	**APM**

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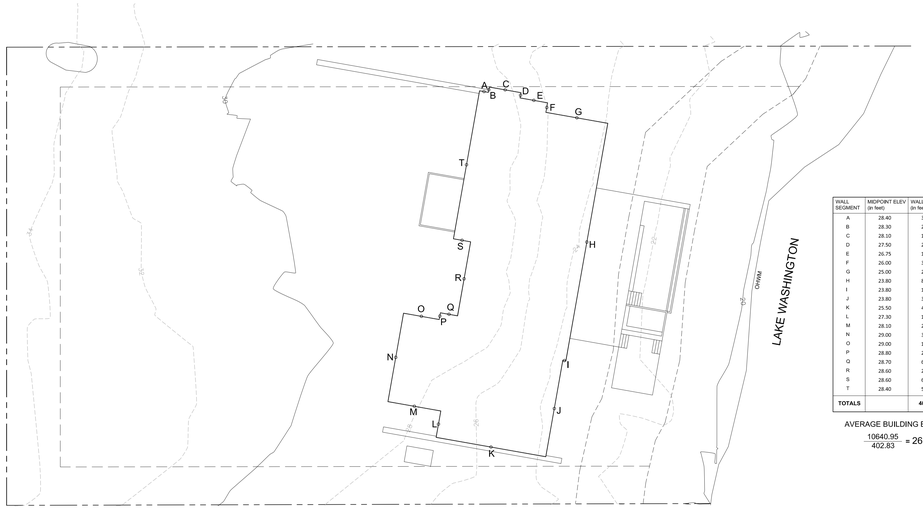
Mercer Island. WA 98040

PERMIT SET

Cover Sheet

A0



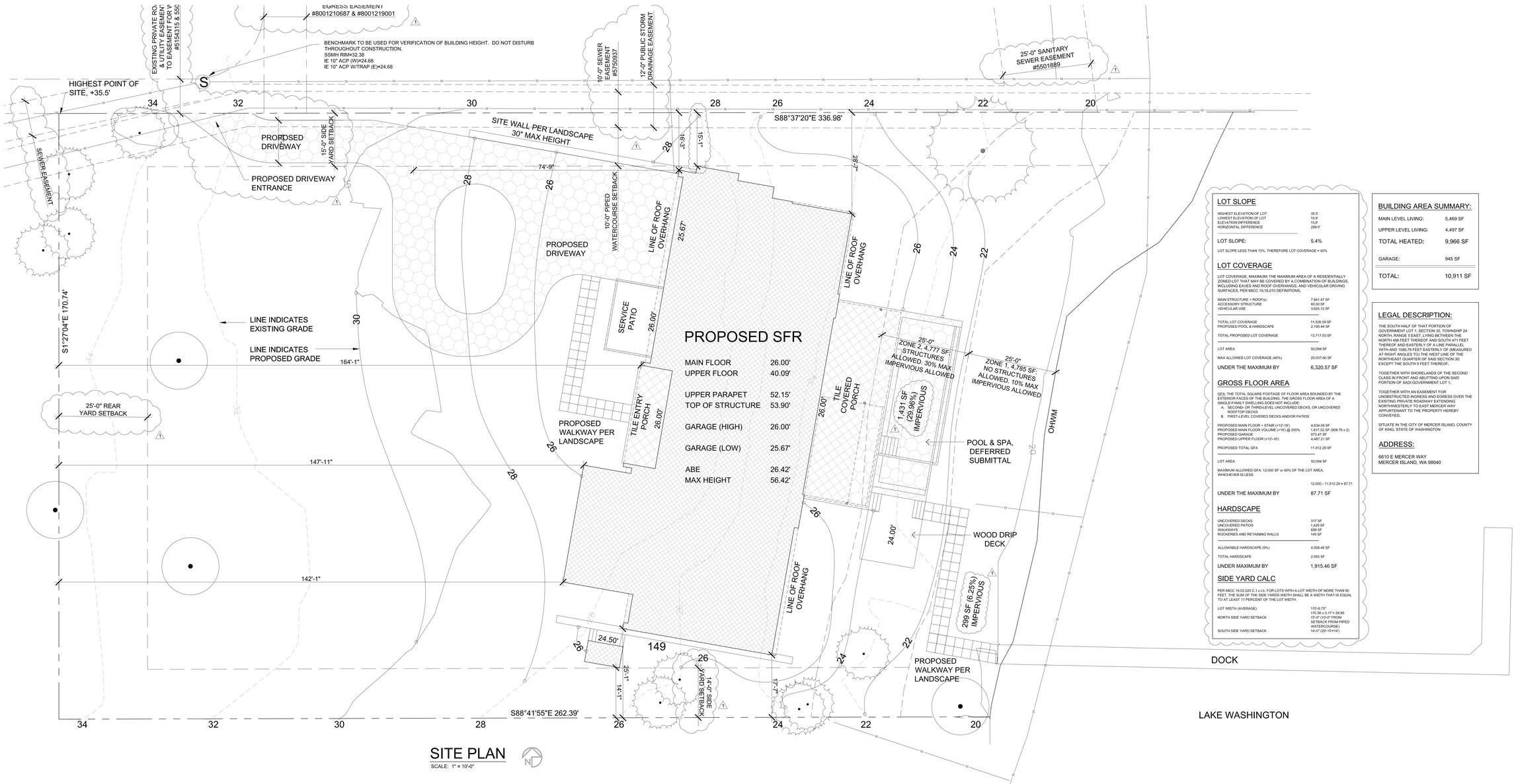
WALL SEGMENT	MIDPOINT ELEV (in feet)	WALL LENGTH (in feet)	TOTALS (in feet)
A	28.40	3.33	94.57
B	28.30	2.00	56.60
C	28.10	12.00	337.20
D	27.50	2.00	55.00
E	26.75	10.42	278.65
F	26.00	3.63	94.25
G	25.00	23.42	585.42
H	23.80	89.92	2140.02
I	23.80	1.67	39.65
J	23.80	36.46	867.71
K	25.50	41.50	1058.25
L	27.30	10.00	273.00
M	28.10	20.00	562.00
N	29.00	33.46	970.29
O	29.00	13.50	391.50
P	28.80	2.54	73.20
Q	28.70	6.50	186.55
R	28.60	28.00	800.80
S	28.60	6.50	185.90
T	28.40	56.00	1590.40
TOTALS		**402.83**	**10640.95**

AVERAGE BUILDING ELEVATION (ABE)

$\frac{10640.95}{402.83}$ = 26.42' (ABE)

ABE PLAN

SCALE: 1" = 20' -0



SITE PLAN

SCALE: 1" = 10'-0"

LOT SLOPE

HIGHEST ELEVATION OF LOT	35.5'
LOWEST ELEVATION OF LOT	19.8'
ELEVATION DIFFERENCE	15.6'
HORIZONTAL DIFFERENCE	289.5'
LOT SLOPE:	5.4%

LOT SLOPE LESS THAN 15%, THEREFORE LOT COVERAGE = 40%

LOT COVERAGE

LOT COVERAGE, MAXIMUM: THE MAXIMUM AREA OF A RESIDENTIALLY ZONED LOT THAT MAY BE COVERED BY A COMBINATION OF BUILDINGS, INCLUDING EAVES AND ROOF OVERHANGS, AND VEHICULAR DRIVING SURFACES, PER MICC 19.16.010 DEFINITIONS.

MAIN STRUCTURE + ROOF(s)	7,641.47 SF
ACCESSORY STRUCTURE	60.00 SF
VEHICULAR USE	3,825.12 SF
TOTAL LOT COVERAGE	11,526.59 SF
PROPOSED POOL & HARDSCAPE	2,190.44 SF
TOTAL PROPOSED LOT COVERAGE	13,717.03 SF
LOT AREA	50,094 SF
MAX ALLOWED LOT COVERAGE (40%)	20,037.60 SF
UNDER THE MAXIMUM BY	6,320.57 SF

GROSS FLOOR AREA

GFA: THE TOTAL SQUARE FOOTAGE OF FLOOR AREA BOUNDED BY THE EXTERIOR FACES OF THE BUILDING. THE GROSS FLOOR AREA OF A SINGLE-FAMILY DWELLING DOES NOT INCLUDE:

A. SECOND- OR THIRD-LEVEL UNCOVERED DECKS, OR UNCOVERED ROOFTOP DECKS
B. FIRST-LEVEL COVERED DECKS AND/OR PATIOS

PROPOSED MAIN FLOOR + STAIR (<12'-16')	4,634.09 SF
PROPOSED MAIN FLOOR VOLUME (>16') @ 200%	1,817.52 SF (908.76 x 2)
PROPOSED GARAGE	973.47 SF
PROPOSED UPPER FLOOR (<12'-16')	4,487.21 SF
PROPOSED TOTAL GFA	11,912.29 SF
LOT AREA	50,094 SF
MAXIMUM ALLOWED GFA; 12,000 SF or 40% OF THE LOT AREA, WHICHEVER IS LESS	12,000 - 11,912.29 = 87.71
UNDER THE MAXIMUM BY	87.71 SF

HARDSCAPE

UNCOVERED DECKS	317 SF
UNCOVERED PATIOS	1,429 SF
WALKWAYS	698 SF
ROCKERIES AND RETAINING WALLS	149 SF
ALLOWABLE HARDSCAPE (5%)	4,508.46 SF
TOTAL HARDSCAPE	2,593 SF
UNDER MAXIMUM BY	1,915.46 SF

SIDE YARD CALC

PER MICC 19.02.020.C.1.c.ii.b, FOR LOTS WITH A LOT WIDTH OF MORE THAN 90 FEET, THE SUM OF THE SIDE YARDS WIDTH SHALL BE A WIDTH THAT IS EQUAL TO AT LEAST 17 PERCENT OF THE LOT WIDTH.

LOT WIDTH (AVERAGE)	170'-0.75' 170.56 x 0.17 = 28.99
NORTH SIDE YARD SETBACK	15'-0" (10'-0" FROM SETBACK FROM PIPED WATERCOURSE)
SOUTH SIDE YARD SETBACK	14'-0" (20'-15'=14')

BUILDING AREA SUMMARY:

MAIN LEVEL LIVING:	5,469 SF
UPPER LEVEL LIVING:	4,497 SF
TOTAL HEATED:	9,966 SF
GARAGE:	945 SF
TOTAL:	10,911 SF

LEGAL DESCRIPTION:

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KONERU RESIDENCE

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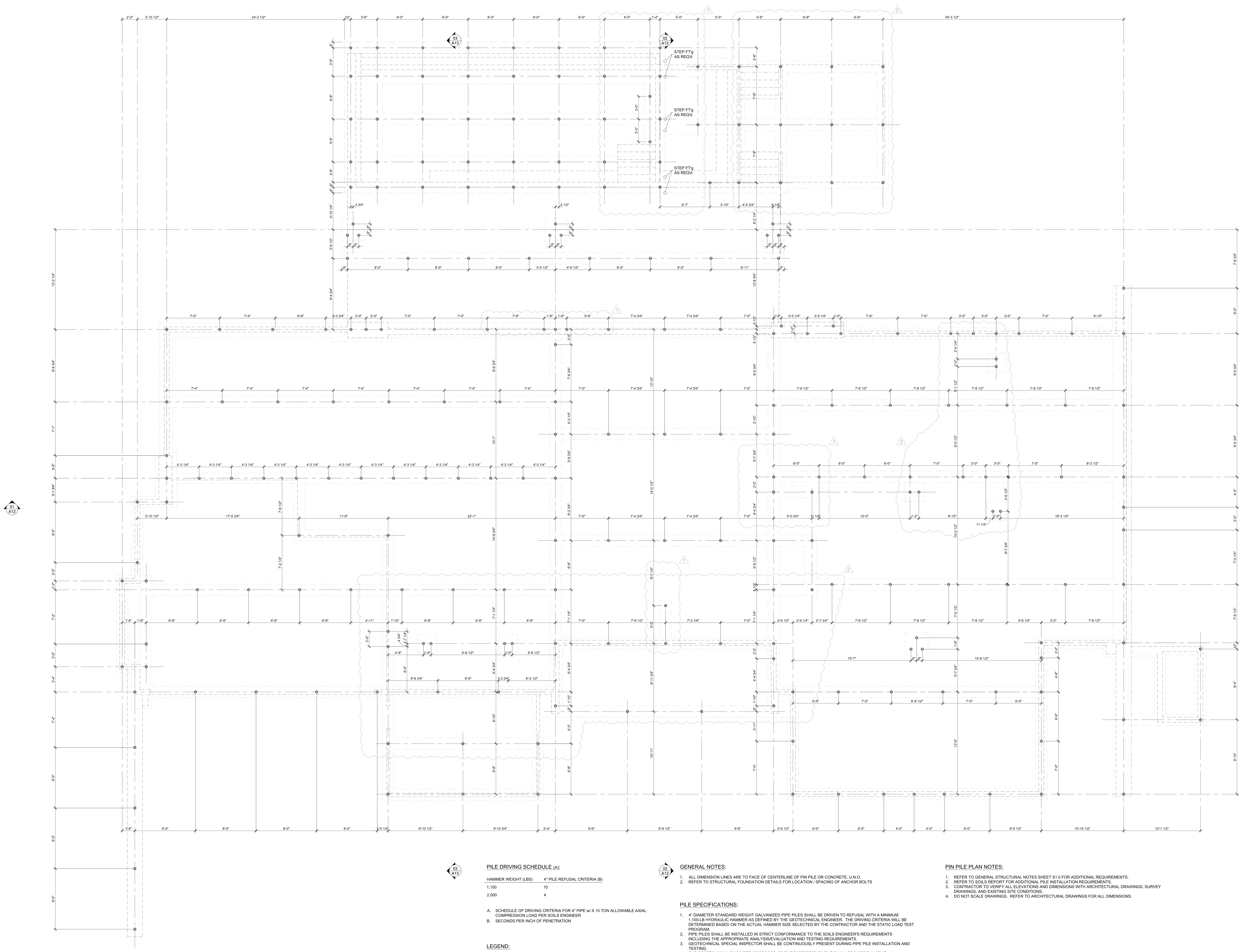
PERMIT SET

Arch Site Plan

A1



PIN PILE PLAN

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

PILE DRIVING SCHEDULE (A):

HAMMER WEIGHT (LBS)	4" PILE REFUSAL CRITERIA (B)
1,100	10
2,000	4

A. SCHEDULE OF DRIVING CRITERIA FOR 4" PIPE w/ A 10 TON ALLOWABLE AXIAL COMPRESSION LOAD PER SOILS ENGINEER
B. SECONDS PER INCH OF PENETRATION

LEGEND:

⊕ 4" Ø STANDARD WEIGHT GALVANIZED PIPE PILE (10-TON CAPACITY) REFER TO 2/S3.1 FOR EMBEDMENT INTO FOOTING

GENERAL NOTES:

1. ALL DIMENSION LINES ARE TO FACE OF CENTERLINE OF PIN PILE OR CONCRETE, U.N.O.
2. REFER TO STRUCTURAL FOUNDATION DETAILS FOR LOCATION / SPACING OF ANCHOR BOLTS

PILE SPECIFICATIONS:

1. 4" DIAMETER STANDARD WEIGHT GALVANIZED PIPE PILES SHALL BE DRIVEN TO REFUSAL WITH A MINIMUM 1,100-LB HYDRAULIC HAMMER AS DEFINED BY THE GEOTECHNICAL ENGINEER. THE DRIVING CRITERIA WILL BE DETERMINED BASED ON THE ACTUAL HAMMER SIZE SELECTED BY THE CONTRACTOR AND THE STATIC LOAD TEST PROGRAM.
2. PIPE PILES SHALL BE INSTALLED IN STRICT CONFORMANCE TO THE SOILS ENGINEER'S REQUIREMENTS INCLUDING THE APPROPRIATE ANALYSIS/EVALUATION AND TESTING REQUIREMENTS.
3. GEOTECHNICAL SPECIAL INSPECTOR SHALL BE CONTINUOUSLY PRESENT DURING PIPE PILE INSTALLATION AND TESTING.
4. THE GEOTECHNICAL ENGINEER OF RECORD OR THEIR REPRESENTATIVE SHALL PROVIDE FULL TIME OBSERVATION OF PILE INSTALLATION.
5. STEEL PIPE SHALL CONFORM TO ASTM A53, GRADE A OR B, Fy = 35 KSI. PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED SLEEVE COUPLERS.
6. PIPE PILES NEED TO BE PLACED WITHIN 3" OF SPECIFIED LOCATION. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRIVING PILES.

PIN PILE PLAN NOTES:

1. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SOILS REPORT FOR ADDITIONAL PILE INSTALLATION REQUIREMENTS.
3. CONTRACTOR TO VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS, SURVEY DRAWINGS, AND EXISTING SITE CONDITIONS.
4. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

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7806 REGISTERED ARCHITECT PHILIP McCULLOUGH STATE OF WASHINGTON

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6610 E Mercer Way
Mercer Island. WA 98040

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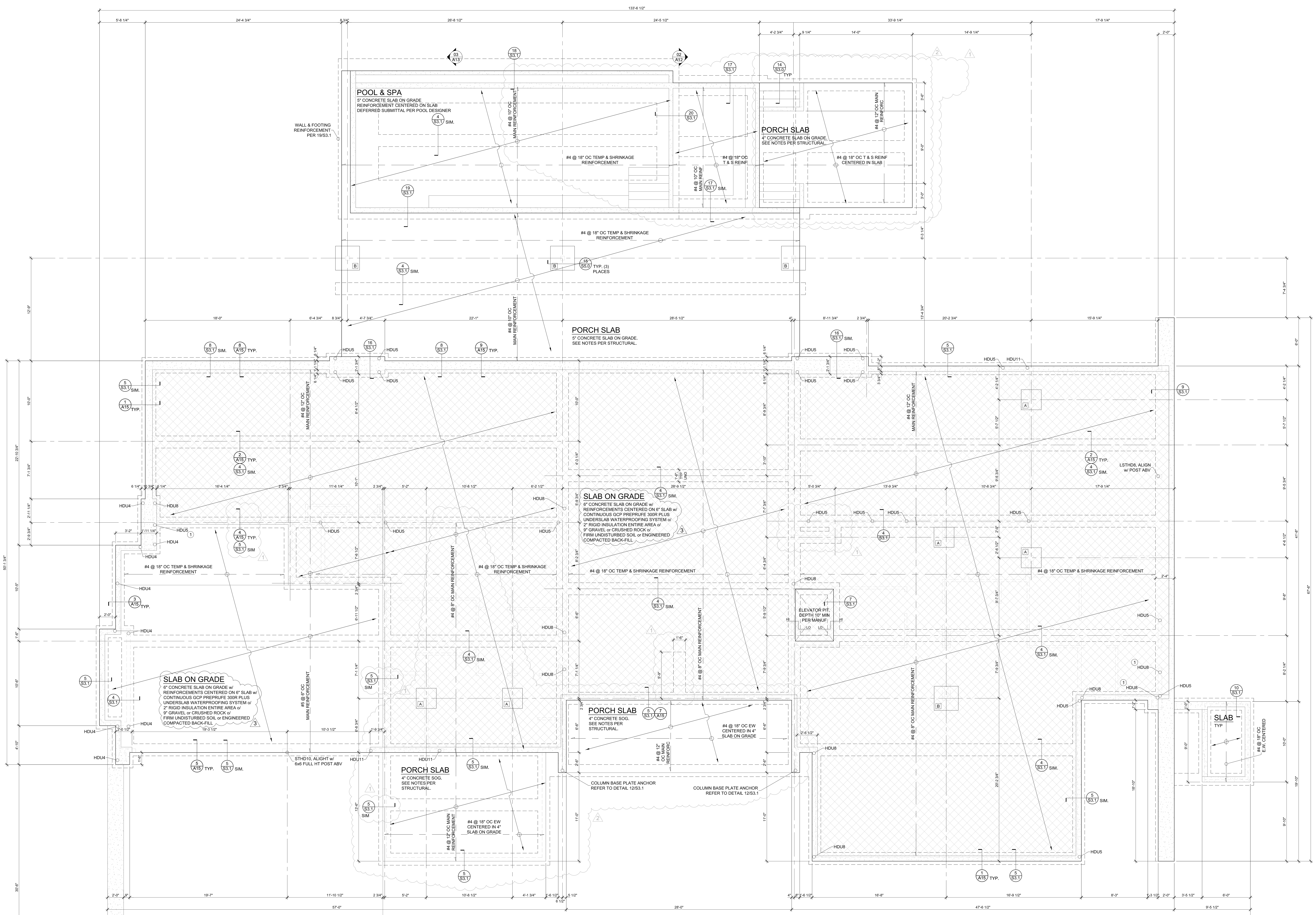
Pin Pile Plan

A2



FOOTING SCHEDULE:

MARK	SIZE	REINFORCING
A	2'-6" SQ x 12"d	(4) #4 EW BOTTOM
B	4'-0" SQ x 12"d	(5) #4 EW BOTTOM

FOOTNOTES:

(1) ALIGN HOLDOWN w/ STRAPS or HDU HOLDOWN ABOVE

GENERAL NOTES:

1. 8" MIN. CLEARANCE BETWEEN EXTERIOR GRADE & UNPROTECTED WOOD.
2. THE UNDER-FLOOR GRADE SHALL BE CLEANED OF ALL ORGANIC MATERIAL, AND CONSTRUCTION MATERIAL BEFORE THE BUILDING IS OCCUPIED.
3. ALL DIMENSION LINES ARE TO FACE OF FRAMING OR CONCRETE, U.N.O.
4. CONTINUOUS GCP PREPRUFE 300R PLUS UNDERSLAB WATERPROOFING SYSTEM
5. PROVIDE RIGID INSULATION PER COVER SHEET@ SLAB OF CONDITIONED SPACES WHERE LOCATED PER PLAN.
6. FOUNDATION DETAILS ON SHEET S3.1 FOR LOCATION / SPACING OF ANCHOR BOLTS
7. INSTALL ALL HOLDOWNS AND HARDWARE PRIOR TO BACKFILLING.

FOUNDATION PLAN NOTES:

1. BOTTOM OF ALL NEW FOOTINGS SHALL BE 18" MINIMUM BELOW LOWEST ADJACENT GRADE, UNO.
2. STRUCTURAL SLAB ON GRADE SHALL BE 6" MINIMUM THICKNESS REINFORCED PER PLAN, UNO. PROVIDE RIGID INSULATION AT INTERIOR SPACES PER ARCH AND VAPOR BARRIER BELOW SLAB PER ARCHITECTURAL DRAWINGS OVER 9" MINIMUM FREE DRAINING GRAVEL OVER FIRM NATIVE SOILS OR STRUCTURAL FILL PER SOILS ENGINEER.
3. REFER TO SHEET S3.0 FOR TYPICAL FOUNDATION AND CONCRETE DETAILS.
4. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
5. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

STRUCTURAL SOG REINFORCING PLAN

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

2 1 0 5 10

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2022.07.13	**Cycle 2 Structural Backcheck**
2022.08.18	**Cycle 3 Structural Backcheck**

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

REGISTERED ARCHITECT 7806 PHILIP McCULLOUGH STATE OF WASHINGTON

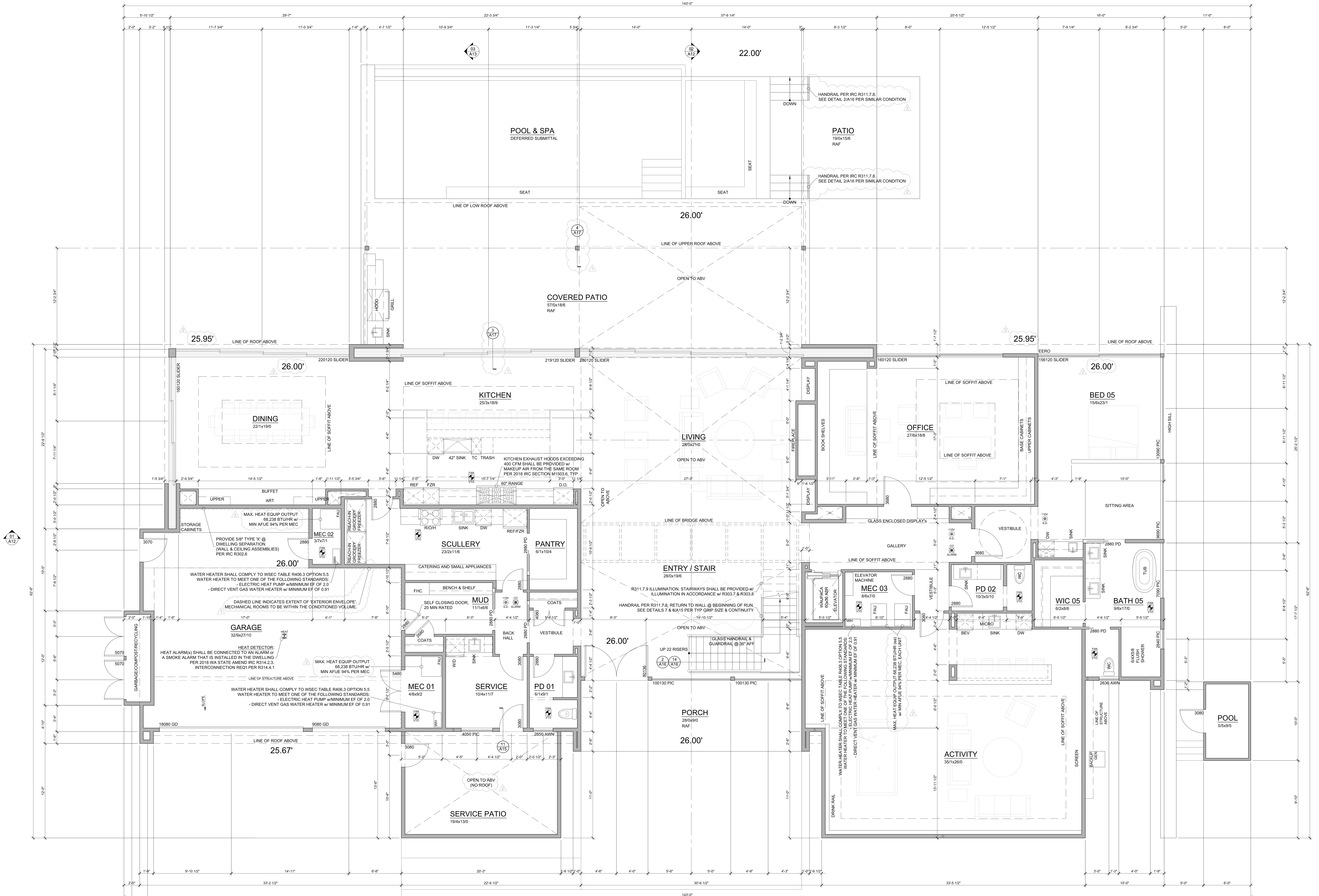
KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Structural SOG Reinforcing Plan

A4



GENERAL NOTES:

1. SEE ELEVATIONS, SECTIONS AND ROOF PLAN FOR PLATE HEIGHTS.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. 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. 2828= 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 IRC SEC. R302.11.
8. SAFETY GLAZING PER IRC SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER IRC SEC. R317.1.
10. PROVIDE UNDER-STAIR PROTECTION (1/2" GWB) PER IRC SEC R302.7.
11. PROVIDE (1) LAYER OF 1/2" GWB 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 GWB TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
12. PER IRC 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.
13. PROVIDE HANDRAILS PER IRC 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.
14. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER IRC SEC. R312.
15. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. FACTORY BUILT FIREPLACES SHALL MEET EMISSION STANDARDS PER CH. 51-51 WAC R1004.1.1.
16. ALL SHOWERHEAD AND KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM OR LESS. ALL OTHER LAVATORY FAUCETS SHALL BE RATED AT 1.0 GPM OR LESS.

PLAN KEY:

- 110V S.D. — INDICATES 110V SMOKE DET. PER I.R.C. 313.4 INTERCONNECTED w/ EMERGENCY BATTERY BACKUP
- CO ALARM — INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
- FAN VTO — INDICATES EXHAUST VENTILATION FAN PER COVER SHEET.
- HEAT — INDICATES HEAT ALARM

306.1 ACCESS. APPLIANCES, CONTROLS DEVICES, HEAT EXCHANGERS AND HVAC SYSTEM COMPONENTS THAT UTILIZE ENERGY SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT w/o DISABLING THE FUNCTION OF A FIRE-RESISTANCE-RATED ASSEMBLY OR REMOVING PERMANENT CONSTRUCTION, OTHER APPLIANCES, VENTING SYSTEMS or ANY OTHER PIPING OR DUCTS NOT CONNECTED TO THE APPLIANCE BEING INSPECTED, SERVICED, REPAIRED or REPLACED. A LEVEL WORKING SPACE NOT LESS THAN 30 INCHES DEEP AND 30 INCHES WIDE (762 MM BY 762 MM) SHALL BE PROVIDED IN FRONT OF THE CONTROL SIDE TO SERVICE AN APPLIANCE.

MAIN FLOOR PLAN

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

5,469 SF // 9,966 SF TOTAL CONDITIONED // 945 GARAGE

2 1 0 5 10

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Drawn: **DJR**
Approved: **APM**

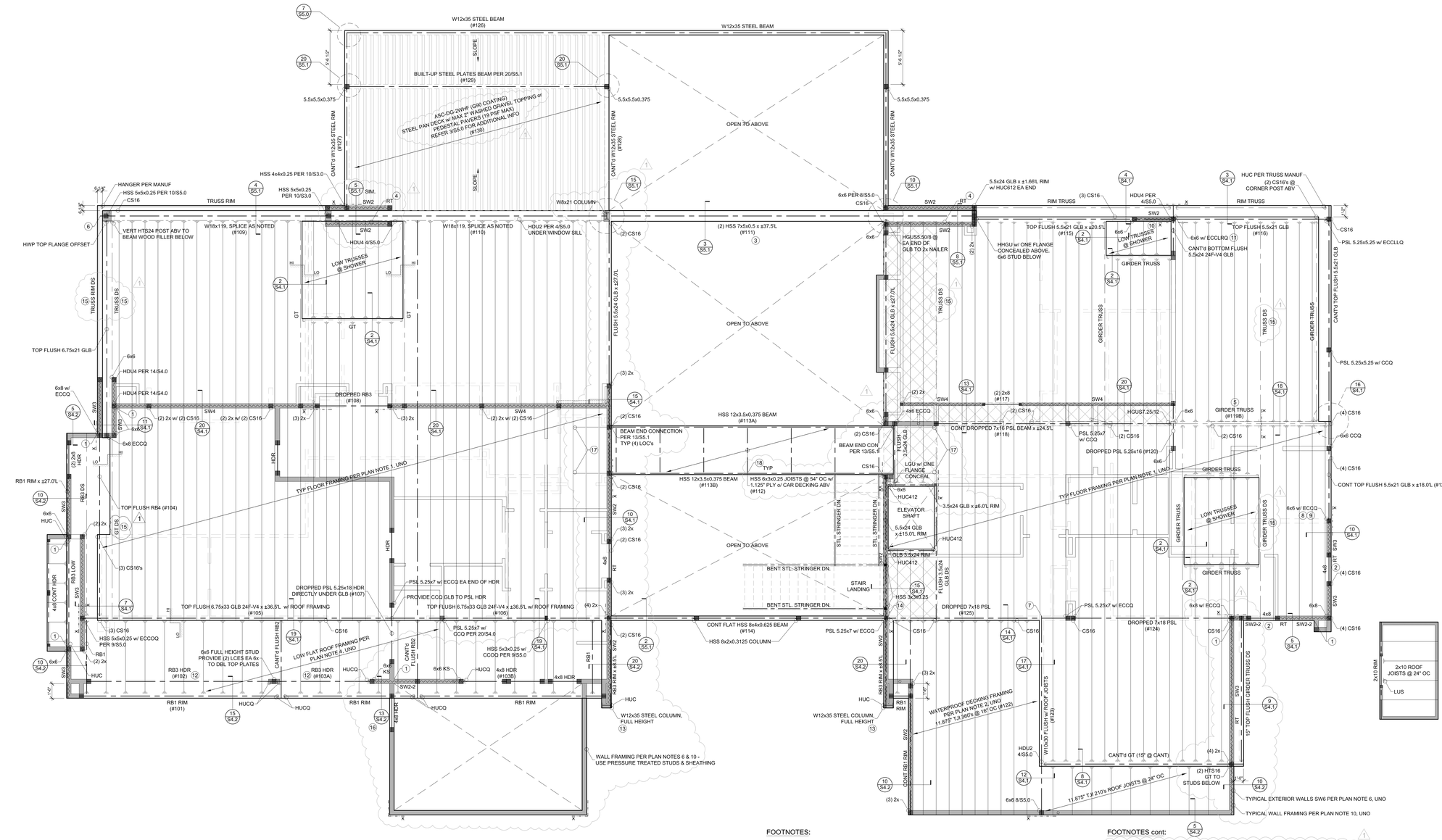
7806 REGISTERED ARCHITECT A. PHILIP MCCULLOUGH STATE OF WASHINGTON

KONERU RESIDENCE
6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Main Floor Plan

A5



UPPER FLOOR & LOW ROOF FRAMING PLAN

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

FLUSH BEAM SCHEDULE:

MARK	SIZE ①	BRG STUDS	HANGER, UNO
RB1	1.75x11.875 LSL	2	HUS1.81/10
RB2	3.5x11.875 GLB or 3.5x11.875 LSL	2 2	HHUS410 HHUS410
RB3	5.5x11.875 GLB or 5.25x11.875 PSL	3 3	HGUS5.50/10 HGUS5.50/10
RB4	7x11.875 PSL	4	HGUS7.25/10

① ALL GLB ARE 24F-V4, UNO

LEGEND:

- X HORIZ CS16 x 3'-0" LONG - TOP PLATE TO TOP PLATE (@ BREAK) or TOP FLUSHED BEAM TO TOP PLATE or RIM TO RIM or BEAM TO BEAM or BEAM TO RT or TOP PLATES TO TOP PLATES (XX INDICATES 2-CS16 STRAPS)
- DS DRAG STRUT - NAIL THRU SHEATHING w/ 8d NAILS @ 4" OC INTO ENTIRE LENGTH OF MEMBER
- KS KING STUD
- (X) NUMBER OF BUILT-UP STUDS
- GT GIRDER TRUSS
- RT RIM TRUSS
- BLOCK DIAPHRAGM - PROVIDE FLAT 2x4 BLK'g w/ 8d @ 4" OC @ ALL PANEL EDGES @ 8d @ 12" OC IN THE FIELD
- INDICATES EXTENT OF SHEARWALL SEGMENT
- BEARING WALL

FOOTNOTES:

1. SHEARWALL SHEATHING CONTINUOUS THRU WALL INTERSECTION
2. SHEATHE AND NAIL ABOVE AND BELOW WINDOW AND PANEL EDGE NAIL AROUND OPENING PER SHEARWALL SCHEDULE
3. (2) HSS 7x5x1/2 BUILT-UP BEAM SHALL BE GROOVE WELD TOGETHER TOP AND BOTTOM AND PROVIDE 1/2" DIAM. WTS AT 36"oc FOR 2x NAILER CONNECTION EACH SIDE OF BUILT-UP BEAM AND USE 5/4" WOOD NAILER TOP AND BOTTOM OF BUILT-UP BEAM WITH TB SCREWS AT 36"oc STAGGERED INTO HSS BEAMS, PRE-DRILL AS REQUIRED
4. TRUSS MANUFACTURER TO DESIGN RIM TRUSS TO TRANSFER 600 PLF LATERALLY FROM TOP TO BOTTOM CHORD
5. TRUSS MANUFACTURER TO DESIGN GIRDER TRUSS FOR A 4,500 LBS (WIND/SEISMIC) POINT LOAD AT HOLDOWN AND PROVIDE VERTICAL MEMBER TO RECEIVE HOLDOWN NAILS
6. PROVIDE (1)L90 WITH #9 x 1-1/2" SD CONNECTORS SCREWS EACH SIDE OF STEEL BEAM SNUG FIT WOOD FILLER TO TRUSS, (2)L90 TOTAL AND TRUSS MANUFACTURER TO PROVIDE VERTICAL MEMBERS TO RECEIVE L90 FASTENERS
7. PROVIDE 3-1/2" BEARING LENGTH OF STEEL BEAM TO TOP OF PSL WITH (2)1/2" DIAM. x 6" LAG BOLTS AT BEAM GAGE WITH 2-1/2" EDGE DISTANCE FROM FACE OF PSL BEAM
8. RAISE TOP OF POST TO BOTTOM OF GLB 21" DEPTH TOP FLUSH BEAM AND PROVIDE POST CAP PER PLAN, REFER DETAIL 18/S4.0
9. PROVIDE HORIZ CS16 x 4'-6" STRAP AT TOP PLATE AND WRAP AROUND CENTERED ON POST PER PLAN, REFER DETAIL 18/S4.0
10. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF GLB 21" DEPTH BEAM AND DBL 2x6 TOP PLATES AS REQUIRED TO BE FLUSHED WITH FLOOR FRAMING AND PROVIDE 0.22" DIAM. x 8" SDWS TIMBER SCREWS AT 16"oc MAX, THRU UNDERSIDE OF DBL TOP PLATES TO BOTTOM OF BEAM
11. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF GLB 21" DEPTH BEAM AND POST CAP AS REQUIRED TOP FLUSHED WITH FLOOR TRUSSES
12. PLACE GARAGE HEADER DIRECTLY ABOVE DOOR ROUGH OPENING
13. PROVIDE FULL HEIGHT SOLID WOOD FILLER AS REQUIRED FOR NAILER AND BOLT WITH 5/8" WTS AT 32"oc, REFER DETAIL 12/S3.1
14. POCKET BEAM INTO WALL WITH BUILT-UP 2x BEARING STUDS TO MATCH BEAM WIDTH AND (1)2x FULL HEIGHT STUD EACH SIDE WITH A35 EACH TOP AND BOTTOM

FOOTNOTES cont:

15. TRUSS MANUFACTURER TO DESIGN DRAG TRUSS FOR 300 lbs/ft OF LATERAL LOAD
16. PROVIDE LSL 3.5x11.875 BLOCKING BETWEEN TJI RAFTERS OVER SHEARWALL SW2-2, CONNECTION PER DETAIL 13/S4.2
17. PROVIDE DTT2Z @ THIRD FLOOR TRUSS BAY PER DETAIL 13/S5.1
18. 3/16 FILLET WELD AROUND ONTO HSS 12x3.5x0.375 BRIDGE BEAM

UPPER FLOOR & LOWER FLOOR FRAMING NOTES:

1. TYPICAL FLOOR FRAMING CONSISTS OF 1/4" TILE o/ 1-1/8" GYPCRETE PER ARCH o/ 1-1/8" T&G APA RATED SHEATHING (SPAN RATING 48 oc) OVER PREFABRICATED TRUSSES AT 16"oc, UNO. TRUSSES TO BE A MIN DEPTH OF 24".
2. TYPICAL WATER PROOF DECK FRAMING CONSISTS OF CONCRETE PAVERS (18 PSF MAX) o/ TAPERED RIGID INSULATION PER ARCH o/ 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER 11-7/8" TJI 360's AT 16"oc, UNO.
3. GLUE AND NAIL FLOOR AND WATERPROOF DECK SHEATHING w/ 8d AT 6"oc AT FRAMED PANEL EDGES AND AT 12"oc IN THE FIELD, UNO.
4. TYPICAL LOWER ROOF FRAMING CONSISTS OF 2" THICK MAX. WASHED GRAVEL TOPPING (20 PSF MAX.) OVER TAPERED RIGID INSULATION PER ARCH OVER 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER 11-7/8" TJI 210's AT 24"oc, UNO. PROVIDE H8 EACH END OF ALL RAFTERS, H8 EACH SIDE OF ALL MULTIPLE RAFTERS, UNO.
5. NAIL ROOF SHEATHING w/ 8d AT 6"oc AT FRAMED PANEL EDGES AND OVER SHEARWALLS, AND AT 12"oc IN THE FIELD, UNO.
6. "SW_" INDICATES SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE ON S/S4.0 FOR ADDITIONAL INFORMATION. ALL EXTERIOR WALLS ARE SW6, UNO.
7. ALL HEADERS REQUIRED ARE SHOWN ON PLAN AND SHALL BE (2)2x8, UNO. REFER TO DETAIL 10/S4.0 FOR ADDITIONAL REQUIREMENTS.
8. PROVIDE (2) BEARING (TRIMMER) STUDS AT EACH END OF ALL HEADERS, BEAMS, AND GIRDER TRUSSES 6'-0" IN LENGTH AND OVER, UNO.
9. WHERE POSTS OCCUR PROVIDE SOLID VERTICAL GRAIN BLOCKING SOLID THRU FLOOR TO MATCHING SUPPORTS BELOW, UNO.
10. TYPICAL WALL FRAMING CONSISTS OF 2x4'S OR 2x6's AT 16"oc AT EXTERIOR WALLS AND 2x4's OR 2x6's AT 16"oc AT INTERIOR WALLS PER ARCH DRAWINGS, UNO.
11. REFER TO SHEET S4.0 FOR TYPICAL WOOD FRAMING DETAILS.
12. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
13. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

2 1 0 5 10

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KONERU RESIDENCE
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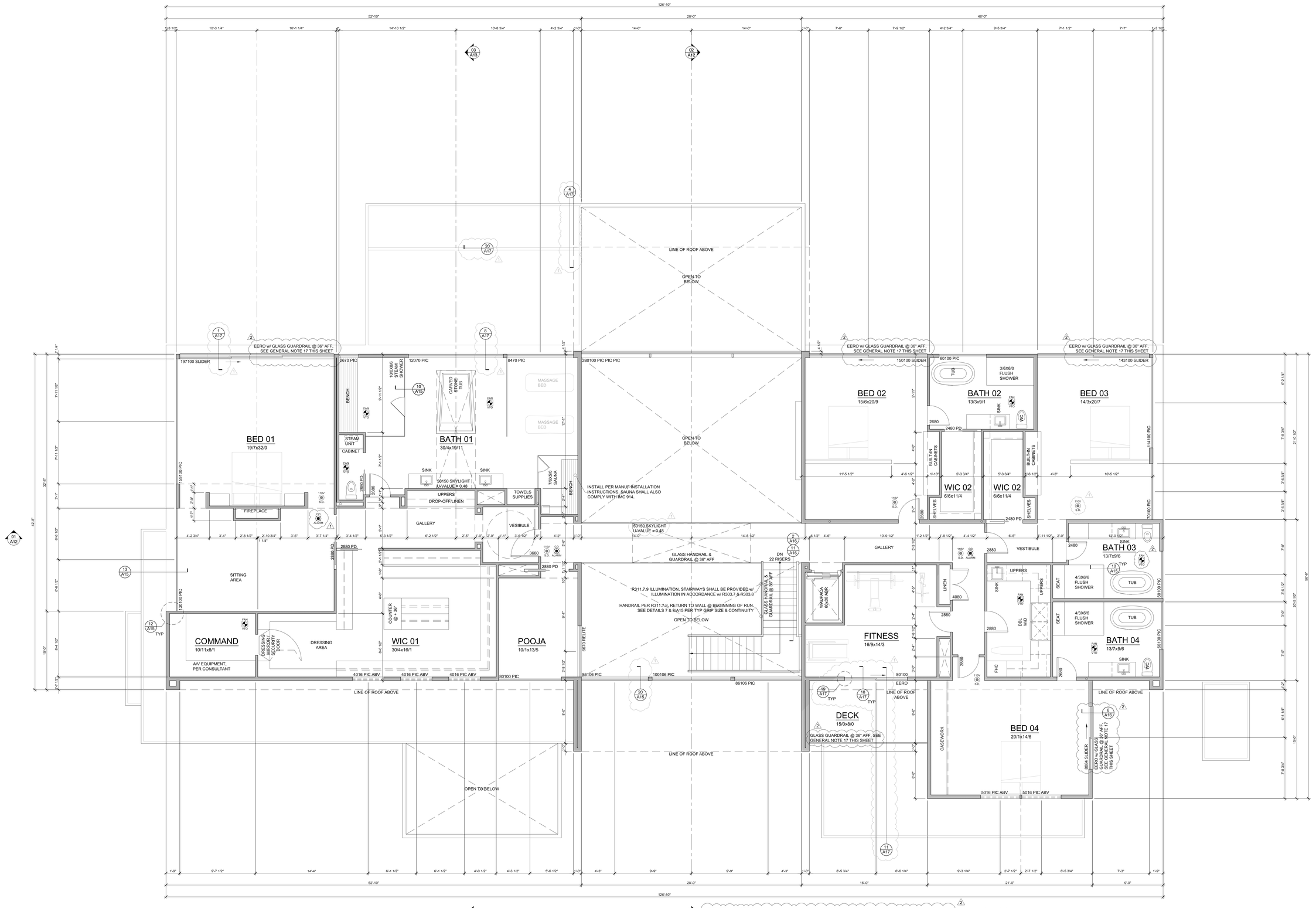
Mercer Island. WA 98040

PERMIT SET

Upper Floor & Lower Roof Framing Plan

A6



UPPER FLOOR PLAN

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

4,497 SF

GENERAL NOTES:

1. SEE ELEVATIONS, SECTIONS AND ROOF PLAN FOR PLATE HEIGHTS.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. 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. 2828= 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 IRC SEC. R302.11.
8. SAFETY GLAZING PER IRC SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER IRC SEC. R317.1.
10. PROVIDE UNDER-STAIR PROTECTION (1/2" GWB) PER IRC SEC R302.7.
11. PROVIDE (1) LAYER OF 1/2" GWB 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 GWB TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
12. PER IRC 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.
13. PROVIDE HANDRAILS PER IRC 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.
14. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER IRC SEC. R312.
15. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. FACTORY BUILT FIREPLACES SHALL MEET EMISSION STANDARDS PER CH, 51-51 WAC R1004.1.1.
16. ALL SHOWERHEAD AND KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM OR LESS. ALL OTHER LAVATORY FAUCETS SHALL BE RATED AT 1.0 GPM OR LESS.
17. PER IRC R308.4.4.1 EXCEPTION, GLASS BALUSTER PANELS SHALL BE LAMINATED GLASS w/ TWO or MORE PLIES OF EQUAL THICKNESS AND OF SAME GLASS TYPE. NO ATTACHED TOP RAIL or HANDRAIL REQUIRED.

PLAN KEY:

- 110V S.D. — INDICATES 110V SMOKE DET, PER I.R.C. 313.4 INTERCONNECTED w/ EMERGENCY BATTERY BACKUP
- CO ALARM — INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
- FAN VTO — INDICATES EXHAUST VENTILATION FAN PER COVER SHEET.

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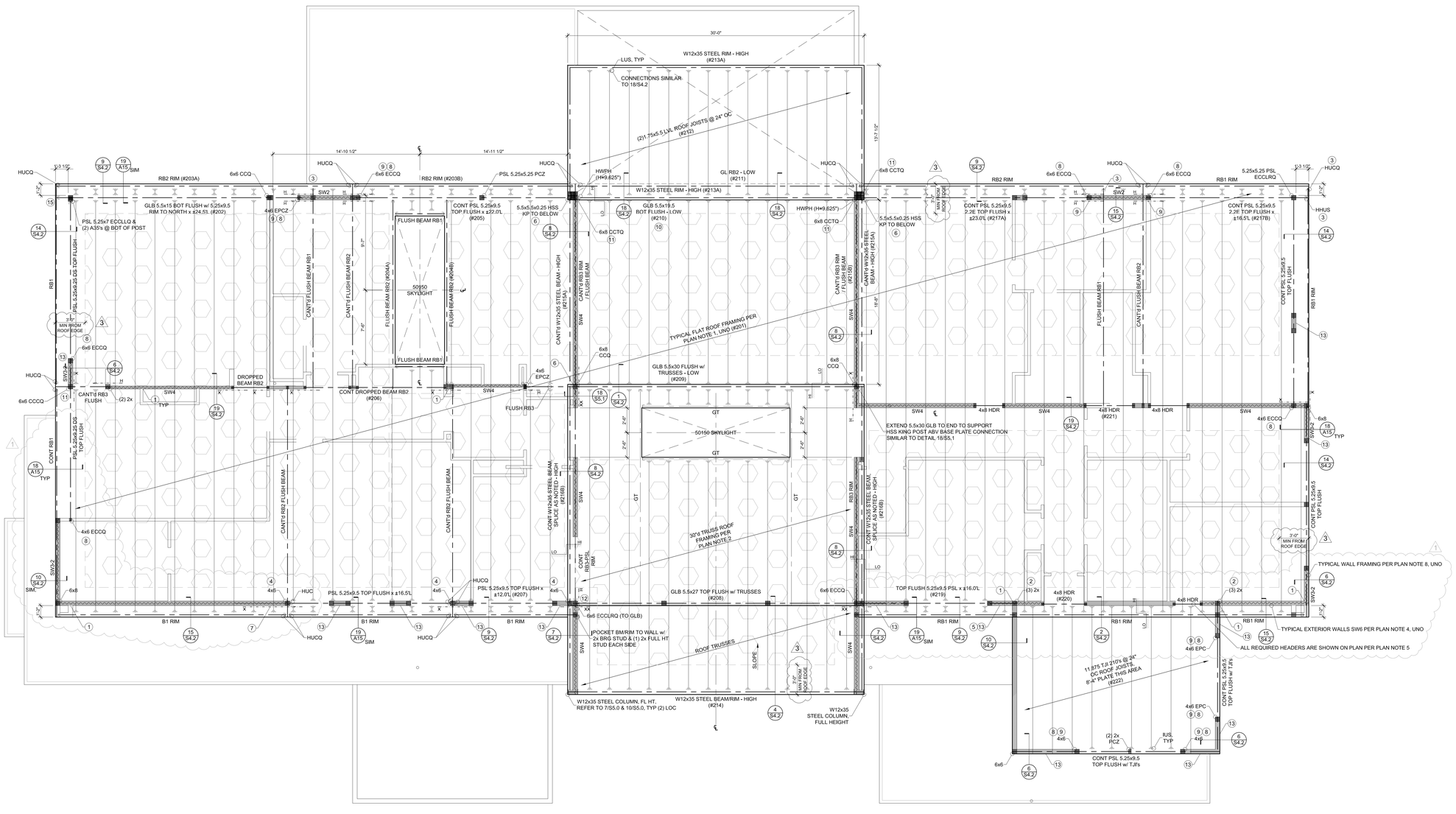
Upper Floor Plan

A7



GENERAL NOTES:

1. EAVE OVERHANG PER PLAN. APPLY ROOFING IN ACCORDANCE WITH I.R.C. SEC. 905. PROVIDE DRIP EDGE PER R905.2.8.5.
2. HEADERS (HDR) TO BE PER STRUCTURAL. FILL CAVITIES WITH RIGID INSULATION WHERE POSSIBLE.
3. COLUMNS @ HEADERS, BEAMS, & GIRDERS TO BE (2) 2x STUDS (U.N.O.)

FLUSH BEAM SCHEDULE:

MARK	SIZE ①	BRG STUDS	HANGER, UNO
RB1	1.75x11.875 LSL	2	HUS1.81/10
RB2	3.5x11.875 GLB or 3.5x11.875 LSL	2 2	HHUS410 HHUS410
RB3	5.5x11.875 GLB or 5.25x11.875 PSL	3 3	HGUS5.50/10 HGUS5.50/10
RB4	7x11.875 PSL	4	HGUS7.25/10

① ALL GLB ARE 24F-V4, UNO

LEGEND:

- X — HORIZ CS16 x 3'-0" LONG - TOP PLATE TO TOP PLATE (@ BREAK) or TOP FLUSHED BEAM TO TOP PLATE or RIM TO RIM or BEAM TO BEAM (XX INDICATES 2-CS16 STRAPS)
- DS — DRAG STRUT - NAIL THRU SHEATHING w/ 8d NAILS @ 4" OC INTO ENTIRE LENGTH OF MEMBER
- (X) — NUMBER OF BUILT-UP STUDS
- GT — GIRDER TRUSS
- RT — RIM TRUSS
- KP — KING POST
- INDICATES EXTENT OF SHEARWALL SEGMENT
- BEARING WALL
- INDICATES EXTENT OF SOLAR PANELS ABOVE, 5 PSF MAX. SEE LAYOUT PER SOLAR DESIGNER.

FOOTNOTES:

1. SHEARWALL SHEATHING CONTINUOUS THRU WALL INTERSECTION
2. PROVIDE (2)A35 TOP AND BOTTOM OF POST/BUILT-UP STUDS
3. HANGER PER PLAN INSTALL UPSIDE DOWN
4. PROVIDE VERT. HTS20 STRAP EACH BEAM END TO POST BELOW (AT EACH END OF EACH BEAM WERE HANGER NOT OCCURS)
5. PROVIDE (5)LTP5's ORIENT UPRIGHT AND CENTERED ON 2x SHIM BETWEEN BEAM AND DOUBLE TOP PLATES FOR DRAG CONNECTION.
6. PROVIDE HSS 3-1/2x3-1/2x1/4 MIN. KING POST (KP) AT HIGH STEEL BEAM AND SET COLUMN BASE PLATE AND CONNECTION TO TOP OF ROOF BEAM BELOW, REFER 18/s5.1
7. PROVIDE SNUG FIT LSL 1-3/4" BLOCKING BETWEEN (3) RAFTER BAYS WITH A35 TO PLATE AND PROVIDE HORIZ CS16 x 6'-0" OVER ROOF SHEATHING - LAP RIM/BEAM 1'-6" AND NAIL REMAINING LENGTH TO LSL 1-3/4" BLKG
8. RAISE TOP OF POST TO BOTTOM OF 9-1/2" DEPTH TOP FLUSH BEAM AND PROVIDE POST CAP PER PLAN, REFER DETAIL 18/S4.0
9. PROVIDE HORIZ CS16 x 4'-6" STRAP AT TOP PLATE AND WRAP AROUND CENTERED ON POST PER PLAN
10. RAISED BOTTOM OF BEAM (+/-) 2-1/4" FROM BOTTOM OF TJI RAFTERS
11. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF 9-1/2" DEPTH BEAM AND POST CAP AS REQUIRED TOP FLUSHED WITH TOP OF TJI RAFTERS
12. NOTCH BOTTOM OF RB3-PSL BEAM TO FIT INTO RAISED POST CAP - NO OVERCUTS
13. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF 9-1/2" DEPTH BEAM AND DBL 2x6 TOP PLATES TO BE FLUSHED WITH TOP OF ROOF FRAMING AND PROVIDE 0.22" DIAM. x 8" SDWS TIMBER SCREWS AT 16"oc MAX, THRU UNDERSIDE OF DBL TOP PLATES CENTERED INTO BOTTOM OF BEAM, (2) SDWS SCREWS MIN. EACH WALL PANEL
14. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF 9-1/2" DEPTH BEAM AND DBL 2x6 TOP PLATES TO BE FLUSHED WITH TOP OF ROOF FRAMING AND PROVIDE 0.22" DIAM. x 8" SDWS TIMBER SCREWS AT 8"oc MAX, THRU UNDERSIDE OF DBL TOP PLATES CENTERED INTO BOTTOM OF BEAM
15. PROVIDE LS70 EACH FACE, (2) TOTAL WITH #9 x 1-1/2" SD CONNECTOR SCREWS IN LIEU OF NAILS

ROOF FRAMING NOTES:

1. TYPICAL ROOF FRAMING CONSISTS OF SOLAR PANELS (5 PSF MAX.) OVER TAPERED RIGID INSULATION PER ARCH OVER 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER 11-7/8" TJI 360's AT 24"oc, UNO. PROVIDE H8 EACH END OF ALL RAFTERS, H8 EACH SIDE OF ALL MULTIPLE RAFTERS, UNO.
2. TRUSS ROOF FRAMING PER PLAN CONSISTS OF SOLAR PANELS (5 PSF MAX.) OVER TAPERED RIGID INSULATION PER ARCH OVER 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER PREFABRICATED TRUSSES AT 24"oc, UNO. TRUSSES TO BE A MIN DEPTH OF 24". PROVIDE H2.5A EACH END OF ALL TRUSSES, H2.5A EACH SIDE OF ALL MULTIPLE TRUSSES, UNO. REFER TO ARCHITECTURAL DRAWINGS FOR TRUSS PROFILE.
3. NAIL ROOF SHEATHING W/ 8d AT 6"oc AT FRAMED PANEL EDGES AND OVER SHEARWALLS, AND AT 12"oc IN THE FIELD, UNO.
4. "SW_" INDICATES SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE ON S/S4.0 FOR ADDITIONAL INFORMATION. ALL EXTERIOR WALLS ARE SW6, UNO.
5. ALL HEADERS REQUIRED ARE SHOWN ON PLAN AND SHALL BE (2)2x8, UNO. REFER TO DETAIL 10/S4.0 FOR ADDITIONAL REQUIREMENTS.
6. PROVIDE (2) BEARING (TRIMMER) STUDS AT EACH END OF ALL HEADERS AND BEAMS 6'-0" IN LENGTH AND OVER, UNO.
7. WHERE POSTS OCCUR PROVIDE SOLID VERTICAL GRAIN BLOCKING SOLID THRU FLOOR TO MATCHING SUPPORTS BELOW.
8. TYPICAL WALL FRAMING CONSISTS OF 2x6's AT 16"oc AT EXTERIOR WALLS AND 2x4's OR 2x6's AT 16"oc AT INTERIOR WALLS PER ARCH DRAWINGS, UNO.
9. REFER TO SHEET S4.0 FOR TYPICAL WOOD FRAMING DETAILS.
10. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
11. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

UPPER ROOF FRAMING PLAN

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

2 1 0 5 10

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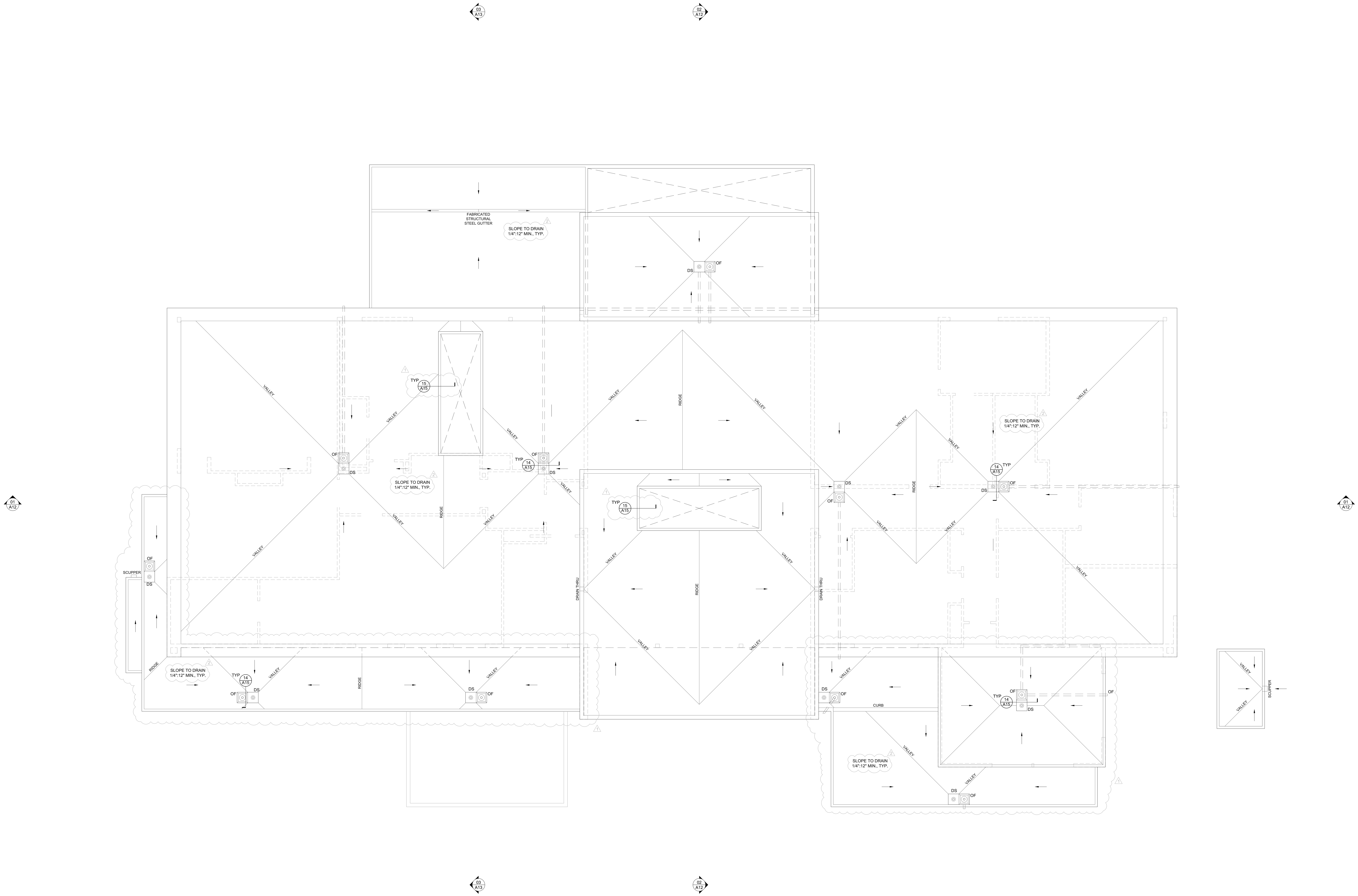
PERMIT SET

Upper Roof Framing Plan

A8



ROOF DRAINAGE PLAN

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

2 1 0 5 10

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Revisions	Comment
2021.11.17	Updated Plans to Structural
2021.12.13	Structural Backcheck 01
2021.12.15	Structural Backcheck 02
2021.12.22	Structural Backcheck 03
2022.05.02	Permit Corrections
2022.05.04	Structural Backcheck
2022.06.12	Commentary Response
2022.07.13	**Cycle 2 Structural Backcheck**
2022.08.18	**Cycle 3 Structural Backcheck**

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

REGISTERED ARCHITECT — STATE OF WASHINGTON

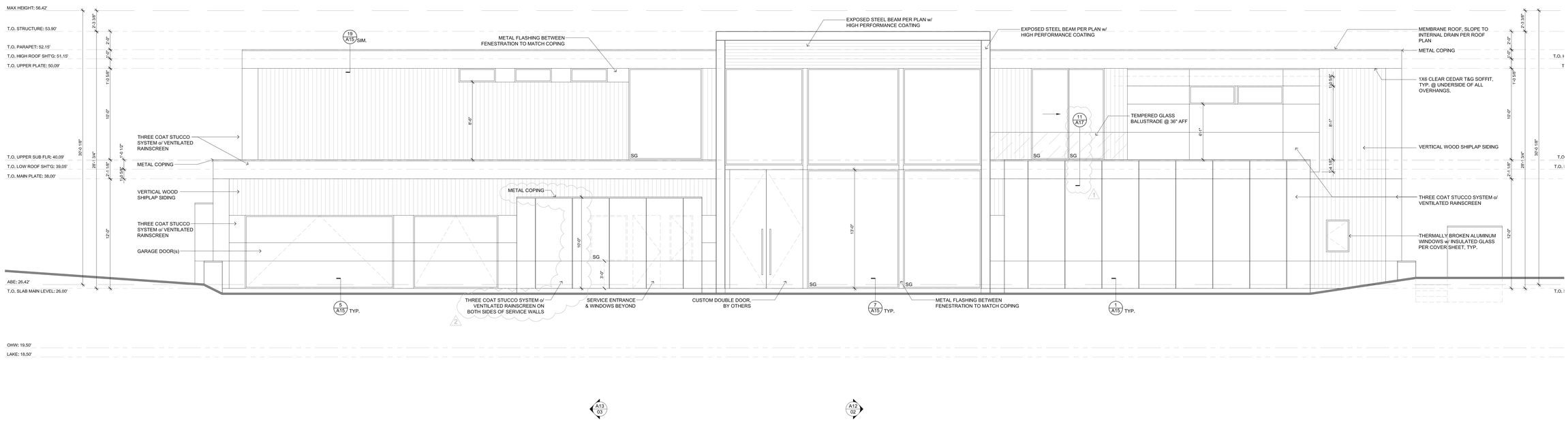
KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Roof Drainage Plan

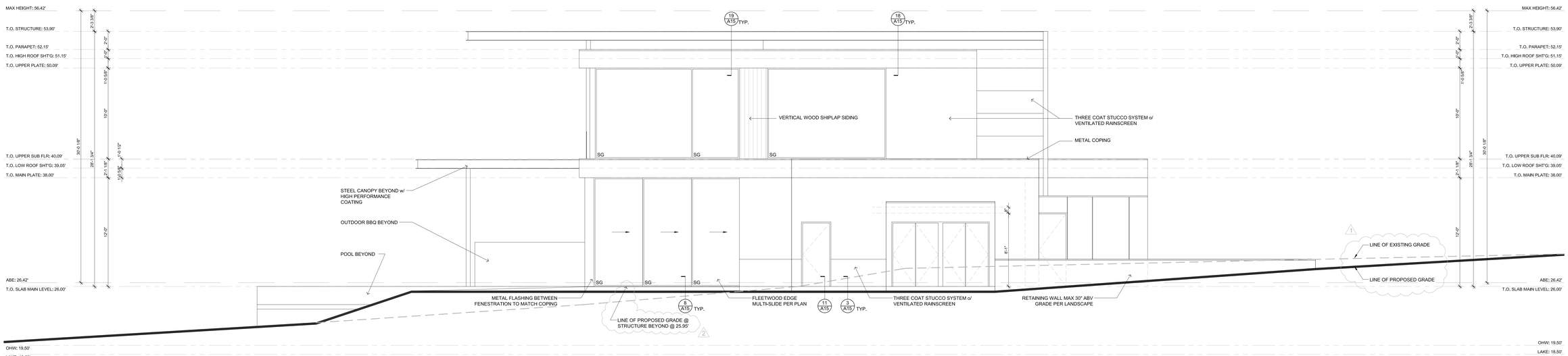
A9



WEST ELEVATION

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

2 1 0 5 10



NORTH ELEVATION

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

2 1 0 5 10

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Comment
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- Structural Backcheck 03
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- Structural Backcheck
- Commentary Response
- **2022.07.13 Cycle 2 Structural Backcheck**
- **2022.08.18 Cycle 3 Structural Backcheck**

Revisions
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- 2021.12.13
- 2021.12.15
- 2021.12.22
- 2022.05.02
- 2022.05.04
- 2022.08.12

Date: **2021.10.13**
Job No: **21-041**
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Approved: **APM**

REGISTERED ARCHITECT 7864 STATE OF WASHINGTON

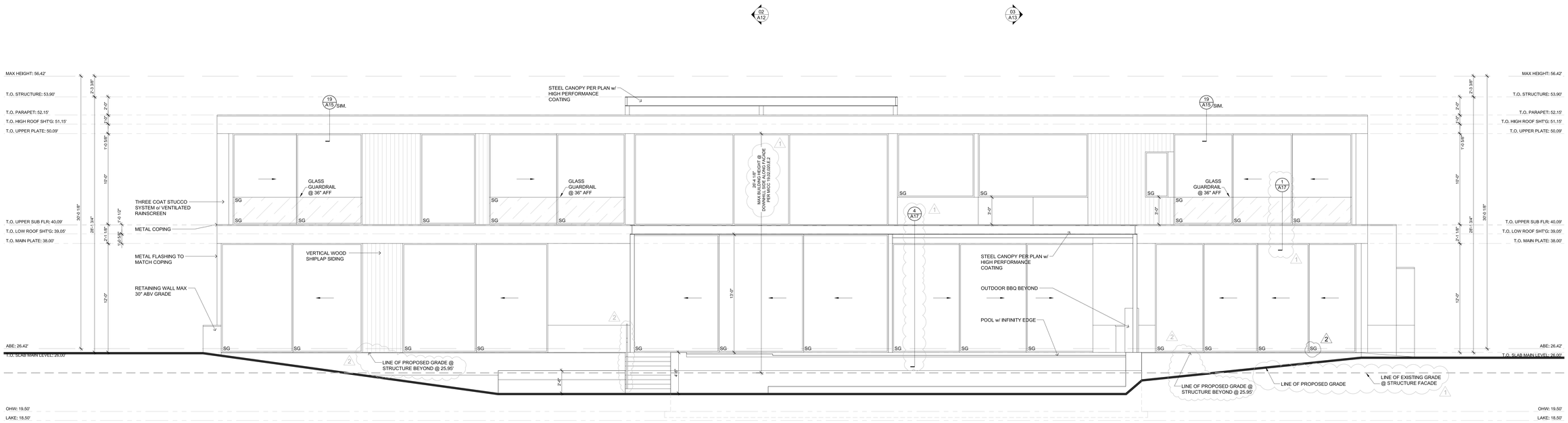
KONERU RESIDENCE

6610 E Mercer Way
Mercer Island, WA 98040

PERMIT SET

Exterior Elevations

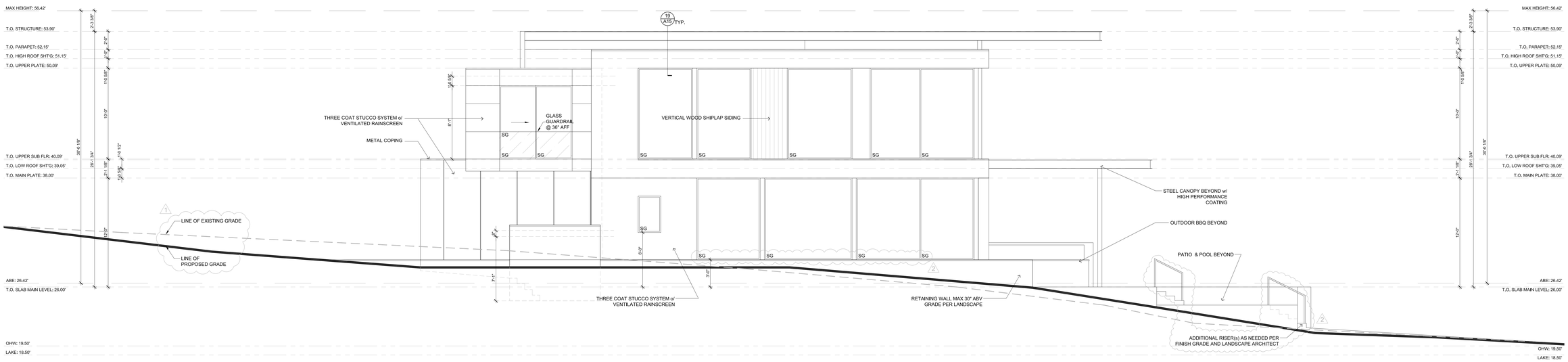
A10



EAST ELEVATION

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

2 1 0 5 10



SOUTH ELEVATION

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

2 1 0 5 10

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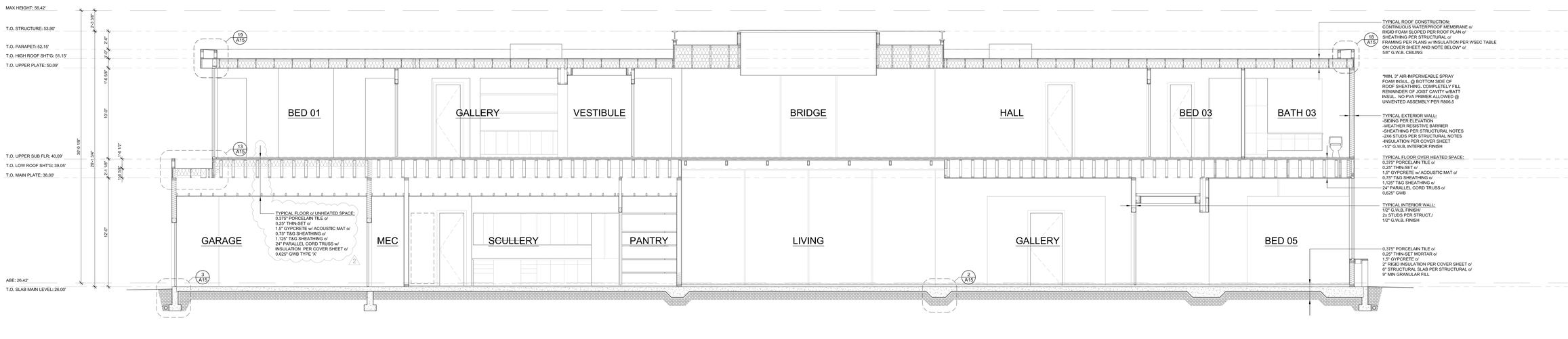
Approved: **APM**

KONERU RESIDENCE
6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Exterior Elevations

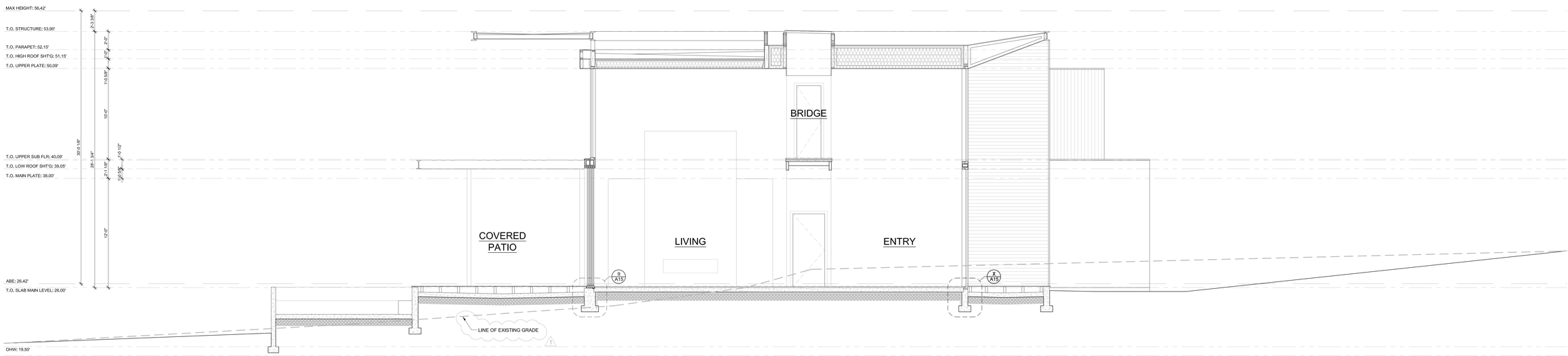
A11



SECTION 01

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

2 1 0 5 10



SECTION 02

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

2 1 0 5 10

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Approved: **APM**

REGISTERED ARCHITECT 7864 STATE OF WASHINGTON

KONERU RESIDENCE

6610 E Mercer Way
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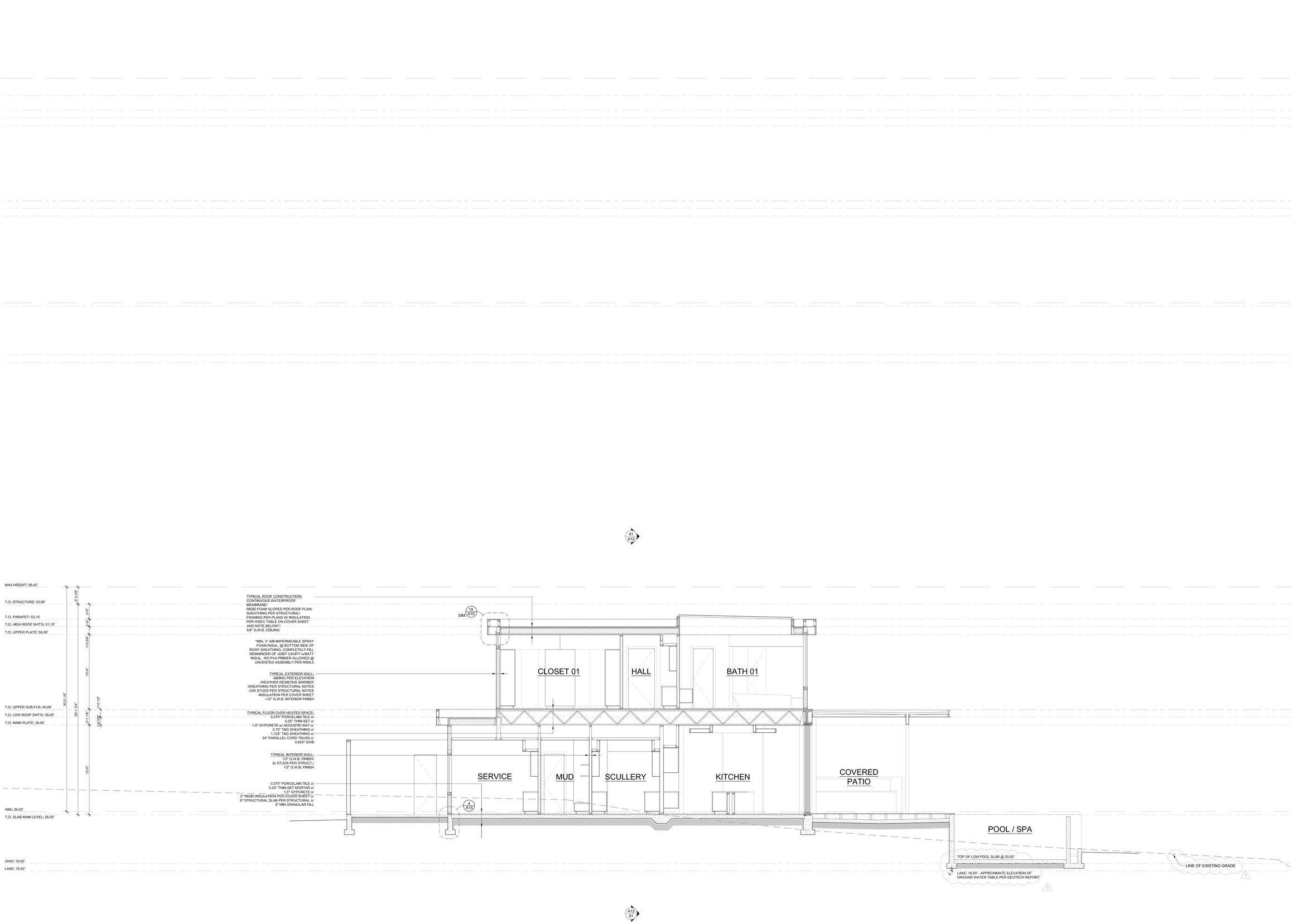
PERMIT SET

Building Sections

A12



SECTION 03

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

2 1 0 5 10

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

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Comment

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REGISTERED ARCHITECT 7864 STATE OF WASHINGTON

KONERU RESIDENCE

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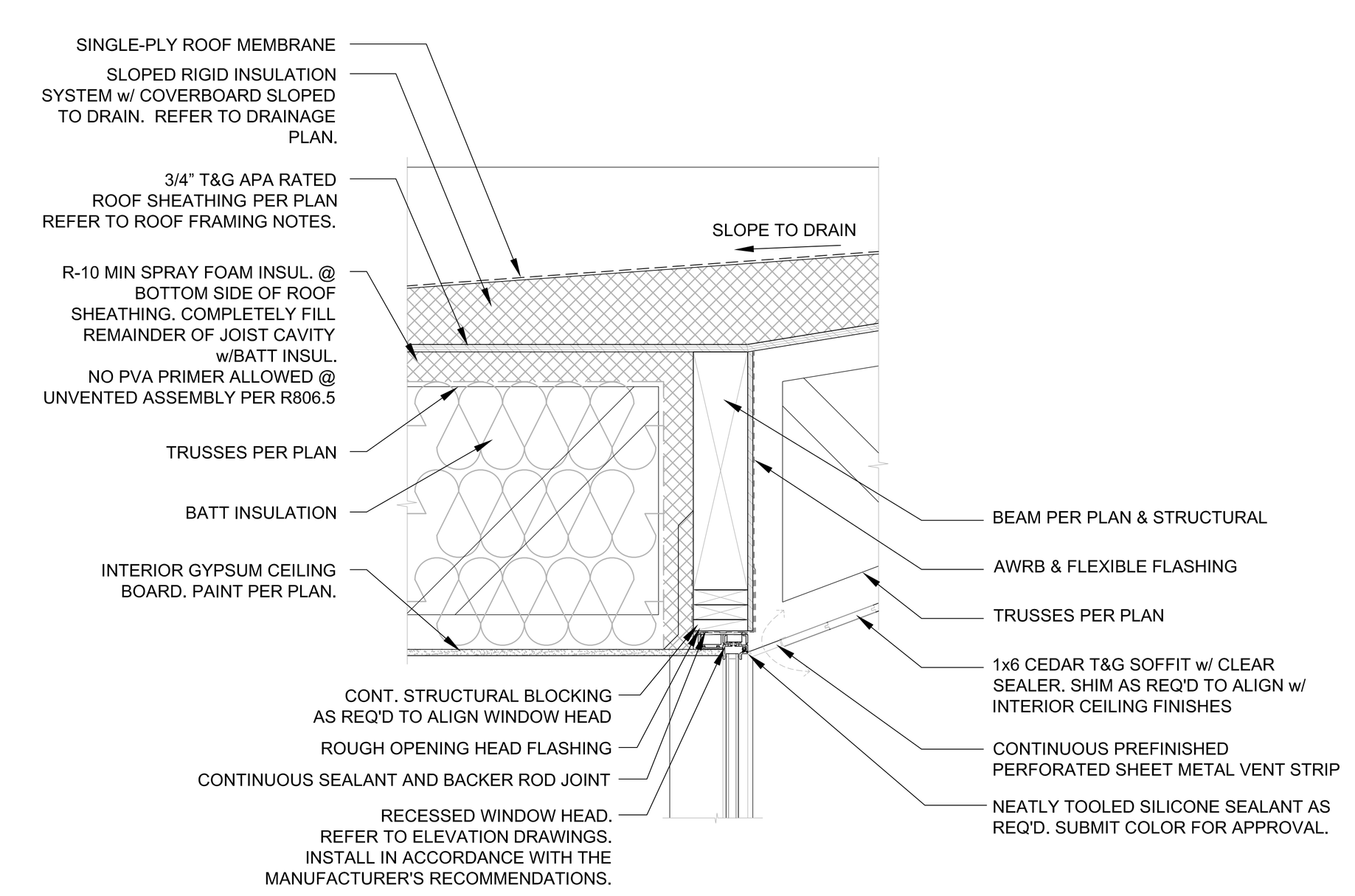
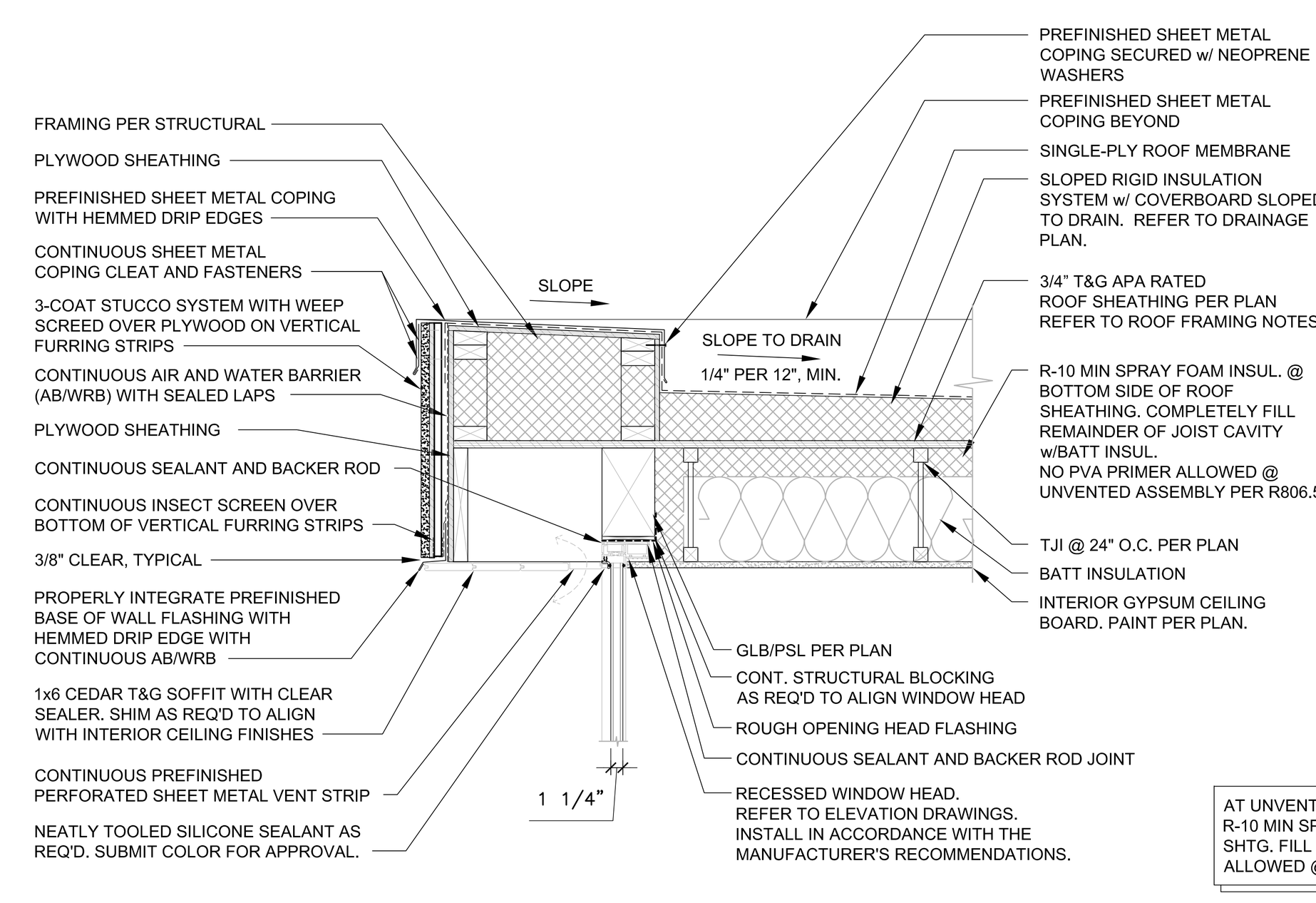
Building Sections

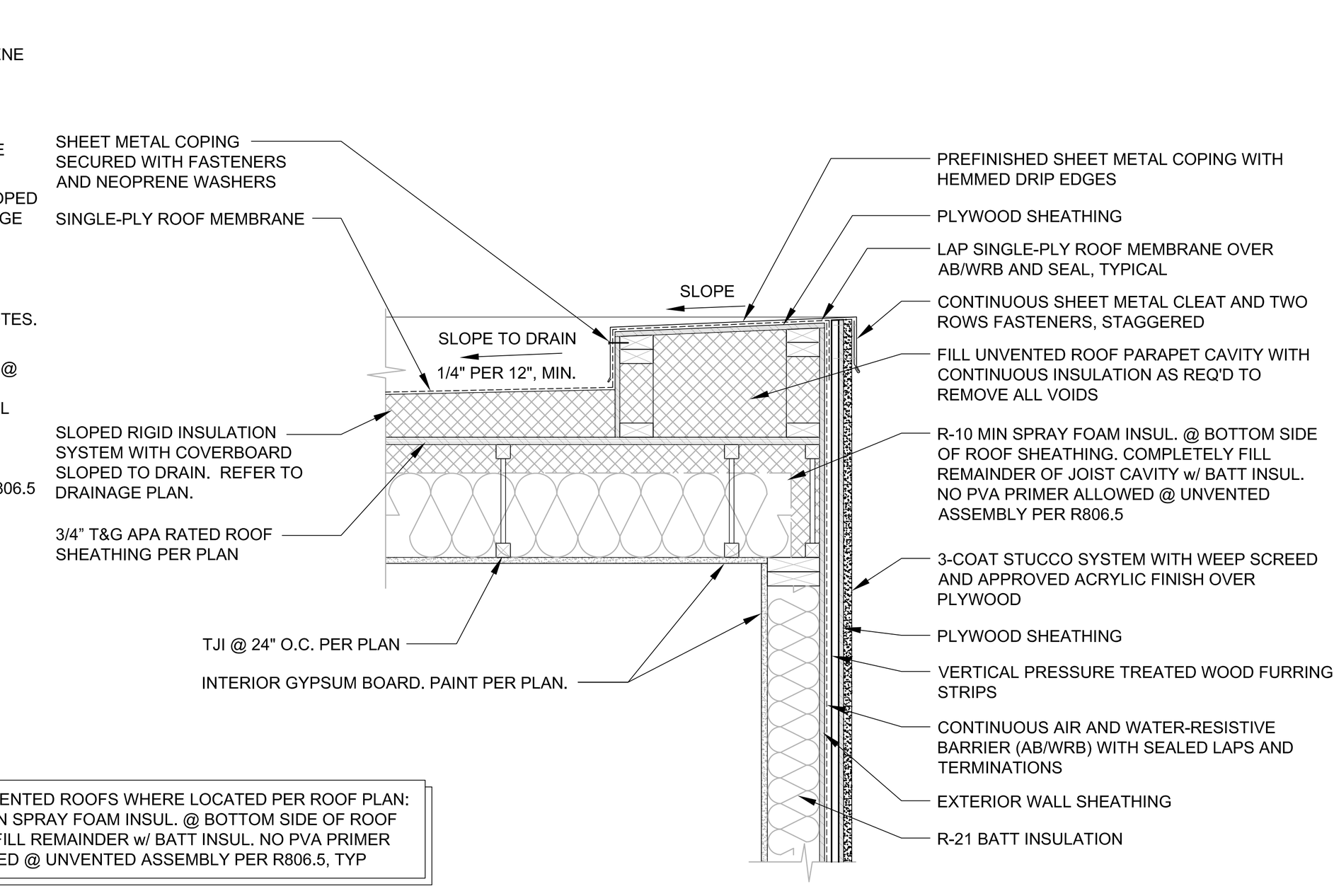
A13



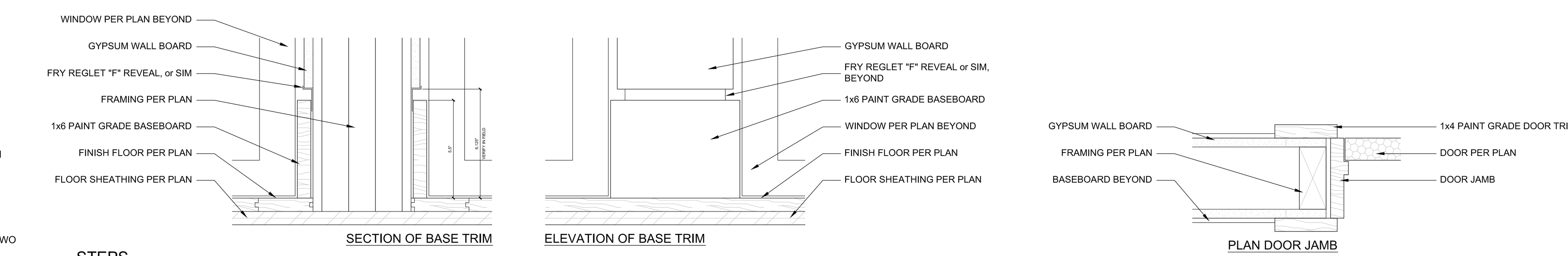
RECESSED WINDOW HEAD AT ENTRY PORTAL (20)
SCALE: 3/4" = 1'-0"



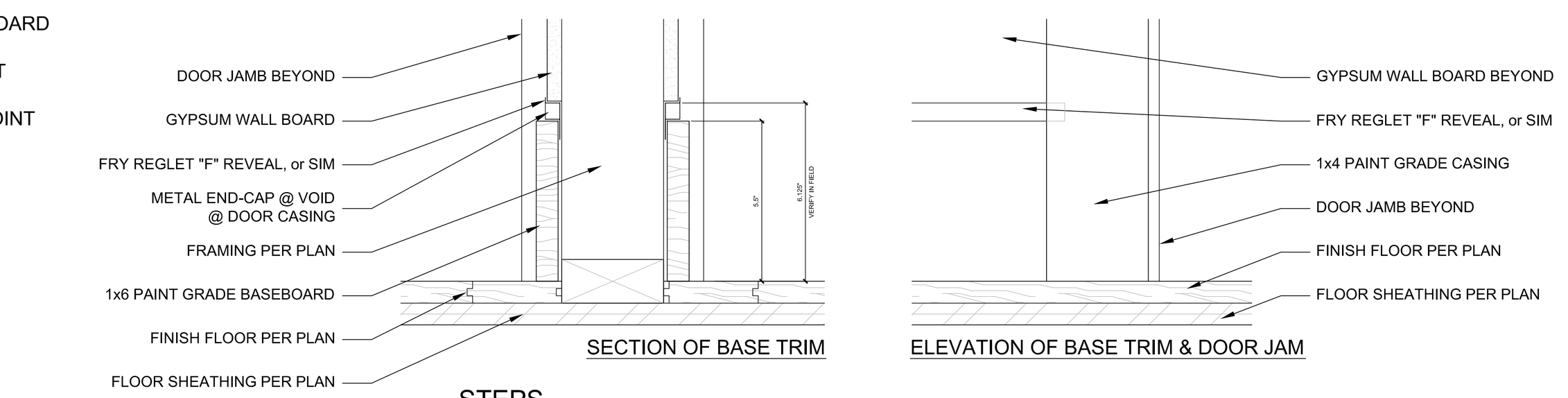
TYPICAL - ROOF EAVE @ UNVENTED PARAPET (19)
SCALE: 3/4" = 1'-0"



TYPICAL - ROOF @ UNVENTED PARAPET (18)
SCALE: 3/4" = 1'-0"



STEPS
1. SET GYPSUM WALL BOARD APPROXIMATELY 6.125" ABOVE FINISH FLOOR. VERIFY BASEBOARD & FRY REGLET HEIGHTS PRIOR TO INSTALL PER CONFIRMATION OF 6.125" HEIGHT.
2. SET FRY REGLET "F" REVEAL (or SIM) @ BOTTOM OF GWB & ATTACH TO FRAMING. DRY-FIT PRIOR TO INSTALL TO CONFIRM TOP FLUSH MOUNT TO BASEBOARD.
3. SET 1x6 BASEBOARD DIRECTLY TO FRAMING. ABUT ADJACENT WINDOW FRAME. MITER JOINT @ ADJACENT BASE SURROUND @ WINDOW BASE CORNERS.

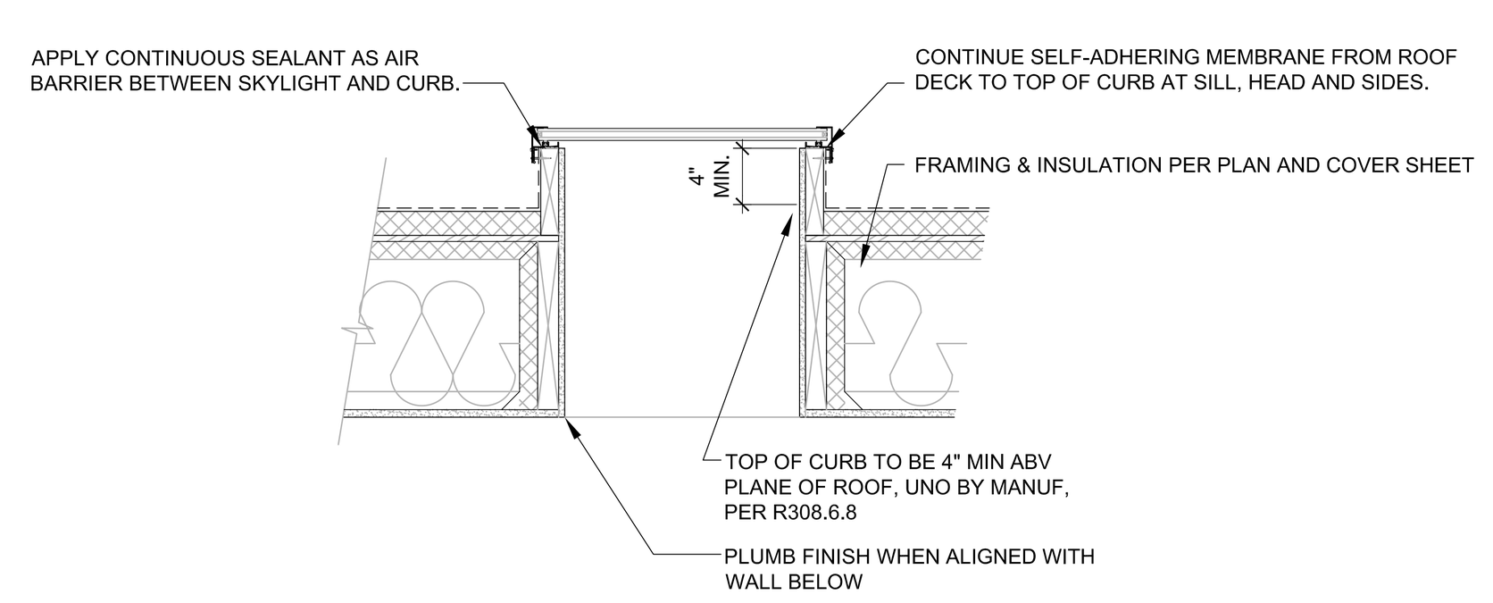


STEPS
1. SET GYPSUM WALL BOARD APPROXIMATELY 6.125" ABOVE FINISH FLOOR. VERIFY BASEBOARD & FRY REGLET HEIGHTS PRIOR TO INSTALL PER CONFIRMATION OF 6.125" HEIGHT.
2. SET FRY REGLET "F" REVEAL (or SIM) @ BOTTOM OF GWB & ATTACH TO FRAMING. DRY-FIT PRIOR TO INSTALL TO CONFIRM TOP FLUSH MOUNT TO BASEBOARD.
3. SET 1x4 DOOR CASING.
4. SET 1x6 BASEBOARD DIRECTLY TO FRAMING. ABUT ADJACENT DOOR TRIM WHERE APPLICABLE.

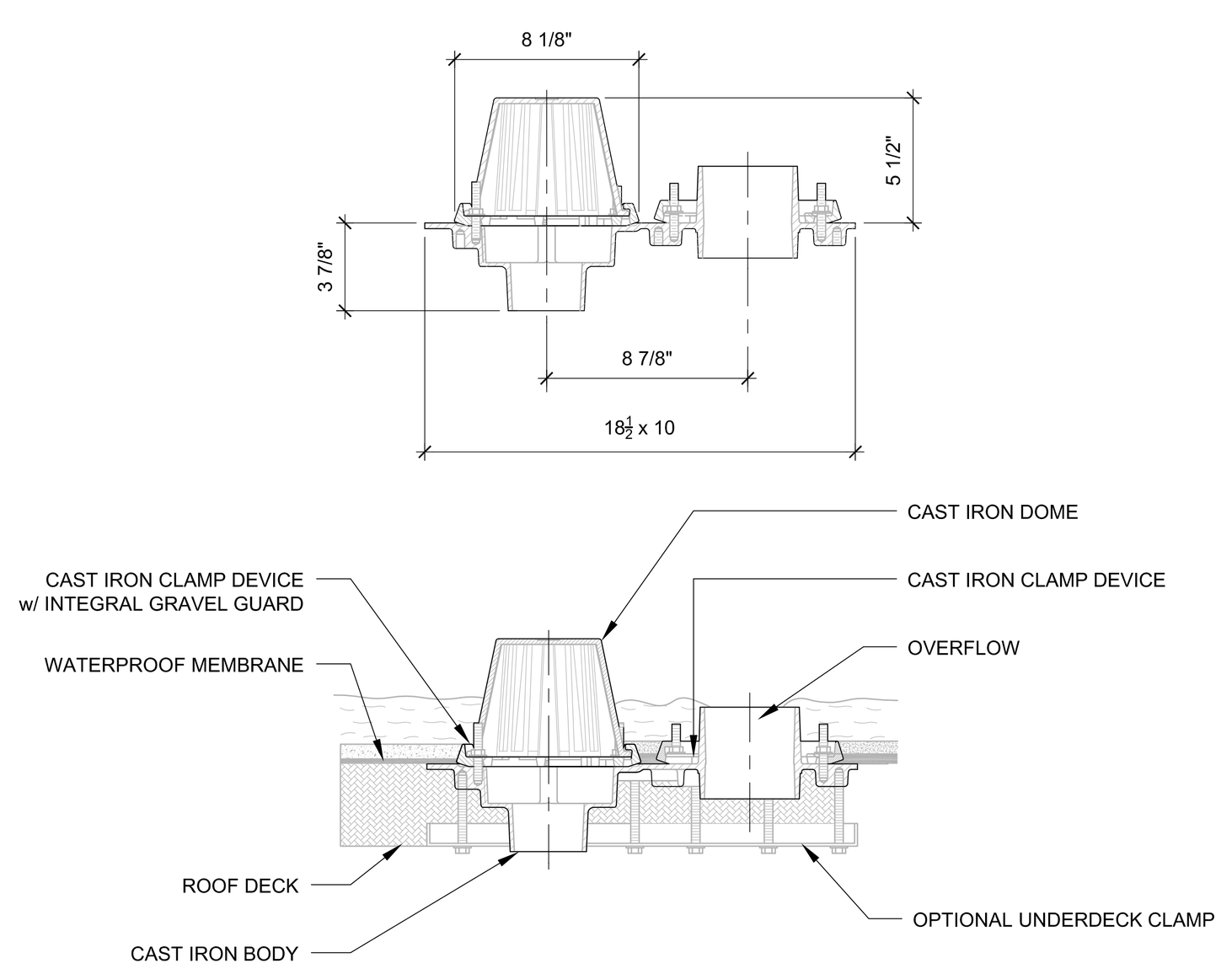
BASEBOARD & DOOR JAMB INTERSECTION DETAIL (16)
SCALE: 3/4" = 1'-0"

ALL SKYLIGHTS TO PROVIDE LAMINATED GLASS WITH NOT LESS THAN 0.030" (0.76MM) POLYVINYL BUTYRAL INTERLAYER PER R308.6.2, TYP.

SKYLIGHT U-FACTOR 0.46 MIN. AND MAX. AIR INFILTRATION RATE OF 0.3 C.F.M. PER S.F.

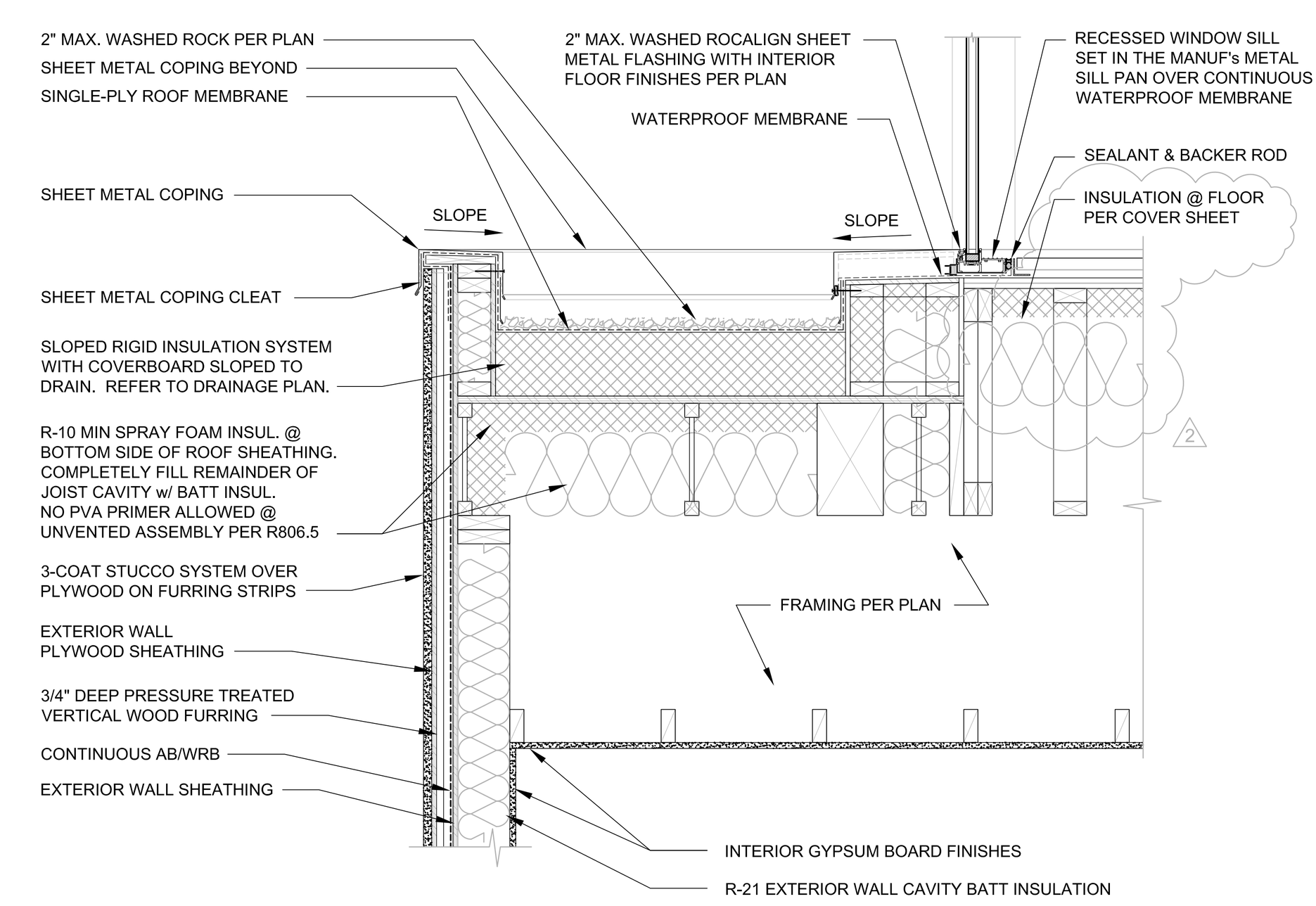


TYPICAL SKYLIGHT INSTALLATION (15)
SCALE: 3/4" = 1'-0"

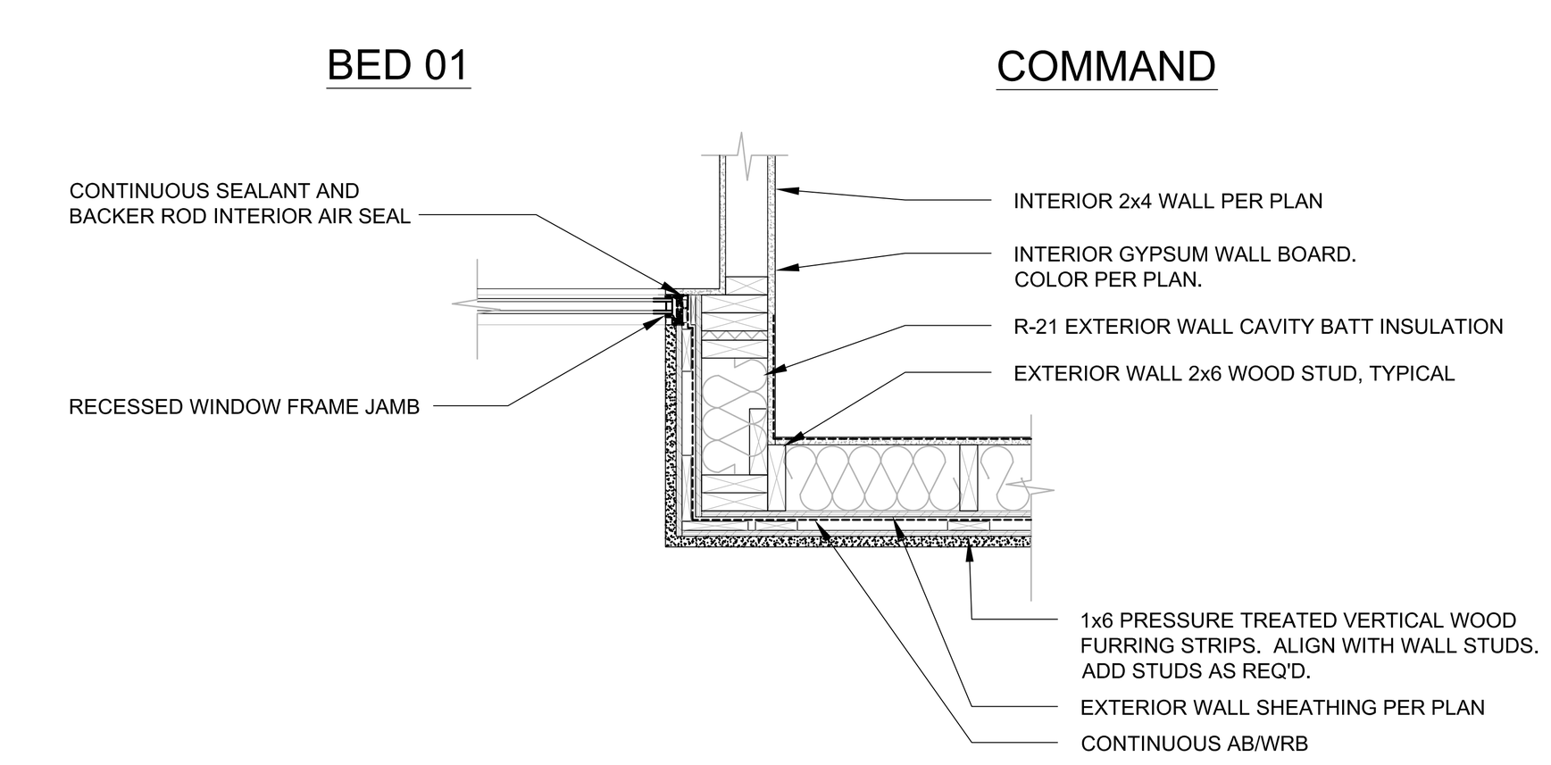


ROOF DRAIN & OVERFLOW @ DECK (14)
SCALE: 3/4" = 1'-0"

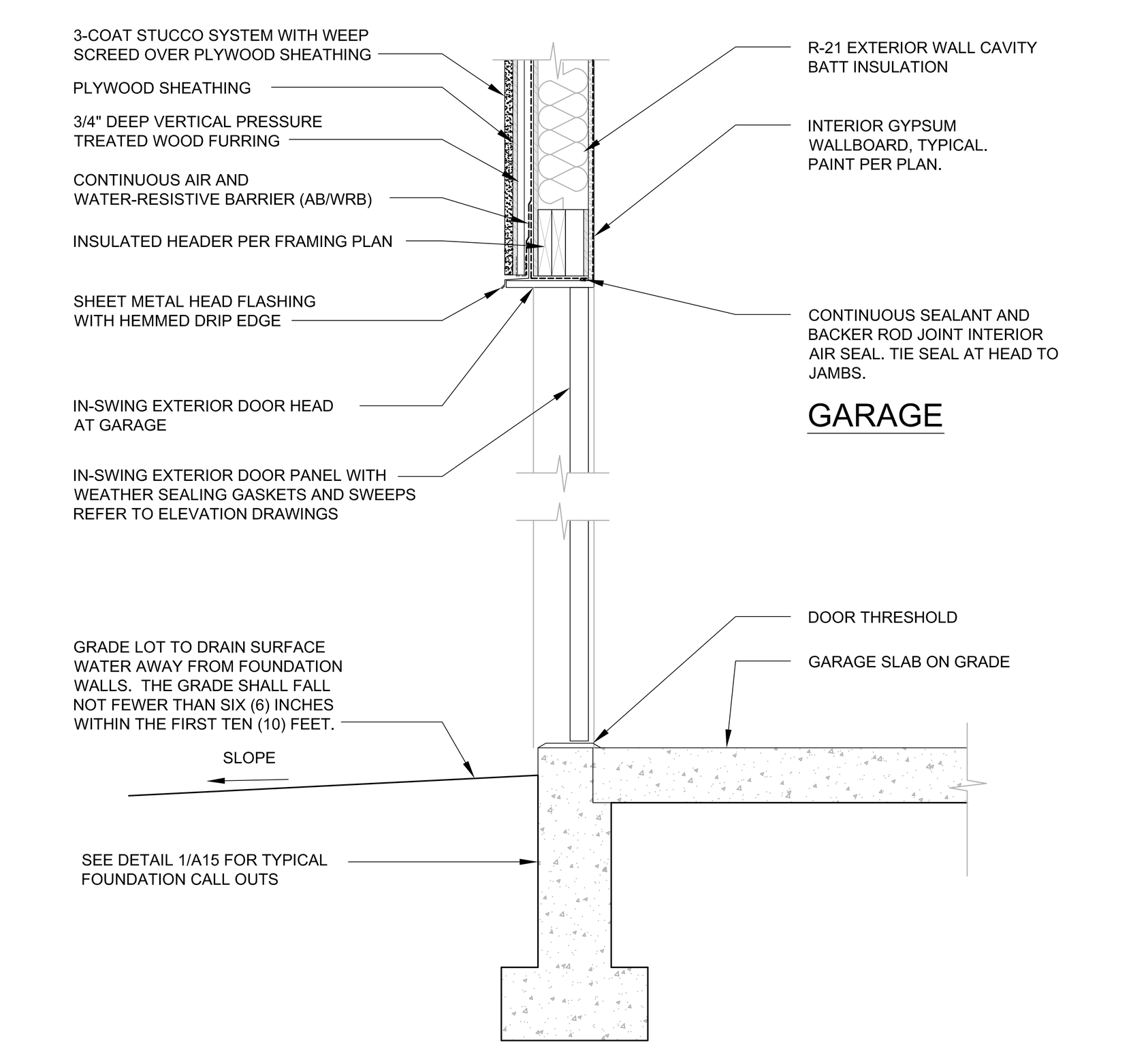
TYPICAL - ROOF @ UNVENTED PARAPET



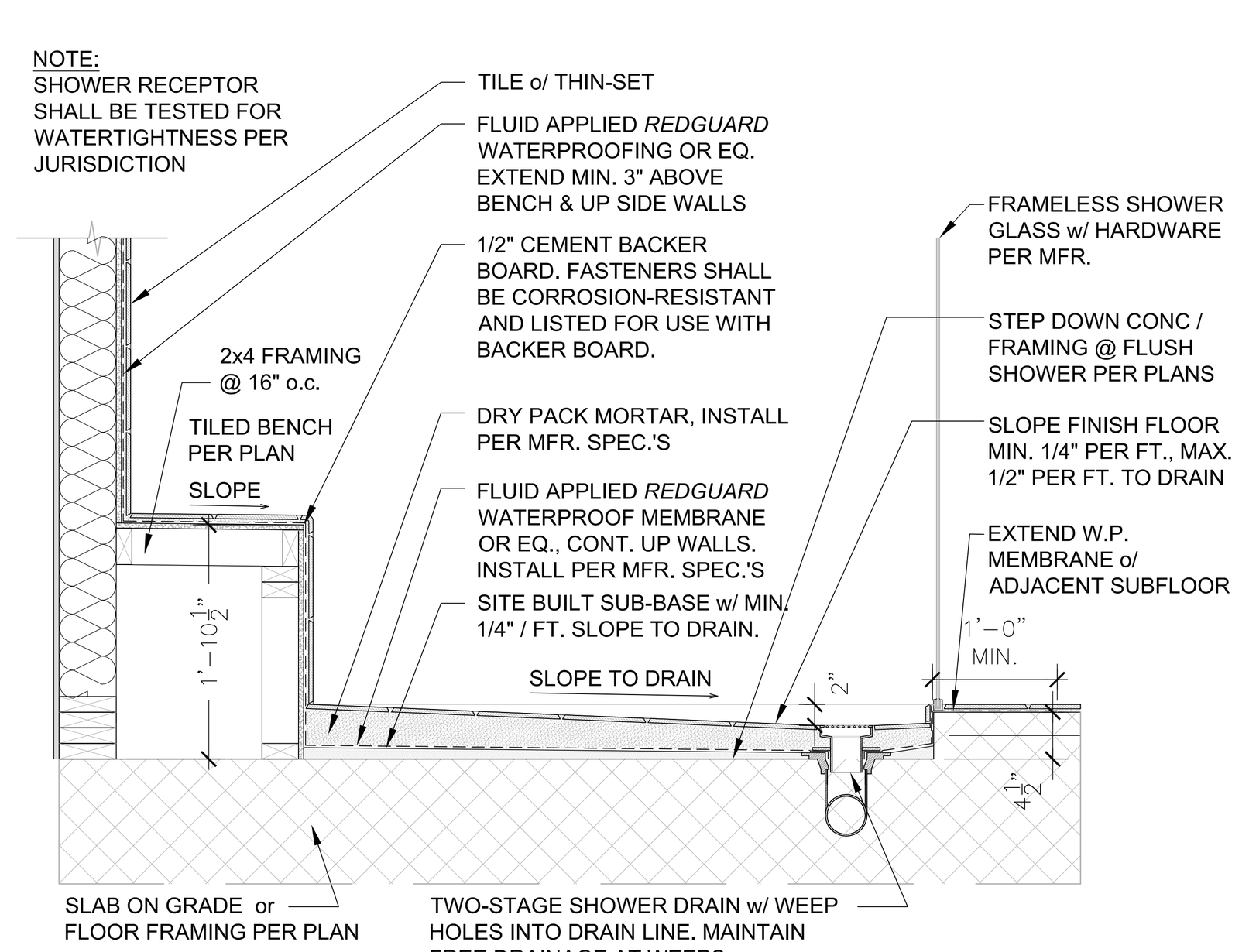
LOW ROOF AT RECESSED WINDOW SILL (13)
SCALE: 3/4" = 1'-0"



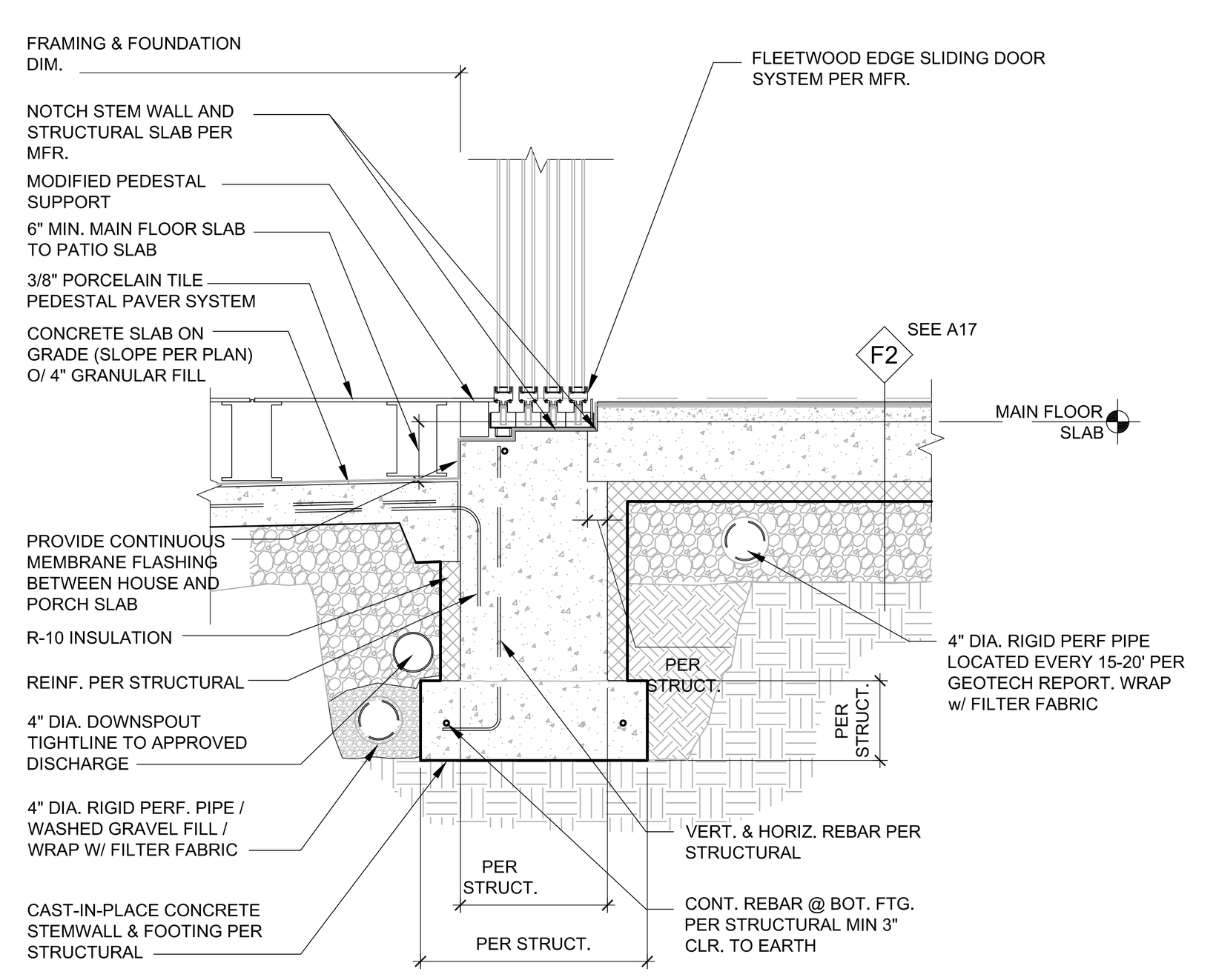
TYPICAL - RECESSED WINDOW JAMB (12)
SCALE: 3/4" = 1'-0"



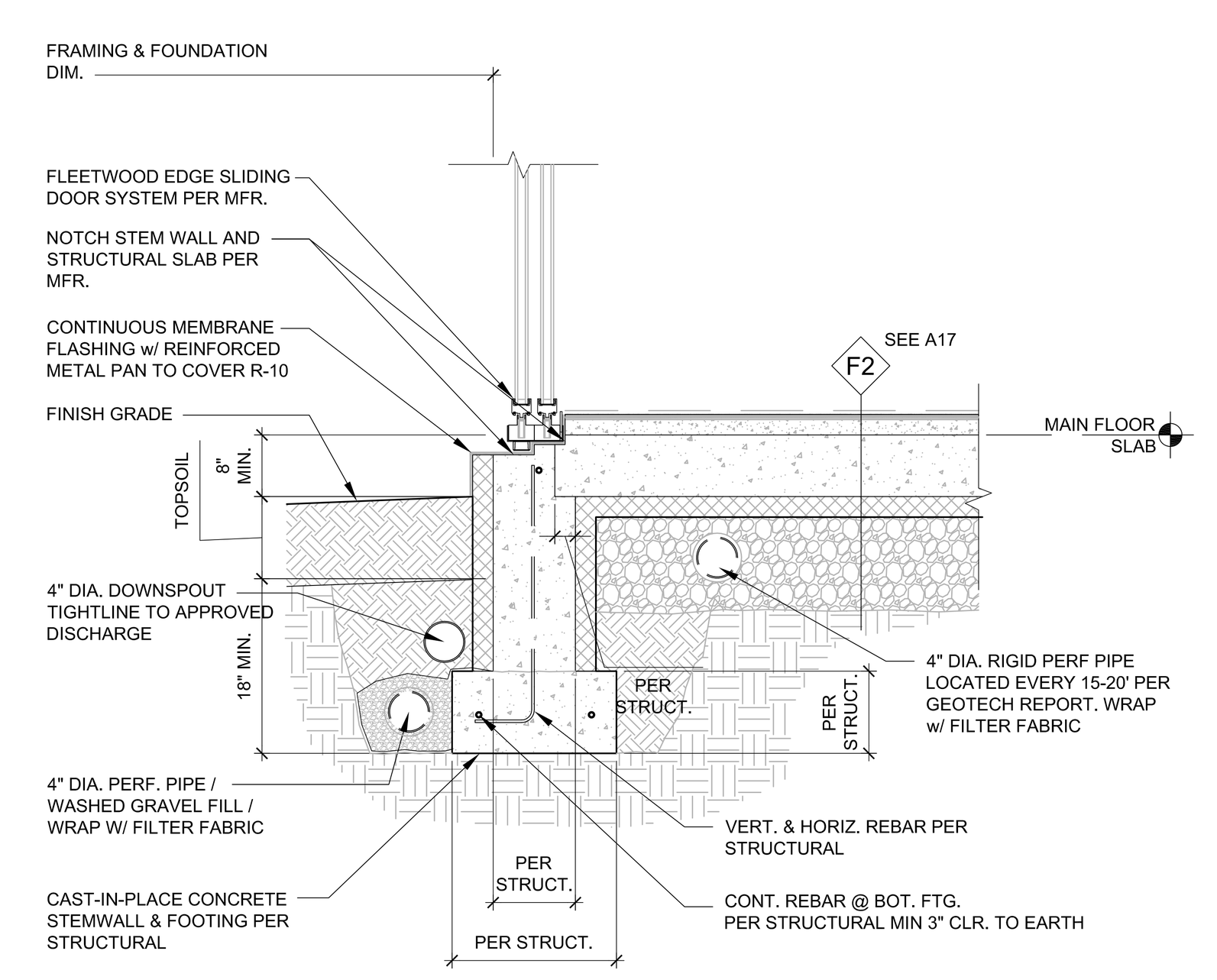
TYPICAL - EXTERIOR SWING DOOR (11)
SCALE: 3/4" = 1'-0"



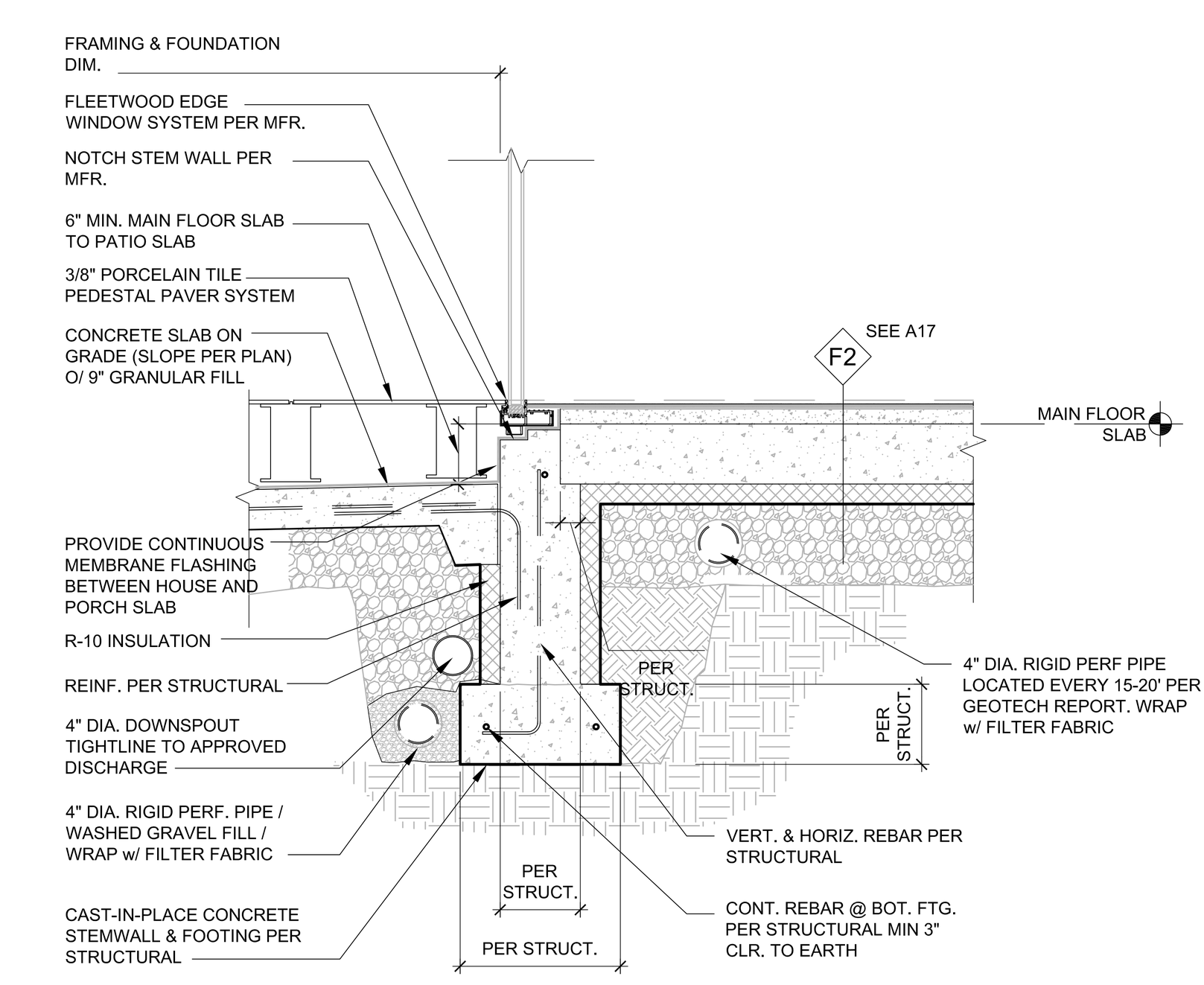
RECESSED MUD SET SHOWER (10)
SCALE: 3/4" = 1'-0"



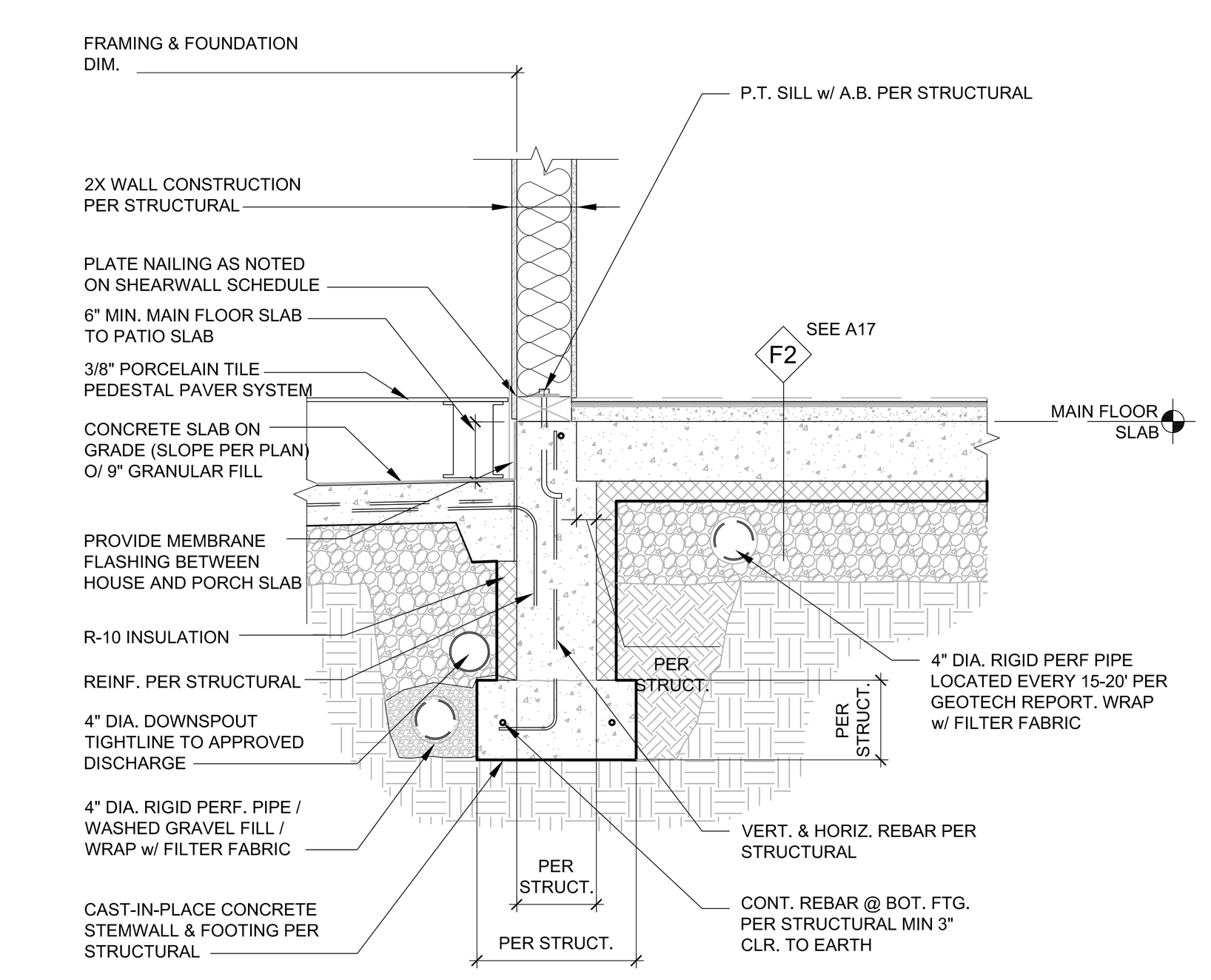
PORCH SLAB @ SLIDING DOOR SILL (9)
SCALE: 3/4" = 1'-0"



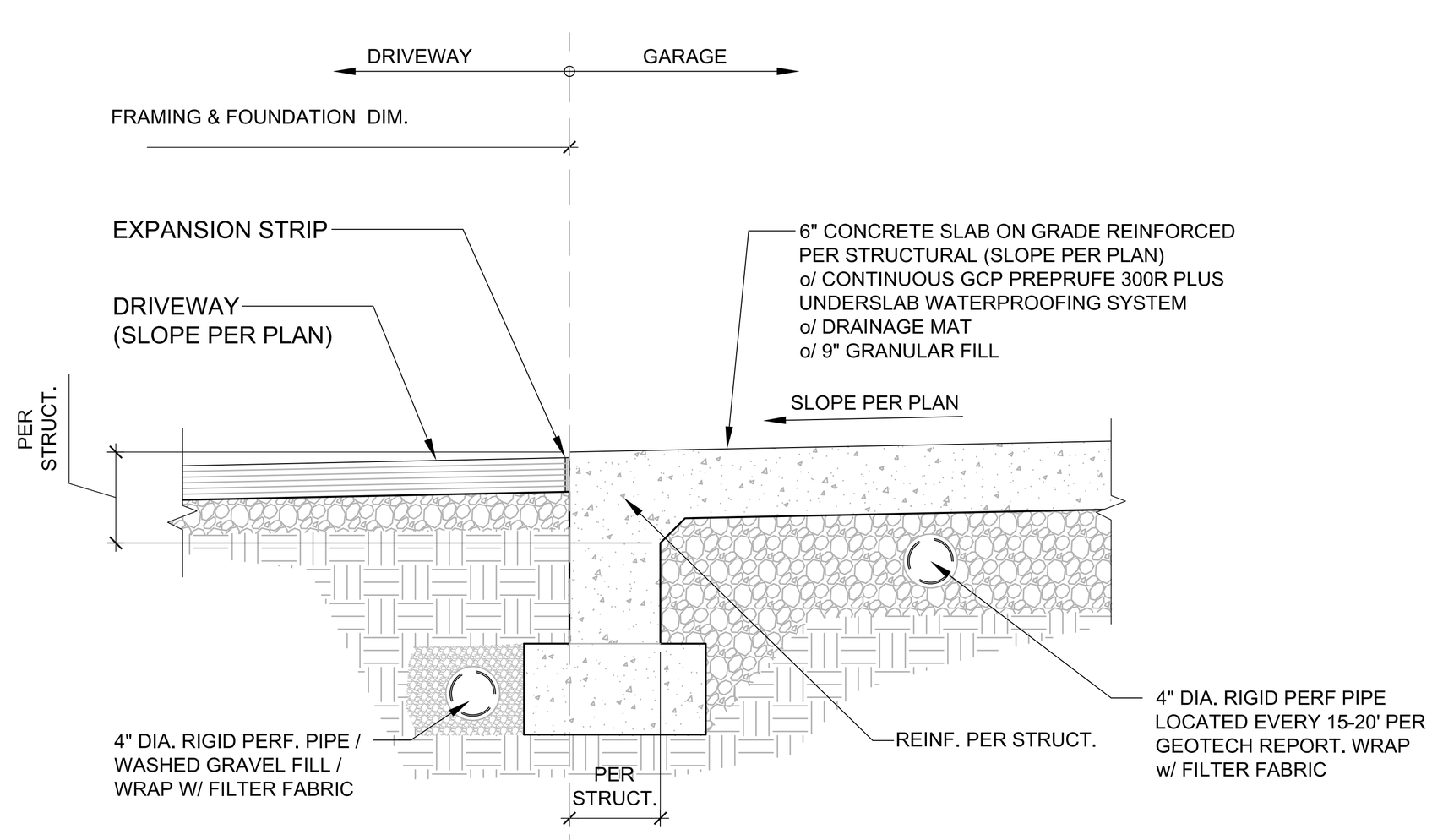
SLIDING DOOR SILL @ HOUSE PERIMETER (8)
SCALE: 3/4" = 1'-0"



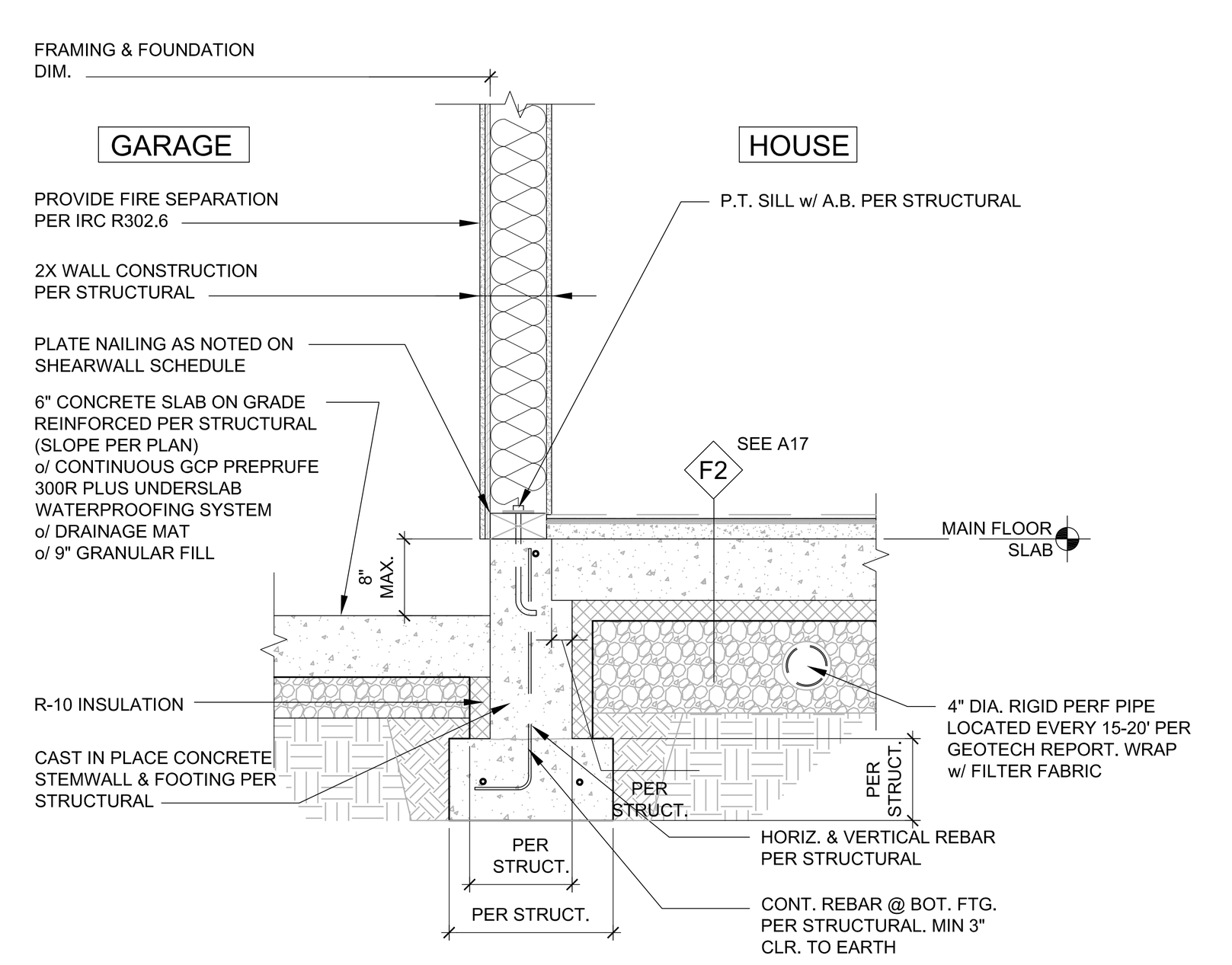
PORCH SLAB @ WINDOW (7)
SCALE: 3/4" = 1'-0"



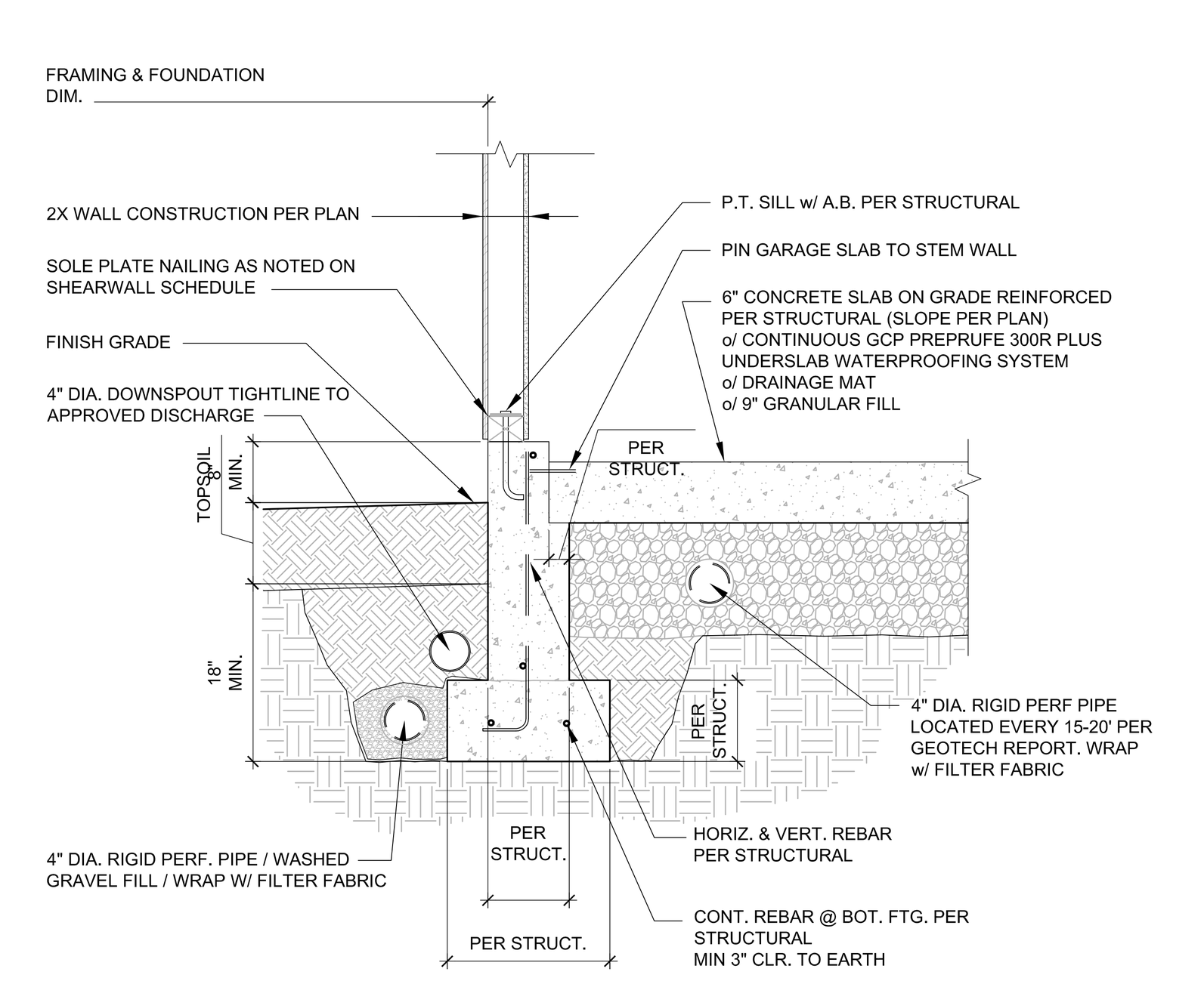
PORCH SLAB @ HOUSE PERIMETER (6)
SCALE: 3/4" = 1'-0"



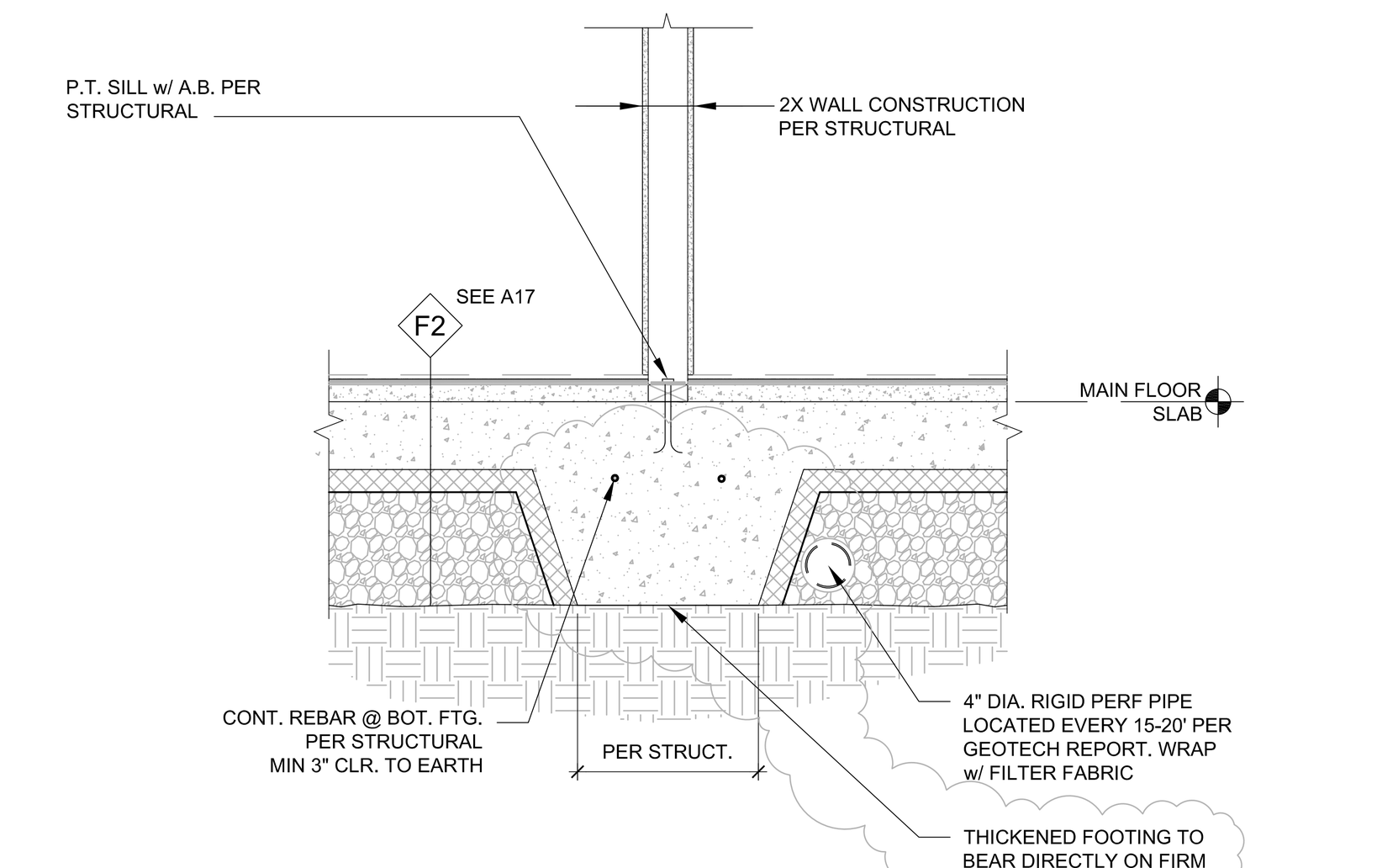
FOUNDATION @ GARAGE DOOR (5)
SCALE: 3/4" = 1'-0"



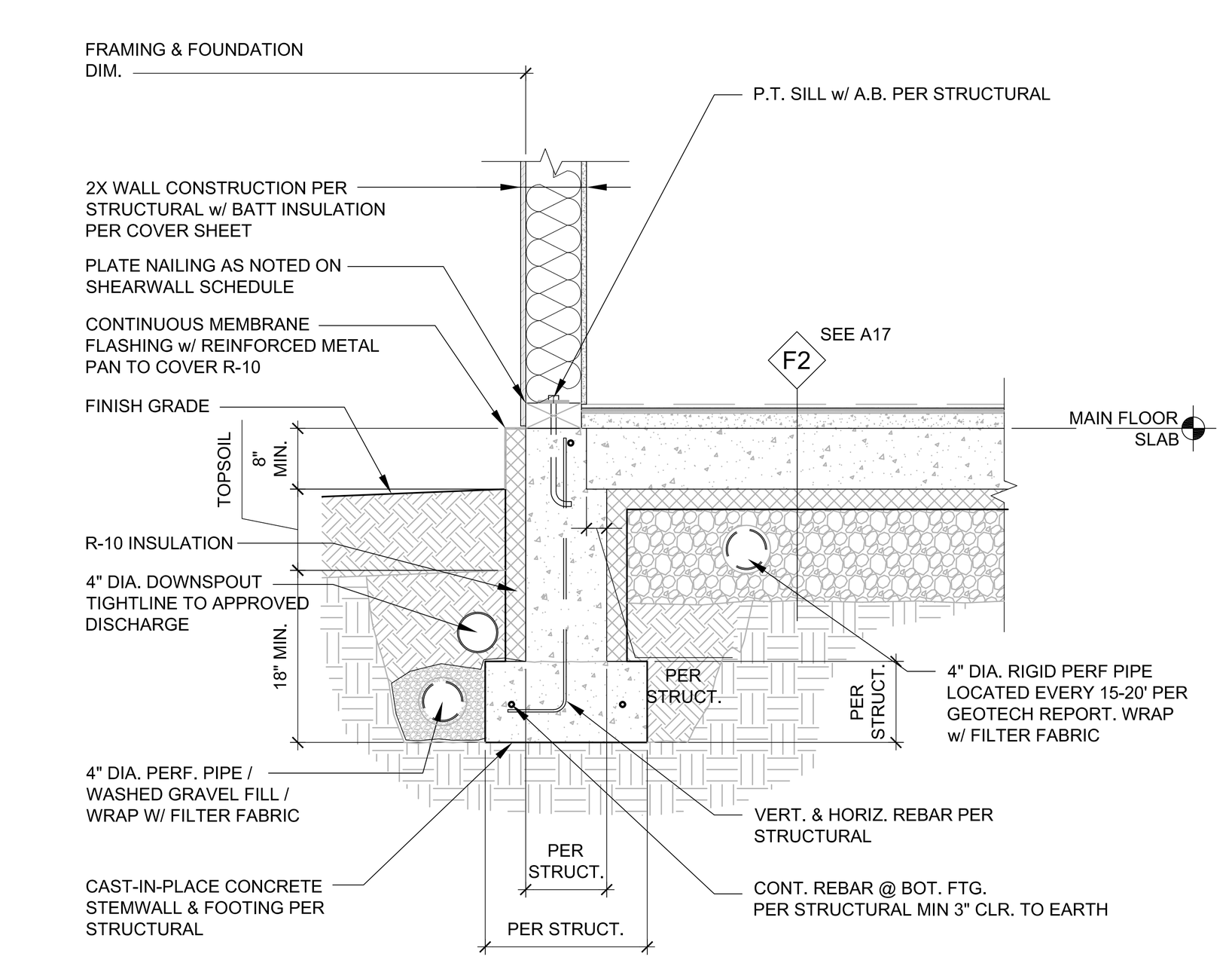
FOUNDATION @ GARAGE-HOUSE (4)
SCALE: 3/4" = 1'-0"



FOUNDATION @ GARAGE PERIMETER (3)
SCALE: 3/4" = 1'-0"



INTERIOR THICKENED SLAB (2)
SCALE: 3/4" = 1'-0"



FOUNDATION @ HOUSE PERIMETER (1)
SCALE: 3/4" = 1'-0"

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REGISTERED ARCHITECT
STATE OF WASHINGTON

KONERU RESIDENCE
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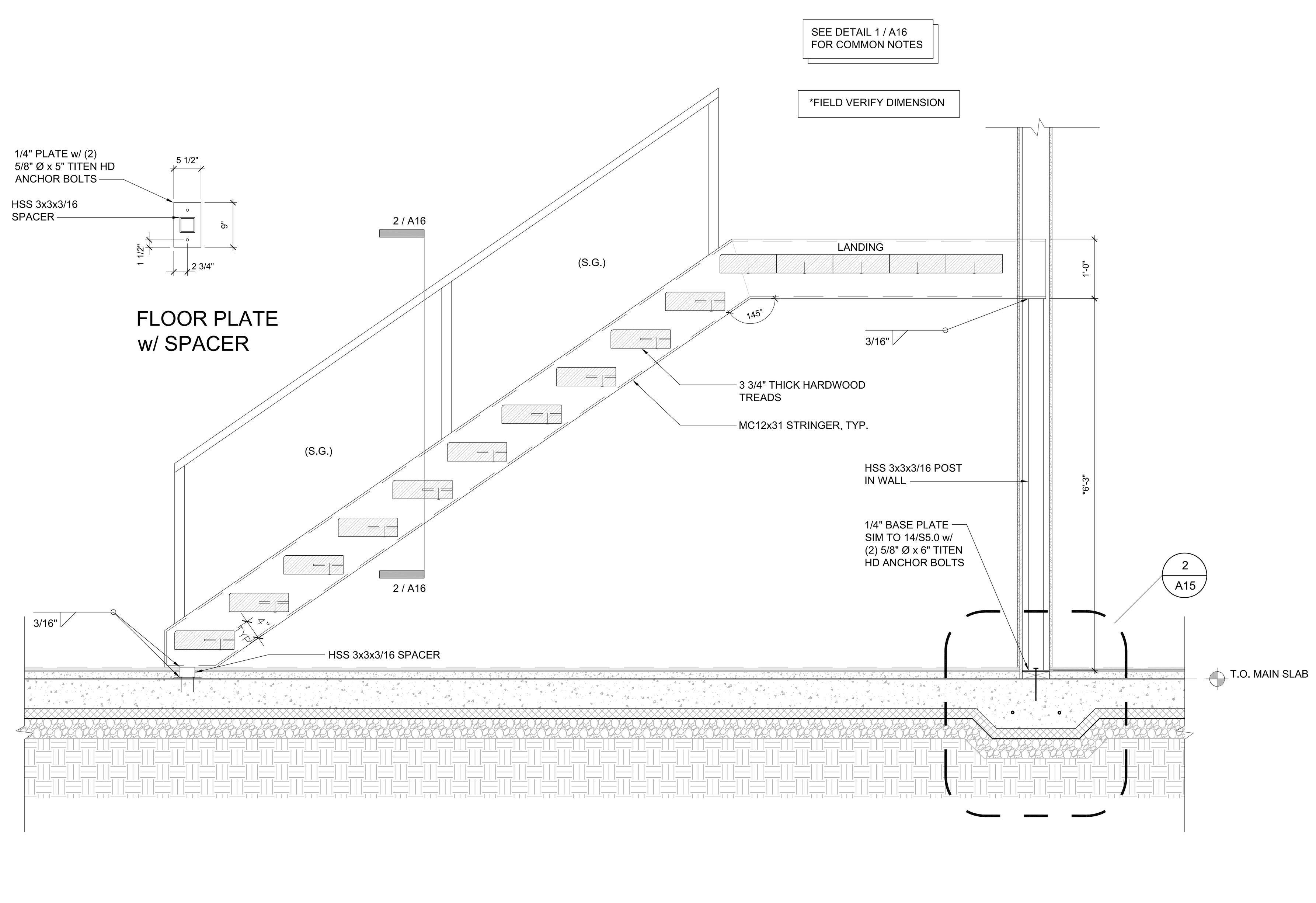
Mercer Island, WA 98040

PERMIT SET

Architectural Details

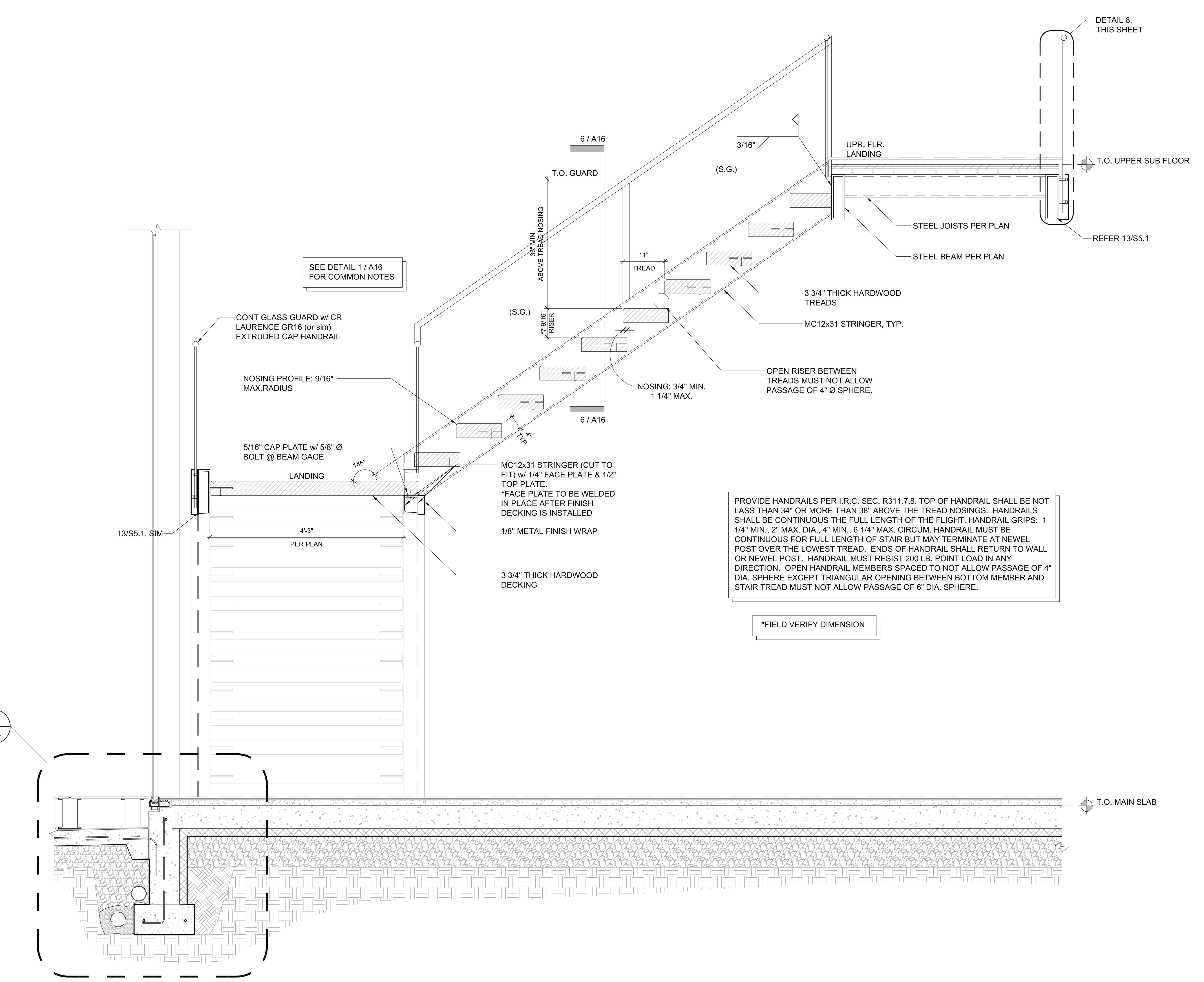
A15



OPEN RISER STAIR - LOWER SECTION

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

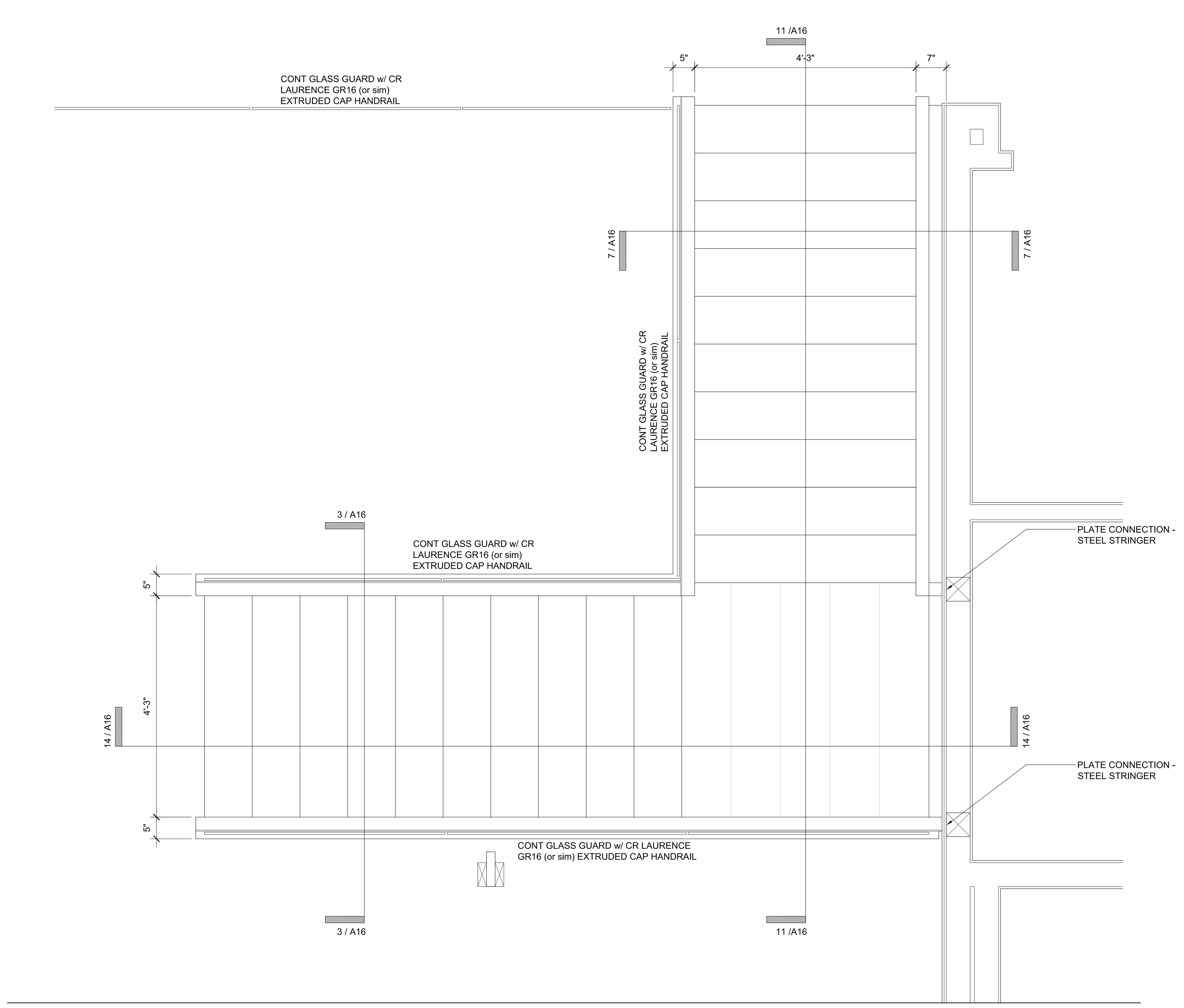
14



OPEN RISER STAIR - UPPER SECTION

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

11

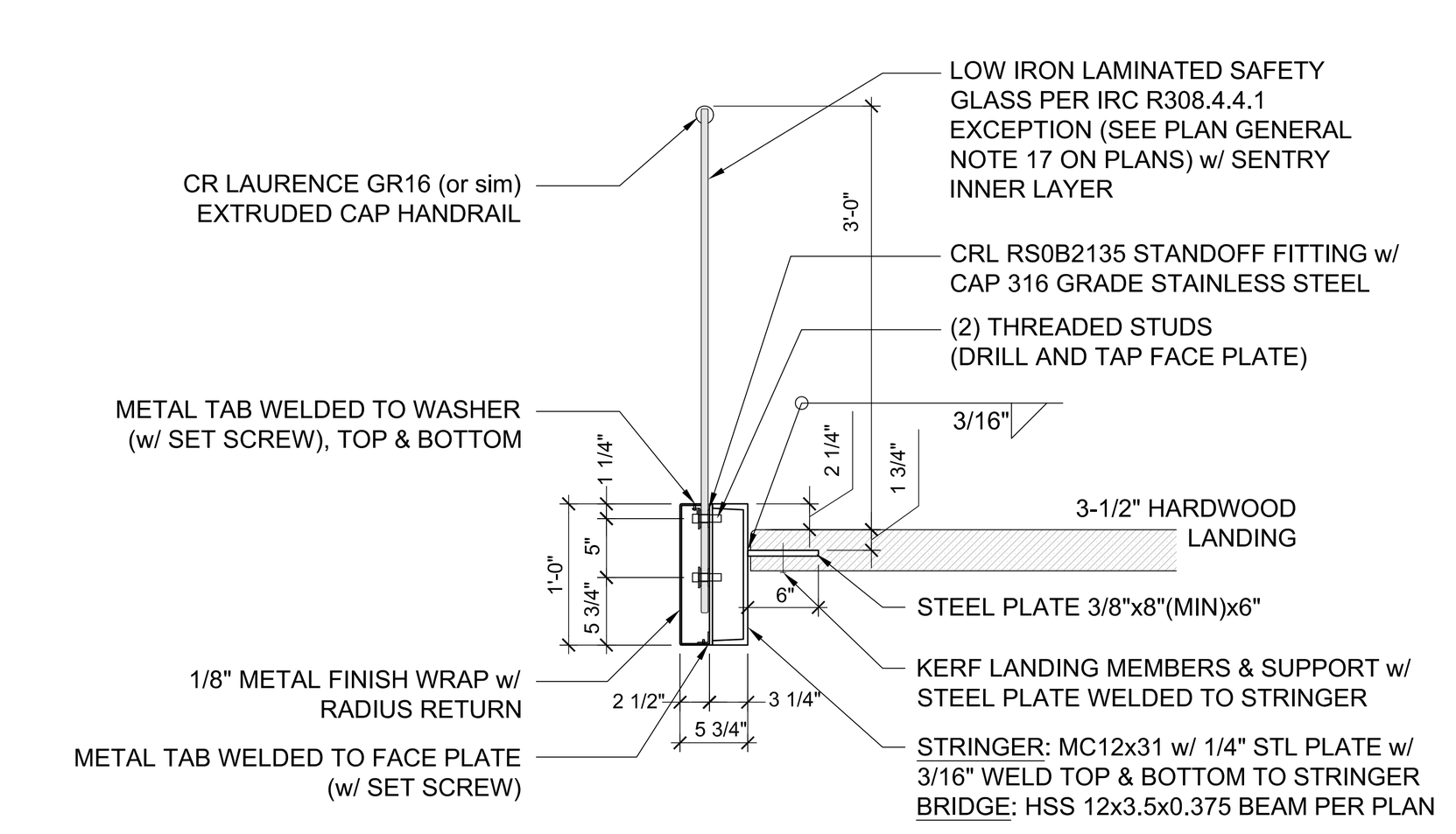


FOUNDATION @ GARAGE DOOR

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

STAIR PLAN

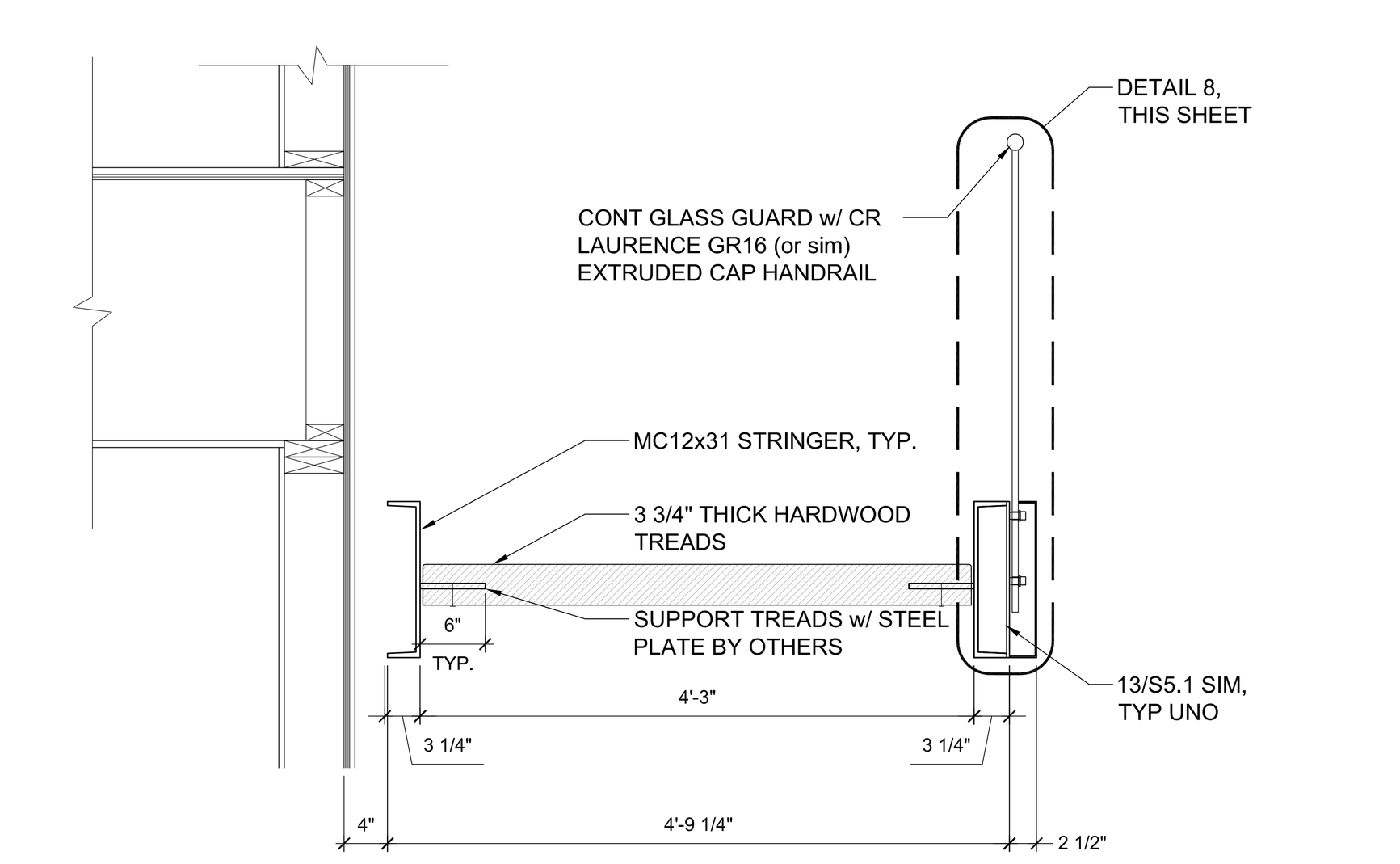
4



STRINGER & BRIDGE GUARDRAIL DETAIL, TYP

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

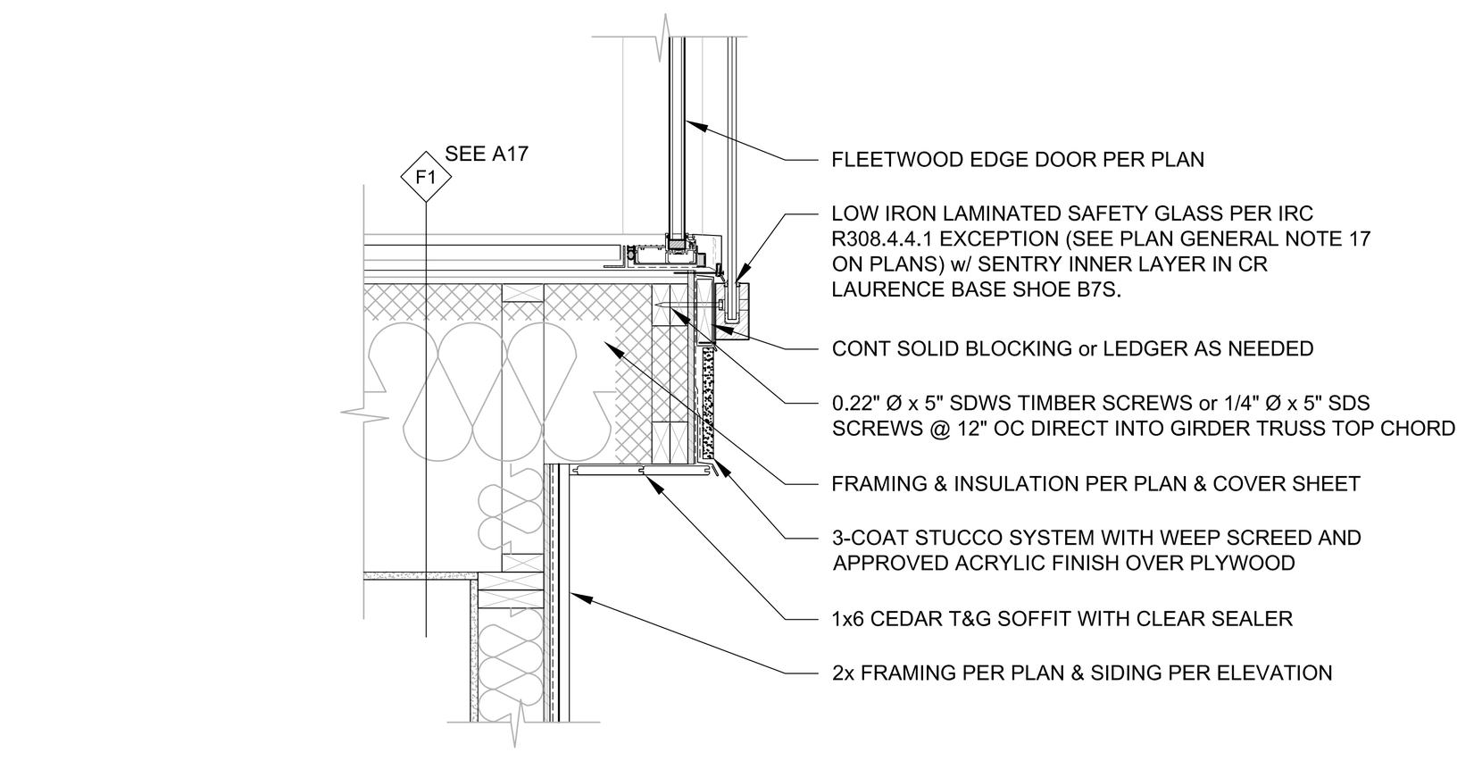
8



UPPER STAIR SECTION

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

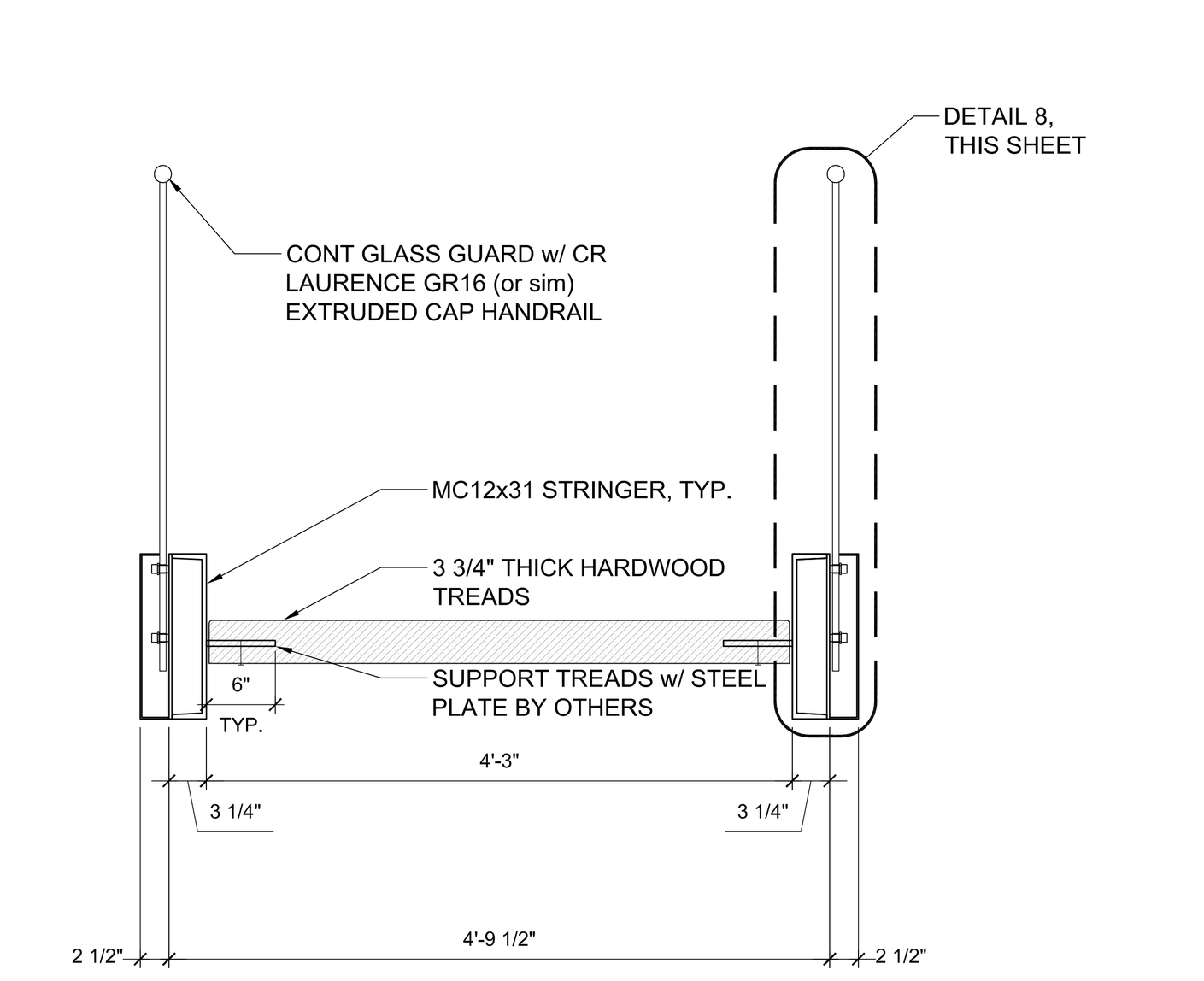
7



GUARDRAIL @ BED 04

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

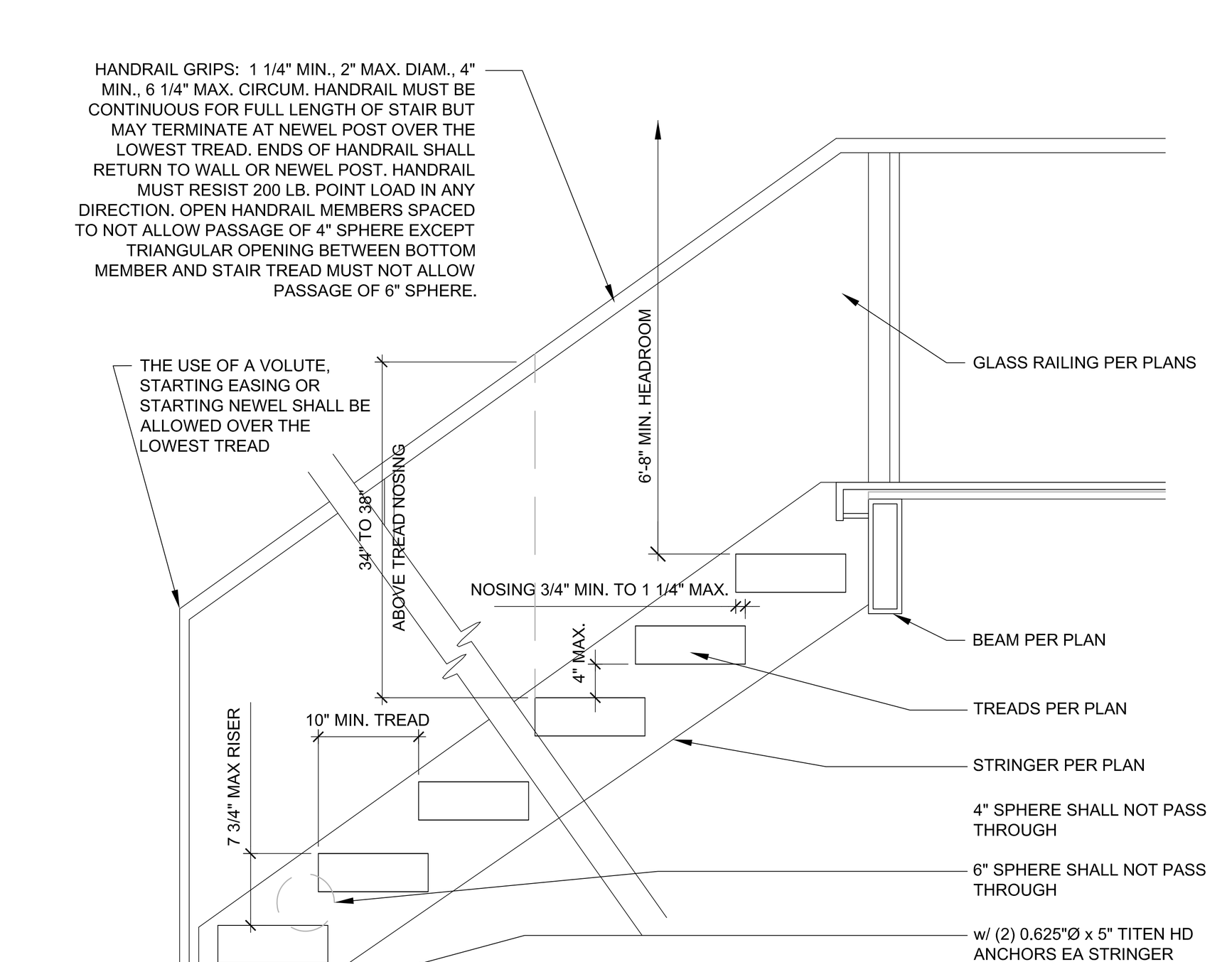
6



LOWER STAIR SECTION

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

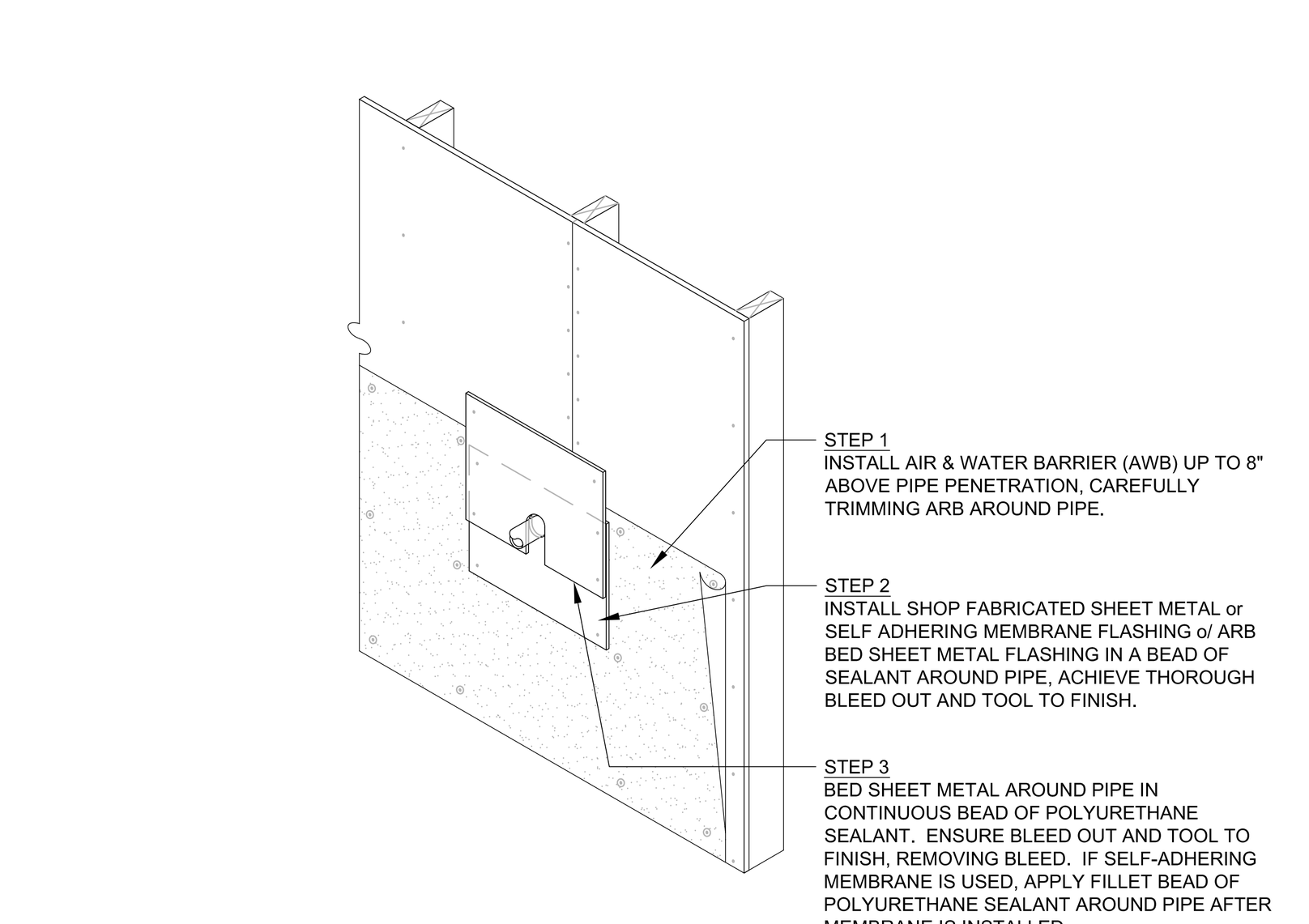
3



TYPICAL OPEN RISER INTERIOR STAIR

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

2



TYPICAL PIPE & OVERFLOW DRAIN OUTLET FLASHING

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

1

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KONERU RESIDENCE

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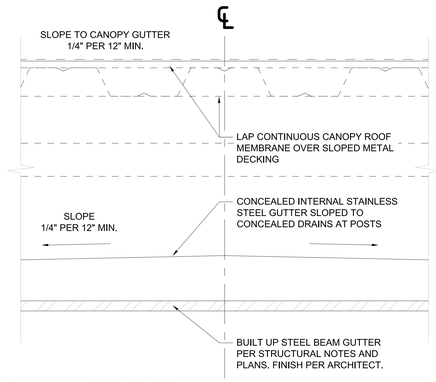
PERMIT SET

Stair Sections & Details

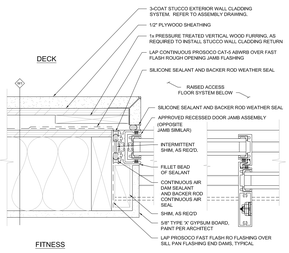
A16



CANOPY GUTTER SECTION

SCALE: 3" = 1'-0"

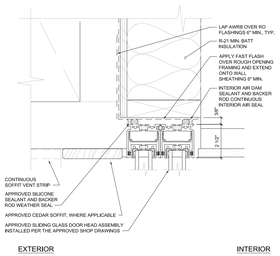
20



RECESSED SLIDING DOOR JAMB - TYP

SCALE: 3" = 1'-0"

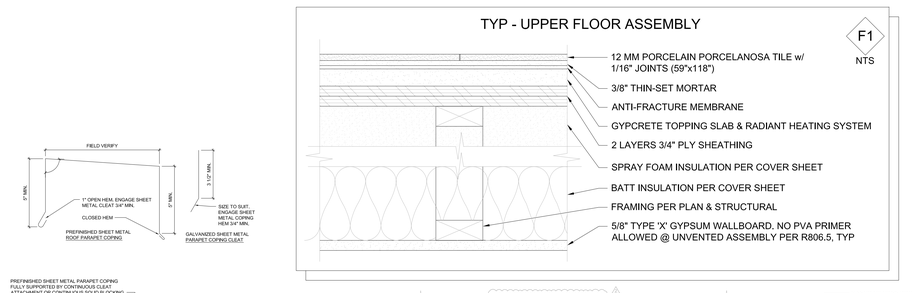
19

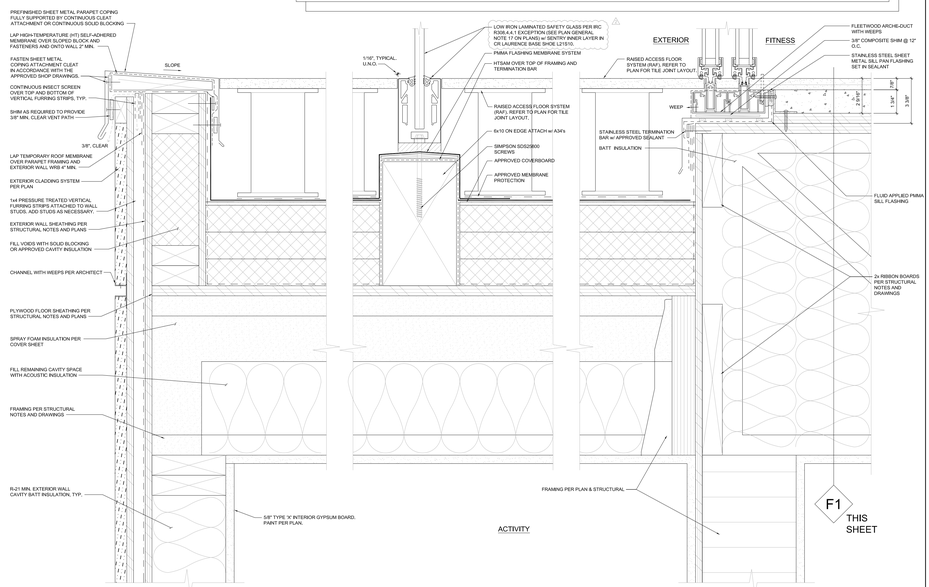


RECESSED SLIDING DOOR HEAD - TYP

SCALE: 3" = 1'-0"

18

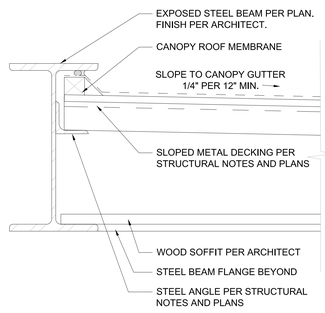


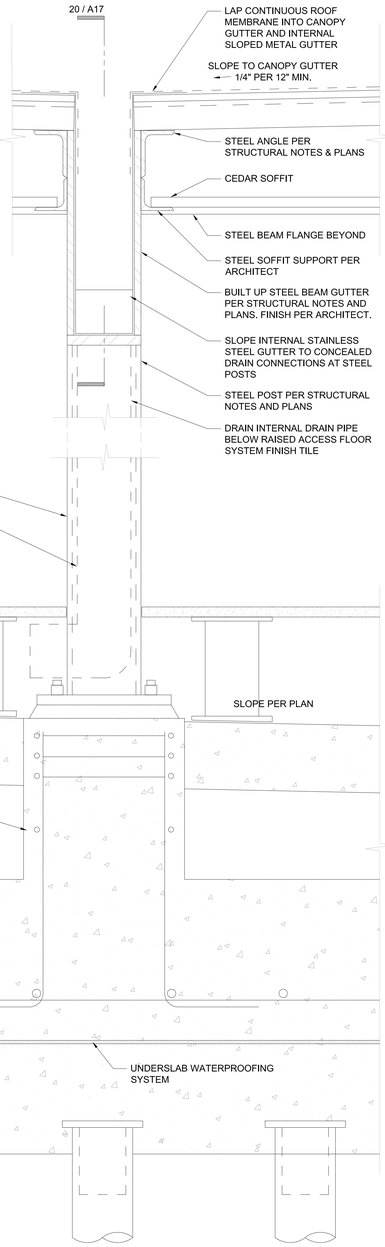


FITNESS PATIO SECTION

SCALE: 3" = 1'-0"

11

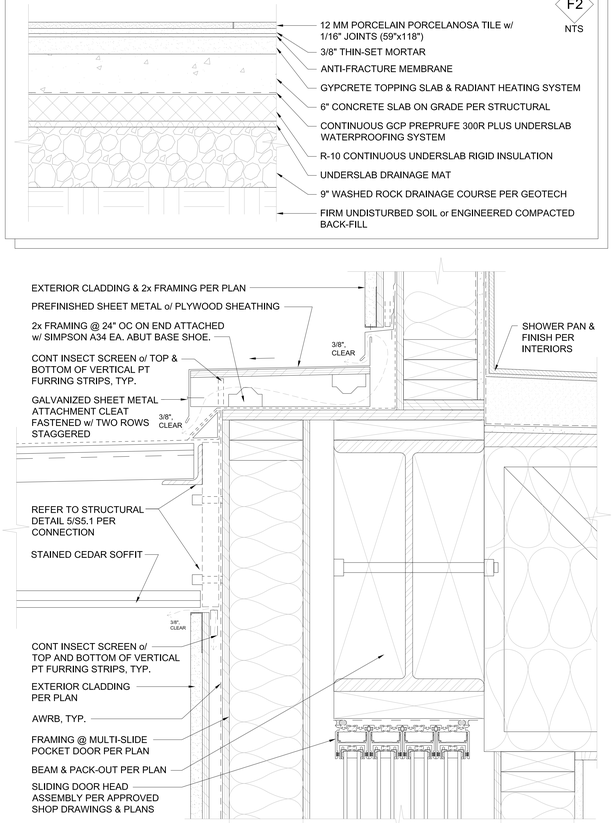




CANOPY COLUMN, EDGE, & GUTTER CROSS SECTION

SCALE: 3" = 1'-0"

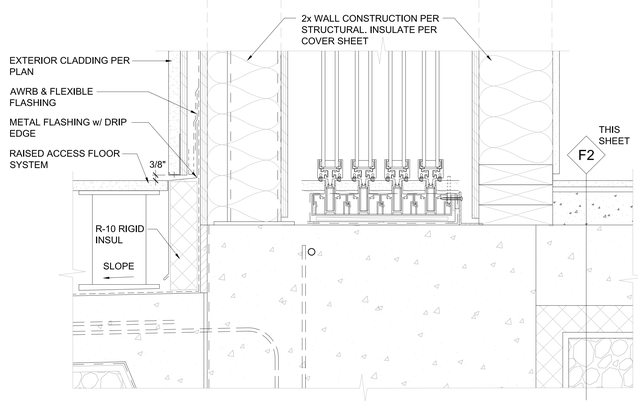
4



CANOPY CONNECTION TO STRUCTURE

SCALE: 3" = 1'-0"

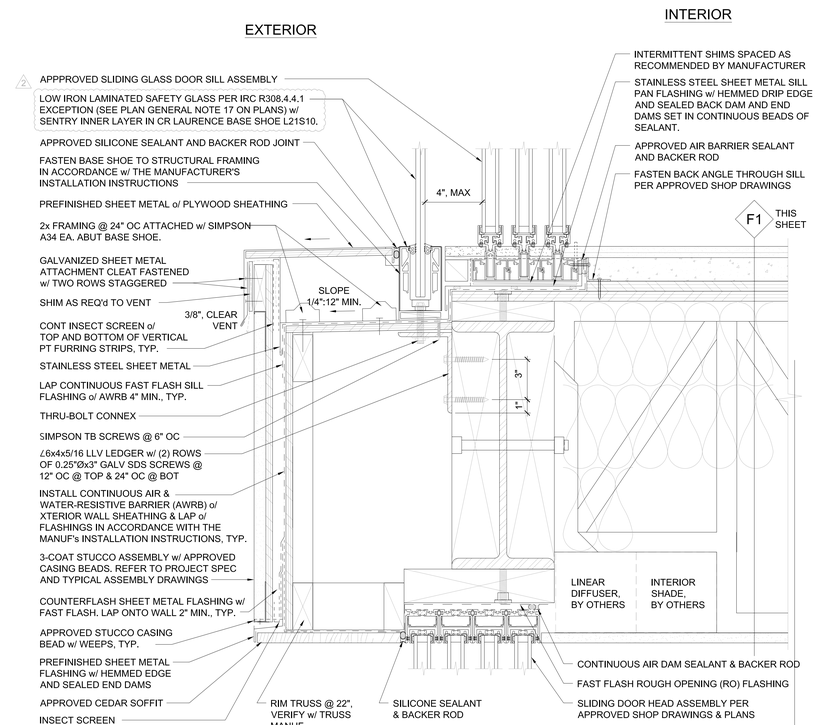
8



FLEETWOOD EDGE MULTI-SLIDE POCKET

SCALE: 3" = 1'-0"

3



GLASS GUARDRAIL @ EERO SLIDING GLASS DOOR, TYP

SCALE: 3" = 1'-0"

1

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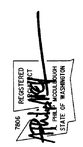
Revisions

Comment	
Updated Plans to Structural	2021.11.17
Structural Backcheck 02	2021.12.13
Structural Backcheck 02	2021.12.15
Structural Backcheck 03	2021.12.22
Permit Corrections	2022.05.02
Structural Backcheck	2022.05.04
Commentary Response	2022.06.12
Cycle 2 Structural Backcheck	**2022.07.13**
Cycle 3 Structural Backcheck	**2022.08.18**

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM



KONERU RESIDENCE
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Mercer Island, WA 98040

PERMIT SET

Architectural Details

A17