CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org

STAFF REPORT

CRITICAL AREA REVIEW 2

Project No.:	CAO24-007
Description:	A request for a Critical Area Review 2 for the remodel and addition of an existing single-family residence on a property containing geologically hazardous areas.
Applicant / Owner:	Brad Sturman (Sturman Architects) / Dan and Linda Rawson
Site Address:	8413 SE 82nd Street, Mercer Island, WA 98040; Identified by King County Assessor tax parcel number 362560-0080.
Zoning District:	Single Family Residential (R-9.6)
Staff Contact:	Molly McGuire, Planner
Exhibits:	1. Development Application, received by the City of Mercer Island on March 13, 2024 2. Revised Development Plan Set, dated December 4, 2024 and received December 5, 2024 3. Project Narrative, received March 13, 2024 4. Criteria Compliance Narrative, received April 29, 2024 5. Concurrent Review Request Form, received March 13, 2024 6. Geotechnical Evaluation prepared by Cobalt Geosciences, dated February 9, 2024 and received March 13, 2024 7. Critical Areas Disclosure and Notice on Title, recorded with the King County Recorder's Office on July 10, 2024 under Recorder's File No. 20240710000547 8. Landscape Plan prepared by Sturman Architects, dated June 25, 2024 9. Hazard Report, generated by the City of Mercer Island on June 11, 2024 10. Letter of Complete Application issued by the City of Mercer Island on May 2, 2024 11. Notice of Application, dated May 13, 2024 12. City of Mercer Island Review Letters 12.1. Review Letter 1, dated June 11, 2024 13. Notice of Decision, dated December 23, 2024

INTRODUCTION

I. Project Description

The applicant has requested approval of a Critical Area Review 2 for the remodel and addition of an existing single-family residence on a property containing geologically hazardous areas..

The proposal consists of the following components:

1. A request to remodel the existing single-family residence and construct an addition subject to the standards of Mercer Island City Code (MICC) 19.07.

II. Site Description and Context

1. The proposed activity is to occur at 8413 SE 82nd Street, Mercer Island, WA 98040. The site is designated Single Family Residential (zoned R-9.6). Adjacent properties are within the R-9.6 and R-15 zones and contain residential uses. The subject site contains potential landslide, erosion, and seismic geologically hazardous areas (**Exhibit 9**).

Findings of Fact & Conclusions of Law

III. Application Procedure

1. The application for a Critical Area Review 2 was received by the City of Mercer Island on March 13, 2024. The application was determined to be incomplete on March 26, 2024 and resubmitted on April 29, 2024. The application was determined to be complete on May 2, 2024 (**Exhibit 10**).
2. Under MICC 19.15.030, Table A, applications for Critical Area Review 2 must undergo Type III review. Type III reviews require notice of application (discussed below). A notice of decision is issued once the project review is complete.
3. The City of Mercer Island provided public notice of application for this Critical Area Review 2, as set forth in MICC 19.15.090 (**Exhibit 11**). The comment period for the public notice period lasted for 30 days, from May 13, 2024 to June 12, 2024. The following methods were used for the public notice of application:
    1) A mailing sent to neighboring property owners within 300 feet of the subject parcel.
    2) A sign posted on the subject parcel.
    3) A posting in the City of Mercer Island's weekly permit bulletin.
4. No public comments were received during the public comment period.

IV. State Environmental Policy Act (SEPA)

The proposal is categorically exempt from SEPA pursuant to WAC 197-11-800(1)(b)(i).

V. Consistency with the Critical Areas Code and Land Development Code

1. MICC 19.07.070 lists requirements for disclosure and notice on title. The applicant shall disclose to the city the presence of critical areas on the development proposal site and any mapped or identifiable critical areas within the distance equal to the largest potential required buffer applicable to the development proposal on the development proposal site.
    a. The owner of any property containing critical areas and/or buffers on which a development proposal is submitted, except a public right-of-way or the site of a permanent public facility, shall file a notice approved by the city with the records and elections division of King County. The notice shall inform the public of the presence of critical areas, buffers and/or mitigation sites on the property, of the application of the city's critical areas code to the property and

that limitations on actions in or affecting such critical areas and/or buffers may exist. The notice shall run with the land in perpetuity.

b. The applicant shall submit proof to the city that the notice has been recorded prior to approval of a development proposal for the property or, in the case of subdivisions, short subdivisions, and binding site plans, at or before recording of the final subdivision, short subdivision, or binding site plan.

Staff Analysis: A Critical Areas Disclosure and Notice on Title was recorded with the King County Recorder's Office (**Exhibit 7**) disclosing the presence of critical areas on the subject property and describing mitigation measures consistent with the critical area study in **Exhibit 6**.

2. MICC 19.07.090 describes the purpose and procedures by which the city will review and authorize development and verify consistency with this chapter.

   a. Critical Area Review 2. The purpose of a critical area review 2 is to review critical area studies and mitigation plans in support of proposed buffer averaging and reduction of wetland and watercourse buffers.

   b. Review timing and sequence.

      A. When development and/or activity within a wetland, watercourse, fish and wildlife habitat conservation area or buffer associated with these critical area types is proposed, a critical area review 2 is required to be reviewed and approved prior to construction authorization.

      B. When development and/or activity is proposed on a site containing only geologically hazardous areas, an application has the option of either:

         i. Applying for a critical area review 2 in advance of construction permits, using the procedures required for a Type III land use review; or

         ii. Requesting consolidation of the review of geologically hazardous areas together with construction permit review.

      C. When development and/or activity is proposed on a site containing geologically hazardous areas and on or more of the critical area types listed in subsection (B)(2)(a) of this section or the associated buffer of one of those critical areas, a critical area review 2 reviewing all critical areas is required to be reviewed and approved prior to construction authorization, using the procedures required for a Type III land use review.

Staff Analysis: The subject property contains only geologically hazardous areas. The applicant submitted a Concurrent Review Request form, requesting consolidated review of the geologically hazardous areas together with construction permit review (**Exhibit 5**); therefore, the review timing and sequence requirements of this section have been met.

3. MICC 19.07.110 lists requirements for a critical area study. A critical area study is required when a development proposal will result in an alteration to one or more critical area buffers or when required to determine the potential impact to a critical area. The critical area study may be waived or modified if the applicant demonstrates that the development proposal will not have an impact on the critical area or its buffer in a manner contrary to the purposes and requirements of this chapter.

Staff Analysis: The Geotechnical Evaluation (**Exhibit 6**) finds that the work can be completed without adversely affecting any geologic hazards provided temporary erosion control systems are fully in place during construction and until final landscaping is in pace. The work would be

located within already graded and developed areas and would be at least 70 feet from the steep slopes and severe hazard areas. The Geotechnical Evaluation satisfies the requirement of the critical area study. The critical area study requirements have been modified due to the findings in the geotechnical evaluation that state the proposal would not have a significant impact on the geologically hazardous areas on the site. The critical area study is not required to include photographic records of the site before the proposed alteration or a description of mitigation sequencing implementation; therefore, this requirement is met.

4. MICC 19.07.160 lists standards for development on sites containing geologically hazardous areas.

   A. Geologically hazardous areas are lands that are susceptible to erosion, landslides, seismic events, or other factors as identified by WAC 365-190-120. These areas may not be suited for development activities because they may pose a threat to public health and safety. Areas susceptible to one or more of the following types of hazards shall be designated as geologically hazardous areas: landslide hazard areas, seismic hazard areas, and erosion hazard areas.

      Staff Analysis: The subject property contains landslide, seismic, and erosion hazard areas (**Exhibit 9**).

   B. Alteration within geologically hazardous areas or associated buffers is required to meet the standards in this section, unless the scope of work is exempt pursuant to section 19.07.120, exemptions, or a critical area review 1 approval has been obtained pursuant to section 19.07.090(A).

      1. When an alteration within a landslide hazard area, seismic hazard area or buffer associated with those hazards is proposed, the applicant must submit a critical area study concluding that the proposal can effectively mitigate risks of the hazard. The study shall recommend appropriate design and development measures to mitigate such hazards. The code official may waive the requirement for a critical area study and the requirements of subsections (B)(2) and (B)(3) of this section when he or she determines that the proposed development is minor in nature and will not increase the risk of landslide, erosion, or harm from seismic activity, or that the development site does not meet the definition of a geologically hazardous area.

         Staff Analysis: The Geotechnical Evaluation (**Exhibit 6**) satisfies the requirement for a critical area study. The geotechnical evaluation includes recommendations for appropriate design and development measures to mitigate the hazards on site. As conditioned, the applicant is required to provide a post-design memorandum prepared by Cobalt Geosciences confirming that the proposed improvements comply with the design recommendations in the geotechnical evaluation; therefore, this requirement is met, as conditioned.

      2. Alteration of landslide hazard areas and seismic hazard areas and associated buffers may occur if the critical area study documents find that the proposed alteration:

         a. Will not adversely impact other critical areas;

         b. Will not adversely impact the subject property or adjacent properties;

         c. Will mitigate impacts to the geologically hazardous area consistent with best available science to the maximum extent reasonably possible such that the site is determined to be safe; and

d. Includes the landscaping of all disturbed areas outside of building footprints and installation of hardscape prior to final inspection.

Staff Analysis: The Geotechnical Evaluation (**Exhibit 6**) finds that the proposed alteration will not adversely impact other critical areas, or the subject property or adjacent properties. The evaluation includes recommendations to mitigate impacts to the geologically hazardous areas to the maximum extent reasonably possible such that the site is determined to be safe. The applicant also provided a landscaping plan that shows the landscaping of all disturbed areas outside of building footprints and installation of hardscape, which, as conditioned, will be required to be completed prior to final inspection of the associated building permit, under city file number 2402-212 (**Exhibit 8**); therefore, this requirement is met.

3. Alteration of landslide hazard areas, seismic hazard areas and associated buffers may occur if the conditions listed in subsection (B)(2) of this section are satisfied and the geotechnical professional provides a statement of risk matching one of the following:

   a. An evaluation of site-specific subsurface conditions demonstrates that the proposed development is not located in a landslide hazard area or seismic hazard area;

   b. The landslide hazard area or seismic hazard area will be modified or the development has been designed so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe;

   c. Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologically hazardous area and do not adversely impact adjacent properties; or

   d. The development is so minor as not to pose a threat to the public health, safety and welfare.

   Staff Analysis: The Geotechnical Evaluation (**Exhibit 6**) provides a statement of risk that matches (d) above; therefore, this requirement is met.

C. Development is allowed within landslide hazard areas and associated buffers, when the following standards are met:

1. A critical area study shall be required for any alteration of a landslide hazard area or associated buffer;

2. Buffers shall be applied as follows. When more than one condition applies to a site, the largest buffer shall be applied:

   a. Buffer widths shall be equal to the height of a steep slope, but not more than 75 feet, and applied to the top and toe of slopes;

   b. Shallow landslide hazard areas shall have minimum 25-foot buffers applied in all directions; and

   c. Deep-seated landslide hazard areas shall have 75-foot buffers applied in all directions.

Staff Analysis: The proposed addition would be located at least 70 feet from the top of the scarp and steep slope area/historic landslide feature. The Geotechnical Evaluation (**Exhibit 6**) finds that the addition can be completed without altering the risk of landslide activity in the affected areas. Most of the site is encumbered by potential landslide hazard area (**Exhibit 9**), therefore, applying a buffer would result in the entire site to be encumbered. The proposed

addition is located at the north end of the property, primarily outside of the mapped potential slide hazard area; therefore, these standards have been met.

D. When development is proposed within a seismic hazard area:

1. A critical area study shall be required and shall include an evaluation by a qualified professional for seismic engineering and design, a determination of the magnitude of seismic settling that could occur during a seismic event, and a demonstration that the risk associated with the proposed alteration is within acceptable limits or that appropriate construction methods are provided to mitigate the risk of seismic settlement such that there will be no significant impact to life, health, safety, and property.

2. Seismic hazard areas shall be identified by a qualified professional who references and interprets information in the U.S. Geological Survey Active Faults Database, performs on-site evaluations, or applies other techniques according to best available science.

3. When development is proposed on a site with an active fault, the follow provisions shall apply:

   a. A 50-foot minimum buffer shall be applied from latest Quaternary, Holocene, or historical fault rupture traces as identified by the United States Geological Survey or Washington Geological Survey map databases or by site investigations by licensed geologic professionals with specialized knowledge of fault trenching studies; or

   b. Mitigation sequencing shall be incorporated into the development proposal as recommended based on geotechnical analysis by a qualified professional to prevent increased risk of harm to life and/or property.

Staff Analysis: The Geotechnical Evaluation (**Exhibit 6**) finds that the site has a relatively low likelihood of liquefaction due to the very dense soil conditions where groundwater is likely present. The evaluation includes recommendations for the design of the proposed addition, and as conditioned, includes a post-design memorandum confirming that the project has been designed to comply with the recommendations; therefore, these standards have been met.

E. When development is proposed within an erosion hazard area:

1. All development proposals shall demonstrate compliance with chapter 15.09, storm water management program.

2. No development or activity within an erosion hazard area may create a net increase in geological instability on or off site.

Staff Analysis: The associated building permit (2402-212) will be reviewed by Senior Development Engineer, Ruji Ding for compliance with chapter 15.09, storm water management program. As conditioned, the proposed development is required to obtain all applicable permits. The Geotechnical Evaluation (**Exhibit 6**) finds that the development within the erosion hazard area will not create a net increase in geological instability on or off-site; therefore, these requirements will be met as conditioned.

CONDITIONS OF APPROVAL

1. The project proposal shall be in substantial conformance with **Exhibit 2** and all applicable development standards contained within Mercer Island City Code (MICC) Chapter 19.07.

2. The applicant is responsible for documenting any required changes in the project proposal due to conditions imposed by any applicable local, state and federal government agencies.
3. Construction or substantial progress toward construction of a development for which a permit has been granted must be undertaken within three years after the approval of the permit or the permit shall terminate. The code official shall determine if substantial progress has been made.
4. A post-design memorandum prepared by Cobalt Geosciences confirming that the proposed improvements comply with the design recommendations in the geotechnical evaluation is required prior to issuance of the associated building permit (2402-212).
5. Landscaping of all disturbed areas outside of building footprints and installation of hardscape is required consistent with the landscaping plan in **Exhibit 8** prior to final inspection of the associated building permit (2402-212).

DEVELOPMENT REGULATION COMPLIANCE – DISCLOSURE

1. The applicant is responsible for obtaining any required permits or approvals from the appropriate Local, State, and Federal Agencies.
2. All required permits must be obtained prior to the commencement of construction.

DECISION

Based upon the above noted Findings of Fact and Conclusions of Law, Critical Area Review 2 Permit application **CAO24-007,** as depicted in **Exhibit 2**, is hereby **APPROVED**. This decision is final, unless appealed in writing consistent with adopted appeal procedures, MICC 19.15.130(A), and all other applicable appeal regulations.

Approved this 23rd day of December, 2024

Molly McGuire

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Molly McGuire
Senior Planner
Community Planning & Development
City of Mercer Island

CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT

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CITY USE ONLY		
PROJECT#	RECEIPT #	**FEE**
Date Received:		
Received By:		

DEVELOPMENT APPLICATION

STREET ADDRESS/LOCATION	ZONE
8413 SE 82nd St	R-9.6
COUNTY ASSESSOR PARCEL #'S	**PARCEL SIZE (SQ. FT.)**
362560-0080	16,550

PROPERTY OWNER *(required)*	ADDRESS *(required)*	CELL/OFFICE *(required)*
Dan and Linda Rawson	8413 SE 82nd St, Mercer Island	E-MAIL *(required)* il.com
PROJECT CONTACT NAME	**ADDRESS**	**CELL/OFFICE**
Brad Sturman Sturman Architects	9 103rd Ave NE Bellevue, WA 98004	425-451-7003 E-MAIL brad@sturmanarchitects.com
TENANT NAME	**ADDRESS**	**CELL PHONE** E-MAIL

DECLARATION: I HEREBY STATE THAT I AM THE OWNER OF THE SUBJECT PROPERTY OR I HAVE BEEN AUTHORIZED BY THE OWNER(S) OF THE SUBJECT PROPERTY TO REPRESENT THIS APPLICATION, AND THAT THE INFORMATION FURNISHED BY ME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

Brad Sturman
SIGNATURE

2024-2-29
DATE

PROPOSED APPLICATION(S) AND CLEAR DESCRIPTION OF PROPOSAL (PLEASE USE ADDITIONAL PAPER IF NEEDED)**:**

Structural remodel of existing house main floor with a new 289 SF garage and 528 SF entry addition along with a new 1,250 SF upper Floor. House is located on a steep slope and potential slide area. The location of the additions are located outside of the steep slope buffer.

ATTACH RESPONSE TO DECISION CRITERIA IF APPLICABLE

CHECK TYPE OF LAND USE APPROVAL REQUESTED:

CRITICAL AREAS	ENVIRONMENTAL REVIEW (SEPA)	SUBDIVISION
☐ Critical Area Review 1	☐ SEPA Review	☐ Short Plat- Preliminary
☑ Critical Area Review 2	☐ Environmental Impact Statement	☐ Short Plat- Alteration
		☐ Short Plat- Final Plat
DESIGN REVIEW		☐ Long Plat- Preliminary
☐ Design Review – Signs	**LEGISLATIVE**	☐ Long Plat- Alteration
☐ Design Review – Code Official	☐ Code Amendment	☐ Long Plat- Final Plat
☐ Design Commission Study Session	☐ Comprehensive Plan Docket Application	☐ Lot Line Revision
☐ Design Commission Review – Exterior Alteration	☐ Comprehensive Plan Application (If Docketed) ☐ Rezone	
☐ Design Commission Review – Major New Construction		
	OTHER LAND USE	
	☐ Accessory Dwelling Unit	
DEVIATIONS	☐ Code Interpretation Request	
☐ Deviations to Antenna Standards – Code Official	☐ Conditional Use (CUP) ☐ Noise Exception Type I - IV	**WIRELESS COMMUNICATION FACILITIES** ☐ New Wireless Communication Facility
☐ Deviations to Antenna Standards – Design Commission	☐ Other Permit/Services Not Listed	☐ Wireless Communications Facilities- 6409 Exemption
☐ Public Agency Exception	**SHORELINE MANAGEMENT**	☐ Small Cell Deployment
☐ Reasonable Use Exception	☐ Shoreline Exemption	☐ Height Variance
☐ Variance	☐ Shoreline Substantial Development Permit	
☐ Seasonal Development Limitation Waiver – Wet Season Construction Approval	☐ Shoreline Variance ☐ Shoreline Conditional Use Permit ☐ Shoreline Permit Revision	

PROJECT DATA

PROJECT ADDRESS:	8413 SE 82ND ST MERCER ISLAND, WA 98040
PROPERTY TAX ID NUMBER:	362560-0080
SCOPE OF WORK:	STRUCTURAL REMODEL OF THE EXISTING MAIN FLOOR WITH A NEW 289 SF GARAGE AND 528 SF ENTRY EXPANSION ALONG WITH A NEW 1,250 SF UPPER FLOOR.
ZONING:	R-9.6
CONSTRUCTION TYPE:	TYPE V B
SEISMIC ZONE:	3
NUMBER OF STORIES:	1 STORY + DAYLIGHT BASEMENT + NEW UPPER FLOOR
BUILDING HEIGHT LIMIT:	30 FT ABOVE AVERAGE BUILDING ELEVATION (FLAT ROOF) 35 FT ABOVE AVERAGE BUILDING ELEVATION (SLOPED ROOF)
LOT AREA:	16,386 SF
SETBACKS:	FRONT LOT LINE = 20' - 0" REAR LOT LINE = 25' - 0" SIDE LOT LINES = 18' - 6 3/4" TOTAL (6' - 1 1/2" MIN)

LEGAL DESCRIPTION

ISLAND POINT ADD #2 AND UND INT IN COMMUNITY TR
PLat Block:
Plat Lot: 8

DUTY OF COOPERATION

RELEASE AND ACCEPTANCE OF THESE DOCUMENTS INDICATES COOPERATION AMONG THE OWNER, CONTRACTOR, AND STURMAN ARCHITECTS. ANY ERRORS, OMISSIONS, OR DISCREPANCIES DISCOVERED IN THE USE OF THESE DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO STURMAN ARCHITECTS. FAILURE TO DO SO SHALL RELIEVE STURMAN ARCHITECTS FROM ANY RESPONSIBILITY FOR THE CONSEQUENCES.

ANY DEVIATIONS FROM THESE DOCUMENTS WITHOUT THE CONSENT OF STURMAN ARCHITECTS ARE UNAUTHORIZED. FAILURE TO OBSERVE THESE PROCEDURES SHALL RELIEVE STURMAN ARCHITECTS OF RESPONSIBILITY FOR ALL CONSEQUENCES ARISING FROM SUCH ACTIONS.

GENERAL NOTES

1. CODE COMPLIANCE
   ALL WORK SHALL COMPLY WITH THE 2018 IRC, 2018 IMC, 2018 IFGC, 2018 IFC, 2018 UPC, 2018 IPMC, 2020 NEC, 2015 INTERNATIONAL ENERGY CONSERVATION CODE WITH WASHINGTON STATE AMENDMENTS, 2009 ICC A117.1, AND WITH ALL LOCAL CODES, ORDINANCES, AND COVENANTS OF THE JURISDICTION WHERE IT IS BUILT.
2. DIMENSIONS
   A. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. NOTIFY THE ARCHITECT OF DISCREPANCIES. IF WORK IS STARTED PRIOR TO NOTIFICATION, THE GENERAL AND SUBCONTRACTOR PROCEED AT THEIR OWN RISK.
   B. UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO FACE OF STUDS OR FACE OF CONCRETE WALLS. FACE OF STONE VENEER LIES 6" +/- OUTSIDE THE FACE OF FRAMING. INTERIOR PLAN DIMENSIONS ARE TO FACE OF STUDS UNLESS OTHERWISE NOTED.
   C. VERIFY ALL ROUGH-IN DIMENSIONS FOR WINDOWS, DOORS, PLUMBING, ELECTRICAL FIXTURES AND APPLIANCES PRIOR TO COMMITMENT OF WORK. NOTIFY ARCHITECT OF ANY DISCREPANCIES OF DIMENSIONAL TOLERANCES REQUIRED.
3. DOCUMENT REVIEW/VERIFICATION:
   CONSULT WITH ARCHITECT REGARDING ANY SUSPECTED ERRORS, OMISSIONS, OR CHANGES ON PLANS BEFORE PROCEEDING WITH THE WORK. APPROVAL BY AN INSPECTOR DOES NOT CONSTITUTE AUTHORITY TO DEVIATE FROM THE DRAWINGS OR SPECIFICATIONS.
4. ROUGH OPENINGS/BACKING:
   VERIFY SIZE AND LOCATION, AS WELL AS PROVIDE ALL OPENINGS THROUGH FLOORS AND WALLS, FURRING, CURBS, ANCHORS, INSERTS, EQUIPMENT BASES AND ROUGH BUCKS/BACKING FOR SURFACE-MOUNTED ITEMS.
5. FURRING:
   PROVIDE FURRING AS REQUIRED TO CONCEAL MECHANICAL AND/OR ELECTRICAL EQUIPMENT IN FINISHED AREAS. FURRING NOT SHOWN ON PLANS SHALL BE APPROVED BY ARCHITECT PRIOR TO CONSTRUCTION.
6. GRADES: VERIFY ALL GRADES AND THEIR RELATIONSHIP TO THE BUILDING(S).
7. FLOOR LINES: "FLOOR LINE" REFERS TO TOP OF CONCRETE SLAB OR TOP OF WOOD SUBFLOOR.
8. REPETITIVE FEATURES: OFTEN DRAWN ONLY ONCE AND SHALL BE PROVIDED AS IF FULLY DRAWN.
9. DOORS:
   DOORS NOT DIMENSIONALLY LOCATED SHALL BE 6" FROM STUD FACE TO EDGE OF DOOR, ROUGH OPENING OR CENTERED BETWEEN WALLS AS SHOWN.
10. WOOD MEMBERS IN CONTACT WITH CONCRETE, AND/OR EXPOSED TO WEATHER:
    TO BE PRESSURE TREATED, TYPICAL. PROVIDE PRESSURE TREATED SILL PLATE IF FINISH GRADE IS WITHIN 8", TYPICAL.
11. FRAMING:
    ALL NEW INTERIOR FRAME PARTITIONS TO BE 2X4 @ 16" O.C., & ALL NEW EXTERIOR FRAME PARTITIONS TO BE 2X6 @ 16" O.C., UNLESS OTHERWISE NOTED. VERIFY W/ STRUCTURAL DRAWINGS. EXISTING EXTERIOR WALLS ARE 2X4 STUDS @ 16" O.C., AND ARE TO REMAIN.
12. VENTILATION:
    VENT ALL BATHROOM FANS, LAUNDRY FANS, RANGE HOODS AND DRYER VENTS TO OUTSIDE ATMOSPHERE. BATHROOM/UTILITY ROOM FANS SHALL BE CAPABLE OF 5 AIR CHANGES PER HOUR AND SHALL BE VENTED DIRECTLY TO THE OUTSIDE THROUGH SMOOTH, RIGID, NON-CORROSIVE METAL, 24 GA. DUCTWORK. FLEX DUCTING IS NOT ALLOWED.
13. FLUES: FLUES TO BE LOCATED MINIMUM 2" FROM ALL COMBUSTIBLE MATERIALS.
14. DOWNSPOUTS: LOCATE NEW DOWNSPOUTS AS SHOWN ON ROOF PLAN, FLOOR PLANS & ELEVATIONS.
15. OTHER DOCUMENTATION:
    REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL, AND/OR LANDSCAPE DRAWINGS FOR ADDITIONAL DRAWINGS, NOTES, SCHEDULES, AND SYMBOLS.
16. PROTECTION:
    PROTECT ALL EXISTING FINISHES AND SURFACES. ANY DAMAGE WILL BE REPAIRED WITHOUT ADDITIONAL COST TO OWNER.
17. PERMITS:
    SEPARATE ELECTRICAL, MECHANICAL, AND PLUMBING PERMITS ARE REQUIRED IN ADDITION TO THE BASIC BUILDING PERMIT
18. ROOFING: PROVIDE NEW ROOFING TO MATCH EXISTING.
19. EXHAUST DUCTS: PROVIDE BACKDRAFT DAMPERS AT ALL EXHAUST DUCTS.
20. PROVIDE COMBUSITON AIR OPENINGS INTO FURNACE ROOM PER UMC 703.
21. APPLIANCES:
    CLEARANCES OF UL LISTED APPLIANCES FROM COMBUSTIBLE MATERIALS SHALL BE AS SPECIFIED IN UL LISTING.
22. WATER FLOW:
    SHOWER SHALL BE EQUIPPED WITH FLOW CONTROL DEVICE TO LIMIT WATER FLOW TO 2.5 GALLONS PER MINUTE.
23. SMOKE DETECTORS:
    SMOKE & CARBON MONOXIDE THROUGHT NEW CONSTRUCTION. TO BE MONITORED PER FIRE DEPARTMENT REQUIREMENTS.
24. WALK-THROUGHS:
    THE CONTRACTOR SHALL SCHEDULE WALK-THROUGHS AT EACH OF THE VELOW NOTED INTERVALS AT MINIMUM:
    1. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION
    2. PRIOR TO THE COMMENCEMENT OF MECHANICAL & ELECTRICAL WORK
    25. NFPA 13D FIRE SPRINKLER SYSTEM
    A NFPA 13D FIRE SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA 13D AND COMI STANDARDS SHALL BE INSTALLED THROUGHOUT THE RESIDENCE. A SEPARATE FIRE PERMIT IS REQUIRED.
    NEW SYSTEM WILL REQUIRE A MINIMUM OF 1" WATER METER AND 1" WATER SUPPLY LINE

EXISTING WALL INSULATION

EXISTING CEILING, WALL OR FLOOR CAVITIES EXPOSED DURING CONSTRUCTION PROVIDED THAT THESE CAVITIES ARE FILLED WITH INSULATION WHILE MAINTAINING CODE REQUIRED VENTILATION CLEARANCES. 2X4 FRAMED WALLS SHALL BE INSULATED TO A MINIMUM OF R-15 AND 2X6 FRAMED WALLS SHALL BE INSULATED TO A MINIMUM OF R-21.

PROJECT TEAM

OWNER:	DANIEL AND LINDA RAWSON 8413 SE 82ND ST MERCER ISLAND, WA 98040 PHONE: CONTACT:
ARCHITECT:	STURMAN ARCHITECTS, INC. 9 - 103RD AVE NE SUITE 203 BELLEVUE, WA 98004 PHONE: 425.451.7003 CONTACT: BRAD STURMAN
STRUCTURAL:	ANNEE STRUCTURAL ENGINEERING, LLC 1801 18TH AVE SOUTH SEATTLE, WA 98144 PHONE: 206.658.5169 CONTACT: MIKE ANNEE
ARBORIST:	ARBOR INFO, LLC 2406 N CASTLE WAY BRIER, WA 98036 PHONE: 206.300.9711 CONTACT: TOM HANSON
SURVEYOR:	TERRANE 10801 MAIN STREET, SUITE 102 BELLEVUE, WA 98004 PHONE: 425.458.4488 CONTACT: JACOB MILLER
GEOTECH:	COBALT GEOSCIENCES, LLC P.O. BOX 1792 NORTH BEND, WA 98045 PHONE: 206.331.1097 CONTACT: PHIL HABERMAN

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A4.0	BUILDING SECTIONS	S3.2	STRUCTURAL DETAILS
		S3.3	STRUCTURAL DETAILS
		S3.4	STRUCTURAL DETAILS

ENERGY NOTES

CODE:	2018 W.S.E.C. & 2015 IRC, WAC 51-11R	
CLIMATIC ZONE:	ZONE #4C	
SPACE HEAT TYPE:	NATURAL GAS	
INSULATION VALUES:	WALLS:	R-21
PRESCRIPTIVE METHOD	FLAT ATTICS/CEILINGS:	R-49
	VAULTED CEILINGS:	R-38
	FLOORS (OVER UNHEATED SPACES):	R-30
	SLAB-ON-GRADE:	R-10
THERMAL STANDARDS FOR OPENINGS:	UNLIMITED OPTION	
AIR INFILTRATION:	MANUFACTURED DOORS/WINDOWS: CONFORM TO SECTION R402.4.3 OF THE WASHINGTON STATE ENERGY CODE	
	EXTERIOR JOINTS/OPENINGS: SEAL, CAULK, GASKET OR WEATHERSTRIP TO LIMIT AIR LEAKAGE AT EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, OPENINGS BETWEEN WALLS AND FOUNDATION, BETWEEN WALLS AND ROOF. OPENINGS AT PENETRATIONS OF UTILITY SERVICES AND ALL OTHER SUCH OPENINGS IN THE BUILDING ENVELOPE	
MOISTURE CONTROL:	WALLS: VAPOR RETARDER BONDED TO BATT INSULATION; INSTALL WITH STAPLES NOT MORE THAN 8 INCHES ON CENTER AND AND WITH A GAP BETWEEN AND OVER FRAMING NOT GREATER THAN 1/16 OF AN INCH; OR, VAPOR RETARDER OF ONE PERM CUP RATING (4 MIL POLYETHYLENE)	
	ATTICS/CEILINGS: VAPOR RETARDER OF ONE PERM CUP RATING (4 MIL POLYETHYLENE), INSTALL CONTINUOUSLY	
	CRAWL SPACE: 6 MIL POLYETHELENE	
VENTILATION:	ATTICS WITH LOOSE FILL: N.A. BAFFLE VENT OPENINGS TO DEFLECT AIR ABOVE INSULATION SURFACE ENCLOSED JOIST OR RAFTER SPACES: PROVIDE MINIMUM OF ONE INCH CLEAR VENTED AIR SPACE ABOVE INSULATION. TAPER OR COMPRESS INSULATION AT PERIMETER TO INSURE PROPER VENTILATION	
HEATING & COOLING:	MINI-SPLIT	
TEMP. CONTROL:	FOR HEATING AND COOLING, THERMOSTAT SHALL BE CAPABLE OF BEING SET FROM 55-85 DEGREES FARENHEIT AND OF OPERATING THE HEATING/COOLING SYSTEM IN SEQUENCE. THERMOSTAT TO BE AUTOMATIC DAY/NIGHT SETBACK TYPE.	
DUCT INSULATION:	THERMALLY INSULATE ALL PLENUMS, DUCTS AND ENCLOSURES IN ACCORDANCE WITH TABLE R403.3.1 OF THE WASHINGTON STATE ENERGY CODE. a. ALL HEATING DUCTS IN UNCONDITIONED SPACES SHALL BE INSULATED WITH A MIN. OF R-8. ALL SEAM JOINTS SHALL BE TAPED, SEALED AND FASTENED WITH THE MINIMUM OF FASTENERS PER WSEC. b. DUCTS WITHIN A CONCRETE SLAB OR IN THE GROUND SHALL BE INSULATED TO R-10, WITH INSULATION DESIGNED TO BE USED BELOW GRADE.	
LIGHTING:	RECESSED LIGHTING FIXTURES INSTALLED IN BUILDING ENVELOPE SHALL COMPLY WITH WSEC PROVISIONS AND SHALL BE IC LISTED. ALL ROOMS WITHOUT GLAZING SHALL HAVE ARTIFICIAL LIGHTING ACROSS THE AREA OF THE ROOM PRODUCING AN AVERAGE 6 FOOTCANDLES AT 30" ABOVE THE FLOOR	
PIPE INSULATION:	NON RECIRCULATING HOT AND COLD WATER PIPES LOCATED IN UNCONDITIONED SPACE SHALL BE INSULATED TO R-3 MIN. PLUMBING OR MECHANICAL CANNOT DISPLACE THE REQUIRED INSULATION.	

GROSS FLOOR AREA

LOT SIZE	= 16,386 SF
GFA THRESHOLD	= 8,000 SF OR 40% (6,620 SF) WHICHEVER IS LESS
EXISTING RESIDENCE GFA:	
BASEMENT	= 1,889 SF
MAIN FLOOR	= 1,315 SF
ATTACHED GARAGE	= 532 SF
BASEMENT EXCLUSION	= -699 SF
TOTAL EXISTING:	= 3,037 SF
EXISTING GFA IS 3,037 SF OR 18.5%	
PROPOSED RESIDENCE GFA:	
BASEMENT	= 2,417.4 SF
MAIN FLOOR	= 1,866.7 SF
THIRD FLOOR	= 1,057.0 SF
GARAGE	= 771.1 SF
12-16'-0" CEILING	= 89.1 SF
16'-0" + CEILING	= 249.2 SF
BASEMENT EXCLUSION	= - 1,160.4 SF
TOTAL PROPOSED:	= 5,290.1 SF
PROPOSED GFA IS 5,290.1 SF OR 32.3%	

LOT COVERAGE

GROSS LOT AREA IS 16,386 SF

LOT COVERAGE	EXISTING COVERAGE	PROPOSED COVERAGE	NET CHANGE
MAIN ROOF STRUCTURE	2,678.3 SF	3,728.3 SF	+ 1,050.0 SF
SHEDS	106.7 SF	106.7 SF	0.0 SF
DRIVEWAY/ PARKING	724.7 SF	424.9 SF	- 299.8 SF
TOTAL LOT COVERAGE	3,509.7 SF	4,259.9 SF	+ 750.2 SF
TOTAL ALLOWED LOT COVERAGE	5,735.1 SF	5,735.1 SF	
% LOT COVERAGE	21.4%	26.0%	+4.6%
% LOT COVERAGE ALLOWED	35%	35%	

HIGHEST EL: +/-314.9'
LOWEST EL: +/-283.5"
ELEVATION DIFFERENCE= 31.4'

31.4' DIVIDED BY 157.75' (HORIZ. DIST. BTWN. HIGHEST & LOWEST ELEV.) = .199

LOT SLOPE IS 19.9%, WHICH IS GREATER THAN 15% BUT LESS THAN 30% SO LOT COVERAGE ALLOWED IS 35%.

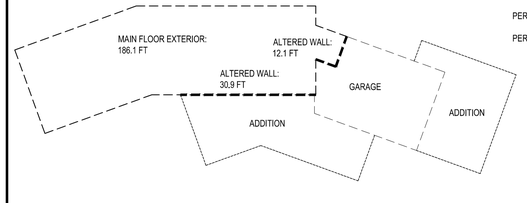
ADDITIONAL 9% OF LOT SIZE WILL DETERMINE ALLOWABLE HARDSCAPE SURFACE

HARDSCAPE

GROSS LOT AREA IS 16,386 SF

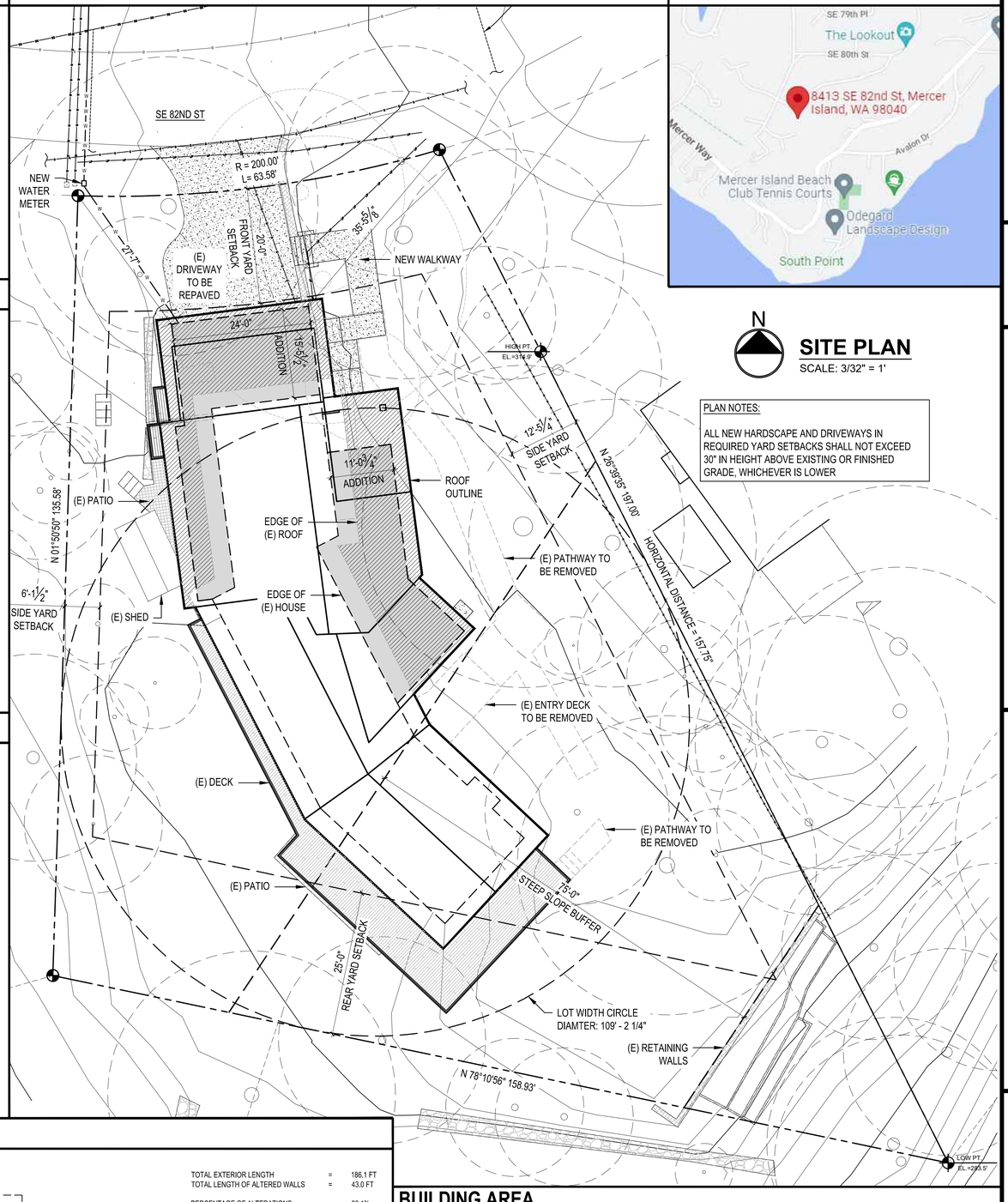
HARDSCAPE	EXISTING	PROPOSED	NET CHANGE
WALKWAYS	521.9 SF	217.0 SF	- 304.9 SF
STAIRS	84.2 SF	44.3 SF	- 39.9 SF
ROCKERIES/ RETAINING WALLS	191.8 SF	141.2 SF	- 50.6 SF
UNCOVERED PATIOS	297.7 SF	174.8 SF	- 122.9 SF
UNCOVERED DECKS	749.6 SF	749.6 SF	0.0 SF
TOTAL HARDSCAPE	1,845.2 SF	1,326.9 SF	- 518.3 SF
HARDSCAPE ALLOWED	1,474.7 SF	1,474.7 SF	
% HARDSCAPE	11.3%	8.1%	- 3.2%
% ALLOWED HARDSCAPE	9%	9%	

40% RULE DIAGRAM



TOTAL EXTERIOR LENGTH	=	186.1 FT
TOTAL LENGTH OF ALTERED WALLS	=	43.0 FT
PERCENTAGE OF ALTERATIONS	=	23.1%
PERCENTAGE OF (E) WALL TO REMAIN	=	79.4%

SITE PLAN



VICINITY MAP

N

SITE PLAN
SCALE: 3/32" = 1'

PLAN NOTES:

ALL NEW HARDSCAPE AND DRIVEWAYS IN REQUIRED YARD SETBACKS SHALL NOT EXCEED 30" IN HEIGHT ABOVE EXISTING OR FINISHED GRADE, WHICHEVER IS LOWER

BUILDING AREA

	LOWER FLOOR	MAIN FLOOR	UPPER FLOOR	HEATED SUB-TOTAL	ATTACHED GARAGE	GRAND TOTAL
EXISTING SF:	1,889.2 SF	1,398.9 SF	0.0 SF	3,288.1 SF	486.0 SF	3,774.1 SF
PROPOSED HOUSE SF:	2,417.2 SF	2,046.3 SF	1,250.1 SF	5,713.6 SF	775.2 SF	6,488.8 SF
CHANGE IN SF:	+528 SF	+647.4 SF	+1,250.1 SF	+2,425.5 SF	+289.2 SF	+2,714.7 SF

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

CORRECTION 4 SET 12/4/2024

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9 – 103rd Ave NE Suite 203
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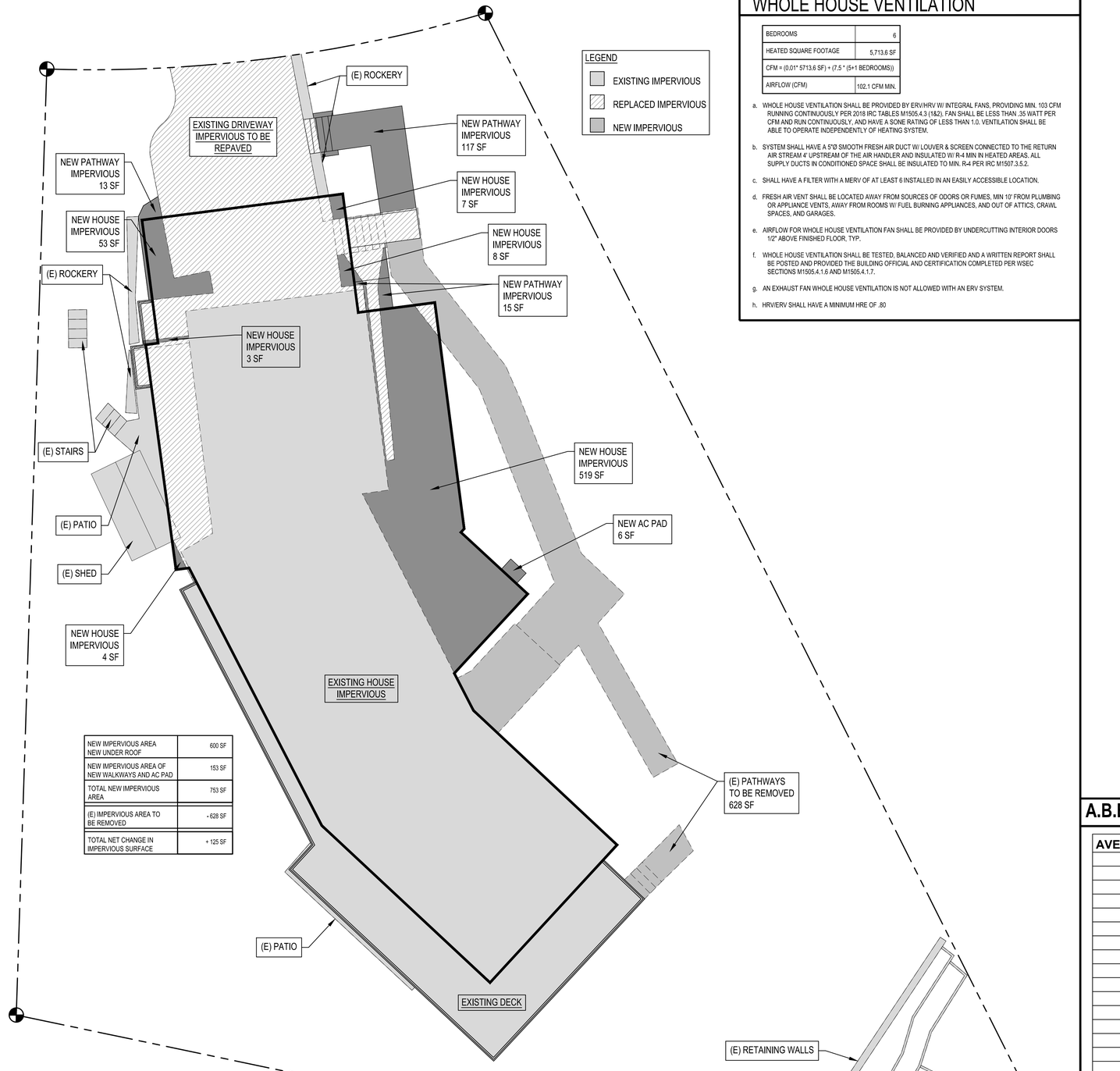
RAWSON REMODEL
8413 SE 82ND ST
MERCER ISLAND, WA 98040

SITE PLAN

REVISIONS:
CORRECTION 1 - 5/3/2024
CORRECTION 2- 8/8/2024
CORRECTION 3 - 10/29/202
CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET
A1.0



NEW IMPERVIOUS AREA NEW UNDER ROOF	600 SF
NEW IMPERVIOUS AREA OF NEW WALKWAYS AND AC PAD	153 SF
TOTAL NEW IMPERVIOUS AREA	753 SF
(E) IMPERVIOUS AREA TO BE REMOVED	- 628 SF
TOTAL NET CHANGE IN IMPERVIOUS SURFACE	+ 125 SF

IMPERVIOUS SURFACE PLAN

SCALE: 1/8" = 1'

WHOLE HOUSE VENTILATION

BEDROOMS	6
HEATED SQUARE FOOTAGE	5,713.6 SF
CFM = ((0.01* 5713.6 SF) + (7.5 * (5+1 BEDROOMS))	
AIRFLOW (CFM)	102.1 CFM MIN.

a. WHOLE HOUSE VENTILATION SHALL BE PROVIDED BY ERV/HRV W/ INTEGRAL FANS, PROVIDING MIN. 103 CFM RUNNING CONTINUOUSLY PER 2018 IRC TABLES M1505.4.3 (1&2). FAN SHALL BE LESS THAN 35 WATT PER CFM AND RUN CONTINUOUSLY, AND HAVE A SONE RATING OF LESS THAN 1.0. VENTILATION SHALL BE ABLE TO OPERATE INDEPENDENTLY OF HEATING SYSTEM.

b. SYSTEM SHALL HAVE A 5'Ø SMOOTH FRESH AIR DUCT W/ LOUVER & SCREEN CONNECTED TO THE RETURN AIR STREAM 4' UPSTREAM OF THE AIR HANDLER AND INSULATED W/ R-4 MIN IN HEATED AREAS. ALL SUPPLY DUCTS IN CONDITIONED SPACE SHALL BE INSULATED TO MIN. R-4 PER IRC M1507.3.5.2.

c. SHALL HAVE A FILTER WITH A MERV OF AT LEAST 6 INSTALLED IN AN EASILY ACCESSIBLE LOCATION.

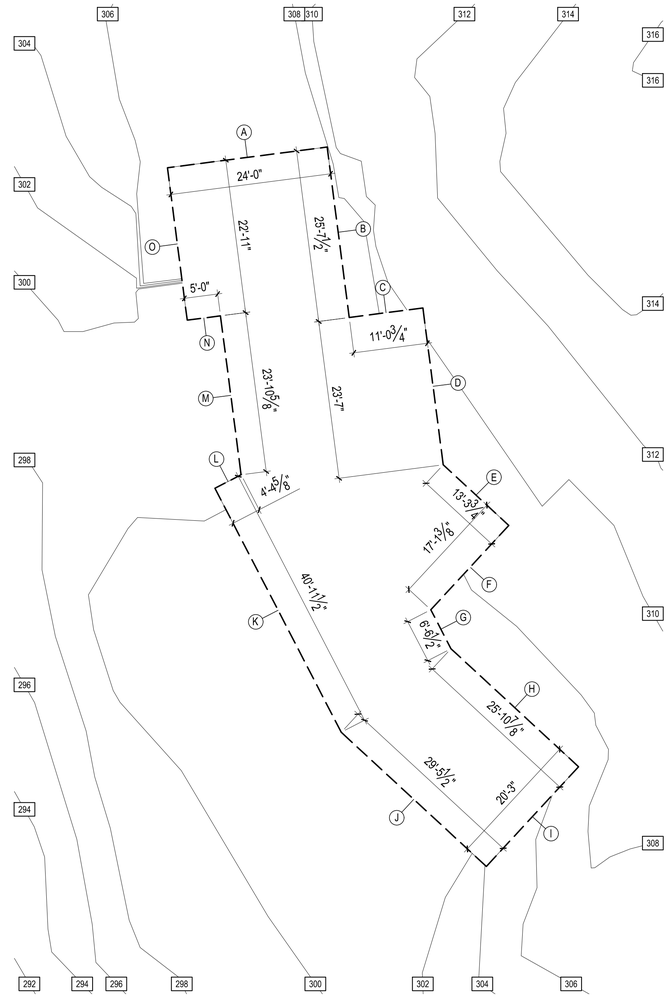
d. FRESH AIR VENT SHALL BE LOCATED AWAY FROM SOURCES OF ODORS OR FUMES, MIN 10' FROM PLUMBING OR APPLIANCE VENTS, AWAY FROM ROOMS W/ FUEL BURNING APPLIANCES, AND OUT OF ATTICS, CRAWL SPACES, AND GARAGES.

e. AIRFLOW FOR WHOLE HOUSE VENTILATION FAN SHALL BE PROVIDED BY UNDERCUTTING INTERIOR DOORS 1/2" ABOVE FINISHED FLOOR, TYP.

f. WHOLE HOUSE VENTILATION SHALL BE TESTED, BALANCED AND VERIFIED AND A WRITTEN REPORT SHALL BE POSTED AND PROVIDED THE BUILDING OFFICIAL AND CERTIFICATION COMPLETED PER WSEC SECTIONS M1505.4.1.6 AND M1505.4.1.7.

g. AN EXHAUST FAN WHOLE HOUSE VENTILATION IS NOT ALLOWED WITH AN ERV SYSTEM.

h. HRV/ERV SHALL HAVE A MINIMUM HRE OF .80



A.B.E. CALCULATIONS

AVERAGE BUILDING ELEVATION

	Wall Length	Elevation Pt.	Wall Length X Elev. Pt.
A	24.00	307.20	7372.80
B	25.60	307.80	7879.68
C	11.10	308.70	3426.57
D	23.60	309.10	7294.76
E	13.30	308.40	4101.72
F	17.10	308.20	5270.22
G	6.50	307.20	1996.80
H	25.90	307.20	7956.48
I	20.30	305.70	6205.71
J	29.50	301.80	8903.10
K	41.00	301.40	12357.40
L	4.40	300.00	1320.00
M	23.90	300.00	7170.00
N	5.00	300.00	1500.00
O	22.90	306.20	7011.98
	294.10	**4578.90**	**89767.22**
89767.22 / 294.10	**305.23**	Average Building Elevation	

2018 WSEC CREDITS

CREDITS REQUIRED:
ADDITIONS MORE THAN 1,500 SF BUT LESS THAN 5,000 SF.

2,425.5 SF NEW CONDITIONS SPACE — 6.0 CREDITS
TOTAL CREDITS REQUIRED — 6.0 CREDITS

CREDITS	OPTION	DESCRIPTION
1.0	1	HEAT PUMP
0.5	1.3	VERTICAL FENESTRATION U=.28 FLOOR R-38 OR R-10 FOR SLAB ON GRADE
1.5	3.4	HIGH EFFICIENCY HVAC
0.5	4.1	HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM
2.0	5.5	EFFICIENT WATER HEATING
0.5	7.1	APPLIANCE PACKAGE

TOTAL CREDITS SELECTED
6.0

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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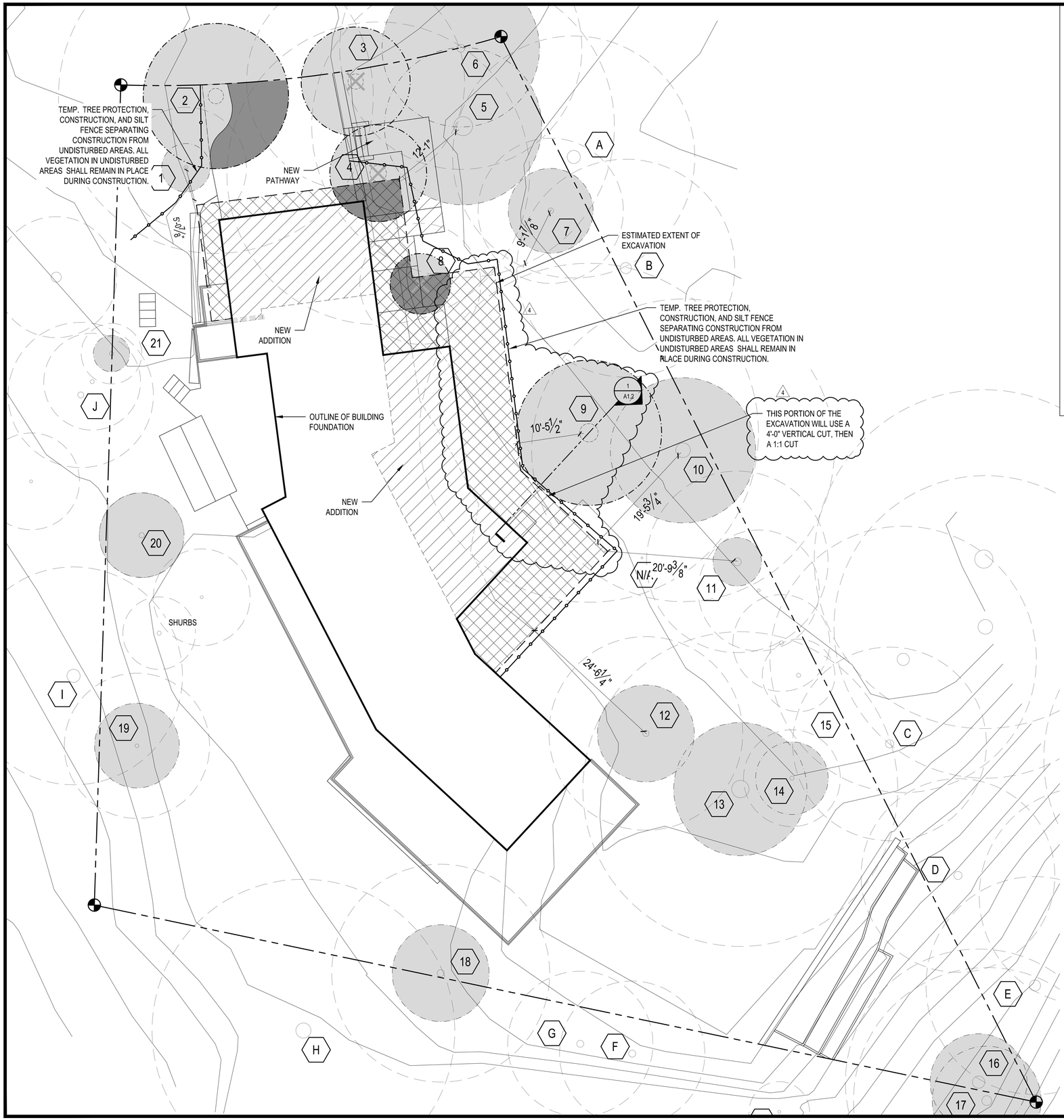
8413 SE 82ND ST
MERCER ISLAND, WA 98040

PROJECT DATA
IMPERVIOUS SURFACE

REVISIONS:
CORRECTION 1 - 5/30/2024
CORRECTION 2- 08/02/24
CORRECTION 3 - 10/29/202
CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET
A1.1



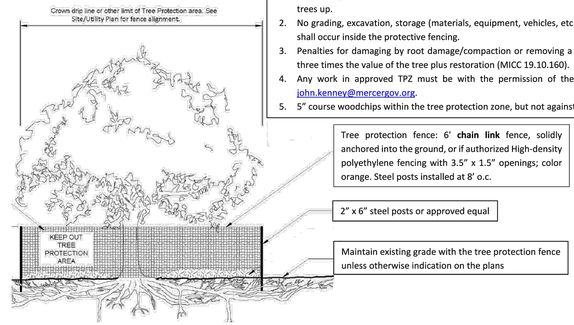
TREE PROTECTION AREA (TPZ)

KEEP OUT!

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

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

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



Notes

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

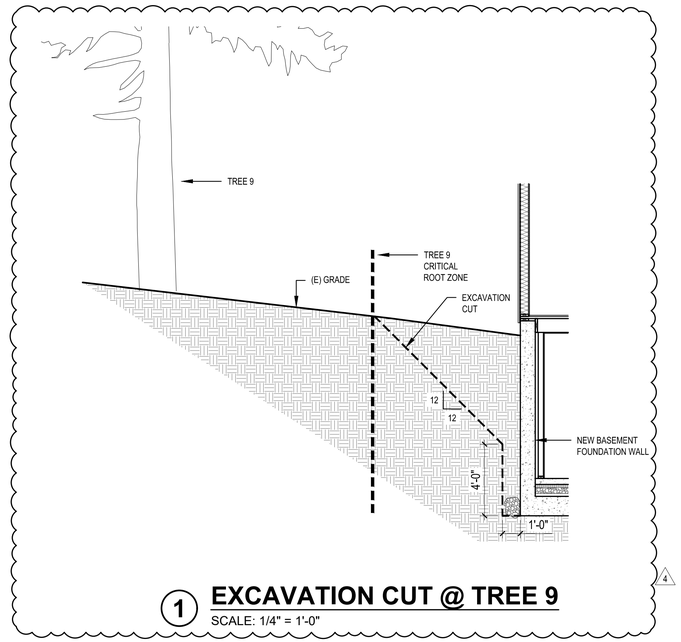
Any Work in the protected area must be with the permission of the City Arborist john.kenney@mercergov.org

EXCAVATION PLAN

SCALE: 1/8" = 1'

LEGEND

- INNER TREE ROOT ZONE
- TREE ROOT ZONE INSIDE EXCAVATION
- EXCAVATION
- NEW WORK



1 EXCAVATION CUT @ TREE 9

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

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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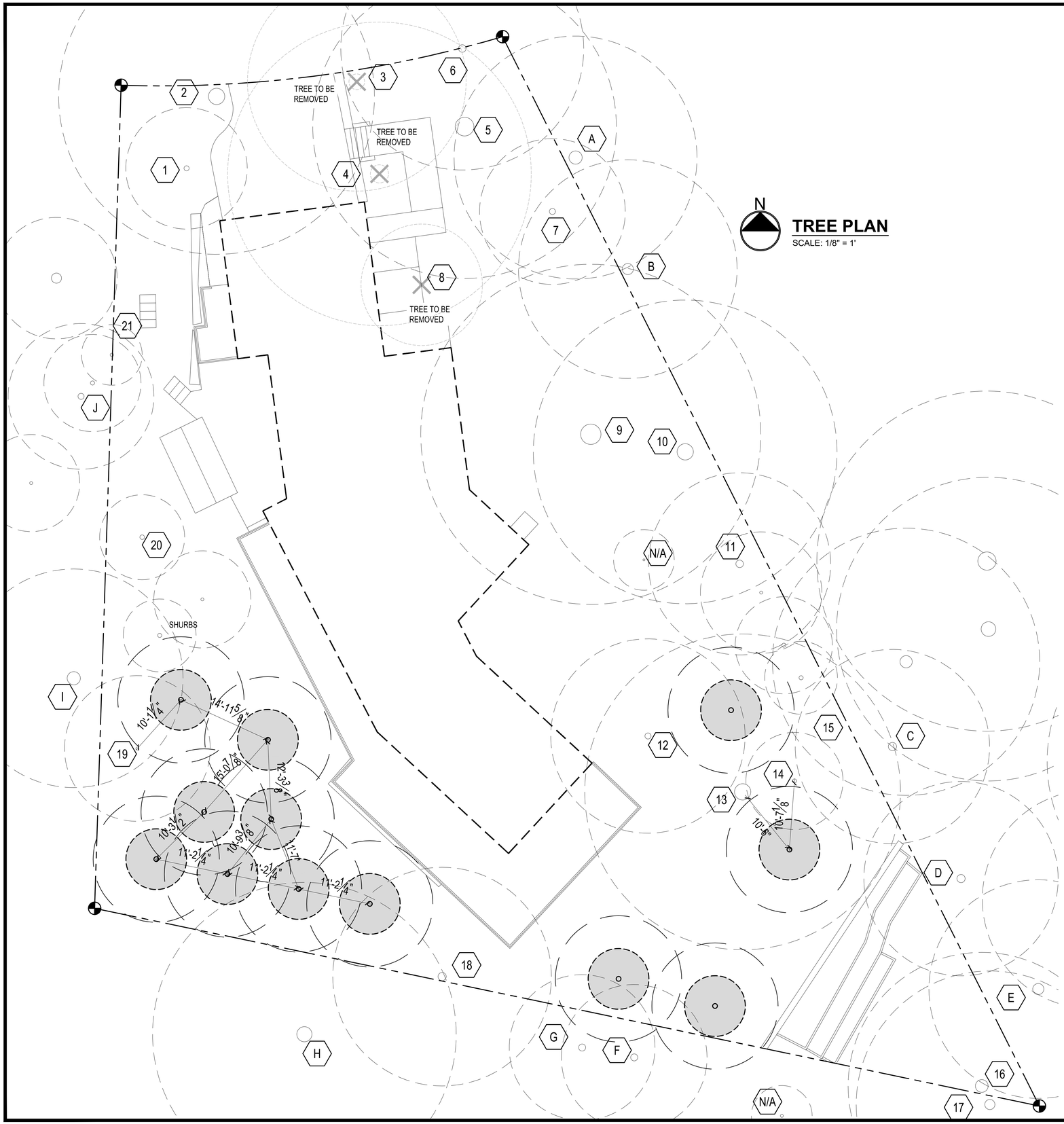
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EXCAVATION PLAN

REVISIONS:
CORRECTION 1 - 5/30/2024
CORRECTION 2- 8/8/2024
CORRECTION 3 - 10/29/202
CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET
A1.2



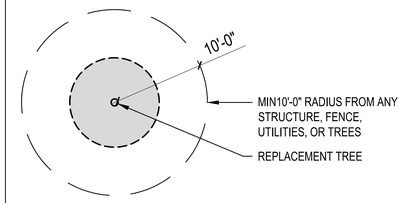
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TREE PLAN

SCALE: 1/8" = 1'

PLAN NOTES

REPLACEMENT TREE



A TOTAL OF **12** REPLACEMENT TREES ARE REQUIRED. 12 TREES WILL BE PROVIDED

HALF (6) OF THE REPLACEMENT TREES ARE REQUIRED TO BE PACIFIC NORTHWEST NATIVE TREE SPECIES.

DRIP IRRIGATION WILL BE PROVIDED AROUND ALL NEWLY PLANTED TREES. FLOW WILL ENSURE SATURATION OF ROOT ZONE. DURING DRY SEASON, JUNE 15-OCT 31, IRRIGATION WILL RUN 8 TIMES PER MONTH

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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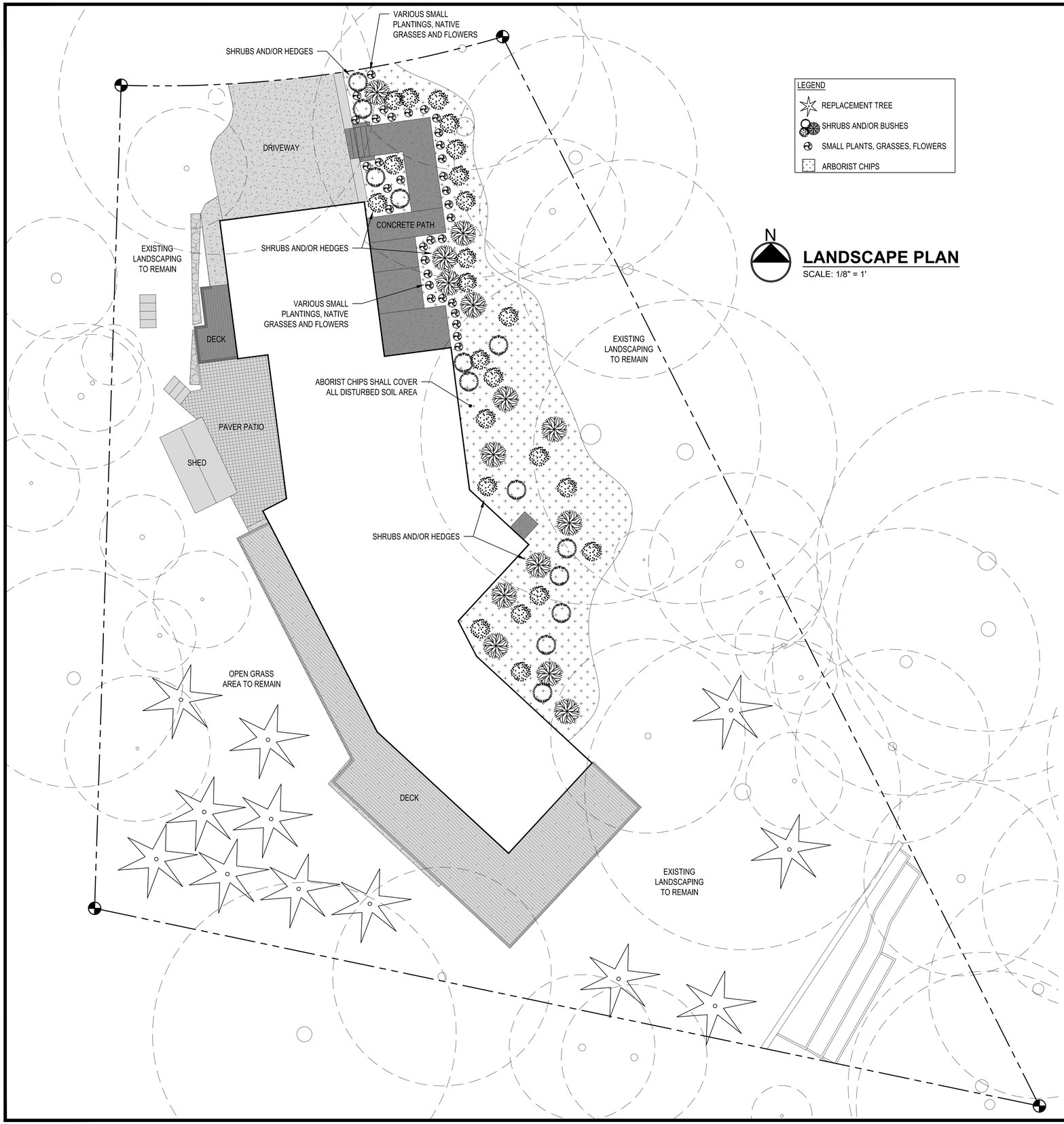
8413 SE 82ND ST
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TREE PLAN

REVISIONS:
CORRECTION 1 - 5/3/2024
CORRECTION 2- 8/8/2024
CORRECTION 3 - 10/29/202
CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET
A1.3



LANDSCAPE PLAN

SCALE: 1/8" = 1'

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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LANDSCAPE PLAN

REVISIONS:
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- CORRECTION 2- 8/6/2024
- CORRECTION 3 - 10/28/202
- CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS
SHEET: **A1.4**

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

(PER STATUTORY WARRANTY DEED RECORDING #20130730002745)

LOT 8, ISLAND POINT NO. 2, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 79 OF PLATS, PAGE(S) 18 AND 19, IN KING COUNTY, WASHINGTON.

BASIS OF BEARINGS

N 83°59'24" E BETWEEN FOUND CENTERLINE MONUMENTATION ALONG SE 82ND ST – CALCULATED PER R1

REFERENCES

R1. ISLAND POINT NO. 2 PLAT, VOL. 79, PG. 18, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD88 PER CITY OF MERCER ISLAND BENCHMARK #4360
DB ID: 47498
ELEV: 299.86

SURVEYOR'S NOTES

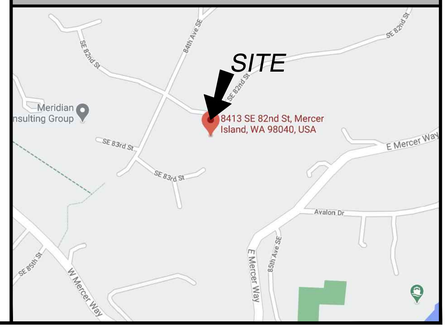
1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN MARCH OF 2021. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 3625600080.
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 16,386± S.F. (0.38 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

LEGEND

	AREA DRAIN		NAIL AS NOTED
	ASPHALT SURFACE		MONUMENT IN CASE (FOUND)
	BRICK SURFACE		PAVER SURFACE
	BUILDING	P	POWER METER
	CENTERLINE ROW	UP	POWER (UNDERGROUND)
	CONCRETE SURFACE		REBAR AS NOTED (FOUND)
	RETAINING WALL		ROCKERY
	DECK	SS	SEWER LINE
	FENCE LINE (CHAIN LINK)		SEWER MANHOLE
	FENCE LINE (WOOD)	SD	STORM DRAIN LINE
G	GAS LINE	TEL SENTRY	TELEPHONE SENTRY
G	GAS METER	SIZE TYPE	TREE (AS NOTED)
	INLET (TYPE 1)	W	WATER LINE
IP	IRON PIPE (FOUND)	WM	WATER METER
LUM	LUMINAIRE	ACU	AC UNIT
	STEEP SLOPE AREA		

VICINITY MAP

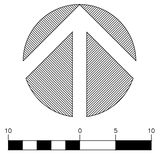
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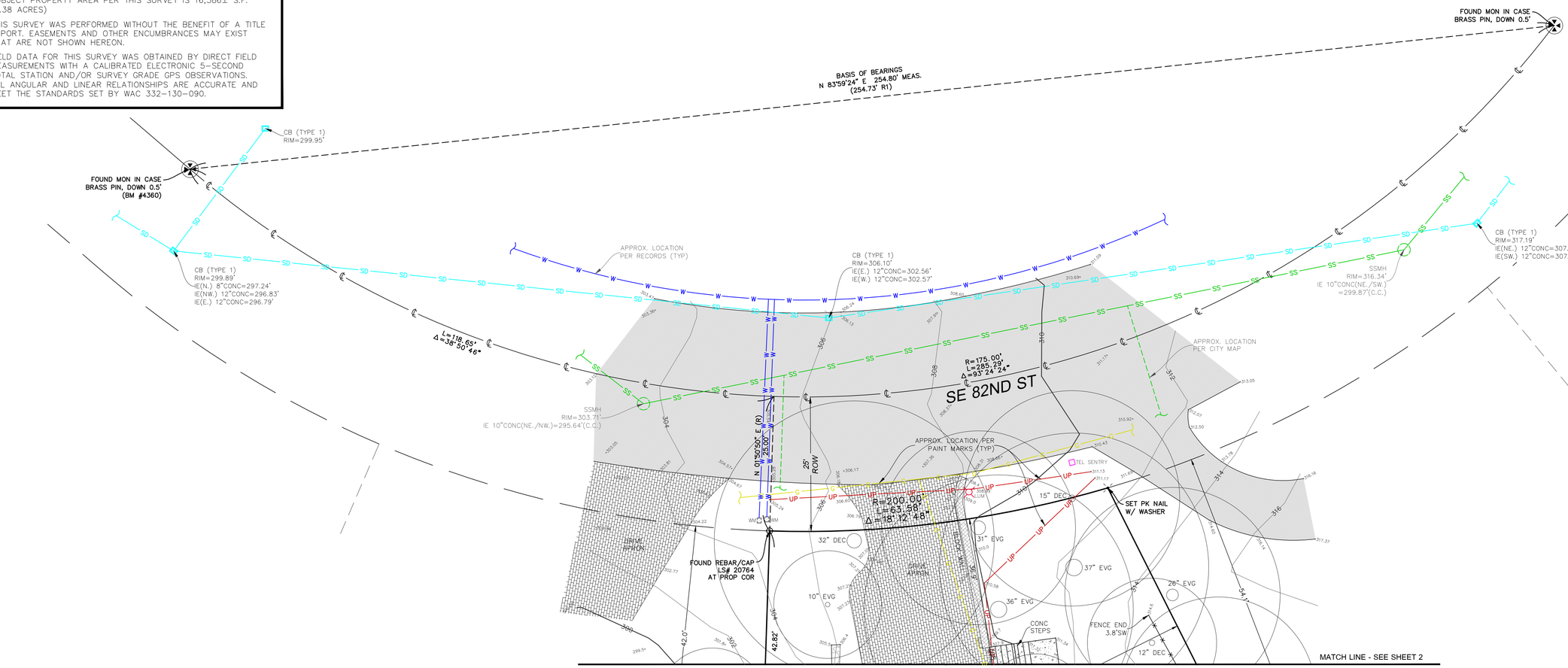


STEEP SLOPE/BUFFER DISCLAIMER:

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

INDEXING INFORMATION
NW 1/4 NW 1/4
SECTION: 31
TOWNSHIP: 24N
RANGE: 05E, W.M.
COUNTY: KING





measure success

TOPOGRAPHIC & BOUNDARY SURVEY
PARCEL NO. 3625600080

RAWSON RESIDENCE
8413 SE 82ND ST
MERCER ISLAND, WA 98040

GOODMAN MILLER NORTHWEST LAND SURVEYORS REGISTERED PROFESSIONAL LAND SURVEYOR STATE OF WASHINGTON

Terrane
10801 Main Street, Suite 102, Bellevue, WA 98004
phone 425.458.4488 support@terrane.net
www.terrane.net

JOB NUMBER:	210217
DATE:	03/11/21
DRAFTED BY:	RSN
CHECKED BY:	JGM/CSP
SCALE:	1" = 10'

REVISION HISTORY

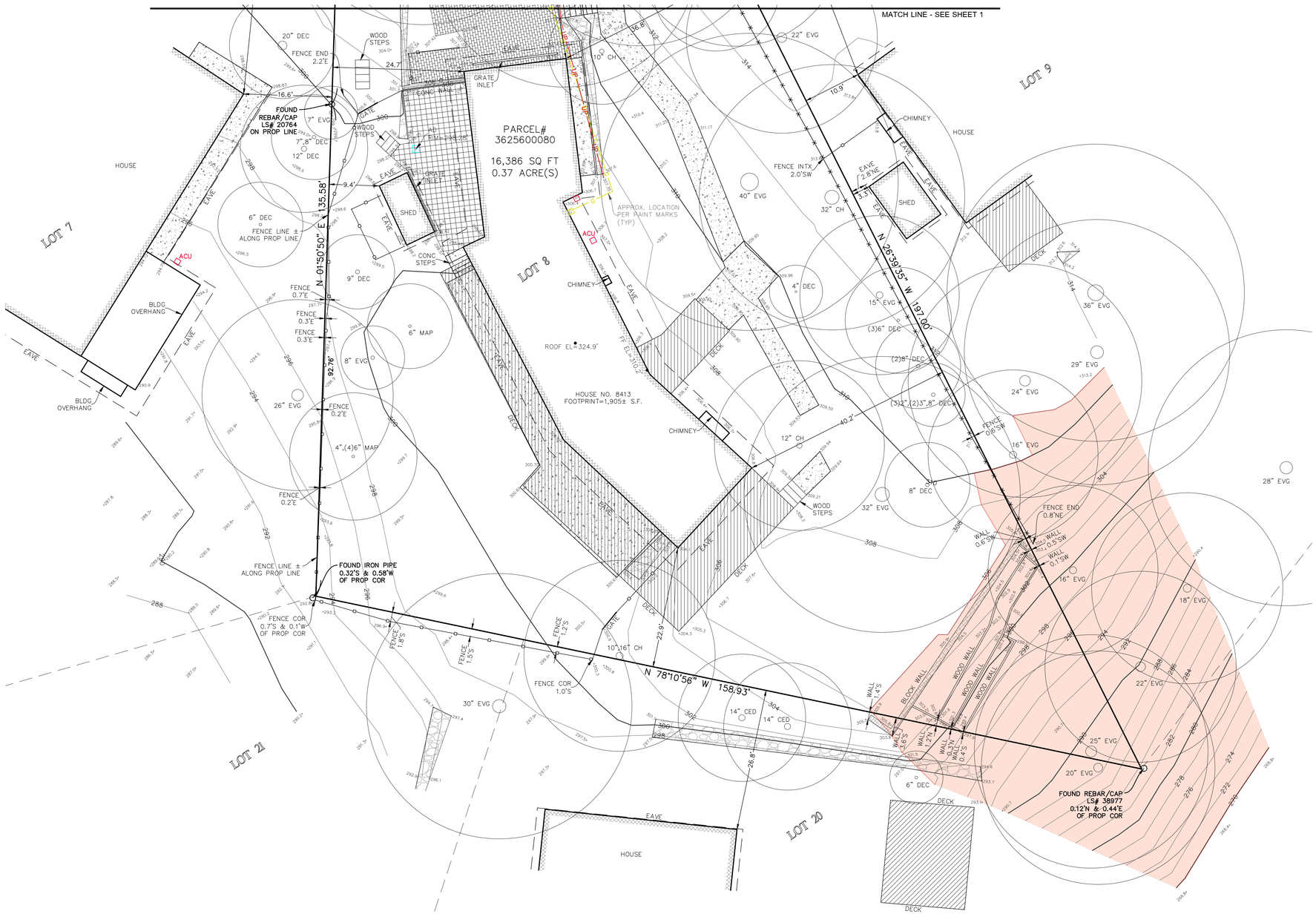
SHEET NUMBER
1 OF 2

TOPOGRAPHIC & BOUNDARY SURVEY

LEGEND

AREA DRAIN	NAIL AS NOTED
ASPHALT SURFACE	MONUMENT IN CASE (FOUND)
BRICK SURFACE	PAVER SURFACE
BUILDING	POWER METER
CENTERLINE ROW	POWER (UNDERGROUND)
CONCRETE SURFACE	REBAR AS NOTED (FOUND)
RETAINING WALL	ROCKERY
DECK	SEWER LINE
FENCE LINE (CHAIN LINK)	SEWER MANHOLE
FENCE LINE (WOOD)	STORM DRAIN LINE
GAS LINE	TELEPHONE SENTRY
GAS METER	TREE (AS NOTED)
INLET (TYPE 1)	WATER LINE
IRON PIPE (FOUND)	WATER METER
LUMINAIRE	AC UNIT
STEEP SLOPE AREA	

INDEXING INFORMATION
NW 1/4 NW 1/4
SECTION: 31
TOWNSHIP: 24N
RANGE: 05E, W.M.
COUNTY: KING



10 0 5 10
(IN FEET)
1 INCH = 10 FT.

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measure success

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JACOB GOODMAN MILLER — STATE OF WASHINGTON — 21810 — REGISTERED PROFESSIONAL LAND SURVEYOR

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SCALE:	1"= 10'

REVISION HISTORY

SHEET NUMBER
2 OF 2

EROSION AND SEDIMENTATION CONTROL GENERAL NOTES:

1. NOT USED
2. NOT USED
3. PERIMETER PROTECTION MAY BE USED AS THE SOLE FORM OR TREATMENT WHEN THE FLOWPATH MEETS THE CRITERIA LISTED BELOW. IF THESE ARE NOT MET, PERIMETER PROTECTION SHALL ONLY BE USED AS A BACKUP TO A SEDIMENT TRAP OR POND.

AVERAGE SLOPE	SLOPE PERCENT	FLOWPATH LENGTH
1.5H:1V OR LESS	67% OR LESS	100 FEET
2H:1V OR LESS	50% OR LESS	115 FEET
4H:1V OR LESS	25% OR LESS	150 FEET
6H:1V OR LESS	16.7% OR LESS	200 FEET
10H:1V OR LESS	10% OR LESS	250 FEET

4. THE CONTRACTOR SHALL STABILIZE DENUDED AREAS AND SOIL STOCKPILES AS FOLLOWS:
   DENUDED AREAS SHALL BE COVERED BY MULCH, SOD, PLASTIC, OR OTHER BMP'S APPROVED BY THE ENGINEER. WHERE POSSIBLE NATURAL VEGETATION SHALL BE MAINTAINED FOR EROSION AND SEDIMENT CONTROL.
5. AS CONSTRUCTION PROGRESSES AND SEASONAL CONDITIONS DICTATE, THE EROSION CONTROL FACILITIES SHALL BE MAINTAINED AND/OR ALTERED AS REQUIRED TO ENSURE CONTINUING EROSION/SEDIMENT CONTROL.
6. EVERY EFFORT SHALL BE MADE TO CLOSE UTILITY TRENCHES BY THE END OF THE DAY AND MATERIAL EXCAVATED DURING UNDERGROUND UTILITY CONSTRUCTION SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES (WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS).
7. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE IN OPERATION, AND THE POTENTIAL FOR EROSION HAS PASSED.
8. AT A MINIMUM, EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE MAINTAINED MONTHLY, OR FOLLOWING EACH RUNOFF-PRODUCING STORM, TO ENSURE PROPER OPERATION OF ALL EROSION AND SEDIMENT CONTROL FACILITIES. SEDIMENT SHALL BE REMOVED FROM BMP'S WHEN IT REACHES D-FOOT DEPTH.
9. THE PUBLIC RIGHT-OF-WAY SHALL BE KEPT CLEAN. TRACKING OF MUD AND DEBRIS FROM THE SITE WILL NOT BE ALLOWED. FAILURE TO COMPLY WITH THIS CONDITION MAY RESULT IN ALL WORK ON SITE BEING STOPPED.
10. THE WASHINGTON STATE CLEAN AIR ACT REQUIRES THE USE OF ALL KNOWN AVAILABLE, AND REASONABLE MEANS OF CONTROLLING AIR POLLUTION, INCLUDING DUST. DUST CAN BE CONTROLLED BY WETTING EXPOSED SOILS, WASHING TRUCK WHEELS BEFORE THEY LEAVE THE SITE, AND INSTALLING AND MAINTAINING ROCK CONSTRUCTION ENTRANCES. CONSTRUCTION VEHICLE TRACK-OUT IS A MAJOR SOURCE OF DUST AND ANY EVIDENCE OF TRACK-OUT CAN TRIGGER FINES FROM THE DEPARTMENT OF ECOLOGY OF THE PUGET SOUND AIR POLLUTION CONTROL AGENCY.
11. NOT USED
12. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL BMP'S WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THEY ARE NO LONGER NECESSARY.

PRIOR TO BEGINNING CLEARING OR GRADING

13. INSTALL THE SLIT FENCE AS INDICATED ON THE SITE PLAN & SHEET C1.0

14. PLACE A THICK LATER OF STRAW OR MULCH ON ALL AREAS OF BARE SOIL OUTSIDE OF THE PLANNED NEW CONSTRUCTION. THIS IS PARTICULARLY IMPORTANT IN THE SOUTH, LOW END OF THE LOT.

15. INSTALL PRE MANUFACTURED SILT SOCKS IN THE TWO EXISTING CATCH BASINS LOCATED SOUTH & EAST OF THE SITE. THIS CATCH BASIN PROTECTION MUST BE CHECKED PERIODICALLY, & CLEANED AS NECESSARY, TO PREVENT THE SILT SOCKS FROM BECOMING OVERLOADED WITH SILT & DEBRIS FROM SURFACE RUNOFF.

16. CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE, AS SHOWN ON SHEET C1.0 OF THE DRAWINGS, WHEREVER TRUCKS WILL DRIVE OFF AF PAVED SURFACES TO IMPORT OR EXPORT DEBRIS & SOIL.

DURING GRADING & CONSTRUCTION

17. COVER ANY SOIL STOCKPILES WITH PLASTIC SHEETING THAT IS STAKED OR WEIGHTED TO PREVENT IT FROM BLOWING AWAY.

18. ALLOW NO RUNOFF FROM THE EXCAVATION FOR THE SOUTHERN ADDITION TO FLOW ACROSS THE GROUND SURFACE TOWARD THE SOUTH. THIS MAY REQUIRE CREATING A SOIL BERM ALONG THE SOUTHERN EDGE OF THE EXCAVATION. IF SILTY RUNOFF COLLECTS IN THE EXCAVATION, IT MAY NEED TO BE PUMPED TO A TEMPORARY HOLDING TANK FOR DISPOSAL OFF SITE.

19. FOLLOWING CONSTRUCTION OF THE FOUNDATION WALLS, PROCEED IMMEDIATELY WITH INSTALLATION OF DRAINAGE & WATER PROOFING, THEN COMPLETION OF BACKFILLING.

20. SPREAD STRAW OR MULCH AGAIN ON ALL BARE SOIL OUTSIDE OF THE BACKFILLED FOUNDATIONS, UNLESS PERMANENT LANDSCAPING & VEGETATION WILL BE IMMEDIATELY ESTABLISHED.

CONSTRUCTION SEQUENCE:

1. SCHEDULE THE PRE-CONSTRUCTION MEETING.

2. FLAG OR FENCE ALL CRITICAL AREAS AND CLEARING LIMITS.

3. POST A SIGN WITH THE NAME AND PHONE NUMBER OF THE E.S.C. SUPERVISOR.

4. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).

5. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).

6. CONSTRUCT SEDIMENT PONDS AND TRAPS, IF REQUIRED.

7. GRADE AND STABILIZE CONSTRUCTION ROADS.

8. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.

9. INSTALL UTILITIES.

10. MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH LOCAL STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.

11. RELOCATE SURFACE WATER CONTROLS OR EROSION CONTROL MEASURES, OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE ACCEPTED STANDARD BMP's.

12. COVER ALL AREAS THAT WILL BE UNWORKED FOR MORE THAN SEVEN DAYS DURING THE DRY SEASON OR TWO DAYS DURING THE WET SEASON WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, OR EQUIVALENT.

13. STABILIZE ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.

14. SEED OR SOD ANY AREAS OF THE PROJECT, STABILIZE ALL DISTURBED AREA AND REMOVE BMP's IFF APPROPRIATE

15. UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS AND REMOVE BMP's IF APPROPRIATE.

COVER MEASURES

COVER METHODS INCLUDE THE USE OF MULCH, EROSION CONTROL NETS AND BLANKETS, PLASTIC COVERING, SEEDING, AND SODDING. MULCH AND PLASTIC SHEETING ARE PRIMARILY INTENDED TO PROTECT DISTURBED AREAS FOR A SHORT PERIOD OF TIME, TYPICALLY DAYS TO A FEW MONTHS. SEEDING AND SODDING ARE MEASURES FOR AREAS THAT ARE TO REMAIN UNWORKED FOR MONTHS.

TEMPORARY EROSION CONTROL SEED MIX:

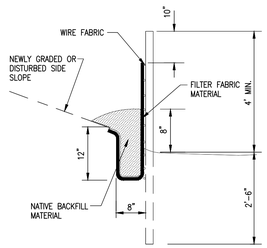
	% WEIGHT	% PURITY	% GERMINATION
ANNUAL OR PERENNIAL RYE (LOLIUM MULTIFLORUM OR LOLIUM PERENNE)	40	98	90
REDTOP OR COLONIAL BENTGRASS (AGROSTIS ALBA OR AGROSTIS TENUIS)	10	92	85

PERMANENT SEED MIX:

	% WEIGHT	% PURITY	% GERMINATION	REMARKS
PERENNIAL RYE BLEND (LOLIUM PERENNE)	70	98	90	THIS MIX IS PROVIDED AS JUST ONE RECOMMENDED POSSIBILITY. LOCAL SUPPLIERS SHOULD BE CONSULTED FOR THEIR RECOMMENDATIONS BECAUSE THE APPROPRIATE MIX DEPENDS ON A VARIETY OF FACTORS, INCLUDING EXPOSURE, SOIL TYPE, SLOPE, AND EXPECTED FOOT TRAFFIC.
CHEWINGS AND RED FESCUE BLEND (FESTUCA RUBRA VAR. COMMUTATA OR FESTUCA RUBRA)	30	98	90	

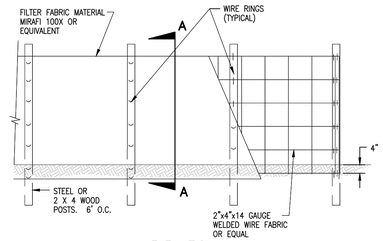
MULCH STANDARDS AND GUIDELINES:

MULCH MATERIAL	QUALITY STANDARDS	APPLICATION RATES	REMARKS
STRAW	AIR-DRIED; FREE FROM UNDESIRABLE SEED AND COARSE MATERIAL.	2"-3" THICK; 2-3 BALES PER 1000 SF OR 2-3 TONS PER ACRE	COST-EFFECTIVE PROTECTION WHEN APPLIED WITH ADEQUATE THICKNESS. HAND-APPLICATION GENERALLY REQUIRES GREATER THICKNESS THAN BLOWN STRAW. STRAW SHOULD BE CRIMPED TO AVOID WIND BLOW. THE THICKNESS OF STRAW MAY BE REDUCED BY HALF WHEN USED IN CONJUNCTION WITH SEEDING.
CHIPPED SITE VEGETATION	AVERAGE SIZE SHALL BE SEVERAL INCHES.	2" MINIMUM THICKNESS	THIS IS A COST-EFFECTIVE WAY TO DISPOSE OF DEFRIS FROM CLEARING AND GRUBBING, AND IT ELIMINATES THE PROBLEMS ASSOCIATED WITH BURNING. GENERALLY, IT SHOULD NOT BE USED ON SLOPES ABOVE APPROXIMATELY 10% BECAUSE OF ITS TENDENCY TO BE TRANSPORTED BY RUNOFF. IT IS NOT RECOMMENDED WITHIN 200 FEET OF SURFACE WATERS. IF SEEDING IS EXPECTED SHORTLY AFTER MULCH, THE DECOMPOSITION OF THE CHIPPED VEGETATION MAY TIE UP NUTRIENTS IMPORTANT TO GRASS ESTABLISHMENT.



SECTION A–A

NOTES:
- INSTALL THE SILT FENCE FIRST. AFTER THE SILT FENCE HAS BEEN INSTALLED, CONSTRUCT BERM AND TRENCH.
- THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, THE FILTER FABRIC SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6 INCH OVERLAP, AND BOTH ENDS SHALL BE SECURELY FASTENED TO THE POST.
- POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 30 INCHES (WHERE PHYSICALLY POSSIBLE).
- A TRENCH SHALL BE EXCAVATED APPROXIMATELY 8 INCHES WIDE AND 12 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER. THE TRENCH SHALL BE CONSTRUCTED TO FOLLOW THE CONTOUR. 20 INCHES OF THE FILTER FABRIC SHALL EXTEND INTO THE TRENCH AND THE TRENCH SHALL BE BACKFILLED WITH COMPACTED NATIVE SOIL MATERIAL.
- THE FILTER FABRIC FENCE SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
- WHEN SILT FILM FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES. SILT FILM FILTER SHALL BE WIRED TO THE FENCE.
- WHEN EXTRA–STRENGTH OR MONOFILAMENT FABRIC IS USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN THIS CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS. EXTRA CARE SHOULD BE USED WHEN JOINING OR OVERLAPPING THESE STIFFER FABRICS.

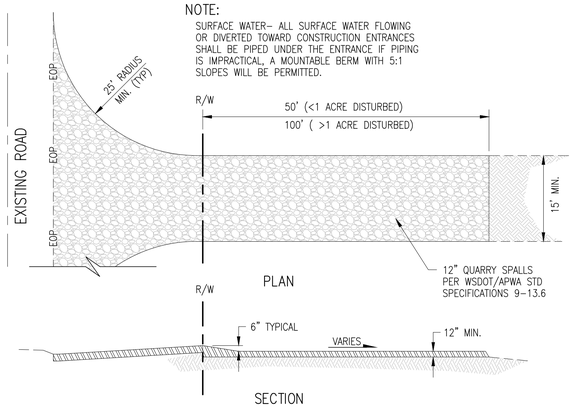


ELEVATION

SILT FENCE DETAIL

SCALE: N.T.S.

NOTE:
SURFACE WATER– ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED UNDER THE ENTRANCE IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.



STABILIZED CONSTRUCTION ENTRANCE

SCALE: N.T.S.

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STATE OF WASHINGTON

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RAWSON REMODEL
8413 SE 82ND ST
MERCER ISLAND, WA 98040

EROSION CONTROL DETAILS AND NOTES

REVISIONS:
1 CORRECTION 1 - 5/30/2024
2 CORRECTION 2- 8/8/2024
3 CORRECTION 3 - 10/29/202
4 CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY:
CHECKED BY: BJS
SHEET C1.0

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

CORRECTION 4 SET 12/4/2024

WALL PARTITION TYPES:

N.T.S. (SEE STRUCTURAL SHEETS FOR SHEARWALLS.

TYPICAL EXTERIOR WALL
EXTERIOR WALL FINISH o/ (2) LAYERS 60# BLDG. PAPER o/ 1/2" CDX PLYWOOD o/ 2x6 WOOD STUDS AT 16" O.C. w/ 1/2" GYPSUM WALLBOARD AT INTERIOR. PROVIDE R-21 BATT INSULATION EXCEPT AROUND GARAGE.

TYPICAL INTERIOR PARTITION
U.N.O. ALL INTERIOR WALL SHALL BE 2x4 WOOD STUDS @ 16" O.C. w/ 1/2" GYPSUM WALLBOARD EACH SIDE.

TYPICAL FURRED WALL
2" AIRSPACE. 2x4 P.T. WOOD STUDS @ 16" O.C. w/ 1/2" GYPSUM WALLBOARD AT INTERIOR. PROVIDE R-21 BATT INSULATION.

1HR, FIRE RATED WALL
5/8" THK GWB, TYPE 'X' O/ 2X6 WD STUDS @ 16" O.C. PANELS NAILED 7" O.C.-1 7/8" CEM CTD NAILS- JOINTS EXP OR FIN - PERIM CAULKED- UL DES U305 & U314- JOINTS FIN

LOWER FLOOR PLAN NOTES:

1. (SD) NEW OR (E) COMBINATION SMOKE/CO2 ALARM. IF (E) IF FOUND TO NOT BE COMBINATION, SMOKE/CO2 ALARM, REPLACE WITH ONE
2. WATER HEATER TO BE NEW ELECTRIC HEAT PUMP WATER HEATER THAT MEETS THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATIONS
3. WASHING MACHINE TO BE ENERGY STAR RATED
4. DRYER TO BE ENERGY STAR RATED, VENTLESS DRYER WITH A MINIMUM CEF RATING OF 5.2

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

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

CORRECTION 4 SET 12/4/2024

STURMAN ARCHITECTS
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MERCER ISLAND, WA 98040

LOWER FLOOR PLAN

REVISIONS:
- CORRECTION 1 - 5/30/2024
- CORRECTION 2- 8/6/2024
- CORRECTION 3 - 10/29/202
- CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET **A2.0**

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MAIN FLOOR PLAN NOTES:

1. (SD) NEW OR (E) COMBINATION SMOKE/CO2 ALARM. IF (E) IF FOUND TO NOT BE COMBINATION SMOKE/CO2 ALARM, REPLACE WITH ONE.
2. (HD) NEW HEAT ALARM/DETCTOR THAT'S FIRE RATED FOR THE AMBIENT OUTDOOR TEMPERATURE AND HUMIDITY
3. DISHWASHER TO BE ENERGY STAR RATED
4. REFRIGERATOR TO BE ENERGY STAR RATED

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

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5663

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MAIN FLOOR PLAN

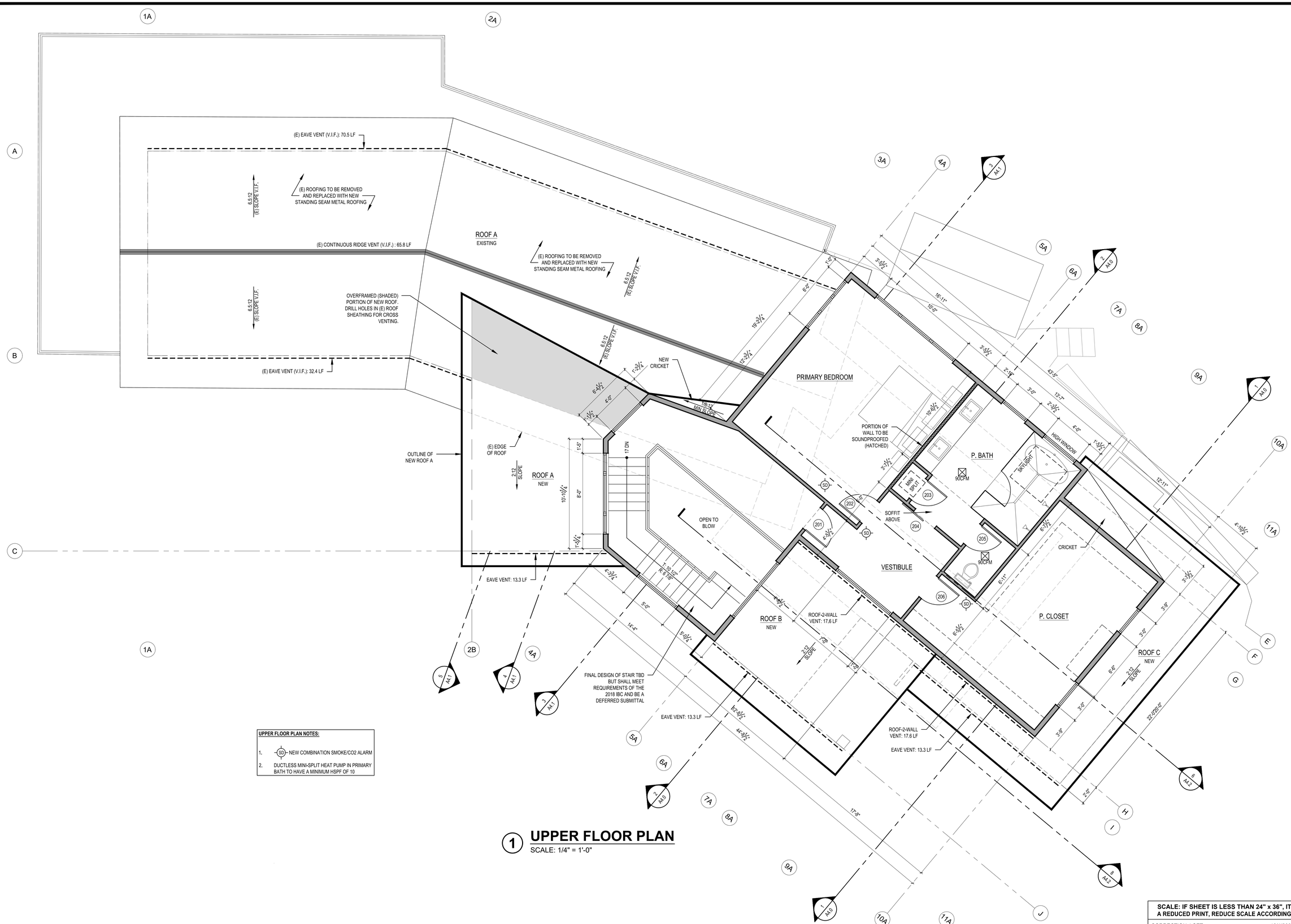
REVISIONS:
CORRECTION 1 - 5/3/2024
CORRECTION 2- 8/6/2024
CORRECTION 3 - 10/29/202
CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET
A2.1

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

CORRECTION 4 SET 12/4/2024



UPPER FLOOR PLAN NOTES:

1. (SD) NEW COMBINATION SMOKE/CO2 ALARM
2. DUCTLESS MINI-SPLIT HEAT PUMP IN PRIMARY BATH TO HAVE A MINIMUM HSPF OF 10

1 UPPER FLOOR PLAN

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

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

CORRECTION 4 SET 12/4/2024

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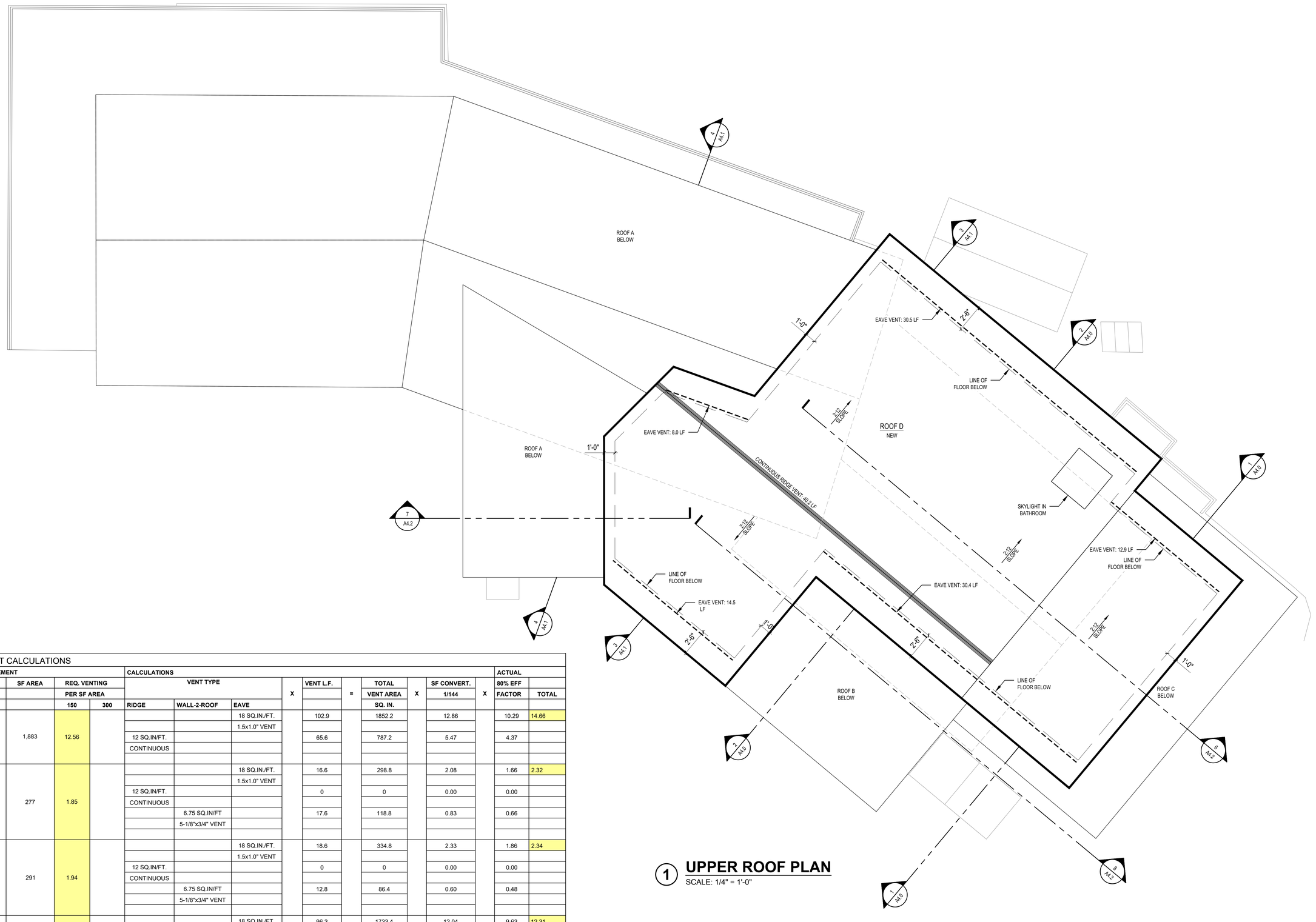
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LOWER ROOF PLAN
UPPER FLOOR PLAN

REVISIONS:
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- CORRECTION 2- 08/5/2024
- CORRECTION 3 - 10/29/202
- CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET **A2.2**



1 UPPER ROOF PLAN

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

ROOF VENT CALCULATIONS

CODE REQUIREMENT				CALCULATIONS										ACTUAL	
DESCRIPTION	SF AREA	REQ. VENTING		VENT TYPE			X	VENT L.F.	=	TOTAL	X	SF CONVERT.	X	80% EFF	
		PER SF AREA								VENT AREA		1/144		FACTOR	TOTAL
		150	300	RIDGE	WALL-2-ROOF	EAVE				SQ. IN.					
ROOF A	1,883	12.56				18 SQ.IN./FT.		102.9		1852.2		12.86		10.29	14.66
						1.5x1.0" VENT									
				12 SQ.IN/FT.				65.6		787.2		5.47		4.37	
				CONTINUOUS											
ROOF B	277	1.85				18 SQ.IN./FT.		16.6		298.8		2.08		1.66	2.32
						1.5x1.0" VENT									
				12 SQ.IN/FT.				0		0		0.00		0.00	
				CONTINUOUS											
					6.75 SQ.IN/FT			17.6		118.8		0.83		0.66	
					5-1/8"x3/4" VENT										
ROOF C	291	1.94				18 SQ.IN./FT.		18.6		334.8		2.33		1.86	2.34
						1.5x1.0" VENT									
				12 SQ.IN/FT.				0		0		0.00		0.00	
				CONTINUOUS											
					6.75 SQ.IN/FT			12.8		86.4		0.60		0.48	
					5-1/8"x3/4" VENT										
ROOF D	1,573	10.49				18 SQ.IN./FT.		96.3		1733.4		12.04		9.63	12.31
						1.5x1.0" VENT									
				12 SQ.IN/FT.				40.2		482.4		3.35		2.68	
				CONTINUOUS											

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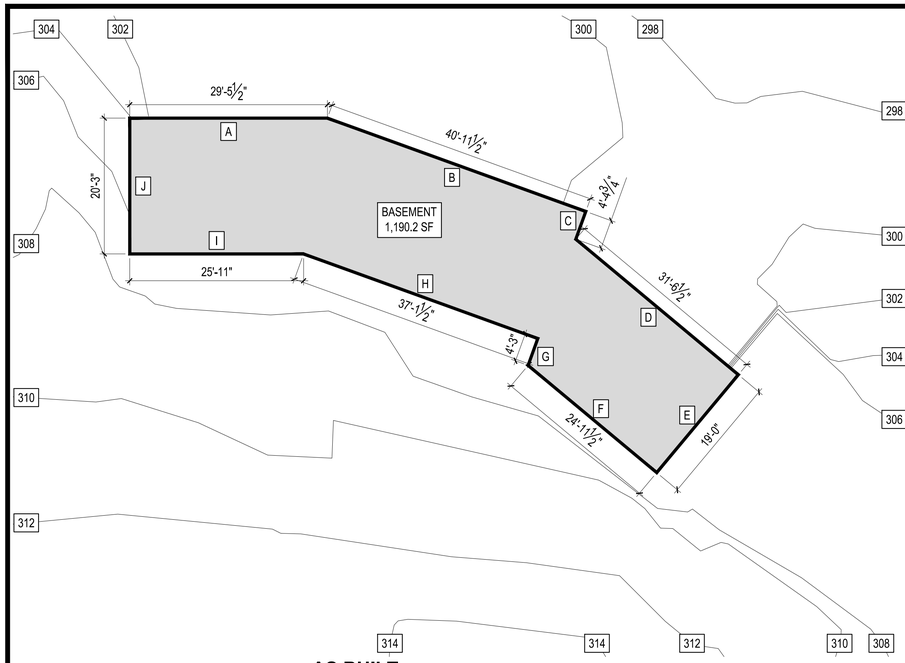
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UPPER ROOF PLAN
ROOF VENT CALCS

REVISIONS:
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CORRECTION 2- 8/6/2024
CORRECTION 3 - 10/29/202
CORRECTION 4 - 12/4/2024

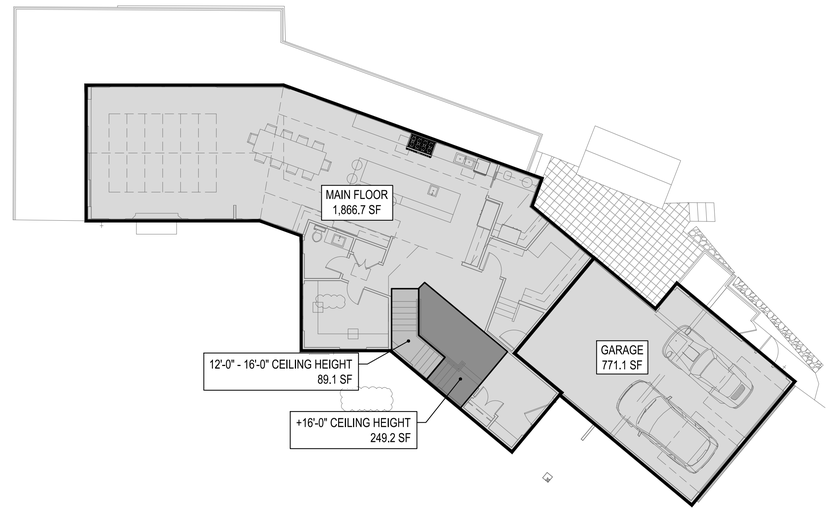
PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET
A2.3

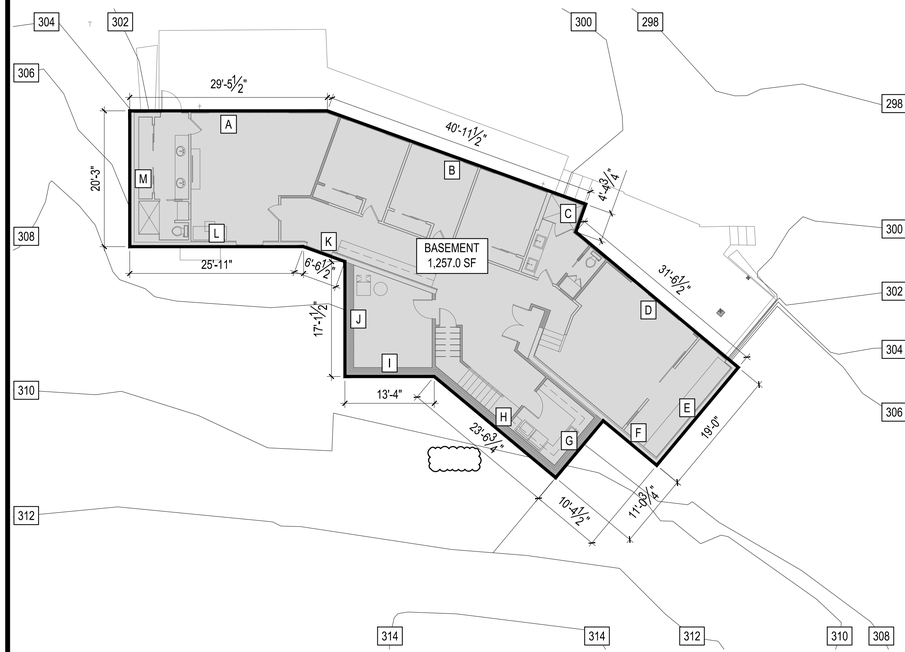


AS BUILT BASEMENT FLOOR AREA CALCULATION			
Basement Floor Area = 1889.2 SF			
Basement Ceiling Height = 8 FT			
SEGMENT	LENGTH	COVERAGE	RESULT
A	38.9	6%	2.2951
B	40.9	0%	0
C	4.4	0%	0
D	31.5	6%	1.79235
E	19	100%	19
F	24.9	51%	12.5745
G	4.3	99%	4.257
H	37.1	65%	24.0779
I	25.9	67%	17.4307
J	20.3	53%	10.71028
	247.2		**92.13783**
Portion of excluded Basement Floor Area = X SF			
1,889.20	X	92.13783	
		247.2	
1,889.20	X	37%	
699 SF EXCLUDED			
BASEMENT AREA = 1190.2 SF			

N A1 **AS BUILT BASEMENT FAR**
SCALE: 3/32" = 1'-0"



N 2 **MAIN FLOOR FAR**
SCALE: 3/32" = 1'-0"



PROPOSED BASEMENT FLOOR AREA CALCULATION			
Basement Floor Area = 2417.4 SF			
Basement Ceiling Height = 8 FT			
SEGMENT	LENGTH	COVERAGE	RESULT
A	38.9	6%	2.2951
B	40.9	0%	0
C	4.4	0%	0
D	31.5	6%	1.79235
E	19	100%	19
F	10.4	100%	10.4
G	11.1	93%	10.2897
H	23.6	96%	22.6678
I	13.3	92%	12.26127
J	17.1	85%	14.5008
K	6.6	65%	4.28274
L	25.9	67%	17.353
M	20.3	53%	10.759
	263		**125.60176**
Portion of excluded Basement Floor Area = X SF			
2,417.40	X	125.60176	
		263	
2,417.40	X	48%	
1,160.4 SF EXCLUDED			
BASEMENT AREA = 1257.0 SF			

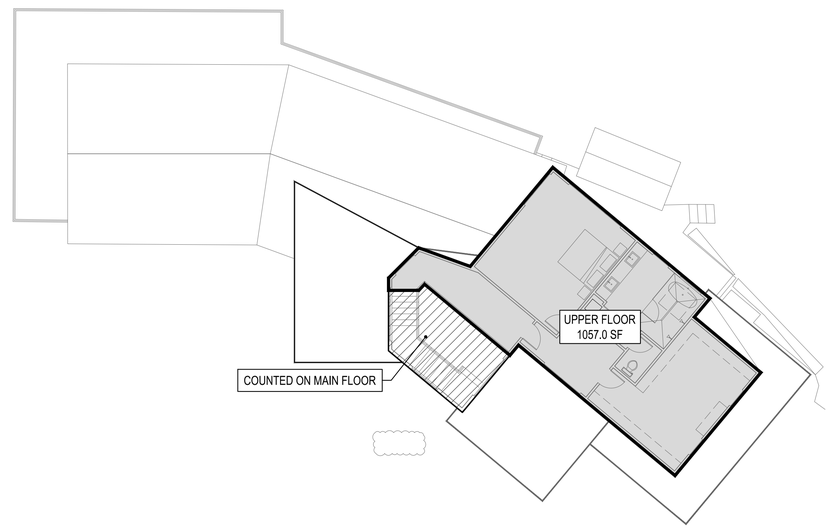
N 1 **BASEMENT FAR**
SCALE: 3/32" = 1'-0"

PROPOSED GROSS FLOOR AREA

	PROPOSED FLOOR AREA
BASEMENT	1,257.0 SF
MAIN FLOOR	1,866.7 SF
THIRD FLOOR	1,057.0 SF
GARAGE	771.1 SF
12-16'-0" CEILING HEIGHT	89.1 SF
16'-0" + CEILING HEIGHT	249.2 SF
TOTAL	5,290.1 SF

LOT SIZE		16,550 SF
GFA THRESHOLD	=	6,620 SF
	=	
PROPOSED GFA	=	5,290.1 SF
PROPOSED %GFA COVERAGE	=	31.9%

PROPOSED GFA IS 5,080.4 SF
OR 31.9%



N 3 **UPPER FLOOR FAR**
SCALE: 3/32" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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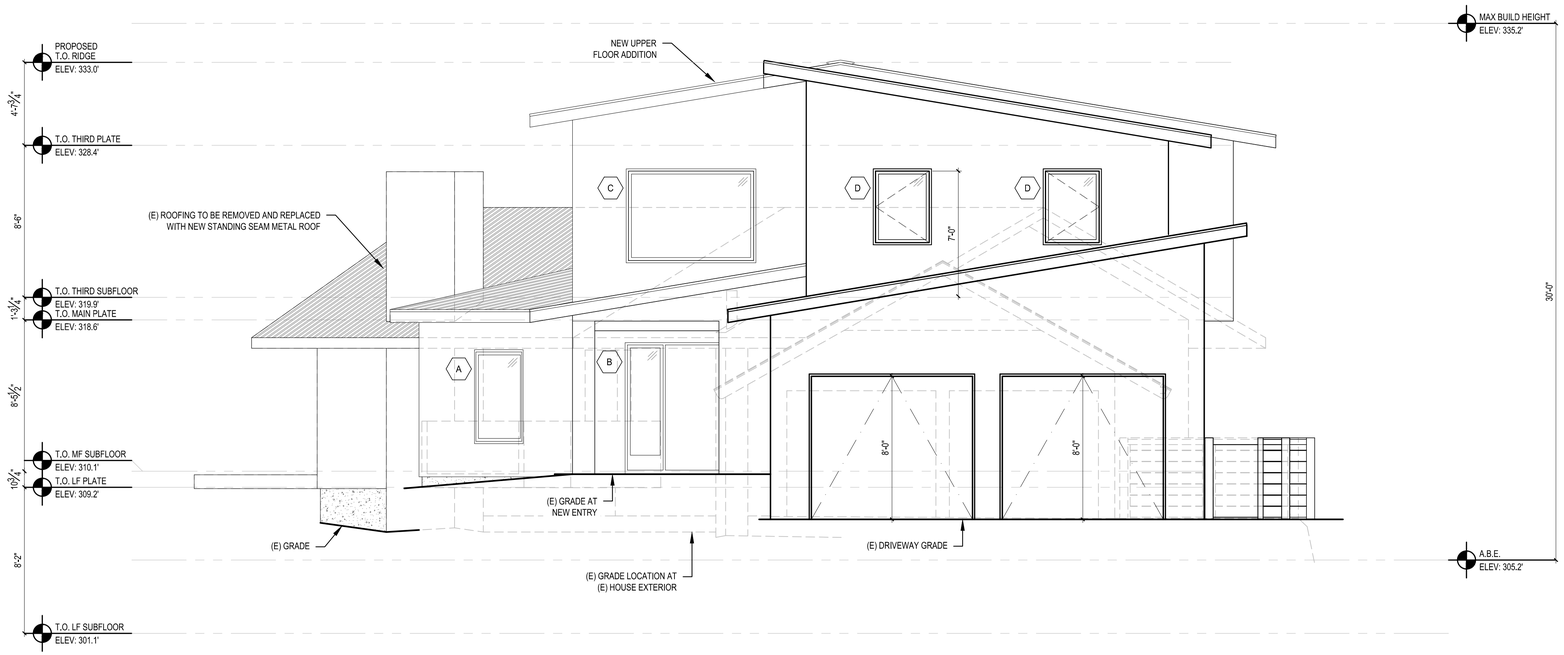
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FAR DIAGRAMS

REVISIONS:
1 CORRECTION 1 - 5/3/2024
2 CORRECTION 2- 8/8/2024
3 CORRECTION 3 - 10/29/202
4 CORRECTION 4 - 12/4/2024

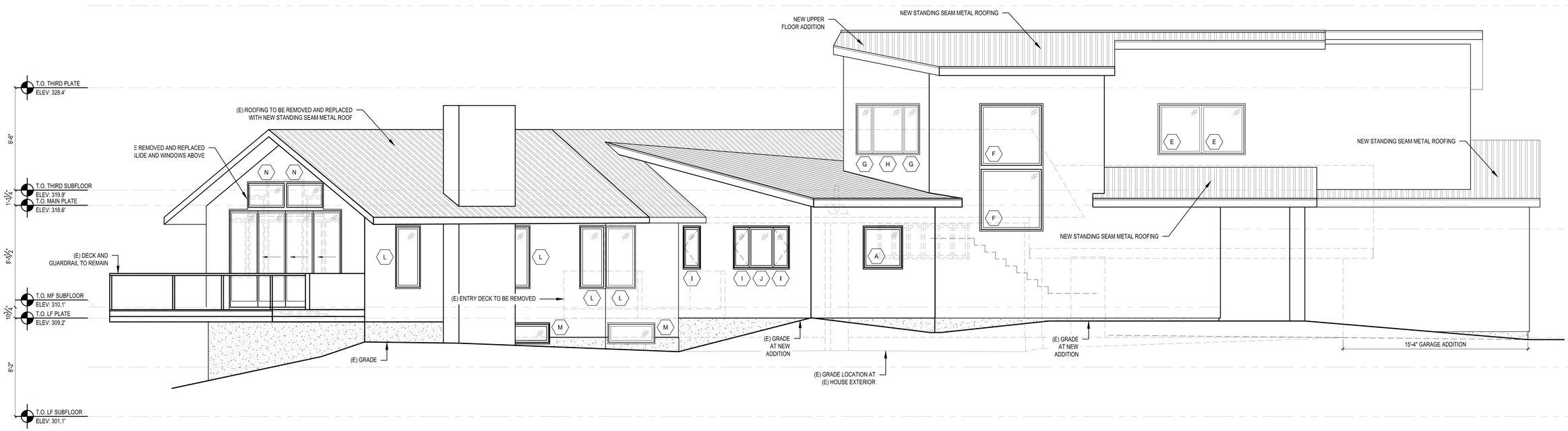
PLOT DATE: 12/5/2024
DRAWN BY: JM
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SHEET **A2.4**



1 WEST ELEVATION

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



2 NORTH ELEVATION

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

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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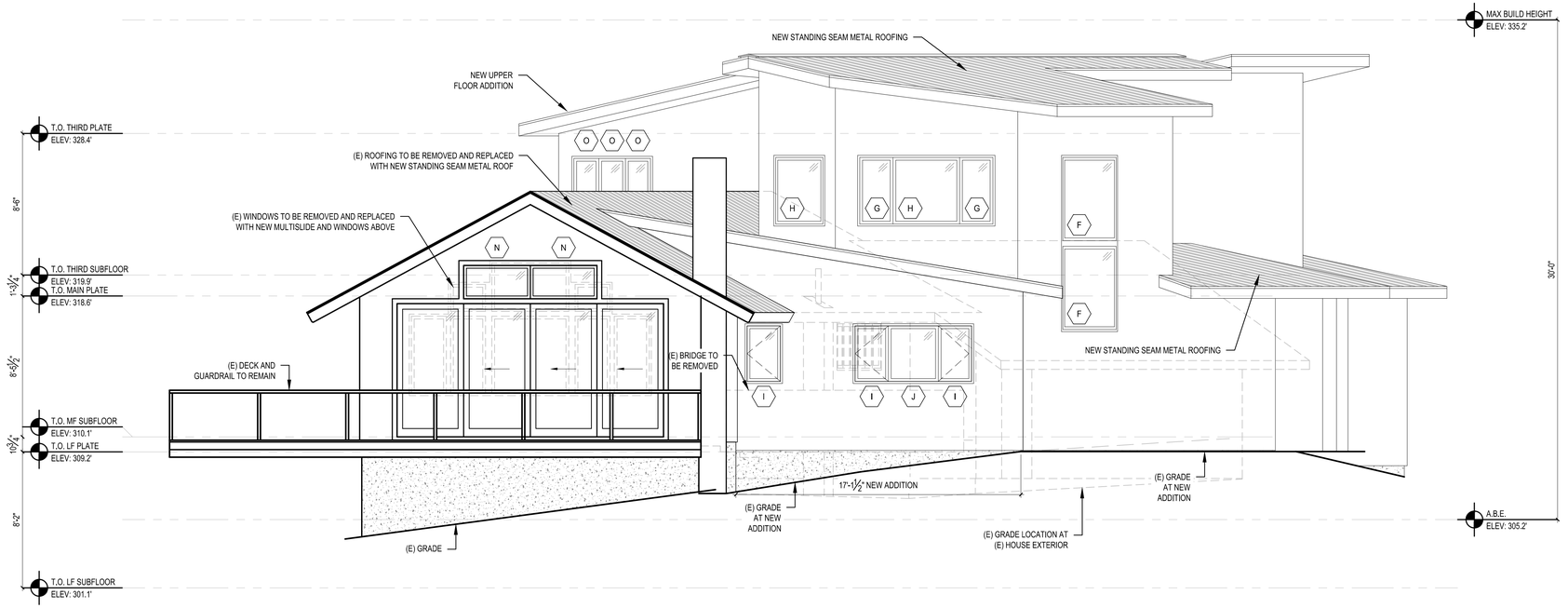
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ELEVATIONS

REVISIONS:
1 CORRECTION 1 - 5/30/2024
2 CORRECTION 2- 8/8/2024
3 CORRECTION 3 - 10/29/202
4 CORRECTION 4 - 12/4/2024

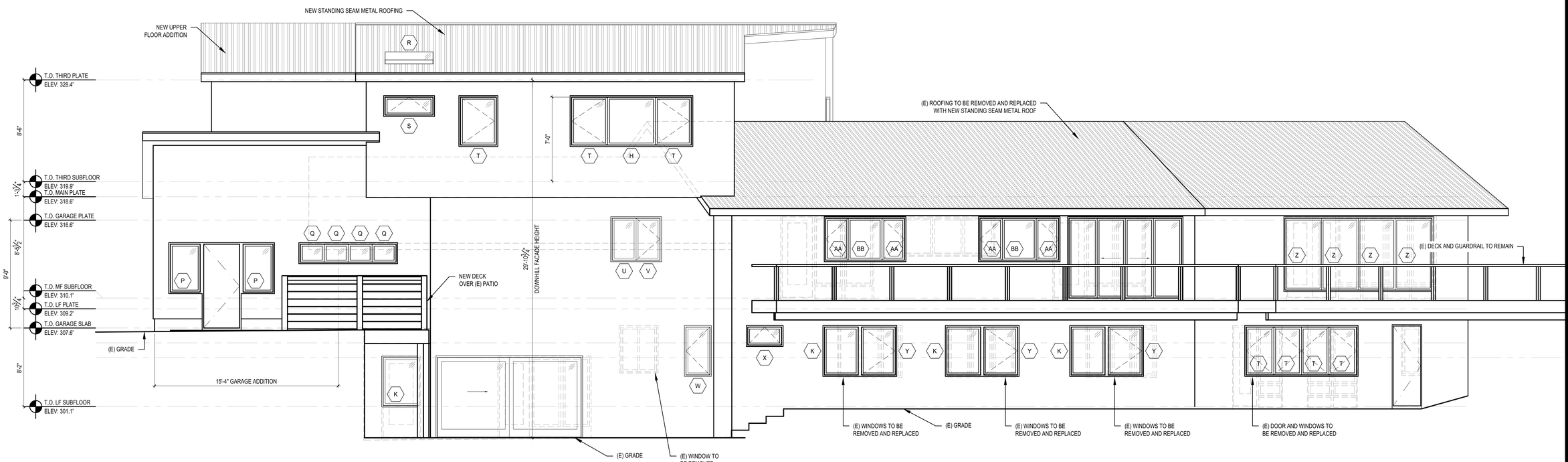
PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET
A3.0



3 EAST ELEVATION

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



4 SOUTH ELEVATION

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

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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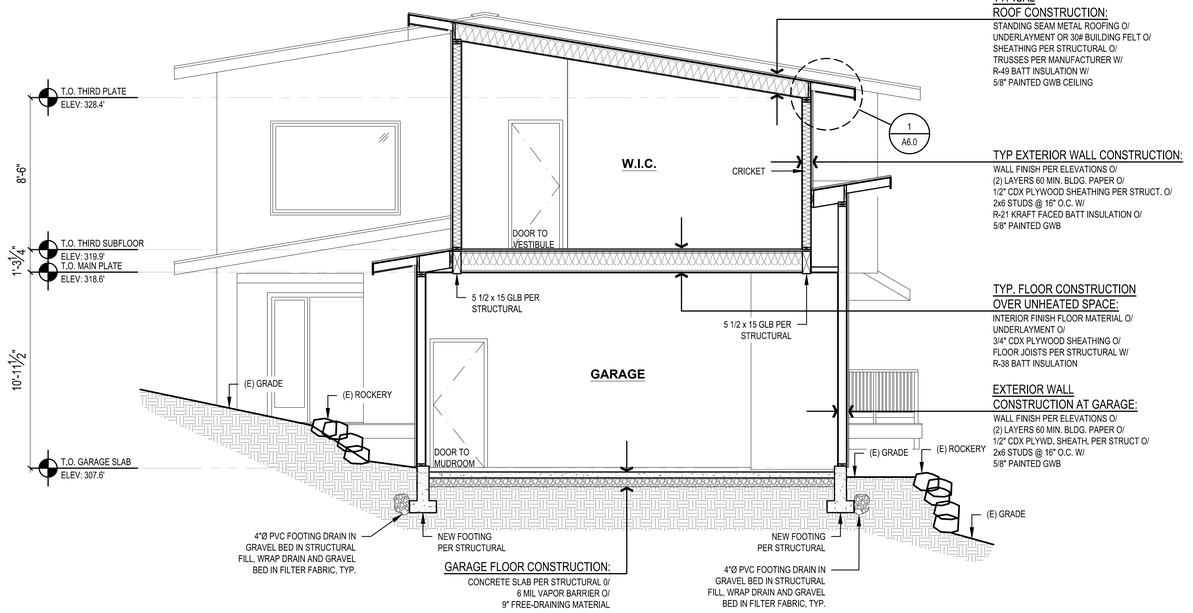
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ELEVATIONS

REVISIONS:
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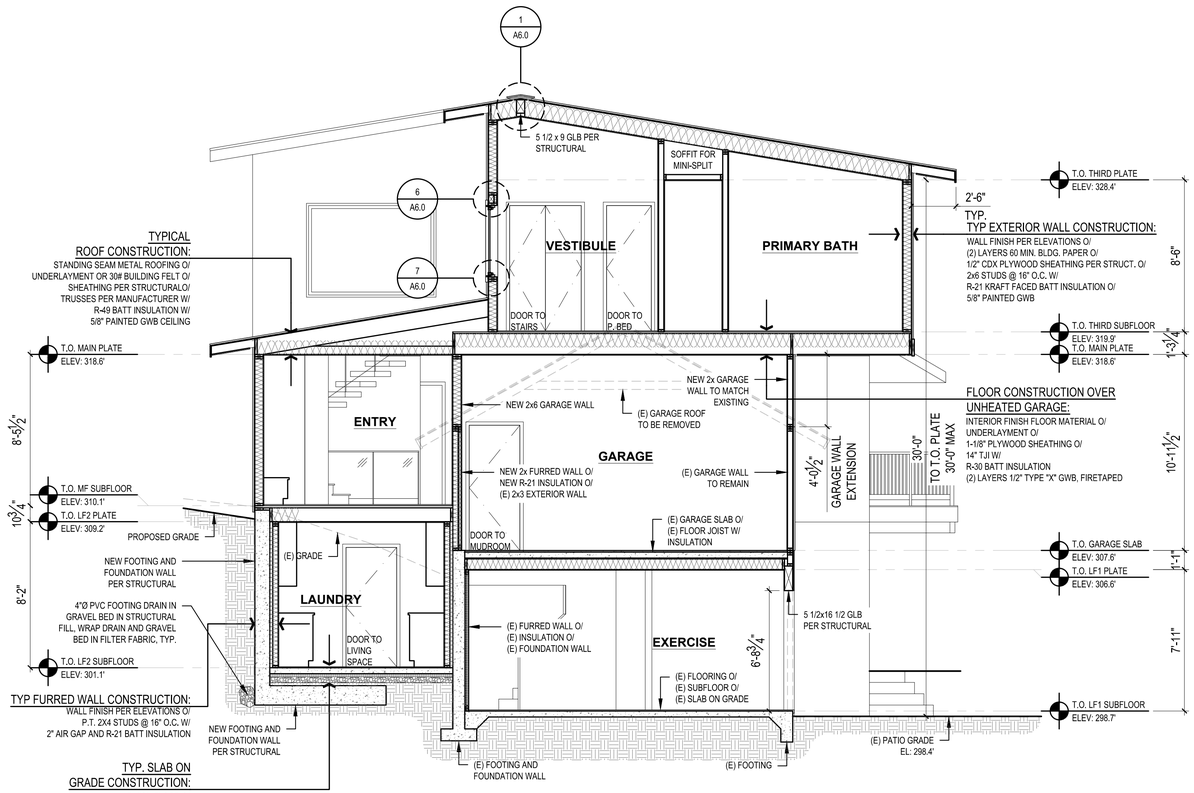
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SHEET **A3.1**



1 BUILDING SECTION

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



2 BUILDING SECTION

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

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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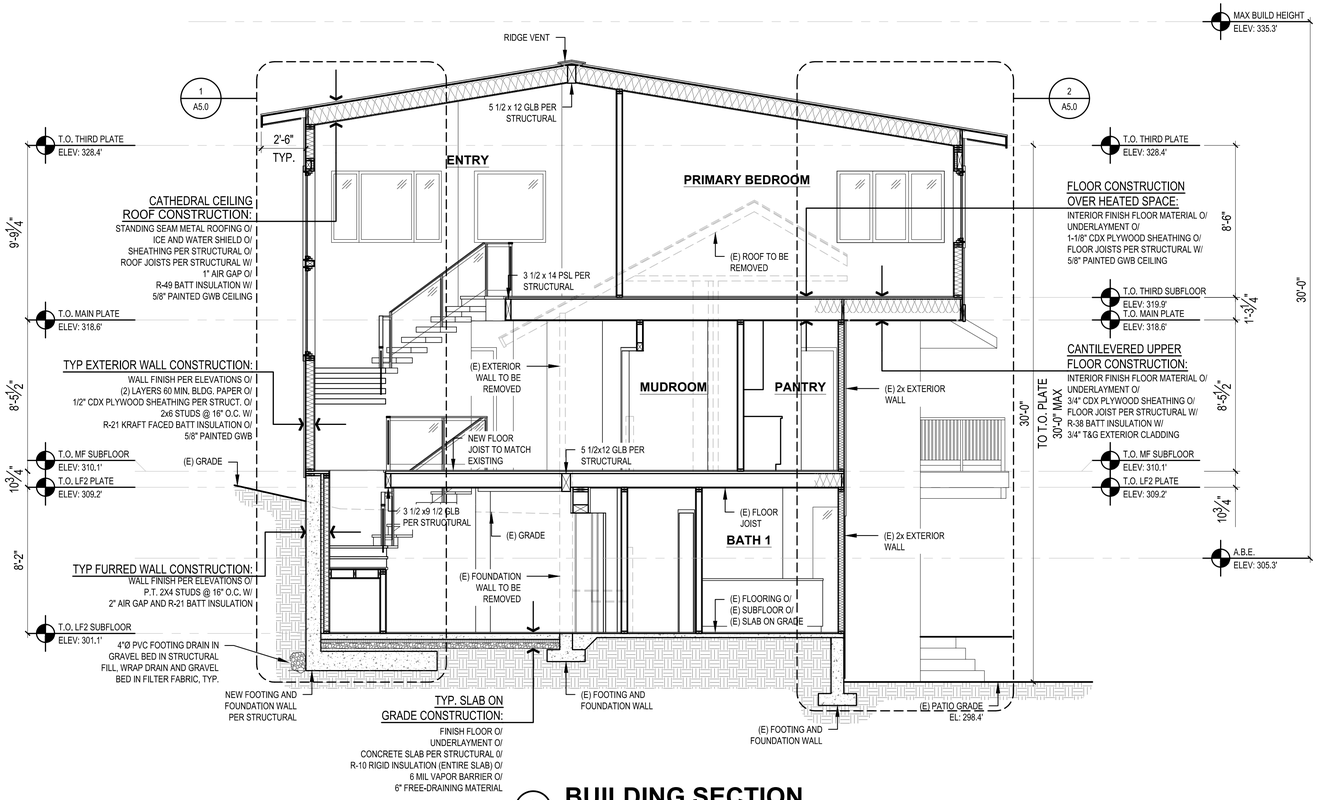
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BUILDING SECTIONS

REVISIONS:
CORRECTION 1 - 5/30/2024
CORRECTION 2- 8/8/2024
CORRECTION 3 - 10/29/202
CORRECTION 4 - 12/4/2024

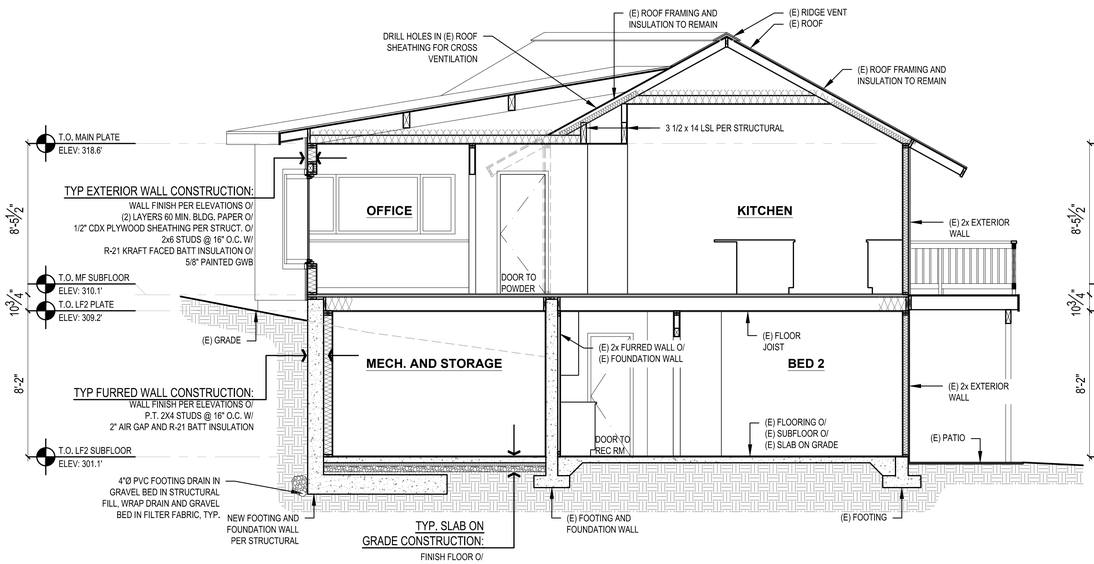
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SHEET
A4.0



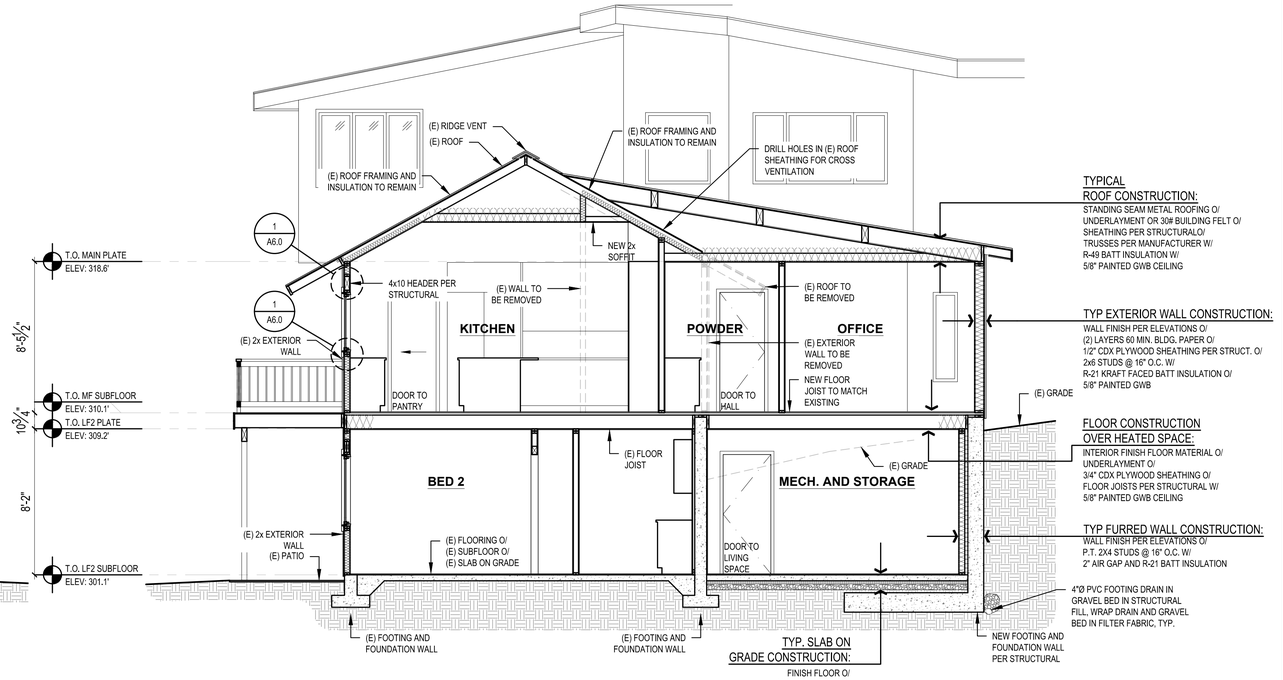
3 BUILDING SECTION

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



4 BUILDING SECTION

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



5 BUILDING SECTION

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

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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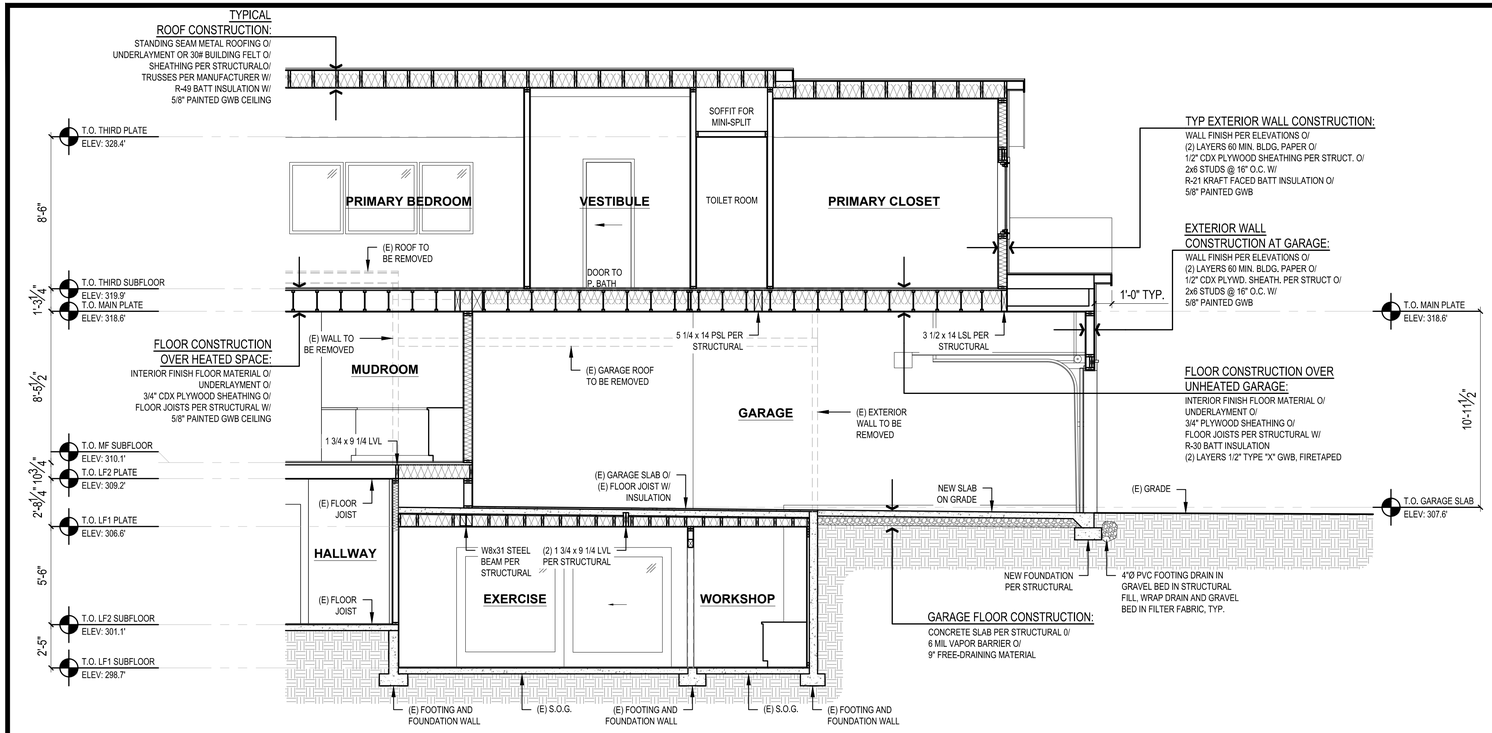
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BUILDING SECTIONS

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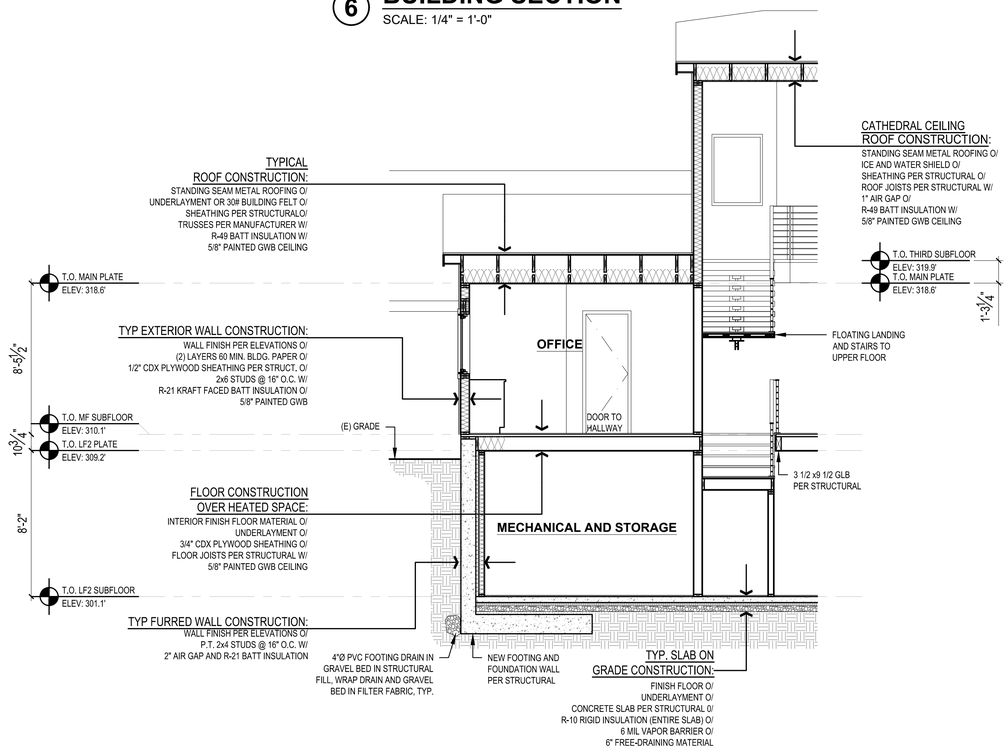
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SHEET
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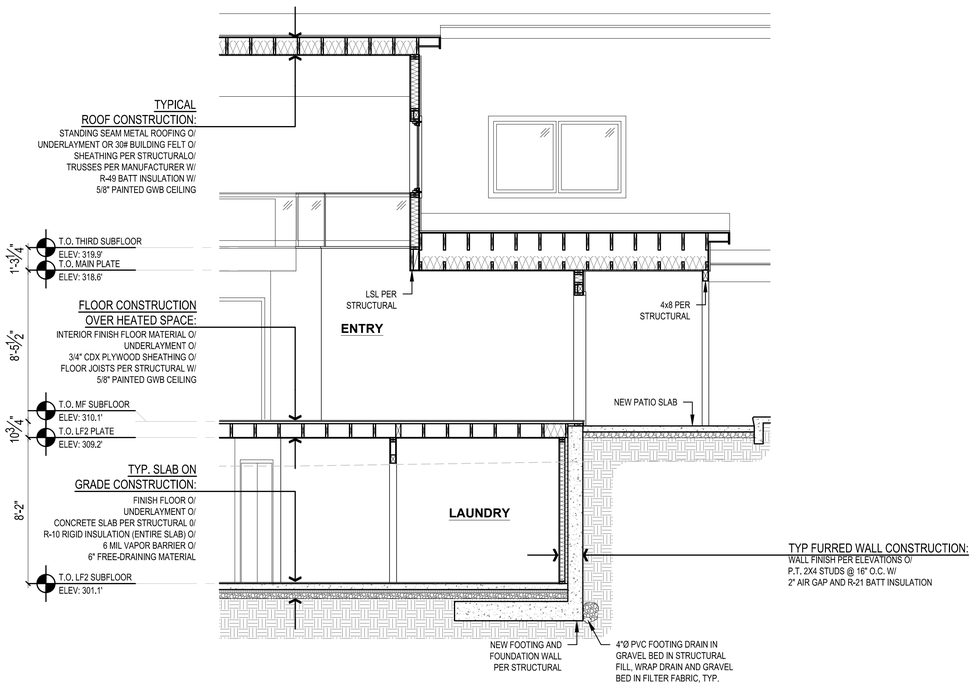
6 BUILDING SECTION

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



7 BUILDING SECTION

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



8 BUILDING SECTION

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

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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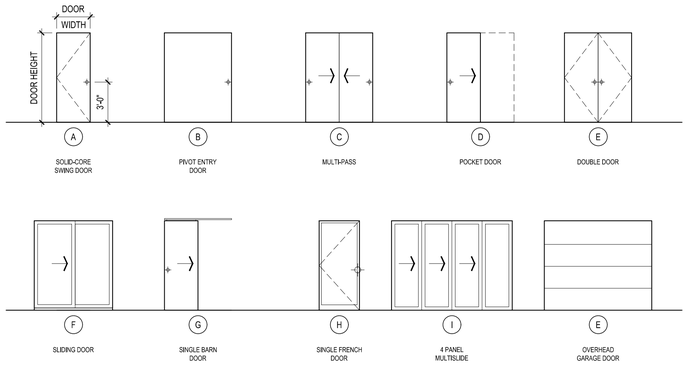
BUILDING SECTIONS

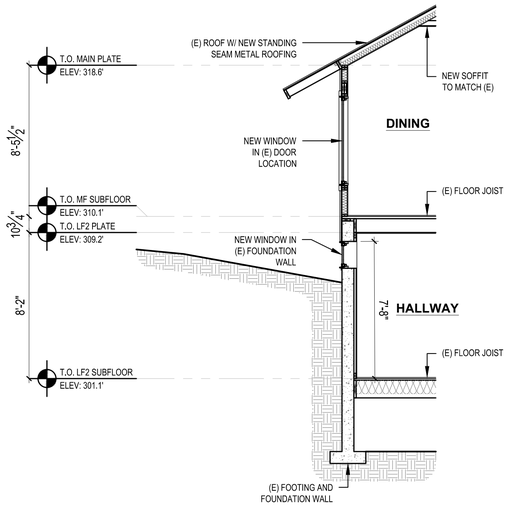
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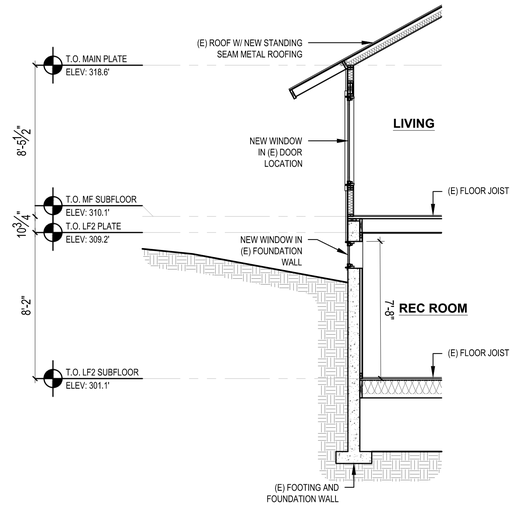
SHEET
A4.2

DOOR TYPES:





9 BUILDING SECTION
SCALE: 1/4" = 1'-0"



10 BUILDING SECTION
SCALE: 1/4" = 1'-0"

DOOR SCHEDULE

DOOR NO.	LOCATION	SIZE WIDTH	SIZE HEIGHT	DOOR TYPE	TEMP. GLASS	DOOR THK.	U-VAL (MIN.)	REMARKS
LOWER FLOOR								
001	BED 1	5' - 0"	6' - 8"	C	-	1-3/4"	-	
002	BED 2	5' - 0"	6' - 8"	C	-	1-3/4"	-	
103	BED 3	5' - 0"	6' - 8"	C	-	1-3/4"	-	
104	BATH 1	2' - 6"	6' - 8"	D	-	1-3/4"	-	
105	HALL CLOSET	2' - 6" PR	6' - 8"	E	-	1-3/4"	-	
106	EXERCISE	12' - 0"	6' - 8"	F	Y	1-3/4"	0.28	
107	EXERCISE	6' - 0"	6' - 8"	G	-	1-3/4"	-	
108	LAUNDRY	2' - 10"	6' - 8"	A	-	1-3/4"	-	
109	STAIR CLOSET	2' - 6"	6' - 8"	A	-	1-3/4"	-	
110	MECH AND STORAGE	2' - 10"	6' - 8"	A	-	1-3/4"	-	
111	BATH 2	10' - 0" PR	6' - 8"	C	-	1-3/4"	-	
112	BATH 2	2' - 10"	6' - 8"	H	Y	1-3/4"	0.28	
MAIN FLOOR								
201	ENTRY DOOR	5' - 0"	7' - 0"	B	-	1-3/4"	-	
202	ENTRY CLOSET	2' - 0" PR	7' - 0"	E	-	1-3/4"	-	
203	OFFICE	2' - 6"	6' - 8"	A	-	1-3/4"	-	
204	POWDER	2' - 6"	6' - 8"	A	-	1-3/4"	-	
205	HALL CLOSET	2' - 0" PR	6' - 8"	E	-	1-3/4"	-	
206	LIVING ROOM	16' - 0"	8' - 0"	I	Y	1-3/4"	0.28	
207	DINING ROOM	8' - 6"	6' - 8"	F	Y	1-3/4"	0.28	
208	PANTRY	2' - 6"	6' - 8"	D	-	1-3/4"	-	
209	MUDROOM	2' - 10"	6' - 8"	A	-	1-3/4"	-	
210	MUDROOM	2' - 10"	6' - 8"	A	-	1-3/4"	-	20 MIN FIRE RATED DOOR
211	GARAGE	3' - 0"	7' - 0"	A	-	1-3/4"	-	
212	GARAGE	9' - 0"	8' - 0"	E	-	1-3/4"	-	
213	GARAGE	9' - 0"	8' - 0"	E	-	1-3/4"	-	
UPPER FLOOR								
201	VESTIBULE	2' - 8"	7' - 0"	A	-	1-3/4"	-	
202	PRIMARY BEDROOM	2' - 8"	7' - 0"	A	-	1-3/4"	-	
203	PRIMARY BATH LINEN	2' - 6"	7' - 0"	A	-	1-3/4"	-	
204	PRIMARY BATH	2' - 6"	7' - 0"	G	-	1-3/4"	-	
205	TOILET ROOM	2' - 6"	7' - 0"	A	-	1-3/4"	-	
206	PRIMARY CLOSET	2' - 6"	7' - 0"	A	-	1-3/4"	-	

WINDOW SCHEDULE

TAG.	DESCRIPTION	WINDOW SIZE		TEMP.	QTY.	AREA (SF)	U-VAL (MIN.)	GLAZING	REMARKS & NOTES
		WIDTH	HEIGHT						
A	PICTURE	4' - 0"	5' - 0"	-	1	20	0.28	LOW E / CLEAR	
B	SIDELIGHT	2' - 0"	7' - 0"	Y	1	14	0.28	LOW E / CLEAR	
C	PICTURE	7' - 0"	5' - 0"	-	1	35	0.28	LOW E / CLEAR	
D	CASEMENT	4' - 0"	3' - 0"	-	2	24	0.28	LOW E / CLEAR	
E	PICTURE	3' - 6"	4' - 0"	-	2	28	0.28	LOW E / CLEAR	
F	PICTURE	5' - 0"	5' - 0"	Y	2	50	0.28	LOW E / CLEAR	
G	FIXED	2' - 0"	4' - 0"	-	2	16	0.28	LOW E / CLEAR	
H	PICTURE	4' - 0"	4' - 0"	-	1	16	0.28	LOW E / CLEAR	
I	CASEMENT	2' - 0"	3' - 4"	-	3	20	0.28	LOW E / CLEAR	
J	PICTURE	3' - 0"	3' - 4"	-	1	10	0.28	LOW E / CLEAR	
K	FIXED	3' - 0"	4' - 0"	-	3	36	0.28	LOW E / CLEAR	
L	PICTURE	2' - 6"	5' - 0"	-	4	50	0.28	LOW E / CLEAR	
M	PICTURE	4' - 0"	1' - 6"	-	2	12	0.28	LOW E / CLEAR	
N	TRANSOM	4' - 0"	2' - 0"	-	2	16	0.28	LOW E / CLEAR	
O	PICTURE	2' - 0"	4' - 0"	-	3	24	0.28	LOW E / CLEAR	
P	PICTURE	2' - 6"	4' - 0"	Y	2	20	0.28	LOW E / CLEAR	
Q	PICTURE	2' - 0"	1' - 6"	-	4	12	0.28	LOW E / CLEAR	
R	SKYLIGHT	4' - 0 "	4' - 0 "	Y	1	16	0.5	LOW E / CLEAR	
S	AWNING	4' - 0"	1' - 6"	Y	1	12	0.28	LOW E / CLEAR	
T	CASEMENT	3' - 0"	4' - 0"	-	7	84	0.28	LOW E / CLEAR	EGRESS IN SOME LOCATIONS
U	FIXED	2' - 0"	3' - 6"	-	1	7	0.28	LOW E / CLEAR	
V	CASEMENT	2' - 0"	3' - 6"	-	1	7	0.28	LOW E / CLEAR	
W	CASEMENT	2' - 0"	4' - 0"	-	1	8	0.28	LOW E / CLEAR	
X	AWNING	3' - 0"	1' - 6"	Y	1	4.5	0.28	LOW E / CLEAR	
Y	CASEMENT	3' - 0"	4' - 0"	-	3	36	0.28	LOW E / CLEAR	
Z	PICTURE	4' - 0"	6' - 0"	Y	4	96	0.28	LOW E / CLEAR	
AA	CASEMENT	2' - 0"	3' - 6"	Y	4	28	0.28	LOW E / CLEAR	
BB	PICTURE	3' - 0"	3' - 6"	Y	2	21	0.28	LOW E / CLEAR	

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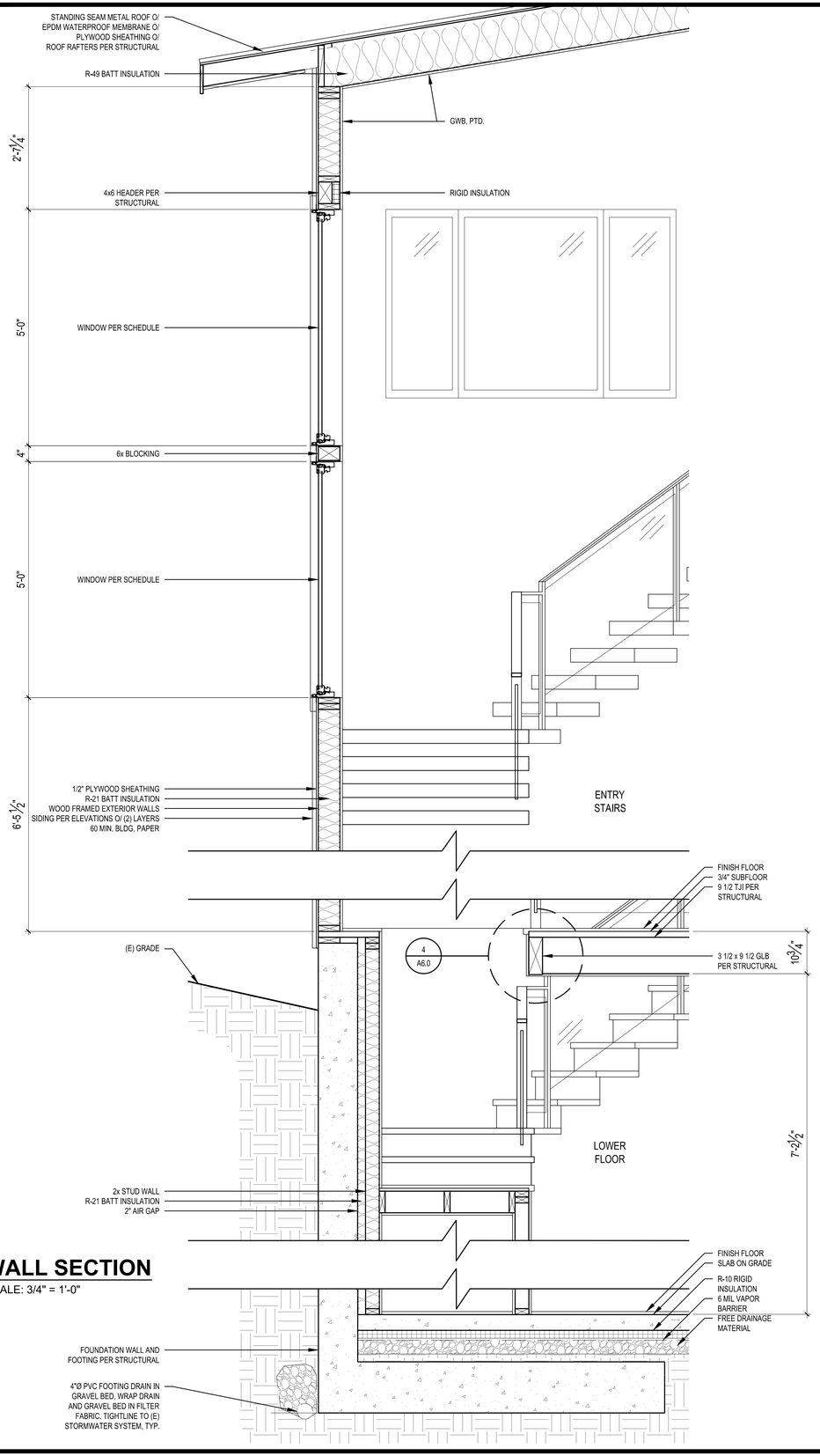
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BUILDING SECTIONS
DOOR/WINDOW SCHEDULE

REVISIONS:
1 CORRECTION 1 - 5/30/2024
2 CORRECTION 2- 8/8/2024
3 CORRECTION 3 - 10/29/202
4 CORRECTION 4 - 12/4/2024

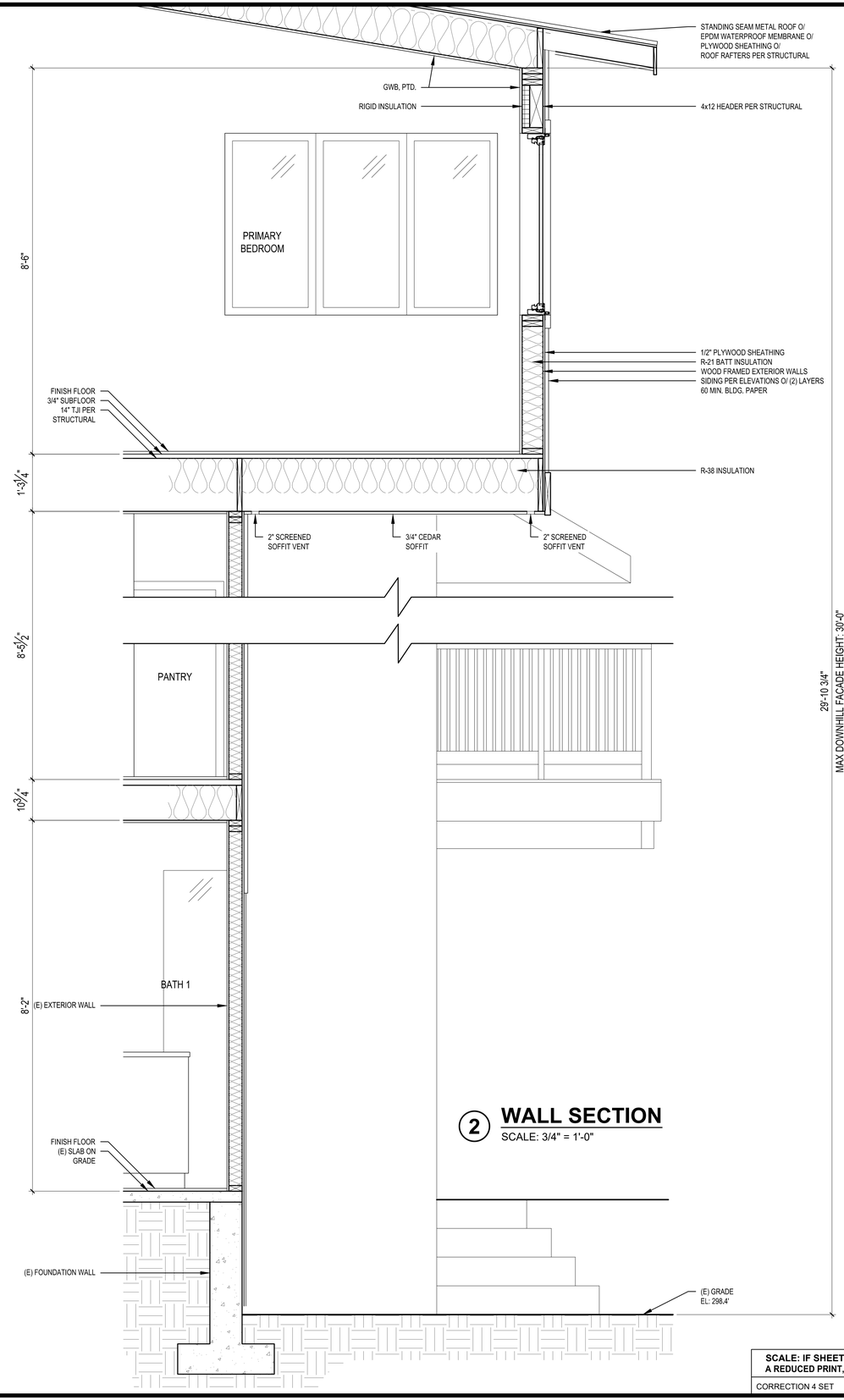
PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET
A4.3



1 WALL SECTION

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



2 WALL SECTION

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

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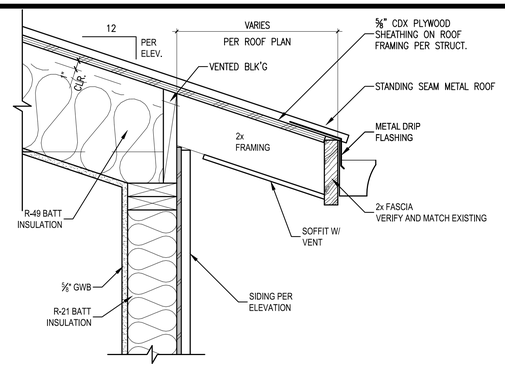
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WALL SECTIONS

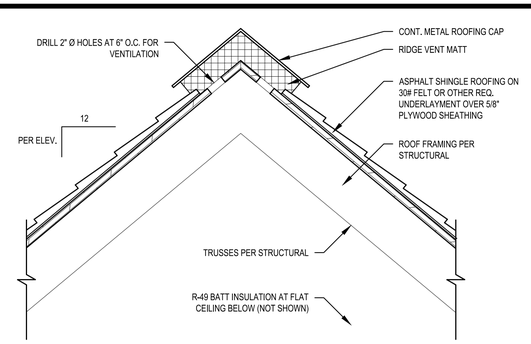
REVISIONS:
- CORRECTION 1 - 5/30/2024
- CORRECTION 2- 8/8/2024
- CORRECTION 3 - 10/29/202
- CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
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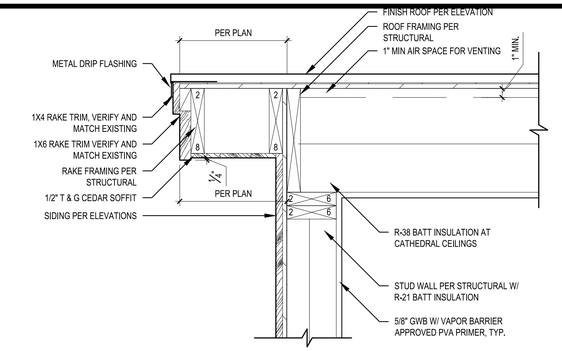
SHEET
A5.0



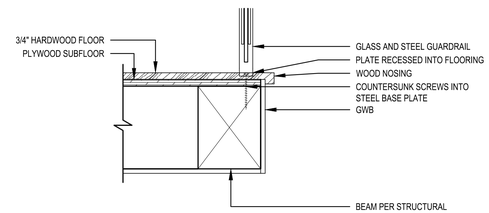
1 TYPICAL ROOF EAVE DETAIL
SCALE: 1 1/2" = 1'-0"



2 TYPICAL ROOF RIDGE VENT DETAIL
SCALE: 1 1/2" = 1'-0"

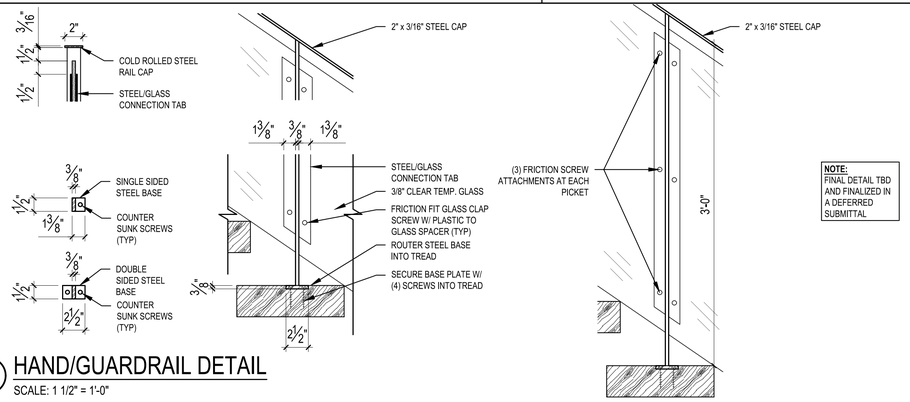


3 TYPICAL ROOF EAVE RAKE DETAIL
SCALE: 1 1/2" = 1'-0"



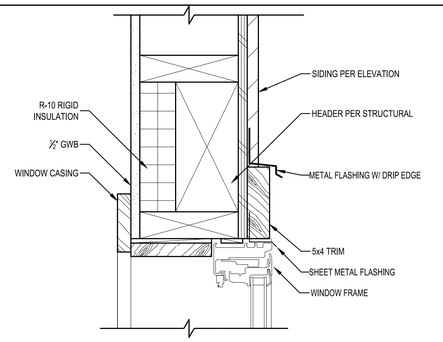
NOTE:
FINAL DETAIL TBD AND FINALIZED IN A DEFERRED SUBMITTAL

4 GLASS GUARDRAIL CONNECTION
SCALE: 1 1/2" = 1'-0"

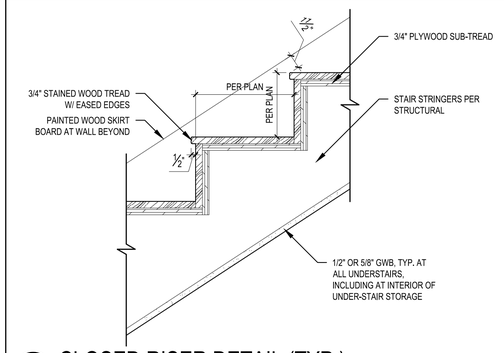


NOTE:
FINAL DETAIL TBD AND FINALIZED IN A DEFERRED SUBMITTAL

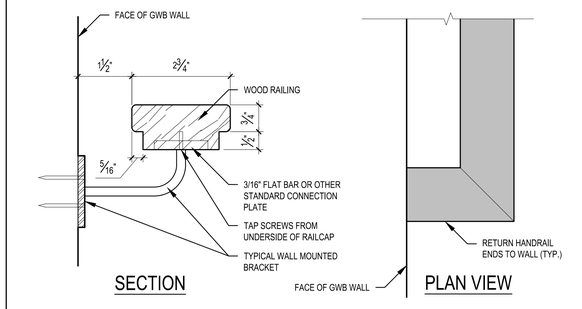
5 HAND/GUARDRAIL DETAIL
SCALE: 1 1/2" = 1'-0"



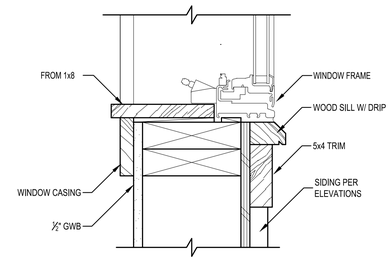
6 TYPICAL WINDOW HEAD DETAIL
SCALE: 3" = 1'-0"



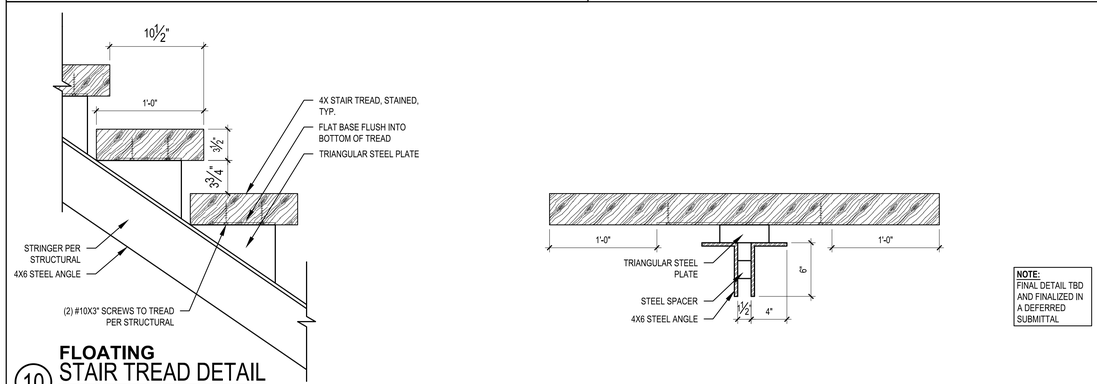
8 CLOSED RISER DETAIL (TYP.)
SCALE: 1 1/2" = 1'-0"



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

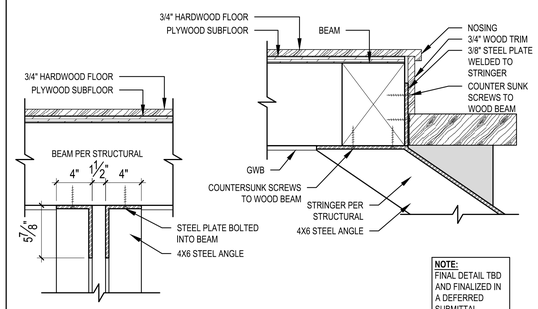


7 TYPICAL WINDOW SILL DETAIL
SCALE: 3" = 1'-0"



NOTE:
FINAL DETAIL TBD AND FINALIZED IN A DEFERRED SUBMITTAL

10 FLOATING STAIR TREAD DETAIL
SCALE: 1 1/2" = 1'-0"



NOTE:
FINAL DETAIL TBD AND FINALIZED IN A DEFERRED SUBMITTAL

11 UPPER FLOOR STAIR CONNECTION
SCALE: 1 1/2" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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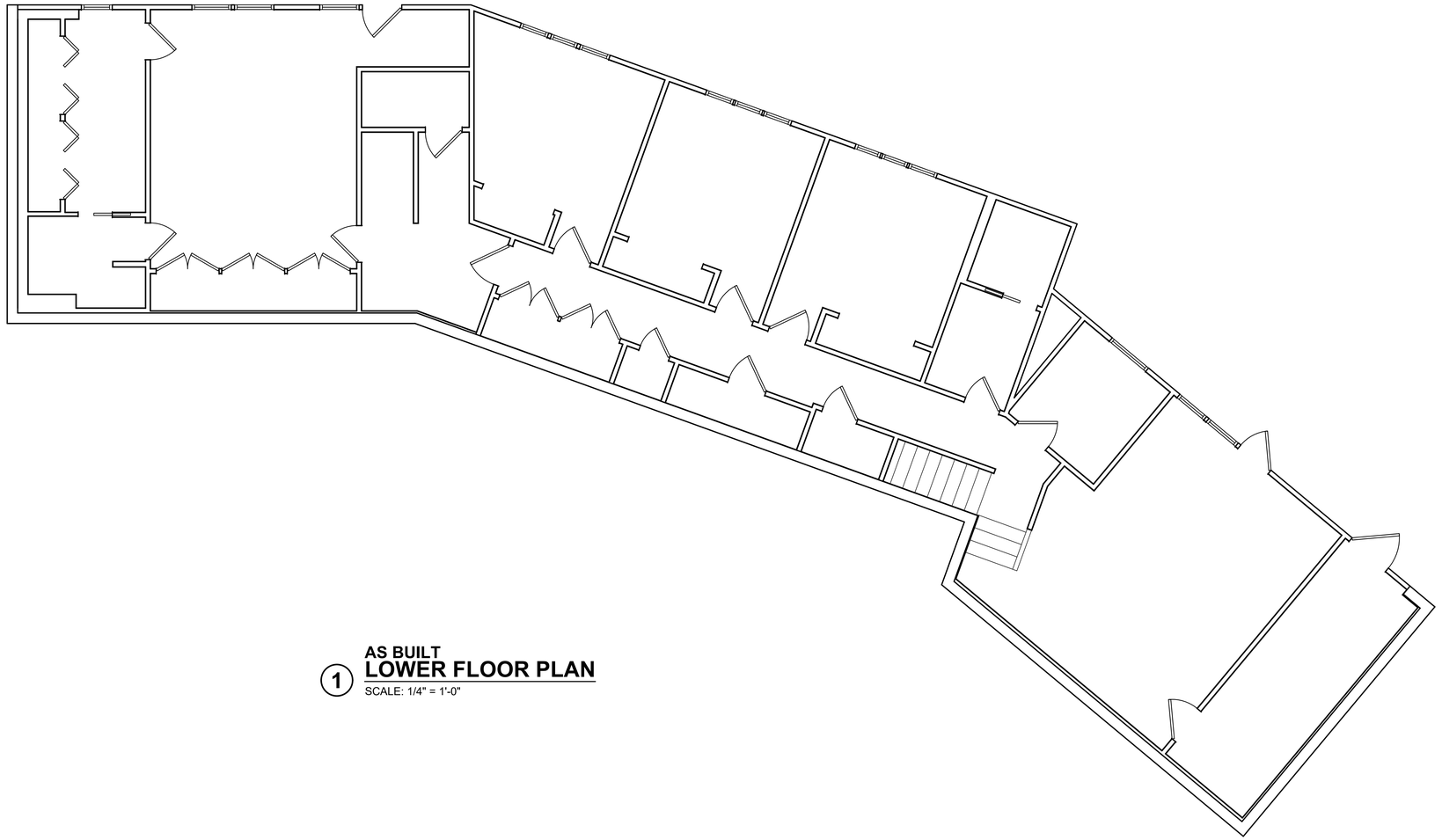
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DETAILS

REVISIONS:
1 CORRECTION 1 - 5/30/2024
2 CORRECTION 2- 08/8/202
3 CORRECTION 3 - 10/29/202
4 CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET
A6.0



1 **AS BUILT**
LOWER FLOOR PLAN
SCALE: 1/4" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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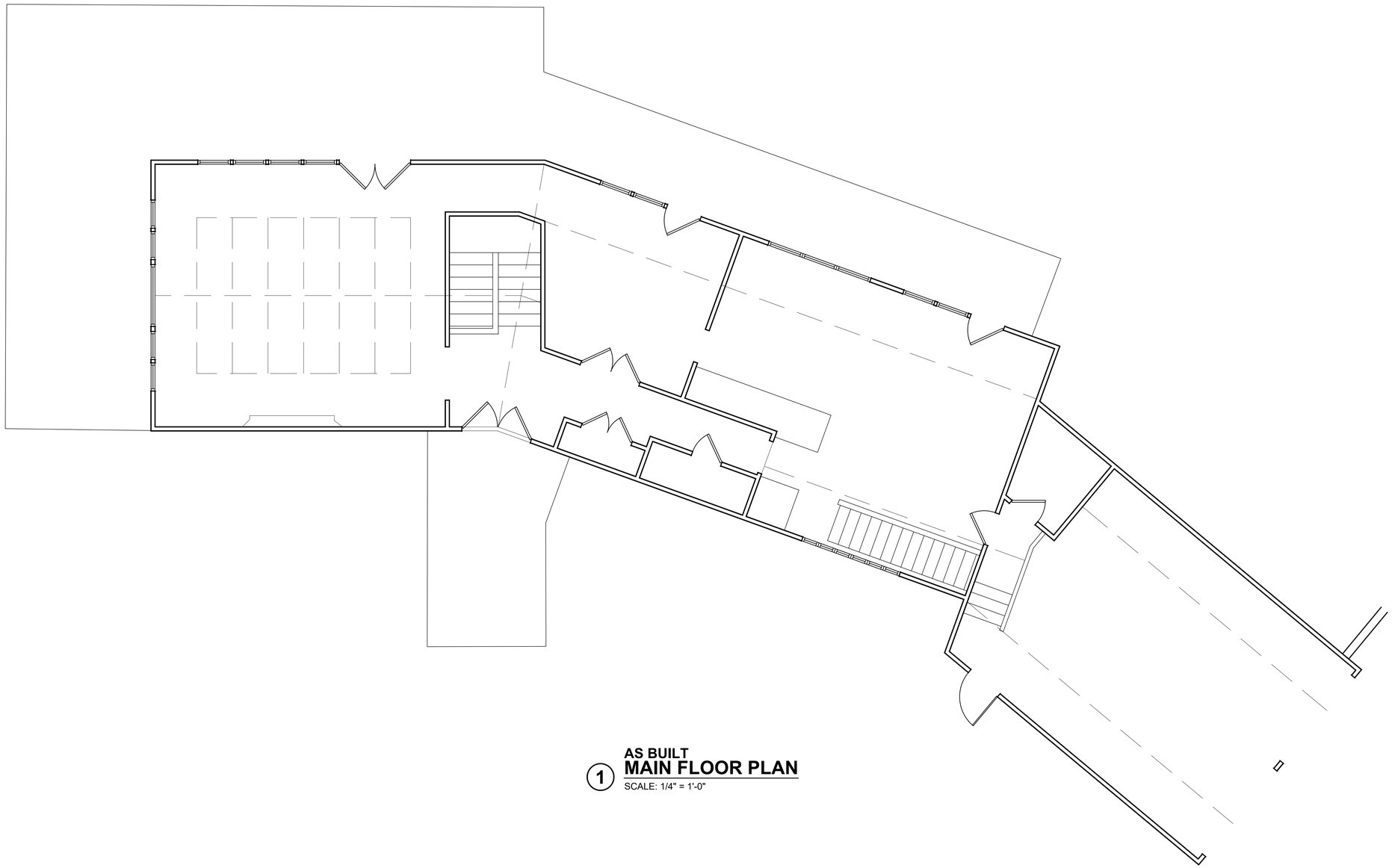
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AS-BUILT LOWER FLOOR PLAN

REVISIONS:
1 CORRECTION 1 - 5/30/2024
2 CORRECTION 2- 8/8/2024
3 CORRECTION 3 - 10/29/202
4 CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
CHECKED BY: BJS

SHEET **AB1**



1 **AS BUILT**
MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

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AS-BUILT MAIN FLOOR PLAN

REVISIONS:
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2 CORRECTION 2- 08/5/2024
3 CORRECTION 3 - 10/29/202
4 CORRECTION 4 - 12/4/2024

PLOT DATE: 12/5/2024
DRAWN BY: JM
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SHEET **AB2**

General Requirements

All materials, workmanship, design and construction shall conform to the 2018 International Building Code (IBC) and local jurisdiction amendments.

Definitions: The following definitions are used throughout these structural notes:
IBC - Governing code including local amendments
SER - Structural Engineer of Record per these Contract Documents
UNO - Unless otherwise noted

Drawings indicate general and typical details of construction. Typical details and general notes shall apply even if not specifically denoted on plans, UNO. Where conditions are not specifically indicated similar details of construction shall be used, subject to review and approval by the Architect and the SER.

Reference to ASTM and other standards shall refer to the latest edition designated by IBC Chapter 35. Refer to the specifications for information in addition to that covered by these structural notes & drawings.

Warranty: The SER has used that degree of care and skill ordinarily exercised under similar circumstances by members of the profession in this locale and no other warranty, either expressed or implied, is made in connection with rendering professional services.

Design Criteria

BUILDING CATEGORY: Structural Occupancy Category II (Importance factors listed below)

LIVE LOADS:
Roof snow load, Pf = 25 psf

Residential:

Uninhabitable attics without storage	10 psf
Habitable attics and sleeping areas	30 psf
Residential floor	40 psf

LATERAL LOADS-WIND: Per ASCE 7-16, Section 27.5
Iw = 1.0; Kzt = 1.90; V = 78.3 kips

Numbering below is per IBC Section 1603.1.4:
1. Basic Wind Speed (3-second gust) = 110 mph
2. Importance Factor = 1.0
3. Exposure = C
4. Internal pressure coefficient = +/- 0.18
5. Components and Cladding: The following working loads may be used in lieu of calculations:

(Uplift at roof)	Zone 1,2e;	19.5 psf
100 sq. ft.	Zone 2n,2r,3e;	50.4 psf
	Zone 3r;	57.0 psf
(Roof overhangs)	Zone 1,2e;	72.0 psf
20 sq. ft.	Zone 2n,2r;	87.7 psf
	Zone 3e;	101.9 psf
	Zone 3r;	116.6 psf
(Walls)	Zone 4;	35.3 psf
20 sq. ft.	Zone 5;	42.5 psf

LATERAL LOADS-EARTHQUAKE: Per ASCE 7-16, Chapter 11 & IBC 1613

Numbering below is per IBC Section 1603.1.5:
1. Importance Factor = 1.0
2. Mapped Spectral Response Accelerations, Ss = 1.466 g; S1 = 0.505 g
3. Site Class = D; Fa = 1.200, Fv = 1.795
4. Spectral Response Coefficients, Sds = 1.173 g, Sd1 = 0.6040 g
5. Seismic Design Category = D
6. Basic Seismic Force Resisting System is:
   Vertical Elements = Wood Structural Panel Shear Walls
   Diaphragms = Wood Structural Panel Diaphragms
7. Design Base Shear = 21.6 kips
8. Seismic Response Coefficient Cs = 0.180
9. Response Modification Factor R = 6.5
10. Analysis Procedure = Equivalent Lateral Force Procedure

Additional Items:
Building Location 47.529 N, 122.227 W
Building Height = 27 feet
Redundancy Factors:
North/South Direction = 1.0 East/West Direction = 1.0

Contractor Execution Requirements

Contractor shall verify all dimensions and all conditions at the job site, including building and site conditions before commencing work, and be responsible for same. All discrepancies shall be reported to the Architect/SER before proceeding with work. Any errors, ambiguities and/or omissions in the contract documents shall be reported to the Architect/SER immediately, in writing. No work is to be started before correction is made.

Contractor shall coordinate all dimensioned openings and slab edges shown on the contract documents. Some dimensions, openings and embedded items are shown on the structural drawings, others may be required. Refer to architectural drawings for all dimensions, wall and floor openings, architectural treatment, embeds required for architectural items, etc. Refer to mechanical, plumbing, electrical, fire protection and civil drawings for size and location of all openings for ducts, piping, conduits, etc.

Do not scale drawings. Use only field verified dimensions. When electronic plan files are provided for the contractor's detailing convenience, it shall be noted that the electronic files are not guaranteed to be dimensionally accurate; the contractor uses them at their own risk. The published paper documents are the controlling Contract Documents. Electronic files of detail sheets and notes will not be provided.

Contract Documents and any materials used in preparation of them, including calculations, are the exclusive property of the SER and can be reproduced only with the permission of the SER.

Contractor initiated changes shall be submitted in writing to the Architect/SER for review and acceptance prior to fabrication/construction. Changes shown on shop drawings only will not satisfy this requirement.

The contractor shall provide temporary bracing as required until all permanent connections have been installed. The contractor is responsible for the strength and stability of all partially completed structures including but not limited to concrete or masonry walls, steel framing and erection aids. The contractor shall be responsible for all required safety standards, safety precautions and the methods, techniques, sequences or procedures required in performing his work. The contractor shall coordinate with the building department for all building department required inspections.

Shop Drawing & Submittal Review

The contractor shall review and stamp the shop drawings & submittals for review. SER will only review submittals for items shown on SER documents. Submittals for Deferred Structural Components will receive cursory review by SER for loads imposed on primary structure. SER will review shop drawings for general conformance with design concept of the project and general compliance with the information given in the Structural Contract Documents. Review of submittals does not constitute approval or acceptance of unauthorized deviation from Contract Documents.

GENERAL STRUCTURAL NOTES
(TYPICAL UNLESS NOTED OTHERWISE ON DRAWINGS)

Shop Drawing & Submittal Review (including Deferred Structural Components)

The contractor shall review and stamp the shop drawings & submittals for review. SER will only review submittals for items shown on SER documents. Submittals for Deferred Structural Components will receive cursory review by SER for loads imposed on primary structure. SER will review shop drawings for general conformance with design concept of the project and general compliance with the information given in the Structural Contract Documents. Review of submittals does not constitute approval or acceptance of unauthorized deviation from Contract Documents.

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with the requirements of the plans and specifications.

Contractor responsible for:
* Reviewing, approving, stamping and signing submittals prior to submittal to Architect and SER
* Timing submittals to allow 10 days of review time for the SER and time for corrections and resubmittal
* Conformance to requirements of the Contract Documents
* Dimensions and quantities
* Verifying information to be confirmed or coordinated
* Information solely for fabrication, safety, means, methods, techniques and sequences of construction
* Coordination of all trades

Resubmittals shall be clouded and dated for all changes to the submittal. Only clouded portions of resubmittal will be reviewed and SER's review stamp applies to only these areas.

Substitutions
Substitutions shall be submitted in writing prior to submittal of shop drawings. Shop drawings bearing substitutions will be rejected. Submit engineering data to substantiate the equivalence of the proposed items. The SER's basic services contract does not include review of substitutions that require re-engineering of the item or adjacent structure. Nor does the SER's contract cover excessive review of proposed substitutions. The fees for making these reviews and/or redesign shall be paid by the contractor. Reviews and approvals shall not be made until authorization is received.

Submittals
Shop drawings and material submittals shall be submitted to the Architect and SER prior to any fabrication or construction for the following structural items. Submittals shall include one reproducible and one copy; reproducibles will be marked and returned. If deviations, discrepancies, or conflicts between shop drawings submittals and the contract documents are discovered either prior to or after shop drawing submittals are processed by the SER, the Contract Documents control and shall be followed.

* Structural steel shop and erection drawings
* I-joist and engineered wood beam floor framing layout & materials list
* Glued laminated members (certificates to be on-site and available upon request)
* Engineered wood beams (certificates to be on-site and available upon request)

Inspection
The building official, upon notification, shall make structural inspections as required by local ordinance. The inspection by the building official per IBC Section 109 will be separate from and in addition to the special inspection and structural observation mentioned subsequently.

Special Inspections
The owner shall retain a Special Inspector to perform the special inspection requirements required by the building official as outlined in IBC Section 1704. See the specifications for additional requirements for special inspection and testing. The architect, structural engineer, and building department shall be furnished with copies of all inspection reports and test results.

The following inspections are required and shall be performed per the building code:
* Steel construction per 1705.2 and AISC 360
* Epoxy installed anchor bolts and holdowns rods: Continuous per Table 1703.3 - #4

Structural Observation
Structural observation is defined as the visual observation of the structural system for general conformance to the Contract Documents at significant construction stages and at completion of the structural system. Structural observation does not include or waive the responsibility for the inspection required by Section 109 or other sections of the IBC.

The owner shall employ a registered design professional to perform structural observation when required by IBC 1709. Observed deficiencies shall be reported in writing to the Architect, special inspector, and contractor. The contractor shall respond to these items in writing indicating how they have been resolved. At the end of the project, the structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies that, to the best of the structural observer's knowledge, have not been resolved.

Construction observation by the SER is for general conformance with structural portions of the permit documents only and is not intended in any way to review the Contractor's construction procedures. The SER has no overall supervisory authority or actual/direct responsibility for the specific working conditions at the site and for any hazards resulting from the action of any trade contractor. The SER has no duty to inspect, supervise, note, correct, or report any health or safety deficiencies to the owner, contractors, or other entities or persons at the project site.

The contractor shall provide the SER adequate notice to schedule appropriate site visits for structural observation.

Geotechnical

General Criteria
Allowable soil pressure and lateral earth pressure are assumed and therefore must be verified by a Geotechnical Inspector or the building official. If soils are found to be other than assumed, notify the structural engineer for possible foundation redesign.

All prepared soil-bearing surfaces shall be inspected by the owners Geotechnical Inspector (or building official) prior to placement of reinforcing steel and concrete. Inspections shall be made per IBC Table 1704.7.

Unless otherwise noted, footings shall be centered below columns or walls.

Bearing Values
Allowable soil pressure = 2,000 psf

All footings shall bear on undisturbed soil and shall be lowered to firm bearing if suitable soil is not found at elevations shown. Exterior footings shall bear a minimum of 12" below the finished ground surface. Footing elevations shown on plans (or in details) are minimum depths and for guidance only; the actual elevations of footings must be established by the contractor in the field working with the Geotechnical Inspector.

Subgrade Preparation
Prepare subgrade as follows: All footings shall be cast on undisturbed firm natural soils that are free of organic materials. Footing excavation shall be free of loose soils, sloughs, debris and free of water at all times. If organic silt and/or fill material is encountered at subgrade elevations, over-excavate a minimum of 2'-0" below the design foundation subgrade elevation prior to placing footings. The over-excavated areas shall be backfilled with structural fill compacted to 95% proctor per ASTM D-1557 or a lean concrete mix.

Drainage
Drainage systems, including foundation, roof and surface drains, shall be installed as directed by the Geotechnical Report and IBC Section 1807. Vapor retarder placed below slab on grade shall conform to ASTM E 1643 and ASTM E 745.

Retaining Walls
Grade on either side of concrete walls shall not vary by more than 12", UNO. Slope of backfill shall not exceed 2H to 1V, UNO. Backfill behind all retaining walls with free draining, granular fill. Provide for subsurface drainage. Design pressures used for the design of retaining walls are based on drained conditions.

Active earth pressure (restrained/unrestrained) = 55/35 pcf
Passive earth pressure (factor of safety of 1.5 included) = 300 pcf
Coefficient of friction (factor of safety of 1.5 included) = 0.35

Provide temporary shoring for tops of walls if backfill is placed prior to the supporting structure being constructed. Supporting structure is the floor framing and sheathing completely installed and attached to perpendicular walls.

Existing Utilities
The contractor shall determine the location of all adjacent underground utilities prior to any excavation, shoring, pile driving, or pier drilling. Any utility information shown on the plans and details are approximate and not verified by the SER. Contractor is to provide protection of any utilities or underground structures during construction.

Concrete

Cast-in-Place Concrete
Concrete materials shall conform to the following:
Portland cement: Type 1, ASTM C150
Fly ash (if used): ASTM C618 class F or C, quantity less than (by weight) 25% of cement content, and maximum loss on ignition = 1%
Lightweight aggregates: shall not be used without prior approval of SER and building department
Normal weight aggregates: ASTM C33
Sand equivalent: ASTM C33
Water: Potable per ASTM C94
Air entraining admixtures: ASTM C260
Chemical admixtures: ASTM C494
Flowable concrete admixtures: ASTM C1017

Durability requirements of concrete mixes shall conform to building code. These requirements include water-cementitious material ratios, minimum compressive strengths, air entrainment, type of cement, and maximum chloride ion content.

Concrete strength requirements: Strength at 28 days and normal weight concrete, UNO.

Location	Strength f'c (psi)	Max. Aggr. size (inch)	Max. W/C ratio or min cement *
Lean mix soil replacement under fdns	1,500	sand	1-1/2 sack cement
Foundations, grade beams, stem walls	3,000**	1"	per design
Slab on grade, topping slab, stair tread	3,000**	3/4"	0.42 (.45)

** Design strength shown is for weathering purposes only; 2,500 psi strength was used for purposes of structural design. Mixes shall be proportioned to accommodate placement. Slump, W/C ratio, admixtures and aggregate size will be determined by the contractor in accordance with ACI. Mixes will be approved by one of the following criteria.

Mix design is submitted in accordance with ACI 318 Section 5.3.
Mix design is submitted in accordance with ACI 318 Section 5.4.

Admixtures: all concrete, including slab on ground, shall contain an acceptable water-reducing admixture conforming to ASTM C494 and be used in strict accordance with the manufacturer's recommendations.

All concrete which is exposed to freezing/thawing in a moist condition or exposed to deicing chemicals shall contain an air entraining agent, conforming to ASTM C260. The amount of entrained air shall be 5% +/- 1% by volume. Air % is based on 3/4" coarse aggregate; adjust % per ACI 318 for other coarse aggregate sizes. Air-entrainment shall not be used at slabs that will receive a smooth, dense, troweled finish.

Trucks hauling plant-mixed concrete shall arrive on-site with a field ticket indicating the maximum gallons of water that can be added at the site not to exceed the total water content in the approved mix design.

Concrete shall be deposited as nearly as practicable in its final position to avoid segregation due to rehandling or flowing. Concrete shall be thoroughly consolidated by suitable means during placement and shall be thoroughly worked around reinforcement, embedded items, and into corners of forms.

Formwork and Accessories
Concrete construction shall conform to ACI 301 "Specifications for Structural Concrete" and the Building Code, including testing procedures. See specifications and/or architectural documents for formwork requirements. Installation shall adhere to ACI 301. Conduits and pipes of aluminum shall not be embedded in concrete construction.

See architectural drawings for exact locations and dimensions of door and window openings in all concrete walls and for all grooves, notches, chamfers, feature strips, color, texture, and other finish details at all exposed concrete surfaces. Concrete accessories and embedded items shall be coordinated with Architectural and all other Contract Documents and suppliers' drawings before placing concrete. Anchor rods, reinforcing, hardware, etc. shall be firmly tied in place prior to concrete placement; wet-setting of these items are not permitted in concrete.

Refer to Architectural documents for waterstops, dampproofing & soil retaining wall drainage requirements at concrete and concrete joints (construction joints, slab to wall joints, curb to slab joints, etc).

Curing and Finishes
Protect and cure freshly placed concrete per ACI 305 in hot conditions, ACI 306 in cold conditions, and ACI 308 "standard specification for curing concrete". All exposed edges and corners shall have 3/4" chamfer, UNO. Concrete flatwork shall be sloped to provide positive drainage. Coordinate finish with architectural contract documents.

At the time of application of finish materials or special treatment to concrete, moisture content of concrete shall conform to requirements in finish material specifications. Where vapor sensitive coverings are to be placed on slabs on grade, conform strictly to slab covering manufacturer's recommendations regarding vapor retarder and granular fill requirements below the slab.

Reinforcing in Cast-in-Place Walls
See Reinforcement General Notes for more information. Uppermost and lowermost horizontal reinforcing in walls shall be placed within 1/2 of specified spacing from the top and bottom of the wall.

Concrete wall reinforcing - typical UNO:

Wall thickness	horizontal bars	vertical bars	location
8" or less	#4 @ 12"oc	#4 @ 12"oc	@ cl of wall

Concrete protection; provide edge cover as follows. When a thickness of cover required for fire protection is greater than that specified in this section, such greater thickness shall be used:

- Unformed surfaces cast against and permanently exposed to earth = 3"
- Formed surfaces exposed to earth or weather: #6 bars or larger = 2"; #5 bars or smaller = 1-1/2"
- Clear spacing between 2 or more parallel layers = 1"

Concrete Crack Maintenance
Cracking occurs in concrete structures due to inherent shrinkage, creep, and the restraining effects of walls and other structural elements. Most cracking due to shrinkage and creep will likely occur over the first two years of the life of the structure; further concrete movement due to variations in temperature may persist. Cracks that result in water penetration will need to be repaired to protect reinforcing. Other cracking may be repaired at the owner's discretion for aesthetical reasons or performance of applied finishes. Prior to repairing cracks, a structural engineer should be consulted to provide direction on which cracks to repair and on whether observed cracks may affect the strength of the structure.

Reinforcement in Concrete

Materials
Reinforcing steel shall conform to ASTM A615 (including supplement S1), Grade 60, Fy = 60,000 psi, except any bars specifically so noted on the drawings shall be Grade 40, Fy = 40,000 psi.

Welded Wire Reinforcing (WWR) shall conform to ASTM A185. Lap splice adjacent mats of welded wire fabric a minimum of 8" at sides and ends. In equipment pads, use minimum WWR 6x6-W2.1xW2.1, UNO.

Procedures
Reinforcing steel shall be detailed (including hooks and bends) in accordance with ACI 315 "Details and Detailing of Concrete Reinforcement". Lap all reinforcement in accordance with "The Reinforcing Splice and Development Length Schedule" on these documents. If table is not provided, lap all reinforcing by 40 bar diameters. Provide corner bars at all wall and footing intersections.

Reinforcing steel shall be adequately supported to prevent displacement during concrete and grout placement. Bars shall be bent cold. Bars partially embedded in concrete shall not be field bent, unless specifically so detailed or approved by the SER.

Welding or tack welding of reinforcing bars to other bars or to plates, angles, etc, is prohibited, except where specifically approved by the SER.

Anchorage

Post installed anchors shall not be installed without prior approval of engineer of record unless otherwise noted on the plans.

Epoxy-Grouted Items
Epoxy-Grouted Items (threaded rods or reinforcing bar) specified on the drawings shall be installed using "SET-XP" high strength epoxy as manufactured by the Simpson Strong Tie Company. Install in strict accordance with I.C.C. Report No. ESR 2508. Special inspection of installation is required. Rods shall be ASTM A-307 unless otherwise noted.

Expansion Bolts
Expansion bolts into concrete and concrete masonry units shall be "Strong Bolt" as manufactured by the Simpson Strong Tie Company, installed in strict accordance with I.C.C. Report No. ESR-1771, including minimum embedment requirements. Bolts into concrete masonry or brick masonry units shall be into fully grouted cells. Substitutes proposed by contractor shall be submitted for review with ICC reports indicating equivalent or greater load capacities. Special inspection is required for all expansion bolt installation.

Structural Steel

Reference Standards
Steel construction shall conform to the latest editions of the AISC Specifications and Codes. "Specification for Structural Steel Buildings" ANSI/AISC 360 (latest edition), "Specification for Structural Joints Using ASTM A-325 or A-490 Bolts" AISC 348 (latest edition) and "Code of Standard Practice for Steel Buildings and Bridges" AISC 303 (latest edition) amended by the deletion of paragraph 4.4.1.

Fabricators
Fabricators for structural steel must have a quality assurance program in place. The quality assurance program must meet the requirements of one of the following methods:

A. Participation in the AISC quality certification program.
B. Meeting the requirements of AISC seismic provisions for structural steel buildings, appendix Q and submitting plan documentation to the authority having jurisdiction, the engineer of record, and the owner or owner's designee.

Structural Steel Members
Structural Steel shall conform to the following requirements (unless otherwise shown on plans):

Type of Member	ASTM Specification	Fy
Rolled Wide Flange Shapes	A 992	
Plates, Channels, Angles	A-36, Grade 36	36 ksi
Square & Rectangular HSS Section	A-500, Grade B	46 ksi
Anchor Rods (Hooked, Headed & Threaded & Nutted)	F-1554, Grade 36	36 ksi
Threaded Rods	A-36	36 ksi
Washers	F-436	
Hex Nuts	A-563	
Common Bolts	A-307, Grade A	

Steel Framing
The contractor shall be responsible for all erection aids and joint preparations that include, but are not limited to: erection angles, lift holes, and other aids; welding procedures; required root openings; root face dimensions; groove angles; backing bars; copes; surface roughness values; tapers of unequal parts.

Bolts
All ASTM A-307 bolts shall be provided with lock washers under nuts or self-locking nuts.

Welding
All welding shall be in conformance with AISC and AWS standard and shall be performed by AWS/WABO certified welders in accordance with AWS D1.1. Only Prequalified welders, defined by AWS, shall be used.

Shop drawings shall show all welding with AWS D1.4 symbols. Welds shown on the drawings are the minimum sizes. Increase weld size to AWS minimum sizes, based on plate thickness. Minimum welding shall be 3/16" UNO. All welds shall be made using low-hydrogen electrodes with minimum tensile strength of 70 ksi and a Charpy V-Notch (CVN) toughness of at least 20 foot-pounds at -20 degrees Fahrenheit.

Welding procedures shall be submitted to the owner's testing agency for review prior to commencement of fabrication or erection. Field welds shown are engineer's recommendation. Contractor is responsible for actual welds used to support specific means and methods.

S1.0 General Structural Notes
S1.1 General Structural Notes and Schedules
S2.0 Foundation Plan
S2.1 Main Floor Framing Plan
S2.2 Upper Floor Framing Plan
S2.3 Roof Framing Plan
S3.0 Structural Details
S3.1 Structural Details
S3.2 Structural Details
S3.3 Structural Details
S3.4 Structural Details

SHEET INDEX

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1-8-2024

Rawson Remodel
8413 SE 82nd St, Mercer Island, WA 98040

Revision	Issue Date	Drawing Set
	1/8/2024	Permit Set

General Structural Notes

S1.0

Shop Painting
All steel to be shop primed. All other steel shall be given one coat of shop paint, in accordance with Section 1.24 of the AISC "Specification" and Section 6.5 of the AISC "Code", unless noted otherwise. Structural joints and faying surfaces which are to be connected by means of welds or bolts shall not be painted until all welds and bolts are installed, inspected and approved.

Finishing
The terms finish, finish column, finishing, milled, milled surface or milling are intended to include surfaces which have been accurately sawed or finished to a true plane as defined by AISC. Grind surface value equal to or less than 1,000 as defined by ANSI B46.2 (4-inch and thinner).

Wood

Material Criteria
Framing lumber shall be kiln dried or mc-19 (unless more stringent criteria are required in these notes or on the drawings) and graded and marked in conformance with the latest WCLIB standard grading rules for west coast lumber no. 17. Furnish to the following minimum standards:

4x beams & posts	DF #2
6x beams & posts	DF #1
4x treated beams & posts, 6x treated posts	HF kdat #2
2x joists, rafters, built-up beams, headers	HF #2
2x flatwise & edgewise blocking	HF standard
2x studs	HF kd stud
2x plates	HF kd15 standard
2x treated plates/ledgers	HF kdat #2

Moisture Content and Care of Material During Construction
All 2x studs and plates shall be kiln dried. The Contractor shall take measures to minimize exposure of sawn lumber and engineered wood products to moisture during construction. Excessive changes in moisture content during construction may result in swelling and shrinkage of a single story level in the magnitude of 1/2".

Wood Structural Panels
Wood structural panels shall be APA rated sheathing. Plywood shall be grade C-D or Structural II, exterior glue, exposure 1 durability classification, in conformance with USDOC PS 1 or PS 2, ASTM D 5457 and IBC 2304.7 and table 2304.7(2). Oriented strand board (OSB), shall be in accordance with USDOC PS 2, and of equivalent thickness, exposure rating and span rating and may be used in lieu of plywood pending OSB substitution approval by Architect. See plans for thickness, panel identification index and nailing requirements. Unless otherwise noted on plans:

Roof sheathing shall be 15/32" with span rating 32/16
Floor sheathing shall be 23/32" with span rating 48/24
Wall sheathing shall be 15/32" with span rating 24/0

Plywood Web Joists
Prefabricated plywood web joist design shown on plans is based on ILevel/Trus-Joist products manufactured by the Weyerhaeuser Corporation. Alternate plywood web joists must have equivalent section properties & allowable stresses to those specified to be considered and are subject to review and approval by the Architect and SER. Alternate joist hangers and other hardware may be substituted for items shown provided they have ICC approval for equal or greater load capacities. All joist hangers, hardware shall be compatible in size with plywood web joist provided. All necessary bridging, blocking, blocking panels, stiffeners, etc., shall be detailed and furnished by the manufacturer. The following deflection criteria shall be maintained:

Floor live load deflections shall be limited to span/480 (span/360 at 100 psf live load).
Roof total load deflections shall be limited to span/240.

Specified plywood web joists at floors have been designed for a minimum TJ-Pro rating of 40 in addition to the maximum allowable deflections noted above.

Structural Composite Lumber
Manufactured lumber, PSL, LVL, and LSL, shall be manufactured under a process approved by the national research board. Each piece shall bear a stamp or stamps noting the name and plant number of the manufacturer, the grade, the national research board number, and the quality control agency. All PSL, LVL and LSL lumber shall be manufactured in accordance ICC Report ESR-1387. LVL lumber shall be manufactured using veneer glued with a waterproof the requirements of ASTM D2559 with all grain parallel with the length of the member. The members shall have the following minimum properties:

PSL (2.2E)	Beams	Fb = 2,900 psi,	E = 2,200 ksi,	Fv = 290 psi
LVL (2.0E)	Beams	Fb = 2,600 psi,	E = 2,000 ksi,	Fv = 285 psi
LSL (1.55E)	Beams	Fb = 2,325 psi,	E = 1,550 ksi,	Fv = 310 psi

Design shown on plans is based on ILevel/Trus-Joist products manufactured by the Weyerhaeuser Corporation. Alternate manufacturers may be used subject to review and approval by the Architect and Structural Engineer of Record, alternate joist hangers and other hardware may be substituted for items shown provided they have ICC approval for equal or greater load capacities. All joist hangers and other hardware shall be compatible in size with members provided.

Glu Laminated Material
Glued laminated members shall be fabricated in conformance with AITC 117 and APA-EWS Y117, Stress Class 24F-1.8E. Each member shall bear an AITC identification mark and shall be accompanied by an AITC certificate of conformance. All simple span beams shall be douglas fir combination 24F-V4, fb = 2,400 psi, fv =265 psi and all cantilevered beams and columns shall be Douglas fir combination 24F-V8, fb = 2,400 psi, fv = 265 psi unless otherwise noted. Camber all simple span glu laminated beams to 3,500' radius or zero camber, unless shown otherwise on the plans.

Treated Wood
All wood framing in direct contact with concrete or masonry, exposed to weather, or that rest on exterior foundation walls and are located within 8" of earth, shall be pressure-treated with an approved preservative per IBC section 2303.1.8. Cut or drilled sections of treated material shall be treated with an approved preservative per IBC section 2303.1.8. See IBC section 2304.11 for additional requirements.

Metal Products in Contact with Treated Lumber
Simpson hardware in contact with ACQ, CA, or CBA pressure-preservative treated wood shall have a Zmax finish (G185 HDG per ASTM A653) or shall be post hot-dip galvanized (per ASTM A123 for connectors and ASTM A153 for fasteners) unless otherwise noted. Exception: type 304 or 316 stainless steel connectors and fasteners are required for the following applications:

- ACQ, CA, or CBA treatments with ammonia where members are used in exterior applications.
- all ACZA treatments
- retention levels greater than 0.40 pcf for ACQ, 0.41 pcf for CBA-A, or 0.21 pcf for CA-B treatments.

Stainless steel connectors require matching stainless steel fasteners. Zmax and post hot-dip galvanized connectors require fasteners galvanized per ASTM A153. Thru-bolts and anchor rods used in dry conditions shall be permitted to be of mechanically deposited zinc coated steel with coating weights in accordance with ASTM B 695, class 55 minimum. See IBC section 2304.9.5 and "framing connectors" notes on this sheet for additional requirements.

Framing Connectors
Timber connectors called out by letters and numbers shall be "strong-tie" by Simpson company, as specified in their catalog number C-C-2021. Equivalent devices by other manufacturers may be substituted, provided they have ICBO approval for equal or greater load capacities. Provide number and size of fasteners as specified by manufacturer. Connectors shall be installed in accordance with the manufacturer's recommendations. Where connector straps connect two members, place one-half of the nails or bolts in each member. All bolts in wood members shall conform to ASTM A307. Provide washers under the heads and nuts of all bolts and lag screws bearing on wood. Unless otherwise noted, all nails shall be as called out below. Unless otherwise noted on the drawings use the following hangers:

2x or 2-2x member to flush wood beam/ledger	LUS
2x member to sill plate or steel/flush wood beam	LB
2-2x member to sill plate or steel/flush wood beam	B
TJI member to flush wood beam/ledger	ITS
2-TJI member to flush wood beam/ledger	MIU
TJI member to sill plate or steel/flush wood beam	ITS
2-TJI member to sill plate or steel/flush wood beam	MIT
4x, LSL/LVL/PSL beam to flush wood beam/ledger	MIU max
4x, LSL/LVL/PSL beam to sill plate or steel beam	HWU
Interior 4x or 6x post to concrete below	ABU w/ 5/8" dia. anchor rod w/ 7" embed
Treated 4x or 6x post to concrete below	CBSQ-SDS2HDG
4x or 6x post to wood beam above	PC/EPC
wood beam to wood beam that bears on post	HUCTF

Fasteners
Shall conform to the following requirements, UNO. Splitting shall be avoided at all wood fasteners:

Steel to wood or wood to wood connection bolts	ASTM A307
Anchor rods (w/ threaded ends & welded nut)	ASTM F1554 grade 36 (typical UNO)
Lag screws	NDS section 11.1.3
Wood screws	NDS section 11.1.4
Nails	NDS section 11.1.5

Nail sizes are specified as follows. If the contractor proposes the use of alternate nails, they shall submit nail specifications to the Structural Engineer of Record (prior to construction) for review and acceptance.

Simpson hardware	typical UNO	see catalog
MSTC holdown straps direct to studs		0.148 x 1-1/2"
MSTC holdown straps over shear wall sheathing to studs		0.148 x 2-1/4"
CS collector straps		0.131 x 2-1/2"
hangers w/ 16d or 10d options		0.162 x 3-1/2"
floor sheathing	typical	0.131 deformed shank x 2-1/2"
roof sheathing	typical	0.131 x 2-1/2"
stud wall APA sheathing	15/32 sheathing	0.148 x 2-1/4"
member to member face nailing	typical UNO	0.131 x 3"
bottom plate to framing below		0.131 x 3-1/4"
toe nailing	typical UNO	0.131 x 3"

Sheathing fasteners shall be driven so that head or crown is flush with sheathing surface. 3/8" min. edge distance shall be maintained on sheathing fasteners.

Spaced fasteners specified on the drawings shall begin at 1/2 specified spacing from the ends of the members, unless otherwise noted. Provide (2) fasteners minimum each member, typ. Anchor rods from sill plates to concrete shall begin a min. of 6" and a max. of 12" from each end of each piece of sill plate.

Thru-bolt and anchor rod holes shall be at least 1/32" but no more than 1/16" larger than bolt/rod diameter. Clearance holes for lag screw shanks shall have the same diameter as the lag shank and the same penetration depth as the length of the unthreaded shank. Lead holes for threaded portion of lag screws shall have a diameter of 55 to 60% of lag screw shank diameter and shall extend the length of the threaded portion of the lag screw.

Stair and Stair Landing Framing Requirements
4'-0" maximum width UNO

Landings: span 2x6 joists @ 16"oc in short direction of landing. At full height wood studs, provide 2x6 continuous ledger w/ (3) 0.131 x 3-1/4" nails to each stud. At concrete walls, provide treated 2x6 continuous ledger w/ 5/8" diameter anchor rods @ 16"oc. Embed 5". Where landing edge is not supported by beam, full height stud wall, or full height concrete wall, provide 2x4 @ 16" cripple wall from landing edge to slab on grade below.

Stringers 9'-0" in length or less: provide 2x12 stringers at center and sides of stair. Notch to 5-1/2" minimum depth and provide HUS26 hangers to supporting beams. At center stringer, sister 2x6 ea. side of stringer and at side stringers, sister 2x6 one side of stringer. End sistered 2x6's short of hangers. Stringers 11'-4" to 14'-0" in length: provide 1-3/4 x14 LVL 1.9E stringers at center and sides of stair. Notch to 8" minimum depth and provide HU7 hangers to supporting beams. At center stringer, sister 2x8 ea. side of stringer and at side stringers, sister 2x8 one side of stringer. End sistered 2x8's short of hangers.

Where stringers bear on top of wood floor framing below, provide (2) LS70 clip at bottom of stringer. Where stringers bear on concrete slab, provide 2x treated sill plate w/ 5/8" exp. bolt at each stringer (embed 3-1/8").

General Wood Framing Criteria (UNO in previous sections)
All wood framing details not shown otherwise shall be constructed to the minimum standards of section 2308 of the IBC. Minimum nailing, unless otherwise noted, shall conform to table 2304.9.1 of the IBC. Unless otherwise noted, all nails shall be common. Coordinate the size and location of all openings with Mechanical and Architectural drawings. Provide washers under the heads and nuts of all bolts, anchor rods, and lag screws bearing on wood, unless otherwise noted. Installation of lag screws shall conform to NDS section 11.1.3. Bolts, anchor rods, and lag screws shall be centered in members, uno.

All structural stud walls (bearing or shear walls) shown and not otherwise noted shall be 2x4 studs @ 16"oc at interior walls and 2x6 @ 16"oc at exterior walls. See Architectural drawings for differing wall widths and for framing at nonstructural walls. Two studs minimum shall be provided at the end of all walls and at each side of all openings, and below beam bearing points. Solid blocking for 4x/6x wood posts and multi-stud posts shall be provided through intermediate levels to supports below. Provide continuous solid blocking at mid-height of all stud walls over 10'-0" in height and at mid-height of walls with sheathing on one side only (i.e. Each side of party walls).

All stud walls shall have their lower wood plates attached to wood framing below with 0.131 x 3-1/4" nails @ 8"oc or bolted to concrete with 5/8" diameter anchor rods @ 6'-0"oc for structures not exceeding 2 stories and @ 4'-0" for all other structures unless otherwise noted. Embed anchor rods 7" unless otherwise noted. Individual members of built-up posts shall be nailed to each other with 0.131 x 3" nails @ 8"oc staggered.

Refer to the plans and shear wall schedule for required sheathing and nailing. When not otherwise noted, provide gypsum wallboard on interior surfaces nailed to all studs, top and bottom plates and blocking with nails at 7" oc. Use #6 x 1-5/8" screws for 1/2" GWB and #6 x 1-7/8" screws for 5/8" GWB. Provide 15/32" APA rated sheathing on exterior surfaces nailed at all panel edges (block unsupported edges), top and bottom plates with 0.148 x 2-1/4" nails @ 6"oc and to all intermediate studs and blocking @ 12"oc. Allow 1/8" gap at all APA sheathing panel edges and ends. (see details where larger gap is required)..

At exterior walls, provide flat wise 2x6 at all door heads and window sills and heads, unless otherwise noted. (provide flat wise 2-2x6 where opening width is greater than 6'-0" and less than 9'-6", unless otherwise noted). Provide (3) 0.131 x 3" toenails each end of each 2x6 member.

Provide double joists under all parallel partitions that extend over more than half the joist length and around all openings in floors or roofs unless otherwise noted. Provide solid blocking at all bearing points.

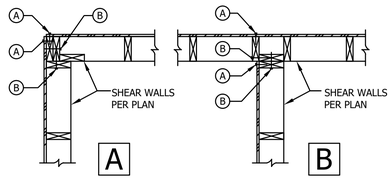
Toenail joists to supports with (3) 0.131 x 3" nails. Attach timber joists to flush headers or beams with Simpson metal joist hangers in accordance with notes above. Individual members of multi-joist beams shall be nailed to each other with (2) rows of 0.131 x 3" nails @ 12"oc.

Unless otherwise noted on the plans, APA sub-flooring and roof sheathing shall be laid up with grain (strength axis) perpendicular to supports (joists, trusses, etc.) and in a staggered pattern. Nails shall be @ 6"oc to framed panel edges, @ 4"oc over shear walls and @ 12"oc to intermediate supports. See notes above for nail sizes. All sub-flooring edges shall have approved tongue-and-groove joints or shall be supported with solid blocking/framing. Plywood clips are recommended at all roof sheathing edges (solid blocking/framing is not required at panel edges unless specifically noted in the structural drawings ore required by the roofing manufacturer). Glue sub-flooring to all supports with adhesive conforming to APA spec. AFG-01 in accordance with the manufacturer's recommendations. Allow 1/8" gap at all panel edges and ends of floor and roof sheathing. Where blocked floor and roof diaphragms are indicated, provide flat 2x blocking at all unframed panel edges and nail with edge nailing specified.

GENERAL STRUCTURAL NOTES
(TYPICAL UNLESS NOTED OTHERWISE ON DRAWINGS)

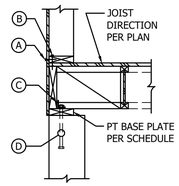
SHEAR WALL SCHEDULE								
MARK	SHEATHING	PANEL EDGE (A) NAILING	TOP PLATE (B) NAILING	A35 CLIPS (C)	MUDSILL TO CONCRETE (D)		CAPACITY (PLF)	
					2x6 P.T.	3x6 P.T.	SEISMIC	WIND
SW6	½" PLYWOOD	0.131" @ 6"oc	0.131" @ 6"oc	A35 @ 24"oc	⅝"Ø AB @ 48"oc	⅝"Ø AB @ 64"oc	223	270
SW4	½" PLYWOOD	0.131" @ 4"oc	0.131" @ 4"oc	A35 @ 16"oc	⅝"Ø AB @ 32"oc	⅝"Ø AB @ 48"oc	325	405
SW3 [5]	½" PLYWOOD	0.131" @ 3"oc	0.131" @ 3"oc	A35 @ 12"oc	⅝"Ø AB @ 16"oc	⅝"Ø AB @ 32"oc	418	540
SW2 [5]	½" PLYWOOD, DOUG-FIR	0.131" @ 2"oc	(2) ROWS 0.131" @ 3"oc	A35 @ 7"oc	⅝"Ø AB @ 16"oc	⅝"Ø AB @ 16"oc	600	895
SW2* [5]	½" OSB/STRUCT-I, DOUG-FIR	0.148" @ 2"oc	(2) ROWS 0.131" @ 3"oc	A35 @ 6"oc	⅝"Ø AB @ 12"oc	⅝"Ø AB @ 16"oc	600	1080

NOTES:
1. ALL EXTERIOR WALLS SHALL BE SW6 (TYP, UNO). WALL FRAMING SHALL BE 2x HF (UNO) STUDS @ 16"oc BLOCK ALL PANEL EDGES WITH 2x LAID FLAT. ALL STUDS ATTACHED TO STRAPS OR HOLDOWNS SHALL BE PANEL-EDGE NAILED. NAIL TO ALL INTERMEDIATE SUPPORTS WITH 0.131"Ø @ 12"oc SHEATHING SHALL BE MIN. 7/16" OSB OR PLYWOOD.
2. PANEL EDGE NAILS SHALL BE A MINIMUM OF 2½" IN LENGTH, PLATE NAILS SHALL BE A MINIMUM OF 3" IN LENGTH.
3. LTP4 OR LS50 CLIPS MAY BE SUBSTITUTED FOR A35 CLIPS.
4. EMBED ANCHOR BOLTS 7" MIN. ALL BOLTS SHALL HAVE 3x3x¼" PLATE WASHERS (EDGE OF WASHER SHALL BE WITHIN ½" OF SHEATHING). EACH MUDSILL SHALL HAVE A MINIMUM OF (2) ANCHOR BOLTS WITH (1) BOLT LOCATED NOT MORE THAN 12" OR LESS THAN 4½" TO EACH END. SIMPSON TITEN HD SCREWS, SIMPSON STRONG-BOLT OR HILTI KWIK-BOLT TZ EXPANSION BOLTS MAY BE SUBSTITUTED FOR ANCHOR BOLTS w/ 5" MIN EMBED.
5. FOR SW2, SW3:
AT (2) ROWS NAILING/CLIPS: USE DOUBLE RIM, JOIST OR BLOCKING. FRAMING AT ABUTTING PANEL EDGES SHALL BE 3x MINIMUM OR (2) 2x STITCHED TOGETHER w/ PLATE NAILING PER APA FORM #TT-076. ALL PANEL EDGE NAILING TO BE STAGGERED. 3x SILL PLATES ARE REQUIRED AT ANCHOR BOLT CONNECTIONS.

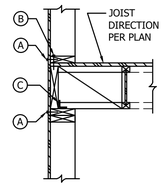


PLAN AT WALL CORNER

PLAN AT WALL INTERSECTION



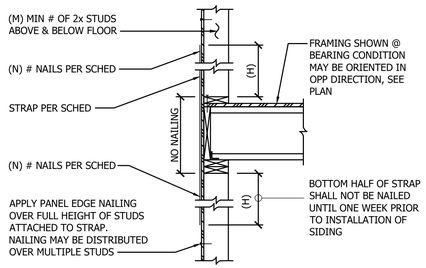
SECTION AT CONCRETE WALL



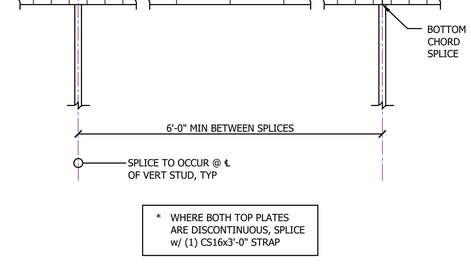
SECTION AT EXTERIOR WALL

1 Shear Wall Schedule
3/4" = 1'-0"

STRAP SCHEDULE				
MARK	H	N	M	HF CAPACITY
CS16	14"	(13) 0.131"	1	1,705#
MSTC40	12"	(14) 0.148"	2	2,325#
MSTC52	17"	(22) 0.148"	2	3,650#
MSTC66	24"	(32) 0.148"	2	5,505#



2 Strap Schedule
3/4" = 1'-0"

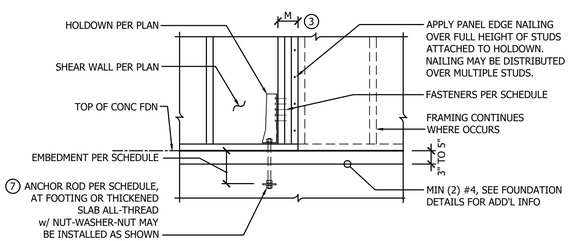


* WHERE BOTH TOP PLATES ARE DISCONTINUOUS, SPLICE w/ (1) CS16x3'-0" STRAP

3 Top Plate Splice, Typ.
3/4" = 1'-0"

HOLDOWN SCHEDULE (1) (2)											
MARK	FASTENERS	M (3)	FOOTING / STRUCTURAL SLAB				TOP OF STEM WALL (4)				
			ANCHOR ROD	EMBEDMENT	EDGE DISTANCE	CAPACITY	ANCHOR ROD	EMBEDMENT	CAPACITY (SEISMIC / WIND)		
									CONTINUOUS (5)	CORNER (5)	END (6)
HDU2	(6) SDS¼"x2½"	3"	⅝"Ø	6"	8"	2,645#	SB⅝x24	18"	2,645#		
HDU8	(20) SDS¼"x2½"	4x6 DF	⅞"Ø	9"	14"	7,870#	SB⅞x24	18"	7,870#	7,855# / 7,870#	5,730# / 6,820#

(1) PLACEMENT OF ANCHOR ROD IS BASED ON CAST-IN-PLACE INSTALLATION.
(2) INSTALL ALL HOLDOWNS PER MANUFACTURER'S INSTRUCTIONS.
(3) DEPTH OF WOOD FRAMING MEMBER ATTACHED TO HOLDOWN. MEMBERS SHALL BE HEM-FIR UNLESS NOTED OTHERWISE NOTED.
(4) MIN 6" CONCRETE WALL THICKNESS REQ'D, MIN EDGE DISTANCE OF 1¾".
(5) BASED ON MIN 27" DISTANCE FROM END/CORNER OF WALL.
(6) BASED ON MIN 4¼" DISTANCE FROM END OF WALL.
(7) AT RETROFIT CONDITIONS USE ¾" THREADED ROD w/ EPOXY PER GENERAL STRUCTURAL NOTES, MIN. 12" EMBED. 1"Ø EPOXY RODS REQUIRE 20" EMBEDMENT.



4 Holdown Schedule
3/4" = 1'-0"

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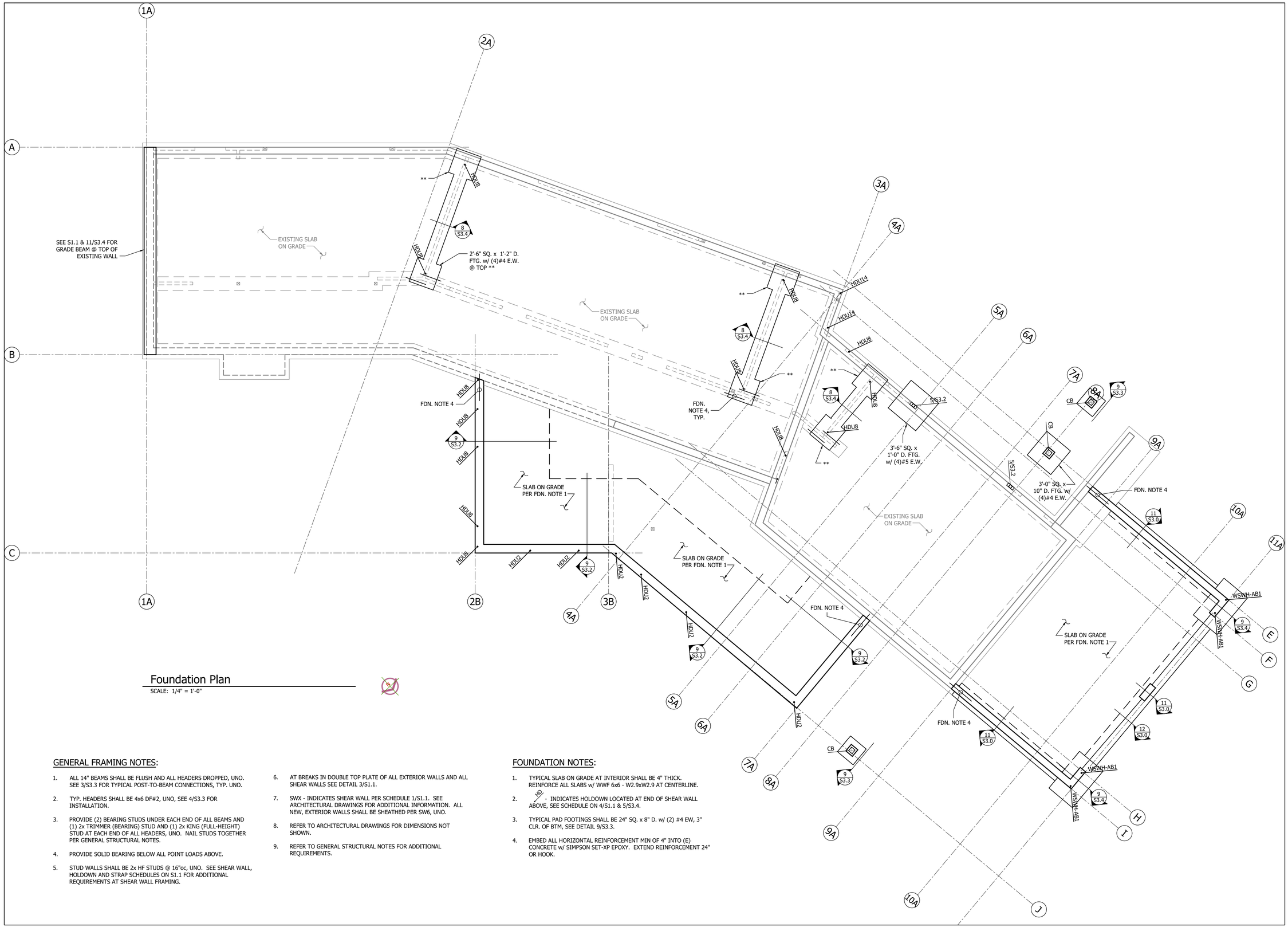
MICHAEL THOMAS ANNEE — STATE OF WASHINGTON — 43889 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER — 1-8-2024

Rawson Remodel
8413 SE 82nd St, Mercer Island, WA 98040

Revision	Issue Date	Drawing Set
	1/8/2024	Permit Set

General Structural Notes & Schedules

S1.1



Foundation Plan

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

GENERAL FRAMING NOTES:

1. ALL 14" BEAMS SHALL BE FLUSH AND ALL HEADERS DROPPED, UNO. SEE 3/S3.3 FOR TYPICAL POST-TO-BEAM CONNECTIONS, TYP. UNO.
2. TYP. HEADERS SHALL BE 4x6 DF#2, UNO, SEE 4/S3.3 FOR INSTALLATION.
3. PROVIDE (2) BEARING STUDS UNDER EACH END OF ALL BEAMS AND (1) 2x TRIMMER (BEARING) STUD AND (1) 2x KING (FULL-HEIGHT) STUD AT EACH END OF ALL HEADERS, UNO. NAIL STUDS TOGETHER PER GENERAL STRUCTURAL NOTES.
4. PROVIDE SOLID BEARING BELOW ALL POINT LOADS ABOVE.
5. STUD WALLS SHALL BE 2x HF STUDS @ 16"oc, UNO. SEE SHEAR WALL, HOLDOWN AND STRAP SCHEDULES ON S1.1 FOR ADDITIONAL REQUIREMENTS AT SHEAR WALL FRAMING.
6. AT BREAKS IN DOUBLE TOP PLATE OF ALL EXTERIOR WALLS AND ALL SHEAR WALLS SEE DETAIL 3/S1.1.
7. SWX - INDICATES SHEAR WALL PER SCHEDULE 1/S1.1. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION. ALL NEW, EXTERIOR WALLS SHALL BE SHEATHED PER SW6, UNO.
8. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.
9. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

FOUNDATION NOTES:

1. TYPICAL SLAB ON GRADE AT INTERIOR SHALL BE 4" THICK. REINFORCE ALL SLABS w/ WWF 6x6 - W2.9xW2.9 AT CENTERLINE.
2. HD - INDICATES HOLDOWN LOCATED AT END OF SHEAR WALL ABOVE, SEE SCHEDULE ON 4/S1.1 & 5/S3.4.
3. TYPICAL PAD FOOTINGS SHALL BE 24" SQ. x 8" D. w/ (2) #4 EW, 3" CLR. OF BTM, SEE DETAIL 9/S3.3.
4. EMBED ALL HORIZONTAL REINFORCEMENT MIN OF 4" INTO (E) CONCRETE w/ SIMPSON SET-XP EPOXY. EXTEND REINFORCEMENT 24" OR HOOK.

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1-8-2024

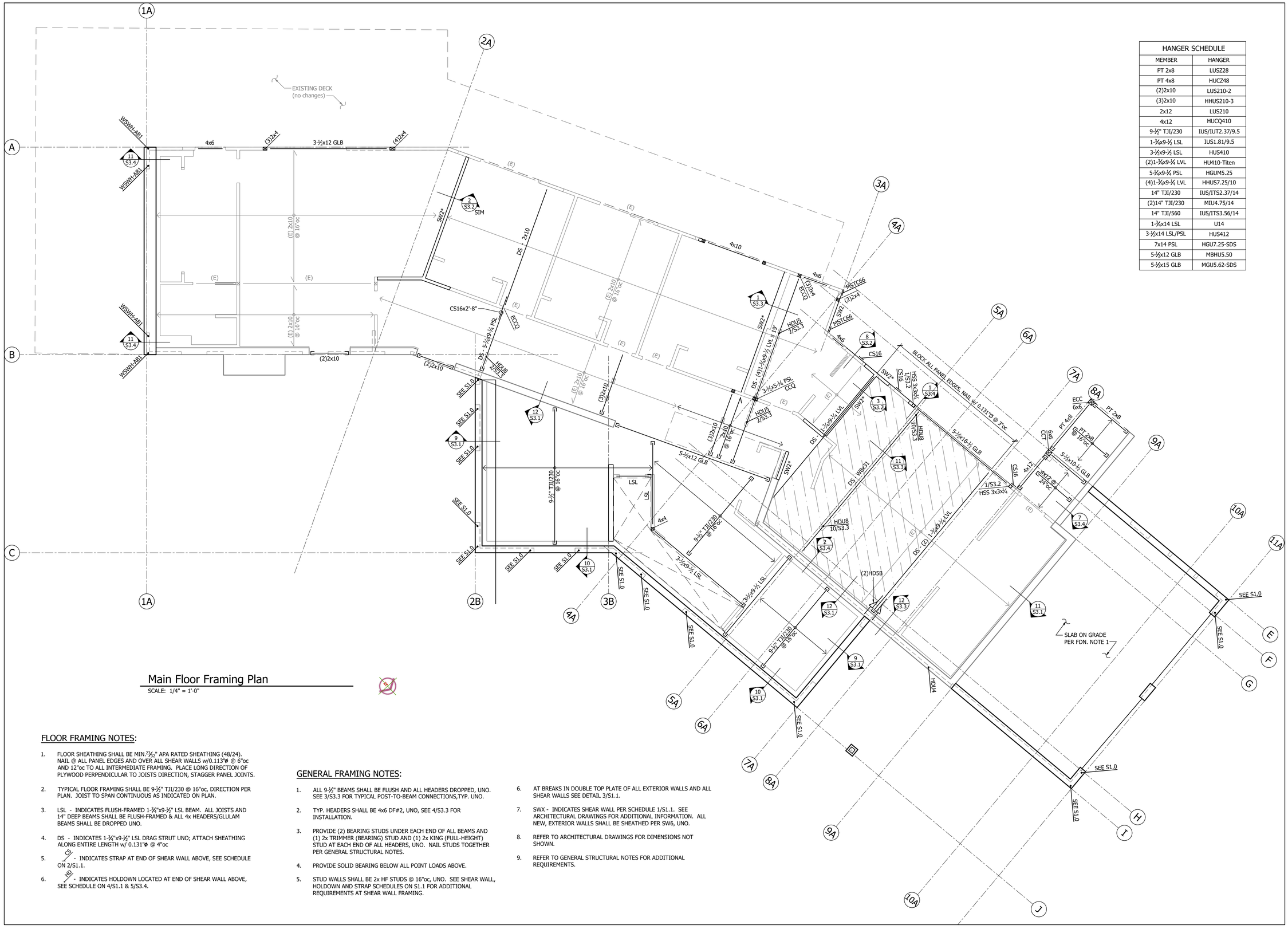
Rawson Remodel

8413 SE 82nd St, Mercer Island, WA 98040

Revision	Issue Date	Drawing Set
	1/8/2024	Permit Set

Foundation Plan

S2.0



Main Floor Framing Plan

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

HANGER SCHEDULE	
MEMBER	HANGER
PT 2x8	LUSZ28
PT 4x8	HUCZ48
(2)2x10	LUS210-2
(3)2x10	HHUS210-3
2x12	LUS210
4x12	HUCQ410
9-½" TJI/230	IUS/IUT2.37/9.5
1-¾x9-½ LSL	IUS1.81/9.5
3-½x9-½ LSL	HUS410
(2)1-¾x9-¼ LVL	HU410-Titen
5-¼x9-¼ PSL	HGUM5.25
(4)1-¾x9-¼ LVL	HHUS7.25/10
14" TJI/230	IUS/ITS2.37/14
(2)14" TJI/230	MIU4.75/14
14" TJI/560	IUS/ITS3.56/14
1-¾x14 LSL	U14
3-½x14 LSL/PSL	HUS412
7x14 PSL	HGU7.25-SDS
5-½x12 GLB	MBHU5.50
5-½x15 GLB	MGU5.62-SDS

FLOOR FRAMING NOTES:

1. FLOOR SHEATHING SHALL BE MIN.$^{23}/_{32}$" APA RATED SHEATHING (48/24). NAIL @ ALL PANEL EDGES AND OVER ALL SHEAR WALLS w/0.113"ø @ 6"oc AND 12"oc TO ALL INTERMEDIATE FRAMING. PLACE LONG DIRECTION OF PLYWOOD PERPENDICULAR TO JOISTS DIRECTION, STAGGER PANEL JOINTS.
2. TYPICAL FLOOR FRAMING SHALL BE 9-½" TJI/230 @ 16"oc, DIRECTION PER PLAN. JOIST TO SPAN CONTINUOUS AS INDICATED ON PLAN.
3. LSL - INDICATES FLUSH-FRAMED 1-¾"x9-½" LSL BEAM. ALL JOISTS AND 14" DEEP BEAMS SHALL BE FLUSH-FRAMED & ALL 4x HEADERS/GLULAM BEAMS SHALL BE DROPPED UNO.
4. DS - INDICATES 1-¾"x9-½" LSL DRAG STRUT UNO; ATTACH SHEATHING ALONG ENTIRE LENGTH w/ 0.131"ø @ 4"oc
5. ◇ - INDICATES STRAP AT END OF SHEAR WALL ABOVE, SEE SCHEDULE ON 2/S1.1.
6. HD - INDICATES HOLDOWN LOCATED AT END OF SHEAR WALL ABOVE, SEE SCHEDULE ON 4/S1.1 & 5/S3.4.

GENERAL FRAMING NOTES:

1. ALL 9-½" BEAMS SHALL BE FLUSH AND ALL HEADERS DROPPED, UNO. SEE 3/S3.3 FOR TYPICAL POST-TO-BEAM CONNECTIONS,TYP. UNO.
2. TYP. HEADERS SHALL BE 4x6 DF#2, UNO, SEE 4/S3.3 FOR INSTALLATION.
3. PROVIDE (2) BEARING STUDS UNDER EACH END OF ALL BEAMS AND (1) 2x TRIMMER (BEARING) STUD AND (1) 2x KING (FULL-HEIGHT) STUD AT EACH END OF ALL HEADERS, UNO. NAIL STUDS TOGETHER PER GENERAL STRUCTURAL NOTES.
4. PROVIDE SOLID BEARING BELOW ALL POINT LOADS ABOVE.
5. STUD WALLS SHALL BE 2x HF STUDS @ 16"oc, UNO. SEE SHEAR WALL, HOLDOWN AND STRAP SCHEDULES ON S1.1 FOR ADDITIONAL REQUIREMENTS AT SHEAR WALL FRAMING.
6. AT BREAKS IN DOUBLE TOP PLATE OF ALL EXTERIOR WALLS AND ALL SHEAR WALLS SEE DETAIL 3/S1.1.
7. SWX - INDICATES SHEAR WALL PER SCHEDULE 1/S1.1. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION. ALL NEW, EXTERIOR WALLS SHALL BE SHEATHED PER SW6, UNO.
8. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.
9. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

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1-8-2024

Rawson Remodel

8413 SE 82nd St, Mercer Island, WA 98040

Revision	Issue Date	Drawing Set
	1/8/2024	Permit Set

Main Floor Framing Plan

S2.1

HANGER SCHEDULE	
MEMBER	HANGER
PT 2x8	LUSZ28
PT 4x8	HUCZ48
(2)2x10	LUS210-2
(3)2x10	HHUS210-3
2x12	LUS210
4x12	HUCQ410
9-½" TJI/230	IUS/IUT2.37/9.5
1-¾x9-½ LSL	IUS1.81/9.5
3-½x9-½ LSL	HUS410
(2)1-¾x9-¼ LVL	HU410-Titen
5-¼x9-¼ PSL	HGUM5.25
(4)1-¾x9-¼ LVL	HHUS7.25/10
14" TJI/230	IUS/ITS2.37/14
(2)14" TJI/230	MIU4.75/14
14" TJI/560	IUS/ITS3.56/14
1-¾x14 LSL	U14
3-½x14 LSL/PSL	HUS412
7x14 PSL	HGU7.25-SDS
5-½x12 GLB	MBHU5.50
5-½x15 GLB	MGU5.62-SDS

Upper Floor Framing Plan

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

FLOOR FRAMING NOTES:

1. FLOOR SHEATHING SHALL BE MIN.$^{23}/_{32}$" APA RATED SHEATHING (48/24). NAIL @ ALL PANEL EDGES AND OVER ALL SHEAR WALLS w/0.113"ø @ 6"oc AND 12"oc TO ALL INTERMEDIATE FRAMING. PLACE LONG DIRECTION OF PLYWOOD PERPENDICULAR TO JOISTS DIRECTION, STAGGER PANEL JOINTS.
2. TYPICAL FLOOR FRAMING SHALL BE 14" TJI/230 @ 16"oc, DIRECTION PER PLAN. JOIST TO SPAN CONTINUOUS AS INDICATED ON PLAN.
3. LSL - INDICATES FLUSH-FRAMED 1-¾"x14" LSL BEAM. ALL JOISTS AND 14" DEEP BEAMS SHALL BE FLUSH-FRAMED & ALL 4x HEADERS/GLULAM BEAMS SHALL BE DROPPED UNO.
4. DS - INDICATES 1-¾"x14" LSL DRAG STRUT UNO; ATTACH SHEATHING ALONG ENTIRE LENGTH w/ 0.131"ø @ 4"oc
5. - INDICATES STRAP AT END OF SHEAR WALL ABOVE, SEE SCHEDULE ON 2/S1.1.

GENERAL FRAMING NOTES:

1. ALL 14" BEAMS SHALL BE FLUSH AND ALL HEADERS DROPPED, UNO. SEE 3/S3.3 FOR TYPICAL POST-TO-BEAM CONNECTIONS
2. TYP. HEADERS SHALL BE 4x6 DF#2, UNO, SEE 4/S3.3 FOR INSTALLATION.
3. PROVIDE (2) BEARING STUDS UNDER EACH END OF ALL BEAMS AND (1) 2x TRIMMER (BEARING) STUD AND (1) 2x KING (FULL-HEIGHT) STUD AT EACH END OF ALL HEADERS, UNO. NAIL STUDS TOGETHER PER GENERAL STRUCTURAL NOTES.
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Rawson Residence Remodel

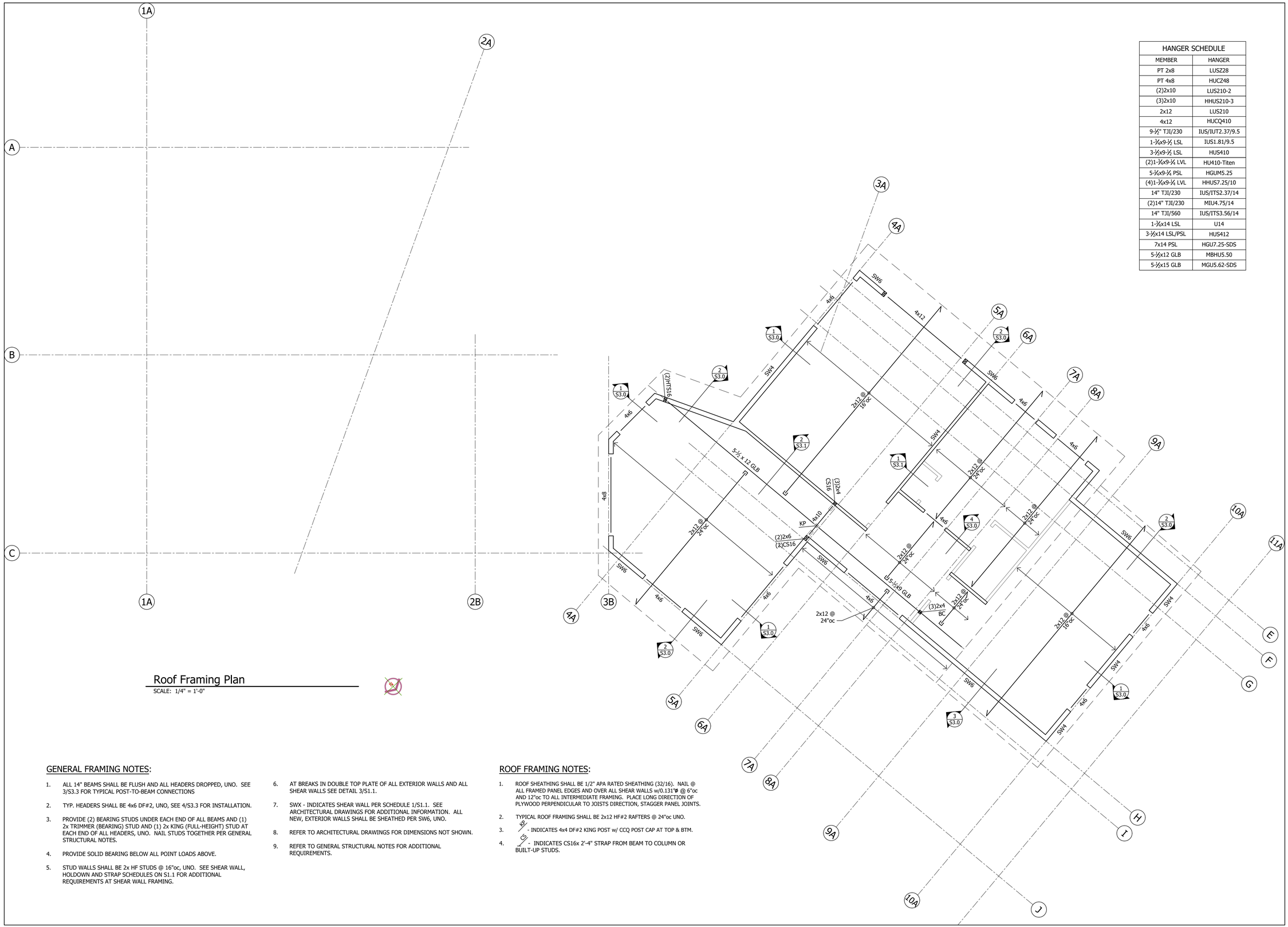
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Revision	Issue Date	Drawing Set
	1/8/2024	Permit Set

Upper Floor Framing Plan

S2.2

HANGER SCHEDULE	
MEMBER	HANGER
PT 2x8	LUSZ28
PT 4x8	HUCZ48
(2)2x10	LUS210-2
(3)2x10	HHUS210-3
2x12	LUS210
4x12	HUCQ410
9-½" TJI/230	IUS/IUT2.37/9.5
1-¾x9-½ LSL	IUS1.81/9.5
3-½x9-½ LSL	HUS410
(2)1-¾x9-¼ LVL	HU410-Titen
5-¼x9-¼ PSL	HGUM5.25
(4)1-¾x9-¼ LVL	HHUS7.25/10
14" TJI/230	IUS/ITS2.37/14
(2)14" TJI/230	MIU4.75/14
14" TJI/560	IUS/ITS3.56/14
1-¾x14 LSL	U14
3-½x14 LSL/PSL	HUS412
7x14 PSL	HGU7.25-SDS
5-½x12 GLB	MBHU5.50
5-½x15 GLB	MGU5.62-SDS



Roof Framing Plan

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

GENERAL FRAMING NOTES:

1. ALL 14" BEAMS SHALL BE FLUSH AND ALL HEADERS DROPPED, UNO. SEE 3/S3.3 FOR TYPICAL POST-TO-BEAM CONNECTIONS
2. TYP. HEADERS SHALL BE 4x6 DF#2, UNO, SEE 4/S3.3 FOR INSTALLATION.
3. PROVIDE (2) BEARING STUDS UNDER EACH END OF ALL BEAMS AND (1) 2x TRIMMER (BEARING) STUD AND (1) 2x KING (FULL-HEIGHT) STUD AT EACH END OF ALL HEADERS, UNO. NAIL STUDS TOGETHER PER GENERAL STRUCTURAL NOTES.
4. PROVIDE SOLID BEARING BELOW ALL POINT LOADS ABOVE.
5. STUD WALLS SHALL BE 2x HF STUDS @ 16"oc, UNO. SEE SHEAR WALL, HOLDOWN AND STRAP SCHEDULES ON S1.1 FOR ADDITIONAL REQUIREMENTS AT SHEAR WALL FRAMING.
6. AT BREAKS IN DOUBLE TOP PLATE OF ALL EXTERIOR WALLS AND ALL SHEAR WALLS SEE DETAIL 3/S1.1.
7. SWX - INDICATES SHEAR WALL PER SCHEDULE 1/S1.1. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION. ALL NEW, EXTERIOR WALLS SHALL BE SHEATHED PER SW6, UNO.
8. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.
9. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

ROOF FRAMING NOTES:

1. ROOF SHEATHING SHALL BE 1/2" APA RATED SHEATHING (32/16). NAIL @ ALL FRAMED PANEL EDGES AND OVER ALL SHEAR WALLS w/0.131"ø @ 6"oc AND 12"oc TO ALL INTERMEDIATE FRAMING. PLACE LONG DIRECTION OF PLYWOOD PERPENDICULAR TO JOISTS DIRECTION, STAGGER PANEL JOINTS.
2. TYPICAL ROOF FRAMING SHALL BE 2x12 HF#2 RAFTERS @ 24"oc UNO.
3. KP - INDICATES 4x4 DF#2 KING POST w/ CCQ POST CAP AT TOP & BTM.
4. CS - INDICATES CS16x 2'-4" STRAP FROM BEAM TO COLUMN OR BUILT-UP STUDS.

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1-8-2024

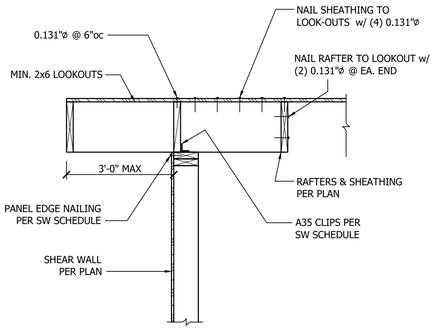
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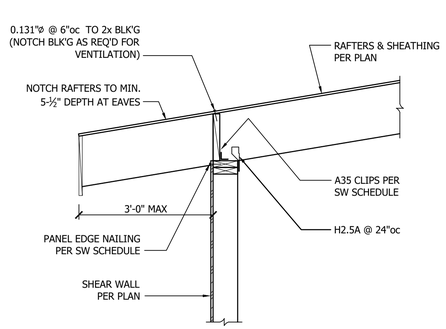
Revision	Issue Date	Drawing Set
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Roof Framing Plan

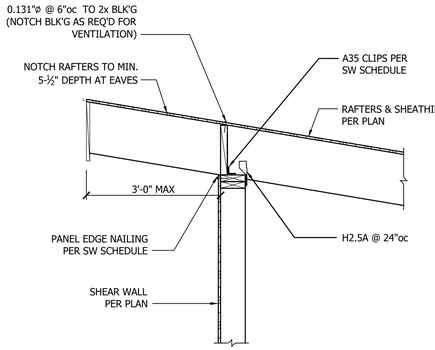
S2.3



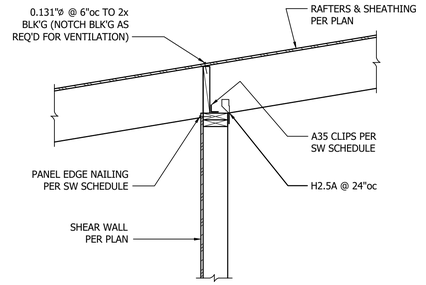
1 2x Rafter Parallel to Exterior Wall
3/4" = 1'-0"



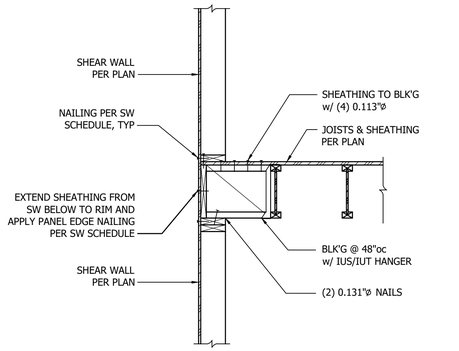
2 2x Rafters Perp. to Low Wall
3/4" = 1'-0"



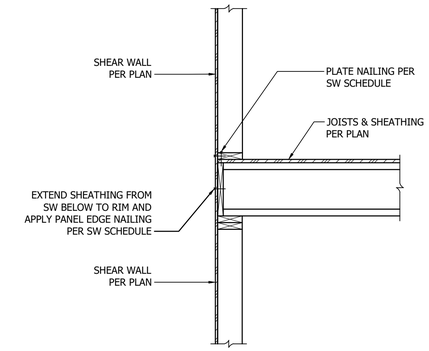
3 2x Rafters Perp. to High Wall
3/4" = 1'-0"



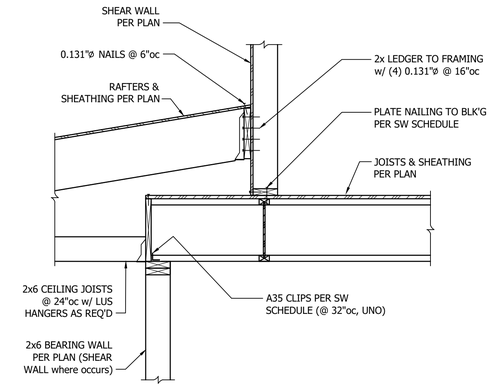
4 2x Rafters Perp. to Interior Wall
3/4" = 1'-0"



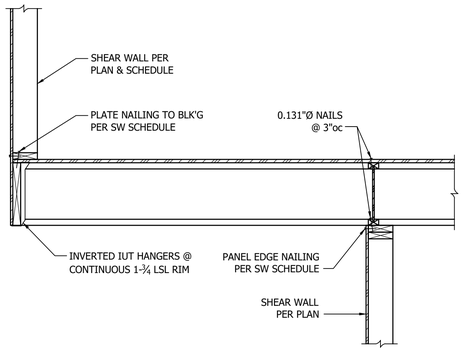
5 I-Joists Parallel to Exterior Wall
3/4" = 1'-0"



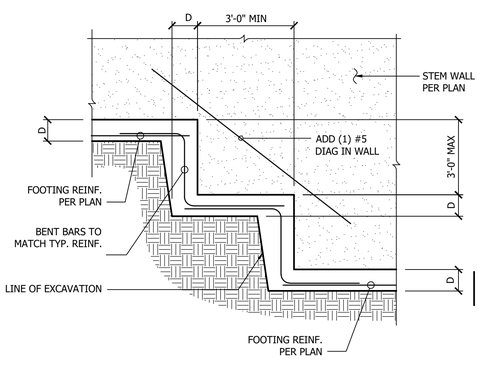
6 I-Joists Perpendicular to Exterior Wall
3/4" = 1'-0"



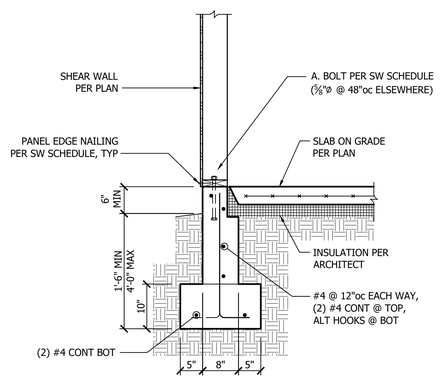
7 2x Low Roof at Parallel I-Joists
3/4" = 1'-0"



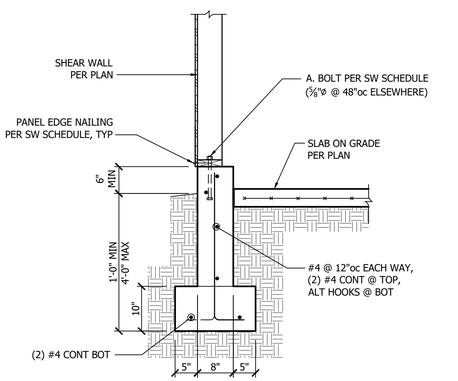
8 Shear Transfer @ Cantilevered I-Joists
3/4" = 1'-0"



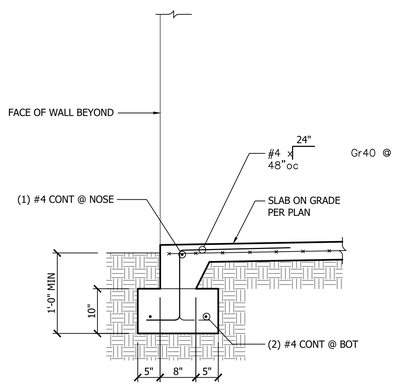
9 Stepped Footing, Typ.
3/4" = 1'-0"



10 Stem Wall/Footing @ Exterior Wall
3/4" = 1'-0"



11 Stem Wall/Footing @ Exterior Garage Wall
3/4" = 1'-0"



12 Footing @ Garage Opening
3/4" = 1'-0"

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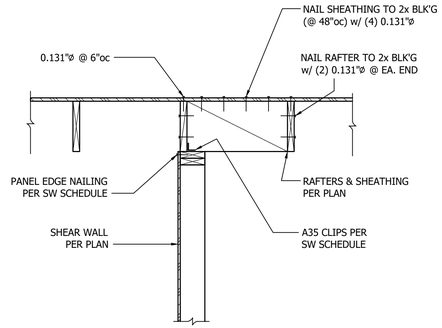
MICHAEL THOMAS ANNEE — STATE OF WASHINGTON — 43889 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER
1-8-2024

Rawson Residence Remodel
8413 SE 82nd St, Mercer Island, WA 98040

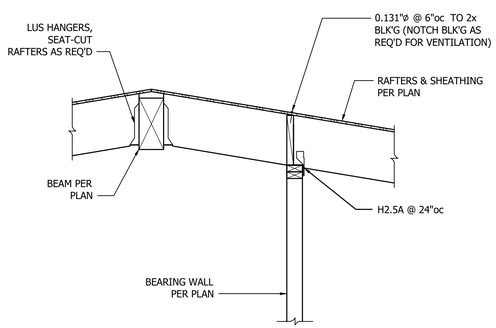
Revision	Issue Date	Drawing Set
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Structural Details

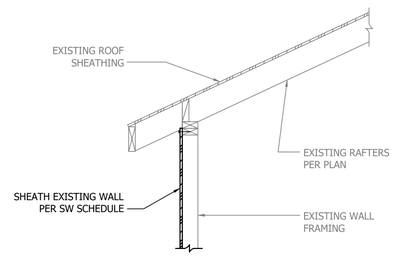
S3.0



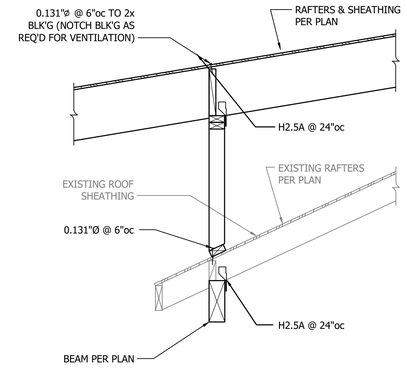
1 2x Rafter Parallel to Interior Shear Wall
3/4" = 1'-0"



2 2x Rafters at Ridge & Interior BEaring Wall
3/4" = 1'-0"



3 Shear Wall Sheathing at Existing, Exterior Wall
3/4" = 1'-0"



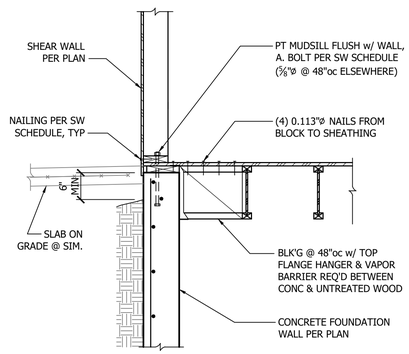
4 New Header Supportng Existing Rafters
3/4" = 1'-0"

5 I-Joists Parallel to Exterior Wall
3/4" = 1'-0"

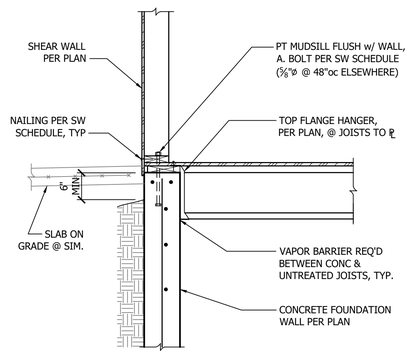
6 I-Joists Perpendicular to Exterior Wall
3/4" = 1'-0"

7 Low Roof Rafters Parallel to Floor Framing
3/4" = 1'-0"

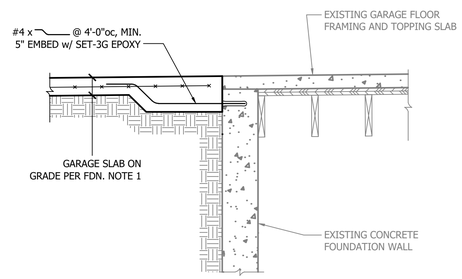
SIMPSON SHEAR WALL



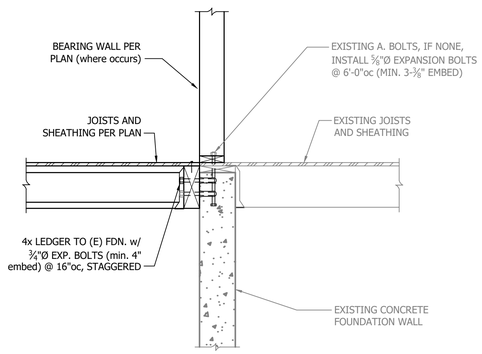
9 TJI Parallel to Flush Foundation Wall
3/4" = 1'-0"



10 TJI Perp. to Flush Foundation Wall
3/4" = 1'-0"



11 New Garage Slab Adjacent to Existing Garage
3/4" = 1'-0"



12 I-Joists Perp. to Existing Foundation Wall
3/4" = 1'-0"

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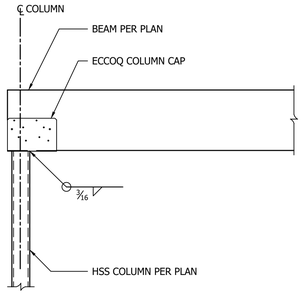
MICHAEL THOMAS ANNÉE
STATE OF WASHINGTON
43889
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PROFESSIONAL ENGINEER
1-8-2024

Rawson Residence Remodel
8413 SE 82nd St, Mercer Island, WA 98040

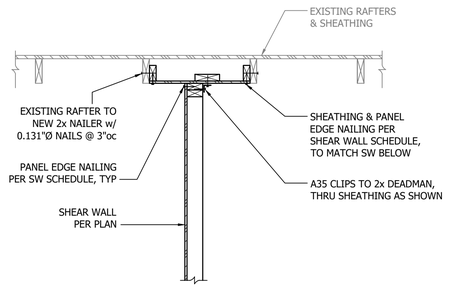
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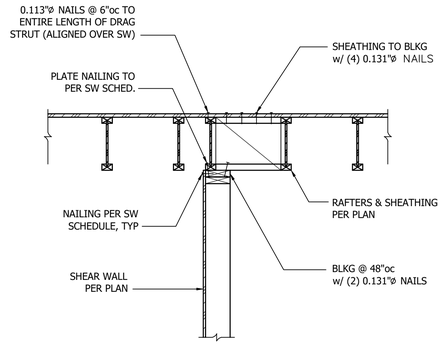
S3.1



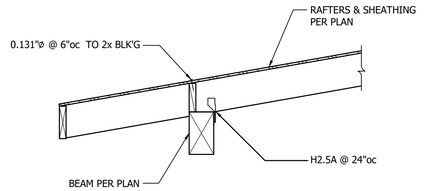
1 Wood Beam to HSS Column, Typ.
3/4" = 1'-0"



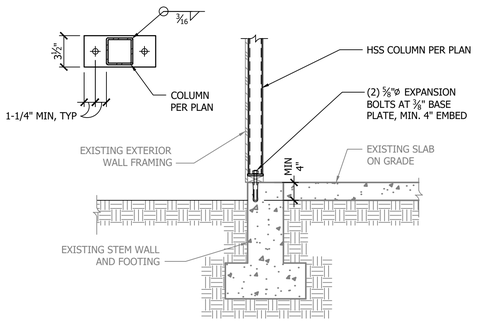
2 New, Interior Shear Wall ll to Existing Rafters
3/4" = 1'-0"



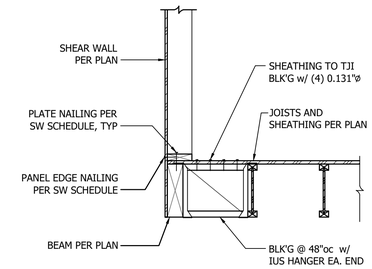
3 Interior Shear Wall ll to I-Joists Above
3/4" = 1'-0"



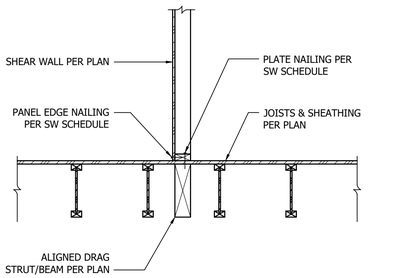
4 2x Rafters Perp. to Beam
3/4" = 1'-0"



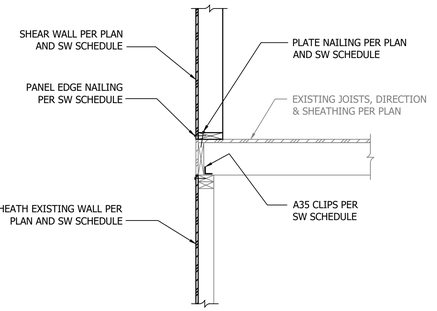
5 HSS Column to Existing Fdn. Wall
3/4" = 1'-0"



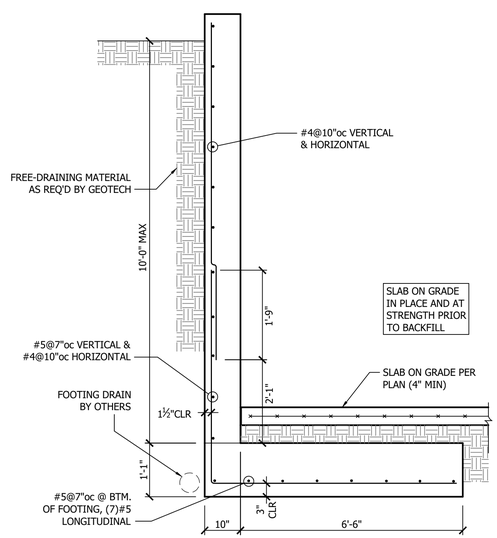
6 Flush Beam Supporting Exterior Wall Above
3/4" = 1'-0"



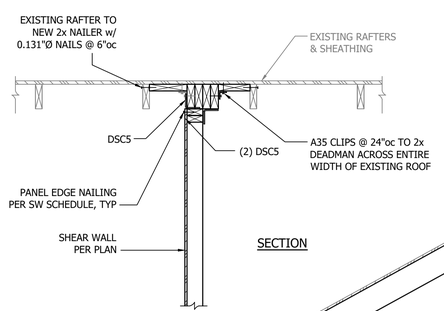
7 Interior Shear Wall ll to I-Joists Below
3/4" = 1'-0"

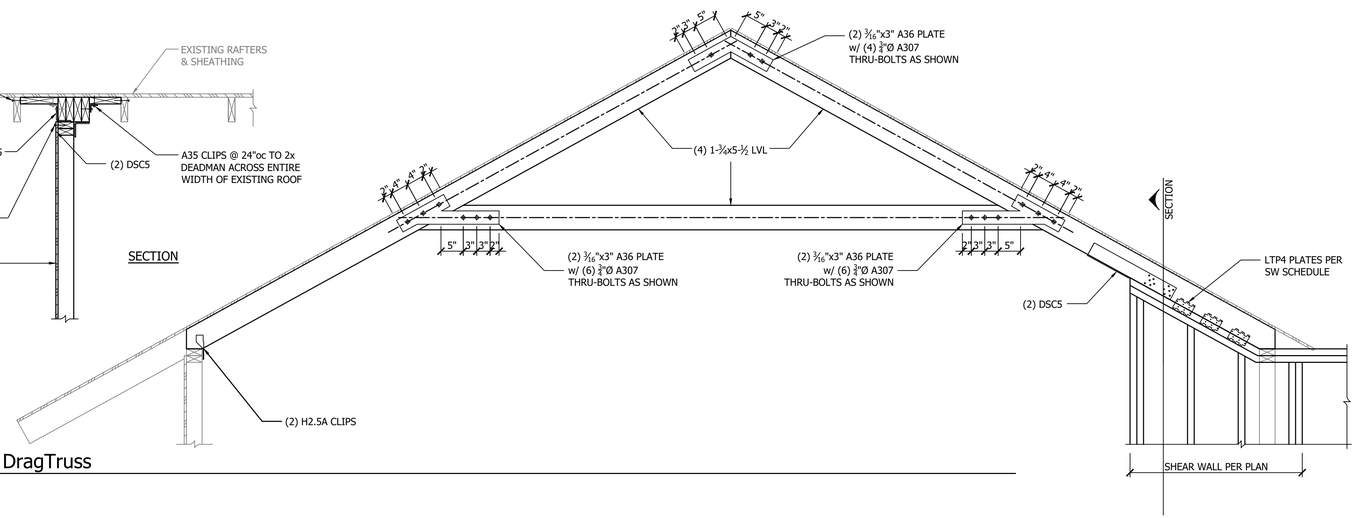


8 Existing 2x Joist Perp. to Exterior Wall
3/4" = 1'-0"



9 Retaining Wall at Basement
3/4" = 1'-0"





10 Stick-Framed DragTruss
3/4" = 1'-0"

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1-8-2024

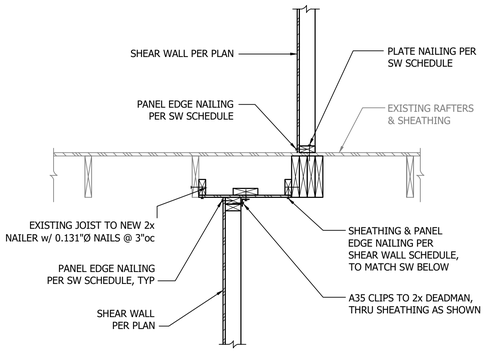
Rawson Remodel

8413 SE 82nd St, Mercer Island, WA 98040

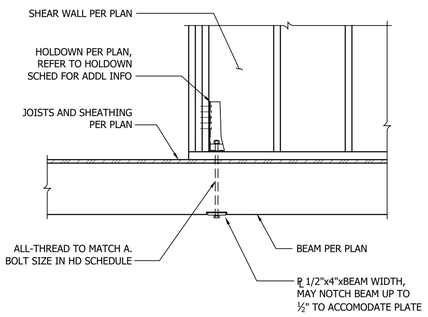
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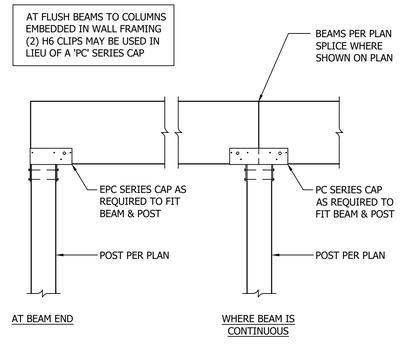
S3.2



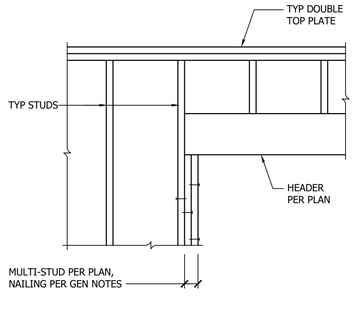
1 New, Interior Shear Wall ll to Existing Rafters
3/4" = 1'-0"



2 HD-to-Beam
3/4" = 1'-0"



3 Wood Beam to Wood Column, Typ.
3/4" = 1'-0"



4 Header Support, Typ.
3/4" = 1'-0"

5 Strap to Blocking Between Joists
3/4" = 1'-0"

6 Strap to Beam Below
3/4" = 1'-0"

7 Strap to Header, Typ.
3/4" = 1'-0"

8 Column Cap at Cantilevered Beam to Header
3/4" = 1'-0"

9 Isolated Post Footing
3/4" = 1'-0"

10 Holdown to Steel Beam
3/4" = 1'-0"

11 New Steel Beam Under Shear Wall Above
3/4" = 1'-0"

12 Drag Strut to Existing Foundation Wall
3/4" = 1'-0"

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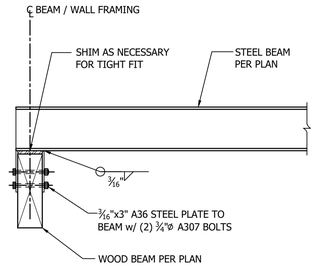
Rawson Remodel

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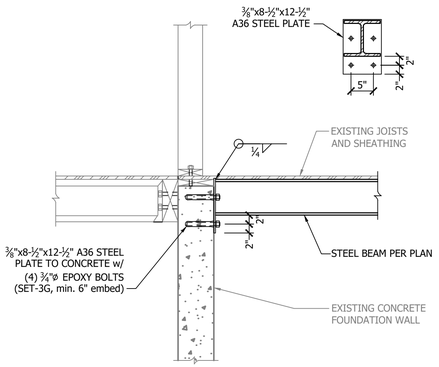
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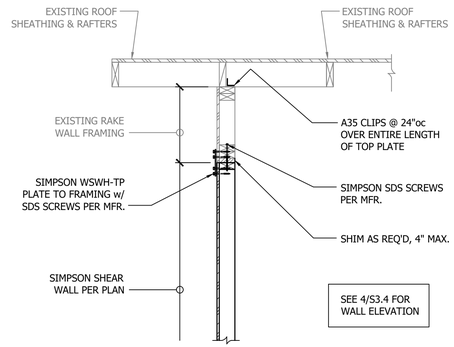
S3.3



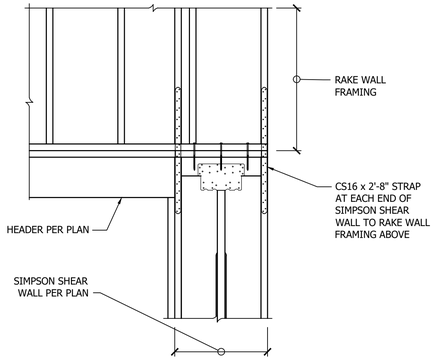
1 Steel Beam to Wood Column, Typ.
3/4" = 1'-0"



2 I-Joists Perp. to Existing Foundation Wall
3/4" = 1'-0"



3 Simpson Shear Wall at Existing Rake Wall
3/4" = 1'-0"



4 Elevation at Rake Wall to Simpson Shear Wall
3/4" = 1'-0"

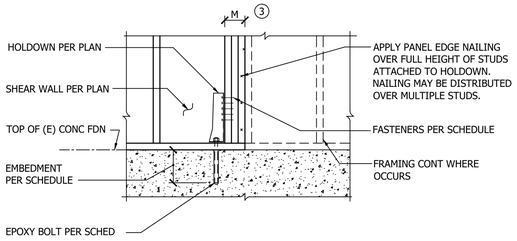
HOLDOWN SCHEDULE ① ② ④						
MARK	FASTENERS	M ③	WALL			
			ANCHOR ROD	EMBEDMENT	EDGE DISTANCE	CAPACITY
HDU8	(20) SDS¼"x2½"	4x6	⅞"ø	16"	3"	7,870#
HDU14	(36) SDS¼"x2½"	4x8	1"ø	20"	3"	12,375#

PLACEMENT OF ANCHOR ROD IS BASED ON SIMPSON SET-XP EPOXY.

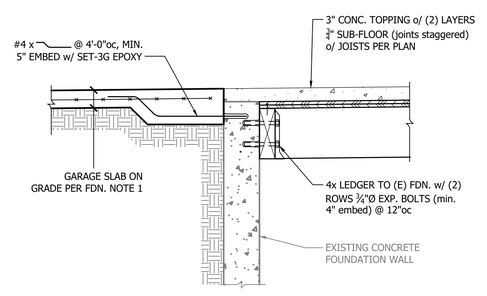
①② INSTALL ALL HOLDOWNS AND EPOXY PER MANUFACTURER'S INSTRUCTIONS.

③ DEPTH OF WOOD FRAMING MEMBER ATTACHED TO HOLDOWN. MEMBERS SHALL BE HEM-FIR UNLESS NOTED OTHERWISE NOTED.

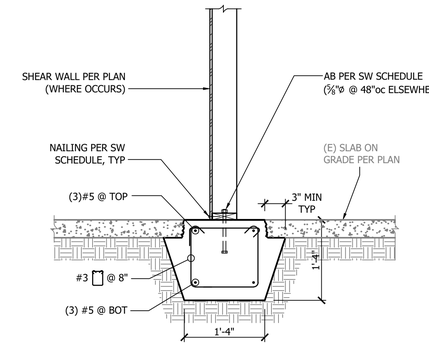
④ MIN 6" CONCRETE WALL THICKNESS REQUIRED.



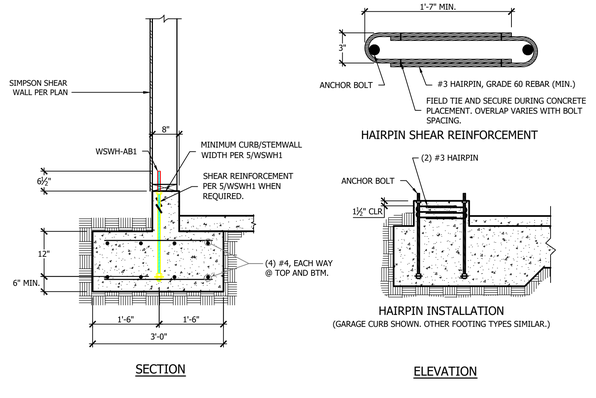
5 Retrofit Holdown Schedule
3/4" = 1'-0"



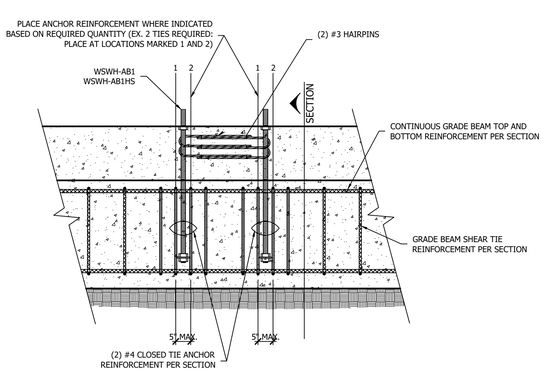
7 Framed-to-SOG Garage Floor Transition
3/4" = 1'-0"



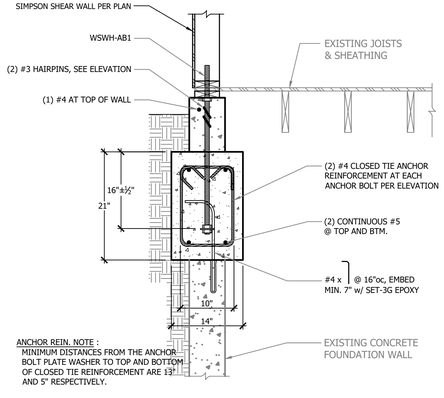
8 Cont. Grade Beam at Existing Slab on Grade
3/4" = 1'-0"



9 Simpson Shear Wall Anchorage and Reinforcement at Garage Ftg.
3/4" = 1'-0"



11 Simpson Shear Wall Anchorage and Reinforcement at Grade Beam
3/4" = 1'-0"



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1-8-2024

Rawson Remodel
8413 SE 82nd St, Mercer Island, WA 98040

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Structural Details

S3.4

STURMAN
ARCHITECTS

Date: **February 27, 2024**

To: **City of Mercer Island Building Department**
9611 SE 36th Street
Mercer Island, WA 98040

From: **Brad Sturman**
Sturman Architects

Re: **Rawson Remodel**
8413 SE 82nd St
Mercer Island, WA 98040
Tax Id # 362560-0080

Subj.: **Critical Area 2 – Application Narrative**

NARRATIVE:

The project is located on a 16,550 SF site and includes a potential slide hazard as well as a steep slope. The steep slope is located to the SE of the site and the potential slide is located in several areas of the site itself. As required by code, we are submitting a Critical Area II application which will have a concurrent review with our main building permit (permit # TBD).

The house design a structural remodel of the existing main floor, with new 289 SF garage and 528 SF entry expansion along with a new 1,250 SF upper floor addition. The proposed area of work is located beyond a 75' buffer from the top of the steep slope.

A Geotech report has been prepared showing the site conditions and the recommendations for construction. The report also provides a statement of risk.

Sincerely,
Sturman Architects,
Brad Sturman

9 – 103rd Ave.NE #203 **T-425 451-7003** www.SturmanArchitects.com

STURMAN
ARCHITECTS

Date: **April 17, 2024**

To: **City of Mercer Island Building Department**
9611 SE 36th Street
Mercer Island, WA 98040

From: **Brad Sturman**
John Magcawas
Sturman Architects

Re: **Rawson Remodel**
8413 SE 82nd St
Mercer Island, WA 98040
Tax Id # 362560-0080

Subj.: **Criteria Compliance Narrative for CAR2**

NARRATIVE:

The application meets the review criteria for Critical Area Review 2 because it meets the requirements of MICC 19.07.090, MICC 19.07.160.

The site is located on a Steep Slope, Potential Slide, Seismic Hazard Area, and Erosion Hazard as shown on the Mercer Island GIS. Most of the proposed project will be in the Potential Slide Hazard. Therefore, the application meets the review criteria as indicated on MICC 19.07.090(2)(C).

Cobalt Geosciences has been hired to study the site and prepare a report with their findings and recommendations. Per MCC 19.07.160(B)(2) they have concluded that the proposed construction will not adversely impact other critical areas, not adversely impact the subject property or adjacent properties, will mitigate impacts to geologically hazardous area consistent with best available science, and to include the landscaping of all disturbed areas outside of the building footprint. The only recommendations they have provided for the site don't expand beyond foundation recommendations and temporary erosion control measures.

With the criteria stated within MICC 19.07.090 and MICC 19.07.160 addressed with supporting documents and reports, we believe that the project meets the requirements of a Critical Area 2 Review.

Sincerely,
Sturman Architects,
Brad Sturman and John Magcawas

9 – 103rd Ave.NE #203 **T-425 451-7003** www.SturmanArchitects.com

CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org
Inspection Requests: Online: www.MyBuildingPermit.com VM: 206.275.7730

CONCURRENT REVIEW

I am requesting that my permit submittal be accepted and reviewed concurrently during the review of our land use action (File # CAO24-007). I fully understand that the land use application must be approved prior to the issuance of the permit. I take full responsibility for all fees incurred for the permit review and understand that the fees are payable to the City of Mercer Island regardless of the land use outcome. I hold the City harmless for any actions arising from the concurrent review of the permit application, including but not limited to the potential denial of the permit if the land use action is denied.

Brad Sturman — Signature

2024-2-29 — Date

Brad Sturman — Name

8413 SE 82nd ST — Project Address

brad@sturmanarchitects.com — email

425-451-7003 — Phone #

Cobalt Geosciences, LLC
P.O. Box 1792
North Bend, WA 98045

February 9, 2024

John Magcawas
john@sturmanarchitects.com

RE: Geotechnical Evaluation
Proposed Additions
8413 SE 82nd Street
Mercer Island, Washington

In accordance with your authorization, Cobalt Geosciences, LLC has prepared this letter to discuss the results of our geotechnical evaluation at the referenced site.

The purpose of our evaluation was to provide recommendations for foundation design, grading, and earthwork.

Site and Project Description

The site is located at 8413 SE 82nd Street in Mercer Island, Washington. The site consists of one irregularly shaped parcel (No. 3625600080) with a total area of 16,550 square feet.

The northern and central portions of the site are developed with a single-family residence with basement areas and driveway.

The remainder of the site is undeveloped and vegetated with grasses, blackberry vines, understory, and variable diameter trees. The understory and trees are mostly prevalent on steep slope areas southeast of the property.

The developed portion of the site is locally level to slightly sloping downward to the west and southwest with relief of about 20 feet. These areas are landscaped and have local walls. There are timber walls and a block wall near the top of the steeper slope areas in the southeast corner of the property.

There is a mapped historic landslide feature and steep slope areas near the southeast corner of the property extending downward to the southeast. Slope magnitudes in the landslide feature are 30 to 80 percent (overall) with total relief of about 100 feet. The slope is vegetated with ferns, ivy, understory, and variable diameter trees.

The site either contains or is very close to areas with erosion, seismic, steep slope, and landslide hazard areas per City mapping.

The site is bordered to the east, west, and south by residential properties, and to the north by SE 82nd Street.

The proposed development includes additions to the northern portions of the residence. The additions include new foundation elements along with new framing on existing foundation elements.

Site grading may include cuts and fills of about 9 feet or less for foundation placement. Foundation loads are expected to be light. We should be provided with the final plans to verify that our recommendations remain valid and do not require updating.

Area Geology

The Geologic Map of Mercer Island, indicates that the site is underlain by Vashon Advance Outwash.

Vashon Advance Outwash includes fine to medium grained sand with gravel. These deposits are typically permeable and become denser with depth.

The map shows a scarp located near the top of the steep slope in the southern portion of the property. Landslide features are present south and southeast of the property.

Soil & Groundwater Conditions

As part of our evaluation, we drilled a hollow stem auger boring where accessible.

Disturbed soil samples were obtained during drilling by using the Standard Penetration Test (SPT) as described in ASTM D-1586. The Standard Penetration Test and sampling method consists of driving a standard 2-inch outside-diameter, split barrel sampler into the subsoil with a 140-pound hammer free falling a vertical distance of 30 inches. The summation of hammer-blows required to drive the sampler the final 12-inches of an 18-inch sample interval is defined as the Standard Penetration Resistance, or N-value. The blow count is presented graphically on the boring logs in this appendix. The resistance, or "N" value, provides a measure of the relative density of granular soils or of the relative consistency of cohesive soils.

The soils encountered were logged in the field and are described in accordance with the Unified Soil Classification System (USCS).

The boring encountered approximately 6 inches of topsoil underlain by approximately 9.5 feet of loose to medium dense, silty-fine to medium grained sand trace gravel (Glacial Till). These materials were underlain by medium dense to dense, fine to medium grained sand (Advance Outwash), which continued to the termination depth of the exploration.

Groundwater was observed approximately 11 feet below grade in the boring. Groundwater appears to be perched on slightly denser and finer grained outwash sands. Groundwater often collects at the base of glacial till and slowly migrates vertically through the outwash. Regional groundwater is likely at the base of the outwash and on top of the underlying silt deposits near the toe of the slope.

Water table elevations often fluctuate over time. The groundwater level will depend on a variety of factors that may include seasonal precipitation, irrigation, land use, climatic conditions and soil permeability. Water levels at the time of the field investigation may be different from those encountered during the construction phase of the project. It would be necessary to install a piezometer to determine groundwater depths over a typical year.

City of Mercer Island GIS Mapped Hazards

The City of Mercer Island GIS maps indicate that the site contains or is near a steep slope, potential slide/slide, seismic, and erosion hazard area. These designations are likely present due to a combination of historic mass wastage/landslide activity in steeper slope areas southeast of the site (with a scarp), close proximity of the property to the contact between outwash and underlying silts, and presence of outwash soils (erosion and seismic hazards).

It appears likely that the soil movements that created the current landforms likely occurred shortly after deglaciation about 11,000 years ago. Rapid de-watering of area slopes when ice dams fully melted resulted in massive landslides.

We did not observe evidence of recent landslide activity or severe erosion on the subject parcel. There is likely minor to moderate soil creep in steeper slope areas as indicated by curved tree trunks. This is common in areas with slope magnitudes of 50 percent or more.

Overall, the site areas that are developed appear stable at this time with no evidence of recent or ongoing erosion or landslide activity. It is our opinion that the risk of landslide activity and erosion can be maintained at a relatively low level with proper implementation of erosion control measures. It is our opinion that the seismic hazard risks are low.

The residence is approximately 40 to 50 feet from the top of the scarp and steep slope areas/historic landslide feature. The planned additions are located at least 70 feet from the top of this feature. The work can be completed without adversely affecting any geologic hazards provided temporary erosion control systems are fully in place during construction and until final landscaping is in place. The work will be located within already graded and developed areas and will be at least 70 feet from the steep slopes and severe hazard areas.

It should be noted that landslide activity will likely occur in the very steep slope areas located off site to the southeast periodically in the future. The combination of erodible outwash soils, already steep topography, moderate vegetation coverage, and presence of former landslide activity/features result in a moderate to high likelihood of landslide activity occurring in these areas. There is no cost effective method to reduce or eliminate the risk of landslide activity in these areas. As noted, the additions can be completed without altering the risk of landslide activity in the affected areas.

Statement of Risk

Per Section 19.07.160B2 of the Mercer Island City Code, development within geologic hazard areas require that a Geotechnical Engineer licensed within the State of Washington provide a statement of risk with supporting documentation indicating that one of the following conditions can be met:

a. The geologic hazard area will be modified, or the development has been designed so that the risk to the lot and adjacent property is eliminated or mitigated such that the site is determined to be safe; or

b. An evaluation of site specific subsurface conditions demonstrates that the proposed development is not located in a geologic hazard area; or

c. Development practices are proposed for the alteration that would render the development as safe as if it were not located in a geologic hazard area; or

d. The alteration is so minor as not to pose a threat to the public health, safety and welfare.

The project meets the criteria of d from above. Essentially, the additions are located a suitable distance from the hazard areas and within already graded and developed areas. This work will not increase or decrease slope stability or the level of any geologic hazards in the area.

Areas with higher risk of soil movements are situated southeast of the site, in areas where historic landslides appear to have occurred. This proposed development can be completed without adversely affecting geologic hazards near or within the site. The current addition locations appear suitable with regard to the steep slope hazards.

Erosion Hazard

The Natural Resources Conservation Services (NRCS) maps for King County indicate that the site is underlain by Kitsap silt loam (15 to 30 percent slopes). These soils would have a slight to severe erosion potential in a disturbed state depending on the slope magnitude.

It is our opinion that soil erosion potential at this project site can be reduced through landscaping and surface water runoff control. Typically, erosion of exposed soils will be most noticeable during periods of rainfall and may be controlled by the use of normal temporary erosion control measures, such as silt fences, hay bales, mulching, control ditches and diversion trenches. The typical wet weather season, with regard to site grading, is from October 31st to April 1st. Erosion control measures should be in place before the onset of wet weather.

Seismic Parameters

The overall subsurface profile corresponds to a Site Class *D* as defined by Table 1613.5.2 of the International Building Code (IBC). A Site Class *D* applies to an overall profile consisting of medium dense to very dense soils within the upper 100 feet.

We referenced the U.S. Geological Survey (USGS) Earthquake Hazards Program Website to obtain values for S_S, S_1, F_a, and F_v. The USGS website includes the most updated published data on seismic conditions. The following tables provide seismic parameters from the USGS web site with referenced parameters from ASCE 7-16.

Seismic Design Parameters (ASCE 7-16)

Site Class	Spectral Acceleration at 0.2 sec. (g)	Spectral Acceleration at 1.0 sec. (g)	Site Coefficients		Design Spectral Response Parameters		Design PGA
			F_a	F_v	S_{DS}	S_{D1}	
D	1.466	0.505	1.0	Null	0.977	Null	0.627

Additional seismic considerations include liquefaction potential and amplification of ground motions by soft/loose soil deposits. The liquefaction potential is highest for loose sand with a high groundwater table.

The site has a relatively low likelihood of liquefaction due to the very dense soil conditions where groundwater is likely present. For items listed as "Null" see Section 11.4.8 of the ASCE.

Conclusions and Recommendations

General

The steep slope southeast of the residence has potential for shallow sloughing and landslide activity. The proposed additions can be completed without adversely affecting any critical areas or decreasing the current level of slope stability. The additions will be located at least 70 feet from the top of the landslide feature, which is about 100 feet in height.

Temporary erosion control measures must be in place during construction until final landscaping is in place. All drainage features must direct runoff away from slope areas.

The addition should be supported on medium dense native soils or on properly compacted structural fill on the native soils. Local overexcavation and/or recompaction of the native outwash may be necessary depending on foundation elevations. We must be on site to verify bearing capacity at foundation locations.

Site Preparation

Trees, shrubs and other vegetation should be removed prior to stripping of surficial organic-rich soil and fill. Based on observations from the site investigation program, it is anticipated that the stripping depth will be 6 to 18 inches. Deeper excavations will be necessary in any areas underlain by loose soils at depth and below foundation elements.

The native soils consist of silty-sand with gravel and poorly graded sands at greater depths. Some of the native soils may be used as structural fill provided they achieve compaction requirements and are within 3 percent of the optimum moisture. Some of these soils may only be suitable for use as fill during the summer months, as they will be above the optimum moisture levels in their current state. These soils are variably moisture sensitive and may degrade during periods of wet weather and under equipment traffic.

Imported structural fill should consist of a sand and gravel mixture with a maximum grain size of 3 inches and less than 5 percent fines (material passing the U.S. Standard No. 200 Sieve). Structural fill should be placed in maximum lift thicknesses of 12 inches and should be compacted to a minimum of 95 percent of the modified proctor maximum dry density, as determined by the ASTM D 1557 test method.

Temporary Excavations

Based on our understanding of the project, we anticipate that the grading could include local cuts on the order of approximately 8 feet or less for foundation placement. Temporary excavations should be sloped no steeper than 1.5H:1V (Horizontal:Vertical) in loose native soils and fill and 1H:1V in medium dense native soils. If an excavation is subject to heavy vibration or surcharge loads, we recommend that the excavations be sloped no steeper than 2H:1V, where room permits.

Temporary cuts should be in accordance with the Washington Administrative Code (WAC) Part N, Excavation, Trenching, and Shoring. Temporary slopes should be visually inspected daily by a qualified person during construction activities and the inspections should be documented in daily reports. The contractor is responsible for maintaining the stability of the temporary cut slopes and reducing slope erosion during construction.

Temporary cut slopes should be covered with visqueen to help reduce erosion during wet weather, and the slopes should be closely monitored until the permanent retaining systems or slope configurations are complete. Materials should not be stored or equipment operated within 10 feet of the top of any temporary cut slope.

Soil conditions may not be completely known from the geotechnical investigation. In the case of temporary cuts, the existing soil conditions may not be completely revealed until the excavation work exposes the soil. Typically, as excavation work progresses the maximum inclination of temporary slopes will need to be re-evaluated by the geotechnical engineer so that supplemental recommendations can be made. Soil and groundwater conditions can be highly variable.

Scheduling for soil work will need to be adjustable, to deal with unanticipated conditions, so that the project can proceed and required deadlines can be met.

If any variations or undesirable conditions are encountered during construction, we should be notified so that supplemental recommendations can be made. If room constraints or groundwater conditions do not permit temporary slopes to be cut to the maximum angles allowed by the WAC, temporary shoring systems may be required. The contractor should be responsible for developing temporary shoring systems, if needed. We recommend that Cobalt Geosciences and the project structural engineer review temporary shoring designs prior to installation, to verify the suitability of the proposed systems.

Foundation Design

The proposed additions may be supported on shallow spread footing foundation systems bearing on undisturbed medium dense or firmer native soils or on properly compacted structural fill placed on the suitable native soils. Any undocumented fill and/or loose native soils should be removed and replaced with structural fill below foundation elements. Structural fill below footings should consist of clean angular rock 5/8 to 4 inches in size. We should verify soil conditions during foundation excavation work.

For shallow foundation support, we recommend widths of at least 16 and 24 inches, respectively, for continuous wall and isolated column footings supporting the proposed structure. Provided that the footings are supported as recommended above, a net allowable bearing pressure of 2,000 pounds per square foot (psf) may be used for design.

A 1/3 increase in the above value may be used for short duration loads, such as those imposed by wind and seismic events. Structural fill placed on bearing, native subgrade should be compacted to at least 95 percent of the maximum dry density based on ASTM Test Method D1557. Footing excavations should be inspected to verify that the foundations will bear on suitable material.

Exterior footings should have a minimum depth of 18 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Interior footings should have a minimum depth of 12 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower.

If constructed as recommended, the total foundation settlement is not expected to exceed 1 inch. Differential settlement, along a 25-foot exterior wall footing, or between adjoining column footings, should be less than ½ inch. This translates to an angular distortion of 0.002. Most settlement is expected to occur during construction, as the loads are applied. However, additional post-construction settlement may occur if the foundation soils are flooded or saturated. All footing excavations should be observed by a qualified geotechnical consultant.

Resistance to lateral footing displacement can be determined using an allowable friction factor of 0.40 acting between the base of foundations and the supporting subgrades. Lateral resistance for footings can also be developed using an allowable equivalent fluid passive pressure of 250 pounds per cubic foot (pcf) acting against the appropriate vertical footing faces (neglect the upper 12 inches below grade in exterior areas). The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance.

Care should be taken to prevent wetting or drying of the bearing materials during construction. Any extremely wet or dry materials, or any loose or disturbed materials at the bottom of the footing excavations, should be removed prior to placing concrete. The potential for wetting or drying of the bearing materials can be reduced by pouring concrete as soon as possible after

completing the footing excavation and evaluating the bearing surface by the geotechnical engineer or his representative.

Concrete Retaining Walls

The following table, titled **Wall Design Criteria**, presents the recommended soil related design parameters for retaining walls with a level backslope. Contact Cobalt if an alternate retaining wall system is used. This has been included for new cast in place walls, if any are proposed.

Wall Design Criteria	
"At-rest" Conditions (Lateral Earth Pressure – EFD[+])	55 pcf (Equivalent Fluid Density)
"Active" Conditions (Lateral Earth Pressure – EFD[+])	35 pcf (Equivalent Fluid Density)
Seismic Increase for "At-rest" Conditions (Lateral Earth Pressure)	14H* (Uniform Distribution)
Seismic Increase for "Active" Conditions (Lateral Earth Pressure)	7H* (Uniform Distribution)
Passive Earth Pressure on Low Side of Wall (Allowable, includes F.S. = 1.5)	Neglect upper 12 inches, then 250 pcf EFD[+]
Soil-Footing Coefficient of Sliding Friction (Allowable; includes F.S. = 1.5)	0.40

[*]H is the height of the wall; Increase based on one in 500 year seismic event (10 percent probability of being exceeded in 50 years),
[+]EFD – Equivalent Fluid Density. Assumes excavation into stiff to hard soils for passive pressures.

The stated lateral earth pressures do not include the effects of hydrostatic pressure generated by water accumulation behind the retaining walls. Uniform horizontal lateral active and at-rest pressures on the retaining walls from vertical surcharges behind the wall may be calculated using active and at-rest lateral earth pressure coefficients of 0.3 and 0.5, respectively. A soil unit weight of 125 pcf may be used to calculate vertical earth surcharges.

To reduce the potential for the buildup of water pressure against the walls, continuous footing drains (with cleanouts) should be provided at the bases of the walls. The footing drains should consist of a minimum 4-inch diameter perforated pipe, sloped to drain, with perforations placed down and enveloped by a minimum 6 inches of pea gravel in all directions.

The backfill adjacent to and extending a lateral distance behind the walls at least 2 feet should consist of free-draining granular material. All free draining backfill should contain less than 3 percent fines (passing the U.S. Standard No. 200 Sieve) based upon the fraction passing the U.S. Standard No. 4 Sieve with at least 30 percent of the material being retained on the U.S. Standard No. 4 Sieve. The primary purpose of the free-draining material is the reduction of hydrostatic pressure. Some potential for the moisture to contact the back face of the wall may exist, even with treatment, which may require that more extensive waterproofing be specified for walls, which require interior moisture sensitive finishes.

We recommend that the backfill be compacted to at least 90 percent of the maximum dry density based on ASTM Test Method D1557. In place density tests should be performed to verify adequate compaction. Soil compactors place transient surcharges on the backfill. Consequently, only light hand operated equipment is recommended within 3 feet of walls so that excessive stress is not imposed on the walls.

Stormwater Management Feasibility

We do not anticipate any new or alterations to existing stormwater management systems.

All stormwater should be collected and routed via tightline into City infrastructure. We can provide additional input if other systems are under consideration.

Slab-on-Grade

We recommend that the upper 18 inches of the existing native soils within slab areas be re-compacted to at least 95 percent of the modified proctor (ASTM D1557 Test Method).

Often, a vapor barrier is considered below concrete slab areas. However, the usage of a vapor barrier could result in curling of the concrete slab at joints. Floor covers sensitive to moisture typically requires the usage of a vapor barrier. A materials or structural engineer should be consulted regarding the detailing of the vapor barrier below concrete slabs. Exterior slabs typically do not utilize vapor barriers.

The American Concrete Institutes ACI 360R-06 Design of Slabs on Grade and ACI 302.1R-04 Guide for Concrete Floor and Slab Construction are recommended references for vapor barrier selection and floor slab detailing.

Slabs on grade may be designed using a coefficient of subgrade reaction of 180 pounds per cubic inch (pci) assuming the slab-on-grade base course is underlain by structural fill placed and compacted as outlined above. A 4- to 6-inch-thick capillary break layer should be placed over the prepared subgrade. This material should consist of pea gravel or 5/8 inch clean angular rock.

A perimeter drainage system is recommended unless interior slab areas are elevated a minimum of 12 inches above adjacent exterior grades. If installed, a perimeter drainage system should consist of a 4-inch diameter perforated drain pipe surrounded by a minimum 6 inches of drain rock wrapped in a non-woven geosynthetic filter fabric to reduce migration of soil particles into the drainage system. The perimeter drainage system should discharge by gravity flow to a suitable stormwater system.

Exterior grades surrounding buildings should be sloped at a minimum of one percent to facilitate surface water flow away from the building and preferably with a relatively impermeable surface cover immediately adjacent to the building.

Erosion and Sediment Control

Erosion and sediment control (ESC) is used to reduce the transportation of eroded sediment to wetlands, streams, lakes, drainage systems, and adjacent properties. Erosion and sediment control measures should be implemented, and these measures should be in general accordance with local regulations. At a minimum, the following basic recommendations should be incorporated into the design of the erosion and sediment control features for the site:

- Schedule the soil, foundation, utility, and other work requiring excavation or the disturbance of the site soils, to take place during the dry season (generally May through September). However, provided precautions are taken using Best Management Practices (BMP's), grading activities can be completed during the wet season (generally October through April).
- All site work should be completed and stabilized as quickly as possible.
- Additional perimeter erosion and sediment control features may be required to reduce the possibility of sediment entering the surface water. This may include additional silt fences, silt fences with a higher Apparent Opening Size (AOS), construction of a berm, or other filtration systems.
- Any runoff generated by dewatering discharge should be treated through construction of a sediment trap if there is sufficient space. If space is limited other filtration methods will need to be incorporated.

Utilities

We do not anticipate the need for any new utilities; however, the following information has been provided in case any new or modified existing utilities are proposed.

Utility trenches should be excavated according to accepted engineering practices following OSHA (Occupational Safety and Health Administration) standards, by a contractor experienced in such work. The contractor is responsible for the safety of open trenches. Traffic and vibration adjacent to trench walls should be reduced; cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

In general, silty and sandy soils were encountered at shallow depths in the explorations at this site. These soils have low cohesion and density and will have a tendency to cave or slough in excavations. Shoring or sloping back trench sidewalls is required within these soils in excavations greater than 4 feet deep.

All utility trench backfill should consist of imported structural fill or suitable on site soils. Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 95 percent of the maximum dry density based on ASTM Test Method D1557. The upper 5 feet of utility trench backfill placed in pavement areas should be compacted to at least 95 percent of the maximum dry density based on ASTM Test Method D1557. Below 5 feet, utility trench backfill in pavement areas should be compacted to at least 90 percent of the maximum dry density based on ASTM Test Method D1557. Pipe bedding should be in accordance with the pipe manufacturer's recommendations.

The contractor is responsible for removing all water-sensitive soils from the trenches regardless of the backfill location and compaction requirements. Depending on the depth and location of the proposed utilities, we anticipate the need to re-compact existing fill soils below the utility structures and pipes. The contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction procedures.

CONSTRUCTION FIELD REVIEWS

Cobalt Geosciences should be retained to provide part time field review during construction in order to verify that the soil conditions encountered are consistent with our design assumptions and that the intent of our recommendations is being met. This will require field and engineering review to:

- Monitor and test structural fill placement and soil compaction
- Observe bearing capacity at foundation locations
- Observe slab-on-grade preparation
- Monitor foundation drainage placement
- Observe excavation stability

Geotechnical design services should also be anticipated during the subsequent final design phase to support the structural design and address specific issues arising during this phase. Field and engineering review services will also be required during the construction phase in order to provide a Final Letter for the project.

CLOSURE

This report was prepared for the exclusive use of Sturman Architects and their appointed consultants. Any use of this report or the material contained herein by third parties, or for other than the intended purpose, should first be approved in writing by Cobalt Geosciences, LLC.

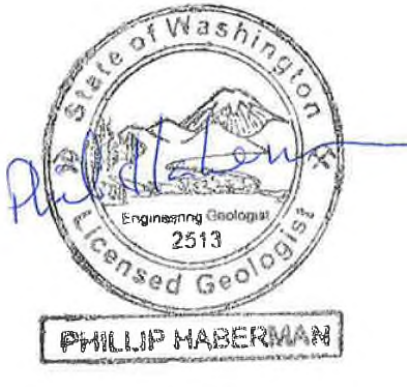
The recommendations contained in this report are based on assumed continuity of soils with those of our test holes and assumed structural loads. Cobalt Geosciences should be provided with final architectural and civil drawings when they become available in order that we may review our design recommendations and advise of any revisions, if necessary.

Use of this report is subject to the Statement of General Conditions provided in Appendix A. It is the responsibility of Sturman Architects who is identified as "the Client" within the Statement of General Conditions, and its agents to review the conditions and to notify Cobalt Geosciences should any of these not be satisfied.

Sincerely,

Cobalt Geosciences, LLC





2/9/2024
Phil Haberman, PE, LG, LEG
Principal

Statement of General Conditions

USE OF THIS REPORT: This report has been prepared for the sole benefit of the Client or its agent and may not be used by any third party without the express written consent of Cobalt Geosciences and the Client. Any use which a third party makes of this report is the responsibility of such third party.

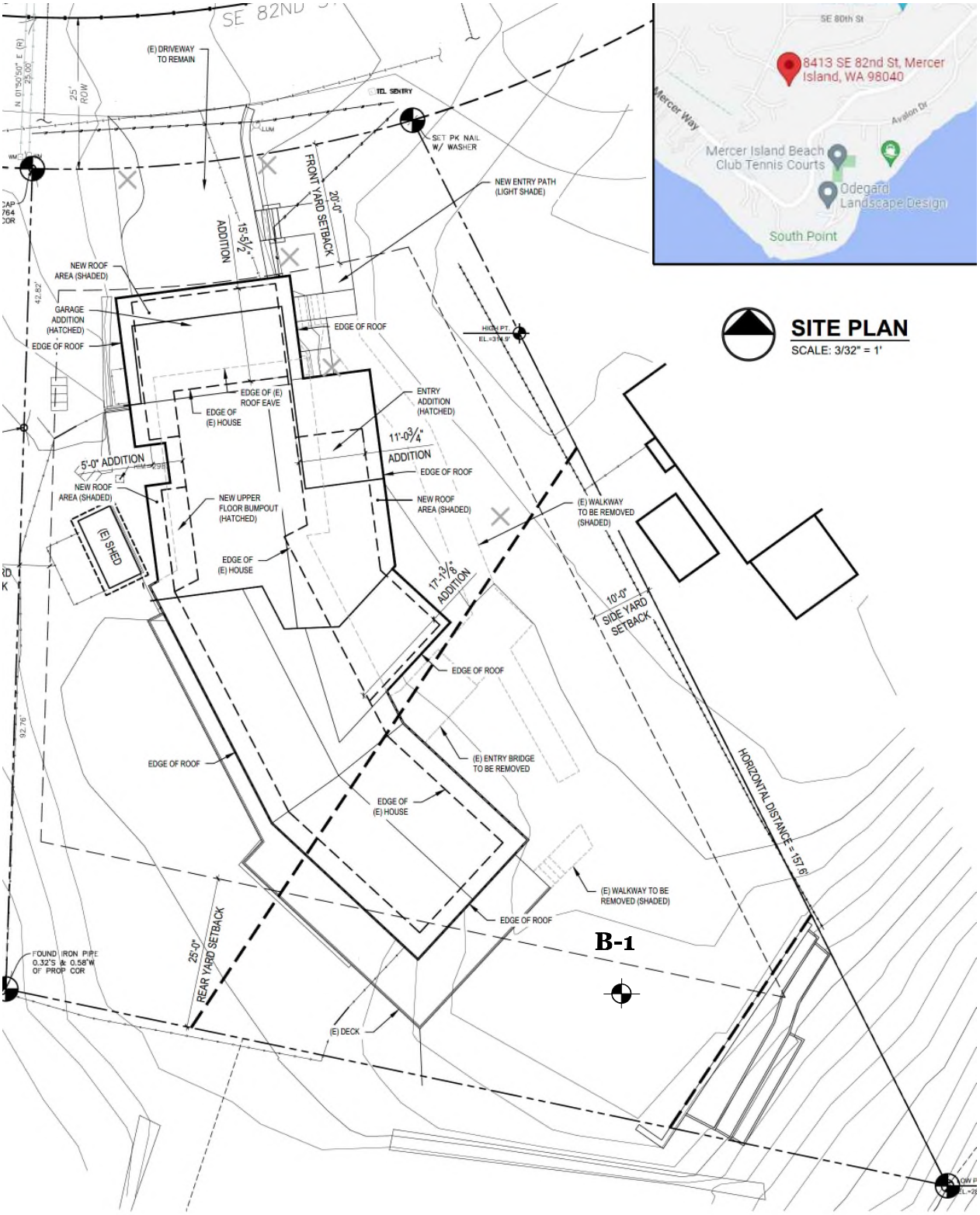
BASIS OF THE REPORT: The information, opinions, and/or recommendations made in this report are in accordance with Cobalt Geosciences present understanding of the site specific project as described by the Client. The applicability of these is restricted to the site conditions encountered at the time of the investigation or study. If the proposed site specific project differs or is modified from what is described in this report or if the site conditions are altered, this report is no longer valid unless Cobalt Geosciences is requested by the Client to review and revise the report to reflect the differing or modified project specifics and/or the altered site conditions.

STANDARD OF CARE: Preparation of this report, and all associated work, was carried out in accordance with the normally accepted standard of care in the state of execution for the specific professional service provided to the Client. No other warranty is made.

INTERPRETATION OF SITE CONDITIONS: Soil, rock, or other material descriptions, and statements regarding their condition, made in this report are based on site conditions encountered by Cobalt Geosciences at the time of the work and at the specific testing and/or sampling locations. Classifications and statements of condition have been made in accordance with normally accepted practices which are judgmental in nature; no specific description should be considered exact, but rather reflective of the anticipated material behavior. Extrapolation of in situ conditions can only be made to some limited extent beyond the sampling or test points. The extent depends on variability of the soil, rock and groundwater conditions as influenced by geological processes, construction activity, and site use.

VARYING OR UNEXPECTED CONDITIONS: Should any site or subsurface conditions be encountered that are different from those described in this report or encountered at the test locations, Cobalt Geosciences must be notified immediately to assess if the varying or unexpected conditions are substantial and if reassessments of the report conclusions or recommendations are required. Cobalt Geosciences will not be responsible to any party for damages incurred as a result of failing to notify Cobalt Geosciences that differing site or sub-surface conditions are present upon becoming aware of such conditions.

PLANNING, DESIGN, OR CONSTRUCTION: Development or design plans and specifications should be reviewed by Cobalt Geosciences, sufficiently ahead of initiating the next project stage (property acquisition, tender, construction, etc), to confirm that this report completely addresses the elaborated project specifics and that the contents of this report have been properly interpreted. Specialty quality assurance services (field observations and testing) during construction are a necessary part of the evaluation of sub-subsurface conditions and site preparation works. Site work relating to the recommendations included in this report should only be carried out in the presence of a qualified geotechnical engineer; Cobalt Geosciences cannot be responsible for site work carried out without being present.

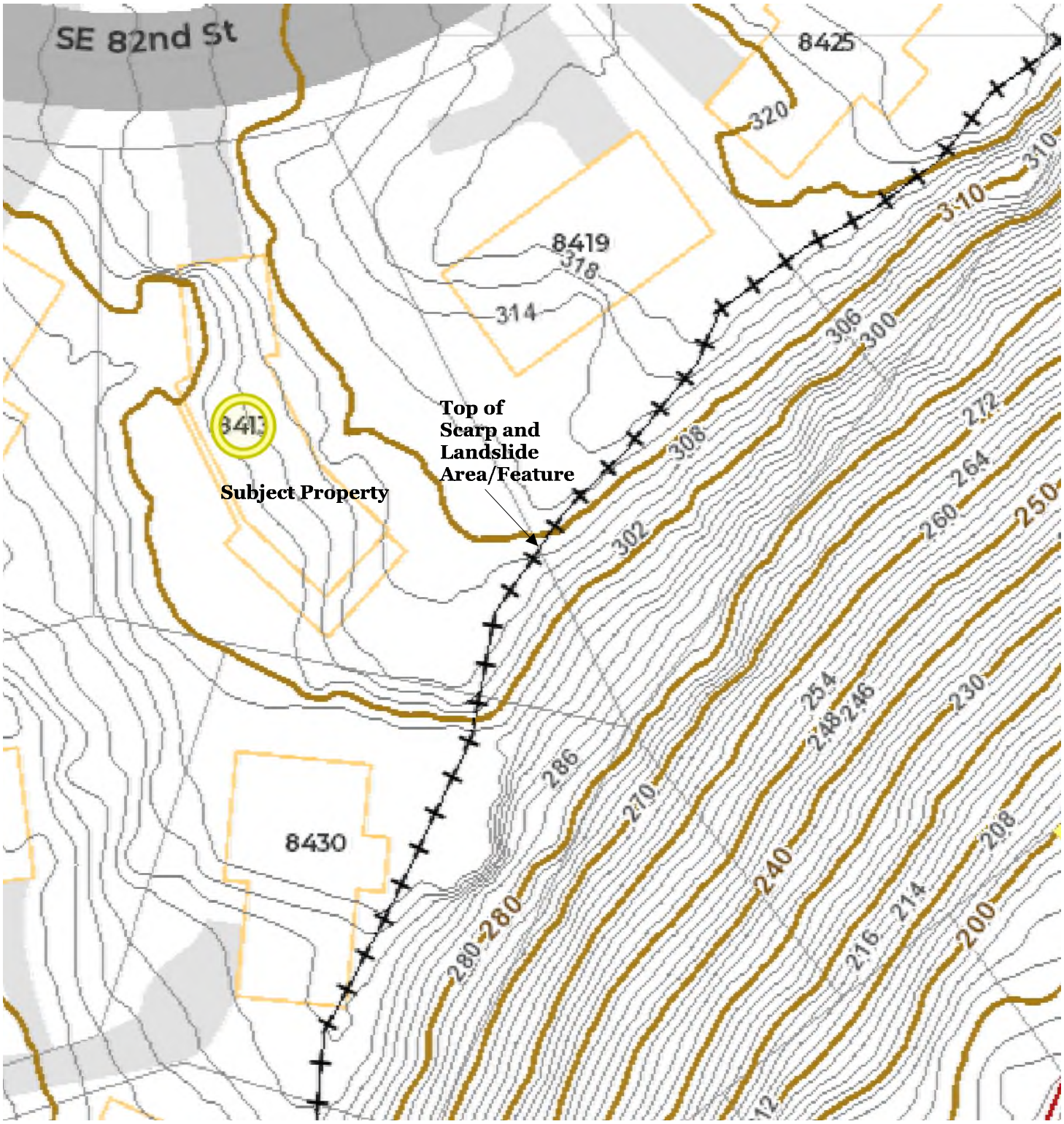


B-1 **Approximate Boring Location**

N

Provided site plan

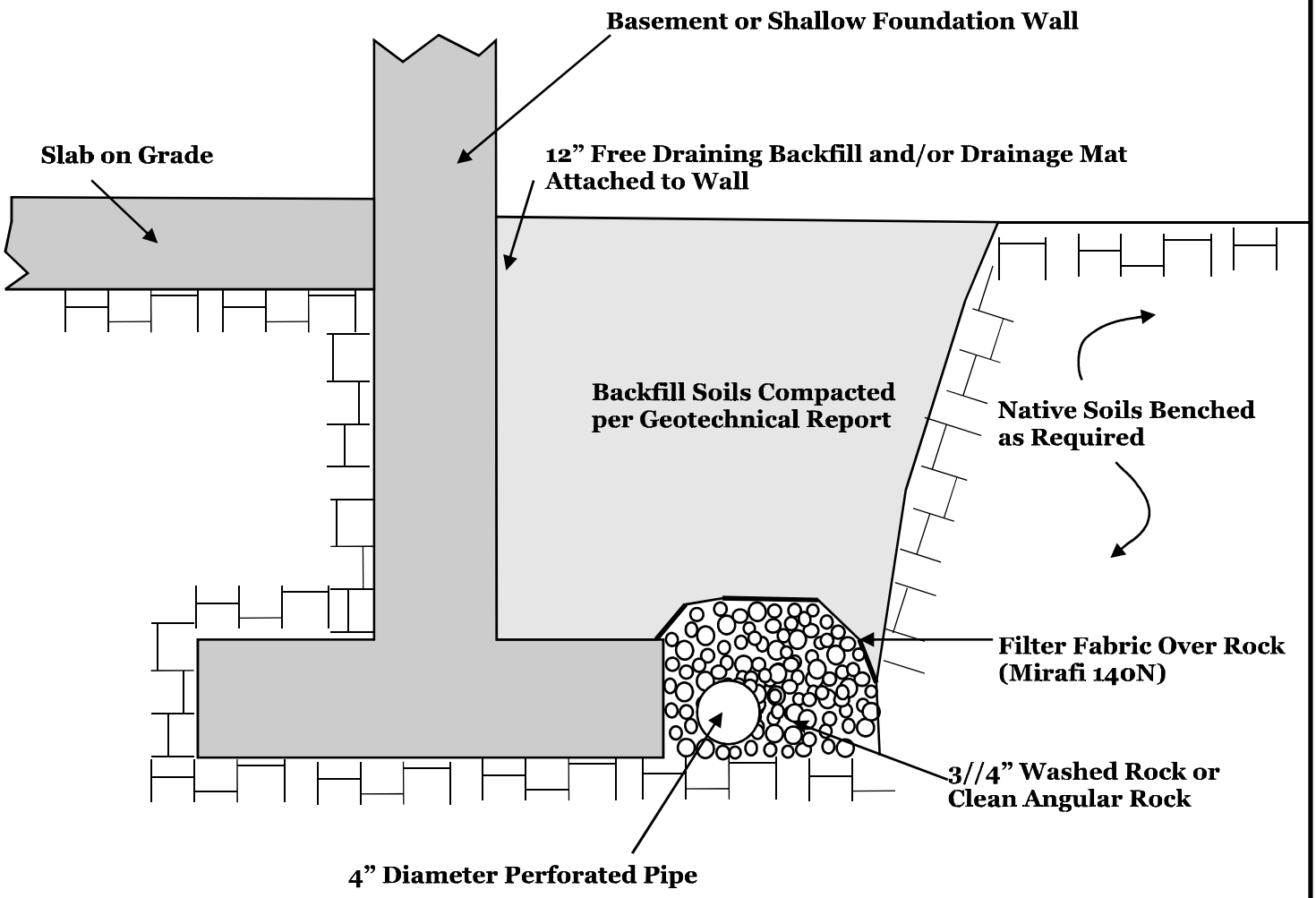
COBALT GEOSCIENCES	Proposed Additions 8413 SE 82nd Street Mercer Island, Washington	**SITE PLAN** **FIGURE 1**	Cobalt Geosciences, LLC P.O. Box 82243 Kenmore, WA 98028 (206) 331-1097 www.cobaltgeo.com cobaltgeo@gmail.com



Mercer Island GIS Map

N

COBALT GEOSCIENCES	Proposed Additions 8413 SE 82nd Street Mercer Island, Washington	**GIS MAP FIGURE 2**	Cobalt Geosciences, LLC P.O. Box 82243 Kenmore, WA 98028 (206) 331-1097 www.cobaltgeo.com cobaltgeo@gmail.com



Not to Scale

COBALT GEOSCIENCES	**Typical Foundation Drain Detail**	**Attachment**	Cobalt Geosciences, LLC PO Box 1792 North Bend, WA 98045 (206) 331-1097 www.cobaltgeo.com phil@cobaltgeo.com

Unified Soil Classification System (USCS)

MAJOR DIVISIONS			SYMBOL	TYPICAL DESCRIPTION
COARSE GRAINED SOILS (more than 50% retained on No. 200 sieve)	Gravels (more than 50% of coarse fraction retained on No. 4 sieve)	Clean Gravels (less than 5% fines)	GW	Well-graded gravels, gravels, gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
		Gravels with Fines (more than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	Sands (50% or more of coarse fraction passes the No. 4 sieve)	Clean Sands (less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
			SP	Poorly graded sand, gravelly sands, little or no fines
		Sands with Fines (more than 12% fines)	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS (50% or more passes the No. 200 sieve)	Silts and Clays (liquid limit less than 50)	Inorganic	ML	Inorganic silts of low to medium plasticity, sandy silts, gravelly silts, or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays silty clays, lean clays
		Organic	OL	Organic silts and organic silty clays of low plasticity
	Silts and Clays (liquid limit 50 or more)	Inorganic	MH	Inorganic silts, micaceous or diatomaceous fine sands or silty soils, elastic silt
			CH	Inorganic clays of medium to high plasticity, sandy fat clay, or gravelly fat clay
		Organic	OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor		PT	Peat, humus, swamp soils with high organic content (ASTM D4427)

Classification of Soil Constituents

MAJOR constituents compose more than 50 percent, by weight, of the soil. Major constituents are capitalized (i.e., SAND).

Minor constituents compose 12 to 50 percent of the soil and precede the major constituents (i.e., silty SAND). Minor constituents preceded by "slightly" compose 5 to 12 percent of the soil (i.e., slightly silty SAND).

Trace constituents compose 0 to 5 percent of the soil (i.e., slightly silty SAND, trace gravel).

Grain Size Definitions

Description	Sieve Number and/or Size
Fines	<#200 (0.08 mm)
Sand	
-Fine	#200 to #40 (0.08 to 0.4 mm)
-Medium	#40 to #10 (0.4 to 2 mm)
-Coarse	#10 to #4 (2 to 5 mm)
Gravel	
-Fine	#4 to 3/4 inch (5 to 19 mm)
-Coarse	3/4 to 3 inches (19 to 76 mm)
Cobbles	3 to 12 inches (75 to 305 mm)
Boulders	>12 inches (305 mm)

Relative Density (Coarse Grained Soils)

N, SPT, Blows/FT	Relative Density
0 - 4	Very loose
4 - 10	Loose
10 - 30	Medium dense
30 - 50	Dense
Over 50	Very dense

Consistency (Fine Grained Soils)

N, SPT, Blows/FT	Relative Consistency
Under 2	Very soft
2 - 4	Soft
4 - 8	Medium stiff
8 - 15	Stiff
15 - 30	Very stiff
Over 30	Hard

Moisture Content Definitions

Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, from below water table

COBALT GEOSCIENCES
Cobalt Geosciences, LLC
P.O. Box 82243
Kenmore, WA 98028
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www.cobaltgeo.com
cobaltgeo@gmail.com

Soil Classification Chart

Figure C1

Log of Boring B-1

Date: February 2024	Depth: 31.5'	Initial Groundwater: 11'
Contractor: CN	Elevation:	Sample Type: Split Spoon
Method: Hollow Stem Auger	Logged By: KK Checked By: PH	Final Groundwater: N/A

Depth (Feet)	Interval	% Recovery	Blows/6"	Graphic Log	USCS Symbol	Material Description
0			1			Vegetation/Topsoil
2			2 2		SM	Loose to medium dense, silty-fine to medium grained sand with gravel, yellowish brown to grayish brown, moist. (Glacial Till)
4			4 9 12			
6						
8						
10			14 15 13		SP	Medium dense to dense, fine to medium grained sand trace gravel, grayish brown, moist to wet. (Advance Outwash)
12						
14						
16			5 6 7			
18						
20			6 9 12			
22						
24						
26			8 13 19			
28						
30			8 12 20			
32						End of Boring 31.5'
34						

Groundwater

Moisture Content (%)
Plastic Limit — Liquid Limit

SPT N-Value
0 10 20 30 40 50

Cobalt Geosciences, LLC
P.O. Box 82243
Kenmore, WA 98028
(206) 331-1097
www.cobaltgeo.com
cobaltgeo@gmail.com

Proposed Addition
8413 SE 82nd Street
Mercer Island, Washington

Boring Log

20240710000547
AFFIDAVIT Rec: $304.50
7/10/2024 12:57 PM
KING COUNTY, WA

City of Mercer Island
Attn: Community Planning & Development
9611 S.E. 36th Street
Mercer Island, WA 98040

AFFIDAVIT ACKNOWLEDGEMENT OF CRITICAL AREA(S) ON PROPERTY

Grantor: DANIEL + LINDA RAWSON

Grantee: City of Mercer Island, a municipal corporation

Legal Description: ISLAND POINT ADD #2 AND UND INT IN COMMUNITY TR PLAT BLOCK: PLAT LOT 8

(If not enough space, attach separate sheet labeled Exhibit A)

Assessor's Tax Parcel ID Number: 362560-0080

Affidavit In Support Of Single-Family Building Permit # 2402-212

I, DAN RAWSON, am over the age of 21 years, and make the statements herein of actual knowledge.

1. The address of my property is 8413 SE 82ND ST, Mercer Island, WA 98040.
2. I am the legal owner of the aforementioned property.
3. This property contains Critical Areas of: Potential Landslide Hazard Area, Seismic Hazard Area, Erosion Hazard, and Steep Slope Hazard as defined by the Mercer Island City Code (MICC) 19.07 and regulated by provisions in MICC 19.07.160, MICC 19.07.170, MICC 19.07.180, and/or MICC 19.07.190.
4. Due to development activity within a Critical Area, a City of Mercer Island Critical Area Study was conducted by a qualified geotechnical engineer who confirmed the presence of these Critical Areas. The geotechnical engineer determined that no additional buffers other than the 75'-0" Steep Slope Buffer were necessary for this property and no mitigation beyond foundation recommendations were necessary. Any future development involving foundations is recommended to be reviewed and endorsed by a geotechnical engineer. For further information regarding related requirements and limitations, please contact the City of Mercer Island Community Planning and Development Department.

5. I understand and acknowledge the implications of owning a property within a Critical Area, including the restrictions and regulations that apply to development and land use within such areas.
6. I further acknowledge that any alterations, developments, or activities on the aforementioned property must comply with the applicable laws and regulations governing Critical Areas and may require permits or approvals from the relevant authorities.
7. This notice shall run with the land and shall not be removed except upon specific written authorization approved by the City of Mercer Island and recorded herein by King County.
8. I agree to have this document recorded with the King County Department of Records at my expense and supply a copy to the City of Mercer Island.

SIGNED: _____ DATE: 10 JULY 2024
Property Owner(s)

SIGNED: _____ DATE: 7/10/2024
Property Owner(s)

STATE OF WASHINGTON)
) ss
COUNTY OF KING)

On this 10 day of July, 2024 before me the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared before me Nicole Lindblom and to me know to be the individual described in and who executed the foregoing instrument and acknowledged that they signed the same as their free and voluntary act and deed, for the uses and purposes therein mentioned.

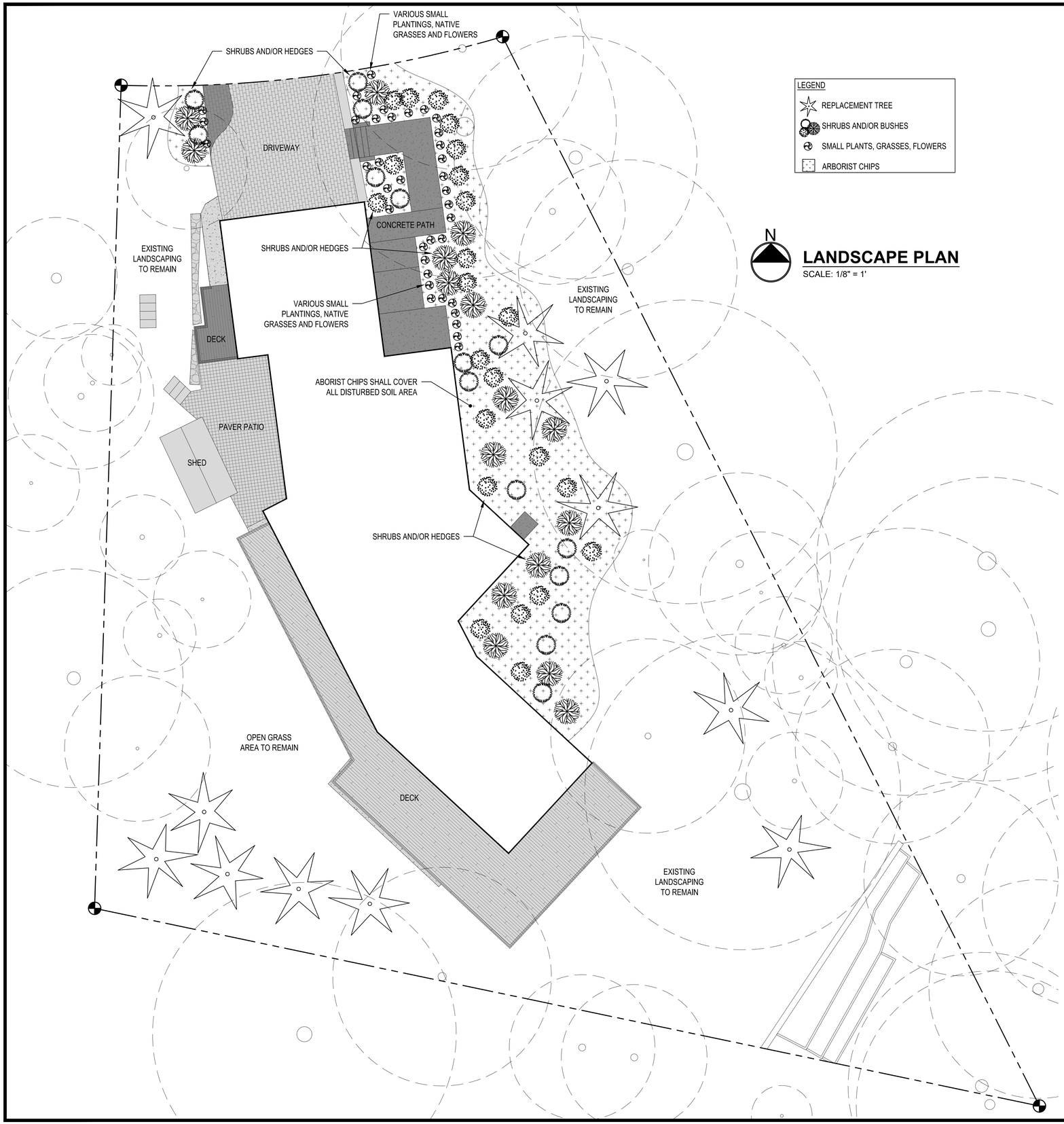
GIVEN under my hand and official seal this 10 day of July, 2024

NICOLE LINDBLOM
Notary Public
State of Washington
Commission # 23035727
My Comm. Expires Oct 18, 2027

_____
NOTARY PUBLIC in and for the State of Washington

Printed Name Nicole Lindblom

My Appointment Expires 10/18/27



LANDSCAPE PLAN

SCALE: 1/8" = 1'

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY

CORRECTION 1 SET 6/25/2024

STURMAN ARCHITECTS
9— 103rd Ave NE Suite 203
Bellevue, WA 98004
TEL: 425.451.7003

REGISTERED ARCHITECT
BRADLEY J. STURMAN
STATE OF WASHINGTON
9582

www.sturmanarchitects.com
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RAWSON REMODEL

8413 SE 82ND ST
MERCER ISLAND, WA 98040

LANDSCAPE PLAN

REVISIONS:
1 CORRECTION 1 - 5/30/2024

PLOT DATE: 6/25/2024
DRAWN BY: JM
CHECKED BY: BJS

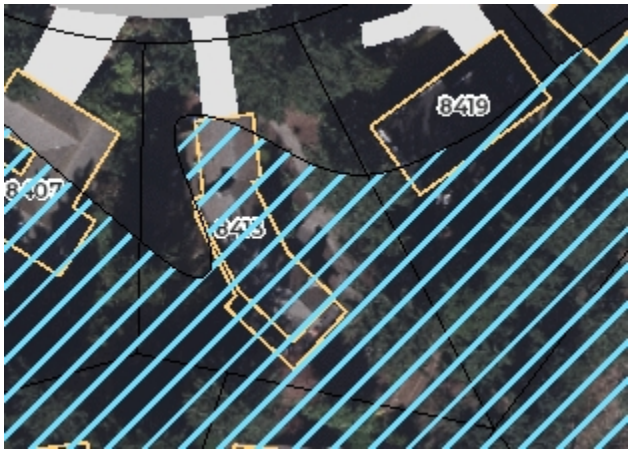
SHEET
A1.4

City of Mercer Island Property Hazard Report

Site Address: 8413 SE 82ND ST

Parcel #: 3625600080 **Report Generated on** June 11, 2024

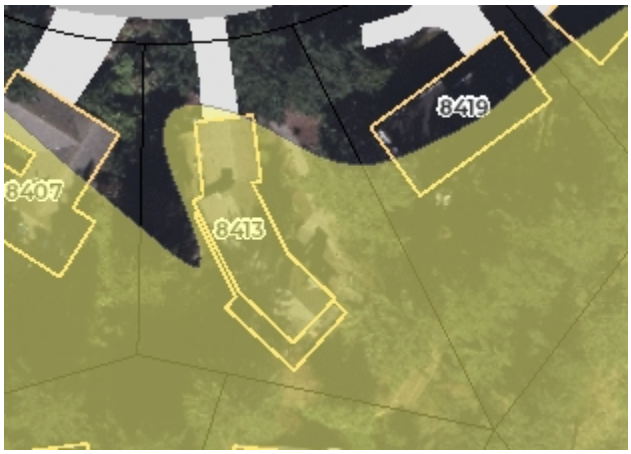
Potential Slide:



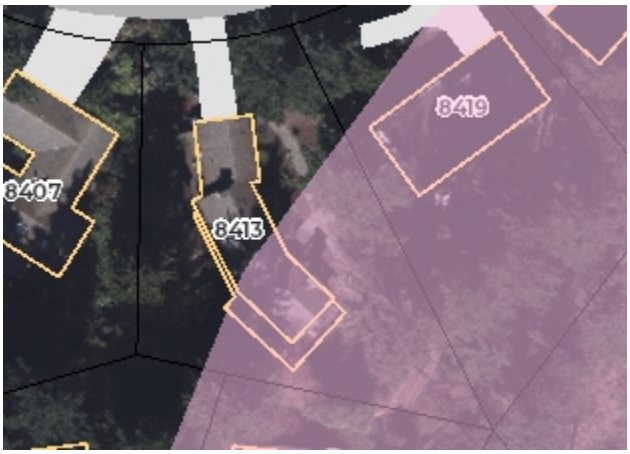
Steep Slope:



Erosion:



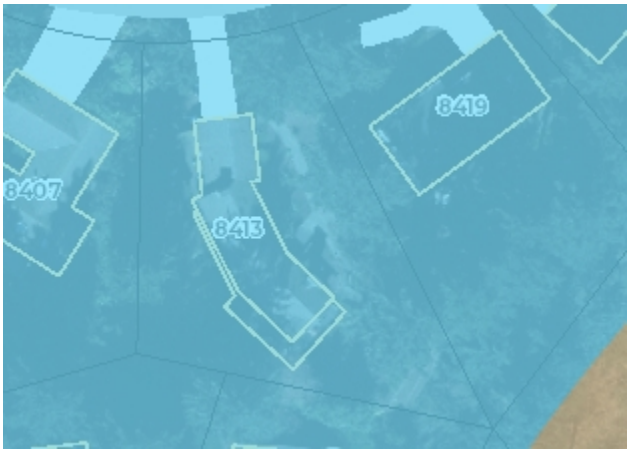
Seismic:



Wind Exposure:



Wind Speed Up Values **1.0** **1.3** **1.6** **1.9**



These maps are for the use of City of Mercer Island staff for the purposes of permit application evaluation. It provides a general assessment of known or suspect hazard areas for which the City will require site and project specific evaluation by a Washington State licensed engineer, geologist or engineering geologist prior to issuing a site for development. All areas have not specifically evaluated for hazards and there may be locations that are not correctly represented on these maps. It is the responsibility of the property owners and map users to evaluate risk associated with their proposed development. No site-specific assessment of risk is implied or otherwise indicated by the City of Mercer Island by these maps.

COMMUNITY PLANNING & DEVELOPMENT
206.275.7605
www.mercerisland.gov/cpd

May 2, 2024

Sturman Architects
Attn: Brad Sturman
9 103rd Ave NE Suite 203
Bellevue, WA 98004
Via: Email

RE: **CAO24-007** Letter of Completeness; 8413 SE 82nd St, Mercer Island, WA 98040

The City of Mercer Island received the above referenced application for a Critical Area Review 2 permit for the property located at 8413 SE 82nd St, Mercer Island, WA 98040 on date received. The City has assigned file number CAO24-007 to the Critical Area Review 2 application. Following review of the application, City staff has determined that the application is complete and has established a vesting date of May 2, 2024.

The application is scheduled for mailing and posting on May 13, 2024 as required by MICC 19.15.030.

Formal review of the application will now begin in compliance with Mercer Island City Code, Chapter 19. As review progresses, additional documentation will most likely be requested.

Pursuant to Mercer Island City Code 19.15.110(B), if the applicant fails to provide the required information within 60 days from the date of any request for information, the application shall lapse, and become null and void.

Please do not hesitate to contact me at 206-275-7712 or via e-mail at molly.mcguire@mercerisland.gov if you have any questions.

Sincerely,

Molly McGuire

Molly McGuire, Planner
City of Mercer Island Community Planning and Development

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
206.275.7605 | www.mercerisland.gov

PUBLIC NOTICE OF APPLICATION

NOTICE IS HEREBY GIVEN for the application described below:

File No.:	CAO24-007
Permit Type:	Type III
Description of Request:	A request for a Critical Area Review 2 for the remodel and addition of an existing single-family residence on a property containing geologically hazardous areas.
Applicant/Owner:	Brad Sturman (Sturman Architects) / Dan and Linda Rawson
Location of Property:	8413 SE 82nd St, Mercer Island WA 98040 King County Assessor tax parcel number: 362560-0080

SEPA Compliance:
The project is exempt from SEPA Review pursuant to WAC 197-11-800.

Project Documents: https://mieplan.mercergov.org/public/CAO24-007

Written Comments: This may be the only opportunity to comment on this proposal. Written comments on this proposal may be submitted to the City of Mercer Island either by email, in person, or by mail to the City of Mercer Island, 9611 SE 36th Street, Mercer Island, WA 98040-3732. Anyone may comment on the application, receive notice, and request a copy of the decision once made. Only those persons who submit written comments or participate at the public hearing (if a hearing is required) will be parties of record; and only parties of record will have the right to appeal.

Public Hearing and Public Meeting:	Pursuant to MICC 19.15.030 Tables A and B, a public hearing is not required for Type I-III permits.
Applicable Development Regulations	Applications for Critical Area Review 2 are required to be processed as Type III land use reviews pursuant to Mercer Island City Code (MICC) 19.15.030. Processing requirements for Type III land use reviews are further detailed in MICC 19.15.030.
Other Associated Permits:	Permit No(s): 2402-212
Environmental Documents:	Copies of all studies and/or environmental documents are available through the above project documents link.

Application Process Information:

Date of Application:	February 29, 2024
Determined to Be Complete:	May 2, 2024
Weekly Permit Bulletin Notice:	May 13, 2024
Date Mailed:	May 13, 2024
Date Posted on Site:	May 13, 2024
Comment Period Ends:	5:00PM on June 12, 2024

Project Contact: Molly McGuire, Senior Planner

molly.mcguire@mercerisland.gov | (206) 275-7712

COMMUNITY PLANNING & DEVELOPMENT
206.275.7605
www.mercerisland.gov/cpd

June 11, 2024

Sturman Architects
Attn: Brad Sturman
9 103rd Ave NE Suite 203
Bellevue, WA 98004
Via: Email

RE: **CAO24-007** Review Letter 1; 8413 SE 82nd St, Mercer Island, WA 98040

Dear Brad Sturman,

The City of Mercer Island Community Planning and Development Department has completed a review for compliance with the zoning code, Title 19 of the Mercer Island City Code (MICC) for the above Critical Area Review 2 application. The following issues need to be addressed in your resubmission:

Planning:

1. Please provide a Disclosure and Notice on Title consistent with MICC 19.07.070. Submit a draft copy to molly.mcguire@mercerisland.gov for review prior to notarizing and recording with the King County Recorder's Office.
2. Submit a landscaping plan for all disturbed areas outside of building footprints and installation of hardscape to satisfy the requirement in MICC 19.07.160(B)(2)(d).

The City's processing of the Critical Area Review 2 application has been put on hold until these issues are resolved. Pursuant to MICC 19.15.110, all requested information must be submitted within 60 days or a request for extension requested. The deadline for a complete response or request for extension is August 9, 2024. If a complete response is not received or an extension response has not been received prior to that date, the application will expire and be canceled for inactivity. No additional notification regarding this deadline or expiration of the application will be provided.

Sincerely,

Molly McGuire

Molly McGuire, Planner
City of Mercer Island Community Planning and Development
molly.mcguire@mercerisland.gov | (206) 275-7712

Responding and Resubmitting: Click for More Detailed Instructions

1. Reply to all review comments within the review letter.
2. Update your drawings, and any necessary supplemental documents or forms.
3. Upload updated drawings to the Mercer Island Permit Submittal Portal.

Having Trouble? Please Review the Following:

Accessing, Reviewing, and Responding to MIePlan Comments

Troubleshooting MIePlan

MIePlan Overview

Thank you for your participation in the MIePlan review process.

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
206.275.7605 | www.mercerisland.gov/cpd

PUBLIC NOTICE OF DECISION

NOTICE IS HEREBY GIVEN that approval has been granted for the application described below:

File No.:	CAO24-007
Permit Type:	Type III
Description of Request:	A request for a Critical Area Review 2 for the remodel of and addition to an existing single-family residence on a property containing geologically hazardous areas.
Applicant/ Owner:	Brad Sturman (Sturman Architects) / Dan and Linda Rawson
Location of Property:	8413 SE 82nd Street, Mercer Island, WA 98040 King County Assessor tax parcel number: 362560-0080

SEPA Compliance:
The project is exempt from SEPA Review pursuant to WAC 197-11-800(1)(b)(i).

Applicable Development Regulations:	Pursuant to Mercer Island City Code (MICC) 19.15.030 Table A, applications for Critical Area Review 2 are required to be processed as Type X land use reviews. Processing requirements for Type III land use reviews are further detailed in MICC 19.15.030 Table B.
Other Associated Permits:	2402-212
Project Documents:	https://mieplan.mercergov.org/public/CAO24-007
Decision:	Approved subject to conditions.

Appeal Rights: *DISCLAIMER: This information is provided as a courtesy. It is the ultimate responsibility of the appellant to comply with all legal requirements for the filing of an appeal.*

Parties of record have the right to appeal certain permit and land use decisions. In some cases, other affected parties also have appeal rights. Depending on the type of decision, the appeal may be heard by a City Hearing Examiner, Commission, Board, or City Council, or outside the City to the State Shoreline Hearings Board, the State Growth Management Hearings Board, or King County Superior Court. For a comprehensive list of actions and the applicable entity who will hear the appeal, see MICC 19.15.030 Table B.

If you desire to file an appeal of a decision that is appealable to the City, you must submit the appropriate form and file it with the City Clerk **within the time stated in the Notice of Decision.** Forms are available from Community Development and Planning. Upon receipt of

a timely complete appeal application and appeal fee, an appeal hearing will be scheduled. To reverse, modify or remand a decision, the appeal hearing body must find that there has been substantial error; the proceedings were materially affected by irregularities in procedure; the decision was unsupported by material and substantial evidence in view of the entire record; or the decision is in conflict with the City's applicable decision criteria.

Application Process Information:	Date of Application:	March 13, 2024
	Determined to Be Complete:	May 2, 2024
	Public Comment Period:	May 13, 2024 through 5:00 PM on June 12, 2024
	Date Notice of Decision Issued:	December 23, 2024
	Appeal Filing Deadline:	5:00 PM on January 6, 2025
Project Contact:	Molly McGuire, Senior Planner molly.mcguire@mercerisland.gov | (206) 275-7712	