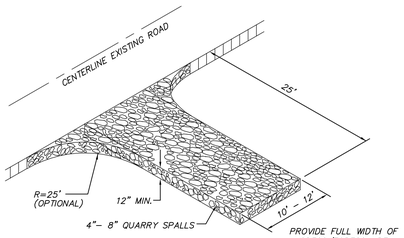
NE 1/4 SECTION 18, TOWNSHIP 24 N, RANGE 5 E, W.M.

LORENZINI SFR

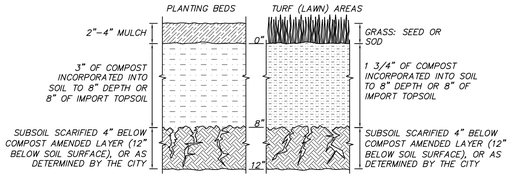


DRIVEWAYS SHALL BE PAVED TO THE EDGE OF R-O-W PRIOR TO INSTALLATION OF THE CONSTRUCTION ENTRANCE TO AVOID DAMAGING OF THE ROADWAY

IT IS RECOMMENDED THAT THE ENTRANCE BE CROWNED SO THAT RUNOFF DRAINS OFF THE PAD

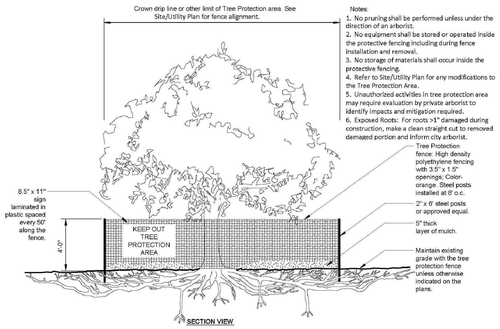
GRAVEL CONSTRUCTION ENTRANCE

NTS



SOIL AMENDMENT

PER BMP T5.13 NTS



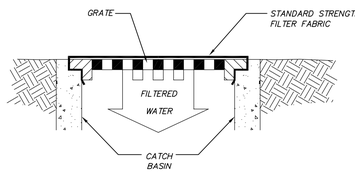
Notes:
1. No pruning shall be performed unless under the direction of an arborist.
2. No equipment shall be stored or operated inside the protective fencing including during fence installation and removal.
3. No storage of materials shall occur inside the protective fencing.
4. Refer to Site/Utility Plan for any modifications to the Tree Protection Area.
5. Unauthorized activities in tree protection area may require evaluation by private arborist to identify impacts and mitigation required.
6. Exposed Roots: For roots >1" damaged during construction, make a clean straight cut to removed damaged portion and inform city arborist.

TREE PROTECTION FENCING

NTS

EROSION AND SEDIMENT CONTROL NOTES:

1. APPROVAL OF THIS EROSION AND SEDIMENT CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY A CONTINUOUS LENGTH OF SURVEY TAPE (OR FENCING, IF REQUIRED) PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.
4. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
5. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G. ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.).
6. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE TESC FACILITIES DURING THE WET SEASON (OCT. 1 TO APRIL 30) AND OF MONTHLY REVIEWS DURING THE DRY SEASON (MAY 1 TO SEPT. 30).
7. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).
8. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
9. ALL DISTURBED AREAS SHALL BE STABILIZED USING TYPICAL TESC BMP'S. THE LIMITS OF DISTURBANCE WILL BE DELINEATED WITH HIGH VISIBILITY CONSTRUCTION FENCING. DURING CONSTRUCTION SILT FENCES WILL BE PLACED DOWN SLOPE OF DISTURBED AREAS ALONG WITH STRAW MATTING, NETS, OR PLASTIC COVERING OVER EXPOSED SOIL OR STOCKPILES. TREES TO BE RETAINED WILL BE PROTECTED WITH HIGH VISIBILITY CONSTRUCTION FENCING.
10. ALL SOIL STOCKPILES TO BE COVERED WITH PLASTIC SHEETING UNTIL SUCH TIME THAT THE SOIL IS EITHER USED OR REMOVED. PILES SHOULD BE SITUATED AND LOCATED SUCH THAT SEDIMENT DOES NOT RUN INTO THE STREET OR ONTO ADJOINING PROPERTIES.
11. ALL EXPOSED SOIL AREAS SHALL BE COVERED OR PROTECTED USING AN APPROPRIATE BMP. STABILIZE DENUDED AREAS OF THE SITE BY MULCHING, SEEDING, PLANTING, OR SODDING.
12. ALL ADJACENT PROPERTIES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION BY APPROPRIATE USE OF VEGETATION BUFFER STRIPS, SEDIMENT BARRIERS, OR FILTERS, DIKES, MULCHING, OR BY A COMBINATION OF THESE MEASURES AND OTHER APPROPRIATE BMP'S.
13. PROVIDE FOR PERIODIC STREET CLEANING TO REMOVE ANY SEDIMENT THAT MAY HAVE BEEN TRACKED OFF-SITE. SEDIMENT SHOULD BE REMOVED BY SHOVELING OR SWEEPING AND CAREFULLY REMOVED TO A SUITABLE DISPOSAL AREA WHERE IT WILL NOT BE RE-ERODED.
14. ALL INSTALLED EROSION AND SEDIMENT CONTROL BMP'S SHALL BE INSPECTED REGULARLY BY THE GENERAL CONTRACTOR ESPECIALLY AFTER ANY LARGE STORM. MAINTENANCE, INCLUDING REMOVAL AND PROPER DISPOSAL OF SEDIMENT SHOULD BE A NECESSARY TO INSURE THAT SEDIMENT AND EROSION IS CONTROLLED ON SITE.



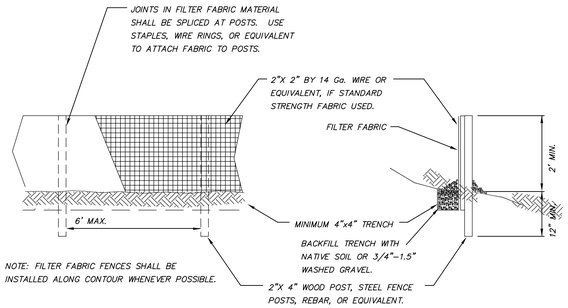
NOTE: ONLY TO BE USED WHERE PONDING OF WATER ABOVE THE CATCH BASIN WILL NOT CAUSE TRAFFIC PROBLEMS AND WHERE OVERFLOW WILL NOR RESULT IN EROSION OF SLOPES.

CATCH BASIN INSERT MAINTENANCE STANDARDS

1. ANY ACCUMULATED SEDIMENT ON OR AROUND THE FILTER FABRIC PROTECTION SHALL BE REMOVED IMMEDIATELY. SEDIMENT SHALL NOT BE REMOVED WITH WATER, AND ALL SEDIMENT MUST BE DISPOSED OF AS FILL ON SITE OR HAULED OFF SITE.
2. ANY SEDIMENT IN THE CATCH BASIN INSERT SHALL BE REMOVED WHEN THE SEDIMENT HAS FILLED ONE-THIRD OF THE AVAILABLE STORAGE. THE FILTER MEDIA FOR THE INSERT SHALL BE CLEANED OR REPLACED AT LEAST MONTHLY.
3. REGULAR MAINTENANCE IS CRITICAL FOR BOTH FORMS OF CATCH BASINS PROTECTION. UNLIKE MANY FORMS OF PROTECTION THAT FAIL GRADUALLY, CATCH BASIN PROTECTION WILL FAIL SUDDENLY AND COMPLETELY IF NOT MAINTAINED PROPERLY.

CATCH BASIN INLET FILTER

NTS



NOTE: FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE.

1. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT TRAP OR POND.
3. IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGNS OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF THIS OCCURS, REPLACE THE FENCE OR REMOVE THE TRAPPED SEDIMENT.
4. SEDIMENT MUST BE REMOVED WHEN THE SEDIMENT IS 6 INCHES HIGH.
5. IF THE FILTER FABRIC (GEOTEXTILE) HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE REPLACED.

SILT FENCE DETAIL

NTS

SOIL AMENDMENT NOTES

•SOIL RETENTION: RETAIN, IN AN UNDISTURBED STATE, THE DUFF LAYER AND NATIVE TOPSOIL TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND CRITICAL AREAS, TO BE REAPPLIED TO OTHER PORTIONS OF THE SITE WHERE FEASIBLE.

•SOIL QUALITY: ALL AREAS SUBJECT TO CLEARING AND GRADING THAT HAVE NOT BEEN COVERED BY IMPERVIOUS SURFACE, INCORPORATED INTO A DRAINAGE FACILITY OR ENGINEERED AS STRUCTURAL FILL OR SLOPE SHALL, AT PROJECT COMPLETION, DEMONSTRATE THE FOLLOWING:

1. A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
2. MULCH PLANTING BEDS WITH 2-4 INCHES OF ORGANIC MATERIAL
3. USE COMPOST AND OTHER MATERIALS THAT MEET THESE ORGANIC CONTENT REQUIREMENTS:
   A. THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE COMPOST SPECIFICATION FOR BIORETENTION (BMP T7.30), WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1. THE CARBON TO NITROGEN RATIO MAY BE AS HIGH AS 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PLANTS NATIVE TO THE PUGET SOUND LOWLANDS REGION.
   B. CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF COMPOSTED MATERIAL MEETING (A.) ABOVE; OR OTHER ORGANIC MATERIALS AMENDED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS, AND NOT EXCEEDING THE CONTAMINANT LIMITS IDENTIFIED IN TABLE 220-B, TESTING PARAMETERS, IN WAC 173-350-220.

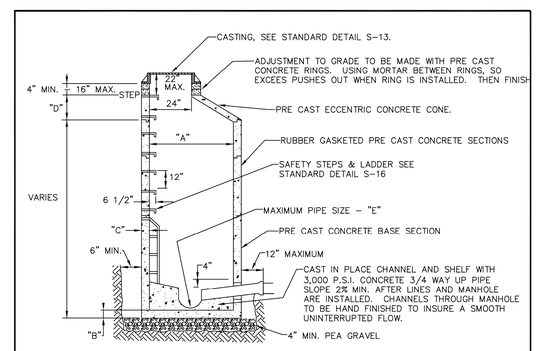
THE RESULTING SOIL SHOULD BE CONDUCIVE TO THE TYPE OF VEGETATION TO BE ESTABLISHED.

•IMPLEMENTATION OPTIONS: THE SOIL QUALITY DESIGN GUIDELINES LISTED ABOVE CAN BE MET BY USING ONE OF THE METHODS LISTED BELOW:

1. LEAVE UNDISTURBED NATIVE VEGETATION AND SOIL, AND PROTECT FROM COMPACTION DURING CONSTRUCTION.
2. AMEND EXISTING SITE TOPSOIL OR SUBSOIL EITHER AT DEFAULT "PRE-APPROVED" RATES, OR AT CUSTOM CALCULATED RATES BASED ON TESTS OF THE SOIL AND AMENDMENT.
3. STOCKPILE EXISTING TOPSOIL DURING GRADING, AND REPLACE IT PRIOR TO PLANTING. STOCKPILED TOPSOIL MUST ALSO BE AMENDED IF NEEDED TO MEET THE ORGANIC MATTER OR DEPTH REQUIREMENTS, EITHER AT A DEFAULT "PRE-APPROVED" RATE OR AT A CUSTOM CALCULATED RATE.
4. IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET THE REQUIREMENTS.

MORE THAN ONE METHOD MAY BE USED ON DIFFERENT PORTIONS OF THE SAME SITE. SOIL THAT ALREADY MEETS THE DEPTH AND ORGANIC MATTER QUALITY STANDARDS, AND IS NOT COMPACTED, DOES NOT NEED TO BE AMENDED.

MAINTENANCE:
•ESTABLISH SOIL QUALITY AND DEPTH TOWARD THE END OF CONSTRUCTION AND ONCE ESTABLISHED, PROTECT FROM COMPACTION, SUCH AS FROM LARGE MACHINERY USE, AND FROM EROSION.
•PLANT VEGETATION AND MULCH THE AMENDED SOIL AREA AFTER INSTALLATION.
•LEAVE PLANT DEBRIS OR ITS EQUIVALENT ON THE SOIL SURFACE TO REPLENISH ORGANIC MATTER.
•REDUCE AND ADJUST, WHERE POSSIBLE, THE USE OF IRRIGATION, FERTILIZERS, HERBICIDES AND PESTICIDES, RATHER THAN CONTINUING TO IMPLEMENT FORMERLY ESTABLISHED PRACTICES.



	"A"	"B"	"C"	"D"	"E"
48" MH	48"	6" MIN.	5" MIN.	24" MIN.	21" I.D.
54" MH	54"	8" MIN.	5.5" MIN.	24" MIN.	24" I.D
60" MH	60"	8" MIN.	6" MIN.	42" MIN.	30" I.D.

NOTES

1. PRE CAST SECTIONS SHALL BE REINFORCED PER ASTM SPECS FOR CORRESPONDING SEWER PIPE.
2. SAFETY STEPS, 1" MINIMUM, SEE STANDARD DETAILS S-16. STEPS IN PRE CAST BASE SECTION MAY BE CAST IN PLACE OR MOVABLE SAFETY LADDER GROUTED IN PLACE.
3. ALL HOLES FOR PIPE SHALL BE BLOCKED OUT AT THE TIME OF CASTING THE SECTION.
4. ALL RUBBER GASKETED MANHOLES SHALL BE FURNISHED WITH RUBBER GASKET JOINT CONFORMING ASTM C-443.
5. MINIMUM 2% SLOPE ACROSS MANHOLE.
6. SEE STANDARD DETAIL S-13 FOR MANHOLE FRAME AND COVER.
7. CONNECTION TO MANHOLE WITH PVC PIPE REQUIRES A PVC x CONCRETE ADAPTER.
8. ALL PIPE THROUGH MANHOLE WALL SHALL HAVE A "KOR-N-SEAL" WITH "WEDGE KORBAND" MANUFACTURED BY NPC. INC. OR APPROVED EQUAL.
9. BEDDING AND FOUNDATION MATERIAL REQUIRED AS SHOWN ON DETAIL AND AS NOTED IN THE SPECIFICATIONS.
10. LOCATION OF MANHOLE STEPS SHALL NOT BE OVER FLOW LINES AND SHALL BE APPROVED BY THE CITY ENGINEER.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
TYPE 1 MANHOLE
48" - 60"

6-5-2009	NO SCALE	S-5

REV DATE | | | | | | APPROVED

DRS
D.R. STRONG CONSULTING ENGINEERS
ENGINEERS PLANNERS SURVEYORS
620 - 7th AVENUE KIRKLAND, WA 98033
O 425.827.3063 F 425.827.2423

LORENZINI SFR
T.E.S.C. NOTES & DETAILS
8427 SE 47TH STREET
MERCER ISLAND
WASHINGON 98040
PARCEL NO. 7598100421

TODD SHERMAN
DESIGN BUILT HOMES
11400 SE 8TH STREET, SUITE 415
BELLEVUE, WASHINGTON 98004
206-909-8187

DATE	REVISION	APR
11.30.22	REVS. PER AGENCY COMMENTS	MAJ
03.29.23	REVS. PER AGENCY COMMENTS	MAJ

DRAFTED BY: JSE
DESIGNED BY: JSE
PROJECT ENGINEER: MAJ
DATE: 07.01.22
PROJECT NO.: 21071

DRAWING: C2
SHEET: 2 OF 6

NE 1/4 SECTION 18, TOWNSHIP 24 N, RANGE 5 E, W.M.

LORENZINI SFR

PROJECT CONTACTS:

PROPERTY OWNER/APPLICANT..... TODD SHERMAN
..... DESIGN BUILT HOMES
..... 11400 SE 8TH STREET, SUITE 415
..... BELLEVUE, WA 98004
..... (206) 909-8187
..... TODD@LUXURYDBH.COM

CIVIL ENGINEER..... D.R. STRONG CONSULTING ENGINEERS, INC.
..... 620 7TH AVENUE
..... KIRKLAND, WASHINGTON 98033
..... (425) 827-3063
..... CONTACT: MAHER A. JOUDI, P.E.
..... MAHER.JOUDI@DRSTRONG.COM

SURVEYOR..... D.R. STRONG CONSULTING ENGINEERS, INC.
..... 620 7TH AVENUE
..... KIRKLAND, WASHINGTON 98033
..... (425) 827-3063
..... CONTACT: JOANNE M SWANSON, P.L.S
..... JOANNE.SWANSON@DRSTRONG.COM

PROJECT DESCRIPTION:

SITE ADDRESS:..... 8427 SE 47TH ST

TAX PARCEL NUMBER:..... 7598100421

NUMBER OF LOTS:..... 1

ZONING:..... R-9.6

SITE AREA:..... 11,523 S.F. (0.265 ACRES)

GROSS PROJECT AREA:..... 11,345 S.F. (0.260 ACRES)

PROPOSED GROSS FLOOR AREA:..... 3,977 S.F.

PROPOSED IMPERVIOUS AREA:..... 4,775 S.F. (41.2%)

REPLACED IMPERVIOUS AREA:..... 70 S.F. (0.6%)

PROPOSED PERVIOUS AREA:..... 6,752 S.F. (58.2%)

EXISTING LOT COVERAGE:..... 0 S.F. (0.0%)

PROPOSED LOT COVERAGE:..... 2,907 S.F. (25.2%)

PROPOSED BUILDING HEIGHT:..... 23.12 FT

NUMBER OF PARKING SPACES:..... 2 MIN

GENERAL EROSION CONTROL NOTES:

ALL DISTURBED AREAS SHALL BE STABILIZED USING TYPICAL TESC BMP'S. THE LIMITS OF DISTURBANCE WILL BE DELINEATED WITH HIGH VISIBILITY CONSTRUCTION FENCING. DURING CONSTRUCTION SILT FENCES WILL BE PLACED DOWN SLOPE OF DISTURBED AREAS ALONG WITH STRAW MATTING, NETS, OR PLASTIC COVERING OVER EXPOSED SOIL OR STOCKPILES. TREES TO BE RETAINED WILL BE PROTECTED WITH HIGH VISIBILITY CONSTRUCTION FENCING.

AT THE COMPLETION OF THE PROJECT ALL DISTURBED AREAS WILL BE STABILIZED WITH COMPOST AMENDED SOILS AND HYDROSEEDING OR SOD.

EXPOSED SOILS SHALL BE WORKED DURING THE WEEK UNTIL THEY HAVE BEEN STABILIZED. SOIL STOCKPILES WILL BE LOCATED
WITHIN THE DISTURBED AREA SHOWN ON THE SWPPP SITE MAP. SOIL EXCAVATED FOR THE FOUNDATION WILL BE BACKFILLED
AGAINST THE FOUNDATION AND GRADED TO DRAIN AWAY FROM THE BUILDING. NO SOILS SHALL REMAIN EXPOSED AND UNWORKED
FOR MORE THAN 7 DAYS FROM MAY 1 TO SEPTEMBER 30 OR MORE THAN 2 DAYS FROM OCTOBER 1 TO APRIL 30. ONCE THE
DISTURBED LANDSCAPE AREAS ARE GRADED, THE GRASS AREAS WILL BE AMENDED USING BMP T5.13 POST-CONSTRUCTION SOIL
QUALITY AND DEPTH. ALL STOCKPILES WILL BE COVERED WITH PLASTIC OR BURLAP IF LEFT UNWORKED.

CONSTRUCTION SEQUENCE

1. ARRANGE AND ATTEND A PRECONSTRUCTION MEETING WITH THE CITY INSPECTOR.
2. FLAG OR FENCE CLEARING LIMITS.
3. CALL ONE-CALL UTILITY LOCATE SERVICE PRIOR TO ANY EXCAVATION WORK.
4. GRADE INSTALL ROCK CONSTRUCTION ENTRANCE IF NECESSARY.
5. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
6. CONSTRUCT RESIDENCE AND OTHER SITE IMPROVEMENTS.
7. MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH CITY OR COUNTY STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
8. MAINTAIN ACCESS TO OFF-SITE ROADS AND DRIVEWAYS AT ALL TIMES DURING THE DURATION OF THE PROJECT.
9. RELOCATE EROSION CONTROL MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CITY TESC MINIMUM REQUIREMENTS.
10. 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.
11. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN SEVEN DAYS.
12. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
13. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BMPS REMOVED IF APPROPRIATE AFTER ACCEPTANCE BY INSPECTOR.

SOIL AMENDMENT NOTE:

AREA (A) ENCOMPASSES THE ENTIRE SITE OUTSIDE OF HARD SURFACES. SEE LANDSCAPE PLANS FOR TURF AND PLANTING BED AREAS. STOCKPILE SITE DUFF AND TOPSOIL FOR ALL DISTURBED PERVIOUS AREAS AND REAPPLY WITH SOIL AMENDMENT AFTER GRADING AND CONSTRUCTION. MINIMUM SCARIFICATION DEPTH 8-INCHES. PROVIDE A TOTAL OF 167 C.Y. OF AMENDMENT FOR AN AREA OF 6,752 S.F. (AREAS FOR TURF AND PLANTING BEDS TO BE DETERMINED)

P.E. CERTIFICATION FOR SECTION B:

I HEREBY STATE THAT THIS CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN FOR 8427 SE 47TH STREET HAS BEEN PREPARED BY ME OR UNDER MY SUPERVISION AND MEETS THE STANDARD OF CARE AND EXPERTISE WHICH IS USUAL AND CUSTOMARY IN THIS COMMUNITY FOR PROFESSIONAL ENGINEERS. I UNDERSTAND THAT THE CITY OF MERCER ISLAND DOES NOT AND WILL NOT ASSUME LIABILITY FOR THE SUFFICIENCY, SUITABILITY, OR PERFORMANCE OF CONSTRUCTION SWPPP BMPS PREPARED BY ME.

CONSTRUCTION NOTES:

1. ALL UTILITIES TO BE DISCONNECTED OR REMOVED PRIOR TO THE START OF THE PROJECT. COORDINATE WITH UTILITY COMPANIES PRIOR TO DISCONNECTION OR REMOVAL.

LEGAL DESCRIPTION:

SCHMIDS VITUS E SEATTLE ACRE TRS LOT 1 LESS E 220 FT & N 110 FT OF W 70 FT OF E 290 FT; TGW LOT 2 LESS E 220 FT AKA LOT 1 OF MERCER ISLAND SUBD APPROVED 03-30-66

SURVEYOR'S NOTES: (BY SURVEYOR)

1. ALL TITLE INFORMATION SHOWN ON THIS MAP HAS BEEN EXTRACTED FROM CHICAGO TITLE COMPANY OF WASHINGTON COMMITMENTS ORDER NO. 0193784-ETU DATED OCTOBER 15, 2020 AND ORDER NO. 0193785-ETU DATED OCTOBER 14, 2020. IN PREPARING THIS MAP, D.R. STRONG CONSULTING ENGINEERS INC. HAS CONDUCTED NO INDEPENDENT TITLE SEARCH NOR IS D.R. STRONG CONSULTING ENGINEERS INC. AWARE OF ANY TITLE ISSUES AFFECTING THE SURVEYED PROPERTY OTHER THAN THOSE SHOWN ON THE MAP AND DISCLOSED BY REFERENCED CHICAGO TITLE COMPANY OF WASHINGTON COMMITMENTS. D.R. STRONG CONSULTING ENGINEERS INC. HAS RELIED WHOLLY ON CHICAGO TITLE COMPANY OF WASHINGTO REPRESENTATIONS OF THE TITLE'S CONDITION TO PREPARE THIS SURVEY AND THEREFORE D.R. STRONG CONSULTING ENGINEERS INC. QUALIFIES THE MAP'S ACCURACY AND COMPLETENESS TO THAT EXTENT.

2. THIS SURVEY REPRESENTS VISIBLE PHYSICAL IMPROVEMENT CONDITIONS EXISTING ON JUNE 10, 2021. ALL SURVEY CONTROL INDICATED AS "FOUND" WAS RECOVERED FOR THIS PROJECT ON JUNE 4, 2021.

3. PROPERTY AREA = 28,644.14± SQUARE FEET (0.6576± ACRES).

4. ALL DISTANCES ARE IN U.S. SURVEY FEET.

5. THIS IS A COMBINED FIELD TRAVERSE AND GLOBAL NAVIGATION SATELLITE SYSTEMS SURVEY. A TRIMBLE S7 ONE-SECOND COMBINED ELECTRONIC TOTAL STATION AND A TRIMBLE R12I GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS) RECEIVER WERE USED TO MEASURE THE ANGULAR AND DISTANCE RELATIONSHIPS BETWEEN THE CONTROLLING MONUMENTATION AS SHOWN. CLOSURE RATIOS OF THE TRAVERSE MET OR EXCEEDED THOSE SPECIFIED IN WAC 332-130-090. ALL MEASURING INSTRUMENTS AND EQUIPMENT ARE MAINTAINED IN ADJUSTMENT ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

6. UTILITIES OTHER THAN THOSE SHOWN MAY EXIST ON THIS SITE. ONLY THOSE UTILITIES WITH EVIDENCE OF THEIR INSTALLATION VISIBLE AT GROUND SURFACE ARE SHOWN HEREON. UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. UNDERGROUND CONNECTIONS ARE SHOWN AS STRAIGHT LINES BETWEEN SURFACE UTILITY LOCATIONS BUT MAY CONTAIN BENDS OR CURVES NOT SHOWN. SOME UNDERGROUND LOCATIONS SHOWN HEREON MAY HAVE BEEN TAKEN FROM PUBLIC RECORDS. D.R. STRONG CONSULTING ENGINEERS INC. ASSUMES NO LIABILITY FOR THE ACCURACY OF PUBLIC RECORDS.

7. CONTOUR INTERVAL = 2 FOOT. CONTOURS SHOWN ARE PRODUCED FROM A DIGITAL TERRAIN MODEL DERIVED FROM DIRECT FIELD OBSERVATIONS OBTAINED DURING THE COURSE OF THE FIELD TRAVERSE SURVEY. CONTOUR ACCURACY COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS (AT LEAST 90 PERCENT OF THE ELEVATIONS ACCURATE WITHIN ONE-HALF THE CONTOUR INTERVAL).

EARTHWORK VOLUME CALCULATIONS

	CUT VOLUME (CU. YDS.)	FILL VOLUME (CU. YDS.)	NET VOLUME (CU. YDS.)
SITE	498	1,216	718 FILL
DET. TANK EXCAVATION	228	40	188 CUT
			TOTAL 530 FILL

ALL VOLUMES ARE APPROXIMATE AND ARE PROVIDED FOR PERMITTING PURPOSES AND REPRESENT FINISH GRADE TO EXISTING GRADE AS SHOWN. CONTRACTOR SHALL RELY ON HIS/HER OWN ESTIMATES FOR DETERMINING ACTUAL EARTHWORK QUANTITIES.
THE VOLUMES DO NOT INCLUDE STRIPPING, STRUCTURAL EXCAVATION, EXPANSION/COMPACTION FACTOR OR ANY SOIL TYPE RESTRICTIONS.

GRADING NOTE:

TOTAL AREA TO BE DISTURBED ON-SITE....11,345 S.F.

TOTAL AREA TO BE DISTURBED OFF-SITE...285 S.F.

FILL SHALL CONSIST OF SUITABLE MATERIAL ORIGINATING FROM THE SITE OR FROM AN APPROVED SUPPLIER.

VERTICAL DATUM: (BY SURVEYOR)

NAVD 88

BASIS OF BEARINGS: (BY SURVEYOR)

NORTH 01°01'21" EAST BETWEEN THE MONUMENTS FOUND AT THE INTERSECTION OF 86TH AVENUE SE AND SE 47TH STREET, AND IN THE CENTERLINE OF 86TH AVENUE SE AND CUL-DE-SAC, AS SHOWN ON THE PLAT OF HILL HIGH ESTATES, VOLUME 68 OF PLATS, PAGE 28.

METHOD OF SURVEY: (BY SURVEYOR)

INSTRUMENTATION FOR THIS SURVEY WAS A LEICA ELECTRONIC DISTANCE MEASURING UNIT. PROCEDURES USED IN THIS SURVEY WERE DIRECT AND REVERSE ANGLES, NO CORRECTION NECESSARY. MEETS KING COUNTY AND STATE STANDARDS SET BY WAC 332-130-090.

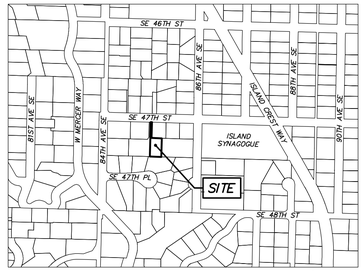
BENCHMARK:

FOUND COPPER TACK IN LEAD IN 4"X4" CONCRETE MONUMENT, DOWN 0.6' IN CASE, AT THE INTERSECTION OF 86TH AVENUE SE AND SE 47TH STREET. GNSS OBSERVATION OF MONUMENT PRODUCED THE ELEVATION OF 317.158'.

TESC LEGEND:

FOR ADDITIONAL TESC DETAILS REFER TO DOE 2012/ 2014 SWMMWW

- CL — CONSTRUCTION LIMITS, TO BE FLAGGED OR FENCED WHEN NO SILT FENCE IS PROPOSED (BMP C103)
- SF — SILT FENCE IS PROPOSED (BMP C233)
- CE — STABILIZED CONSTRUCTION ENTRANCE (BMP C105)
- SSV — STREET SWEEPING & VACUUMING
- IP — INLET PROTECTION (BMP C220)
- DC — DUST CONTROL (BMP C140)
- MU — MULCHING, MATTING, & COMPOST BLANKETS (BMP C121, BMP C125)
- PS — PERMANENT SEEDING AND PLANTING (BMP C120)
- SA — POST-CONSTRUCTION SOIL QUALITY & DEPTH (BMP T5.13) SEE DETAIL ON SHEET C2
- CH — CONCRETE HANDLING (BMP C151)
- PC — PLASTIC COVERING (BMP C123)

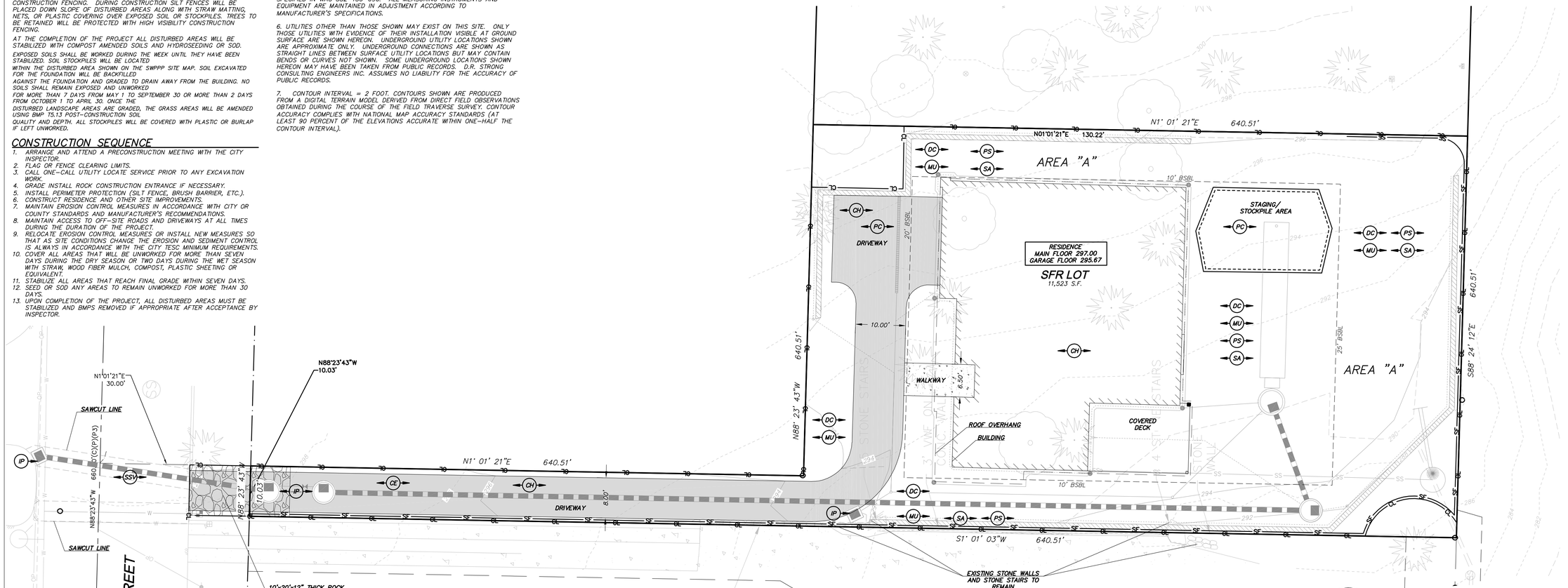


VICINITY MAP

SCALE 1"= ±500'

NORTH

SHEET INDEX:



NORTH

GRAPHIC SCALE
0 5 10 20
1 INCH = 10 FT.

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COVER SHEET & T.E.S.C. PLAN
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MERCER ISLAND
WASHINGTON 98040
PARCEL NO. 7598100421

TODD SHERMAN
DESIGN BUILT HOMES
11400 SE 8TH STREET, SUITE 415
BELLEVUE, WASHINGTON 98004
206-909-8187

MAHER A. JOUDI — STATE OF WASHINGTON — 25232 — REGISTERED PROFESSIONAL ENGINEER — 03-29-23

DATE	REVISION	APR
11.30.22	REVS. PER AGENCY COMMENTS	MAJ
03.29.23	REVS. PER AGENCY COMMENTS	MAJ

DRAFTED BY: JSE
DESIGNED BY: JSE
PROJECT ENGINEER: MAJ
DATE: 07.01.22
PROJECT NO.: 21071

DRAWING: C1
SHEET: 1 OF 6

NE 1/4 SECTION 18, TOWNSHIP 24 N, RANGE 5 E, W.M.

LORENZINI SFR

LEGEND

OFFSITE TREE (NON EXCEPTIONAL)

123 124 DRIPLINE OF TREE

123 124 DRIPLINE OF EXCEPTIONAL TREE

123 124 NON VIABLE TREE

123 124 126 125 TREE TO BE REMOVED

TREE PROTECTION FENCING
(SEE SHEET C2 FOR DETAIL)

1	2	3	4	5	6	7		8	9	10		11				12			
										Proposed Action		CRZ/TPZ/LOD							
										Ret.	Rem	Radius in feet							
#	Tree Tag #	Species ID	DBH (in)	Adj. DBH (in)	Drip-line radius (ft)	Wind-firm	OK in Grove	Health	Defects/Comments	Viable	Remove	N	W	E	S	Exceptional tree DBH > 24"	Value	Healthy Trees	Retained trees
1	259	Bigleaf maple	8	8	14		Y	Fair	Suppressed canopy, lean towards south, asymmetric canopy towards south		1	14	14	14	14	N	1	1	1
2	**260**	**Douglas fir**	**30**	**30**	**18**			**Poor**	**Topped @ 60', asymmetric canopy towards west, thin canopy**		**1**	**18**	**18**	**18**	**18**	**Y**	**1**		
3	**261**	**Douglas fir**	**41**	**41**	**18**			**OK**	**Topped @ 70', elongated branches, free flowing sap, asymmetric canopy towards west, typical of species**		**1**	**18**	**18**	**18**	**18**	**Y**	**1**	**1**	**1**
4	**262**	**Douglas fir**	**26**	**26**	**17**			**OK**	**Serpentine trunk, topped @ 50', strong leader, asymmetric canopy towards south, dead wood, broken branches, typical of species**		**1**	**17**	**17**	**17**	**17**	**Y**	**1**	**1**	**1**
5	**263**	**Douglas fir**	**40**	**40**	**18**			**Fair**	**Ivy @ root crown up to 50', topped @ 75', asymmetric canopy towards west, thin canopy, dead wood, broken branches, girdled by chain @ 15'**		**1**	**18**	**18**	**18**	**18**	**Y**	**1**	**1**	
6	264	Douglas fir	21	21	16			Fair	Self-corrected lean towards south, topped @ 50', asymmetric canopy towards west, thin canopy, girdled by chain @ 15'		1	16	16	16	16	N	1	1	
7	265	Madrona	6, 6	8.5	10 west only			OK	Co-dominant leaders with included bark x2 @ 3', asymmetric canopy towards west, ivy @ root crown up to 8', typical of species		1	10	10	10	10	N	1	1	1
8	266	Douglas fir	8	8	14			OK	Suppressed canopy, thin canopy, dead wood, broken branches, typical of species, lean towards north		1	14	14	14	14	N	1	1	1
9	267	Douglas fir	8	8	10			OK	Suppressed canopy, thin canopy, typical of species		1	10	10	10	10	N	1	1	1

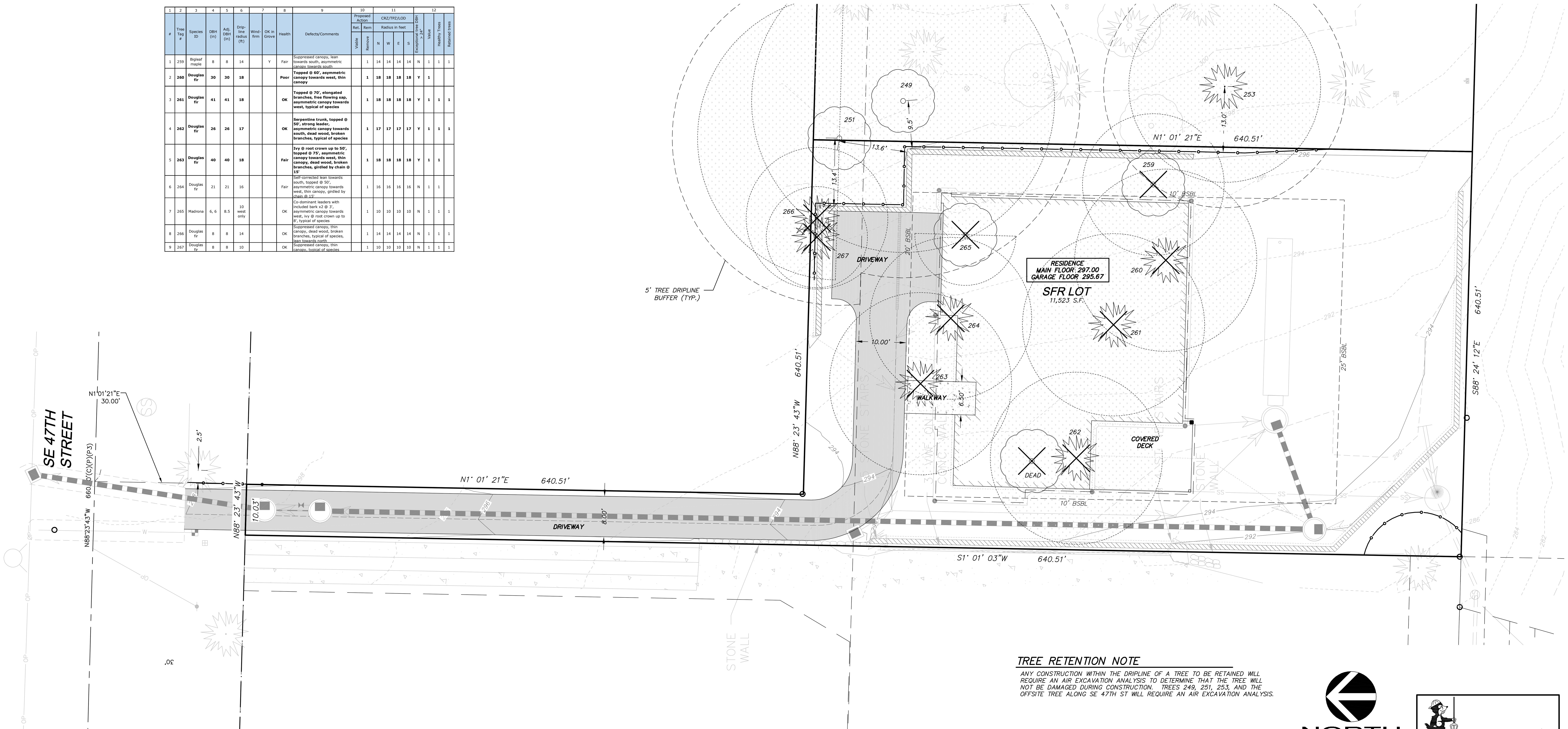
TREE RETENTION CALCULATION

TOTAL ONSITE TREES:	9
TOTAL VIABLE ONSITE TREES:	6
TOTAL NUMBER OF EXCEPTIONAL TREES:	4
REQUIRED: 30% VIABLE TREES:	2
PROPOSED VIABLE TREES RETAINED:	0

TREE REPLACEMENT CALCULATION (MICC 19.10.070)

DIAMETER OF REMOVED TREE	NUMBER OF TREES REMOVED	NUMBER OF REPLACEMENT TREES REQUIRED
< 10 INCHES	4	1 (4 TOTAL)
10–24 INCHES	1	2 (2 TOTAL)
24–36 INCHES	2	3 (6 TOTAL)
> 36 INCHES	2	4 (8 TOTAL)

= 20 TOTAL REPLACEMENT TREES



TREE RETENTION NOTE

ANY CONSTRUCTION WITHIN THE DRIPLINE OF A TREE TO BE RETAINED WILL REQUIRE AN AIR EXCAVATION ANALYSIS TO DETERMINE THAT THE TREE WILL NOT BE DAMAGED DURING CONSTRUCTION. TREES 249, 251, 253, AND THE OFFSITE TREE ALONG SE 47TH ST WILL REQUIRE AN AIR EXCAVATION ANALYSIS.

NORTH

GRAPHIC SCALE

0 5 10 20

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PARCEL NO. 7598100421

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MAHER A. JOUDI
STATE OF WASHINGTON
45232
REGISTERED
PROFESSIONAL ENGINEER
[illegible]
03-29-23

DATE	REVISION	APR
11.30.22	REVS. PER AGENCY COMMENTS	MAJ
03.29.23	REVS. PER AGENCY COMMENTS	MAJ

DRAFTED BY: JSE
DESIGNED BY: JSE
PROJECT ENGINEER: MAJ
DATE: 07.01.22
PROJECT NO.: 21071

DRAWING: C3
SHEET: 3 OF 6

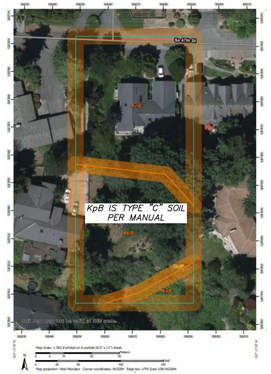
NE 1/4 SECTION 18, TOWNSHIP 24 N, RANGE 5 E, W.M.

LORENZINI SFR

Table 1

ON-SITE DETENTION DESIGN FOR PROJECTS BETWEEN 500 SF AND 9,500 SF NEW PLUS REPLACED IMPERVIOUS SURFACE AREA

New and Replaced Impervious Surface Area (sf)	Detention Pipe Diameter (in)	Detention Pipe Length (ft)		Lowest Orifice Diameter (in)[1]		Distance from Outlet Invert to Second Orifice (ft)		Second Orifice Diameter (in)	
		B soils	C soils	B soils	C soils	B soils	C soils	B soils	C soils
500 to 1,000 sf	36"	30	22	0.5	0.5	2.2	2.0	0.5	0.8
	48"	18	11	0.5	0.5	3.3	3.2	0.9	0.8
	60"	11	7	0.5	0.5	4.2	3.4	0.5	0.6
1,001 to 2,000 sf	36"	66	43	0.5	0.5	2.2	2.3	0.9	1.4
	48"	34	23	0.5	0.5	3.2	3.3	0.9	1.2
	60"	22	14	0.5	0.5	4.3	3.6	0.9	0.9
2,001 to 3,000 sf	36"	90	66	0.5	0.5	2.2	2.4	0.9	1.9
	48"	48	36	0.5	0.5	3.1	2.8	0.9	1.5
	60"	30	20	0.5	0.5	4.2	3.7	0.9	1.1
3,001 to 4,000 sf	36"	120	78	0.5	0.5	2.4	2.2	1.4	1.6
	48"	62	42	0.5	0.5	2.8	2.9	0.8	1.3
	60"	42	26	0.5	0.5	3.8	3.9	0.9	1.3
4,001 to 5,000 sf	36"	134	91	0.5	0.5	2.8	2.2	1.7	1.5
	48"	73	49	0.5	0.5	3.6	2.9	1.6	1.5
	60"	46	31	0.5	0.5	4.6	3.5	1.6	1.3



GENERAL NOTES:

1. SITE PLAN PROVIDED BY CLIENT ON APRIL 22, 2022.
2. WALL/ FOOTING/ LAWN UNDERDRAIN DRAINAGE SYSTEM AND ROOF DOWNSPOUT SYSTEM SHALL NOT BE INTERCONNECTED UNLESS SUCH CONNECTION IS MADE AT LEAST ONE FOOT BELOW THE WALL/FOOTING/ UNDERDRAIN DRAINAGE SYSTEM AND DOWN SLOPE OF THE WALL/BUILDING FOUNDATION AND DOWNSTREAM OF THE DETENTION TANK.
3. EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES SHOWN, OR NOT SHOWN IN THEIR PROPER LOCATION.
4. CONTRACTOR SHALL POT-HOLE LOCATION OF EXISTING UTILITIES TO BE RECONNECTED PRIOR TO BEGINNING CONSTRUCTION. NOTIFY ENGINEER OF ANY CONFLICTS.
5. CONTRACTOR TO VERIFY CONDITION AND COORD WORKING ORDER OF ALL EXISTING UTILITIES TO BE RECONNECTED OR RE-USED PRIOR TO START OF CONSTRUCTION.
6. SOILS ON THE SITE CONSISTS OF KITSAP SILT LOAM (KpB) PER THE NRCS WEB SOIL SURVEY.
7. ROOF DRAINS SHALL BE 4" OR 6" PVC AS SHOWN AND HAVE A MINIMUM SLOPE OF 2.00%.
8. ALWAYS CALL 811 TWO WORKING DAYS BEFORE YOU DIG.

AREA BREAKDOWN:

LOT SIZE: 11,523 S.F. (0.265 AC.)

EX. HARD SURFACES ON LOT: NONE

NEW HARD SURFACES ON LOT:

MAIN HOUSE ROOF:	2,867 S.F.
DRIVEWAY:	1,771 S.F.
WALKS & PATIOS	40 S.F.
TOTAL NEW ON LOT:	4,678 S.F. (40.6%)
NEW HARD SURFACES:	4,678 S.F.
LOT PERVIOUS:	6,845 S.F.
OFF-SITE DRIVEWAY:	97 S.F.
TOTAL PROJECT HARD SURFACES:	4,775 S.F.
TOTAL P.G.H.S.:	1,908 S.F.

LAWN AND LANDSCAPE AREA NOTE:

THE LAWN AND LANDSCAPE AREAS ARE REQUIRED TO PROVIDE POST-CONSTRUCTION SOIL QUALITY AND DEPTH IN ACCORDANCE WITH BMP T5.13. THE PROJECT CIVIL ENGINEER MUST PROVIDE A LETTER OF CERTIFICATION TO ENSURE THAT THE LAWN AND LANDSCAPE AREAS ARE MEETING THE POST-CONSTRUCTION SOIL QUALITY AND DEPTH REQUIREMENTS SPECIFIED ON THE APPROVED PLAN SET PRIOR TO FINAL INSPECTION OF THE PROJECT.

SOIL AMENDMENT NOTE:

AREA (A) ENCOMPASSES THE ENTIRE SITE OUTSIDE OF HARD SURFACES. SEE LANDSCAPE PLANS FOR TURF AND PLANTING BED AREAS. STOCKPILE SITE DUFF AND TOPSOIL FOR ALL DISTURBED PERVIOUS AREAS AND REAPPLY WITH SOIL AMENDMENT AFTER GRADING AND CONSTRUCTION. MINIMUM SCARIFICATION DEPTH 8-INCHES. PROVIDE A TOTAL OF 167 C.Y. OF AMENDMENT FOR AN AREA OF 6,752 S.F. (AREAS FOR TURF AND PLANTING BEDS TO BE DETERMINED)

STORM DRAINAGE NOTES:

1. FRAME AND GRATE FOR CONTROL STRUCTURE SHALL BE SET DIRECTLY OVER THE LADDER AND OFFSET SO THAT THE OVERFLOW PIPE SHALL BE VISIBLE AT THE EDGE OF THE ACCESS OPENING.
2. THE FLOW CONTROL MANHOLE SHALL BE A STANDARD TYPE II CATCH BASIN. LADDER RUNS SHALL BE UNIFORMLY SPACED 12" TO 16 1/2 " VERTICALLY
3. ALL STEEL PIPE AND PARTS SHALL BE GALVANIZED.
4. THE STORAGE PIPE SHALL GENERALLY HAVE A MINIMUM OF 2 FEET OF COVER.
5. 6" & 8" PVC PIPE SHALL MEET ASTM D3034 SDR-35
6. FOOTING/ WALL DRAINAGE SYSTEM AND ROOF DOWNSPOUT SYSTEM SHALL NOT BE INTERCONNECTED UNLESS SUCH CONNECTION IS MADE AT LEAST ONE FOOT BELOW THE FOOTING/ WALL DRAINAGE SYSTEM AND DOWN SLOPE OF THE BUILDING FOUNDATION. PROVIDE BACKWATER VLAVES WHERE NOTED. A PUMP MAY BE REQUIRED FOR THE POOL FOOTING DRAINS.
7. APPLICANTS ARE REQUIRED TO CALL FOR INSPECTIONS. IF THE WORK DOES NOT CONFORM TO THE APPROVED PLANS, OR THE INSPECTION REVEALS OTHER CONDITIONS THAT REQUIRE MODIFICATIONS OR ADDITIONAL INFORMATION, THAT PORTION OF THE WORK WILL BE STOPPED. NO FINAL OCCUPANCY SHALL BE PERMITTED UNTIL ALL ON-SITE STORMWATER MANAGEMENT BMPS AND OTHER DRAINAGE CONTROL FACILITIES ARE COMPLETED, INSPECTED AND APPROVED.
8. APPLICANTS MAY BE REQUIRED TO OBTAIN A STREET OPENING PERMIT IF DRAINAGE WORK IS TO BE DONE IN THE CITY'S RIGHT-OF-WAY. IF THE IMPROVEMENTS INCLUDE A CONCRETE DRIVEWAY THAT IS TO EXTEND INTO THE PUBLIC RIGHT-OF-WAY, A PUBLIC PLACE USE PERMIT IS REQUIRED FOR THAT PORTION OF THE DRIVEWAY LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY.
9. FIELD ADJUST AREA DRAIN LOCATIONS. GRADE TO DRAIN.
10. SLEEVE ALL PIPES UNDER/ THROUGH WALLS.

DOWNSPOUT ELEVATIONS

DOWNSPOUT #	INVERT ELEV.
1	289.48
2	290.09
3	290.76
4	291.89
5	291.39
6	290.38

NORTH

GRAPHIC SCALE

0 5 10 20

1 INCH = 10 FT.

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REGISTERED PROFESSIONAL ENGINEER 03-29-23

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DRAFTED BY: JSE
DESIGNED BY: JSE
PROJECT ENGINEER: MAJ
DATE: 07.01.22
PROJECT NO.: 21071

DRAWING: C4
SHEET: 4 OF 6

NE 1/4 SECTION 18, TOWNSHIP 24 N, RANGE 5 E, W.M.

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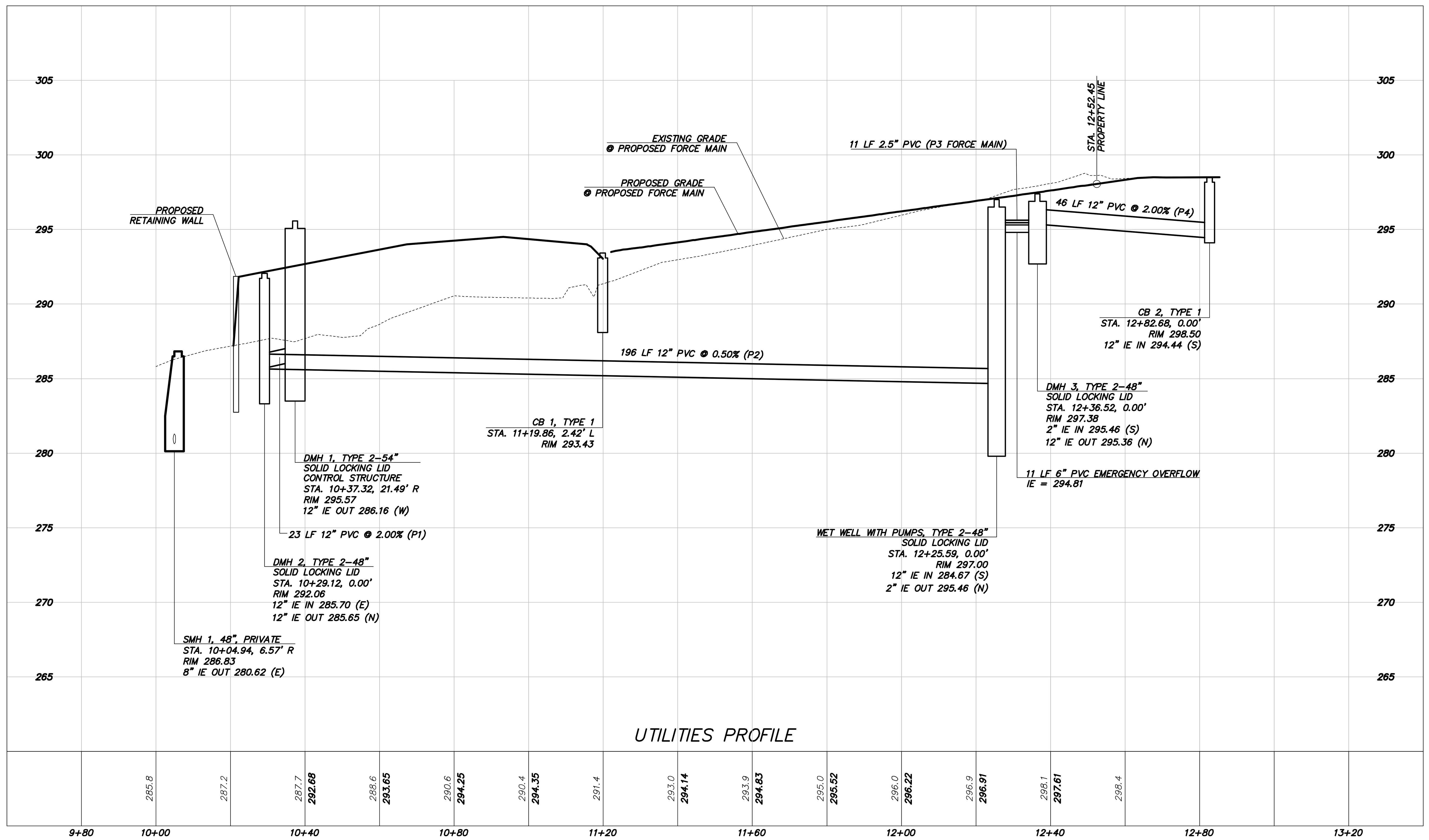

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STORM DRAINAGE PROFILE
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WASHINGON 98040
PARCEL NO. 7598100421

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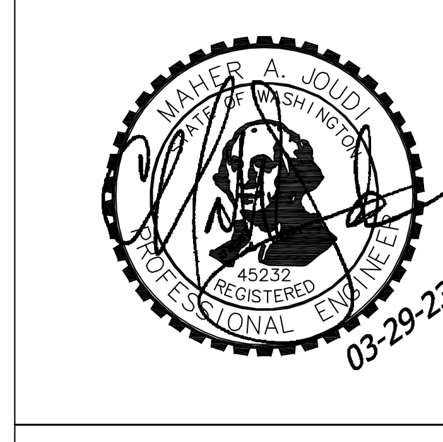

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NE 1/4 SECTION 18, TOWNSHIP 24 N, RANGE 5 E, W.M.

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DETENTION TANK PUMP SYSTEM NOTES:

1. THERE IS A TOTAL OF 12.39 FT. OF ELEVATION HEAD FROM THE PUMP TO DMH 3 AND 12.90 FT OF TDH THROUGH THE PIPE AND FITTINGS AT 20 GPM.
2. PUMP LINE SHALL BE CLASS 200 PVC AND MEET THE REQUIREMENTS OF ASTM D2241 SDR-21.
3. EACH PUMP SHALL PROVIDE 20 GPM @ 12.90 FT OF HEAD.
4. PUMPS SHALL OPERATE IN AN "ON-DEMAND" CONFIGURATION, WITH EACH PUMP ALTERNATELY SELECTED BY THE CONTROL PANEL AS THE "LEAD PUMP" OR "LAG PUMP". CONTROLS FOR EACH PUMP SHALL INCLUDE: PUMP ON; PUMP OFF; HIGH WATER LEVEL ALARM.
5. DUPLEX CONTROL PANEL SHALL HAVE AUDIO/VISUAL ALARM ON SEPARATE CIRCUITS AND BE MOUNTED IN DIRECT LINE OF SIGHT OF THE PUMP ACCESS LID.
6. PROVIDE LIFT CHAIN OR RAIL SYSTEM FOR PUMP ACCESS.
7. FLOATS/ PUMP CONTROL SWITCHES SHALL BE MOUNTED INDEPENDENT OF THE PUMP AND TRANSPORT LINES.
8. THE STORMWATER PUMPING SYSTEM SHALL BE OWNED, OPERATED, MAINTAINED, REPAIRED, AND REPLACED (AS NEEDED) BY PROPERTY OWNER(S) SERVED BY SUCH SYSTEM.
9. PROPERTY OWNER(S) SHALL BE RESPONSIBLE FOR ANY/ALL CLAIMS FOR INJURIES AND DAMAGE DUE TO THE OPERATION OR NON-OPERATION OF THE PUMP SYSTEM AND EMERGENCY OVERFLOW.
10. IT IS REQUIRED THAT THE PUMP AND PUMP CONTROLS ARE RATED FOR CLASS 1 DIVISION 1 ENVIRONMENT (EXPLOSION PROOF).
11. IT IS REQUIRED THAT AUTOMATIC EMERGENCY BACKUP POWER GENERATOR BE PROVIDED FOR PUMP AND ALARM CIRCUITS (BY OTHERS).
12. IT IS HIGHLY RECOMMENDED THAT THE PROPERTY OWNER(S) CONTRACT WITH A PRIVATE SECURITY/ MONITORING SERVICE TO MONITOR AND TROUBLESHOOT THE PUMP SYSTEM IN THE EVENT OF A TOTAL SYSTEM FAILURE (E.G., POWER OUTAGE AND GENERATOR FAILURE).

RESTRICTOR CATCH BASIN NOTES:

1. USE A MINIMUM OF A 72 IN. DIAM. TYPE 2 CATCH BASIN WHEN CONNECTING PIPE MATERIAL IS CONCRETE OR LCPE. A 54 IN. DIAM. TYPE 2 CATCH BASIN MAY BE USED FOR OTHER CIRCULAR SINGLE WALL PIPE (SUCH AS CORRUGATED ALUMINUM PIPE).
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
A. CLEANOUT GATE IS VISIBLE FROM TOP;
B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3"-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZG32A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION). IT MAY BE SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FEET.

PUMP SYSTEM OPERATION AND MAINTENANCE:

SYSTEM OPERATION:

IN A PUMP-TO-GRAVITY STORMWATER SYSTEM, A PUMP IS USED TO CONVEY STORMWATER COLLECTED IN A PUMP CHAMBER (WET WELL) TO THE APPROVED DISCHARGE LOCATION. THE WET WELL CONTAINS A PUMP OPERATING IN AN "ON-DEMAND" CONFIGURATION. THIS SYSTEM CONTAINS MINIMAL EMERGENCY STORAGE IN THE EVENT OF A SYSTEM FAILURE. A 2.5-INCH DIAMETER FORCE MAIN FROM THE WET WELL DISCHARGES TO A DRAIN MANHOLE LOCATED AT THE NORTHERN PROPERTY LINE OF THE LOT. THE DISCHARGE PIPE IN THE MANHOLE INCLUDES A DOWN ELBOW TO PROVIDE ENERGY DISSIPATION.

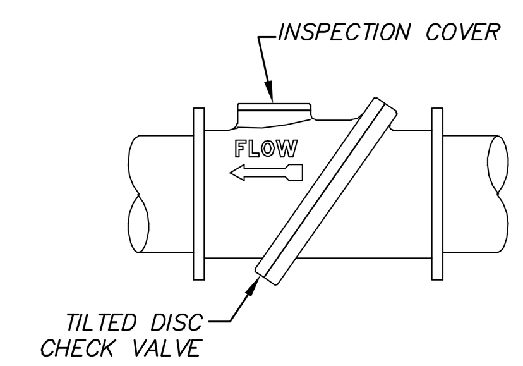
CONTROLS FOR THE PUMP INCLUDE: PUMP ON; PUMP OFF; AND HIGH WATER LEVEL ALARM. WHEN STORMWATER IN THE WET WELL RISES TO THE LEVEL OF THE "ON" FLOAT SETTING, THE PUMP IS ACTIVATED AND PUMPS THE LEVEL OF THE STORMWATER DOWN UNTIL IT REACHES THE "OFF" FLOAT SETTING. IF THE WATER LEVEL EXCEEDS THE "ALARM" LEVEL, A RED LIGHT AND AN AUDIBLE BUZZER WILL TURN ON AT THE CONTROL PANEL. PRESSING THE "SILENCE" BUTTON ON THE CONTROL PANEL WILL ONLY SILENCE THE AUDIBLE ALARM AND IS NOT A SOLUTION TO THE ALARM CONDITION. THE ALARM LIGHT WILL REMAIN LIT UNTIL THE ALARM CONDITION HAS BEEN RESOLVED. WE RECOMMEND THAT THE CONTROL PANEL BE EQUIPPED FOR REMOTE MONITORING BY A PRIVATE O&M FIRM TO ENSURE RESOLUTION OF ALARM CONDITIONS IN A TIMELY MANNER. CODE REQUIRES THAT THE PUMP AND ALARM BE ON DIFFERENT CIRCUITS SO THAT IF THE PUMP BREAKER TRIPS, THE ALARM CAN STILL OPERATE.

RECOMMENDED MAINTENANCE:

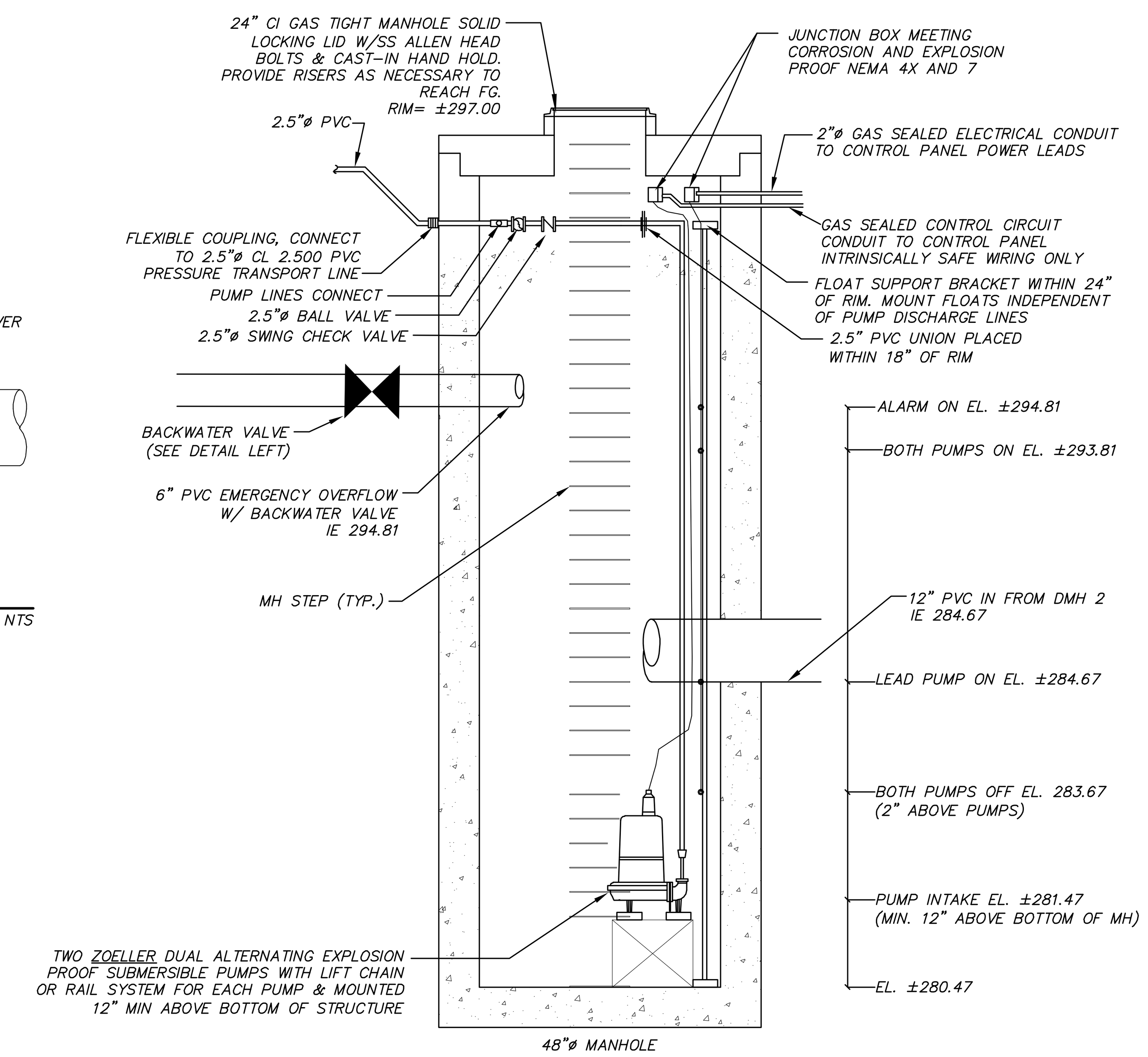
THE PUMP SHOULD BE SUBMERGED DURING NORMAL OPERATION BECAUSE HEAT GENERATED BY THE PUMP IS DISSIPATED IN THE SURROUNDING WATER. OTHERWISE, THE PUMP COULD BURN OUT IF ALLOWED TO OPERATE IN A NON-SUBMERGED CONDITION. CHECK TO SEE THAT THE FLOAT SWITCHES ARE CLEAN AND FREE IN THEIR MOVEMENTS, AND TEST THE HIGH ALARM FLOAT BY LIFTING IT, OR BY PUSHING DOWN ON THE LOW ALARM FLOAT (IF PRESENT). IF THE ALARM DOES NOT SOUND AND THE CIRCUIT BREAKER IS NOT TRIPPED, CONTACT A QUALIFIED ELECTRICIAN FOR SERVICING. PERFORM FLOAT TESTING QUARTERLY DURING THE FIRST YEAR OF OPERATION, THEN AT SEMI-ANNUALLY THEREAFTER.

STANDARD DETENTION SYSTEM NOTES:

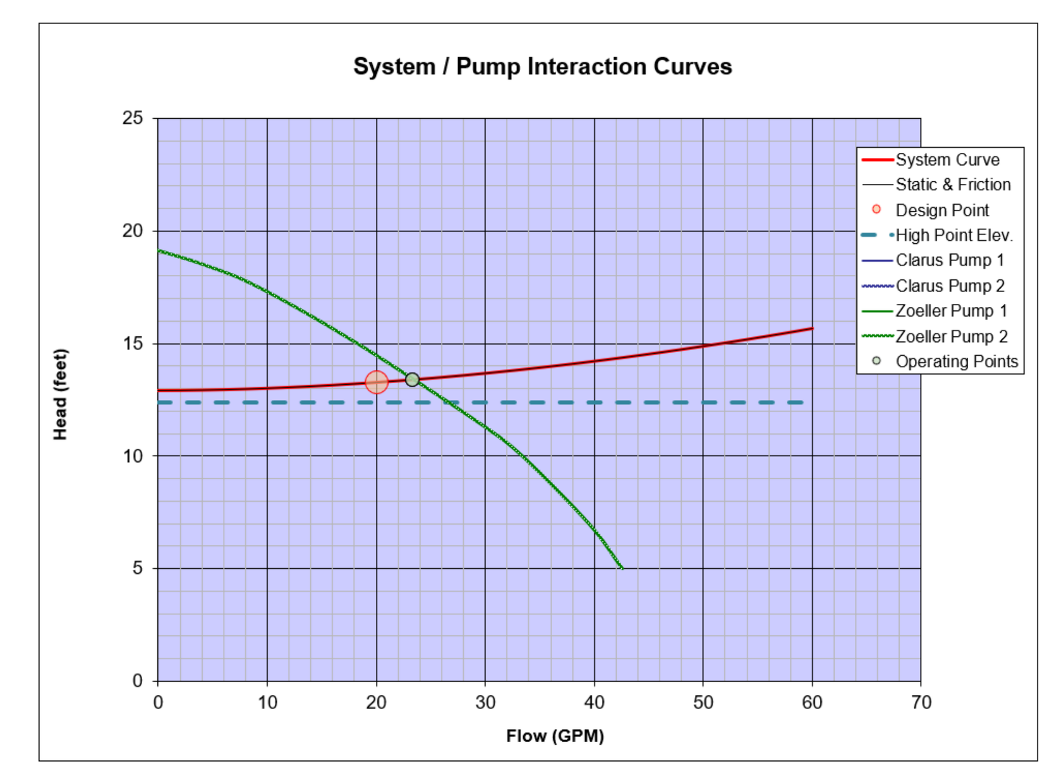
1. CALL DEVELOPMENT SERVICES (206-275-7605) 24 HOURS IN ADVANCE FOR A DETENTION SYSTEM INSPECTION BEFORE BACKFILLING AND FOR FINAL INSPECTIONS.
2. RESPONSIBILITY FOR OPERATION AND MAINTENANCE OF DRAINAGE SYSTEMS ON PRIVATE PROPERTY IS RESPONSIBILITY OF THE PROPERTY OWNER. MATERIAL ACCUMULATED IN THE STORAGE PIPE MUST BE REMOVED FROM CATCH BASINS TO ALLOW PROPER OPERATION. THE OUTLET CONTROL ORIFICE MUST BE KEPT OPEN AT ALL TIMES.
3. PIPE MATERIAL, JOINT, AND PROTECTIVE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 7.04 AND 9.05 OF THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST VERSION. SUCH MATERIALS INCLUDE THE FOLLOWING, LINED CORRUGATED POLYETHYLENE PIPE (LCPE), ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE AND PIPE ARCH (MEETS AASHTO DESIGNATIONS M274 AND M36). CORRUGATED OR SPIRAL RIB ALUMINUM PIPE, OR REINFORCED CONCRETE PIPE, CORRUGATED STEEL PIPE IS NOT ALLOWED.
4. FOOTING DRAINS SHALL NOT BE CONNECTED TO THE DETENTION SYSTEM.

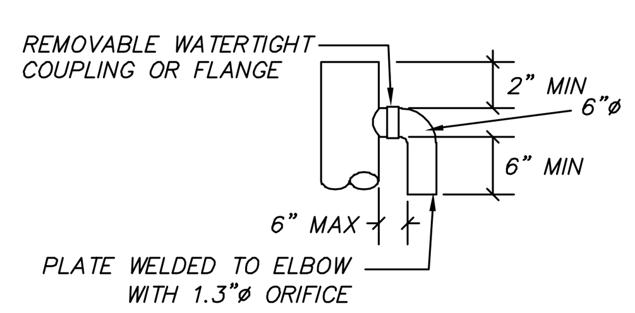


BACKWATER VALVE
NTS

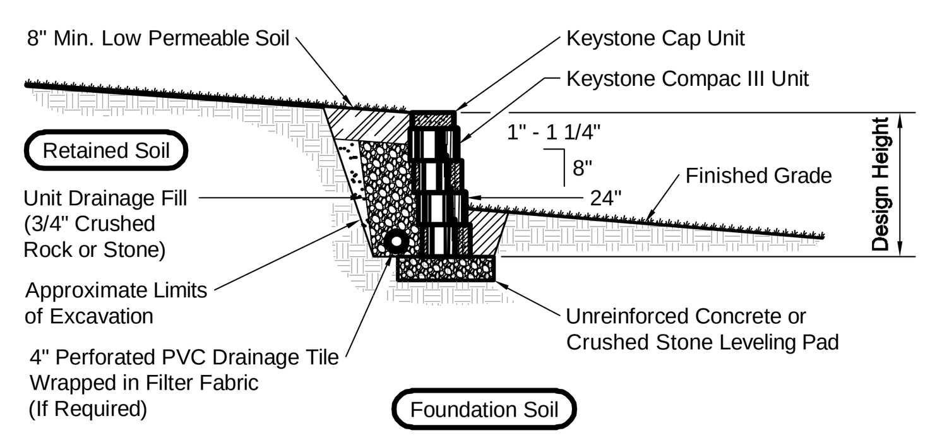


WET WELL
NTS





ELBOW RESTRICTOR DETAIL
NTS



TYPICAL KEYSTONE GRAVITY WALL SECTION
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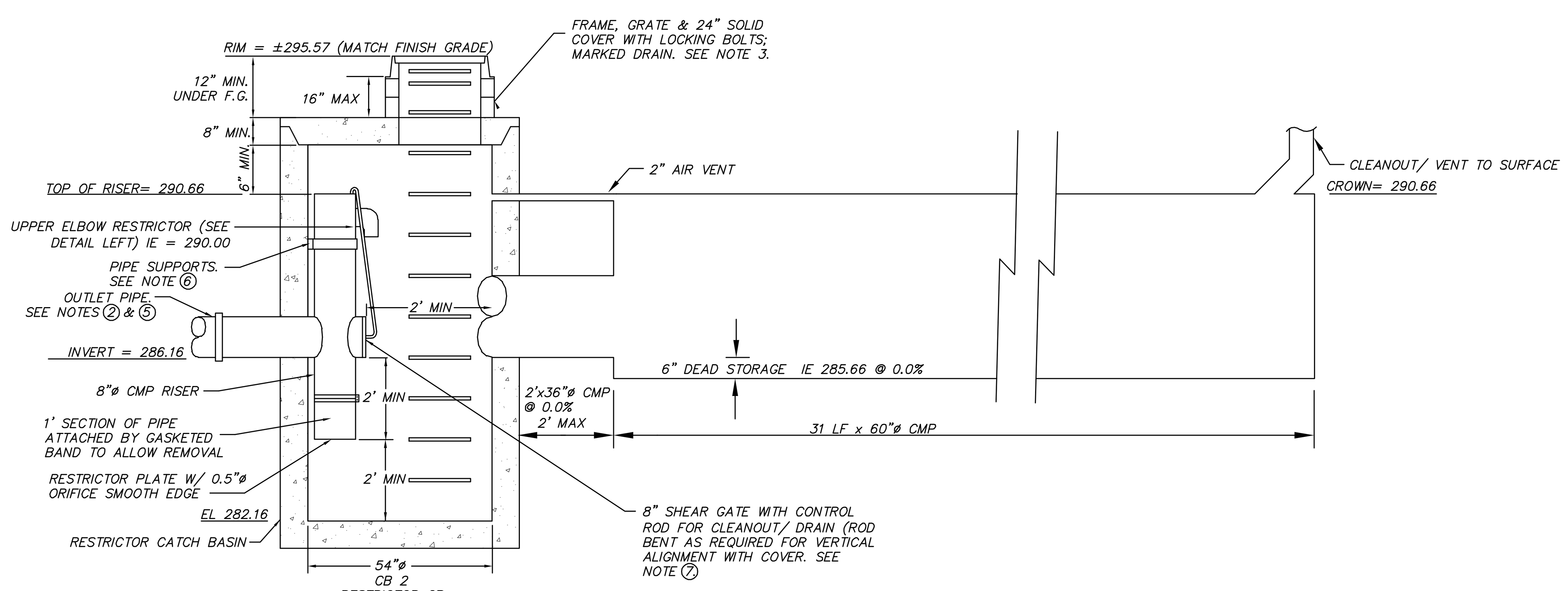
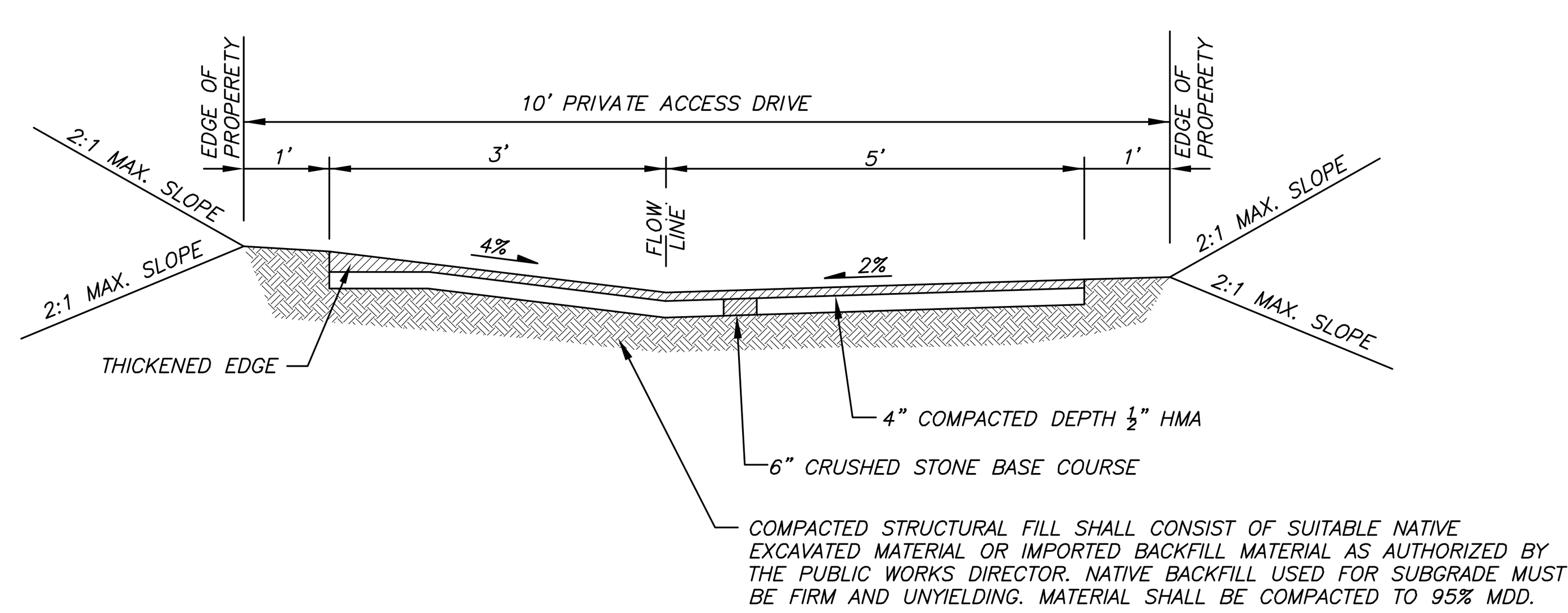
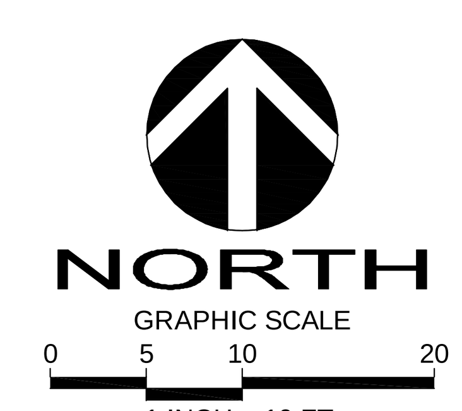


DETENTION TANK & RESTRICTOR CB
NTS



PRIVATE ACCESS DRIVE CROSS-SECTION
NTS
A
C4



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LORENZINI SFR

NOTES & DETAILS
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PARCEL NO. 7598100421

TODD SHERMAN
DESIGN BUILT HOMES

11400 SE 8TH STREET, SUITE 415
BELLEVUE, WASHINGTON 98004
206-909-8187

MAHER A. JOUDI
STATE OF WASHINGTON
45232
REGISTERED
PROFESSIONAL ENGINEER
[illegible]
03-29-23

DATE	REVISION	APR
11.30.22	REVS. PER AGENCY COMMENTS	MAJ
03.29.23	REVS. PER AGENCY COMMENTS	MAJ

DRAFTED BY: JSE
DESIGNED BY: JSE
PROJECT ENGINEER: MAJ
DATE: 07.01.22
PROJECT NO.: 21071

DRAWING: C6
SHEET: 6 OF 6

8427 SE 47th St - Lorenzini BLA Lot

2018 IRC - 2018 WSEC

Kirkland, Washington

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO THE 2018 INTERNATIONAL BUILDING CODE, INTERNATIONAL RESIDENTIAL CODE, THE CURRENT WASHINGTON STATE ENERGY CODE, THE WASHINGTON STATE BUILDING CODE, CHAPTER 51-20 AND 51-21 WAC, THE AMERICANS WITH DISABILITIES ACT, AND ALL RULES, REGULATIONS AND ORDINANCES OF THE GOVERNING AUTHORITY.
2. ENGINEERED DESIGN IN ACCORDANCE WITH THE IBC IS PERMITTED.
3. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, AND SITE CONDITIONS, AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ANY DISCREPANCIES, ERRORS, OR OMISSIONS PRIOR TO PROCEEDING WITH THE WORK.
4. DO NOT SCALE THE DRAWINGS FOR CRITICAL DIMENSIONS. DIMENSIONS ARE SHOWN TO FACE OF STUDS, POSTS AND CONCRETE UNLESS INDICATED OTHERWISE.
5. THE PROJECT SHALL BE SCHEDULED AND INSTALLATION OF ELEMENTS COORDINATED AS NECESSARY BY THE CONTRACTOR TO PERMIT WORK BETWEEN DIFFERENT TRADES TO PROCEED WITHOUT UPSETTING PROPER CONSTRUCTION SEQUENCES OR DELAYING THE PROJECT SCHEDULE.
6. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL VERIFY ALL DOOR AND WINDOW ROUGH-OPENING DIMENSIONS WITH THE DOOR AND WINDOW MANUFACTURERS.
8. PLUMBING, ELECTRICAL AND MECHANICAL CONTRACTORS SHALL VERIFY ALL REQUIREMENTS FOR THIS PROJECT AND COMPLY WITH ALL LOCAL CODES, SUBMIT PLANS FOR APPROVAL AND OBTAIN PERMIT BEFORE STARTING WORK.
9. TYPICAL DETAILS ARE SHOWN ONLY ONCE AND NOT REFERENCED AT ALL LOCATIONS; THE INTENT IS THAT THEY APPLY THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED.
10. ALL REQUIRED SHOP DRAWINGS AND SUBMITTALS SHALL BE REVIEWED BY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
11. ALL SHOP DRAWING DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR.
12. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY HIMSELF OR OTHER TRADES.
13. INSPECTIONS ARE TO BE PER IRC SECTION R109.
14. ADDRESS MUST BE POSTED AND VISIBLE AT CONSTRUCTION SITE PER IRC SEC R319: BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.

BUILDING THERMAL ENVELOPE

COMPLIANCE & CERTIFICATE POSTED

THE BUILDING THERMAL ENVELOPE SHALL MEET THE PRESCRIPTIVE REQUIREMENTS OF SECTION R402 OF THE WSEC.

A PERMANENT CERTIFICATE SHALL BE POSTED WITHIN THREE FEET OF THE ELECTRICAL DISTRIBUTION PANEL BY THE BUILDER NOTING PREDOMINANT R-VALUES OF INSULATION INSTALLED IN OR ON CEILING/ROOF, WALLS, FOUNDATION (SLAB, BASEMENT WALL, CRAWLSPACE WALL AND/OR FLOOR), AND DUCTS OUTSIDE THE CONDITIONED SPACES; U-FACTORS FOR FENESTRATION; AND THE SOLARHEAT GAIN COEFFICIENT (SHGC) OF FENESTRATION. REFER TO SECTION R401.3 WSEC FOR ADDITIONAL INFORMATION.

INSULATION

REFER TO WSEC TABLE R402.1.1 ON THIS SHEET FOR INSULATION VALUES.

A. CEILINGS (ATTIC)
1. OPEN-BLOWN OR POURED LOOSE FILL INSULATION MAY BE USED IN ATTIC SPACES WHERE THE SLOPE OF THE CEILING IS NOT MORE THAN 3 IN 12 AND THERE IS AT LEAST 30 INCHES OF CLEAR DISTANCE FROM THE TOP OF THE BOTTOM CHORD OF THE TRUSS OR CEILING JOIST TO THE UNDERSIDE OF THE SHEATHING AT THE ROOF RIDGE.

B. CEILINGS (UNVENTED VAULT)
1. PROVIDE 3" CLOSED CELL SPRAY FOAM INSULATION @ BOTTOM SIDE OF SHEATHING WITH MIN. R-5.8 PER INCH. COMPLETELY FILL REMAINING JOIST CAVITY WITH BATT INSULATION. TOTAL INSULATION VALUE (SPRAY FOAM + BATT) TO BE R-38 MINIMUM.

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

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

E. SLAB-ON-GRADE
1. RIGID INSULATION UNDER CONCRETE SLAB IN HEATED SPACES: THE INSULATION SHALL EXTEND DOWNWARD FROM THE TOP OF THE SLAB FOR A MINIMUM DISTANCE AS SHOWN IN THE TABLE OR TO THE TOP OF THE FOOTING, WHICHEVER IS LESS, OR DOWNWARD TO AT LEAST THE BOTTOM OF THE SLAB AND THEN HORIZONTALLY TO THE INTERIOR OR EXTERIOR FOR THE TOTAL DISTANCE SHOWN IN THE TABLE.
2. A TWO-INCH BY TWO-INCH (MAXIMUM) PRESSURE TREATED NAILER MAY BE PLACED AT THE FINISHED FLOOR ELEVATION FOR ATTACHMENT OF INTERIOR FINISH MATERIALS.

F. 4X HEADERS = R-10

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

H. PIPING = MECHANICAL SYSTEM PIPING CAPABLE OF CARRYING FLUIDS ABOVE 105°F OR BELOW 55°F SHALL BE INSULATED TO A MINIMUM OF R-6.
1. PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT CAUSED BY SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE, AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED.
2. INSULATION FOR HOT WATER PIPE SHALL HAVE A MIN. THERMAL RESISTANCE (R-VALUE) OF R-4.

H. ELECTRIC WATER HEATERS = ALL ELECTRIC WATER HEATERS IN UNHEATED SPACES OR ON CONCRETE FLOORS SHALL BE PLACED ON AN INCOMPRESSIBLE, INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE OF R-10.

MOISTURE CONTROL

VAPOR RETARDERS
- SLABS: 6 MIL POLYETHYLENE SHEETS
- FLOORS: 3/4" CDX PLYWOOD OR 3/4" O.S.B.
- WALLS: KRAFT FACED FIBERGLASS BATTS
- CEILING: PVA PAINT (EXCEPT AT UNVENTED ROOF ASSEMBLIES)

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

FENESTRATION

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

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

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

AIR LEAKAGE AND TESTING

THE COMPONENTS OF THE BUILDING THERMAL ENVELOPE AS LISTED IN TABLE R402.4.1.1 SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE CRITERIA LISTED IN TABLE R402.4.1.1, AS APPLICABLE TO THE 2018 WASHINGTON STATE ENERGY CODE RE-23 METHOD OF CONSTRUCTION. WHERE REQUIRED BY THE CODE OFFICIAL, AN APPROVED THIRD PARTY SHALL INSPECT ALL COMPONENTS AND VERIFY COMPLIANCE.

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

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

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

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

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

ELECTRIC POWER & LIGHTING

LIGHTING EQUIPMENT

A MINIMUM OF 75 PERCENT OF PERMANENTLY INSTALLED LAMPS IN LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS.

BUILDING SYSTEMS

CONTROLS

AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM.

WHERE THE PRIMARY HEATING SYSTEM IS A FORCED-AIR FURNACE, AT LEAST ONE THERMOSTAT PER DWELLING UNIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE TO MAINTAIN DIFFERENT TEMPERATURE SET POINTS AT DIFFERENT TIMES OF THE DAY. SEE WSEC R403.1 FOR ADDITIONAL REQUIREMENTS.

DUCTS & AIR DUCT SEALING

DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH EITHER THE INTERNATIONAL MECHANICAL CODE OR INTERNATIONAL RESIDENTIAL CODE, AS APPLICABLE.

DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RS-33, USING THE MAXIMUM DUCT LEAKAGE RATES SPECIFIED. DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER OF THE FOLLOWING:
1. POSTCONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTER BOOTS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. LEAKAGE TO OUTDOORS SHALL BE LESS THAN OR EQUAL TO 4 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA.
2. ROUGH-IN TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. ACROSS THE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTERS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. IF THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA.

AIR HANDLERS SHALL HAVE A MANUFACTURER'S DESIGNATION FOR AN AIR LEAKAGE OF NO MORE THAN 2 PERCENT OF THE DESIGN AIR FLOW RATE WHEN TESTED IN ACCORDANCE WITH ASHRAE 193.

BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.

MECHANICAL VENTILATION

THE BUILDING SHALL BE PROVIDED WITH VENTILATION THAT MEETS THE REQUIREMENTS OF THE INTERNATIONAL RESIDENTIAL CODE OR INTERNATIONAL MECHANICAL CODE, AS APPLICABLE, OR WITH OTHER APPROVED MEANS OF VENTILATION. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENTILATION SYSTEM IS NOT OPERATING.

MECHANICAL VENTILATION SYSTEM FANS SHALL MEET THE EFFICACY REQUIREMENTS OF TABLE R403.5.1. EXCEPTION: WHERE MECHANICAL VENTILATION FANS ARE INTEGRAL TO TESTED AND LISTED HVAC EQUIPMENT, THEY SHALL BE POWERED BY AN ELECTRONICALLY COMMUTATED MOTOR.

EQUIPMENT SIZING

HEATING AND COOLING EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S BASED ON BUILDING LOADS CALCULATED IN ACCORDANCE WITH ACCA MANUAL J OR OTHER APPROVED HEATING AND COOLING CALCULATION METHODOLOGIES.

MECHANICAL AND PLUMBING

1. WATER HEATERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. WATER HEATERS INSTALLED IN ATTICS SHALL COMPLY WITH M1305.1.3. GAS FIRED WATER HEATERS SHALL COMPLY WITH IRC CHAPTER 24. ELECTRIC WATER HEATERS SHALL COMPLY WITH UL 174 AND INSTALLED IN ACCORDANCE WITH IRC CHAPTERS 34 THROUGH 43.
2. WATER HEATER STORAGE TANK TO BE LABELED TO MEET THE 1987 NATIONAL APPLIANCE ENERGY CONSERVATION ACT.
3. STEEL W.H. TO COMPLY WITH ASHRAE 90A-80.
4. EQUIP WATER HEATERS WITH A PRESSURE RELIEF LINE PLUMBED TO OUTSIDE.
5. PROVIDE 26 GA METAL SEISMIC STRAPS AROUND WATER HEATER TO WALL TO RESIST LATERAL FORCES.
6. H.V.A.C. UNIT TO COMPLY WITH THE W.S.E.C. & LABELED WITH A PERFORMANCE RATING.

AUTOMATIC FIRE SPRINKLER SYSTEMS

FIRE SPRINKLERS ARE REQUIRED FOR THIS PROJECT PER NFPA 13D.

WHOLE HOUSE VENTILATION

EACH DWELLING UNIT OR GUESTROOM SHALL BE EQUIPPED WITH A VENTILATION SYSTEM COMPLYING WITH SECTION M1507.3.4, M1507.3.5, M1507.3.6 OR M1507.3.7. COMPLIANCE IS ALSO PERMITTED TO BE DEMONSTRATED THROUGH COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE.

WHOLE HOUSE VENTILATION OPTIONS (CHOOSE ONE):
1. ☐ CONTINUOUSLY OPERATING WHOLE-HOUSE VENTILATION SYSTEM
2. ☒ INTERMITTENTLY OPERATING WHOLE-HOUSE VENTILATION SYSTEM
PER TABLE 1507.3.3(1), VENTILATION RATE = 75 CFM
PER TABLE 1507.3.3(2), INTERMITTENT RATE FACTOR = 1.5 FOR 66% RUN TIME.
INTERMITTENT FAN AIRFLOW RATE = 75 CFM X 1.5 = 112.5 CFM

CONTROL AND OPERATION
1. CONTROLS FOR ALL VENTILATION SYSTEMS SHALL BE READILY ACCESSIBLE BY THE OCCUPANT.
2. OPERATING INSTRUCTIONS FOR WHOLE-HOUSE VENTILATION SYSTEMS SHALL BE PROVIDED TO THE OCCUPANT BY THE INSTALLER OF THE SYSTEM.
3. LOCAL EXHAUST SYSTEMS SHALL BE CONTROLLED BY MANUAL SWITCHES, DEHUMIDISTATS, TIMERS, OR OTHER APPROVED MEANS.
4. CONTINUOUS WHOLE-HOUSE VENTILATION SYSTEMS SHALL OPERATE CONTINUOUSLY. EXHAUST FANS, FORCED-AIR SYSTEM FANS, OR SUPPLY FANS SHALL BE EQUIPPED WITH "FAN ON" AS OVERRIDE CONTROLS. CONTROLS SHALL BE CAPABLE OF OPERATING THE VENTILATION SYSTEM WITHOUT ENERGIZING OTHER ENERGY-CONSUMING APPLIANCES. A LABEL SHALL BE AFFIXED TO THE CONTROLS THAT READS "WHOLE HOUSE VENTILATION (SEE OPERATING INSTRUCTIONS)."
5. INTERMITTENT WHOLE-HOUSE VENTILATION SYSTEMS SHALL COMPLY WITH THE FOLLOWING:
5.1. THEY SHALL BE CAPABLE OF OPERATING INTERMITTENTLY AND CONTINUOUSLY.
5.2. THEY SHALL HAVE CONTROLS CAPABLE OF OPERATING THE EXHAUST FANS, FORCED-AIR SYSTEM FANS, OR SUPPLY FANS WITHOUT ENERGIZING OTHER ENERGY-CONSUMING APPLIANCES.
5.3. THE VENTILATION RATE SHALL BE ADJUSTED ACCORDING TO THE EXCEPTION IN SECTION 403.8.5.1.
5.4. THE SYSTEM SHALL BE DESIGNED SO THAT IT CAN OPERATE AUTOMATICALLY BASED ON THE TYPE OF CONTROL TIMER INSTALLED.
5.5. THE INTERMITTENT MECHANICAL VENTILATION SYSTEM SHALL OPERATE AT LEAST ONE HOUR OUT OF EVERY FOUR.
5.6. THE SYSTEM SHALL HAVE A MANUAL CONTROL AND AUTOMATIC CONTROL, SUCH AS A 24-HOUR CLOCK TIMER.
5.7. AT THE TIME OF FINAL INSPECTION, THE AUTOMATIC CONTROL SHALL BE SET TO OPERATE THE WHOLE-HOUSE FAN ACCORDING TO THE SCHEDULE USED TO CALCULATE THE WHOLE-HOUSE FAN SIZING.
5.8. A LABEL SHALL BE AFFIXED TO THE CONTROL THAT READS "WHOLE HOUSE VENTILATION (SEE OPERATING INSTRUCTIONS)."

THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR TO EACH HABITABLE SPACE AT A CONTINUOUS RATE OF NOT LESS THAN THAT DETERMINED IN ACCORDANCE WITH TABLE M1507.3.3(1). EXCEPTION: THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM IS PERMITTED TO OPERATE INTERMITTENTLY WHERE THE SYSTEM HAS CONTROLS THAT ENABLE OPERATION FOR NOT LESS THAN 25 PERCENT OF EACH 4-HOUR SEGMENT AND THE VENTILATION RATE PRESCRIBED IN TABLE M1507.3.3(1) IS MULTIPLIED BY THE FACTOR DETERMINED IN ACCORDANCE WITH TABLE M1507.3.3(2).

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

EXHAUST FANS PROVIDING WHOLE-HOUSE VENTILATION SHALL HAVE A FLOW RATING AT 0.25 INCHES WATER GAUGE AS SPECIFIED IN TABLE M1507.3.3(1). MANUFACTURERS' FAN FLOW RATINGS SHALL BE DETERMINED ACCORDING TO HVI 916 OR AMCA 210.
WHOLE-HOUSE FANS LOCATED 4 FEET OR LESS FROM THE INTERIOR GRILLE SHALL HAVE A SONE RATING OF 1.0 OR LESS MEASURED AT 0.1 INCHES WATER GAUGE. MANUFACTURER'S NOISE RATINGS SHALL BE DETERMINED AS PER HVI 915 (MARCH 2009). REMOTELY MOUNTED FANS SHALL BE ACOUSTICALLY ISOLATED FROM THE STRUCTURAL ELEMENTS OF THE BUILDING AND FROM ATTACHED DUCT WORK USING INSULATED FLEXIBLE DUCT OR OTHER APPROVED MATERIAL.
OUTDOOR AIR SHALL BE DISTRIBUTED TO EACH HABITABLE SPACE BY INDIVIDUAL OUTDOOR AIR INLETS. WHERE OUTDOOR AIR SUPPLIES ARE SEPARATED FROM EXHAUST POINTS BY DOORS, PROVISIONS SHALL BE MADE TO ENSURE AIR FLOW BY INSTALLATION OF DISTRIBUTION DUCTS, UNDERCUTTING DOORS, INSTALLATION OF GRILLES, TRANSOMS, OR SIMILAR MEANS. DOORS SHALL BE UNDERCUT TO A MINIMUM OF 1/2 INCH ABOVE THE SURFACE OF THE FINISH FLOOR COVERING.

INTEGRATED WHOLE-HOUSE VENTILATION SYSTEMS SHALL PROVIDE OUTDOOR AIR AT THE RATE CALCULATED USING SECTION M1507.3.3. INTEGRATED FORCED-AIR VENTILATION SYSTEMS SHALL DISTRIBUTE OUTDOOR AIR TO EACH HABITABLE SPACE THROUGH THE FORCED-AIR SYSTEM DUCTS. INTEGRATED FORCED-AIR VENTILATION SYSTEMS SHALL HAVE AN OUTDOOR AIR INLET DUCT CONNECTING A TERMINAL ELEMENT ON THE OUTSIDE OF THE BUILDING TO THE RETURN AIR PLENUM OF THE FORCED-AIR SYSTEM, AT A POINT WITHIN 4 FEET UPSTREAM OF THE AIR HANDLER. THE OUTDOOR AIR INLET DUCT CONNECTION TO THE RETURN AIR STREAM SHALL BE LOCATED UPSTREAM OF THE FORCED-AIR SYSTEM BLOWER AND SHALL NOT BE CONNECTED DIRECTLY INTO A FURNACE CABINET TO PREVENT THERMAL SHOCK TO THE HEAT EXCHANGER. THE SYSTEM WILL BE EQUIPPED WITH A MOTORIZED DAMPER CONNECTED TO THE AUTOMATIC VENTILATION CONTROL AS SPECIFIED IN SECTION M1507.3.2. THE REQUIRED FLOW RATE SHALL BE VERIFIED BY FIELD TESTING WITH A FLOW HOOD OR A FLOW MEASURING STATION.
M1507.3.5.2 VENTILATION DUCT INSULATION.

SUPPLY FAN VENTILATION SYSTEMS SHALL DISTRIBUTE OUTDOOR AIR TO EACH HABITABLE SPACE THROUGH THE FORCED-AIR SYSTEM DUCTS OR THROUGH DEDICATED DUCTS TO EACH HABITABLE SPACE. SUPPLY FANS SHALL HAVE THE CAPACITY TO PROVIDE THE AMOUNT OF OUTDOOR AIR SPECIFIED IN TABLE M1507.3.3(1) AT 0.40 INCHES WATER GAUGE AS PER HVI 916. THE OUTDOOR AIR MUST BE FILTERED BEFORE IT IS DELIVERED TO HABITABLE SPACES. THE FILTER MAY BE LOCATED AT THE INTAKE DEVICE, IN LINE WITH THE FAN, OR, IN THE CASE OF A CONNECTION TO THE RETURN PLENUM OF THE AIR HANDLER, USING THE FURNACE FILTER. AN OUTDOOR AIR INLET SHALL BE CONNECTED TO EITHER THE SUPPLY OR RETURN AIR STREAM.
AN OUTDOOR AIR INLET DUCT CONNECTION TO THE SUPPLY AIR STREAM SHALL BE LOCATED DOWNSTREAM OF THE FORCED-AIR SYSTEM BLOWER. AN OUTDOOR AIR INLET DUCT CONNECTION TO THE RETURN AIR STREAM SHALL BE LOCATED AT LEAST 4 FEET UPSTREAM OF THE FORCED-AIR SYSTEM BLOWER AND ITS FILTER. NEITHER TYPE OF DUCT SHALL BE CONNECTED DIRECTLY INTO A FURNACE CABINET TO PREVENT THERMAL SHOCK TO THE HEAT EXCHANGER. THE OUTDOOR AIR INLET DUCT SHALL BE PRESCRIPTIVELY SIZED IN ACCORDANCE WITH TABLE M1507.3.6.2. THE TERMINAL ELEMENT ON THE OUTSIDE OF THE BUILDING SHALL BE SIZED 2 INCHES IN DIAMETER LARGER THAN THE OUTDOOR AIR INLET DUCT.
THE SYSTEM SHALL BE EQUIPPED WITH A BACK-DRAFT DAMPER AND ONE OF THE FOLLOWING:
1. A CALIBRATED MANUAL VOLUME DAMPER INSTALLED AND SET TO MEET THE MEASURED FLOW RATES SPECIFIED IN TABLE M1507.3.3(1) BY FIELD TESTING WITH A PRESSURE GAUGE AND/OR FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS; OR
2. A MANUAL VOLUME DAMPER INSTALLED AND SET TO MEET THE MEASURED FLOW RATES SPECIFIED IN TABLE M1507.3.3(1) BY FIELD TESTING WITH A FLOW HOOD OR A FLOW MEASURING STATION; OR
3. AN AUTOMATIC FLOW-REGULATING DEVICE SIZED TO THE SPECIFIED FLOW RATES IN TABLE M1507.3.3(1) WHICH PROVIDES CONSTANT FLOW OVER A PRESSURE RANGE OF 0.20 TO 0.60 INCHES WATER GAUGE.

OUTDOOR AIR INLETS OUTDOOR AIR SHALL BE DISTRIBUTED TO EACH HABITABLE SPACE BY INDIVIDUAL OUTDOOR AIR INLETS. WHERE OUTDOOR AIR SUPPLIES ARE SEPARATED FROM EXHAUST POINTS BY DOORS, PROVISIONS SHALL BE MADE TO ENSURE AIR FLOW BY INSTALLATION OF DISTRIBUTION DUCTS, UNDERCUTTING DOORS, INSTALLATION OF GRILLES, TRANSOMS, OR SIMILAR MEANS. DOORS SHALL BE UNDERCUT TO A MINIMUM OF 1/2 INCH ABOVE THE SURFACE OF THE FINISH FLOOR COVERING.
INDIVIDUAL ROOM OUTDOOR AIR INLETS SHALL:
1. HAVE CONTROLLABLE AND SECURE OPENINGS;
2. BE SLEEVED OR OTHERWISE DESIGNED SO AS NOT TO COMPROMISE THE THERMAL PROPERTIES OF THE WALL OR WINDOW IN WHICH THEY ARE PLACED;
3. PROVIDE NOT LESS THAN 4 SQUARE INCHES OF NET FREE AREA OF OPENING FOR EACH HABITABLE SPACE. ANY INLET OR COMBINATION OF INLETS WHICH PROVIDE 10 CFM AT 10 PASCALS ARE DEEMED EQUIVALENT TO 4 SQUARE INCHES NET FREE AREA.

INLETS SHALL BE SCREENED OR OTHERWISE PROTECTED FROM ENTRY BY LEAVES OR OTHER MATERIAL. OUTDOOR AIR INLETS SHALL BE LOCATED SO AS NOT TO TAKE AIR FROM THE FOLLOWING AREAS:
1. CLOSER THAN 10 FEET FROM AN APPLIANCE VENT OUTLET, UNLESS SUCH VENT OUTLET IS 3 FEET ABOVE THE OUTDOOR AIR INLET.
2. WHERE IT WILL PICK UP OBJECTIONABLE ODORS, FUMES OR FLAMMABLE VAPORS.
3. A HAZARDOUS OR UNSANITARY LOCATION.
4. A ROOM OR SPACE HAVING ANY FUEL-BURNING APPLIANCES THEREIN.
5. CLOSER THAN 10 FEET FROM A VENT OPENING OF A PLUMBING DRAINAGE SYSTEM UNLESS THE VENT OPENING IS AT LEAST 3 FEET ABOVE THE AIR INLET.
6. ATTIC, CRAWL SPACES, OR GARAGES.

LOCAL EXHAUST

LOCAL EXHAUST SHALL BE PROVIDED IN EACH KITCHEN, BATHROOM, WATER CLOSET, LAUNDRY ROOM, INDOOR SWIMMING POOL, SPA, AND OTHER ROOMS WHERE WATER VAPOR OR COOKING ODOR IS PRODUCED. LOCAL EXHAUST SYSTEMS SHALL BE DESIGNED TO HAVE THE CAPACITY TO EXHAUST THE MINIMUM AIR FLOW RATE DETERMINED IN ACCORDANCE WITH TABLE M1507.4.

EXHAUST FANS PROVIDING LOCAL EXHAUST SHALL HAVE A MINIMUM FAN FLOW RATING NOT LESS THAN 50 CFM AT 0.25 INCHES WATER GAUGE FOR BATHROOMS, LAUNDRIES, OR SIMILAR ROOMS AND 100 CFM AT 0.25 INCHES WATER GAUGE FOR KITCHENS. MANUFACTURERS' FAN FLOW RATINGS SHALL BE DETERMINED AS PER HVI 916 (APRIL 1995) OR AMCA 210. EXCEPTION: WHERE A RANGE HOOD OR DOWN DRAFT EXHAUST FAN IS USED TO SATISFY THE LOCAL EXHAUST REQUIREMENTS FOR KITCHENS, THE RANGE HOOD OR DOWN DRAFT EXHAUST SHALL NOT BE LESS THAN 100 CFM AT 0.10 INCHES WATER GAUGE.

PER IRC M1503.4, KITCHEN EXHAUST FANS EXCEEDING 400 CFM SHALL PROVIDE MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST RATE. SUCH MAKEUP AIR SYSTEMS MUST BE EQUIPPED WITH A MEANS OF CLOSURE AND SHALL BE AUTOMATICALLY CONTROLLED TO START AND OPERATE SIMULTANEOUSLY WITH THE EXHAUST SYSTEM.

LOCAL EXHAUST SYSTEMS SHALL BE CONTROLLED BY MANUAL SWITCHES, DEHUMIDISTATS, TIMERS, OR OTHER APPROVED MEANS. LOCAL EXHAUST SYSTEM CONTROLS SHALL BE READILY ACCESSIBLE.

SOURCE SPECIFIC VENTILATION DUCTS SHALL TERMINATE OUTSIDE THE BUILDING. EXHAUST DUCTS SHALL BE EQUIPPED WITH BACK-DRAFT DAMPERS. ALL EXHAUST DUCTS IN UNCONDITIONED SPACES SHALL BE INSULATED TO A MINIMUM OF R-8. TERMINAL ELEMENTS SHALL HAVE AT LEAST THE EQUIVALENT NET FREE AREA OF THE DUCT WORK. TERMINAL ELEMENTS SHALL BE SCREENED OR OTHERWISE PROTECTED FROM ENTRY BY LEAVES OR OTHER MATERIAL. MINIMUM 50% NET FREE AREA SHALL MEET THE REQUIREMENTS OF IRC R303.5.

2018 WSEC TABLE R402.1.1

CLIMATE ZONE 5 AND MARINE 4	R-VALUE	EQUIVALENT U-FACTORS
FENESTRATION U-FACTOR	N/A	0.28*
SKYLIGHT U-FACTOR	N/A	0.50
CEILING (ATTIC) R-VALUE	49	0.026
CEILING (VAULT) R-VALUE	38	0.026
WOOD FRAMED WALL R-VALUE	21 int.	0.056
FLOOR R-VALUE	38*	N/A
BELOW GRADE WALL	21 int. + TB	SEE CODE
SLAB R-VALUE	10 @ ENTIRE SLAB*	SEE CODE

* INDICATES INCREASED VALUE DUE TO REQUIRED ENERGY CREDITS

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS PER WSEC R406:
LARGE DWELLING UNIT (EXCEEDING 5,000 S.F.)- 7.0 CREDITS REQUIRED
PROPOSED:

OPTION	FUEL NORMALIZATION DESCRIPTION:	**CREDITS**
2	HEAT PUMP	1.0
OPTION	ENERGY CREDIT OPTION DESCRIPTION:	
1.3	EFFICIENT BUILDING ENVELOPE	0.5
3.5	HIGH EFFICIENCY HVAC	1.5
5.3	EFFECIENT WATER HEATING	1.0
6.1	RENEWABLE ELCTRIC ENERGY (3 CREDITS MAX)	2.0
	TOTAL	6.0

FOR FULL TEXT AND INFORMATION, SEE WASHINGTON STATE ENERGY CODE, SECTION R406

BUILDING AREA SUMMARY

ALL NUMBERS IN SQUARE FEET

HOUSE:		GARAGE:	
MAIN FLOOR	1,868	UNHEATED	510
UPPER FLOOR	2,109		
TOTAL	3,977		

DRAWING INDEX:

MCCULLOUGH ARCHITECTS
5601 6th Ave South
Suite 371
Seattle. WA. 98108
206.443.1181
mccullougharchitects.com

Revisions	Comment
11.28.2022	**1**
3.28.2023	**2**

Date: **07.11.2022**
Job No: **xx-xxx**
Project No: **00000**
Drawn: **BAK**
Approved: **APM**

Owner
Design Built Homes

REGISTERED ARCHITECT
7806
A. PHILIP MCCULLOUGH
STATE OF WASHINGTON

8427 SE 47th St
Lorenzini BLA Lot

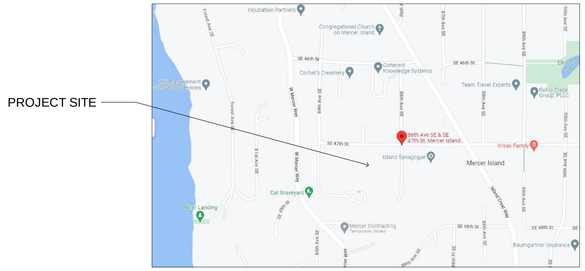
Mercer Island, Washington

Permit Documents

Cover Sheet

A0

VICINITY MAP



CODE ALTERNATIVE (FIRE REQUIREMENTS)

1. NFPA 13R Fire Sprinkler System (separate permit required)
2. NFPA 72 Monitored Fire Alarm "Chapter 29 and CoMI Standards" (Separate Permit Required)
3. Type X 1hr Rated On All Ceilings
4. Solid Core Doors

HARDSCAPE

A. GROSS LOT AREA:	11,523 SF
B. NET LOT AREA:	11,523 SF
C. AREA BORROWED FROM LOT COVERAGE:	0 SF
D. ALLOWED HARDSCAPE AREA+9% OF LOT AREA + C:	9% OF LOT
E. ALLOWED HARDSCAPE AREA:	1,037.07 SF
F. TOTAL EXISTING HARDSCAPE AREA:	
1. UNCOVERED DECKS	0 SF
2. UNCOVERED PATIOS	0 SF
3. WALKWAYS	0 SF
4. STAIRS	0 SF
5. ROCKERIS AND RETAINING WALLS	31 SF
6. OTHER	0 SF
7. TOTAL EXISTING HARDSCAPE (F1+F2+F3+F4+F5+F6)	31 SF
G. (TOTAL HARDSCAPE REMOVED):	0 SF
H. TOTAL NEW HARDSCAPE AREA:	
1. UNCOVERED DECKS	0 SF
2. UNCOVERED PATIOS	0 SF
3. WALKWAYS	0 SF
4.STAIRS	0 SF
5.ROCKERIES AND RETAING WALLS	274 SF
6.OTHER	0 SF
7.TOTAL NEW HARDSCAPE (H1+H2+H3+H4+H5+6)	274 SF
I. TOTAL PROJECT HARDSCAPE AREA = (F7 - G) + 7	305 SF
J. TOTAL PROJECT HARDSCAPE AREA = (I/B)X100	2.6%

LOT COV'G

LOT AREA:	11,523 SF
GROSS FLOOR AREA (INCL ROOF):	2,783 SF
VEHICULAR USE AREA:	1,821 SF
TOTAL LOT COVERAGE AREA:	4,604 SF
% OF LOT AREA:	=39.95%
ALLOWED LOT COV'G. AREA:	4,609 SF
ALLOWED % OF LOT AREA:	=40.00%

GROSS FLOOR AREA

LOT AREA:	11,523 SF
UPPER FLOOR AREA (LESS STAIR):	2,187 SF
MAIN FLOOR AREA (INCL GARAGE):	2,378 SF
TOTAL GROSS FLOOR AREA	4,565 SF
% OF LOT AREA:	=39.62%
ALLOWED LOT AREA:	4,609 SF
ALLOWED % OF LOT AREA:	=40.00%

FIRE AREA SUMMARY

UPPER FLOOR AREA:	2,109 SF
MAIN FLOOR AREA:	1,868 SF
GARAGE FLOOR AREA	510 SF
UNHEARTED STORAGE AREA:	0 S.F.
COVERED AREA:	272 SF
TOTAL FIRE AREA:	4,759 S.F.

PARCEL NUMBER

759810-0421

SITE ADDRESS

84XX SE 47TH STREET
LARENZINI BLA LOT
MERCER ISLAND, WA 98040

ZONING

R-9.6
MIN FRONT SETBACK: 20'
MIN REAR SETBACK: 25'
MIN SIDE SETBACK:
SUM OF 15' & NO LESS THAN 5'
MAX BLDG HEIGHT: 30'
MAX GROSS FLOOR AREA: 45%

LOT SLOPE

HIGHEST ELEV POINT OF LOT:	301.25
LOWEST ELEV POINT OF LOT:	286.75
ELEVATION DIFFERENCE:	14.50
HORIZONTAL DISTANCE BTWN HIGH AND LOW POINTS:	152.2'
LOT SLOPE:	9.52%

OWNER

DESIGN BUILT HOMES
TODD SHERMAN
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ARCHITECT

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STRUCT ENGINEER

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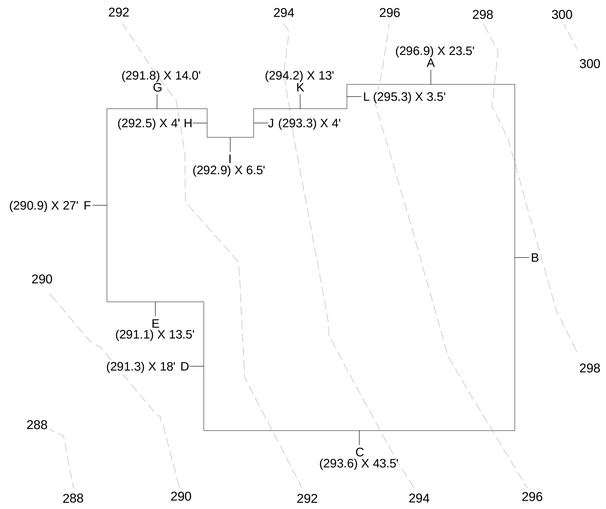
EM: JLEONE@MULHERNKULP.COM

CIVIL ENGINEER

D.R. STRONG CONSULTING
MAHER JOUDI
620 7TH AVE
KIRKLAND, WA 98033
PH: 425 827 3063
EM: MAHER.JOUDI@DRSTRONG.COM



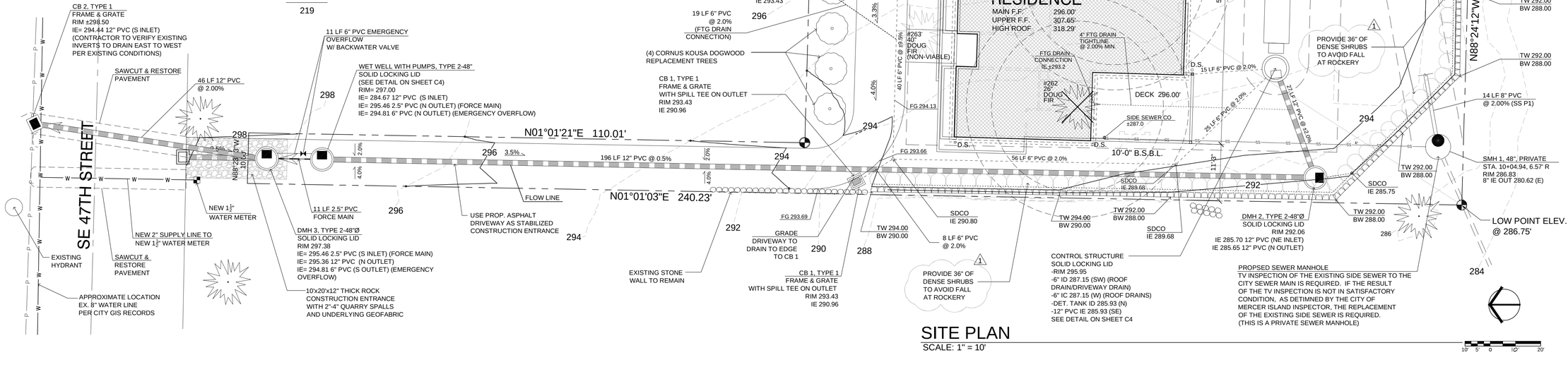
ABE CALCULATION:

A	B	C	D	E	F	G	H	I	J	K	L
6,977.15	14,419.05	12,771.6	5,243.4	3,929.85	7,854.3	4,085.2	1,170	1,903.85	1,173.2	3,801.2	1,033.55

(296.9)(23.5) + (297.3)(48.5) + (293.6)(43.5) + (291.3)(18) + (291.1)(13.5) + (290.9)(27) + (291.8)(14) + (292.5)(4) + (292.9)(6.5) + (293.3)(4) + (292.4)(13) + (295.3)(3.5)= 64, 362.35

23.5 + 48.5 + 43.5 + 18 + 13.5 + 27 + 14 + 4 = 6.5 + 4 + 13 + 3.5 = 219

64, 362.35 / 219 = 293.89 Average Building Elevation (ABE)



SITE PLAN

SCALE: 1" = 10'

Revisions	Comment
11.28.2022	1
03.28.2023	2

Date: 07.11.2022
Job No: xx-xxx
Project No: 00000
Drawn: BAK
Approved: APM

Owner
Design Built Homes

Permit Documents

Site Plan

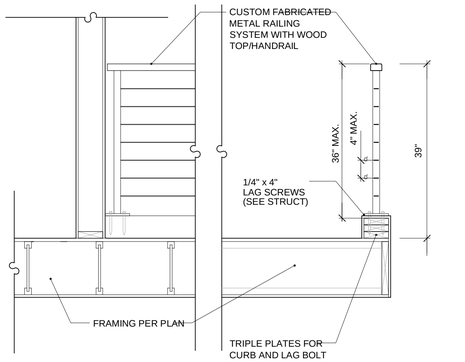
A1

8427 SE 47th St Lorenzini BLA Lot

Mercer Island, Washington

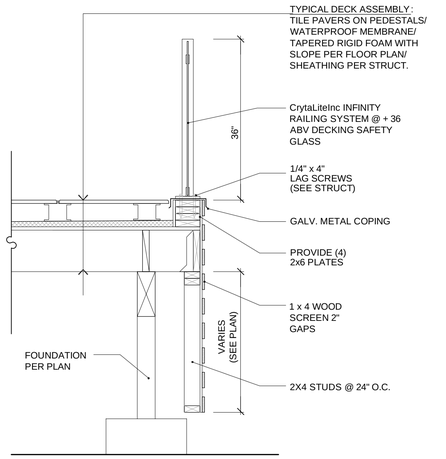
MCCULLOUGH ARCHITECTS
5601 6th Ave South
Suite 371
Seattle, WA. 98108
206.443.1181
mccullougharchitects.com

REGISTERED ARCHITECT PHILIP M MCCULLOUGH STATE OF WASHINGTON 7806



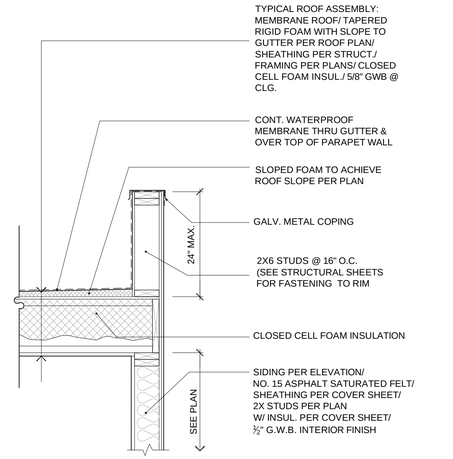
TYPICAL RAIL
SCALE: 3/4" = 1'-0"

11 / A2



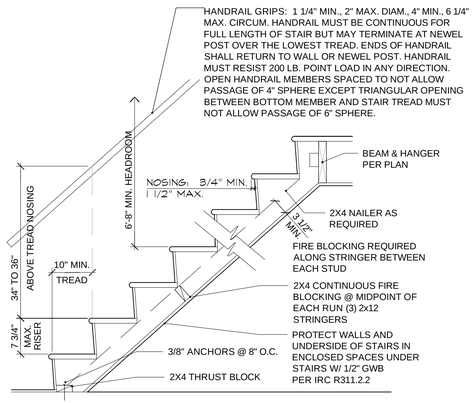
RAIL AT DECK
SCALE: 3/4" = 1'-0"

10 / A2



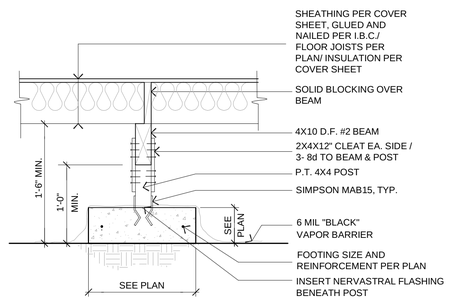
EAVE AT PARAPET
SCALE: 3/4" = 1'-0"

9 / A2



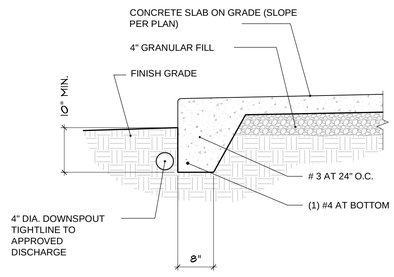
STAIR SECTION
SCALE: 3/4" = 1'-0"

8 / A2



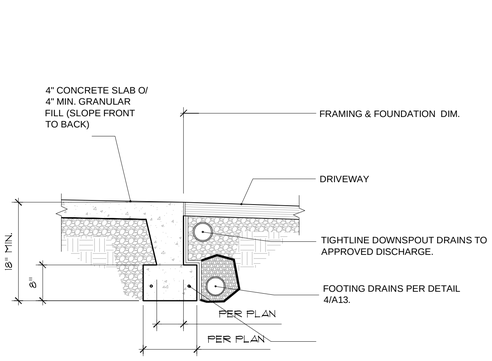
ISOLATED PAD FOOTING
SCALE: 3/4" = 1'-0"

7 / A2



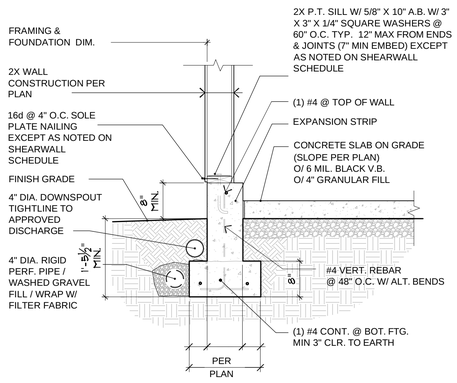
PORCH SLAB EDGE
SCALE: 3/4" = 1'-0"

6 / A2



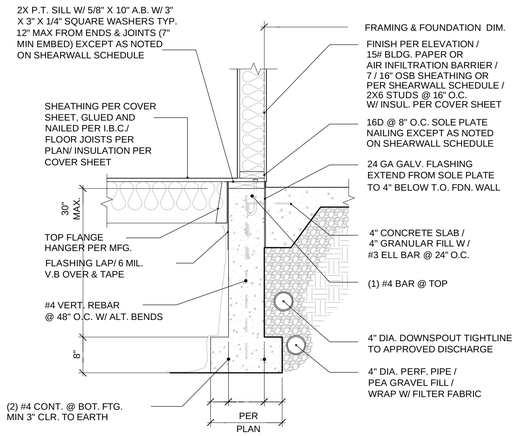
GARAGE SLAB @ DOOR
SCALE: 3/4" = 1'-0"

5 / A2



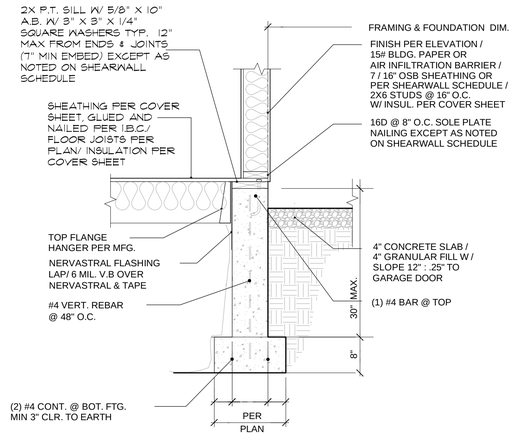
GARAGE FNDN. & SLAB
SCALE: 3/4" = 1'-0"

4 / A2



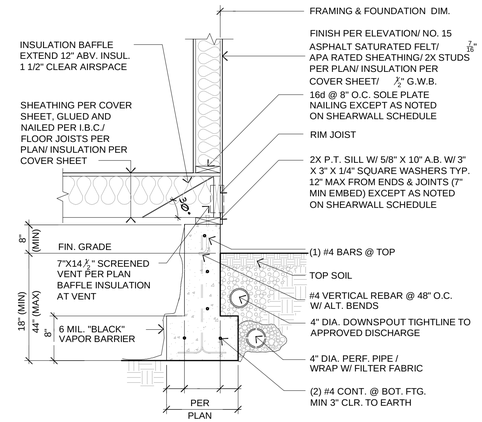
PORCH / PATIO / HOUSE FNDN.
SCALE: 3/4" = 1'-0"

3 / A2



HOUSE / GARAGE FNDN.
SCALE: 3/4" = 1'-0"

2 / A2



STEM WALL FNDN.
SCALE: 3/4" = 1'-0"

1 / A2

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Revisions Comment
11.28.2022 1

Date: **07.11.2022**
Job No: **xx-xxx**
Project No: **00000**
Drawn: **BAK**
Approved: **APM**

Owner
Design Built Homes

REGISTERED ARCHITECT PHILIP MCCULLOUGH STATE OF WASHINGTON 7806

8427 SE 47th St
Lorenzini BLA Lot

Mercer Island, Washington

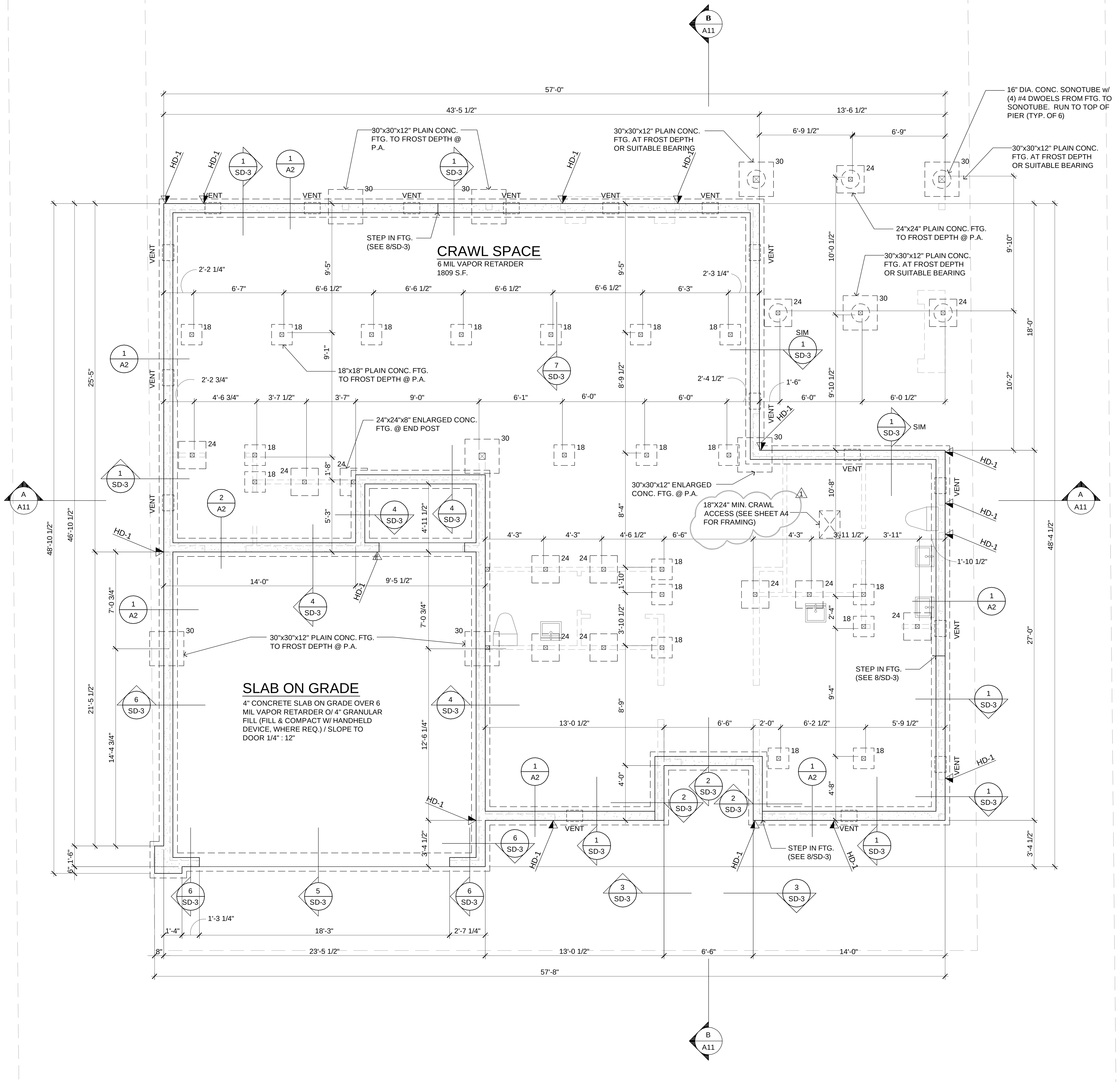
Permit Documents

Architectural Details

A2

RICHARD ZABEL
STATE OF WASHINGTON
21031615
REGISTERED
PROFESSIONAL ENGINEER

FOR STRUCTURE ONLY



FOUNDATION PLAN

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

GENERAL NOTES:

1. 8" MIN. CLEARANCE BETWEEN EXTERIOR GRADE & UNPROTECTED WOOD.
2. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED.
3. ALL DIMENSION LINES ARE TO FACE OF FRAMING OR CONCRETE, U.N.O.
4. SEE FNDN DETAILS FOR LOCATION & SPACING OF ANCHOR BOLTS.
5. INSTALL ALL HOLDDOWNS AND HARDWARE PRIOR TO BACKFILLING.
6. FOUNDATION DESIGN IS BASED ON AVERAGE BEARING CAPACITY OF 2000 PSF. REFER TO SOILS REPORT AS SPECIFIED IN GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL FOUNDATION DESIGN INFORMATION.
7. PROVIDE 18"X24" MIN. CRAWLSPACE ACCESS WEATHERSTRIP AND INSULATE PER WSEC R402.2.4.

18	18" SQ. X 8" THICK FTG. W/ (2) #4 EA. WAY BOT.
24	24" SQ. X 8" THICK FTG. W/ (3) #4 EA. WAY BOT.
30	30" SQ. X 12" THICK FTG. W/ (4) #4 EA. WAY BOT.
⊠	TYPICAL POST IS HF#2 4X4, U.N.O.

CRAWLSPACE VENTILATION:
I.B.C. Sec. R408.1

UNDER-FLOOR AREAS SHALL HAVE A NET AREA OF NOT LESS THAN 1 SQ. FT. OF VENTILATION FOR EACH 150 SQ. FT. OF UNDER-FLOOR AREA. THE UNDER FLOOR AREA = 1,809 S.F. / 150 = 12.06 S.F. OF REQUIRED VENTING AREA. USING 7"X14" SCREENED VENTS PROVIDES 0.75 S.F. OF VENTING FOR EACH VENT. 12.06 S.F. / 0.75 S.F. = 16.08. THE OPENINGS SHALL BE COVERED WITH CORROSION-RESISTANT METAL MESH WITH OPENINGS OF 1/4" IN DIMENSION. (17) 7" X 14" VENTS REQUIRED.

PLAN NOTES:

1. BOTTOM OF ALL FOOTINGS SHALL BE 18" MINIMUM BELOW LOWEST ADJACENT GRADE, UNO.
2. SLAB ON GRADE SHALL BE 4" MINIMUM THICKNESS. REINFORCE WITH 6X6 W1.4XW1.4 WWM CENTERED IN SLAB. PROVIDE VAPOR BARRIER BELOW SLAB OVER 4" MINIMUM FREE DRAINING GRAVEL OVER FIRM NATIVE SOILS OR STRUCTURAL FILL PER SOILS ENGINEER.
3. REFER TO SHEET S3.0 FOR TYPICAL FOUNDATION AND CONCRETE DETAILS.
4. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
5. DO NOT SCALE DRAWINGS. REFER TO ARCHITECURAL DRAWINGS FOR ALL DIMENSIONS.

TYPICAL CRAWLSPACE NOTES:

4x4 P.T. POST w/ 2x4 CLEATS EA. SIDE + (2) A35 CLIPS OON EA. SIDE @ BASE OF POST w/0.131"x1 1/2" LONG REDHEAD NAILS (4'-0" MAX. POST HEIGHT) ON ASPHALT SHINGLE ON 18"x18"x18" PLAIN CONC. FTG. (TYP. U.N.O.)

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Date:	07.11.2022
Job No:	xx-xxx
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Drawn:	BAK
Approved:	APM

Owner
Design Built Homes

REGISTERED ARCHITECT
7806
A. PHILIP MCCULLOUGH
STATE OF WASHINGTON

8427 SE 47th St
Lorenzini BLA Lot

Mercer Island, Washington

Permit Documents

Foundation Plan

A3

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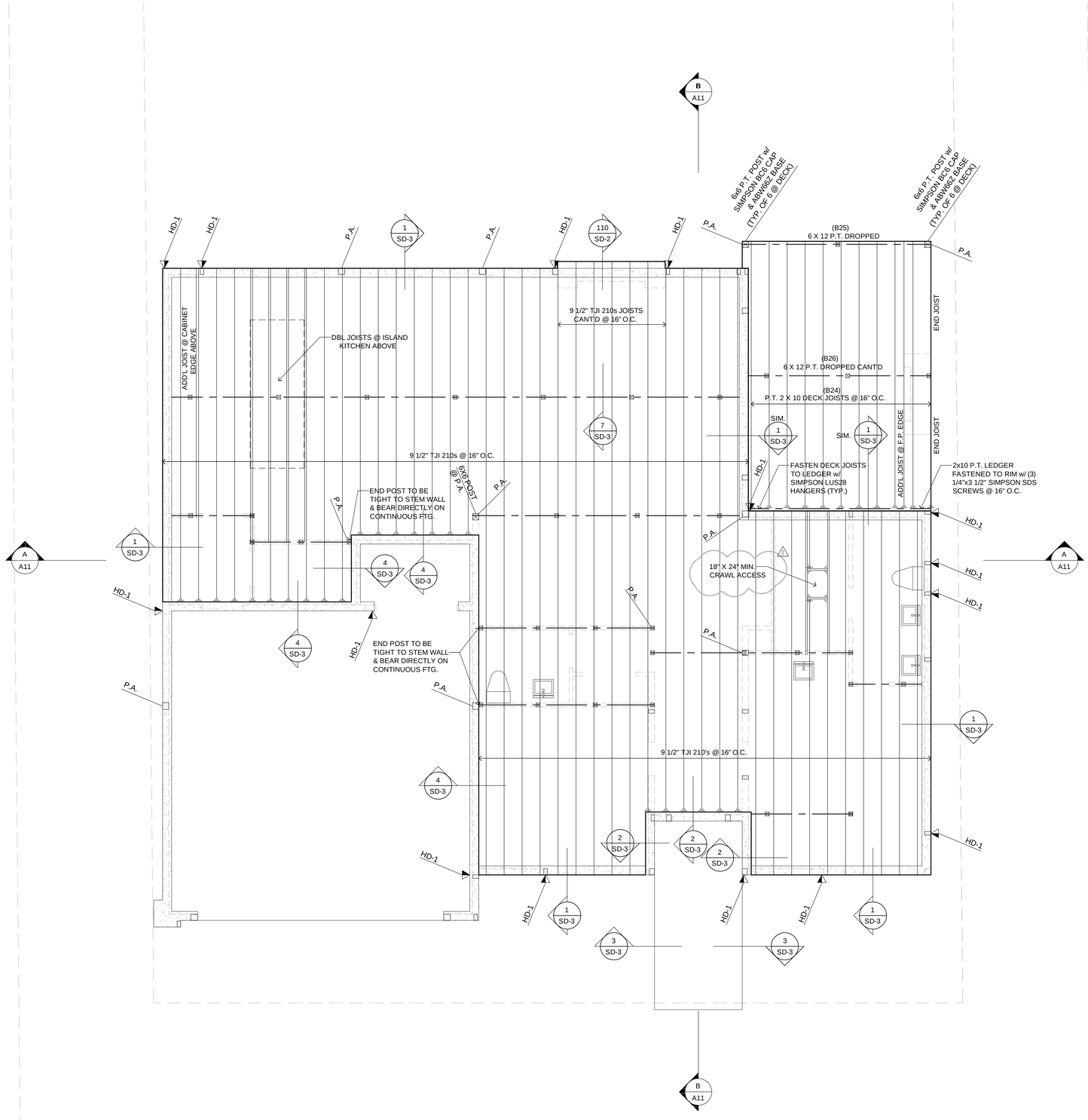
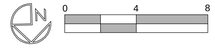


MAIN FLOOR FRAMING PLAN

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



GENERAL NOTES:
1. MAIN FLOOR FRAMING TO BE 9 1/2" TJI FLOOR JOISTS @ 16" O.C. WITH 3/4" OSB SUBFLOOR, GLUED AND NAILED, U.N.O. ADHESIVES SHALL CONFORM TO APA SPEC. AFG 01. PROVIDE T&G EDGES AT LONG PANEL EDGES. STAGGER SUBFLOOR END JOINTS.
2. BEARING WALLS ARE SHADED.
3. PROVIDE SOLID BLOCKING IN FLOOR AT ALL WALLS AND POINT LOADS FROM ABOVE.
4. PROVIDE (3) 2 X POST @ ALL BEAMS, HEADERS & TRUSS GIRDERS, U.N.O.
5. NAIL PLIED BEAMS TOGETHER W/ 10d @ 12" O.C. @ TOP & BOTTOM.
6. PROVIDE 18" X 24" MIN CRAWLSPACE ACCESS. WEATHERSTIP & INSULATE PER WSEC R402.2.4.
7. GLB TO BE 24F-V4 U.N.O.
8. PSL TO BE 2.0E U.N.O.

▭ INDICATES LOC. OF POINT LOAD FROM ABOVE (TYP.)

▬ INDICATES LOC. OF SOLID SUPPORT (2) STUDS LAM'D W/ 16d @ 12" O.C., (2) 16d EA. END TYP. UNLESS NOTED OTHERWISE

TYPICAL HANGER @ MAIN FLOOR SIMPSON LB

B22 / B23 4x10 CONT. DROPPED GIRDER (TYP. U.N.O.)

TYPICAL CRAWLSPACE POSTS:
4x4 P.T. POST w/ 2x4 CLEATS EA. SIDE + (2) A35 CLIPS ON EA. SIDE @ BASE OF POST w/ 0.131"x 1 1/2" LONG REDHEAD NAILS (4'-0" MAX. POST HEIGHT) ON ASPHALT SHINGLE ON 18"x18"x8" PLAIN CONC. FTG. (TYP. U.N.O.)

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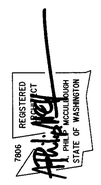

8427 SE 47th St
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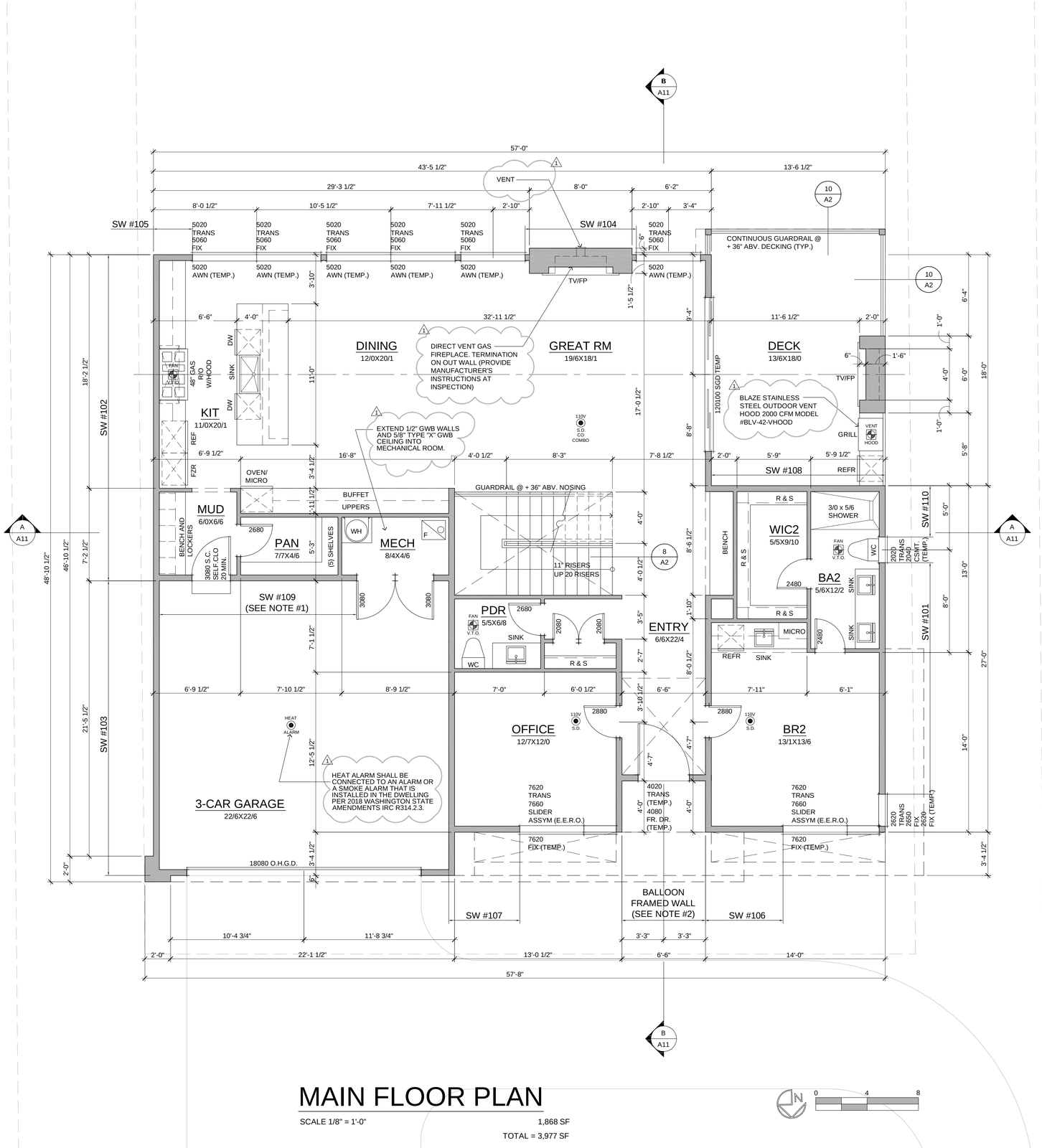
Mercer Island, Washington

Permit Documents

Main Floor Framing Plan

A4



MAIN FLOOR PLAN

SCALE 1/8" = 1'-0"

1,868 SF

TOTAL = 3,977 SF

GENERAL NOTES:

1. PLATE HEIGHT @ CLERESTORY IS 15'-1", U.N.O.
   PLATE HEIGHT @ MAIN FLOOR IS 11'-0", U.N.O.
   PLATE HEIGHT @ LOWER FLOOR IS 10'-1" U.N.P.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. WINDOW HEAD HEIGHT AT MAIN FLOOR IS 8'-0" ABOVE SUBFLOOR, U.N.O. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2828= 2'-8"W X 2'-8"H)
6. EXTERIOR WALLS TO BE 2X6 STUDS AT 16" O.C., INTERIOR WALLS TO BE 2X4 STUDS AT 16" O.C., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER IRC SEC. R302.11.
8. SAFETY GLAZING PER IRC SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER IRC SEC. R317.1.
10. PROVIDE UNDER-STAIR PROTECTION (1/2" GWB) PER IRC SEC R302.7.
11. PROVIDE (1) LAYER OF 1/2" GWB AT THE GARAGE SIDE OF ALL WALLS SEPARATING THE GARAGE FROM THE RESIDENCE, ALL WALLS SUPPORTING A FLOOR CEILING ASSEMBLY BETWEEN THE GARAGE AND RESIDENCE, AND BETWEEN THE GARAGE AND ITS ATTIC. PROVIDE (1) LAYER 5/8" TYPE X GWB TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
12. HOUSE/GARAGE DOOR SHALL BE 1-⅜" THICK WOOD SOLID CORE, OR 1-⅜" THICK SOLID OR HONEYCOMB CORE STEEL DOOR, OR 20-MINUTE RATED FIRE DOOR W/ SELF CLOSING DEVICE.
13. DUCTS IN THE GARAGE AND DUCTS PENETRATING THE WALLS AND CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE MIN. 26 GUAGE GALVANIZED STEEL.
14. PER IRC SEC R311.7.5. MAX. RISER HEIGHT SHALL BE 7-3/4". MIN. TREAD DEPTH SHALL BE 10". STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
15. PROVIDE HANDRAILS PER IRC SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.7.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.7.3.
16. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER IRC SEC. R312.
17. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. FACTORY BUILT FIREPLACES SHALL MEET EMISSION STANDARDS PER CH. 51-51 WAC.
18. PROVIDE EXTERIOR AIR SUPPLY TO ANY FACTORY-BUILT FIREPLACE PER IRC SEC R1006.

STRUCTURAL NOTES:

1. PROVIDE 7/16" OSB OR 15/32" PLYWOOD SHEATHING & FASTEN PER STANDARD EXTERIOR WALL SHEATHING SPECIFICATIONS.
2. PROVIDE 3" SCHEDULE 40 PIPE COLUMN CONT. TO FOUNDATION BELOW WITH 4"X12"X1/2" BASE PLATE FASTENED TO FOUNDATION WALL WITH (4)1/2" TITEN HD ANDCHORS WITH 7" MIN. EMBED.

@ STEEL BEAM OPT:
PROVIDE 8"X7"X1/2" OFFSET CAP PLATE FASTENED TO BOTTOM FLANGE OF STEEL BEAM W/ (2) 3/4" A325 THRU BOLTS.

@ GLB BEAM OPT:
PROVIDE 12"X5 1/2"X1/2" OFFSET CAP PLATE FASTENED TO BOTTOM OF BEAM W(4) 1/4"X2 1/2" LONG SDS SCREWS

3. PACKOUT STEEL BEAM AS REQUIRED W/ SOLID 2X MATERIAL THRU-BOLTED TO WEB WITH (2)⅝" DIAMETER THRU-BOLTS @ 24" O.C. STAGGERED. FASTEN TOP PLATE TO STEEL BEAM PER SPEC ON S-0

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Drawn: BAK
Approved: APM

Owner
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7806 REGISTERED ARCHITECT PHILIP MCCULLOUGH STATE OF WASHINGTON

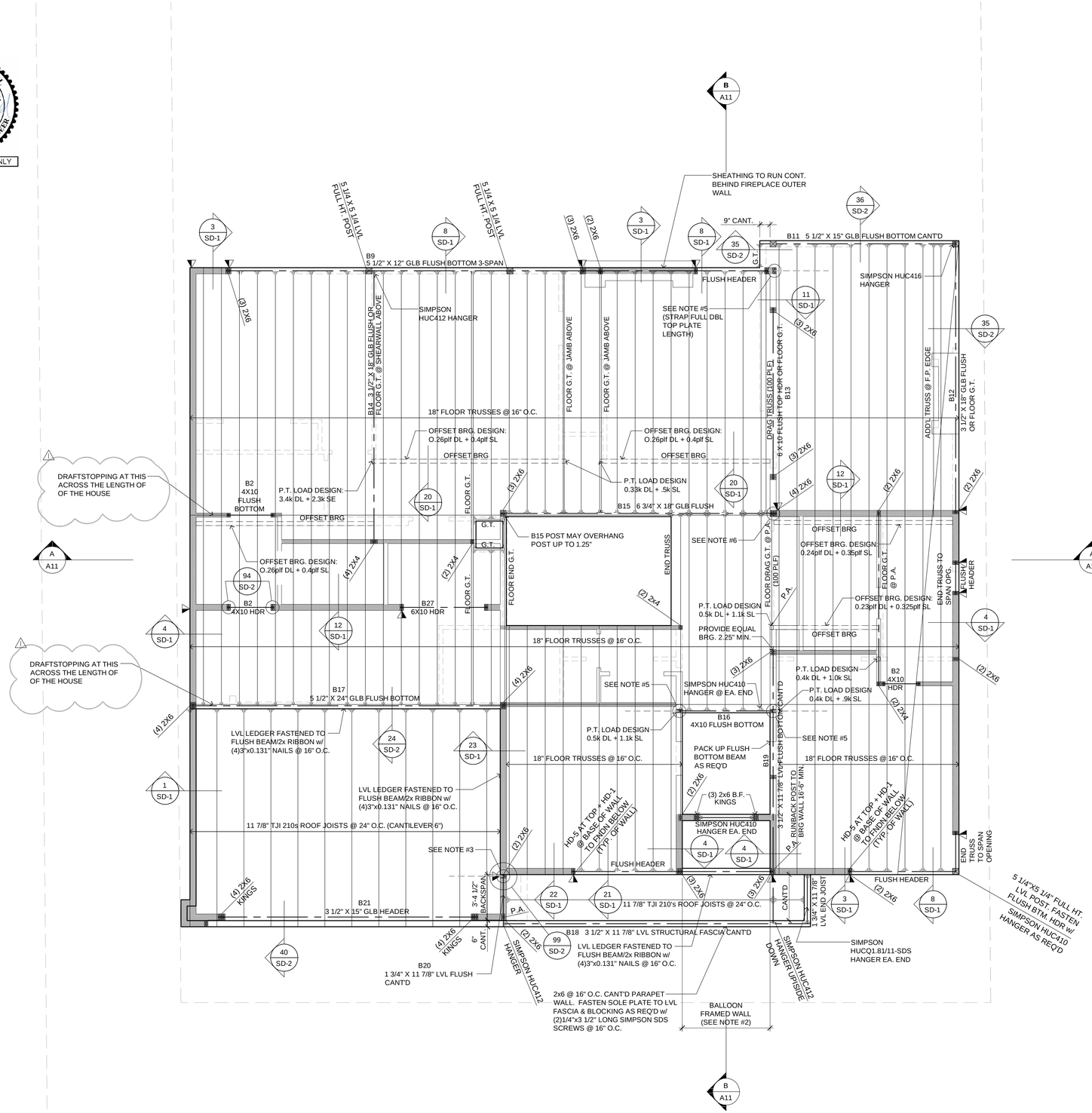
8427 SE 47th St
Lorenzini BLA Lot

Mercer Island, Washington

Permit Documents

Main Floor Plan

A5



UPPER FLOOR FRAMING PLAN

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

GENERAL NOTES:

1. UPPER FLOOR FRAMING TO BE 18" FLOOR TRUSSES @ 16" O.C. WITH 3/4" OSB SUBFLOOR, GLUED AND NAILED, U.N.O. ADHESIVES SHALL CONFORM TO APA SPEC. AFG 01. PROVIDE T&G EDGES AT LONG PANEL EDGES. STAGGER SUBFLOOR END JOINTS.
2. BEARING WALLS ARE SHADED.
3. PROVIDE SOLID BLOCKING IN FLOOR AT ALL WALLS AND POINT LOADS FROM ABOVE.
4. PROVIDE (3) 2 X POST @ ALL BEAMS, HEADERS & TRUSS GIRDERS, U.N.O.
5. NAIL PLIED BEAMS TOGETHER W/ 10d @ 12" O.C. @ TOP & BOTTOM.
6. PROVIDE 18" X 24" MIN CRAWLSPACE ACCESS. WEATHERSTIP & INSULATE PER WSEC R402.2.4.
7. GLB TO BE 24F-V4 U.N.O.
8. PSL TO BE 2.0E U.N.O.
9. SEE DETAIL 100/SD-2 FOR TYP. FLUSH BEAM CONNECTIONS ABOVE WINDOW OPENINGS WHEN THE DBL TOP PLATE MUST BE SPLICED.
10. 4x 10 FLUSH BOTTOM HDR w/ TOP CHORD BRG FLOOR TRUSSES @ ALL PERPENDICULAR EXTERIOR OPENINGS (TYP. U.N.O.) B10
11. ALL HOLDDOWNS SHALL BE HD-1 FASTENED @ (2) 2x6 MIN. DOWN TO FNDN. BELOW (TYP. U.N.O.)
12. ALL 2x4 INTERIOR BEARING WALLS @ THIS LEVEL SHALL BE HF-2 GRADE OR BETTER @ 12" O.C.

STRUCTURAL PLAN NOTES:

NOTE 1:
PROVIDE 7/16" OSB/PLYWOOD SHTG. + FASTEN PER TYP. WALLL SHTG. SPECS. (SEE NOTES).

NOTE 2:
ALL WALLS 12' OR TALLER SHALL BE 2x6 HF #2 GRADE OR BETTER.

NOTE3:
PROVIDE SIMPSON SC16 STRAP FROM DBL TOP PLATE (13" END LENGTH) TO UNDERSIDE OF BLOCKING BETWEEN I-JOISTS FOR (3) BAYS (6'-0" MIN.) FASTEN ROOF SHTG. TO BLOCKING w/ 2 1/2.131 NAILS @ 6'-0" O.C.

NOTE 5:
PROVIDE SIMPSON CS16 STRAP FROM DBL TOP PLATE OR FLUSH BOTTOM BEAM (13" END LENGTH) TO UNDERSIDE OF BLOCK BETWEEN FLOOR TRUSSES FOR (3) TRUSS BAYS (4'-0" MIN.). FASTEN SHTG. TO BLOCKING w/ 2 1/2"x0.131" NAILS @ 6" O.C.

NOTE 6:
PROVIDE SIMPSON CS16 STRAP FROM DBL TOP PLATE TO UNDERSIDE FLOOR DRAG TRUSS OR BEAM (13" END LENGTH)

□ INDICATES LOC. OF POINT LOAD FROM ABOVE (TYP.)

■ INDICATES LOC. OF SOLID SUPPORT (2) STUDS LAM'D W/ 16d @ 12" O.C., (2) 16d EA. END TYP. UNLESS NOTED OTHERWISE

TYPICAL HANGER @ MAIN FLOOR SIMPSON LB

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Owner
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REGISTERED ARCHITECT 7805 R. PHILIP MCCULLOUGH STATE OF WASHINGTON

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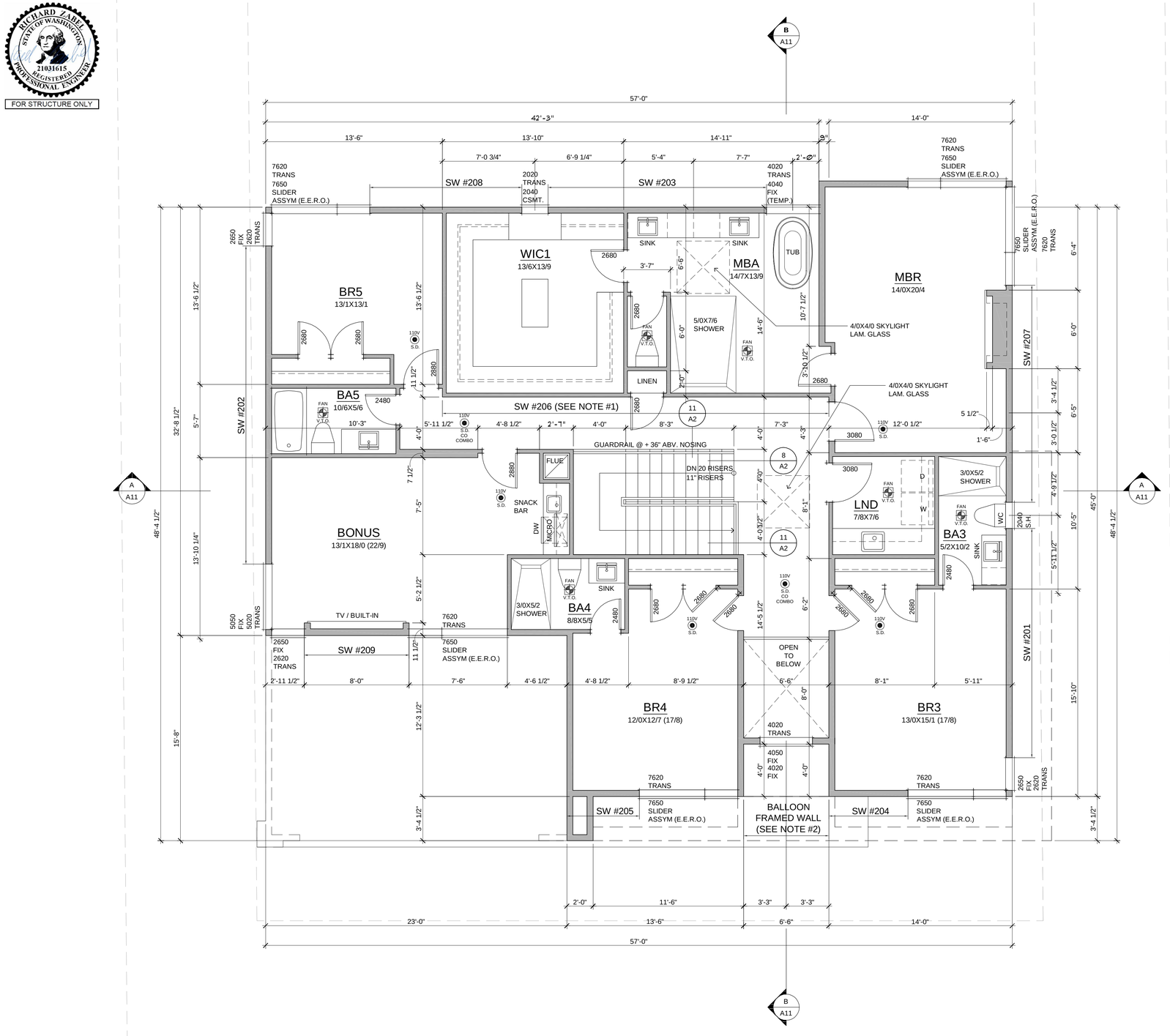
Mercer Island, Washington

Permit Documents

Upper Floor Framing Plan

A6



UPPER FLOOR PLAN

SCALE 1/4" = 1'-0" 2,109 SF

0 4 8

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GENERAL NOTES:

1. PLATE HEIGHT @ CLERESTORY IS 15'-1", U.N.O.
   PLATE HEIGHT @ MAIN FLOOR IS 11'-0", U.N.O.
   PLATE HEIGHT @ LOWER FLOOR IS 10'-1" U.N.P.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. WINDOW HEAD HEIGHT AT MAIN FLOOR IS 8'-0" ABOVE SUBFLOOR, U.N.O. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES
   (E.G. 2828= 2'-8"W X 2'-8"H)
6. EXTERIOR WALLS TO BE 2X6 STUDS AT 16" O.C., INTERIOR WALLS TO BE 2X4 STUDS AT 16" O.C., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER IRC SEC. R302.11.
8. SAFETY GLAZING PER IRC SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER IRC SEC. R317.1.
10. PROVIDE UNDER-STAIR PROTECTION (1/2" GWB) PER IRC SEC R302.7.
11. PROVIDE (1) LAYER OF 1/2" GWB AT THE GARAGE SIDE OF ALL WALLS SEPARATING THE GARAGE FROM THE RESIDENCE, ALL WALLS SUPPORTING A FLOOR CEILING ASSEMBLY BETWEEN THE GARAGE AND RESIDENCE, AND BETWEEN THE GARAGE AND ITS ATTIC. PROVIDE (1) LAYER 5/8" TYPE X GWB TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
12. HOUSE/GARAGE DOOR SHALL BE 1-⅜" THICK WOOD SOLID CORE, OR 1-⅜" THICK SOLID OR HONEYCOMB CORE STEEL DOOR, OR 20-MINUTE RATED FIRE DOOR W/ SELF CLOSING DEVICE.
13. DUCTS IN THE GARAGE AND DUCTS PENETRATING THE WALLS AND CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE MIN. 26 GUAGE GALVANIZED STEEL.
14. PER IRC SEC R311.7.5. MAX. RISER HEIGHT SHALL BE 7-3/4". MIN. TREAD DEPTH SHALL BE 10". STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
15. PROVIDE HANDRAILS PER IRC SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.7.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.7.3.
16. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER IRC SEC. R312.
17. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. FACTORY BUILT FIREPLACES SHALL MEET EMISSION STANDARDS PER CH. 51-51 WAC.
18. PROVIDE EXTERIOR AIR SUPPLY TO ANY FACTORY-BUILT FIREPLACE PER IRC SEC R1006.

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Owner
Design Built Homes

REGISTERED ARCHITECT
7806
PHILIP McCULLOUGH
STATE OF WASHINGTON

8427 SE 47th St
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Mercer Island, Washington

Permit Documents

Upper Floor Plan

A7

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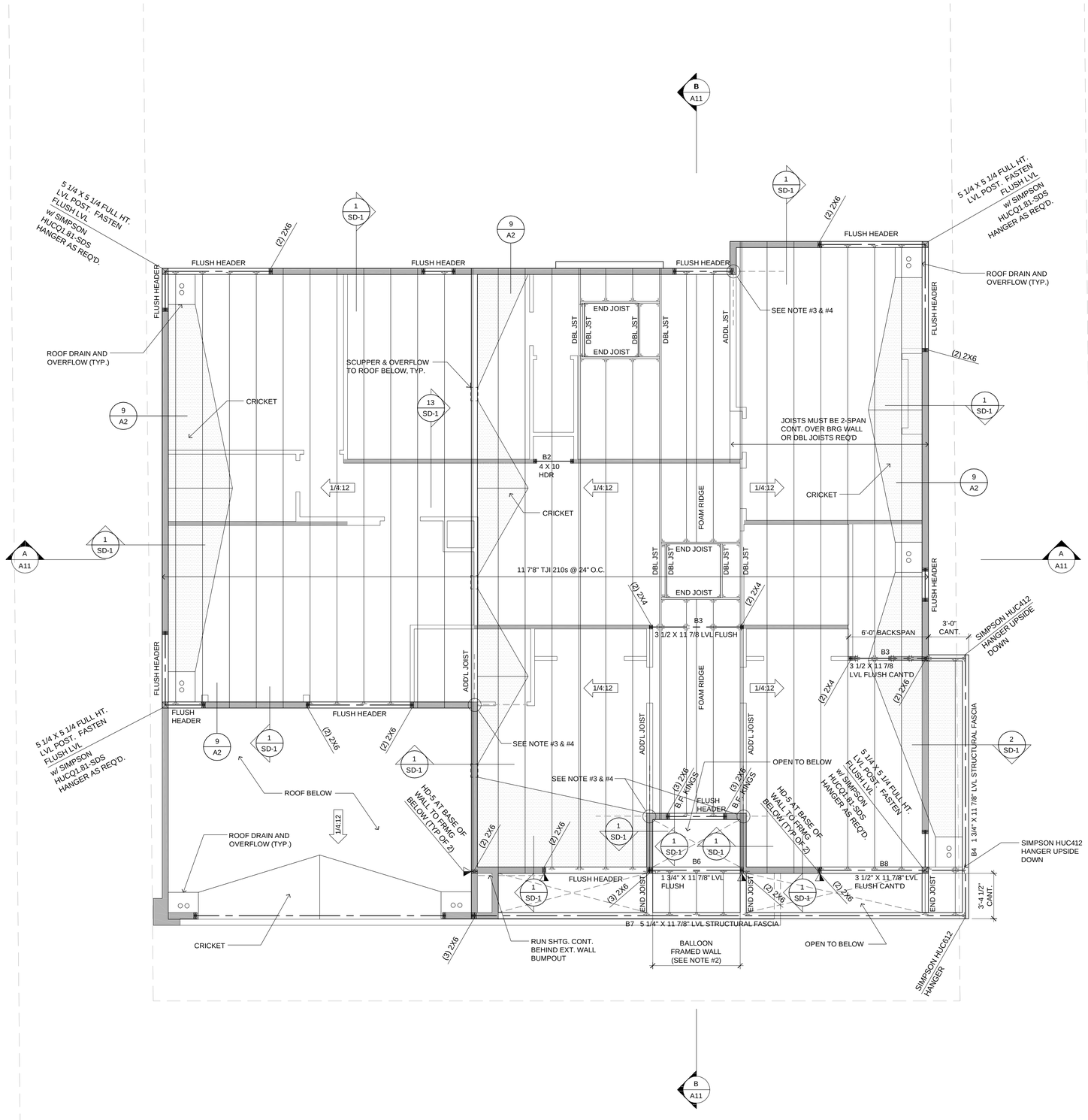

ROOF FRAMING PLAN

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

GENERAL NOTES:

1. VENTED EAVE BLOCKING @ BEARING, U.N.O.
2. BEARING WALLS ARE SHADED.
3. OVER FRAME ROOF AREAS ARE SHOWN HATCHED.
4. ROOF PITCH AS SHOWN.
5. EAVE OVERHANG TO BE AS SHOWN. GABLE END & RAKE OVERHANG TO BE AS SHOWN.
6. APPLY ROOFING IN ACCORDANCE WITH I.R.C. SEC. 905.
7. COMPOSITION ROOF FASTENERS AS PER I.R.C. SEC. 905.2.5.
8. PROVIDE ATTIC ACCESS WITH MIN. OF 22"X30" CLEAR, WEATHERSTRIP & INSULATE PER WSEC R402.2.4.
9. WOOD TRUSSES SHALL BE DESIGNED PER IRC SEC. R802.10
10. ALL TRUSSES SHALL CARRY MANUFACTURER'S STAMP, SHALL BE INSTALLED AND BRACED TO MANUFACTURER'S SPECIFICATIONS, SHALL HAVE DESIGN DETAILS AND DRAWINGS ON SITE FOR FRAMING INSPECTION, AND WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEER'S CALCULATIONS.
11. TRUSS MANUFACTURER TO SUPPLY ALL BLOCKING AND HANGERS REQUIRED AT MANUFACTURED TRUSSES.
12. TRUSS LAYOUT TO BE REVIEWED AND APPROVED BY TRUSS MANUFACTURER PRIOR TO CONSTRUCTION. ALL CHANGES TO BE SUBMITTED AND APPROVED BY ARCHITECT PRIOR TO FABRICATION.
13. COLUMNS AT HEADERS, BEAMS, AND GIRDERS TO BE (2) 2X STUDS, U.N.O.
14. MARKERS FOR BLOWN-IN OR SPRAYED INSULATION SHALL BE PLACED EVERY 300 S.F. AND SHALL FACE TOWARD ATTIC ACCESS PER IECC SEC 303.1.1.1
15. PROVIDE DRAFT STOP IN COMBUSTIBLE CONSTRUCTION WHERE THERE IS USABLE SPACE BOTH ABOVE AND BELOW THE CONCEALED SPACE OF A FLOOR.CEILING ASSEMBLY NOT TO EXCEED 1,000 SQUARE FEET INTO APPROXIMATELY EQUAL AREAS. (R302.12.)
16. ALL TRUSS HEELS TO BE 7" UNO.
17. SEE DETAIL 100/SD-2 FOR TYP. FLUSH BEAM CONNECTIONS ABOVE WINDOW OPENINGS WHEN THE DBL TOP PLATE MUST BE SPLICED.
18. 1 3/4" X 11 7/8" TYP. FLUSH HDR FOR ALL EXTERIOR OPENINGS @ ROOF FRAMING (TYP. U.N.O.) B1

STRUCTURAL PLAN NOTES:

NOTE 1:
PROVIDE 7/16" OSB/PLYWOOD SHTG. + FASTEN PER TYP. WALLL SHTG. SPECS. (SEE NOTES).

NOTE 2:
ALL WALLS 12' OR TALLER SHALL BE 2x6 HF #2 GRADE OR BETTER.

NOTE3:
PROVIDE SIMPSON SC16 STRAP FROM DBL TOP PLATE (13" END LENGTH) TO UNDERSIDE OF BLOCKING BETWEEN I-JOISTS FOR (3) BAYS (6'-0" MIN.) FASTEN ROOF SHTG. TO BLOCKING w/ 2 1/2.131 NAILS @ 6'-0" O.C.

NOTE 4:
PROVIDE SIMPSON CS16 STRAP FROM DBL TOP PLATE TO UNDERSIDE OF ADD'L I-JOIST (13" END LENGTH)

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Mercer Island, Washington

Permit Documents

Roof Framing Plan

A8

EXTERIOR ELEVATION NOTES:
1. VERIFY SHEAR WALL NAILING AND HOLDDOWNS PER STRUCTURAL PLANS AND SCHEDULES PRIOR TO INSTALLING SIDING
2. THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, AND WEATHERSTRIPPED TO LIMIT AIR LEAKAGE.
3. PROVIDE GALVANIZED OR ANODIZED SHEET METAL FLASHING AND COUNTERFLASHING AT ALL ROOF PENETRATIONS, CHIMNEYS, AND SKYLIGHTS PER IRC SEC. R703.8.
4. PROVIDE CONTINUOUS GUTTERS WITH DOWNSPOUTS AT ALL EAVES.
5. PROVIDE ROOF COVERINGS PER IRC SECTION R905. INSTALL PER MANUFACTURER'S WRITTEN SPECIFICATIONS.
6. PROVIDE EXTERIOR WALL COVERINGS PER IRC SECTION R703. INSTALL PER MANUFACTURER'S WRITTEN SPECIFICATIONS.

WINDOW & DOOR NOTES:
1. UNIT FRAMES TO BE VINYL, U.N.O.
2. "U" VALUES FOR WINDOWS TO BE NFRC CERTIFIED.
3. GLAZING UNITS TO HAVE 1/2" INSULTED GLASS, U.N.O.
4. USE SAFETY GLASS WHERE REQUIRED PER IRC SEC. R308.4
5. WINDOWS & DOORS SHALL LIMIT INFILTRATION PER ASTM 32873.
6. SITE VERIFY ALL ROUGH OPENING DIMENSIONS PRIOR TO FABRICATION.

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

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

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Revisions Comment
11.28.2022 1

Date: 07.11.2022
Job No: xx-xxx
Project No: 00000
Drawn: BAK
Approved: APM

Owner
Design Built Homes

REGISTERED ARCHITECT
7806
J. PHILIP MCCULLOUGH
STATE OF WASHINGTON

8427 SE 47th St
Lorenzini BLA Lot
Mercer Island, Washington

Permit Documents

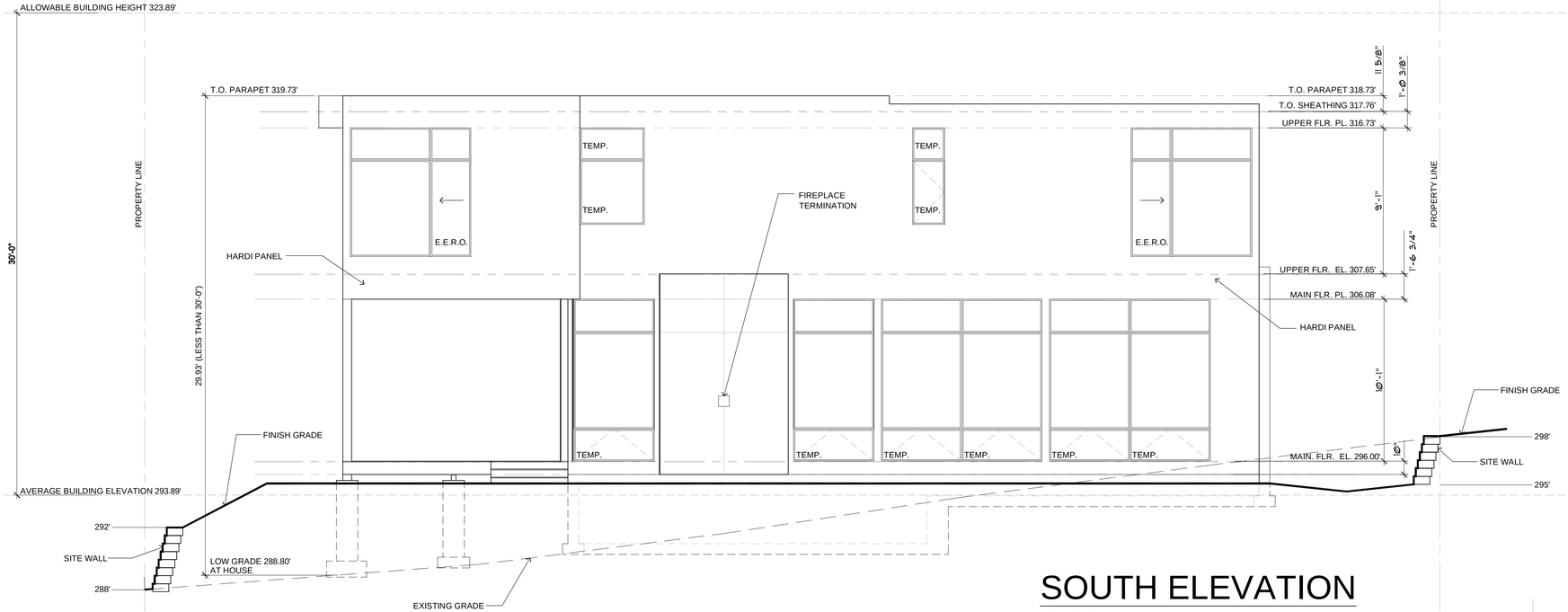
Exterior Elevations

A9

EXTERIOR ELEVATION NOTES:
1. VERIFY SHEAR WALL NAILING AND HOLDDOWNS PER STRUCTURAL PLANS AND SCHEDULES PRIOR TO INSTALLING SIDING
2. THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, AND WEATHERSTRIPPED TO LIMIT AIR LEAKAGE.
3. PROVIDE GALVANIZED OR ANODIZED SHEET METAL FLASHING AND COUNTERFLASHING AT ALL ROOF PENETRATIONS, CHIMNEYS, AND SKYLIGHTS PER IRC SEC. R703.8.

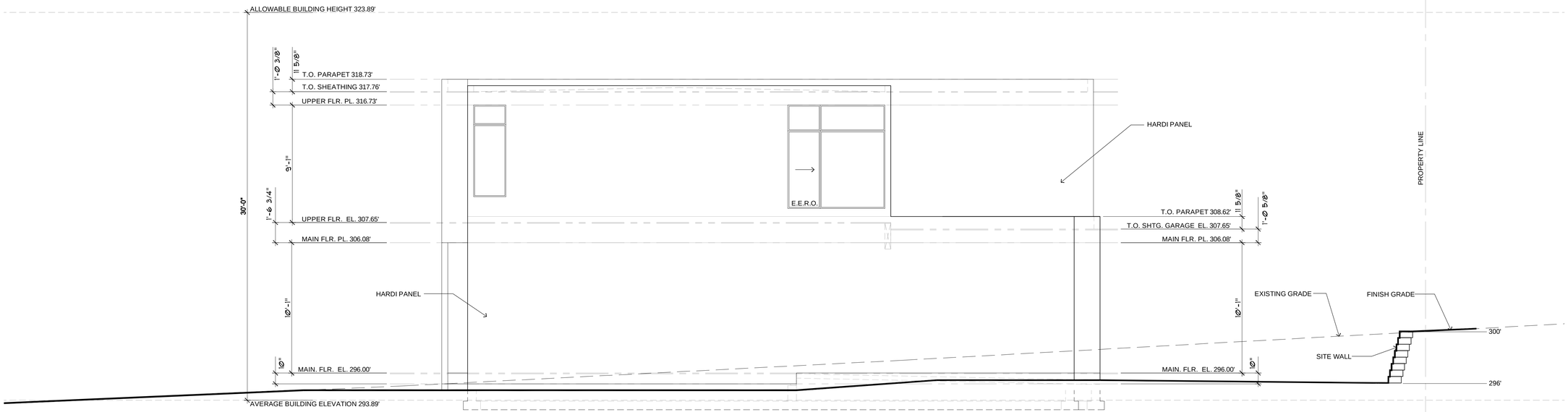
4. PROVIDE CONTINUOUS GUTTERS WITH DOWNSPOUTS AT ALL EAVES.
5. PROVIDE ROOF COVERINGS PER IRC SECTION R905. INSTALL PER MANUFACTURER'S WRITTEN SPECIFICATIONS.
6. PROVIDE EXTERIOR WALL COVERINGS PER IRC SECTION R703. INSTALL PER MANUFACTURER'S WRITTEN SPECIFICATIONS.

WINDOW & DOOR NOTES:
1. UNIT FRAMES TO BE VINYL, U.N.O.
2. "U" VALUES FOR WINDOWS TO BE NFRC CERTIFIED.
3. GLAZING UNITS TO HAVE 1/2" INSULTED GLASS, U.N.O.
4. USE SAFETY GLASS WHERE REQUIRED PER IRC SEC. R308.4
5. WINDOWS & DOORS SHALL LIMIT INFILTRATION PER ASTM 32873.
6. SITE VERIFY ALL ROUGH OPENING DIMENSIONS PRIOR TO FABRICATION.



SOUTH ELEVATION

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



EAST ELEVATION

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

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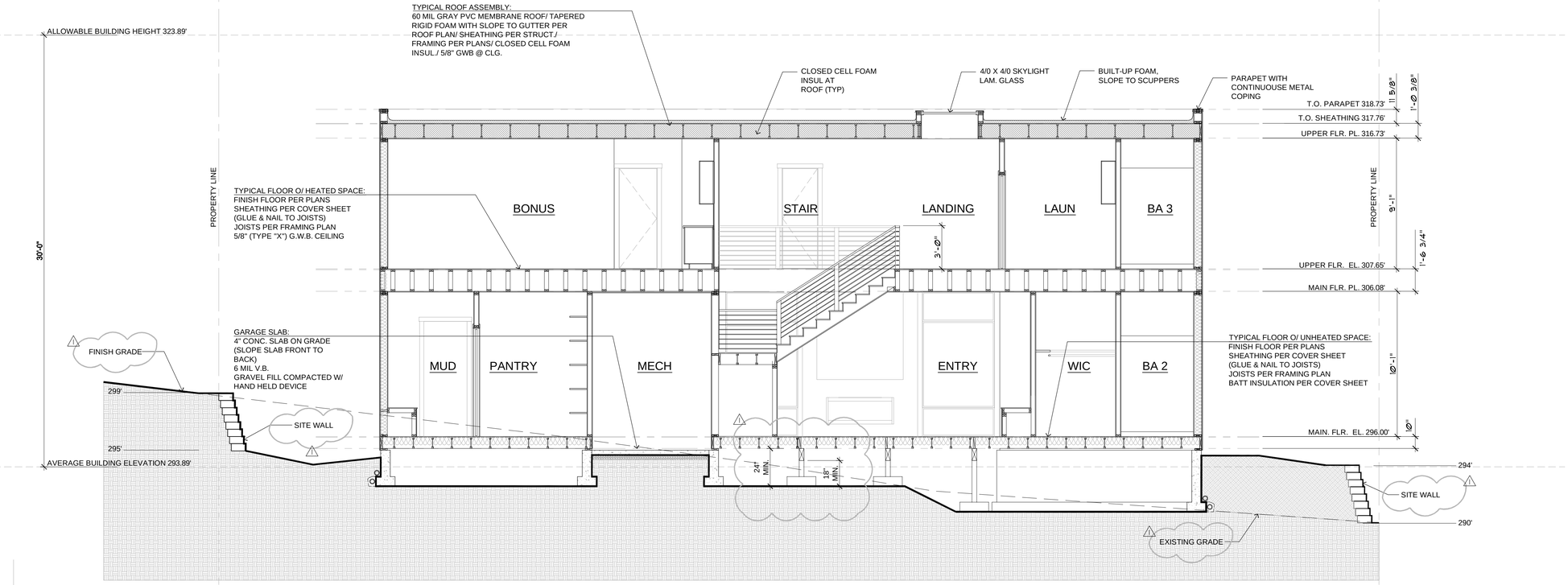
Permit Documents

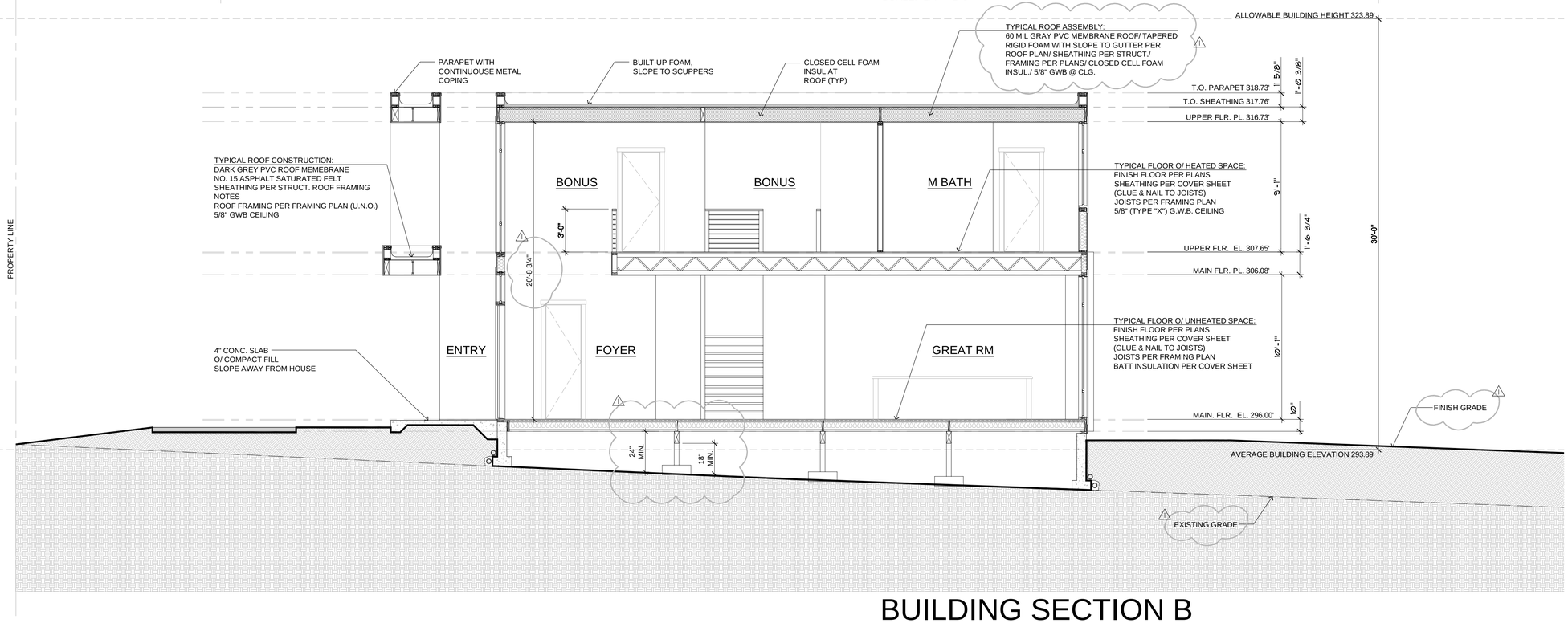
Exterior Elevations

A10



BUILDING SECTION A

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



BUILDING SECTION B

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

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Permit Documents

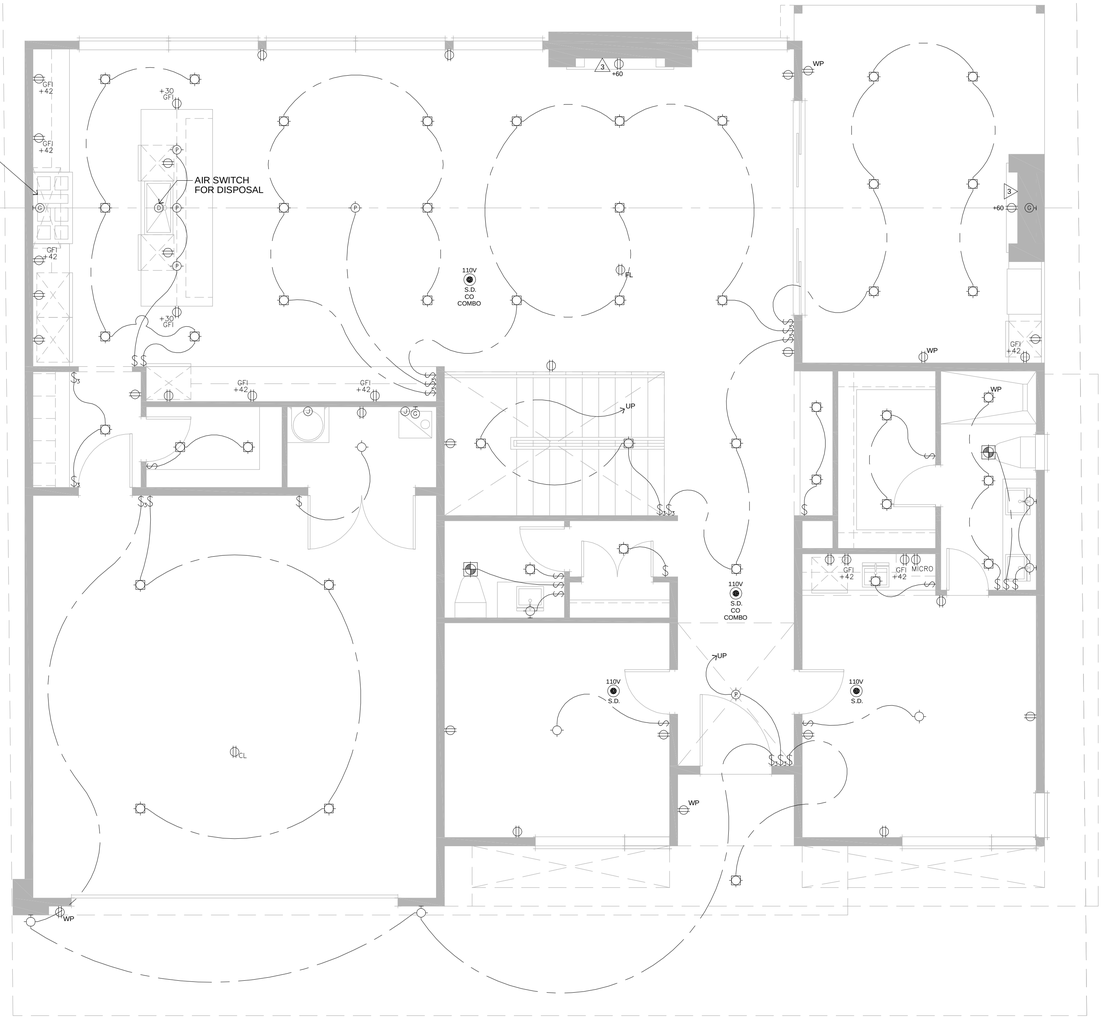
Building Sections

A11

FOR STRUCTURE ONLY

48" RANGE/2 OVENS
WITH VENT HOOD
100 CFM (MIN) PROVIDE
MAKE UP AIR IF OVER
400 CFM

AIR SWITCH
FOR DISPOSAL



MAIN FLOOR ELECTRICAL PLAN

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

LEGEND:

- DUPLEX OUTLET (110V AT +12" A.F.F. U.N.O.)
- 4PLEX OUTLET (+12" A.F.F. U.N.O.)
- DUPLEX OUTLET (110V AT +12" A.F.F. U.N.O.) (SWITCHED)
- WP — WATER PROOF DUPLEX OUTLET (110V AT +12" A.F.F. U.N.O.)
- GFI — GROUND FAULT INTERRUPTER DUPLEX OUTLET (110V AT +12" A.F.F. U.N.O.)
- FL — FLOOR OUTLET
- CL — CEILING OUTLET
- 220V OUTLET
- TV — TV OUTLET
- TELEPHONE
- $ — SWITCH
- $3 — 3 WAY SWITCH
- $4 — 4 WAY SWITCH
- $D — DIMMER SWITCH
- $SC — SPEED CONTROL SWITCH
- WALL MOUNTED LIGHT FIXTURE
- CEILING MOUNT LIGHT FIXTURE
- PENDANT LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- RECESSED WALL WASHER
- RECESSED PIN SPOT
- EXHAUST FAN
- HEAT LAMP
- HEAT LAMP/EXHAUST FAN
- FLUORESCENT LIGHT FIXTURE, 1 X 4 SURFACE MOUNTED
- FLUORESCENT LIGHT FIXTURE, tASK LIGHT UNDER CABINET
- CEILING FAN
- JUNCTION BOX
- CHIMES
- GAS CONNECTION
- ALARM KEY PAD
- 110V S.D. — SMOKE DETECTOR
- 110V S.D. CO COMBO — SMOKE DETECTOR C.O. COMBO

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Owner
Design Built Homes

8427 SE 47th St
Lorenzini BLA Lot

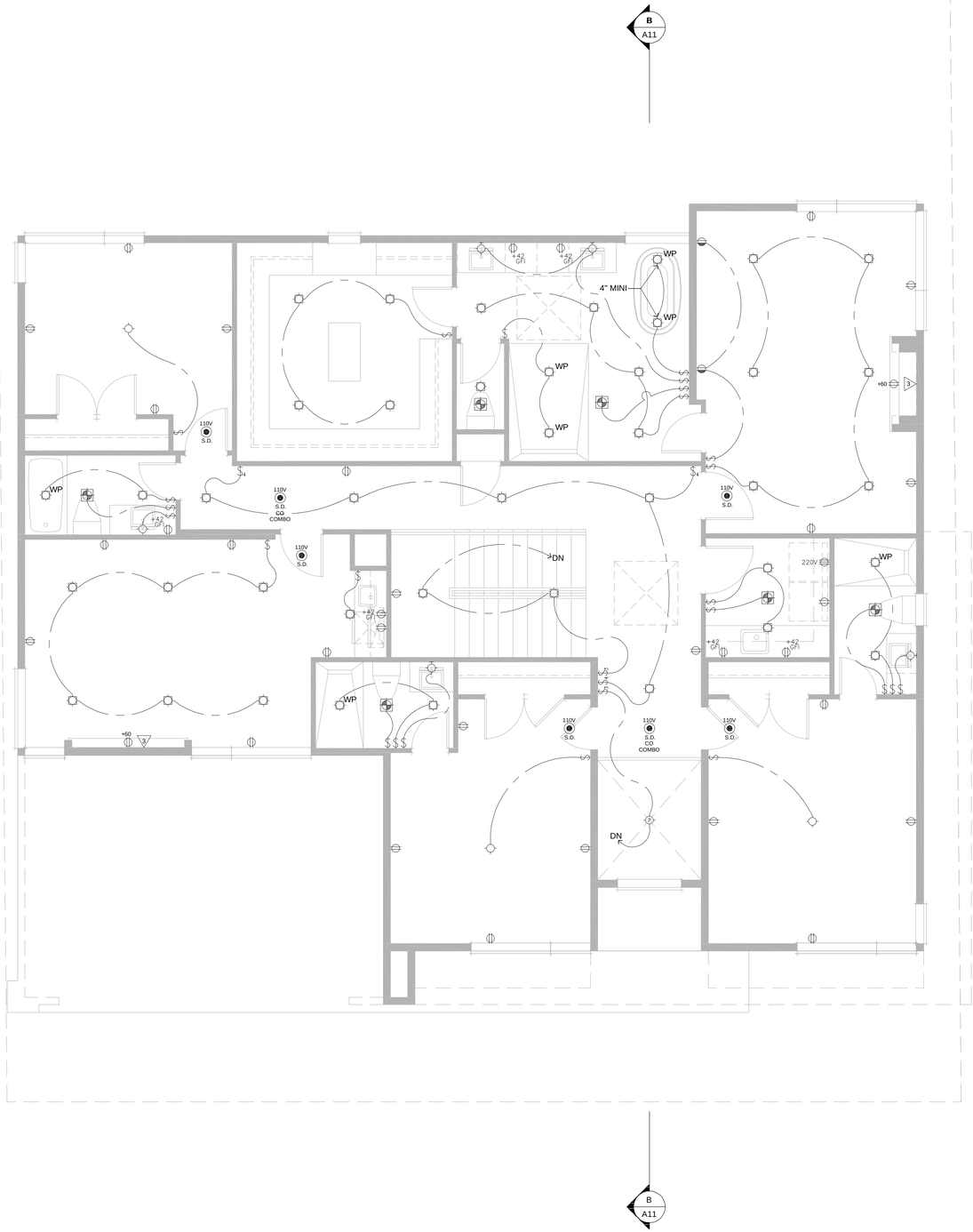
Mercer Island, Washington

Permit Documents

Main Electrical Plan

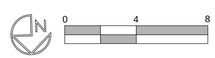
E1

FOR STRUCTURE ONLY



UPPER FLOOR ELECTRICAL PLAN

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



LEGEND:

- DUPLEX OUTLET (110V AT +12" A.F.F. U.N.O.)
- 4PLEX OUTLET (+12" A.F.F. U.N.O.)
- DUPLEX OUTLET (110V AT +12" A.F.F. U.N.O.) (SWITCHED)
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- GFI — GROUND FAULT INTERRUPTER DUPLEX OUTLET (110V AT +12" A.F.F. U.N.O.)
- FL — FLOOR OUTLET
- CL — CEILING OUTLET
- 220V OUTLET
- TV OUTLET
- TELEPHONE
- SWITCH
- 3 — 3 WAY SWITCH
- 4 — 4 WAY SWITCH
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- CEILING MOUNT LIGHT FIXTURE
- PENDANT LIGHT FIXTURE
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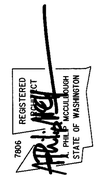

8427 SE 47th St
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Permit Documents

Upper Electrical Plan

E2

BASEMENT SLAB

4" CONC. SLAB ON 6 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

GARAGE SLAB

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

PORCH SLAB

4" CONC. SLAB ON GRADE ON 6 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

GENERAL STRUCTURAL NOTES

FOUNDATION

- DESIGN IS BASED ON 2018 INTERNATIONAL RESIDENTIAL CODE
- DESIGN LOADS:
  SOIL: 2,000 PSF ALLOWABLE BEARING PRESSURE
- CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS IN 28 DAYS, U.N.O.:
  f'c = 2,500 psi: ..... FOUNDATION WALLS*
  2,500 psi: ..... FOOTINGS*
  2,500 psi: ..... INTERIOR SLABS ON GRADE
  3,500 psi: ..... GARAGE & EXT. SLABS ON GRADE
  fy = 60,000 psi
  * UTILIZE 5½" SACK 2500 PSI CONCRETE MIXES THAT ARE EQUIVALENT TO 3,000 PSI CONCRETE FOR WEATHERING POTENTIAL
- ALL CONCRETE EXPOSED TO THE WEATHER SHALL NOT HAVE LESS THAN 5% OR MORE THAN 7% AIR ENTRAINMENT.
- FOUNDATION WALL DESIGN IS BASED ON BACKFILL SOIL RECOMMENDATIONS PER COBALT GEOSCIENCES LLC
- TYPICAL REINFORCEMENT DETAILS: LAP ALL REBAR 24" MIN; BEND BARS AND LAP AT CORNERS; PROVIDE 6" HOOK INTO SUPPORTING FOOTINGS WHEN FOOTINGS INTERSECT; PROVIDE 3" MINIMUM COVER AT THE BOTTOM BARS AND 1 1/2" COVER AT THE SIDES.
- FOUNDATION WALLS SHALL BE BRACED, PRIOR TO BACKFILLING, BY EITHER ADEQUATE TEMPORARY BRACING OR INSTALLATION OF FIRST FLOOR DECK.
- ALL FOOTINGS SHALL BEAR BELOW FROST LINE. CONSULT SOILS REPORT/ LOCAL MUNICIPALITY FOR MINIMUM DEPTH BELOW GRADE.
- FOOTINGS AND SLABS ON GRADE SHALL BEAR ON VIRGIN SOIL OR 95% COMPACTED FILL.
- PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS OF SLAB EDGES, AND OTHER LOCATIONS WHERE SLAB CRACKS ARE LIKELY TO DEVELOP. (15'-0" O.C.)
- FASTEN SILL PLATES TO FOUNDATION WALLS WITH ⅝" DIA. ANCHOR BOLTS W/ MIN. 3"x3"x ¼" PLATE WASHERS (EDGE OF WASHER TO BE LOCATED WITHIN ½" OF EXTERIOR EDGE OF SILL PLATE) & NUTS @ 6'-0" O.C. @ 2-STORY & 4'-0" O.C. @ 3-STORY CONDITIONS w/ 7" MIN. EMBEDMENT INTO CONC. PROVIDE A MINIMUM OF 2 ANCHORS PER PLATE, 12" MAXIMUM FROM PLATE ENDS, U.N.O. (SEE FND. DETAILS).
- ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT W/ CONCRETE OR MASONRY FOUNDATION SHALL BE PRESERVATIVE TREATED HEM FIR #2.
- BUILDER TO VERIFY CORROSION-RESISTANCE COMPATIBILITY OF HARDWARE & FASTENERS IN CONTACT W/ PRESERVATIVE-TREATED WOOD. CONTACT LUMBER & HARDWARE SUPPLIERS TO COORDINATE.

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.I.) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

MEANS & METHODS NOTES

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

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

ADDITIONAL NOTES FOR TRUSS & I-JOIST MANUFACTURER

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

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

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

LOADING AND DESIGN PARAMETERS

GRAVITY DESIGN LOADS:

DEAD LOAD (PSF):

ROOF JOISTS :	10
DECK JOISTS :	10
FLOOR (TRUSSES) :	15
TILE FLOORS :	10
SOLAR PANELS:	5

LIVE LOAD (PSF):

ROOF :	20
RESIDENTIAL LIVING AREAS :	40
RESIDENTIAL SLEEPING AREAS :	30
RESIDENTIAL WOOD DECKS :	60
GARAGE :	50

SNOW LOAD:

GROUND SNOW LOAD (Pg) (PSF) :	25
FLAT ROOF SNOW LOAD (Pf) (PSF) :	25
SNOW EXPOSURE FACTOR (C_e) :	0.9
SNOW LOAD IMPORTANCE FACTOR (I) :	1.0
THERMAL FACTOR (C_t) :	1.2

LATERAL DESIGN LOADS:

WIND LOAD: (IBC 1609)

SPEED (V_{ult}) (MPH) :	100
WIND RISK CATEGORY :	II
IMPORTANCE FACTOR (I_w) :	1.0
EXPOSURE CATEGORY :	B
INTERNAL PRESSURE COEFF. (GC_{pi}) :	±0.18
TOPOGRAPHIC FACTOR (K_{zt}) :	1.6

SEISMIC LOAD: (IBC 1613)

SEISMIC RISK CATEGORY :	II
SEISMIC IMPORTANCE FACTOR (I_e) :	1.0
MAPPED SPECTRAL RESPONSE :	
S_s: 1.405	S_1: 0.484
SITE CLASS :	D(DEFAULT)
SPECTRAL RESPONSE COEFF. :	
S_{ds}: 1.124	S_{d1}: 0.590
SEISMIC DESIGN CATEGORY:	D
BASIC SEISMIC-FORCE-RESISTING SYS :	
LIGHT FRAMED WALLS W/WOOD STRUCTURAL PANELS	
ULTIMATE BASE SHEAR (HOME):	
TRANS: 14 K	LONG: 14 K
SEISMIC RESPONSE COEFF. (C_s) :	
TRANS: 0.173	LONG: 0.173
RESPONSE MODIFICATION FACTOR (R) :	
TRANS: 6.5	LONG: 6.5
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE	

LATERAL BRACING NOTES

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

110 MPH WIND IN 2018 IRC MAP

ENGINEERED DESIGN WAS COMPLETED PER 2018 IBC (SECTION 1609 & 1613) & ASCE 7-16, AS PERMITTED BY R301.1.3 OF THE 2018 IRC. ACCORDINGLY, THIS HOME, AS DOCUMENTED AND DETAILED HEREWITHIN, IS ADEQUATE TO RESIST THE CODE REQUIRED LATERAL FORCES, AND DOES NOT NEED TO CONFORM TO THE PRESCRIPTIVE PROVISIONS OF R602.10.

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

- 7/16" OSB OR 15/32" PLYWOOD:
  FASTEN SHEATHING W/ 2½"x0.131" NAILS @ 6"O.C. AT ALL SUPPORTED PANEL EDGES AND 12" O.C. IN THE PANEL FIELD. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE. ALL EXTERIOR WALLS SHALL BE CONSTRUCTED PER THIS SPECIFICATION U.N.O. ON PLANS.

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

- 7/16" OSB OR 15/32" PLYWOOD:
  ONLY AT LOCATIONS INDICATED ON PLANS - SHEATHE WALL SHOWN WITH 7/16" OSB. FASTEN SHEATHING W/ 2½"x0.131" NAILS @ 3" O.C. AT EDGES AND 12" O.C. AT CENTER. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE AND 3" O.C. FASTENING.

NOTES:

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

LEGEND

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

RICHARD ZABEL
STATE OF WASHINGTON
21031615
REGISTERED
PROFESSIONAL ENGINEER

GENERAL STRUCTURAL NOTES

DESIGN PARAMETERS

- DESIGN IS BASED ON 2018 INTERNATIONAL RESIDENTIAL CODE & 2018 INTERNATIONAL BUILDING CODE
- WOOD FRAME ENGINEERING IS BASED ON NDS, "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" - LATEST EDITION.

GENERAL FRAMING

- EXTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (W/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- INTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (W/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- ALL NON-BEARING INTERIOR STUD WALLS SHALL BE CONSTRUCTED WITH 2x STUD GRADE MEMBERS SPACED @ 24" O.C. (MAX.)
- ALL WALLS TALLER THEN TYP. PLATE HEIGHT SHALL BE CONSIDERED BALLOON FRAMED & SHALL BE CONSTRUCTED FROM FLOOR TO UNDERSIDE OF FRAMING AT NEXT LEVEL. B.F. WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) HEM FIR (HF) #2 GRADE LUMBER, OR BETTER.
- ALL HEADERS SHALL BE SUPPORTED BY (1)2x JACK STUD & (1)2x KING STUD, MINIMUM.
  - THE NUMBER OF STUDS SPECIFIED AT A SUPPORT INDICATES THE NUMBER OF JACK STUDS REQUIRED, U.N.O..
- BUILT-UP POSTS SHALL BE 2x4 OR 2x6 HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O. & SOLID WOOD COLUMNS SHALL BE SPRUCE PINE FIR (SPF) #2 GRADE LUMBER, OR BETTER, U.N.O.
- ALL 2x6 AND LARGER SOLID SAWN BEAMS/HEADERS SHALL BE HEM FIR #2 (HF #2) OR BETTER. ALL 4x8 AND LARGER SOLID SAWN LUMBER SHALL BE DOUG FIR #2 (DF #2) OR BETTER.
- ALL FRAMING LUMBER SHALL BE KILN DRIED TO 19% MC (KD-15).
- ALL TYP. NAIL FASTENER REQUIREMENTS ARE NOTED IN GENERAL NOTES, IN DETAILS, OR ON PLANS. ALL NAILS SPECIFIED ARE MIN DIAMETER AND LENGTH REQUIRED FOR CONNECTION. ALL HANGER NAILS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS FOR MAX GHARTED CAPACITY. NOTE: HANGERS USE COMMON NAIL DIAMETERS NOT TYPICAL FRAMING GUN NAILS.
- FASTEN ALL BEAMS TO COLUMNS, OR FLUSH BEAMS TO SUPPORTING BEAMS, w/ (4) 3"x0.131" TOENAILS (MIN.), TYP. U.N.O.
- PROVIDE SOLID BLOCKING IN FLOOR SYSTEM UNDER ALL POSTS & HOLD-DOWNS CONTINUOUS TO FOUNDATION/BEARING. BLOCKING TO MATCH POST ABOVE.
- ENGINEERED LUMBER TO MEET OR EXCEED THE FOLLOWING:
  - LSL MEMBERS - Fb=2325 PSI; Fv=310 PSI; E=1.55x10^6 PSI
  - LVL MEMBERS - Fb=2600 PSI; Fv=285 PSI; E=2.0x10^6 PSI
  - GLB MEMBERS - Fb(+)=2400 PSI; Fb(-)=1850 PSI; Fv=265 PSI; E=1.8x10^6 PSI; DF/DF; 24F-V4 (U.N.O)
- ENGINEERED LUMBER POSTS TO MEET OR EXCEED THE FOLLOWING:
  - LVL MEMBERS - Fb=2400 PSI; Fc⊥=2500 PSI; E=1.8x10^6 PSI
- FACE NAIL MULTI-PLY 2x BEAMS & HEADERS W/ 3-ROWS OF 3"x0.131" NAILS (MIN.) @ 12" O.C. STAGGERED. APPLY NAILING FROM BOTH FACES @ 3-PLY OR MORE CONDITIONS. UTILIZE 2 ROWS OF NAILS FOR 2x6 & 2x8 MEMBERS.
- ALL MEMBERS SPECIFIED AS MULTI-PLY (3¼" SHALL BE FASTENED TOGETHER PER MANUFACTURER. EQUIVALENT WIDTH SOLID MATERIAL MAY BE USED AS EQUAL.
- FASTEN 2x WOOD PLATES TO TOP FLANGE OF STEEL BEAMS w/P.A.F.s ('HILTI' X-U PINS OR EQUAL (0.157" DIA. x 2" LONG MIN.) @ 16" O.C. STAGGERED, OR 1/2" DIA. BOLTS @ 48" O.C., STAGGERED.
- REFER TO IRC FASTENING SCHEDULE TABLE R602.3(1) FOR ALL CONNECTIONS, TYP. U.N.O.

FLOOR FRAMING

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

ROOF FRAMING

- FASTEN EACH ROOF TRUSS TO TOP PLATE W/ (3) 3"x0.131" TOENAILS (MIN) & (1) 'SIMPSON' H2.5T CLIP @ ALL BEARING POINTS. PROVIDE (2) 'SIMPSON' H2.5T CLIPS AT 2-PLY GIRDER TRUSSES & 3-PLY GIRDER TRUSSES AT ALL BEARING POINTS.
- FASTEN EACH ROOF RAFTER TO TOP PLATE WITH (1) 'SIMPSON' H2.5T CLIP. PROVIDE (2) 'SIMPSON' H2.5T CLIPS AT FLUSH BEAMS IN THE ROOF - AT ALL BEARING POINTS.
- ROOF SHEATHING SHALL BE 7/16" A.P.A. RATED SHEATHING 24/16 EXPOSURE 1 (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS w/ 2 ½" x 0.131" NAILS @ 6"o.c. AT PANEL EDGES & @ 12" O.C. AT INTERMEDIATE SUPPORTS. ROOF SHEATHING SHALL EXTEND BELOW ALL INSTANCES OF OVERFRAMING. BLOCKING SHALL BE INSTALLED AS REQUIRED TO LIMIT ROOF SHEATHING SPANS TO 24" MAX.
- WITHIN 48" OF ALL ROOF EDGES, RIDGES, & HIPS FASTEN ROOF SHEATHING FIELDS PER EDGE NAILING SPEC.
- ALL METAL HANGERS SHALL BE SPECIFIED BY THE TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- ROOF TRUSS SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY.
- ROOF TRUSS SHOP DRAWINGS & CALCULATIONS SHALL BE PREPARED BY A WASHINGTON STATE LICENSED ENGINEER AND SHALL BE DESIGNED FOR UNBALANCED SNOW LOADING PER ASCE 7-16, SECTION 7.6.
- ERECT AND INSTALL ROOF TRUSSES PER WTCA & TPI'S BCSI 1-08 'GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES.'
- FASTEN OVER-FRAMED TRUSS SETS TO TRUSSES BELOW W/ (2) 3"x0.131" TOENAILS AT EA. TRUSS.
- SUPPORT PORCH & SHORT SPAN ROOF TRUSSES (UP TO 6' TRIB.) W/2x6 LEDGER FASTENED TO FRAMING W/(3) 3"x0.131" NAILS @ 16" O.C.
- FASTEN ALL INTERIOR NON-BEARING PARTITION WALLS TO TRUSS BOTTOM CHORD ABOVE WITH SIMPSON STC CLIPS AT 24" O.C. MAX. PROVIDE BLOCKING BETWEEN THE TRUSS BOTTOM CHORDS AS REQUIRED FOR THE PARALLEL CONDITIONS.

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project mgr: RJZ
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REVISIONS:

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McCULLOUGH ARCHITECTS

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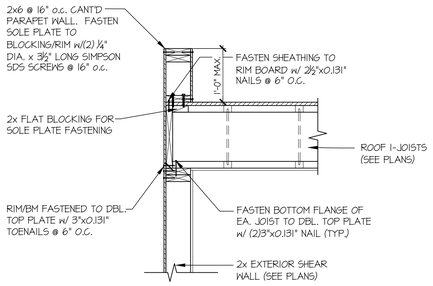
MERCER ISLAND, WASHINGTON

sheet: S-0



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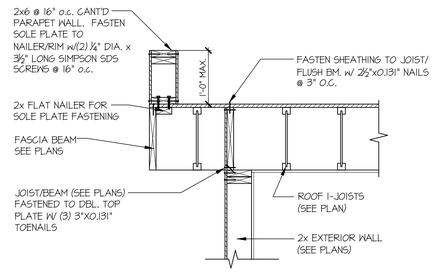

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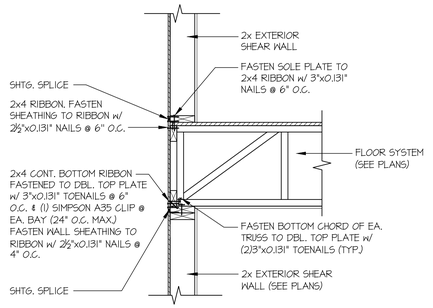
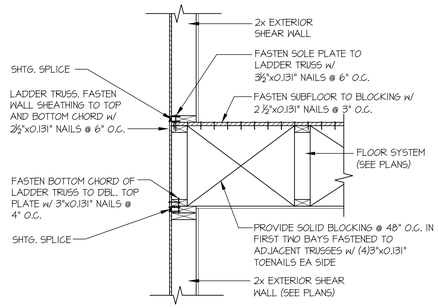


3 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL
SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING



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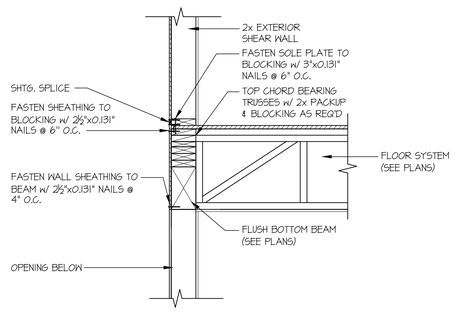

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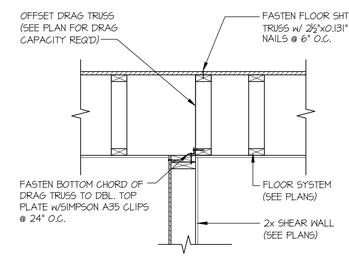

11 SHEAR TRANSFER DETAIL @ SHEAR WALL BELOW
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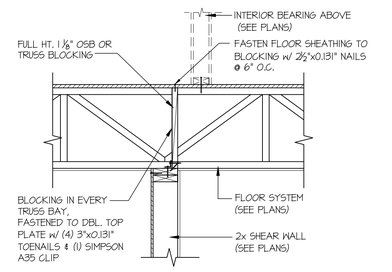

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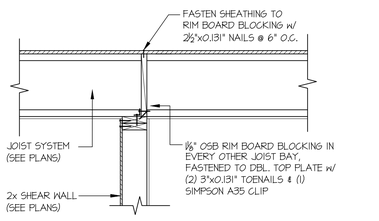

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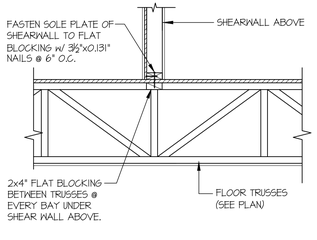

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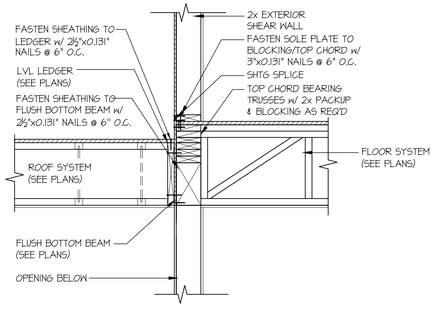

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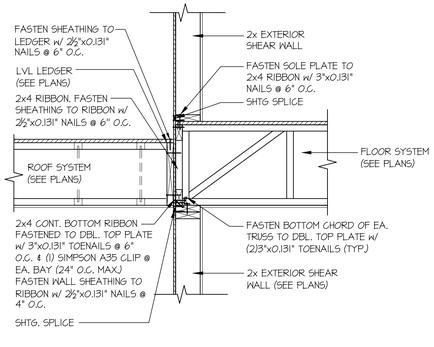

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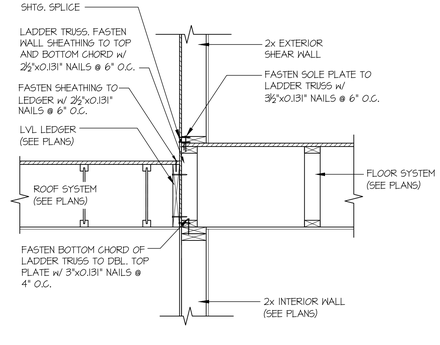

23 SECTION
SCALE: 3/4"=1'-0"

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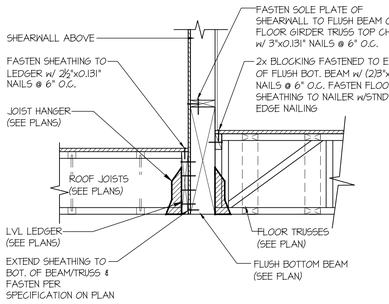

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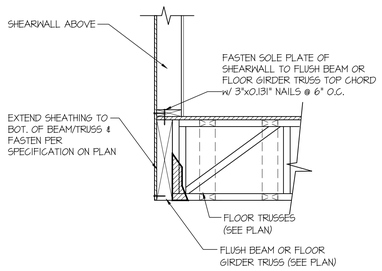

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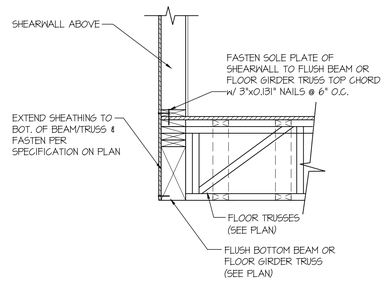

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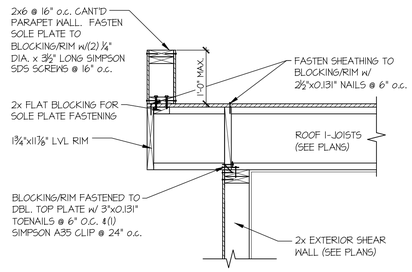

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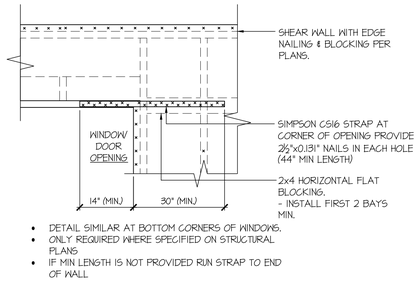
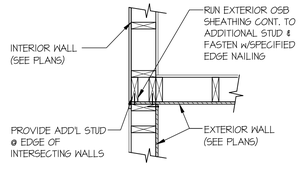
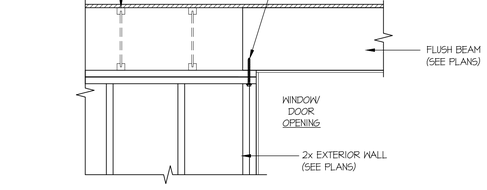


- DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.
- ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS
- IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

94 EXT. WALL & INT. SHEARWALL OPENING ELEVATION
SCALE: NTS



99 SHEAR TRANSFER DETAIL @ INTERSECTING INT. SHEARWALL
SCALE: 3/4"=1'-0" SHTG. OPPOSITE FACES



00 FLUSH HDR CONNECTION @ ROOF
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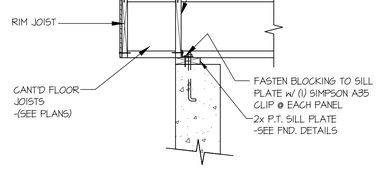
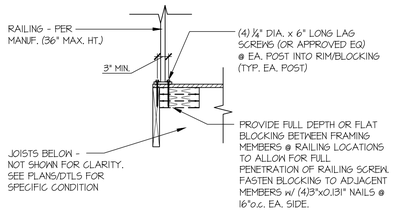


110 SHEAR TRANSFER DETAIL @ CANT'D EXTERIOR WALL
SCALE: 3/4"=1'-0"



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

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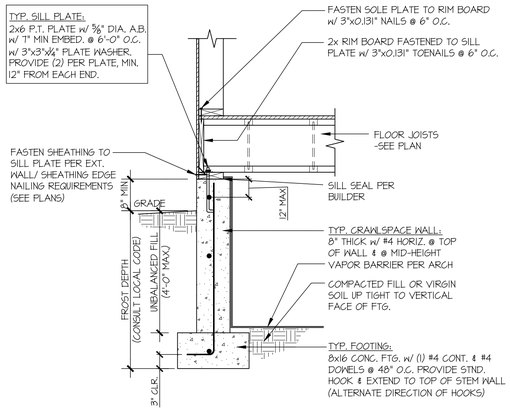
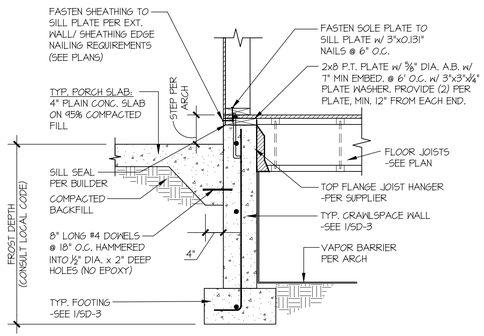
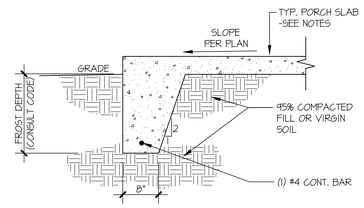


1 TYPICAL CRAWLSPACE FOUNDATION
SCALE: 3/4"=1'-0"



2 TYPICAL CRAWLSPACE FOUNDATION @ PORCH SLAB
SCALE: 3/4"=1'-0"



3 TYPICAL FOOTING @ PORCH SLAB
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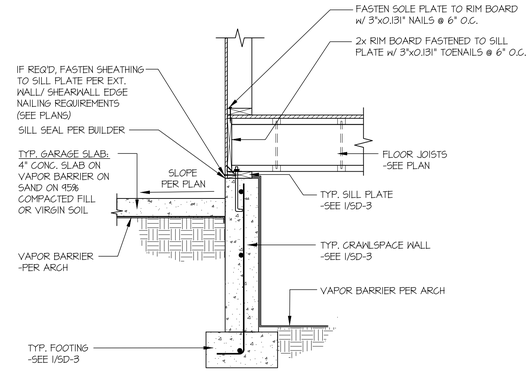
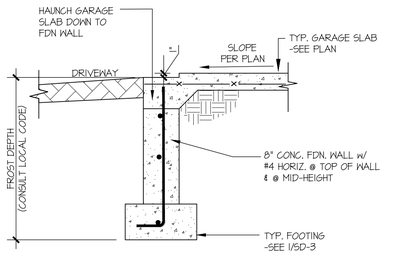
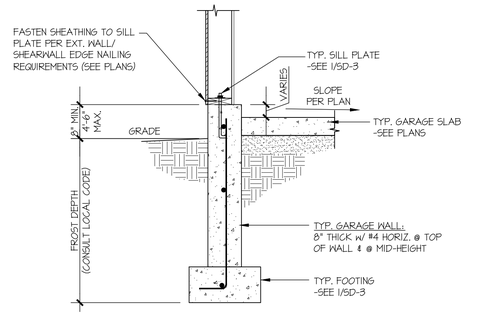


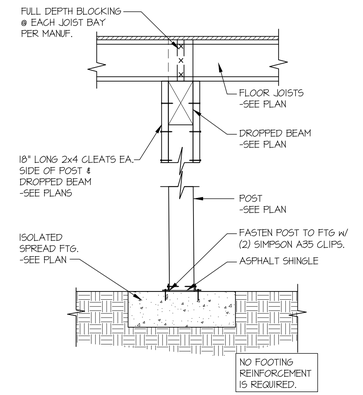
4 TYPICAL CRAWLSPACE FOUNDATION @ GARAGE
SCALE: 3/4"=1'-0"



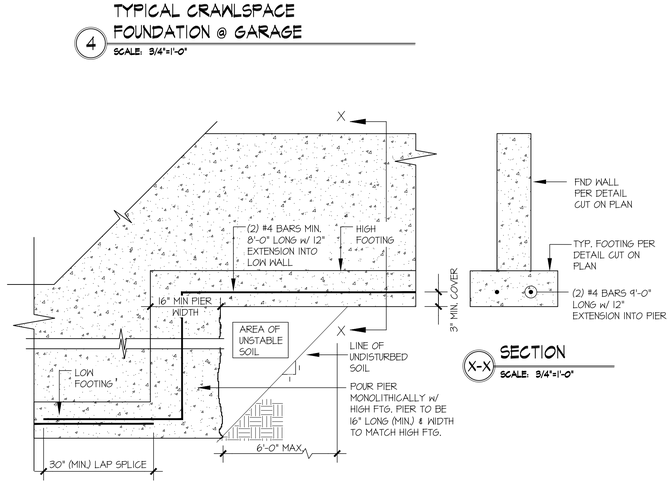
5 TYPICAL CONCRETE FOOTING @ GARAGE DOOR OPENING
SCALE: 3/4"=1'-0"



6 TYPICAL EXT. GARAGE FOUNDATION
SCALE: 3/4"=1'-0"



7 TYPICAL CRAWL SPACE FOOTING DETAIL
SCALE: 3/4"=1'-0"



8 TYPICAL STEPPED FOOTING
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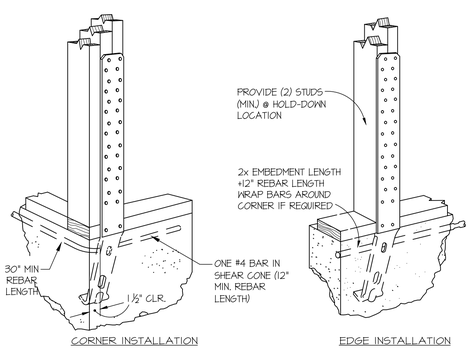
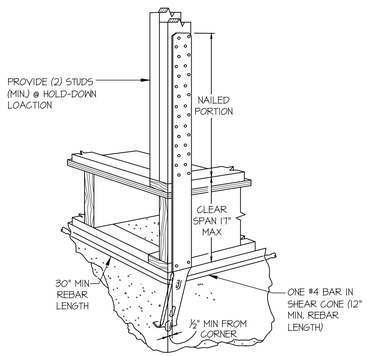
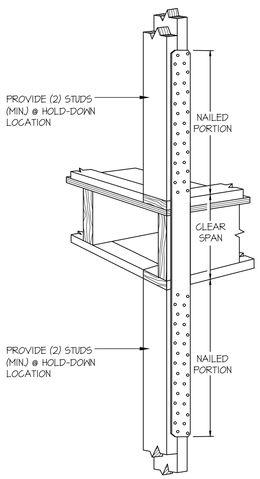


A TYPICAL HOLD-DOWN INSTALLATION
NOT TO SCALE
SIMPSON STHD HD @ FOUNDATION



B TYPICAL HOLD-DOWN INSTALLATION
NOT TO SCALE
SIMPSON STHD HD @ FLOOR FRAMING



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

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