VICINITY PLAN

LOCATION PLAN

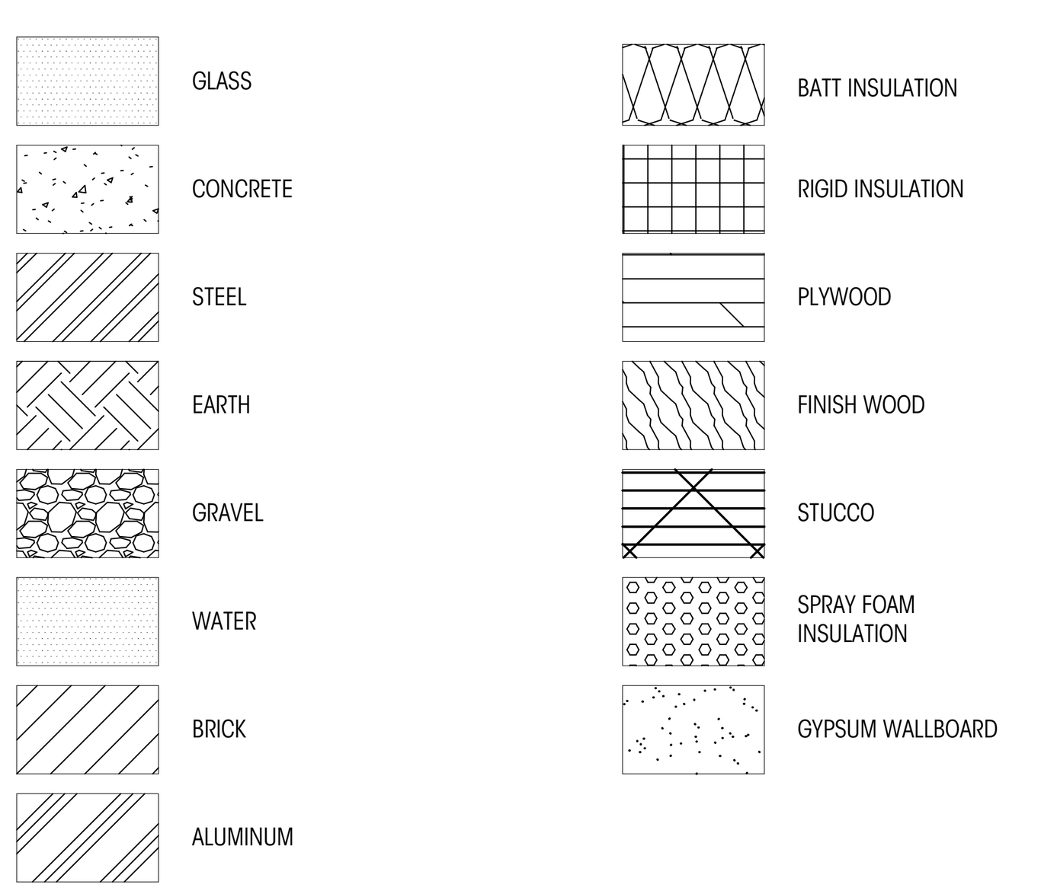
NORTH

ABBREVIATIONS

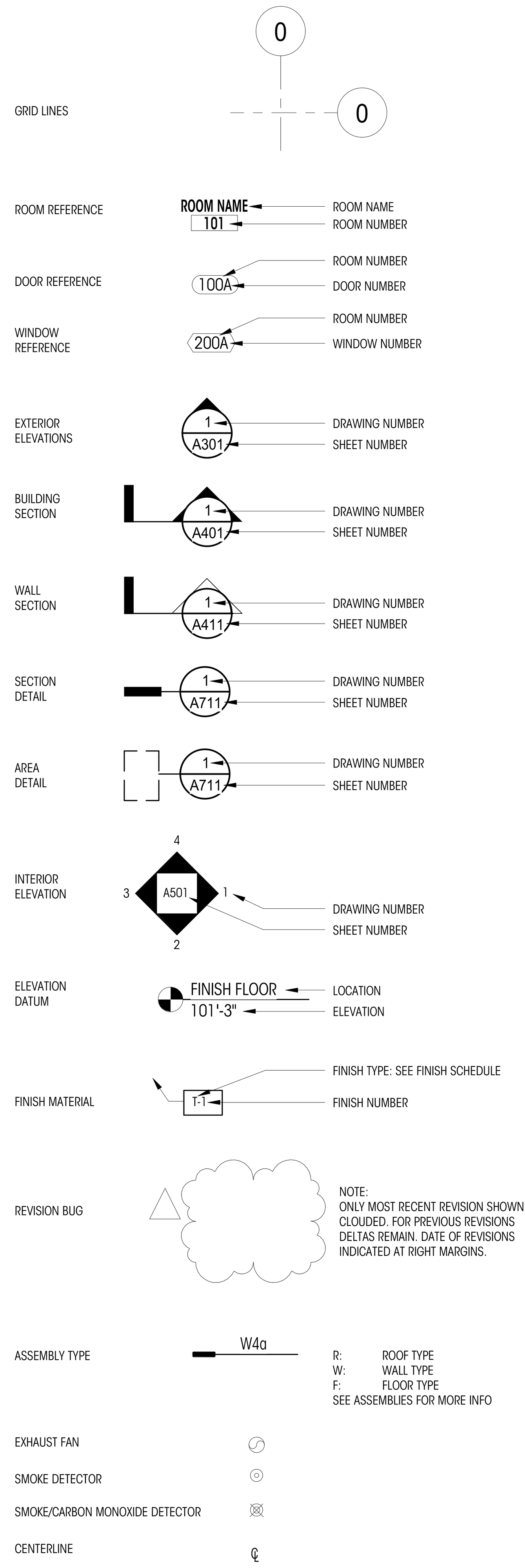
ABV	ABOVE
AFF	ABOVE FINISH FLOOR
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
ALT	ALTERNATE
ARCH	ARCHITECT, ARCHITECTURAL
BLW	BELOW
BSMT	BASEMENT
BTW	BETWEEN
BLD	BUILDING
CAB	CABINET
CALC	CALCULATION
CLG	CEILING
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
DEMO	DEMOLISH
DIA	DIAMETER
DIM	DIMENSION
DW	DISHWASHER
DBL	DOUBLE
EA	EACH
ELEC	ELECTRIC, ELECTRICIAN
ELEV	ELEVATION
ENGR	ENGINEER
EQUIV	EQUIVALENT
EXIST OR (E)	EXISTING
EXT	EXTERIOR
FF	FINISH FLOOR
GALV	GALVANIZED
GWB	GYPSUM WALL BOARD
HDR	HEADER
HT	HEIGHT
HORIZ	HORIZONTAL
INSUL	INSULATION
INT	INTERIOR
LOC	LOCATE, LOCATION
MAX	MAXIMUM
MFR	MANUFACTURER
MECH	MECHANICAL
MTL	METAL
MIN	MINIMUM
NTS	NOT TO SCALE
O.C.	ON CENTER
PLY	PLYWOOD
PRELIM	PRELIMINARY
PT	PRESSURE-TREATED
PL	PROPERTY LINE
REFR	REFRIGERATOR
REINF	REINFORCE, REINFORCING
REQD	REQUIRED
SCHED	SCHEDULE
SW	SHEARWALL
SIM	SIMILAR
SF	SQUARE FOOT
SPECS	SPECIFICATIONS
SSTL	STAINLESS STEEL
STL	STEEL
STRUCT	STRUCTURE, STRUCTURAL
TEMP	TEMPORARY
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
VERT	VERTICAL
WP	WATERPROOF, WEATHERPROOF
WNDW	WINDOW
W/	WITH
W/O	WITHOUT
WD	WOOD

GRAPHIC KEY

(NOT TO SCALE)



SYMBOLS KEY



GENERAL NOTES

ALL WORK SHALL BE IN **COMPLIANCE** WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE AS ADOPTED AND MODIFIED BY THE LOCAL JURISDICTIONAL LAND USE CODE, AND ALL OTHER LAWS, CODES, ORDINANCES AND REGULATIONS OF THE COUNTY, STATE, AND FEDERAL JURISDICTIONS. (LATEST EDITION AND AMENDMENTS)

ALL **UNDERGROUND UTILITIES** MUST BE VERIFIED AS TO EXACT LOCATIONS SO AS NO INTERFERENCE BY DISRUPTION WILL BE CAUSED. GENERAL CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITIES BY THE METHODS RECOMMENDED AT THE PRE-CONSTRUCTION SITE MEETING. DAMAGE THAT MAY BE CAUSED BY GENERAL CONTRACTOR OR SUBCONTRACTOR TO ANY OF THE ABOVE MENTIONED SHALL BE REPAIRED BY HIM AND LEFT IN AS GOOD A CONDITION AS EXISTED PRIOR TO DAMAGING.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE IDENTIFICATION AND REMOVAL OF ALL HARZARDOUS MATERIALS IN COMPLIANCE WITH ALL APPLICABLE CODES AND LAWS PRIOR TO ANY WORK COMMENCING. IN THE EVENT THAT THE OWNER IS ACTING AS THE GENERAL CONTRACTOR, THE OWNER IS RESPONSIBLE FOR THE IDENTIFICATION AND REMOVAL OF ALL HAZARDOUS MATERIALS IN COMPLIANCE WITH ALL APPLICABLE CODES AND LAWS PRIOR TO ANY WORK COMMENCING.

CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL **DIMENSIONS AND JOB CONDITIONS** RELATED TO THIS WORK. ALL DIMENSIONS SHALL BE CONSIDERED "NOMINAL" UNLESS NOTED OTHERWISE. DO NOT SCALE DRAWINGS. USE WRITTEN DIMENSIONS ONLY. DIMENSIONS ON LARGE SCALE DRAWINGS OR DETAILS WILL PREVAIL OVER SMALLER SCALED DRAWINGS. WRITTEN DIMENSIONS ARE DRAWN TO THE FACE OF STUD, U.N.O. VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT, PROVIDE ALL BUCKOUTS, BLOCKING, AND JACKS AS REQUIRED BY THE DRAWINGS AND OTHER TRADES. ANY DISCREPANCY IN DIMENSIONS SHALL BE REPORTED IN WRITING TO THE PROJECT MANAGER/ DESIGNER FOR CLARIFICATION, OR APPROVAL OF MODIFICATION BEFORE COMMENCING WORK. THE RESPONSIBILITY TO THE PROJECT MANAGER/DESIGNER, SHALL REST WITH THE CONTRACTOR OR ANY OTHER PERSON APPROVING SUCH A CHANGE.

ALL **WORKMANSHIP AND MATERIALS** SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF CERTIFICATE OF OCCUPANCY UNLESS SPECIFIED FOR A LONGER PERIOD OF TIME ON SPECIFIED ITEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING OR REPAIRING HIS OWN DEFECTIVE WORK AS WELL AS PAY ALL COSTS INCIDENTAL THERETO INCLUDING DAMAGE TO OTHER WORK, FURNISHINGS OR EQUIPMENT.

ALL **WARRANTIES OR GUARANTEES** AS TO MATERIALS OR WORKMANSHIP ON OR WITH RESPECT TO THE OWNER'S WORK SHALL BE CONTAINED IN THE CONTRACT OR SUBCONTRACT WHICH SHALL BE SO WRITTEN THAT SUCH GUARANTEE OR WARRANTIES SHALL INSURE TO THE BENEFIT OF OWNER.

INSURANCE: PRIOR TO THE COMMENCEMENT OF WORK THE GENERAL CONTRACTOR SHALL DELIVER TO THE OWNER CERTIFICATES OF INSURANCE FOR BOTH COMPREHENSIVE GENERAL LIABILITY AND WORKMAN'S COMPENSATION INCLUDING THE TOTAL AMOUNT OF COVERAGE AND CONDITIONS STIPULATED AND AGREED BY BOTH PARTIES.

THE OWNER SHALL BE RESPONSIBLE FOR PAYING FOR THE **BUILDING PERMIT**. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL OTHER PERMITS REQUIRED OR NECESSARY FOR THE COMPLETION OF THE WORK FROM THE RESPECTIVE AGENCIES. THE CONTRACTOR SHALL NOTIFY THE GOVERNING AGENCIES AS REQUIRED FOR SITE INSPECTIONS.

ALL TRADES SHALL REFER TO THE **ARCHITECTURAL DRAWINGS** REGARDING LOCATIONS OF WORK TO BE INSTALLED.

UNLESS OTHERWISE NOTED, PROVIDE ALL MISCELLANEOUS FASTENERS, HARDWARE AND ACCESSORIES AS REQUIRED FOR COMPLETE INSTALLATION. EVEN THOUGH SUCH ITEMS MAY NOT HAVE BEEN SPECIFICALLY MENTIONED IN THE DRAWINGS AND SPECIFICATIONS, NOTIFY THE ARCHITECT OF ANY REVISIONS OR ADDITIONAL INFORMATION OBTAINED FROM THE MANUFACTURER OF SPECIFIED MATERIALS OR EQUIPMENT WHICH MAY AFFECT THE CONTRACT TIME, COST OR QUALITY OF WORK.

GENERAL CONDITIONS
THE GENERAL CONTRACTOR, ALL SUB-CONTRACTORS AND ALL MAJOR SUPPLIERS SHALL SUBMIT TO THE OWNER WITHIN 30 DAYS AFTER COMPLETION ALL "RELEASE OF LIENS" FOR ALL WORK PERFORMED PRIOR TO FINAL PAYMENT.

PARTIAL LIEN WAIVERS TO BE SUBMITTED WITH MONTHLY REQUISITION.

ALL MANUFACTURERS AND/OR SUPPLIERS SHALL SUBMIT SHOP DRAWINGS AND/OR MATERIAL SAMPLES TO THE DESIGNER/OWNER FOR APPROVAL PRIOR TO FABRICATION.

ALL OF THE GENERAL CONTRACTOR'S EQUIPMENT, SCAFFOLDING HOISTS, ETC., SHALL BE AVAILABLE TO THE OWNER/ DESIGNER AND THEIR STAFF FOR INSPECTION OF ANY AND ALL WORK DURING NORMAL WORKING HOURS.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL DELIVERY POINTS, HOISTS LOCATIONS, ACCESS TO AND FROM THE SITE OF THE BUILDING AND UTILITY SERVICES.
BID TO INCLUDE ALL NECESSARY AND REQUIRED PERMITS, LICENSES, FEES, BONDS AND INSURANCE - EVIDENCE OF WHICH MUST BE SUBMITTED TO OWNER/ DESIGNER PRIOR TO ANY CONSTRUCTION.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SUBCONTRACTORS WORKING AT JOB SITE AND FOR ALL COORDINATION OF WORK.

THE MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTOR SHALL FULLY COORDINATE ALL EQUIPMENT WITH THE OTHER TRADES. THESE CONTRACTORS SHALL BE RESPONSIBLE FOR FINAL HOOK-UP OF ALL EQUIPMENT NOT FURNISHED BY THEM BUT REQUIRING THE SAME FOR FINAL COMPLETION.

GENERAL CONTRACTOR TO BE RESPONSIBLE FOR SECURITY OF ALL MATERIALS AT JOB SITE UNTIL FINAL ACCEPTANCE OF WORK BY OWNER.

ANY SUBCONTRACTOR CUTTING INTO WORK ALREADY COMPLETED, CUTTING CHASES AND TRENCHES FOR THE INTRODUCTION OF HIS WORK AND EQUIPMENT IN THE BUILDING SHALL DO OR PAY FOR ALL BACK FILLING, REPARATION OF WALLS, FLOOR, ETC., DAMAGE BY SUCH A COMPANY. ALL REPAIRS SHALL MATCH EXISTING SURFACES.

CONSTRUCTION SPECIFICATIONS
NO SUBSTITUTIONS ARE ALLOWED FOR MATERIALS WHERE SPECIFIC MANUFACTURERS ARE INDICATED, UNLESS APPROVED BY THE OWNER/ARCHITECT. REQUESTS FOR SUBSTITUTIONS SHALL BE MADE IN WRITING PRIOR TO ORDERING MATERIALS OR COMMENCING WORK. SUCH REQUESTS SHALL INCLUDE THE DATE, SCOPE OF WORK, ANY ADDITIONAL COSTS TO THE OWNER, AND ANY ANTICIPATED DELAYS CAUSED BY SUCH CHANGES.

NO EXTRA WORK OR CHANGE SHALL BE MADE UNLESS A WRITTEN CHANGE ORDER IS SUBMITTED AND SIGNED BY THE OWNER AND ARCHITECT. THE ORDER SHALL STATE THAT THE OWNER HAS AUTHORIZED THE EXTRA WORK OR CHANGE, AND NO CLAIM FOR AN ADDITIONAL SUM SHALL BE VALID UNLESS SO OFFERED AS DESCRIBED ABOVE.

ALL WOOD IN CONTACT WITH MASONRY OR CONCRETE OR EXPOSED TO WEATHER SHALL BE PRESSURE TREATED.

WOOD SPECIFICATIONS TO CONFORM TO OUTLINE SPECIFICATIONS, STRUCTURAL PLANS, NOTES, AND GENERAL CONDITIONS.

CAULKING AND SEALANTS: INSTALLED SHALL BE GUARANTEED WATERTIGHT. EXTERIOR METAL WORK, INCLUDING WINDOWS AND DOOR FRAMES AND ALL JUNCTIONS BETWEEN MASONRY, CONCRETE AND METAL SHALL BE SEALED WITH NEOPRENE OR POLYURETHANE FILLER AND APPROVED SEALANT COMPOUNDS.

PROVIDE GALVANIC INSULATION BETWEEN ALL DISSIMILAR METALS.

PROVIDE WATERPROOFING MEMBRANE OVER PROTECTIVE BOARD AT ALL WALLS EXPOSED TO EARTH.

ALL PIPING AND CONDUIT UNDER SLAB SHALL BE A MINIMUM OF 2"-0' CLEAR OF UNDERSIDE OF FOOTING.

ALL FINAL SURFACE GRADING SHALL BE COMPLETED TO FACILITATE POSITIVE DRAINAGE AWAY FROM THE BUILDING UNLESS NOTED OTHERWISE.

PROVIDE AND INSTALL INSULATION AT EXTERIOR WALLS, ROOF, FLOOR LOCATIONS AS SHOWN, SPECIFIED AND IN ACCORDANCE WITH THE WASHINGTON STATE ENERGY CODE.

WATER PIPES TO BE INSULATED IN ALL UNHEATED AREAS.

INSULATE ALL ROUGH-IN PLUMBING IN WALLS, FLOORS, AND CEILINGS FOR SOUND TRANSMISSION.

PROJECT DATA

EXISTING LOT AREA SUMMARY

GROSS LOT AREA	19,337 SF (PER SURVEY)
ACCESS EASEMENTS	0 SF
NET LOT AREA (LANDWARD OF OHWM)	18,231 SF
LOT SLOPE	(57.2' - 18.6') / 199.31' = 19.4%

TREE REMOVAL

(E) TREES TO BE REMOVED	7
(N) TREES TO BE PLANTED AS REPLACEMENT	10

2

EXISTING LOT COVERAGE

(E) RESIDENCE, GARAGE, AND OVERHANGS	3,912.96 SF
(E) DRIVING SURFACES	1,749.56 SF
(E) TOTAL LOT COVERAGE	**5,662.52 SF = 31.1% OF LOT AREA**

PROPOSED LOT COVERAGE

(N) RESIDENCE, GARAGE, AND OVERHANGS	4,534.18 SF
(N) DRIVING SURFACES	1,834.98 SF
(N) TOTAL LOT COVERAGE	**6,369.16 SF = 34.9% OF LOT AREA**

ALLOWABLE LOT COVERAGE

35% OF LOT AREA BASED ON LOT SLOPE, PER 19.02.020.F.3.a.	18,231 SF * 0.35 = 6,380.85 SF

EXISTING HARDSCAPE

STAIRS	498.47 SF
PATIOS / WALKWAYS	1,990.28 SF
ROCKERIES	388.41 SF
SITE WALLS	162.26 SF
TOTAL EXISTING	**3,039.42 SF = 16.7% OF LOT AREA** (EXISTING NON-CONFORMING)

DEMOLISHED HARDSCAPE

STAIRS	320.77 SF
PATIOS/WALKWAYS	1,990.28 SF
SITE WALLS	123.95 SF
TOTAL DEMOLISHED	**2,435.00 SF**

PROPOSED HARDSCAPE

(E) HARDSCAPE TO REMAIN	
STAIRS	177.70 SF
ROCKERIES	388.41 SF
SITE WALLS	38.31 SF
TOTAL TO REMAIN	604.42 SF
(N) ADDED HARDSCAPE	
DECKS	463.86 SF
STAIRS	203.88 SF
PATIO/WALKWAYS	252.77 SF
ROCKERIES	67.89 SF
SITE WALLS	59.61 SF
TOTAL ADDED	1,048.01 SF
TOTAL HARDSCAPE	**1,652.43 SF = 9.1% OF LOT AREA** (604.42 + 1,048.01) = 1,652.43

ALLOWABLE HARDSCAPE

9% OF LOT AREA	18,231 SF * 0.09 = 1,640.79 SF
PER 19.02.020.F.3.b.ii., HARDSCAPE IMPROVEMENTS ARE PERMITTED IN THE MAXIMUM LOT COVERAGE AREA	
REMAINING LOT COVERAGE	6380.85 SF - 6369.16 SF = 11.69 SF
TOTAL ALLOWABLE HARDSCAPE	1,640.79 SF + 11.69 SF = 1,652.48 SF

EXISTING BUILDING AREA SUMMARY (GFA)

(E) BASEMENT LEVEL	1,820 SF
(E) MAIN LEVEL	2,000 SF
(E) GARAGE	767 SF
TOTAL EXISTING BUILDING AREA (GSF)	4,587 SF
EXISTING FLOOR AREA RATIO:	**4,587/18,231 = 25.2% OF LOT AREA**

PROPOSED BUILDING AREA SUMMARY (GFA)

PROPOSED BASEMENT LEVEL	3,821.71 SF
PROPOSED BASEMENT LEVEL BELOW GRADE (EXCLUDED PER MICC CHAPTER 19 APPENDIX B, REF. SHEET A211)	(1,997.72 SF)
PROPOSED MAIN LEVEL (EXCLUDES STAIR PER MICC 19.02.020.D.2.c)	2,447.15 SF
PROPOSED COVERED DECKS (PER MICC CHAPTER 19.16.010.G.1.e.)	74.30 SF
PROPOSED ATTACHED GARAGE	810.50 SF
PROPOSED ATTACHED GARAGE BELOW GRADE (EXCLUDED PER MICC CHAPTER 19 APPENDIX B, REF. SHEET A212)	(156.84 SF)
TOTAL PROPOSED BUILDING AREA (GSF)	4,999.10 SF
PROPOSED FLOOR AREA RATIO:	**4,999.10/18,231 = 27.4% OF LOT AREA**

5,000 SF, OR 40% ALLOWABLE GROSS FLOOR AREA MAX., WHICHEVER IS LESS

SETBACKS

SIDE YARD (PER 19.02.020.C.1.c.)
PER 19.16.010, LOT WIDTH IS THE DISTANCE BETWEEN THE TWO MIDPOINTS OF SIDE LOT LINES = 100'

TOTAL: 17% OF LOT WIDTH	100' * 0.17 = 17'
MINIMUM: 33% OF SIDE YARD TOTAL	17' * 0.33 = 5.61'
FRONT YARD	20'
SHORELINE	25' FROM THE ORDINARY HIGH WATER MARK

OCCUPANCY SUMMARY

EXISTING TYPE	R-3
OCCUPANT LOAD	SINGLE FAMILY

ENERGY CODE SUMMARY (2018 WASHINGTON STATE ENERGY CODE, RESIDENTIAL PROVISIONS)

CLIMATE ZONE 4C PER TABLE R301.1
PRESCRIPTIVE THERMAL ENVELOPE PER TABLE R402.1.1
EFFICIENT ENVELOPE OPTION 1.3 (SECTION R406)

FENESTRATION U-FACTOR (VERTICAL):	0.28
SKYLIGHT U-FACTOR (OVERHEAD):	0.50
CEILING:	R-49
VAULTED CEILING:	R-38
WALL ABOVE GRADE:	R-21
WALL BELOW GRADE (INT.):	R-21 (INT.) OR R-10 (EXT.)
FLOOR ABOVE GRADE:	R-38
SLAB ON GRADE @ BASEMENT:	R-10

AIR LEAKAGE OPTION 2.2
REDUCE THE TESTED AIR LEAKAGE TO 2.0 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS - AND - ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 403.8 OF THE INTERNATIONAL MECHANICAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.65.

HIGH EFFICIENCY HVAC OPTION 3.1
ENERGY STAR RATED (U.S. NORTH) GAS OR PROPANE FURNACE WITH MINIMUM AFUE OF 95% - OR - ENERGY STAR RATED (U.S. NORTH) GAS OR PROPANE BOILER WITH MINIMUM AFUE OF 90%.

HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM 4.2
LOCATING SYSTEM COMPONENTS IN CONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION. ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION. DIRECT COMBUSTION HEATING EQUIPMENT WITH AFUE LESS THAN 80% IS NOT PERMITTED UNDER THIS OPTION.

RENEWABLE ELECTRICITY OPTION 6.1
FOR EACH 1200 KWH OF ELECTRICAL GENERATION PER HOUSING UNIT PROVIDED ANNUALLY BY ON-SITE WIND OR SOLAR EQUIPMENT A 1.0 CREDIT SHALL BE ALLOWED, UP TO 3 CREDITS. GENERATION SHALL BE CALCULATED AS FOLLOWS: FOR SOLAR ELECTRIC SYSTEMS, THE DESIGN SHALL BE DEMONSTRATED TO MEET THIS REQUIREMENT USING THE NATIONAL RENEWABLE ENERGY LABORATORY CALCULATOR PVWATTS OR APPROVED ALTERNATE BY THE CODE OFFICIAL.

ENERGY EFFICIENT APPLIANCE PACKAGE OPTION 7.1
ALL OF THE FOLLOWING APPLIANCES SHALL BE NEW AND INSTALLED IN THE DWELLING UNIT AND SHALL MEET THE FOLLOWING STANDARDS: DISHWASHER – ENERGY STAR RATED, REFRIGERATOR (IF PROVIDED) – ENERGY STAR RATED, WASHING MACHINE – ENERGY STAR RATED, DRYER – ENERGY STAR RATED VENTLESS DRYER WITH A MINIMUM CEF RATING OF 5.2.

LIFE SAFETY
CONTRACTOR TO INSTALL CARBON MONOXIDE ALARMS OUTSIDE OF EACH BEDROOM IN THE IMMEDIATE VICINITY ON EACH FLOOR LEVEL PER IRC SECTION 315.3, SEE PLANS.
CONTRACTOR TO INSTALL SMOKE ALARMS OUTSIDE OF EACH BEDROOM IN THE IMMEDIATE VICINITY ON EACH FLOOR LEVEL PER IRC SECTION 314.2.2, SEE PLANS.

HEATING
INSTALLED PER INTERNATIONAL MECHANICAL CODE, WORK TO BE COMPLETED UNDER A SEPARATE PERMIT.

VENTILATION
FANS ON TIMERS, PER PLANS. VOLUME OF REQUIRED OUTDOOR VENTILATION AIR TO BE PROVIDED BASED ON TABLE 403.8.5.1 OF THE INTERNATIONAL MECHANICAL CODE.
* PLUMBING, MECHANICAL, ELECTRICAL WORK TO BE PERMITTED SEPARATELY.
SEE SHEET G001 FOR VENTILATION & ENERGY CALCULATIONS.

1

FIRE DEPARTMENT NOTES
PROJECT TO BE EQUIPPED WITH A NFPA-13R FIRE SPRINKLER SYSTEM.
PROJECT TO BE EQUIPPED WITH A NFPA-72 HOUSEHOLD MONITORED SMOKE / FIRE ALARM SYSTEM PER CITY OF MERCER ISLAND STANDARDS AND CHAPTER 29.
PROJECT TO HAVE 5/8" TYPE X GYPSUM WALL BOARD AT GARAGE WALLS AND CEILING.
PROJECT TO HAVE SELF CLOSING, RATED FIRE DOOR FROM GARAGE TO RESIDENCE.
PROJECT TO USE SOLID CORE DOORS THROUGHOUT.

2

GENERAL INFORMATION

PROJECT ADDRESS	8480 85TH AVE SE MERCER ISLAND, WA 98040
PROJECT NUMBER	2202-257
ASSESSOR'S PARCEL #	073610-0155
LEGAL DESCRIPTION	BENOTHO BEACH UNREC VAL OF UNDEEDED STS & ALLEYS INCL IN ADJ LOT VAL & SH LDS ADJ LESS C & M RGTS. PLAT LOT: 26-27
PROJECT DESCRIPTION	DEMOLITION OF A SINGLE FAMILY RESIDENCE AND NEW CONSTRUCTION OF A SINGLE FAMILY RESIDENCE
ZONE	R-8.4
BUILDING TYPE	SINGLE FAMILY RESIDENCE

PROJECT DIRECTORY

OWNER	XIAOXIA WU 8480 85TH AVE SE MERCER ISLAND, WA 98040 xiaoxiaee@gmail.com
ARCHITECT	COLIN BRANDT BRANDT DESIGN GROUP 66 BELL ST., UNIT 1 SEATTLE, WA 98121 206.239.0850 ext. 0011 colin@brandtdesigninc.com
OWNER'S AGENT/CONTACT	BREE MEDLEY BRANDT DESIGN GROUP 66 BELL ST., UNIT 1 SEATTLE, WA 98121 206.239.0850 ext. 0012 bree@brandtdesigninc.com
GENERAL CONTRACTOR	STEVE MOELLER SCHULTZ MILLER 1015 NE 113TH STREET SEATTLE, WA 98125 PHONE: 206.281.1234 ext. 108 EMAIL: smoeller@schultzmiller.com
STRUCTURAL ENGINEER	BRETT MOZDEN SWENSON SAY FAGET 2124 THIRD AVENUE, SUITE 100 SEATTLE, WA 98121 206.443.6212 bmozden@ssfengineers.com
CIVIL ENGINEER	BRADY BERRIMAN LATITUDE 48 ENGINEERS 600 1ST AVENUE SEATTLE, WA 98104 206.556.1615 brady@latitude-48.com
GEOTECHNICAL ENGINEER	MARC MCGINNIS GEOTECH CONSULTANTS, INC. 2401 10TH AVENUE EAST, SEATTLE, WA 98102 425.260.1116 marcm@geotechnw.com
ARBORIST	ANTHONY MORAN SUPERIOR NW TREE & SHRUB CARE INC. 13110 NE 177TH PL., WOODINVILLE, WA 98072 206.232.0279 anthony@superiornw.com
SURVEYOR	DANA HALL TERRANE 10801 MAIN STREET, SUITE 102 BELLEVUE, WA 98004 425.458.4488 danah@terrane.net

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REVISION INDEX

REVISION	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

SHEET INDEX

SHEET NUMBER	SHEET NAME
GENERAL	
G000	COVERSHEET
G001	ENERGY CODE, LEAKAGE TESTING, & VENT CALCS
SURVEY	
S-1	TOPOGRAPHIC & BOUNDARY SURVEY
S-2	TOPOGRAPHIC & BOUNDARY SURVEY
ARCHITECTURAL DEMOLITION	
AD101	DEMOLITION SITE PLAN
AD102	DEMOLITION LOT COVERAGE SITE PLAN
CIVIL	
C100	TESC PLAN
C110	TESC DETAILS + NOTES
C200	TREE PLAN
C210	TREE DETAILS + NOTES
C300	CIVIL SITE PLAN
C310	CIVIL DETAILS + NOTES
C311	CIVIL DETAILS
SHORING	
AS101	ARCH. SHORING AND EXCAVATION SITE PLAN
AS111	EXCAVATION SITE SECTIONS
SH1.1	GENERAL SHORING NOTES
SH2.1	SHORING PLAN
SH3.1	SHORING DETAILS
SH4.1	SHORING ELEVATIONS
SH4.2	SHORING ELEVATIONS
ARCHITECTURAL	
A101	PROPOSED SITE PLAN
A102	SETBACK SITE PLAN
A103	PROPOSED LOT COVERAGE SITE PLAN
A104	SHORELINE REST. & TREE RETENT. / REPL. PLAN
A105	ENLARGED SHORELINE PLANTING PLAN
A211	LOWER FLOOR PLAN
A212	MAIN FLOOR PLAN
A213	ROOF PLAN
A301	EXTERIOR ELEVATIONS (N&E)
A302	EXTERIOR ELEVATIONS (S&W)
A401	BUILDING SECTIONS
A402	BUILDING SECTIONS
A403	BUILDING SECTIONS
A411	WALL SECTIONS
A412	WALL SECTIONS
A413	WALL SECTIONS
A414	WALL SECTIONS
A415	WALL SECTIONS
A601	DOOR / WINDOW SCHEDULES, LEGENDS, & NOTES
A701	VERTICAL ASSEMBLY DETAILS
A702	HORIZONTAL ASSEMBLY DETAILS
STRUCTURAL	
S1.1	GENERAL STRUCTURAL NOTES
S1.2	GENERAL STRUCTURAL NOTES
S1.3	LOAD MAPS
S2.1	LOWER FLOOR / FOUNDATION PLAN
S2.2	MAIN FLOOR FRAMING PLAN
S2.3	ROOF FRAMING PLAN
S3.1	TYPICAL CONCRETE DETAILS
S3.2	FOUNDATION DETAILS
S4.1	TYPICAL WOOD FRAMING DETAILS
S4.2	WOOD FRAMING DETAILS
S5.1	TYPICAL STEEL DETAILS
S5.2	STEEL DETAILS
S5.3	STEEL BRACED FRAME ELEVATIONS
S5.4	STEEL BRACED FRAME DETAILS
S5.5	STEEL DETAILS
S5.6	STEEL DETAILS
S5.7	STEEL DETAILS
S5.8	STEEL DETAILS
S6.1	TYPICAL LIGHT GAUGE DETAILS
S6.2	LIGHT GAUGE DETAILS

Brandt
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8843
REGISTERED ARCHITECT
STATE OF WASHINGTON

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE:	03.11.22
SHEET SIZE:	E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

DRAWN BY:	DD
CHECKED BY:	KM

COVERSHEET

SCALE:	As indicated

G000

DEDICATED APPROVAL STAMP SPACE

WA STATE ENERGY CODE FORMS

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective February 1, 2021)

These requirements apply to all IRC building types, including detached one- and two-family dwellings and multiple single-family dwellings (townhouses).

Project Information	*Contact Information*
8480 Residence	Kate Miller
8480 85th Ave SE	kate@brandtdesigninc.com / (206) 239-0850 ext 14

Instructions: This single-family project will use the requirements of the Prescriptive Path below and incorporate the minimum values listed. Based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Provide all information from the following tables as building permit drawings: Table R402.1 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and 406.3 - Energy Credits.

Authorized Representative		*Date*	

All Climate Zones (Table R402.1.1)

	R-Value [a]	U-Factor [a]
Fenestration U-Factor [b]	n/a	0.30
Skylight U-Factor [b]	n/a	0.50
Glazed Fenestration SHGC [b,e]	n/a	n/a
Ceiling [e]	49 [j]	0.026
Wood Frame Wall [g,h]	21 int	0.056
Floor	30	0.029
Below Grade Wall [c,h]	10/15/21 int + TB	0.042
Slab [d,f] R-Value & Depth	10, 2 ft	n/a

a	*R*-values are minimums. *U*-factors and SHGC are maximums. When insulation is installed in a cavity that is less than the label or design thickness of the insulation, the compressed *R*-value of the insulation from Appendix Table A101.4 shall not be less than the *R*-value specified in the table.
b	The fenestration *U*-factor column excludes skylights.
c	"10/15/21 +5TB" means R-10 continuous insulation on the exterior of the wall, or R-15 continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21 +5TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "5TB" means R-5 thermal break between floor slab and basement wall.
d	R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1.
e	For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38 if the full insulation depth extends over the top plate of the exterior wall.
f	R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.
g	For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for *climate zone* 5 of ICC 400.
h	Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.

Prescriptive Path – Single Family 2018 Washington State Energy Code-R 1

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective February 1, 2021)

Each dwelling unit ***in a residential building*** shall comply with sufficient options from Table R406.2 (fuel normalization credits) and Table 406.3 (energy credits) to achieve the following minimum number of credits. To claim this credit, the building permit drawings shall specify the option selected and the maximum tested building air leakage, and show the qualifying ventilation system and its control sequence of operation.

1. **Small Dwelling Unit: 3 credits**
   Dwelling units less than 1,500 sf in conditioned floor area with less than 300 sf of fenestration area. Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.
2. **Medium Dwelling Unit: 6 credits**
   All dwelling units that are not included in #1 or #3
3. **Large Dwelling Unit: 7 credits**
   Dwelling units exceeding 5,000 sf of conditioned floor area
4. **Additions less than 500 square feet: 1.5 credits**
   All other additions shall meet 1-3 above

Before selecting your credits on this Summary table, review the details in Table 406.3 (Single Family), on page 4.

Summary of Table R406.2

Heating Options	Fuel Normalization Descriptions	Credits - select ONE heating option		User Notes
1	Combustion heating minimum NAECA[b]	0.0	☑	
2	Heat pump[c]	1.0	☐	
3	Electric resistance heat only - furnace or zonal	-1.0	☐	
4	DHP with zonal electric resistance per option 3.4	0.5	☐	
5	All other heating systems	-1.0	☐	
Energy Options	**Energy Credit Option Descriptions**	**Credits - select ONE energy option from each category [d]**		
1.1	Efficient Building Envelope	0.5	☐	
1.2	Efficient Building Envelope	1.0	☐	
1.3	Efficient Building Envelope	0.5	☑	
1.4	Efficient Building Envelope	1.0	☐	
1.5	Efficient Building Envelope	2.0	☐	
1.6	Efficient Building Envelope	3.0	☐	
1.7	Efficient Building Envelope	0.5	☐	
2.1	Air Leakage Control and Efficient Ventilation	0.5	☐	
2.2	Air Leakage Control and Efficient Ventilation	1.0	☑	
2.3	Air Leakage Control and Efficient Ventilation	1.5	☐	
2.4	Air Leakage Control and Efficient Ventilation	2.0	☐	
3.1[a]	High Efficiency HVAC	1.0	☑	
3.2	High Efficiency HVAC	1.0	☐	
3.3[a]	High Efficiency HVAC	1.5	☐	
3.4	High Efficiency HVAC	1.5	☐	
3.5	High Efficiency HVAC	1.5	☐	
3.6[a]	High Efficiency HVAC	2.0	☐	
4.1	High Efficiency HVAC Distribution System	0.5	☐	
4.2	High Efficiency HVAC Distribution System	1.0	☑	

Prescriptive Path – Single Family 2018 Washington State Energy Code-R 2

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective February 1, 2021)

Summary of Table R406.2 (cont.)

Energy Options	Energy Credit Option Descriptions (cont.)	Credits - select ONE energy option from each category [d]		User Notes
5.1[d]	Efficient Water Heating	0.5	☐	
5.2	Efficient Water Heating	0.5	○	
5.3	Efficient Water Heating	1.0	○	
5.4	Efficient Water Heating	1.5	○	
5.5	Efficient Water Heating	2.0	○	
5.6	Efficient Water Heating	2.5	○	
6.1[e]	Renewable Electric Energy (3 credits max)	1.0	3	
7.1	Appliance Package	0.5	☑	
	Total Credits		7	CLEAR FORM

a. An alternative heating source sized at a maximum of 0.5 W/sf (equivalent) of heated floor area or 500 W, whichever is bigger, may be installed in the dwelling unit.
b. Equipment listed in Table C403.3.2(4) or C403.3.2(5)
c. Equipment listed in Table C403.3.2(1) or C403.3.2(2)
d. You cannot select more than one option from any category EXCEPT in category 5. Option 5.1 may be combined with options 5.2 through 5.6. See Table 406.3.
e. 1.0 credit for each 1,200 kWh of electrical generation provided annually, up to 3 credits max.
See the complete Table R406.2 for all requirements and option descriptions.

Please print only pages 1 through 3 of this worksheet for submission to your building official.

Window, Skylight and Door Schedule

Project Information	*Contact Information*
"8480 Residence"	Bree Medley - Brandt Design Group
8480 85th Ave SE	206.239.0850
Mercer Island, WA 98040	bree@brandtdesigninc.com

	Ref.	U-factor	Qt.	Width Feet	Inch	Height Feet	Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)								0.0	0.00
Exempt Glazed Fenestration (15 sq. ft. max.)								0.0	0.00

Vertical Fenestration (Windows and doors)

Component Description	Ref.	U-factor	Qt.	Width Feet	Inch	Height Feet	Inch	Area	UA
109A - W	Manu.	0.26	1	9	2.8	9	4.9	86.8	22.57
109B - W	Manu.	0.25	1	13	4.9	9	4.9	126.1	31.53
114 - W	Manu.	0.25	1	13	1.3	9	4.9	123.3	30.82
202 - W	Manu.	0.26	1	12	2	8	2.5	99.9	25.97
203 - W	Manu.	0.34	1	3	11	2	2	8.5	2.89
204A - W	Manu.	0.26	1	6	3.3	9	8.9	61.1	15.88
204B - W	Manu.	0.27	1	4	7	9	8.9	44.6	12.05
205A - W	Manu.	0.36	1	6	9.5	2	2	14.7	5.30
205B - W	Manu.	0.36	1	6	5.8	2	2	14.0	5.05
205C - W	Manu.	0.36	1	6	9.5	2	2	14.7	5.30
207 - W	Manu.	0.25	1	14	8.3	9	8.9	143.1	35.76
209A - W	Manu.	0.25	1	17	4.9	9	8.9	169.5	42.38
211A - W	Manu.	0.25	1	17	5	9	8.9	169.6	42.41
211B - W	Manu.	0.26	1	8	4.5	9	8.9	81.6	21.21
212 - W	Manu.	0.26	1	12	0	8	3.9	99.9	25.97
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
106B - D	Manu.	0.32	1	13	0.3	9	5.8	123.4	39.50
109 - D	Manu.	0.34	1	9	2.8	9	5.8	87.5	29.74
110A - D	Manu.	0.25	1	29	3.6	9	6	278.4	69.59
114C - D	Manu.	0.34	1	17	5.1	9	5.8	165.2	56.17
116B - D	Manu.	0.32	1	13	11	9	5.8	131.8	42.18
202A - D	Manu.	0.28	1	3	10	8	2.5	31.5	8.81
205 - D	Manu.	0.25	1	27	5.8	9	10	270.2	67.55
206 - D	Manu.	0.25	1	29	3.6	9	10	288.1	72.03
209B - D	Manu.	0.31	1	11	9	9	10	115.5	35.82
211B - D	Manu.	0.32	1	13	2.5	9	10	129.9	41.56
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00

	Area	UA
Sum of Vertical Fenestration Area and UA	2878.9	788.03
Vertical Fenestration Area Weighted U = UA/Area		0.27

Overhead Glazing (Skylights)

Component Description	Ref.	U-factor	Qt.	Width Feet	Inch	Height Feet	Inch	Area	UA
Storefront Type A	Manu.	0.28	1	12	0	17	4.5	208.5	58.38
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00

	Area	UA
Sum of Overhead Glazing Area and UA	208.5	58.38
Overhead Glazing Area Weighted U = UA/Area		0.28
Total Sum of Fenestration Area and UA ***(for heating system sizing calculations)***	3087.4	846.41

Simple Heating System Size: Washington State

This heating system sizing calculator is based on the Prescriptive Requirements of the 2018 Washington State Energy Code (WSEC) and ACCA Manuals J and S. This tool will calculate heating loads only. ACCA procedures for sizing cooling systems should be used to determine cooling loads.

Please complete the green drop-downs and boxes that are applicable to your project. As you make selections in the drop-downs for each section, some values will be calculated for you. If you do not see the selection you need in the drop-down options, please contact the WSU Energy Program at energycode@energy.wsu.edu or (360) 956-2042 for assistance.

Project Information	*Contact Information*
8480 85th AVE SE	KATE MILLER
MERCER ISLAND, WA 98040	BRANDT DESIGN GROUP

Heating System Type: ● All Other Systems ○ Heat Pump

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

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

Area of Building
Conditioned Floor Area
Instructions: Conditioned Floor Area (sq ft) 6,389
Average Ceiling Height
Instructions: Average Ceiling Height (ft) 9.3
Conditioned Volume 59,230

	Selection	U-Factor / F-Factor	X	Area / Length	=	UA
Glazing and Doors	U-0.28	0.280	X	2,770	=	775.47
Skylights		0.50	X	215	=	107.59
Insulation – Attic	R-49	0.026	X	1,989	=	51.71
Single Rafter or Joist Vaulted Ceilings	R-38 Vented	0.027	X	145		3.91
Above Grade Walls *(see Figure 1)*	R-21 Intermediate	0.056	X	1,826		102.24
Floors	R-38	0.025	X	1,245		31.13
Below Grade Walls *(see Figure 1)*	R-21 Interior	0.042	X	2,098		88.11
Slab Below Grade *(see Figure 1)*	R-10 Fully insulated	0.303 (F-Factor)	X	372 (Length)		112.79
Slab on Grade *(see Figure 1)*	No Slab on Grade in this project.	--- (F-Factor)	X	0 (Length)		

Location of Ducts
Instructions: No Ducts
Duct Leakage Coefficient 1.00

Figure 1.

Sum of UA	1272.95	
Envelope Heat Load *Sum of UA x ΔT*	57,283	Btu / Hour
Air Leakage Heat Load *Volume x 0.6 x ΔT x 0.018*	28,786	Btu / Hour
Building Design Heat Load *Air leakage + envelope heat loss*	86,068	Btu / Hour
Building and Duct Heat Load *Ducts in unconditioned space: sum of building heat loss x 1.10* *Ducts in conditioned space: sum of building heat loss x 1*	86,068	Btu / Hour
Maximum Heat Equipment Output *Building and duct heat loss x 1.40 for forced air furnace* *Building and duct heat loss x 1.25 for heat pump*	120,496	Btu / Hour

(07/01/13)

2018 WSEC Residential Energy Compliance Certificate (Effective February 1, 2021)

Property address: ____________________
Builder/registered design professional name: ____________________
Builder/reg. design pro. signature: ____________________
Conditioned floor area: __________ ft^2 (per building permit)

R-Values (R303.1.1)

Ceiling/Attic: Vaulted R-______ Attic R-______
Floors: Over unconditioned space R-_____ Slab-on-grade floor R-_____
Walls: Above grade R-______ Below, int. R-______ Below, ext. R-______
Fully insulated slab? Y/N (Circle one)
Doors: R-_____, R-_____, R-_____

U-Value of Windows, Skylights and Doors (R303.1.1.3)

Average area weighted U-value from Glazing Worksheet Average U- -______

Fuel Normalization (Tables R406.2) and Energy Credits (Table R406.3)

System Type Number (1 to 5) __________ (Select one)
Energy Credits selected (1 to 7)____________________
Fuel Normalization Credit ______ + Total Energy Credits _______ = Total Credits______

Heating, Cooling and Domestic Hot Water

System	*Type (Manufacturer and Model Number)*	*Efficiency*
Heating		
Cooling		
DHW		
Drain water heat recovery		

Onsite Renewable Energy Electric Power System

System type ____________ System design capacity __________ kW
Rated annual generation ____________ kWh/yr

Appliances	***Manufacturer and Model***	***Energy Star?*** *(Circle one)*
Dish washer		Y or N
Refrigerator		Y or N
Washer		Y or N
Dryer	Vented or unvented? If vented, CEF rating ______	Y or N

Gas fireplace / heating stove (Section R402.4.2) Fireplace efficiency (FE) ________
Heating or Decorative? (Circle one)

HVAC System Duct Leakage Testing (R403.3)	*Circle one*
All ductwork and air handler in conditioned space? (See Option 4.2)	Y or N
All ductwork in unconditioned spaces buried and tested at 3% total leakage, and air handler in conditioned space? (See Option 4.1.)	Y or N
All ductwork & air handler outside conditioned space insulated to minimum R-8?	Y or N
Air handler present at duct leakage test? (Total leakage 4% if yes, 3% if no)	Y or N
HVAC leakage to outside test conducted at final?	Y or N
Do HVAC duct leakage tests include GPS and time stamp verification?	Y or N

HVAC system leakage test calculated design target: ____________ CFM @ 25 Pa
HVAC system leakage test measured results: ____________ CFM @ 25 Pa

Building Leakage Testing (R402.4.1.2)

Dwelling unit leakage test calculated design target: ____________ ACH @ 50 Pa
Dwelling unit leakage test, measured results: ____________ ACH @ 50 Pa
Whole Building Leakage test (R2 non-corridor only) design target: __________ CFM/sf @ 50 Pa
Whole Building Leakage test (R2 non-corridor only) measured: __________ CFM/sf @ 50 Pa
Do building leakage tests include GPS and time stamp verification? Y or N

Whole House Ventilation System Measured Flow Rates (M1505.4 IRC-WA)	*Circle one*
Are the system controls correctly labeled?	Y or N
The Whole House Ventilation (WHV) system operation and maintenance (O&M) instructions were provided to the building owner?	Y or N

Provided to: ____________________ on ____________(date)

Whole House Ventilation System Type: (Circle one)
(1) Whole house exhaust fan, location ____________________
(2) Balanced HRV/ ERV, location ____________________
For R2 low-rise, serves more than one unit? Y or N
(3) Supply or HRV WHV integral to the air handler. Describe system control sequence of operations or reference to design submittal: ____________________
____

Specify run-time: _______ hours per day _______________ CFM
WHV calculated design minimum flow rate per plan submittal:
WHV measured min flow rate at commissioning: Exhaust ________CFM, Supply _______CFM
Do WHV flow tests include GPS & time stamp verification? Y or N
HRV/ERV sensible heat recovery efficiency: ___________
Commissioning Notes:

Other Mandatory Requirements	*Circle one*
All other mandatory requirements of WSEC-R have been met?	Y or N

Energy Code Support
WASHINGTON STATE UNIVERSITY
EXTENSION ENERGY PROGRAM

Duct Leakage Affidavit (New Construction)

Permit #: ____________________

House address or lot number: ____________________

City: ____________________ Zip: ____________________

Cond. Floor Area (ft^2): ______________ Source (circle one): Plans Estimated Measured

☐ Duct tightness testing is not required. The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope. Ducts located in crawl spaces do not qualify for this exception.

Air Handler in conditioned space? ☐ yes ☐ no Air Handler present during test? ☐ yes ☐ no

Circle Test Method: Leakage to Outside Total Leakage

Maximum duct leakage:
Post Construction, total duct leakage: (floor area x .04) = _______CFM@25 Pa

Post Construction, leakage to outdoors: (floor area x .04) = ________CFM@25 Pa

Rough-In, total duct leakage with air handler installed: (floor area x .04) = _______CFM@25 Pa

Rough-In, total duct leakage with air handler not installed: (floor area x .03) = _______CFM@25 Pa

Test Result: _____________CFM@25Pa

Ring (circle one if applicable): Open 1 2 3

Duct Tester Location: ____________________ Pressure Tap Location: ____________________

I certify that these duct leakage rates are accurate and determined using standard duct testing protocol.

Company Name: ____________________ Technician: ____________________

Technician Signature: ____________________

Date: ____________________

Phone Number: ____________________

WA STATE VENTILATION REQUIREMENTS

M1505.4 Whole-House Mechanical Ventilation System
Whole-house mechanical ventilation systems shall be designed in accordance with Sections M1505.4.1 through M1505.4.4.

M1505.4.1 System Design
The whole-house ventilation system shall consist of one or more supply fans, one or more exhaust fans, or an ERV/HRV with integral fans, associated ducts and controls. Whole-house mechanical ventilation system with supply and exhaust fans per Sections M1505.4.1.2, M1505.4.1.3, M1505.4.1.4, and M1505.4.1.5. Local exhaust fans are permitted to serve as part of the whole-house ventilation system when provided with the proper controls per Section M1505.4.2. The systems shall be designed and installed to exhaust and/or supply the minimum outdoor airflow rates per Section M1505.4.3 as modified by the whole-house ventilation system coefficients in Section M1504.5.3.1 where applicable. The whole-house ventilation system shall operate continuously at the minimum ventilation rate determined per Section M1505.4.2 unless configured with intermittent off controls per Section M1505.4.3.2.

M1505.4.1.4 Balanced Whole-House Ventilation System
A balanced whole-house ventilation system shall include both supply and exhaust fans. The supply and exhaust fans shall have airflow that is within 10% of each other. The tested and balanced total mechanical exhaust airflow rate is within 10% or 5 cfm (0.0024 m3/s), whichever is greater, of the total mechanical supply airflow rate. The flow rate test results shall be submitted and posted in accordance with Section M1505.4.1.7. The exhaust fan shall meet the requirements of Section M1505.4.1.2. The supply fan shall meet the requirements of Section M1505.4.1.3. Balanced ventilation systems with both supply and exhaust fans in a packaged product, such as an ERV/HRV, shall meet the requirements of HVI 920, as applicable. Intermittent dryer exhaust, intermittent range hood exhaust, and intermittent toilet room exhaust airflow rates above the residential dwelling or sleeping unit minimum ventilation rate are exempt from the balanced airflow calculation.

M1505.4.1.5 Furnace Integrated Supply
Systems using space heating and/or cooling air handler fans for outdoor air supply distribution are not permitted.
Exception: Air handler fans shall have multi-speed or variable speed supply airflow control capability with a low speed operation not greater than 25% of the rated supply airflow capacity during ventilation only operation. Outdoor air intake openings must meet the provisions of Sections R303.5 and R303.6 and must include a motorized damper that is activated by the whole-house ventilation system controller. The motorized damper must be controlled to maintain the outdoor airflow intake airflow within 10% of the whole-house mechanical exhaust airflow rate. The flow rate for the outdoor air intake must be tested and verified at the minimum ventilation fan speed and the maximum heating or cooling fan speed. The results of the test shall be submitted and posted in accordance with Section M1505.4.1.7.

M1505.4.2 System Controls
The whole-house mechanical ventilation system shall be provided with controls that comply with the following:
1. The whole-house ventilation system shall be controlled with manual switches, timers or other means that provide for automatic operation of the ventilation system that are readily accessible by the occupant;
2. Whole-house mechanical ventilation system shall be provided with controls that enable manual override off of the system by the occupant during periods of poor outdoor air quality. Controls shall include permanent text or a symbol indicating their function. Recommended control permanent labeling to include text similar to the following: "Leave on unless outdoor air quality is very poor." Manual controls shall be readily accessible by the occupant;
3. Whole-house ventilation systems shall be configured to operate continuously except where intermittent off controls and sizing are provided per Section M1505.4.3.2.

M1505.4.3 Mechanical Ventilation Rate
The whole-house mechanical ventilation system shall provide outdoor air at a continuous rate as determined in accordance with Table M1505.4.3(1) or Equation 15-1.

M1505.4.3.1 Ventilation Quality Adjustment
The minimum whole-house ventilation rate from Section 1505.4.3 shall be adjusted by the system coefficient in Table M1505.4.3(2) based on the system type not meeting the definition of a Balanced Whole-House Ventilation System and/or not meeting the definition of a Distributed Whole-House Ventilation System.

M1505.4.3.2 Intermittent Off Operation
Whole-house mechanical ventilation systems shall be provided with advanced controls that are configured to operate the system with intermittent off operation and shall operate for at least two hours in each four-hour segment. The whole-house ventilation airflow rate determined in accordance with M1505.4.3 as corrected by M1505.4.3.1 is multiplied by the factor determined in accordance with Table M1505.4.3(3).

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

DWELLING UNIT FLOOR AREA (square feet)	NUMBER OF BEDROOMS				
	0 - 1	2	3	4	5 or more
	Airflow in cfm				
< 500	30	30	35	45	50
501 - 1,000	30	35	40	50	55
1,001 — 1,500	30	40	45	55	60
1,501 - 2,000	35	45	50	60	65
2,001 - 2,500	40	50	55	65	70
2,501 - 3,000	45	55	60	70	75
3,001 - 3,500	50	60	65	75	80
3,501 — 4,000	55	65	70	80	85
4,001 — 4,500	60	70	75	85	90
4,501 — 5,000	65	75	80	90	95

For SI: 1 square foot = 0.0929 m^2, 1 cubic foot per minute = 0.0004719 m^3/s.

TABLE M1505.4.3(3)
INTERMITTENT OFF WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS[a,b]

RUN-TIME % IN EACH 4-HOUR SEGMENT	50%	66%	75%	100%
Factor[a]	2	1.5	1.3	1.0

a. For ventilation system run-time values between those given, the factors are permitted to be determined by interpolation.

b. Extrapolation beyond the table is prohibited.

WHOLE HOUSE VENTILATION CALCS

PROPOSED CONDITIONED SF =	5,771.90 SF
NUMBER OF BEDROOMS =	5
AIRFLOW IN CFM REQUIRED FOR CONTINUOUS VENTILATION =	EQUATION 15-1 (0.01 * 5772) + [7.5 * (5 + 1)] = 102.72 105 CFM
RUN TIME PERCENTAGE IN EACH 4 HOUR SEGMENT =	50%
FACTOR =	2
CALCULATION	105 CFM X 2 = **210 CFM**

NOTE: VENTILATION SYSTEM ASSUMED TO BE BALANCED AND DISTRIBUTED, CONTRACTOR TO VERIFY. WHOLE HOUSE VENTILATION TO BE SERVED BY HRV

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

*OUTDOOR AIR INLET DUCT TO BE FIELD LOCATED WITH HVAC SUBCONTRACTOR IN CONJUNTION WITH PLACING EXHAUST DUCTS IN ORDER TO AVOID CONFLICT.

Brandt
Design Group

66 Bell Street
Unit 1
Seattle, WA
98121

206.239.0850

brandtdesigninc.com

8843

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY: DD
CHECKED BY: KM

ENERGY CODE,
LEAKAGE TESTING,
& VENT CALCS

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

G001

DEDICATED APPROVAL STAMP SPACE

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

(PER QUIT CLAIM DEED AFN 20191009001615)

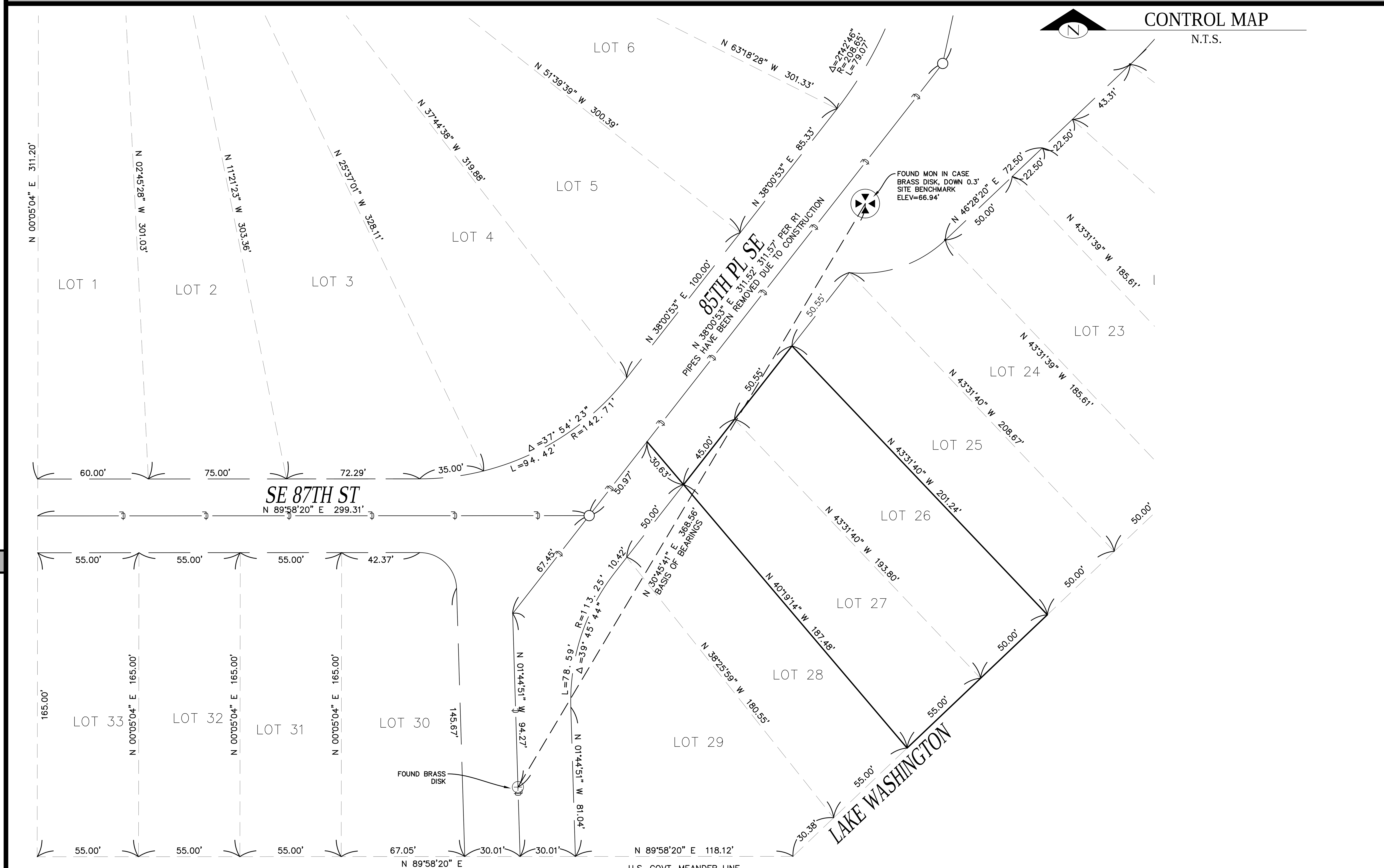
BEGINNING AT A POINT ON A LINE 400 FEET SOUTH OF AND PARALLEL WITH THE NORTH LINE OF GOVERNMENT LOT 2, SECTION 31, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON, SAID POINT BEING SOUTH 89°50'16" EAST 698.08 FEET FROM THE WEST LINE OF SAID GOVERNMENT LOT 2;
THENCE SOUTH 13°09'00" WEST 190.08 FEET TO A POINT IF CURVE;
THENCE ALONG A CURVE TO THE RIGHT OF 220 FOOT RADIUS 127.95 FEET TO A POINT OF TANGENCY;
THENCE SOUTH 46°28'20" WEST 138.31 FEET TO A POINT OF CURVE;
THENCE ALONG A CURVE TO THE RIGHT HAVING A UNIFORM RADIUS OF 65.74 FEET THROUGH A CENTRAL ANGLE OF 49°31'04" A DISTANCE OF 56.81 FEET TO A POINT ON THE SOUTHEASTERLY MARGIN OF THE B.B. HUFFMAN COUNTY ROAD;
THENCE ALONG SAID MARGIN SOUTH 38°00'53" WEST 50.55 FEET TO THE TRUE POINT OF BEGINNING;
THENCE CONTINUING ALONG SAID MARGIN, SOUTH 38°00'53" WEST 50.55 FEET;
THENCE SOUTH 43°31'40" EAST 193.81 FEET TO THE MEANDER LINE OF LAKE WASHINGTON;
THENCE NORTH 46°28'20.4" EAST ALONG SAID MEANDER LINE, 50 FEET;
THENCE NORTH 43°31'40" WEST 10.89 FEET TO THE U.S. COAST AND GEODETIC SURVEY MONUMENT;
THENCE CONTINUING NORTH 43°31'40" WEST 190.35 FEET TO THE TRUE POINT OF BEGINNING;

(BEING KNOWN AS LOT 26 OF THE UNRECORDED PLAT OF BENOTHO BEACH);
AND
BEGINNING AT A POINT ON A LINE 400 FEET SOUTH OF AND PARALLEL WITH THE NORTH LINE OF GOVERNMENT LOT 2, SECTION 31, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON, SAID POINT BEING SOUTH 89°50'16" EAST 698.08 FEET FROM THE WEST LINE OF SAID GOVERNMENT LOT 2;
THENCE SOUTH 13°09'00" WEST 190.08 FEET TO A POINT OF CURVE;
THENCE ALONG A CURVE TO THE RIGHT OF 220 FOOT RADIUS 127.95 FEET TO A POINT OF TANGENCY;
THENCE SOUTH 46°28'20" WEST 138.31 FEET TO A POINT OF CURVE;
THENCE ALONG A CURVE TO THE RIGHT HAVING A UNIFORM RADIUS OF 65.74 FEET THROUGH A CENTRAL ANGLE OF 49°31'04" A DISTANCE OF 56.81 FEET TO A POINT ON THE SOUTHEASTERLY MARGIN OF THE B.B. HUFFMAN COUNTY ROAD;
THENCE ALONG SAID MARGIN SOUTH 38°00'53" WEST 101.10 FEET TO THE TRUE POINT OF BEGINNING;
THENCE CONTINUING ALONG SAID MARGIN OF SAID COUNTY ROAD SOUTH 38°00'53" WEST 45 FEET;
THENCE SOUTH 40°19'13" EAST 187.48 FEET TO THE MEANDER LINE OF LAKE WASHINGTON;
THENCE NORTH 46°28'20.4" EAST ALONG SAID MEANDER LINE LINE 55 FEET;
THENCE NORTH 43°31'40" WEST 193.81 FEET TO THE TRUE POINT OF BEGINNING;
(BEING KNOWN AS LOT 27 OF THE UNRECORDED PLAT OF BENOTHO BEACH);
TOGETHER WITH SHORELANDS OF THE SECOND CLASS ADJOINING SAID TRACTS 26 AND 27;

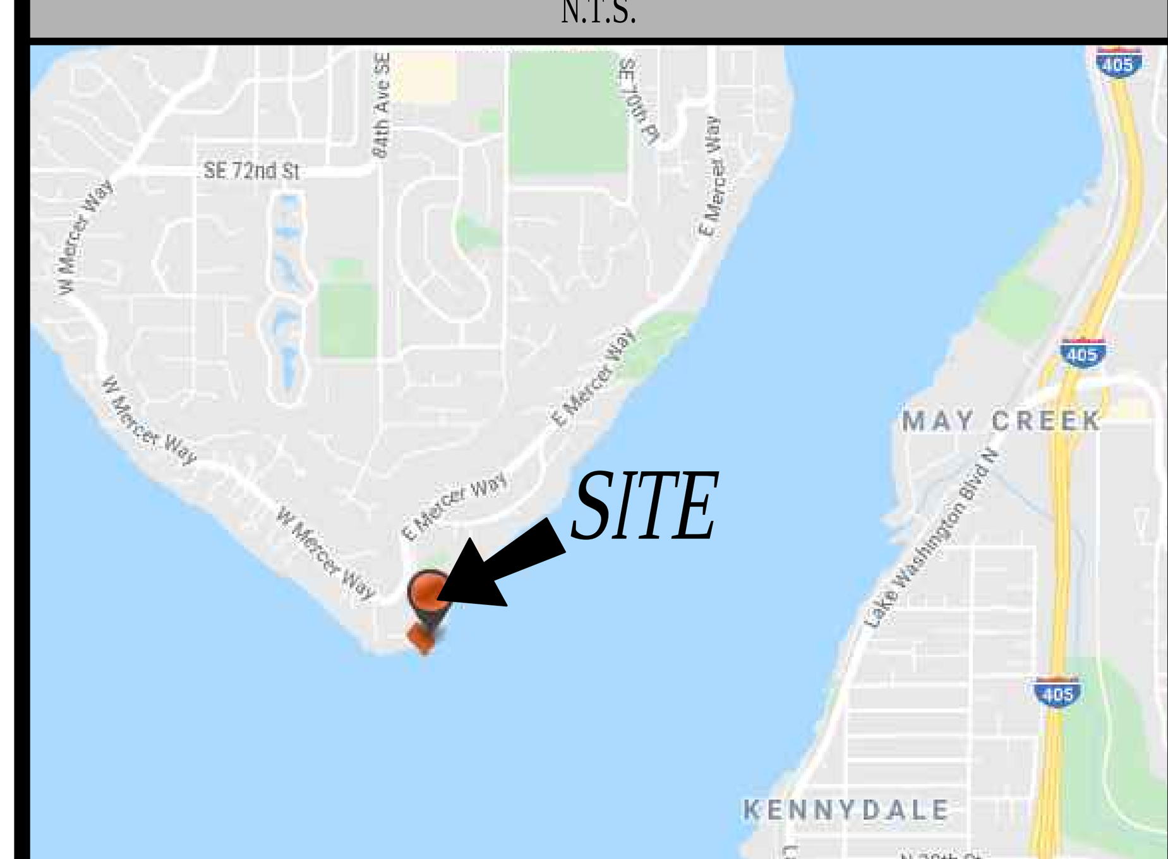
SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

SURVEYOR'S NOTES

1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN NOVEMBER OF 2019. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 0736100155
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 19,337 S.F. (0.44 ACRES). UPLAND AREA ABOVE LINE OF ORDINARY HIGH WATER IS 18,231 S.F. (0.42 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.



VICINITY MAP
N.T.S.



LEGEND

- AREA DRAIN
- ASPHALT SURFACE
- BRICK SURFACE
- BUILDING
- CENTERLINE ROW
- CULVERT PIPE
- CONCRETE SURFACE
- RETAINING WALL
- DECK
- FENCE LINE (CHAIN LINK)
- FENCE LINE (WOOD)
- FIRE HYDRANT
- GAS LINE
- HEDGE FOLIAGE LINE
- CATCH BASIN (TYPE 1)
- NAIL AS NOTED
- MONUMENT IN CASE (FOUND)
- BRASS SURFACE MONUMENT (FOUND)
- PST POST
- P POWER METER
- POWER (OVERHEAD)
- PP POWER POLE
- REBAR AS NOTED (FOUND)
- REBAR & CAP (SET)
- ROCKERY
- SEWER LINE
- SEWER MANHOLE
- STEEP SLOPE AREA
- STORM DRAIN LINE
- TEL SENTRY TELEPHONE SENTRY
- SIZE TYPE TREE (AS NOTED)
- WATER LINE
- WM WATER METER
- WV WATER VALVE
- YARD LIGHT

BASIS OF BEARINGS

BEARINGS PER UNRECORDED PLAT OF BENOTHO BEACH. A BEARING OF N 30°45'41" E WAS CALCULATED BETWEEN EXISTING SURVEY MONUMENTS SHOWN HEREON; THIS SURVEY IS BASED UPON EXISTING SURVEY POINTS FOUND BY JONES BASSI & ASSOCIATES, M.W. MARSHALL LAND SURVEYING, GEODIMENSIONS LAND SURVEYING AND TERRANE LAND SURVEYING INC, ALONG WITH THE ASSOCIATED CALC AND FIELD NOTES OF H.W. RUTHERFORD (PLATTER). THE MATHEMATICAL SOLUTION FOR THIS BOUNDARY HAS BEEN TIED TO THE EXISTING MONUMENTS WITHIN THIS PLAT. SAID MONUMENTS ARE NOT ORIGINAL PLAT MONUMENTS AND ARE ARBITRARY TO THIS BOUNDARY, THEY ONLY SERVE AS A MEANS OF RETRACEMENT.

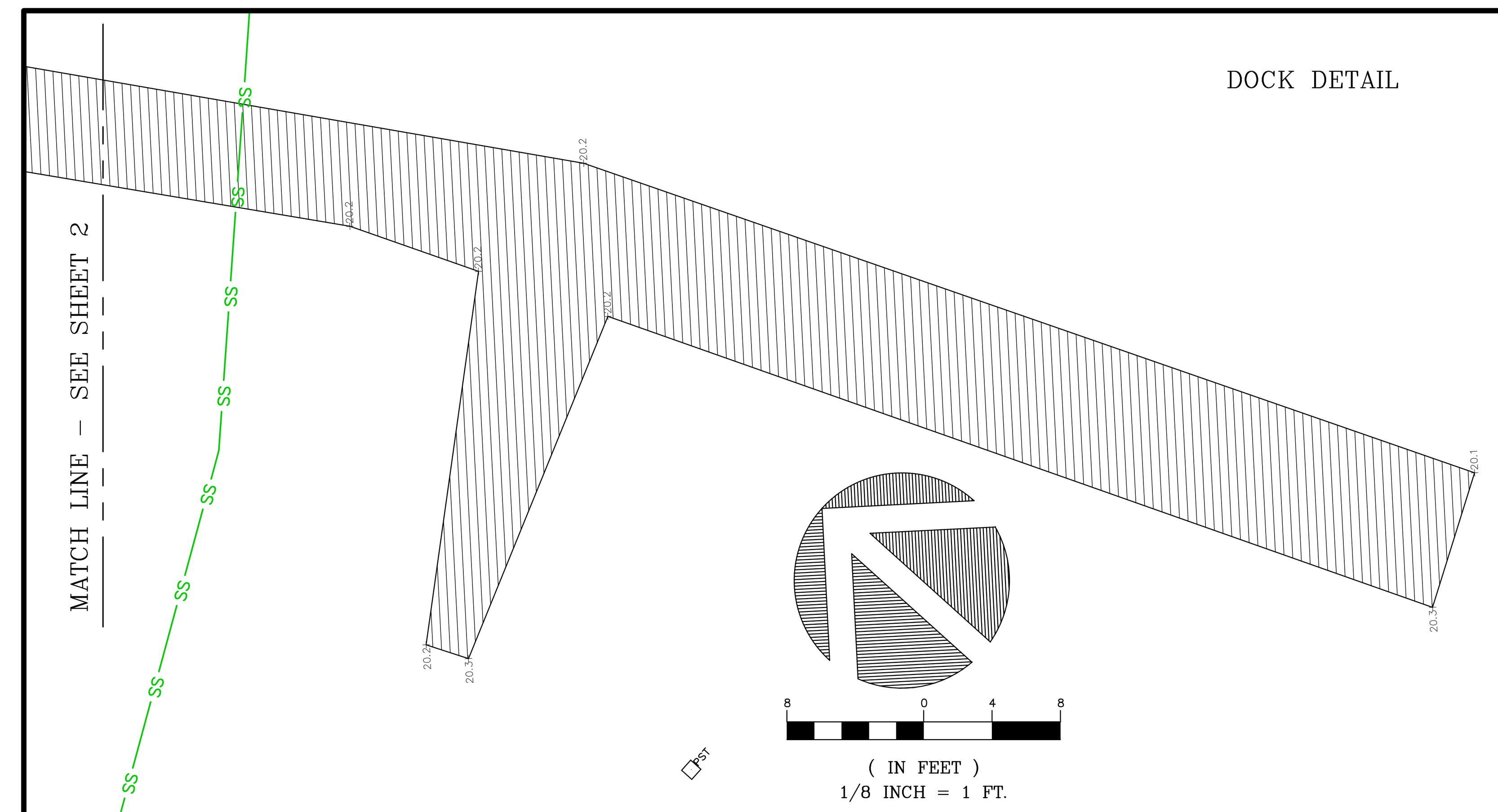
REFERENCES

R1. RECORD OF SURVEY, VOL. 74, PG. 82, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD88 PER GPS OBSERVATIONS

DOCK DETAIL



measure success

TOPOGRAPHIC & BOUNDARY SURVEY
SW 1/4 OF NW 1/4 SEC 31, TWP. 24N., RGE 05E., W.M.
PARCEL NO. 0736100155

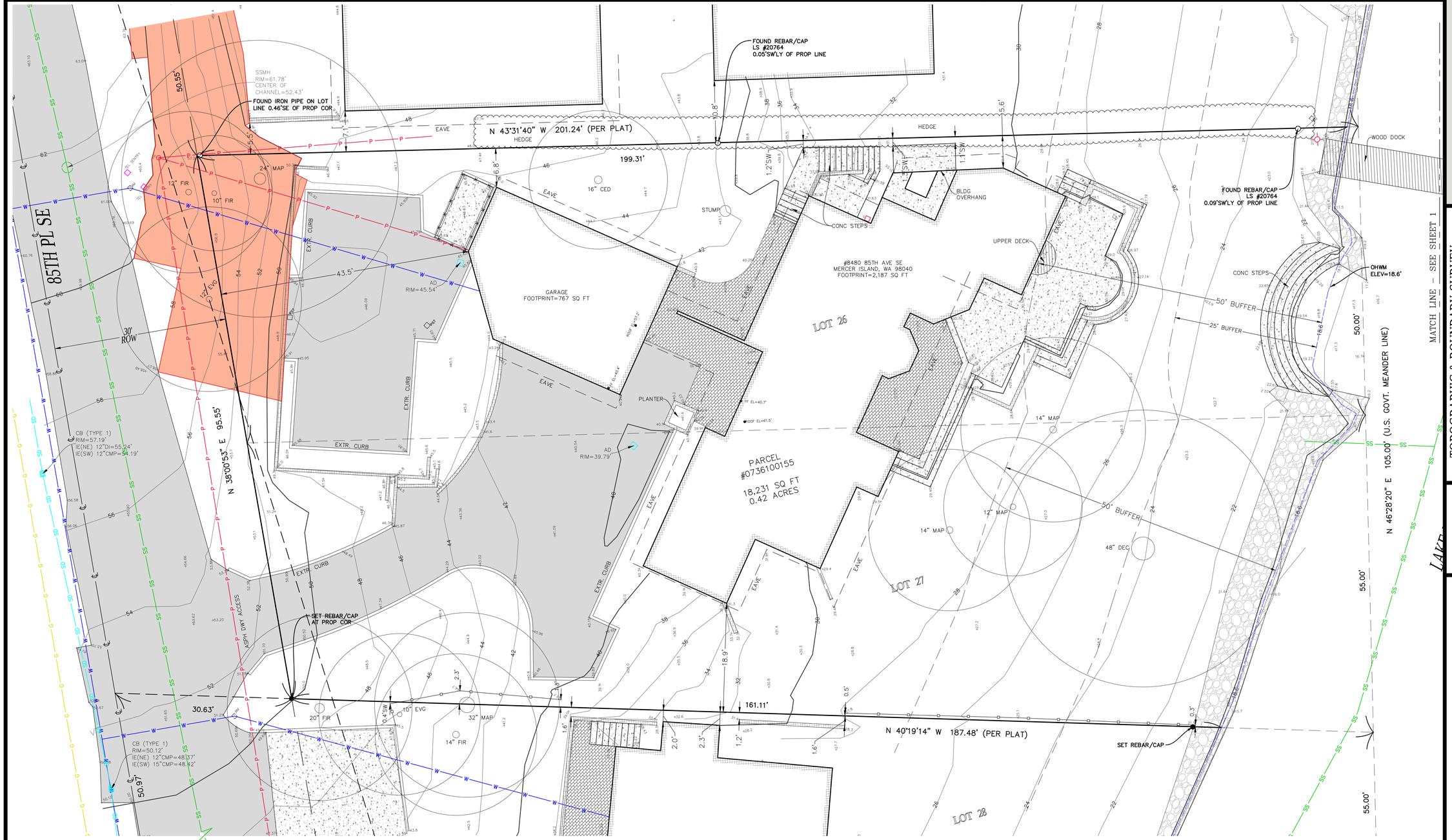
XIAOXIA WU - WU PROPERTY
8480 85TH AVE SE
MERCER ISLAND, WA 98040

EDWIN J. GREEN JR. STATE OF WASHINGTON 15025 REGISTERED PROFESSIONAL LAND SURVEYOR
02/19/21

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

JOB NUMBER:	191888
DATE:	11/12/19
DRAFTED BY:	TGC
CHECKED BY:	EJG/TMM
SCALE:	NTS
REVISION HISTORY	
12/2/19	PER COMMENTS
9/24/20	IMPERVIOUS SURF.
2/19/21	PER COMMENTS
SHEET NUMBER	
1 OF 2	

TOPOGRAPHIC & BOUNDARY SURVEY



IMPERVIOUS SURFACES		
TYPE	COVERAGE S.F.	LOT COVERAGE
BUILDINGS	3,905	21.42%
CONCRETE, ASPHALT, & BRICK	4,122	22.61%
TOTALS	8,027	44.03%

LEGEND

- AREA DRAIN
- ASPHALT SURFACE
- BRICK SURFACE
- BUILDING
- CENTERLINE ROW
- CULVERT PIPE
- CONCRETE SURFACE
- RETAINING WALL
- DECK
- FENCE LINE (CHAIN LINK)
- FENCE LINE (WOOD)
- FIRE HYDRANT
- GAS LINE
- HEDGE FOLIAGE LINE
- CATCH BASIN (TYPE 1)
- NAIL AS NOTED
- MONUMENT IN CASE (FOUND)
- BRASS SURFACE MONUMENT (FOUND)
- POST
- POWER METER
- POWER (OVERHEAD)
- POWER POLE
- REBAR AS NOTED (FOUND)
- REBAR & CAP (SET)
- ROCKERY
- SEWER LINE
- SEWER MANHOLE
- STEEP SLOPE AREA
- STORM DRAIN LINE
- TELEPHONE SENTRY
- TREE (AS NOTED)
- WATER LINE
- WATER METER
- WATER VALVE
- YARD LIGHT

8 0 4 8

(IN FEET)
1/8 INCH = 1 FT.

measure success

TOPOGRAPHIC & BOUNDARY SURVEY

SW 1/4 OF NW 1/4 SEC 31, TWP. 24N., RGE 05E., W.M.
PARCEL NO. 0736100155

XIAOXIA WU - WU PROPERTY

8480 85TH AVE SE
MERCER ISLAND, WA 98040

EDWIN J. GREEN JR. 19005 REGISTERED PROFESSIONAL LAND SURVEYOR STATE OF WASHINGTON
2/19/21

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

JOB NUMBER:	191888
DATE:	11/12/19
DRAFTED BY:	TGC
CHECKED BY:	EJG/TMM
SCALE:	1/8" = 1'

REVISION HISTORY	
12/2/19	PER COMMENTS
9/24/20	IMPERVIOUS SURF.
2/19/21	PER COMMENTS

SHEET NUMBER
2 OF 2

1 SITE DEMOLITION PLAN
1" = 10'-0"

LEGEND

- EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR. — ELEVATION DATUM
- ORDINARY HIGH WATER MARK
- PROPERTY LINE
- SETBACK LINE
- ROOF OVERHANG
- CONTOUR MAJOR
- CONTOUR MINOR
- (E) SITE WALL TO REMAIN
- (E) PATIO / WALKWAYS / CONCRETE DRIVE / PAVING TO REMAIN
- (E) SITE ELEMENTS TO BE DEMOLISHED
- (E) HOUSE FOOTPRINT TO BE DEMOLISHED
- (E) ROCKERY TO REMAIN
- STEEP SLOPE HAZARD AREA PER SURVEY
- STEEP SLOPE BUFFER AREA
- (E) TREE TO REMAIN
- (E) TREE TO BE REMOVED

NOTES

1. PROPERTY LINE METES & BOUNDS ARE SHOWN PER TOPOGRAPHIC SURVEY BY TERRANE DATED 02/19/21
2. TREES AND CONTOURS ARE BASED ON TOPOGRAPHIC SURVEY BY TERRANE DATED 02/19/21

Brandt
Design Group
66 Bell Street
Unit 1
Seattle, WA
98121
206.239.0850
brandtdesigninc.com

8843 REGISTERED ARCHITECT STATE OF WASHINGTON

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

DRAWN BY: DD
CHECKED BY: KM

DEMOLITION SITE PLAN

SCALE: 1" = 10'-0"

AD101

DEDICATED APPROVAL STAMP SPACE

1 SITE DEMOLITION PLAN - LOT COVERAGE & HARDSCAPE CALCULATION
1" = 10'-0"

NORTH

CALCULATIONS

LOT COVERAGE TO REMAIN

DRIVING SURFACES	1346.05 SF	
TOTAL	1346.05 SF	1

LOT COVERAGE TO BE DEMOLISHED

ROOF, GARAGE, AND OVERHANGS	3912.96 SF	
DRIVING SURFACES	403.51 SF	
TOTAL	4316.47 SF	

HARDSCAPE TO REMAIN

STAIRS	S-3	177.70 SF
ROCKERIES	R-1	301.52 SF
	R-2	86.89 SF
SITE WALLS	SW-1	33.20 SF
	SW-6	5.11 SF
TOTAL	604.42 SF	

HARDSCAPE TO BE DEMOLISHED

STAIRS	D-S-1	94.76 SF
	D-S-2	226.01 SF
PATIOS / WALKWAYS	D-P-1	1161.2 SF
	D-P-2	18.08 SF
	D-P-3	91.00 SF
	D-P-4	68.11 SF
	D-P-5	130.03 SF
	D-P-6	109.34 SF
	D-P-7	412.52 SF
SITE WALLS	D-SW-1	33.68 SF
	D-SW-2	13.43 SF
	D-SW-3	61.09 SF
	D-SW-4	9.19 SF
	D-SW-5	4.39 SF
	D-SW-7	2.17 SF
TOTAL	2435.00 SF	

LEGEND

- EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR. — ELEVATION DATUM
- ORDINARY HIGH WATER MARK
- PROPERTY LINE
- SETBACK LINE
- ROOF OVERHANG
- CONTOUR MAJOR
- CONTOUR MINOR
- LOT COVERAGE TO REMAIN
- DEMOLISHED LOT COVERAGE
- HARDSCAPE TO REMAIN
- DEMOLISHED HARDSCAPE
- (E) ROCKERY TO REMAIN
- (E) TREE TO REMAIN
- (E) TREE TO BE REMOVED
- STEEP SLOPE HAZARD AREA PER SURVEY
- STEEP SLOPE BUFFER AREA

NOTES

1. PROPERTY LINE METES & BOUNDS ARE SHOWN PER TOPOGRAPHIC SURVEY BY TERRANE DATED 02/19/21
2. TREES AND COUNTOURS ARE BASED ON TOPOGRAPHIC SURVEY BY TERRANE DATE 02/19/21

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8843
REGISTERED ARCHITECT
STATE OF WASHINGTON

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

DRAWN BY: DD
CHECKED BY: KM

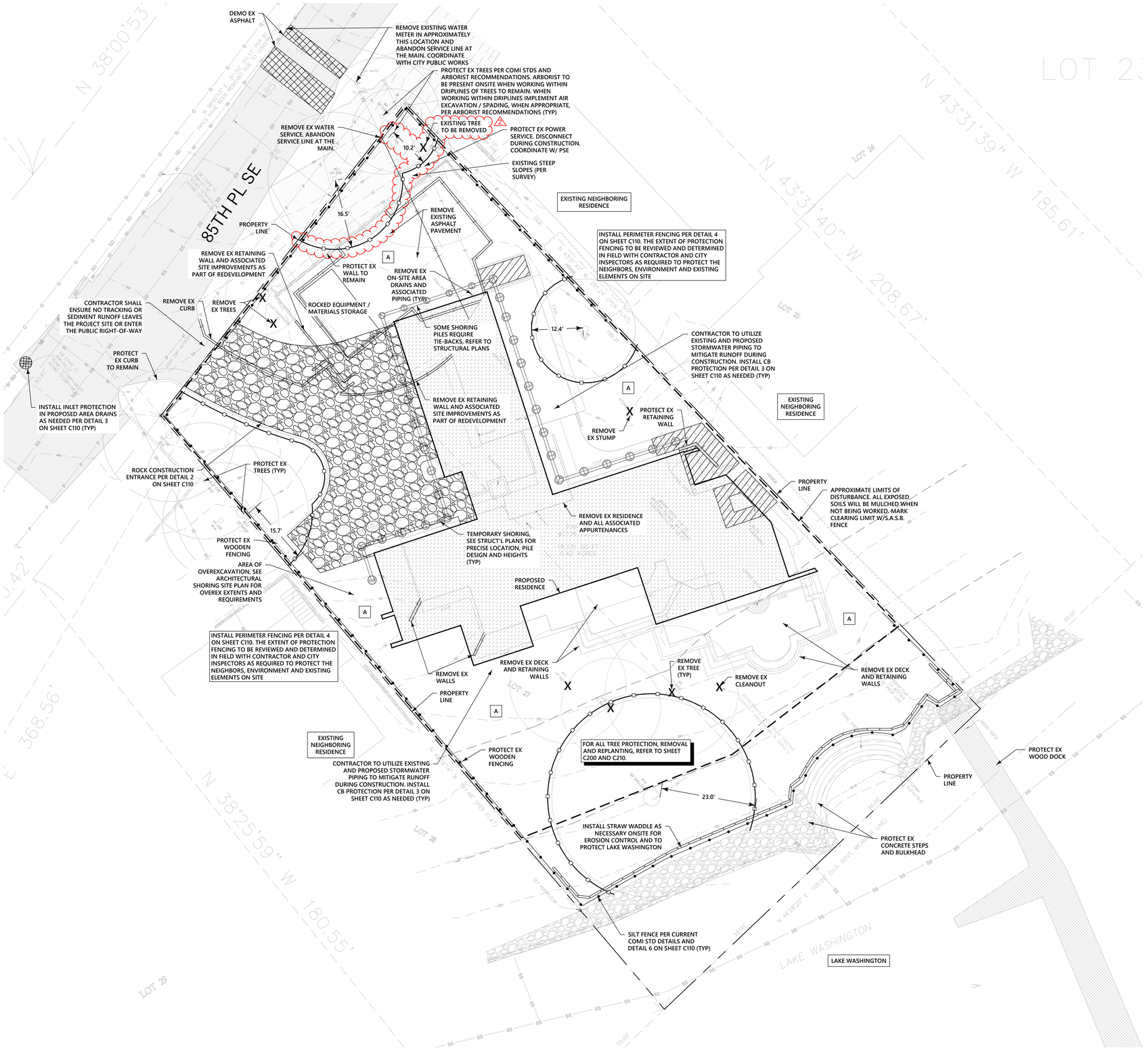
DEMOLITION LOT COVERAGE SITE PLAN

SCALE: 1" = 10'-0"

AD102

DEDICATED APPROVAL STAMP SPACE

SW 1/4 OF NW 1/4, SECTION 31, TOWNSHIP 24N, RANGE 5E, W.M.



EROSION CONTROL DETAILS

A — AREAS TO BE AMENDED WITH POST CONSTRUCTION SOIL QUALITY AND DEPTH PER BMP T5.13 AND DETAIL 1 ON SHEET C110 (APPROXIMATE AREA = 5,851 SF)

ESC GENERAL NOTE

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 TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE. ANY SUCH FACILITIES INSTALLED MUST BE MAINTAINED IN PROPER OPERATING CONDITION UNTIL ALL DISTURBED AREAS HAVE BEEN REVEGETATED OR OTHERWISE DEVELOPED AND THE POTENTIAL FOR EROSION ELIMINATED.

CLEARING LIMIT NOTE

ALL SELECTIVE CLEARING, TRENCHING AND OTHER WORK WITHIN THE DRIPLINES OF SIGNIFICANT TREES SHALL BE BY LOW IMPACT/HAND METHODS ONLY AND WORK SHALL BE ADJUSTED AS POSSIBLE TO MINIMIZE ANY DISTURBANCE TO THE SIGNIFICANT AND RETAINED TREES AND PROTECTED UNDERSTORY. CONSTRUCTION MATERIALS AND VEHICLES SHALL NOT BE STORED OUTSIDE THE CLEARING LIMITS.

TREE DRIPLINE NOTE

WORK WITHIN THE DRIPLINE OF TREES TO BE SAVED MUST BE UNDER THE DIRECTION OF A CERTIFIED ARBORIST (TYP.) SEE ALSO CLEARING LIMIT NOTE, THIS SHEET.

EROSION CONTROL DETAILS

SEE SHEET C110

Call before you Dig 811 or 1-800-424-5555

0 10 20 Feet

SCALE: 1"=10'

LEGEND

- PROPERTY LINE
- LIMITS OF DISTURBANCE
- SILT FENCE
- CONSTRUCTION ENTRANCE
- BUILDING EXCAVATION
- INLET PROTECTION
- INTERCEPTOR SWALE
- TREE PROTECTION FENCING
- STRAW WADDLE
- SHORING (SEE SHORING PLANS)

SOIL AMENDMENT NOTES

COMPOST AMENDED SOIL REQUIRED ON ALL LANDSCAPED AREAS AFTER CONSTRUCTION. SEE DETAIL ON SHEET C110

TREE REMOVAL NOTES

FOR ALL TREE REMOVAL, REFER TO PROJECT ARBORIST REPORT. ALL TREE REMOVALS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY.

EROSION CONTROL NOTES:

D.8.2 STANDARD ESC PLAN NOTES
THE STANDARD ESC PLAN NOTES MUST BE INCLUDED ON ALL ESC PLANS. AT THE APPLICANT'S DISCRETION, NOTES THAT IN NO WAY APPLY TO THE PROJECT MAY BE OMITTED; HOWEVER, THE REMAINING NOTES MUST NOT BE RENUMBERED. FOR EXAMPLE, IF ESC NOTE #3 WERE OMITTED, THE REMAINING NOTES SHOULD BE NUMBERED 1, 2, 4, 5, 6, ETC.

1. APPROVAL OF THIS EROSION AND SEDIMENTATION 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 SURVEY TAPE OR FENCING, IF REQUIRED, PRIOR TO CONSTRUCTION (SWDM APPENDIX D). 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. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS CONSTRUCTED WHEEL WASH SYSTEMS OR WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN AND TRACK OUT TO ROAD RIGHT OF WAY DOES NOT OCCUR FOR THE DURATION OF THE PROJECT.
5. 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.
6. 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 COVER MEASURES, ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, PERIMETER PROTECTION ETC.) AS DIRECTED BY CITY OF MERCER ISLAND.
7. 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 ESC FACILITIES.
8. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO CONSECUTIVE 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.).
9. ANY AREA NEEDING ESC MEASURES THAT DO NOT REQUIRE IMMEDIATE ATTENTION SHALL BE ADDRESSED WITHIN SEVEN (7) DAYS.
10. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH DURING THE DRY SEASON, BI-MONTHLY DURING THE WET SEASON, OR WITHIN TWENTY FOUR (24) HOURS FOLLOWING A STORM EVENT.
11. AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A 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.
12. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MUST BE ROUGH GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.
13. COVER MEASURES WILL BE APPLIED IN CONFORMANCE WITH APPENDIX D OF THE SURFACE WATER DESIGN MANUAL
14. PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON.

RECOMMENDED CONSTURCTION SEQUENCE:

A DETAILED CONSTRUCTION SEQUENCE IS NEEDED TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE APPLIED AT THE APPROPRIATE TIMES. A RECOMMENDED CONSTRUCTION SEQUENCE IS PROVIDED BELOW:

1. HOLD AN ONSITE PRE-CONSTRUCTION MEETING.
2. POST SIGN WITH NAME AND PHONE NUMBER OF ESC SUPERVISOR (MAY BE CONSOLIDATED WITH THE REQUIRED NOTICE OF CONSTRUCTION SIGN).
3. FLAG OR FENCE CLEARING LIMITS.
4. INSTALL CATCH BASIN PROTECTION, IF REQUIRED.
5. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
6. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
7. CONSTRUCT SEDIMENT PONDS AND TRAPS.
8. GRADE AND STABILIZE CONSTRUCTION ROADS.
9. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
10. MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
11. RELOCATE SURFACE SURFACE WATER CONTROLS OR TESC MEASURES, OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE TESC IS ALWAYS IN ACCORDANCE WITH CITY OF MERCER ISLAND TESC REQUIREMENTS.
12. COVER ALL AREAS THAT WILL BE UN-WORKED FOR MORE THAN SEVEN DAYS DURING THE DRY SEASON (MAY 1 TO SEPT 30) OR TWO DAYS DURING THE WET SEASON (OCT 1 TO APRIL 30) WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, OR EQUIVALENT.
13. STABILIZE ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.
14. SEED, SOD, STABILIZE, OR COVER ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
15. UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS AND REMOVE BMPS IF APPROPRIATE.

CITY NOTES:

1. ANY CHANGES TO THE APPROVED PLANS REQUIRES CITY APPROVAL THROUGH A REVISION.
2. APPLICANT IS RESPONSIBLE FOR ANY DAMAGES TO UNDERGROUND UTILITIES CAUSED FROM THIS CONSTRUCTION.
3. CATCH BASIN FILTERS SHOULD BE PROVIDED FOR ALL STORM DRAIN CATCH BASINS/INLETS DOWNSLOPE AND WITHIN 500 FEET OF THE CONSTRUCTION AREA. CATCH BASIN FILTERS SHOULD BE DESIGNED BY THE MANUFACTURER FOR USE AT CONSTRUCTION SITES AND APPROVED BY THE CITY INSPECTOR. CATCH BASIN FILTERS SHOULD BE INSPECTED FREQUENTLY, ESPECIALLY AFTER STORM EVENTS. IF THE FILTER BECOMES CLOGGED, IT SHOULD BE CLEANED OR REPLACED.
4. CONTRACTORS SHALL VERIFY LOCATIONS AND DEPTHS OF UTILITIES.
5. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, CALL "ONE CALL" AT 1.800.424.5555
6. DO NOT BACKFILL WITH NATIVE MATERIAL ON PUBLIC RIGHT-OF-WAY. ALL MATERIAL MUST BE IMPORTED.
7. EROSION CONTROL: ALL "LAND DISTURBING ACTIVITY" IS SUBJECT TO PROVISIONS OF MERCER ISLAND ORDINANCE 95C-118 "STORM WATER MANAGEMENT." SPECIFIC ITEMS TO BE FOLLOWED AT YOUR SITE:
8. PROTECT ADJACENT PROPERTIES FROM ANY INCREASED RUNOFF OR SEDIMENTATION DUE TO THE CONSTRUCTION PROJECT THROUGH THE USE OF APPROPRIATE "BEST MANAGEMENT PRACTICES" (BMP) EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, SEDIMENT TRAPS, SEDIMENT PONDS, FILTER FABRIC FENCES, VEGETATIVE BUFFER STRIPS OR BIOENGINEERED SWALES.
9. CONSTRUCTION ACCESS TO THE SITE SHOULD BE LIMITED TO ONE ROUTE. STABILIZE ENTRANCE WITH QUARRY SPALLS TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING THE STORM DRAINS.
10. PREVENT SEDIMENT, CONSTRUCTION DEBRIS, PAINTS, SOLVENTS, ETC., OR OTHER TYPES OF POLLUTION FROM ENTERING PUBLIC STORM DRAINS. KEEP ALL POLLUTION ON YOUR SITE.
11. ALL EXPOSED SOILS SHALL REMAIN DENUDED FOR NO LONGER THAN SEVEN (7) DAYS AND SHALL BE STABILIZED WITH MULCH, HAY, OR THE APPROPRIATE GROUND COVER. ALL EXPOSED SOILS SHALL BE COVERED IMMEDIATELY DURING ANY RAIN EVENT.
12. INSTALLATION OF CONCRETE DRIVEWAYS, TREES, SHRUBS, IRRIGATION, BOULDERS, BERMS, WALLS, GATES, AND OTHER IMPROVEMENTS ARE NOT ALLOWED IN THE PUBLIC RIGHT-OF-WAY WITHOUT PRIOR APPROVAL, AND AN ENCROACHMENT AGREEMENT AND RIGHT OF WAY PERMIT FROM THE SENIOR DEVELOPMENT ENGINEER.
13. OWNER SHALL CONTROL DISCHARGE OF SURFACE DRAINAGE RUNOFF FROM EXISTING AND NEW IMPERVIOUS AREAS IN A RESPONSIBLE MANNER. CONSTRUCTION OF NEW GUTTERS AND DOWNSPOUTS, DRY WELLS, LEVEL SPREADERS OR DOWNSTREAM CONVEYANCE PIPE MAY BE NECESSARY TO MINIMIZE DRAINAGE IMPACT TO YOUR NEIGHBORS. CONSTRUCTION OF MINIMUM DRAINAGE IMPROVEMENTS SHOWN OR CALLED OUT ON THIS PLAN DOES NOT IMPLY RELIEF FROM CIVIL LIABILITY FOR YOUR DOWNSTREAM DRAINAGE.
14. POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUBLIC MAINS.
15. REMEMBER: EROSION CONTROL IS YOUR FIRST INSPECTION.
16. ROOF DRAINS MUST BE CONNECTED TO THE STORM DRAIN SYSTEM AND INSPECTED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO ANY BACKFILLING OF PIPE.
17. SILENT FENCE: CLEAN AND PROVIDE REGULAR MAINTENANCE OF THE SILT FENCE. THE FENCE IS TO REMAIN VERTICAL AND IS TO FUNCTION PROPERLY THROUGHOUT THE TERM OF THE PROJECT.
18. WORK IN PUBLIC RIGHT OF WAY REQUIRES A RIGHT-OF-WAY USE PERMIT.
19. REFER TO WATER SERVICE PERMIT FOR ACTUAL LOCATION OF NEW WATER METER AND SERVICE LINE DETERMINED BY MERCER ISLAND WATER DEPARTMENT.
20. THE TV INSPECTION OF THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN IS REQUIRED. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED. ALTERNATELY, A PRESSURE TEST OF THE SIDE SEWER, FROM SEWER MAIN TO POINT OF CONNECTION, MAY BE SUBSTITUTED FOR THE VIDEO INSPECTION.
21. NEWLY INSTALLED SIDE SEWER REQUIRES A 4 P.S.I. AIR TEST OR PROVIDE 10' OF HYDROSTATIC HEAD TEST.
22. POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUBLIC MAINS.
23. THE LIMITS AND EXTENDS OF THE PAVEMENT IN THE PUBLIC RIGHT OF WAY SHALL BE DETERMINED BY THE CITY ENGINEER PRIOR TO FINALIZE THE PROJECT.

LATITUDE 48

LATITUDE 48, P.S.
CONTACT: BRADY BERRIMAN
PHONE NUMBER: 206.556.1615

BRADEN JOSEPH BERRIMAN — STATE OF WASHINGTON — 27383 — REGISTERED PROFESSIONAL ENGINEER — 03.11.22

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA
98040

CITY OF MERCER ISLAND

PERMIT SUBMITTAL SET

DATE: 03.11.22

SHEET SIZE: E (30X42)

REVISIONS

NO:	DESCRIPTION:	DATE:
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

DRAWN BY: CPS
CHECKED BY: BJB

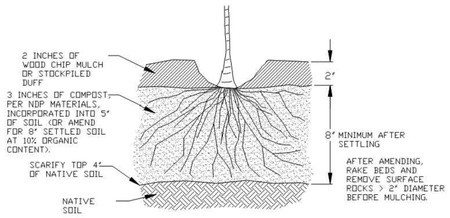
TESC PLAN

SCALE: AS NOTED

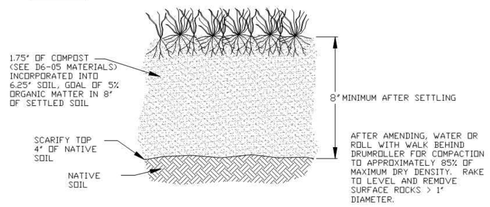
C100

SW 1/4 OF NW 1/4, SECTION 31, TOWNSHIP 24N, RANGE 5E, W.M.

AMENDMENT FOR LANDSCAPED AREAS



SOIL AMENDMENT FOR GRASS OR TURF AREAS



NOTES:

1. AMEND SOILS PER DOE MANUAL, VOL. V, 5.3.1, BMP T5.13, (2012 OR CURRENT) OR WWW.SOILSFORSALMONORG.
2. DO NOT AMEND SOILS IN AREAS WITH UNDISTURBED SOIL AND NATIVE VEGETATION.
3. OPTIONAL ALTERNATIVE: STOCKPILE NATIVE TOPSOIL ONSITE, AMEND IF NEEDED, AND REPLACE BEFORE PLANTING.
4. OPTIONAL ALTERNATIVE: IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET REQUIREMENTS.

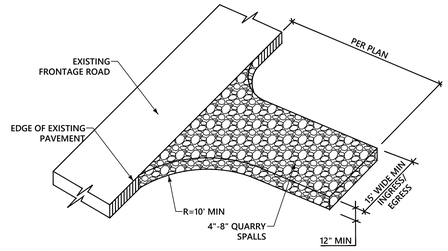
JANUARY 2021 NO SCALE

City of Bellevue — STORM AND SURFACE WATER UTILITY

TITLE: AMENDED SOILS

NO. ~~NDP-1~~

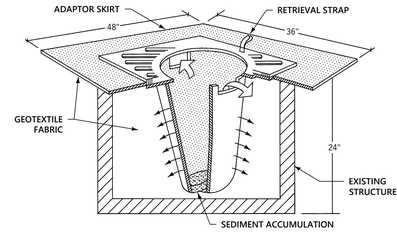
SOIL AMENDMENT 1
NTS



NOTES:

1. MATERIAL SHALL BE QUARRY SPALLS PER WSDOT 2014 STANDARD SPECIFICATION 9-13.6 AND MAY BE TOP-DRESSED WITH 1"-3" ROCK.
2. THE ROCK PAD SHALL BE AT LEAST 12 INCHES THICK AND 100 FEET LONG. WIDTH SHALL BE THE FULL WIDTH OF THE VEHICLE INGRESS AND EGRESS AREA.
3. ADDITIONAL ROCK SHALL BE ADDED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF THE PAD.
4. IF THE PAD DOES NOT ADEQUATELY REMOVE THE MUD FROM THE VEHICLE WHEELS, THE WHEELS SHALL BE HOSED OFF BEFORE THE VEHICLE ENTERS A PAVED STREET. THE WASHING SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK AND WASH WATER SHALL DRAIN TO A SEDIMENT RETENTION FACILITY OR THROUGH A SILT FENCE.
5. GEOTEXTILE SHALL MEET THE FOLLOWING: GRAB TENSILE STRENGTH 200 PSI MIN. GRAB TENSILE LONGATION 30% MAX. MULLEN BURST STRENGTH 400 PSI MIN. AOS 2-45(U.S. STANDARD SIEVE)

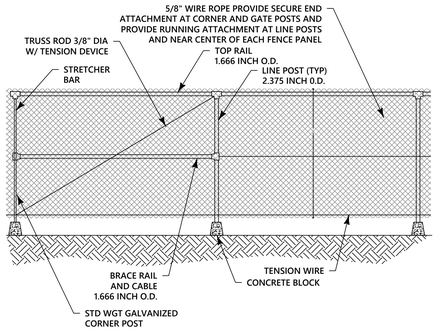
CONSTRUCTION ENTRANCE 2
NTS



NOTES:

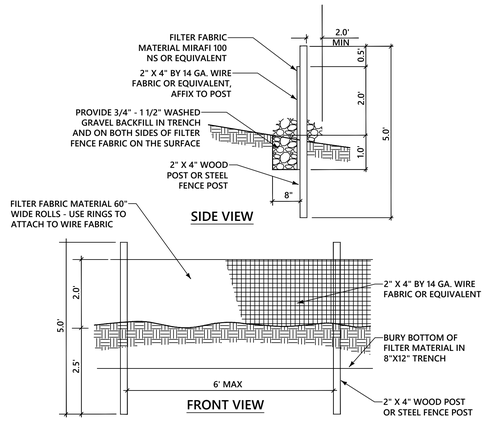
1. FILTERS SHALL BE INSPECTED AFTER EACH STORM EVENT AND CLEANED OR REPLACED WHEN 1/3 FULL
2. INSTALL INLET PROECTION IN ALL NEW STORM STRUCTURES THAT WILL COLLECT STORMWATER AS THEY ARE INSTALLED.

INLET PROTECTION 3
NTS



NOTE:
THE EXTENT OF PROTECTION FENCING TO BE REVIEWED AND DETERMINED IN FIELD WITH CONTRACTOR AND CITY INSPECTORS AS REQUIRED TO PROTECT THE NEIGHBORS, ENVIRONMENT AND EXISTING ELEMENTS ON SITE.

TEMPORARY CONSTRUCTION FENCING 4
NTS



NOTE:
THE EXTENT OF PROTECTION FENCING TO BE REVIEWED AND DETERMINED IN FIELD WITH CONTRACTOR AND CITY INSPECTORS AS REQUIRED TO PROTECT THE NEIGHBORS, ENVIRONMENT AND EXISTING ELEMENTS ON SITE.

NOTES:

1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM SIX-INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST.
2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS (WHERE FEASIBLE). THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF SIX FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 30").
3. A TRENCH SHALL BE EXCAVATED, ROUGHLY EIGHT INCHES WIDE AND TWELVE INCHES DEEP, UPSLOPE AND ADJACENT TO THE WOOD POST TO ALLOW THE FILTER FABRIC TO BE BURIED.
4. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST ONE INCH LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF FOUR INCHES AND SHALL NOT EXTEND MORE THAN THIRTY SIX INCHES ABOVE THE ORIGINAL GROUND SURFACE.
5. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND TWENTY INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN THIRTY SIX INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
6. WHEN EXTRA-STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF STANDARD NOTE (5) APPLYING.
7. THE TRENCH SHALL BE BACKFILL WITH 3/4 INCH MINIMUM DIAMETER WASHED GRAVEL.
8. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
9. FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
10. CONTRIBUTING LENGTH TO FENCE SHALL NOT BE MORE THAN 100 FEET.
11. DO NOT INSTALL BELOW AN OUTLET PIPE OR WEIR
12. DO NOT DRIVE OVER OR FILL OVER FILTER FABRIC FENCE

SILT FENCE 6
NTS

LATITUDE 48

LATITUDE 48, P.S.
CONTACT: BRADY BERRIMAN
PHONE NUMBER: 206.556.1615

BRADY JOSEPH BERRIMAN — STATE OF WASHINGTON — 27383 — REGISTERED PROFESSIONAL ENGINEER — 03/11/22

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA
98040

CITY OF MERCER ISLAND

PERMIT SUBMITTAL SET

DATE: 03.11.22

SHEET SIZE: E (30X42)

REVISIONS

NO:	DESCRIPTION:	DATE:
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

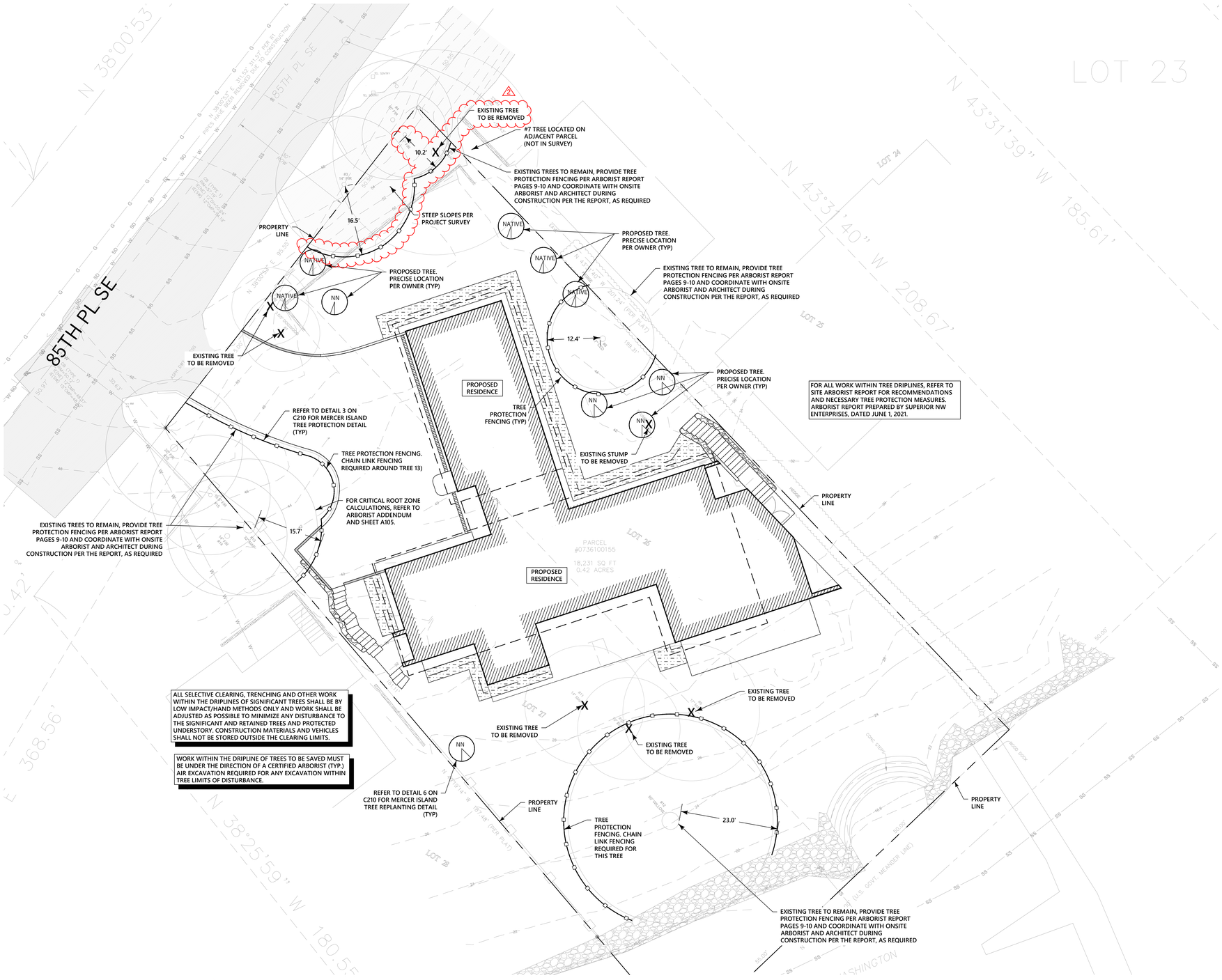
DRAWN BY: CPS
CHECKED BY: BJB

TESC DETAILS+NOTES

SCALE: AS NOTED

C110

SW 1/4 OF NW 1/4, SECTION 31, TOWNSHIP 24N, RANGE 5E, W.M.



Call before you Dig 8-1-1 or 1-800-424-5555

SCALE: 1"=10'

LEGEND

- PROPERTY LINE
- BUILDING OUTLINE
- TREE PROTECTION FENCING SEE DETAIL 3 ON SHEET C210
- REMOVE EXISTING TREE — X
- NEW TREE. SEE TREE REPLACEMENT LEGEND BELOW AND DETAIL 6 ON SHEET C210 — XX

TREE REPLACEMENT LEGEND

NATIVE — NATIVE TREE REPLACEMENT SPECIES:
BITTER CHERRY: PRUNUS
FLOWERING DOGWOOD: CORNUS
SHORE PINE: PINUS
VINE MAPLE: ACER
CINCINATUM
(50% OF REPLACED TREES MUST BE NATIVE SPECIES)

NN — NON-NATIVE TREE REPLACEMENT SPECIES:
WEEPING HIGAN PRUNUS
RED JAPANESE ACER
WEEPING ATLAS CEDRUS
CEDAR: ATLANTICA
(50% OF REPLACED TREES CAN BE NON-NATIVE SPECIES)

TREE RETENTION CALCULATION

12 ONSITE TREES
30% RETENTION REQUIRED = (3.6) 4 TREES
PROPOSED REMOVAL = 7 TREES
PROPOSED RETAINAGE = 5 TREES (>4 REQUIRED)

TREE REPLACEMENT

TOTAL TREES REQUIRED TO BE REPLACED = 10 TREES
(SEE "REPLACEMENT" IN TABLE TO THE LEFT)
PROPOSED REPLACED = 10 TREES

TREE RETENTION SCHEDULE - SEE ARBORIST REPORT

TREE #	OFFSITE	REMAIN	REMOVE	LARGE/ REGULATED >10"	SIZE EXCEPTIONAL > 24"	EXCEPTIONAL	DBH (INCHES)	SPECIES	*SPECIES*	HEALTH	COMMENT	REPLACEMENT
1			X				3.5/5	PACIFIC DOGWOOD	*CORNUS NUTTALLI*	POOR	NOT LOCATED ON SURVEY	
2			X				7.5	NOBLE FIR	*ABIES PROCERA*	FAIR	NOT LOCATED ON SURVEY	
3	X	X		X			14	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	EXCELLENT		
4	X	X		X			15	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	GOOD		
5		X		X			11	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	FAIR		
6			X	X	X		27	BIG LEAF MAPLE		POOR		2:1
7		X					8	GRAND FIR	*ABIES GRANDIS*	FAIR	NOT LOCATED ON SURVEY	
8		X		X			17	WESTERN RED CEDAR	*THUJA PLICATA*	GOOD		
NP			X								STUMP/ PREVIOUSLY REMOVED	2:1
9			X	X			17	COLUMNAR NORWAY MAPLE	*ACER PLATANOIDES 'COLUMNARE'*	FAIR		2:1
10			X	X			10	COLUMNAR NORWAY MAPLE	*ACER PLATANOIDES 'COLUMNARE'*	FAIR		2:1
11			X	X			14	COLUMNAR NORWAY MAPLE	*ACER PLATANOIDES 'COLUMNARE'*	FAIR		2:1
12		X		X	X	X	50	WEEPING WILLOW	*SALIX BABYLONICA*	FAIR		
13		X		X	X		32	BIG LEAF MAPLE		FAIR		
14	X	X		X			14	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	FAIR		
15	X	X		X			10.5	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	FAIR		
16	X	X		X			22	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	GOOD		

LATITUDE 48

LATITUDE 48, P.S.
CONTACT: BRADY BERRIMAN
PHONE NUMBER: 206.556.1615

BRADEN JOSEPH BERRIMAN — STATE OF WASHINGTON — 97383 — REGISTERED PROFESSIONAL ENGINEER — 07.14.22

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA
98040

CITY OF MERCER ISLAND

PERMIT SUBMITTAL SET

DATE: 03.11.22

SHEET SIZE: E (30X42)

REVISIONS

NO:	DESCRIPTION:	DATE:
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

DRAWN BY: CPS
CHECKED BY: BJB

TREE PLAN

SCALE: AS NOTED

C200

NOT USED
NTS
1

SW 1/4 OF NW 1/4, SECTION 31, TOWNSHIP 24N, RANGE 5E, W.M.

NOT USED
NTS
2

TREE PROTECTION AREA (TPZ)

KEEP OUT!

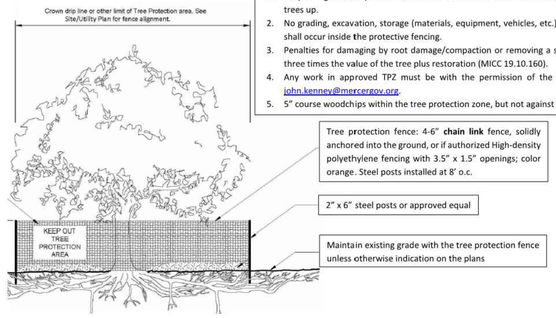
DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

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

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

Notes

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



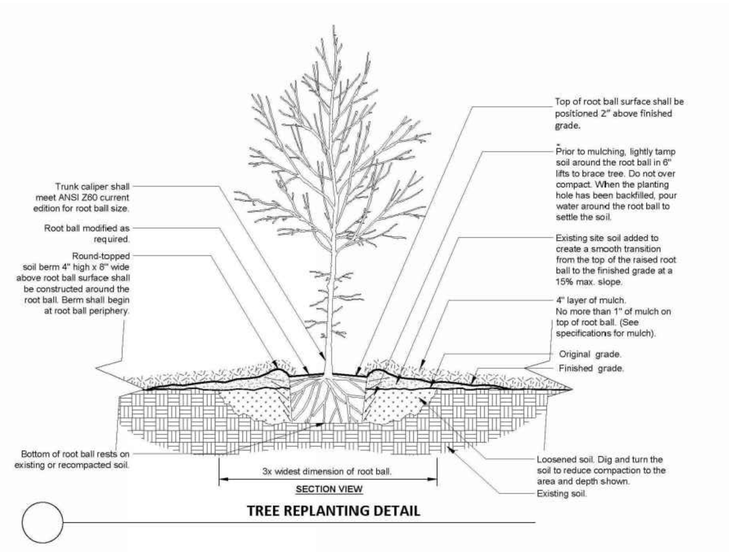
Any Work in the protected area must be with the permission of the City Arborist john.kenney@mercergov.org

NOTE:
THE EXTENT OF PROTECTION FENCING TO BE REVIEWED AND DETERMINED IN FIELD WITH CONTRACTOR AND CITY INSPECTORS AS REQUIRED TO PROTECT THE NEIGHBORS, ENVIRONMENT AND EXISTING ELEMENTS ON SITE.

MERCER ISLAND TREE PROTECTION
NTS
3

NOT USED
NTS
4

NOT USED
NTS
5



TREE REPLANTING DETAIL

MERCER ISLAND TREE REPLANTING DETAIL
NTS
6

LATITUDE 48

LATITUDE 48, P.S.
CONTACT: BRADY BERRIMAN
PHONE NUMBER: 206.556.1615

BRADY JOSEPH BERRIMAN
STATE OF WASHINGTON
27383
REGISTERED PROFESSIONAL ENGINEER
07.14.22

8480 RESIDENCE

8480 85TH AVE SE
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CITY OF MERCER ISLAND

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NO:	DESCRIPTION:	DATE:
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

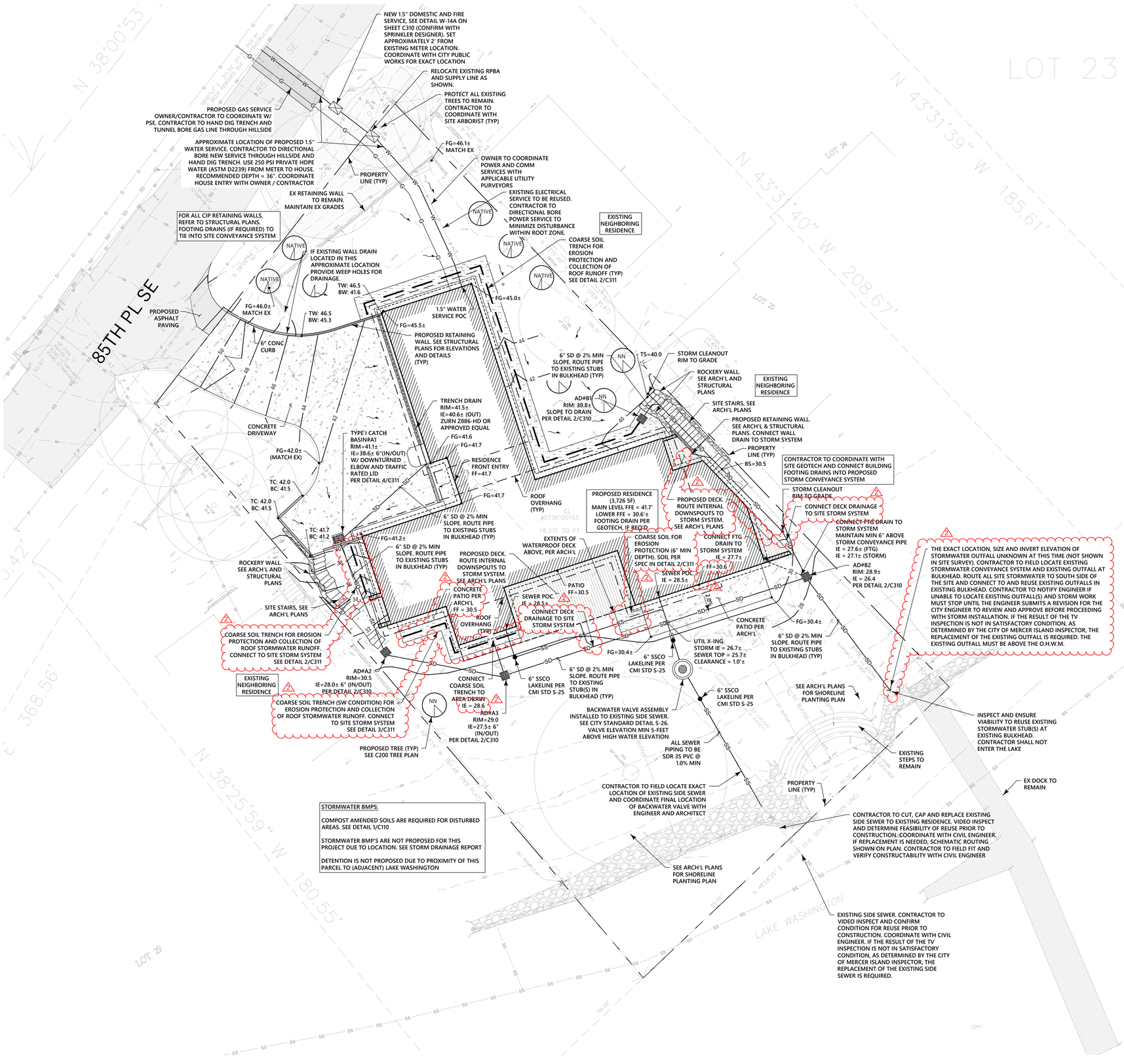
DRAWN BY: CPS
CHECKED BY: BJB

TREE DETAILS+NOTES

SCALE: AS NOTED

C210

SW 1/4 OF NW 1/4, SECTION 31, TOWNSHIP 24N, RANGE 5E, W.M.



STORMWATER BMPS:

COMPOST AMENDED SOILS ARE REQUIRED FOR DISTURBED AREAS. SEE DETAIL 1/C110

STORMWATER BMP'S ARE NOT PROPOSED FOR THIS PROJECT DUE TO LOCATION. SEE STORM DRAINAGE REPORT

DETENTION IS NOT PROPOSED DUE TO PROXIMITY OF THIS PARCEL TO (ADJACENT) LAKE WASHINGTON

Call before you Dig 8-1-1 or 1-800-424-5555

0 10 20 Feet

SCALE: 1"=10'

LEGEND

- PROPERTY LINE
- BUILDING OUTLINE
- CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- DECK, SEE ARCH'L PLAN
- COARSE SOIL TRENCH / EROSION PROTECTION
- ROCKERY
- RETAINING WALL
- STORM PIPE —SD—
- SEWER PIPE —SS—
- WATER PIPE —W—
- GAS LINE —G—
- PERFORATED PIPE / UNDERDRAIN PIPE
- OVERHEAD CANOPY
- FOOTING DRAIN PIPE

STORM DRAINAGE NOTES: SEE SHEET C310

UTILITY NOTES: SEE SHEET C310

FOR ALL WORK WITHIN TREE DRIPLINES, REFER TO SITE ARBORIST REPORT FOR RECOMMENDATIONS AND NECESSARY TREE PROTECTION MEASURES

THE CONTRACTOR AND OWNER SHALL COORDINATE WITH THE GEOTECHNICAL AND CIVIL ENGINEER THAT THE POST CONSTRUCTION SOIL QUALITY AND DEPTH MEET THE REQUIREMENTS SPECIFIED ON THE APPROVED PLAN SET PRIOR TO FINAL INSPECTION OF THE PROJECT.

VERTICAL DATUM:
NAVD88 PER GPS OBSERVATIONS

REFERENCES:
R1. CITY OF MERCER ISLAND SP 78-3-009, AFN. 7903280701, RECORDS OF KING COUNTY, WASHINGTON.

(PER QUIT CLAIM DEED AFN 20191090001615)

BEGINNING AT A POINT ON A LINE 400 FEET SOUTH OF AND PARALLEL WITH THE NORTH LINE OF GOVERNMENT LOT 2, SECTION 31, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON, SAID POINT BEING SOUTH 89°50'16" EAST 698.08 FEET FROM THE WEST LINE OF SAID GOVERNMENT LOT 2;
THENCE SOUTH 13°09'00" WEST 190.08 FEET TO A POINT IF CURVE;
THENCE ALONG A CURVE TO THE RIGHT OF 220 FOOT RADIUS 127.95 FEET TO A POINT OF TANGENCY;
THENCE SOUTH 46°28'20" WEST 138.31 FEET TO A POINT OF CURVE;
THENCE ALONG A CURVE TO THE RIGHT HAVING A UNIFORM RADIUS OF 65.74 FEET THROUGH A CENTRAL ANGLE OF 49°31'04" A DISTANCE OF 56.81 FEET TO A POINT ON THE SOUTHEASTERLY MARGIN OF THE B.B. HUFFMAN COUNTY ROAD;
THENCE ALONG SAID MARGIN SOUTH 38°00'53" WEST 50.55 FEET TO THE TRUE POINT OF BEGINNING;
THENCE CONTINUING ALONG SAID MARGIN, SOUTH 38°00'53" WEST 50.55 FEET;
THENCE SOUTH 43°31'40" EAST 193.81 FEET TO THE MEANDER LINE OF LAKE WASHINGTON;
THENCE NORTH 46°28'20.4" EAST ALONG SAID MEANDER LINE, 50 FEET;
THENCE NORTH 43°31'40" WEST 10.89 FEET TO THE U.S. COAST AND GEODETIC SURVEY MONUMENT;
THENCE CONTINUING NORTH 43°31'40" WEST 190.35 FEET TO THE TRUE POINT OF BEGINNING;

(BEING KNOWN AS LOT 26 OF THE UNRECORDED PLAT OF BENOTHO BEACH);
AND
BEGINNING AT A POINT ON A LINE 400 FEET SOUTH OF AND PARALLEL WITH THE NORTH LINE OF GOVERNMENT LOT 2, SECTION 31, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON, SAID POINT BEING SOUTH 89°50'16" EAST 698.08 FEET FROM THE WEST LINE OF SAID GOVERNMENT LOT 2;
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THENCE ALONG A CURVE TO THE RIGHT OF 220 FOOT RADIUS 127.95 FEET TO A POINT OF TANGENCY;
THENCE SOUTH 46°28'20" WEST 138.31 FEET TO A POINT OF CURVE;
THENCE ALONG A CURVE TO THE RIGHT HAVING A UNIFORM RADIUS OF 65.74 FEET THROUGH A CENTRAL ANGLE OF 49°31'04" A DISTANCE OF 56.81 FEET TO A POINT ON THE SOUTHEASTERLY MARGIN OF THE B.B. HUFFMAN COUNTY ROAD;
THENCE ALONG SAID MARGIN SOUTH 38°00'53" WEST 101.10 FEET TO THE TRUE POINT OF BEGINNING;
THENCE CONTINUING ALONG SAID MARGIN OF SAID COUNTY ROAD SOUTH 38°00'53" WEST 45 FEET;
THENCE SOUTH 40°19'13" EAST 187.48 FEET TO THE MEANDER LINE OF LAKE WASHINGTON;
THENCE NORTH 46°28'20.4" EAST ALONG SAID MEANDER LINE LINE 55 FEET;
THENCE NORTH 43°31'40" WEST 193.81 FEET TO THE TRUE POINT OF BEGINNING;
(BEING KNOWN AS LOT 27 OF THE UNRECORDED PLAT OF BENOTHO BEACH);
TOGETHER WITH SHORELANDS OF THE SECOND CLASS ADJOINGING SAID TRACTS 26 AND 27;

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

BASIS OF BEARINGS:
N 30°45'41" E WAS CALCULATED BETWEEN EXISTING SURVEY MONUMENTS SHOWN HEREON; THIS SURVEY IS BASED UPON EXISTING SURVEY POINTS FOUND BY JONES BASSI & ASSOCIATES, M.W. MARSHALL LAND SURVEYING, GEODIMENSIONS LAND SURVEYING AND TERRANE LAND SURVEYING INC, ALONG WITH THE ASSOCIATED CALC AND FIELD NOTES OF H.W. RUTHERFORD (PLATTER). THE MATHEMATICAL SOLUTION FOR THIS BOUNDARY HAS BEEN TIED TO THE EXISTING MONUMENTS WITHIN THIS PLAT. SAID MONUMENTS ARE NOT ORIGINAL PLAT MONUMENTS AND ARE ARBITRARY TO THIS BOUNDARY, THEY ONLY SERVE AS A MEANS OF RETRACEMENT.

PARCEL NO. 0736100155
PROPERTY AREA: 19,337 SF (0.44 ACRES)

LATITUDE 48

LATITUDE 48, P.S.
CONTACT: BRADY BERRIMAN
PHONE NUMBER: 206.556.1615

BRADY JOSEPH BERRIMAN STATE OF WASHINGTON 27383 REGISTERED PROFESSIONAL ENGINEER 03.11.22

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA
98040

CITY OF MERCER ISLAND

PERMIT SUBMITTAL SET

DATE: 03.11.22

SHEET SIZE: E (30X42)

REVISIONS

NO:	DESCRIPTION:	DATE:
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

DRAWN BY: CPS
CHECKED BY: BJB

CIVIL SITE PLAN

SCALE: AS NOTED

C300

STORM DRAINAGE NOTES:

1. STORM PIPE SHALL BE PVC CONFORMING TO ASTM D-3034 SDR 35 (4" – 15") OR ASTM F679 (18"-27"). BEDDING AND BACKFILL SHALL BE AS SHOWN IN THE STANDARD DETAILS.
2. THE FOOTING DRAINAGE SYSTEM AND THE ROOF DOWNSPOUT SYSTEM SHALL NOT BE INTERCONNECTED AND SHALL SEPARATELY CONVEY COLLECTED FLOWS TO THE CONVEYANCE SYSTEM OR TO ON-SITE STORMWATER FACILITIES.
3. PRIOR TO FINAL INSPECTION AND ACCEPTANCE OF STORM DRAINAGE WORK, PIPES AND STORM DRAIN STRUCTURES SHALL BE CLEANED AND FLUSHED. ANY OBSTRUCTIONS TO FLOW WITHIN THE STORM DRAIN SYSTEM, (SUCH AS RUBBLE, MORTAR AND WEDGED DEBRIS), SHALL BE REMOVED AT THE NEAREST STRUCTURE. WASH WATER OF ANY SORT SHALL NOT BE DISCHARGED TO THE STORM DRAIN SYSTEM OR SURFACE WATERS.
4. ENDS OF EACH STORM DRAIN STUB AT THE PROPERTY LINE SHALL BE CAPPED AND LOCATED WITH AN 8' LONG 2" X 4" BOARD, EMBEDDED TO THE STUB CAP AND EXTENDING AT LEAST 3 FEET ABOVE GRADE, AND MARKED PERMANENTLY "STORM". A COPPER 12 GA. LOCATE WIRE FIRMLY ATTACHED. THE STUB DEPTH SHALL BE INDICATED ON THE MARKER.
5. ALL GRATES IN ROADWAYS SHALL BE DUCTILE IRON, BOLT-LOCKING, VANED GRATES PER THE STANDARD DETAILS. STRUCTURES IN TRAFFIC LANES OUTSIDE OF THE CURB LINE WHICH DO NOT COLLECT RUNOFF SHALL BE FITTED WITH ROUND, BOLT-LOCKING FRAMES AND SOLID COVERS. OFF-STREET STRUCTURES WHICH DO NOT COLLECT RUNOFF SHALL BE FITTED WITH BOLT-LOCKING SOLID COVERS.
6. VEGETATION/LANDSCAPING IN THE DETENTION POND, BIORETENTION FACILITY, VEGETATED ROOF AND/OR DRAINAGE SWALE(S) ARE AN INTEGRAL PART OF THE RUNOFF TREATMENT SYSTEM FOR THE PROJECT. SUCH DRAINAGE FACILITIES WILL NOT BE ACCEPTED UNTIL PLANTINGS ARE ESTABLISHED.
7. ALL NEW MANHOLES SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES AND SHALL CONFORM TO THE STANDARD DETAILS. ALL NEW CATCH BASINS SHALL CONFORM TO THE STANDARD DETAILS.
8. STORM STUB STATIONS ARE REFERENCED FROM NEAREST DOWNSTREAM MANHOLE/ CATCH BASIN.
9. ALL TESTING AND CONNECTIONS TO EXISTING MAINS SHALL BE DONE IN THE PRESENCE OF THE CITY'S INSPECTOR.
10. ALL PUBLIC STORM DRAINS SHALL BE AIR TESTED AND HAVE A VIDEO INSPECTION PERFORMED PRIOR TO ACCEPTANCE (SEE #17 BELOW). STORM MAIN CONSTRUCTED WITH FLEXIBLE PIPE SHALL BE DEFLECTION TESTED WITH A MANDREL PRIOR TO ACCEPTANCE.
11. STORM STUBS SHALL BE TESTED FOR ACCEPTANCE AT THE SAME TIME THE STORM MAIN IS TESTED.
12. ALL MANHOLES/ CATCH BASINS IN UNPAVED AREAS SHALL INCLUDE A CONCRETE SEAL AROUND ADJUSTMENT RINGS PER STANDARD DETAILS.
13. ALL STORM MAIN EXTENSIONS WITHIN THE PUBLIC RIGHT-OF-WAY OR IN EASEMENTS MUST BE "STAKED" BY A SURVEYOR LICENSED IN WASHINGTON STATE FOR "LINE AND GRADE" AND CUT SHEETS PROVIDED TO THE CITY'S INSPECTOR, PRIOR TO STARTING CONSTRUCTION.
14. STORM DRAINAGE MAINLINES, STUBS AND FITTINGS SHALL BE CONSTRUCTED USING THE SAME PIPE MATERIAL AND MANUFACTURER. CONNECTIONS BETWEEN STUBS AND THE MAINLINE WILL BE MADE WITH A TEE FITTING. TEE FITTING SHALL BE FROM SAME MANUFACTURER AS PIPE. CUT-IN CONNECTIONS ARE ONLY ALLOWED WHEN CONNECTING A NEW STUB TO AN EXISTING MAINLINE.
15. MANHOLES, CATCH BASINS AND VAULTS ARE CONSIDERED TO BE PERMIT-REQUIRED CONFINED SPACES. ENTRY INTO THESE SPACES SHALL BE IN ACCORDANCE WITH CHAPTER 296-809 WAC.
16. PLACEMENT OF SURFACE APPURTENANCES (MH LIDS, VALVE LIDS, ETC.) IN TIRE TRACKS OF TRAFFIC LANES SHALL BE AVOIDED WHENEVER POSSIBLE.
17. THE CONTRACTOR SHALL PERFORM A VIDEO INSPECTION AND PROVIDE A DIGITAL COPY OF THE VIDEO INSPECTION FOR THE CITY'S REVIEW. THE VIDEO SHALL PROVIDE A MINIMUM OF 480 X 640 RESOLUTION AND COVER THE ENTIRE LENGTH OF THE APPLICABLE PIPE. THE CAMERA SHALL BE MOVED THROUGH THE PIPE AT A UNIFORM RATE (≤ 30 FT/MIN), STOPPING WHEN NECESSARY TO ENSURE PROPER DOCUMENTATION OF THE PIPE CONDITION. THE VIDEO SHALL BE TAKEN AFTER INSTALLATION AND CLEANING TO INSURE THAT NO DEFECTS EXIST. THE PROJECT WILL NOT BE ACCEPTED UNTIL ALL DEFECTS HAVE BEEN REPAIRED.
18. NOT USED.
19. ALL CONCRETE STRUCTURES (VAULTS, CATCH BASINS, MANHOLES, OIL/WATER SEPARATORS, ETC.) SHALL BE VACUUM TESTED.
20. MANHOLES, CATCH BASINS AND INLETS IN EASEMENTS SHALL BE CONSTRUCTED TO PROVIDE A STABLE, LEVEL GRADE FOR A MINIMUM RADIUS OF 2.5 FEET AROUND THE CENTER OF THE ACCESS OPENING TO ACCOMMODATE CONFINED SPACE ENTRY EQUIPMENT.
21. TOPS OF MANHOLES/ CATCH BASINS WITHIN PUBLIC RIGHT-OF-WAY SHALL NOT BE ADJUSTED TO FINAL GRADE UNTIL AFTER PAVING.
22. CONTRACTOR SHALL ADJUST ALL MANHOLE/ CATCH BASIN RIMS TO BE FLUSH WITH FINAL FINISHED GRADES, UNLESS OTHERWISE SHOWN.
23. DURING CONSTRUCTION, CONTRACTOR SHALL INSTALL, AT ALL CONNECTIONS TO EXISTING DOWNSTREAM MANHOLES/CATCH BASINS, SCREENS OR PLUGS TO PREVENT FOREIGN MATERIALS FROM ENTERING EXISTING STORM DRAINAGE SYSTEM. SCREENS OR PLUGS SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF THE CONSTRUCTION AND SHALL BE REMOVED ALONG WITH COLLECTED DEBRIS AT THE TIME OF FINAL INSPECTION AND IN THE PRESENCE OF THE CITY'S INSPECTOR.
24. NOT USED.
25. MINIMUM COVER OVER STORM DRAINAGE PIPE SHALL BE 2 FEET, UNLESS OTHERWISE SHOWN.
26. REDIRECT SHEET FLOW, BLOCK DRAIN INLETS AND/OR CURB OPENINGS IN PAVEMENT AND INSTALL FLOW DIVERSION MEASURES TO PREVENT CONSTRUCTION SILT LADEN RUNOFF AND DEBRIS FROM ENTERING EXCAVATIONS AND FINISH SURFACES FOR BIORETENTION FACILITIES AND PERMEABLE PAVEMENTS.
27. WHERE AMENDED SOILS, BIORETENTION FACILITIES, AND PERMEABLE PAVEMENTS ARE INSTALLED, THESE AREAS SHALL BE PROTECTED AT ALL TIMES FROM BEING OVER-COMPACTED.

UNDERGROUND UTILITY NOTE:

UNDERGROUND UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY SERVICES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPES WHERE CROSSING INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE-CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION.

GENERAL DRAINAGE NOTES:

1. ALL STORM LINES AND RETENTION/DETENTION AREAS SHALL BE STAKED FOR GRADE AND ALIGNMENT BY AN ENGINEERING OR SURVEYING FIRM CAPABLE OF PERFORMING SUCH WORK, AND CURRENTLY LICENSED IN THE STATE OF WASHINGTON TO DO SO.
2. ALL PIPE APPURTENANCES SHALL BE LAID ON A PROPERLY PREPARED FOUNDATION IN ACCORDANCE WITH WSDOT 7-02.3(1) UNLESS OTHERWISE NOTED IN THE PLANS, DETAILS OR PROJECT SPECIFICATIONS. THIS SHALL INCLUDE LEVELING AND COMPACTING THE TRENCH BOTTOM, THE TOP OF THE FOUNDATION MATERIAL, AND ANY REQUIRED PIPE BEDDING TO A UNIFORM GRADE SO THAT THE ENTIRE PIPE IS SUPPORTED BY A UNIFORMLY DENSE UNYIELDING BASE.
3. ALL DRAINAGE STRUCTURES, SUCH AS CATCH BASINS AND MANHOLES, NOT LOCATED WITHIN A TRAVELED ROADWAY OR SIDEWALK, MUST HAVE SOLID LOCKING LIDS. ALL DRAINAGE STRUCTURES ASSOCIATED WITH A PERMANENT RETENTION/DETENTION FACILITY MUST HAVE SOLID LOCKING LIDS.
4. SOLID LOCKING LIDS MUST BE USED FOR ALL CATCH BASINS NOT LOCATED WITHIN A GUTTER FLOWLINE AND VANED GRATE STYLE COVERS MUST BE USED WITHIN THE GUTTER FLOWLINE.
5. ALL CONVEYANCE PIPE 6-INCHES OR GREATER IN DIAMETER MUST BE ASTM D3034 SDR 35 PVC UNLESS OTHERWISE NOTED IN THE PLANS, DETAILS OR PROJECT SPECIFICATIONS.

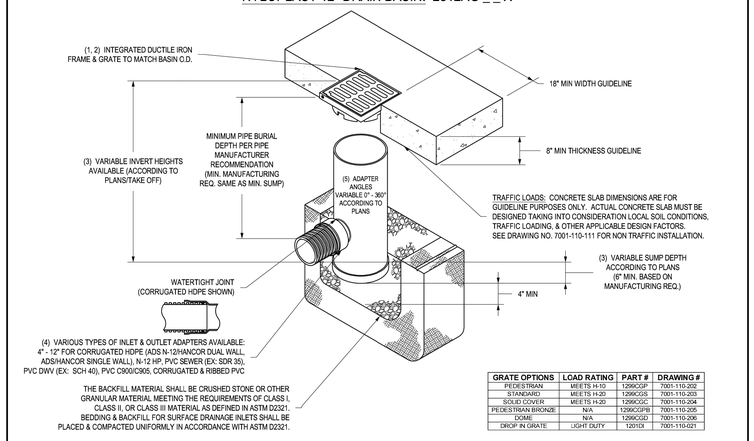
RESTORATION NOTES:

1. SURFACE RESTORATION OF EXISTING ASPHALT PAVEMENT SHALL BE AS REQUIRED BY THE RIGHT-OF-WAY USE PERMIT.
2. THE CONTRACTOR SHALL RESTORE THE RIGHT-OF-WAY AND EXISTING PUBLIC STORM DRAINAGE EASEMENT(S) AFTER CONSTRUCTION TO A CONDITION EQUAL OR BETTER THAN CONDITION PRIOR TO ENTRY. THE CONTRACTOR SHALL FURNISH A RELEASED FROM ALL AFFECTED PROPERTY OWNERS AFTER RESTORATION HAS BEEN COMPLETED.

UTILITY NOTES:

1. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE EXCAVATOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN, AND TO FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN HERE ON WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN. IMMEDIATELY NOTIFY THE RESPONSIBLE PROFESSIONAL ENGINEER IF A CONFLICT EXISTS.
2. CALL 1-800-424-5555, OR 8-1-1, 72 HOURS BEFORE CONSTRUCTION FOR UTILITY LOCATES.
3. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF FIVE FEET (5') HORIZONTAL SEPARATION BETWEEN ALL WATER AND STORM DRAINAGE LINES. ANY CONFLICT SHALL BE REPORTED TO THE UTILITY AND THE RESPONSIBLE PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION.
4. AVOID CROSSING WATER OR SEWER MAINS AT HIGHLY ACUTE ANGLES. THE SMALLEST ANGLE MEASURE BETWEEN UTILITIES SHOULD BE 45 DEGREES.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT NO CONFLICTS EXIST BETWEEN STORM DRAINAGE FACILITIES AND PROPOSED OR EXISTING UTILITIES PRIOR TO CONSTRUCTION.
6. AT POINTS WHERE EXISTING THRUST BLOCKING IS FOUND, MINIMUM CLEARANCE BETWEEN CONCRETE BLOCKING AND OTHER BURIED UTILITIES OR STRUCTURES SHALL BE 5 FEET.
7. WHERE A NEW UTILITY LINE CROSSES BELOW AN EXISTING AC MAIN, THE AC PIPE SHALL BE REPLACED WITH DI PIPE TO 3 FEET PAST EACH SIDE OF THE TRENCH AS SHOWN ON STANDARD DETAIL W-8. ALTERNATIVELY, APPROVED IN WRITING BY THE UTILITY, THE TRENCH MAY BE BACKFILLED WITH CONTROLLED DENSITY FILL (CDF, AKA FLOWABLE FILL) FROM BOTTOM OF TRENCH TO BOTTOM OF AC MAIN

NYLOPLAST 12" DRAIN BASIN: 2812AG _ _ X



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

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

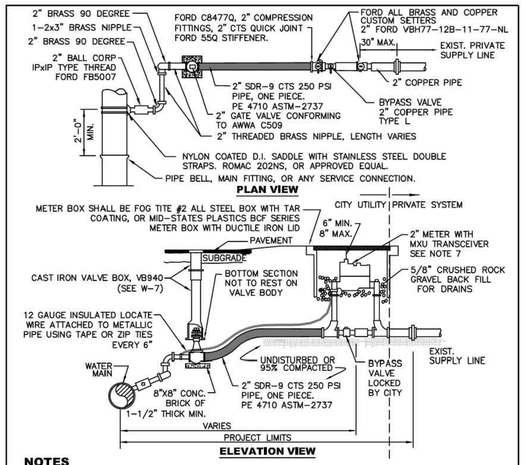
DRAWN BY	EBC	MATERIAL	
DATE	03-29-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:20	SHEET 1 OF 1

ADS Nyloplast
3139 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2496
www.nyloplast-us.com

TITLE: 12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-189 REV E

ADS NYLOPLAST AREA DRAIN
NTS 2



NOTES

1. WATER SERVICES SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT DATED 01/04/2014.
2. MINIMUM DISTANCE BETWEEN CORP STOPS SHALL BE 18". MINIMUM DISTANCE BETWEEN TAPS, BETWEEN CORP STOP AND PIPE ENDS SHALL BE 24", ALL HORIZONALLY STAGGERED.
3. PLASTIC METER BOXES SHALL NOT BE INSTALLED WITHIN ROADWAY, SIDEWALK, OR DRIVEWAYS.
4. UPON CITY ENGINEER'S APPROVAL, METER BOXES ARE ALLOWED TO BE INSTALLED IN PORTLAND CEMENT CONCRETE PAVEMENT OR SIDEWALK.
5. WHEN CONNECTING TO EXISTING PRIVATE SUPPLY LINE CONTAINING FERROUS METAL, PROVIDE INSULATING COUPLING (DB SERIES WITH C21 SERIES ADAPTERS) AND PROVIDE REDUCER AS NECESSARY TO MATCH EXISTING PRIVATE SUPPLY LINE DIAMETER.
6. SERVICE LINE SHALL BE PERPENDICULAR TO THE WATER MAIN AND STRAIGHT TO WATER METER, UNLESS OTHERWISE APPROVED BY CITY ENGINEER. PROVIDE WINDING SLACK IN THE SERVICE LINE BETWEEN THE MAIN AND WATER METER.
7. WATER METER SUPPLIED BY CITY.
8. ALL FITTINGS TO BE BRASS COMPRESSION TYPE, FORD QUICK JOINT OR EQUAL.
9. NO SERVICE CONNECTIONS BETWEEN BLOW-OFF AND END OF MAIN.

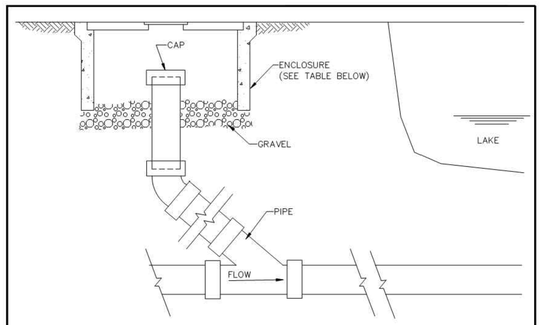
CITY OF MERCER ISLAND
STANDARD DETAILS
WATER
2" WATER METER INSTALLATION

02-05-2021	NO SCALE	W-14A

REV DATE | APPROVED

2" WATER METER
NTS 3

SIDE SEWER CLEANOUT



LAKE LINE CLEANOUT

PIPE SIZE	MATERIAL	CAP	ENCLOSURE	COMMENTS
6"	PVC	SIDU MECHANICAL SEWER PLUG	CONC. METER BOX, FOGTITE 1-D	INSTALLATION BELOW HYDRAULIC GRADIENT
6"	PVC	PVC CAP W/O GASKET	CONC. METER BOX, FOGTITE 1-D	INSTALLATION ABOVE HYDRAULIC GRADIENT
6"	DIP	MECHANICAL JOINT CAP	CONC. METER BOX, FOGTITE 1-D	INSTALLATION ABOVE HYDRAULIC GRADIENT
8"	PVC	PVC CAP W/O GASKET	CONC. METER BOX, FOGTITE NO. 2 (CONC. LID W/ ALUM. INS. PLATE)	INSTALLATION ABOVE HYDRAULIC GRADIENT
8"	DIP	MECHANICAL JOINT CAP	CONC. METER BOX, FOGTITE NO. 2 (CONC. LID W/ ALUM. INS. PLATE)	INSTALLATION ABOVE HYDRAULIC GRADIENT

NOTES

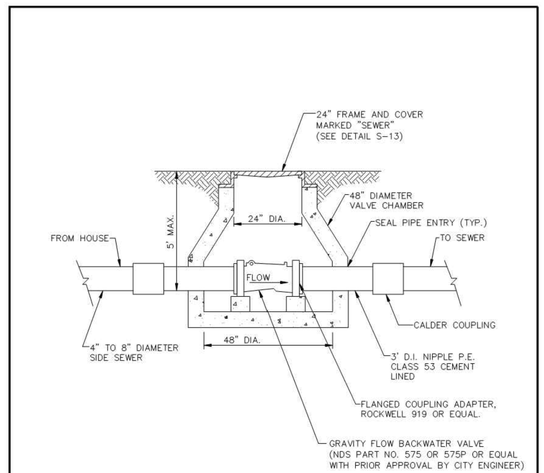
1. IF POSSIBLE, CLEANOUT TO BE LOCATED JUST ABOVE HYDRAULIC GRADIENT OF LAKE LINE. CLEANOUT SHOULD ALSO BE LOCATED TO PROVIDE EASY ACCESS FOR INSPECTION AND MAINTENANCE BY THE HOME OWNER.
2. SEE S-23 & S-24 FOR BACK WATER VALVE LOCATION.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SIDE SEWER CLEANOUT FOR LAKE LINE CONNECTIONS

6-5-2009	NO SCALE	S-25

REV DATE | APPROVED

SIDE SEWER CLEANOUT
NTS 5



CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
BACK WATER VALVE ASSEMBLY FOR JOINT USE SIDE SEWER (4" OR 6" DIAMETER)

6-5-2009	NO SCALE	S-26

REV DATE | APPROVED

SEWER BACKWATER VALVE
NTS 6

LATITUDE 48
LATITUDE 48, P.S.
CONTACT: BRADY BERRIMAN
PHONE NUMBER: 206.556.1615

JOSEPH BERRIMAN — STATE OF WASHINGTON — 27383 — REGISTERED PROFESSIONAL ENGINEER — 03.11.22

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA
98040

CITY OF MERCER ISLAND
PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO:	DESCRIPTION:	DATE:
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

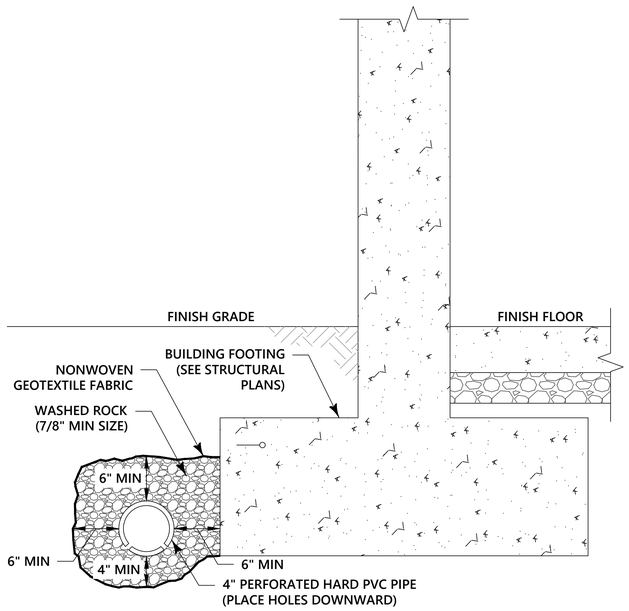
DRAWN BY: CPS
CHECKED BY: BJB

CIVIL DETAILS+NOTES

SCALE: AS NOTED

C310

NOTES:
1. TOP OF PERFORATED PIPE MUST BE AT OR BELOW THE TOP OF FOOTING.
2. BACKFILL MUST BE SIZED AT LEAST ONE SIEVE SIZE (ROCK SIZE) LARGER THAN DIMENSIONS OF PERFORATIONS, OTHERWISE A GEOTEXTILE WRAP AROUND THE PIPE IS REQUIRED.
3. FOR NATIVE SOIL WITH HIGH SAND CONTENT, A
4. GEOTEXTILE BETWEEN THE BACKFILL AND NATIVE SOIL SHOULD BE USED. FOR NATIVE SOIL WHERE THE CLAY CONTENT EXCEEDS 50% OR THE SILT CONTENT EXCEEDS 40%, A GEOTEXTILE IS NOT REQUIRED AROUND THE PIPE.
5. FOR NATIVE SOIL WITH LESS THAN 50% PASSING THE NO. 200 SIEVE, THE APPARENT OPENING SIZE (AOS) OF THE FABRIC SHOULD BE AT LEAST A NO. 30 SIEVE. FOR NATIVE SOIL WITH MORE THAN 50% PASSING THE NO. 200 SIEVE, THE AOS OF THE FABRIC SHOULD BE AT LEAST A NO. 50 SIEVE.
6. REFER TO THE GEOTEHNICAL REPORT FOR ADDITIONAL DRAINAGE, WATERPROOFING, AND SLAB CONSIDERATIONS.

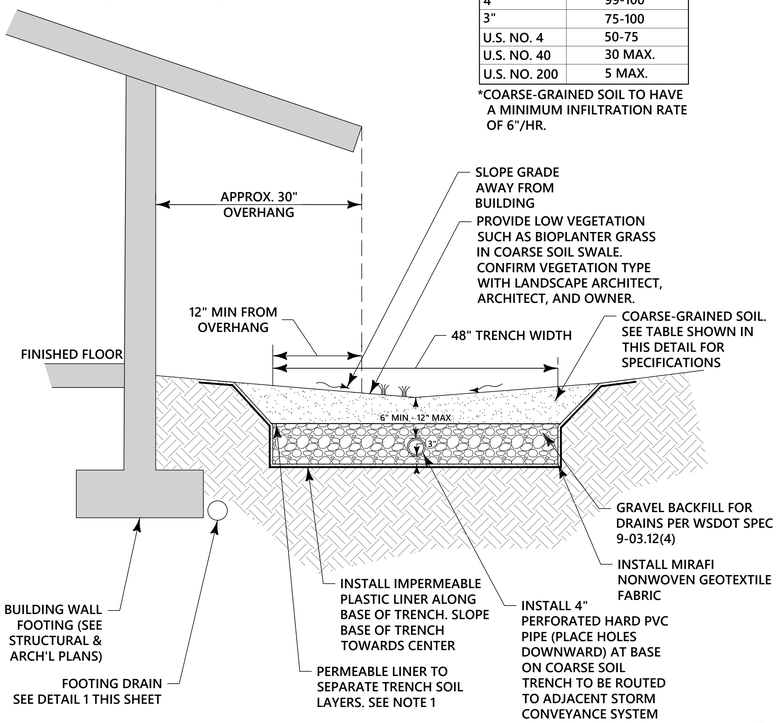


FOOTING DRAIN
NTS
1

NOTES:
1. TOP 6" OF TRENCH TO BE COARSE-GRAINED SOIL PER SPECIFICATIONS IN TABLE SHOWN IN THIS DETAIL. REMAINING PORTION OF TRENCH TO BE GRAVEL BACKFILL FOR DRAINS PER WSDOT SPEC 9-03.12(4). SEPARATE LAYERS WITH PERMEABLE LINER.

COARSE-GRAINED SOIL SPECIFICATIONS	
SEIVE SIZE	PERCENT PASSING
4"	99-100
3"	75-100
U.S. NO. 4	50-75
U.S. NO. 40	30 MAX.
U.S. NO. 200	5 MAX.

*COARSE-GRAINED SOIL TO HAVE A MINIMUM INFILTRATION RATE OF 6"/HR.

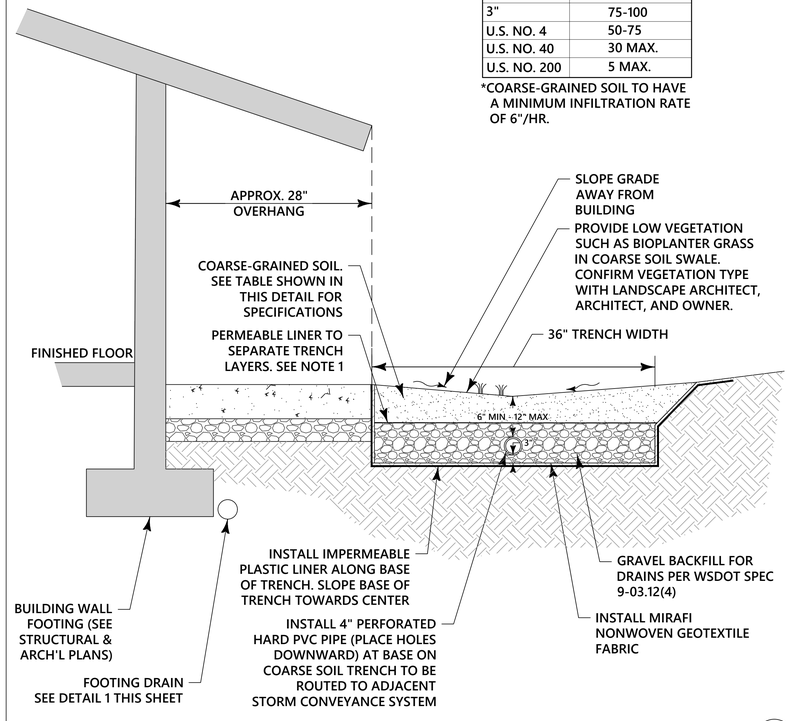


TYPICAL COARSE SOIL TRENCH FOR GROUND PROTECTION
NTS
2

NOTES:
1. TOP 6" OF TRENCH TO BE COARSE-GRAINED SOIL PER SPECIFICATIONS IN TABLE SHOWN IN THIS DETAIL. REMAINING PORTION OF TRENCH TO BE GRAVEL BACKFILL FOR DRAINS PER WSDOT SPEC 9-03.12(4). SEPARATE LAYERS WITH PERMEABLE LINER.

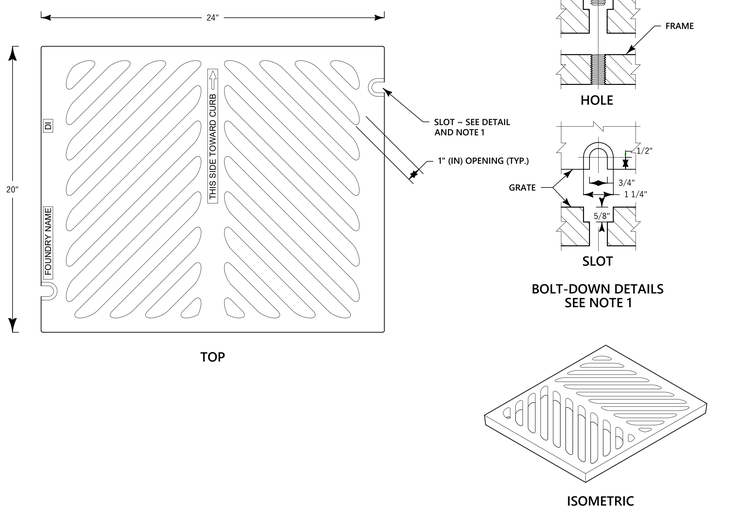
COARSE-GRAINED SOIL SPECIFICATIONS	
SEIVE SIZE	PERCENT PASSING
4"	99-100
3"	75-100
U.S. NO. 4	50-75
U.S. NO. 40	30 MAX.
U.S. NO. 200	5 MAX.

*COARSE-GRAINED SOIL TO HAVE A MINIMUM INFILTRATION RATE OF 6"/HR.



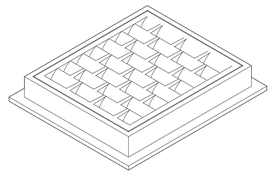
COARSE SOIL TRENCH FOR GROUND PROTECTION - SW CONDITION
NTS
3

NOTES:
1. BOLT-DOWN CAPABILITY IS REQUIRED ON ALL FRAMES, GRATES AND COVERS, UNLESS SPECIFIED OTHERWISE IN THE CONTRACT. PROVIDE 2 HOLES IN THE FRAME THAT ARE VERTICALLY ALIGNED WITH THE GRATE OR COVER SLOTS. THE FRAME SHALL ACCEPT THE 304 STAINLESS STEEL (S.S.) 5/8" (IN) - 11 NC x 2" (IN) ALLEN HEAD CAP SCREW BY BEING TAPPED, OR OTHER APPROVED MECHANISM. LOCATION OF BOLT-DOWN HOLES VARIES BY MANUFACTURER.
2. REFER TO STANDARD SPECIFICATION SECTION 9-05.15, AND 9-05.15(2) FOR ADDITIONAL REQUIREMENTS.
3. FOR FRAME DETAILS SEE STANDARD PLAN B-30.10.
4. THE THICKNSS OF THE GRADE SHALL NOT EXCEED 1 5/8".

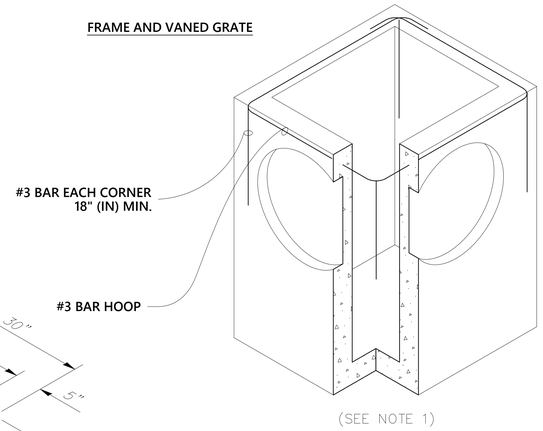


CATCH BASIN FRAME AND GRATE
NTS
4

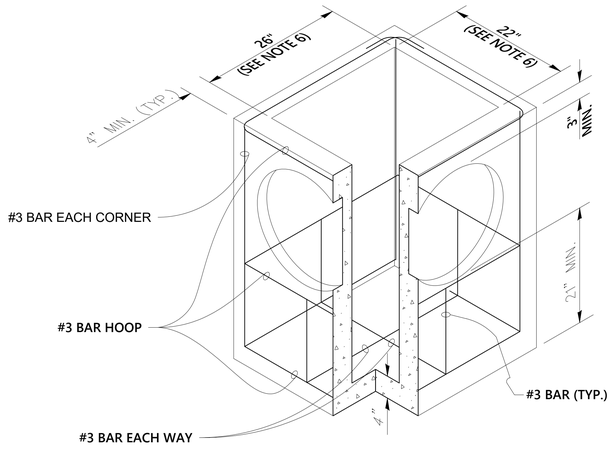
NOTES:
1. AS ACCEPTABLE ALTERNATIVES TO THE REBAR SHOWN IN THE PRECAST BASE SECTION, FIBERS (PLACED ACCORDING TO THE STANDARD SPECIFICATIONS), OR WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT SHALL BE USED WITH THE MINIMUM REQUIRED REBAR SHOWN IN THE ALTERNATIVE PRECAST BASE SECTION. WIRE MESH SHALL NOT BE PLACED IN THE KNOCKOUTS.
2. THE KNOCKOUT DIAMETER SHALL NOT BE GREATER THAN 20" (IN). KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" (IN) MINIMUM TO 2.5" (IN) MAXIMUM. PROVIDE A 1.5" (IN) MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 9-04.3.
3. THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE LOWEST PIPE INVERT SHALL BE 5' (FT).
4. THE FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE DOWN, OR INTEGRALLY CAST INTO THE ADJUSTMENT SECTION WITH FLANGE UP.
5. THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLOOR, AND THE WALLS MAY BE SLOPED AT A RATE OF 1 : 24 OR STEEPER.
6. THE OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.
7. ALL PICKUP HOLES SHALL BE GROUTED FULL AFTER THE BASIN HAS BEEN PLACED.



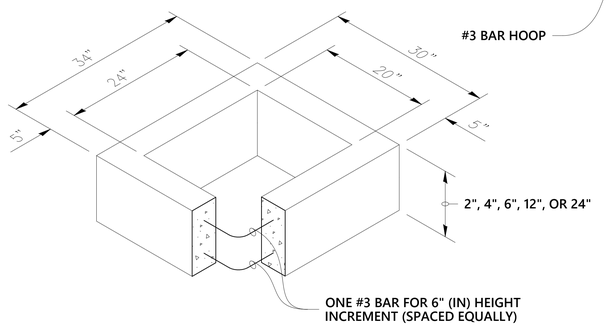
FRAME AND VANED GRATE



ALTERNATIVE PRECAST BASE SECTION



PRECAST BASE SECTION



RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP* (STD. SPEC. SECT. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))	15"

* CORRUGATED POLYETHYLENE STORM SEWER PIPE

TYPE 1 CATCH BASIN
NTS
6

LATITUDE 48

LATITUDE 48, P.S.
CONTACT: BRADY BERRIMAN
PHONE NUMBER: 206.556.1615

BRADEN JOSEPH BERRIMAN
STATE OF WASHINGTON
27383
REGISTERED PROFESSIONAL ENGINEER
07/14/22

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA
98040

CITY OF MERCER ISLAND
PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

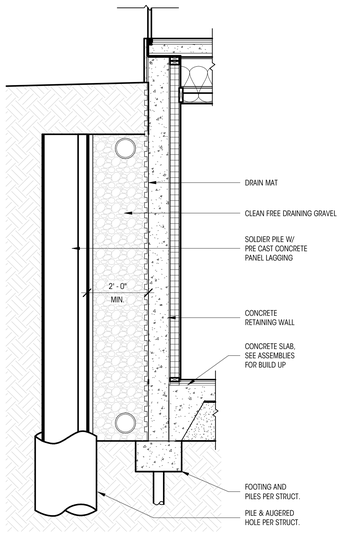
NO:	DESCRIPTION:	DATE:
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

DRAWN BY: CPS
CHECKED BY: BJB

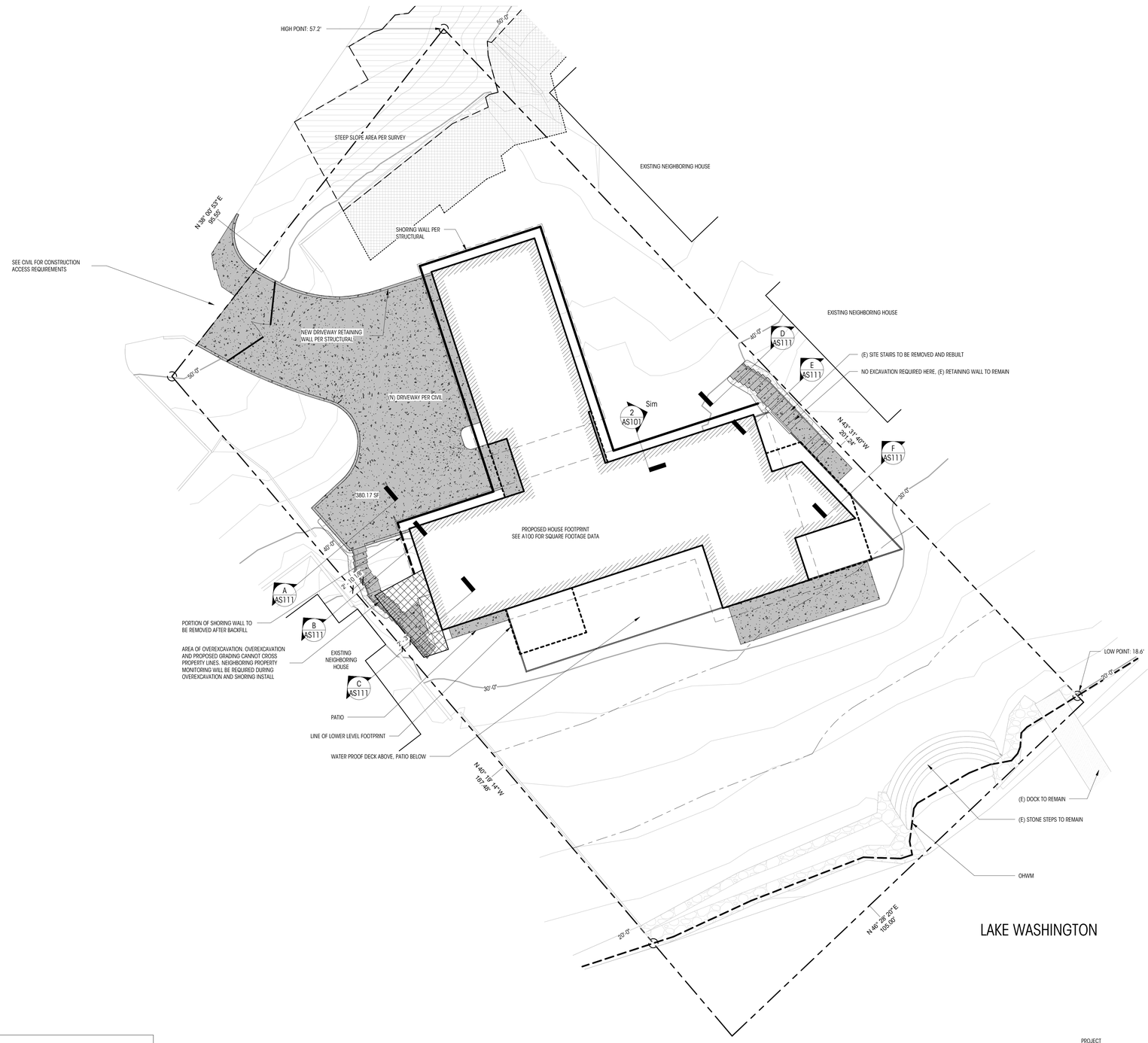
CIVIL DETAILS

SCALE: AS NOTED

C311



2 SHORING DETAIL
1/2" = 1'-0"



1 SITE PLAN - SHORING AND EXCAVATION
1" = 10'-0"

PROJECT NORTH
NORTH

LEGEND

- EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR. — ELEVATION DATUM
- ORDINARY HIGH WATER MARK
- PROPERTY LINE
- SETBACK LINE
- ROOF OVERHANG
- TREE PROTECTION FENCE (F)
- CONTOUR MAJOR
- CONTOUR MINOR
- (N) HOUSE FOOTPRINT
- (E) PATIO / WALKWAYS / CONCRETE DRIVE / PAVING TO REMAIN
- (N) PATIO / WALKWAYS / CONCRETE DRIVE / PAVING / SITE WALLS
- (E) ROCKERY TO REMAIN
- STEEP SLOPE HAZARD AREA PER SURVEY
- STEEP SLOPE BUFFER AREA
- (N) PROPOSED ROCKERY
- AREA OF OVEREXCAVATION
- SHORING WALL PER STRUCTURAL
- TEMPORARY SHORING WALL PER STRUCTURAL

NOTES

1. PROPERTY LINE METES & BOUNDS ARE SHOWN PER TOPOGRAPHIC SURVEY BY TERRANE DATED 02/19/21
2. TREES AND COUNTOURS ARE BASED ON TOPOGRAPHIC SURVEY BY TERRANE DATE 02/19/21
3. SEE SHEET A101 FOR ADDITIONAL PROJECT DATA & SQUARE FOOTAGE CALCULATIONS
4. SEE CIVIL PLANS FOR SITE PROTECTION (TESC), STORM WATER CONTROL, AND GRADING
5. (19.13.020.a) LEGAL NONCONFORMING USES AND STRUCTURES MAY CONTINUE.
6. PRIOR TO EXCAVATION, SURVEY REQUIRED OF NEIGHBORING PROPERTY STRUCTURES AND IMPROVEMENTS. MONITORING OF STRUCTURES AND IMPROVEMENTS ADJACENT TO EXCAVATION REQUIRED UNTIL BACKFILL IS COMPLETE. (1)

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8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

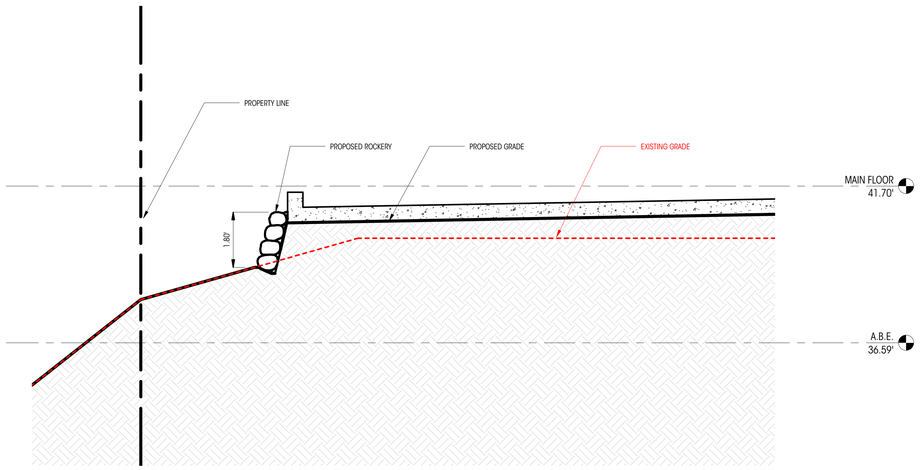
DRAWN BY: DD
CHECKED BY: KM

ARCH. SHORING AND EXCAVATION SITE PLAN

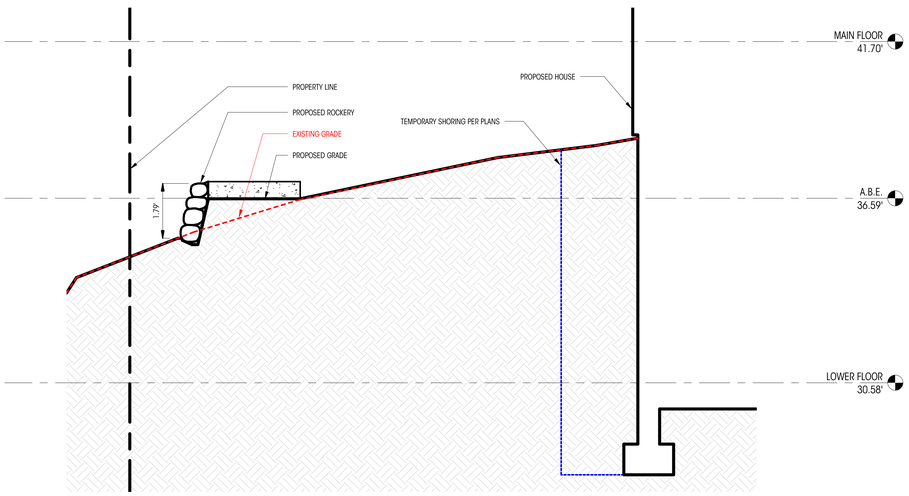
SCALE: As indicated

AS101

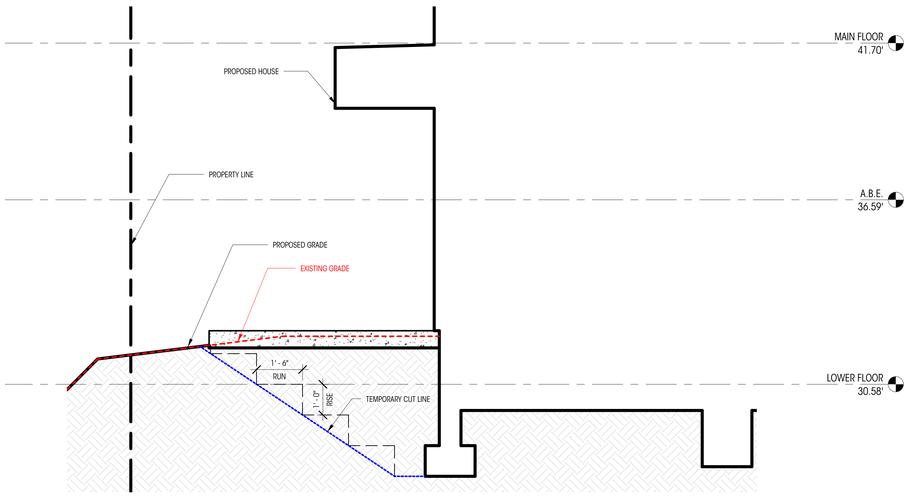
DEDICATED APPROVAL STAMP SPACE



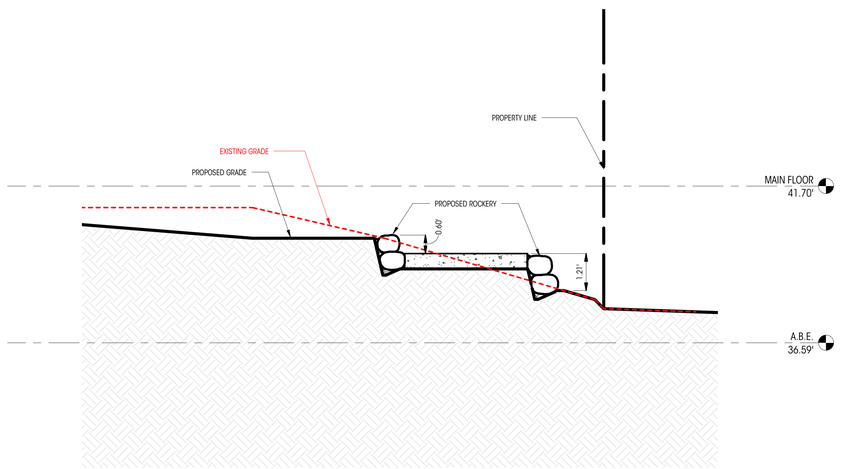
A SECTION A
1/2" = 1'-0"



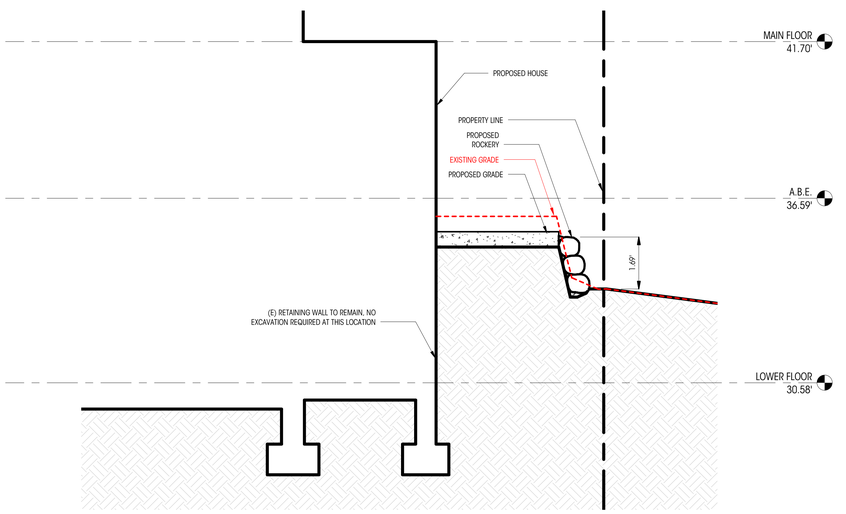
B SECTION B
1/2" = 1'-0"



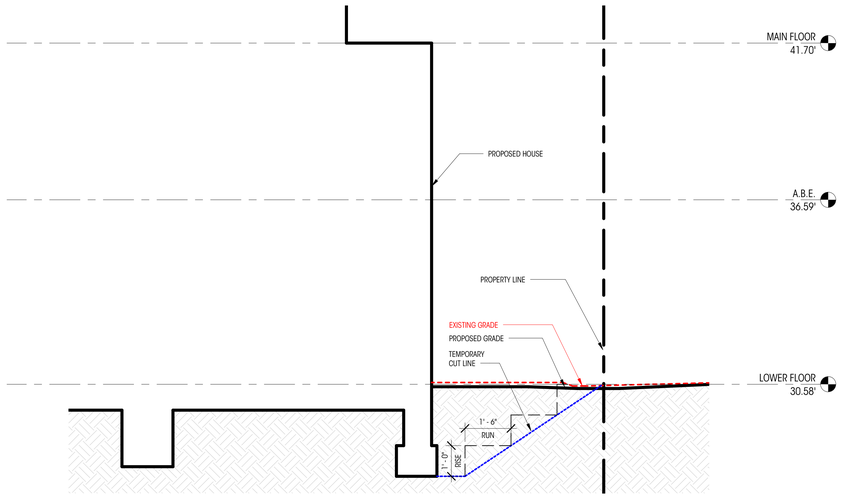
C SECTION C
1/2" = 1'-0"



D SECTION D
1/2" = 1'-0"



E SECTION E
1/2" = 1'-0"



F SECTION F
1/2" = 1'-0"

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DRAWN BY: DD
CHECKED BY: KM

EXCAVATION SITE SECTIONS

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

AS111

1

DEDICATED APPROVAL STAMP SPACE

General Structural Notes

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

CODE REQUIREMENTS

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2018 EDITION, AND THE LATEST EDITION OF PTI DC35.1, "RECOMMENDATIONS FOR PRESTRESSED ROCK AND SOIL ANCHORS".

GENERAL REQUIREMENTS

2. ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THE SPECIFICATIONS, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ENGINEER AND ARCHITECT, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE GENERAL CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE GENERAL CONTRACTOR'S RISK.

3. SHOULD ANY DISCREPANCIES BE FOUND IN THE PROJECT DOCUMENTS, THE CONTRACTOR WILL BE DEEMED TO HAVE INCLUDED IN THE PRICE THE MOST EXPENSIVE WAY OF COMPLETING THE WORK, UNLESS PRIOR TO SUBMISSION OF THE PRICE THE CONTRACTOR ASKS FOR A DECISION FROM THE ENGINEER AND ARCHITECT AS TO WHICH SHALL GOVERN.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTOR'S WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES TO THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.

5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF EXISTING STRUCTURES IN THE FIELD AND SHALL NOTIFY THE ENGINEER OF ALL FIELD CHANGES PRIOR TO FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBER.

6. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.

7. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER. ALL TYPICAL AND NOTES SHOWN ON DRAWINGS SHALL APPLY, UNLESS NOTED OTHERWISE. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS BUT SHALL STILL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS. WHERE TYPICAL DETAILS ARE NOTED ON THE PLANS, THE SPECIFIED TYPICAL DETAIL SHALL BE USED. WHERE NO TYPICAL DETAIL IS NOTED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE TYPICAL DETAIL FROM THOSE PROVIDED. THE CONTRACTOR SHALL SUBMIT ALL PROPOSED ALTERNATE TYPICAL DETAILS TO THOSE PROVIDED WITH RELATED CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO SHOP DRAWING PRODUCTION AND FIELD USE.

8. THE FOLLOWING ITEMS SHALL BE SUBMITTED IN WRITING FOR APPROVAL TO THE ENGINEER, ARCHITECT AND OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK OR THE FABRICATION OR INSTALLATION OF ANY STRUCTURAL ITEM. THE CONTRACTOR SHALL RETAIN ALL RESPONSIBILITY FOR MEANS AND METHODS OF CONSTRUCTION.

   SHORING MONITORING PROGRAM: SEE MONITORING SECTION.
   CONCRETE AND GROUT MIX DESIGN

9. SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

   STRUCTURAL STEEL
   TENDONS
   ANCHORS
   GROUTS AND CONCRETES.

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

    SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT, BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS.

11. UTILITY LOCATION: THE UTILITIES INFORMATION SHOWN ON THE PLANS MAY NOT BE COMPLETE. THE SHORING CONTRACTOR SHALL DETERMINE THE HORIZONTAL AND VERTICAL LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRIVING PILES, DRILLING PILE HOLES, TIEBACK ANCHORS, OR CUTTING OR DIGGING IN STREETS OR ALLEYS. THIS INCLUDES CALLING UTILITY LOCATE AND THEN POTHOLING ALL UTILITIES PRIOR TO CONSTRUCTION TO CONFIRM DEPTHS AND LOCATIONS AND TO VERIFY THAT THERE ARE NO CONFLICTS WITH THE PILE AND TIEBACK CROSSING ELEVATIONS. PILES AND TIEBACKS, INCLUDING CONCRETE CASING SHALL MAINTAIN A MINIMUM OF 36" CLEARANCE TO ANY EXISTING UTILITIES TO REMAIN. CONTRACTOR SHALL NOTIFY THE ENGINEER OF CONFLICTS. CONFLICTS SHALL BE RESOLVED IN WRITING PRIOR TO PROCEEDING WITH CONSTRUCTION.

QUALITY ASSURANCE

12. GEOTECHINCAL SPECIAL INSPECTION SHALL BE PERFOMED FOR THE FOLLOWING ELEMENTS IN ACCORDANCE WITH : INSPECTION BY THE GEOTECHNICAL ENGINEER SHALL BE PERFORMED FOR PILE AND ANCHOR PLACEMENT AND DIRECT CONTINUOUS OBSERVATION SHALL BE CONTINUOUSLY PERFORMED FOR PILE AND ANCHOR INSTALLATION SHALL BE PERFORMED UNDER DIRECT CONTINUOUS OBSERVATION. AND TIEBACK PLACING AND STRESSING. ALL PREPARED SOIL BEARING SURFACES SHALL BE INSPECTED BY THE SOILS ENGINEER PRIOR TO PLACEMENT OF PILES. SOIL COMPACTION SHALL BE SUPERVISED BY AN APPROVED TESTING LAB. THE GEOTECHNICAL ENGINEER SHALL ALSO ADVISE ON WATER CONTROL AND SLAB ON GRADE CONSTRUCTION.

SOIL CONDITIONS, FILL PLACEMENT, AND DENSITY	PER TABLE 1705.6
CAST-IN-PLACE DEEP FOUNDATION	PER TABLE 1705.8
SOIL ANCHORS AND TIEBACKS	CONTINUOUS

13. WET WEATHER INSPECTION: A SITE VISIT FROM THE GEOTECHNICAL SPECIAL INSPECTOR SHALL OCCUR DURING EACH DAY OF ACTIVE GRADING AND IN THE EVENT OF SIGNIFICANT RAINFALL WHICH MIGHT COMPROMISE STABILIZATION MEASURES BETWEEN NOVEMBER 1 AND MARCH 31. THE DETERMINATION OF WHAT CONSTITUTES SIGNIFICANT RAINFALL IS SUBJECT TO THE DISCRETION OF THE GEOTECHNICAL SPECIAL INSPECTOR. HOWEVER, AS A MINIMUM STANDARD, THE GEOTECHNICAL SPECIAL INSPECTOR IS REQUIRED TO CONDUCT A SITE VISIT IF MORE THAN ONE HALF INCH OF PRECIPITATION OCCURS ON ANY GIVEN DAY. ANY RECOMMENDATIONS REQUIRED TO MAINTAIN STABILITY OF EXCAVATIONS AND PROPER FUNCTIONING OF THE SEDIMENT/EROSION CONTROL SYSTEM PROVIDED BY THE GEOTECHNICAL SPECIAL INSPECTOR AND JURISDICTION PERSONNEL SHALL BE IMPLEMENTED IMMEDIATELY. THE GEOTECHNICAL SPECIAL INSPECTOR SHALL PROVIDE WRITTEN NOTICE THAT THE SITE HAS BEEN STABILIZED FOLLOWING COMPLETION OF GRADING.

SHORING MONITORING

14. A SYSTEMATIC PROGRAM OF MONITORING SHALL BE CONDUCTED DURING THE PROJECT EXECUTION TO DETERMINE THE EFFECT OF CONSTRUCTION ON ADJACENT FACILITIES AND STRUCTURES IN ORDER TO PROTECT THEM FROM DAMAGE. REFER TO REPORT OF GEOTECHNICAL INVESTIGATION FOR RECOMMENDATIONS. FIELD DATA AND MEASUREMENTS ARE TO BE SUBMITTED TO THE STRUCTURAL AND GEOTECHNICAL ENGINEER FOR REVIEW.

15. MONITORING SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR (PLS) LICENSED IN THE STATE OF WASHINGTON.

16. UNLESS OTHERWISE REQUIRED BY THE GEOTECHNICAL ENGINEER, THE MONITORING PROGRAM SHALL INCLUDE A VIDEO OR PHOTOGRAPHIC SURVEY PRIOR TO THE BEGINNING OF THE SHORING INSTALLATION TO DOCUMENT THE CURRENT CONDITIONS OF THE SURROUNDING FEATURES. THE SIZE AND LOCATION OF ANY EXISTING CRACKS IN ADJACENT SLABS, PAVEMENTS OR BUILDINGS SHALL BE MEASURED AND DOCUMENTED. CONTROL POINTS SHALL BE ESTABLISHED AT A DISTANCE WELL AWAY FROM THE WALLS AND SLOPES, AND DEFLECTIONS FROM THE REFERENCE POINTS SHALL BE MEASURED THROUGHOUT CONSTRUCTION BY OPTICAL SURVEY. A MINIMUM OF 3 MONITORING POINTS SHALL BE ESTABLISHED ON NEARBY ADJACENT BUILDINGS. MINIMUM SURVEY FREQUENCY SHALL BE ONCE PER WEEK.

17. SOLDIER PILE MONITORING PROGRAM: FOLLOWING INSTALLATION OF THE SOLDIER PILES, MONITORING POINTS SHALL BE ESTABLISHED ON THE TOP OF THE PILES PRIOR TO PROCEEDING WITH THE EXCAVATION. ONE MONITORING POINT SHALL BE ESTABLISHED FOR EVERY FOUR PILES. THE MONITORING POINTS SHALL BE READ DAILY DURING EXCAVATION OPERATIONS AND TWICE WEEKLY ONCE THE EXCAVATION IS COMPLETED. THE INITIAL READINGS FOR THIS MONITORING SHALL BE TAKEN BEFORE STARTING ANY DEMOLITION OR EXCAVATION ON THE SITE. NOTIFY THE GEOTECHNICAL AND STRUCTURAL ENGINEERS, SHORING DESIGNER, AND THE BUILDING DEPARTMENT IF .5" OF MOVEMENT OCCURS BETWEEN TWO CONSECUTIVE READINGS. THE ENGINEERS AND DESIGNERS SHALL DETERMINE THE CAUSE OF DISPLACEMENT AND DEVELOP REMEDIAL MEASURES IF WARRANTED. PLEASE NOTE THAT A MAXIMUM OF 1" HORIZONTAL DISPLACEMENT IS REQUIRED ANYWHERE ON SHORING WALL SURFACES THROUGHOUT THE SHORING WALL SERVICE LIFETIME. CONSTRUCTION SHALL BE SUSPENDED IMMEDIATELY AND REMEDIAL PROCEDURES APPLIED AS LONG AS A DISPLACEMENT READING EXCEEDS 1". IF THE TOTAL MEASURED LATERAL DEFLECTION OF THE PILES EXCEEDS 1", REMEDIAL MEASURES MAY BE REQUIRED.

18. EACH SET OF MONITORING DATA MUST BE PROVIDED TO THE GEOTECHNICAL ENGINEER FOR REVIEW. IT MAY BE NECESSARY TO INSTALL ADDITIONAL MONITORING POINTS IF WARRANTED BY THE DATA. RECOMMENDATIONS WILL BE PROVIDED BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION IF ADDITIONAL MONITORING POINTS BECOME NECESSARY.

19. SURVEY FREQUENCY MAY BE DECREASED AFTER THE SHORING SYSTEM HAS BEEN INSTALLED AND EXCAVATION IS COMPLETE IF THE DATA INDICATES LITTLE OR NO ADDITIONAL MOVEMENT. CHANGE IN THE SURVEY FREQUENCY SHALL BE APPROVED IN WRITING BY THE GEOTECHNICAL ENGINEER AND THE BUILDING DEPARTMENT. SURVEYING MUST CONTINUE UNTIL THE PERMANENT STRUCTURE (INCLUDING FLOOR SLABS AS BRACES) IS COMPLETE TO FINAL AND STREET GRADES.

GEOTECHNICAL INFORMATION AND CRITERIA

20. INSTALLATION OF SHORING, SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION AND FILLING REQUIREMENTS SHALL CONFORM WITH THE RECOMMENDATIONS CONTAINED IN THE SOILS REPORT AND/OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE SUBSURFACE CHARACTERIZATIONS USED TO DESIGN THE SHORING ARE CONTAINED IN THE SOILS REPORT AS REFERENCED ABOVE.

21. EXCAVATIONS FOR FOUNDATIONS SHALL BE PER PLAN DOWN TO UNDISTURBED NATIVE MATERIAL PER THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS. OVER EXCAVATED AREAS SHALL BE BACKFILLED WITH LEAN CONCRETE OR PER GEOTECHNICAL RECOMMENDATIONS AT THE CONTRACTOR'S EXPENSE. EXCAVATION SLOPES SHALL BE SAFE AND SHALL NOT BE GREATER THAN THE LIMITS SPECIFIED BY LOCAL, STATE, AND NATIONAL SAFETY REGULATIONS. CONTRACTOR SHALL PROTECT CUT SLOPES AS NECESSARY IF CONSTRUCTION OCCURS DURING WET WEATHER, AND SHALL CONTROL AND MANAGE RUNOFF TO MINIMIZE EFFECTS ON CONSTRUCTION.

22. DESIGN SOIL CAPACITIES ARE DETERMINED BY THE GEOTECHNICAL ENGINEER. THE SOIL PRESSURES INDICATED ON THE SOIL PRESSURE DIAGRAM WERE USED FOR DESIGN, IN ADDITION TO THE DEAD AND LIVE LOADS. SEE REPORT OF GEOTECHNICAL INVESTIGATION FOR MORE COMPLETE INFORMATION, INCLUDING RECOMMENDATIONS FOR SHORING IN GENERAL, SHORING MONITORING, EXCAVATION, LAGGING, AND DRAINAGE.

23. SOIL DESIGN PARAMETERS ARE AS FOLLOWS:

LATERAL EARTH PRESSURES	E.F.P.
ACTIVE EARTH PRESSURE (YIELDING)	40 PCF
PASSIVE EARTH PRESSURE (ULTIMATE)	300 PCF
ALLOWABLE SKIN FRICTION	1.5 KSF
TIEBACK PARAMETERS (ADHESION FROM PRESSURE GROUTED)	2.0 KSF

24. SHORING DURATION: THE SHORING IS TEMPORARY. THE CONSTRUCTION OF THE PERMANENT STRUCTURE SHALL COMMENCE IMMEDIATELY AFTER THE SHORING IS INSTALLED AND THE BULK EXCAVATION IS COMPLETE.

CONCRETE

25. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH IBC SECTION 1905, 1906, AND ACI 301. STRENGTHS AT 28 DAYS AND MIX CRITERIA SHALL BE AS FOLLOWS:

f'c -psi-	Minimum Cement Per Cubic Yard	Max. Water Per 94 LB Cement	Use
-----	1-1/2 sacks	-----	pile & tieback lean concrete
3,000	9 sack pumpable mix	-----	pile & tieback structural grout

26. THE MINIMUM AMOUNTS OF CEMENT MAY BE CHANGED IF A CONCRETE PERFORMANCE MIX IS SUBMITTED TO THE STRUCTURAL ENGINEER AND THE BUILDING DEPARTMENT FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE. THE PERFORMANCE MIX SHALL INCLUDE THE AMOUNTS OF CEMENT, FINE AND COARSE AGGREGATE, WATER AND ADMIXTURES AS WELL AS THE WATER CEMENT RATIO, SLUMP, CONCRETE YIELD AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH ACI 301. THE USE OF A PERFORMANCE MIX REQUIRES BATCH PLANT INSPECTION, THE COST OF WHICH SHALL BE PAID BY THE GENERAL CONTRACTOR. REVIEW OF MIX SUBMITTALS BY THE ENGINEER OF RECORD INDICATES ONLY THAT INFORMATION PRESENTED CONFORMS GENERALLY WITH CONTRACT DOCUMENTS. CONTRACTOR OR SUPPLIER MAINTAINS FULL RESPONSIBILITY FOR SPECIFIED PERFORMANCE.

27. CONCRETE STRENGTHS SHALL BE VERIFIED BY STANDARD CYLINDER TESTS, UNLESS APPROVED OTHERWISE. REQUIRED ULTIMATE COMPRESSIVE STRENGTH OF STRUCTURAL GROUT SHALL BE REACHED BY 5 DAYS FOR TIEBACKS AND 28 DAYS FOR PILES AND FOUNDATIONS.

28. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENT S1), GRADE 60, FY = 60,000 PSI.

STEEL

29. STEEL SPECIFICATIONS: DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL, AISC 360 AND SECTION 2205 OF THE BUILDING CODE.

30. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TYPE OF MEMBER	ASTM SPECIFICATION	FY
WIDE FLANGE SHAPES	A992	50 KSI
OTHER SHAPES, PLATES, AND RODS	A36	36 KSI
OTHER SHAPES AND PLATES (NOTED GRADE 50 ON PLANS)	A572 (GRADE 50)	50 KSI
PIPE COLUMNS	A53 (E OR S, GR.B)	35 KSI
STRUCTURAL TUBING	A500 (GRADE B) (SQUARE OR RECTANGULAR)	46 KSI
	(ROUND)	42 KSI
CONNECTION BOLTS	A325N BEARING TYPE (SNUG TIGHT)	
ANCHOR BOLTS	A307 OR ASTM A-36	
HEADED SHEAR STUDS	A108	

31. ALL WELDING SHALL BE IN CONFORMANCE WITH AISC AND AWS STANDARDS AND SHALL BE PERFORMED BY WABO CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY AWS) SHALL BE USED. ALL COMPLETE JOINT PENETRATION GROOVE WELDS SHALL BE MADE WITH A FILLER MATERIAL THAT HAS A MINIMUM CVN TOUGHNESS OF 20 FT-LBS AT 20 DEGREES F AND 40 FT-LBS AT 70 DEGREES F, AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION.

32. UNLESS OTHERWISE REQUIRED BY THE MANUFACTURER, STEEL PROVIDED FOR TEMPORARY SHORING REQUIRES NO CORROSION PROTECTION.

PILE AND LAGGING CONSTRUCTION

33. DEMOLITION: SHORING AND SOIL EXCAVATION SHALL BE DONE SIMULTANEOUSLY.

34. DIMENSIONS AND LOCATION OF EXISTING STRUCTURES SHALL BE VERIFIED PRIOR TO FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBER. NOTIFY ENGINEER ABOUT ANY DISCREPANCIES PRIOR TO FABRICATION.

35. PILE AND ANCHOR HOLES SHALL BE DRILLED WITHOUT LOSS OF GROUND AND WITHOUT ENDANGERING PREVIOUSLY INSTALLED PILES AND ANCHORS. THIS MAY INVOLVE CASING THE HOLES OR OTHER METHODS OF PROTECTION FROM CAVING. REFER TO REPORT OF GEOTECHNICAL INVESTIGATION FOR RECOMMENDED HOLE DIGGING PROCEDURE.

36. AUGERCAST PILE PLACEMENT: ALTERNATE PILES SHALL BE PLACED AND COMPLETED SO THAT AT LEAST 24 HOURS IS ALLOWED FOR THE CONCRETE TO SET PRIOR TO DRILLING ADJACENT PILES.

37. STEEL PILE PLACEMENT TOLERANCES:

    1" INSIDE PERPENDICULAR TO SHORING WALL.
    1" OUTSIDE PERPENDICULAR TO SHORING WALL.
    3" LATERALLY.
    1" IN ANY DIRECTION

38. LAGGING: TIMBER LAGGING SHALL BE INSTALLED IN ALL AREAS. VOIDS BETWEEN LAGGING AND SOIL SHALL BE BACKFILLED WITH PEA GRAVEL OR LEAN MIX FILL. DRAINAGE BEHIND THE WALL MUST BE MAINTAINED. IT IS CONTRACTOR'S RESPONSIBILITY TO LIMIT THE AMOUNT OF EXPOSED SOIL WITHOUT LAGGING TO AVOID LOSS OF SOIL. MAXIMUM HEIGHT OF 4 FEET IS RECOMMENDED. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO AVOID GROUND LOSS DURING EXCAVATION.

TIEBACK CONSTRUCTION

39. CONTRACTOR SHALL FOLLOW THE STRICT RECOMMENDATIONS OF THE SOILS ENGINEER ON THE APPROPRIATE STRESSING, LOAD TESTING AND ACCEPTANCE OF ALL TIEBACKS, INCLUDING THE PTI DC-35.1, "RECOMMENDATIONS FOR PRESTRESSED ROCK AND SOIL ANCHORS". THE CONTRACTOR SHALL WORK CLOSELY WITH THE SOILS ENGINEER IN ORDER TO DETERMINE THE MOST SUITABLE METHODS TO BE USED WITHIN THE FRAMEWORK OF THE SPECIFICATIONS.

40. ROCK AND SOIL ANCHORS SHALL BE STRESS RELIEVED OR LOW RELAXATION SEVEN WIRE STRAND CONFORMING TO ASTM A-416. TENDON PROPERTIES SHALL BE AS FOLLOWS:

0.6" DIAMETER SEVEN STRAND WIRE	0.217 SQUARE INCHES
ULTIMATE STRENGTH (fpu)	270 KSI (58.6 KIPS)
MAX. TEMP. STRESS TO OVERCOME FRICTION	216 KSI (46.9 KIPS)
ANCHORING STRESS	162 KSI (35.2 KIPS)

41. TENDONS SHALL BE ENCASED IN SLIPPAGE SHEATHING CONSTRUCTED OF DURABLE WATERPROOF POLYETHYLENE PLASTIC TUBING (0.04 INCHES THICK MIN.) CAPABLE OF PREVENTING THE PENETRATION OF CEMENT PASTE AND SHALL CONTAIN A RUST INHIBITING GREASE COATING MEETING THE REQUIREMENTS OF THE POST TENSION INSTITUTE "SPECIFICATION FOR UNBONDED SINGLE STRAND TENDONS".

42. DYWIDAG THREADED BAR SHALL CONFORM TO ASTM SPECIFICATION A-722 FOR HOT ROLLED, PROOF STRESSED ALLOY STEEL, fpu = 150 KSI.

43. TIEBACK ANCHOR DESIGN IS BASED ON A 6" DIAMETER PRESSURE GROUTED ANCHOR. CONTRACTOR MAY USE POST GROUTED (HIGH PRESSURE) ANCHORS AT HIS OPTION SUBJECT TO APPROVAL OF THE GEOTECHNICAL ENGINEER. SUCH ANCHORS SHALL REQUIRE VERIFICATION TESTING PRIOR TO THE START OF PRODUCTION ANCHORS. TESTING OF INSTALLED TIEBACK ANCHORS IS REQUIRED. MINIMUM ANCHOR LOADED LENGTH IS 10 FEET, UNLESS NOTED OTHERWISE.

44. TIEBACK INSTALLATION AND PRESTRESSING SHALL BE COMPLETED PRIOR TO EXCAVATING MORE THAN TWO FEET BELOW TIEBACK LEVEL.

45. THE TIEBACK ANCHORS ARE TO BE INSTALLED IN A MANNER TO CONTROL GROUND LOSS DURING TIEBACK INSTALLATION. THE HOLES FOR TIEBACK ANCHORS MAY NOT BE LEFT UNGROUTED OVERNIGHT. IF CONNECTION BETWEEN ADJACENT HOLES IS OBSERVED DURING INSTALLATION IN THE FORM OF COMPRESSED AIR BEING EJECTED FROM ADJACENT DRILLED HOLES, THE CONTRACTOR MUST STOP DRILLING ACTIVITIES AND MOVE AWAY FROM PREVIOUSLY DRILLED HOLES TO PREVENT THE LOSS OF SOIL. IF ANY INDICATION OF GROUND LOSS IS OBSERVED DURING TIEBACK INSTALLATION, THE CONTRACTOR SHALL BE PREPARED TO PROVIDE TEMPORARY CASING DURING THE INSTALLATION OF THE TIEBACK ANCHORS AND ALLOW 24 HOURS BETWEEN THE TIME OF INSTALLATION OF ADJACENT TIEBACK ANCHORS. ALTERNATIVELY, THE CONTRACTOR MAY NEED TO ADVANCE THE HOLES USING CONTINUOUS FLIGHT AUGER DRILLING EQUIPMENT TO AVOID THE USE OF COMPRESSED AIR FOR REMOVAL OF THE SOIL CUTTINGS.

46. TEMPORARY TIEBACKS SHALL REMAIN STRESSED UNTIL ALL PERMANENT STRUCTURE IS IN PLACE AND SHALL BE DE-STRESSED UPON THE COMPLETION OF THE PROJECT.

47. TIEBACK TESTING: THE TIEBACKS SHALL BE EVALUATED BY PERFORMING PERFORMANCE TESTS ON 5 PERCENT OF THE TIEBACKS INSTALLED WITH A MINIMUM OF TWO PERFORMANCE TESTS PERFORMED FOR THE PROJECT AND AT LEAST ONE IN EACH SOIL TYPE ENCOUNTERED. THE REMAINING TIEBACKS SHALL BE PROOF TESTED.

    PERFORMANCE TESTS: THE PERFORMANCE TESTS ARE COMPLETED BY LOADING THE TIEBACK ANCHORS WITH A HYDRAULIC RAM AND MONITORING ITS ELONGATION. THE FOLLOWING LOAD SEQUENCE SHALL BE USED FOR PERFORMANCE TESTING, WHERE P IS EQUAL TO THE DESIGN LOAD FOR THE ANCHOR AND AL IS EQUAL TO THE ALIGNMENT LOAD NECESSARY TO MAINTAIN THE ALIGNMENT OF STRESSING AND TEST EQUIPMENT.

    PERFORMANCE TEST LOADING SEQUENCE – AL, 0.25P, 0.5P, 0.75P, 1.0P, 1.25P, 1.5P, 1.75P, 2.0P

    EACH LOAD SHALL BE HELD UNTIL MOVEMENT STABILIZES, WITH A FIVE MINUTE HOLD TIME. A CREEP TEST SHALL BE PERFORMED AT THE 2.0P LOAD INCREMENT. AT THE 2.0P LOAD INCREMENT, THE LOAD SHALL BE MAINTAINED CONSTANT FOR 30 MINUTES. ELONGATION MEASUREMENTS SHALL BE TAKEN AT 0, 1, 2, 3, 5, 10, 20, AND 30 MINUTES.

    PROOF TESTS: ALL TIEBACKS NOT PERFORMANCE TESTED SHALL BE PROOF TESTED. THE FOLLOWING LOAD SEQUENCE SHALL BE USED FOR PROOF TESTING, WHERE P IS EQUAL TO THE DESIGN LOAD FOR THE ANCHOR AND AL IS EQUAL TO THE ALIGNMENT LOAD NECESSARY TO MAINTAIN THE ALIGNMENT OF STRESSING AND TEST EQUIPMENT.

    PROOF TEST LOADING SEQUENCE – AL, 0.25P, 0.5P, 0.75P, 1.0P, 1.25P, 1.5P

    EACH LOAD SHALL BE HELD UNTIL MOVEMENT STABILIZES, WITH A ONE MINUTE MINIMUM HOLD TIME. A CREEP TEST SHALL BE PERFORMED AT THE 1.5P LOAD INCREMENT. AT THE 1.5P INCREMENT, THE LOAD SHALL BE MAINTAINED CONSTANT FOR 5 MINUTES. ELONGATION MEASUREMENTS SHALL BE TAKEN AT 0, 0.5, 1, 3, AND 5 MINUTES. IF THE DIFFERENCE BETWEEN THE 0.5 MINUTE AND THE 5 MINUTE READING IS MORE THAN 0.08 INCHES, THE LOAD SHALL BE HELD FOR ANOTHER 45 MINUTES.

    AT THE COMPLETION OF A SUCCESSFUL LOAD TEST, THE ANCHOR LOAD SHALL BE REDUCED TO 1.0P AND LOCKED OFF.

    THE ACCEPTANCE CRITERIA FOR THE ANCHOR TESTS ARE AS FOLLOWS:

    A. THE TOTAL MOVEMENT MEASURED AND THE ANCHOR HEAD SHALL BE GREATER THAN 80 PERCENT OF THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED ANCHOR LENGTH.

    B. THE TOTAL MOVEMENT MEASURED AT THE ANCHOR HEAD SHALL BE LESS THAN THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED ANCHOR LENGTH MEASURED FROM THE HEAD OF THE JACK TO THE CENTER OF THE INSTALLED BOND LENGTH.

    C. PERFORMANCE TESTS: THE CREEP MOVEMENT MEASURED AT THE ANCHOR HEAD SHALL BE LESS THAN 0.04 INCHES ELONGATION OCCURRING BETWEEN THE 1 MINUTE AND 10 MINUTE READING OF THE TEST SHALL BE CONTINUED FOR 30 MINUTES WITH THE ACCEPTING CRITERIA OF LESS THAN 0.08 INCHES ELONGATION OCCURRING BETWEEN THE 3 MINUTE AND 30 MINUTE READINGS. THE TEST SHALL BE CONTINUED UNTIL THE FINAL LOG CYCLE ELONGATION IS LESS THAN 0.08 INCHES.

    D. PROOF TESTS: THE CREEP MOVEMENT MEASURED AT THE ANCHOR HEAD SHALL BE LESS THAN 0.08 INCHES BETWEEN THE 1 MINUTE AND 10 MINUTE READINGS OR THE TEST SHALL BE EXTENDED TO 30 MINUTES. THE 0.08 INCHES CRITERIA IS USED BETWEEN THE 3 MINUTE AND 30 MINUTE READINGS.

WOOD

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

Use	Grade	Fb (psi, single use)
4X TIMBER LAGGING	HEM-FIR NO. 2	850 (WHERE SPECIFIED)

49. WOOD IN CONTINUOUS CONTACT WITH FRESH WATER OR SOIL SHALL BE TREATED TO A RETENTION OF 0.40 PCF. WOOD FOR USE IN PERMANENT FOUNDATIONS SHALL BE TREATED TO A RETENTION OF 0.60 PCF. SODIUM BORATE (SBX) TREATED WOOD SHALL NOT BE USED WHERE EXPOSED TO WEATHER.

50. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG BOLTS BEARING ON WOOD. INSTALLATION OF LAG BOLTS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (2012 EDITION) WITH A LEAD BORE HOLE OF 60 TO 70 PERCENT OF THE SHANK DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" AND SMALLER LAG SCREWS.

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DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:
8480 Residence
8480 85th Ave SE
Mercer Island, WA 98040

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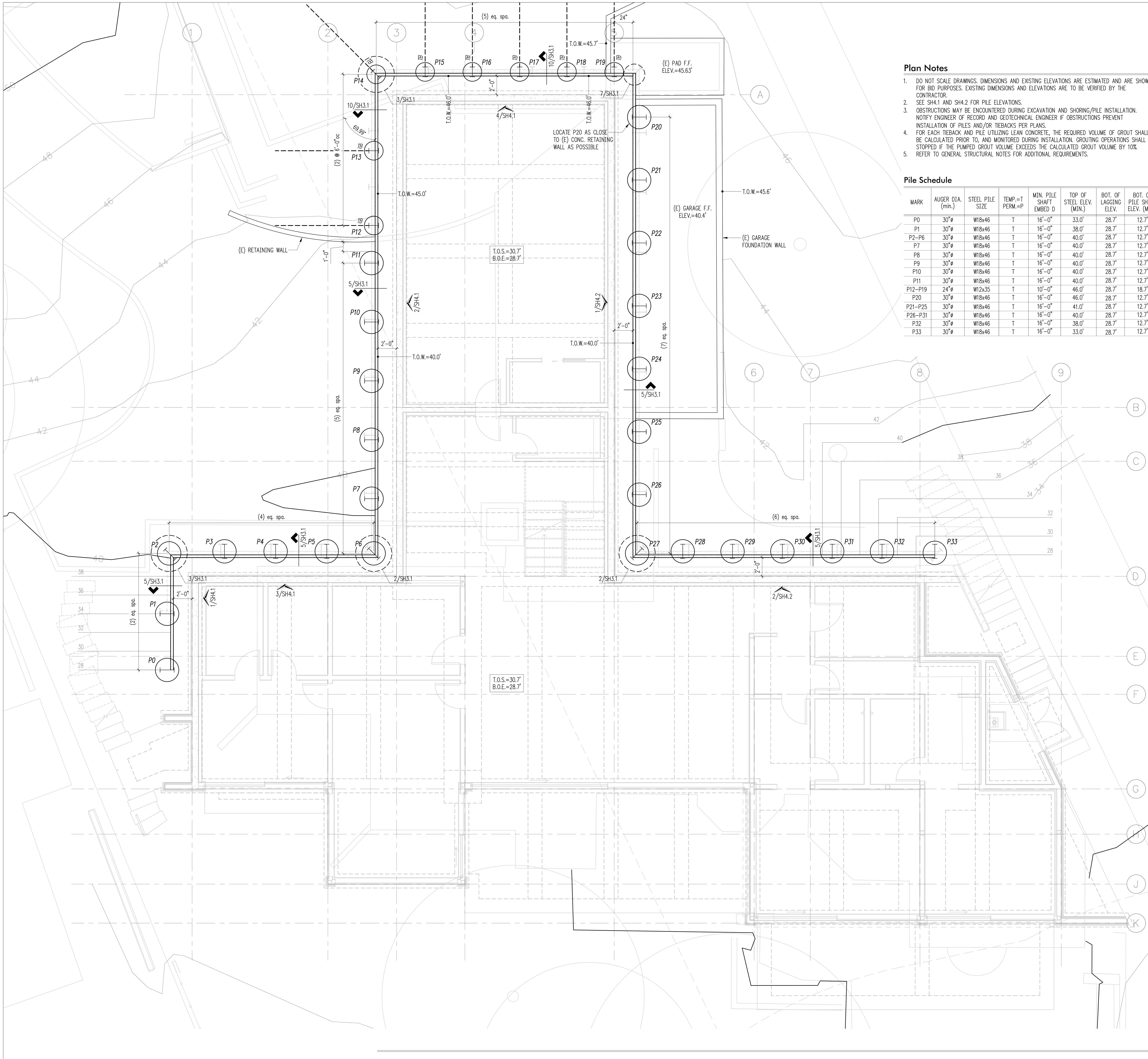
ISSUE: PERMIT

SHEET TITLE: General Shoring Notes

SCALE: -
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO: SH1.1



Shoring Plan

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

Plan Notes

1. DO NOT SCALE DRAWINGS. DIMENSIONS AND EXISTING ELEVATIONS ARE ESTIMATED AND ARE SHOWN FOR BID PURPOSES. EXISTING DIMENSIONS AND ELEVATIONS ARE TO BE VERIFIED BY THE CONTRACTOR.
2. SEE SH4.1 AND SH4.2 FOR PILE ELEVATIONS.
3. OBSTRUCTIONS MAY BE ENCOUNTERED DURING EXCAVATION AND SHORING/PILE INSTALLATION. NOTIFY ENGINEER OF RECORD AND GEOTECHNICAL ENGINEER IF OBSTRUCTIONS PREVENT INSTALLATION OF PILES AND/OR TIEBACKS PER PLANS.
4. FOR EACH TIEBACK AND PILE UTILIZING LEAN CONCRETE, THE REQUIRED VOLUME OF GROUT SHALL BE CALCULATED PRIOR TO, AND MONITORED DURING INSTALLATION. GROUTING OPERATIONS SHALL BE STOPPED IF THE PUMPED GROUT VOLUME EXCEEDS THE CALCULATED GROUT VOLUME BY 10%.
5. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

Pile Schedule

MARK	AUGER DIA. (min.)	STEEL PILE SIZE	TEMP.=T PERM.=P	MIN. PILE SHAFT EMBED D	TOP OF STEEL ELEV. (MIN.)	BOT. OF LAGGING ELEV.	BOT. OF PILE SHAFT ELEV. (MIN.)	TOTAL LENGTH OF STEEL SECTION (MIN.)	PILE TYPE	TIEBACK ø (in.)	TIEBACK HEIGHT (ELEV.)	TIEBACK LENGTH (ft.) L	TIEBACK LENGTH (ft.) A	TIEBACK FORCE (k)	TIEBACK VERT. ANGLE
P0	30"ø	W18x46	T	16'-0"	33.0'	28.7'	12.7'	19'-4"	SOLDIER	–	–	–	–	–	–
P1	30"ø	W18x46	T	16'-0"	38.0'	28.7'	12.7'	24'-4"	SOLDIER	–	–	–	–	–	–
P2–P6	30"ø	W18x46	T	16'-0"	40.0'	28.7'	12.7'	26'-4"	SOLDIER	–	–	–	–	–	–
P7	30"ø	W18x46	T	16'-0"	40.0'	28.7'	12.7'	26'-4"	SOLDIER	–	–	–	–	–	–
P8	30"ø	W18x46	T	16'-0"	40.0'	28.7'	12.7'	26'-4"	SOLDIER	–	–	–	–	–	–
P9	30"ø	W18x46	T	16'-0"	40.0'	28.7'	12.7'	26'-4"	SOLDIER	–	–	–	–	–	–
P10	30"ø	W18x46	T	16'-0"	40.0'	28.7'	12.7'	26'-4"	SOLDIER	–	–	–	–	–	–
P11	30"ø	W18x46	T	16'-0"	40.0'	28.7'	12.7'	26'-4"	SOLDIER	–	–	–	–	–	–
P12–P19	24"ø	W12x35	T	10'-0"	46.0'	28.7'	18.7'	26'-4"	TIEBACK	6	37.0'	9	26	31.0	20
P20	30"ø	W18x46	T	16'-0"	46.0'	28.7'	12.7'	32'-4"	SOLDIER	–	–	–	–	–	–
P21–P25	30"ø	W18x46	T	16'-0"	41.0'	28.7'	12.7'	27'-4"	SOLDIER	–	–	–	–	–	–
P26–P31	30"ø	W18x46	T	16'-0"	40.0'	28.7'	12.7'	26'-4"	SOLDIER	–	–	–	–	–	–
P32	30"ø	W18x46	T	16'-0"	38.0'	28.7'	12.7'	24'-4"	SOLDIER	–	–	–	–	–	–
P33	30"ø	W18x46	T	16'-0"	33.0'	28.7'	12.7'	19'-4"	SOLDIER	–	–	–	–	–	–

Legend

T.O.S.	TOP OF SLAB
B.O.E.	BOTTOM OF EXCAVATION
T.O.W.	TOP OF WALL
Pxx	PILE PER SCHEDULE
TB	PILE W/ TIEBACK

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APPROVED: BDM

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8480 Residence
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Shoring Plan

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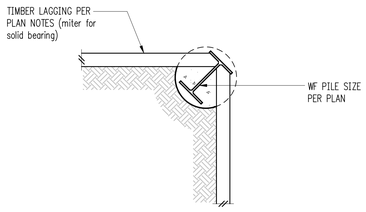
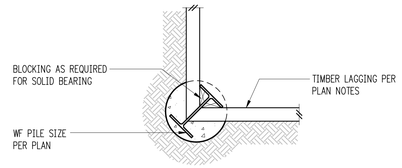
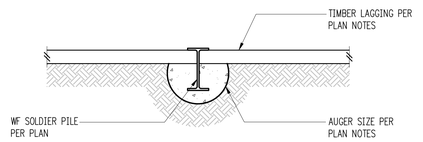
1



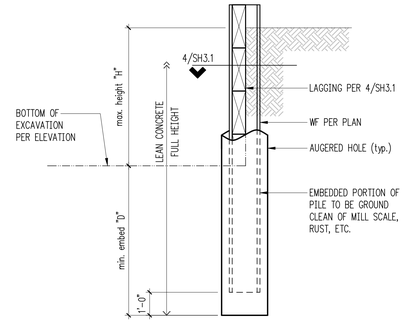
Auger Pile - Outside Corner 2



Auger Pile - Inside Corner 3

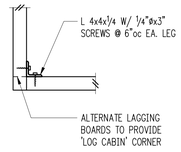


Typical Pile Plan - Small Auger 4

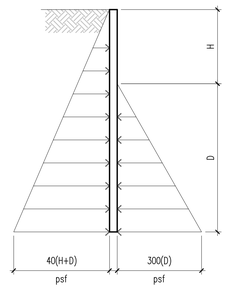


Cantilever Pile 5

6



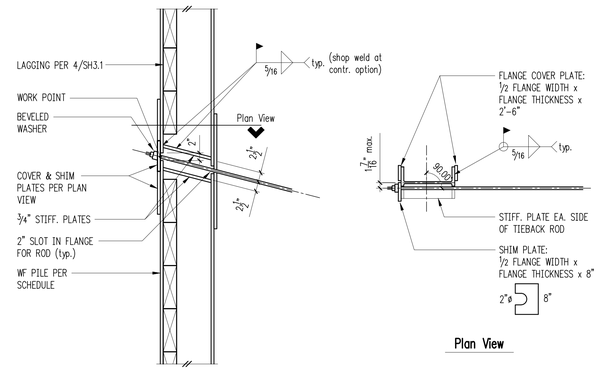
Corner Detail 7



Active Pressure Passive Pressure

NOTES:
1. ACTIVE PRESSURE ABOVE EXCAVATION ACTS OVER (1) PILE SPACING, ACTIVE PRESSURE BELOW EXCAVATION ACTS OVER (1) PILE DIAMETER.
2. PASSIVE PRESSURE BELOW EXCAVATION ACTS OVER (2) PILE DIAMETERS.
3. PASSIVE PRESSURES ARE ULTIMATE, A FACTOR OF SAFETY OF 1.2 IS USED.
4. ACTIVE PRESSURE ASSUMES LEVEL BACKFILL.
5. LAGGING DESIGN PRESSURE =200psf.

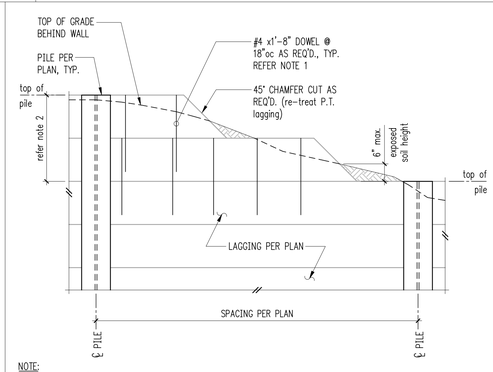
Typical Pile Loading Diagram 8



Tieback to Pile Connection 10

11

12



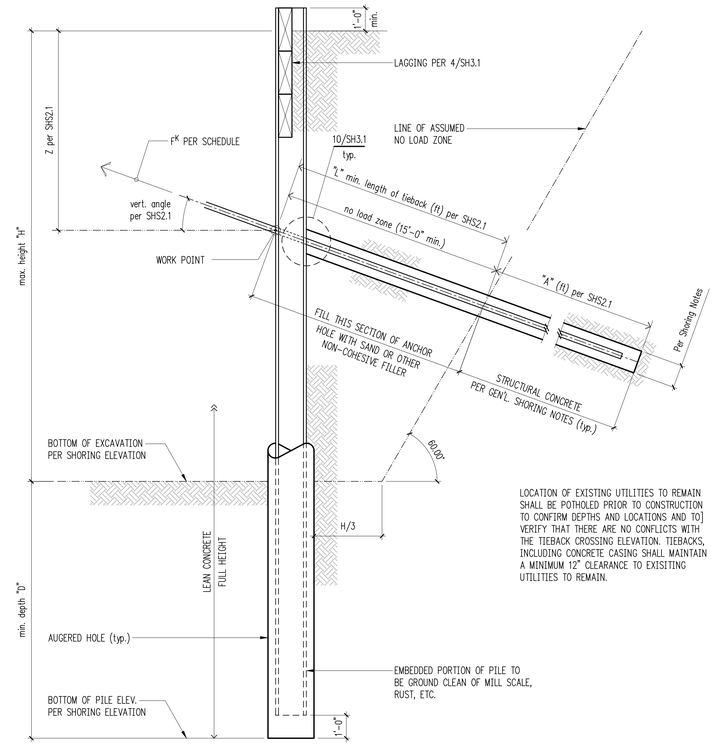
NOTE:
1. PRE-DRILL 7/16"ø DOWEL HOLE AT CENTER LINE OF LAGGING WIDTH. HAMMER DOWEL INTO HOLE, TOP FLUSH WITH LAGGING.
2. 2'-0" MAX. OF DOWEL LAGGING BETWEEN PILES.

Lagging Transition at Wall Step 13

16

17

18



LOCATION OF EXISTING UTILITIES TO REMAIN SHALL BE POTHOLED PRIOR TO CONSTRUCTION TO CONFIRM DEPTHS AND LOCATIONS AND TO VERIFY THAT THERE ARE NO CONFLICTS WITH THE TIEBACK CROSSING ELEVATION. TIEBACKS, INCLUDING CONCRETE CASING SHALL MAINTAIN A MINIMUM 12" CLEARANCE TO EXISITING UTILITIES TO REMAIN.

Pile Tieback 20

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APPROVED:	BDM

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Shoring Details

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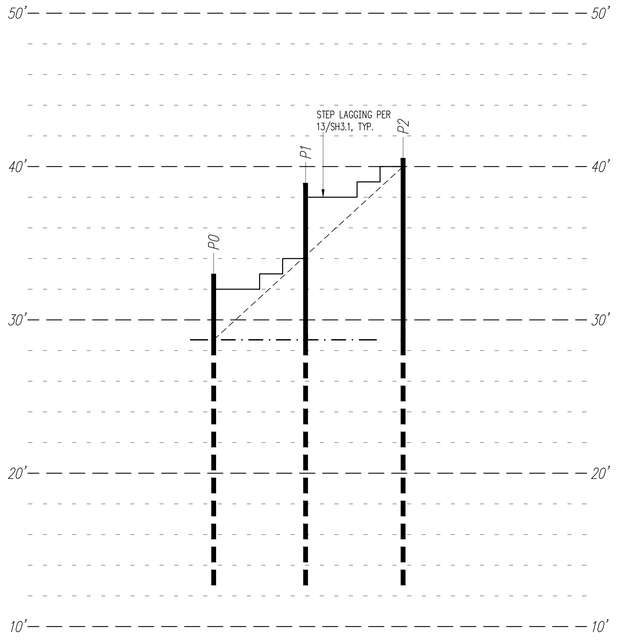
SHEET NO:	SH3.1

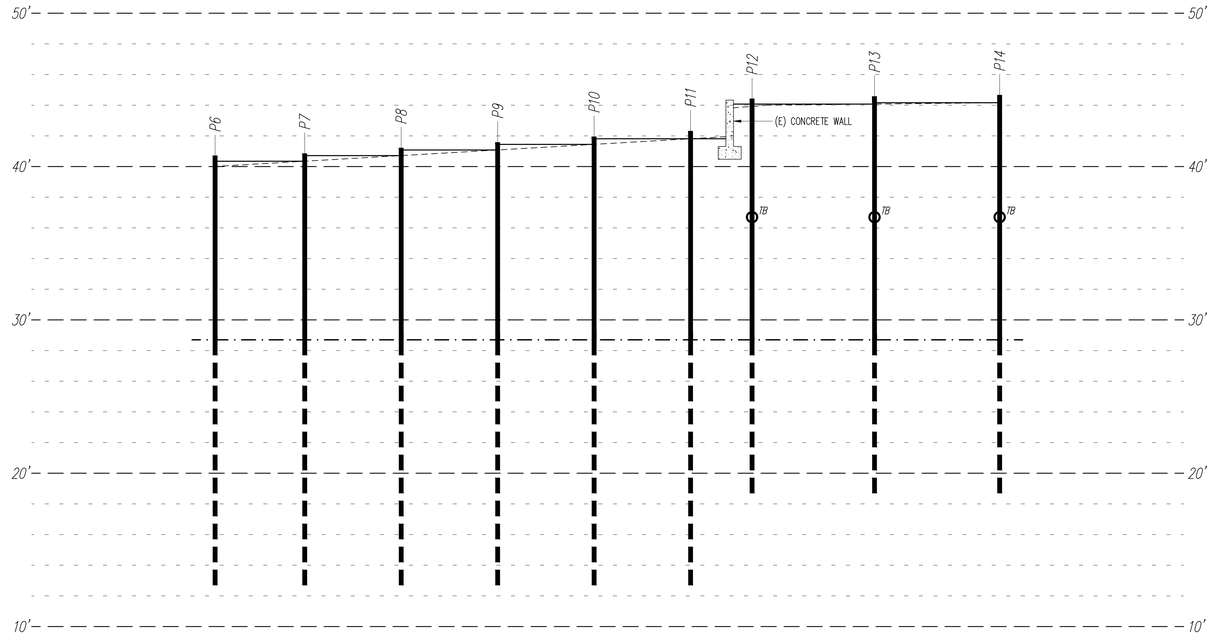


West Shoring Elevation 1

LOOKING WEST
Scale: 1/4" = 1'-0"

Legend

- APPROXIMATE TOP OF GRADE
- BOTTOM OF EXCAVATION
- Px — STEEL PILE PER PLAN/SCHEDULE
- 4x LAGGING

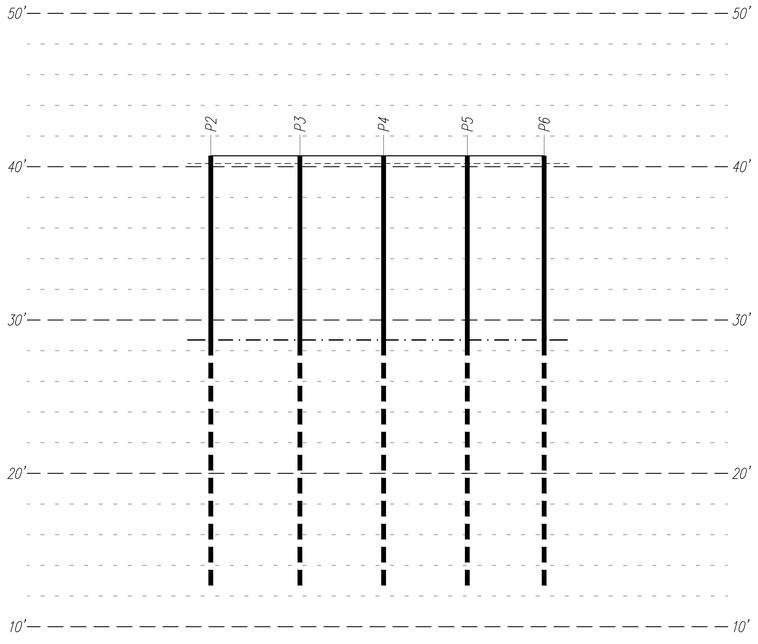


West Shoring Elevation 2

LOOKING WEST
Scale: 1/4" = 1'-0"

Legend

- APPROXIMATE TOP OF GRADE
- BOTTOM OF EXCAVATION
- Px — STEEL PILE PER PLAN/SCHEDULE
- 4x LAGGING
- TB — TIEBACK PER PLAN/SCHEDULE

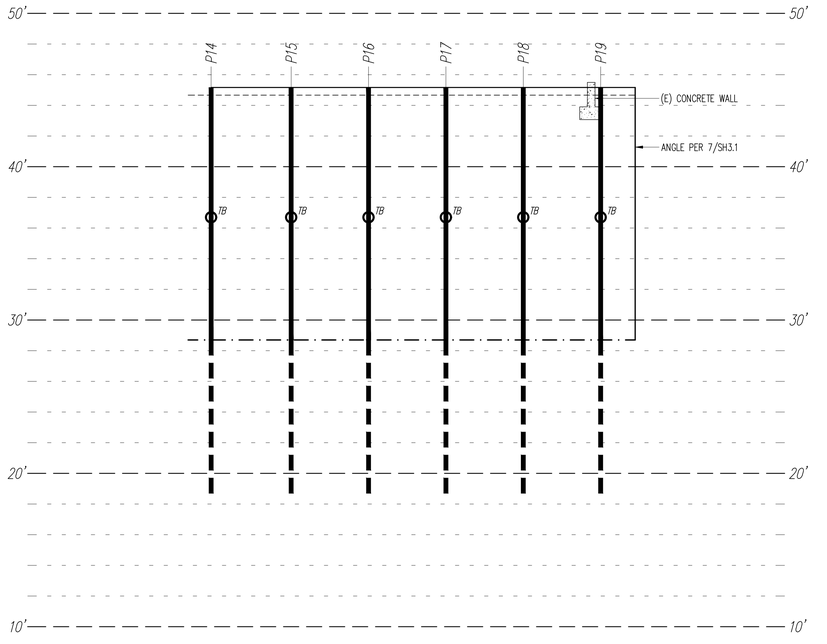


North Shoring Elevation 3

LOOKING NORTH
Scale: 1/4" = 1'-0"

Legend

- APPROXIMATE TOP OF GRADE
- BOTTOM OF EXCAVATION
- Px — STEEL PILE PER PLAN/SCHEDULE
- 4x LAGGING



North Shoring Elevation 4

LOOKING NORTH
Scale: 1/4" = 1'-0"

Legend

- APPROXIMATE TOP OF GRADE
- BOTTOM OF EXCAVATION
- Px — STEEL PILE PER PLAN/SCHEDULE
- 4x LAGGING
- TB — TIEBACK PER PLAN/SCHEDULE

SSF STRUCTURAL ENGINEERING
2124 Third Avenue - Suite 100 - Seattle, WA 98121
p: 206.443.6212 ssfengineers.com
934 Broadway - Tacoma, WA 98402
p: 253.284.9470 ssfengineers.com

BRENT D. MOLDEN — STATE OF WASHINGTON — 21961 — REGISTERED PROFESSIONAL ENGINEER

DESIGN:	HAA, SRW
DRAWN:	NHD
CHECKED:	SRW
APPROVED:	BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:

8480 Residence

8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850
brandtdesigninc.com

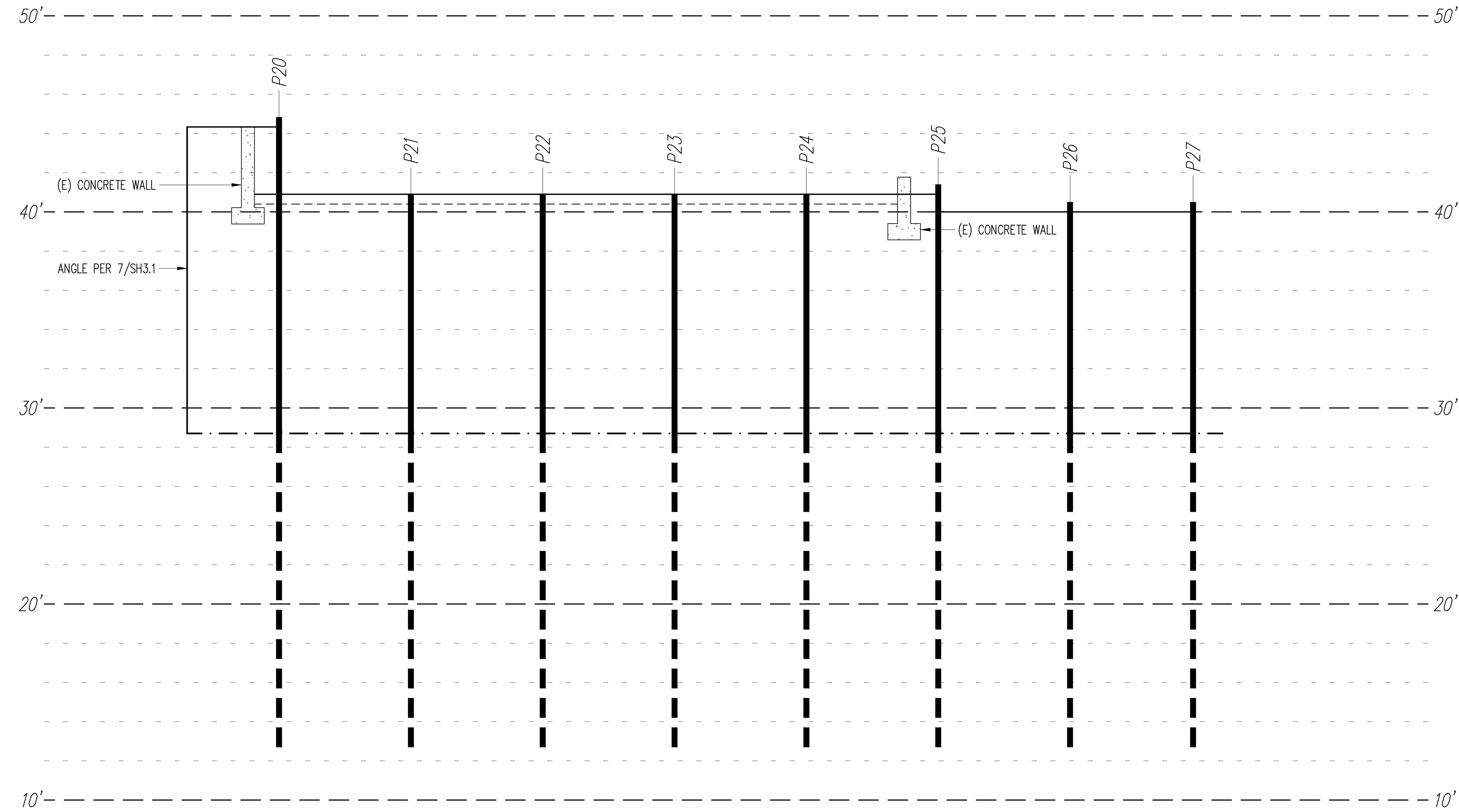
ISSUE:

PERMIT

SHEET TITLE:

Shoring Elevations

SCALE:	1/4" = 1'-0" U.N.O.
DATE:	March 11, 2022
PROJECT NO:	01519-2021-09
SHEET NO:	SH4.1

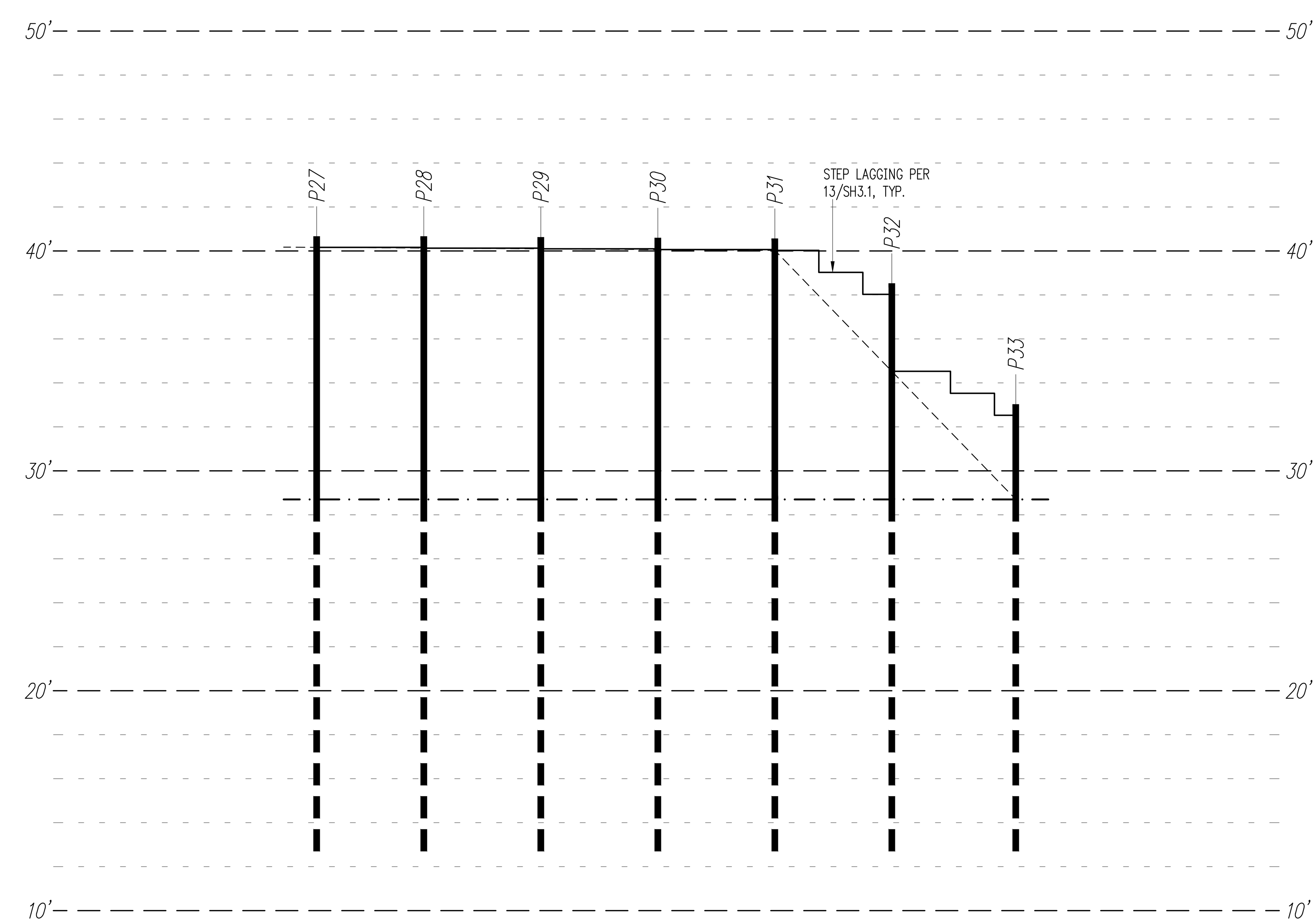


East Shoring Elevation (1)

LOOKING EAST
Scale: 1/4" = 1'-0"

Legend

- APPROXIMATE TOP OF GRADE
- BOTTOM OF EXCAVATION
- Px — STEEL PILE PER PLAN/SCHEDULE
- 4x LAGGING



North Shoring Elevation (2)

LOOKING NORTH
Scale: 1/4" = 1'-0"

Legend

- APPROXIMATE TOP OF GRADE
- BOTTOM OF EXCAVATION
- Px — STEEL PILE PER PLAN/SCHEDULE
- 4x LAGGING

SSF STRUCTURAL ENGINEERING
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BRENT D. MODEN — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

DESIGN:	HAA, SRW
DRAWN:	NHD
CHECKED:	SRW
APPROVED:	BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:
8480 Residence
8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850
brandtdesigninc.com

ISSUE:
PERMIT

SHEET TITLE:
Shoring Elevations

SCALE:	1/4" = 1'-0" U.N.O.
DATE:	March 11, 2022
PROJECT NO:	01519-2021-09

SHEET NO:
SH4.2

PROJECT DATA

EXISTING LOT AREA SUMMARY

GROSS LOT AREA	19,337 SF (PER SURVEY)
ACCESS EASEMENTS	0 SF
NET LOT AREA (LANDWARD OF OHWM)	18,231 SF
LOT SLOPE	(57.2' - 18.6') / 199.31' = 19.4%

TREE REMOVAL

(E) TREES TO BE REMOVED	7
(N) TREES TO BE PLANTED AS REPLACEMENT	10

EXISTING LOT COVERAGE

(E) RESIDENCE, GARAGE, AND OVERHANGS	3,912.96 SF
(E) DRIVING SURFACES	1,749.56 SF
(E) TOTAL LOT COVERAGE	**5,662.52 SF = 31.1% OF LOT AREA**

PROPOSED LOT COVERAGE

(N) RESIDENCE, GARAGE, AND OVERHANGS	4,534.18 SF
(N) DRIVING SURFACES	1,834.98 SF
(N) TOTAL LOT COVERAGE	**6,369.16 SF = 34.9% OF LOT AREA**

ALLOWABLE LOT COVERAGE

35% OF LOT AREA BASED ON LOT SLOPE, PER 19.02.020.F.3.a.	18,231 SF * 0.35 = 6,380.85 SF

EXISTING HARDSCAPE

STAIRS	498.47 SF
PATIOS / WALKWAYS	1,990.28 SF
ROCKERIES	388.41 SF
SITE WALLS	162.26 SF
TOTAL EXISTING	**3,039.42 SF = 16.7% OF LOT AREA** (EXISTING NON-CONFORMING)

DEMOLISHED HARDSCAPE

STAIRS	320.77 SF
PATIOS/WALKWAYS	1,990.28 SF
SITE WALLS	123.95 SF
TOTAL DEMOLISHED	**2,435.00 SF**

PROPOSED HARDSCAPE

(E) HARDSCAPE TO REMAIN

STAIRS	177.70 SF
ROCKERIES	388.41 SF
SITE WALLS	38.31 SF
TOTAL TO REMAIN	604.42 SF

(N) ADDED HARDSCAPE

DECKS	463.86 SF
STAIRS	203.88 SF
PATIO/WALKWAYS	252.77 SF
ROCKERIES	67.89 SF
SITE WALLS	59.61 SF
TOTAL ADDED	1,048.01 SF
TOTAL HARDSCAPE	**1,652.43 SF = 9.1% OF LOT AREA** (604.42 + 1,048.01) = 1,652.43

ALLOWABLE HARDSCAPE

9% OF LOT AREA	18,231 SF * 0.09 = 1,640.79 SF
PER 19.02.020.F.3.b.ii., HARDSCAPE IMPROVEMENTS ARE PERMITTED IN THE MAXIMUM LOT COVERAGE AREA REMAINING LOT COVERAGE	6380.85 SF - 6369.16 SF = 11.69 SF
TOTAL ALLOWABLE HARDSCAPE	1,640.79 SF + 11.69 SF = 1,652.48 SF

EXISTING BUILDING AREA SUMMARY (GFA)

(E) BASEMENT LEVEL	1,820 SF
(E) MAIN LEVEL	2,000 SF
(E) GARAGE	767 SF
TOTAL EXISTING BUILDING AREA (GSF)	4,587 SF
EXISTING FLOOR AREA RATIO:	**4,587/18,231 = 25.2% OF LOT AREA**

PROPOSED BUILDING AREA SUMMARY (GFA)

PROPOSED BASEMENT LEVEL	3,821.71 SF
PROPOSED BASEMENT LEVEL BELOW GRADE (EXCLUDED PER MICC CHAPTER 19 APPENDIX B, REF. SHEET A211)	(1,997.72 SF)
PROPOSED MAIN LEVEL (EXCLUDES STAIR PER MICC 19.02.020.D.2.c)	2,447.15 SF
PROPOSED COVERED DECKS (PER MICC CHAPTER 19.16.010.G.1.e.)	74.30 SF
PROPOSED ATTACHED GARAGE	810.50 SF
PROPOSED ATTACHED GARAGE BELOW GRADE (EXCLUDED PER MICC CHAPTER 19 APPENDIX B, REF. SHEET A212)	(156.84 SF)
TOTAL PROPOSED BUILDING AREA (GSF)	4,999.10 SF
PROPOSED FLOOR AREA RATIO:	**4,999.10/18,231 = 27.4% OF LOT AREA**

5,000 SF, OR 40% ALLOWABLE GROSS FLOOR AREA MAX., WHICHEVER IS LESS

SETBACKS

SIDE YARD (PER 19.02.020.C.1.c.)	
PER 19.16.010, LOT WIDTH IS THE DISTANCE BETWEEN THE TWO MIDPOINTS OF SIDE LOT LINES = 100'	
TOTAL: 17% OF LOT WIDTH	100' * 0.17 = 17'
MINIMUM: 33% OF SIDE YARD TOTAL	17' * 0.33 = 5.61'
FRONT YARD	20'
SHORELINE	25' FROM THE ORDINARY HIGH WATER MARK

OCCUPANCY SUMMARY

EXISTING TYPE	R-3
OCCUPANT LOAD	SINGLE FAMILY

NOTES

1. PROPERTY LINE METES & BOUNDS ARE SHOWN PER TOPOGRAPHIC SURVEY BY TERRANE DATED 02/19/21
2. TREES AND COUNTOURS ARE BASED ON TOPOGRAPHIC SURVEY BY TERRANE DATE 02/19/21
3. PER MICC 19.07.100 THIS PROJECT HAS ADDRESSED THE STEEP SLOPE ECA PRESENT ON SITE IN THE FOLLOWING MANNERS:
   MITIGATION SEQUENCING TECHNIQUES A-E:
   - A. AVOIDING IMPACT ALTOGETHER:
     - BASED ON THE LOCATION OF THE WATER METER AS DETERMINED BY MERCER ISLAND PUBLIC WORKS, WE CANNOT PROVIDE COMPLETE AVOIDANCE IN THE STEEP SLOPE.
     - PLEASE SEE MEASURE B FOR OUR APPROACH.
   - B. MINIMIZING IMPACT:
     - WORK WITHIN THE STEEP SLOPE IS LIMITED TO THE REMOVAL OF ONE TREE AND HAND TRENCHING FOR UTILITIES. THE LOCATION FOR THE UTILITY TRENCH IS BEING DRIVEN BY THE LOCATION OF THE NEW WATER METER WHICH HAS BEEN LOCATED BY MERCER ISLAND PUBLIC WORKS AND REVIEWED WITH MERCER ISLAND ENGINEERING AND TREE REVIEWERS.
     - THE PROJECT ORIGINALLY PROPOSED TO REMOVE AN EXISTING SITE RETAINING WALL THAT ACTS AS THE EDGE OF THE STEEP SLOPE. HOWEVER THIS WALL HAS BEEN MAINTAINED AS A MEANS TO AVOID DISTURBANCE OF THE ECA AND THE HEALTH AND SURVIVAL OF TREES WITHIN THE STEEP SLOPE.
     - THE ONLY WORK WITHIN THE ECA BUFFER IS THE REMOVAL OF PAVING AND NEW LANDSCAPING
     - NO FOUNDATION OR STRUCTURES ARE PROPOSED WITHIN THE ECA OR ASSOCIATED BUFFER.
   - C. RECTIFY IMPACTS:
     - ALL WORK IS BEING DONE BY HAND IN ORDER TO ENSURE MINIMAL IMPACT. ALL AREA WITHIN THE ECA WILL BE RESTORED TO IT'S ORIGINAL CONDITION
     - THE REMOVAL OF THE PAVING WITHIN THE BUFFER WILL BENEFIT THE AREA AS THIS SPACE WILL NOW BE PLANTED RESULTING IN SUPERIOR DRAINAGE AND STABILITY
   - D. REDUCE OR ELIMINATE IMPACT OVER TIME:
     - NA
   - E. COMPENSATE FOR IMPACT:
     - NA

AVERAGE BUILDING ELEVATIONS (ABE)

WALL	MIDPOINT EL. (FT.)	WALL LENGTH (FT.)	PRODUCT
A	45.71'	23.52'	1075.1
B	43.60'	51.42'	2242.0
C	40.52'	33.21'	1345.6
D	32.50'	8.44'	274.2
E	32.50'	7.85'	255.3
F	30.54'	15.79'	482.3
G	30.54'	14.73'	449.9
H	30.54'	34.05'	1040.0
I	30.54'	14.33'	437.8
J	30.54'	29.64'	905.1
K	30.54'	10.17'	310.5
L	29.06'	15.11'	439.3
M	29.98'	10.17'	304.8
N	30.54'	14.40'	439.7
O	35.94'	23.09'	829.9
P	41.38'	21.98'	909.4
Q	41.59'	51.30'	2133.8
TOTALS		379.20'	13874.7

AVERAGE GRADE (ABE)
13,874.7 / 379.20 = 36.59'

MAX ALLOWABLE HEIGHT
30' ABOVE AVERAGE GRADE

MAX HT. EL./MAX BLDG. HT.
66.59'

LEGEND

- EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR.
- ELEVATION DATUM
- ORDINARY HIGH WATER MARK
- PROPERTY LINE
- SETBACK LINE
- ROOF OVERHANG
- CONTOUR MAJOR
- CONTOUR MINOR
- DEMOLISHED CONTOUR
- (E) TREE CRITICAL ROOT ZONE
- (N) HOUSE FOOTPRINT BELOW
- (N) HOUSE FOOTPRINT
- (E) PATIO / WALKWAYS / CONCRETE DRIVE / PAVING TO REMAIN
- (N) PATIO / WALKWAYS / STAIRS / CONCRETE DRIVE / PAVING / SITE WALLS
- (N) WATERPROOF DECK
- (E) TREE TO REMAIN
- (N) TREE
- F — TREE PROTECTION FENCE
- SPOT ELEVATION
- AVERAGE BUILDING ELEVATIONS
- STEEP SLOPE HAZARD AREA PER SURVEY
- (E) ROCKERY TO REMAIN
- (N) PROPOSED ROCKERY
- (N) COURSE SOIL TRENCH PER CIVIL
- STEEP SLOPE BUFFER AREA
- (N) COURSE SOIL INFILTRATION AREA PER CIVIL

1 SITE PLAN
1" = 10'-0"

PROJECT NORTH / NORTH

Brandt
Design Group
66 Bell Street
Unit 1
Seattle, WA
98121
206.239.0850
brandtdesigninc.com

8843 REGISTERED ARCHITECT STATE OF WASHINGTON

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE:	03.11.22
SHEET SIZE:	E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

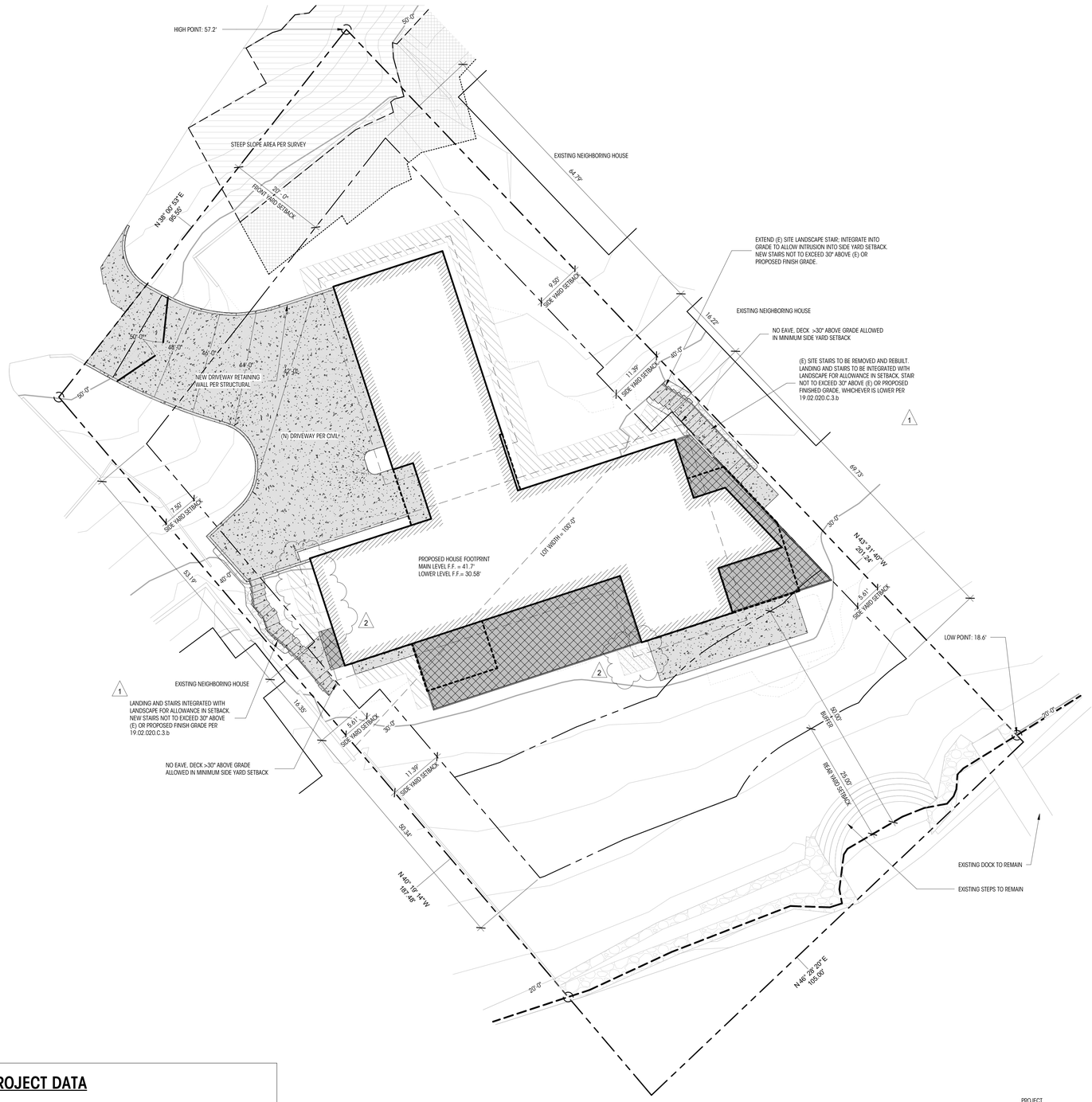
DRAWN BY:	DD
CHECKED BY:	KM

PROPOSED SITE PLAN

SCALE: As indicated

A101

DEDICATED APPROVAL STAMP SPACE



1 SITE PLAN - SETBACK PLAN
1" = 10'-0"

PROJECT NORTH / NORTH

LEGEND

- EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR. — ELEVATION DATUM
- ORDINARY HIGH WATER MARK
- PROPERTY LINE
- SETBACK LINE
- ROOF OVERHANG
- F — TREE PROTECTION FENCE
- CONTOUR MAJOR
- CONTOUR MINOR
- DEMOLISHED CONTOUR
- (N) HOUSE FOOTPRINT
- (E) PATIO / WALKWAYS / CONCRETE DRIVE / PAVING TO REMAIN
- (N) PATIO / WALKWAYS / CONCRETE DRIVE / PAVING / SITE WALLS
- (N) WATERPROOF DECK
- (E) ROCKERY TO REMAIN
- (N) COURSE SOIL INFILTRATION AREA PER CIVIL
- SPOT ELEVATION
- AVERAGE BUILDING ELEVATIONS
- STEEP SLOPE HAZARD AREA PER SURVEY
- (N) PROPOSED ROCKERY
- (N) COURSE SOIL TRENCH PER CIVIL
- STEEP SLOPE BUFFER AREA

NOTES

1. PROPERTY LINE METES & BOUNDS ARE SHOWN PER TOPOGRAPHIC SURVEY BY TERRANE DATED 02/19/21
2. TREES AND COUNTOURS ARE BASED ON TOPOGRAPHIC SURVEY BY TERRANE DATE 02/19/21
3. SEE SHEET A101 FOR COMPLETE SITE PLAN

PROJECT DATA

SETBACKS

SIDE YARD (PER 19.02.020.C.1.c.)
PER 19.16.010, LOT WIDTH IS THE DISTANCE BETWEEN THE TWO MIDPOINTS OF SIDE LOT LINES = 100'

TOTAL: 17% OF LOT WIDTH	100' * 0.17 = 17'
MINIMUM: 33% OF SIDE YARD TOTAL	17' * 0.33 = 5.61'
FRONT YARD	20'
SHORELINE	25' FROM THE ORDINARY HIGH WATER MARK

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8843
REGISTERED ARCHITECT
STATE OF WASHINGTON

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

DRAWN BY: DD
CHECKED BY: KM

SETBACK SITE PLAN

SCALE: 1" = 10'-0"

A102

DEDICATED APPROVAL STAMP SPACE

CALCULATIONS

LOT COVERAGE

ROOF, GARAGE, AND OVERHANGS	4534.18 SF
DRIVING SURFACES	1834.98 SF
TOTAL	6369.16 SF
ALLOWED (35% OF LOT AREA)	18,231 SF * 0.35 = 6380.85 SF

HARDSCAPE

(E) TO REMAIN			
	STAIRS	S-3	177.70 SF
	ROCKERIES	R-1	301.52 SF
		R-2	86.89 SF
	SITE WALLS	SW-1	33.20 SF
		SW-4	5.11 SF
	SUBTOTAL		604.42 SF
(N) PROPOSED			
	DECKS	D-1	389.03 SF
		D-2	74.83 SF
	STAIRS	S-1	99.85 SF
		S-2	104.03 SF
	PATIOS / WALKWAYS	P-1	223.54 SF
		P-2	29.23 SF
	ROCKERIES	R-3	11.59 SF
		R-4	27.08 SF
		R-5	29.22 SF
	SITE WALLS	SW-2	18.95 SF
		SW-3	40.66 SF
	SUBTOTAL		1,048.01 SF
TOTAL			604.42 SF + 1,048.01 SF = 1,652.43 SF
ALLOWED (9% OF LOT AREA)			18,231 SF * 0.09 = 1,640.79 SF
PER 19.02.020.F.3.b.iii., HARDSCAPE IMPROVEMENTS ARE PERMITTED IN THE MAXIMUM LOT COVERAGE AREA REMAINING LOT COVERAGE			6380.85 SF - 6369.16 SF = 11.69 SF
TOTAL ALLOWABLE HARDSCAPE			1,640.79 SF + 11.69 SF = 1,652.48 SF

LANDSCAPE

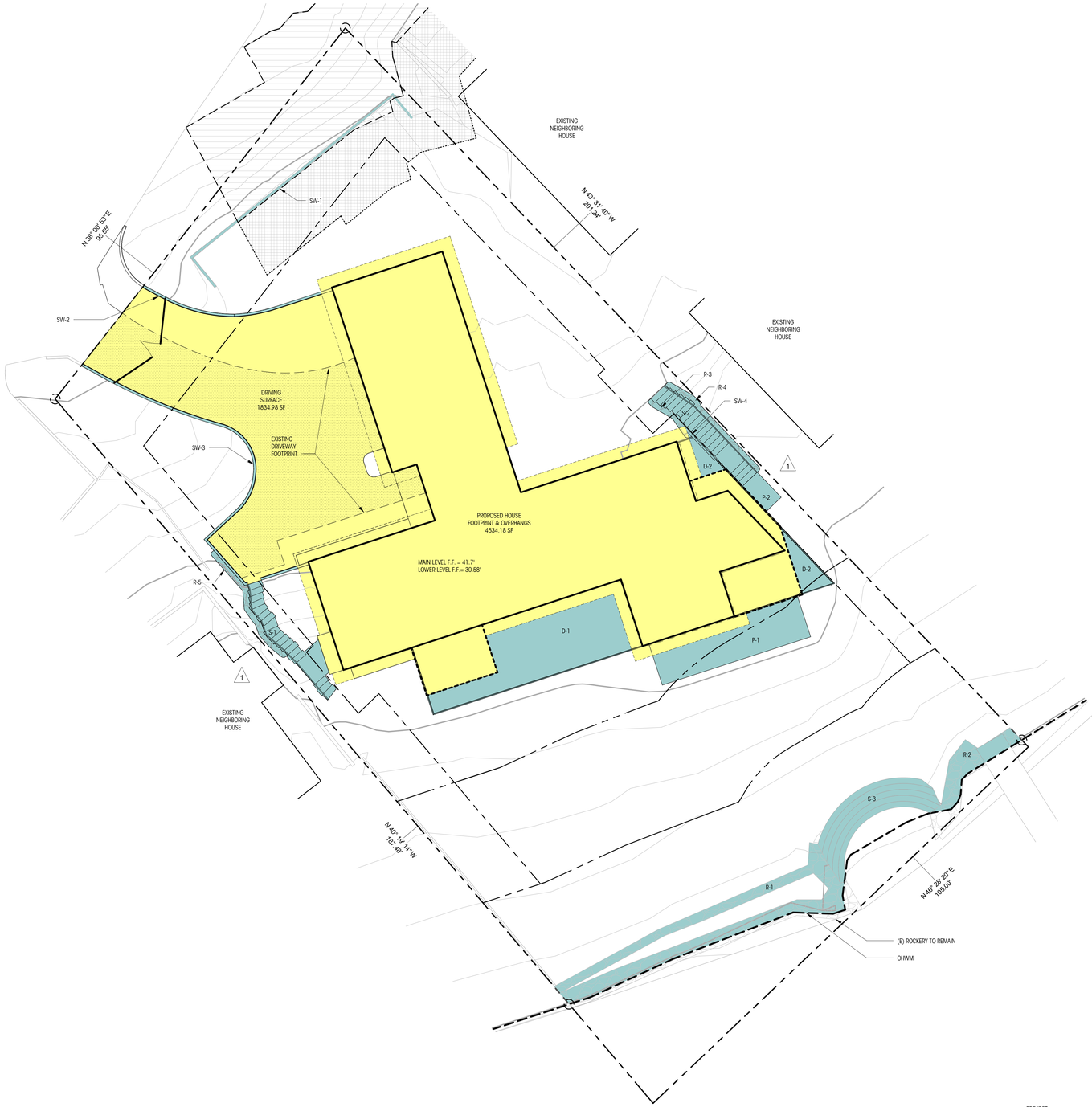
PROPOSED SOFTSCAPE	18,231 - 6,369.16 - 1,652.43 = 10,209.41 SF = 56% OF LOT AREA
REQUIRED SOFTSCAPE	65% OF LOT AREA - 9% OF LOT AREA = 56% 56% * 18,231 = 10,209.36 SF MIN.

LEGEND

- EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR. — ELEVATION DATUM
- ORDINARY HIGH WATER MARK
- PROPERTY LINE
- SETBACK LINE
- ROOF OVERHANG
- CONTOUR MAJOR
- CONTOUR MINOR
- LOT COVERAGE
- HARDSCAPE
- (E) ROCKERY TO REMAIN
- STEEP SLOPE HAZARD AREA PER SURVEY
- (E) DRIVEWAY FOOTPRINT
- STEEP SLOPE BUFFER AREA
- (N) PROPOSED ROCKERY

NOTES

1. PROPERTY LINE METES & BOUNDS ARE SHOWN PER TOPOGRAPHIC SURVEY BY TERRANE DATED 02/19/21
2. TREES AND COUNTOURS ARE BASED ON TOPOGRAPHIC SURVEY BY TERRANE DATE 02/19/21
3. SEE SHEET A101 FOR COMPLETE SITE PLAN



1 SITE PLAN - LOT COVERAGE & HARDSCAPE CALCULATION
1" = 10'-0"

PROJECT NORTH / NORTH

Brandt
Design Group
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8843 REGISTERED ARCHITECT STATE OF WASHINGTON

8480 RESIDENCE

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MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

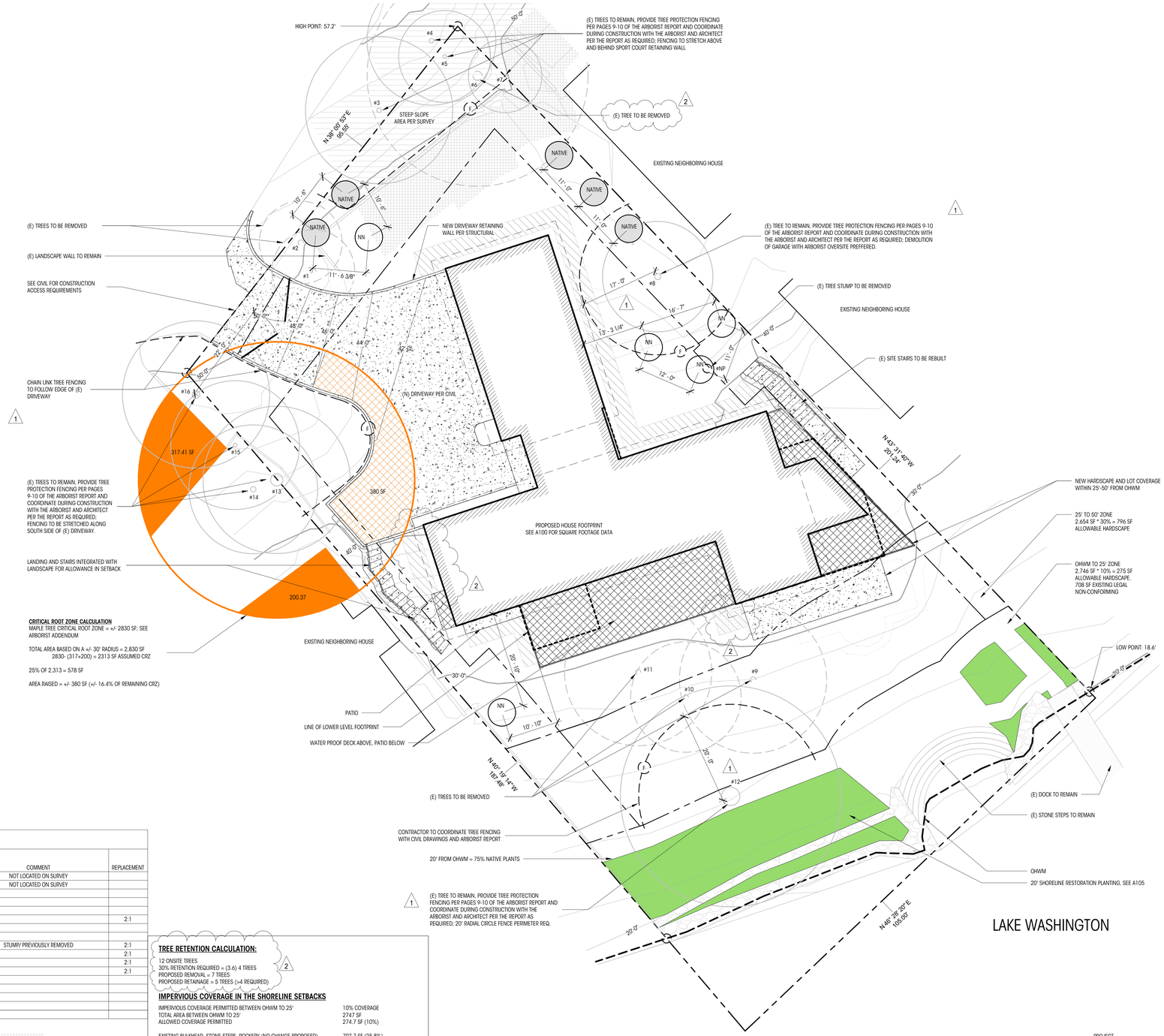
DRAWN BY: DD
CHECKED BY: KM

PROPOSED LOT COVERAGE SITE PLAN

SCALE: 1" = 10'-0"

A103

DEDICATED APPROVAL STAMP SPACE



1 SITE PLAN - TREE PROTECTION & REPLACEMENT PLANTING PLAN AND SHORELINE PLANTING DIAGRAM
1" = 10'-0"

PROJECT NORTH / NORTH

REPLACEMENT TREE LEGEND

NATIVE — NATIVE TREE REPLACEMENT SPECIES: MINIMUM OF 50% OF REPLACEMENT MUST BE NATIVE

BITTER CHERRY: PRUNUS EMARGINATA
FLOWERING DOGWOOD: CORNUS FLORIDA
SHORE PINE: PINUS CONTORTA
VINE MAPLE: ACER CINCINATUM

NN — NON-NATIVE TREE REPLACEMENT SPECIES. NO MORE THAN 50% OF REPLACEMENT CAN BE NON-NATIVE

WEEPING HIGAN CHERRY: *PRUNUS PENDULA*
RED JAPANESE MAPLE: *ACER PALMATUM*
WEEPING ATLAS CEDAR: *CEDRUS ATLANTICA*

LEGEND

SHEET REFERENCE NOTES:

1. SEE SHEET A101 FOR CRITICAL AREA & BUILDING PAD DESIGNATION + SETBACK DIMENSIONS
2. SEE SHEET A102 FOR EXCAVATION PLAN W/ T.O.W. & B.O.F. HEIGHTS FOR SITE RETAINING WALLS
3. SEE SHEET A104 FOR TREE RETENTION / REPLACEMENT PLAN
4. CONTINUOUS SPECIAL INSPECTIONS BY GEOTECHNICAL ENGINEER DURING EXCAVATION AND SHORING INSTALLATION SHALL BE PROVIDED.

GENERAL PLAN NOTES

A. ALL DIMENSIONS AT EXTERIOR WALLS TO FACE OF FRAMING AT EXT. FACE OF WALL AND TO FACE OF FRAMING AT INTERIOR WALLS

B. ALL DIMENSIONS AT INTERIOR WALLS ARE TO FACE OF FRAMING

C. ALL DIMENSIONS AT KITCHEN TO EDGE OF COUNTERTOPS, U.N.O.

Per MICC 19.02.020(F)(3)(d), the project shall remove Japanese knotweed (Polygonum cuspidatum) and Regulated Class A, Regulated Class B, and Regulated Class C weeds identified on the King County Noxious Weed list, as amended, from required landscaping areas established pursuant to subsection (F)(3)(a) of this section. New landscaping associated with new single-family home shall not incorporate any weeds identified on the King County Noxious Weed list, as amended. Provided, that removal shall not be required if the removal will result in increased slope instability or risk of landslide or erosion.

TREE RETENTION SCHEDULE

TREE #	OFFSITE	REMAIN	REMOVE	LARGE / REGULATED >10"	SIZE EXCEPTIONAL > 24"	EXCEPTIONAL	DBH (INCHES)	SPECIES	*SPECIES*	HEALTH	COMMENT	REPLACEMENT
1			X				3.5/5	PACIFIC DOGWOOD	*CORNUS NUTTALLI*	POOR	NOT LOCATED ON SURVEY	
2			X				7.5	NOBLE FIR	*ABIES PROCERA*	FAIR	NOT LOCATED ON SURVEY	
3	X	X		X			14	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	EXCELLENT		
4	X	X		X			15	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	GOOD		
5		X		X			11	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	FAIR		
6			X	X	X		27	BIG LEAF MAPLE		POOR		2:1
7		X		X			8	GRAND FIR	*ABIES GRANDIS*	FAIR		
8		X		X			17	WESTERN RED CEDAR	*THUJA PLICATA*	GOOD		
NP			X								STUMP/ PREVIOUSLY REMOVED	2:1
9			X	X			17	COLUMNAR NORWAY MAPLE	*ACER PLATANOIDES 'COLUMNARE'*	FAIR		2:1
10			X	X			10	COLUMNAR NORWAY MAPLE	*ACER PLATANOIDES 'COLUMNARE'*	FAIR		2:1
11			X	X			14	COLUMNAR NORWAY MAPLE	*ACER PLATANOIDES 'COLUMNARE'*	FAIR		2:1
12		X		X	X	X	50	WEEPING WILLOW	*SALIX BABYLONICA*	FAIR		
13		X		X	X		32	BIG LEAF MAPLE		FAIR		
14	X	X		X			14	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	FAIR		
15	X	X		X			10.5	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	FAIR		
16	X	X		X			22	DOUGLAS FIR	*PSUEDOTSUGA MENZIESII*	GOOD		

LEGEND

EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR.
ELEVATION DATUM
ORDINARY HIGH WATER MARK
PROPERTY LINE
SETBACK LINE
ROOF OVERHANG
TREE PROTECTION FENCE
CONTOUR MAJOR
CONTOUR MINOR
DEMOLISHED CONTOUR
SPOT ELEVATION
(N) HOUSE FOOTPRINT
(E) PATIO / WALKWAYS / CONCRETE DRIVE / PAVING TO REMAIN
(N) PATIO / WALKWAYS / CONCRETE DRIVE / PAVING / SITE WALLS
(N) WATERPROOF DECK
(E) ROCKERY TO REMAIN
(N) PROPOSED ROCKERY
AVERAGE BUILDING ELEVATIONS
(N) COURSE SOIL (INFILTRATION AREA PER CIVIL
(N) COURSE SOIL TRENCH PER CIVIL
STEEP SLOPE HAZARD AREA PER SURVEY
PROPOSED IMPACT TO CRITICAL ROOT ZONE (CRZ)
PORTION OF (E) CRZ PREVIOUSLY IMPACTED
20' PLANTING ZONE
STEEP SLOPE BUFFER AREA
(E) TREE TO REMAIN
(E) TREE TO BE REMOVED
(N) TREE, REPLACEMENT TREE LEGEND

TREE RETENTION CALCULATION:

12 ONSITE TREES
30% RETENTION REQUIRED = (3.6) 4 TREES
PROPOSED REMOVAL = 7 TREES
PROPOSED RETAINAGE = 5 TREES (>4 REQUIRED)

IMPERVIOUS COVERAGE IN THE SHORELINE SETBACKS

IMPERVIOUS COVERAGE PERMITTED BETWEEN OHWM TO 25'	10% COVERAGE
TOTAL AREA BETWEEN OHWM TO 25'	2747 SF
ALLOWED COVERAGE PERMITTED	274.7 SF (10%)
EXISTING BULKHEAD, STONE STEPS, ROCKERY (NO CHANGE PROPOSED) LEGAL NON-CONFORMING IMPERVIOUS ALLOWED; CREATED UNDER PERMIT 0310-158	707.7 SF (25.8%)
IMPERVIOUS COVERAGE PERMITTED BETWEEN 25' - 50'	30% COVERAGE
TOTAL AREA BETWEEN 25' - 50'	2,654.5 SF
ALLOWED COVERAGE PERMITTED	796.4 SF (30%)
TOTAL EXISTING TO BE DEMOLISHED	421.5 SF (15.9%)
TOTAL ADDITIONAL COVERAGE PROPOSED	246.3 SF (9%)

NOTES

1. PROPERTY LINE METES & BOUNDS ARE SHOWN PER TOPOGRAPHIC SURVEY BY TERRANE DATED 02/19/21
2. TREES AND COUNTOURS ARE BASED ON TOPOGRAPHIC SURVEY BY TERRANE DATE 02/19/21
3. SEE SHEET A101 FOR ADDITIONAL PROJECT DATA & SQUARE FOOTAGE CALCULATIONS.
4. SEE CIVIL PLANS FOR SITE PROTECTION (TESC), STORM WATER CONTROL, AND GRADING.
5. (19.13.020.o) LEGAL NONCONFORMING USES AND STRUCTURES MAY CONTINUE.
6. FENCING TO BE PLACED AT A DISTANCE OF 1' FOR EVERY 1" OF TRUNK DIAMETER; SEE ARBORIST REPORT FOR FENCING EXTENTS & DETAILS
7. ALL NEW REPLACEMENT TREES MUST BE PLANTED AT LEAST 10' APART FROM EACH OTHER, STRUCTURES, FENCES, AND UTILITIES
8. ARBORIST TO BE ON SITE FOR OBSERVATION AND DIRECTION DURING DRIVEWAY REPLACEMENT IN ORDER TO ENSURE THE HEALTH OF TREES 13 & 16
9. SEE SHEET A101 FOR COMPLETE SITE PLAN
10. A FIVE YEAR MONITORING PLAN TO ENSURE SURVIVAL OF REPLACEMENT TREES SHALL BE DONE AT THE SAME TIME AS SHORELINE PLANTING MONITORING

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8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

DRAWN BY: DD
CHECKED BY: KM

SHORELINE REST. & TREE RETENT. / REPL. PLAN

SCALE: 1" = 10'-0"

A104

DEDICATED APPROVAL STAMP SPACE

SHORELINE RESTORATION PLAN LEGEND

VEGETATION	SPECIES COMMON NAME	SPECIES LATIN NAME
DG	DUNEGRASS	*ELYMUS MOLLIS*
DA	DOUGLAS ASTER	*ASTER SUBSPICATUS*
BLS	BROAD-LEAVED STONECROP	*SEDUM SPATHULIFOLIUM*
BS	BEACH STRAWBERRY	*FRAGARIA CHILOENSIS*
LS	LYNGBYE'S SEDGE	*CAREX LYNGBYEI*
TUF	TUFTED HAIRGRASS	*DESCHAMPSIA CESPITOSA*
TH	THRIFT; SEA PINK	*ARMERIA MARITIMA*
HC	HENDERSON'S CHECKER MALLOW	*SIDALCEA HENDERSONII*
CL	WEEPING BLUE ATLAS CEDAR:	*CEDRUS LIBANI GLAUCAPENDULA*
PT	JAPANESE BLACK PINE TREES:	*PINUS THUNBERGII*
	(E) TREE TO REMAIN	
	(E) TREE TO BE REMOVED	

1 SHORELINE PLANTING PLAN
1/4" = 1'-0"

PROJECT NORTH NORTH

LEGEND

- PROPERTY LINE
- SETBACK LINE
- CONTOUR MAJOR
- CONTOUR MINOR
- ORDINARY HIGH WATER MARK
- (E) STONE STEPS TO REMAIN
- 20' PLANTING ZONE
- (E) ROCKERY TO REMAIN

NOTES

1. PROPERTY LINE METES & BOUNDS ARE SHOWN PER TOPOGRAPHIC SURVEY BY TERRANE DATED 02/19/21
2. TREES AND COUNTOURS ARE BASED ON TOPOGRAPHIC SURVEY BY TERRANE DATE 02/19/21
3. SEE SHEET A101 FOR ADDITIONAL PROJECT DATA & SQUARE FOOTAGE CALCULATIONS.
4. SEE CIVIL PLANS FOR SITE PROTECTION (TESC), STORM WATER CONTROL, AND GRADING.
5. (19.13.020.a) LEGAL NONCONFORMING USES AND STRUCTURES MAY CONTINUE.
6. MAXIMUM OF 10% HARDSCAPE AND LOT COVERAGE PERMITTED BETWEEN 0 AND 25 FEET FROM OHWM.
7. MAXIMUM OF 30% HARDSCAPE AND LOT COVERAGE PERMITTED BETWEEN 25 AND 50 FEET FROM OHWM.

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

PLANTING SQUARE FOOTAGE DATA 19.13.050(K)(4)(i)

20' PLANTING ZONE	1441.32 SF
NATIVE VEGETATION COVERAGE REQ'D	1081 SF (75%)
PROPOSED NATIVE VEGETATION COV.	1081 SF

NOTE:
1. EXISTING HARDSCAPE LEGALLY CREATED.
2. EXISTING ROCKERY & STONE STEPS OCCUPY REMAINDER OF ZONE

EXISTING LAWN AREA TO BE REMOVED 959 SF

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DATE: 03.11.22
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REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY: DD
CHECKED BY: KM

ENLARGED SHORELINE PLANTING PLAN

SCALE: As indicated

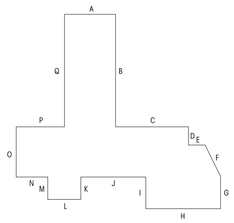
A105

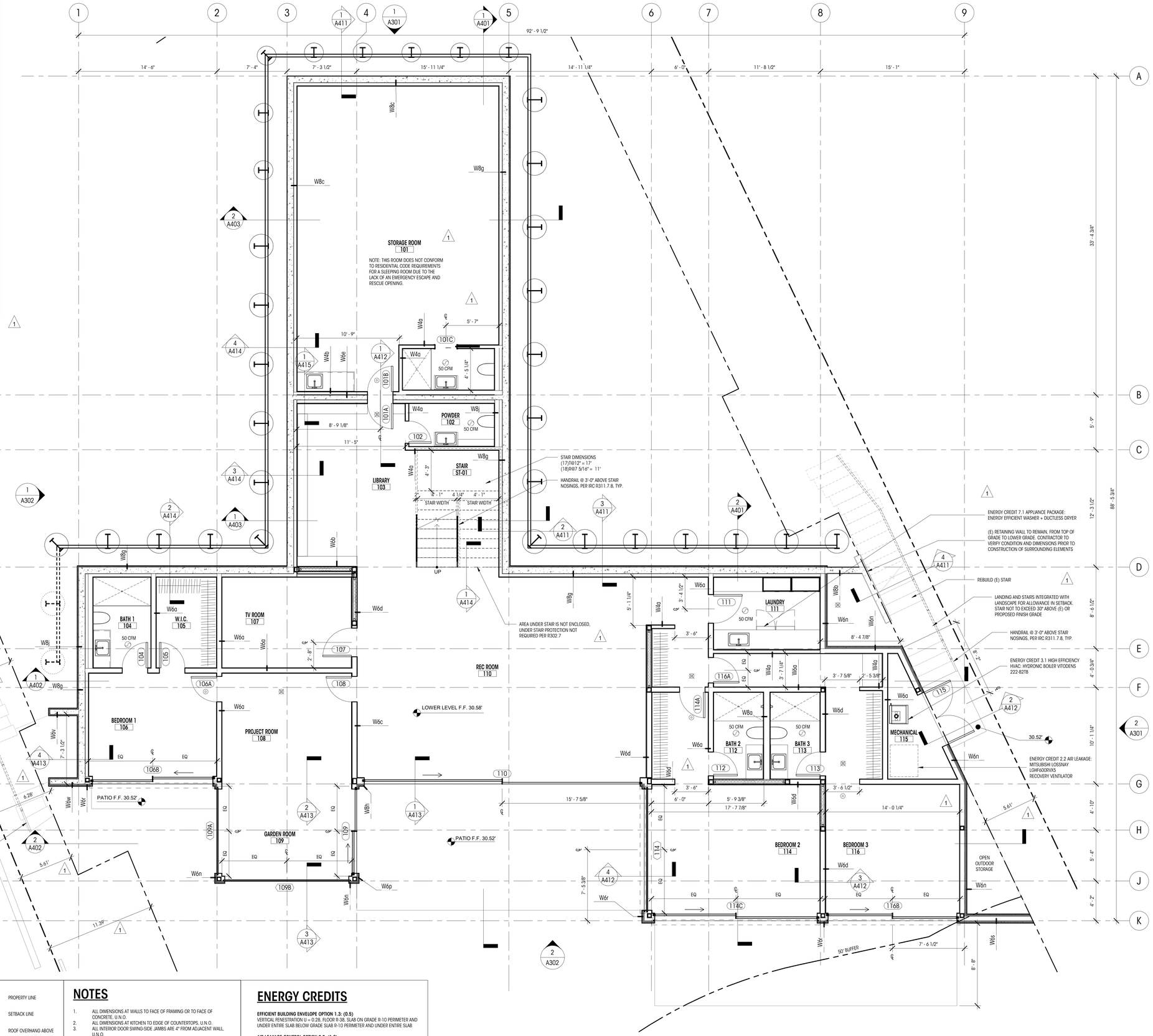
DEDICATED APPROVAL STAMP SPACE

BASEMENT LEVEL BELOW GRADE AREA CALC

WALL SEGMENT	LENGTH	COVERAGE	RESULT
A	23.38'	100%	23.38'
B	51.33'	100%	51.33'
C	33.21'	100%	33.21'
D	8.44'	16%	1.37'
E	7.86'	16%	1.28'
F	15.79'	0%	0'
G	14.73'	0%	0'
H	34.05'	0%	0'
I	14.33'	0%	0'
J	29.64'	0%	0'
K	10.17'	0%	0'
L	15.11'	0%	0'
M	10.17'	0%	0'
N	14.40'	0%	0'
O	23.09'	62%	14.24'
P	21.98'	100%	21.98'
Q	51.33'	100%	51.33'
TOTALS	379.02'		198.12'

TOTAL BASEMENT GSF = 3,821.71 SQ.FT.
PORTION OF EXCLUDED BASEMENT FLOOR AREA: (198.12/379.02) X 3821.71 = 1997.72 SF
NET BASEMENT GFA: (3,821.71 - 1,997.12) = **1823.99 SF**





LEGEND

200A	WINDOW ID
100A	DOOR ID
100A	FINISH ID
ROOM NAME 101	ROOM ID
W4a	ASSEMBLY ID
A	STOREFRONT ID
	NEW WALL
	WALL TO REMAIN
EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR.	ELEVATION DATUM
0	GRIDLINE
	SMOKE DETECTOR
	SMOKE/CARBON MONOXIDE DETECTOR
	PROPERTY LINE
	SETBACK LINE
	ROOF OVERHANG ABOVE
	BRACE FRAME LOCATION
	FAN - 100 CFM U.N.O.
	HEAT DETECTOR

NOTES

1. ALL DIMENSIONS AT WALLS TO FACE OF FRAMING OR TO FACE OF CONCRETE, U.N.O.
2. ALL DIMENSIONS AT KITCHEN TO EDGE OF COUNTERTOPS, U.N.O.
3. ALL INTERIOR DOOR SWING-SIDE JAMBS ARE 4" FROM ADJACENT WALL, U.N.O.
4. SEE RCP FOR SMOKE / CARBON MONOXIDE DETECTOR AND EXHAUST FAN LOCATIONS
5. ALL NEW WALLS TYPE W4A UNLESS NOTED OTHERWISE
6. ALL DIMENSIONS ASSOCIATED WITH (E) CONSTRUCTION ARE ASSUMED. CONTRACTOR TO VERIFY ALL DIMS IN FIELD AND CONTACT ARCHITECT WITH ANY DISCREPANCIES PRIOR TO CONSTRUCTION
7. CONTRACTOR TO INSTALL CARBON MONOXIDE ALARMS OUTSIDE OF EACH BEDROOM IN THE IMMEDIATE VICINITY ON EACH FLOOR LEVEL PER IRC SECTION 315.3.
8. CONTRACTOR TO INSTALL SMOKE ALARMS OUTSIDE OF EACH BEDROOM IN THE IMMEDIATE VICINITY ON EACH FLOOR LEVEL PER IRC SECTION 314.2.2.
9. FLOOR, CEILING, AND WALL ASSEMBLIES ARE LISTED ON SHEETS A701 & A702.

ENERGY CREDITS

EFFICIENT BUILDING ENVELOPE OPTION 1.3: (0.5)
VERTICAL FENESTRATION U = 0.28, FLOOR R-38, SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB

AIR LEAKAGE CONTROL OPTION 2.2: (1.0)
RECOVERY VENTILATOR: MITSUBISHI LOSSNAY, LGHF60DRVX5

HIGH EFFICIENCY HVAC EQUIPMENT OPTION 3.1: (1.0)
HIGH EFFICIENCY HVAC: HYDRONIC BOILER VITODENS, 200-B2HA

HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM 4.2 (1.0)

RENEWABLE ELECTRIC ENERGY OPTION 6.1: (3.0)
3600 kWh PHOTOVOLTAIC SYSTEM

APPLIANCE PACKAGE OPTION 7.1: (0.5)
ENERGY EFFICIENT APPLIANCE PACKAGE

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

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PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

DRAWN BY: DD
CHECKED BY: KM

LOWER FLOOR PLAN

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

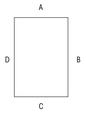
A211

DEDICATED APPROVAL STAMP SPACE

GARAGE LEVEL BELOW GRADE AREA CALC

WALL SEGMENT	LENGTH	COVERAGE	RESULT
A	23.52'	53%	12.50'
B	34.46'	29%	9.94'
C	23.52'	0%	0'
D	34.46'	0%	0'
TOTALS	115.96'		22.44'

TOTAL BASEMENT GSF = 810.50 SQ.FT.
PORTION OF EXCLUDED BASEMENT FLOOR AREA: (22.44/115.96) X 810.5 = 156.84 SF
NET BASEMENT GFA: (810.5 - 156.84) = **653.66 SF**



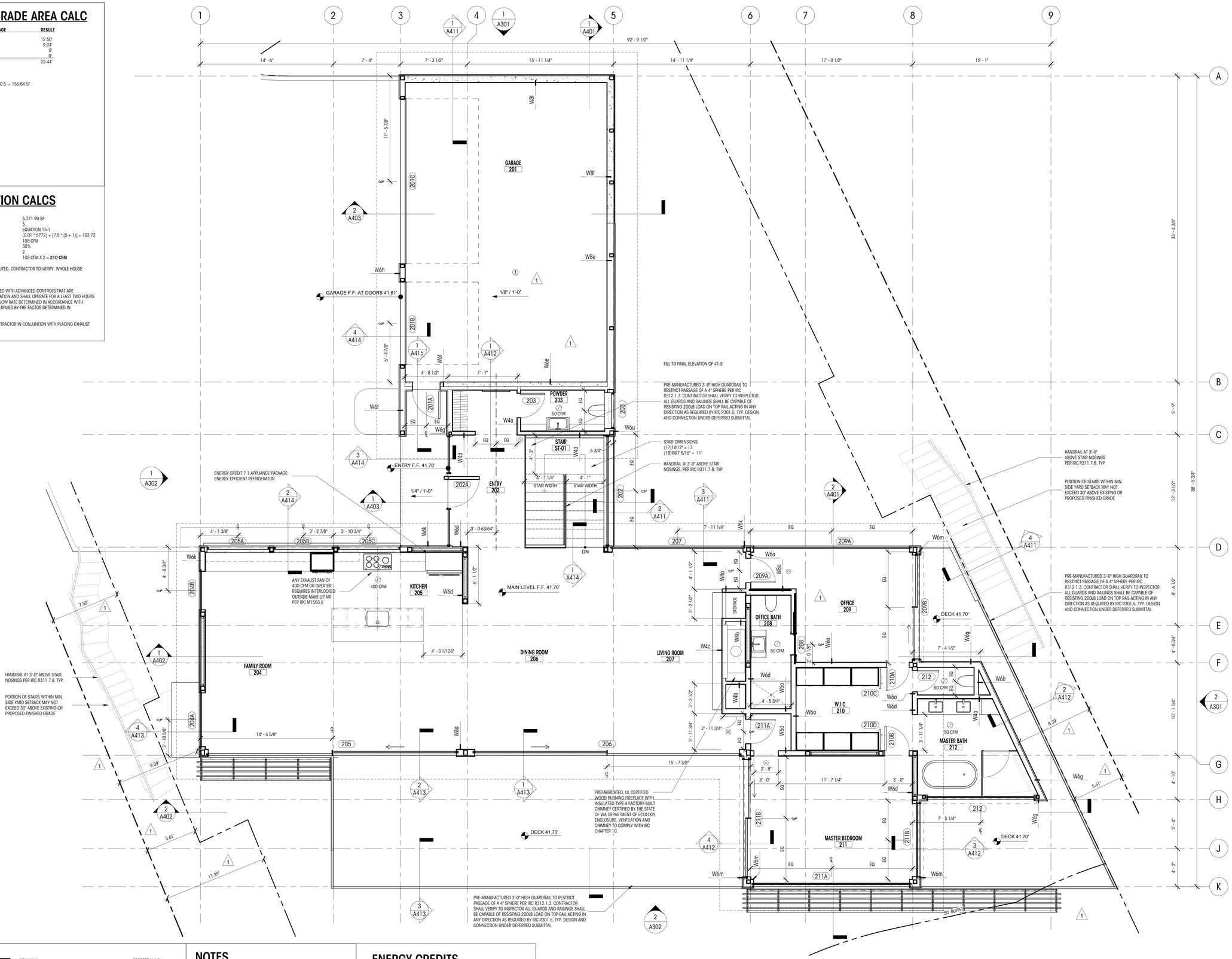
WHOLE HOUSE VENTILATION CALCS

PROPOSED CONDITIONED SF =	5,771.90 SF
NUMBER OF BEDROOMS =	5
AIRFLOW IN CFM REQUIRED FOR CONTINUOUS VENTILATION =	EQUATION 15-1 (0.01 * 5772) + [7.5 * (5 + 1)] = 102.72 105 CFM
RUN TIME PERCENTAGE IN EACH 4 HOUR SEGMENT =	50%
FACTOR =	2
CALCULATION	105 CFM X 2 = **210 CFM**

NOTE: VENTILATION SYSTEM ASSUMED TO BE BALANCED AND DISTRIBUTED, CONTRACTOR TO VERIFY. WHOLE HOUSE VENTILATION TO BE SERVED BY HRV

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

*OUTDOOR AIR INLET DUCT TO BE FIELD LOCATED WITH HVAC SUBCONTRACTOR IN CONJUNTION WITH PLACING EXHAUST DUCTS IN ORDER TO AVOID CONFLICT.



LEGEND

200A	WINDOW ID	NEW WALL	PROPERTY LINE
100A	DOOR ID	WALL TO REMAIN	SETBACK LINE
100A	FINISH ID	EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR. — ELEVATION DATUM	ROOF OVERHANG ABOVE
ROOM NAME 101	ROOM ID	GRIDLINE	BRACE FRAME LOCATION
W4a	ASSEMBLY ID	SMOKE DETECTOR	FAN - 100 CFM U.N.O.
A	STOREFRONT ID	SMOKE/CARBON MONOXIDE DETECTOR	HEAT DETECTOR

NOTES

1. ALL DIMENSIONS AT WALLS TO FACE OF FRAMING OR TO FACE OF CONCRETE, U.N.O.
2. ALL DIMENSIONS AT KITCHEN TO EDGE OF COUNTERTOPS, U.N.O.
3. ALL INTERIOR DOOR SWING-SIDE JAMBS ARE 4" FROM ADJACENT WALL, U.N.O.
4. SEE RCP FOR SMOKE / CARBON MONOXIDE DETECTOR AND EXHAUST FAN LOCATIONS
5. ALL NEW WALLS TYPE W4A UNLESS NOTED OTHERWISE
6. ALL DIMENSIONS ASSOCIATED WITH (E) CONSTRUCTION ARE ASSUMED. CONTRACTOR TO VERIFY ALL DIMS IN FIELD AND CONTACT ARCHITECT WITH ANY DISCREPANCIES PRIOR TO CONSTRUCTION
7. CONTRACTOR TO INSTALL CARBON MONOXIDE ALARMS OUTSIDE OF EACH BEDROOM IN THE IMMEDIATE VICINITY ON EACH FLOOR LEVEL PER IRC SECTION 315.3.
8. CONTRACTOR TO INSTALL SMOKE ALARMS OUTSIDE OF EACH BEDROOM IN THE IMMEDIATE VICINITY ON EACH FLOOR LEVEL PER IRC SECTION 314.4.2.2.
9. FLOOR, CEILING, AND WALL ASSEMBLIES ARE LISTED ON SHEETS A701 & A702.

ENERGY CREDITS

EFFICIENT BUILDING ENVELOPE OPTION 1.3: (0.5)
VERTICAL FENESTRATION U = 0.28, FLOOR R-38, SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB

AIR LEAKAGE CONTROL OPTION 2.2: (1.0)
RECOVERY VENTILATOR: MITSUBISHI LOSSNAY, LGHF600RVX5

HIGH EFFICIENCY HVAC EQUIPMENT OPTION 3.1: (1.0)
HIGH EFFICIENCY HVAC: HYDRONIC BOILER VITODENS, 200-B2HA

HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM 4.2 (1.0)

RENEWABLE ELECTRIC ENERGY OPTION 6.1: (3.0)
3600 kWh PHOTOVOLTAIC SYSTEM

APPLIANCE PACKAGE OPTION 7.1: (0.5)
ENERGY EFFICIENT APPLIANCE PACKAGE

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

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MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

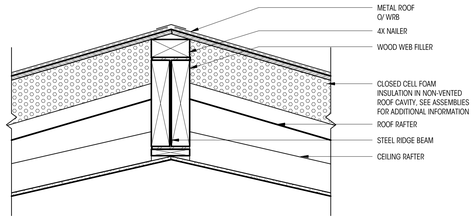
DRAWN BY: DD
CHECKED BY: KM

MAIN FLOOR PLAN

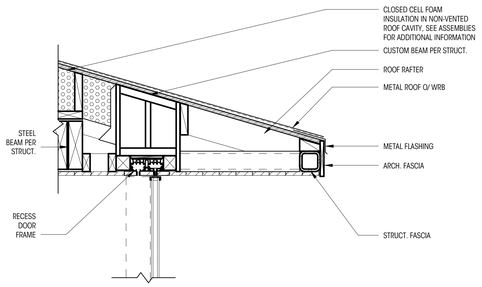
SCALE: 1/4" = 1'-0"

A212

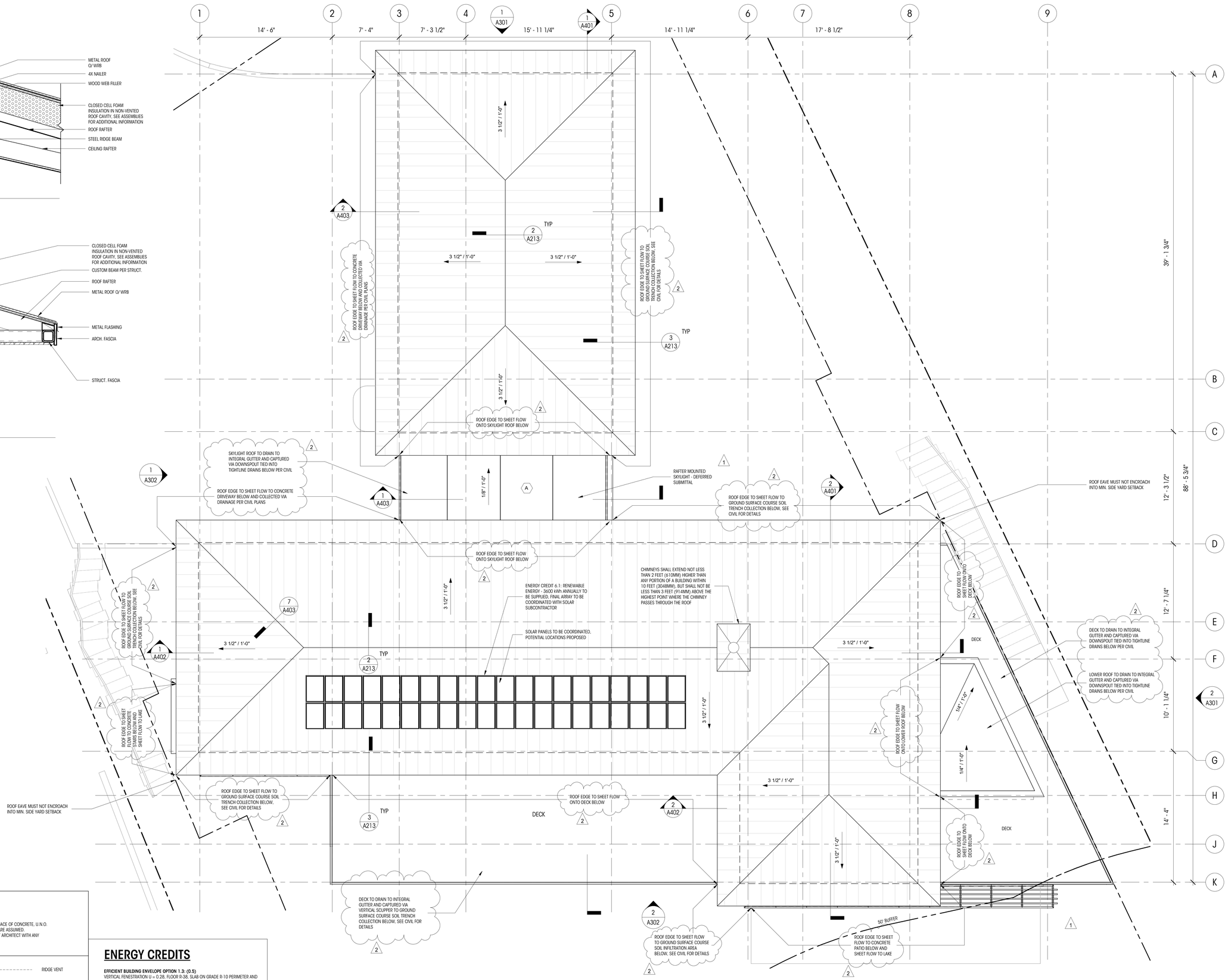
DEDICATED APPROVAL STAMP SPACE



2 RIDGE DETAIL
1" = 1'-0"



3 EAVE DETAIL
1" = 1'-0"



1 ROOF PLAN
1/4" = 1'-0"

NOTES

1. ALL DIMENSIONS AT WALLS TO FACE OF FRAMING OR TO FACE OF CONCRETE, U.N.O.
2. ALL DIMENSIONS ASSOCIATED WITH (E) CONSTRUCTION ARE ASSUMED. CONTRACTOR TO VERIFY ALL DIMS IN FIELD AND CONTACT ARCHITECT WITH ANY DISCREPANCIES PRIOR TO CONSTRUCTION
3. ROOF ASSEMBLIES ARE LISTED ON SHEET A702.

LEGEND

- 200A — WINDOW ID
- EL= 148.5' (+0'-0") MAIN LEVEL FIN. FLR. — ELEVATION DATUM
- 0 — GRIDLINE
- A — STOREFRONT ID
- RIDGE VENT
- BUILDING FOOTPRINT
- 4" / 1'-0" — SPOT SLOPE
- PROPERTY LINE
- SETBACK LINE

ENERGY CREDITS

EFFICIENT BUILDING ENVELOPE OPTION 1.3: (0.5)
VERTICAL FENESTRATION U = 0.28, FLOOR R-38, SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB

AIR LEAKAGE CONTROL OPTION 2.2: (1.0)
RECOVERY VENTILATOR: MITSUBISHI LOSSNAY, LGHF600RVXS

HIGH EFFICIENCY HVAC EQUIPMENT OPTION 3.1: (1.0)
HIGH EFFICIENCY HVAC: HYDRONIC BOILER VITODENS, 200-B2HA

HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM 4.2 (1.0)

RENEWABLE ELECTRIC ENERGY OPTION 6.1: (3.0)
3600 kWh PHOTOVOLTAIC SYSTEM

APPLIANCE PACKAGE OPTION 7.1: (0.5)
ENERGY EFFICIENT APPLIANCE PACKAGE

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PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

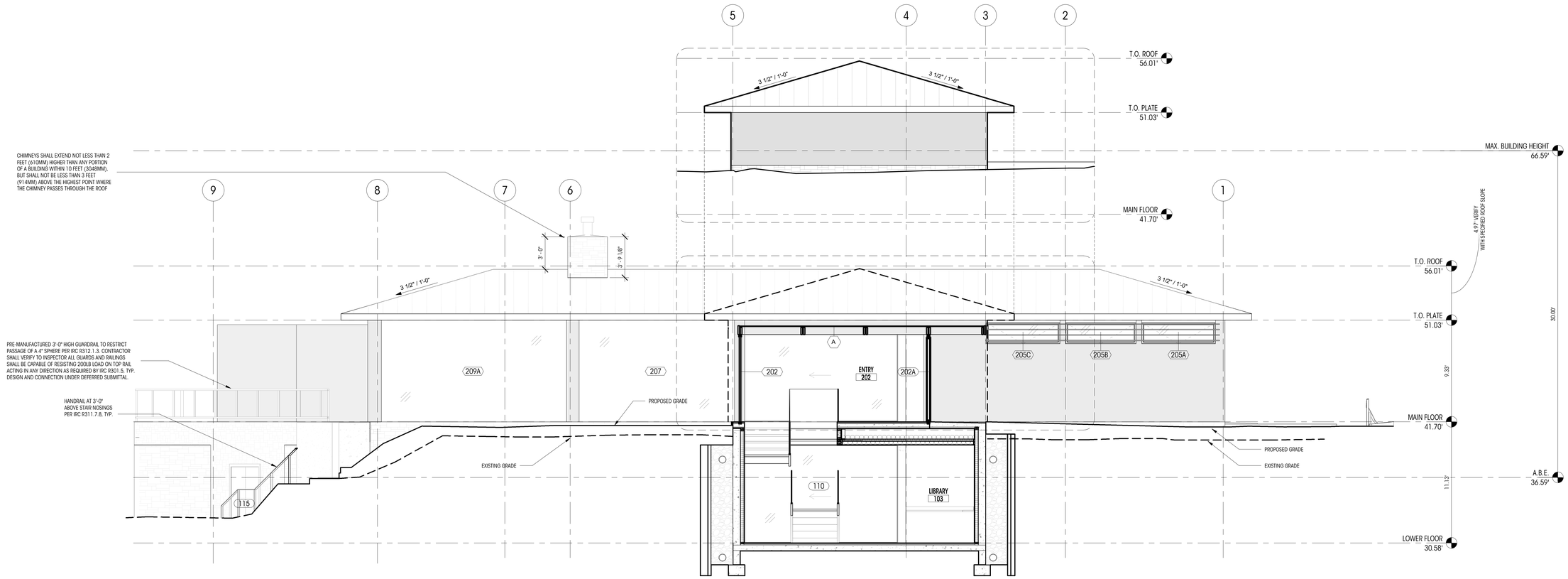
DRAWN BY: DD
CHECKED BY: KM

ROOF PLAN

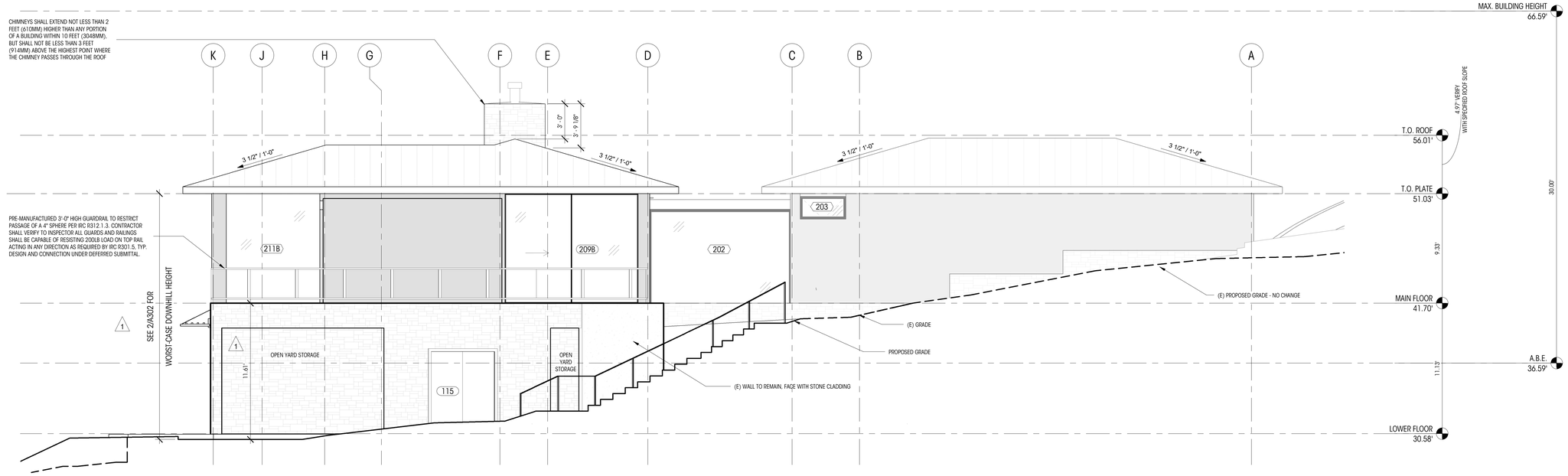
SCALE: As indicated

A213

DEDICATED APPROVAL STAMP SPACE



1 EXTERIOR ELEVATION - NORTH
1/4" = 1'-0"



2 EXTERIOR ELEVATION - EAST
1/4" = 1'-0"

LEGEND

		1t	STOREFRONT ID
0	GRIDLINE	200A	WINDOW ID
FINISH FLOOR 101'-3"	ELEVATION DATUM	100A	DOOR ID

NOTES

1. ALL DIMENSIONS AT WALLS TO FACE OF FRAMING OR TO FACE OF CONCRETE, U.N.O.
2. ALL DIMENSIONS ASSOCIATED WITH (E) CONSTRUCTION ARE ASSUMED. CONTRACTOR TO VERIFY ALL DIMS IN FIELD AND CONTACT ARCHITECT WITH ANY DISCREPANCIES PRIOR TO CONSTRUCTION

AVERAGE BUILDING ELEVATIONS (ABE)

WALL	MIDPOINT EL. (FT.)	WALL LENGTH (FT.)	PRODUCT
A	45.71'	23.52'	1075.1
B	43.60'	51.42'	2242.0
C	40.52'	33.21'	1345.6
D	32.50'	8.44'	274.2
E	32.50'	7.85'	255.3
F	30.54'	15.79'	482.3
G	30.54'	14.73'	449.9
H	30.54'	34.05'	1040.0
I	30.54'	14.33'	437.8
J	30.54'	29.64'	905.1
K	30.54'	10.17'	310.5
L	29.06'	15.11'	439.3
M	29.98'	10.17'	304.8
N	30.54'	14.40'	439.7
O	35.94'	23.09'	829.9
P	41.38'	21.98'	909.4
Q	41.59'	51.30'	2133.8
TOTALS		379.20'	13874.7

AVERAGE GRADE (ABE)
13,874.7 / 379.20 = 36.59'

MAX ALLOWABLE HEIGHT
30' ABOVE AVERAGE GRADE

MAX HT. EL./MAX BLDG. HT.
66.59'

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DATE: 03.11.22
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REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

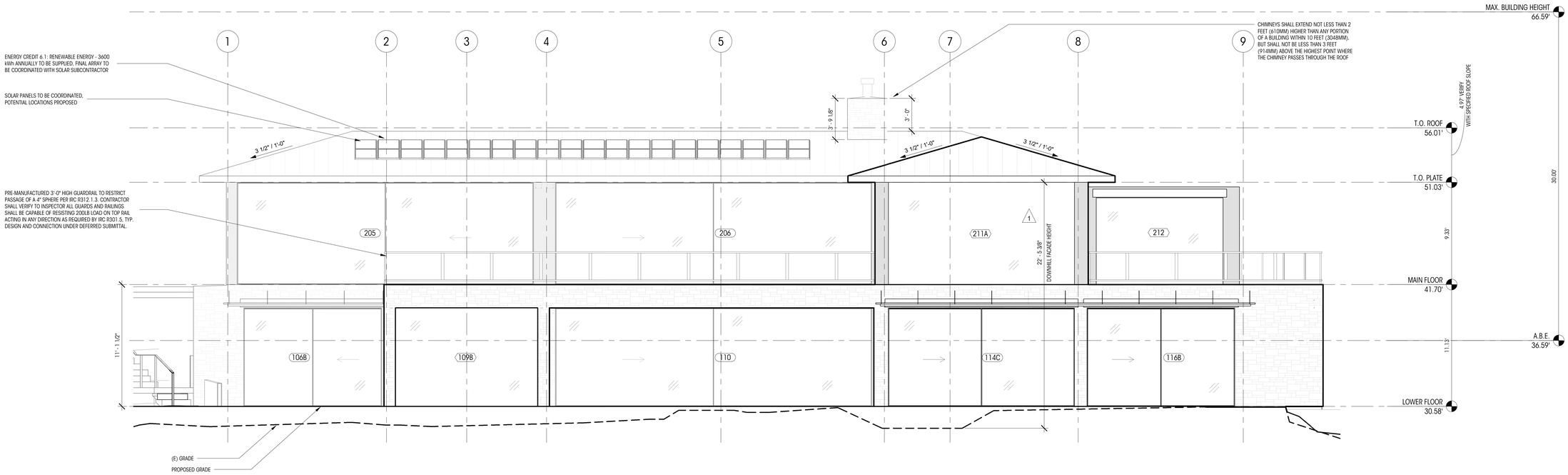
DRAWN BY: DD
CHECKED BY: KM

EXTERIOR ELEVATIONS (N&E)

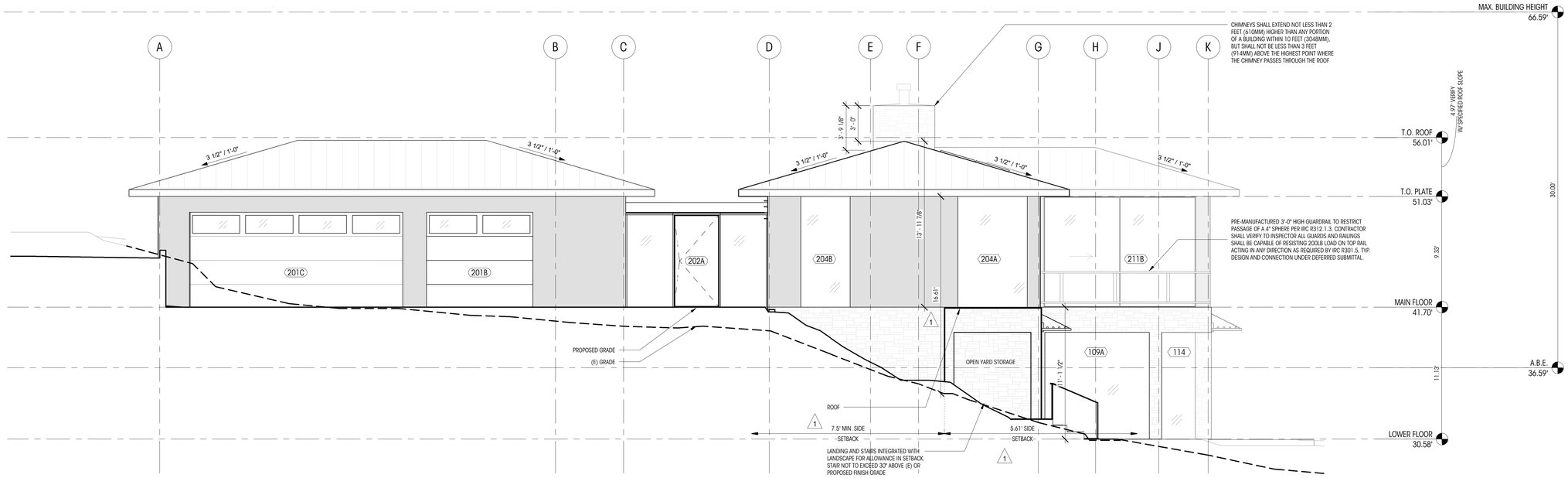
SCALE: 1/4" = 1'-0"

A301

DEDICATED APPROVAL STAMP SPACE



2 EXTERIOR ELEVATION - SOUTH
1/4" = 1'-0"



1 EXTERIOR ELEVATION - WEST
1/4" = 1'-0"

LEGEND

- 0 — GRIDLINE
- FINISH FLOOR 101'-3" — ELEVATION DATUM
- 1t — STOREFRONT ID
- 200A — WINDOW ID
- 100A — DOOR ID

NOTES

1. ALL DIMENSIONS AT WALLS TO FACE OF FRAMING OR TO FACE OF CONCRETE, U.N.O.
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AVERAGE BUILDING ELEVATIONS (ABE)

WALL	MIDPOINT EL. (FT.)	WALL LENGTH (FT.)	PRODUCT
A	45.71'	23.52'	1075.1
B	43.60'	51.42'	2242.0
C	40.52'	33.21'	1345.6
D	32.50'	8.44'	274.2
E	32.50'	7.85'	255.3
F	30.54'	15.79'	482.3
G	30.54'	14.73'	449.9
H	30.54'	34.05'	1040.0
I	30.54'	14.33'	437.8
J	30.54'	29.64'	905.1
K	30.54'	10.17'	310.5
L	29.06'	15.11'	439.3
M	29.98'	10.17'	304.8
N	30.54'	14.40'	439.7
O	35.94'	23.09'	829.9
P	41.38'	21.98'	909.4
Q	41.59'	51.30'	2133.8
TOTALS		379.20'	13874.7

AVERAGE GRADE (ABE)
13,874.7 / 379.20 = 36.59'

MAX ALLOWABLE HEIGHT
30' ABOVE AVERAGE GRADE

MAX HT. EL./MAX BLDG. HT.
66.59'

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8843 REGISTERED ARCHITECT STATE OF WASHINGTON

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

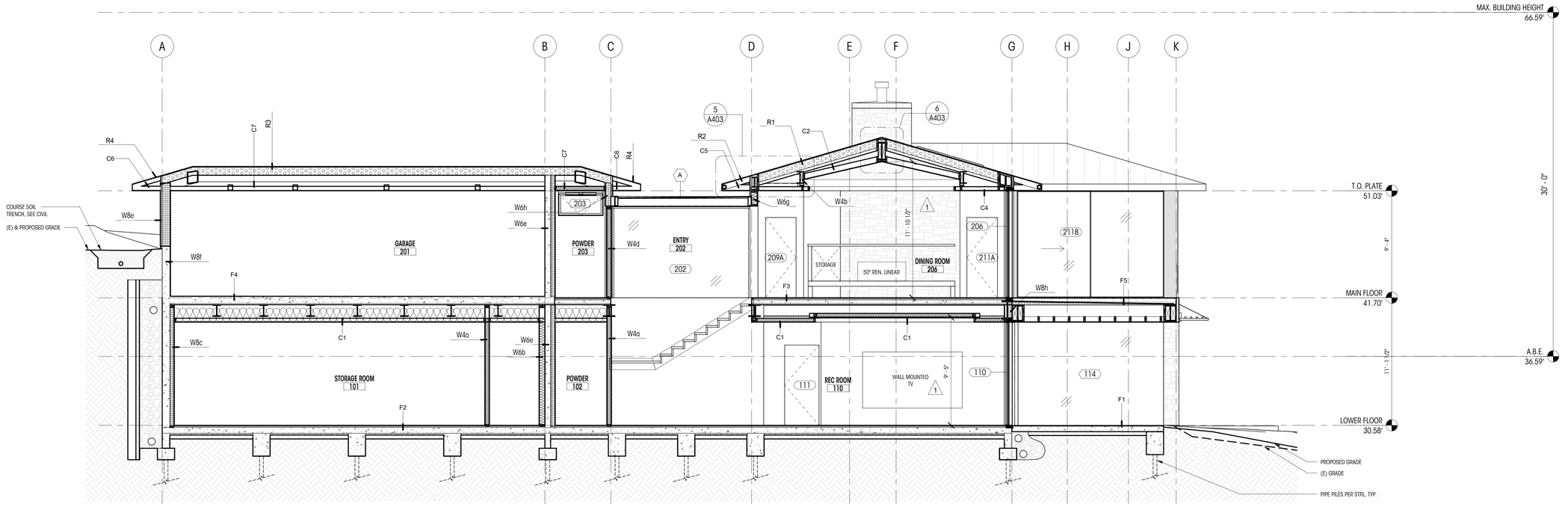
DRAWN BY: DD
CHECKED BY: KM

EXTERIOR ELEVATIONS (S&W)

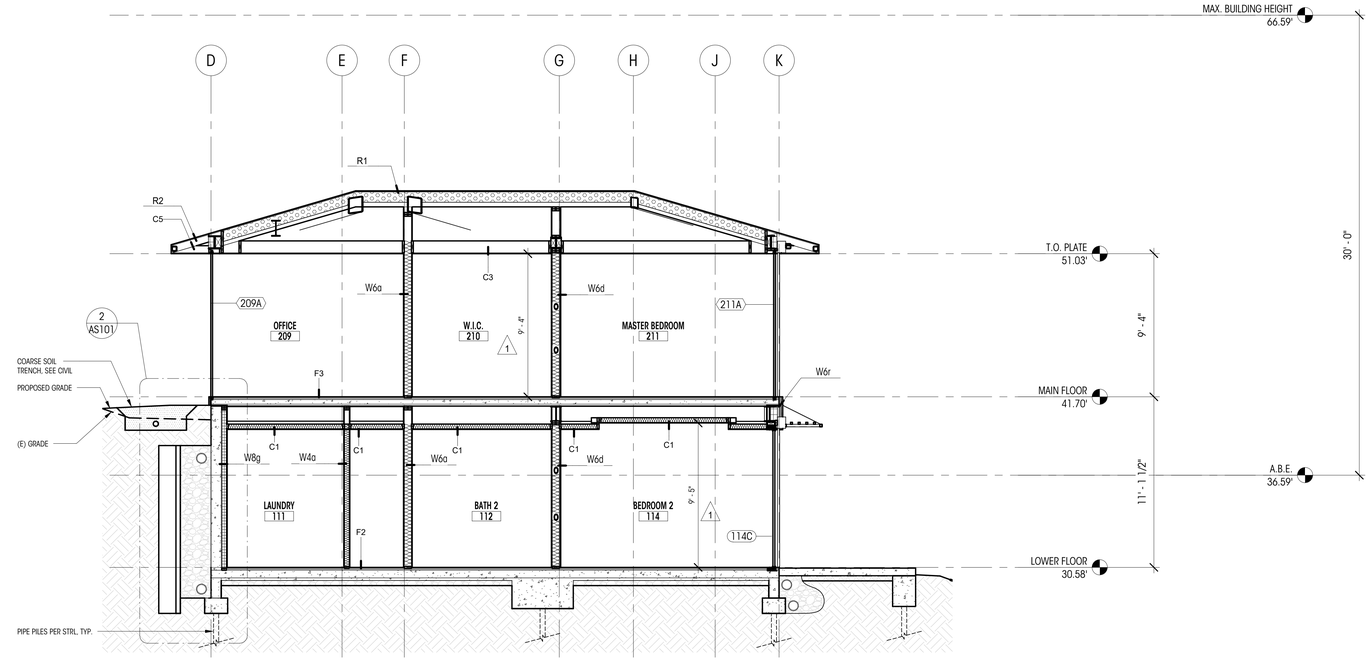
SCALE: 1/4" = 1'-0"

A302

DEDICATED APPROVAL STAMP SPACE



1 LONGITUDINAL SECTION A
1/4" = 1'-0"



2 LONGITUDINAL SECTION B
1/4" = 1'-0"

NOTES

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PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

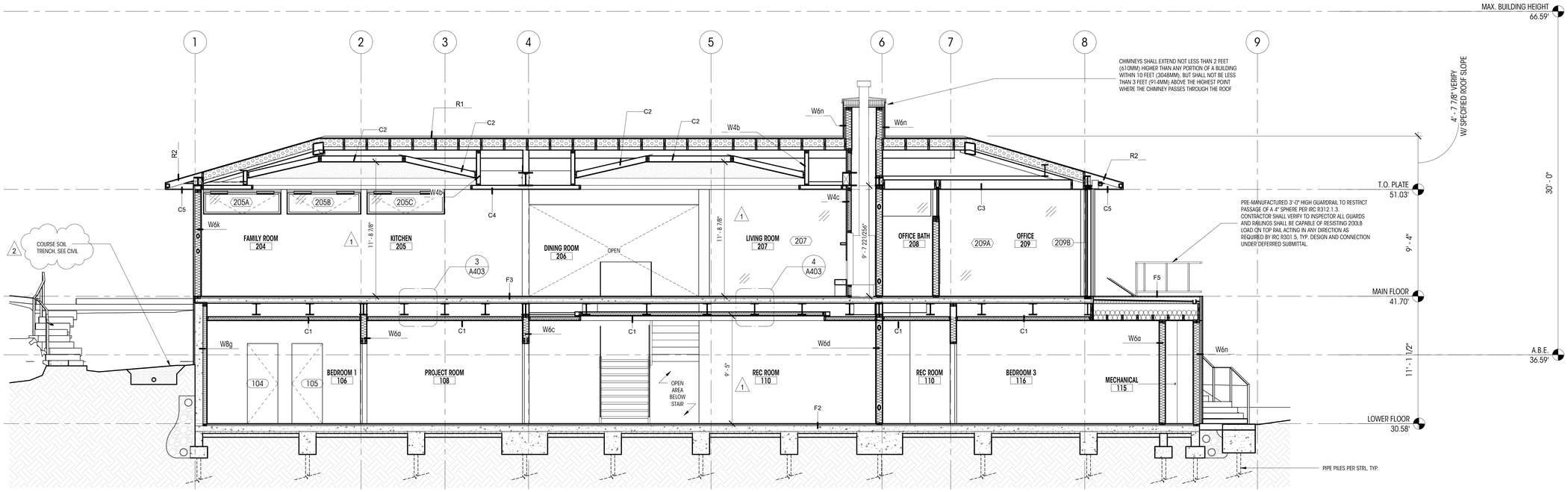
DRAWN BY: DD
CHECKED BY: KM

BUILDING SECTIONS

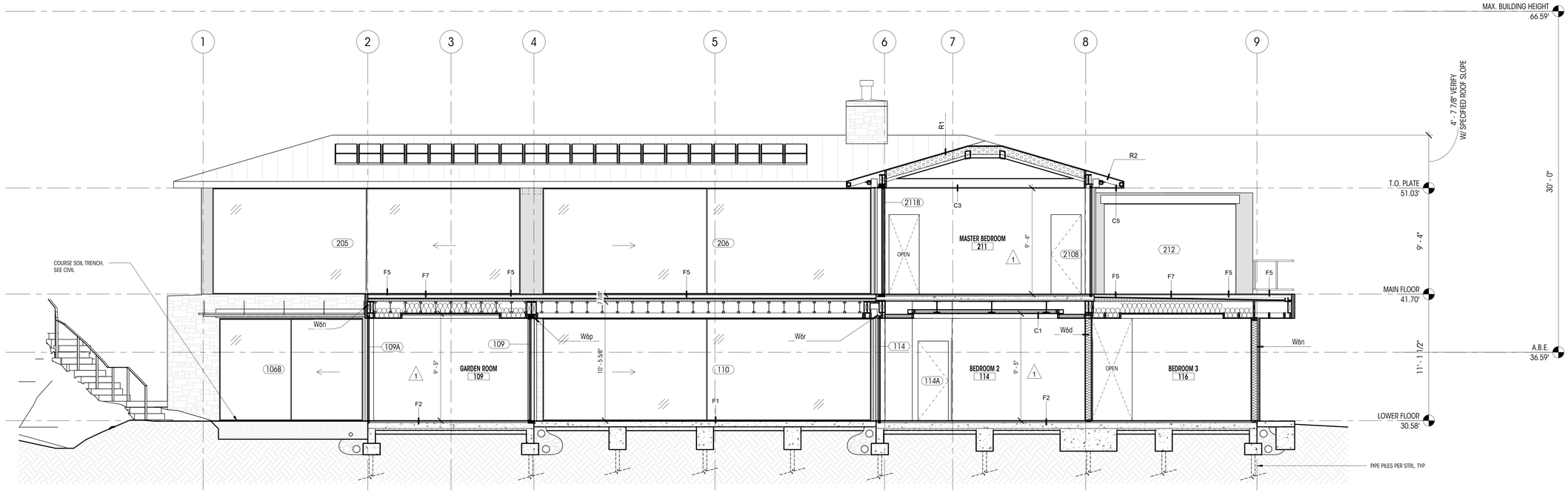
SCALE: 1/4" = 1'-0"

A401

DEDICATED APPROVAL STAMP SPACE



1 TRANSVERSE SECTION A
1/4" = 1'-0"



2 TRANSVERSE SECTION B
1/4" = 1'-0"

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1 R302.12.

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DATE: 03.11.22
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REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

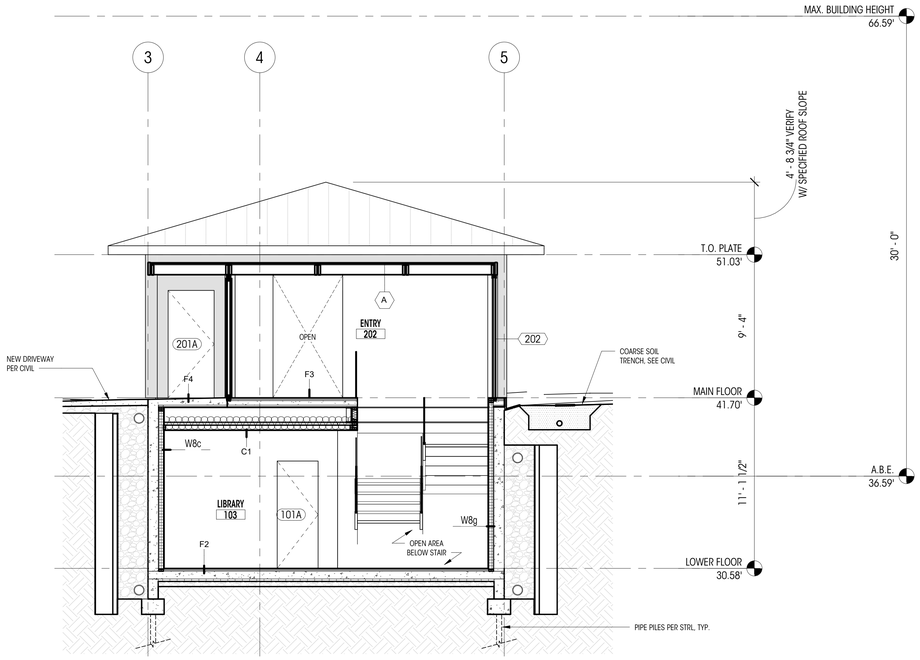
DRAWN BY: DD
CHECKED BY: KM

BUILDING SECTIONS

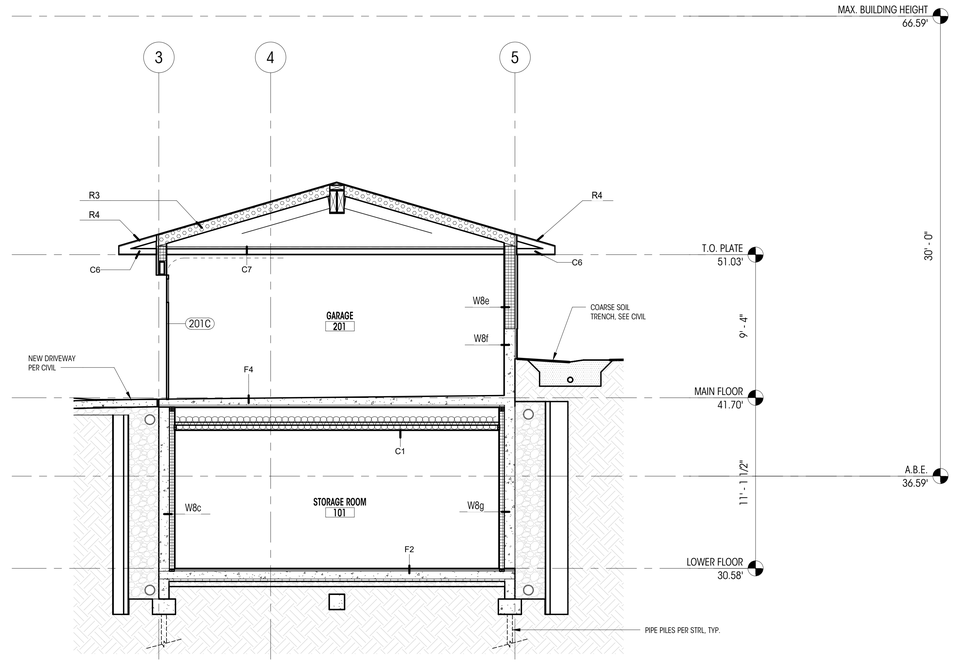
SCALE: 1/4" = 1'-0"

A402

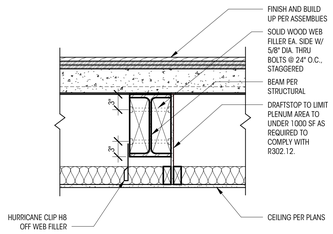
DEDICATED APPROVAL STAMP SPACE



1 TRANSVERSE SECTION C
1/4" = 1'-0"

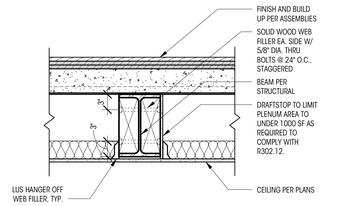


2 TRANSVERSE SECTION D
1/4" = 1'-0"



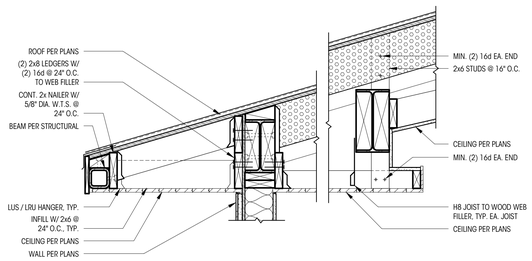
3 LOWER FLOOR TYPICAL CEILING CONNECTION
1" = 1'-0"

1



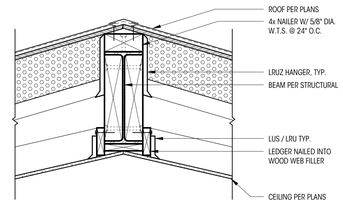
4 LOWER FLOOR CEILING CONNECTION AT COVE
1" = 1'-0"

1



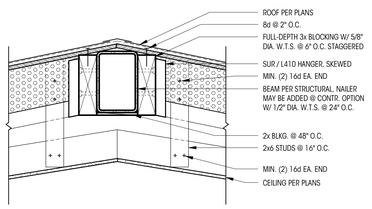
5 MAIN FLOOR TYPICAL CEILING CONNECTION
1" = 1'-0"

1



6 MAIN FLOOR CEILING CONNECTION AT RIDGE
1" = 1'-0"

1



7 MAIN FLOOR CEILING CONNECTION AT HIP
1" = 1'-0"

1

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PERMIT SUBMITTAL SET

DATE:	03.11.22
SHEET SIZE:	E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

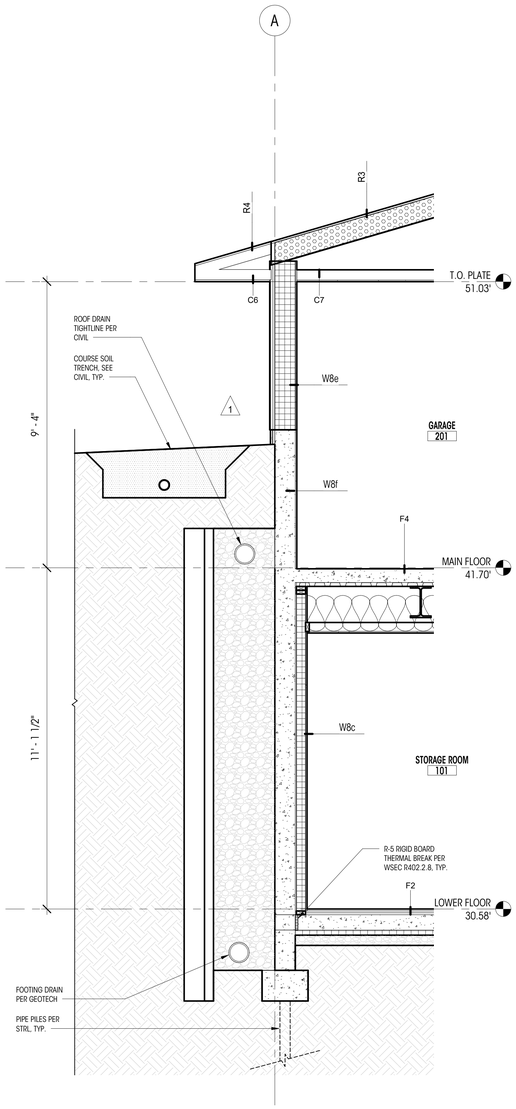
DRAWN BY:	DD
CHECKED BY:	KM

BUILDING SECTIONS

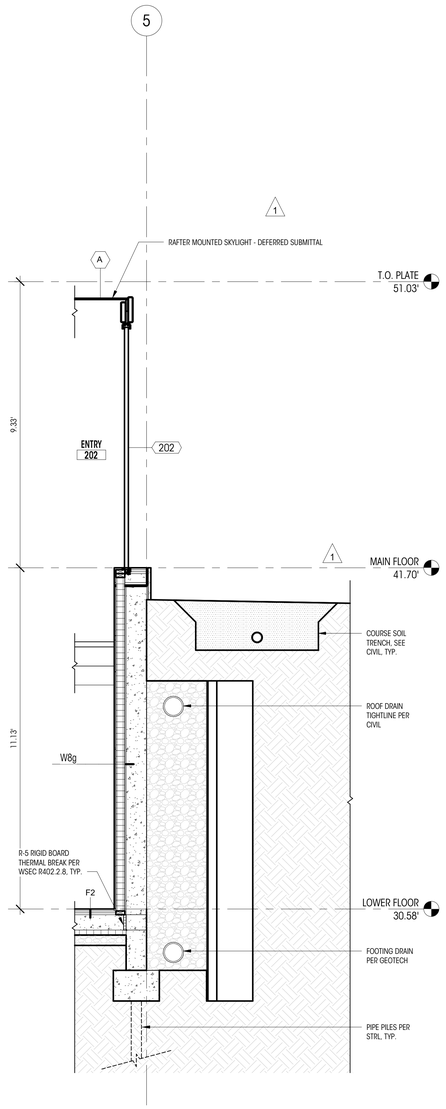
SCALE: As indicated

A403

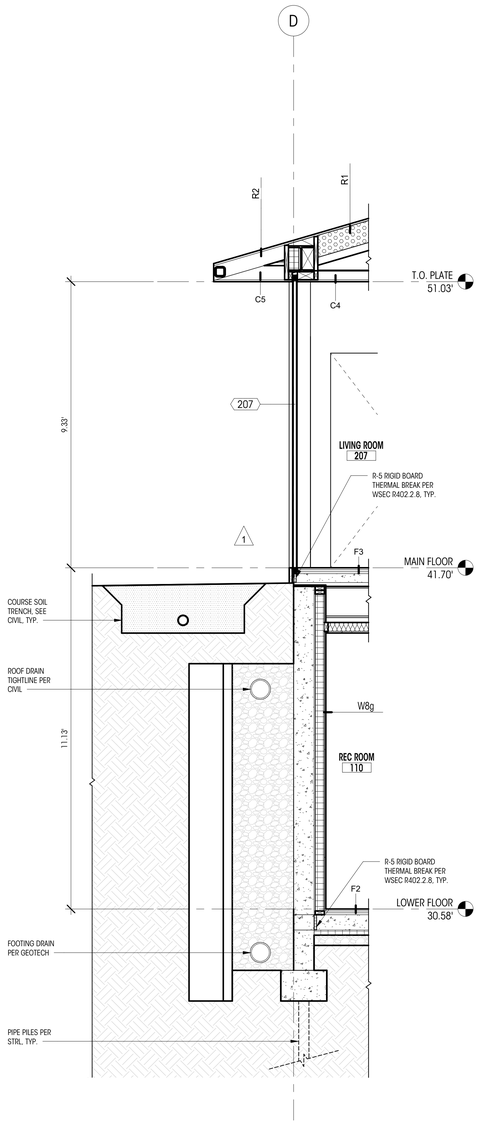
DEDICATED
APPROVAL
STAMP SPACE



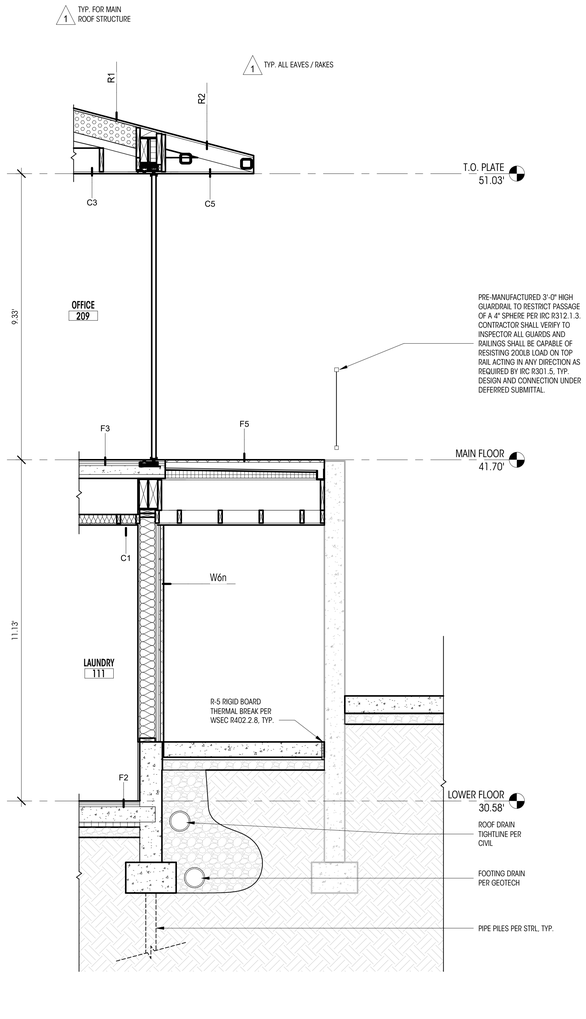
1 WALL SECTION A
1/2" = 1'-0"



2 WALL SECTION B
1/2" = 1'-0"



3 WALL SECTION C
1/2" = 1'-0"



4 WALL SECTION D
1/2" = 1'-0"

NOTES

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PERMIT SUBMITTAL SET

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SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

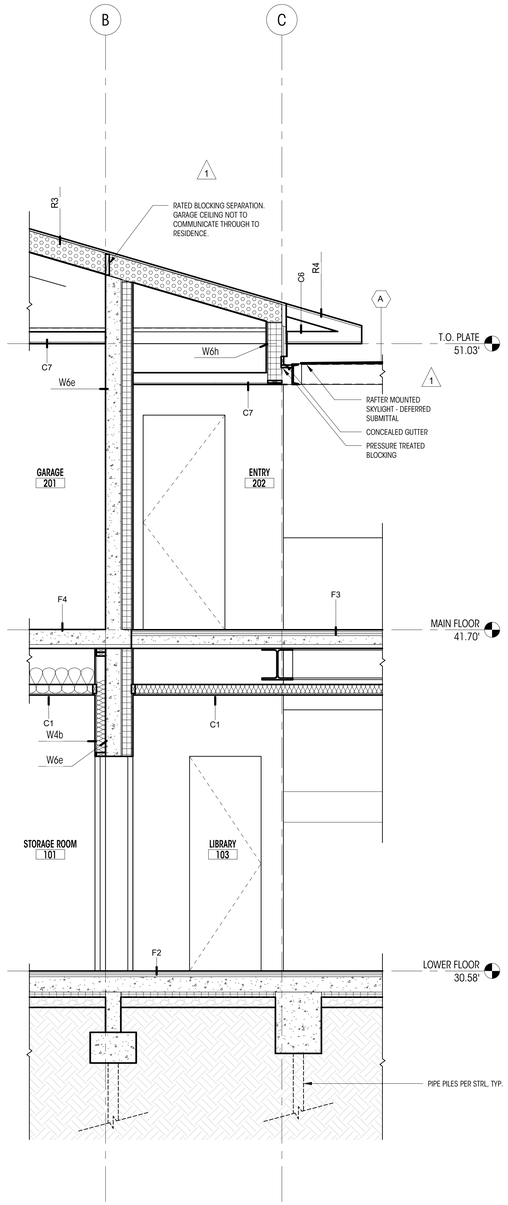
DRAWN BY: DD
CHECKED BY: KM

WALL SECTIONS

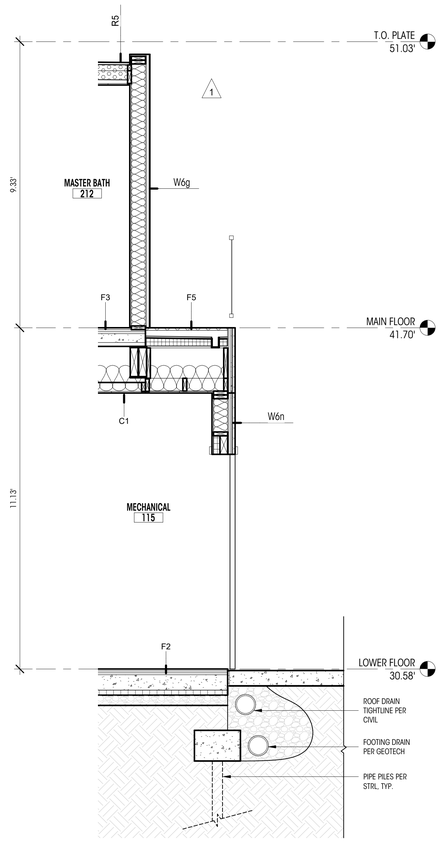
SCALE: As indicated

A411

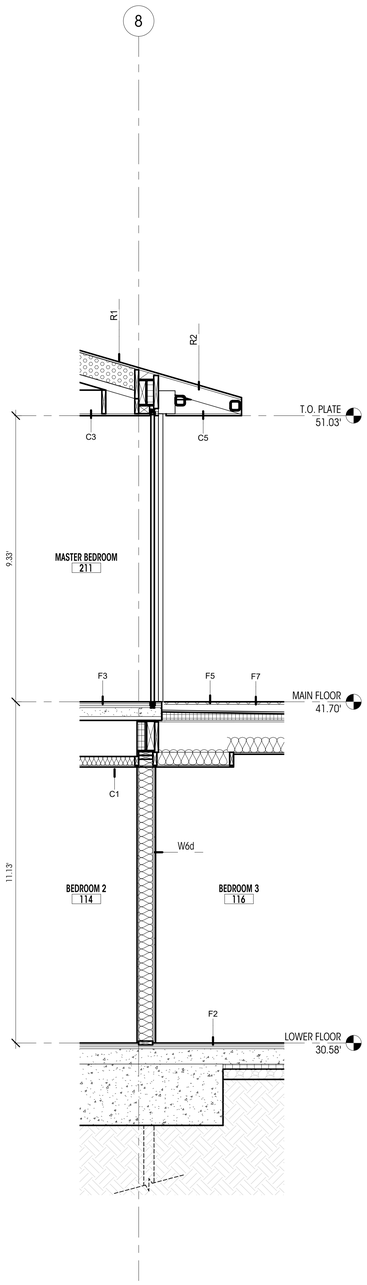
DEDICATED
APPROVAL
STAMP SPACE



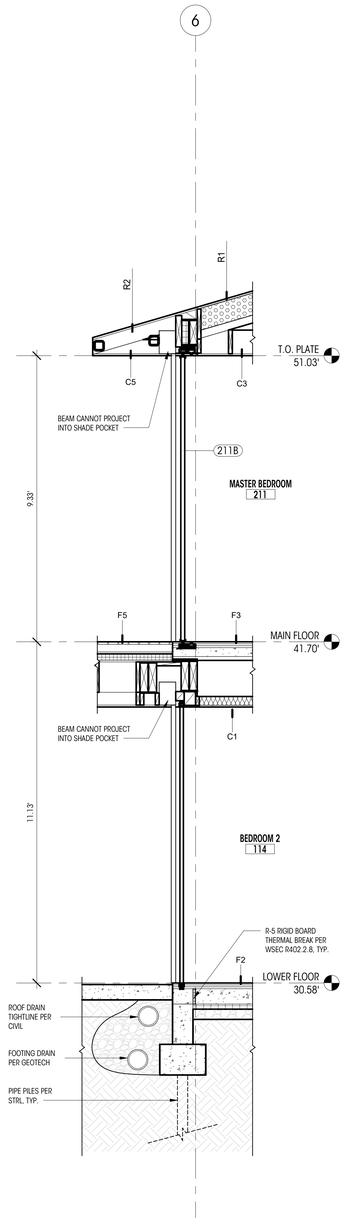
1 WALL SECTION E
1/2" = 1'-0"



2 WALL SECTION F
1/2" = 1'-0"



3 WALL SECTION G
1/2" = 1'-0"



4 WALL SECTION H
1/2" = 1'-0"

NOTES

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REVISIONS

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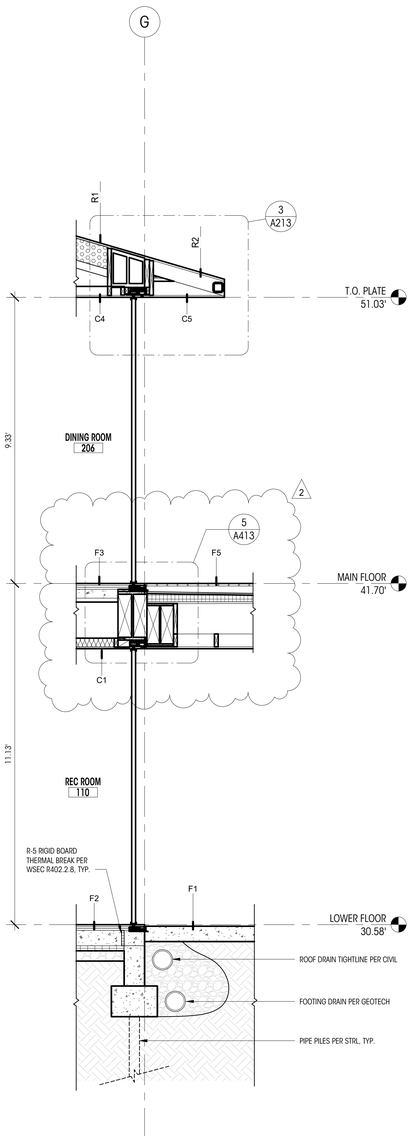
DRAWN BY: DD
CHECKED BY: KM

WALL SECTIONS

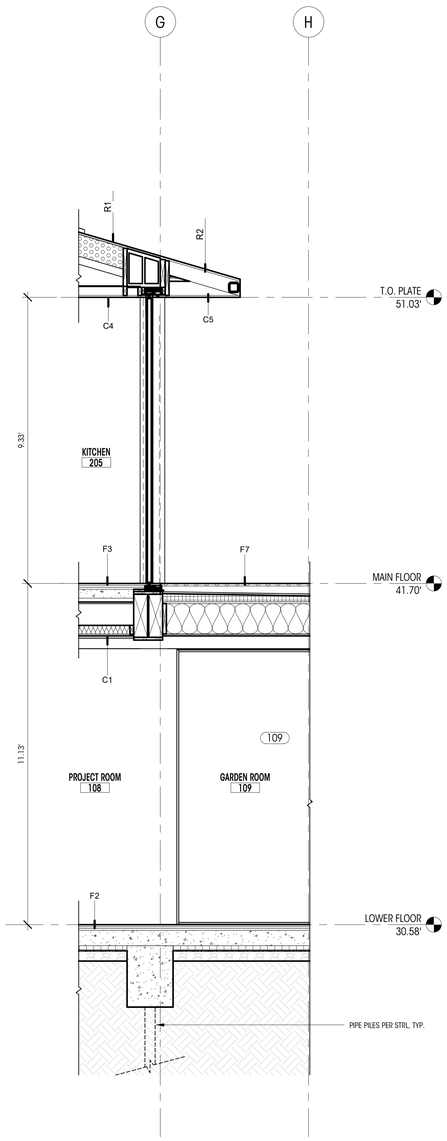
SCALE: As indicated

A412

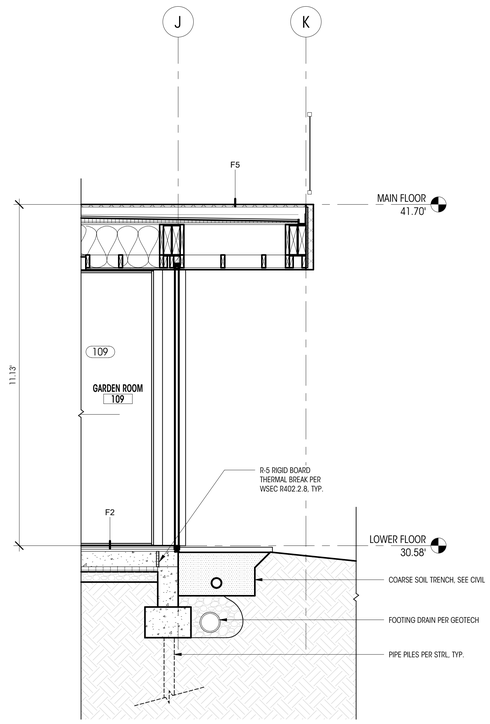
DEDICATED APPROVAL STAMP SPACE



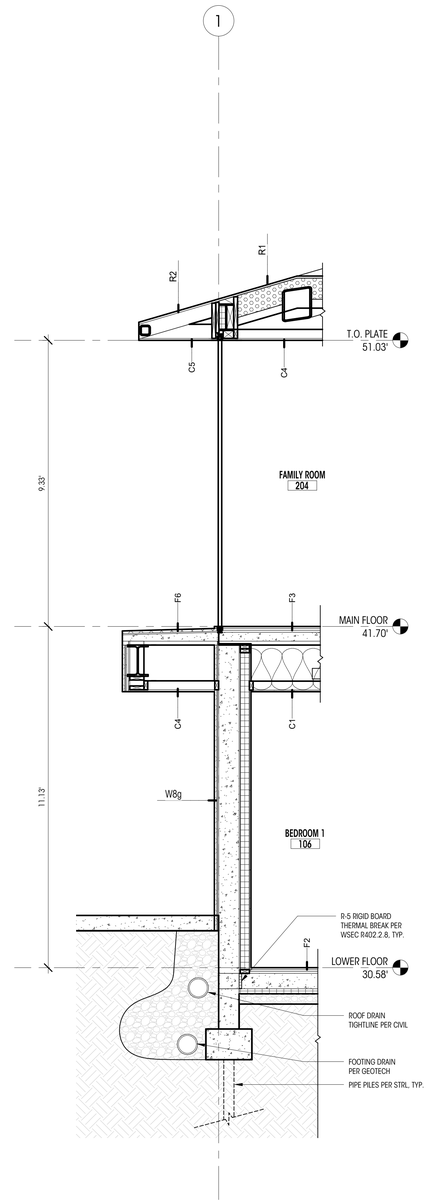
1 WALL SECTION J
1/2" = 1'-0"



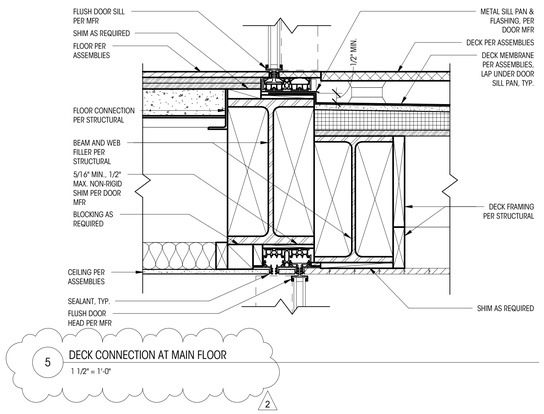
2 WALL SECTION K
1/2" = 1'-0"



3 WALL SECTION L
1/2" = 1'-0"



4 WALL SECTION M
1/2" = 1'-0"



5 DECK CONNECTION AT MAIN FLOOR
1 1/2" = 1'-0"

NOTES

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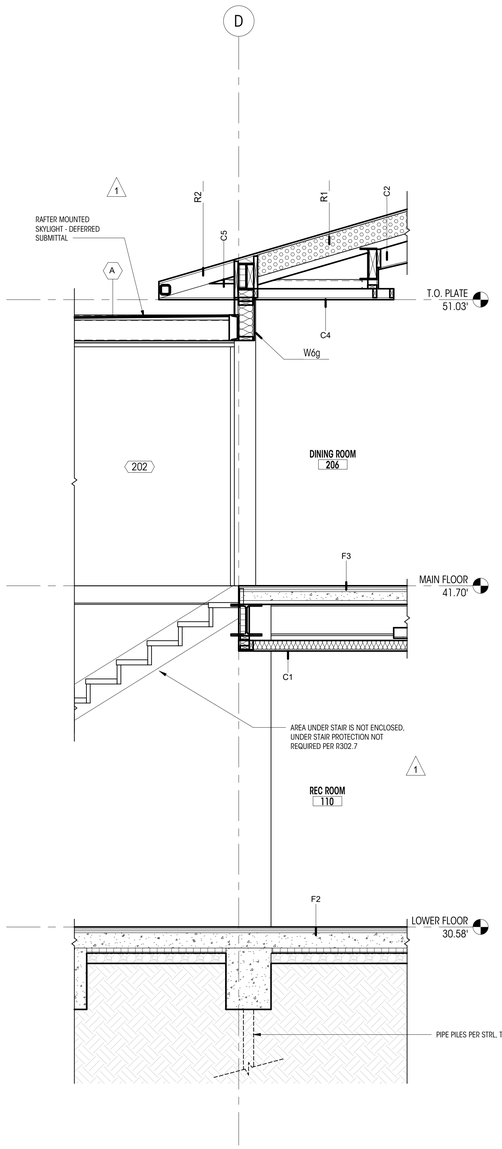
CHECKED BY: KM

WALL SECTIONS

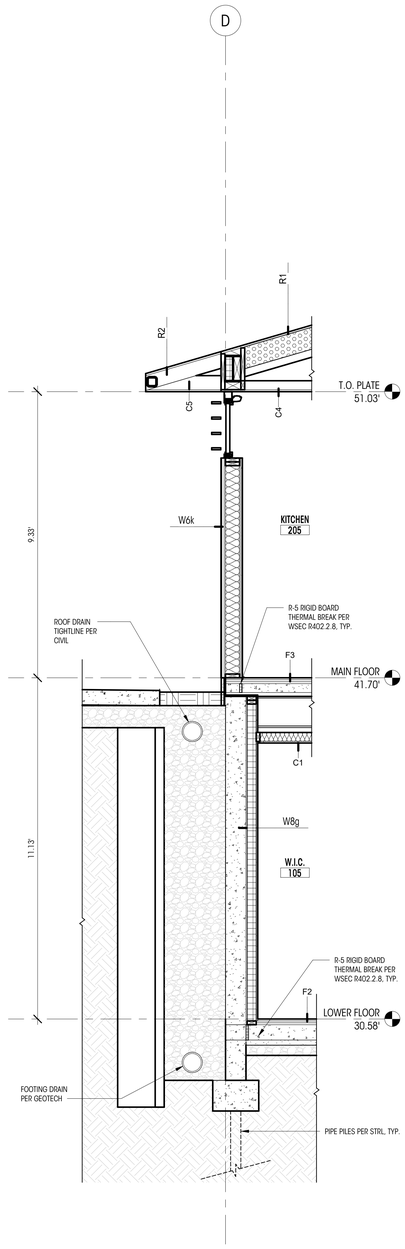
SCALE: As indicated

A413

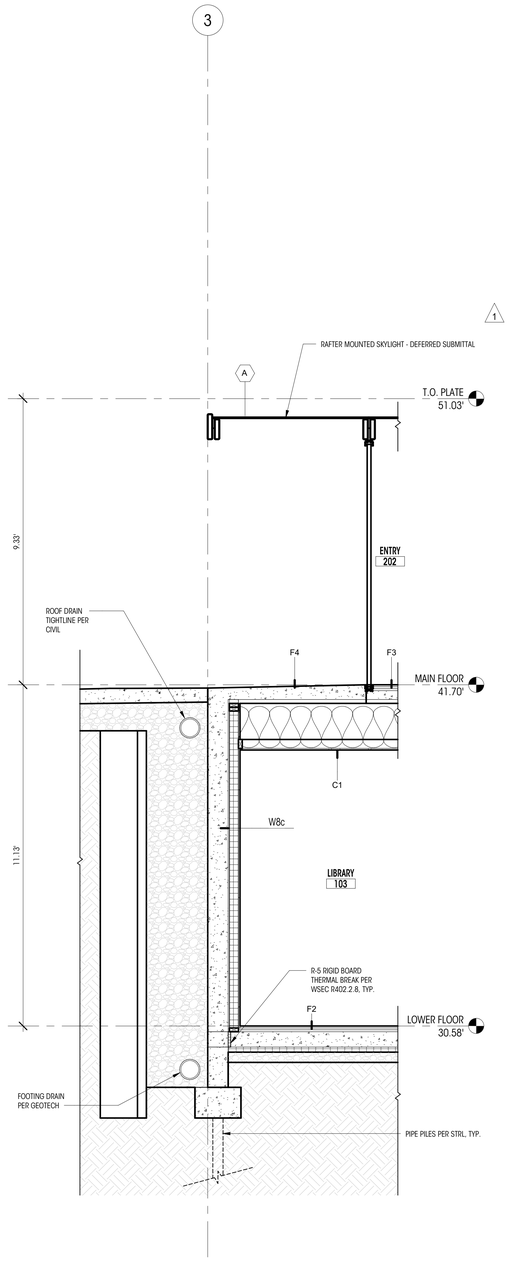
DEDICATED
APPROVAL
STAMP SPACE



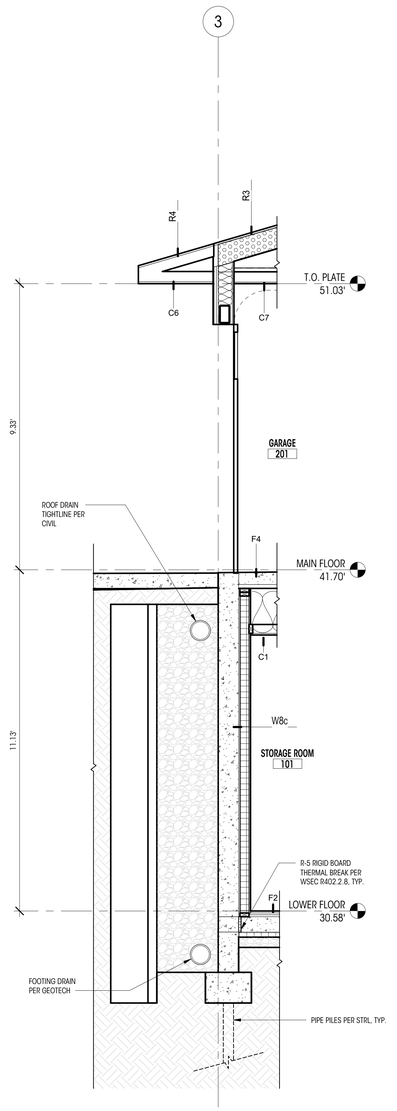
1 WALL SECTION N
1/2" = 1'-0"



2 WALL SECTION O
1/2" = 1'-0"



3 WALL SECTION P
1/2" = 1'-0"



4 WALL SECTION Q
1/2" = 1'-0"

NOTES

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MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

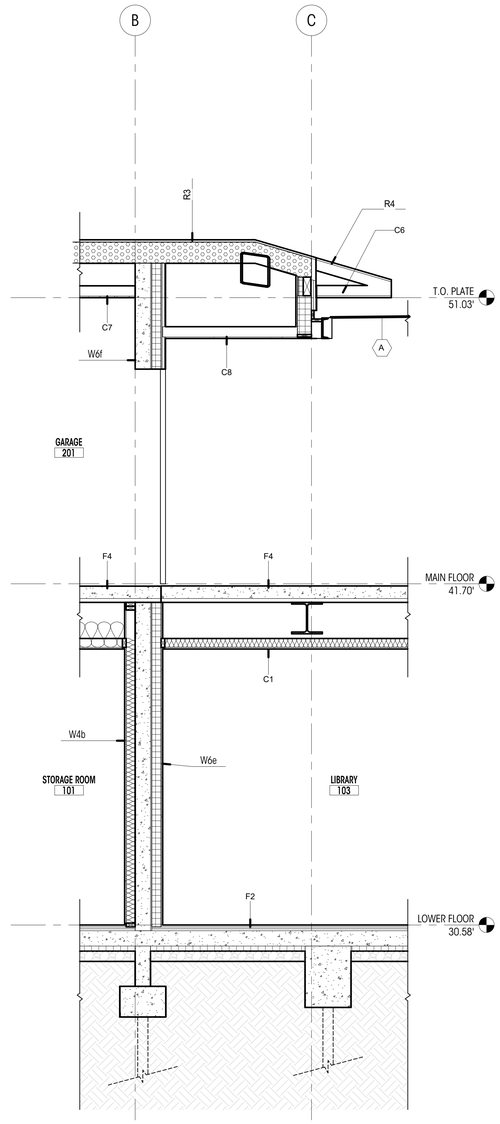
DRAWN BY: DD
CHECKED BY: KM

WALL SECTIONS

SCALE: As indicated

A414

DEDICATED APPROVAL STAMP SPACE



1 WALL SECTION R
1/2" = 1'-0"

NOTES

1. ALL DIMENSIONS AT WALLS TO FACE OF FRAMING OR TO FACE OF CONCRETE, U.N.O.
2. ALL DIMENSIONS AT KITCHEN TO EDGE OF COUNTERTOPS, U.N.O.
3. ALL DIMENSIONS ASSOCIATED WITH (E) CONSTRUCTION ARE ASSUMED. CONTRACTOR TO VERIFY ALL DIMS IN FIELD AND CONTACT ARCHITECT WITH ANY DISCREPANCIES PRIOR TO CONSTRUCTION
4. FLOOR, CEILING, AND WALL ASSEMBLIES ARE LISTED ON SHEETS A701 & A702.
5. THERMAL BREAKS LOCATED AT ALL FLOORS AND WALLS TO FOUNDATIONS; THERMAL BREAKS AT ALL STRUCTURAL CONNECTIONS TO BE COORDINATED WITH STRUCTURAL ENGINEER
6. DRAFTSTOPPING TO BE INSTALLED AT LOWER LEVEL CEILINGS TO LIMIT PLENUM AREA TO UNDER 1000 SF AS REQUIRED TO COMPLY WITH R302.12.

1

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8843
REGISTERED ARCHITECT
STATE OF WASHINGTON

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22

DRAWN BY: DD
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WALL SECTIONS

SCALE: As indicated

A415

DEDICATED APPROVAL STAMP SPACE

WINDOW SCHEDULE

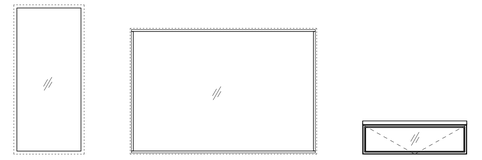
PLAN ID	TYPE	WIDTH (ft)	HEIGHT (ft)	HEAD HT	UNIT AREA (sf)	U VALUE	UA	HEAD DETAIL	JAMB DETAIL	SILL DETAIL	SAFETY GLAZING	EGRESS	NOTES
109A	A	9' - 2 3/4"	9' - 4 7/8"	9' - 4 7/8"	87 SF	0.26	23 SF				●		
109B	A	13' - 4 7/8"	9' - 4 7/8"	9' - 4 7/8"	126 SF	0.25	32 SF				●		
114	A	13' - 1 1/4"	9' - 4 7/8"	9' - 4 7/8"	123 SF	0.25	31 SF				●		
202	B	12' - 2"	8' - 2 1/2"	8' - 2 1/2"	100 SF	0.26	26 SF				●		
203	C	3' - 11"	2' - 2"	9' - 4"	8 SF	0.34	3 SF						
204A	A	6' - 3 1/4"	9' - 8 7/8"	9' - 8 7/8"	61 SF	0.26	16 SF				●		
204B	A	4' - 7"	9' - 8 7/8"	9' - 8 7/8"	45 SF	0.27	12 SF				●		
205A	C	6' - 9 1/2"	2' - 2"	9' - 4"	15 SF	0.36	5 SF						
205B	C	6' - 5 3/4"	2' - 2"	9' - 4"	14 SF	0.36	5 SF						
205C	C	6' - 9 1/2"	2' - 2"	9' - 4"	15 SF	0.36	5 SF						
207	A	14' - 8 1/4"	9' - 8 7/8"	9' - 8 7/8"	143 SF	0.25	36 SF				●		
209A	A	17' - 4 7/8"	9' - 8 7/8"	9' - 8 7/8"	169 SF	0.25	42 SF				●		
209B	A	4' - 7 1/2"	2' - 8 7/8"	9' - 8 7/8"	13 SF								3
209C	A	7' - 8 5/8"	2' - 8 7/8"	9' - 8 7/8"	21 SF								3
211A	A	17' - 5"	9' - 8 7/8"	9' - 8 7/8"	170 SF	0.25	42 SF				●		
211B	A	8' - 4 1/2"	9' - 8 7/8"	9' - 8 7/8"	82 SF	0.26	21 SF				●		
212	A	12' - 0"	8' - 3 7/8"	8' - 3 7/8"	100 SF	0.26	26 SF				●		

GENERAL NOTES

- ALL DIMENSIONS SHOWN ARE FINISHED DIMENSIONS. R.O. PER CONTRACTOR.
- CONTRACTOR TO VERIFY ALL SIZES AND DIMENSIONS IN FIELD WITH OWNER BEFORE ORDERING.
- ALL NEW WINDOWS TO BE NFRC CERTIFIED.
- ALL WINDOW WALL IS TEMPERED GLASS.
- REFER TO PLANS AND ELEVATIONS FOR TAGS, LOCATION, AND OPERATION.
- ALL ELEVATIONS ARE FROM THE EXTERIOR.
- ALL NEW VERTICAL FENESTRATION U-VALUE TO MEET WEIGHTED ENERGY COMPLIANCE, SEE SHEET G001.
- PER IBC 8310.2 ALL **EGRESS** OPENINGS SHALL HAVE A NET CLEAR OPENING OF NOT LESS THAN 5.7 SF. NET CLEAR HEIGHT OPENING SHALL NOT BE LESS THAN 24" AND THE NET CLEAR WIDTH SHALL BE NOT LESS THAN 20". THE WINDOW SILL SHALL HAVE HEIGHT OF NOT MORE THAN 44" ABOVE THE FLOOR.
- PER IRC R308.4.3, GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL NEEDS TO BE TEMPERED GLASS / SAFETY GLAZING IF ALL OF THE FOLLOWING CONDITIONS ARE PRESENT:
  1. THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 SF.
  2. THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18" ABOVE THE FLOOR.
  3. THE TOP EDGE OF THE GLAZING IS MORE THAN 36 " AVOVE THE FLOOR. AND
  4. ONE OR MORE WALKING SURFACES ARE WITHING 36", MEASURE HORIZONTALLY IN A STRAIGHT LINE OF THE GLAZING.

SPECIFIC NOTES

1. FROSTED / OPAQUE GLAZING
2. FIRE GLAZING
3. INTERIOR WINDOW

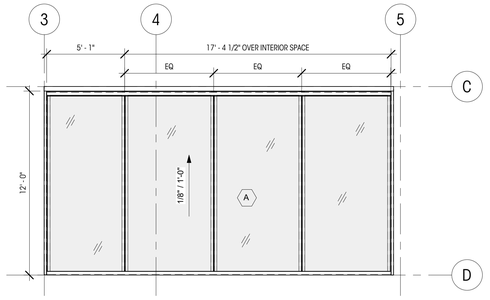


A
FIXED, FLUSH FRAME

B
FIXED, PARTIALLY RECESSED FRAME

C
MOTORIZED HOPPER

ARCH - WINDOW TYPES
1/4" = 1'-0"



STOREFRONT TYPE A
1/4" = 1'-0"

U-VALUE 0.28 - DUAL GLAZED, TEMPERED LAMINATED GLASS WITH ARGON FILLED CAVITY

RAFTER MOUNTED SKYLIGHT - DEFERRED SUBMITTAL

1

DOOR SCHEDULE

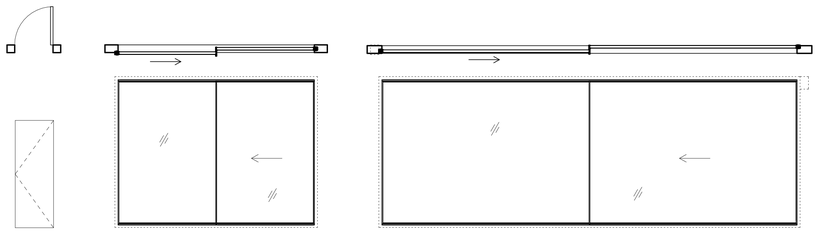
PLAN ID	ROOM NAME	TYPE	WIDTH (ft.)	HEIGHT (ft.)	AREA (sf.)	U VALUE	UA	HEAD DETAIL	JAMB DETAIL	SILL DETAIL	EGRESS	CLOSER	RATED	NOTES
101A	STORAGE ROOM	A	2' - 8"	7' - 0"	19 SF									
101B	STORAGE ROOM	A	2' - 8"	7' - 0"	19 SF									
101C	STORAGE ROOM	F	2' - 4"	6' - 8"	16 SF									
102	POWDER	A	2' - 4"	7' - 0"	16 SF									
104	BATH 1	A	2' - 8"	7' - 0"	19 SF									
105	W.I.C.	A	2' - 8"	7' - 0"	19 SF									
106A	BEDROOM 1	A	2' - 8"	7' - 0"	19 SF									
106B	BEDROOM 1	B	13' - 0 1/4"	9' - 5 3/4"	123 SF	0.32	39 SF							
107	REC ROOM	A	3' - 0"	7' - 0"	21 SF									
108	PROJECT ROOM	A	2' - 8"	7' - 0"	19 SF									
109	GARDEN ROOM	B	9' - 2 3/4"	9' - 5 3/4"	87 SF	0.34	30 SF							
110A	REC ROOM	C	29' - 3 5/8"	9' - 6"	278 SF	0.25	70 SF							
111	LAUNDRY	A	3' - 0"	7' - 0"	21 SF									
112	BATH 2	A	2' - 6"	7' - 0"	18 SF									
113	BATH 3	A	2' - 6"	7' - 0"	18 SF									
114A	BEDROOM 2	A	2' - 8"	7' - 0"	19 SF									
114C	BEDROOM 2	B	17' - 5 1/8"	9' - 5 3/4"	165 SF	0.34	56 SF							
115	MECHANICAL	G	6' - 0"	7' - 0"	42 SF									
116A	BEDROOM 3	A	2' - 8"	7' - 0"	19 SF									
116B	BEDROOM 3	B	13' - 10 7/8"	9' - 5 3/4"	132 SF	0.32	42 SF							
201A	GARAGE	A	3' - 0"	7' - 0"	21 SF								●	2
201B	GARAGE	D	9' - 0"	8' - 0"	72 SF									
201C	GARAGE	E	18' - 0"	8' - 0"	144 SF									
202A	ENTRY	H	3' - 10"	8' - 2 1/2"	31 SF	0.28	9 SF							
203	POWDER	A	2' - 8"	7' - 0"	19 SF									
205	KITCHEN	C	27' - 5 3/4"	9' - 10"	270 SF	0.25	68 SF							
206	LIVING ROOM	C	29' - 3 5/8"	9' - 10"	288 SF	0.25	72 SF							
208	OFFICE BATH	F	2' - 4"	6' - 8"	16 SF									
209A	OFFICE	A	2' - 8"	7' - 0"	19 SF									
209B	OFFICE	B	11' - 9"	9' - 10"	116 SF	0.31	36 SF							
210A	MASTER BATH	A	2' - 6"	7' - 0"	18 SF									
210B	MASTER BATH	A	2' - 8"	7' - 0"	19 SF									
210C	W.I.C.	J	2' - 2"	6' - 8"	14 SF									
210D	W.I.C.	J	2' - 2"	6' - 8"	14 SF									
211A	LIVING ROOM	A	2' - 8"	7' - 0"	19 SF									
211B	MASTER BEDROOM	B	13' - 2 1/2"	9' - 10"	130 SF	0.32	42 SF							
212	MASTER BATH	A	2' - 4"	7' - 0"	16 SF									

GENERAL NOTES

- ALL NEW DOORS TO BE NFRC CERTIFIED.
- ALL NEW VERTICAL FENESTRATION U-VALUE TO MEET WEIGHTED ENERGY COMPLIANCE, SEE SHEET G001.
- ALL INTERIOR DOORS TO BE SOLID-CORE WOOD VENEER FLAT PANELS, U.N.O.
- ALL GLAZED DOORS TO RECEIVE TEMPERED / SAFETY GLAZING.
- REFER TO PLANS AND ELEVATIONS FOR TAGS, LOCATION, AND OPERATION.

SPECIFIC NOTES

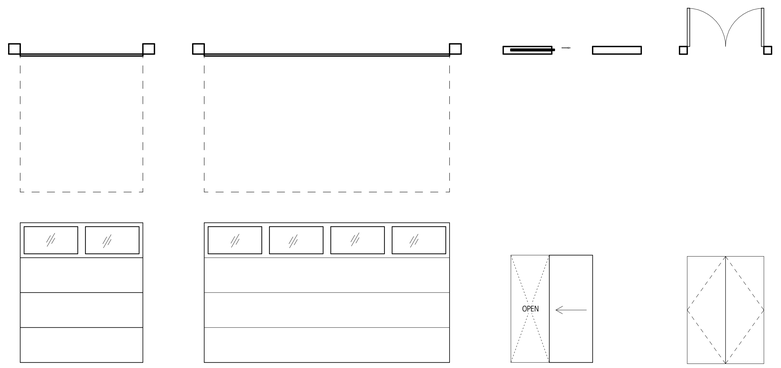
1. FROSTED / OPAQUE GLAZING
2. 2 HOUR RATED STEEL DOOR



A
SINGLE FLUSH

B
EXTERIOR SLIDING, FLUSH FRAME

C
MOTORIZED EXTERIOR SLIDING, FLUSH FRAME

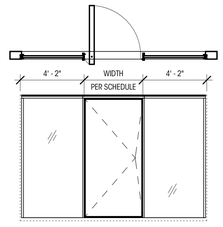


D
TWO PANEL GARAGE DOOR

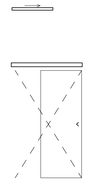
E
FOUR PANEL GARAGE DOOR

F
POCKET DOOR

G
DOUBLE FLUSH



H
PIVOT DOOR WITH SIDELITES



J
LOUVERED BARN DOOR

ARCH - DOOR TYPES
1/4" = 1'-0"

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CHECKED BY: KM

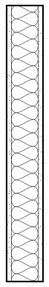
DOOR / WINDOW SCHEDULES, LEGENDS, & NOTES

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

A601

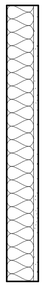
DEDICATED APPROVAL STAMP SPACE

VERTICAL ASSEMBLIES



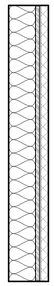
5/8" GWB
2X4 WOOD FRAMING
SOUND BATT INSULATION
5/8" GWB

W4a



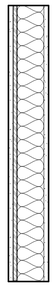
2X4 WOOD FRAMING
SOUND BATT INSULATION
5/8" GWB

W4b



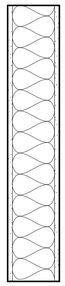
2X4 WOOD FRAMING
SOUND BATT INSULATION
1/2" PLYWOOD
THINSET
3/4" TO 1-1/4" CULTURED STONE VENEER

W4c



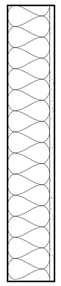
5/8" GWB
1/2" PLYWOOD
2X4 WOOD FRAMING
SOUND BATT INSULATION
5/8" GWB

W4d



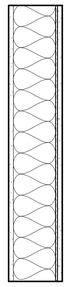
5/8" GWB
2X6 WOOD FRAMING
SOUND BATT INSULATION
5/8" GWB

W6a



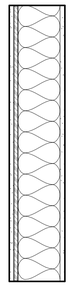
2X6 WOOD FRAMING
SOUND BATT INSULATION
5/8" GWB

W6b



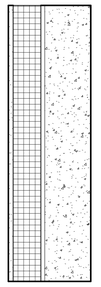
5/8" GWB
2X6 WOOD FRAMING
SOUND BATT INSULATION
1/4" PLYWOOD
5/8" GWB

W6c



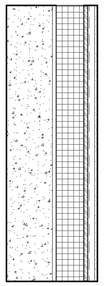
5/8" GWB
1/2" PLYWOOD
2X6 WOOD FRAMING
SOUND BATT INSULATION
5/8" GWB

W6d



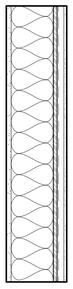
5/8" GWB
2X4 LIGHT GAUGE METAL FRAMING
R-21 MIN INSULATION
1/2" AIR GAP
6" CONCRETE

W6e



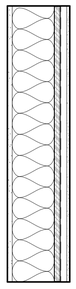
6" CONCRETE
1/2" AIR GAP
R-21 MIN INSULATION
2x4 LIGHT GAUGE METAL FRAMING
1/2" PLYWOOD
WRB
DRAINAGE MAT
7/8" SCRATCH COAT
3/8" PLASTER FINISH
BASE COAT, FIBERGLASS MESH,
AND FINISH COAT

W6f



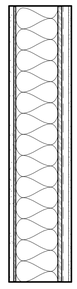
5/8" GWB
2X6 WOOD FRAMING
R-21 MIN INSULATION
1/2" PLYWOOD
WRB
DRAINAGE MAT
7/8" SCRATCH COAT
3/8" PLASTER FINISH
BASE COAT, FIBERGLASS MESH,
AND FINISH COAT

W6g



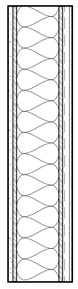
5/8" GWB
2X6 LIGHT GAUGE METAL FRAMING
R-21 MIN INSULATION
3/4" PLYWOOD
WRB
DRAINAGE MAT
7/8" SCRATCH COAT
3/8" PLASTER FINISH
BASE COAT, FIBERGLASS MESH,
AND FINISH COAT

W6h



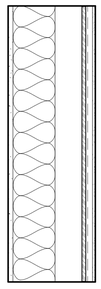
5/8" GWB
1/4" PLYWOOD
2X6 WOOD FRAMING
R-21 MIN INSULATION
1/2" PLYWOOD
WRB
DRAINAGE MAT
7/8" SCRATCH COAT
3/8" PLASTER FINISH
BASE COAT, FIBERGLASS MESH,
AND FINISH COAT

W6j



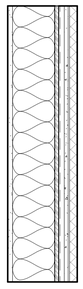
5/8" GWB
1/2" PLYWOOD
2X6 WOOD FRAMING
R-21 MIN INSULATION
1/2" PLYWOOD
WRB
DRAINAGE MAT
7/8" SCRATCH COAT
3/8" PLASTER FINISH
BASE COAT, FIBERGLASS MESH,
AND FINISH COAT

W6k



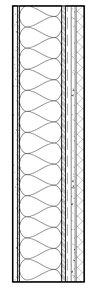
5/8" GWB
2X6 WOOD FRAMING
2X4 WOOD FRAMING
R-21 MIN INSULATION
1/2" PLYWOOD
WRB
DRAINAGE MAT
7/8" SCRATCH COAT
3/8" PLASTER FINISH
BASE COAT, FIBERGLASS MESH,
AND FINISH COAT

W6m



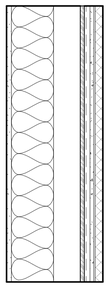
5/8" GWB
2X6 WOOD FRAMING
R-21 MIN INSULATION
1/2" PLYWOOD
WRB
3/4" VERTICAL FURRING STRIP, PNT BLACK
1/2" CEMENT BOARD
THINSET
3/4" TO 1-1/4" CULTURED STONE VENEER

W6n



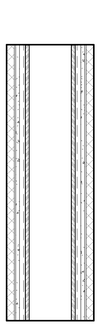
5/8" GWB
1/4" PLYWOOD
2X6 WOOD FRAMING
R-21 MIN INSULATION
1/2" PLYWOOD
WRB
3/4" VERTICAL FURRING STRIP, PNT BLACK
1/2" CEMENT BOARD
THINSET
3/4" TO 1-1/4" CULTURED STONE VENEER

W6p



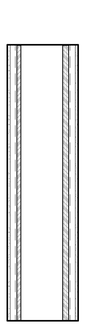
5/8" GWB
2X6 WOOD FRAMING
2X4 WOOD FRAMING
R-21 MIN INSULATION
1/2" PLYWOOD
WRB
3/4" VERTICAL FURRING STRIP, PNT BLACK
1/2" CEMENT BOARD
THINSET
3/4" TO 1-1/4" CULTURED STONE VENEER

W6r



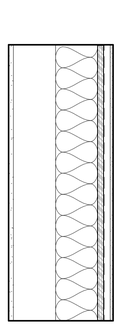
3/4" TO 1-1/4" CULTURED STONE VENEER
THINSET
1/2" CEMENT BOARD
3/4" FURRING
WRB
1/2" PLYWOOD
2X6 WOOD FRAMING
1/2" PLYWOOD
WRB
3/4" FURRING
1/2" CEMENT BOARD
THINSET
3/4" TO 1-1/4" CULTURED STONE VENEER

W6s



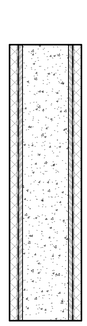
3/8" PLASTER FINISH
BASE COAT, FIBERGLASS MESH,
AND FINISH COAT
7/8" SCRATCH COAT
DRAINAGE MAT
WRB
1/2" PLYWOOD
2X6 LIGHT GAUGE METAL FRAMING
3/4" PLYWOOD
WRB
DRAINAGE MAT
7/8" SCRATCH COAT
3/8" PLASTER FINISH
BASE COAT, FIBERGLASS MESH,
AND FINISH COAT

W6t



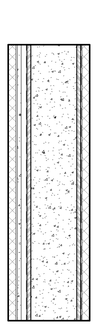
5/8" GWB
2x6 LIGHT GAUGE METAL FRAMING
2X6 LIGHT GAUGE METAL FRAMING
R-21 MIN INSULATION
3/4" PLYWOOD
WRB
DRAINAGE MAT
7/8" SCRATCH COAT
3/8" PLASTER FINISH
BASE COAT, FIBERGLASS MESH,
AND FINISH COAT

W6u



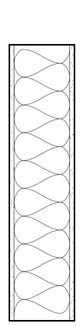
3/4" TO 1-1/4" CULTURED STONE VENEER
SEE SECTIONS AND ELEVATIONS FOR
FINISH EXTENT
THINSET
WRB
1/2" PLYWOOD
6" CONCRETE
1/2" PLYWOOD
WRB
THINSET
3/4" TO 1-1/4" CULTURED STONE VENEER
SEE SECTIONS AND ELEVATIONS FOR
FINISH EXTENT

W6v



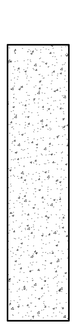
3/4" TO 1-1/4" CULTURED STONE VENEER
SEE SECTIONS AND ELEVATIONS FOR
FINISH EXTENT
1/2" CEMENT BOARD
3/4" FURRING
WRB
1/2" PLYWOOD
6" CONCRETE
1/2" PLYWOOD
WRB
THINSET
3/4" TO 1-1/4" CULTURED STONE VENEER
SEE SECTIONS AND ELEVATIONS FOR
FINISH EXTENT

W6w



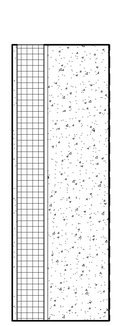
5/8" GWB
2X8 WOOD FRAMING
SOUND BATT INSULATION
5/8" GWB

W8a



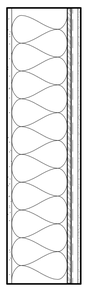
8" CONCRETE

W8b



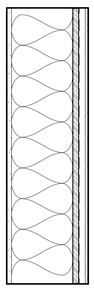
5/8" GWB
2X4 WOOD FRAMING
R-21 MIN INSULATION
1/2" AIR GAP
8" CONCRETE
WRB

W8c



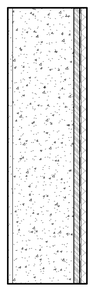
5/8" GWB
2X8 WOOD FRAMING
R-21 MIN INSULATION
1/2" PLYWOOD
WRB
DRAINAGE MAT
7/8" SCRATCH COAT
3/8" PLASTER FINISH
BASE COAT, FIBERGLASS MESH,
AND FINISH COAT

W8d



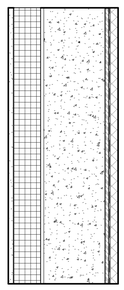
5/8" GWB
2X8 LIGHT GAUGE METAL FRAMING
R-21 MIN INSULATION
3/4" PLYWOOD
WRB
DRAINAGE MAT
7/8" SCRATCH COAT
3/8" PLASTER FINISH
BASE COAT, FIBERGLASS MESH,
AND FINISH COAT

W8e



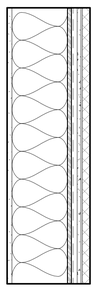
5/8" GWB
8" CONCRETE
3/4" PLYWOOD
WRB
THINSET
3/4" TO 1-1/4" CULTURED STONE VENEER
SEE SECTIONS AND ELEVATIONS FOR
FINISH EXTENT

W8f



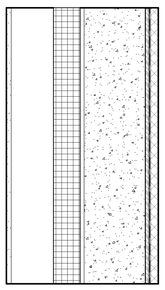
5/8" GWB
2X4 WOOD FRAMING
R-21 MIN INSULATION
1/2" AIR GAP
8" CONCRETE
1/2" PLYWOOD
WRB
THINSET
3/4" TO 1-1/4" CULTURED STONE VENEER
SEE SECTIONS AND ELEVATIONS FOR
FINISH EXTENT

W8g



5/8" GWB
2X8 WOOD FRAMING
R-21 MIN INSULATION
1/2" PLYWOOD
WRB
THINSET
3/4" TO 1-1/4" CULTURED STONE VENEER
SEE SECTIONS AND ELEVATIONS FOR
FINISH EXTENT

W8h



5/8" GWB
2x6 WOOD FRAMING
2X4 WOOD FRAMING
R-21 MIN INSULATION
1/2" AIR GAP
8" CONCRETE
1/2" PLYWOOD
WRB
THINSET
3/4" TO 1-1/4" CULTURED STONE VENEER
SEE SECTIONS AND ELEVATIONS FOR
FINISH EXTENT

W8j

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REGISTERED
ARCHITECT
STATE OF WASHINGTON

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY: DD
CHECKED BY: KM

VERTICAL ASSEMBLY DETAILS

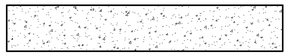
SCALE: 1 1/2" = 1'-0"

A701

DEDICATED APPROVAL STAMP SPACE

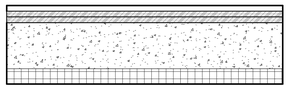
HORIZONTAL ASSEMBLIES

FLOOR



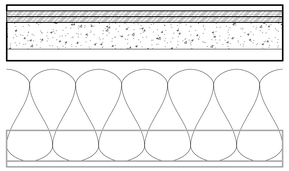
6" CONCRETE
VAPOR BARRIER

F1



3/4" FLOOR FINISH
3/4" PLYWOOD
3/4" PLYWOOD
6" CONCRETE W/ RADIANT
VAPOR BARRIER
2" RIGID INSULATION

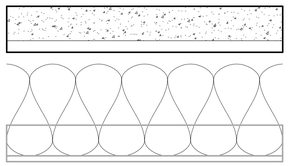
F2



3/4" FLOOR FINISH
3/4" PLYWOOD
3/4" PLYWOOD
3-1/2" CONCRETE W/ RADIANT
1-1/2" METAL DECK
SOUND BATT INSULATION

CEILING ASSEMBLY BELOW, SEE SECTIONS

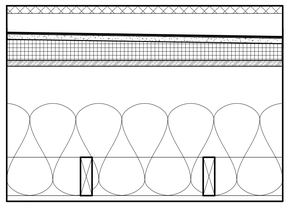
F3



4-1/2" CONCRETE W/ RADIANT
(MIN HEIGHT, SLOPE TO DRAIN PER PLANS)
1-1/2" METAL DECK
R-38 INSULATION

CEILING ASSEMBLY BELOW, SEE SECTIONS

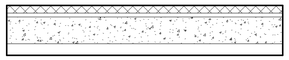
F4



3CM TILE DECKING
PEDESTAL SUPPORTS OR RIPPED FURRING STRIPS
"DURADECK" OR APPROVED ALTERNATE MEMBRANE*
3/4" PLYWOOD OR COVER BOARD
TAPERED POLYISO INSULATION OR RIPPED SLEEPERS - SLOPED AT 3/16" / 12"
3/4" PLYWOOD
FLOOR FRAMING PER STRUCTURAL
WOOD FRAMING AS REQUIRED TO ACHIEVE TOTAL ASSEMBLY DEPTH
PER SECTIONS
R-38 INSULATION ABOVE ALL INTERIOR SPACE
3/4" WOOD FINISH AT EXTERIOR / 5/8" GWB AT INTERIOR

*WATERPROOFING MUST BE APPROVED FOR USE AS A WALKING DECK AND FOR THE INSTALLATION OF THE DECKING DIRECTLY ON TOP OF THE MEMBRANE PER ICC-ES WALKING DECKS CRITERIA

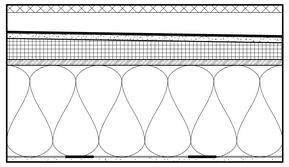
F5
2



3CM TILE DECKING
1/2" MORTAR BED
3-1/2" CONCRETE (MIN HEIGHT, SLOPE TO
DRAIN PER PLANS)
1-1/2" METAL DECK

CEILING ASSEMBLY BELOW, SEE SECTIONS

F6

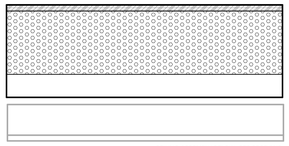


3CM TILE DECKING
PEDESTAL SUPPORTS OR RIPPED FURRING STRIPS
"DURADECK" OR APPROVED ALTERNATE MEMBRANE*
3/4" PLYWOOD OR COVER BOARD
TAPERED POLYISO INSULATION OR RIPPED SLEEPERS - SLOPED AT 3/16" / 12"
3/4" PLYWOOD
FLOOR FRAMING PER STRUCTURAL
WOOD FURRING TO ALIGN FINISH WITH ADJACENT CEILING
R-38 INSULATION ABOVE ALL INTERIOR SPACE
5/8" GWB

*WATERPROOFING MUST BE APPROVED FOR USE AS A WALKING DECK AND FOR THE INSTALLATION OF THE DECKING DIRECTLY ON TOP OF THE MEMBRANE PER ICC-ES WALKING DECKS CRITERIA

F7
2

ROOF



STANDING SEAM METAL ROOFING
ROOFING MEMBRANE
3/4" PLYWOOD
AIR-IMPERMEABLE CLASS II VAPOR RETARDER SPRAY FOAM INSULATION INSTALLED IN DIRECT CONTACT TO THE UNDERSIDE OF SHEATHING IN ACCORDANCE WITH R806.5.5.5.1 (5.1.1) & R806.5.5.5.3 TO A TOTAL OF R-49 MIN.
WOOD FRAMING PER STRUCTURAL

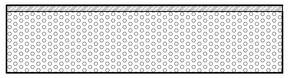
NOTES:
1. UNVENTED ROOF ASSEMBLY
2. CONTRACTOR TO SEAL ALL AIR GAPS. ROOF ASSEMBLY TO COMPLY WITH IRC SECTION R806.5. CONTRACTOR TO COORDINATE WITH ARCHITECT AND INSPECTOR IF ALL CONDITIONS CANNOT BE MET
3. A COPY OF THE ICC-ES REPORT FOR THE INSULATION PRODUCT MUST BE PROVIDED ON SITE FOR THE FIELD INSPECTOR
4. THE APPLIED SPRAY FOAM MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS BY A CERTIFIED INSTALLER
5. ALTERNATE INSULATION APPROACH: COMBINATION OF AIR-IMPERMEABLE INSULATION AND AIR-PERMEABLE INSULATION IN ACCORDANCE WITH R806.5.5.5.1 (5.1.3). R-10 MIN. AIR-IMPERMEABLE INSULATION TO BE APPLIED IN DIRECT CONTACT WITH THE UNDERSIDE OF THE STRUCTURAL ROOF SHEATHING. AIR-PERMEABLE INSULATION TO BE APPLIED DIRECTLY UNDER THE AIR-IMPERMEABLE INSULATION TO A TOTAL OF R-49 MIN.

CEILING ASSEMBLY BELOW, SEE SECTIONS

R1
1

STANDING SEAM METAL ROOFING
ROOFING MEMBRANE
3/4" PLYWOOD
WOOD FRAMING PER STRUCTURAL

R2



STANDING SEAM METAL ROOFING
ROOFING MEMBRANE
3/4" FIRE TREATED PLYWOOD
AIR-IMPERMEABLE CLASS II VAPOR RETARDER SPRAY FOAM INSULATION INSTALLED IN DIRECT CONTACT TO THE UNDERSIDE OF SHEATHING IN ACCORDANCE WITH R806.5.5.5.1 (5.1.1) & R806.5.5.5.3 TO A TOTAL OF R-49 MIN.
LIGHT GAUGE METAL FRAMING PER STRUCTURAL

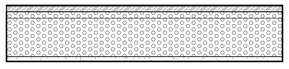
NOTES:
1. UNVENTED ROOF ASSEMBLY
2. CONTRACTOR TO SEAL ALL AIR GAPS. ROOF ASSEMBLY TO COMPLY WITH IRC SECTION R806.5. CONTRACTOR TO COORDINATE WITH ARCHITECT AND INSPECTOR IF ALL CONDITIONS CANNOT BE MET
3. A COPY OF THE ICC-ES REPORT FOR THE INSULATION PRODUCT MUST BE PROVIDED ON SITE FOR THE FIELD INSPECTOR
4. THE APPLIED SPRAY FOAM MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS BY A CERTIFIED INSTALLER
5. ALTERNATE INSULATION APPROACH: COMBINATION OF AIR-IMPERMEABLE INSULATION AND AIR-PERMEABLE INSULATION IN ACCORDANCE WITH R806.5.5.5.1 (5.1.3). R-10 MIN. AIR-IMPERMEABLE INSULATION TO BE APPLIED IN DIRECT CONTACT WITH THE UNDERSIDE OF THE STRUCTURAL ROOF SHEATHING. AIR-PERMEABLE INSULATION TO BE APPLIED DIRECTLY UNDER THE AIR-IMPERMEABLE INSULATION TO A TOTAL OF R-49 MIN.

CEILING ASSEMBLY BELOW, SEE SECTIONS

R3
1

STANDING SEAM METAL ROOFING
ROOFING MEMBRANE
3/4" FIRE TREATED PLYWOOD
LIGHT GAUGE METAL FRAMING PER STRUCTURAL

R4



ROOFING MEMBRANE
3/4" PLYWOOD
AIR-IMPERMEABLE CLASS II VAPOR RETARDER SPRAY FOAM INSULATION INSTALLED IN DIRECT CONTACT TO THE UNDERSIDE OF SHEATHING IN ACCORDANCE WITH R806.5.5.5.1 (5.1.1) & R806.5.5.5.3 TO A TOTAL OF R-38 MIN.
RIPPED WOOD FRAMING TO CREATE ROOF SLOPE PER PLANS
STEEL FRAMING PER STRUCTURAL
5/8" GWB

NOTES:
1. UNVENTED ROOF ASSEMBLY
2. CONTRACTOR TO SEAL ALL AIR GAPS. ROOF ASSEMBLY TO COMPLY WITH IRC SECTION R806.5. CONTRACTOR TO COORDINATE WITH ARCHITECT AND INSPECTOR IF ALL CONDITIONS CANNOT BE MET
3. A COPY OF THE ICC-ES REPORT FOR THE INSULATION PRODUCT MUST BE PROVIDED ON SITE FOR THE FIELD INSPECTOR
4. THE APPLIED SPRAY FOAM MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS BY A CERTIFIED INSTALLER
5. ALTERNATE INSULATION APPROACH: COMBINATION OF AIR-IMPERMEABLE INSULATION AND AIR-PERMEABLE INSULATION IN ACCORDANCE WITH R806.5.5.5.1 (5.1.3). R-10 MIN. AIR-IMPERMEABLE INSULATION TO BE APPLIED IN DIRECT CONTACT WITH THE UNDERSIDE OF THE STRUCTURAL ROOF SHEATHING. AIR-PERMEABLE INSULATION TO BE APPLIED DIRECTLY UNDER THE AIR-IMPERMEABLE INSULATION TO A TOTAL OF R-38 MIN.

R5
1

CEILING

2x4 WOOD FRAMING, 16" O.C.
DRAFTSTOPPING TO LIMIT PLENUM AREA TO UNDER 1000 SF AS REQUIRED TO COMPLY WITH R302.12.
5/8" GWB

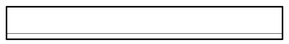
C1
1

2x6 WOOD FRAMING, 24" O.C.
5/8" GWB

C2
1

2x10 WOOD FRAMING, 16" O.C.
3/4" WOOD FINISH

C3
1

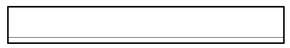


2x4 WOOD FRAMING, 16" O.C.
3/4" WOOD FINISH

C4
1

2x6 WOOD FRAMING, 24" O.C.
3/4" WOOD FINISH

C5
1



LIGHT GAUGE METAL FRAMING PER STRUCTURAL
3/4" WOOD FINISH

C6

LIGHT GAUGE METAL FRAMING PER STRUCTURAL
5/8" GWB

C7

LIGHT GAUGE METAL FRAMING PER STRUCTURAL
5/8" EXTERIOR SOFFIT BOARD

C8

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8843
REGISTERED ARCHITECT
STATE OF WASHINGTON

8480 RESIDENCE

8480 85TH AVE SE
MERCER ISLAND, WA 98040

PERMIT SUBMITTAL SET

DATE: 03.11.22
SHEET SIZE: E (30X42)

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN CHECK 1	10.04.22
2	PLAN CHECK 2	12.09.22

DRAWN BY: DD
CHECKED BY: KM

HORIZONTAL ASSEMBLY DETAILS

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

A702

DEDICATED APPROVAL STAMP SPACE

General Structural Notes

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

CRITERIA

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (2018 EDITION).

2. DESIGN LOADING CRITERIA:

GARAGES	
FLOOR LIVE LOAD (PASSENGER VEHICLES)	40 PSF
FLOOR CONCENTRATED LOAD (PASSENGER VEHICLES)	3000 LBS
RESIDENTIAL - ONE AND TWO-FAMILY DWELLINGS	
FLOOR LIVE LOAD	40 PSF
ROOF	
ROOF LIVE LOAD	25 PSF
MISCELLANEOUS LOADS	
DECKS	1.5 x AREA SERVED
PHOTOVOLTAIC PANEL SYSTEMS	5 PSF

ENVIRONMENTAL LOADS
SNOW . . . . Ce=1.0, Is=1.0, Ct=1.1, Cs=1.0, Pg=25 PSF, Pf=20 PSF
WIND . . . . GCpi=0.18, 100 MPH, RISK CATEGORY II, EXPOSURE "C"
EARTHQUAKE . . . ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
LATERAL SYSTEM: STEEL SPECIAL CONCENTRICALLY BRACED FRAMES
SPECIAL REINFORCED CONCRETE SHEAR WALLS △1
LIGHT FRAMED (COLD-FORMED STEEL) SHEAR WALLS
SITE CLASS=D, Ss=1.465, Sds=1.172, S1=0.504, SD1=0.571, Cs=0.234
SDC D, Ie=1.0, R=5 (SPECIAL REINFORCED CONCRETE SHEAR WALLS)

SEE PLANS FOR ADDITIONAL LOADING CRITERIA

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THE SPECIFICATION, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE GENERAL CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE GENERAL CONTRACTOR'S RISK.

4. PRIMARY STRUCTURAL ELEMENTS NOT DIMENSIONED ON THE STRUCTURAL PLANS AND DETAILS SHALL BE LOCATED BY THE ARCHITECTURAL PLANS AND DETAILS. VERTICAL DIMENSION CONTROL IS DEFINED BY THE ARCHITECTURAL WALL SECTIONS, BUILDING SECTION, AND PLANS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN BOTH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTORS WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES TO THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.

6. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. CONFORM TO ASCE 37-14 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION".

7. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.

8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER. ALL TYPICAL NOTES AND DETAILS SHOWN ON DRAWINGS SHALL APPLY, UNLESS NOTED OTHERWISE. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS BUT SHALL STILL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS. WHERE TYPICAL DETAILS ARE NOTED ON THE PLANS, THE SPECIFIED TYPICAL DETAIL SHALL BE USED. WHERE NO TYPICAL DETAIL IS NOTED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE TYPICAL DETAIL FROM THOSE PROVIDED OR REQUEST ADDITIONAL INFORMATION. THE CONTRACTOR SHALL SUBMIT ALL PROPOSED ALTERNATE TYPICAL DETAILS TO THOSE PROVIDED WITH RELATED CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO SHOP DRAWING PRODUCTION AND FIELD USE.

9. ALL STRUCTURAL SYSTEMS, WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED, SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER.

10. SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

MANUFACTURED LUMBER (PSL'S, LSL'S, LVL'S)
PLYWOOD WEB JOISTS
METAL DECKING
LIGHT GAGE STRUCTURAL FRAMING
REINFORCING STEEL (FOR BOTH CONCRETE AND MASONRY CONSTRUCTION)
STRUCTURAL STEEL

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

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

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

12. SHOP DRAWINGS OF DESIGN BUILD COMPONENTS INCLUDING CANOPIES, BALCONIES, COLD FORM STEEL FRAMING, TEMPORARY SHORING, CURTAIN WALL SYSTEMS, SKYLIGHT FRAMES, PREFABRICATED STAIR SYSTEMS, EXTERIOR CLADDING, AND PRE-ENGINEERED SYSTEMS SHALL BE STAMPED AND SIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF WASHINGTON. SHOP DRAWINGS SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO REVIEW OF THE ARCHITECT OR ENGINEER OF RECORD FOR GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE AND ALL NECESSARY CONNECTIONS NOT SPECIFICALLY CALLED OUT ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. SHOP DRAWINGS SHALL INDICATE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON BASIC STRUCTURE. DESIGN CALCULATIONS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS.

13. △1 DEFERRED SUBMITTALS: SHOP DRAWINGS AND CALCULATIONS OF DEFERRED SUBMITTAL COMPONENTS SHALL BE STAMPED AND SIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF WASHINGTON AND SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO REVIEW BY THE ARCHITECT OR ENGINEER OF RECORD FOR GENERAL CONFORMANCE. ALL NECESSARY CONNECTIONS NOT SPECIFICALLY CALLED OUT ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS SHALL BE INCLUDED. SHOP DRAWINGS SHALL INCLUDE THE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON THE BASIC STRUCTURE. DESIGN CALCULATIONS SHALL ACCOMPANY ALL DEFERRED SUBMITTALS. THE ARCHITECT OR CONTRACTOR SHALL FORWARD DEFERRED SUBMITTALS TO THE BUILDING OFFICIAL WHERE REQUIRED.

DEFERRED SUBMITTAL BUILDING COMPONENTS FOR THIS PROJECT SHALL INCLUDE:

RAFTER MOUNTED SKYLIGHT
STRUCTURAL STEEL SHOP DRAWINGS

QUALITY ASSURANCE

14. SPECIAL INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SECTIONS 110 AND 1705 OF THE INTERNATIONAL BUILDING CODE BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE ARCHITECT, AND RETAINED BY THE BUILDING OWNER. THE ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING DEPARTMENT SHALL BE FURNISHED WITH COPIES OF ALL INSPECTION AND TEST RESULTS. SPECIAL INSPECTION OF THE FOLLOWING TYPES OF CONSTRUCTION IS REQUIRED UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL FABRICATION AND ERECTION	PER AISC 360
COLD FORMED STEEL DECK CONSTRUCTION	PER ANSI/SDI QA/QC-2017
CONCRETE CONSTRUCTION	PER TABLE 1705.3
SOIL CONDITIONS, FILL PLACEMENT, AND DENSITY	PER TABLE 1705.6
DRIVEN DEEP FOUNDATION	PER TABLE 1705.7
EXPANSION BOLTS AND THREADED EXPANSION INSERTS	PER MANUFACTURER
EPOXY GROUTED INSTALLATIONS	PER MANUFACTURER

PERIODIC INSPECTION: INSPECTION SHALL BE PERFORMED AT INTERVALS NECESSARY TO CONFIRM THAT WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE WITH REQUIREMENTS.
CONTINUOUS INSPECTION: INSPECTOR SHALL BE ONSITE AND OBSERVE THE WORK REQUIRING INSPECTION AT ALL TIMES THAT WORK IS PERFORMED.

△1 STRUCTURAL STEEL SHALL BE FABRICATED BY AN AISC CERTIFIED FABRICATOR AND A COPY OF THEIR QA/QC PLAN AND REQUIREMENTS SHALL BE PROVIDED TO THE ENGINEER AND BUILDING DEPARTMENT PRIOR TO FABRICATION.

15. UNLESS OTHERWISE NOTED, THE FOLLOWING ELEMENTS COMPRISE THE SEISMIC-FORCE-RESISTING SYSTEM AND ARE SUBJECT TO SPECIAL INSPECTION FOR SEISMIC RESISTANCE IN ACCORDANCE WITH SECTION 1705.12 OF THE INTERNATIONAL BUILDING CODE.

    A. STRUCTURAL STEEL MOMENT FRAMES AND BRACED FRAMES REQUIRE CONTINUOUS INSPECTION FOR WELDING PER AISC 341 EXCEPT SINGLE PASS FILLET WELDS NOT EXCEEDING 5/16-INCH.

    B. COLD FORMED STEEL FRAMING REQUIRES PERIODIC INSPECTION OF WELDING, SCREW ATTACHMENT, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITHIN THE SEISMIC FORCE RESISTING SYSTEM INCLUDING SHEAR WALLS, DIAPHRAGMS, BRACES AND HOLDOWNS.

16. UNLESS OTHERWISE NOTED, THE FOLLOWING ELEMENTS COMPRISE THE SEISMIC-FORCE-RESISTING SYSTEM AND ARE SUBJECT TO SPECIAL TESTING FOR SEISMIC RESISTANCE PER SECTION 1705.13 OF THE INTERNATIONAL BUILDING CODE.

    A. ASTM A615 REINFORCEMENT USED IN SPECIAL CONCRETE MOMENT FRAMES, AND SPECIAL CONCRETE SHEAR WALLS, COUPLING BEAMS SHALL COMPLY WITH ACI 318-14, SECTION 20.2.2.5, AND REQUIRE TESTING PER 1705.13.3 OF THE INTERNATIONAL BUILDING CODE.

    B. STRUCTURAL STEEL USED IN MOMENT FRAMES AND BRACED FRAMES SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE REQUIREMENTS OF AISC 341.

17. △1 STRUCTURAL OBSERVATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTIONS 1704.6 OF THE INTERNATIONAL BUILDING CODE FOR THE FOLLOWING BUILDING ELEMENTS:

LIGHT FRAMED SHEAR WALLS
COLD FORMED SHEAR WALLS
HOLDDOWNS
CONCRETE CONSTRUCTION
STRUCTURAL STEEL CONSTRUCTION

THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD ADEQUATE NOTICE TO SCHEDULE APPROPRIATE SITE VISITS FOR STRUCTURAL OBSERVATION.

STRUCTURAL OBSERVATION MEANS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM, FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS, AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED BY SECTION 110, 1705, OR OTHER SECTIONS OF THE INTERNATIONAL BUILDING CODE.

THE OWNER SHALL EMPLOY THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, TO PERFORM STRUCTURAL OBSERVATION. OBSERVED DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER'S REPRESENTATIVE, SPECIAL INSPECTOR, CONTRACTOR, AND THE BUILDING OFFICIAL. THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFYING ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED

GEOTECHNICAL

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

FOOTINGS AND GRADE BEAMS SHALL BE SUPPORTED BY PIN PILES AS NOTED ON PLAN AND IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. SLABS AT GRADE ARE DESIGNED TO BE STRUCTURAL SLABS, SUPPORTED BY GRADE BEAMS AND PIN PILES AS NOTED ON PLAN.

IN ORDER TO REDUCE POTENTIAL PROBLEMS ASSOCIATED WITH SETTLEMENT OF THE GROUND SUPPORTING PILE-SUPPORTED BUILDINGS, THE GEOTECHNICAL REPORT RECOMMENDS THE FOLLOWING:

- FILL TO THE DESIRED SITE GRADES SEVERAL MONTHS PRIOR TO CONSTRUCTING ON-GRADE SLABS, WALKWAYS, AND PAVEMENTS AROUND THE BUILDINGS. THIS ALLOWS THE UNDERLYING SOILS TO UNDERGO SOME CONSOLIDATION UNDER THE NEW SOIL LOADS BEFORE FINAL GRADING IS ACCOMPLISHED.

- CONNECT ALL IN-GROUND UTILITIES BENEATH THE FLOOR SLABS TO THE PILE-SUPPORTED FLOORS OR GRADE BEAMS. THIS IS INTENDED TO PREVENT UTILITIES, SUCH AS SEWERS, FROM BEING PULLED OUT OF THE FLOOR AS THE UNDERLYING SOILS SETTLE AWAY FROM THE SLAB. HANGERS OR STRAPS CAN BE POURED INTO THE FLOORS AND GRADE BEAMS TO CARRY THE PIPING. THE SPACING OF THESE SUPPORTING ELEMENTS WILL DEPEND ON THE DISTANCE THAT THE PIPE MATERIAL CAN SPAN UNSUPPORTED.

- CONSTRUCT ALL ENTRANCE WALKWAYS AS REINFORCED SLABS THAT ARE DOWELED INTO THE GRADE BEAM AT THE DOOR THRESHOLDS. THIS WILL ALLOW THE WALKWAYS TO RAMP DOWN AND AWAY FROM THE BUILDING AS THEY SETTLE, WITHOUT CAUSING A DOWNSET AT THE THRESHOLD.

- ISOLATE ON-GRADE ELEMENTS, SUCH AS WALKWAYS OR PAVEMENTS, FROM PILE-SUPPORTED FOUNDATIONS AND COLUMNS TO ALLOW DIFFERENTIAL MOVEMENT.

△1

LATERAL EARTH PRESSURE (RESTRAINED/UNRESTRAINED)	40 PCF + 10 H PSF/40 PCF
ALLOWABLE PASSIVE EARTH PRESSURE (FS OF 1.5 INCLUDED)	167 PCF
TRAFFIC SURCHARGE PRESSURE (UNIFORM LOAD)	ADD 2 FT SOIL PSF
SEISMIC SURCHARGE PRESSURE (UNIFORM LOAD)	9H PSF
PILE CAPACITY (4" DIA)	10 TONS

SOILS REPORT REFERENCE:
PROPOSED NEW RESIDENCE
8480 85TH/ AVENUE SOUTHEAST
MERCER ISLAND, WASHINGTON

PREPARED BY:
GEOTECH CONSULTANTS, INC. ON NOVEMBER 16, 2021
JN 21409

19. PIN PILES SHOWN ON THE PLAN SHALL BE 4" DIAMETER SCHEDULE 40 MINIMUM. THE MAXIMUM CAPACITY OF 4" PILES SHALL BE 10 TONS. THE MAXIMUM PILE ECCENTRICITY SHALL BE 2 INCHES. GEOTECHNICAL SPECIAL INSPECTION SHALL BE SUBJECT TO THE DISCRETION OF THE GEOTECHNICAL ENGINEER AND THE BUILDING DEPARTMENT. SEE PLANS FOR OTHER SIZES AND CRITERIA.

ALL PILES SHALL BE DRIVEN TO REFUSAL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. PIPE PILES MAY BE DRIVEN WITH HYDRAULIC HAMMERS TO THE FINAL PENETRATION RATES MEASURED IN SECONDS PER INCH WITH THE ASSIGNED FOLLOWING COMPRESSIVE CAPACITIES.

		(HYDRAULIC HAMMERS)		
PILE DIAM	CAPACITY	850LB	1100LB	2000LB
4 IN	10 T	16	10	4

THE REFUSAL CRITERIA INDICATED IN THE ABOVE TABLE ARE VALID ONLY FOR PIPE PILES THAT ARE INSTALLED USING A HYDRAULIC IMPACT HAMMER CARRIED ON LEADS THAT ALLOW THE HAMMER TO SIT ON TOP OF THE PILE DURING DRIVING. IF THE PILES ARE INSTALLED BY ALTERNATIVE METHODS, SUCH AS VIBRATORY HAMMER OR A HAMMER THAT IS HARD-MOUNTED TO THE INSTALLATION MACHINE, NUMEROUS LOAD TESTS TO 200 PERCENT OF THE DESIGN CAPACITY WOULD BE NECESSARY TO SUBSTANTIATE THE ALLOWABLE PILE LOAD. THE APPROPRIATE NUMBER OF LOAD TESTS WOULD NEED TO BE DETERMINED AT THE TIME THE CONTRACTOR AND INSTALLATION METHOD ARE CHOSEN.

△1 PILE INSTALLATION SHALL BE TESTED IN GENERAL ACCORDANCE WITH ASTM STANDARD D1143-81 FOR PILES UNDER STATIC AXIAL COMPRESSIVE LOAD. LOAD TESTS ARE REQUIRED ON 3% OF THE INSTALLED PILES UP TO A MAXIMUM OF 5 PILES, WITH A MINIMUM PILE LOAD TEST ON EACH PROJECT OR AS REQUIRED PER THE GEOTECHNICAL ENGINEER AND THE BUILDING DEPARTMENT.

CONCRETE

20. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 301. STRENGTHS AT 28 DAYS AND MIX CRITERIA SHALL BE AS FOLLOWS:

MEMBER TYPE/CONSTRUCTION	STRENGTH F'C -PSI-	TEST AGE -DAYS-	MAX AGG -INCH-	MAX W/C RATIO	AIR CONT.
SLABS ON GRADE INTERIOR)	3000	28	1	.45	---
SLABS ON GRADE (EXTERIOR)	3000	28	1	.45	5
FOOTINGS	4000	28	1	.50	--
COLUMNS AND WALLS	4000 △1	28	3/4	.50	--
SLABS ON METAL DECK	4000	28	1	.50	--
ALL STRUCTURAL CONCRETE, UNO	3000	28	1	.50	--

MIX DESIGN NOTES:

A. MAXIMUM SHRINKAGE IN ALL 5000 PSI MIXES SHALL BE LIMITED TO .04 PERCENT IN 28 DAYS AS TESTED IN ACCORDANCE WITH ASTM C157 MODIFIED STANDARD TEST METHOD FOR LENGTH CHANGE OF CEMENT MORTAR AND CONCRETE.
B. W/C RATIO: WATER-CEMENTITIOUS MATERIAL RATIOS SHALL BE BASED ON THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS. RATIOS NOT NOTED IN TABLE ABOVE ARE CONTROLLED BY STRENGTH REQUIREMENTS.
C. CEMENTITIOUS CONTENT: THE USE OF FLY ASH, OTHER POZZOLANS, SILICA FUME, OR SLAG SHALL CONFORM TO ACI 301 SEC 4.2.2.8.B. FOR CONCRETE USED IN ELEVATED FLOORS, PORTLAND CEMENT CONTENT SHALL CONFORM TO ACI 301 SEC 4.2.2.1. ACCEPTANCE OF LOWER CEMENT CONTENT IS CONTINGENT ON PROVIDING SUPPORTING DATA TO THE ENGINEER FOR REVIEW AND ACCEPTANCE.
D. AIR CONTENT SHALL CONFORM TO ACI 301 SEC 4.2.2.4. HORIZONTAL EXTERIOR SURFACES IN CONTACT WITH THE SOIL REQUIRE ENTRAINED AIR. USE "MODERATE EXPOSURE". VERTICAL EXTERIOR SURFACES REQUIRE "MODERATE EXPOSURE". TOLERANCE IS +/- 1.5 PERCENT. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT.
E. SLUMP SHALL CONFORM TO ACI 301 SEC 4.2.2.2. SLUMP SHALL BE DETERMINED AT THE POINT OF PLACEMENT.
F. CHLORIDE CONTENT SHALL CONFORM TO ACI 301 SEC 4.2.2.6 AND TABLE 4.2.2.6 FOR "OTHER REINFORCED CONCRETE CONSTRUCTION".

21. A CONCRETE PERFORMANCE MIX SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND THE BUILDING DEPARTMENT FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE. THE PERFORMANCE MIX SHALL INCLUDE THE AMOUNTS OF CEMENT, FINE AND COARSE AGGREGATE, WATER AND ADMIXTURES AS WELL AS THE WATER CEMENT RATIO, SLUMP, CONCRETE YIELD AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH ACI 318-14, SECTIONS 26.4.3 AND 26.4.4. THE USE OF A PERFORMANCE MIX REQUIRES BATCH PLANT INSPECTION, THE COST OF WHICH SHALL BE PAID BY THE GENERAL CONTRACTOR. REVIEW OF MIX SUBMITTALS BY THE ENGINEER OF RECORD INDICATES ONLY THAT INFORMATION PRESENTED CONFORMS GENERALLY WITH CONTRACT DOCUMENTS. CONTRACTOR OR SUPPLIER MAINTAINS FULL RESPONSIBILITY FOR SPECIFIED PERFORMANCE.

22. ALL CONCRETE WITH SURFACES EXPOSED TO WEATHER OR STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260, C494, AND C618. TOTAL AIR CONTENT FOR FROST-RESISTANT CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318-14, TABLE 19.3.2.1 MODERATE EXPOSURE, F1.

23. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENT S1), GRADE 60, FY = 60,000 PSI. EXCEPTIONS: ANY BARS SPECIFICALLY SO NOTED ON THE DRAWINGS SHALL BE GRADE 40, FY = 40,000 PSI. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185. SPIRAL REINFORCEMENT SHALL BE DEFORMED WIRE CONFORMING TO ASTM A615, GRADE 60, FY = 60,000 PSI.

24. LONGITUDINAL REINFORCEMENT IN DUCTILE FRAME MEMBERS AND VERTICAL REINFORCEMENT IN WALLS SHALL COMPLY WITH ASTM A706. ASTM A615 REINFORCEMENT ARE ALLOWED IN THESE MEMBERS IF MATERIAL PROPERTY REPORTS ARE SUBMITTED WHICH INDICATE (A) THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED THE SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI AND (B) THE RATIO OF THE ACTUAL ULTIMATE TENSILE STRESS TO THE ACTUAL TENSILE YIELD STRENGTH IS NOT LESS THAN 1.25.

25. WELDING OF GRADE 60 REINFORCING BARS INDICATED ON DRAWINGS SHALL CONFORM TO ASTM A706. REINFORCING COMPLYING WITH ASTM A615 (S1) MAY BE WELDED ONLY IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN AWS D1.4 ARE SUBMITTED. WELDING OF GRADE 60 REINFORCING BARS SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES. WELDING OF GRADE 40 REINFORCING BARS SHALL BE PERFORMED USING E70XX ELECTRODES. WELDING WITHIN 4" OF COLD BENDS IN REINFORCING STEEL IS NOT PERMITTED.

26. DETAILING OF REINFORCING STEEL (INCLUDING HOOKS AND BENDS) SHALL BE IN ACCORDANCE WITH ACI 315R-18 AND 318-14. LAP ALL REINFORCEMENTS IN ACCORDANCE WITH "THE REINFORCING SPLICE AND DEVELOPMENT LENGTH SCHEDULE." PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.

NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

27. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#6 BARS OR LARGER)	2"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#5 BARS OR SMALLER)	1-1/2"
COLUMN TIES OR SPIRALS AND BEAM STIRRUPS	1-1/2"
SLABS AND WALLS (INT. FACE)	GREATER OF BAR DIAMETER PLUS 1/8" OR 3/4"

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

6" WALLS	#4 @ 16 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN
8" WALLS	#4 @ 12 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN
10" WALLS	#4 @ 18 HORIZ.	#4 @ 18 VERTICAL	2 CURTAINS
12" WALLS	#4 @ 16 HORIZ.	#4 @ 18 VERTICAL	2 CURTAINS

29. CAST-IN-PLACE CONCRETE: SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF DOOR AND WINDOW OPENINGS IN ALL CONCRETE WALLS. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF MISCELLANEOUS MECHANICAL OPENINGS THROUGH CONCRETE WALLS. SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES, BOTH CAST-IN-PLACE AND PRECAST.

30. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (3000 PSI MINIMUM).

ANCHORAGE

31. EXPANSION BOLTS INTO CONCRETE AND CONCRETE MASONRY UNITS SHALL BE "KWIK BOLT TZ" AS MANUFACTURED BY THE HILTI CORP., INSTALLED IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. ESR-1917 FOR CONCRETE, AND ESR-3785 FOR MASONRY, INCLUDING MINIMUM EMBEDMENT REQUIREMENTS. BOLTS INTO CONCRETE MASONRY OR BRICK MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ICC REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. PERIODIC SPECIAL INSPECTION IS REQUIRED TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, ANCHOR LOCATION, TIGHTENING TORQUE, HOLE DIMENSIONS, ANCHOR EMBEDMENT, AND ADHERENCE TO THE INSTALLATION INSTRUCTIONS.

32. EPOXY-GROUTED ITEMS (THREADED RODS OR REINFORCING BAR) SPECIFIED ON THE DRAWINGS SHALL BE INSTALLED USING "HIT-RE 500 V3" AS MANUFACTURED BY HILTI CORP. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. ESR-3814. CONCRETE BASE TEMPERATURE MUST BE BETWEEN 23 DEGREES, AND 104 DEGREES, F AT THE TIME OF INSTALLATION. RODS SHALL BE ASTM A-36 UNLESS OTHERWISE NOTED. PERIODIC SPECIAL INSPECTION OF INSTALLATION IS REQUIRED TO VERIFY ANCHOR OR EMBEDDED BAR TYPE AND DIMENSIONS, LOCATION, ADHESIVE IDENTIFICATION AND EXPIRATION, HOLE DIMENSIONS, HOLE CLEANING PROCEDURE, ANCHOR EMBEDMENT, AND ADHERENCE TO THE INSTALLATION INSTRUCTIONS. OVERHEAD INSTALLATIONS REQUIRE THE USE OF PISTON PLUGS (HIT-SZ,-IP) DURING INJECTION. OVERHEAD ANCHORS OR BARS MUST BE SUPPORTED WITH HIT-OWH, OR EQUIVALENT, UNTIL FULLY CURED. CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR HORIZONTAL AND OVERHEAD INSTALLATIONS.

33. CONCRETE SCREW ANCHORS INTO CONCRETE AND CONCRETE MASONRY UNITS SHALL BE "TITEN HD" HEAVY DUTY SCREW ANCHOR AS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY, INSTALLED IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. ESR-2713 (CONCRETE), NO. ESR-1056 (CMU), INCLUDING MINIMUM EMBEDMENT REQUIREMENTS. SCREW ANCHORS INTO CONCRETE MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. SPECIAL INSPECTION IS REQUIRED.

STEEL

34. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON:

    A. AISC 360-16 AND SECTION 2205.2 OF THE INTERNATIONAL BUILDING CODE.
    B. JUNE 15, 2016 AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AMENDED AS FOLLOWS: AS NOTED IN THE CONTRACT DOCUMENTS, BY THE DELETION OF PARAGRAPH 4.4.1, AND REVISE REFERENCE FROM "STRUCTURAL DESIGN DRAWINGS" TO "CONTRACT DOCUMENTS" IN PARAGRAPH 3.1.
    C. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

35. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TYPE OF MEMBER	ASTM SPECIFICATION	FY
A. WIDE FLANGE SHAPES	A992	50 KSI
B. OTHER SHAPES, PLATES, AND RODS	A36	36 KSI
C. OTHER SHAPES AND PLATES (NOTED GRADE 50 ON PLANS)	A572 (GRADE 50)	50 KSI
D. PIPE COLUMNS	A53 (E OR S, GR.B)	35 KSI
E. STRUCTURAL TUBING	A500 (GR.C)	
-SQUARE OR RECTANGULAR		50 KSI
-ROUND		46 KSI
-ANY SHAPE	ASTM A1085	50 KSI
F. CONNECTION BOLTS (3/4" ROUND, UNLESS SHOWN OTHERWISE)	A325-N	

36. ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SHALL CONFORM TO SECTION 10 OF THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.

37. ALL STEEL EXPOSED TO THE WEATHER OR IN CONTACT WITH GROUND SHALL BE CORROSION PROTECTED BY GALVANIZATION OR PROVIDED WITH EXTERIOR PAINT SYSTEM, UNLESS OTHERWISE NOTED.

38. SHOP PRIME ALL STEEL EXCEPT:

    A. STEEL ENCASED IN CONCRETE.
    B. SURFACES TO BE WELDED.
    C. CONTACT SURFACES AT HIGH-STRENGTH BOLTS.
    D. MEMBERS TO BE GALVANIZED.
    E. MEMBERS WHICH WILL BE CONCEALED BY INTERIOR FINISHES.
    F. SURFACES TO RECEIVE SPRAYED FIREPROOFING.
    G. SURFACES TO RECEIVE OTHER SPECIAL SHOP PRIMERS.

39. ALL A-325N CONNECTION BOLTS NEED ONLY BE TIGHTENED TO A SNUG TIGHT CONDITION, DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. THIS MAY BE ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH.

40. ALL ANCHORS EMBEDDED IN MASONRY OR CONCRETE SHALL BE A307 HEADED BOLTS OR A36 THREADED ROD WITH AN ASTM 563 HEAVY HEX NUT TACK WELDED ON THE EMBEDDED END.

41. ALL WELDING SHALL BE IN CONFORMANCE WITH AISC AND AWS STANDARDS AND SHALL BE PERFORMED BY WABO CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY AWS) SHALL BE USED. ALL COMPLETE JOINT PENETRATION GROOVE WELDS SHALL BE MADE WITH A FILLER MATERIAL THAT HAS A MINIMUM CVN TOUGHNESS OF 20 FT-LBS AT -20 DEGREES F AND 40 FT - LBS AT 70 DEGREES F, AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION.

42. METAL FLOOR AND ROOF DECKING SHALL BE IN ACCORDANCE TO THE FOLLOWING: PROVIDE SIZE, TYPE, GAUGE, AND ATTACHMENT TO THE SUPPORTING STRUCTURE AS SHOWN ON THE PLANS. ARC SEAM AND SPOT (PUDDLE) WELDS FOR FIELD ASSEMBLY OF METAL DECK SHALL BE MADE WITH MINIMUM E60XX ELECTRODES. DECK ALTERNATES MUST BE CONNECTED ACCORDING TO PUBLISHED ICC-ES CRITERIA FOR DIAPHRAGM SHEARS SHOWN. PROVIDE TEMPORARY SHORING WHERE REQUIRED PER MANUFACTURER'S PUBLISHED CRITERIA.

    A. NONCOMPOSITE STEEL FLOOR DECKS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH ANSI/SDI-NC1.0.
    B. STEEL ROOF DECK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH ANSI/SDI-RD1.0.
    C. COMPOSITE SLABS ON STEEL DECKS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH SDI-C.

43. COLD-FORMED STEEL FRAMING NOTES--THE FOLLOWING APPLY UNLESS OTHERWISE SHOWN ON THE PLANS:

    A. COLD FORMED STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON AISI S100-16, "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS," AND ON THE 2015 NORTH AMERICAN STANDARDS FOR COLD FORMED STEEL FRAMING, INCLUSIVE.

    B. THE CONTRACTOR SHALL PROVIDE A QUALITY CONTROL PROGRAM OVER ALL FABRICATION AND ERECTION ACTIVITY THROUGH THE USE OF AN INDEPENDENT TESTING AGENCY AND/OR A QUALIFIED REPRESENTATIVE OF THE STEEL MANUFACTURER. THE CONTRACTOR SHALL OBTAIN MILL CERTIFICATION FROM THE GAUGE STEEL MANUFACTURER OR SHALL SUBMIT TENSILE TESTS AND GALVANIZATION TESTS TO THE ENGINEER OF RECORD TO VERIFY THE ADEQUACY OF THE GAUGE MATERIALS.

    C. COLD-FORMED STEEL FRAMING MEMBERS INDICATED ON PLAN SHALL BE IN ACCORDANCE WITH THE "2015 IBC-SSMA PRODUCT TECHNICAL GUIDE" PUBLISHED BY THE STEEL STUD MANUFACTURERS ASSOCIATION, AND SHALL COMPLY WITH ICC-ES REPORT ESR-3064P.

DESIGNATION:	600	S	200	-	54
	DEPTH	MEMBER STYLE	FLANGE WIDTH		MATERIAL THICKNESS(MILS)

    D. MATERIAL:

    METAL FRAMING SHALL BE GALVANIZED UNLESS OTHERWISE NOTED, CONFORMING AS FOLLOWS:

ASTM A653, GRADE 50	FY = 50 KSI	12, 14, AND 16 GAUGE
ASTM A653, GRADE 33	FY = 33 KSI	18 AND 20 GAUGE

    WHERE NOTED, PAINTED STUDS SHALL CONFORM TO: ASTM A570, GRADE E, FY=50 KSI. ALL 8 AND 10 GAGE MATERIAL SHALL CONFORM TO: ASTM A36, FY=36 KSI

    E. THE DESIGN OF INTERIOR COLD FORMED STEEL NON-BEARING WALLS, SOFFITS, CEILINGS AND OTHER MISCELLANEOUS FRAMING AND CONNECTIONS TO STRUCTURE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE REQUIREMENTS OF THE ARCHITECTURAL DRAWINGS. DESIGN AND DETAILING SHALL BE UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON AND STAMPED DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.

    F. ACCESSORIES SHALL BE OF THE TYPE, SIZE, AND SPACING SHOWN ON THE DRAWINGS OF A MINIMUM 16 GAUGE MATERIAL UNLESS OTHERWISE SPECIFIED. FASTENING OF COMPONENTS SHALL BE BY WELDING OR SCREWING OR BY OTHER MEANS OF FASTENING AS INDICATED ON THE DRAWINGS. PROVIDE MISCELLANEOUS CLIP ANGLES, LEDGERS, AND ACCESSORIES OF A MINIMUM 16 GAUGE OR THE THICKNESS OF THE MATERIAL BEING FASTENED, WHICHEVER IS GREATER, FOR CONNECTIONS AND BEARING CONDITIONS NOT OTHERWISE NOTED IN THE DRAWINGS. WELDS SHALL BE OF SUFFICIENT SIZE TO INSURE THE STRENGTH OF THE CONNECTION: WIRE TYING OF COMPONENTS SHALL NOT BE PERMITTED. ALL WELDS SHALL BE TOUCHED UP WITH A ZINC-RICH PAINT.

    G. SCREWS: ALL SCREWS SHALL BE SELF-TAPPING SELF-DRILLING FASTENERS THAT ARE ZINC COATED AS MANUFACTURED BY HILTI KWIK-FLEX (ICC-ES ESR-2196), OR APPROVED EQUAL. THE MINIMUM SCREW SIZE/TYPE/POINT SHALL BE #8-18 (#2 POINT) OR #10-16 (#2 POINT) FOR USE IN 20 GAUGE THROUGH 16 GAUGE, AND #10-16 (#3 POINT) OR #12-14 (#2 OR #3 POINT) FOR HEAVIER THAN 16 GAUGE UNLESS NOTED OTHERWISE. SCREWS FOR SHEATHING CONNECTIONS SHALL BE OF THE PROPER SIZE AND TYPE FOR A POSITIVE SHEATHING-TO-METAL CONNECTION. ALL SCREW CONNECTIONS SHALL BE MADE FROM THE LIGHTER MATERIAL INTO THE HEAVIER MATERIAL UNLESS NOTED OTHERWISE. SCREWS SHALL HAVE A MINIMUM PROJECTION OF 3 THREADS THROUGH THE LAST MATERIAL JOINED AND SHALL HAVE MINIMUM EDGE DISTANCES AND CENTER-TO-CENTER SPACING OF 1-1/2 AND 3 SCREW DIAMETERS, RESPECTIVELY. ALL SCREWS SHALL CONFORM TO SAE J78 AND SHALL BE COATED WITH A CORROSIVE-RESISTANT COATING. THE SCREW MANUFACTURER SHALL PROVIDE VERIFICATION OF THE FASTENERS RESISTANCE TO HYDROGEN EMBRITTLEMENT, UPON REQUEST.

    H. WELDING OF COLD-FORMED METAL FRAMING SHALL CONFORM TO AWS D1.3 AND SHALL BE PERFORMED BY WABO CERTIFIED WELDERS QUALIFIED TO PRODUCE THE SPECIFIED CLASSES OF WELD.

    I. WALL FRAMING: REFER ARCHITECTURAL DRAWINGS FOR ALL STUD WALLS NOT SHOWN. EXTERIOR WALL STUDS SHALL BE MINIMUM 20 GAUGE (33 MILS) SPACED AT 16" O.C. UNLESS INDICATED OTHERWISE. TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS. TWO 800S162-54 HEADERS SHALL BE PROVIDED OVER ALL OPENINGS NOT OTHERWISE NOTED. SOLID BLOCKING FOR MULTI-STUD OR STEEL COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW. PROVIDE CONTINUOUS FULL WIDTH BLOCKING AT MID-HEIGHT OF ALL STUD WALLS OVER 10' IN HEIGHT.

    J. ALL STUD WALLS SHALL HAVE THEIR BOTTOM TRACKS ATTACHED TO FRAMING BELOW WITH #8 SCREWS AT 24" O.C. OR ATTACHED TO CONCRETE WITH 0.145" DIAMETER DRIVE-PINS @ 24" O.C. UNLESS INDICATED OTHERWISE. INDIVIDUAL MEMBERS OF BUILT-UP POSTS SHALL BE WELDED TO EACH OTHER IN ACCORDANCE WITH THE DETAILS. REFER TO THE PLANS AND SHEAR WALL SCHEDULE FOR REQUIRED SHEATHING AND STRAP BRACING. WHEN NOT OTHERWISE NOTED, PROVIDE GYPSUM WALLBOARD ON INTERIOR SURFACES AND GYPSUM SHEATHING ON EXTERIOR SURFACES SCREWED TO ALL STUDS, TOP AND BOTTOM TRACKS AND BLOCKING WITH SCREWS AT 12" O.C. TRACK SECTIONS SHALL MATCH THE WALL STUD GAUGE, BE UN-PUNCHED AND HAVE AT LEAST 1-1/4" FLANGES.

    K. BRIDGING AND BRACING IS TO BE INSTALLED AT ALL COLD FORMED STEEL BEARING WALLS. BRIDGING AND BRACING SHALL BE INSTALLED AS SHOWN ON THE STRUCTURAL PLANS, OR THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON TO DESIGN AN ALTERNATE BRACING SYSTEM. IF AN ALTERNATE BRACING SYSTEM IS USED, THE CONTRACTOR SHALL SUBMIT STAMPED DRAWINGS AND CALCULATIONS TO THE ENGINEER OF RECORD, WHICH DEMONSTRATES THAT THE BRACING SYSTEM WAS DESIGNED TO PROVIDE PERMANENT WEAK AXIS BRACING OF THE STUDS UNDER CODE PRESCRIBED LOADS. DOCUMENTATION SHALL BE SUBMITTED FOR REVIEW PRIOR TO CONSTRUCTION.

44. HEADED STUDS FOR COMPOSITE CONNECTION OF STRUCTURAL STEEL TO CAST-IN-PLACE CONCRETE SHALL BE MANUFACTURED FROM MATERIAL CONFORMING TO ASTM A29, AND A108 AND SHALL BE WELDED IN CONFORMANCE WITH A.W.S. D1.1.

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SHEET TITLE:
General Structural Notes

SCALE: -
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO:
S1.1

WOOD

45. FRAMING LUMBER SHALL BE S-DRY, KD, OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH WCLIB STANDARD No. 17, GRADING RULES FOR WEST COAST LUMBER, 2018, OR WWPA STANDARD, WESTERN LUMBER GRADING RULES 2017. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

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

46. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND ANSI/AITC STANDARDS. EACH MEMBER SHALL BEAR AN AITC OR APA IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN AITC OR APA CERTIFICATE OF CONFORMANCE. ALL SIMPLE SPAN BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V4, Fb = 2,400 PSI, Fv =265 PSI. ALL CANTILEVERED BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8, Fb = 2400 PSI, Fv = 265 PSI.

47. MANUFACTURED LUMBER, PSL, LVL, AND LSL SHOWN ON PLAN ARE BASED PRODUCTS MANUFACTURED BY THE WEYERHAEUSER CORPORATION IN ACCORDANCE WITH ICC-ES REPORT ESR-1387. MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

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

ALTERNATE MANUFACTURED LUMBER MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE MANUFACTURER'S PRODUCTS SHALL BE COMPATIBLE WITH THE JOIST HANGERS AND OTHER HARDWARE SPECIFIED ON PLANS, OR ALTERNATE HANGERS AND HARDWARE SHALL SUBMITTED FOR REVIEW AND APPROVAL. SUBSTITUTED ITEMS SHALL HAVE ICC-ES REPORT APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES.

MANUFACTURED LUMBER PRODUCTS SHALL BE INSTALLED WITH A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCTION TO PREVENT THE MOISTURE CONTENT OF INSTALLED BEAMS FROM EXCEEDING 12%. EXCESSIVE DEFLECTIONS MAY OCCUR IF MOISTURE CONTENT EXCEEDS THIS VALUE.

48. PREFABRICATED PLYWOOD WEB JOIST DESIGN SHOWN ON PLANS IS BASED ON JOISTS MANUFACTURED BY THE WEYERHAEUSER CORPORATION, IN ACCORDANCE WITH ICC-ES REPORT ESR-1157. ALTERNATE PLYWOOD WEB JOIST MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE MANUFACTURER'S PRODUCTS SHALL BE COMPATIBLE WITH THE JOIST HANGERS AND OTHER HARDWARE SPECIFIED ON PLANS, OR ALTERNATE HANGERS AND HARDWARE SHALL SUBMITTED FOR REVIEW AND APPROVAL. SUBSTITUTED ITEMS SHALL HAVE ICC-ES REPORT APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES.

49. PLYWOOD SHEATHING SHALL BE GRADE C-D, EXTERIOR GLUE OR STRUCTURAL II, EXTERIOR GLUE IN CONFORMANCE WITH DOC PS 1 OR PS 2. ORIENTED STRAND BOARD OF EQUIVALENT THICKNESS, EXPOSURE RATING AND PANEL INDEX MAY BE USED IN LIEU OF PLYWOOD.

ROOF SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 32/16.

FLOOR SHEATHING SHALL BE 3/4" (NOMINAL) WITH SPAN RATING 48/24.

WALL SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 24/0.

PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED T&G JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING.

REFER TO WOOD FRAMING NOTES BELOW FOR TYPICAL NAILING REQUIREMENTS.

50. ALL WOOD IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED WITH AN APPROVED PRESERVATIVE OR (2) LAYERS OF ASPHALT IMPREGNATED BUILDING PAPER SHALL BE PROVIDED BETWEEN UNTREATED WOOD AND CONCRETE OR MASONRY.

51. PRESERVATIVE TREATED WOOD SHALL BE TREATED PER AWPA STANDARD U1 TO THE USE CATEGORY EQUAL TO OR HIGHER THAN THE INTENDED APPLICATION. TREATED WOOD FOR ABOVE GROUND USE SHALL BE TREATED TO AWPA UC3B. WOOD IN CONTINUOUS CONTACT WITH FRESH WATER OR SOIL SHALL BE TREATED TO AWPA UC4A. WOOD FOR USE IN PERMANENT FOUNDATIONS SHALL BE TREATED TO AWPA UC4B.

52. WOOD TREATED FOR FIRE RESISTANCE SHALL MEET THE REQUIREMENTS OF ASTM E84 OR UL 723 AND HAVE A LISTED FLAME SPREAD INDEX OF 25 OR LESS. FIRE RETARDANT TREATED LUMBER AND WOOD STRUCTURAL PANELS SHALL BE LABELED IN ACCORDANCE WITH IBC 2303.2.4. WOOD TREATED FOR FIRE PROTECTION FOR USE IN INTERIOR ABOVE GROUND CONSTRUCTION AND CONTINUOUSLY PROTECTED FROM WEATHER AND OTHER SOURCES OF MOISTURE SHALL BE TREATED TO AWPA UCFA. WOOD TREATED FOR FIRE PROTECTION FOR USE IN EXTERIOR ABOVE GROUND CONSTRUCTION AND SUBJECT TO WETTING OR OTHER SOURCES OF MOISTURE SHALL BE TREATED TO AWPA UCFB.

53. FASTENERS AND TIMBER CONNECTORS USED WITH TREATED WOOD SHALL HAVE CORROSION RESISTANCE AS INDICATED IN THE FOLLOWING TABLE, UNLESS OTHERWISE NOTED.

WOOD TREATMENT	CONDITION	PROTECTION
HAS NO AMMONIA CARRIER	INTERIOR DRY	G90 GALVANIZED
CONTAINS AMMONIA CARRIER	INTERIOR DRY	G185 OR A185 HOT DIPPED OR CONTINUOUS HOT-GALVANIZED PER ASTM A653
CONTAINS AMMONIA CARRIER	INTERIOR WET	TYPE 304 OR 316 STAINLESS
CONTAINS AMMONIA CARRIER	EXTERIOR	TYPE 304 OR 316 STAINLESS
AZCA	ANY	TYPE 304 OR 316 STAINLESS

INTERIOR DRY CONDITIONS SHALL HAVE WOOD MOISTURE CONTENT LESS THAN 19%. WOOD MOISTURE CONTENT IN OTHER CONDITIONS (INTERIOR WET, EXTERIOR WET, AND EXTERIOR DRY) IS EXPECTED TO EXCEED 19%. CONNECTORS AND THEIR FASTENERS SHALL BE THE SAME MATERIAL. COMPLY WITH THE TREATMENT MANUFACTURERS RECOMMENDATIONS FOR PROTECTION OF METAL.

54. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NUMBER C-C-2019. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE ICC-ES APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER FOR MAXIMUM LOAD CARRYING CAPACITY. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

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

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

ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM)AS MEMBERS CONNECTED.

55. WOOD FASTENERS

A. NAIL SIZES SPECIFIED ON DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
6d	2"	0.113"
8d	2-1/2"	0.131"
10d	3"	0.148"
12d	3-1/4"	0.148"
16d BOX	3-1/2"	0.135"

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

NAILS - PLYWOOD (APA RATED SHEATHING) FASTENERS TO FRAMING SHALL BE DRIVEN FLUSH TO FACE OF SHEATHING WITH NO COUNTERSINKING PERMITTED. TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DEGREES WITH THE MEMBER AND STARTED 1/3 THE LENGTH OF THE NAIL FROM THE MEMBER END.

B. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG BOLTS BEARING ON WOOD. INSTALLATION OF LAG BOLTS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION WITH A LEAD BORE HOLE OF 60 TO 70 PERCENT OF THE SHANK DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" AND SMALLER LAG SCREWS.

56. NOTCHES AND HOLES IN WOOD FRAMING:

A. NOTCHES ON THE ENDS OF SOLID SAWN JOISTS AND RAFTERS SHALL NOT EXCEED ONE-FOURTH THE JOIST DEPTH. NOTCHES IN THE TOP OR BOTTOM OF SOLID SAWN JOISTS SHALL NOT EXCEED ONE-SIXTH THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE THIRD OF THE SPAN. HOLES BORED IN SOLID SAWN JOISTS AND RAFTERS SHALL NOT BE WITHIN 2 INCHES OF THE TOP OR BOTTOM OF THE JOIST, AND THE DIAMETER OF ANY SUCH HOLE SHALL NOT EXCEED ONE-THIRD THE DEPTH OF THE JOIST.

B. IN EXTERIOR WALLS AND BEARING PARTITIONS, ANY WOOD STUD IS PERMITTED TO BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS WIDTH. A HOLE NOT GREATER IN DIAMETER THAN 40 PERCENT OF THE STUD WIDTH IS PERMITTED TO BE BORED IN ANY WOOD STUD. IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8 INCH TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.

C. NOTCHES AND HOLES IN MANUFACTURED LUMBER AND PREFABRICATED PLYWOOD WEB JOISTS SHALL BE PER THE MANUFACTURERS RECOMMENDATIONS UNLESS OTHERWISE NOTED.

57. WOOD FRAMING NOTES--THE FOLLOWING APPLY UNLESS OTHERWISE SHOWN ON THE PLANS:

A. ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE INTERNATIONAL BUILDING CODE, THE AITC "TIMBER CONSTRUCTION MANUAL" AND THE AWC "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION". MINIMUM NAILING, UNLESS OTHERWISE NOTED, SHALL CONFORM TO IBC TABLE 2304.10.1. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.

B. WALL FRAMING: REFER ARCHITECTURAL DRAWINGS FOR THE SIZE OF ALL WALLS. ALL STUDS SHALL BE SPACED AT 16" O.C. UNO. TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS, AND AT BEAM OR HEADER BEARING LOCATIONS. TWO 2x8 HEADERS SHALL BE PROVIDED OVER ALL OPENINGS NOT OTHERWISE NOTED. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW. PROVIDE CONTINUOUS SOLID BLOCKING AT MID-HEIGHT OF ALL STUD WALLS OVER 10'-0" IN HEIGHT.

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

ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH TWO ROWS OF 16d NAILS @ 12" ON-CENTER, OR ATTACHED TO CONCRETE BELOW WITH 5/8" DIAMETER ANCHOR BOLTS @ 4'-0" ON-CENTER EMBEDDED 7" MINIMUM, UNLESS INDICATED OTHERWISE. INDIVIDUAL MEMBERS OF BUILT-UP POSTS SHALL BE NAILED TO EACH OTHER WITH TWO ROWS OF 16d @12" ON-CENTER. UNLESS OTHERWISE NOTED, GYPSUM WALLBOARD SHALL BE FASTENED TO THE INTERIOR SURFACE OF ALL STUDS AND PLATES WITH NO. 6 X 1-1/4" TYPE S OR W SCREWS @ 8" ON-CENTER. UNLESS INDICATED OTHERWISE, 1/2" (NOMINAL)APA RATED SHEATHING (SPAN RATING 24/0) SHALL BE NAILED TO ALL EXTERIOR SURFACES WITH 8d NAILS @ 6" ON-CENTER AT PANEL EDGES AND TOP AND BOTTOM PLATES (BLOCK UN-SUPPORTED EDGES)AND TO ALL INTERMEDIATE STUDS AND BLOCKING WITH 8d NAILS @ 12" ON-CENTER ALLOW 1/8" SPACING AT ALL PANEL EDGES AND PANEL ENDS.

C. FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS UNLESS OTHERWISE NOTED. PROVIDE SOLID BLOCKING BETWEEN RAFTERS AND JOISTS AT ALL BEARING POINTS WITH A MINIMUM OF (3) 16d TOE NAILS EACH END. TOE-NAIL JOISTS TO SUPPORTS WITH TWO 16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI JOIST BEAMS TOGETHER WITH TWO ROWS 16d @ 12" ON-CENTER.

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

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DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:
8480 Residence
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SHEET TITLE:
General Structural Notes

SCALE: -
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
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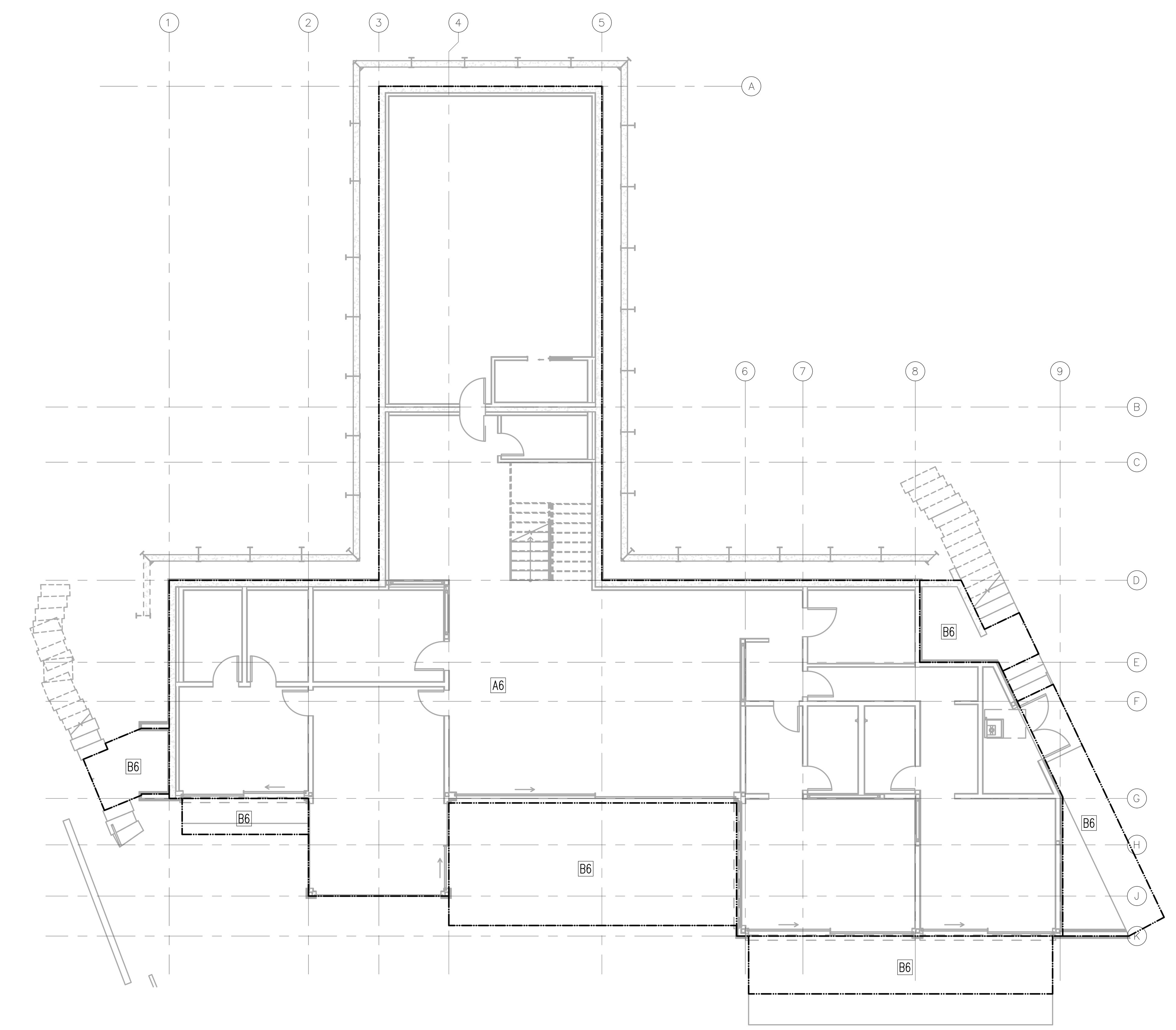
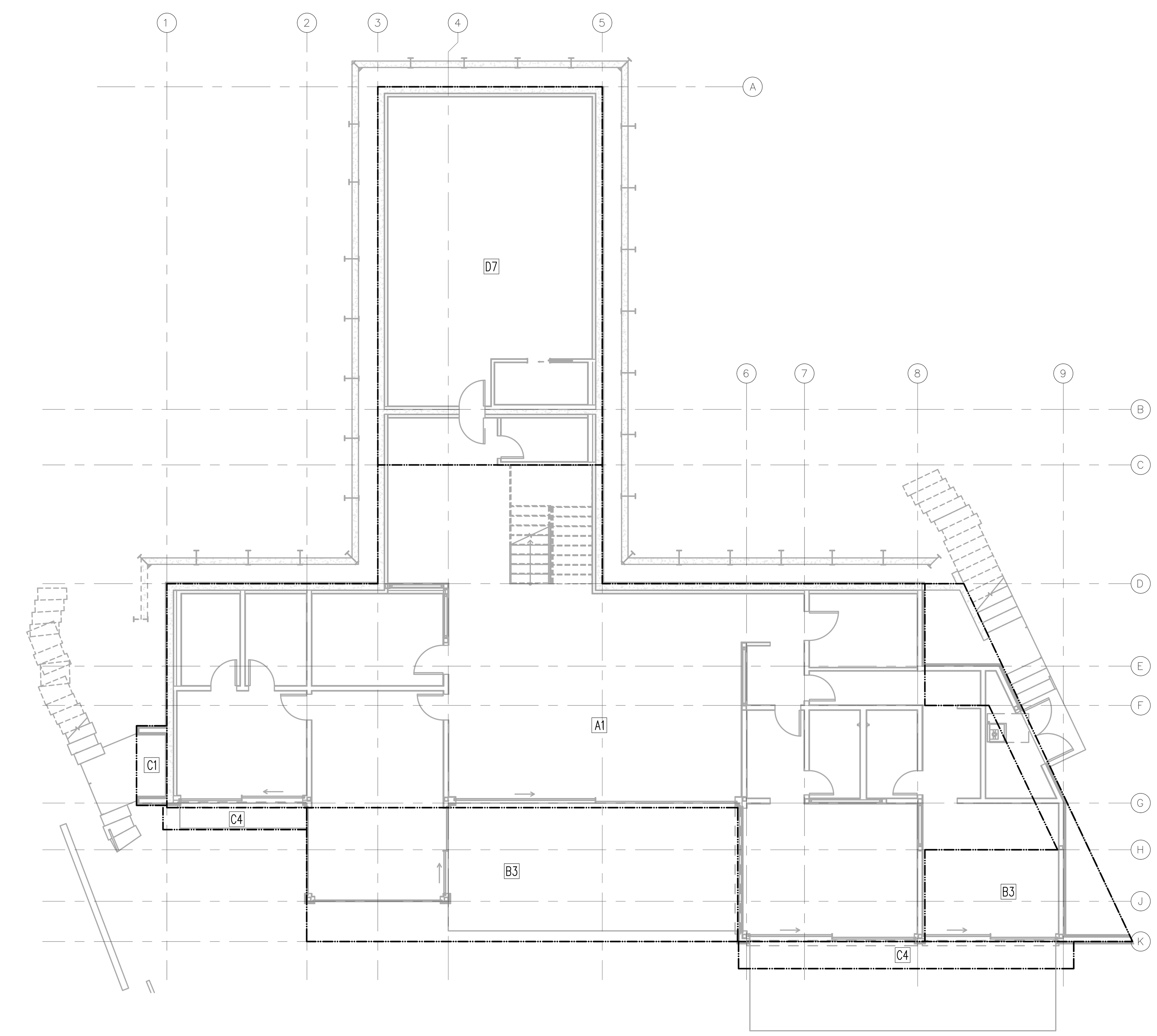
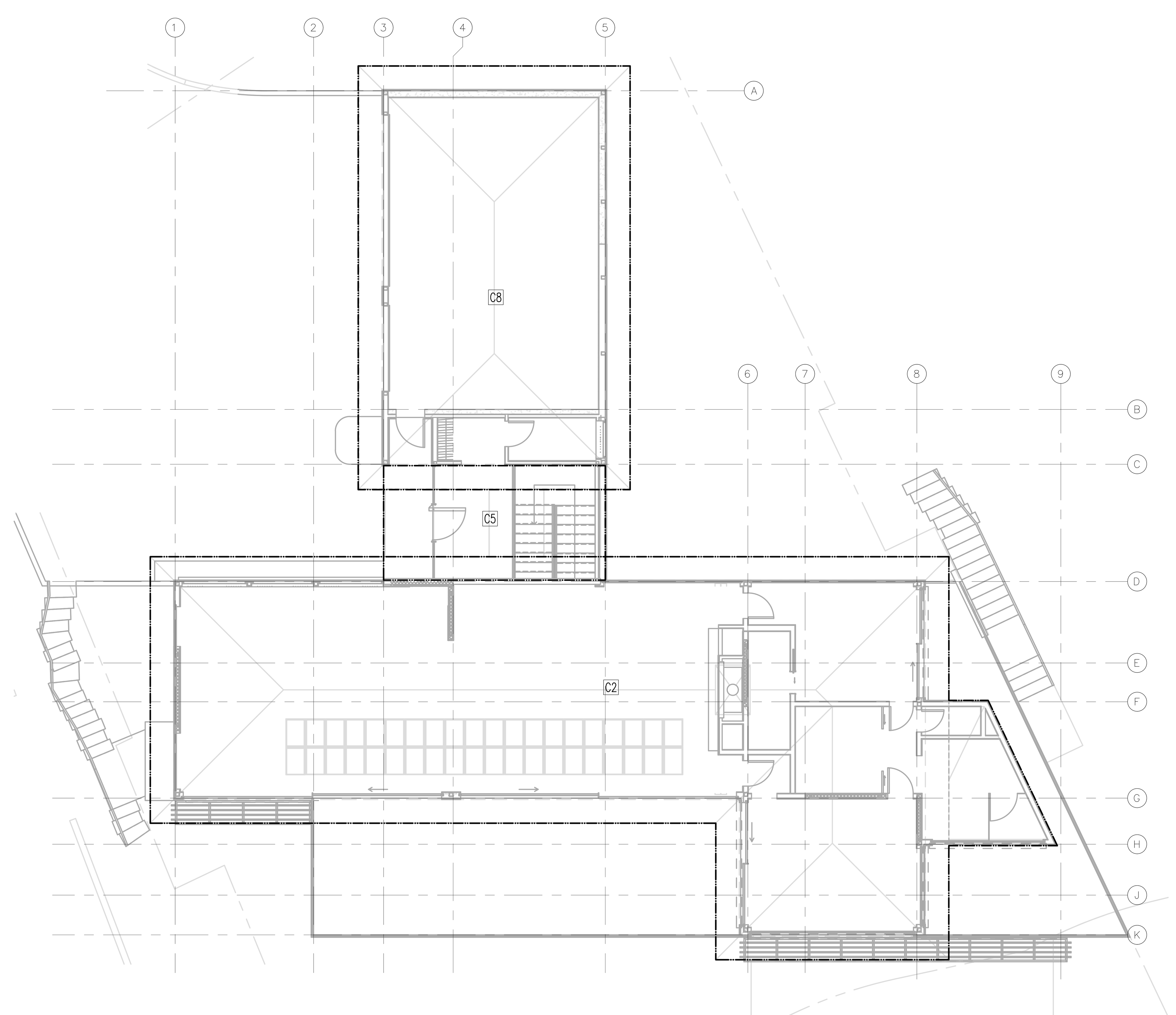


Lower Floor Load Map



Main Floor Load Map



Roof Load Map

Load Map Key

E1
- NUMBER INDICATES SUPERIMPOSED DEAD LOAD MARK
- LETTER INDICATES LIVE LOAD

Live Load (LL) Designations

MARK	USE	LIVE LOAD (psf)
A	RESIDENTIAL	40
B	BALCONY/DECK	60
C	ROOF/SNOW	25
D	GARAGE/PARKING	40 ①
E		
F		
G		
H		
J		

① AT GARAGE FLOOR, UNIFORM LIVE LOAD AS NOTED IN THE SCHEDULE OR 3000 LB CONCENTRATED LOAD FOR PASSENGER VEHICLES APPLIES.

Dead Load (DL) and Superimposed Dead Load (SDL) Designations

MARK	TYPE	TOTAL DL = SELF WEIGHT + SDL (psf)	SELF WEIGHT (psf)	SELF WEIGHT NOTES	TOTAL SDL (psf)	CEILING/MEP LOAD (psf)	SPECIAL LOAD (psf)	SPECIAL LOAD DESCRIPTION/NOTES
1	MAIN FLOOR	72	56	3½" CONC. ON 1½" DECK	16	6	10	HARDWOOD FLOORING & PLYWOOD
2	ROOF	22	5	RAFTERS, & SHEATHING	17	7	10	ROOFING & SOLAR PANELS
3	DECK	28	5	JOISTS & SHEATHING	23	7	16	CONCRETE PAVERS (1¼" max.)
4	TRELLIS ROOF	8	3	RAFTERS	5	5		
5	GLASS ROOF	30	25	GLAZING & STEEL FRAMING	5	5		
6	LOWER FLOOR	85	75	6" CONCRETE SLAB	10		10	HARDWOOD FLOORING & PLYWOOD
7	GARAGE MAIN FLOOR	75	69	4½" CONC. ON 1½" DECK	6	6		
8	GARAGE ROOF	23	5	LIGHT GAUGE RAFTERS & SHEATHING	18	8	10	ROOFING & SOLAR PANELS

* SELF WEIGHT OF STEEL FRAMING NOT INCLUDED IN MAIN FLOOR, ROOF, GARAGE MAIN FLOOR, OR GARAGE ROOF LOADING

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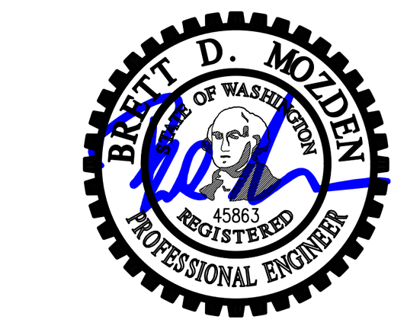

DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

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1 Revision 1 Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

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SHEET TITLE:
Load Maps

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DATE: March 11, 2022
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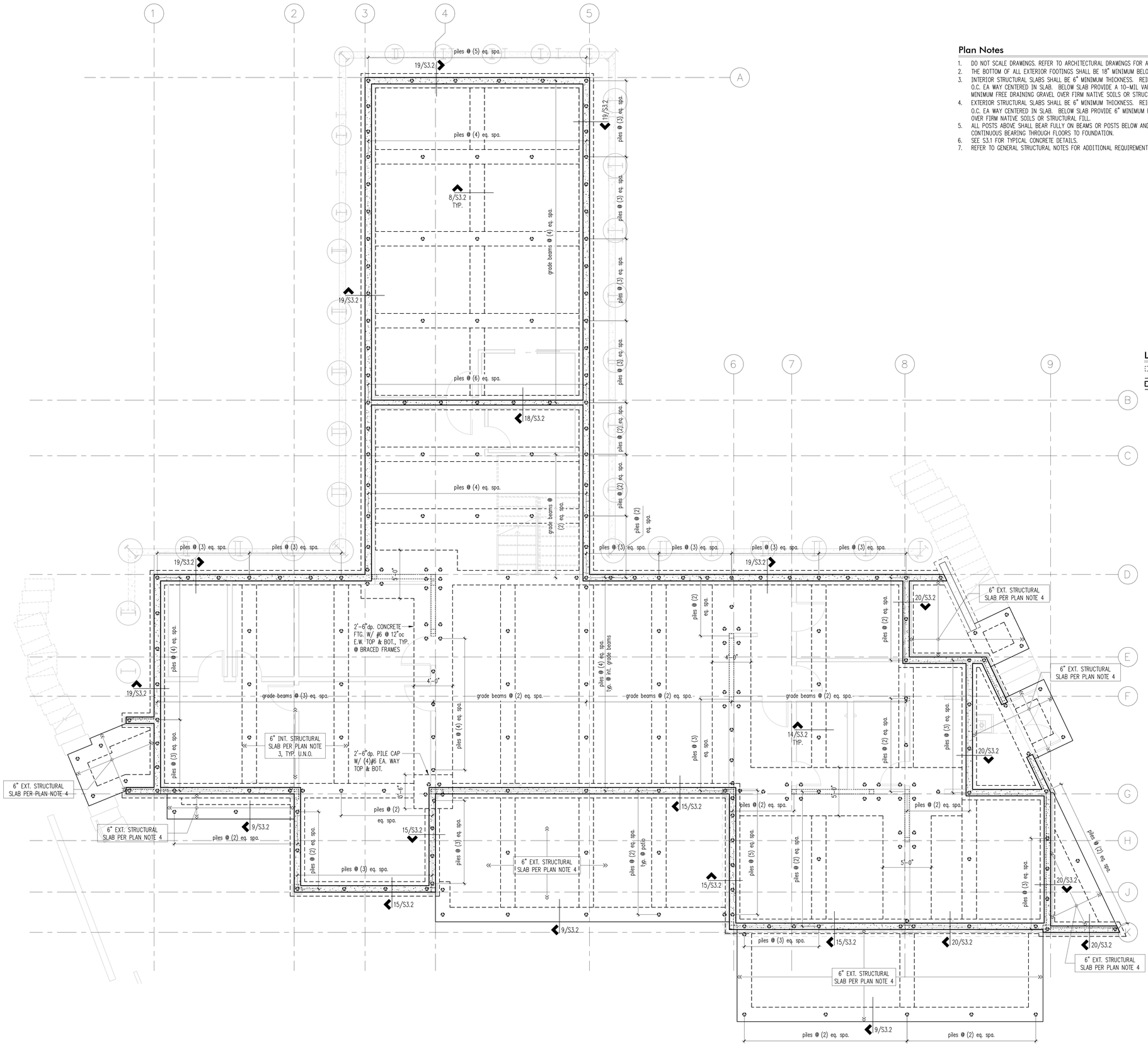

Lower Floor/Foundation Plan

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

Plan Notes

1. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
2. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 18" MINIMUM BELOW EXTERIOR GRADE.
3. INTERIOR STRUCTURAL SLABS SHALL BE 6" MINIMUM THICKNESS. REINFORCE WITH #4 AT 12" O.C. EA WAY CENTERED IN SLAB. BELOW SLAB PROVIDE A 10-MIL VAPOR BARRIER OVER 6" MINIMUM FREE DRAINING GRAVEL OVER FIRM NATIVE SOILS OR STRUCTURAL FILL.
4. EXTERIOR STRUCTURAL SLABS SHALL BE 6" MINIMUM THICKNESS. REINFORCE WITH #4 AT 12" O.C. EA WAY CENTERED IN SLAB. BELOW SLAB PROVIDE 6" MINIMUM FREE DRAINING GRAVEL OVER FIRM NATIVE SOILS OR STRUCTURAL FILL.
5. ALL POSTS ABOVE SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE FULL CONTINUOUS BEARING THROUGH FLOORS TO FOUNDATION.
6. SEE S3.1 FOR TYPICAL CONCRETE DETAILS.
7. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

Legend

⬚	STRUCTURAL WALL OR POST ABOVE
▭	STEM WALL & FOOTING
●	4"ø PIN PILE (246 total this sheet)

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CHECKED: SRW
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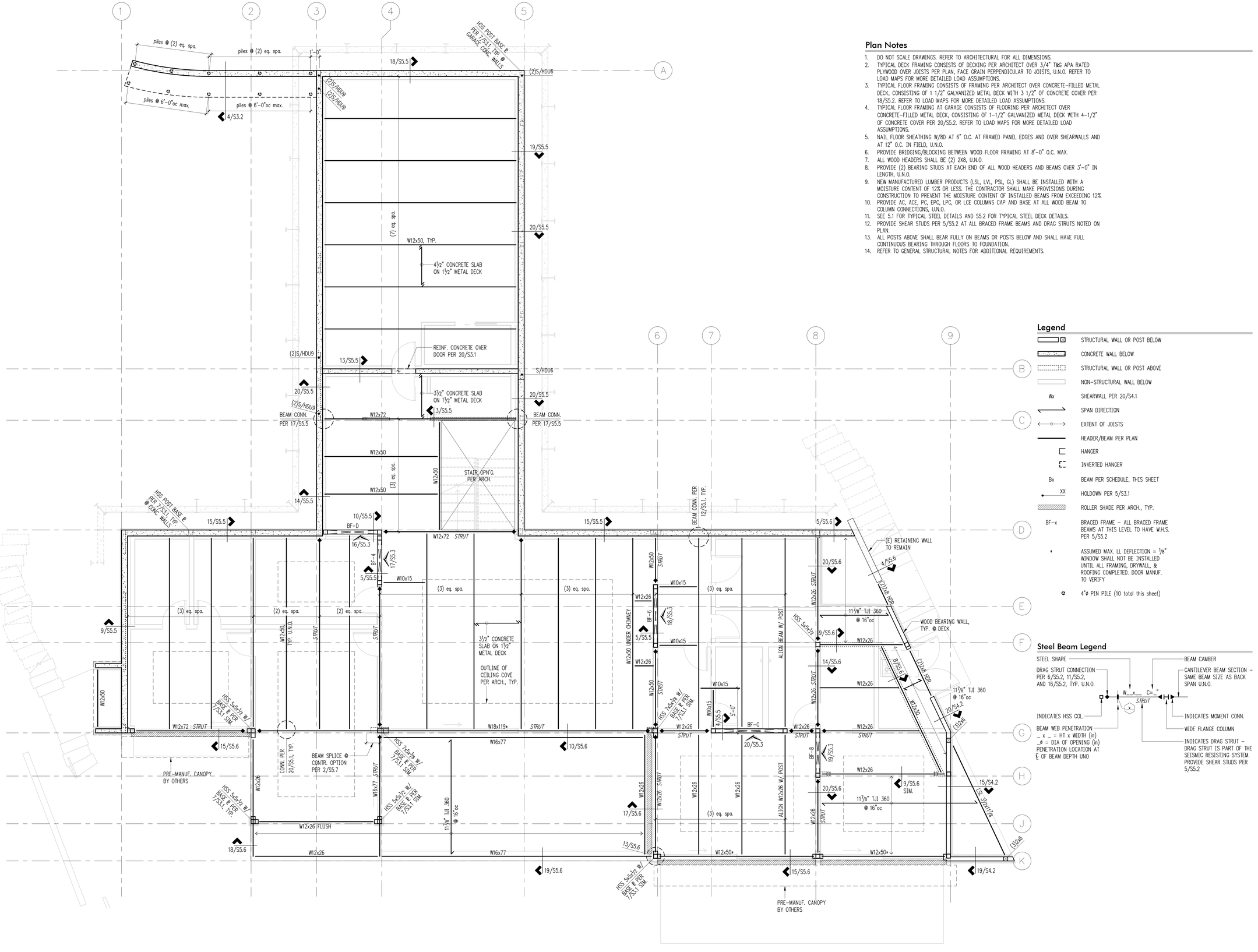
SHEET TITLE:
Lower Floor/
Foundation Plan

SCALE: 1/4" = 1'-0" U.N.O.
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO:
△1 S2.1



Main Floor Framing Plan

Scale: ¼" = 1'-0"

Plan Notes

1. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL FOR ALL DIMENSIONS.
2. TYPICAL DECK FRAMING CONSISTS OF DECKING PER ARCHITECT OVER 3/4" T&G APA RATED PLYWOOD OVER JOISTS PER PLAN, FACE GRAIN PERPENDICULAR TO JOISTS, U.N.O. REFER TO LOAD MAPS FOR MORE DETAILED LOAD ASSUMPTIONS.
3. TYPICAL FLOOR FRAMING CONSISTS OF FRAMING PER ARCHITECT OVER CONCRETE-FILLED METAL DECK, CONSISTING OF 1 1/2" GALVANIZED METAL DECK WITH 3 1/2" OF CONCRETE COVER PER 18/S5.2. REFER TO LOAD MAPS FOR MORE DETAILED LOAD ASSUMPTIONS.
4. TYPICAL FLOOR FRAMING AT GARAGE CONSISTS OF FLOORING PER ARCHITECT OVER CONCRETE-FILLED METAL DECK, CONSISTING OF 1-1/2" GALVANIZED METAL DECK WITH 4-1/2" OF CONCRETE COVER PER 20/S5.2. REFER TO LOAD MAPS FOR MORE DETAILED LOAD ASSUMPTIONS.
5. NAIL FLOOR SHEATHING W/8D AT 6" O.C. AT FRAMED PANEL EDGES AND OVER SHEARWALLS AND AT 12" O.C. IN FIELD, U.N.O.
6. PROVIDE BRIDGING/BLOCKING BETWEEN WOOD FLOOR FRAMING AT 8'-0" O.C. MAX.
7. ALL WOOD HEADERS SHALL BE (2) 2X8, U.N.O.
8. PROVIDE (2) BEARING STUDS AT EACH END OF ALL WOOD HEADERS AND BEAMS OVER 3'-0" IN LENGTH, U.N.O.
9. NEW MANUFACTURED LUMBER PRODUCTS (LSL, LVL, PSL, GL) SHALL BE INSTALLED WITH A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCTION TO PREVENT THE MOISTURE CONTENT OF INSTALLED BEAMS FROM EXCEEDING 12%.
10. PROVIDE AC, ACE, PC, EPC, LPC, OR LCE COLUMNS CAP AND BASE AT ALL WOOD BEAM TO COLUMN CONNECTIONS, U.N.O.
11. SEE 5.1 FOR TYPICAL STEEL DETAILS AND S5.2 FOR TYPICAL STEEL DECK DETAILS.
12. PROVIDE SHEAR STUDS PER 5/S5.2 AT ALL BRACED FRAME BEAMS AND DRAG STRUTS NOTED ON PLAN.
13. ALL POSTS ABOVE SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE FULL CONTINUOUS BEARING THROUGH FLOORS TO FOUNDATION.
14. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

Legend

▭ ☒	STRUCTURAL WALL OR POST BELOW
▩	CONCRETE WALL BELOW
⬚ ⬚	STRUCTURAL WALL OR POST ABOVE
▭	NON-STRUCTURAL WALL BELOW
Wx	SHEARWALL PER 20/S4.1
⇀	SPAN DIRECTION
←○→	EXTENT OF JOISTS
—	HEADER/BEAM PER PLAN
⊏	HANGER
⊏	INVERTED HANGER
Bx	BEAM PER SCHEDULE, THIS SHEET
● XX	HOLDOWN PER 5/S3.1
▨	ROLLER SHADE PER ARCH., TYP.
BF-x	BRACED FRAME – ALL BRACED FRAME BEAMS AT THIS LEVEL TO HAVE W.H.S. PER 5/S5.2
*	ASSUMED MAX. LL DEFLECTION = ⅛" WINDOW SHALL NOT BE INSTALLED UNTIL ALL FRAMING, DRYWALL, & ROOFING COMPLETED. DOOR MANUF. TO VERIFY
●	4"ø PIN PILE (10 total this sheet)

Steel Beam Legend

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APPROVED: BDM

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JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:
8480 Residence
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Mercer Island, WA 98040

ARCHITECT:
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ISSUE:
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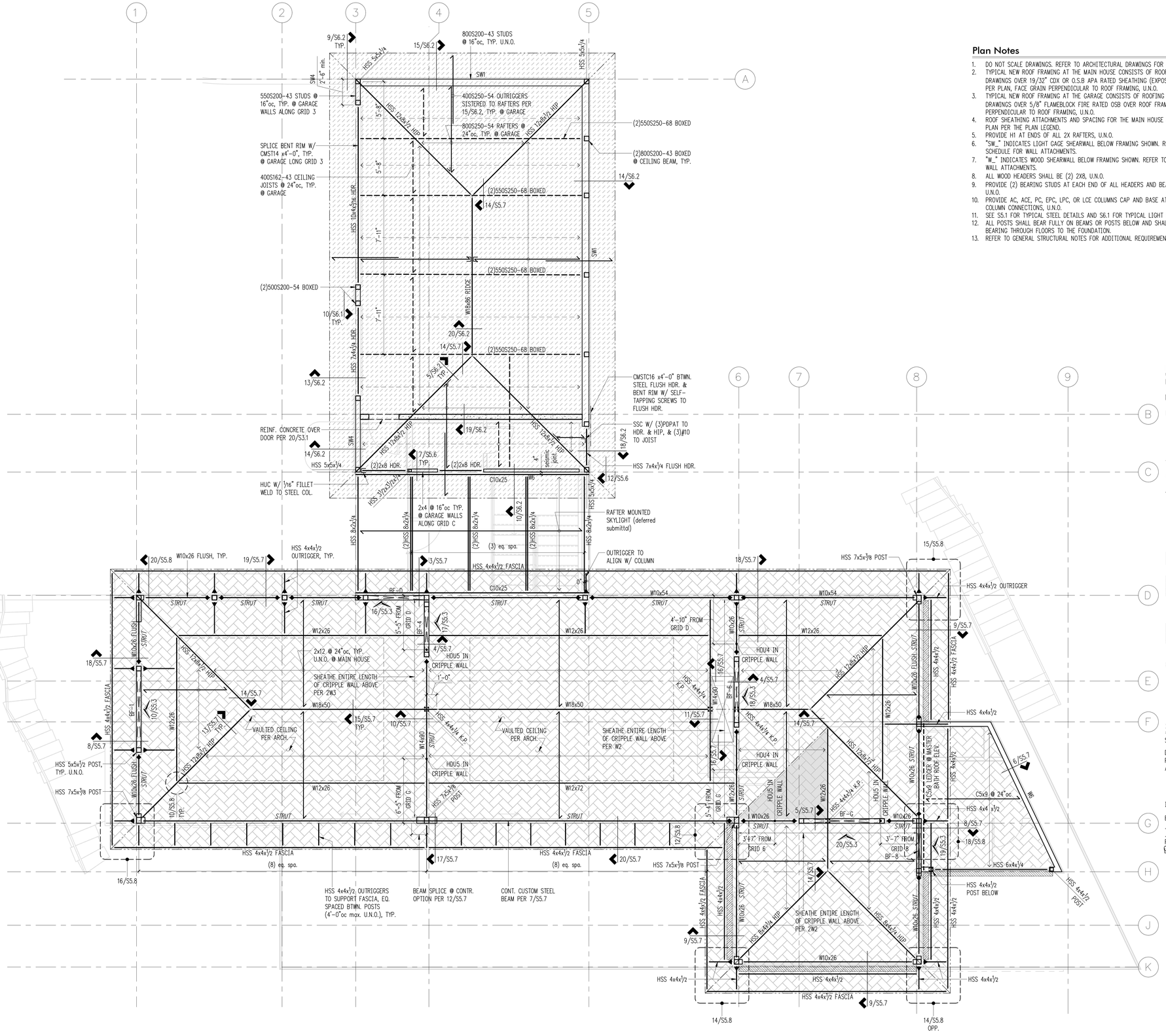
SHEET TITLE:
Main Floor Framing Plan

SCALE: 1/4" = 1'-0" U.N.O.
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO: 1 S2.2



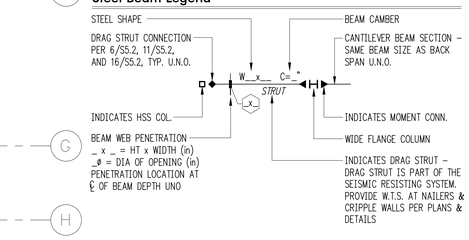
Plan Notes

1. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
2. TYPICAL NEW ROOF FRAMING AT THE MAIN HOUSE CONSISTS OF ROOFING PER ARCHITECTURAL DRAWINGS OVER 19/32" CDX OR O.S.B APA RATED SHEATHING (EXPOSURE 1) OVER ROOF FRAMING PER PLAN, FACE GRAIN PERPENDICULAR TO ROOF FRAMING, U.N.O.
3. TYPICAL NEW ROOF FRAMING AT THE GARAGE CONSISTS OF ROOFING PER ARCHITECTURAL DRAWINGS OVER 5/8" FLAMEBLOCK FIRE RATED OSB OVER ROOF FRAMING PER PLAN, FACE GRAIN PERPENDICULAR TO ROOF FRAMING, U.N.O.
4. ROOF SHEATHING ATTACHMENTS AND SPACING FOR THE MAIN HOUSE AND GARAGE IS NOTED ON PLAN PER THE PLAN LEGEND.
5. PROVIDE H1 AT ENDS OF ALL 2X RAFTERS, U.N.O.
6. "SW_" INDICATES LIGHT GAGE SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE FOR WALL ATTACHMENTS.
7. "W_" INDICATES WOOD SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE FOR WALL ATTACHMENTS.
8. ALL WOOD HEADERS SHALL BE (2) 2X8, U.N.O.
9. PROVIDE (2) BEARING STUDS AT EACH END OF ALL HEADERS AND BEAMS OVER 3'-0" IN LENGTH, U.N.O.
10. PROVIDE AC, ACE, PC, EPC, LPC, OR LCE COLUMNS CAP AND BASE AT ALL WOOD BEAM TO COLUMN CONNECTIONS, U.N.O.
11. SEE S5.1 FOR TYPICAL STEEL DETAILS AND S6.1 FOR TYPICAL LIGHT GAGE DETAILS.
12. ALL POSTS SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE CONTINUOUS FULL BEARING THROUGH FLOORS TO THE FOUNDATION.
13. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

Legend

- STRUCTURAL WALL OR POST BELOW
- CONCRETE WALL BELOW
- NON-STRUCTURAL WALL BELOW
- Wx — SHEARWALL PER 20/S4.1
- SWx — LIGHT GAGE SHEARWALL PER 15/S6.1
- SPAN DIRECTION
- EXTENT OF JOISTS
- HEADER/BEAM PER PLAN
- HANGER
- INVERTED HANGER
- Bx — BEAM PER SCHEDULE, THIS SHEET
- OVERFRAME W/ 2x6 @ 24"oc. POST DOWN TO FRAMING BELOW @ 48"oc MAX.
- BLOCKED ROOF DIAPHRAGM: 43 GAUGE x1½" WIDE FLAT STRAPPING AT ALL PLYWOOD PANEL EDGES. ATTACH ALL PLYWOOD PANEL EDGES W/ #8 SCREWS @ 2½"oc AND 12"oc FIELD
- BLOCKED ROOF DIAPHRAGM: 2x4 BLKG. AT ALL PLYWOOD PANEL EDGES. NAIL ALL PLYWOOD PANEL EDGES W/ 8d @ 2"oc & 12"oc FIELD
- ROLLER SHADE PER ARCH., TYP.
- BF-x — BRACED FRAME - AT BRACED FRAME BEAM AT THIS LEVEL, PROVIDE W.T.S. AT NAILERS AND CRIPPLE WALLS PER PLAN AND DETAILS

Steel Beam Legend



Roof Framing Plan

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

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SHEET TITLE:

Roof Framing Plan

SCALE:	1/4" = 1'-0" U.N.O.
DATE:	March 11, 2022
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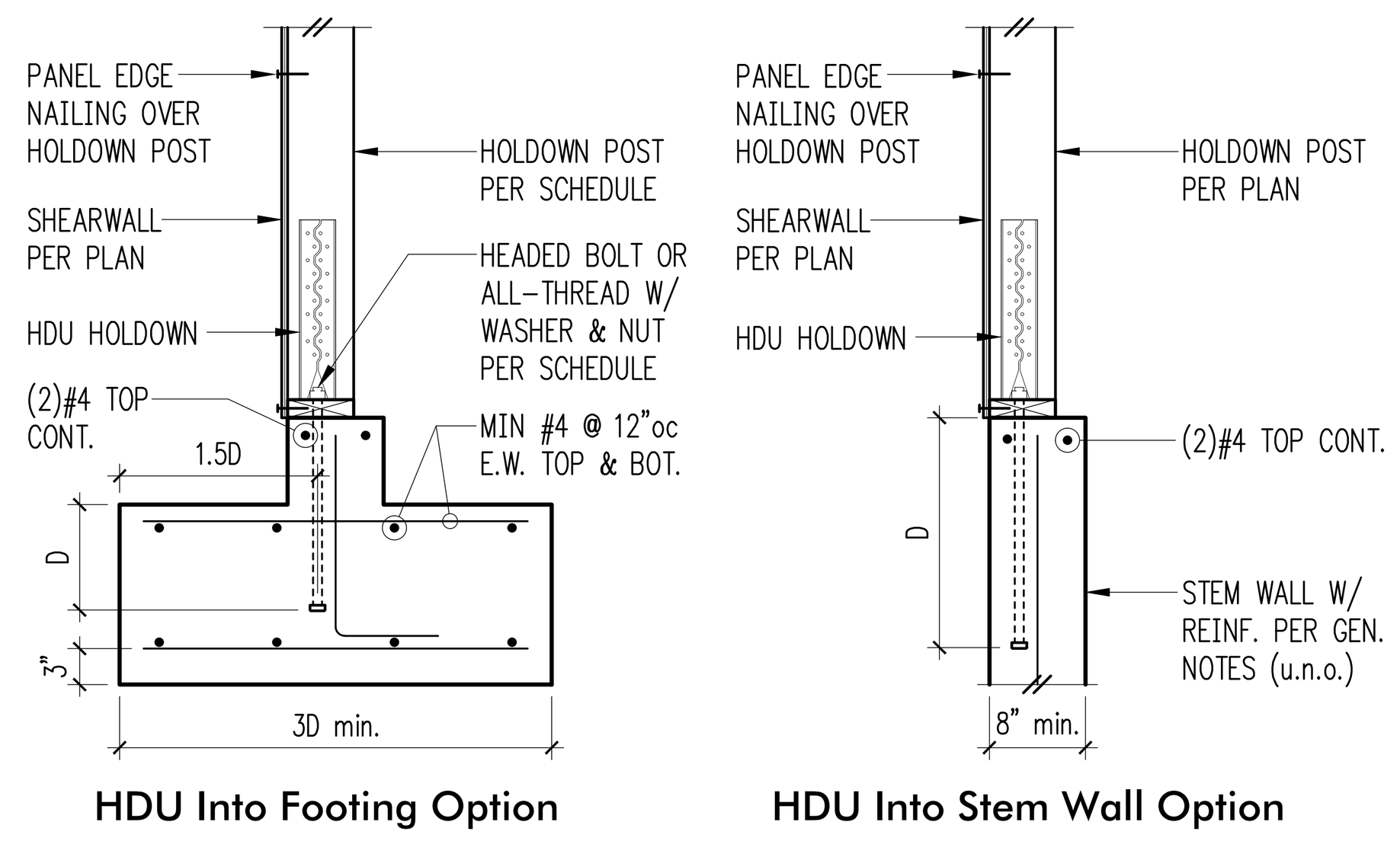
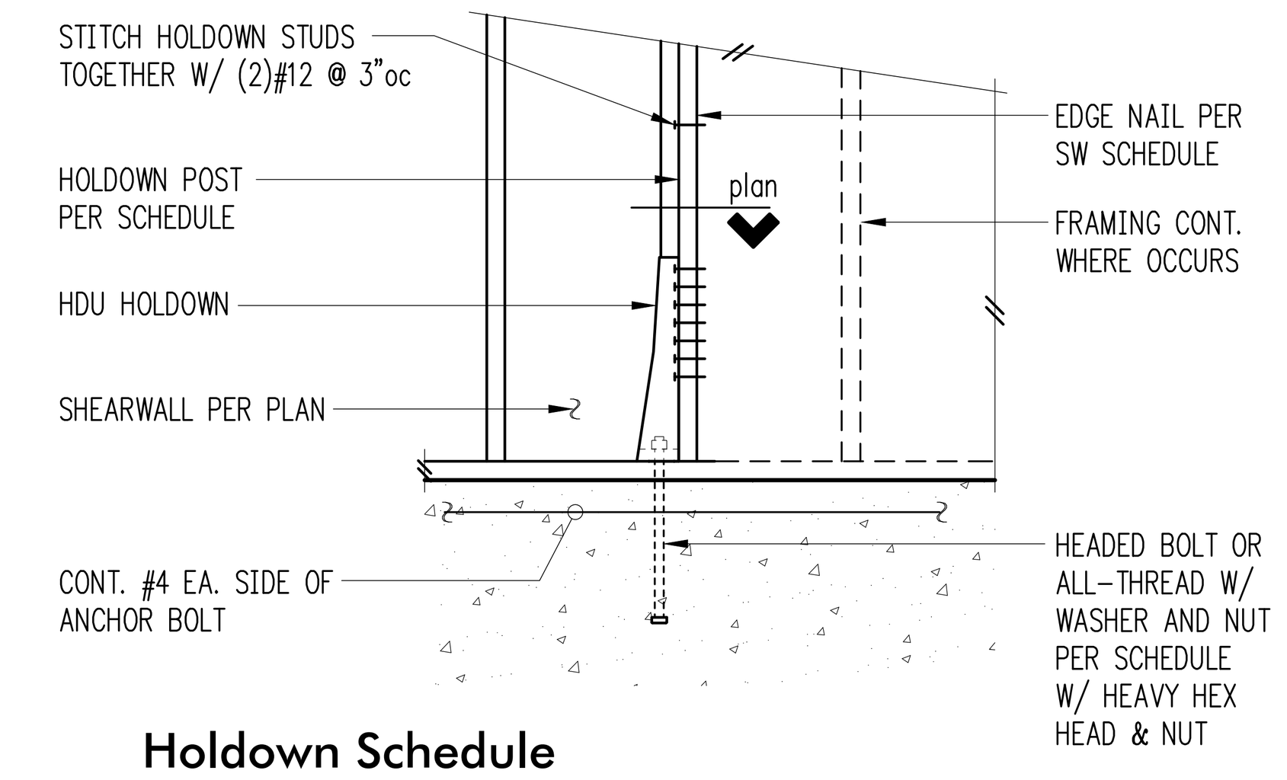


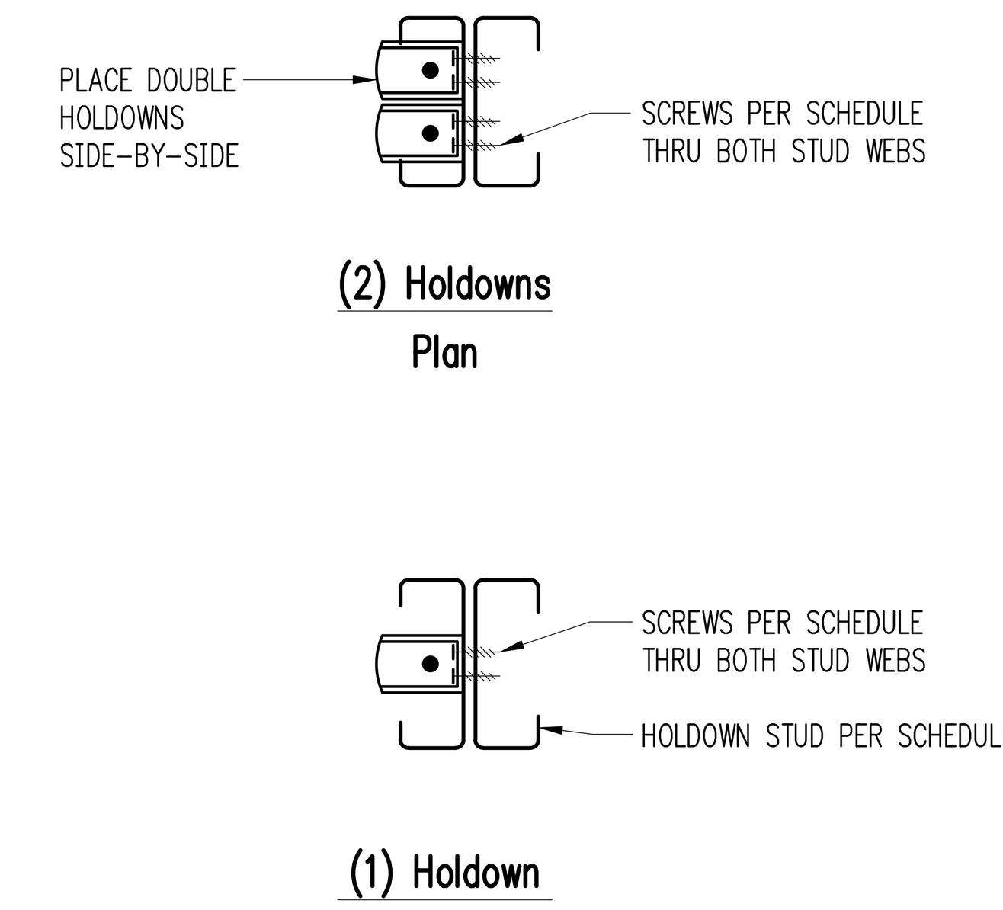
Holdown Schedule

Plan Mark	Screws	Anchor Bolt	Min. A.B. Embed (D) Stem Wall	Min. A.B. Embed (D) Footing	Holdown Post ① if 2x4	Holdown Post ① if 2x6
HDU2–SDS2.5	(6)SDS 1/4"x2 1/2"	5/8"ø	12"	4"	(2) 2x4	(2) 2x6
HDU4–SDS2.5	(10)SDS 1/4"x2 1/2"	5/8"ø	18"	6"	4x4	4x6
HDU5–SDS2.5	(14)SDS 1/4"x2 1/2"	5/8"ø	SB5/8x24	7"	4x4	4x6
HDU8–SDS2.5	(20)SDS 1/4"x2 1/2"	7/8"ø	SSTB28	8"	4x6	6x6
HDU11–SDS2.5	(30)SDS 1/4"x2 1/2"	1"ø	SB1x30	10"	4x8	6x6
HDU14–SDS2.5	(36)SDS 1/4"x2 1/2"	1"ø	N/A	12"	4x8	6x6

① MINIMUM SIZE OF POST AT END OF WALL UNLESS OTHERWISE NOTED ON FRAMING PLANS.

Typical HDU Holdown 3





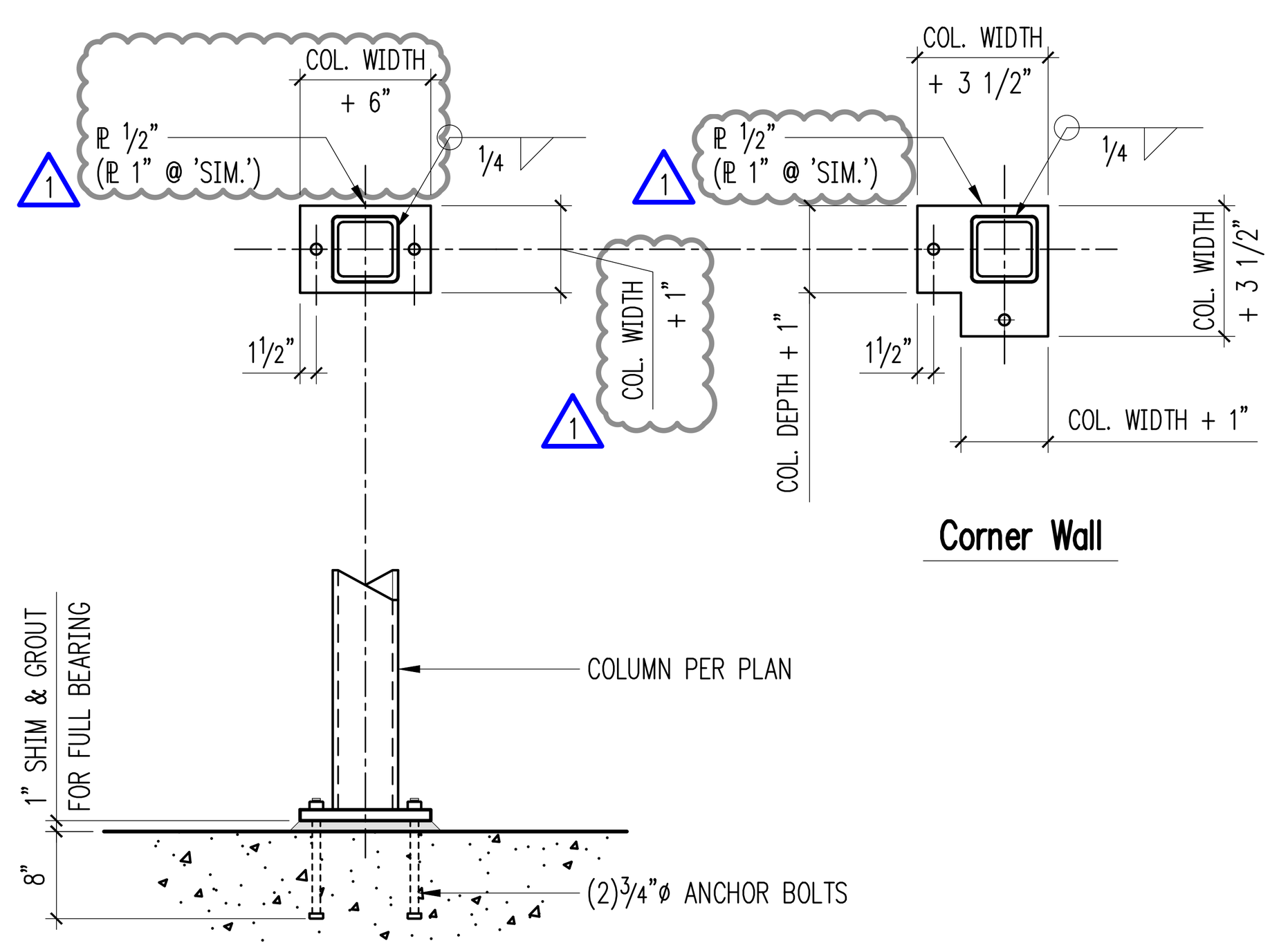
Holdown Schedule

Holdown ②	Screws	Anchor Bolt	A.B. Embed	Holdown Post ①③
S/HDU4	(6)#14	5/8"ø	11 1/2"	(2)550S200–43
S/HDU6	(12)#14	5/8"ø	11 1/2"	(2)550S200–68
(2)S/HDU6	(12)#14	5/8"ø	11 1/2"	(2)550S200–97
(2)S/HDU9	(18)#14	7/8"ø	11 1/2"	(2)550S200–97

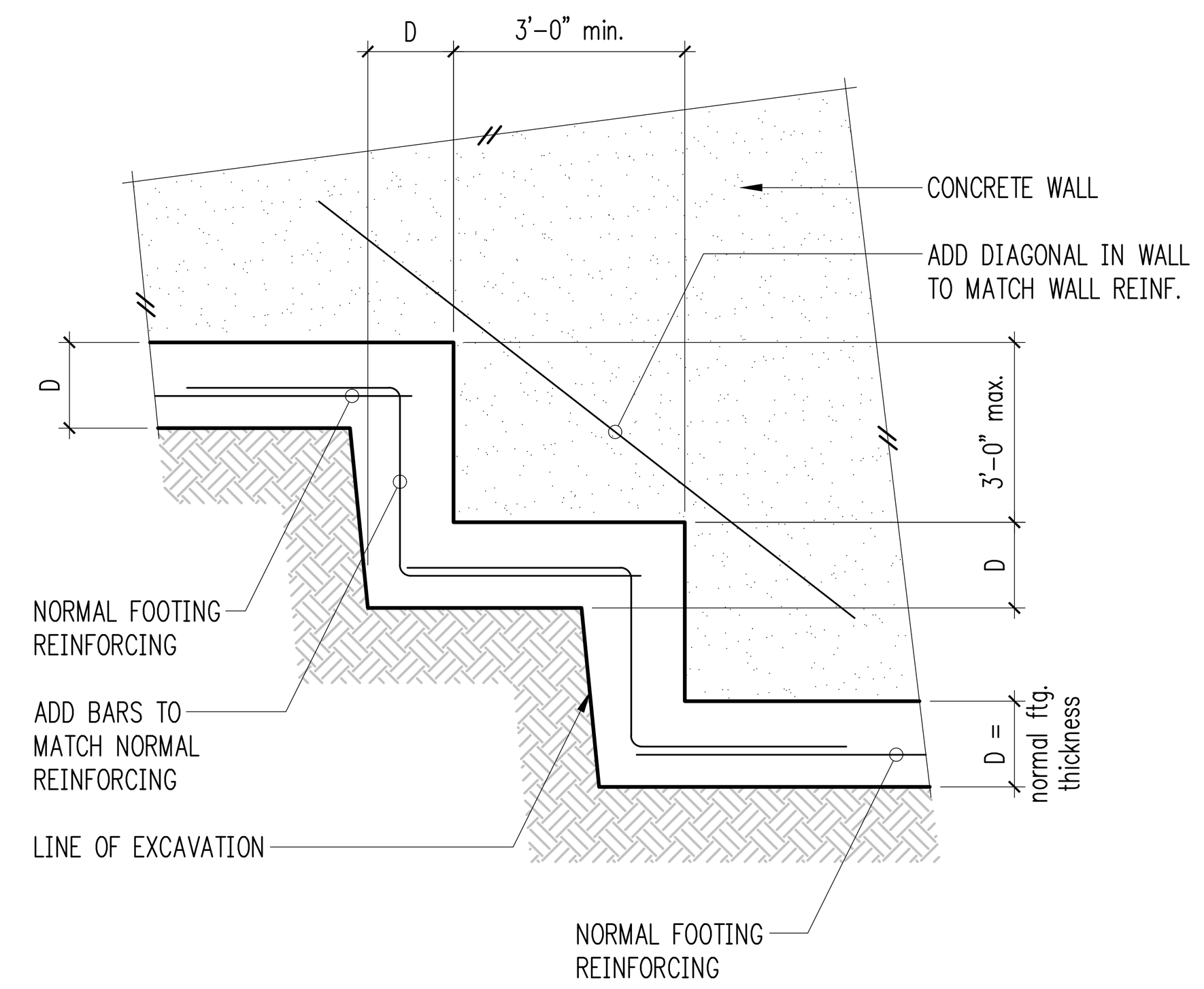
① MINIMUM SIZE OF POST AT END OF WALL UNLESS OTHERWISE NOTED ON FRAMING PLANS. WHERE POST OCCURS IN 8" WALL, USE 8" STUDS INSTEAD OF 5 1/2" STUDS.
② SEE PLANS FOR HOLDOWN LOCATIONS.
③ HOLDOWN POST STUDS SHALL BE BACK TO BACK.

Typical S/HDU Holdown Details and Schedule 5

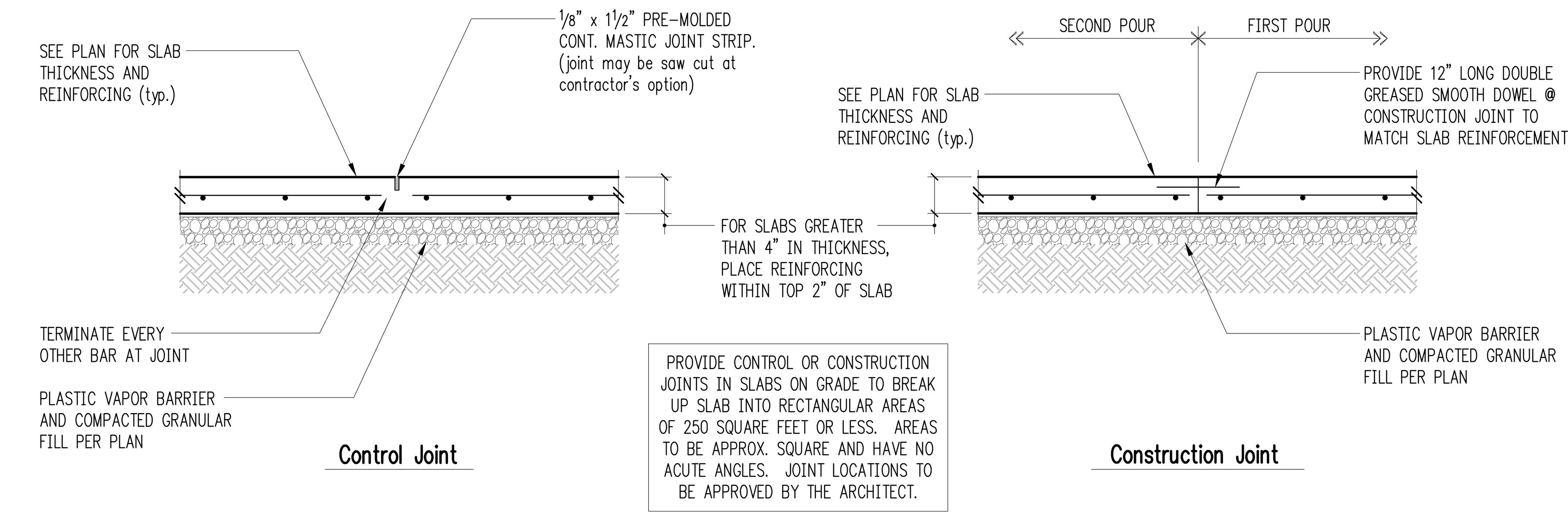
6



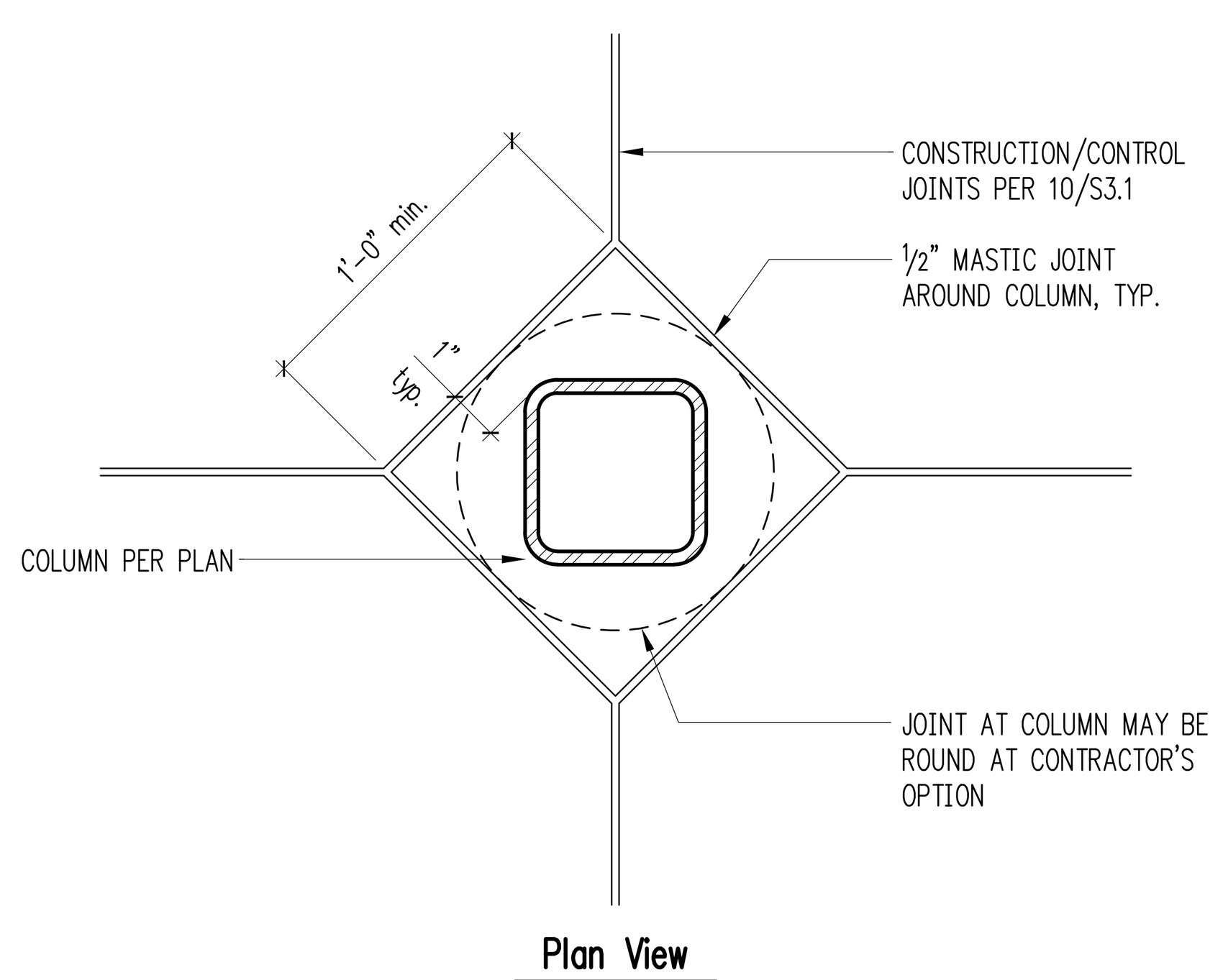
Baseplate - HSS Column 7



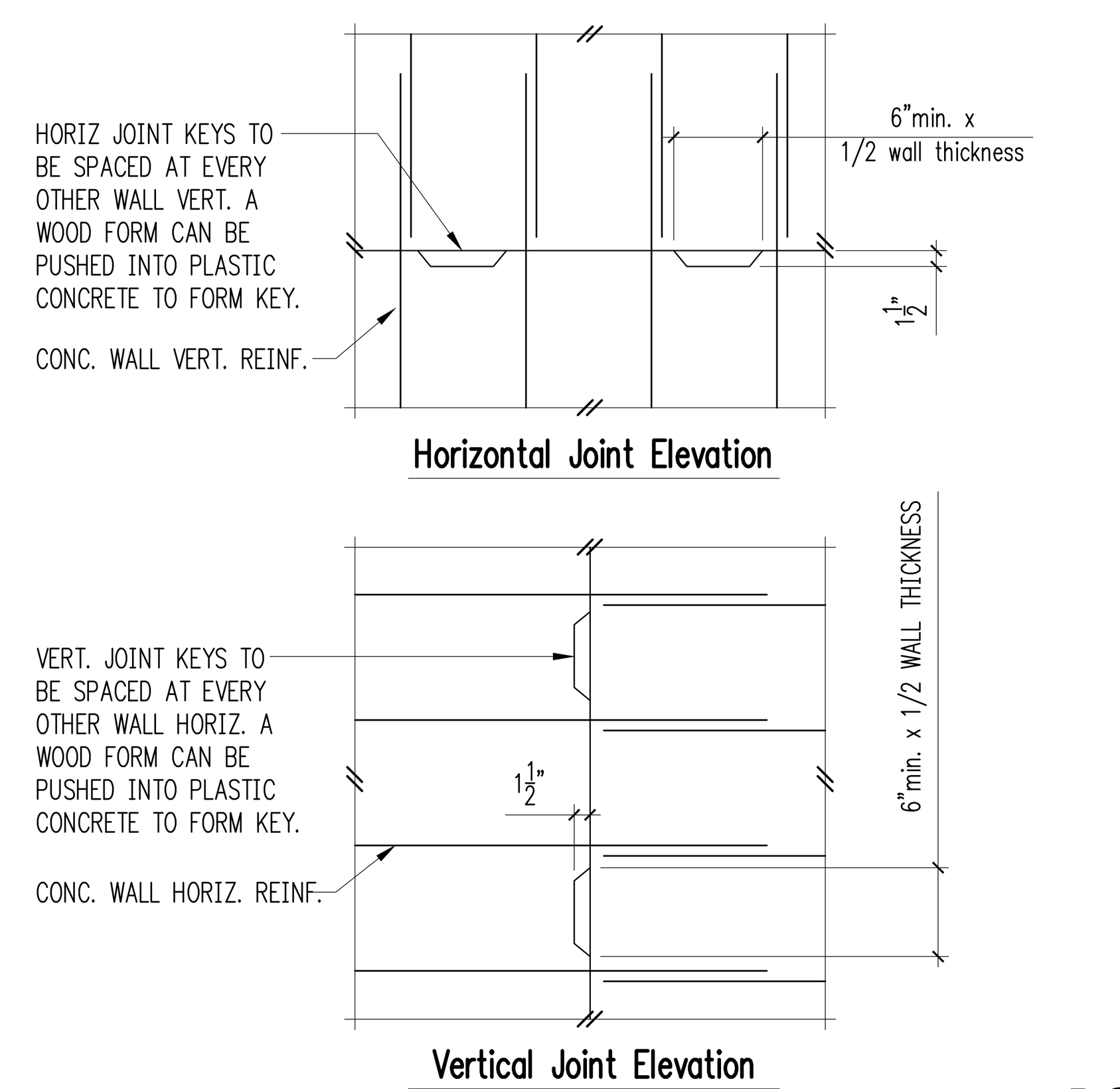
Typical Stepped Footing 8



Typical Slab Joints 10



Typical Slab Isolation Joint 11



Typical Concrete Wall Construction Joint 12

Reinforcing Splice and Development Length Schedule

For f'c = 4000 psi, Grade 60 Reinforcing

I — Minimum Straight Development Length (ℓd)

Bar Size	Top Bars	Other Bars
#3	19"	15"
#4	25"	19"
#5	31"	24"
#6	37"	29"
#7	54"	42"
#8	62"	48"
#9	70"	54"
#10	79"	61"
#11	87"	67"

II — Minimum Lap Splice Lengths (ℓs)

Bar Size	Top Bars	Other Bars
#3	24"	19"
#4	32"	25"
#5	40"	31"
#6	48"	37"
#7	70"	54"
#8	81"	62"
#9	91"	70"
#10	102"	79"
#11	113"	87"

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

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

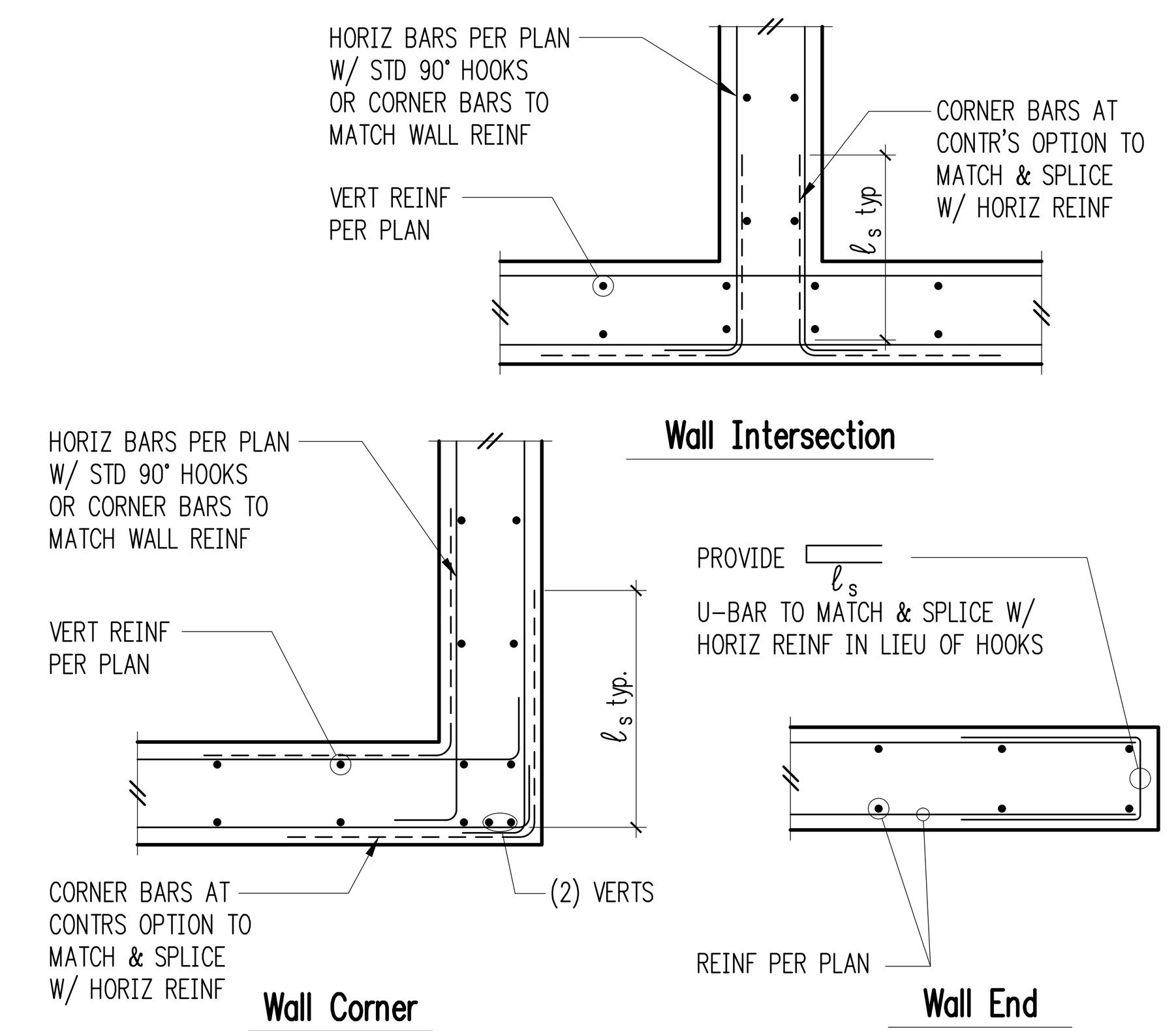
III — Minimum Embedment Lengths (ℓdh) For Standard End Hooks

ℓ_{dh} 12db

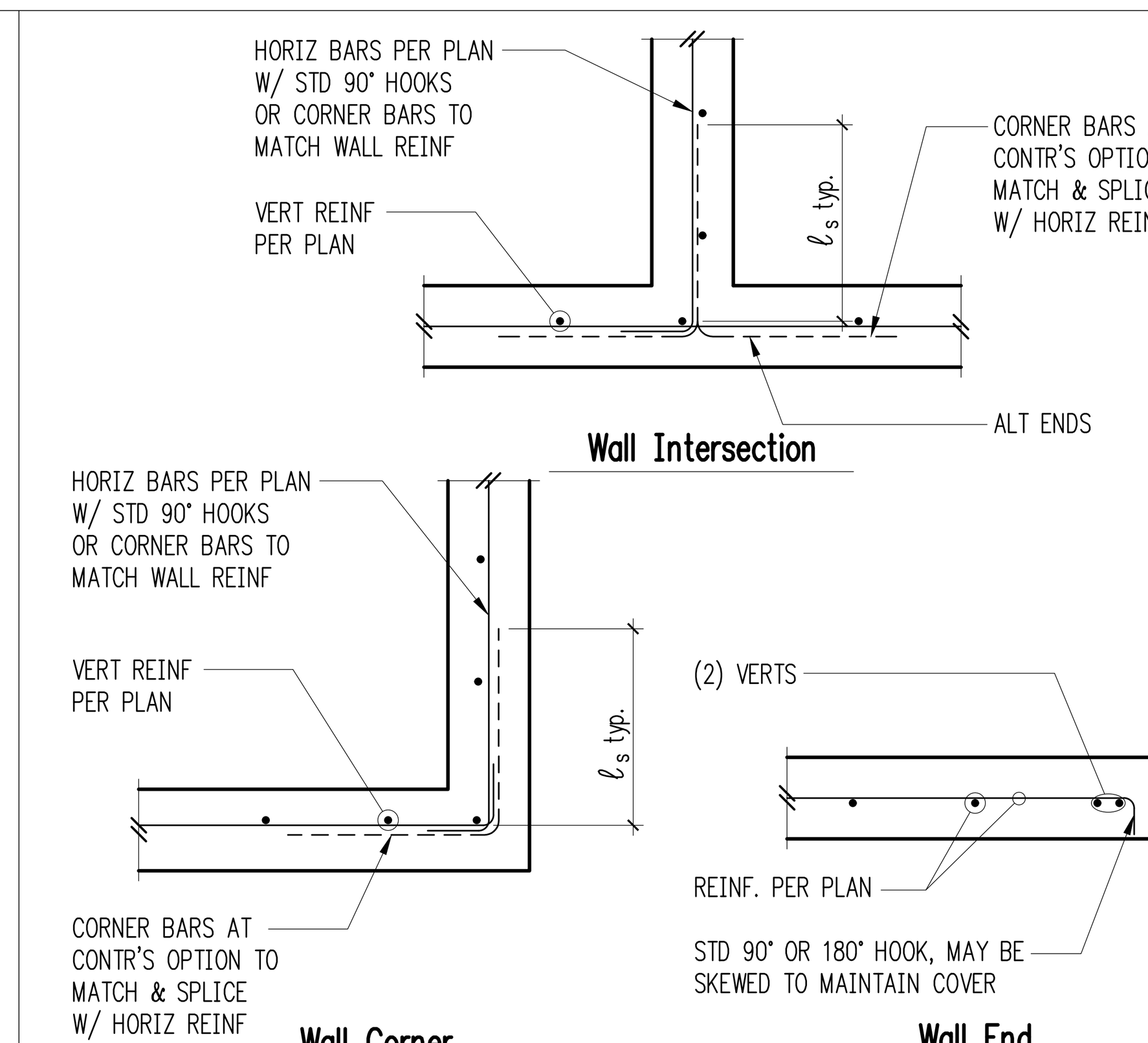
Bar Size	Length
#3	6"
#4	7"
#5	9"
#6	10"
#7	12"
#8	14"
#9	15"
#10	17"
#11	19"

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

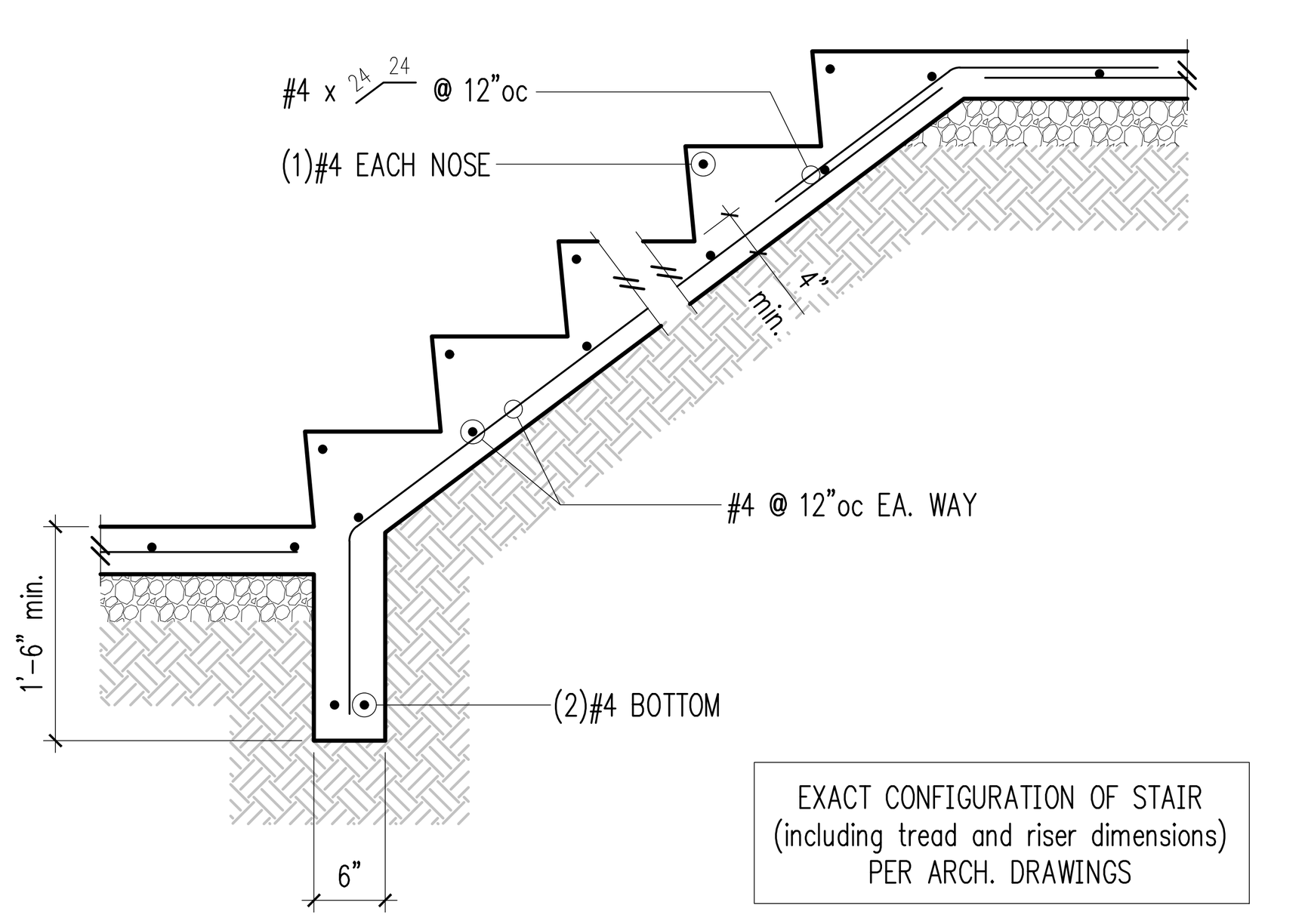
18



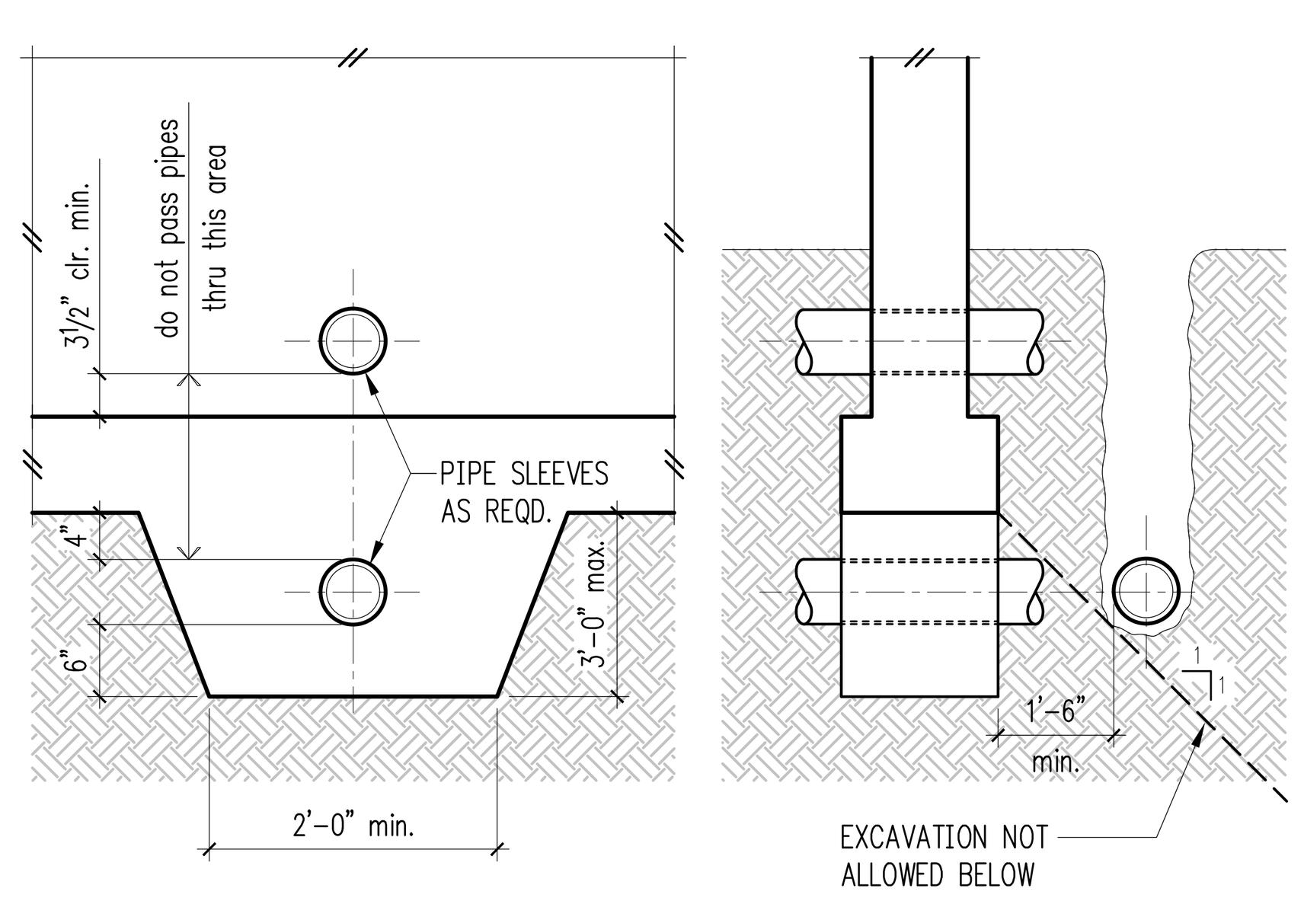
Concrete Wall Intersection, End, and Corner Detail Double Curtain 14



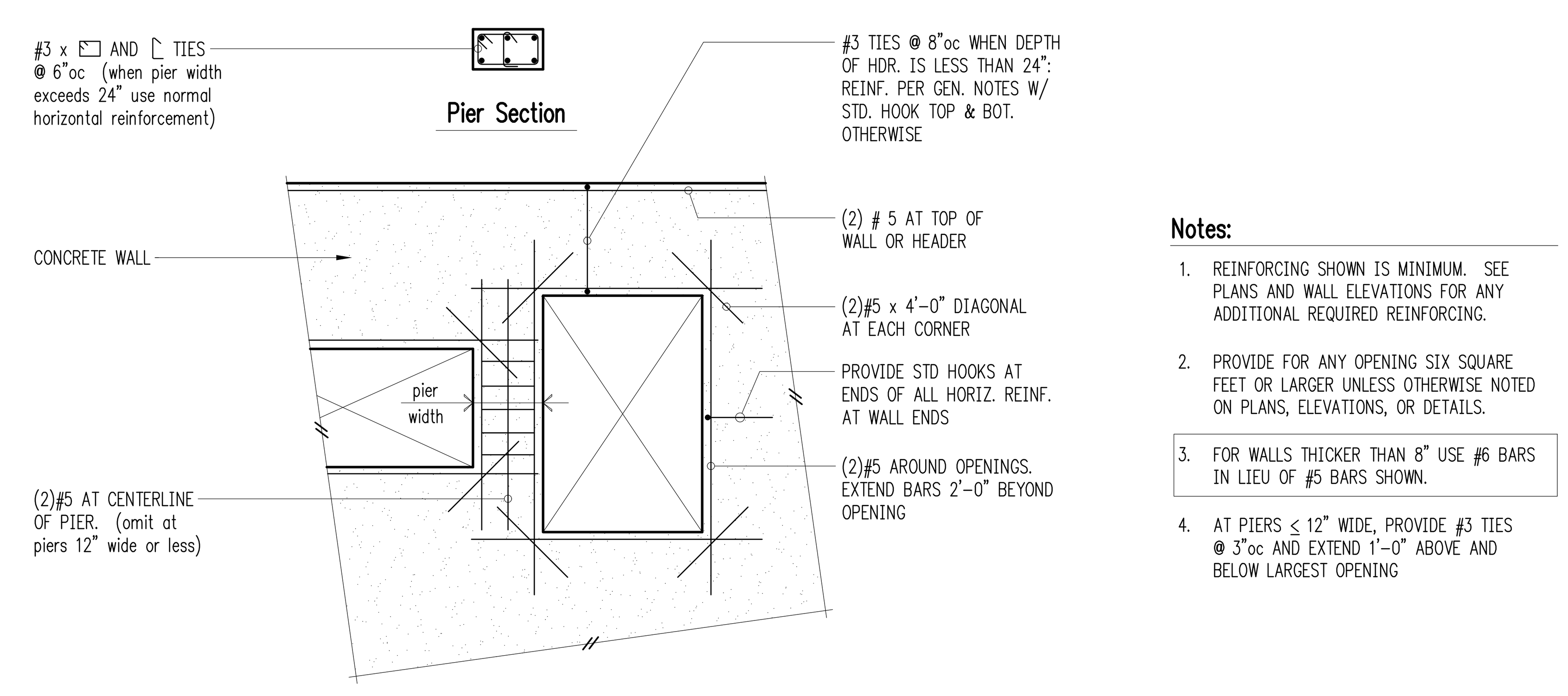
Concrete Wall Intersection, End, and Corner Detail Single Curtain 15



Typical Stair On Grade 16



Pipe and Trench Locations 17



Notes:

1. REINFORCING SHOWN IS MINIMUM. SEE PLANS AND WALL ELEVATIONS FOR ANY ADDITIONAL REQUIRED REINFORCING.
2. PROVIDE FOR ANY OPENING SIX SQUARE FEET OR LARGER UNLESS OTHERWISE NOTED ON PLANS, ELEVATIONS, OR DETAILS.
3. FOR WALLS THICKER THAN 8" USE #6 BARS IN LIEU OF #5 BARS SHOWN.
4. AT PIERS ≤ 12" WIDE, PROVIDE #3 TIES @ 3"oc AND EXTEND 1'-0" ABOVE AND BELOW LARGEST OPENING

Typical Opening Reinforcing at Concrete Walls 20

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DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:
8480 Residence
8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850
brandtdesigninc.com

ISSUE: PERMIT

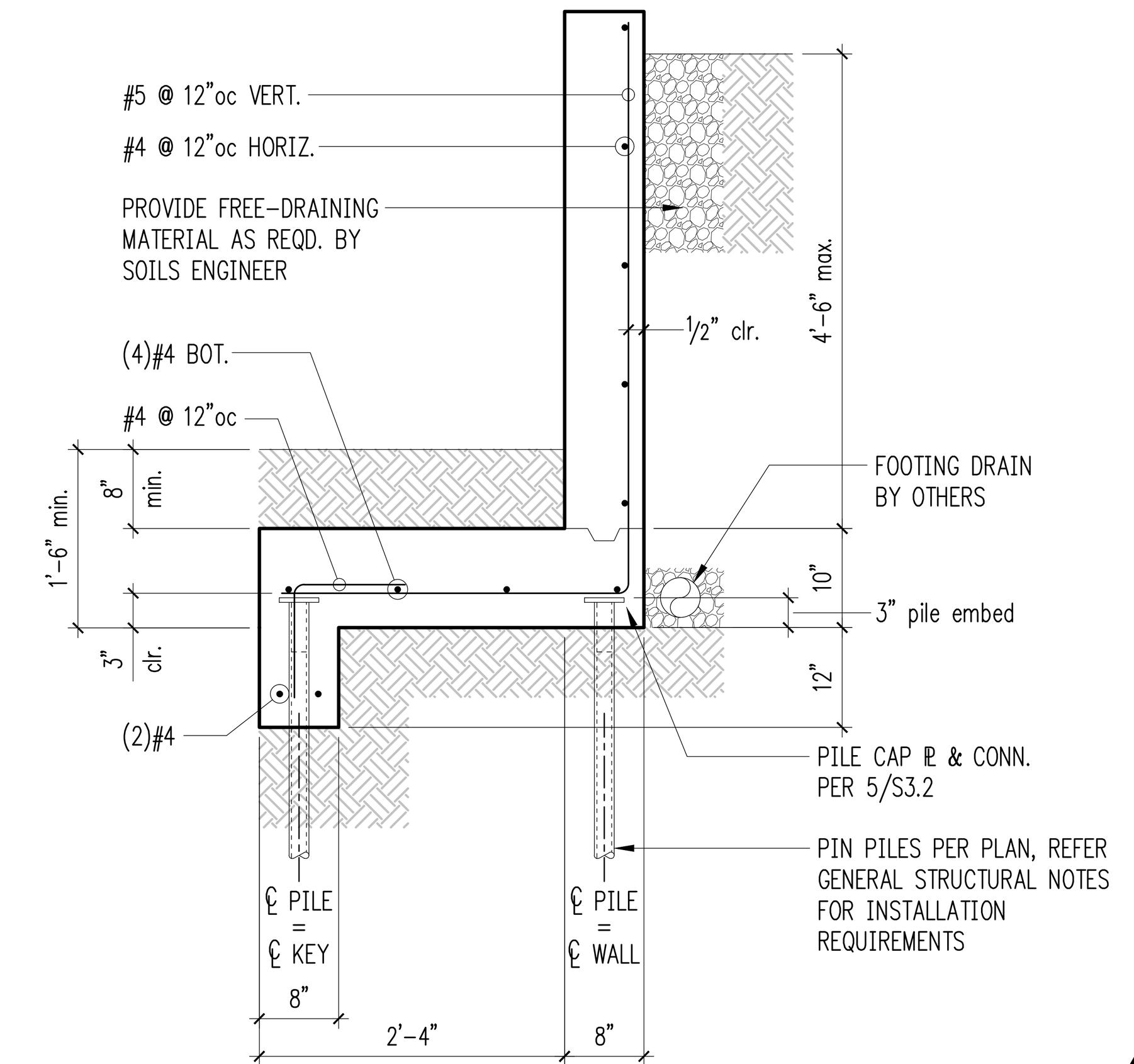
SHEET TITLE: Typical Concrete Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO: S3.1

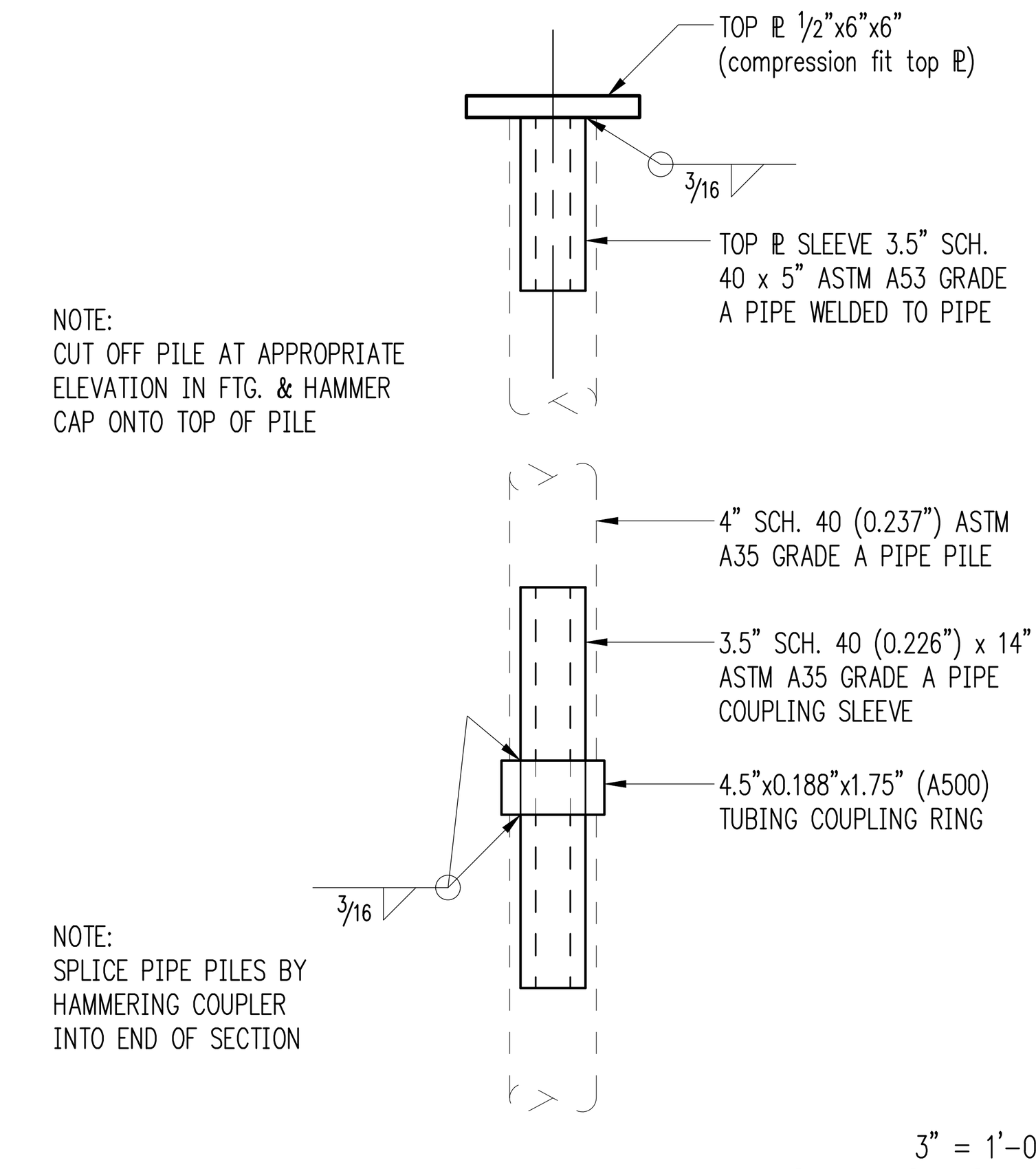
1

2

3



Property Line Retaining Wall 4

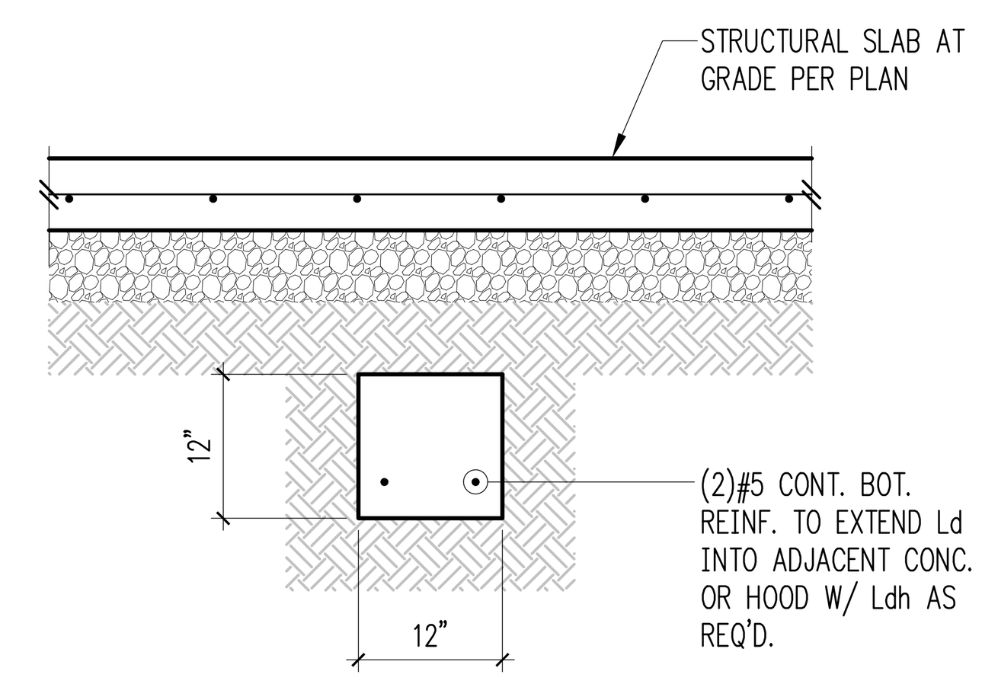


3" = 1'-0"

Typical Pipe Pile Assembly Schedule 5

6

7



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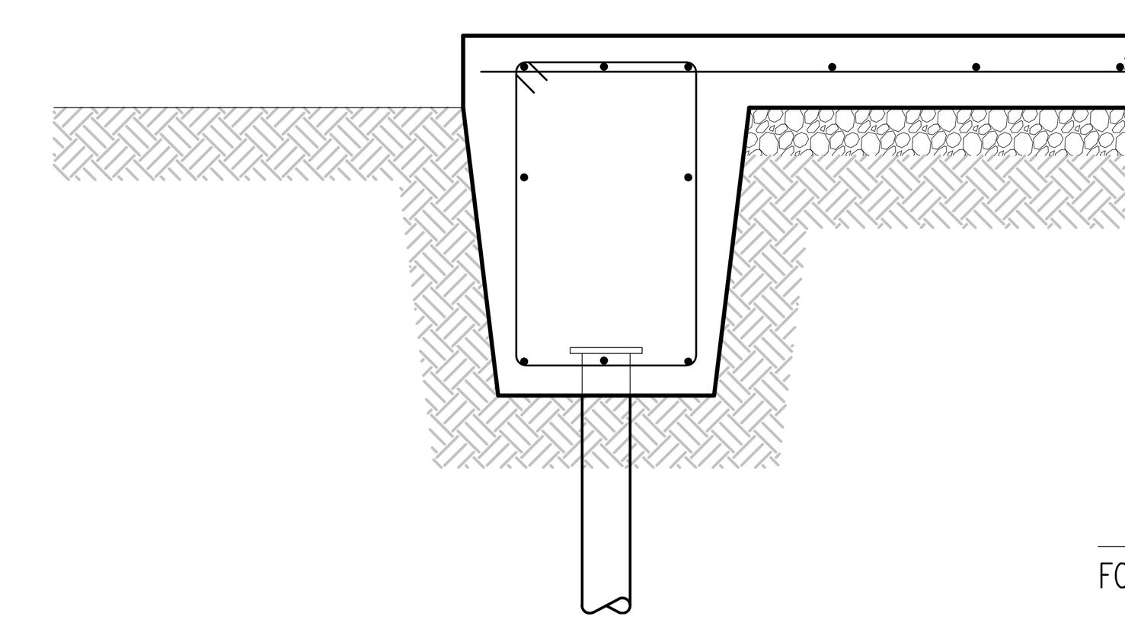
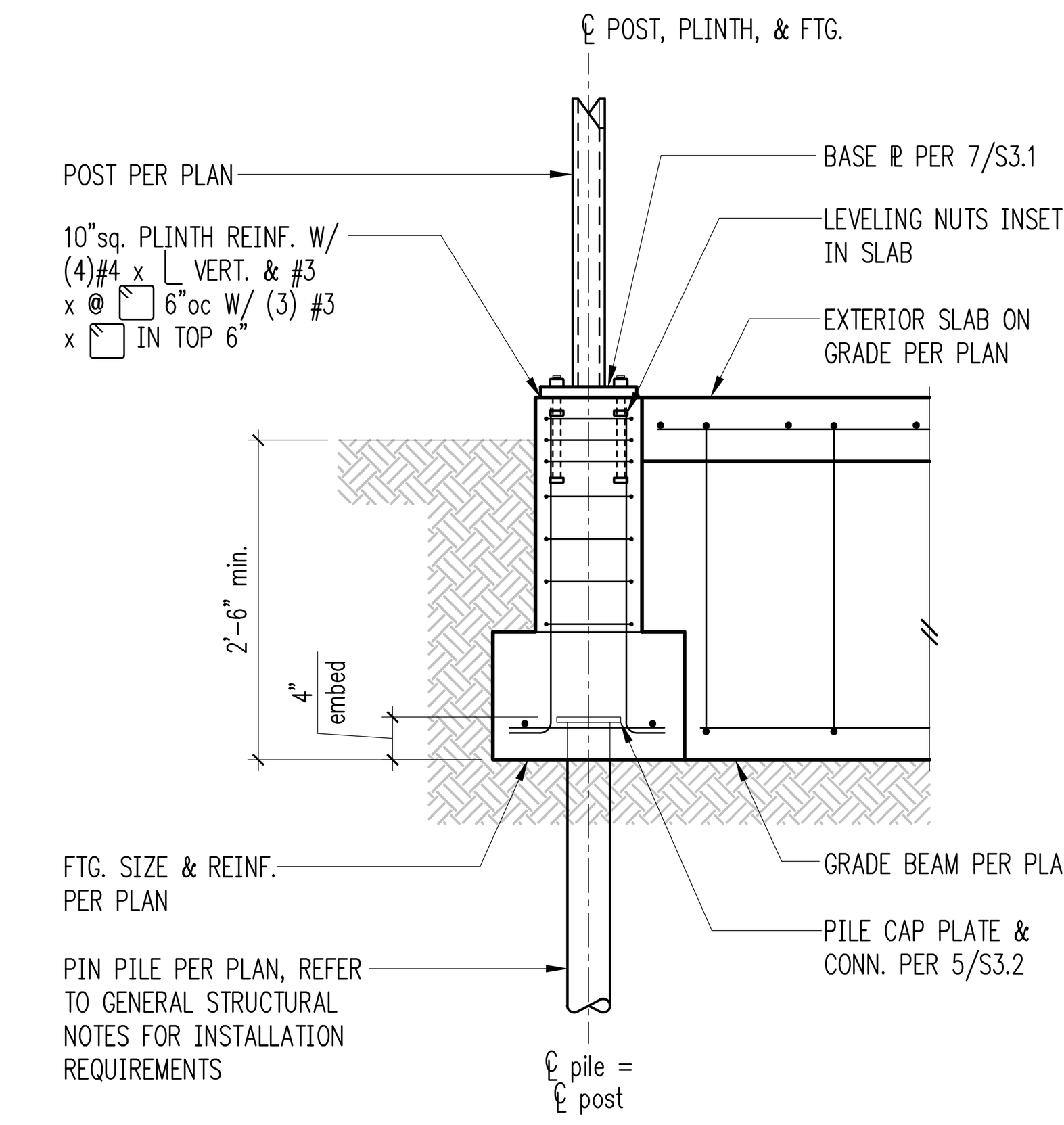


FOR CALLOUTS IN COMMON REFER 14/S3.2

9



Deck or Canopy Post Footing 10

11

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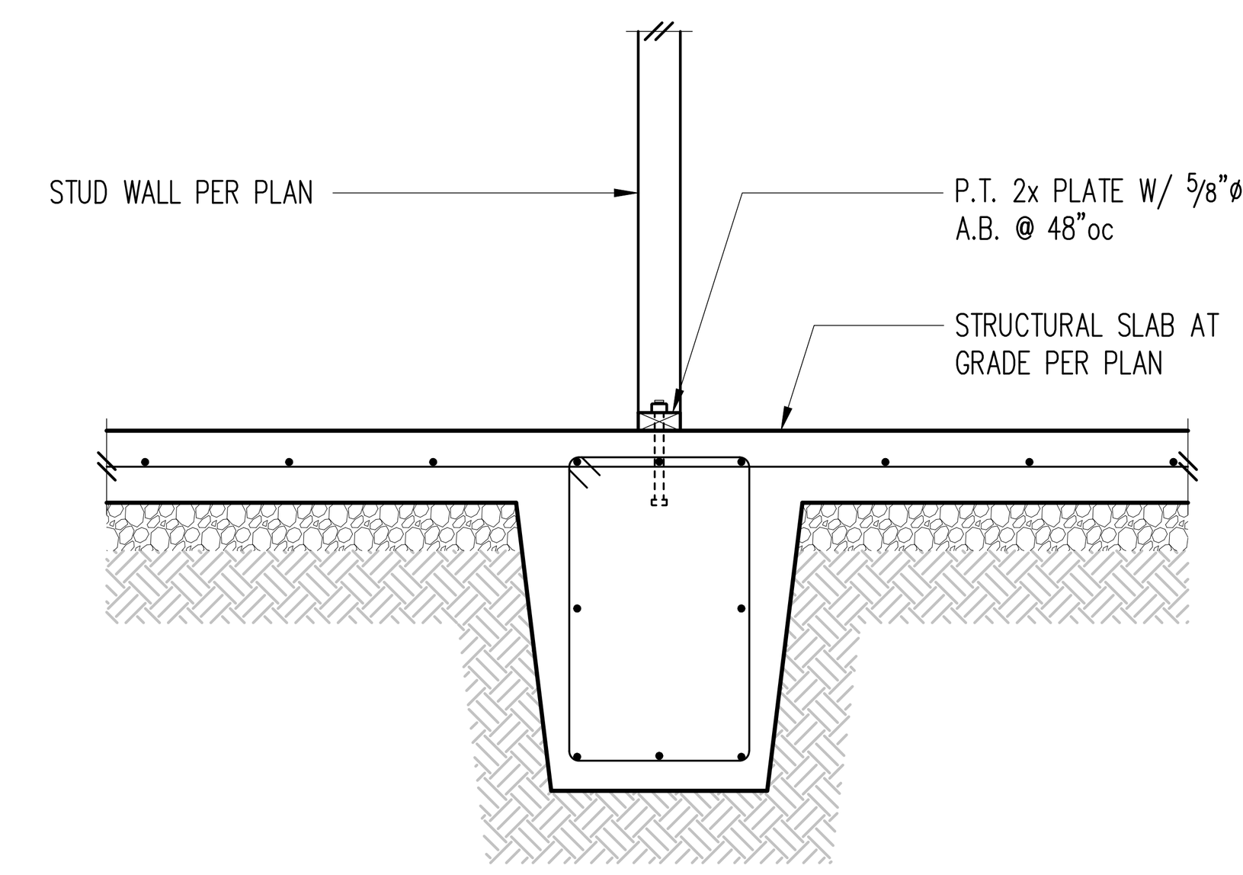
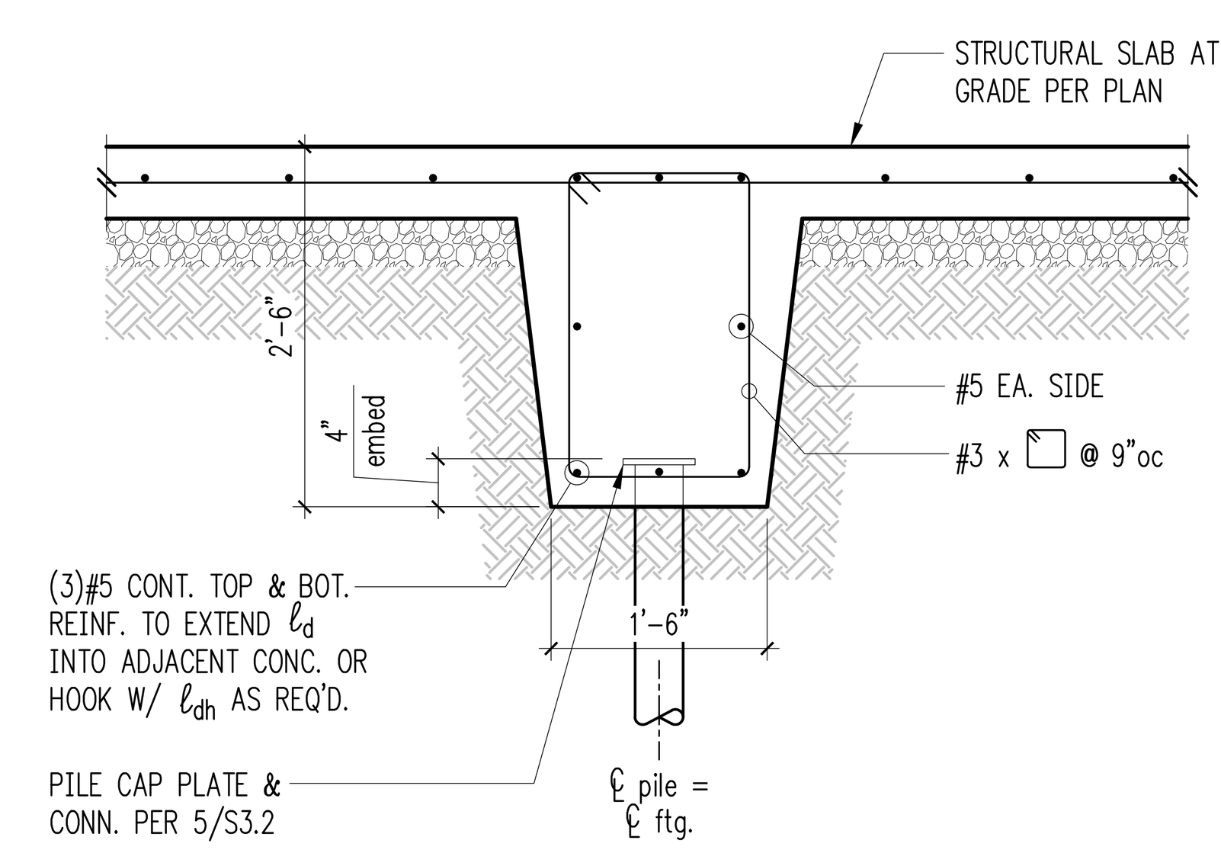


ALL FASTENERS INTO PRESSURE TREATED WOOD SHALL BE GALV. OR STAINLESS STEEL PER GENERAL NOTES

FOR CALLOUTS IN COMMON REFER 14/S3.2

13



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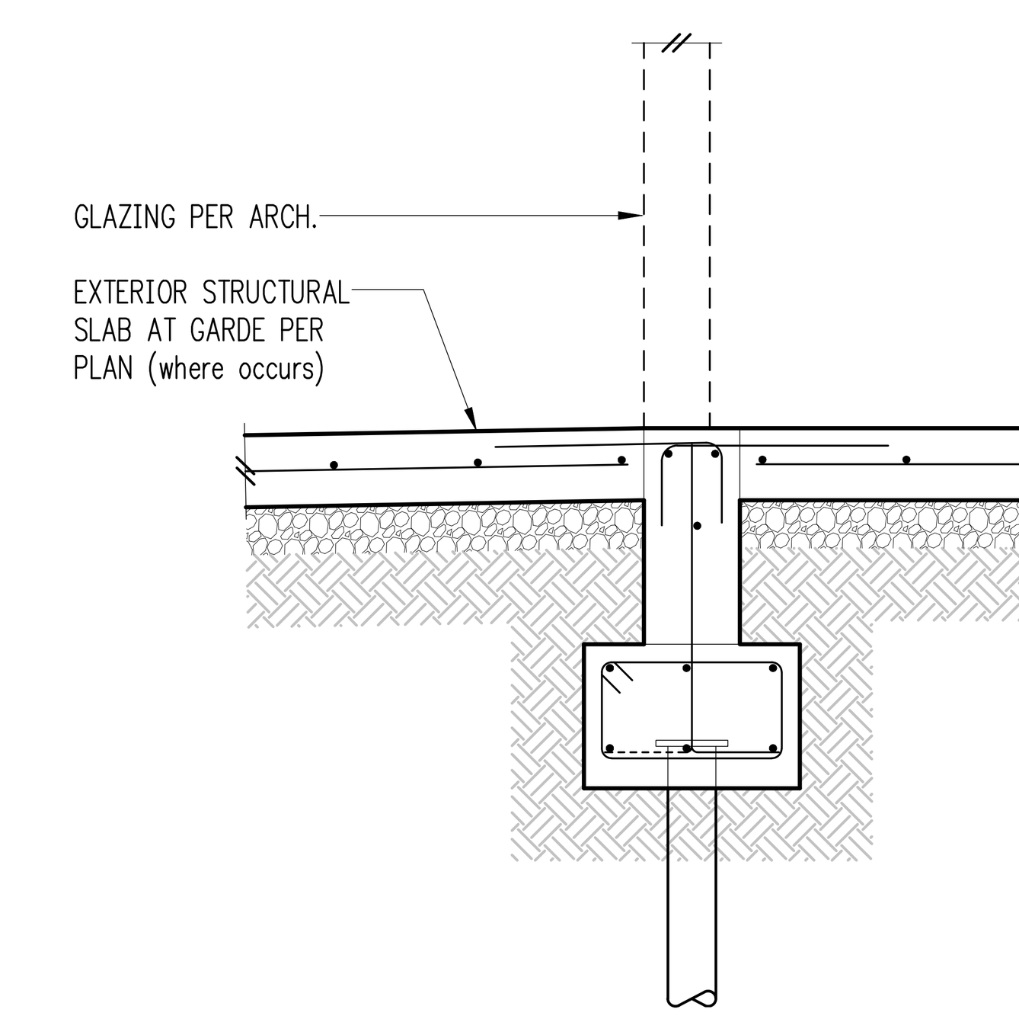

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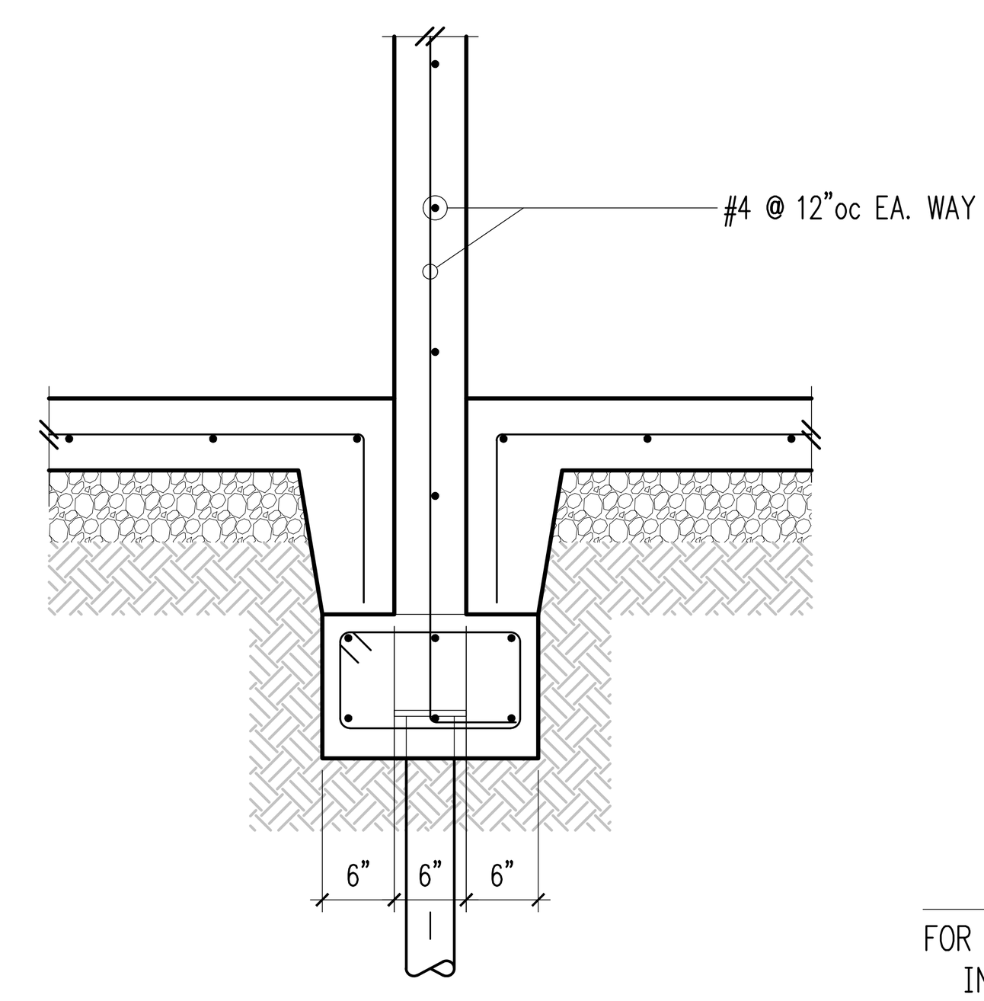
15

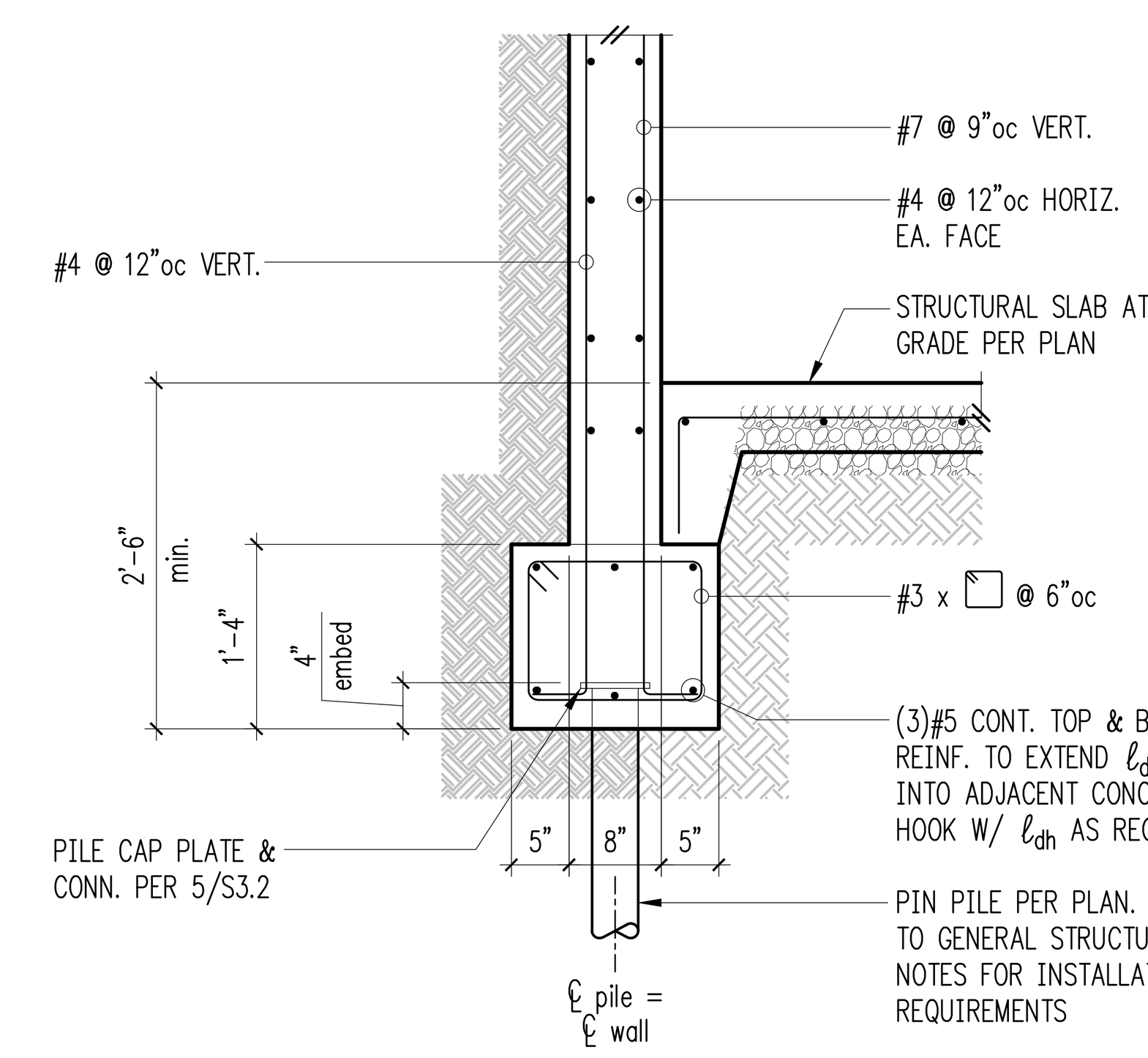
16

17



FOR CALLOUTS IN COMMON REFER 19/S3.2

18



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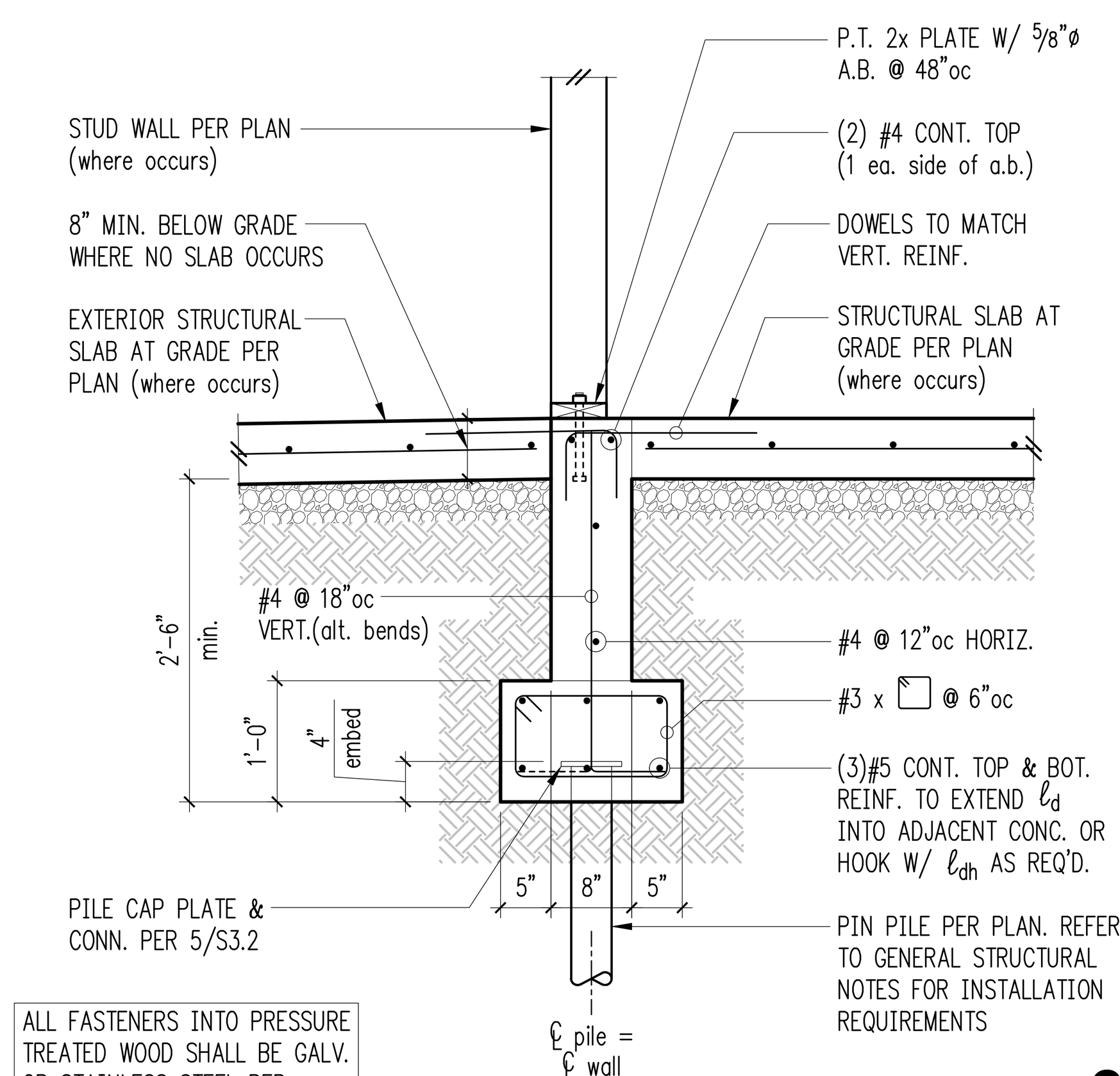

ALL FASTENERS INTO PRESSURE TREATED WOOD SHALL BE GALV. OR STAINLESS STEEL PER GENERAL NOTES

Exterior Wall w/ Slab on Grade 20

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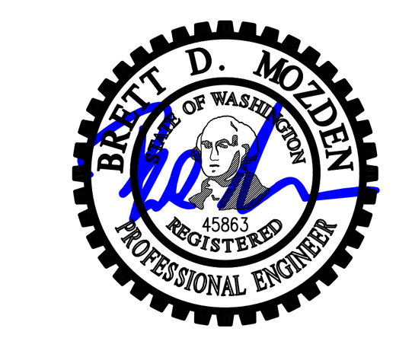

DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

REVISIONS:
1 Revision 1 Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:
8480 Residence
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brandtdesigninc.com

ISSUE:
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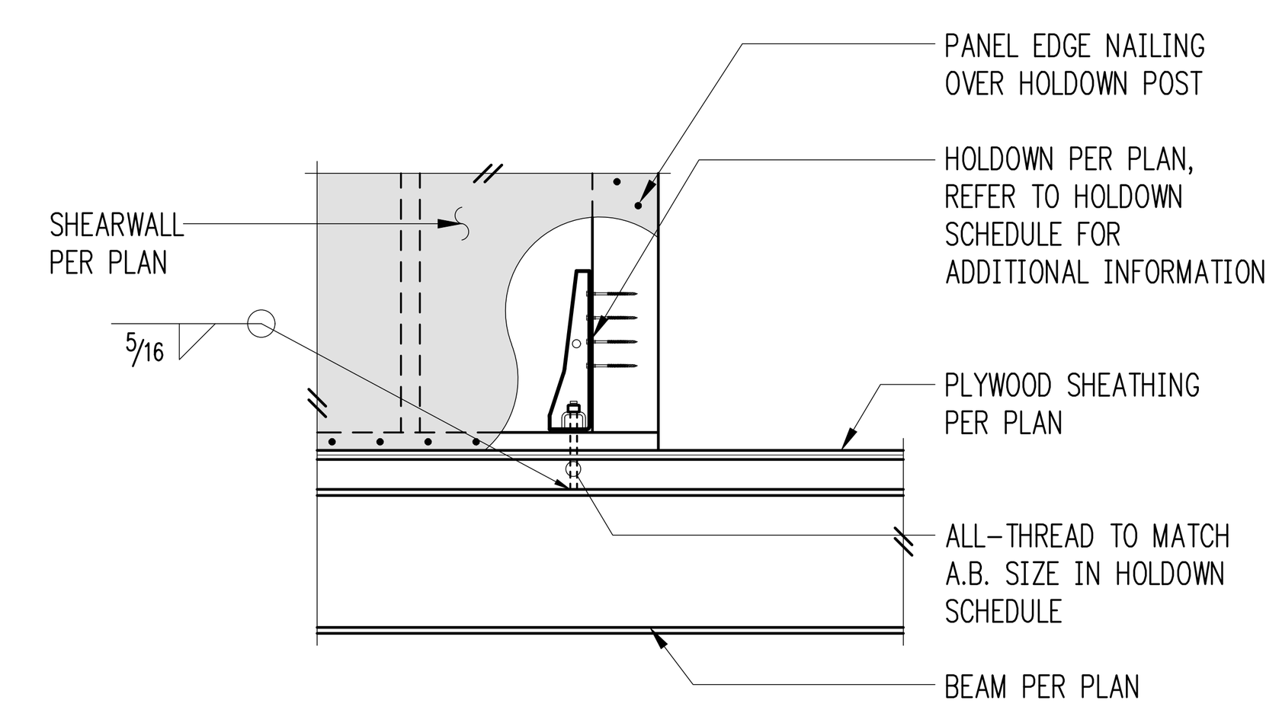
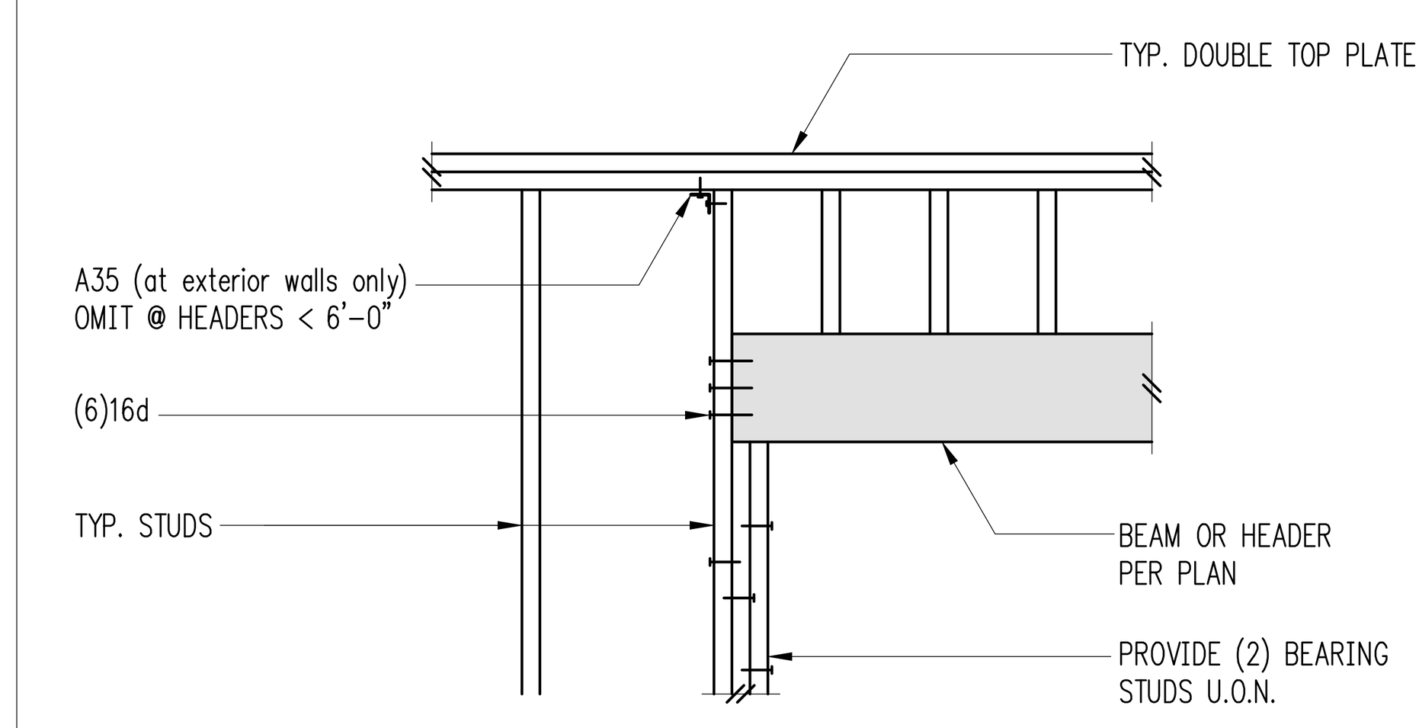
SHEET TITLE:
Foundation Details

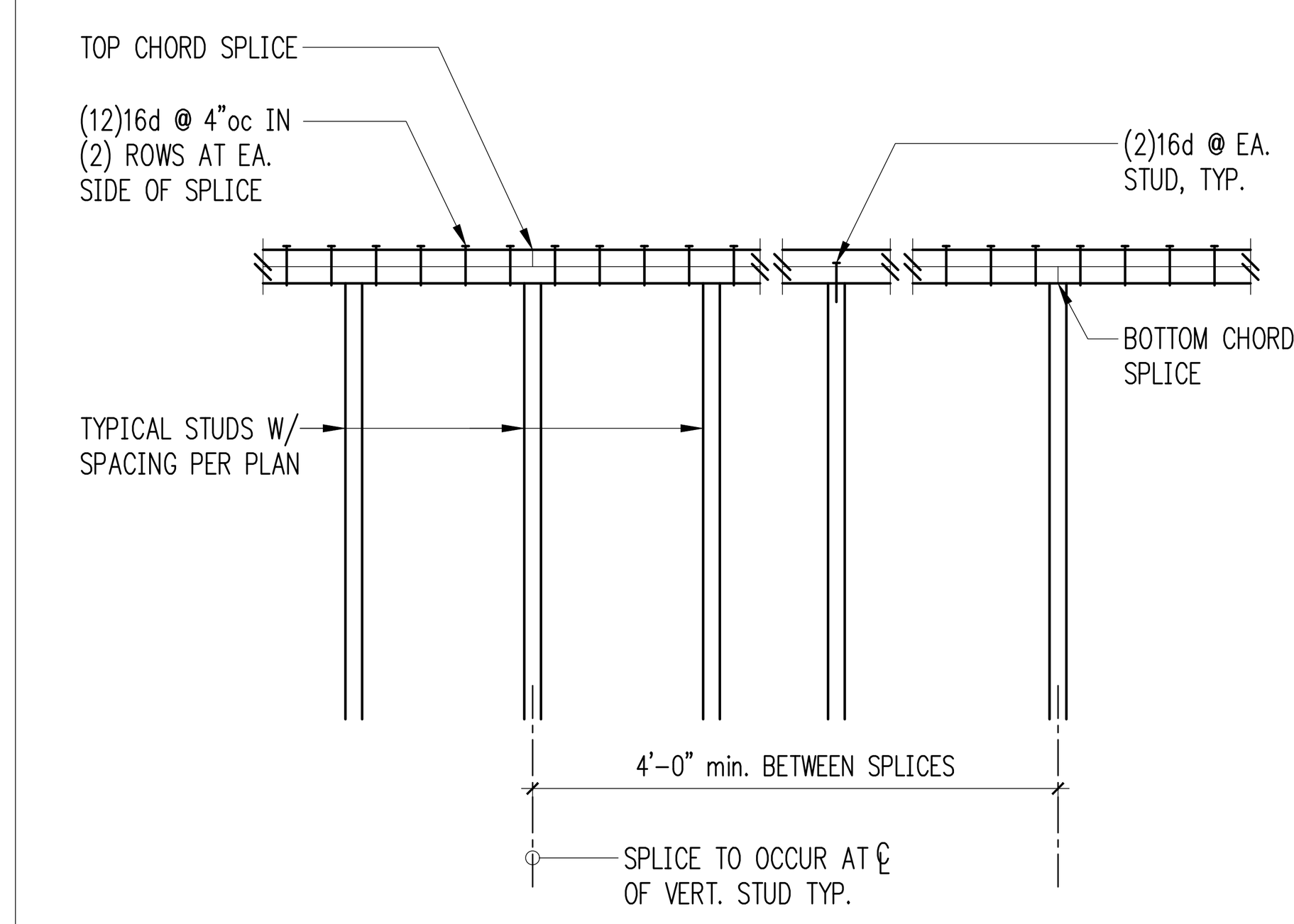
SCALE: 3/4" = 1'-0" U.N.O.
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO: 1 S3.2



Holdown at WF Beam - HDU 3



Typical Header Support w/2 Bearing Studs 4



Typical Top Plate Splice 5

1

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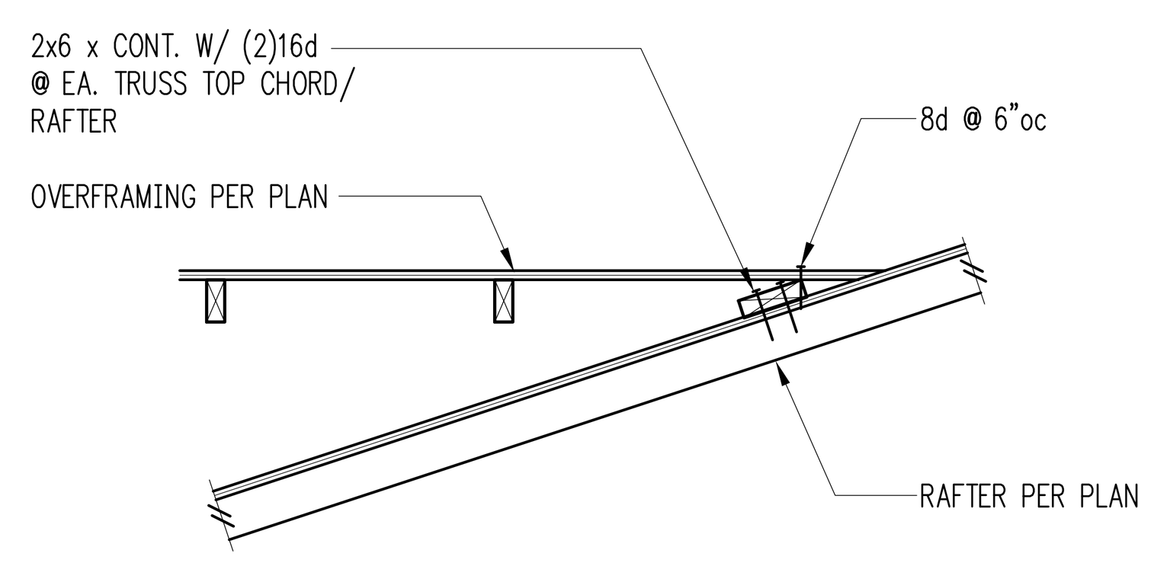
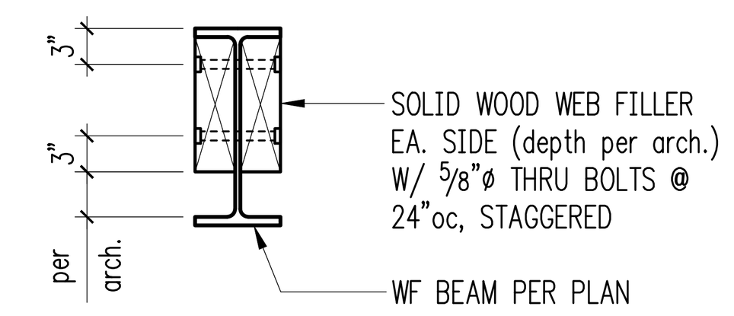
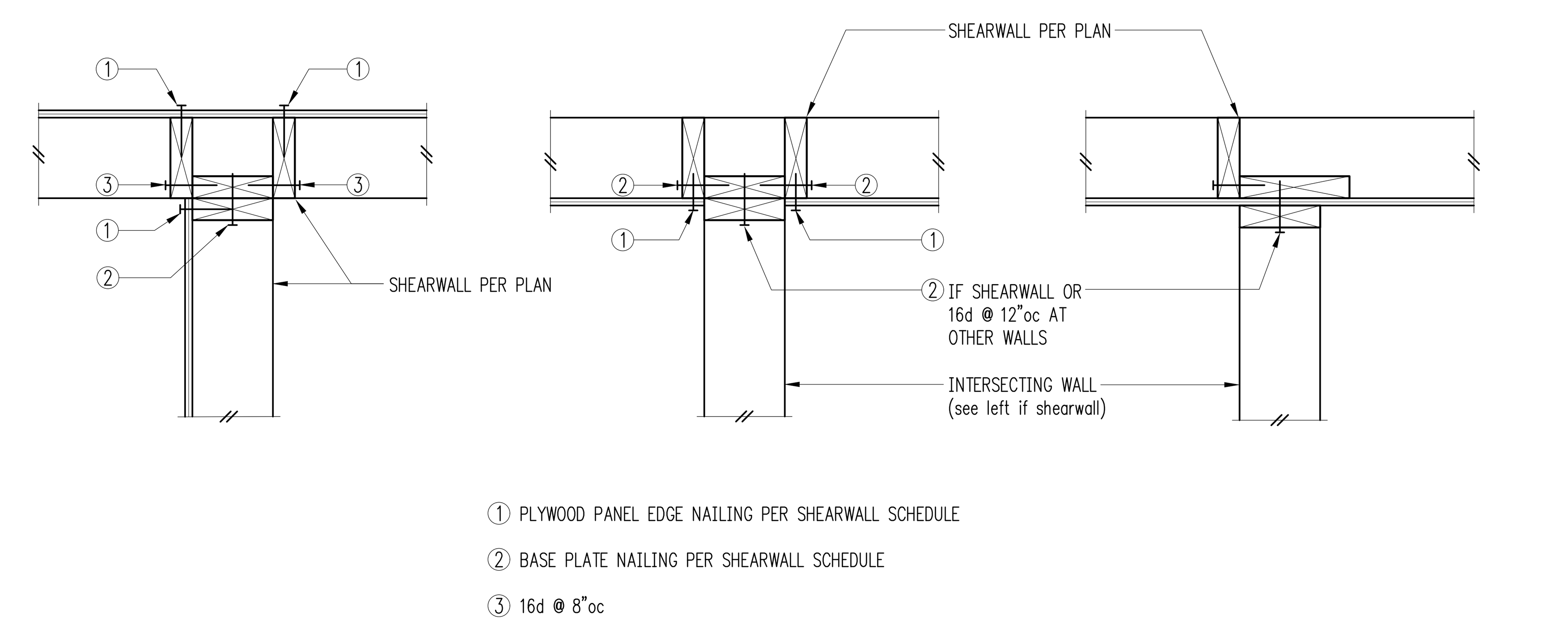


Overframing Connection 7

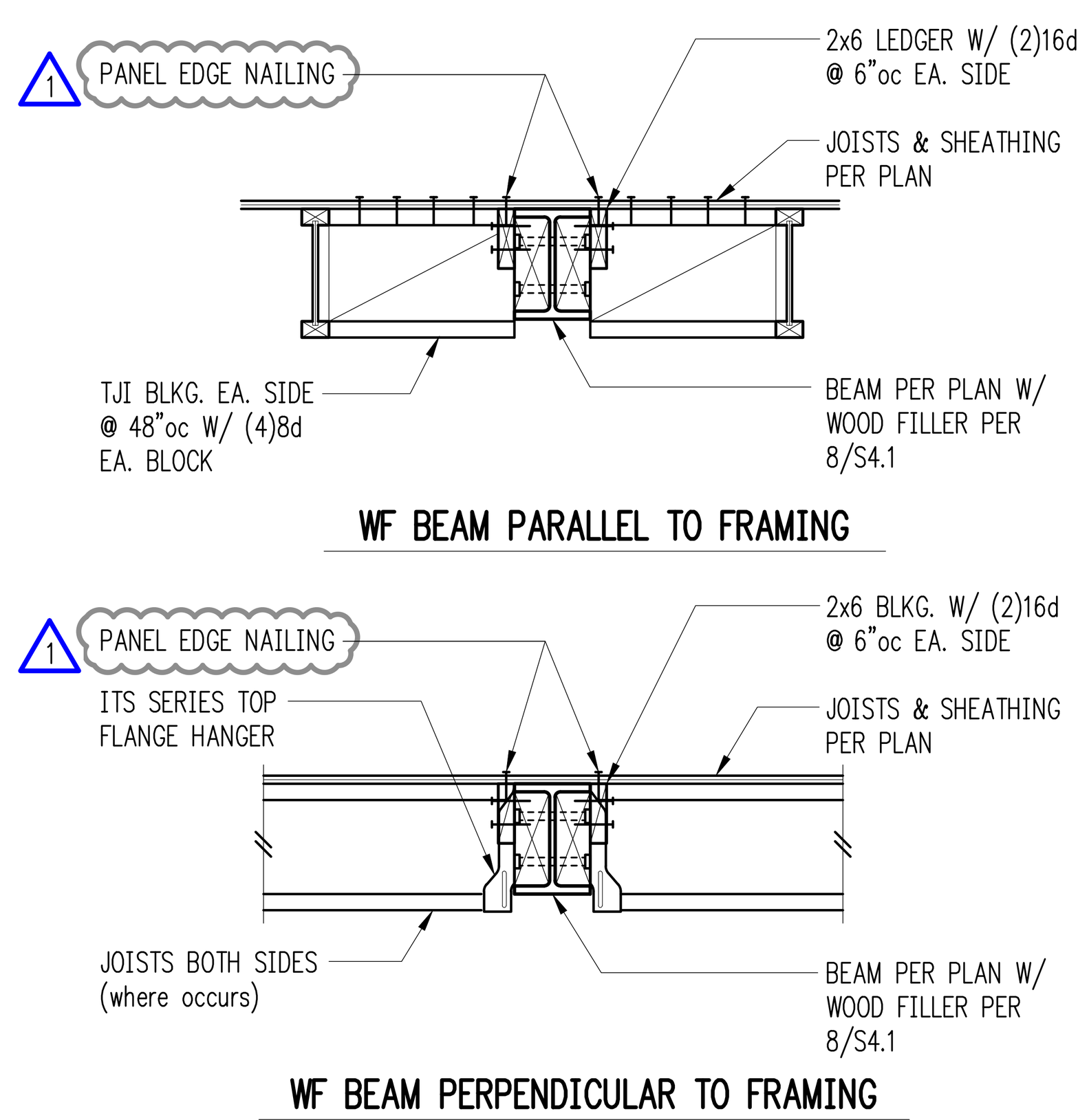


Typical Wood Filler at WF Beam 8

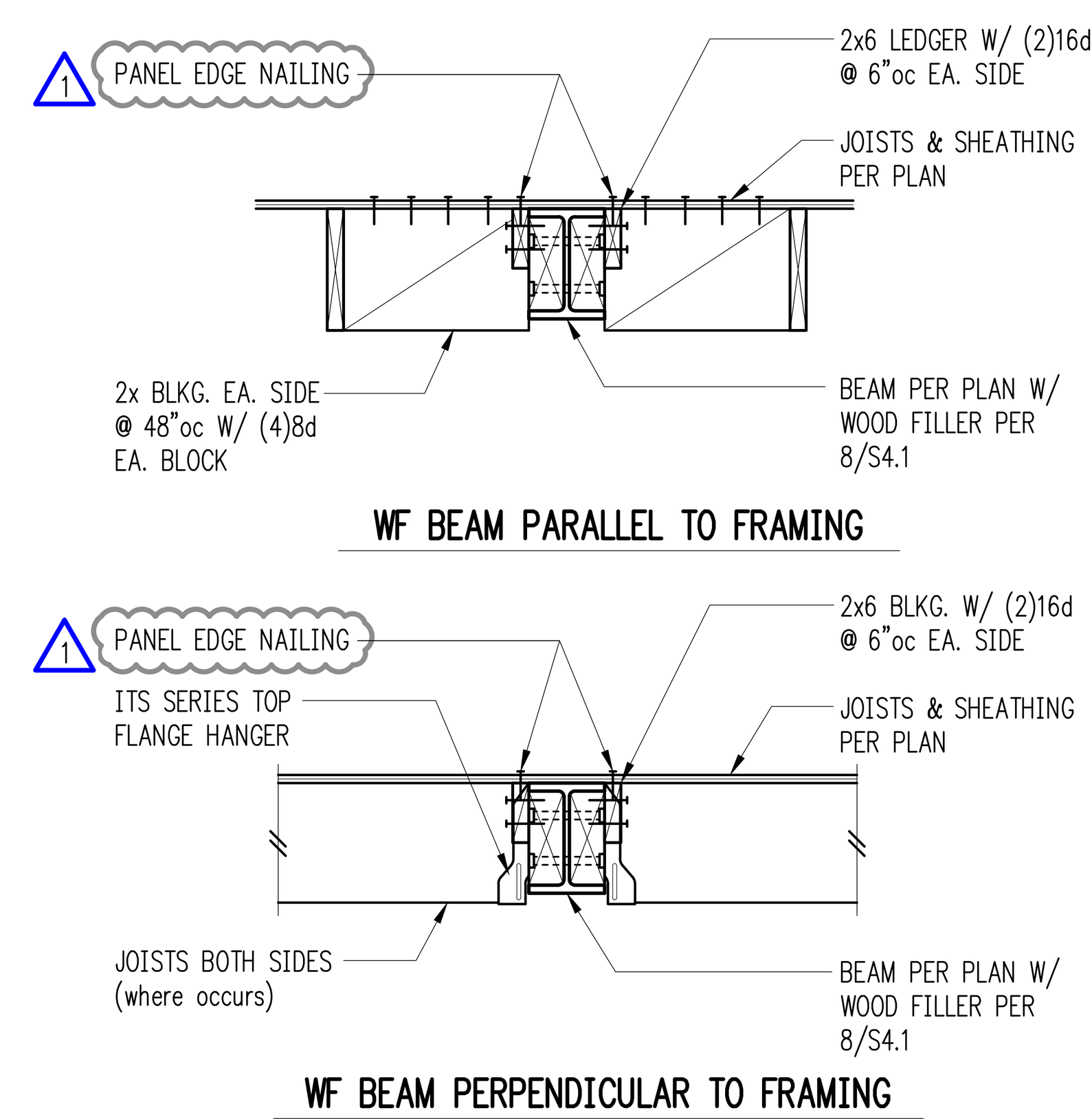


Typical Shearwall Intersections 10

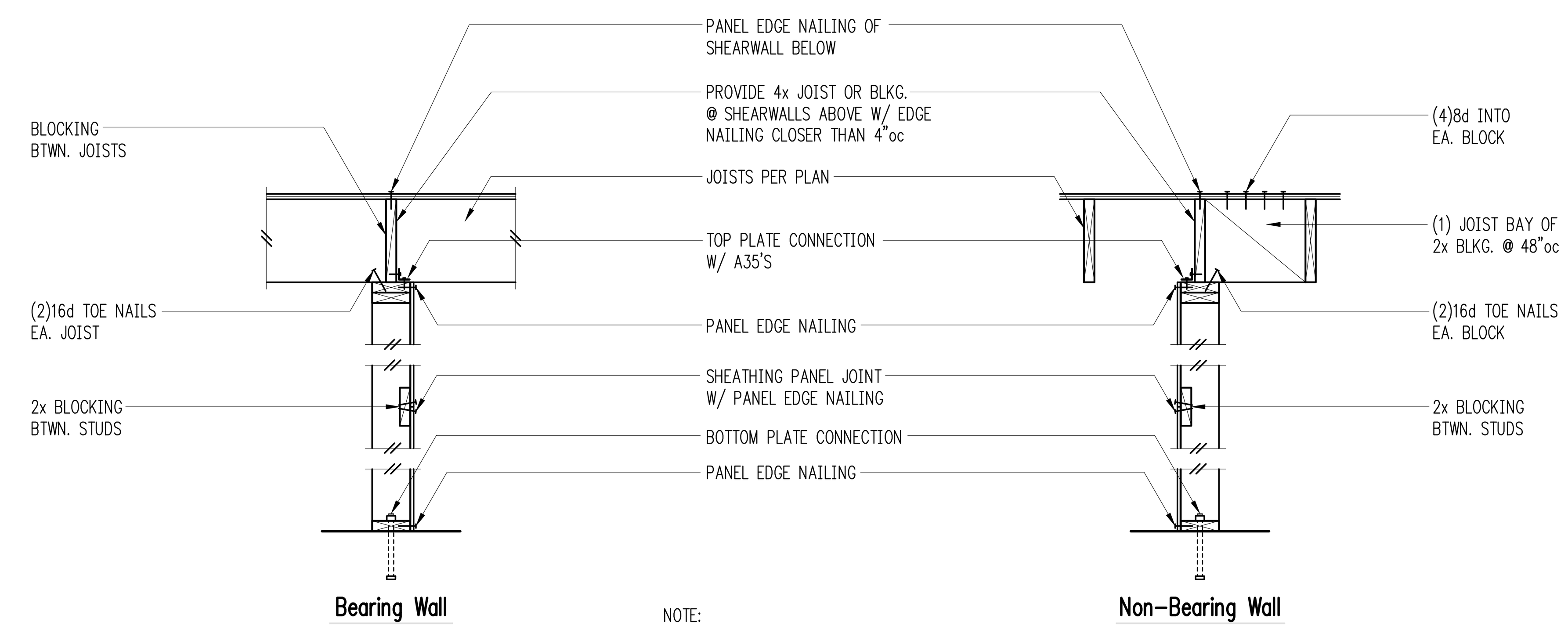
11



Flush Steel WF Beam - No Nailer 12



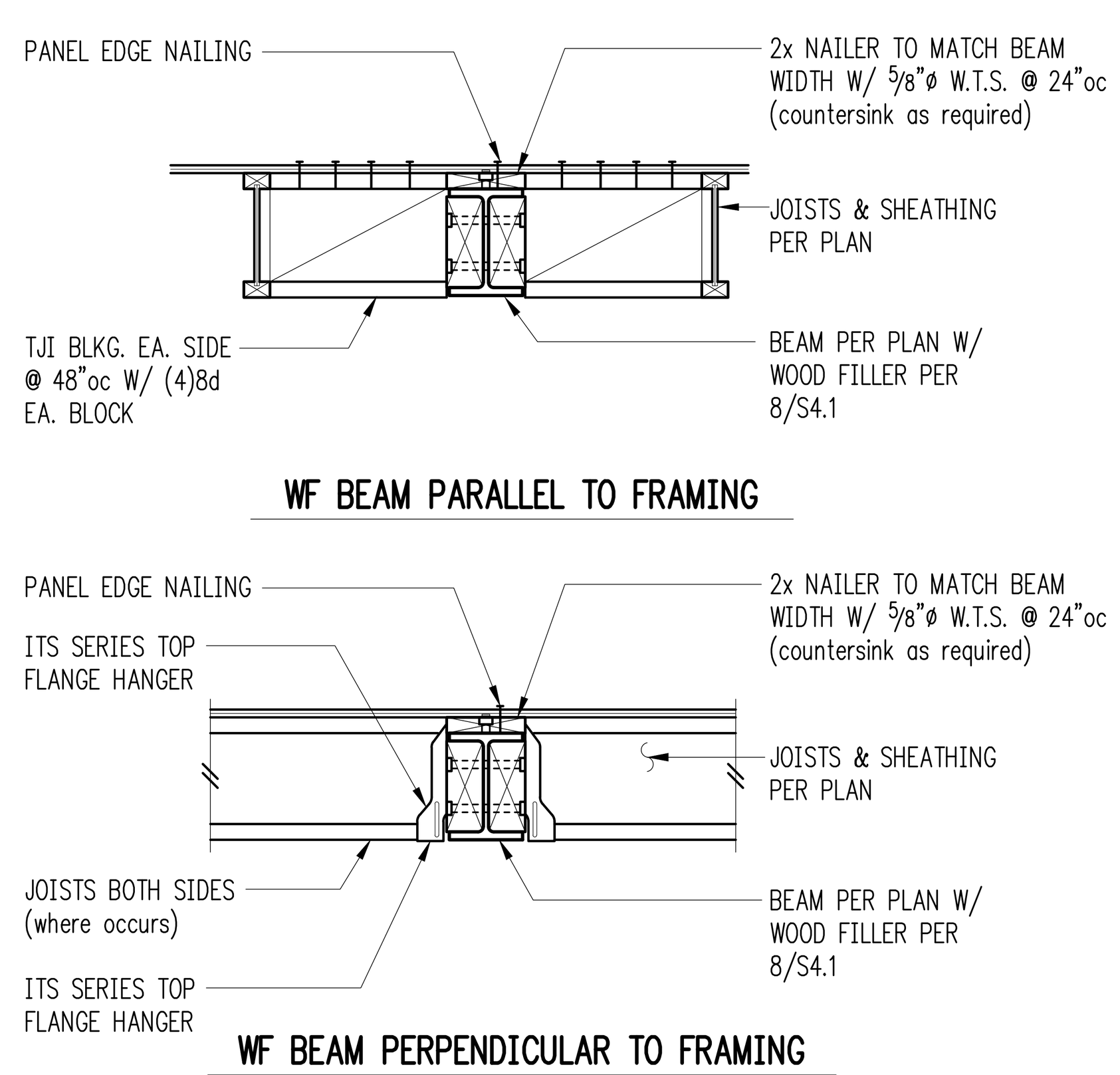
Flush Steel WF Beam - No Nailer 13



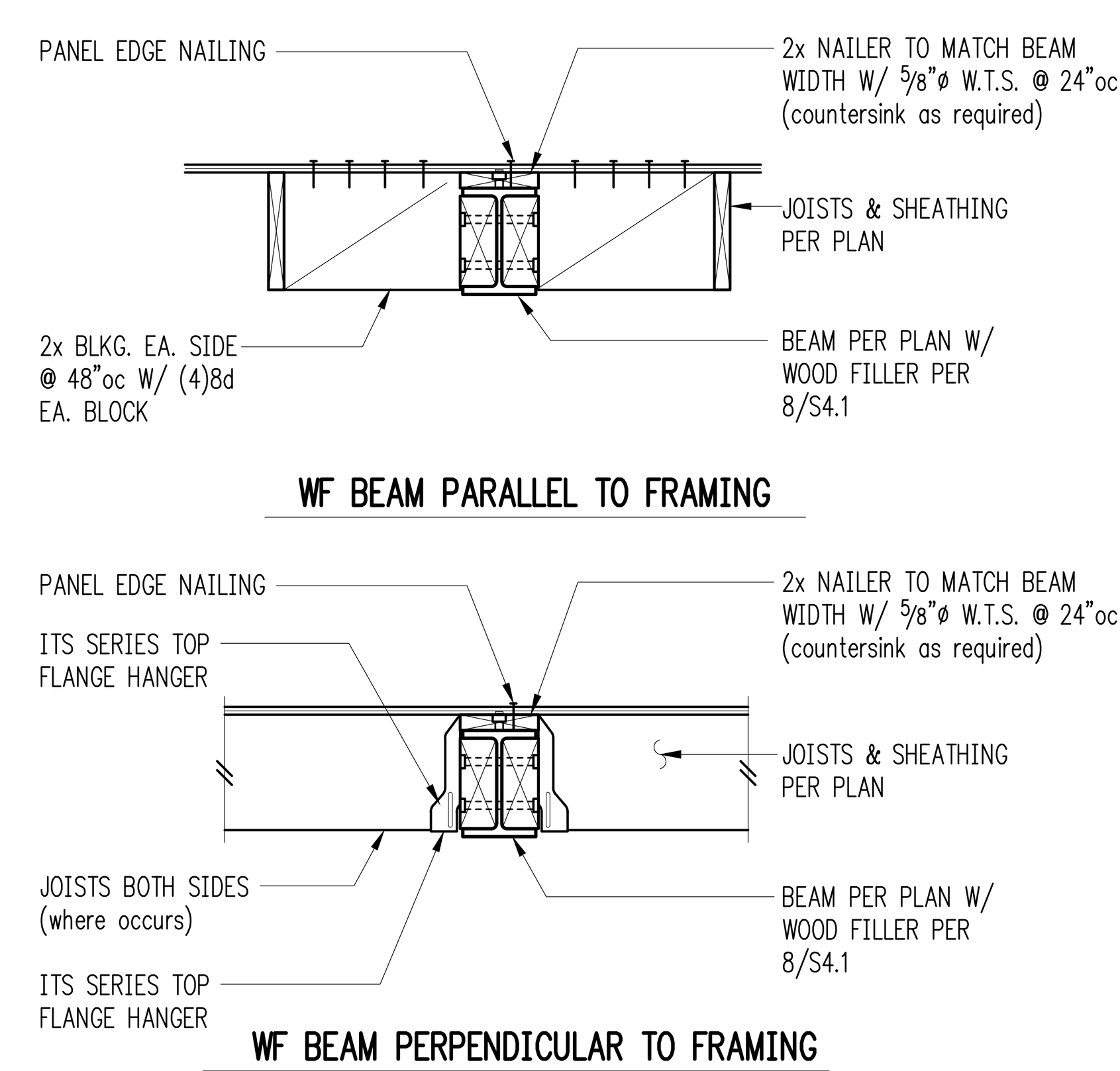
NOTE:
SEE SHEARWALL SCHEDULE FOR ALL NAILING
AND CONNECTIONS, NOT OTHERWISE NOTED

Typical Shearwall Construction 15

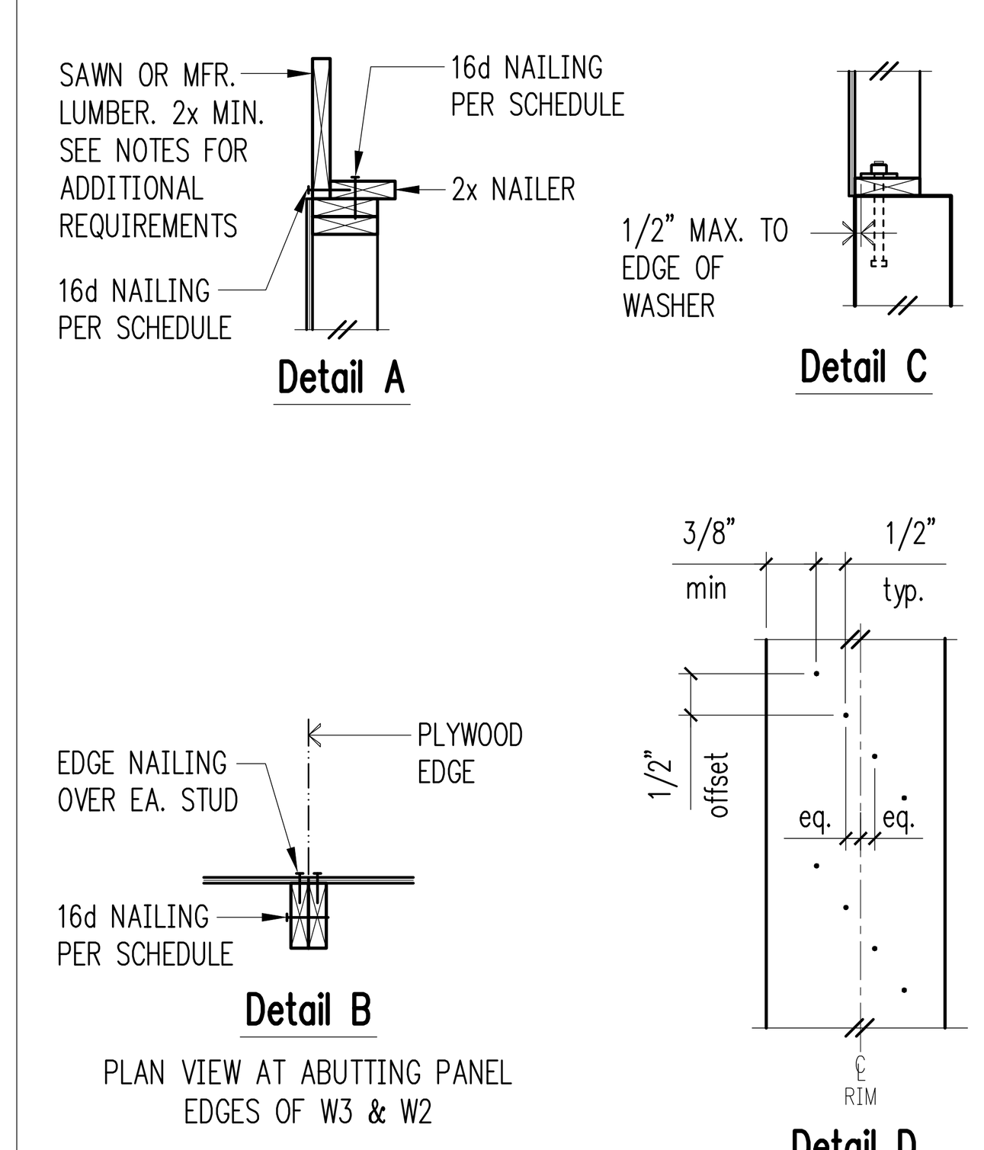
16



Flush Steel WF Beam with Nailer 17



Flush Steel WF Beam with Nailer 18



Shearwall Schedule ①②③⑥⑦⑧

Mark	Sheathing	Panel Edge Nailing	Top Plate Connection		Base Plate Connection	
			if TJI	if Wood ⑨	at Wood ⑪⑫	at Concrete
W6	15/32" CDX PLYWOOD	8d @ 6"oc	16d @ 6"oc	A35 @ 24"oc ⑩	16d @ 6"oc	5/8"ø A.B. @ 48"oc
W4	15/32" CDX PLYWOOD	8d @ 4"oc	16d @ 4"oc	A35 @ 16"oc ⑩	(2)rows 16d @ 6"oc	5/8"ø A.B. @ 32"oc
W3 ④	15/32" CDX PLYWOOD	8d @ 3"oc	(2)rows 16d @ 4"oc	A35 @ 12"oc ⑩	(2)rows 16d @ 6"oc	5/8"ø A.B. @ 24"oc
W2 ④	15/32" CDX PLYWOOD	8d @ 2"oc	(2)rows 16d @ 4"oc	A35 @ 9"oc ⑩	(2)rows 16d @ 4"oc ⑬	5/8"ø A.B. @ 16"oc
2W3 ⑤	15/32" CDX PLYWD. EA. SIDE	8d @ 3"oc EA. SIDE	n/a	A35 @ 6"oc	(3)rows 16d @ 4"oc ⑭	5/8"ø A.B. @ 16"oc
2W2 ⑤	15/32" CDX PLYWD. EA. SIDE	8d @ 2"oc EA. SIDE	n/a	HGA10KT @ 8"oc	(3)rows 16d @ 4"oc ⑭	5/8"ø A.B. @ 12"oc
2W2-10 ⑤	15/32" CDX PLYWD. EA. SIDE	10d @ 2"oc EA. SIDE	(2)rows 16d @ 4"oc	A35 @ 9"oc	(4)rows 16d @ 4"oc ⑭	5/8"ø A.B. @ 16"oc

① BLOCK PANEL EDGES WITH 2x MIN. LAID FLAT AND NAIL PANELS TO INTERMEDIATE SUPPORTS WITH 8d @ 12"o.c.
② 8d NAILS SHALL BE 0.131"ø x 2 1/2" (common) - 16d NAILS SHALL BE 0.135"ø x 3 1/2" (box) - 10d NAILS SHALL BE 0.148"ø x 3" (common).
③ EMBED ANCHOR BOLTS AT LEAST 7". DRILLED AND EPOXIED THREADED ROD MAY BE SUBSTITUTED FOR ANCHOR BOLTS WITH 6" EMBEDMENT. TITEN HD SCREW ANCHORS MAY BE SUBSTITUTED FOR ANCHOR BOLTS W/ 4" EMBEDMENT. ALL BOLTS SHALL HAVE 3" x 3" x 1/4" MIN. PLATE WASHERS. PLATE WASHERS SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE WITH SHEATHING. SEE DETAIL C.
④ 3x STUDS OR DOUBLE STUDS NAILED TOGETHER W/ BASE PLATE NAILING ARE REQUIRED AT ABUTTING PANEL EDGES OF W3 AND W2. SEE DETAIL B. WHERE 3x STUDS ARE USED FOR W2, STAGGER NAILS AT ADJOINING PANEL EDGES.
⑤ 3x FOUNDATION SILL PLATES ARE REQUIRED FOR 2W3 AND 2W2. 3x STUDS ARE REQUIRED AT ABUTTING PANEL EDGES AND PANEL JOINTS SHALL BE OFFSET EACH SIDE OF WALL. STAGGER NAILS AT ADJOINING PANEL EDGES. 3x STUD, MIN., REQUIRED AT END OF SHEARWALL.
⑥ TWO STUDS MINIMUM ARE REQUIRED AT EACH END OF ALL SINGLE-SIDED SHEARWALLS. ALL END STUDS SHALL RECEIVE PANEL EDGE NAILING. SEE PLANS AND HOLDOWN SCHEDULE FOR ALTERNATE REQUIREMENTS.
⑦ ALL EXTERIOR WALLS SHALL BE W6, UNLESS NOTED OTHERWISE.
⑧ 7/16" O.S.B. MAY BE SUBSTITUTED FOR 15/32" CDX, EXCEPT AT 10d PANEL EDGE NAILING.
⑨ LTP4's (HORIZONTAL ORIENTATION) W/ 8d COMMON MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.
⑩ A 2x NAILER ATTACHED W/ BASE PLATE NAILING PER DETAIL A MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.
⑪ AT MULTI-ROW NAILING, MINIMUM OFFSET BETWEEN ROWS AND ROW SPACING 1/2", SEE DETAIL D.
⑫ LVL RIMS PERMITTED AT SINGLE SIDED SHEAR WALLS ONLY.
⑬ PROVIDE (3) ROWS 16d @ 6"oc AT LVL RIMS.
○ MINIMUM RIM OR JOIST 3½" WIDE BELOW SHEARWALL.

Shearwall Schedule 20

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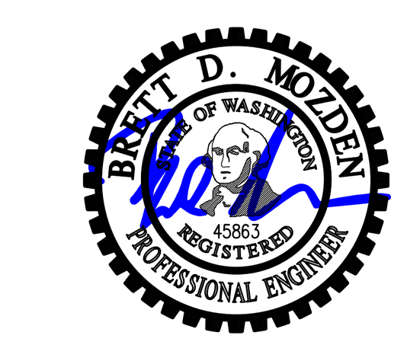

DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

REVISIONS:
1 Revision 1 Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

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8480 Residence
8480 85th Ave SE
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ARCHITECT:
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Seattle, WA 98121
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brandtdesigninc.com

ISSUE:
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SHEET TITLE:
Typical Wood Framing Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO:
S4.1

1

2

3

4

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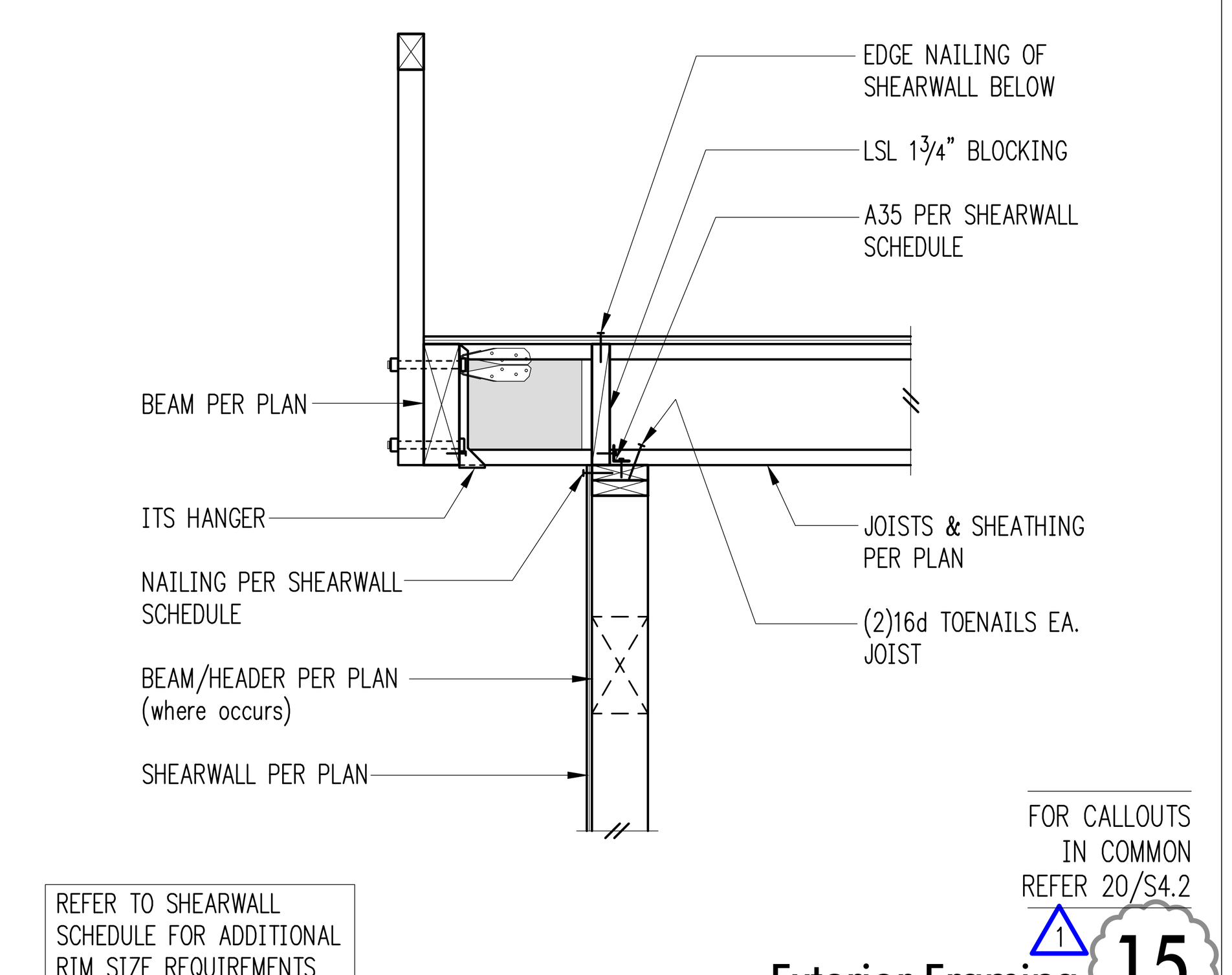

Exterior Framing 15

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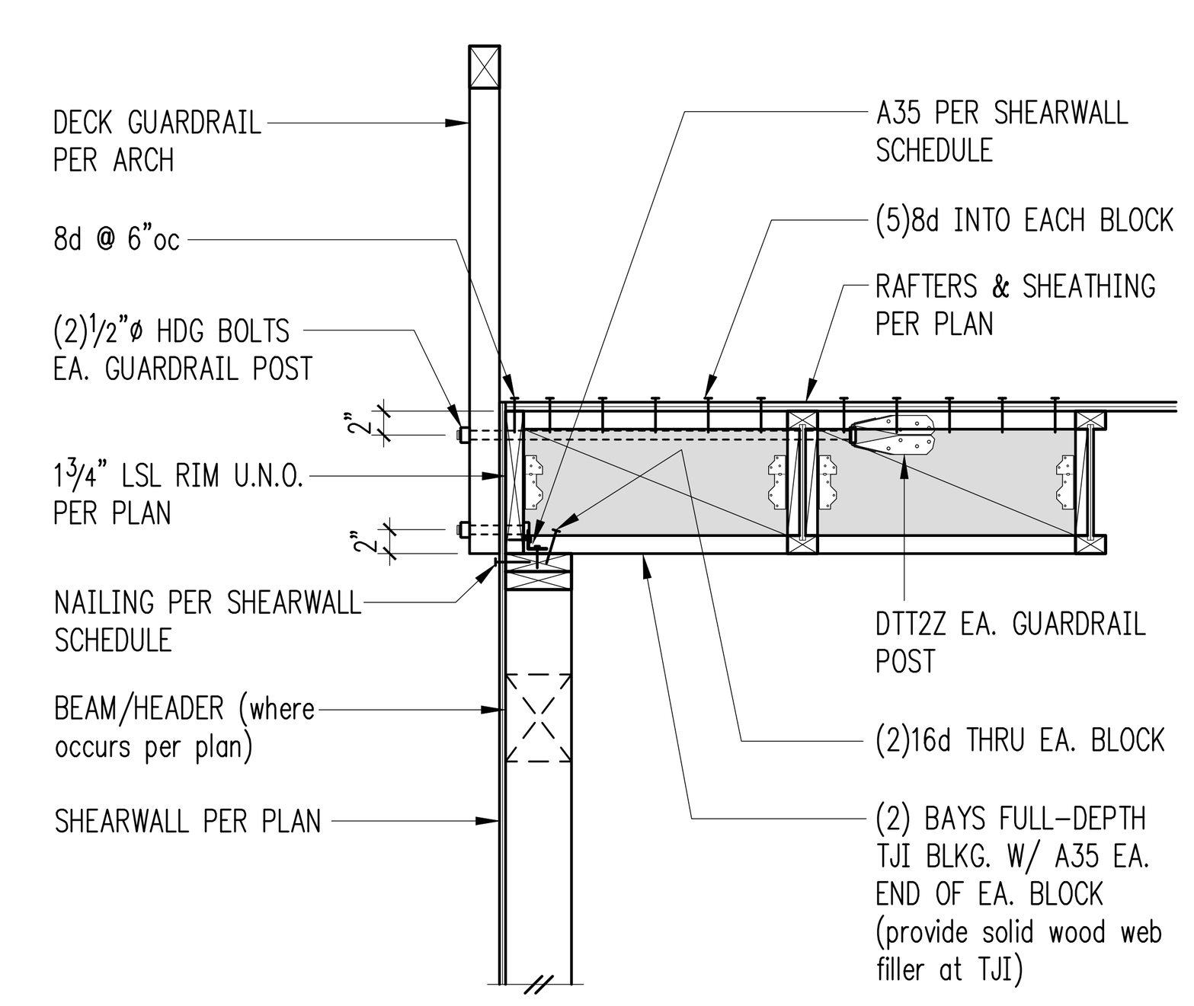
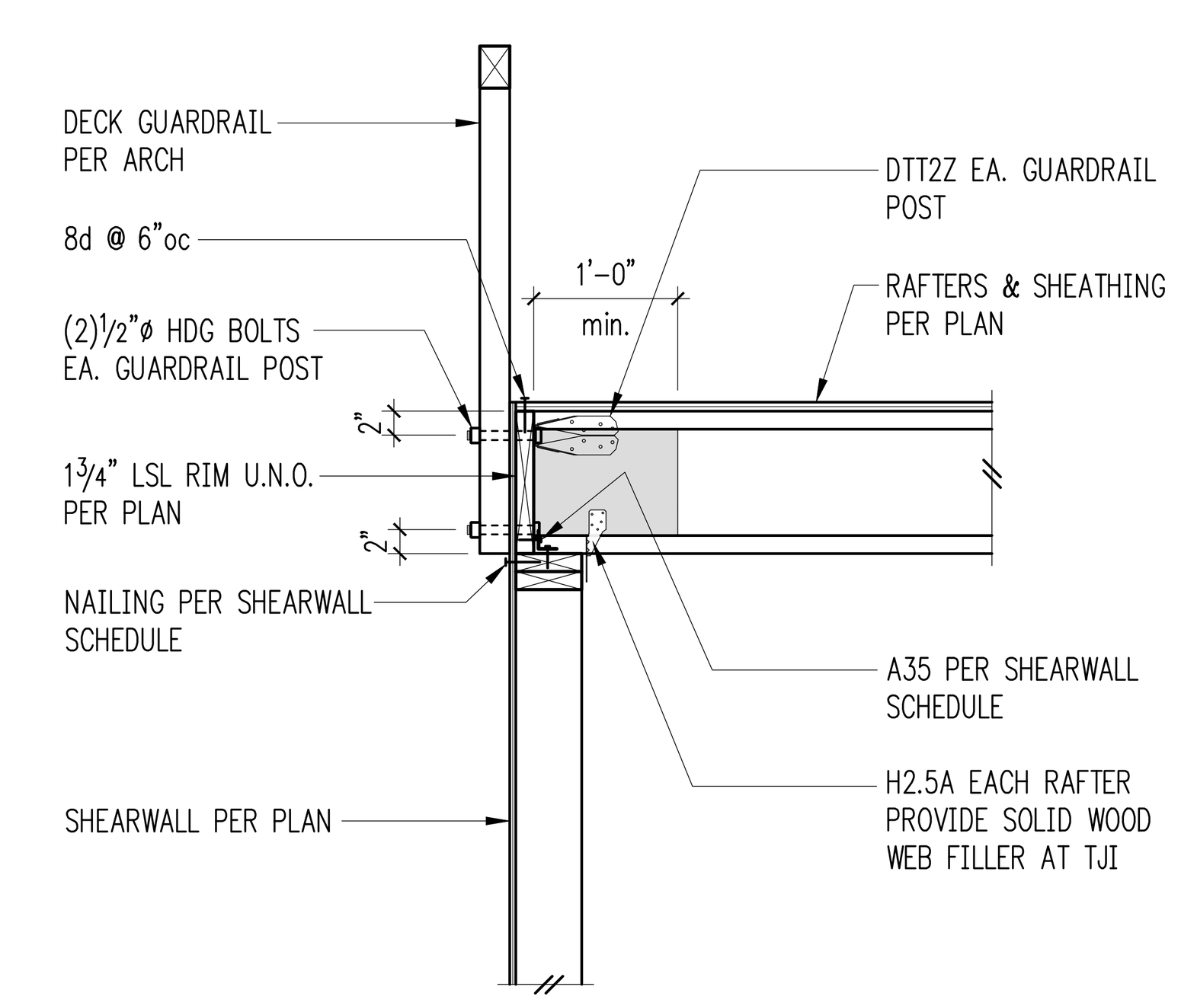


Typical Exterior Wall with Guardrail Post (joists parallel) 19



Typical Exterior Wall with Guardrail Post (joists perpendicular) 20

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BRETT D. MODEN — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

DESIGN:	HAA, SRW
DRAWN:	NHD
CHECKED:	SRW
APPROVED:	BDM

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8480 Residence

8480 85th Ave SE
Mercer Island, WA 98040

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Seattle, WA 98121
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brandtdesigninc.com

ISSUE:

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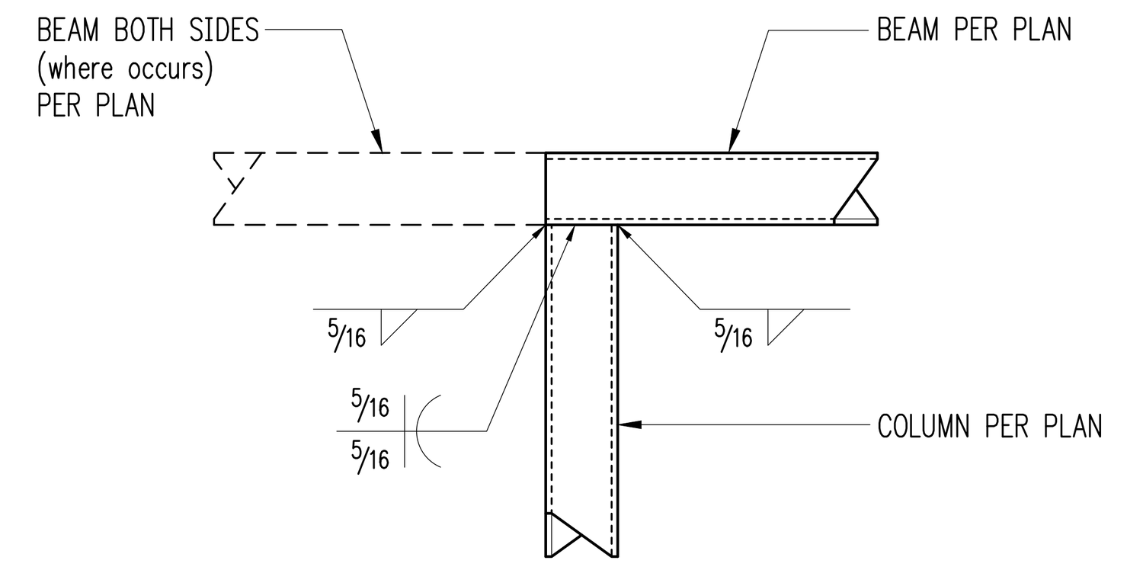
SHEET TITLE:

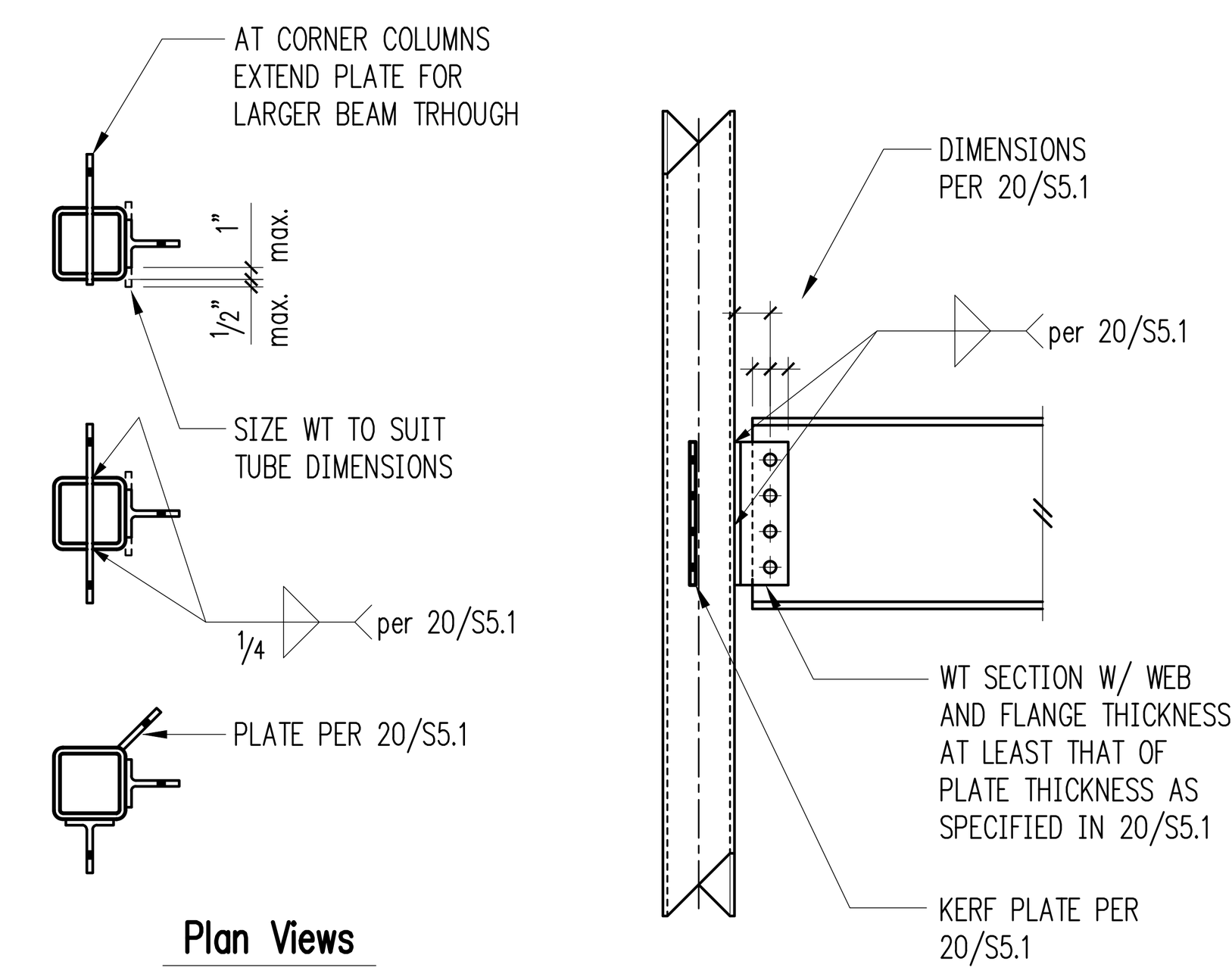
Wood Framing Details

SCALE:	3/4" = 1'-0" U.N.O.
DATE:	March 11, 2022
PROJECT NO:	01519-2021-09
SHEET NO:	S4.2

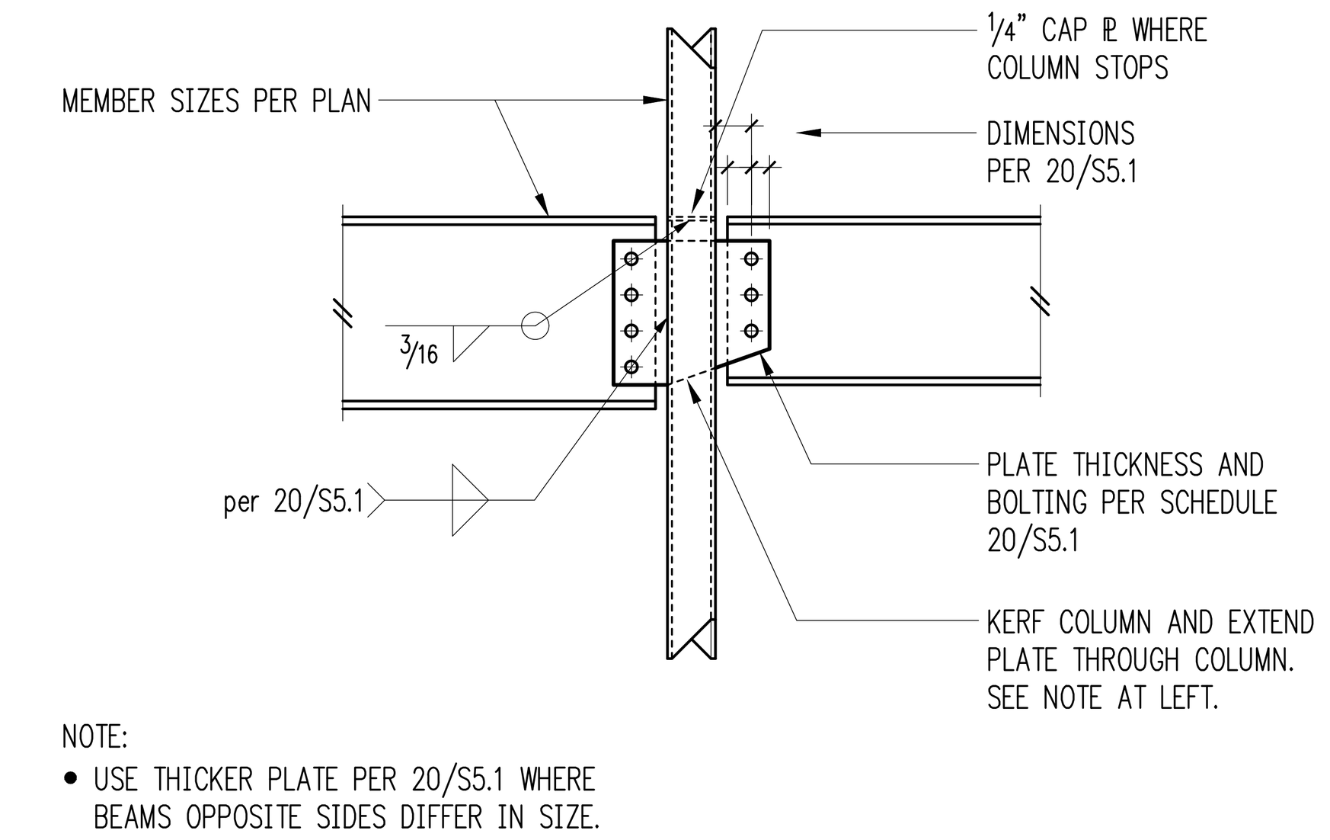
Typical HSS Beam to HSS Column 2



HSS Column Connection 3

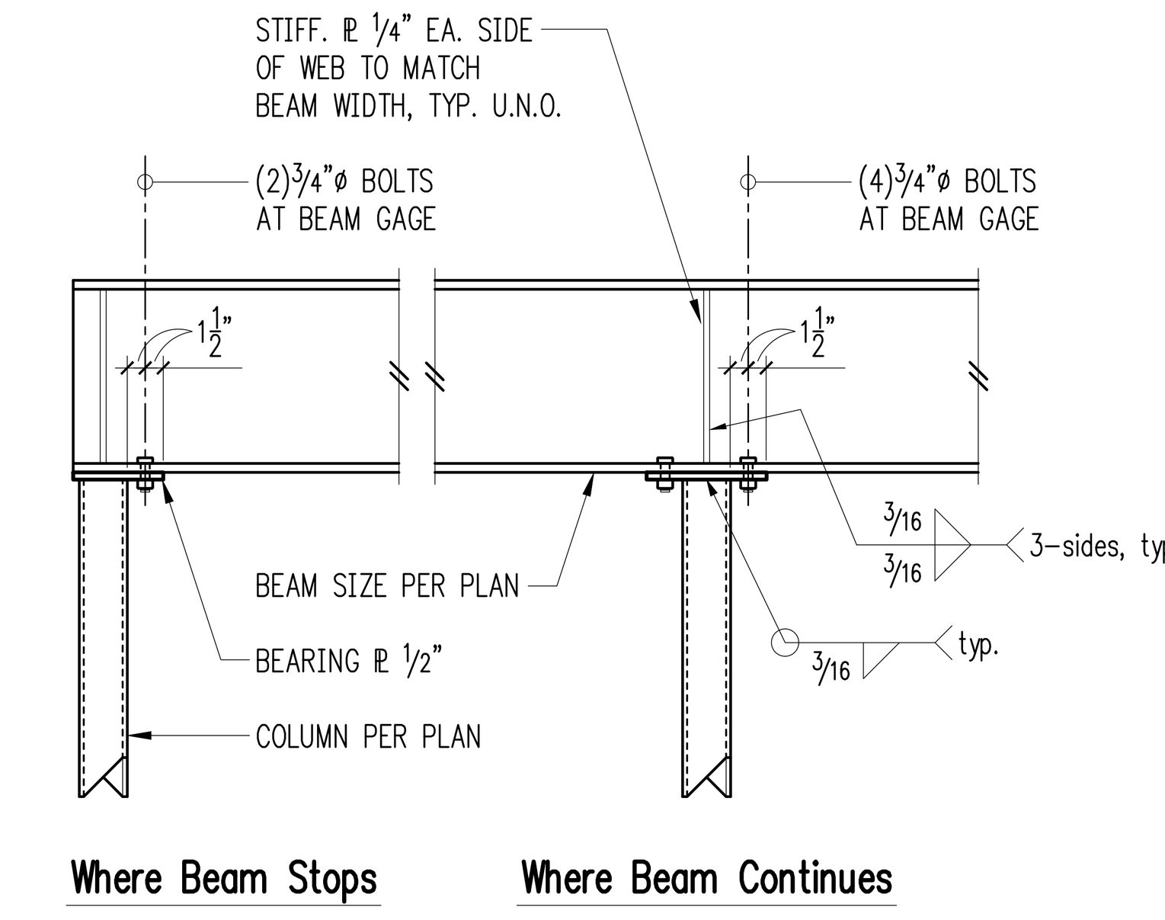


Beam to Continuous HSS Column - Interior 4



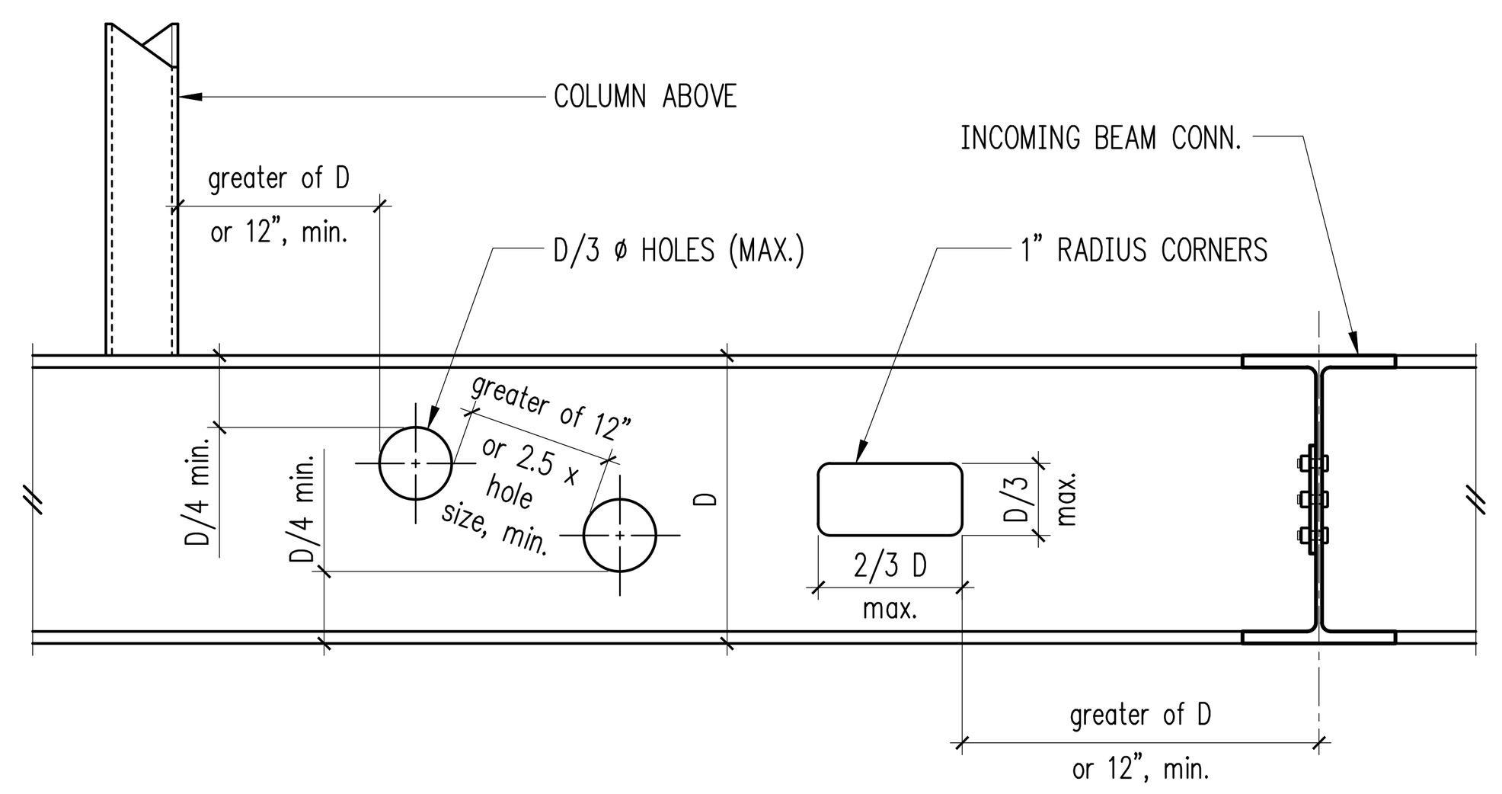
NOTE:
- USE THICKER PLATE PER 20/S5.1 WHERE BEAMS OPPOSITE SIDES DIFFER IN SIZE.

Typical Beam Bearing on HSS or Pipe Column 5



NOTE:
BEARING PLATE THICKNESS SHALL BE ¾" WHERE DEPTH OF SUPPORTED MEMBER EXCEEDS 24"

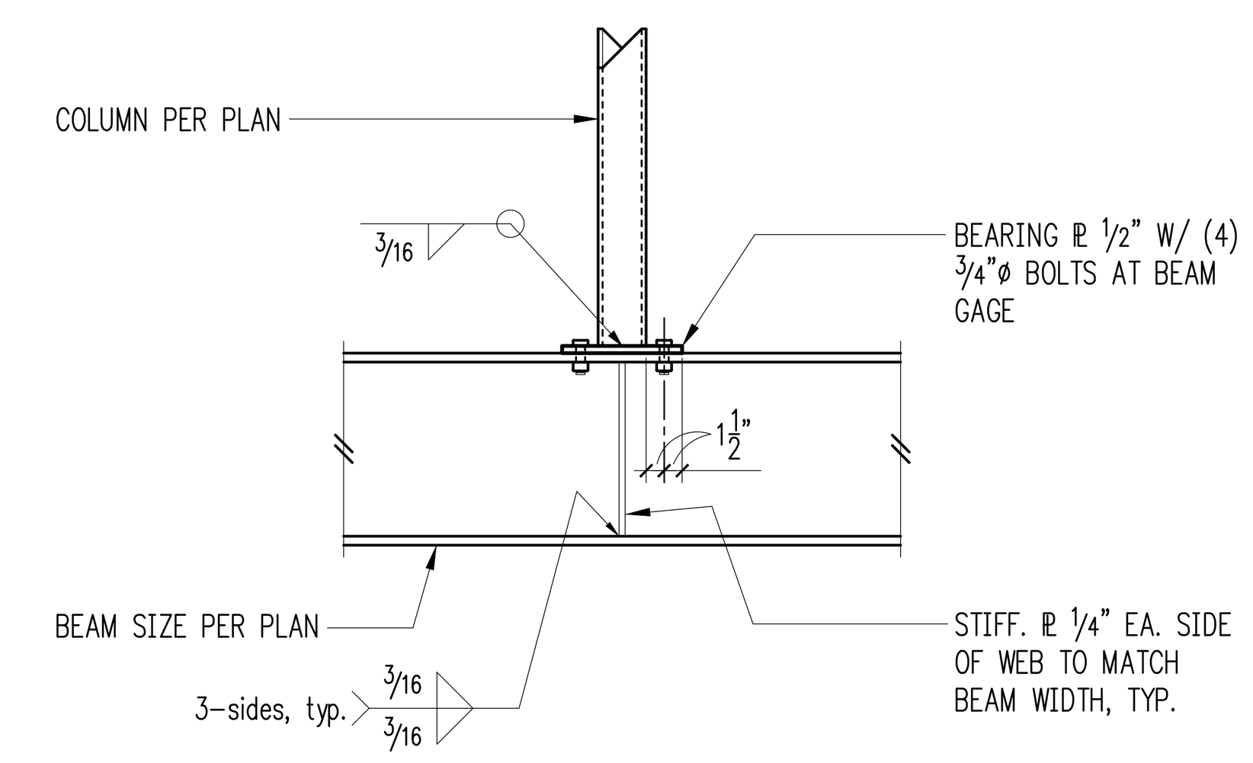
Typical WF Steel Beam Penetration Layout Criteria 7



NOTES:

1. CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF ALL BEAM PENETRATIONS WITH MECHANICAL DRAWINGS. ALL PENETRATIONS THAT ARE LARGER THAN 2"ø AND/OR DO NOT MEET THE CRITERIA IN THIS DETAIL SHALL BE SHOWN ON SHOP DRAWINGS OR SKETCHES AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AND REINFORCING DESIGN. FIELD CUTTING NOT PERMITTED WITHOUT APPROVAL.
2. OPENINGS MAY OCCUR IN MIDDLE HALF OF BEAM SPAN ONLY. BEAM SPAN LENGTH IS MEASURED AS CLEAR DISTANCE FROM FACE OF SUPPORT BELOW TO ADJACENT FACE OF SUPPORT BELOW.
3. NO CUTTING MAY OCCUR IN TOP OR BOTTOM QUARTER OF BEAM DEPTH.
4. ADJACENT OPENINGS SHALL BE SPACED AT THE LESSER OF, 12" OR 2.5 x LARGER OPENING SIZE, EDGE TO EDGE.
5. MAXIMUM SIZES OF OPENINGS SHALL BE D/3 ø OR D/3 x 20/3 AS SHOWN.
6. NO OPENINGS SHALL OCCUR WITHIN THE GREATER OF 12" OR D CLEAR MINIMUM OF AN ADJACENT BEAM CONNECTION OR COLUMN ABOVE.

Beam Supporting HSS or Pipe Column 8



NOTE:
BEARING PLATE THICKNESS SHALL BE ¾" WHERE DEPTH OF SUPPORTED MEMBER EXCEEDS 24"

Typical Skewed Beam Shear Connection 10

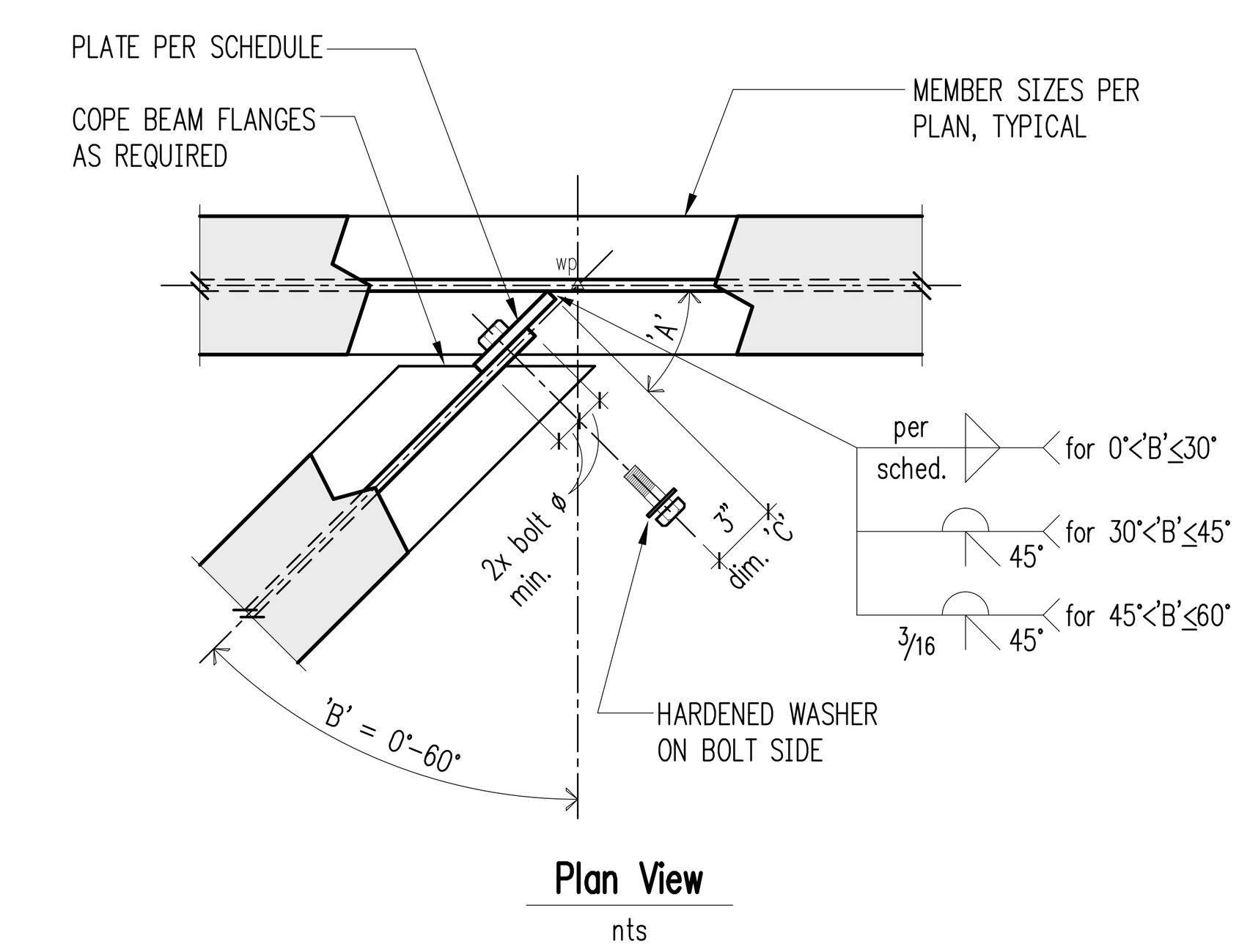
Skewed Beam Connection Schedule

BEAM SIZE	NO. & SIZE OF BOLTS REQUIRED	PLATE THICKNESS	WELD FOR 0° < 'B' < 10°	WELD FOR 10° < 'B' < 30°
W8	(2) ⅝"ø	¼"	S / S + 1/16"	S / S + ⅛"
W10	(2) ¾"ø @ 4" ga.	¼"		
W12	(3) ¾"ø	¼"		
W14	(3) ¾"ø	¼"		
W16	(4) ¾"ø	¼"		
W18	(4) ¾"ø	5/16"		
W21	(4) ⅞"ø	⅜"		45°
W24	(5) ⅞"ø	⅜"		

- USE HORIZONTAL SHORT SLOTTED HOLES IN THE PLATE AT COLUMN CONNECTIONS ONLY

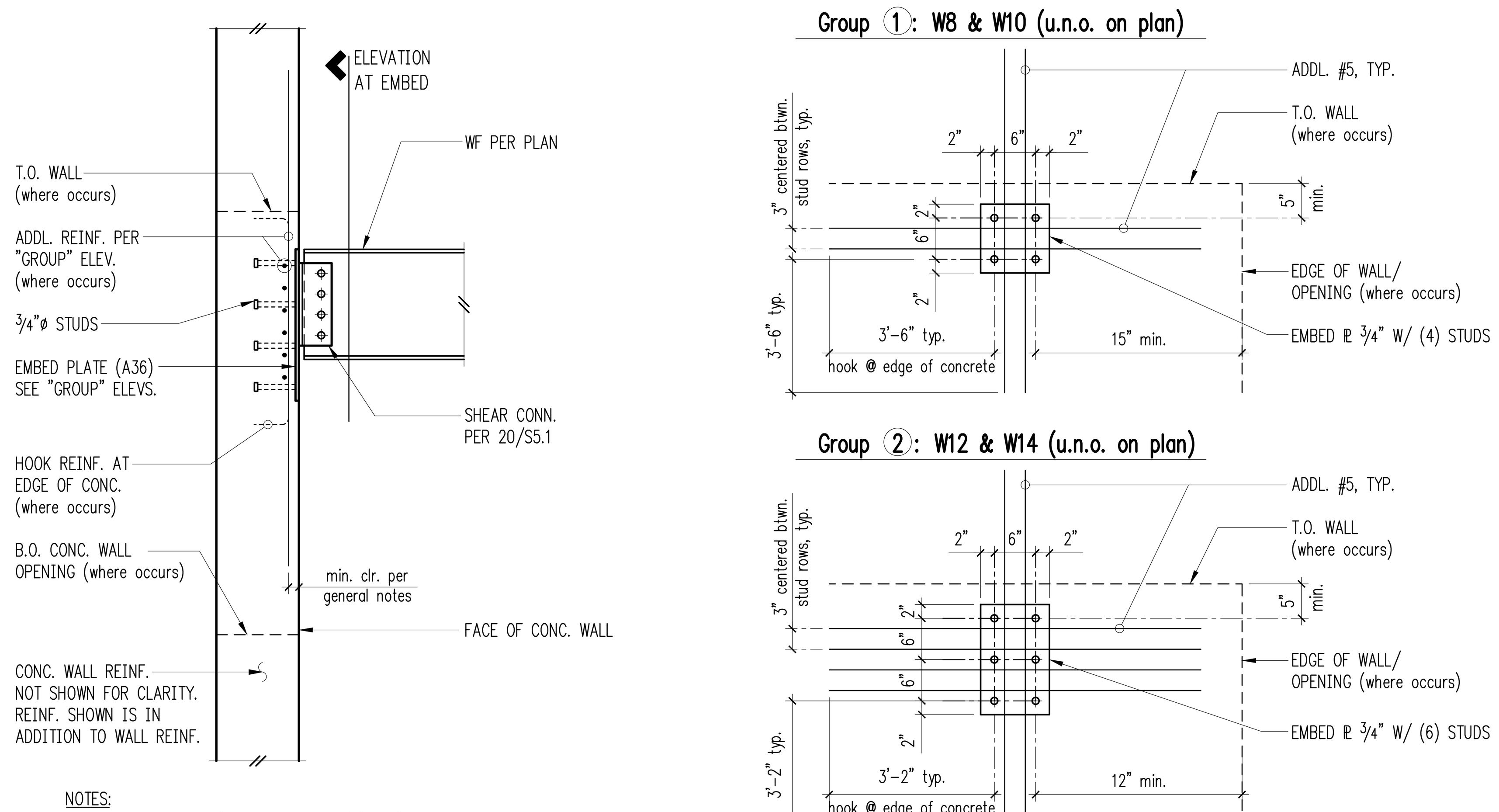
Notes

- FILLET WELD SIZE S = PLATE THICKNESS
- FOR BEVEL WELDS, BEVEL END OF CONNECTION PLATE TO MAINTAIN 'A' AT 45°
- DO NOT INCREASE DIMENSION 'C' WITHOUT ENGINEERS APPROVAL



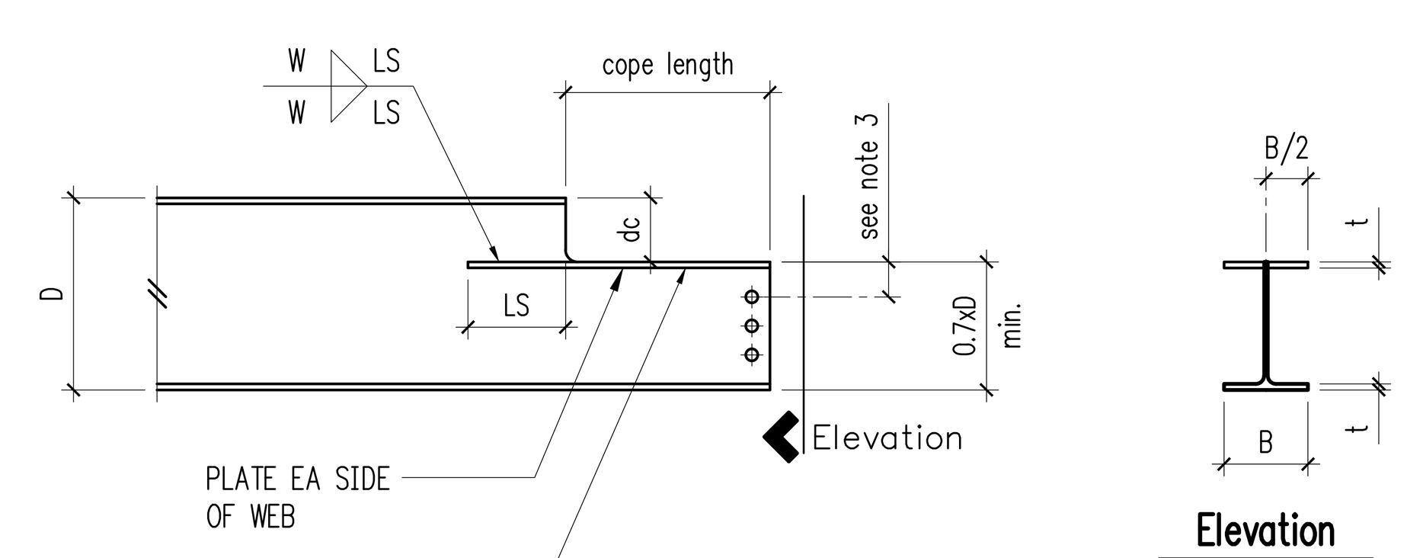
Plan View
nts

Typical Embed Plate Connection at Concrete Wall 12



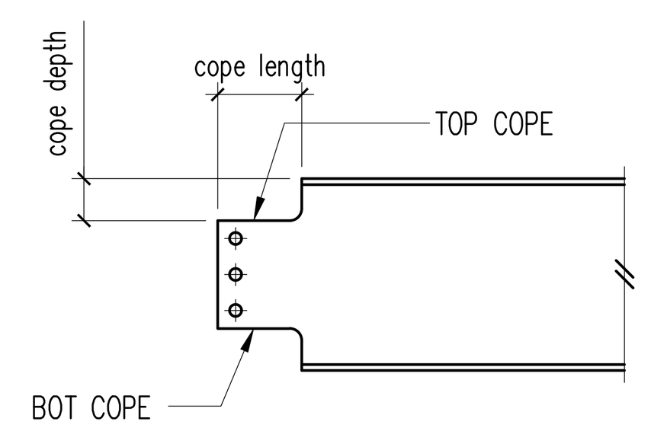
NOTES:
1. ALL STUDS AT 8" WALLS TO BE 3/4"ø x4" U.N.O.
   ALL STUDS AT WALLS > 8" TO BE 3/4"ø x6" U.N.O.
2. RETURN WELD TOLERANCE = +1/4, –0.

Typical Coped Beams 14



Typical Coped Web Stiffener

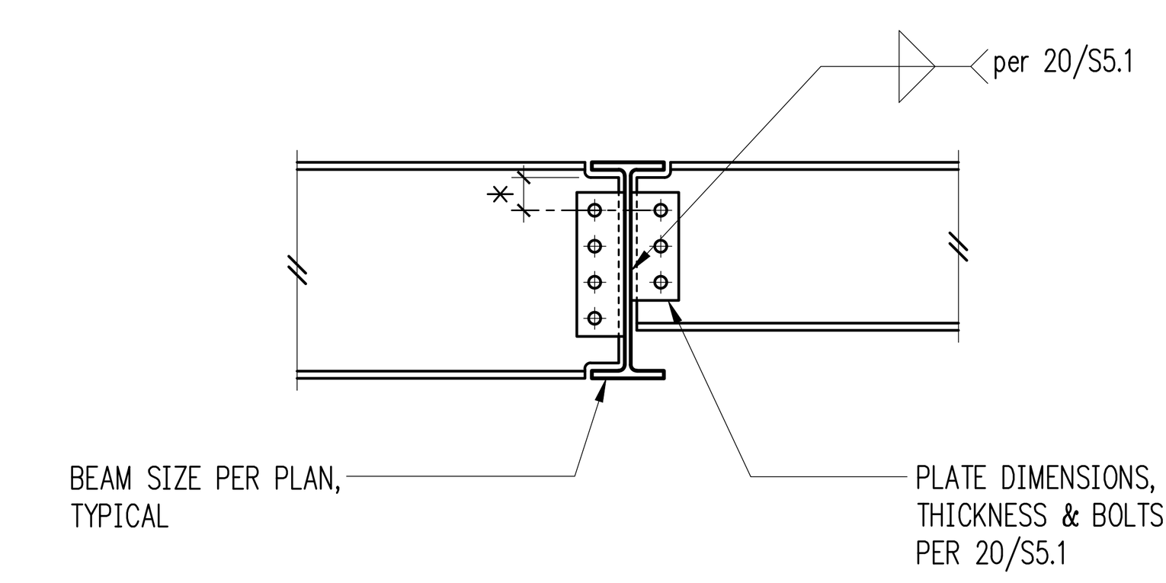
NOTES:
1. W SHALL BE 0.35t OR AISC MINIMUM.
2. LS SHALL BE THE GREATER OF 3x THE PLATE WIDTH OR 2x THE COPE DEPTH (DC).
3. ADJUST BOLT LOCATION AS REQUIRED.



NOTES:
THESE NOTES APPLY TO ALL COPED BEAMS, UNO
1. COPED BEAMS SHALL BE CHECKED FOR MAXIMUM COPE LENGTH PER THE TABLE. COPE LENGTH IS AS SHOWN IN THE CONNECTION DETAILS.
2. MAXIMUM TOP COPE DEPTH IS 2" FOR BEAM DEPTHS UP TO W18, 3" FOR W21 AND DEEPER. WHEN ACTUAL COPE DEPTH EXCEEDS MAXIMUM COPE DEPTH, ADD STIFFENERS PER "TYPICAL COPED WEB STIFFENER".
3. WHEN ACTUAL COPE LENGTH IS GREATER THAN SHOWN IN THE TABLE, SEE "TYPICAL COPED WEB STIFFENER".

Beam Size	Top Cope Only Fy (Beam) = 50ksi Max Cope Length	Top & Bot. Cope Fy (Beam) = 50ksi Max Cope Length
W8, W10	6"	2–1/2"
W12, W14	4–1/2"	2–1/2"
W16, W18, W21	7"	4"
W24	9"	5"
W27	11"	7"
W30	14"	10"

Typical Beam to Beam Connection 15



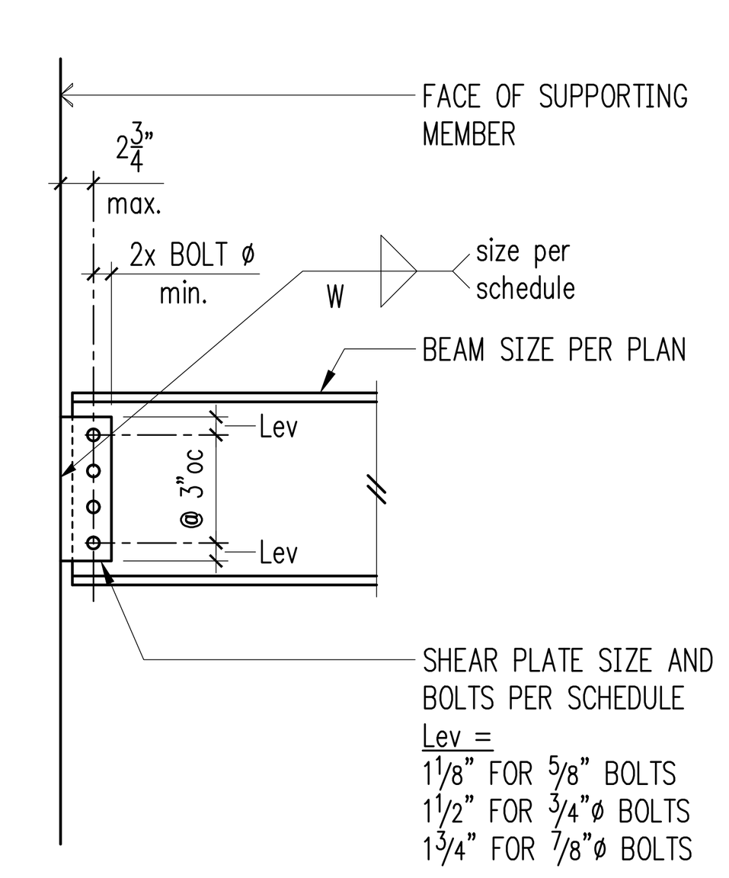
Beam Size	*
W6, W7, C6, C7	1"
W8, W9, C8, C9	1½"
TYP.	2"

16

17

18

Typical Single Shear Plate Connection and Schedule 20



Shear Plate Schedule

Beam Size	No. of Bolts	Bolt Size	Plate Thickness	Weld Size
C6, W6, MC7, HSS 5½, HSS 6	2	⅝"ø @ 2" SPACING	¼"	3/16"
MC8, MC9, MC10 C7, C8, C9, C10, W8, W10, HSS 8	2	⅝"ø	¼"	3/16"
C12, C15, MC12, W12, W14	3	¾"ø	¼"	3/16"
W16	4	¾"ø	¼"	3/16"
W18	4	¾"ø	5/16"	¼"
W21	4	⅞"ø	⅜"	5/16"
W24	5	⅞"ø	⅜"	5/16"
W27	6	⅞"ø	⅜"	5/16"
W30	7	⅞"ø	⅜"	5/16"

NOTES:
1. STANDARD OR SLOTTED HOLES MAY BE USED.
2. BOLT TYPE A325N.
3. ℙ MATERIAL – A36
4. SEE EXTENDED ℙ DETAIL FOR COLUMN WEB CONNECTIONS.
5. AT HSS BEAMS, PROVIDE SHEAR PLATE EACH SIDE OF BEAM W/ THRU BOLT SIZE PER SCHEDULE, U.N.O.

1

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DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

REVISIONS:
Revision 1 Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

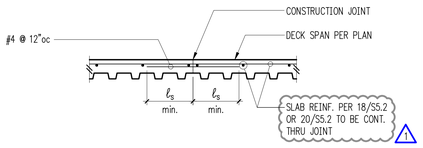
PROJECT TITLE:
8480 Residence
8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850
brandtdesigninc.com

ISSUE: PERMIT

SHEET TITLE: Typical Steel Details

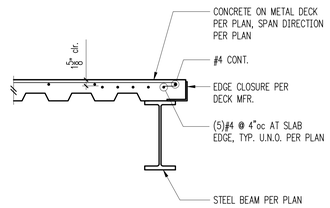
SCALE: 3/4" = 1'-0" U.N.O.
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO: S5.1



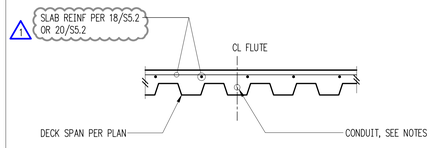
NOTES:

- ENGINEER TO REVIEW AND APPROVE ALL CONSTRUCTION JOINT LOCATIONS PRIOR TO FORMING.

Typical Construction Joint 1



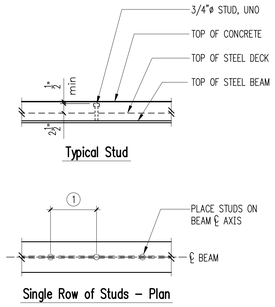
Typical Slab Edge Reinforcement 2



NOTES

1. CONDUIT TO BE PLACED IN THE DECK FLUTES ONLY.
2. MAXIMUM CONDUIT DIAMETER = 1-1/2", AND CONDUITS TO BE SPACED AT 3'-0" OC MINIMUM.
3. CONDUIT TO BE TIED TO REINFORCEMENT AT CENTER OF FLUTE.

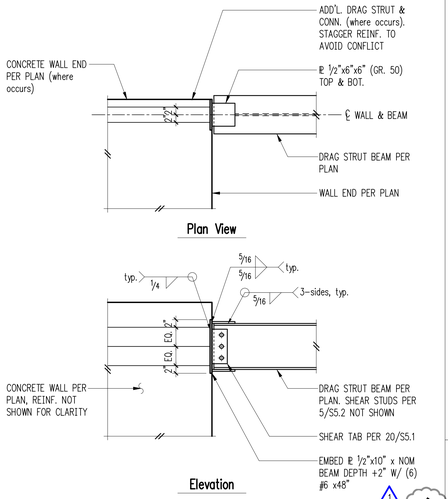
Typical Conduit Placement Criteria at Slab on Metal Deck 3



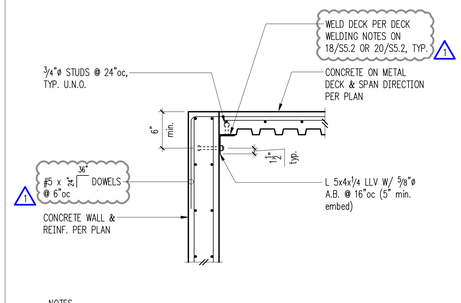
NOTES:

1. SEE PLAN AND DETAILS FOR REQUIRED NUMBER OF STUDS. STUDS SHALL BE PLACED AT A MAXIMUM SPACING OF 16"oc ALONG THE BEAM AXIS. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
2. UNLESS NOTED OTHERWISE, STUDS ARE THE BE EQUALLY SPACED ALONG THE BEAM LENGTH AND PLACED SYMMETRICALLY ABOUT THE BEAM CENTERLINE AXIS. IF EQUAL SPACING IS NOT POSSIBLE DUE TO DECK CONFIGURATION, THE STRUCTURAL ENGINEER SHALL BE NOTIFIED.
3. FOR DECK FLUTES PARALLEL TO THE BEAM, THE FIRST STUD SHALL BE PLACED 6" FROM THE BEAM ENDS. FOR DECK FLUTES PERPENDICULAR TO THE BEAM, THE FIRST STUD SHALL BE PLACED IN THE FLUTE CLOSEST TO THE BEAM ENDS.

Typical Shear Stud Placement at Braced Frame Beams and Drag Struts 5



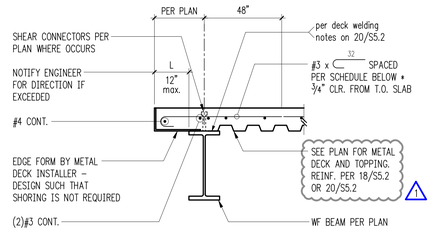
Drag Strut Connection at Concrete Wall 6



NOTES

1. DECK LEDGER OCCURS AT ALL INTERSECTIONS OF FLOOR DECK AND CONCRETE WALLS, U.N.O.
2. COORDINATE ANCHOR BOLT LOCATIONS WITH WALL REINFORCEMENT LAYOUT.

Typical Deck Connection to Concrete Wall 7

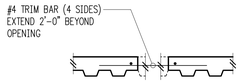


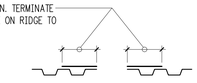
Spacing Schedule

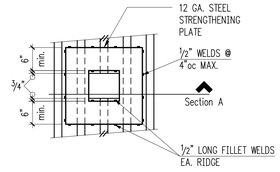
L ≤ 4½" +	OMIT #3 BARS
4½" < L ≤ 8"	32"oc
8" < L ≤ 12"	24"oc

Cantilevered Floor Deck Parallel to Beam 8

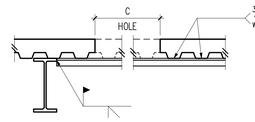
1. FOR HOLES 4" DIA. OR LESS OR 4" SQUARE OR LESS:
   NO STRENGTHENING IS REQUIRED PROVIDED THAT HOLES ARE NOT CLOSER THAN 12"oc
2. FOR HOLES GREATER THAN 4" UP TO 8" DIA. OR 8" SQUARE:
   PROVIDED HOLES ARE NOT CLOSER THAN 3'-0"oc

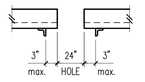


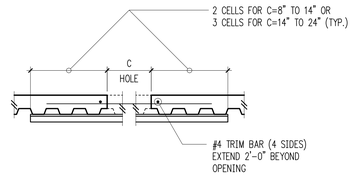




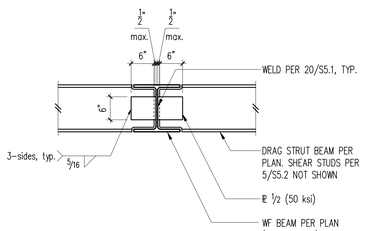
3. FOR HOLES GREATER THAN 8" UP TO 24" DIA. OR 24" SQUARE:
   PROVIDE L 2x2x3/16 AS SHOWN BELOW:



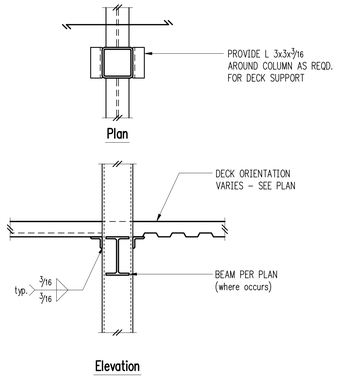




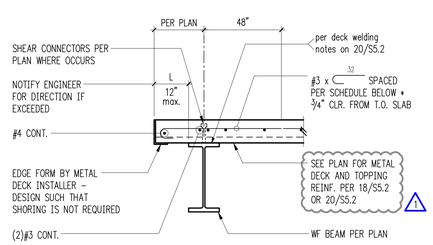
Floor Deck Reinforcement at Small Openings 10



Drag Strut Beam Connection 11



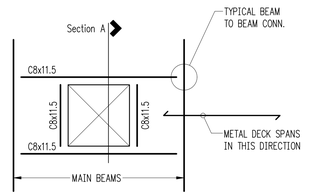
Floor Deck Support at Columns 12



Spacing Schedule

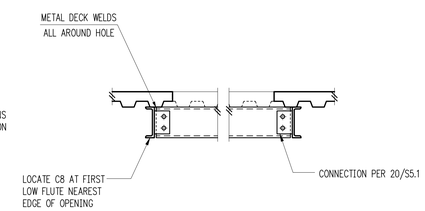
L ≤ 6" +	OMIT #3 BARS
6" < L ≤ 10"	32"oc
10" < L ≤ 18"	24"oc

Cantilevered Floor Deck Perpendicular to Beam 13



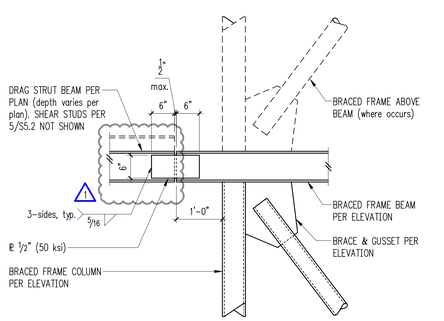
NOTES:

- WELD DECK TO MEMBERS WITH ½" DIA. PUDDLE WELDS @ 6"oc ALL AROUND

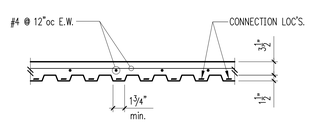


- FOR HOLES GREATER THAN 24"ø OR 24" SQ. – U.O.N. ON PLAN

Floor Deck Reinforcement at Large Openings 15



Drag Strut Connection to Braced Frame 16



Verco PLB-36, G60 Coating With Following Minimum Properties

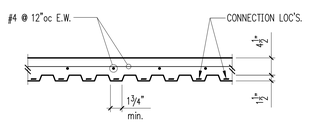
PANEL WIDTH = 36"

18 GA
I = 0.302 in⁴
S = 0.314 in³ / -0.331 in³
Fy = 50 ksi

NOTES:

1. DECK AS NOTED TO THE LEFT SHALL HAVE SUPERIMPOSED LOAD CAPACITY INDICATED IN LOAD MAPS. MAXIMUM DECK SPAN = 6'-0" WITHOUT SHORING.
2. PROVIDE 5/8"ø ARC SPOT WELDS WITH 36/7 PERPENDICULAR CONNECTIONS TO SUPPORTS AND 5/8"ø ARC SPOT WELDS AT 12" OC TO ALL SUPPORTS PARALLEL TO DECK FLUTES.
3. CONNECT DECK SEAMS WITH PUNCHLOK II CONNECTION (VSC2) SIDE LAP CONNECTIONS @ 12" OC.
4. DECK TYPE MUST STRICTLY MEET CRITERIA LISTED ABOVE INCLUDING I.C.B.O. RESEARCH REPORT ALLOWABLE SHEAR AND SUPERIMPOSED LOADS. SUBMIT DECK INFORMATION TO ENGINEER PRIOR TO BEGINNING SHOP DRAWINGS.
5. PROVIDE FACTORY-PUNCHED VENT TABS IN BOTTOM FLUTES PER MANUFACTURERS RECOMMENDATIONS. EXTERIOR DECK SHALL BE VENTED.
6. REINFORCE DECK OPENINGS PER 10/S5.2 AND 15/S5.2.

Upper Level Deck 18



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5. PROVIDE FACTORY-PUNCHED VENT TABS IN BOTTOM FLUTES PER MANUFACTURERS RECOMMENDATIONS. EXTERIOR DECK SHALL BE VENTED.
6. REINFORCE DECK OPENINGS PER 10/S5.2 AND 15/S5.2.

Upper Level Deck 20

SSF STRUCTURAL ENGINEERING
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BRENT D. MOZDEN — STATE OF WASHINGTON — 22961 — REGISTERED PROFESSIONAL ENGINEER

DESIGN:	HAA, SRW
DRAWN:	NHD
CHECKED:	SRW
APPROVED:	BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:

8480 Residence
8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850
brandtdesigninc.com

ISSUE:

PERMIT

SHEET TITLE:

Steel Details

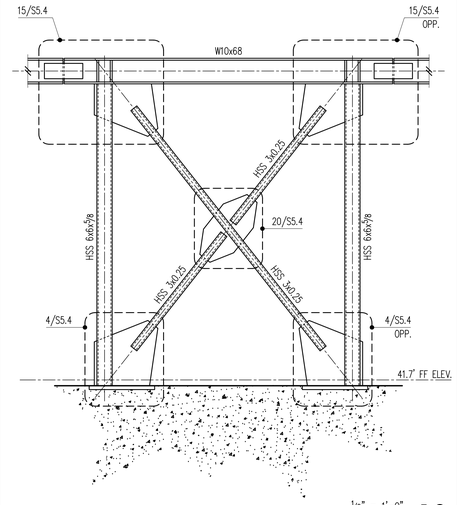
SCALE:	3/4" = 1'-0" U.N.O.
DATE:	March 11, 2022
PROJECT NO:	01519-2021-09
SHEET NO:	S5.2

1

2

3

4



1/2" = 1'-0"

BF-1 Elevation 10

6

7

8

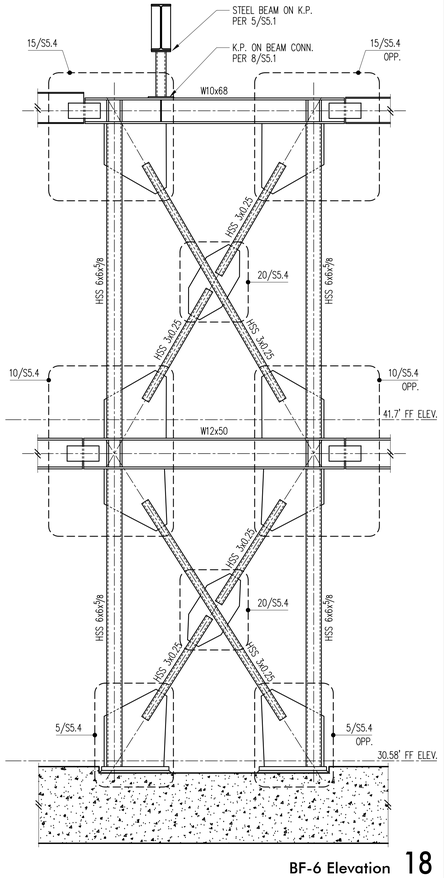
9

15/S5.4
15/S5.4
OPP.
W8x67
HSS 3x0.25
HSS 6.6x5/8
20/S5.4
HSS 6.6x5/8
HSS 3x0.25
HSS 3x0.25
10/S5.4
10/S5.4
OPP.
41.7' FF ELEV.
W12x50
CONC. WALL
HSS 3x0.25
HSS 6.6x5/8
20/S5.4
HSS 6.6x5/8
HSS 3x0.25
HSS 3x0.25
5/S5.4
5/S5.4
OPP.
30.58' FF ELEV.

BF-D Elevation 16

15/S5.4
D
3/S5.7
OPP.
W10x68
HSS 3x0.25
HSS 6.6x5/8
'BF-D' BRACED FRAME
20/S5.4
HSS 6.6x5/8
HSS 3x0.25
HSS 3x0.25
10/S5.4
10/S5.5
OPP.
41.7' FF ELEV.
W12x50
HSS 3x0.25
HSS 6.6x5/8
20/S5.4
HSS 6.6x5/8
HSS 3x0.25
HSS 3x0.25
5/S5.5
OPP. SIM.
5/S5.4
30.58' FF ELEV.

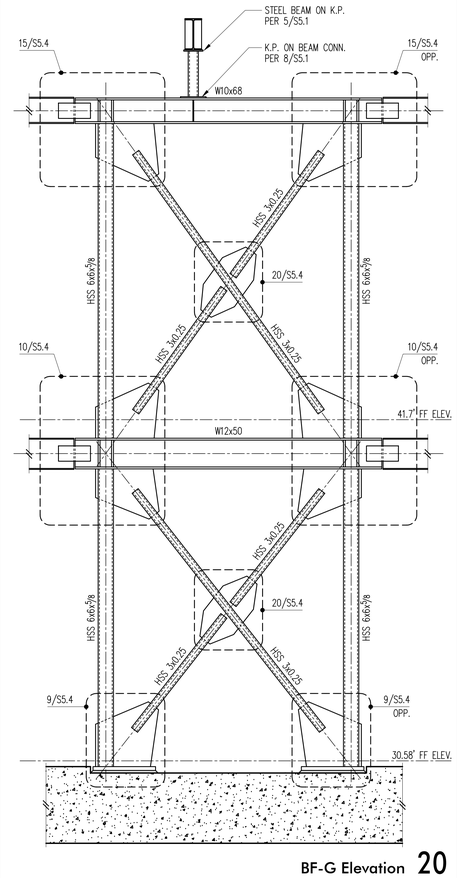
BF-4 Elevation 17



BF-6 Elevation 18

15/S5.4
15/S5.4
OPP.
W10x68
HSS 3x0.25
HSS 6.6x5/8
20/S5.4
HSS 6.6x5/8
HSS 3x0.25
10/S5.4
10/S5.4
OPP.
41.7' FF ELEV.
W12x50
HSS 3x0.25
HSS 6.6x5/8
20/S5.4
HSS 6.6x5/8
HSS 3x0.25
5/S5.4
5/S5.4
OPP.
30.58' FF ELEV.

BF-8 Elevation 19



BF-G Elevation 20

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BRENT D. MOLDEN
STATE OF WASHINGTON
21961
REGISTERED
PROFESSIONAL ENGINEER

DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:

8480 Residence

8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850
brandtdesigninc.com

ISSUE:

PERMIT

SHEET TITLE:

Steel Braced Frame Elevations

SCALE: 1/2" = 1'-0" U.N.O.
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO: S5.3

1

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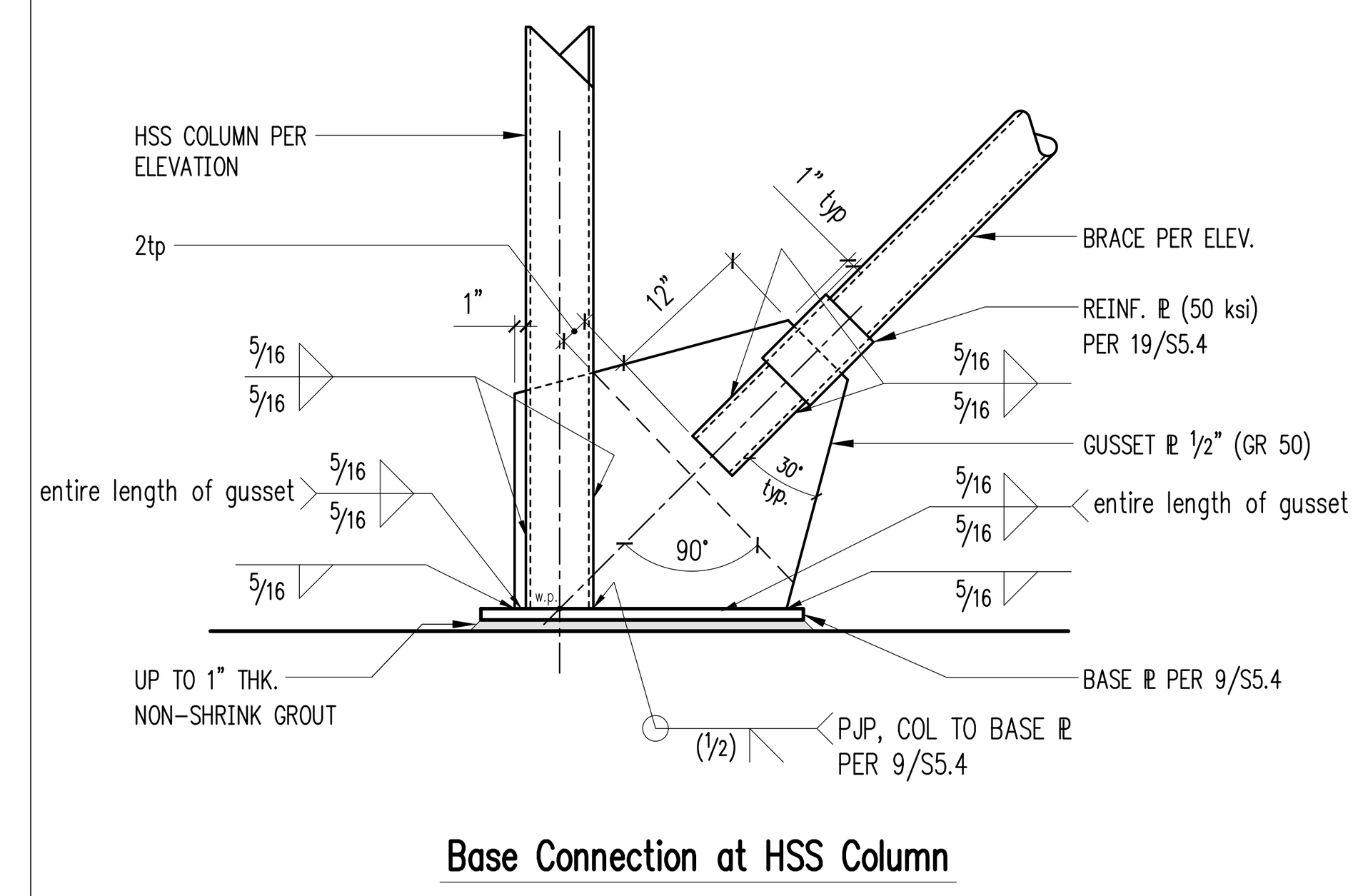
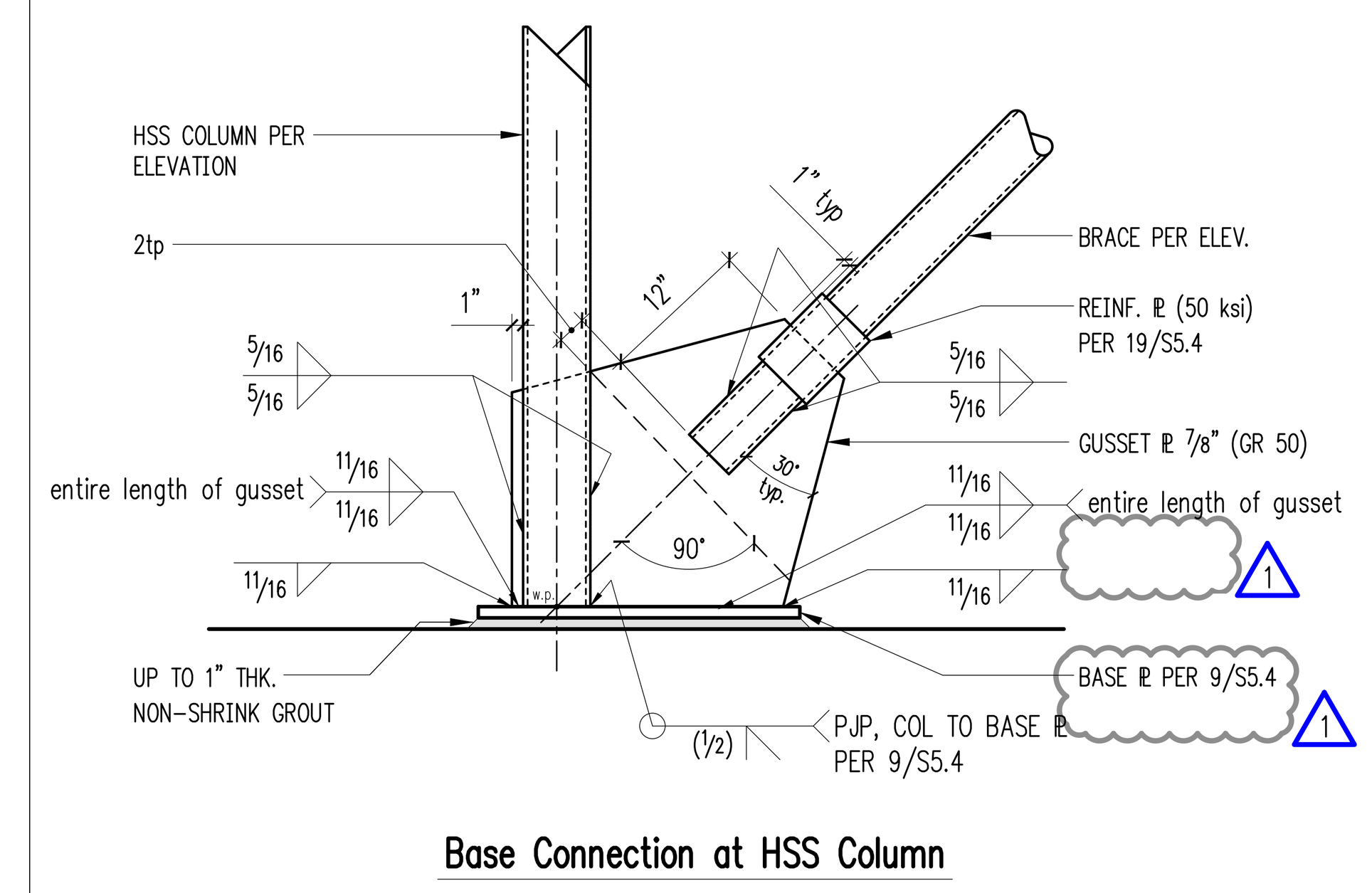


Braced Frame Base Connection at BF-1 4



Typical Braced Frame Base Connection 5

6

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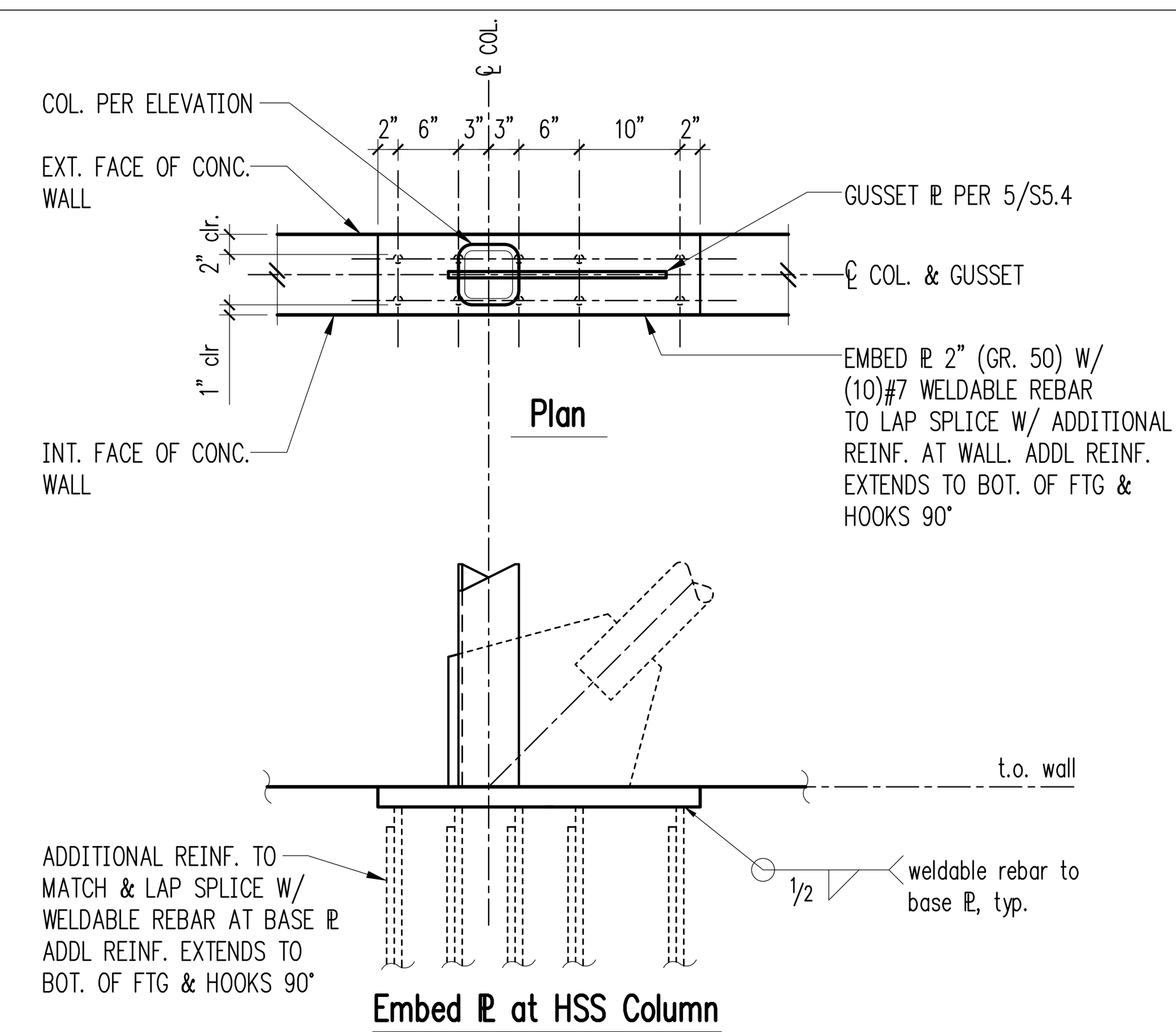
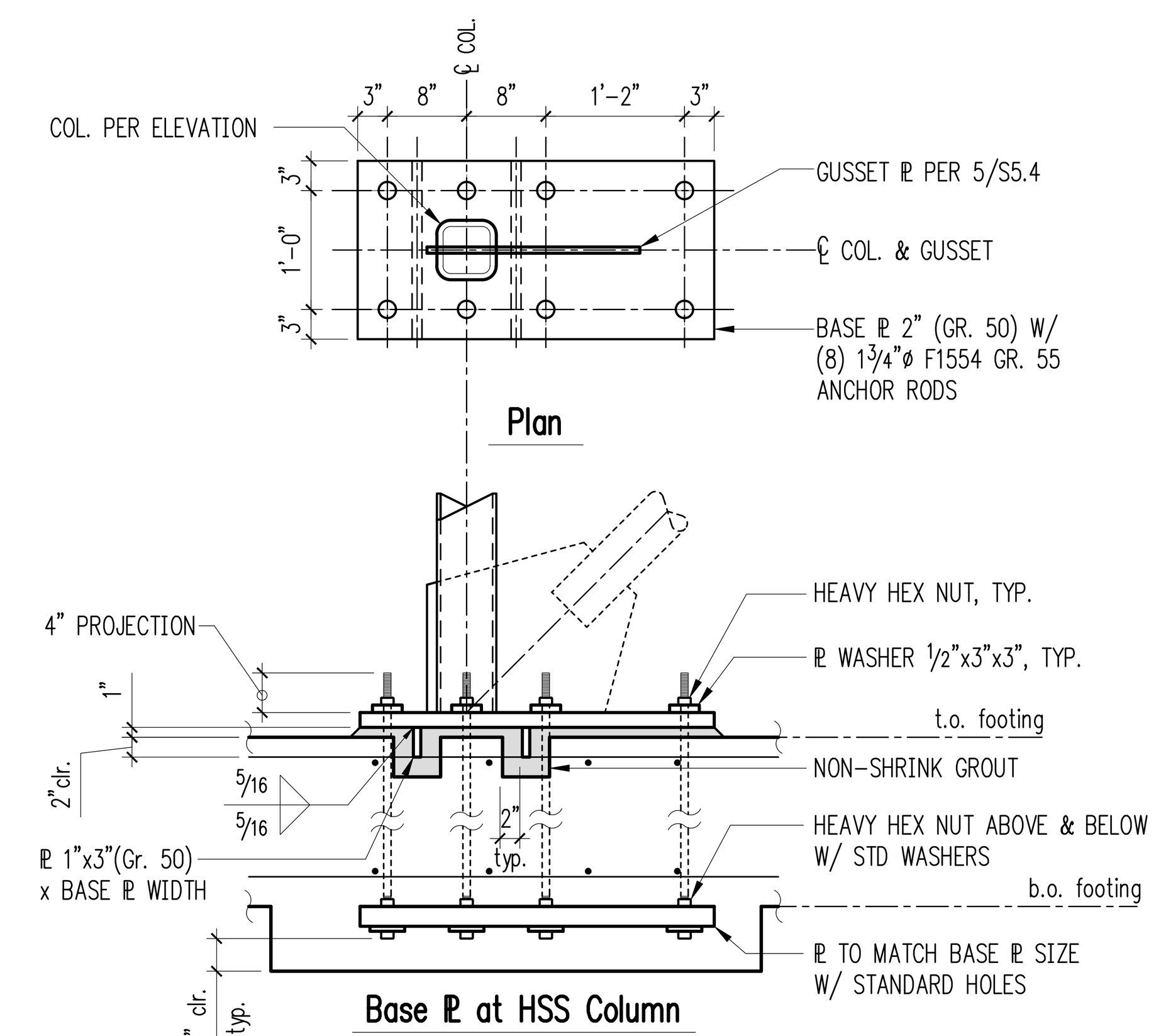
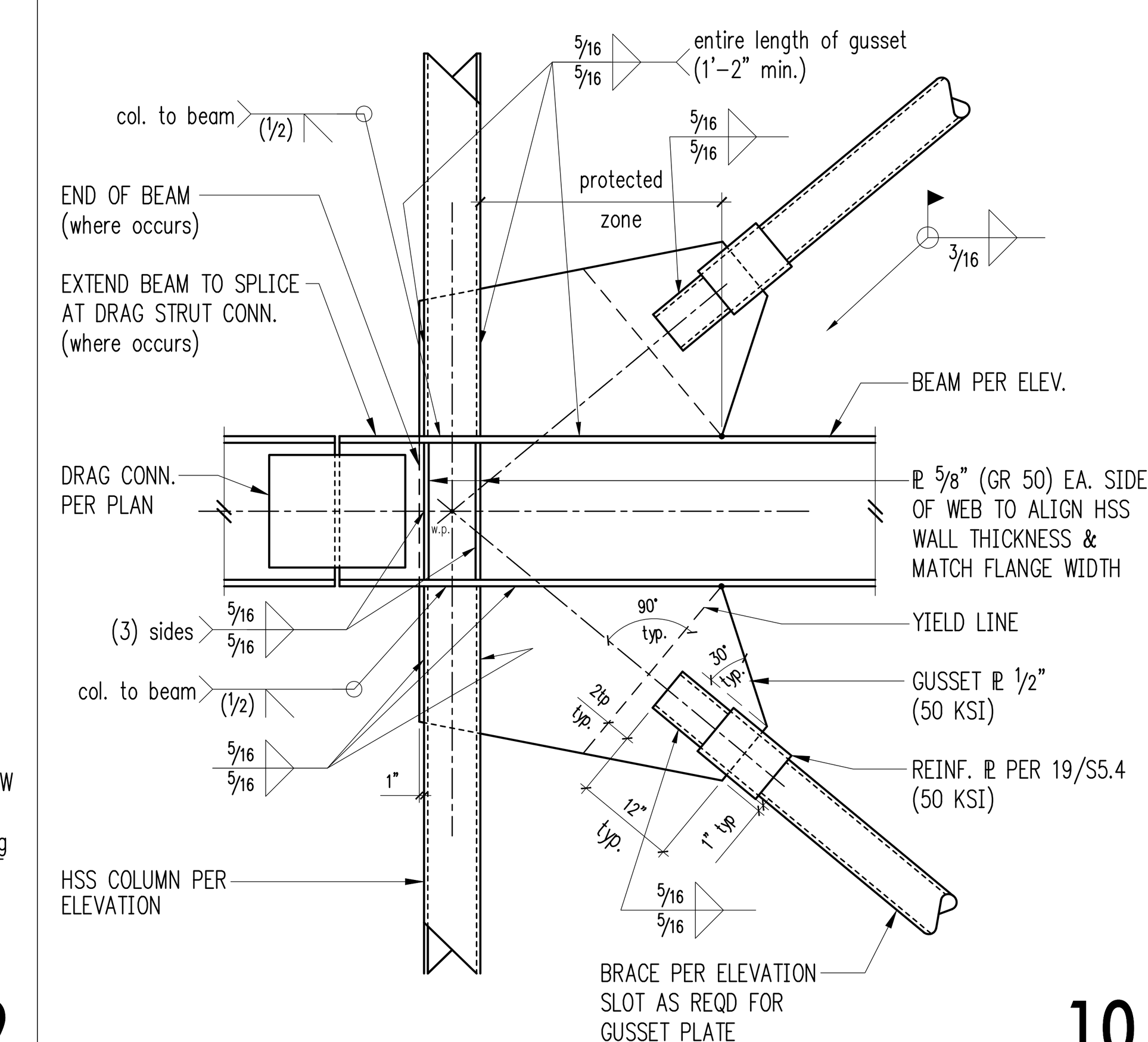


Braced Frame 'BF-1' Embed Base Plate 8



Typical Braced Frame Base Plate at HSS Column 9



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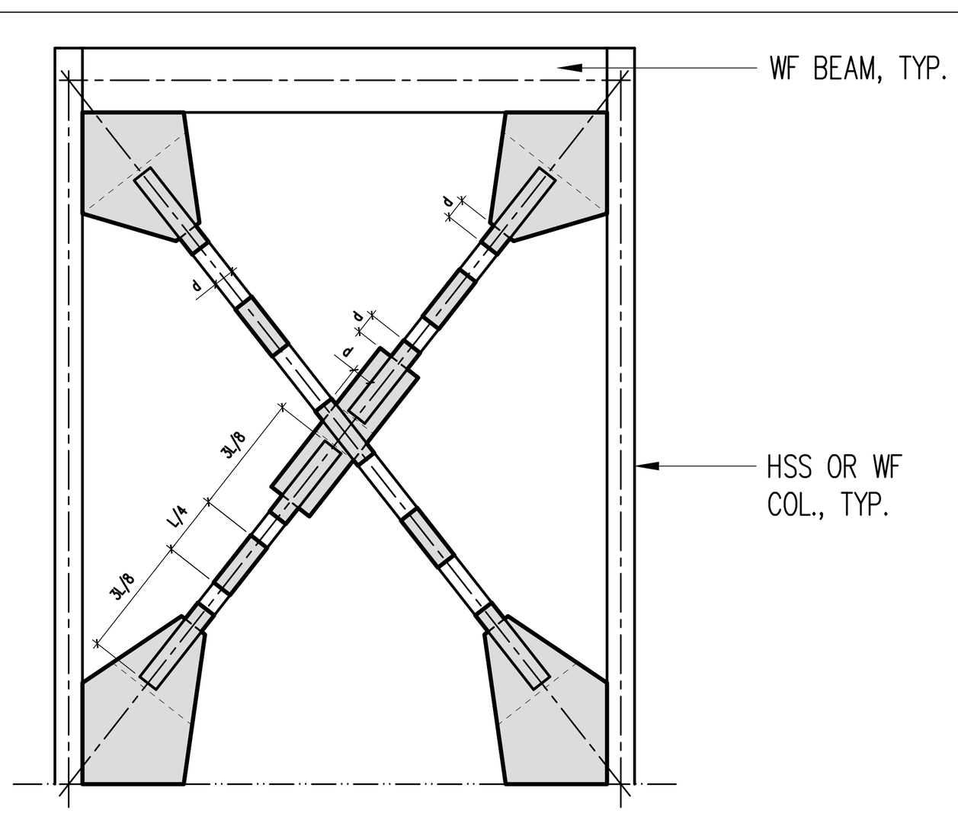
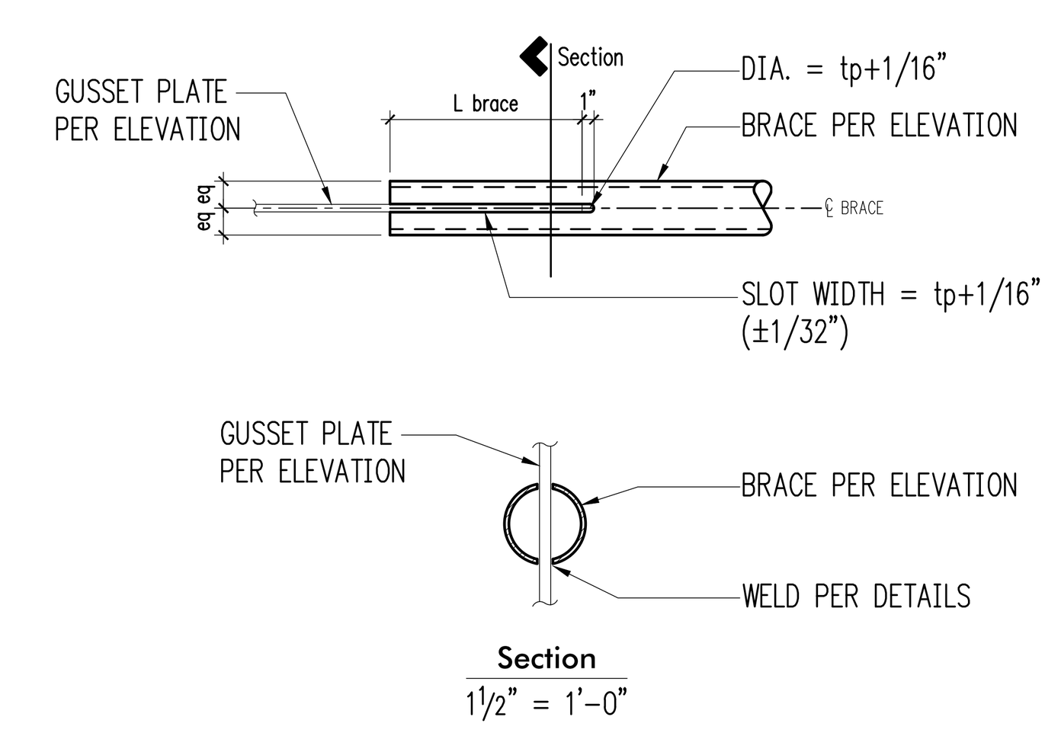


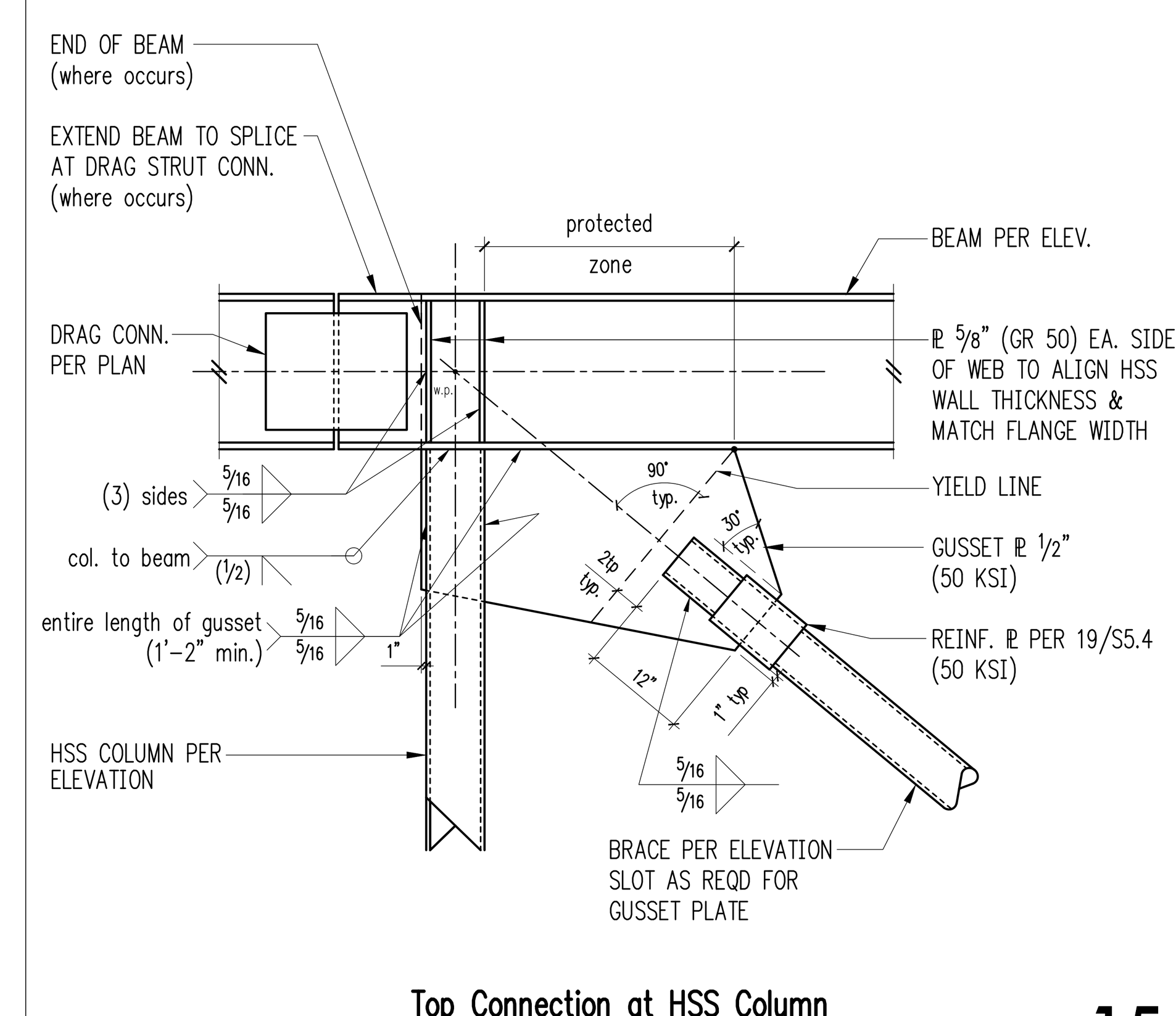
Notes

1. PROTECTED ZONES SHALL APPLY TO ALL BRACED FRAMES.
2. SHADING INDICATES PROTECTED ZONES. WITHIN THE PROTECTED ZONES, THE FOLLOWING SHALL APPLY:
   a. WELDED, BOLTED, SCREWED, OR SHOT-IN ATTACHMENTS FOR EDGE ANGLES, EXTERIOR FACADES, PARTITIONS, DUCT WORK, PIPING, AND OTHER CONSTRUCTION SHALL NOT BE PERMITTED.
   b. DISCONTINUITIES CREATED BY FABRICATION OR ERECTION OPERATIONS SUCH AS TACK WELDS, ERECTION AIDS, AIR-ARC GOUGING, AND THERMAL CUTTING SHALL BE REPAIRED AS REQUIRED BY THE STRUCTURAL ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND SUBMITTING ALL SUCH CONDITIONS TO THE STRUCTURAL ENGINEER OF RECORD FOR DETERMINATION OF ADEQUATE REPAIR.

Typical Brace Protected Zones 13



Typical Brace Slot 14



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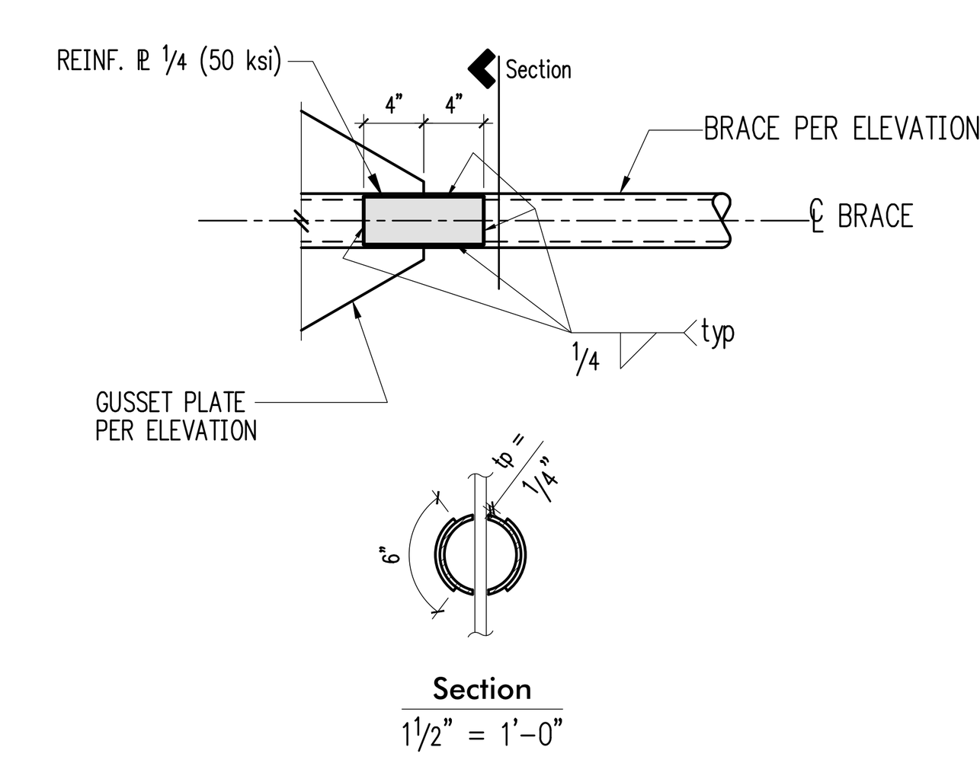
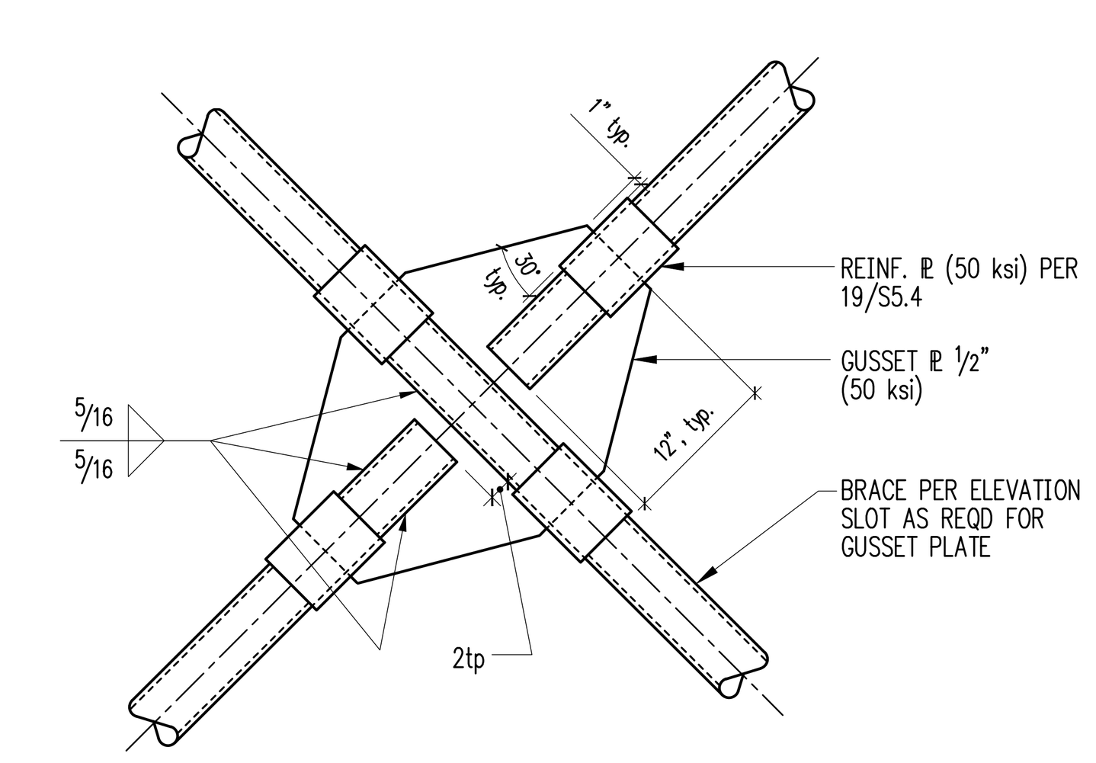
Braced Frame General Notes

1. ALL PLATES SHALL BE A572, FY=50ksi, UNO
2. BRACED FRAME BEAM TO COLUMN CONNECTIONS PER 10/S5.4 AND 15/S5.4, UNO.
3. EACH GUSSET HAS TWO YIELD POINTS, ONE AT THE CONNECTION TO THE COLUMN & ONE AT THE CONNECTION TO THE BEAM. THE YIELD LINE PROJECTION POINT RESULTING IN A YIELD LINE FURTHEST FROM THE WORK POINT DETERMINES THE GUSSET GEOMETRY. YIELD LINES ARE PERPENDICULAR TO BRACE AXES.
4. GUSSET PLATES SHALL BE DETAILED AND DIMENSIONED TO PROVIDE THE REQUIRED BRACE TO GUSSET PLATE WELD LENGTH, GUSSET PLATE TO BEAM WELD LENGTH, AND GUSSET PLATE TO COLUMN WELD LENGTH.
5. SLOTS IN BRACE MEMBERS SHALL HAVE A WIDTH EQUAL TO THE GUSSET PLATE THICKNESS PLUS A MAXIMUM OF 1/8" TOLERANCE. PROVIDE SLOT PATCH AND SLOT REINFORCING AT ALL BRACE SLOTS PER 19/S5.4.
6. BRACED FRAME SHOP DRAWINGS SUBMITTED TO THE ENGINEER FOR REVIEW SHALL CLEARLY INDICATE THE BRACE ANGLE, GUSSET PLATE DIMENSIONS, BRACE TO GUSSET PLATE WELD LENGTH, VERTICAL GUSSET PLATE LENGTH, HORIZONTAL GUSSET PLATE LENGTH, AND YIELD LINES.
7. WHERE ERECTION BOLTS ARE USED, A SINGLE BOLT SHALL BE PROVIDED AT EACH END OF THE BRACE. ERECTION BOLTS SHALL BE LOCATED WITHIN 4" OF BRACE END.
8. PROTECTED ZONES SHALL APPLY TO ALL BRACED FRAMES. SEE 13/S5.4.
9. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS RELATED TO QA/QC AND STRUCTURAL STEEL FABRICATION.

18



Typical Brace Slot Reinforcing 19



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DRAWN:	NHD
CHECKED:	SRW
APPROVED:	BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:

8480 Residence

8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:

Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
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brandtdesigninc.com

ISSUE:

PERMIT

SHEET TITLE:

Steel Braced Frame Details

SCALE:	3/4" = 1'-0" U.N.O.
DATE:	March 11, 2022
PROJECT NO:	01519-2021-09
SHEET NO:	S5.4

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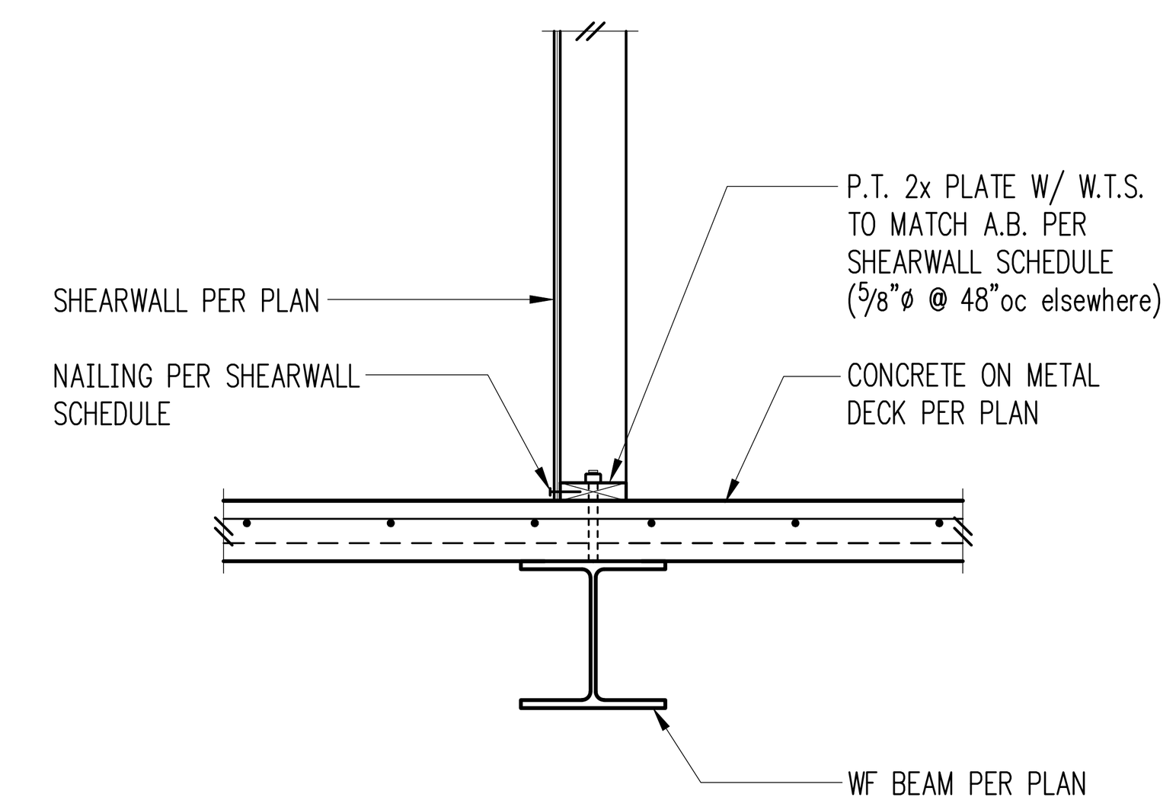

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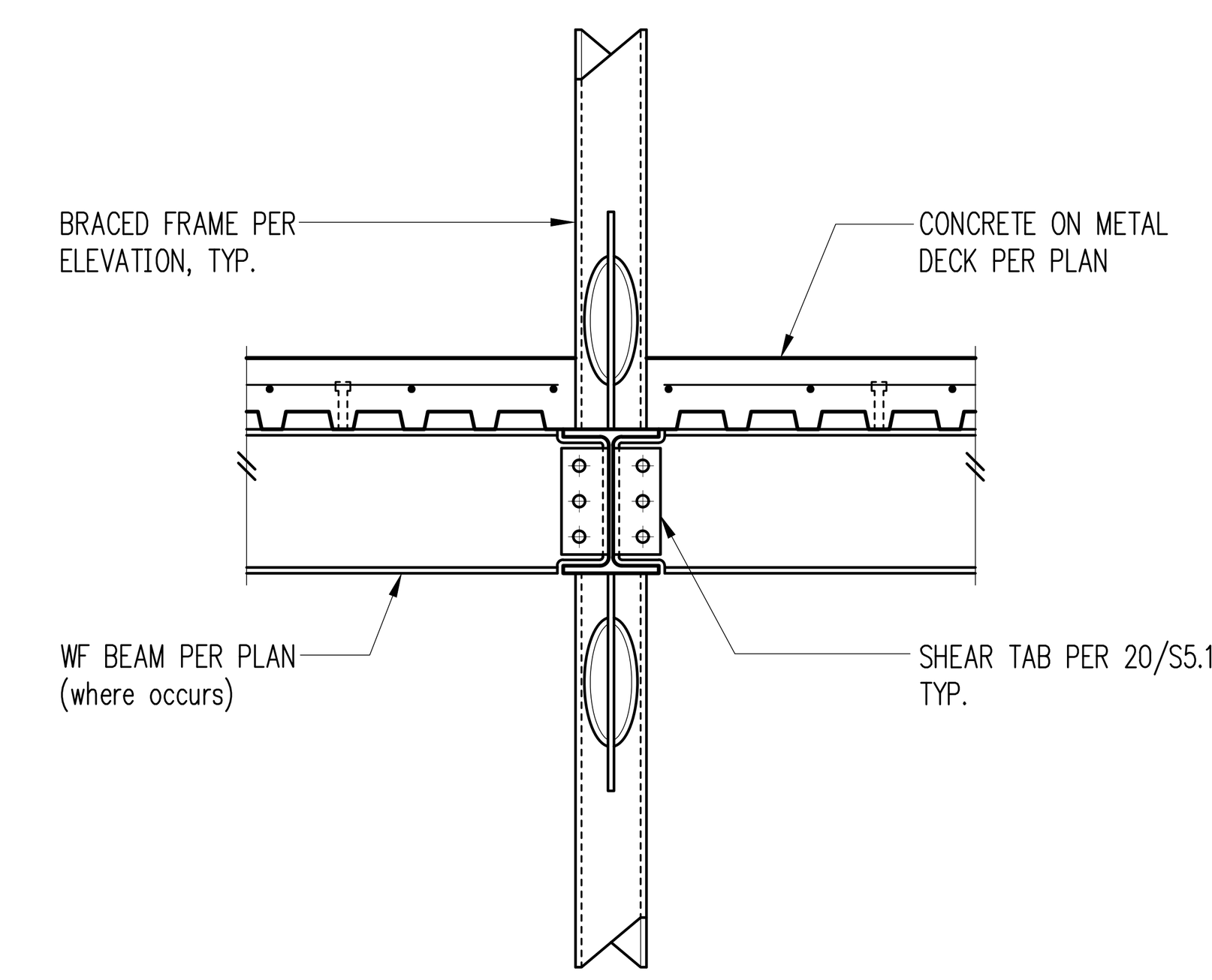

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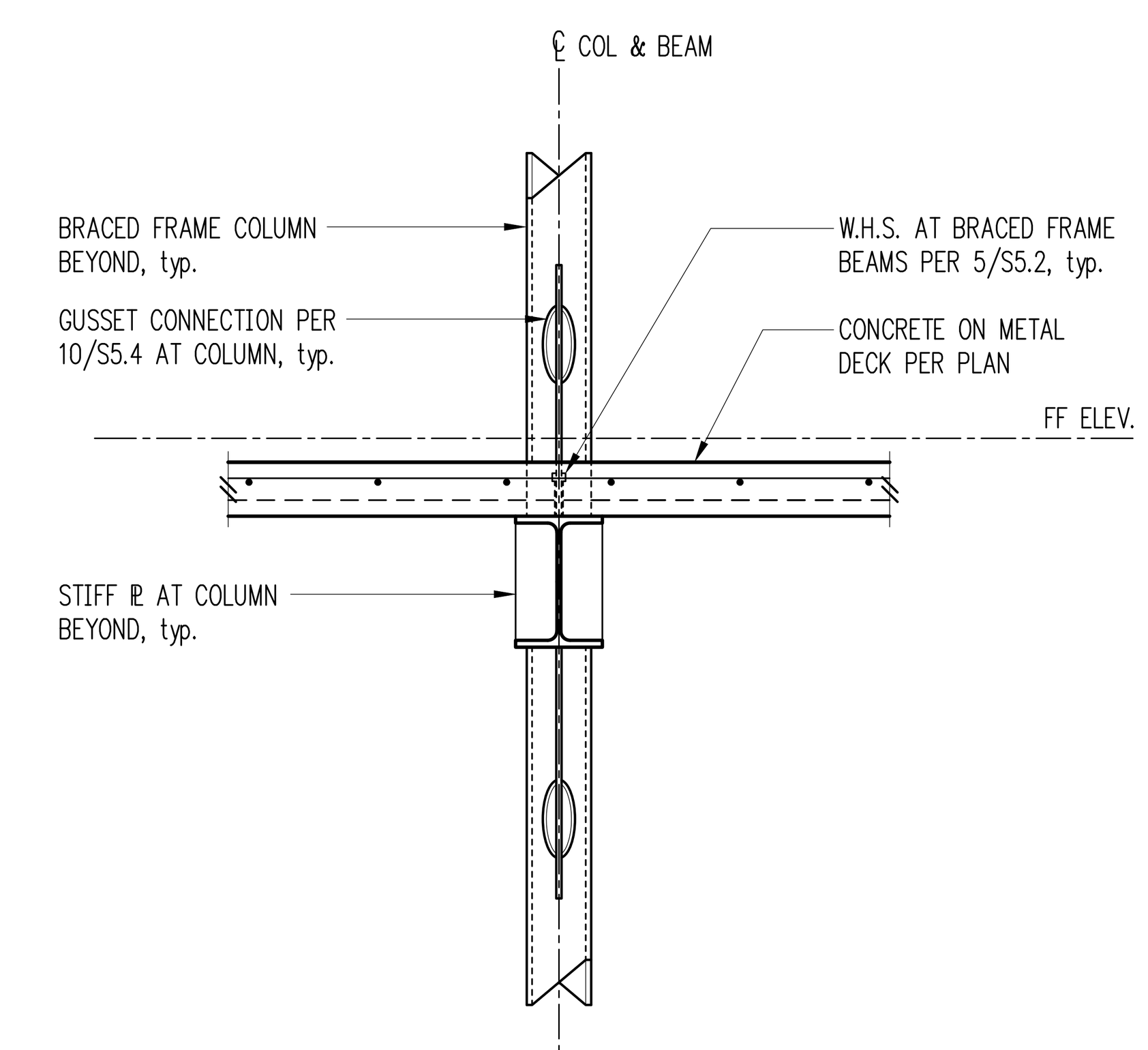

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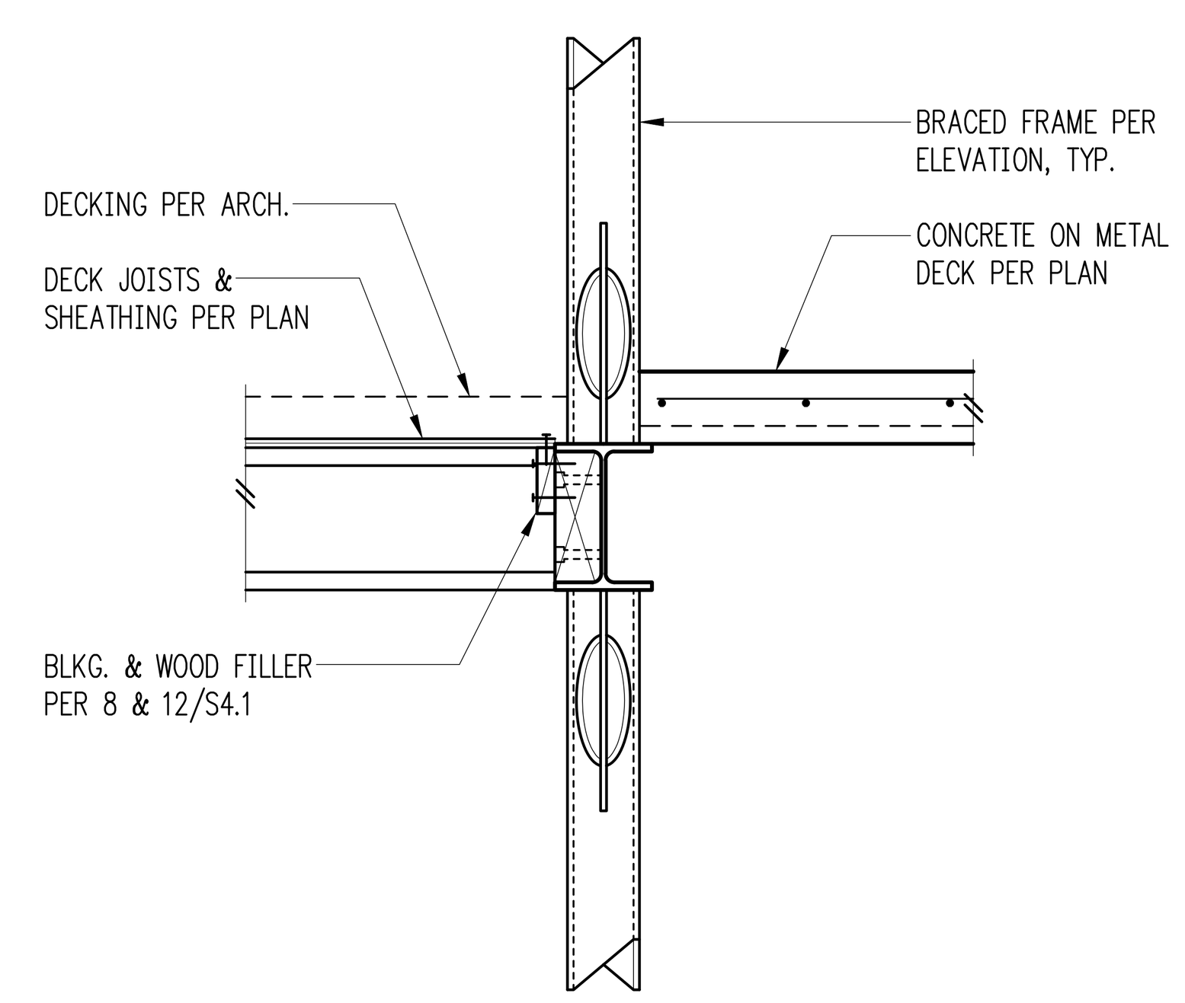

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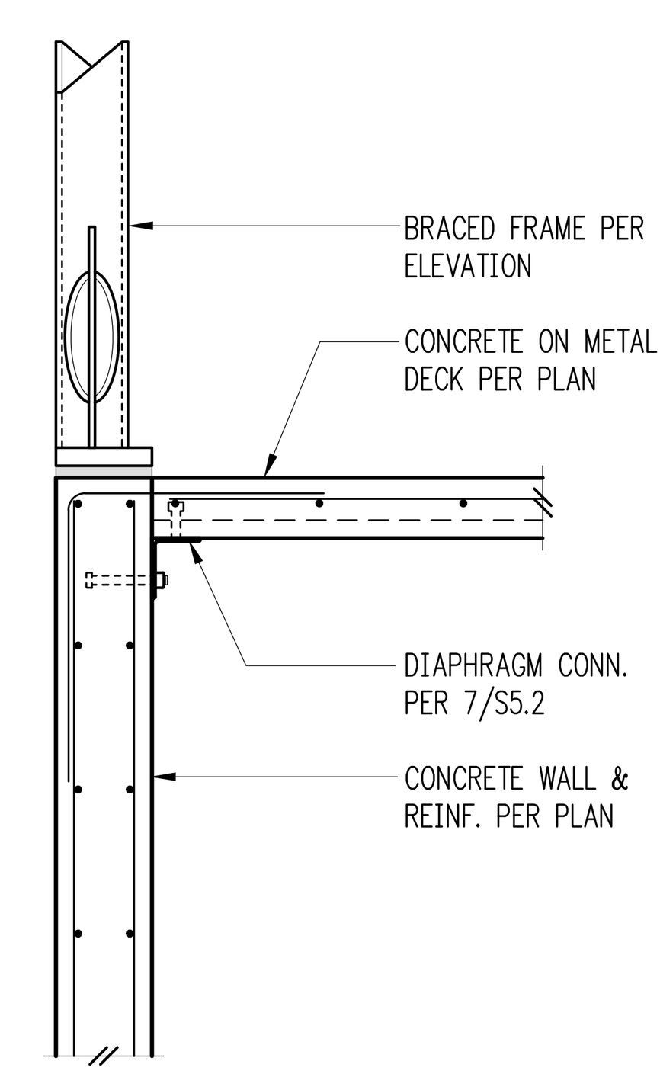

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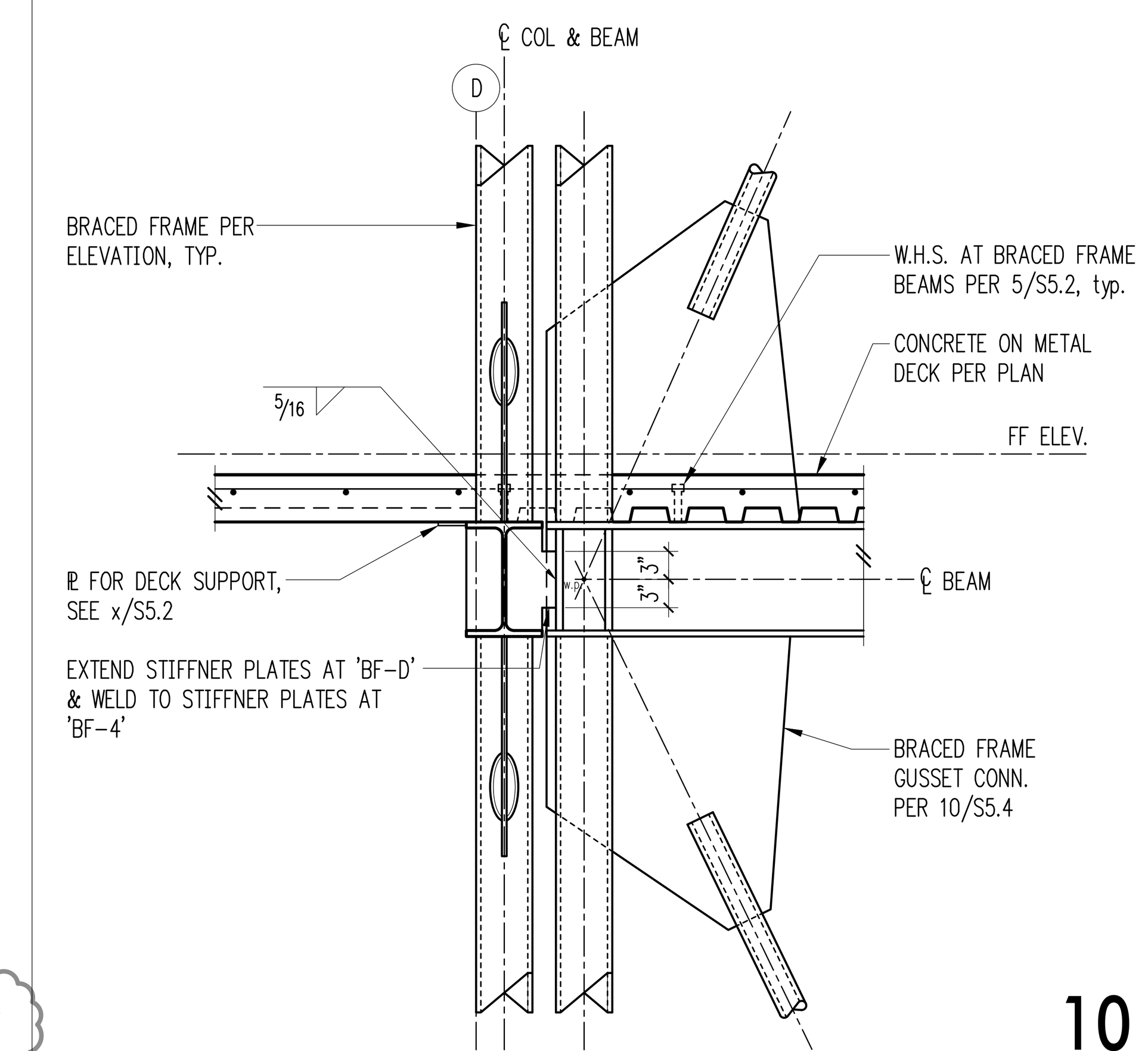

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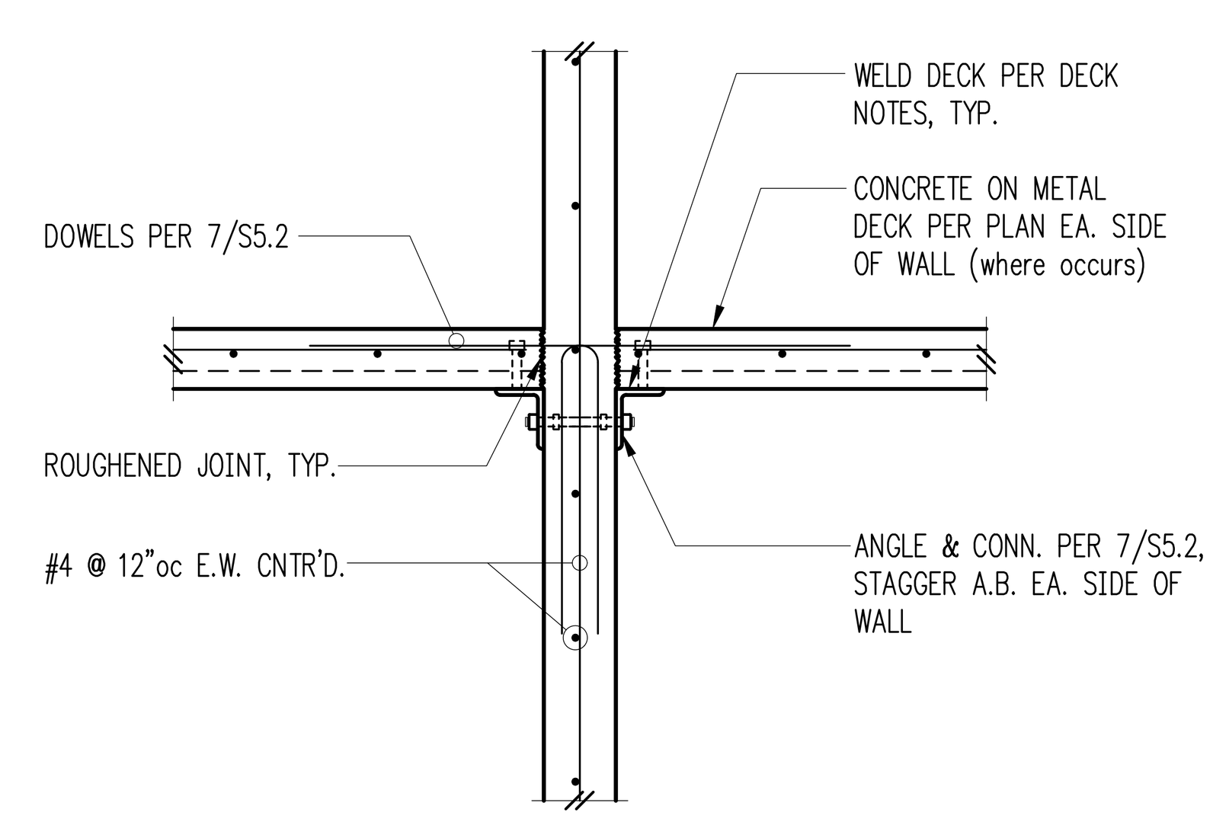
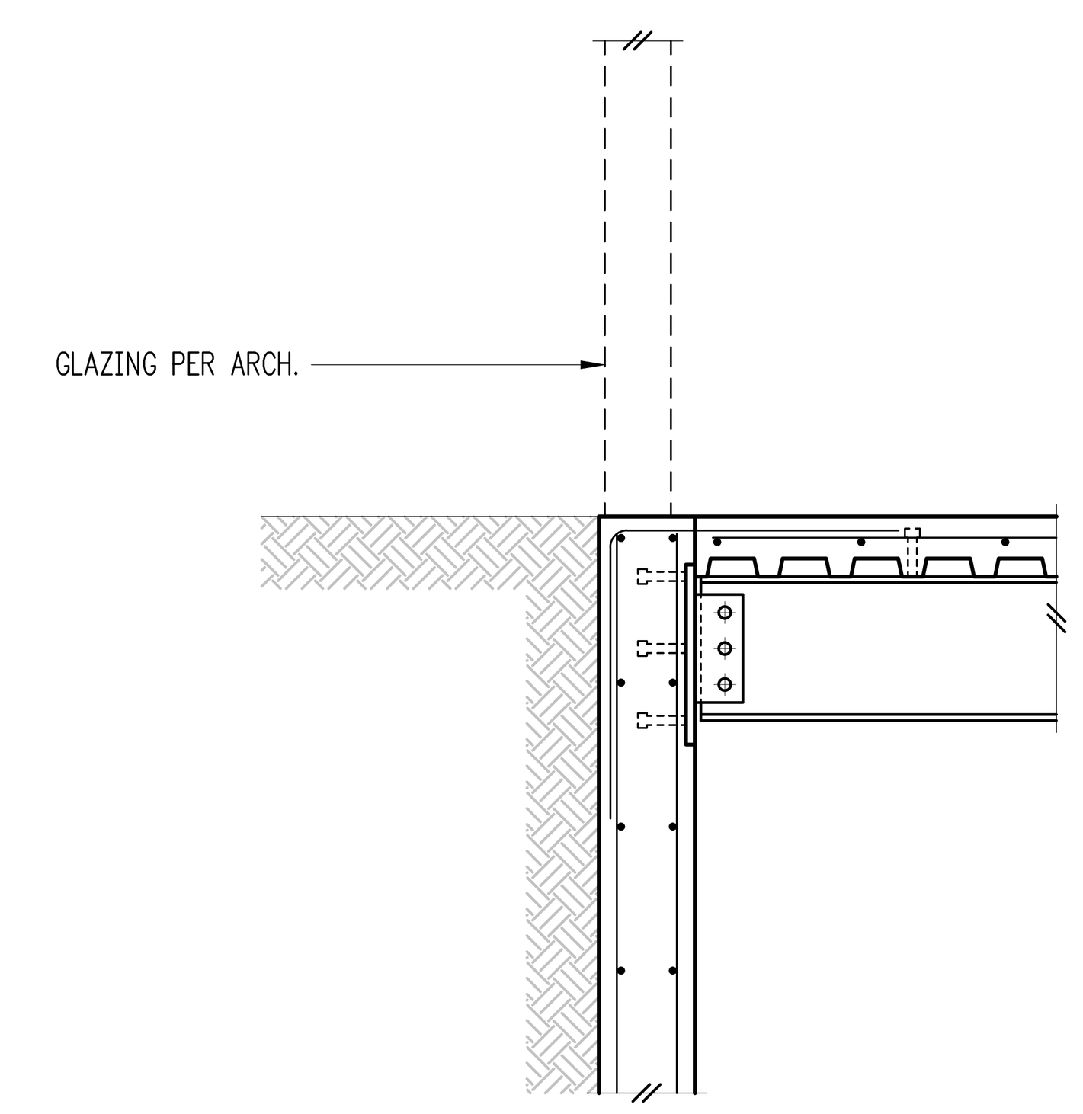


NOTES:
1. DECK LEDGER OCCURS AT ALL INTERSECTIONS OF FLOOR DECK AND CONCRETE WALLS, U.N.O.
2. COORDINATE ANCHOR BOLT LOCATIONS WITH WALL REINFORCEMENT LAYOUT.

13



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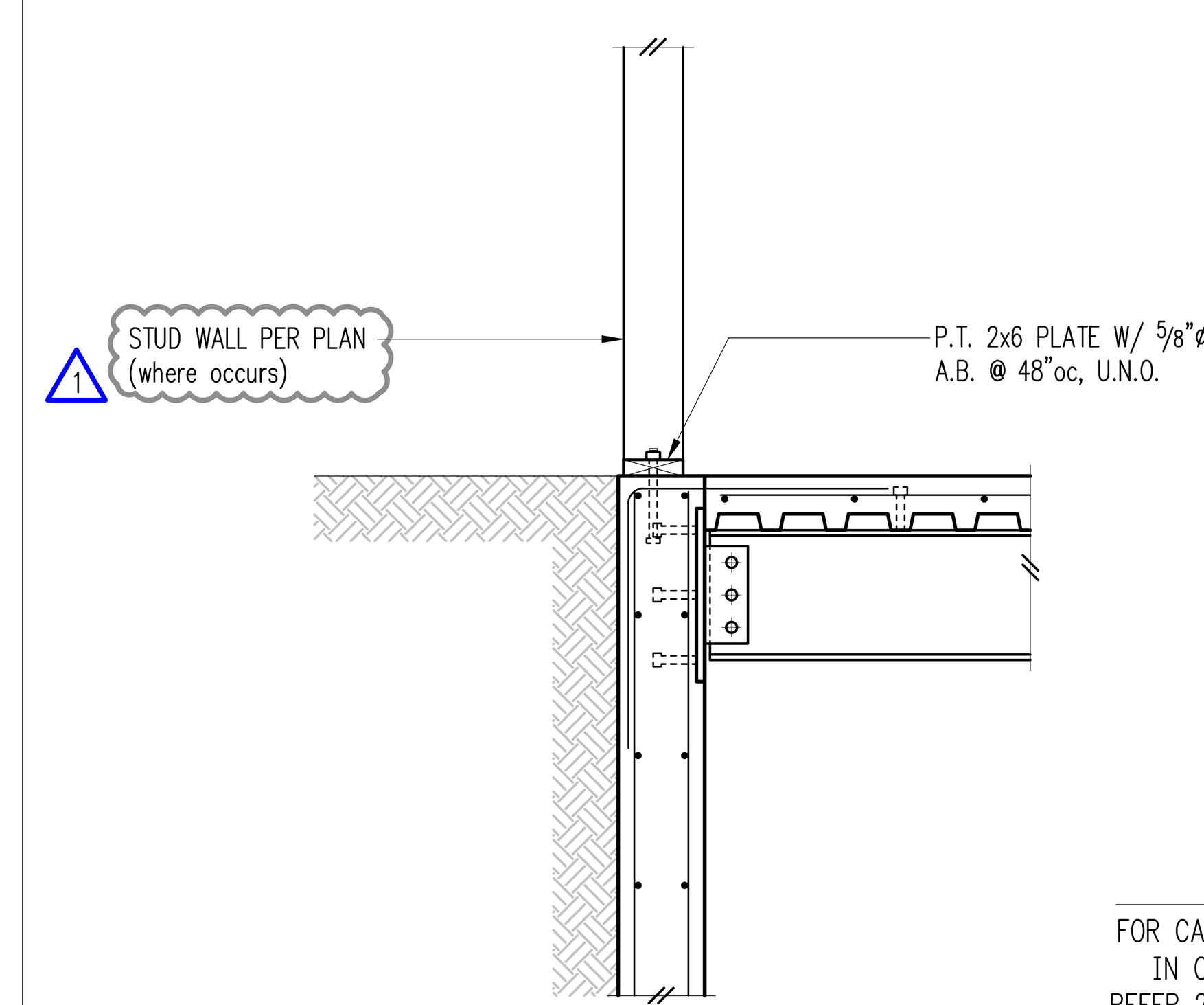

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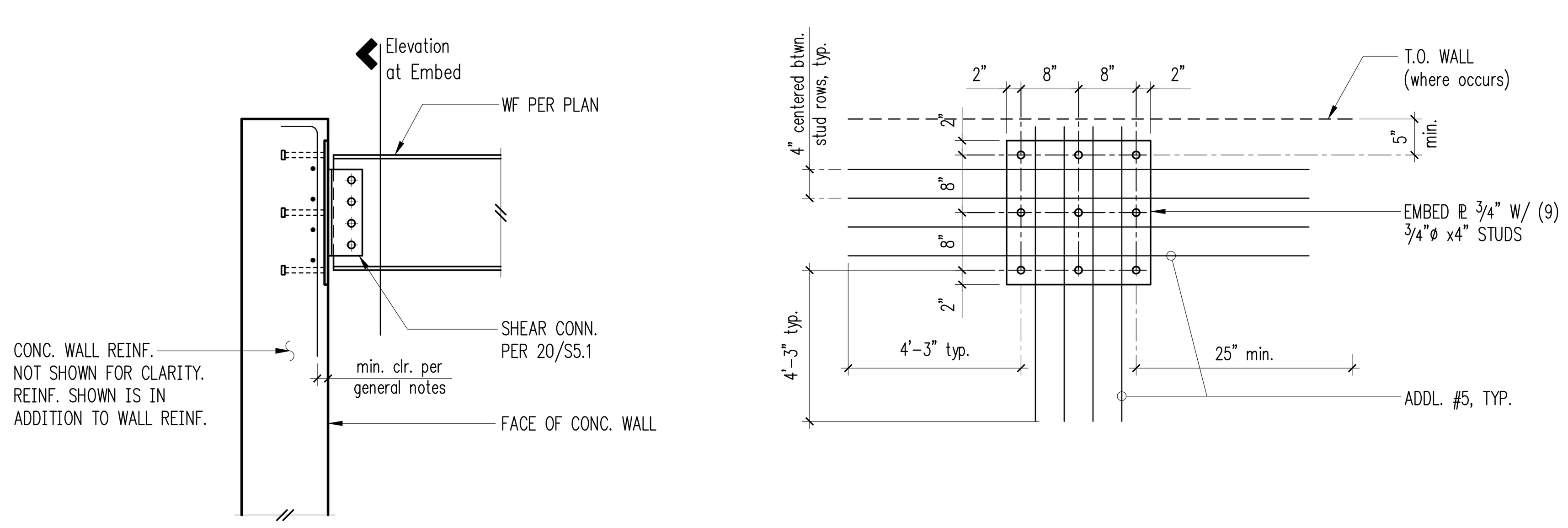

Elevation at Embed

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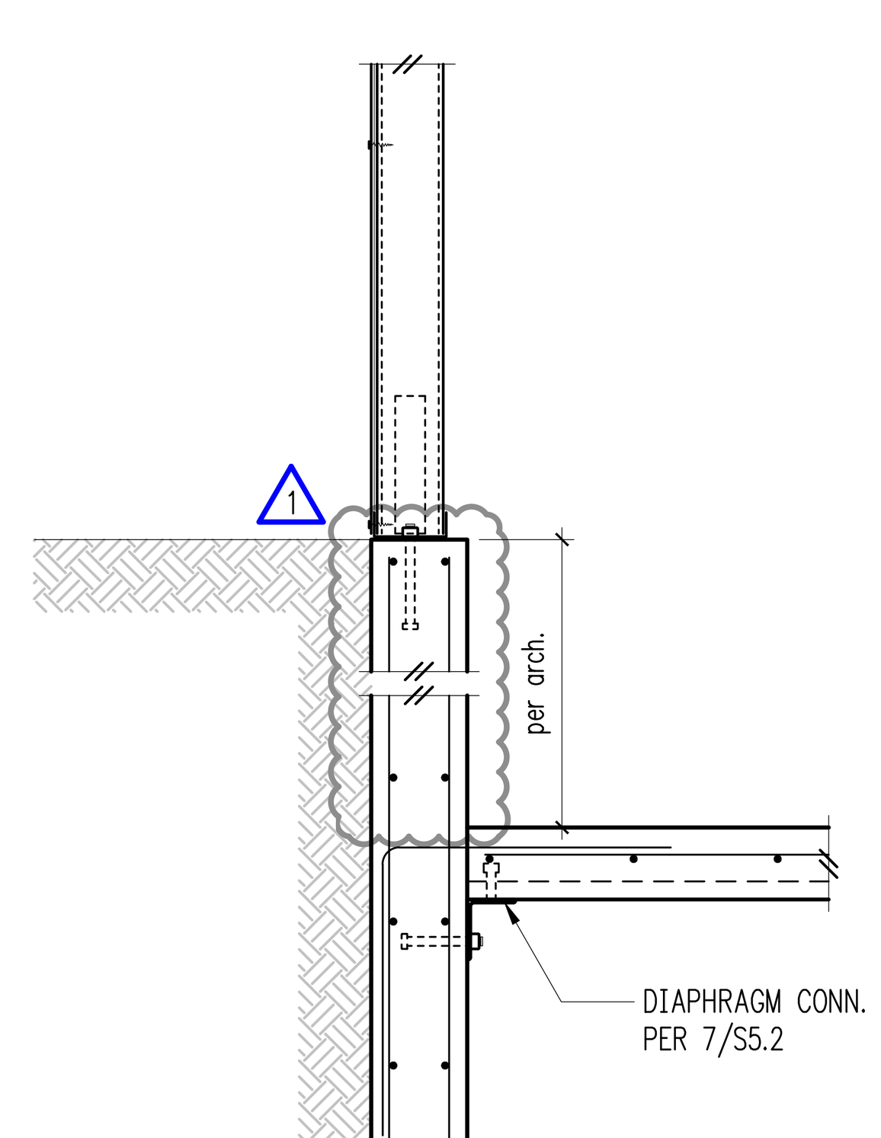

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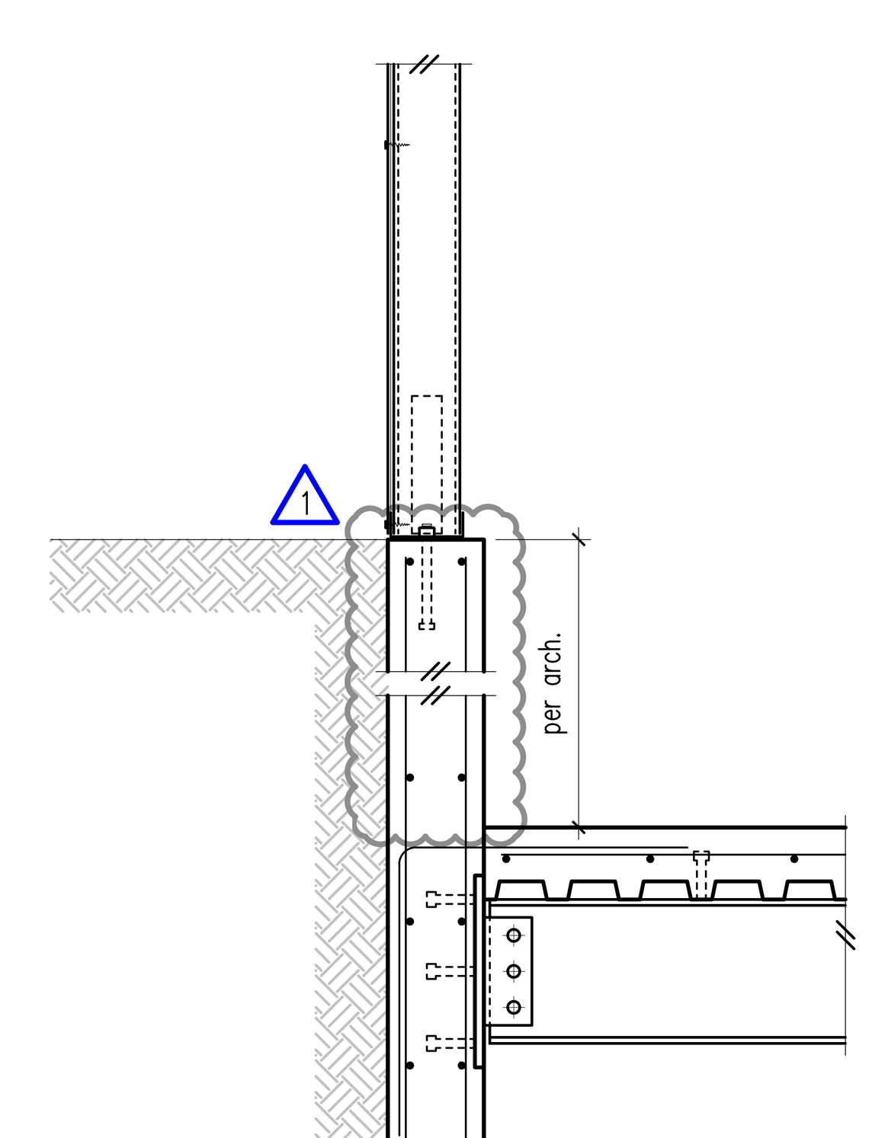

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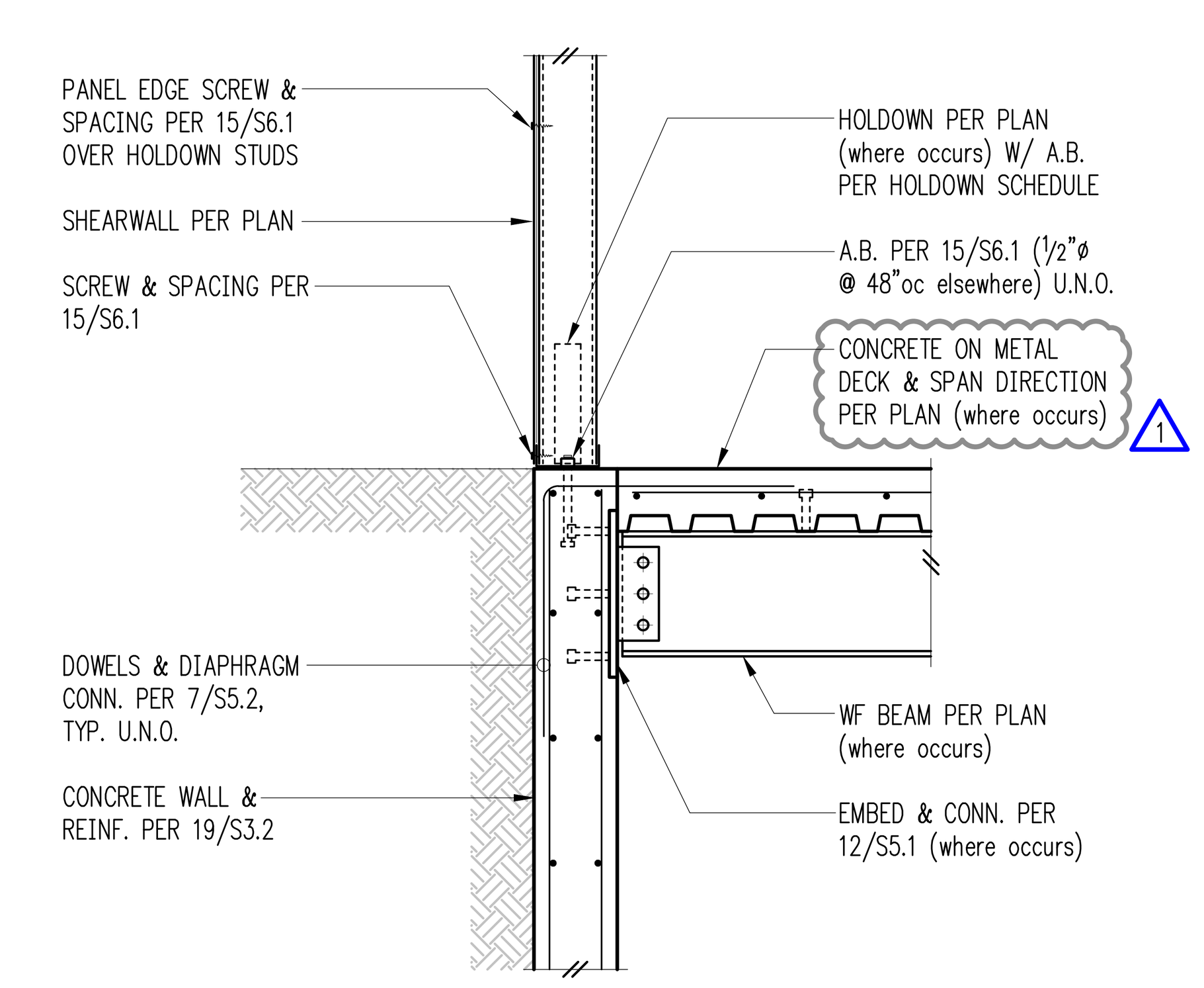

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BRETT D. MOZDEN — STATE OF WASHINGTON — 45863 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

REVISIONS:
1 Revision 1 Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:
8480 Residence
8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:
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66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850
brandtdesigninc.com

ISSUE:
PERMIT

SHEET TITLE:
Steel Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO:
S5.5

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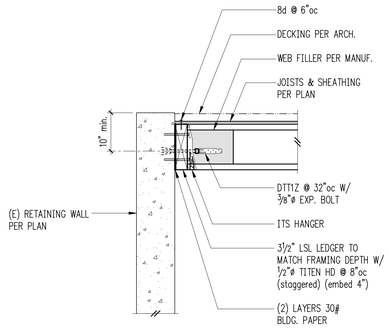

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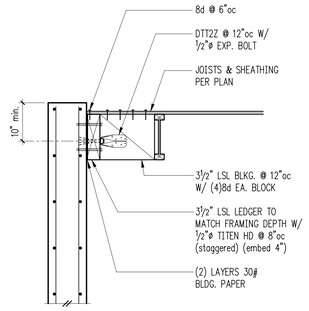

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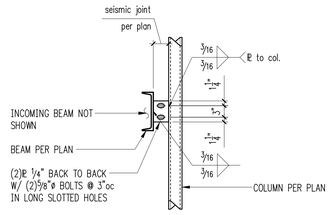

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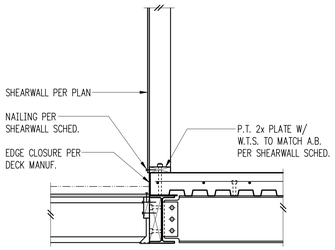

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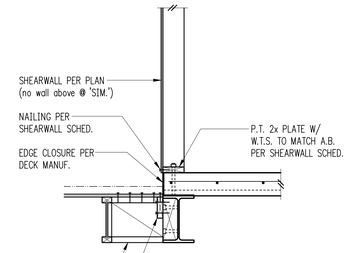

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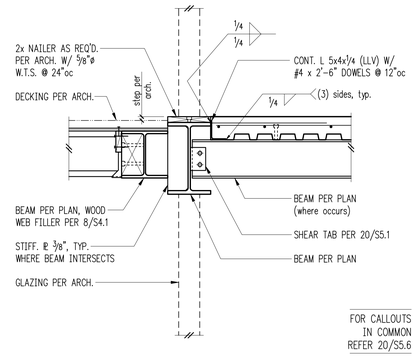

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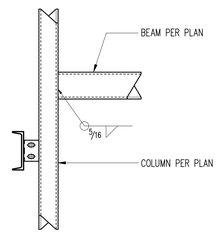

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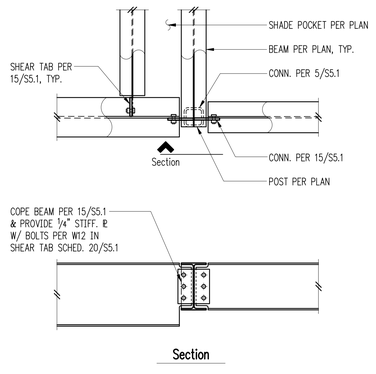

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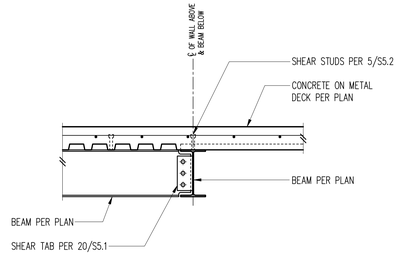

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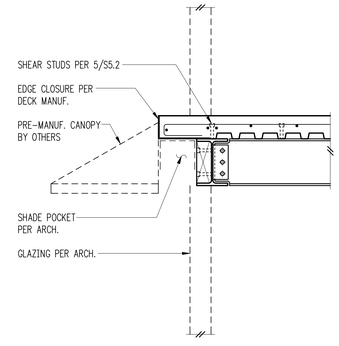

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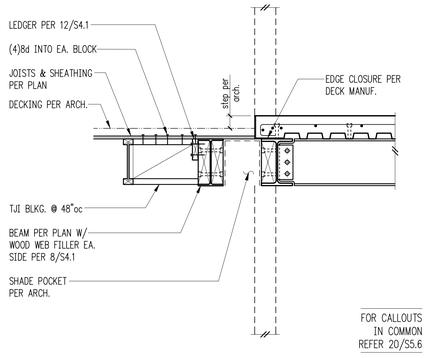

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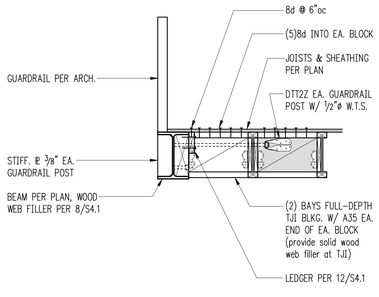

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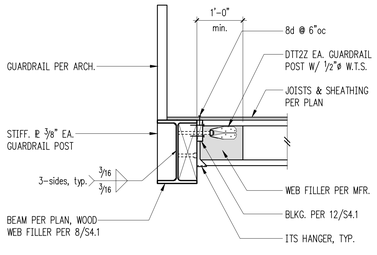

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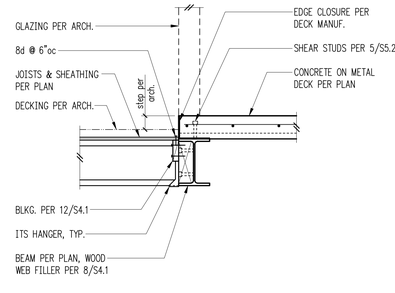

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BRENT D. MOZDEN — STATE OF WASHINGTON — 22861 — REGISTERED PROFESSIONAL ENGINEER

DESIGN:	HAA, SRW
DRAWN:	NHD
CHECKED:	SRW
APPROVED:	BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:

8480 Residence

8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
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brandtdesigninc.com

ISSUE:

PERMIT

SHEET TITLE:

Steel Details

SCALE:	3/4" = 1'-0" U.N.O.
DATE:	March 11, 2022
PROJECT NO:	01519-2021-09
SHEET NO:	S5.6

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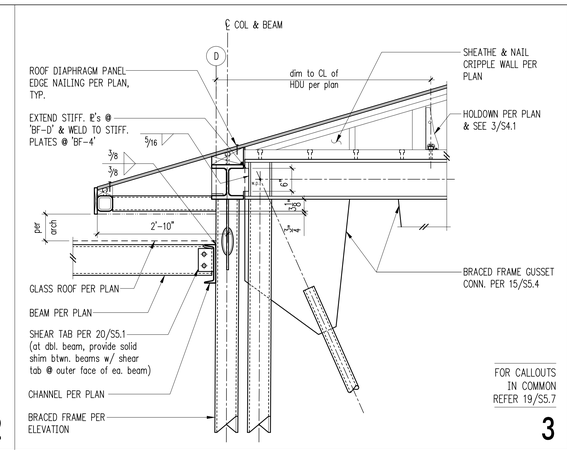

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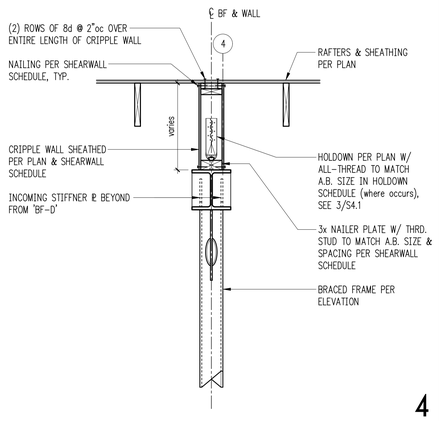

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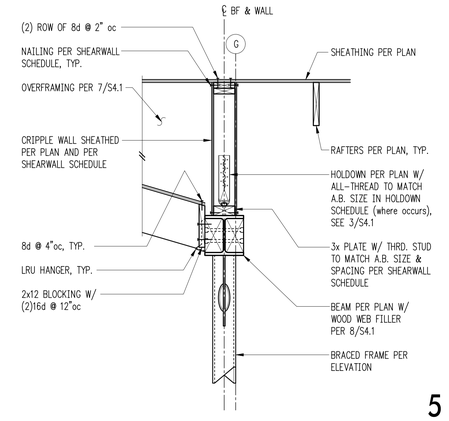

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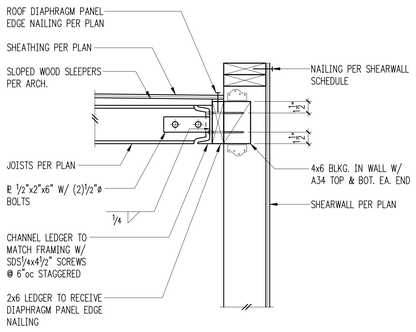

1½" = 1'-0"

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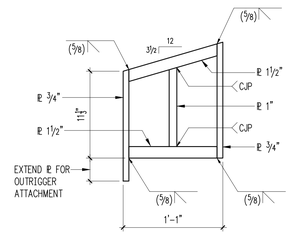

1½" = 1'-0"
Custom Beam Section

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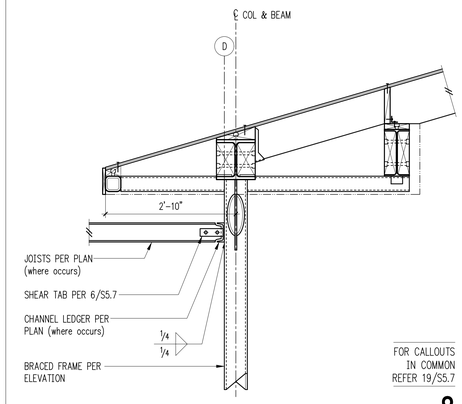

FOR CALLOUTS IN COMMON REFER 19/S5.7

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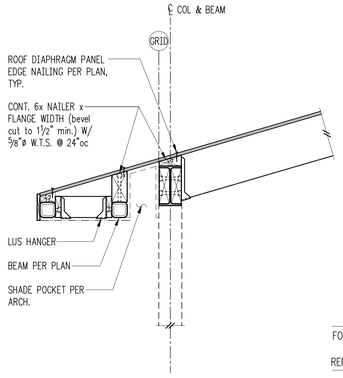

FOR CALLOUTS IN COMMON REFER 18/S5.7

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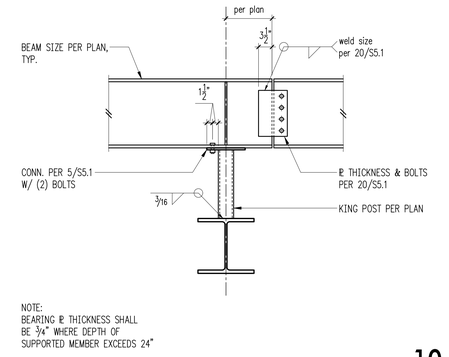

NOTE:
BEARING ℄ THICKNESS SHALL BE ¾" WHERE DEPTH OF SUPPORTED MEMBER EXCEEDS 24"

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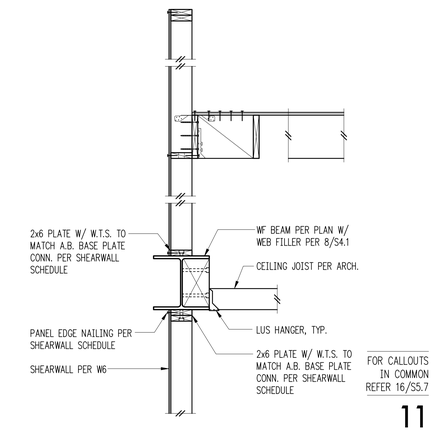

FOR CALLOUTS IN COMMON REFER 16/S5.7

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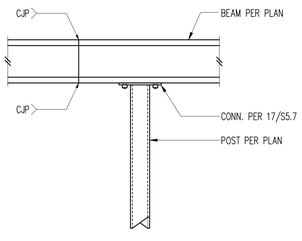

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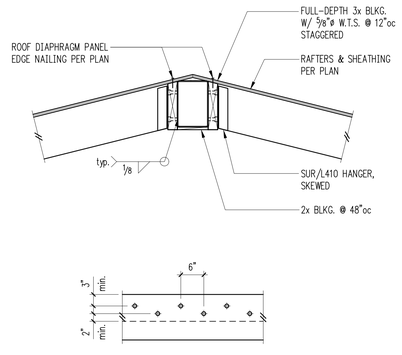

Elevation

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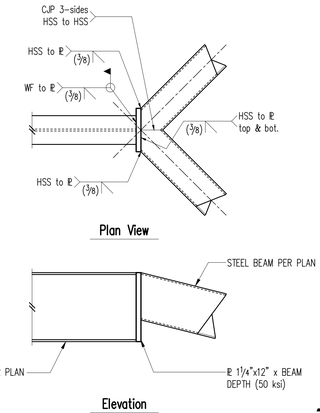

Elevation

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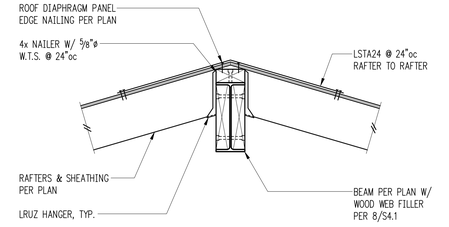

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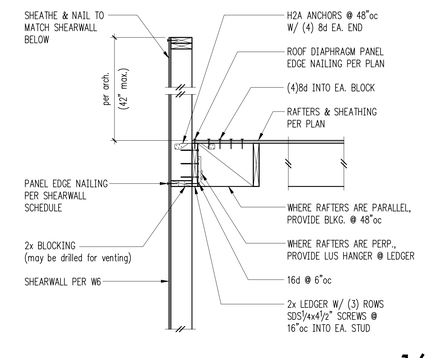

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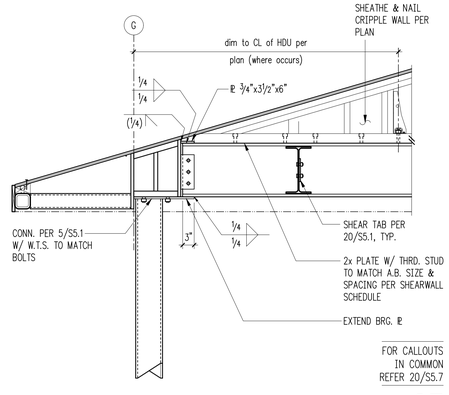

FOR CALLOUTS IN COMMON REFER 20/S5.7

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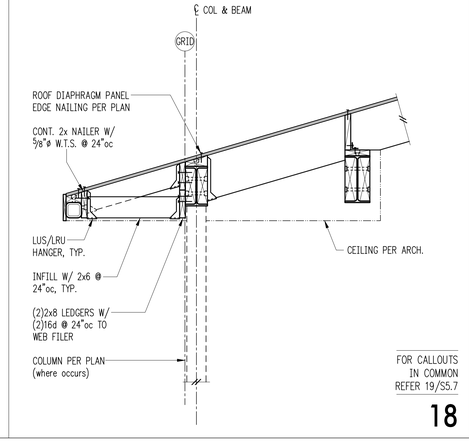

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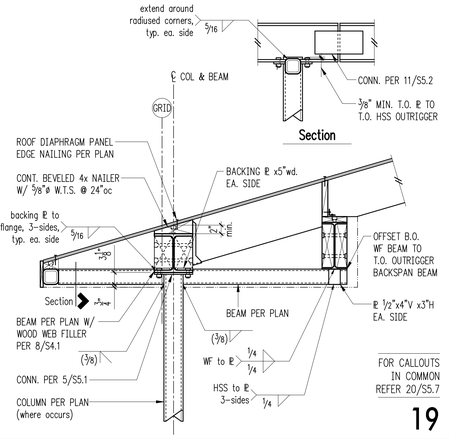

FOR CALLOUTS IN COMMON REFER 20/S5.7

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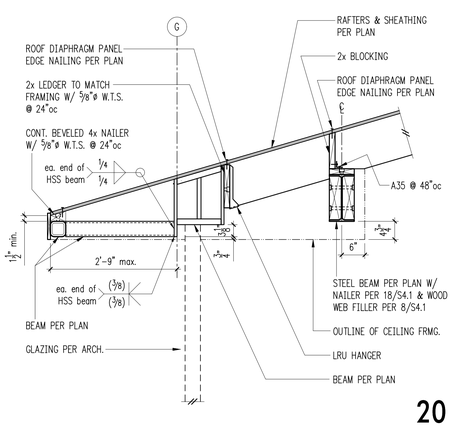

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2124 Third Avenue - Suite 100 - Seattle, WA 98121
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934 Broadway - Tacoma, WA 98402
p: 253.284.9470 ssfengineers.com

BRENT D. MOZDEN — STATE OF WASHINGTON — 22861 — REGISTERED PROFESSIONAL ENGINEER

DESIGN:	HAA, SRW
DRAWN:	NHD
CHECKED:	SRW
APPROVED:	BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:

8480 Residence

8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850
brandtdesigninc.com

ISSUE:

PERMIT

SHEET TITLE:

Steel Details

SCALE:	3/4" = 1'-0" U.N.O.
DATE:	March 11, 2022
PROJECT NO:	01519-2021-09
SHEET NO:	S5.7

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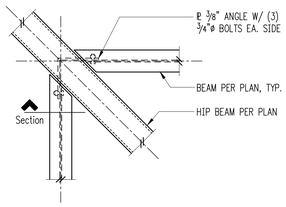
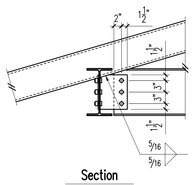


Plan View



Section

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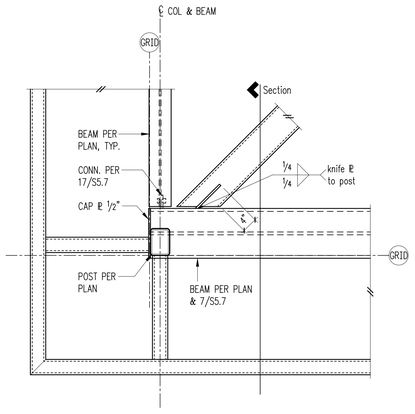
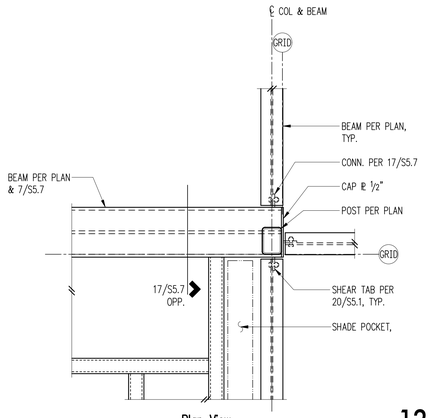


Plan View



Plan View

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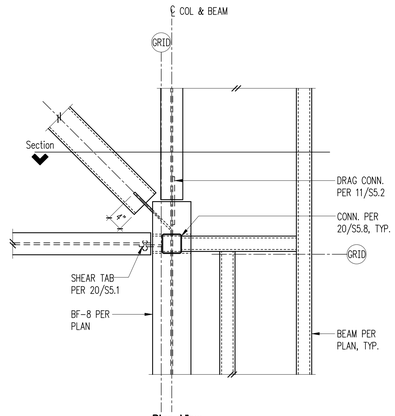

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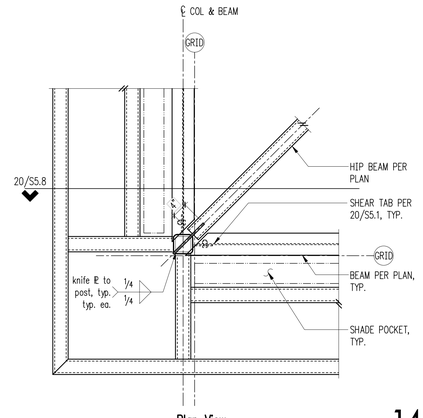

Plan View

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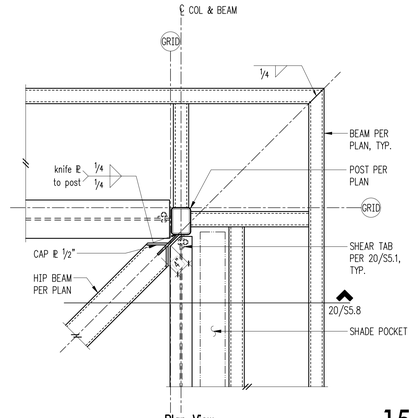

Plan View

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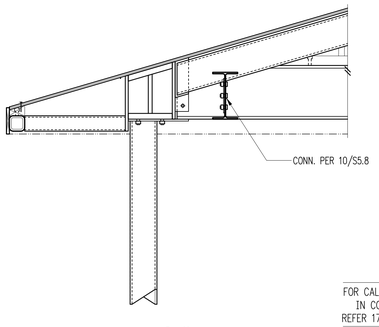

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FOR CALLOUTS IN COMMON REFER 17/S5.7

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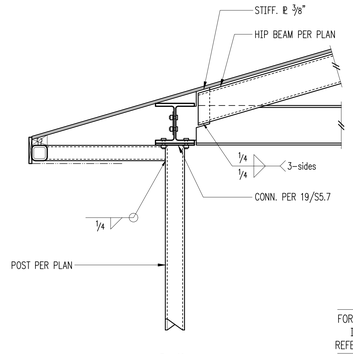

Section

FOR CALLOUTS IN COMMON REFER 20/S5.7

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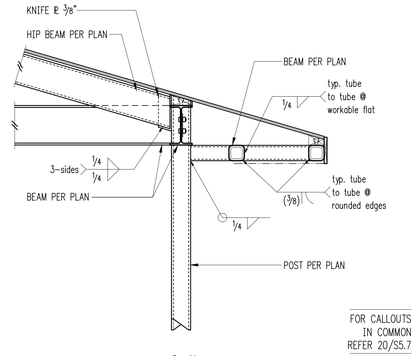

Section

FOR CALLOUTS IN COMMON REFER 20/S5.7

20

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BRENT D. MOLDEN — STATE OF WASHINGTON — 47861 — REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:

8480 Residence

8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850
brandtdesigninc.com

ISSUE: PERMIT

SHEET TITLE: Steel Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO: S5.8

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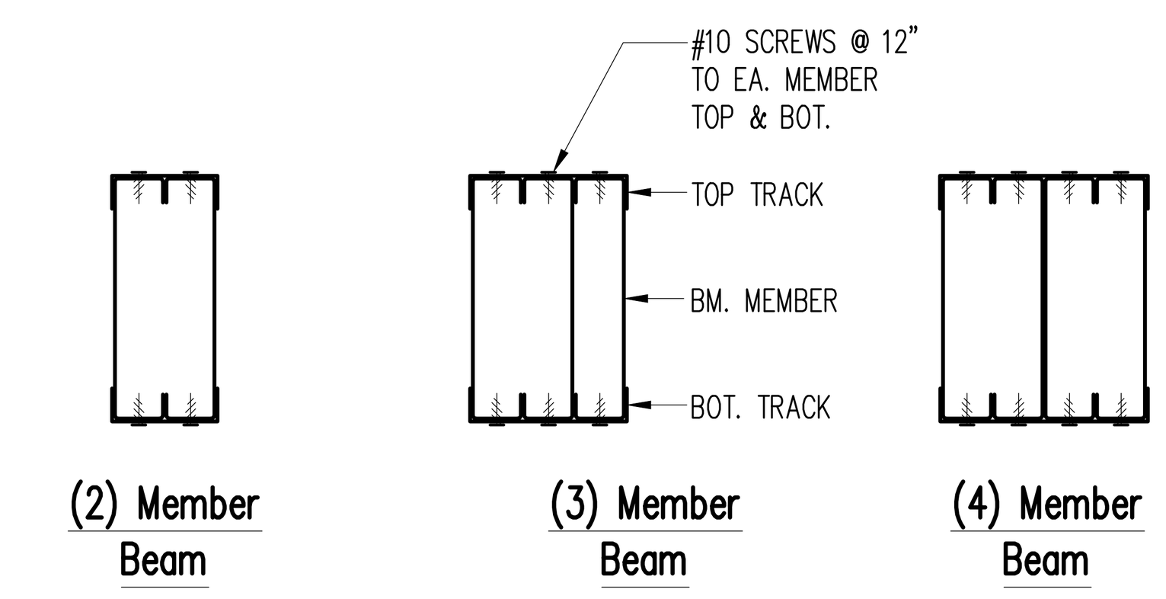
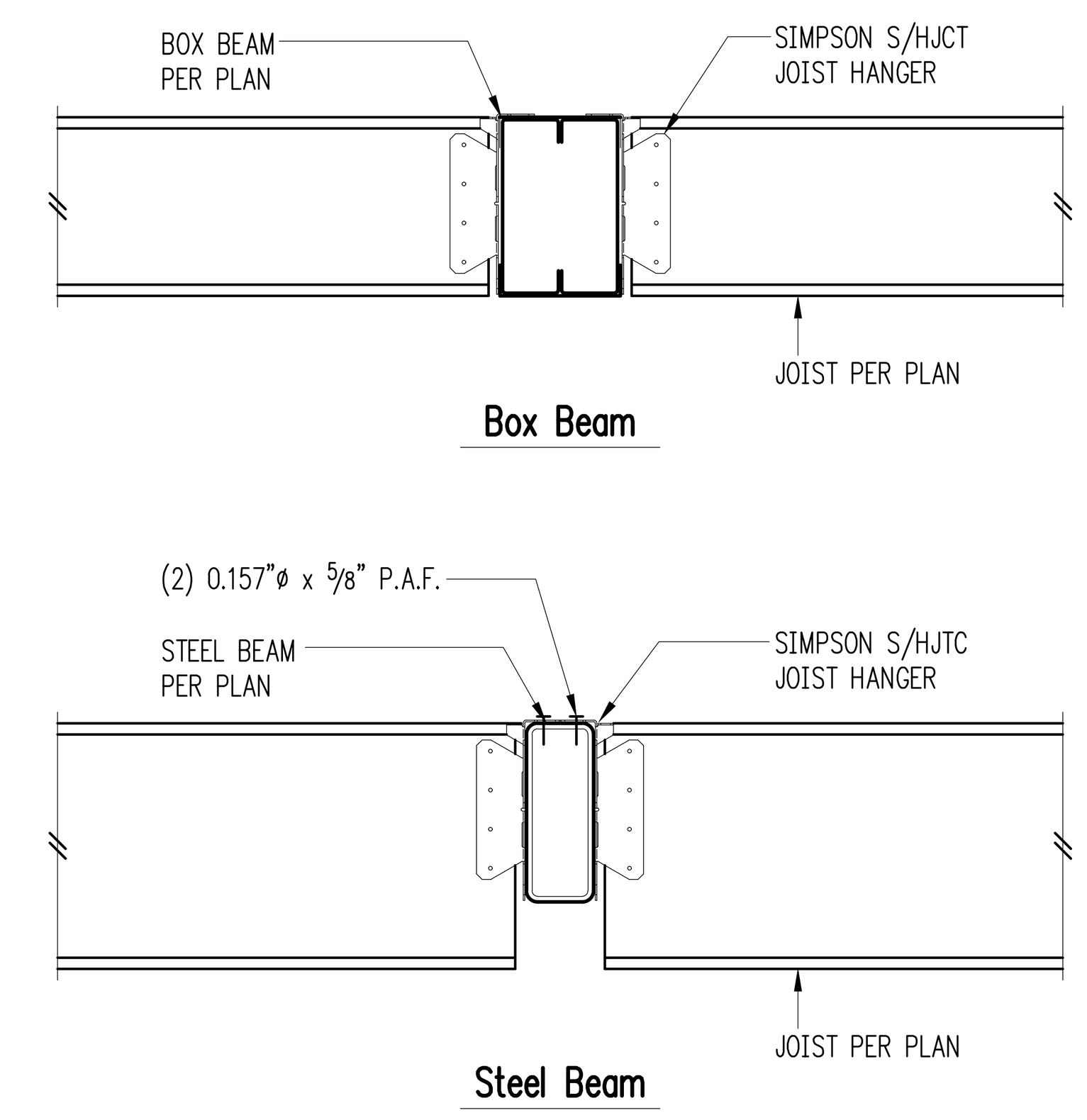


NOTES:

1. TOP AND BOTTOM TRACKS SHALL BE THE SAME GAUGE AS THE BEAM MEMBERS.

1½" = 1'-0"

Typical Box Beam Details 4



1½" = 1'-0"

Typical Joist To Beam Connection 5

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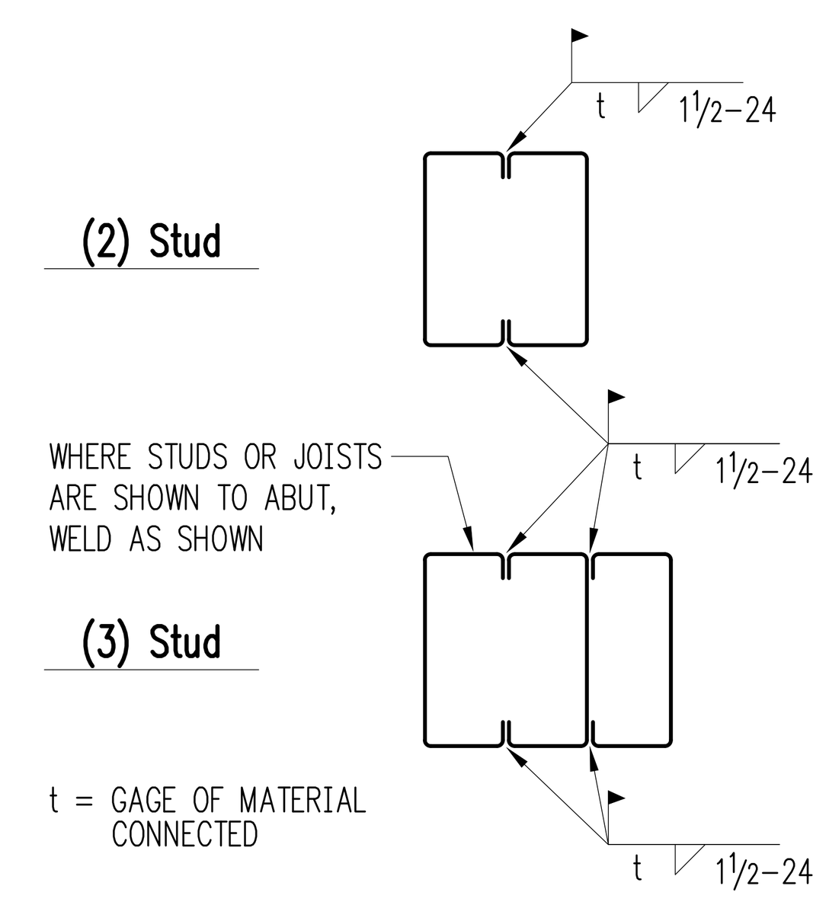
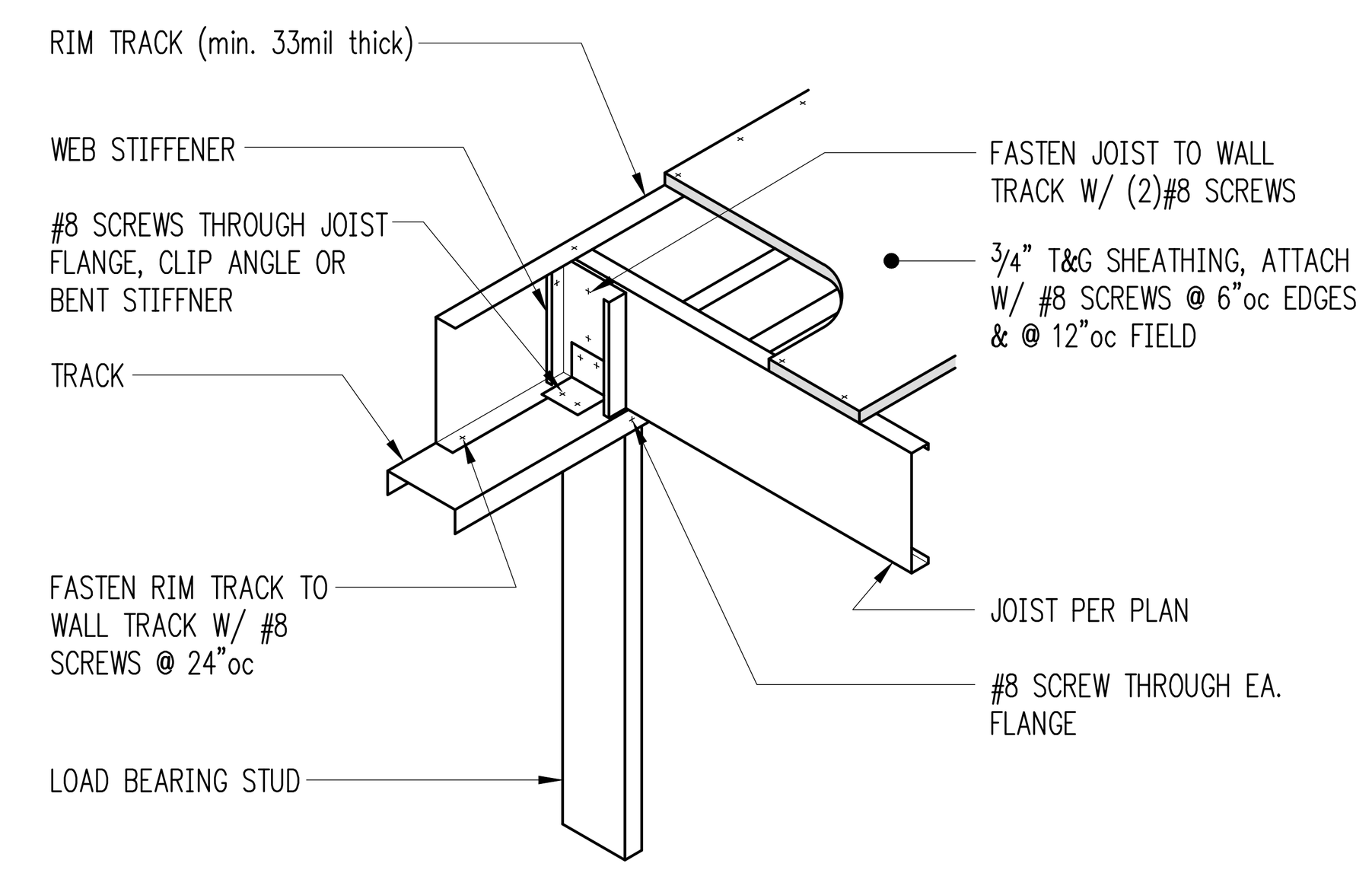
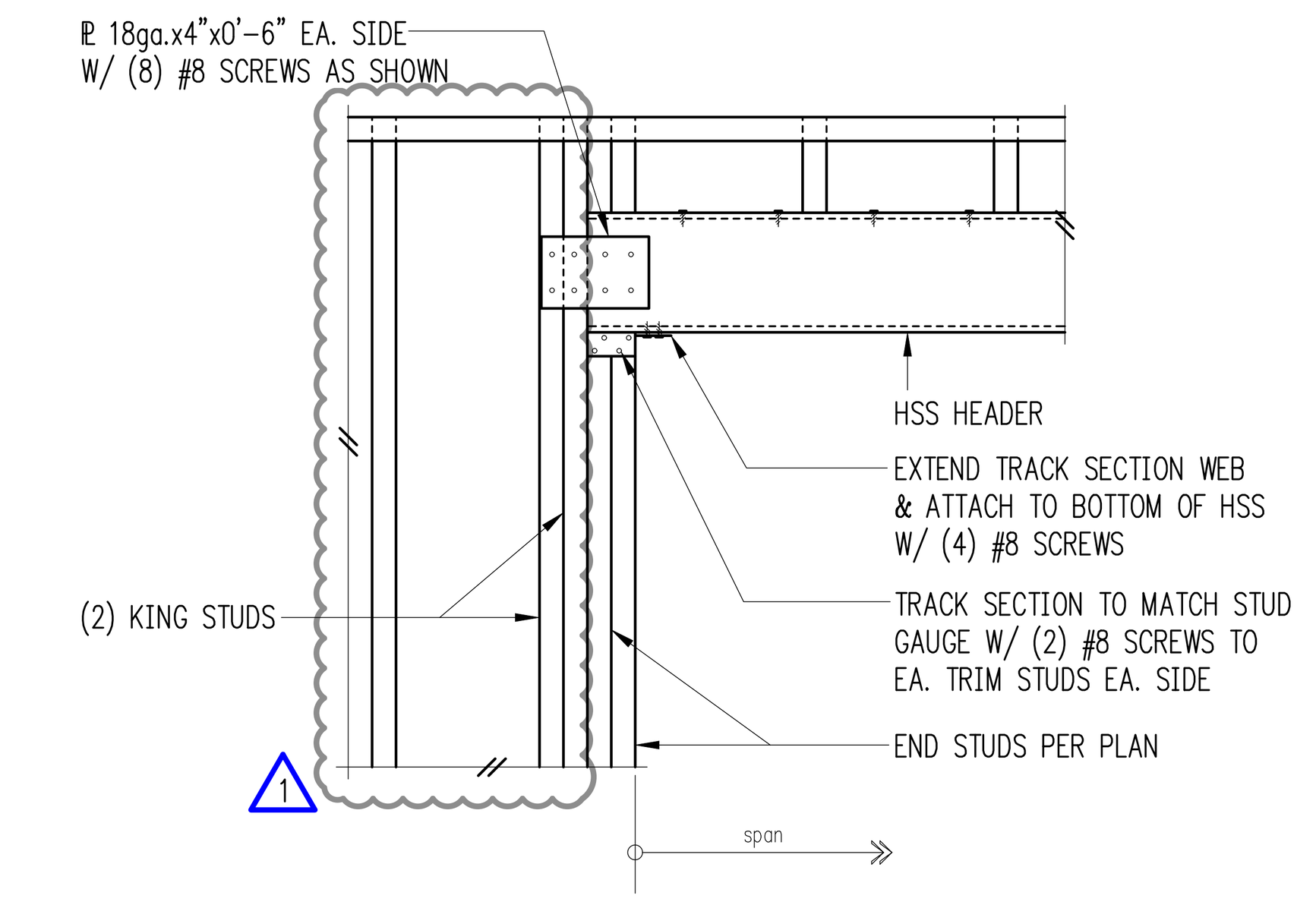


Typical Built-up Stud Column or Beam 8



Plywood Sheathed Diaphragm Connection 9



Typical HSS Header Detail 10

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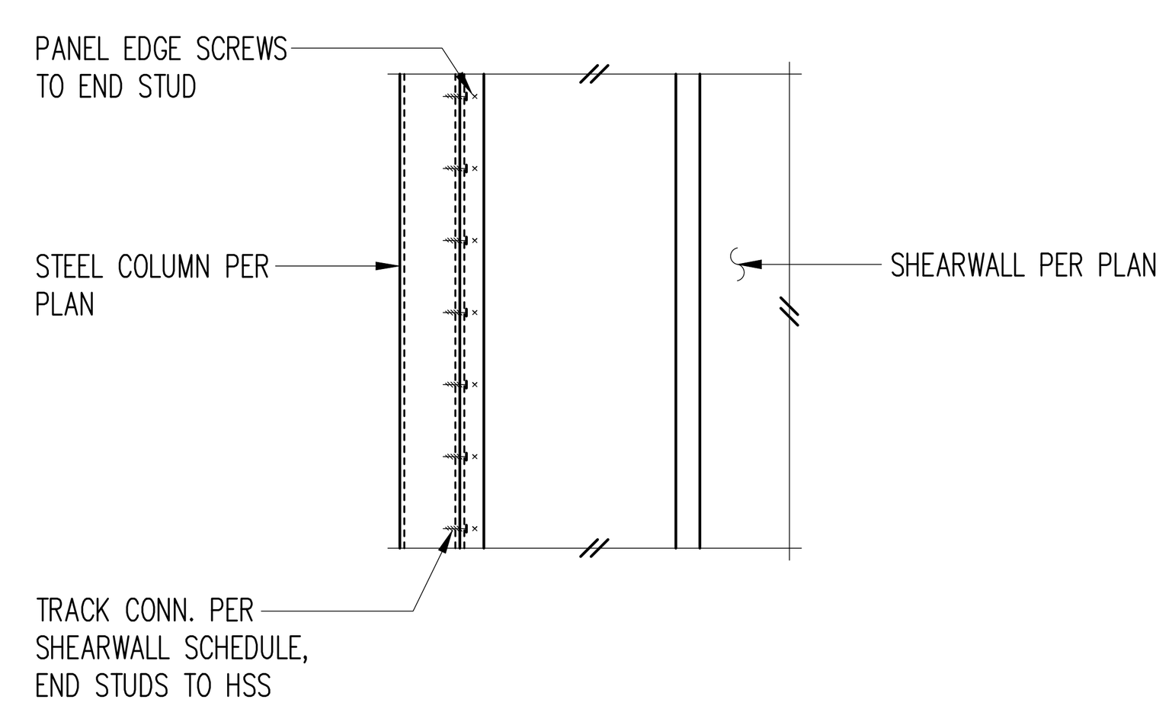
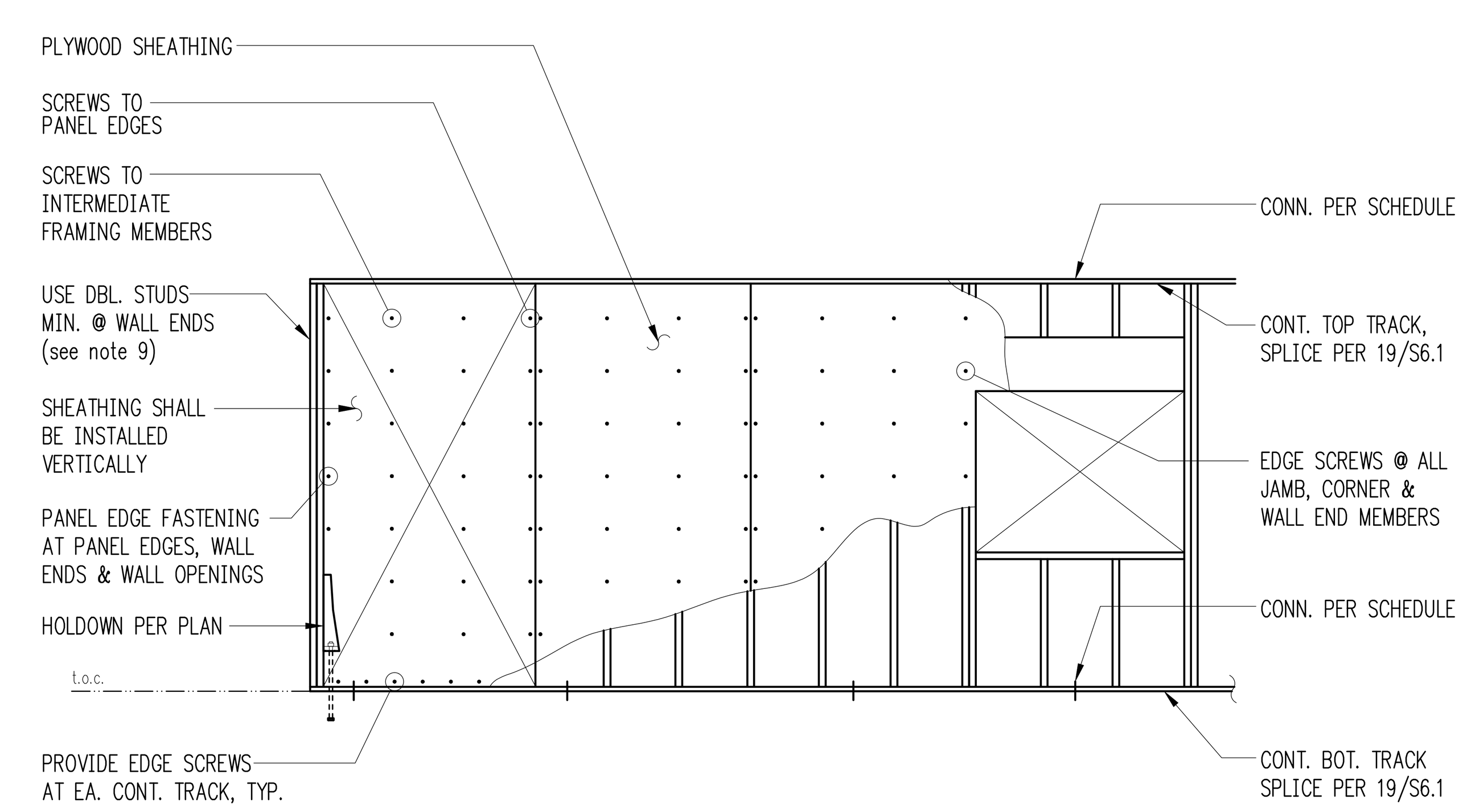


Typical HSS Post Within Shearwall 12



SHEARWALL SCHEDULE

SW TYPE	SHEATHING	THICKNESS OF STUDS & BLOCKING (mils)	THICKNESS OF TOP & BOTTOM TRACK (mils)	PANEL EDGE FASTNER SIZE AND SPACING	TOP/BOTTOM TRACK CONNECTION AT CONC. OR STEEL BOLT AND SPACING	TOP/BOTTOM TRACK CONNECTION AT LIGHT GAGE FRAMING SCREW AND SPACING
SW1	19/32" PLYWOOD	43	54	#8 @ 6"oc	½"ø A.B. @ 42"oc	#8 @ 8"oc
SW2	19/32" PLYWOOD	43	54	#8 @ 4"oc	½"ø A.B. @ 36"oc	#8 @ 4"oc
SW3	19/32" PLYWOOD	43	54	#8 @ 3"oc	½"ø A.B. @ 30"oc	#8 @ 4"oc
SW4	19/32" PLYWOOD	43	54	#8 @ 2"oc	½"ø A.B. @ 18"oc	#8 @ 3"oc

NOTES:

1. REFER TO GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS FOR STUD FRAMING REQUIREMENTS.
2. TRACKS SHALL HAVE A MINIMUM FLANGE WIDTH OF 2".
3. TRACKS SHALL HAVE A MINIMUM FLANGE WIDTH OF 1-1/2".
4. WOOD STRUCTURAL PANELS SHALL BE ATTACHED TO STEEL FRAMING WITH #8 SELF-TAPPING SCREWS WITH MINIMUM HEAD DIAMETER OF 0.292" IN ACCORDANCE WITH THE SCHEDULE.
5. FASTENERS ALONG THE EDGES IN SHEAR PANELS SHALL BE PLACED IN FROM PANEL EDGES NOT LESS THAN ⅜".
6. INSTALL SCREWS TO INTERMEDIATE FRAMING MEMBERS AT 12"O.C.
7. PROVIDE FLAT STRAP BLOCKING WITH A MINIMUM THICKNESS EQUAL TO THE STUD THICKNESS WITH A MINIMUM WIDTH OF 1-1/2" BETWEEN STUDS WHEN TOP OF BOTTOM PANEL EDGES DOES NOT BREAK ON A CONTINUOUS TRACK. PROVIDE PANEL EDGE SCREWS TO BLOCKING.
8. EMBED ANCHOR BOLTS AT LEAST 7" INTO CONCRETE. DRILLED & EPOXIED THREADED ROD MAY BE SUBSTITUTED FOR ANCHOR BOLTS WITH 6" EMBEDMENT. ALL ANCHOR AND EXPANSION BOLTS SHALL BE INSTALLED WITH STANDARD WASHERS BETWEEN THE TRACK AND THE NUT.
9. TWO STUDS MINIMUM ARE REQUIRED AT EACH END OF ALL SHEARWALLS UNLESS NOTED OTHERWISE. ALL END STUDS SHALL RECEIVE PANEL EDGE SCREWS. SEE PLANS FOR HOLDOWN STUD REQUIREMENTS.

Shearwall Schedule 15

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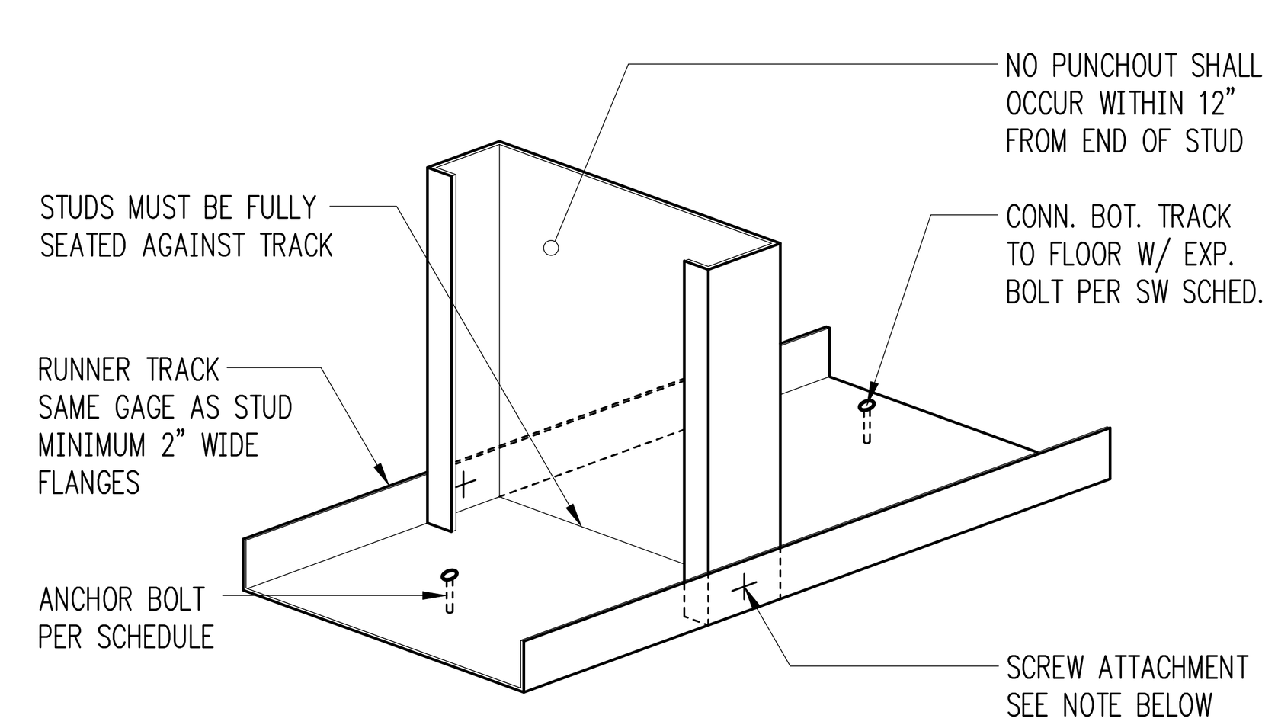
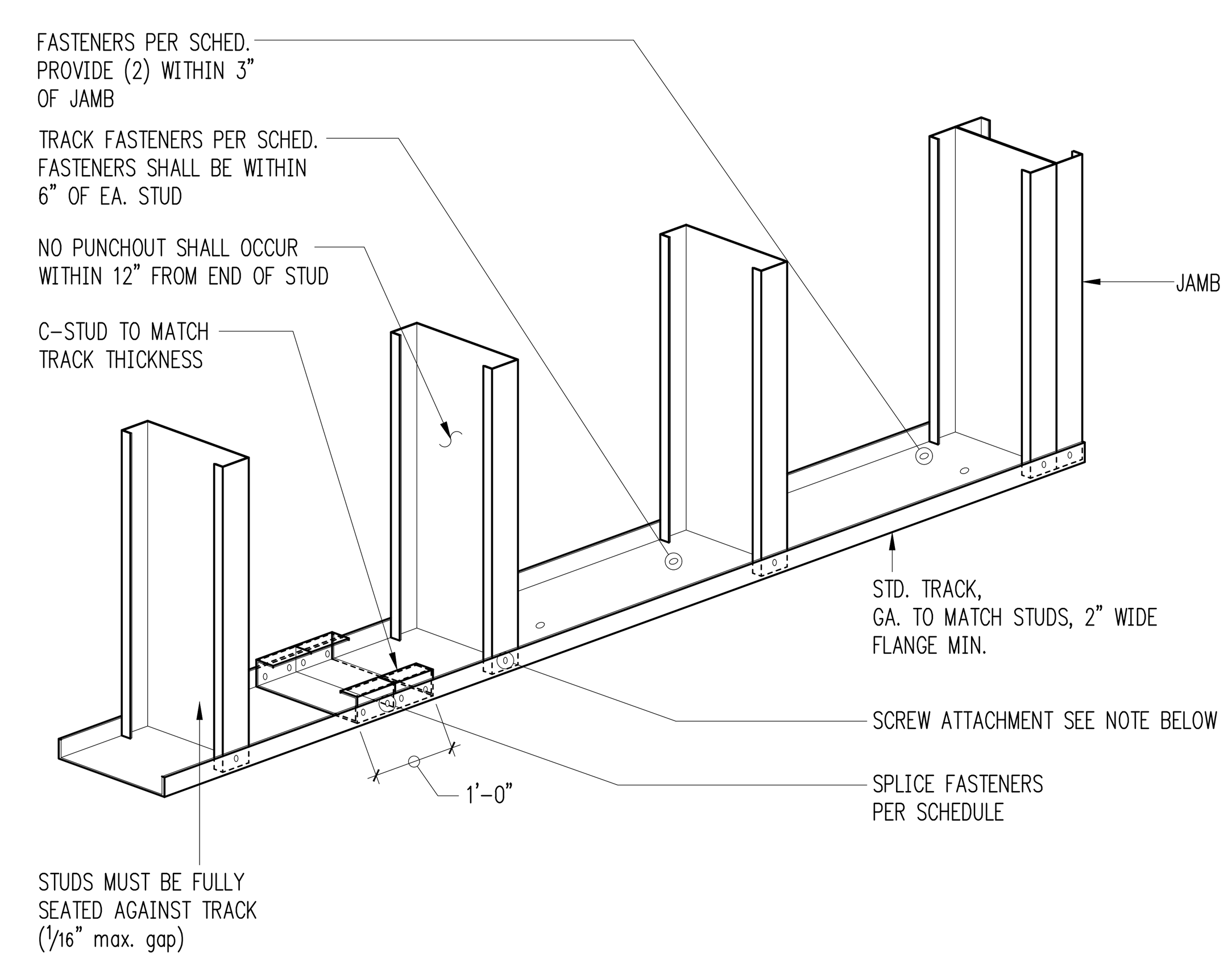


NOTES:

- WHEN TRACK IS ATTACHED DIRECTLY TO STUD FLANGE, A STANDARD NO. 6 x 7/16" PAN HEAD SHEET METAL SCREW SHALL BE USED. WHEN DRYWALL COVERING, TRACK AND STUD FLANGES ARE ATTACHED AT SAME TIME, A STANDARD (MIN.) 1" LONG DRYWALL SCREW SHALL BE USED. ANY COMBINATION OF THE ABOVE METHODS MAY BE USED IN THE ERECTION OF A COMPLETED WALL ASSEMBLY.

Shearwall Bottom Track 17



TRACK BASE FASTENER SPACING SCHEDULE

MAX. WALL HEIGHT	HILTI X-U TO CONCRETE	POWERS ZAMAC NAILING TO CONCRETE
10'-0"	(2) ROWS @ 10"oc	18"oc

* ¾" MAX. PENETRATION AT POST-TENSIONED CONCRETE SLABS.

TRACK SPLICE FASTENER SCHEDULE

WALL TYPE	FASTENERS
SHEARWALL	(8)#8 SCREWS EA SIDE, (16) TOTAL
TYPICAL	(4)#8 SCREWS EA SIDE, (8) TOTAL

NOTES:

1. WHEN TRACK IS ATTACHED DIRECTLY TO STUD FLANGE A STANDARD NO. 6x7/16" PAN HEAD SCREW SHALL BE USED. WHEN DRYWALL COVERING, TRACK AND STUD FLANGES A RECOVERED AT THE SAME TIME, A STANDARD 1" LONG DRYWALL SCREW SHALL BE USED. ANY COMBINATION OF THE ABOVE METHODS MAY BE USED IN THE ERECTION OF A COMPLETED WALL ASSEMBLY.

2. SEE SHEARWALL SCHEDULE 15/S6.2 FOR ADDL. REQUIREMENTS.

Typical Studs To Bottom Track 19

DEPTH IN $\frac{1}{100}$ INCHES — FLANGE WIDTH IN $\frac{1}{100}$ INCHES

DESIGNATION: *600 S 200 - 54*

MEMBER STYLE — MATERIAL THICKNESS IN $\frac{1}{1000}$ INCHES

Typical Notes:

1. METAL FRAMING USED SHALL CONFORM TO THE SHAPE, GRADE, SIZE, AND GAGE SPECIFIED. DESIGNATIONS REFER TO SHAPES NOTED BY THE STEEL STUD MANUFACTURER'S ASSOCIATION; SUBSTITUTES SHALL BE EQUIVALENT AND SHALL HAVE PROPERTIES EQUAL TO OR GREATER THAN THOSE SHOWN.
2. METAL FRAMING SHALL BE GALVANIZED UNLESS OTHERWISE NOTED, CONFORMING AS FOLLOWS:

12, 14, AND 16 GAGE	ASTM A653, GRADE 50	F_y = 50ksi
18 AND 20 GAGE	ASTM A653, GRADE33	F_y = 33ksi

3. ALL 8 AND 10 GAGE MATERIAL SHALL CONFORM TO ASTM A36 WITH A MINIMUM YIELD OF 36,000 psi.
4. REFER TYPICAL BRIDGING AND BRACING DETAILS FOR THE LATERAL SUPPORT OF ALL BEARING WALLS.
5. TRACK SECTIONS SHALL BE UNPUNCHED AND HAVE AT LEAST 1½" FLANGES.
6. WELDING OF COLD-FORMED METAL FRAMING SHALL CONFORM TO AWS D1.3 AND SHALL BE PERFORMED BY WELDERS QUALIFIED TO PRODUCE THE SPECIFIED CLASS OF WELD.

Typical Metal Framing Properties 20

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BRETT D. MOZDEN — STATE OF WASHINGTON — 45863 REGISTERED PROFESSIONAL ENGINEER

DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

REVISIONS:
1 Revision 1 Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

PROJECT TITLE:
8480 Residence
8480 85th Ave SE
Mercer Island, WA 98040

ARCHITECT:
Brandt Design Group
66 Bell Street, Unit 1
Seattle, WA 98121
PH 206.239.0850
brandtdesigninc.com

ISSUE:
PERMIT

SHEET TITLE:
Typical Light Gage Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO:

S6.1

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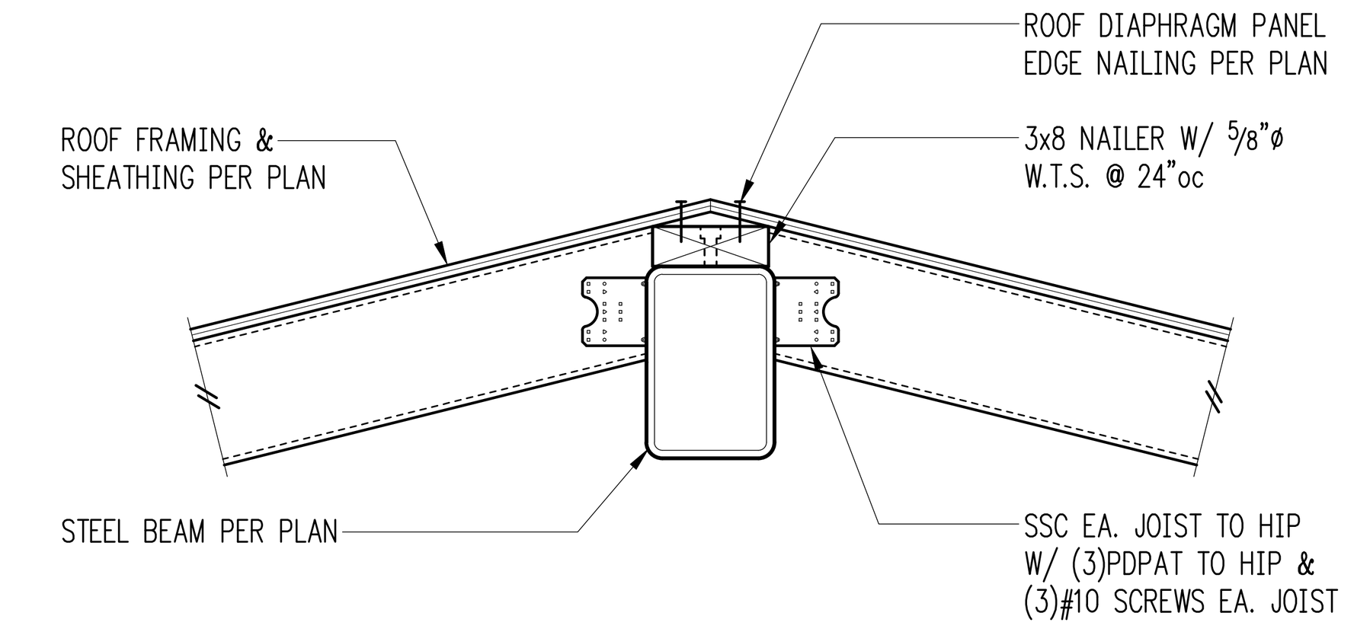

Hip Beam 5

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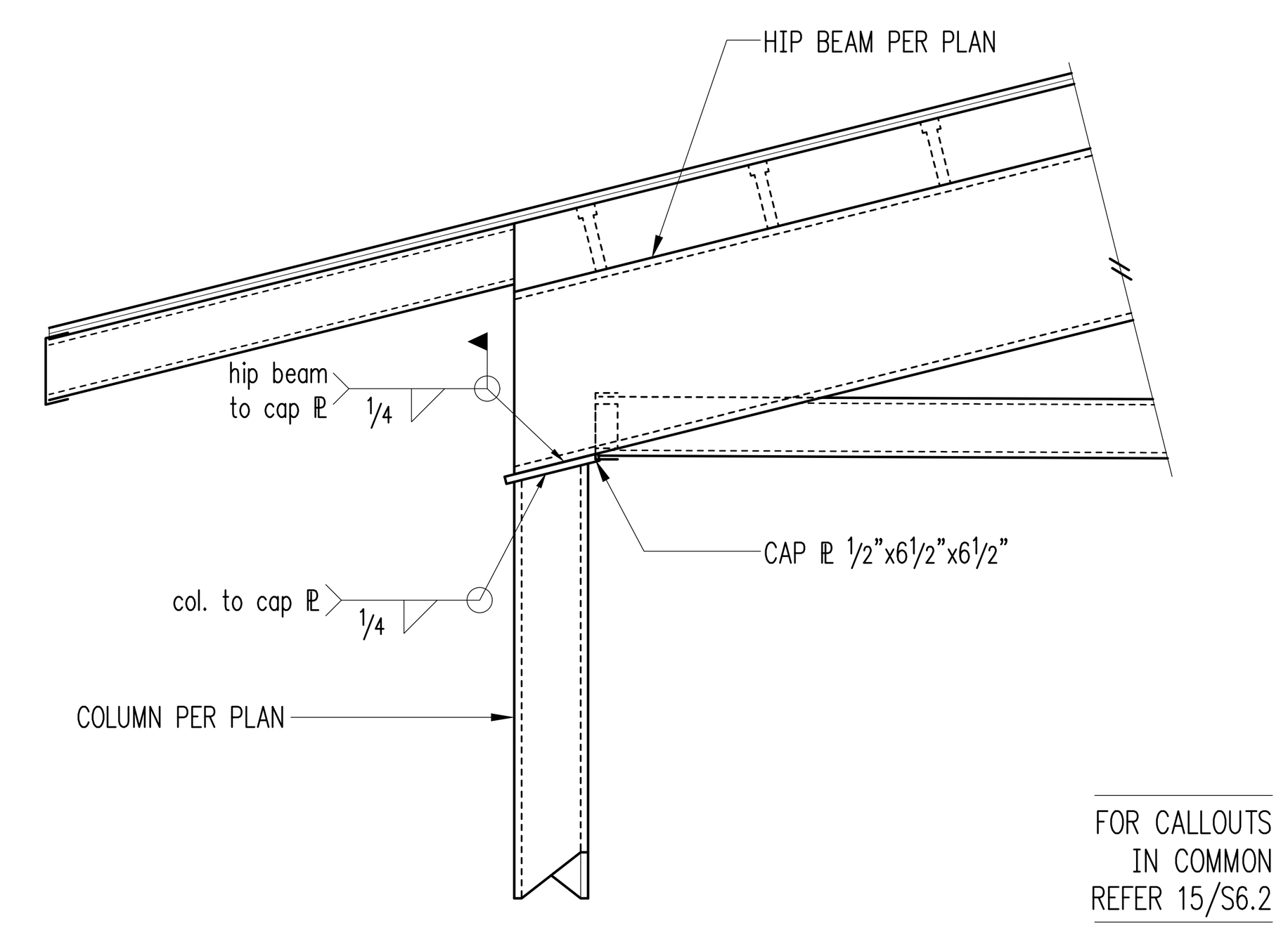

FOR CALLOUTS IN COMMON REFER 15/S6.2

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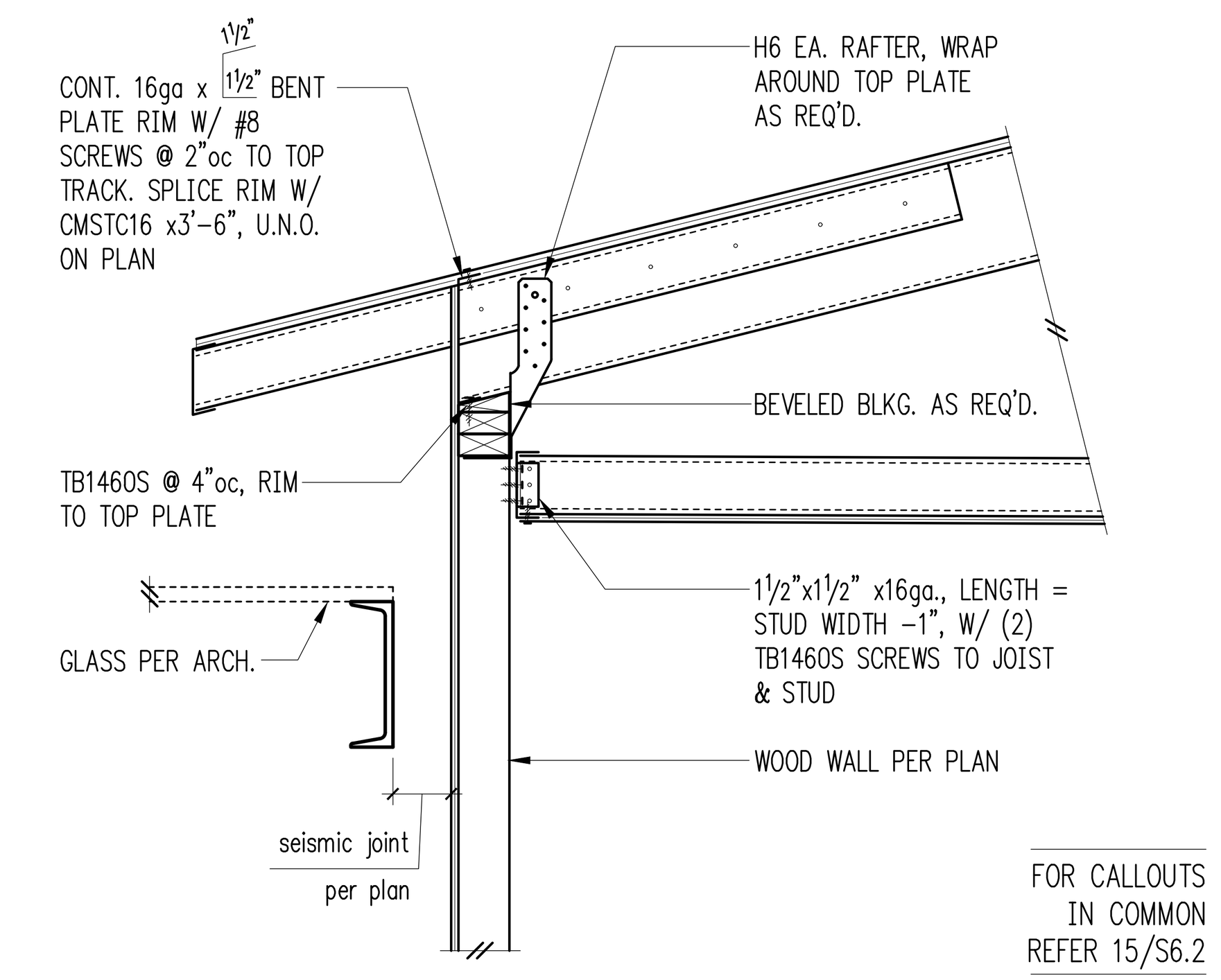

FOR CALLOUTS IN COMMON REFER 15/S6.2

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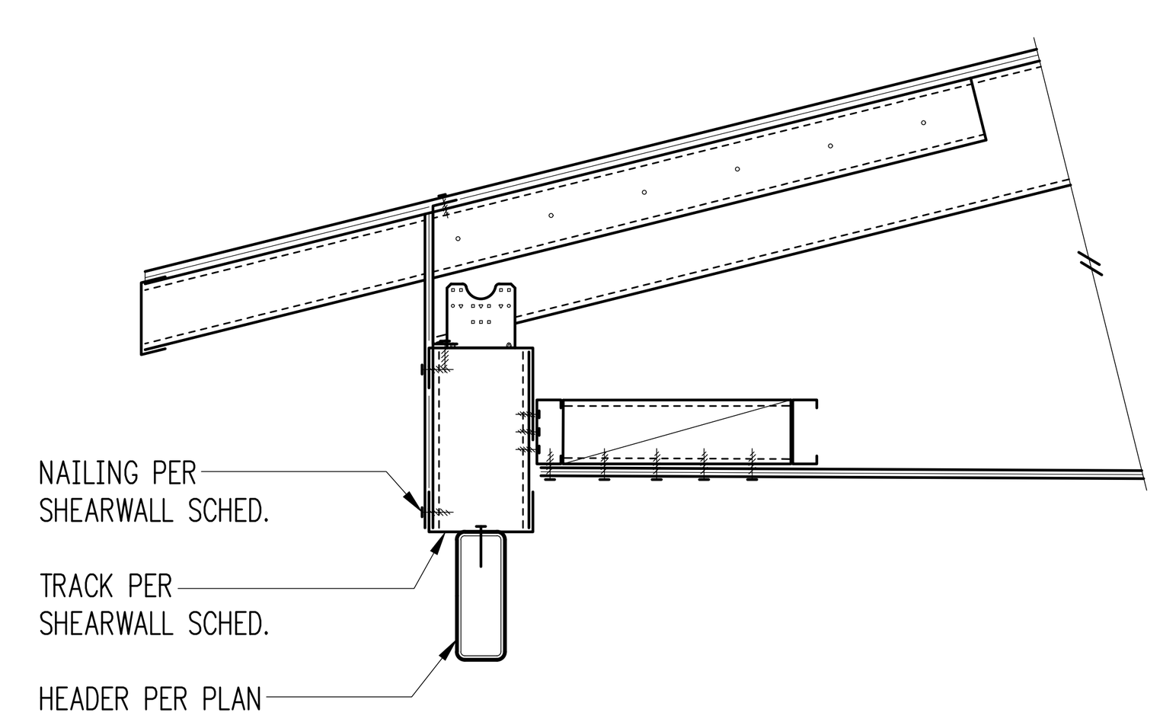

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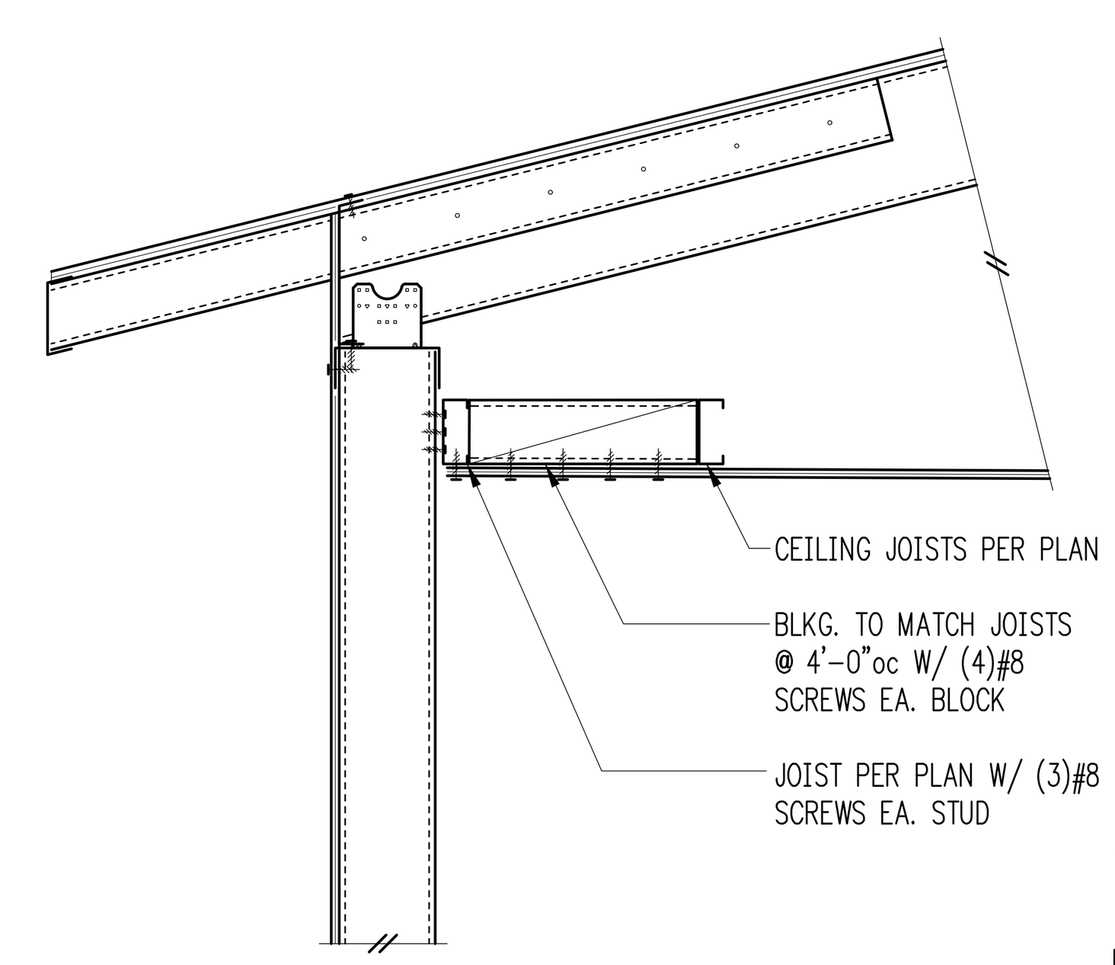

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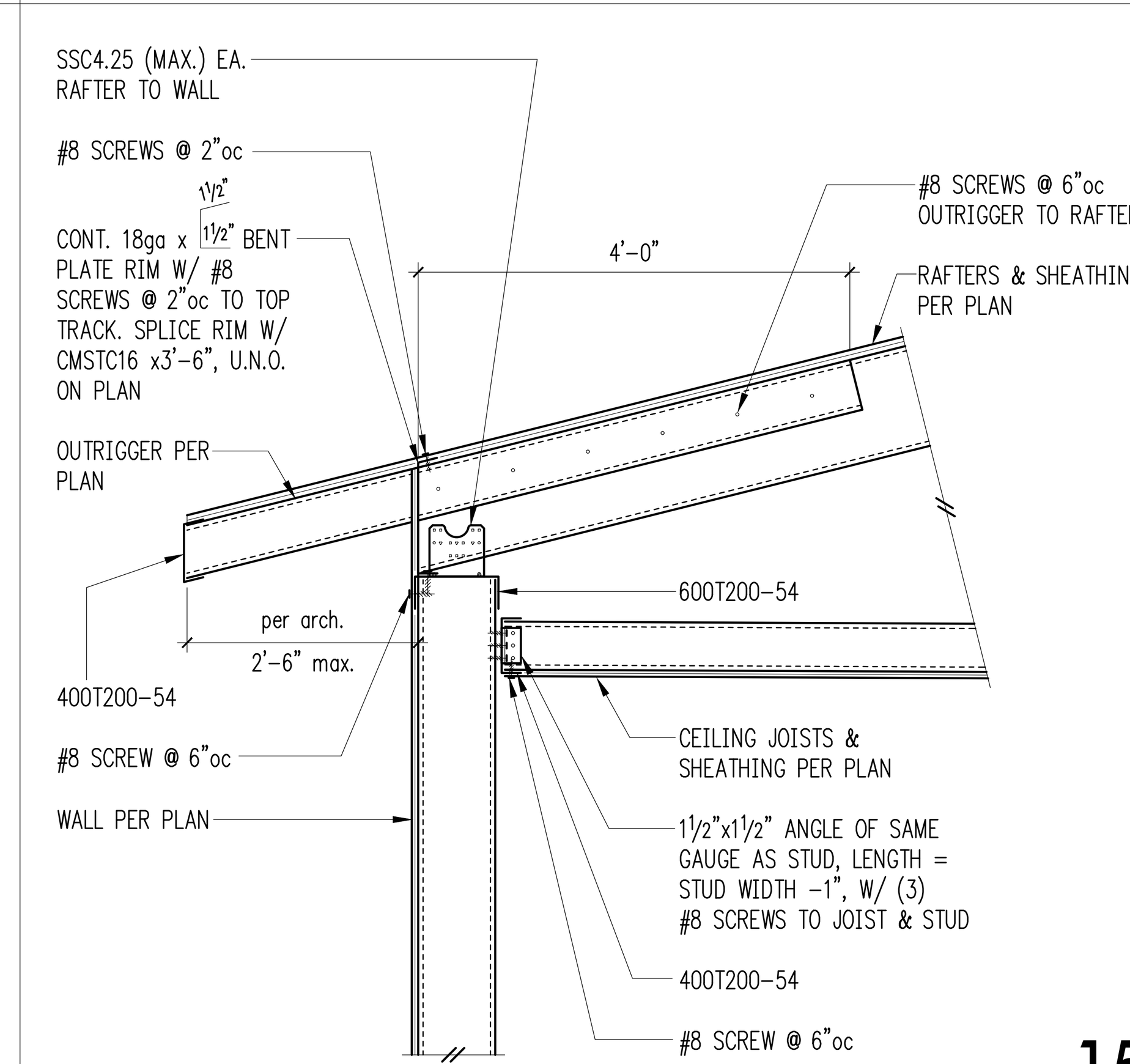

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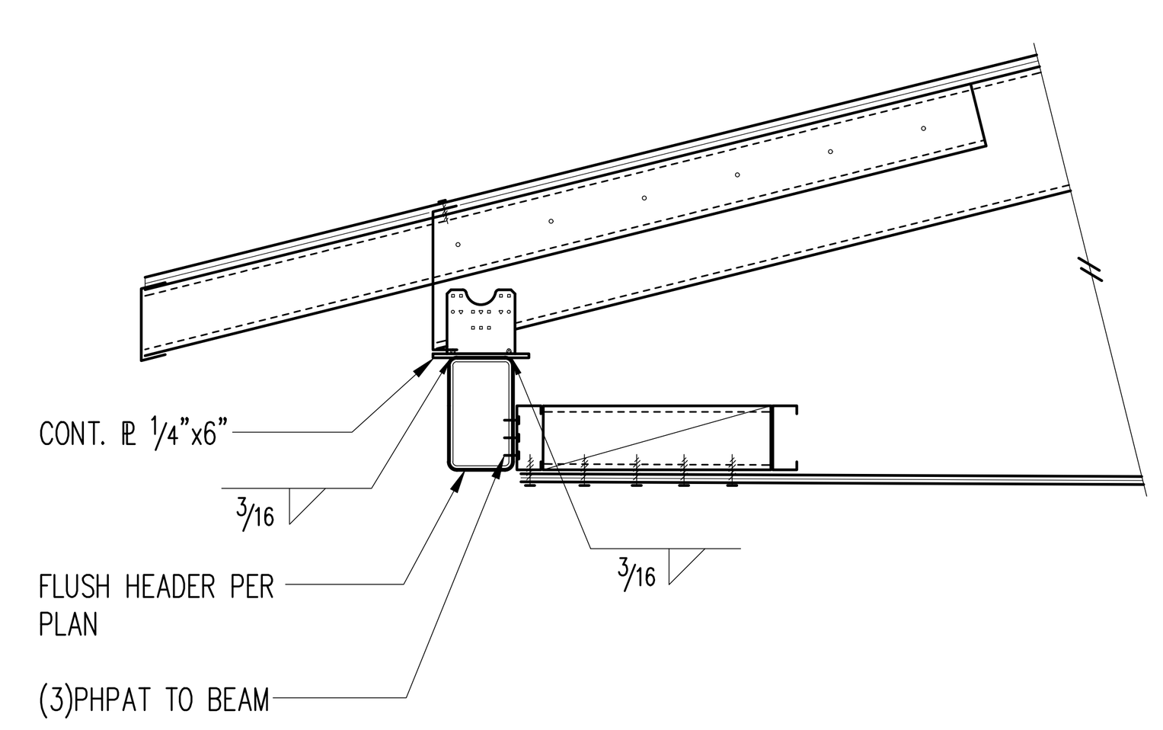

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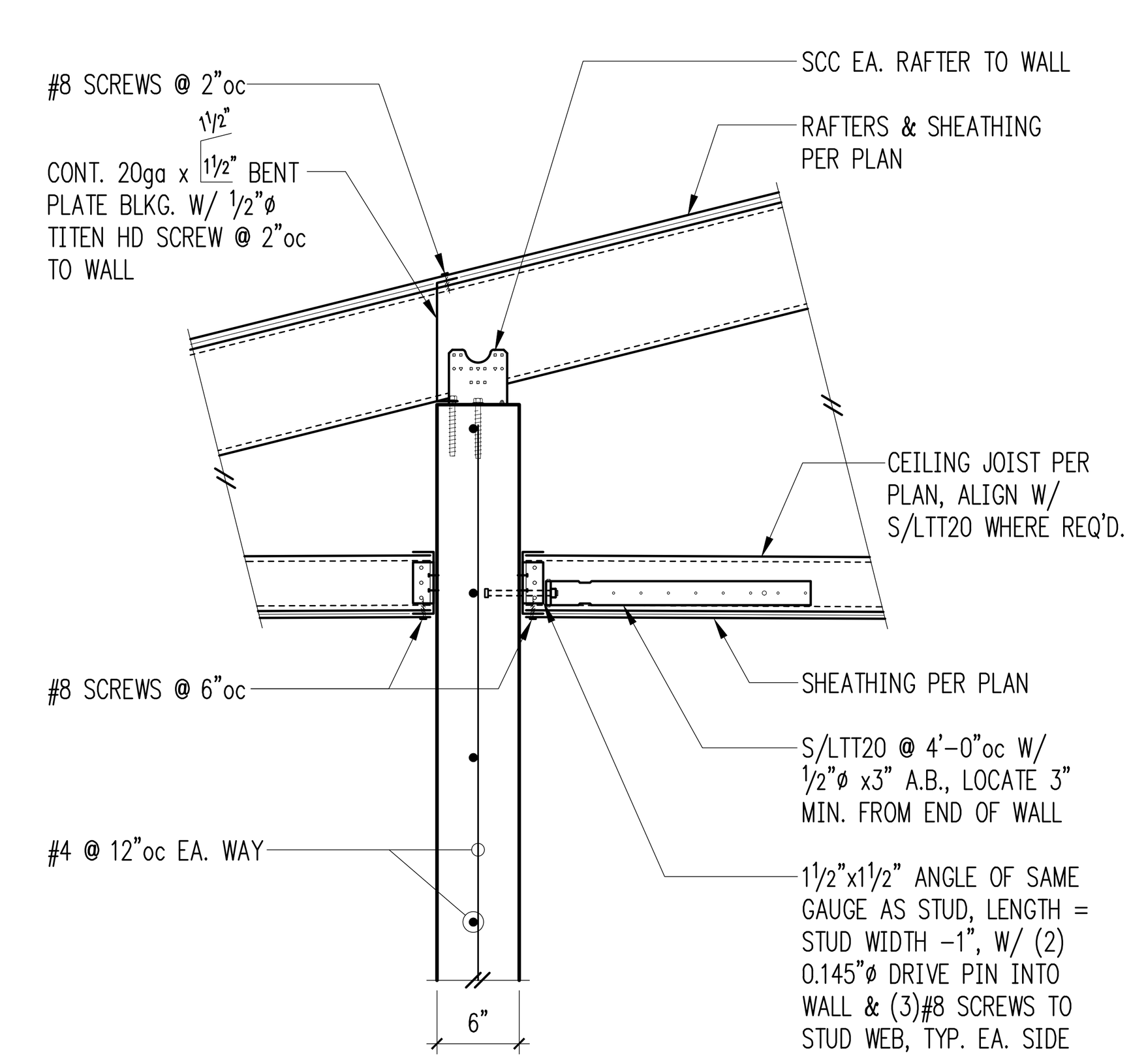

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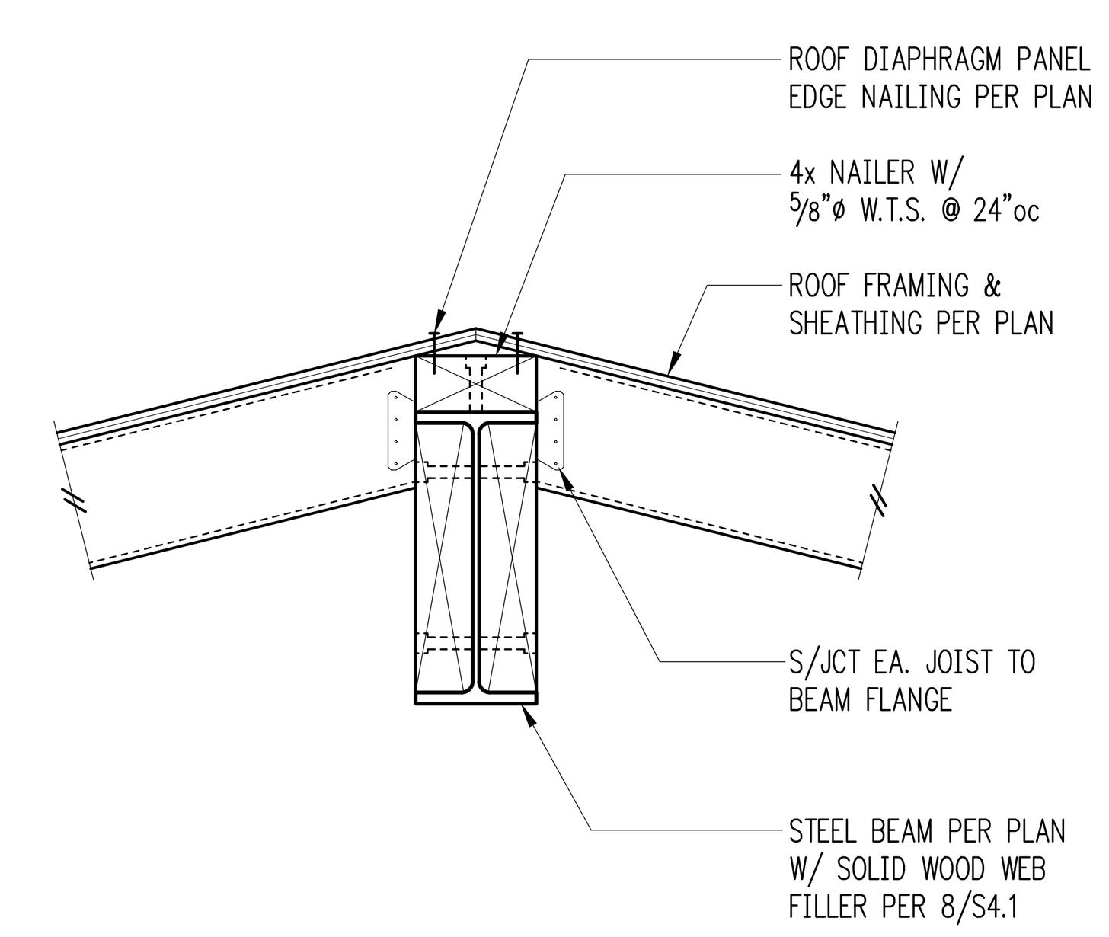

Ridge Beam 20

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DESIGN: HAA, SRW
DRAWN: NHD
CHECKED: SRW
APPROVED: BDM

REVISIONS:

1	Revision 1	Oct. 4, 2022

JURISDICTIONAL APPROVAL STAMP:

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Mercer Island, WA 98040

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ISSUE:
PERMIT

SHEET TITLE:
Light GAUGE Details

SCALE: 1" = 1'-0" U.N.O.
DATE: March 11, 2022
PROJECT NO: 01519-2021-09
SHEET NO: 1 S6.2