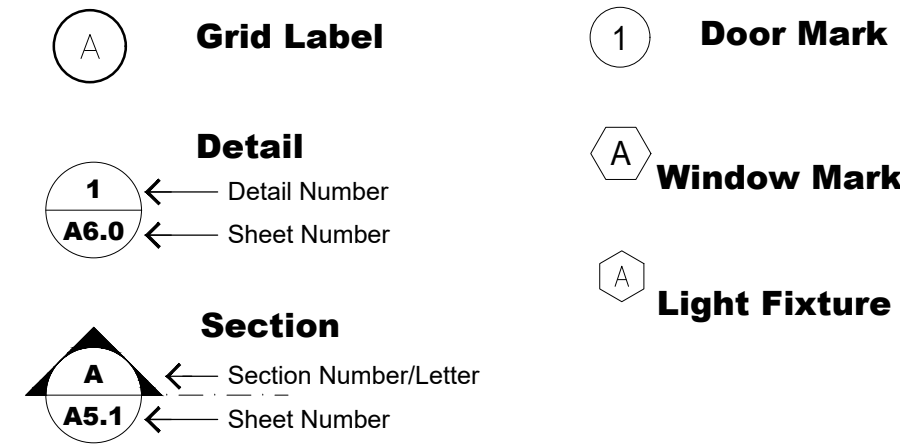


## SYMBOL LEGEND



## ABBREVIATIONS LIST

AB	Anchor Bolt	MANUF	Manufacturer
ABV	Above	MATL	Material
ADJ	Adjustable, Adjust	MAX	Maximum
AFF	Above Finish Floor	MDF	Medium Density Fiberboard
ALIGN	Alignment	MDO	Medium Density Overlay
AL	Aluminum	MEMB	Membrane
ASSEM	Assembly	MIN	Minimum
BEL	Below	MIR	Mirror
BEY	Beyond	MISC	Miscellaneous
BLKG	Blocking	MTL	Metal
BM	Beam	N	North
BO	Bottom of	NO	Number
BRG	Bearing	NOM	Nominal
BTWN	Between	NTS	Not to Scale
BW	Bottom of Wall	O/	Over
CAB	Cabinet	OC	On Center
CJ	Control Joint	OH	Opposite Hand
CLG	Ceiling	OSB	Oriented Strand Board
CLR	Clearance, Clear	PL	Plate, Property Line
COL	Column	PLAM	Plastic Laminat
CONC	Concrete	PLYWD	Plywood
CONT	Continuous	PSL	Parallel Strand Lumber
CT	Ceramic Tile	PT	Pressure Treated
D	Deep, Depth	R	Radius
DET	Detail	REF	Refrigerator
DIA	Diameter	REINF	Reinforcing
DN	Down	REQD	Required
DS	Downspout	RM	Room
DW	Dishwasher	RO	Rough Opening
E	East	RR	Roof Rafter
EA	Each	S	South
EMBED	Embedment	SCHED	Schedule, Scheduled
EQ	Equal	SF	Square Feet
EW	Each Way	SHTG	Sheathing
EXIST	Existing	SIM	Similar
EXT	Exterior	SPECS	Specifications
FIN	Finish	STL	Steel
FLASH	Flashing	STRUC	Structural
FLR	Floor	SYM	Symmetrical
FOC	Face of Concrete	T & B	Top and Bottom
FOF	Face of Finish	T & G	Tounge and Groove
FOS	Face of Stud	TEMP	Tempered
FOUND	Foundation	TJI	Truss Joist I-beam joist
FRPLC	Fireplace	TOP	Top of Plate
FT	Foot, Feet	TOS	Top of Subfloor,
FTG	Footing	Top of Slab	Top of Wall
GALV	Galvanized	TW	Typical
GLB	Glued Laminated Beam	TYP	Typical
GWB	Gypsum Wall Board	UBC	Uniform Building Code
H	High	UNO	Unless Noted Otherwise
HB	Hose Bibb	VB	Vapor Barrier
HDR	Header	VER	Verify
HDWD	Hardwood	VERT	Vertical
HORIZ	Horizontal	W	West, Watt, Width
HT	Height	WWM	Welded Wire Mesh
HWT	Hot Water Heater	W/	With
INSUL	Insulation, Insulate	W/O	Without
JST	Joist	WD	Wood
JT	Joint	WDW	Window
LF	Linear Foot	WP	Waterproofing,
LVL	Laminated Veneer Lumber	WR	Water Resistant

## NOXIOUS WEEDS

DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS A, REGULATED CLASS B, AND REGULATED CLASS C WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREAS ESTABLISHED PURSUANT TO SUBSECTION 19.02.020(F)(3)(A), 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 SOLE INSTABILITY OR RISK OF LANDSLIDE OR EROSION.

## TREE PROTECTION

A TREE PROTECTION INSPECTION IS REQUIRED BEFORE START OF WORK.

## GENERAL NOTES

- ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND ORDINANCES.
- VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE SITE BEFORE PROCEEDING WITH WORK. GENERAL CONTRACTOR SHALL VISIT THE PREMISES TO FAMILIARIZE HIMSELF WITH ALL ASPECTS OF THE WORK BEFORE CONTRACTING WITH OWNER TO PERFORM THE WORK. NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL CONDITIONS PRIOR TO THE START OF THE WORK.
- VERIFY ALL ITEMS TO BE REMOVED OR DEMOLISHED WITH THE OWNER PRIOR TO START OF THE WORK. CONTRACTOR SHALL IDENTIFY THOSE ITEMS TO BE INCORPORATED IN THE FINISHED PROJECT AND SHALL ARRANGE FOR THEIR SAFE STORAGE. SALVAGE VALUE OF REMOVED ITEMS SHALL BELONG TO THE OWNER UNLESS OTHERWISE AGREED.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES ASSOCIATED WITH PROJECT.
- IDENTIFICATION AND HANDLING OF EXISTING HAZARDOUS MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH ACTIVITIES SHALL BE UNDERTAKEN CONSISTENT WITH ALL CURRENT REGULATIONS GOVERNING HAZARDOUS MATERIAL.
- GENERAL CONTRACTOR SHALL CONSULT/COORDINATE PLANS OF ALL TRADES FOR ALL OPENINGS THROUGH SLABS, CEILINGS, AND WALLS FOR DUCTS, PIPES, CONDUITS AND EQUIPMENT, AND SHALL VERIFY SIZE AND LOCATION WITH RESPECTIVE CONTRACTORS.
- CONTRACTOR SHALL COORDINATE INSTALLATION OF EQUIPMENT INCLUDED IN THIS CONTRACT OR BY OTHERS. OBTAIN ROUGH-IN DIMENSIONS, REQUIREMENTS FOR BACKING, SUPPORT AND LOCATION OF EQUIPMENT PRIOR TO THE START OF WORK.
- REPETITIVE FEATURES MAY BE DRAWN ONLY ONCE, BUT SHALL BE PROVIDED AS IF DRAWN IN FULL.
- ALL PIPING, CONDUITS AND DUCTS SHALL BE FURRED-IN IN ALL FINISHED ROOMS.
- CONTRACTOR SHALL VERIFY CONFORMANCE OF ACTUAL SOIL CONDITIONS WITH STRUCTURAL NOTES AND DESIGN ASSUMPTIONS.
- PROVIDE BACKING IN WALLS AS REQUIRED FOR INSTALLATION OF WALL-MOUNTED ITEMS.
- ALL MATERIALS AND WORKMANSHIP IN THIS CONTRACT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THE ENTIRE PROJECT BY OWNER.
- DIMENSIONS SHOWN ON THE PLANS ARE, IN GENERAL, UNLESS SHOWN OR NOTED OTHERWISE:
  - TO INTERIOR FACE OF CONCRETE.
  - TO INTERIOR FACE OF EXTERIOR WALL STUDS.
  - TO FACE OF INTERIOR WALL STUDS.
  - TO CENTERLINE OF INTERIOR COLUMNS AND ISOLATED FOOTINGS.

CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS BEFORE COMMENCING ANY DEMOLITION. SHORING SHALL BE INSTALLED TO SUPPORT CONSTRUCTION AND EXCAVATION AS REQUIRED AND IN A MANNER SUITABLE TO THE WORK SEQUENCE.

ALL WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY AND IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS, DIRECTIONS AND RECOMMENDATIONS.

SELECTION OF INTERIOR AND EXTERIOR FINISHES TO BE COORDINATED AND VERIFIED WITH OWNER.

CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS FOR THE WORK AND FOR REQUESTING REQUIRED REGULAR OR SPECIAL INSPECTIONS.

CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING ALL WORK AND SUBMITTING SAMPLES, SHOP DRAWINGS AND OTHER REQUESTS FOR REVIEW BY THE OWNER ON A TIMELY BASIS.

CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING ALL WORK AND SUBMITTING SAMPLES, SHOP DRAWINGS AND OTHER REQUESTS FOR REVIEW BY THE OWNER ON A TIMELY BASIS.

CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING ALL WORK AND SUBMITTING SAMPLES, SHOP DRAWINGS AND OTHER REQUESTS FOR REVIEW BY THE OWNER ON A TIMELY BASIS.

CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING ALL WORK AND SUBMITTING SAMPLES, SHOP DRAWINGS AND OTHER REQUESTS FOR REVIEW BY THE OWNER ON A TIMELY BASIS.

CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING ALL WORK AND SUBMITTING SAMPLES, SHOP DRAWINGS AND OTHER REQUESTS FOR REVIEW BY THE OWNER ON A TIMELY BASIS.

## VENTILATION & AIR QUALITY NOTES

VENT ALL BATHROOM FANS, LAUNDRY FANS, RANGE HOODS AND DRYERS TO OUTSIDE ATMOSPHERE. BATHROOM/UTILITY ROOM FANS SHALL BE CAPABLE OF 8 AIR CHANGES PER HOUR AND SHALL BE VENTED DIRECTLY TO THE OUTSIDE THROUGH SMOOTH, RIGID, NON-CORROSIVE METAL, 24 GA. DUCTWORK. FLEX DUCTING IS NOT ALLOWED. WSEC R402.4.1.2 REQUIRES THE DWELLING UNIT TO BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE NOT EXCEEDING 5 AIR CHANGES PER HOUR. TESTING MUST BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2. NEW CONSTRUCTION MAY BE ISOLATED FROM EXISTING STRUCTURE FOR TESTING.

## FIRE SPRINKLER & MONITORING

HOUSE SHALL BE EQUIPPED WITH AN NFPA 13D SPRINKLER SYSTEM AND A MONITORED NFPA 72 FIRE ALARM SYSTEM UNDER SEPARATE PERMIT. SYSTEM MUST BE INSTALLED, INSPECTED AND FINISHED PRIOR TO OCCUPANCY.

## ENERGY NOTES

CLIMATIC ZONE	4C MARINE
THERMAL STANDARDS FOR OPENINGS	UNLIMITED OPTION
CODES	2018 W.S.E.C. 2018 I.R.C., W.A.C. 51-11R
HEAT TYPE	NATURAL GAS, FORCED AIR SYSTEM

PER WSEC R401.3, A CERTIFICATE IS REQUIRED TO BE POSTED WITHIN 3 FT OF THE ELECTRICAL PANEL. IT MUST INCLUDE THE FOLLOW: PREDOMINANT R-VALUES, U-VALUES OF FENESTRATION, RESULTS FROM DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING, AND EFFICIENCIES OF HEATING/COOLING/WATER HEATING EQUIPMENT.

MANUFACTURED DOORS/WINDOWS: CONFORM TO SECTION R402.4.3 OF THE WASHINGTON STATE ENERGY CODE

EXTERIOR JOINTS/OPENINGS: SEAL, CALK, GASKET OR WEATHERSTRIP TO LIMIT AIR LEAKAGE AT EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, OPENINGS BETWEEN WALLS AND FOUNDATION, BETWEEN WALLS AND ROOF, OPENINGS AT PENETRATIONS OF UTILITY SERVICES AND ALL OTHER SUCH OPENINGS IN THE BUILDING ENVELOPE.

WALLS: VAPOR RETARDER BONDED TO BATT INSULATION. INSTALL WITH STAPLES NOT MORE THAN 8 INCHES ON CENTER AND WITH A GAP BETWEEN AND OVER FRAMING NOT GREATER THAN 1/16 OF AN INCH. OR VAPOR RETARDER OF ONE PERM CUP RATING (4 MIL POLYETHYLENE)

ATTICS/CEILINGS: VAPOR RETARDER OF ONE PERM CUP RATING (4 MIL POLYETHYLENE). INSTALL CONTINUOUSLY

CRAWL SPACE: 6 MIL POLYETHYLENE

ATTICS WITH LOOSE FILL: N/A. Baffle vent openings to deflect air above insulation surface enclosed joist or rafter spaces: provide minimum of one inch clear vented air space above insulation. TAPER OR COMPRESS INSULATION AT PERIMETER TO INSURE PROPER VENTILATION, MAINTAINING MINIMUM OF R-38.

GAS FURNACE & AIR SOURCE HEAT PUMP

FOR HEATING AND COOLING, THERMOSTAT SHALL BE CAPABLE OF BEING SET FROM 55-65 DEGREES FAHRENHEIT AND OF OPERATING THE HEATING/COOLING SYSTEM IN SEQUENCE. THERMOSTAT TO BE AUTOMATIC DAY/NIGHT SETBACK TYPE.

THERMALLY INSULATE ALL PLENUMS, DUCTS AND ENCLOSURES IN ACCORDANCE WITH SECTION R403.3.1 OF THE WASHINGTON STATE ENERGY CODE.

a. ALL HEATING DUCTS IN UNCONDITIONED SPACES SHALL BE INSULATED WITH A MIN. OF R-8. ALL SEAM JOINTS SHALL BE TAPED, SEALED AND FASTENED WITH THE MINIMUM OF FASTENERS PER WSEC.

b. DUCTS WITHIN A CONCRETE SLAB OR IN THE GROUND SHALL BE INSULATED TO R-10, WITH INSULATION DESIGNED TO BE USED BELOW GRADE.

RECESSED LIGHTING FIXTURES INSTALLED IN BUILDING ENVELOPE SHALL COMPLY WITH WSEC PROVISIONS AND SHALL BE I.C. LISTED. A MIN. OF 75% OF PERMANENTLY INSTALLED LAMPS IN INTERIOR AND EXTERIOR LIGHTING FIXTURES MUST BE HIGH-EFFICACY LAMPS, PER WSEC R404.1.

ALL HOT WATER PIPES, AND NON-RECIRCULATING COLD WATER PIPES LOCATED IN UNCONDITIONED SPACE, SHALL BE INSULATED TO R-3 MIN. PLUMBING OR MECHANICAL CANNOT DISPLACE THE REQUIRED INSULATION.

WHOLE HOUSE VENTILATION SYSTEM:

a. WHOLE HOUSE VENTILATION SHALL BE PROVIDED BY EXHAUST FAN PROVIDING 320 CFM RUNNING INTERMITTENTLY PER 2018 IRC TABLE M1507.3.3 (1)(2). FAN SHALL BE LESS THAN 35 WATT PER CFM AND CONNECTED TO A 24 HOUR CLOCK TIMER AND HAVE A SONE RATING OF LESS THAN 1.0. VENTILATION SHALL BE ABLE TO OPERATE INDEPENDENTLY OF HEATING SYSTEM.

b. SYSTEM SHALL HAVE A 1/2" SMOOTH FRESH AIR DUCT W/ LOUVER & SCREEN CONNECTED TO THE RETURN AIR STREAM 4' UPSTREAM OF THE AIR HANDLER AND INSULATED W/ R-4 MIN IN HEATED AREAS.

c. SHALL HAVE A FILTER WITH A MERV OF AT LEAST 6 INSTALLED IN AN EASILY ACCESSIBLE LOCATION. FRESH AIR VENT SHALL BE LOCATED AWAY FROM SOURCES OF ODORS OR FUMES, MIN 10' FROM PLUMBING OR APPLIANCE VENTS, AWAY FROM ROOMS W/ FUEL BURNING APPLIANCES, AND OUT OF ATTICS, CRAWL SPACES, AND GARAGES.

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

ALL PLUMBING FIXTURES SHALL CONFORM TO ROW 19.07.170

ALL TOILETS 1.6 GPM MAX URINALS 1.0 GPM MAX SHOWERHEADS <1.75 GPM KITCHEN FAUCETS <1.75 GPM LAVATORIES <1.0 GPM

## ENERGY CREDITS

OPTION	DESCRIPTION	CREDITS
1.3	EFFICIENT BUILDING ENVELOPE: VERTICAL FENESTRATION- U=0.28, FLOOR- R-38, SLAB ON GRADE/BELOW GRADE SLAB- R-10 PERIMETER+ UNDER ENTIRE SLAB	0.5
2.2	REDUCE TESTED AIR LEAKAGE TO 2.0 AIR CHANGES PER HOUR MAX. @ 50 PASCALS	1.0
3.5	AIR SOURCE, CENTRALLY DUCTED HEAT PUMP W/ MIN. HSPF OF 11	1.5
4.2	ALL HVAC DUCTS AND COMPONENTS TO BE LOCATED IN CONDITIONED SPACE PER R403.3.7	1.0
5.4	EFFICIENT WATER HEATING: ELECTRIC HEAT PUMP WATER HEATER TO MEET TIER 1 OF NEEA'S ADVANCED WATER HEATING SPECIFICATION	1.5
7.1	APPLIANCE PACKAGE: ENERGY STAR RATED DISHWASHER, REFRIG., WASHING MACHINE & DRYER (VENTLESS W/ MIN. CEF 5.2)	0.5
	TOTAL CREDITS	6.0

## PROJECT TEAM

ARCHITECT FORMWORKS DESIGN BUILD 7434 SE 71ST STREET MERCER ISLAND WA 98040 206-406-1589 206-492-1589	LANDSCAPE ARCHITECT BERGER PARTNERSHIP 1927 POST ALLEY STE. 2 SEATTLE WA 98101 JASON HENRY 206-492-5579
STRUCTURAL ENGINEERING MERRELL DESIGN SERVICES NINE MILE FALLS WA 99026 T.J. MERRELL 509-998-7410	GEOTECH TERRA ASSOCIATES 12220 113TH AVENUE NE, SUITE 130 KIRKLAND WA 98034 CAROLYN DECKER 206-255-4988
CIVIL ENGINEER CORE DESIGN 12100 NE 195TH ST. #300 BOTHELL WA 98011 SHERI MURATA 425-885-7877	ENVIRONMENTAL THE WATERSHED COMPANY 750 6TH AVENUE S. KIRKLAND WA 98033 DAN NICKEL 425-822-5242
SURVEYOR TERRANE 10801 MAIN STREET #102 BELLEVUE WA 98004 425-458-4488	ARBORIST ABC CONSULTING ARBORISTS 10307 JASMINE LANE CHATTAROVY WA 99003 DANIEL MAPLE 509-953-0293



## 2 VICINITY MAP

NO SCALE

## PROJECT INFORMATION

OWNERS NAME:	DEREK AND EILEEN CHESHIRE 7615 EAST MERCER WAY MERCER ISLAND, WA 98040
PROJECT ADDRESS:	9271 SE 76TH STREET MERCER ISLAND, WA 98040
SCOPE OF WORK:	CONSTRUCTION OF A NEW SINGLE FAMILY RESIDENCE WITH ATTACHED GARAGE
PARCEL IDENTIFICATION NUMBER:	302405-9230
JURISDICTION:	CITY OF MERCER ISLAND
MERCER ISLAND PROJECT NUMBER:	2109-050
ZONING:	R-9.6 (RESIDENTIAL-SINGLE FAMILY)
BUILDING OCCUPANCY	R-3 SINGLE FAMILY RESIDENCE

## LEGAL DESCRIPTION

THAT PORTION OF THE NORTH 148.37 FEET OF A PORTION OF GOVERNMENT LOT 5, LYING WESTERLY OF EAST MERCER WAY; ALL IN SECTION 30, TOWNSHIP 24 NORTH, RANGE 5, EAST, WILLAMETTE MERIDIAN, IN KING COUNTY DESCRIBED AS FOLLOWS:

BEGINNING AT INTERSECTION OF THE NORTH LINE OF SAID GOVERNMENT LOT 5 AND THE WESTERLY RIGHT-OF-WAY MARGIN OF EAST MERCER WAY;

THENCE N88°51'48"W, ALONG SAID NORTH LINE 163.93'

THENCE S34°46'02"W 136.17'

THENCE S67°25'49"E 20.08' TO SAID WESTERLY MARGIN AND A POINT OF NON-RADIAL INTERSECTION WITH A 603.14 ADIUS CURVE TO THE RIGHT, THE CENTER OF WHICH BEARS S30°03'19"E;

THENCE NORTH-EASTERLY, ALONG SAID CURVE AND RIGHT-OF-WAY MARGIN, THROUGH A CENTRAL ANGLE OF 02°39'31", A DISTANCE OF 27.99 FEET TO A POINT OF TANGENCY;

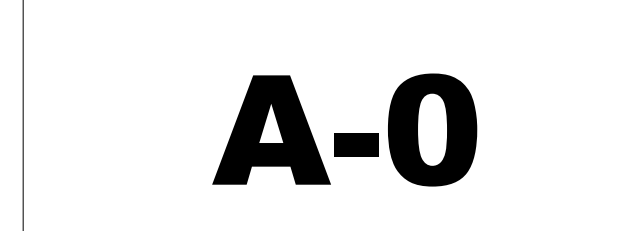
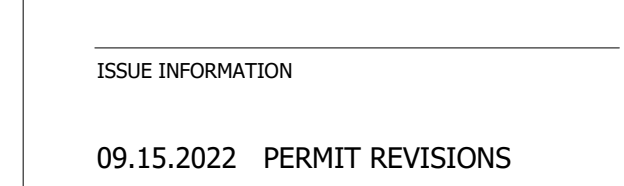
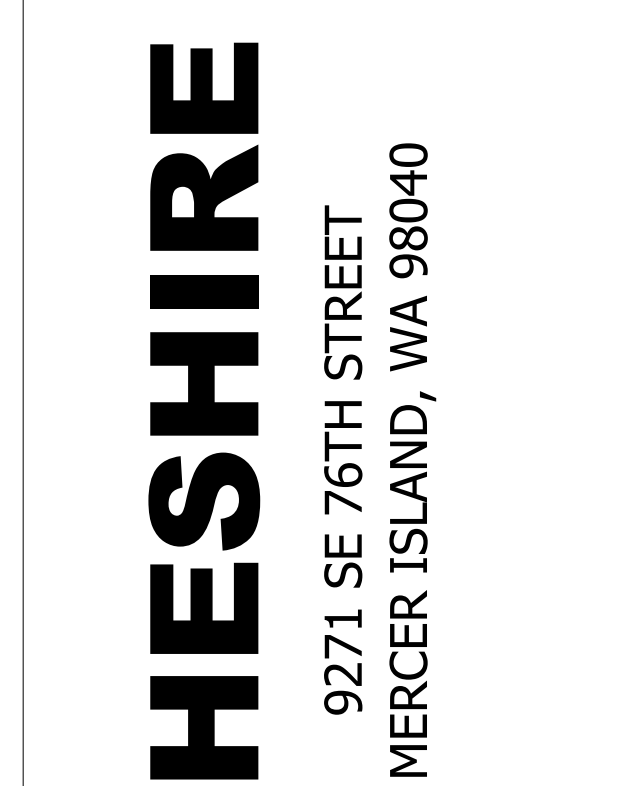
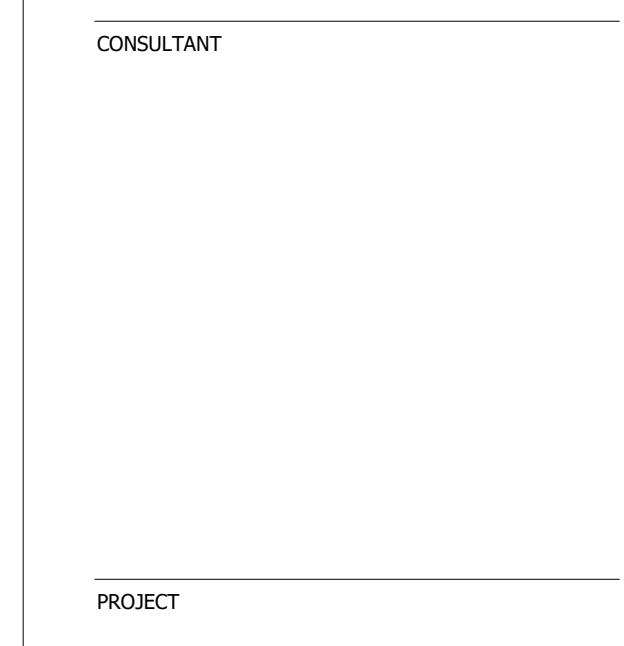
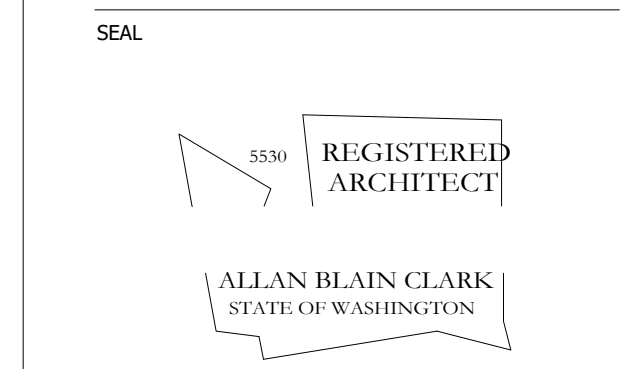
THENCE N62°36'13"E, LONG SAID MARGIN, 223.54' TO THE POINT OF BEGINNING.

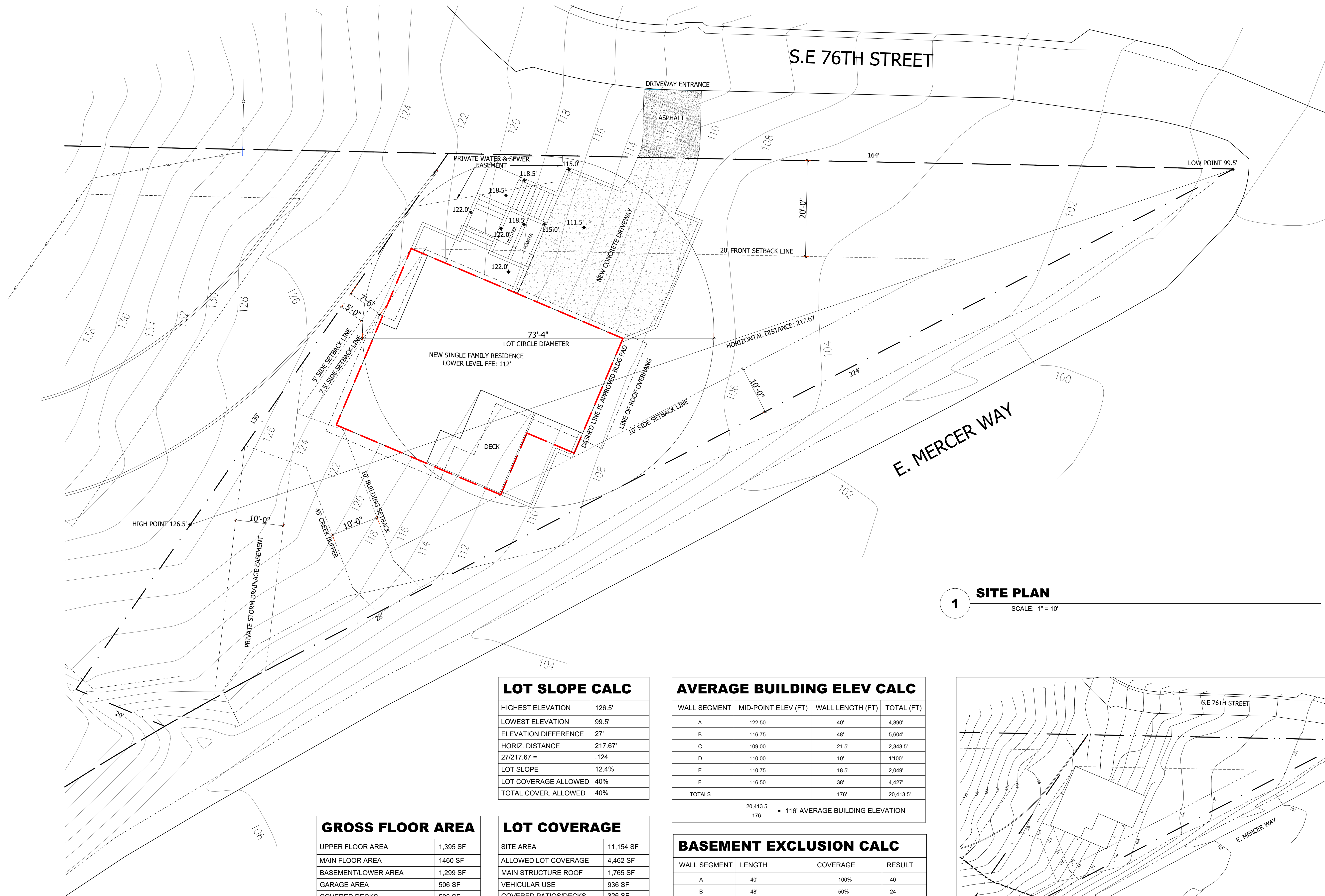
## CODES USED

2018 INTERNATIONAL BUILDING CODE (IBC)  
2018 INTERNATIONAL RESIDENTIAL CODE (IRC)  
2018 INTERNATIONAL MECHANICAL CODE (IMC)  
2018 INTERNATIONAL FIRE CODE  
2018 WASHINGTON STATE ENERGY CODE (WSEC)

## DRAWING INDEX

A-0	COVER SHEET	A4.1	SECTION
A-0	PROJECT INFORMATION, LEGAL DESCRIPTION, VICINITY MAP, SYMBOL LEGEND, ABBREVIATIONS LIST, GENERAL NOTES, VENTILATION & ENERGY NOTES, DRAWING INDEX	A4.2	SECTION
A-1	SURVEY	S1.0	GENERAL STRUCTURAL NOTES
C-1	TITLE SHEET	S2.0	FOUNDATION PLAN
C-2	TESC PLAN	S2.1	FIRST FLOOR FRAMING PLAN
C-3	ROAD, GRADING, STORM DRAINAGE	S2.2	SECOND FLOOR FRAMING PLAN
C-4	STORMWATER DETAILS	S2.3	ROOF FRAMING
C-5	TREE PLAN	S2.4	FIRST & SECOND FLOOR STUD PLANS
L-1	TREE REPLACEMENT PLAN	S3.0	STRUCTURAL DETAILS
A2.0	LOWER FLOOR PLAN	S3.1	STRUCTURAL DETAILS
A2.1	MAIN FLOOR PLAN	S3.2	STRUCTURAL DETAILS
A2.2	SECOND FLOOR		
A2.3	ROOF PLAN		
A3.0	NORTH ELEVATION		
A3.1	SOUTH ELEVATION		
A3.2	EAST ELEVATION		
A3.3	WEST ELEVATION		





**1 SITE PLAN**  
SCALE: 1" = 10'

GROSS FLOOR AREA	
UPPER FLOOR AREA	1,395 SF
MAIN FLOOR AREA	1460 SF
BASEMENT/LOWER AREA	1,299 SF
GARAGE AREA	506 SF
COVERED DECKS	506 SF
BASEMENT EXCLUSION	746 SF
STAIR EXCLUSION	69 SF
TOTAL GFA COVERAGE	3,999 SF
PERCENTAGE OF SITE AREA	35.85 %

LOT SLOPE CALC	
HIGHEST ELEVATION	126.5'
LOWEST ELEVATION	99.5'
ELEVATION DIFFERENCE	27'
HORIZ. DISTANCE	217.67'
$27/217.67 =$	.124
LOT SLOPE	12.4%
LOT COVERAGE ALLOWED	40%
TOTAL COVER. ALLOWED	40%

LOT COVERAGE	
SITE AREA	11,154 SF
ALLOWED LOT COVERAGE	4,462 SF
MAIN STRUCTURE ROOF	1,765 SF
VEHICULAR USE	936 SF
COVERED PATIOS/DECKS	326 SF
TOTAL LOT COVERAGE	3,027 SF
LOT COVERAGE ALLOWED	40%
LOT COVERAGE PROPOSED	27.14 %

HARDSCAPE	
SITE AREA	11,154 SF
ALLOWED HARDSCAPE 9%	1,004 SF
WALKWAYS	403 SF
STAIRS	126 SF
RETAINING WALLS	128 SF
STAIR LANDING	183 SF
TOTAL HARDSCAPE AREA	840 SF
PERCENTAGE OF SITE AREA	7.53 %

AVERAGE BUILDING ELEV CALC			
WALL SEGMENT	MID-POINT ELEV (FT)	WALL LENGTH (FT)	TOTAL (FT)
A	122.50	40'	4,890'
B	116.75	48'	5,604'
C	109.00	21.5'	2,343.5'
D	110.00	10'	1,100'
E	110.75	18.5'	2,049'
F	116.50	38'	4,427'
TOTALS		176'	20,413.5'
$\frac{20,413.5}{176} = 116'$ AVERAGE BUILDING ELEVATION			

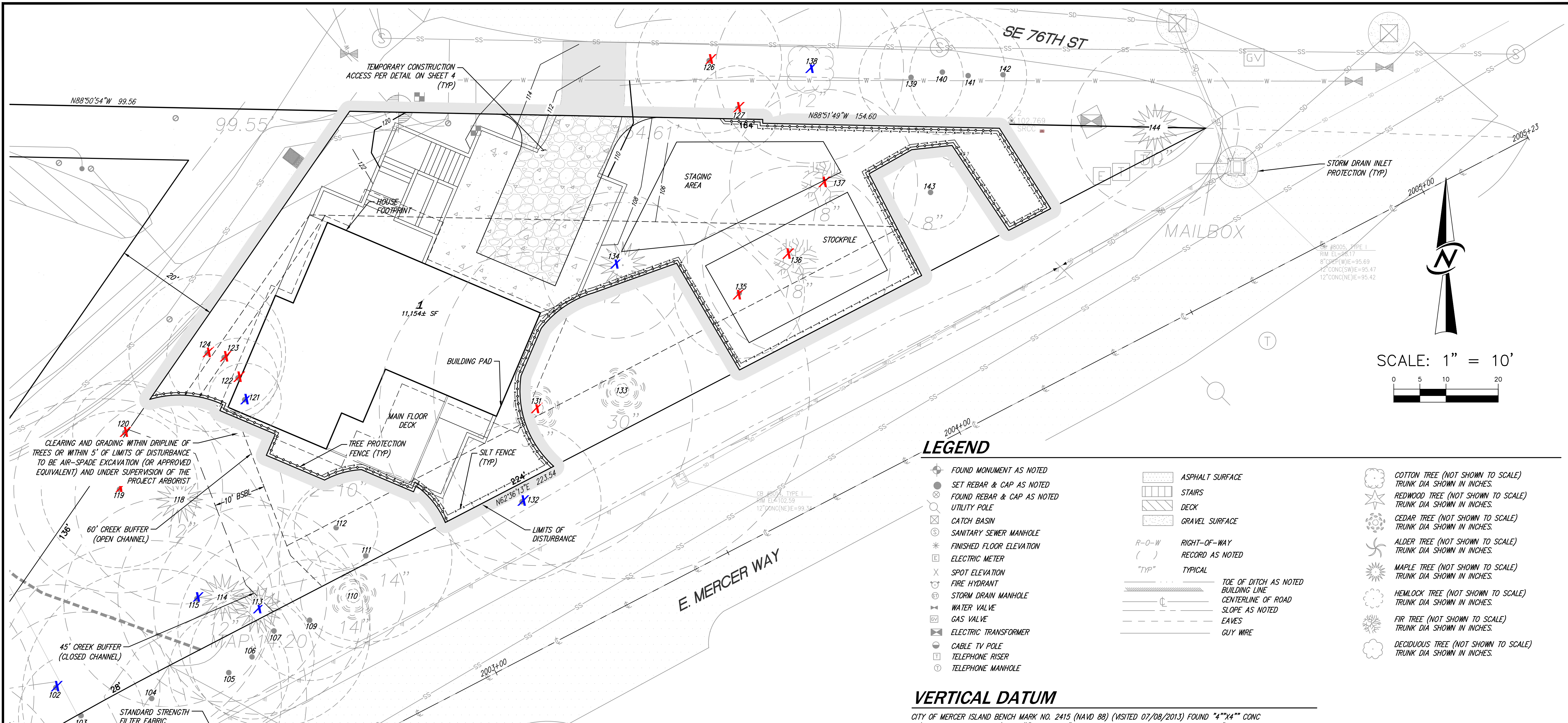
BASEMENT EXCLUSION CALC			
WALL SEGMENT	LENGTH	COVERAGE	RESULT
A	40'	100%	40
B	48'	50%	24
C	21.5'	0%	0
D	10'	0%	0
E	18.5'	0%	0
F	38'	33%	12.54
TOTALS	176		76.54
BASEMENT AREA: 1,736 SF X $\frac{76.54}{176} = 746.05$ EXCLUDED			



**2 ABE PLAN**  
SCALE: 1:30







**LEGEND**

- FOUND MONUMENT AS NOTED
- ⊗ SET REBAR & CAP AS NOTED
- ⊕ FOUND REBAR & CAP AS NOTED
- ⊙ UTILITY POLE
- ⊠ CATCH BASIN
- ⊙ SANITARY SEWER MANHOLE
- ⊙ FINISHED FLOOR ELEVATION
- ⊙ ELECTRIC METER
- ⊙ SPOT ELEVATION
- ⊙ FIRE HYDRANT
- ⊙ STORM DRAIN MANHOLE
- ⊙ WATER VALVE
- ⊙ GAS VALVE
- ⊙ ELECTRIC TRANSFORMER
- ⊙ CABLE TV POLE
- ⊙ TELEPHONE RISER
- ⊙ TELEPHONE MANHOLE
- ▨ ASPHALT SURFACE
- ▨ STAIRS
- ▨ DECK
- ▨ GRAVEL SURFACE
- R-O-W RIGHT-OF-WAY
- ( ) RECORD AS NOTED
- \* TYP TYPICAL
- TOE OF DITCH AS NOTED
- BUILDING LINE
- CENTERLINE OF ROAD
- SLOPE AS NOTED
- EAVES
- GUY WIRE
- ⊙ COTTON TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES
- ⊙ REDWOOD TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES
- ⊙ CEDAR TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES
- ⊙ ALDER TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES
- ⊙ MAPLE TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES
- ⊙ HEMLOCK TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES
- ⊙ FIR TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES
- ⊙ DECIDUOUS TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES

**VERTICAL DATUM**

CITY OF MERCER ISLAND BENCH MARK NO. 2415 (NAVD 88) (VISITED 07/08/2013) FOUND "4"x4" CONC W/COPPER TACK IN LEAD (DN 1.0)", LOCATED "250FT S, INTX E MERCER WAY & SE 76TH ST".  
ELEVATION = 104.47'

**METHOD OF SURVEY**

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

**BEARING MERIDIAN**

A BEARING OF S50°21'13"W BETWEEN TWO FOUND MONUMENTS, "A" AND "B", PER THE PLAT OF TARYWOOD PARK, AS RECORDED IN VOLUME 127 OF PLATS, PAGES 46-50, RECORDS OF KING COUNTY, WA.

**LEGAL DESCRIPTION**

NORTH 148.375 FEET OF GOVERNMENT LOT 6; EXCEPT THE WEST 1000 FEET ALSO THE NORTH 148.37 FEET OF A PORTION OF GOVERNMENT LOT 5 LYING WESTERLY OF EAST MERCER WAY; ALL IN SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M. IN KING COUNTY, WASHINGTON.

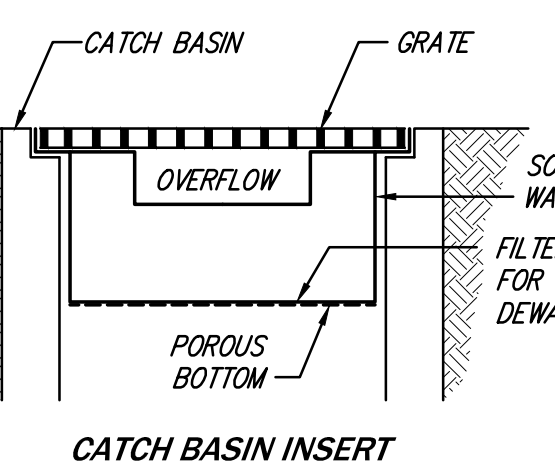
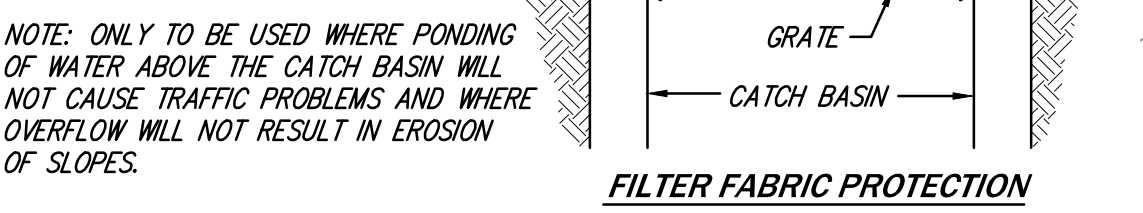
**SURVEYOR'S NOTES**

- THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN JULY OF 2013. 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.
- SUBJECT PROPERTY TAX PARCEL NO. 3024059036.
- SUBJECT PROPERTY AREA PER THIS SURVEY IS 88,557 SQ.FT.+/-.
- A TITLE REPORT WAS NOT FURNISHED AND THEREFORE, EASEMENTS IF ANY, ARE NOT SHOWN ON THIS MAP.
- THE TOP/TOE OF SLOPE SHOWN ON THIS SURVEY IS THE FIELD CREWS INTERPRETATION OF THE TOP/TOE OF SLOPE. THIS DOES NOT REPRESENT THE LIMITS OF A "40%" SLOPE AREA.

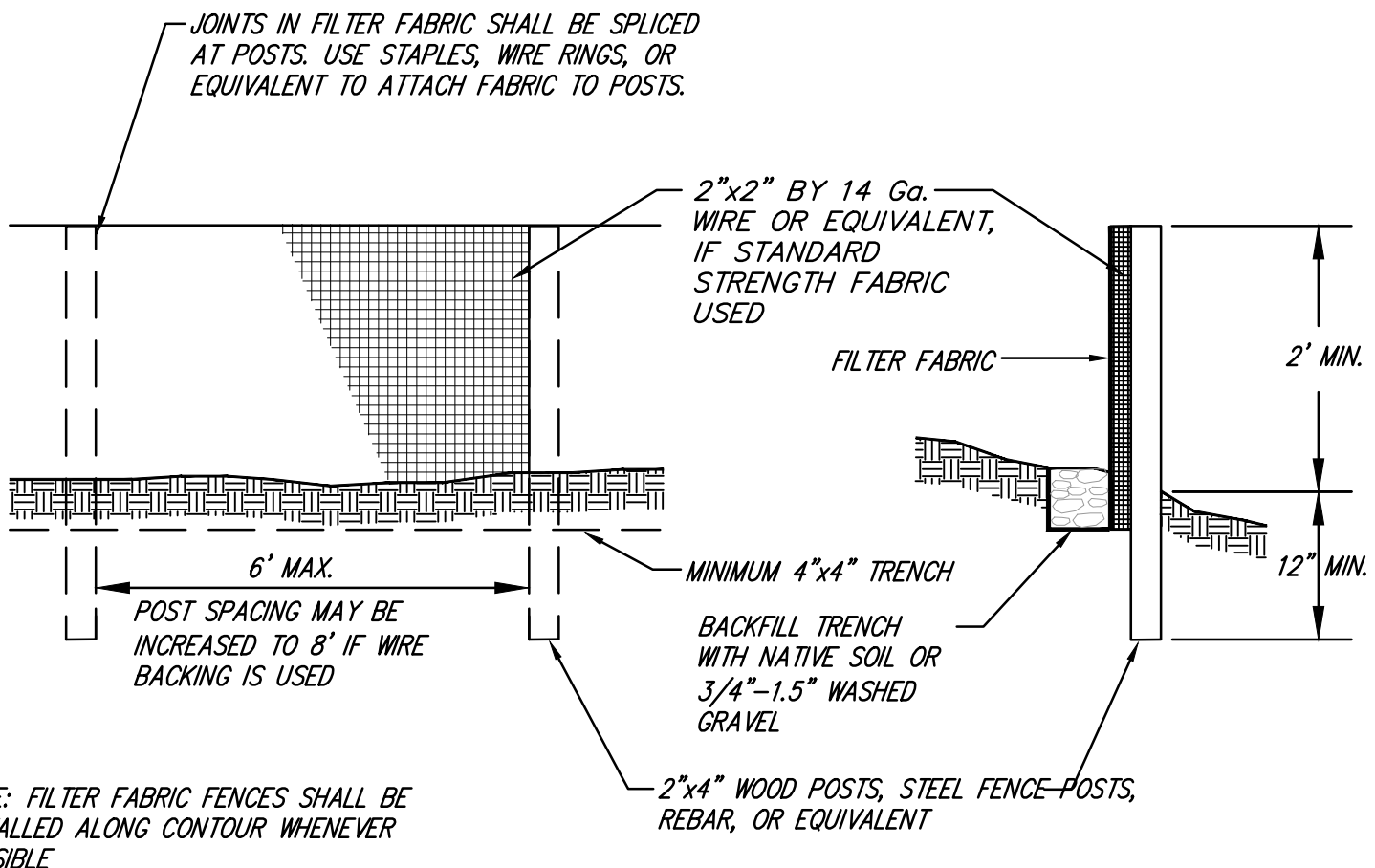
**LEGEND**

- SEE SHEET C2.31 FOR DETAILS, NOTES AND CONSTRUCTION SEQUENCE.
- INLET FILTER (W.S.D.O.T. STD. DTL. 1-40.20-00)
- FILTER FABRIC FENCE
- CONSTRUCTION ACCESS
- CLEARING LIMITS
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EX TREE TO BE REMOVED

**UNDERGROUND LOCATOR SERVICE**  
CALL BEFORE YOU DIG!  
811



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



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

**FILTER FABRIC FENCE DETAIL**  
NO SCALE

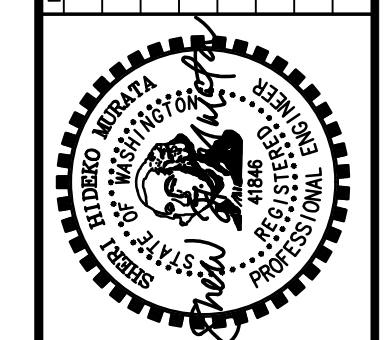
**FILTER FABRIC PROTECTION FOR CB's**  
NO SCALE

DATE	JULY 2020 (1ST SUB)
DESIGNED	SHERI MURATA, P.E.
DRAWN	SAM D. SIMPSON-GORDON
APPROVED	SHERI MURATA, P.E.
PROJECT MANAGER	ROBERT WEST, PLS
DATE	6/21/22
NO. 1	CITY COMMENTS
NO. 2	CITY COMMENTS
<b>CORE DESIGN</b> CIVIL ENGINEERING LANDSCAPE ARCHITECTURE PLANNING SURVEYING 12100 NE 195th St, Suite 300 Bothell, Washington 98011 425.985.7877	
<b>TESC PLAN</b> <b>CHESHIRE SHORT PLAT LOT 1</b> <b>DEREK CHESHIRE</b> 7615 E MERCER WAY MERCER ISLAND, WA 98040	
SHEET	OF
2	5
PROJECT NUMBER	
19205	

**PERMIT NO: 2109-050-SUB1**



DATE	JULY 2020 (IST SUB)	DESIGNED	SHERI MURATA, P.E.
DATE	6/21/22	DRAWN	SAM D. SIMPSON-GORDON
NO.	1	APPROVED	SHERI MURATA, P.E.
NO.	2	APPROVED	ROBERT WEST, PLS
REVISIONS			PROJECT MANAGER
CITY COMMENTS			
CITY COMMENTS			



CIVIL ENGINEERING  
LANDSCAPE ARCHITECTURE  
PLANNING  
SURVEYING

**CORE** DESIGN

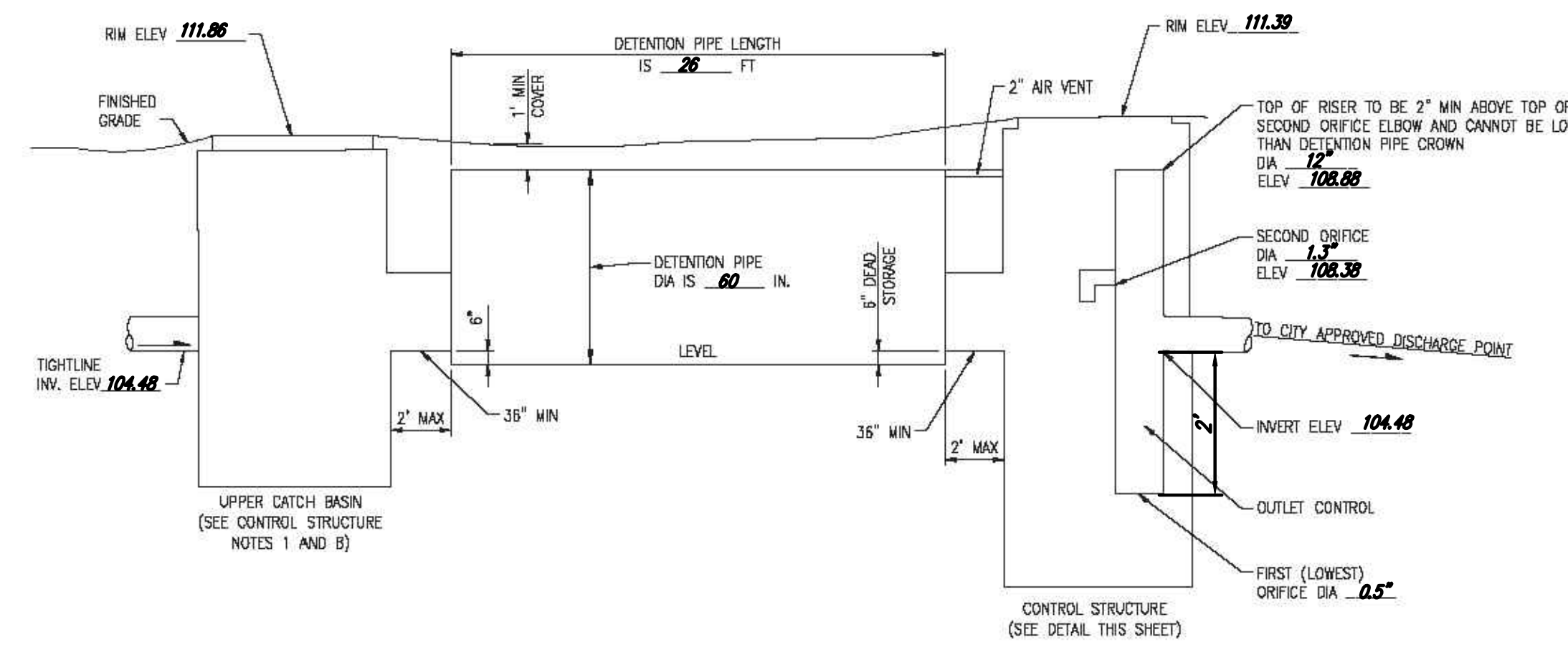
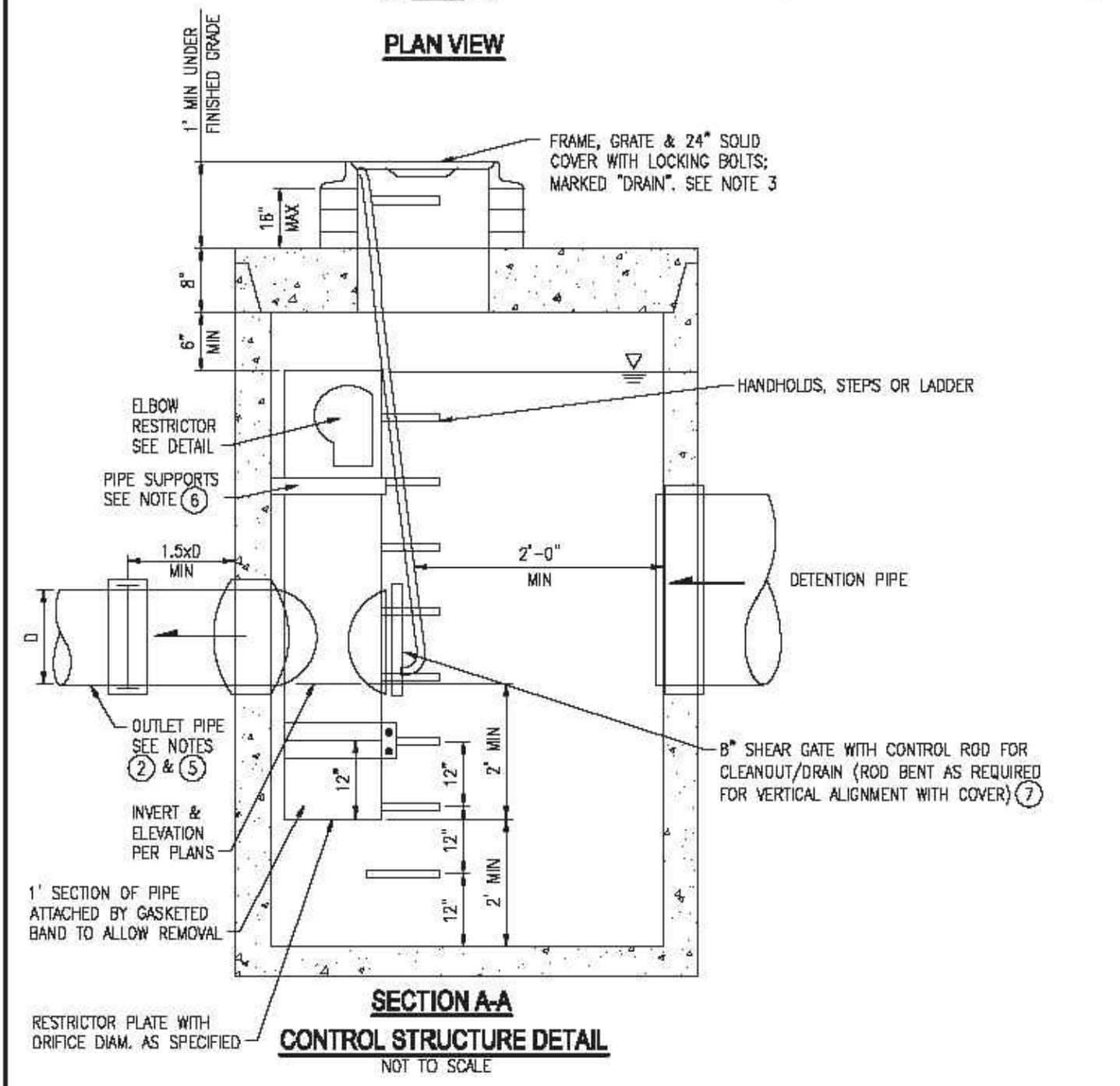
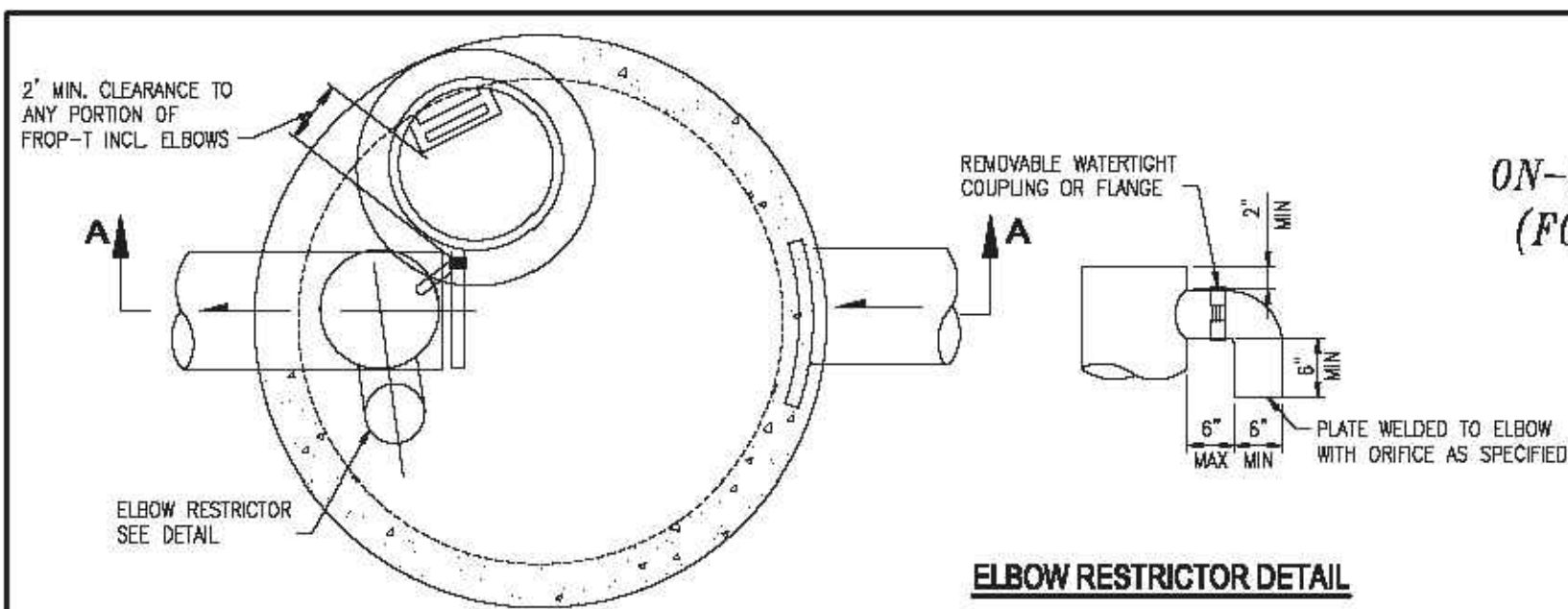
12100 NE 195th St, Suite 300 Bothell, Washington 98011 425.985.7877

**STORMWATER DETAILS**  
**CHESHIRE SHORT PLAT LOT 1**  
**DEREK CHESHIRE**  
7615 E MERCER WAY  
MERCER ISLAND, WA 98040

DATE	JULY 2020 (IST SUB)	DESIGNED	SHERI MURATA, P.E.
DATE	6/21/22	DRAWN	SAM D. SIMPSON-GORDON
NO.	1	APPROVED	SHERI MURATA, P.E.
NO.	2	APPROVED	ROBERT WEST, PLS
REVISIONS			PROJECT MANAGER
CITY COMMENTS			
CITY COMMENTS			

**ATTACHMENT 1**  
**CITY OF MERCER ISLAND**  
**ON-SITE DETENTION SYSTEM WORKSHEET**  
**(FOR NEW PLUS REPLACED IMPERVIOUS**  
**AREA OF 9,500 SF OR LESS)**

OWNER: DEREK CHESHIRE ADDRESS: 7615 E MERCER WAY PREPARED BY: SHERI MURATA, P.E.  
 MERCER ISLAND, WA 98040  
 PERMIT #: \_\_\_\_\_ PHONE: 425-885-7877  
 DATE: 6/31/22  
 NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 3,159 DETENTION PIPE DIA (INCH): 60" DETENTION PIPE LENGTH (FT): 26 ORIFICE #1 DIA 0.5" INCH, ELEV 102.48  
 SOIL TYPE: C PIPE MATERIAL: CMP ORIFICE #2 DIA 1.3" INCH, ELEV 108.39



- CONTROL STRUCTURE NOTES:**
- USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
  - OUTLET PIPE: MIN. 6 INCH.
  - METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
  - FRAME AND LADDER OR STEPS OFFSET SO:
    - CLEANOUT GATE IS VISIBLE FROM TOP;
    - CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
    - FRAME IS CLEAR OF CURB.
  - IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D., LESS 1/4 IN.
  - PROVIDE AT LEAST ONE 3 X 6.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
  - THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION Z532A; OR CAST IRON IN ACCORDANCE WITH ASTM A 4B, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION). IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
  - THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

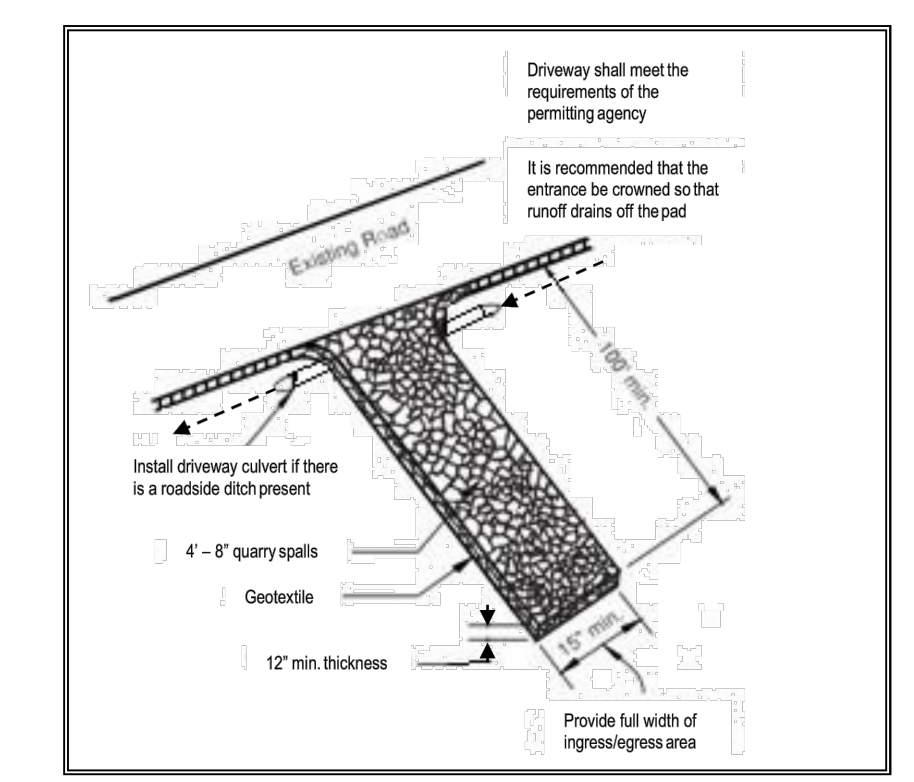
- ON-SITE DETENTION SYSTEM NOTES:**
- CALL DEVELOPMENT SERVICES (206-275-7805) 24 HOURS IN ADVANCE FOR A DETENTION SYSTEM INSPECTION BEFORE BACKFILLING AND FOR FINAL INSPECTIONS.
  - RESPONSIBILITY FOR OPERATION AND MAINTENANCE OF DRAINAGE SYSTEMS ON PRIVATE PROPERTY IS RESPONSIBILITY OF THE PROPERTY OWNER. MATERIAL ACCUMULATED IN THE STORAGE PIPE MUST BE REMOVED FROM CATCH BASINS TO ALLOW PROPER OPERATION. THE OUTLET CONTROL ORIFICE MUST BE KEPT OPEN AT ALL TIMES.
  - PIPE MATERIAL, JOINT, AND PROTECTIVE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 7.04 AND 9.05 OF THE WSDOT STANDARD SPECIFICATION FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST VERSION. SUCH MATERIALS INCLUDE THE FOLLOWING, LINED CORRUGATED POLYETHYLENE PIPE (LCOPE), ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE AND PIPE ARCH (MEETS AASHTO DESIGNATIONS M274 AND M36), CORRUGATED OR SPIRAL RIB ALUMINUM PIPE, OR REINFORCED CONCRETE PIPE. CORRUGATED STEEL PIPE IS NOT ALLOWED.
  - FOOTING DRAINS SHALL NOT BE CONNECTED TO THE DETENTION SYSTEM.

(SEE BMP 15.13 POST CONSTRUCTION SOIL QUALITY AND DEPTH IN THE 2014 DOE MANUAL FOR THE FULL DESIGN REQUIREMENT)

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

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

- A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
- MULCH PLANTING BEDS WITH 2 INCHES OF ORGANIC MATERIAL
- USE COMPOST AND OTHER MATERIALS THAT MEET THESE ORGANIC CONTENT REQUIREMENTS:
  - THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE COMPOST SPECIFICATION FOR BIORETENTION (BMP 17.30), WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1. THE CARBON TO NITROGEN RATIO MAY BE AS HIGH AS 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PLANTS NATIVE TO THE PUGET SOUND LOWLANDS REGION.
  - CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF COMPOSTED MATERIAL MEETING (A.) ABOVE, OR OTHER ORGANIC MATERIALS AMENDED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS, AND NOT EXCEEDING THE CONTAMINANT LIMITS IDENTIFIED IN TABLE 220-B, TESTING PARAMETERS, IN WAC 173-350-220.



**Approved as Equivalent**

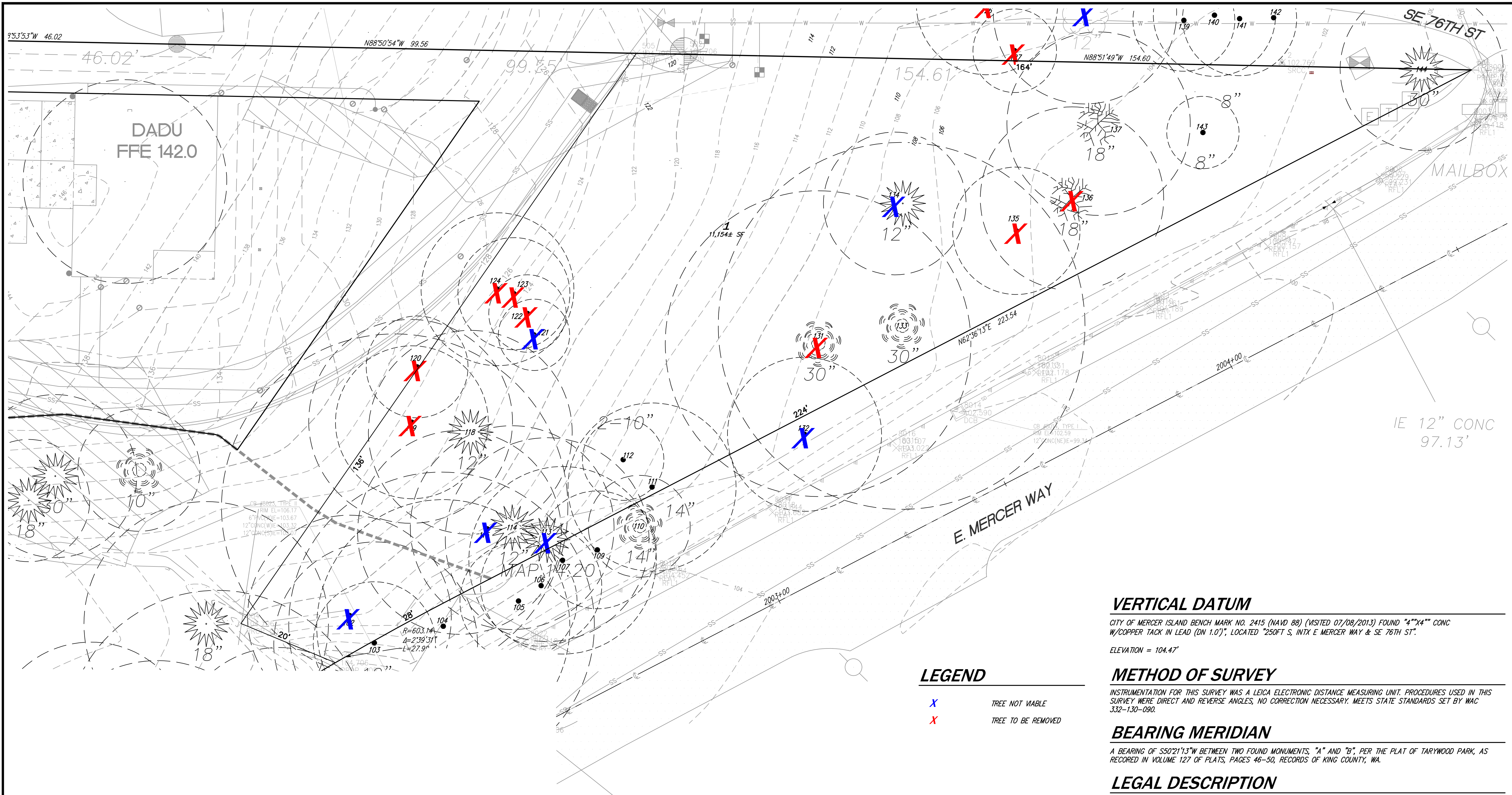
Ecology has approved products as able to meet the requirements of [BMP C105](#). The products did not pass through the Technology Assessment Protocol - Ecology (TAPE) process. Local jurisdictions may choose not to accept this product approved as equivalent, or may require additional testing prior to consideration for local use. The products are available for review on Ecology's website at <http://www.ecy.wa.gov/programs/wq/stormwater/newtech/equivalent.html>

**UNDERGROUND LOCATOR SERVICE**  
CALL BEFORE YOU DIG!  
811

**PERMIT NO: 2109-050-SUB1**

SHEET	OF
4	5
PROJECT NUMBER	19205

12/5/2022 9:38 AM J:\2019\19205\ENGINEERING\FINAL\SHEET\19205-C3.31.DWG



**LEGEND**

X TREE NOT VISIBLE  
 X TREE TO BE REMOVED

**VERTICAL DATUM**

CITY OF MERCER ISLAND BENCH MARK NO. 2415 (NAVD 88) (VISITED 07/08/2013) FOUND "4"x4" CONC W/COPPER TACK IN LEAD (DN 1.0)", LOCATED "250FT S, INTX E MERCER WAY & SE 76TH ST".  
 ELEVATION = 104.47'

**METHOD OF SURVEY**

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

**BEARING MERIDIAN**

A BEARING OF S50°21'13"W BETWEEN TWO FOUND MONUMENTS, "A" AND "B", PER THE PLAT OF TARYWOOD PARK, AS RECORDED IN VOLUME 127 OF PLATS, PAGES 46-50, RECORDS OF KING COUNTY, WA.

**LEGAL DESCRIPTION**

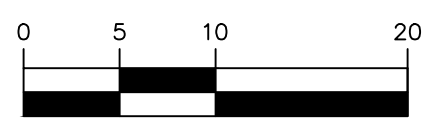
NORTH 148.375 FEET OF GOVERNMENT LOT 6; EXCEPT THE WEST 1000 FEET ALSO THE NORTH 148.37 FEET OF A PORTION OF GOVERNMENT LOT 5 LYING WESTERLY OF EAST MERCER WAY; ALL IN SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M. IN KING COUNTY, WASHINGTON.

**SURVEYOR'S NOTES**

1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN JULY OF 2013. 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. SUBJECT PROPERTY TAX PARCEL NO. 3024059036.
3. SUBJECT PROPERTY AREA PER THIS SURVEY IS 88,557 SQ.FT. +/-.
4. A TITLE REPORT WAS NOT FURNISHED AND THEREFORE, EASEMENTS IF ANY, ARE NOT SHOWN ON THIS MAP.
5. THE TOP/TOE OF SLOPE SHOWN ON THIS SURVEY IS THE FIELD CREWS INTERPRETATION OF THE TOP/TOE OF SLOPE. THIS DOES NOT REPRESENT THE LIMITS OF A "40%" SLOPE AREA.



SCALE: 1" = 10'



**UNDERGROUND LOCATOR SERVICE**  
 CALL BEFORE YOU DIG!  
 811

DATE	JULY 2020 (1ST SUB)
DESIGNED	SHERI MURATA, P.E.
DRAWN	SAM D. SIMPSON-GORDON
APPROVED	SHERI MURATA, P.E.
	ROBERT WEST, PLS
	PROJECT MANAGER
NO.	1
CITY COMMENTS	
NO.	2
CITY COMMENTS	
DATE	6/21/22
DATE	10/9/22

CIVIL ENGINEERING  
 LANDSCAPE ARCHITECTURE  
 PLANNING  
 SURVEYING

**CORE DESIGN**

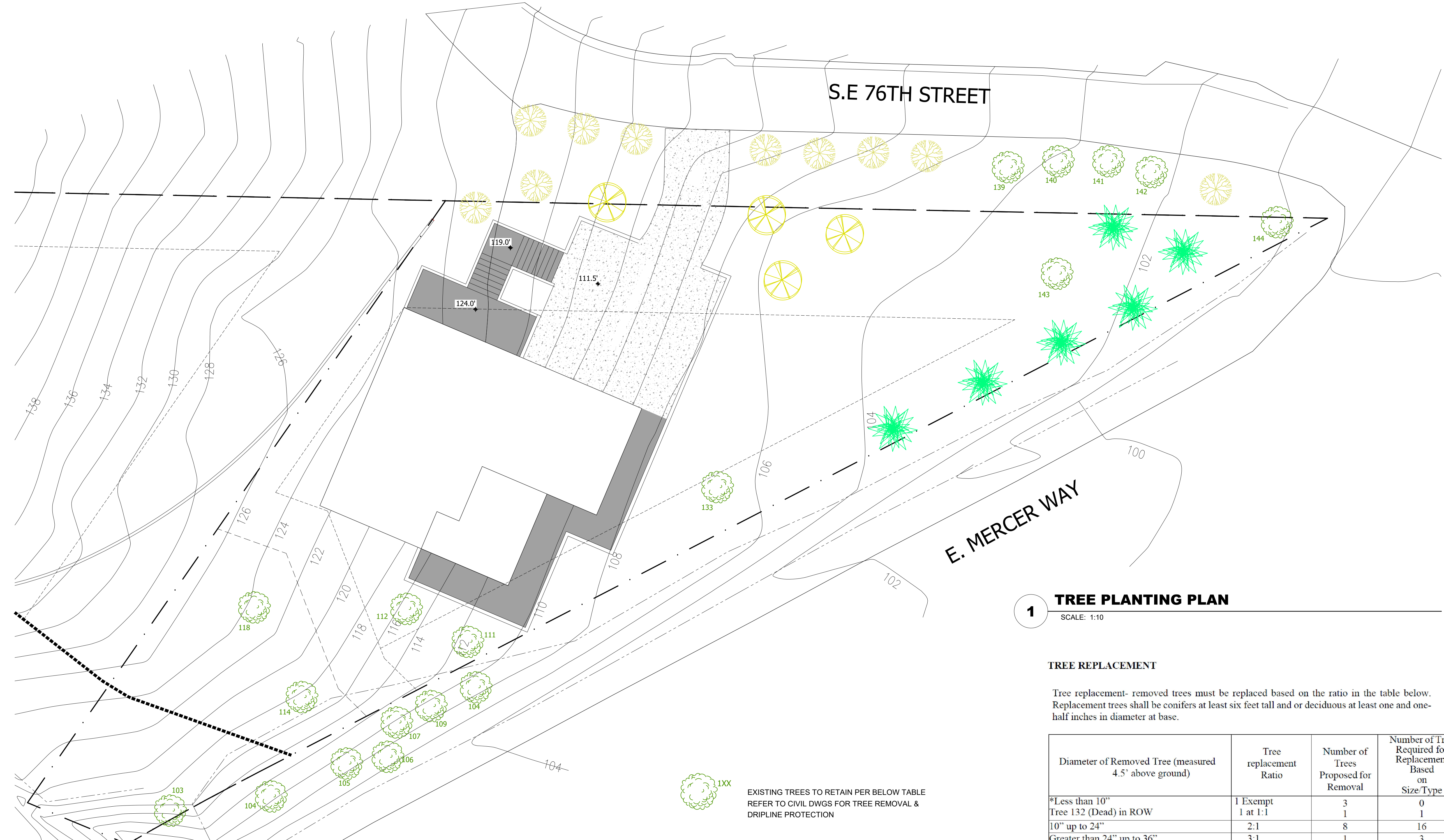
12100 NE 195th St, Suite 300 Bothell, Washington 98011 425.885.7877

**TREE PLAN**  
**CHESHIRE SHORT PLAT LOT 1**  
**DEREK CHESHIRE**  
 7615 E MERCER WAY  
 MERCER ISLAND, WA 98040

SHEET	OF
5	5
PROJECT NUMBER	19205

12/15/2022 9:39 AM C:\2019\19205\ENGINEERING\FINAL\SHEETS\19205\_C4-01.DWG





**1 TREE PLANTING PLAN**  
SCALE: 1:10

**TREE REPLACEMENT**

Tree replacement- removed trees must be replaced based on the ratio in the table below. Replacement trees shall be conifers at least six feet tall and or deciduous at least one and one-half inches in diameter at base.

Diameter of Removed Tree (measured 4.5' above ground)	Tree replacement Ratio	Number of Trees Proposed for Removal	Number of Tree Required for Replacement Based on Size/Type
*Less than 10"	1 Exempt	3	0
Tree 132 (Dead) in ROW	1 at 1:1	1	1
10" up to 24"	2:1	8	16
Greater than 24" up to 36"	3:1	1	3
Greater than 36" and any Exceptional Tree	6:1	0	0
<b>TOTAL TREE REPLACEMENTS</b>			<b>20</b>

\*PER ARBORIST REPORT DATED JULY 25TH 2019

**TREE REPLACEMENT SCHEDULE**

SYMBOL	NAME	SPACING	QUANTITY
	VINE MAPLE	10'	10
	ACER CIRCINATUM		
	MOUNTAIN HEMLOCK	10'	4
	TSUGA MERTENSIANA		
	PACIFIC DOGWOOD	10'	6
	CORNUS NUTTALLII		
<b>TOTAL</b>			<b>20</b>

REMOVE ALL INVASIVES FROM SITE. PLANTING SHOULD BE DONE OCTOBER 1 - APRIL 1. FALL PLANTINGS ARE PREFERRED. FOR 2 YEARS, MAY - SEPTEMBER MONITOR PLANTS/SOILS FOR MOISTURE WEEKLY. SUPPLEMENTAL WATER AS NEEDED. FOR 3 YEARS MONITOR AND WEED AS NEEDED TO CONTROL WEEDS (PROPER MULCHING SHOULD REDUCE THE NEED TO WEED)






**ATTACHMENT 2 - TREE SUMMARY, TPZ, CRZ**

ID	Common	Latin	DBH	Height	Spread	Condition	Action	TPZ - [ft]	CRZ - [ft]	Notes
102	Maple	Acer macrophyllum	9	37	0	Dead (0)	Not Viable	N/A	N/A	Dead and bark peeling.
103	Maple	Acer macrophyllum	12	68	17	Fair (70+)	Retain-Viable	12	6	
104	Maple	Acer macrophyllum	24.84	75	23	Good (80+)	Retain-Viable	24.84	12.42	
105	Maple	Acer macrophyllum	11.5	65	20	Fair (70+)	Retain-Viable	11.5	5.75	
106	Maple	Acer macrophyllum	11.9	50	28	Poor (50+)	Retain-Viable	11.9	5.95	Suppressed
107	Maple	Acer macrophyllum	18.4	68	40	Fair (70+)	Retain-Viable	18.4	9.2	
109	Maple	Acer macrophyllum	11.56	55	21	Fair (70+)	Retain-Viable	11.56	5.78	
110	Maple	Acer macrophyllum	13.93	50	28	Fair (70+)	Retain-Viable	13.93	6.965	
111	Cedar	Thuja plicata	16.5	50	26	Good (80+)	Retain-Viable	16.5	8.25	
112	Maple	Acer macrophyllum	8	50	12	Fair (70+)	Retain-Viable	8	4	
113	Maple	Acer macrophyllum	16	72	20	Very Poor (25+)	Not Viable	16	8	Mostly dead, not long-term viable
114	Maple	Acer macrophyllum	14.5	72	28	Poor (50+)	Retain-Viable	14.5	7.25	
115	Maple	Acer macrophyllum	15	50	20	Very Poor (25+)	Not Viable	15	7.5	Extensive root decay.
118	Cedar	Thuja plicata	6.2	29	18	Good (80+)	Retain-Viable	6.2	3.1	
119	Maple	Acer macrophyllum	15	68	18	Fair (70+)	Conflicts with plans	15	7.5	Poor taper/LCR.
120	Maple	Acer macrophyllum	10	48	18	Fair (70+)	Conflicts with plans	10	5	
121	Cedar	Thuja plicata	7	28	15	Poor (50+)	Not Viable	7	3.5	Previously uprooted
122	Cedar	Thuja plicata	7.6	30	15	Fair (70+)	Conflicts with plans	7.6	3.8	
123	Cedar	Thuja plicata	11	42	26	Good (80+)	Conflicts with plans	11	5.5	
124	Cedar	Thuja plicata	15	45	22	Fair (70+)	Conflicts with plans	15	7.5	
126	Maple	Acer macrophyllum	13.87	50	34	Good (80+)	Conflicts with plans	13.87	6.935	
127	W. Pine	Pinus monticola	8.2	48	18	Good (80+)	Conflicts with plans	8.2	4.1	
131	Redwood	Sequoia sempervirens	28	98	35	Excellent (90+)	Conflicts with plans	21	10.5	
132	Alder	Alnus rubra	12.1	50	0	Dead (0)	Not Viable	15.125	7.5625	
133	Cedar	Thuja plicata	36	90	24	Excellent (90+)	Retain-Viable	*36/18	18	*TPZ of 18" is viable. Cambistat 6-9 months before working near tree
134	Maple	Acer macrophyllum	13	40	29	Poor (50+)	Not Viable	13	6.5	Suppressed, bowed crown, not viable
135	Cherry	Prunus sp.	10	45	22	Fair/poor (50-70)	Conflicts with plans	12.5	6.25	AREA Required to laydown building material
136	Cedar	Thuja plicata	11.1	40	22	Good (80+)	Conflicts with plans	11.1	5.55	AREA Required to laydown building material
137	Fir	Pseudotsuga menziesii	22	98	30	Good (80+)	Conflicts with plans	22	11	AREA Required to laydown building material
138	Alder	Alnus rubra	16	50	26	Fair (70+)	Not Viable	20	10	Top 1/2 is dead.
139	Cedar	Thuja plicata	10	34	15	Good (80+)	Retain-Viable	10	5	
140	Cedar	Thuja plicata	12	45	25	Good (80+)	Retain-Viable	12	6	
141	Cedar	Thuja plicata	11.2	43	25	Good (80+)	Retain-Viable	11.2	5.6	
142	Maple	Acer macrophyllum	38	25	25	Very Poor (25+)	Retain-Viable	38	19	Tree has been topped @ 206'™. Monitor and mitigation prune as needed
143	Cedar	Thuja plicata	7.1	40	25	Good (80+)	Retain-Viable	7.1	3.55	
144	Maple	Acer macrophyllum	24	55	25	Fair (70+)	Retain-Viable	24	12	

### LOWER FLOOR DOOR SCHEDULE

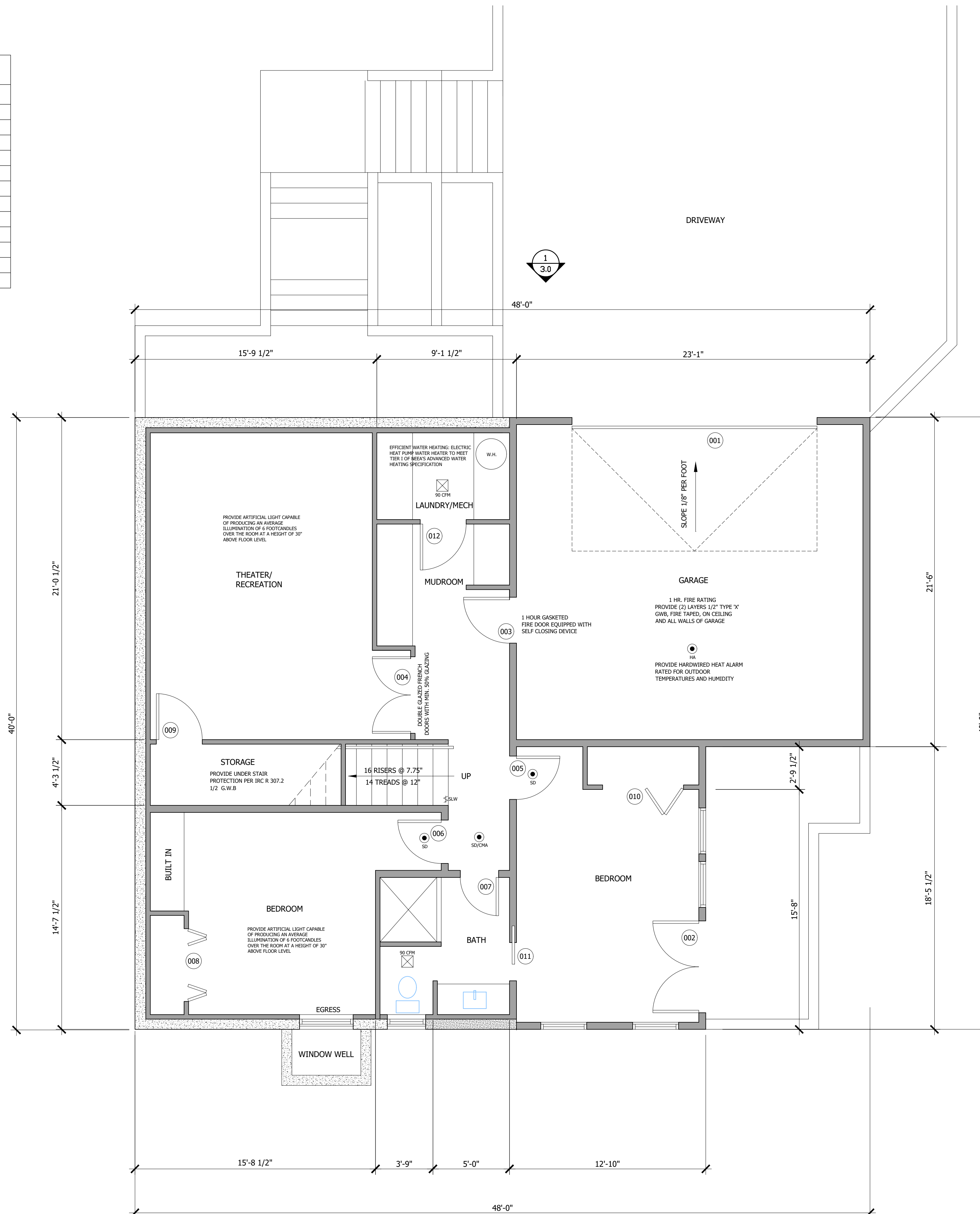
MARK	R.O. SIZE	TYPE	THICK	REMARKS
001	8'0 X 16'0	OVERHEAD GARAGE DOOR	1-3/4"	
002	6'0 X 7'0	EXTERIOR FRENCH DOORS	1-3/8"	GLAZED U VALUE = 0.28
003	3'0 X 7'0	SOLID CORE FLUSH	1-3/4"	1 HOUR FIRE RATED SELF CLOSING
004	(2) 2'6 X 7'0	GLAZED INTERIOR FRENCH DOOR	1-3/8"	MIN 50% GLAZING
005	2'10 X 7'0	SOLID CORE FLUSH	1-3/8"	
006	2'10 X 7'0	SOLID CORE FLUSH	1-3/8"	
007	2'6 X 7'0	SOLID CORE FLUSH	1-3/8"	
008	5'0 X 7'0	SOLID CORE BI-FOLD DOORS	1-3/8"	
009	3'0 X 7'0	SOLID CORE FLUSH	1-3/8"	
010	6'0 X 7'0	SOLID CORE BI-FOLD DOORS	1-3/8"	
011	2'6 X 7'0	SOLID CORE FLUSH	1-3/8"	
012	3'0 X 7'0	SOLID CORE FLUSH	1-3/8"	


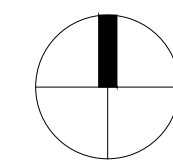
### PLAN KEY

-  HARDWIRED COMBINED SMOKE/CARBON MONOXIDE ALARM
-  HARDWIRED SMOKE DETECTOR
-  EXHAUST VENTILATION FAN
-  DOOR TAG
-  SLW STAIRWAY LIGHT SWITCH

### FIREBLOCKING & DRAFTSTOPPING

PROVIDE HORIZONTAL AND VERTICAL FIREBLOCKING AND DRAFTSTOPPING AS REQUIRED PER IRC R302.11 AND R302.12



**1 LOWER LEVEL PLAN**  
 SCALE: 1/4" = 1'  
  


**MAIN FLOOR DOOR SCHEDULE**

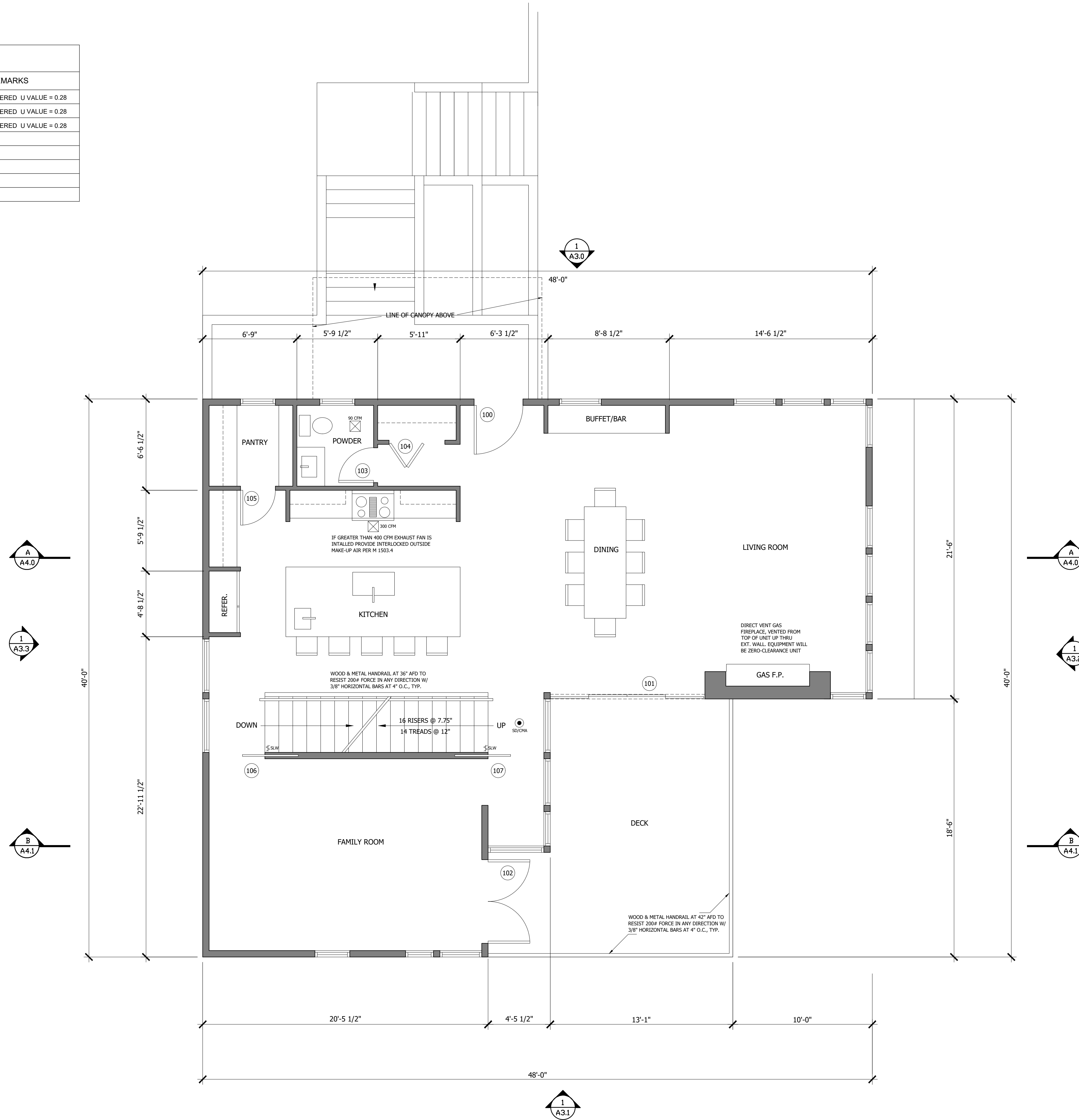
MARK	R.O. SIZE	TYPE	THICK	REMARKS
100	3'6" X 8'0"	EXTERIOR ENTRY DOOR	1-3/4"	GLAZED, TEMPERED U VALUE = 0.28
101	11'0" X 8'0"	EXTERIOR SLIDER	1-3/4"	GLAZED, TEMPERED U VALUE = 0.28
102	6'0" X 8'0"	EXTERIOR FRENCH DOORS	1-3/4"	GLAZED, TEMPERED U VALUE = 0.28
103	2'6" X 8'0"	SOLID CORE FLUSH	1-3/8"	
104	4'0" X 8'0"	SOLID CORE BI-FOLD DOOR	1-3/8"	
105	2'6" X 8'0"	SOLID CORE FLUSH	1-3/8"	
106	4'0" X 8'0"	POCKET DOOR	1-3/8"	
107	4'0" X 8'0"	POCKET DOOR	1-3/8"	

**PLAN KEY**

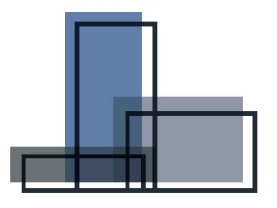
- HARDWIRED COMBINED SMOKE/CARBON MONOXIDE ALARM
- SMOKE DETECTOR
- EXHAUST VENTILATION FAN
- DOOR TAG
- SLW STAIRWAY LIGHT SWITCH

**FIREBLOCKING & DRAFTSTOPPING**

PROVIDE HORIZONTAL AND VERTICAL FIREBLOCKING AND DRAFTSTOPPING AS REQUIRED PER IRC R302.11 AND R302.12

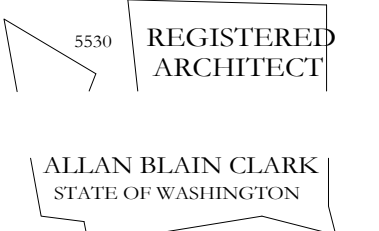


**1 MAIN FLOOR PLAN**  
 SCALE: 1/4" = 1'



**FORMWORKS**  
 DESIGN | BUILD

SEAL



CONSULTANT

PROJECT

**CHESHIRE**  
 92XX SE 76TH STREET  
 MERCER ISLAND, WA 98040

ISSUE INFORMATION

09.15.2022 PERMIT REVISIONS

SHEET TITLE

**MAIN FLOOR PLAN**






SHEET NUMBER

**A-2.1**

**SECOND FLOOR DOOR SCHEDULE**

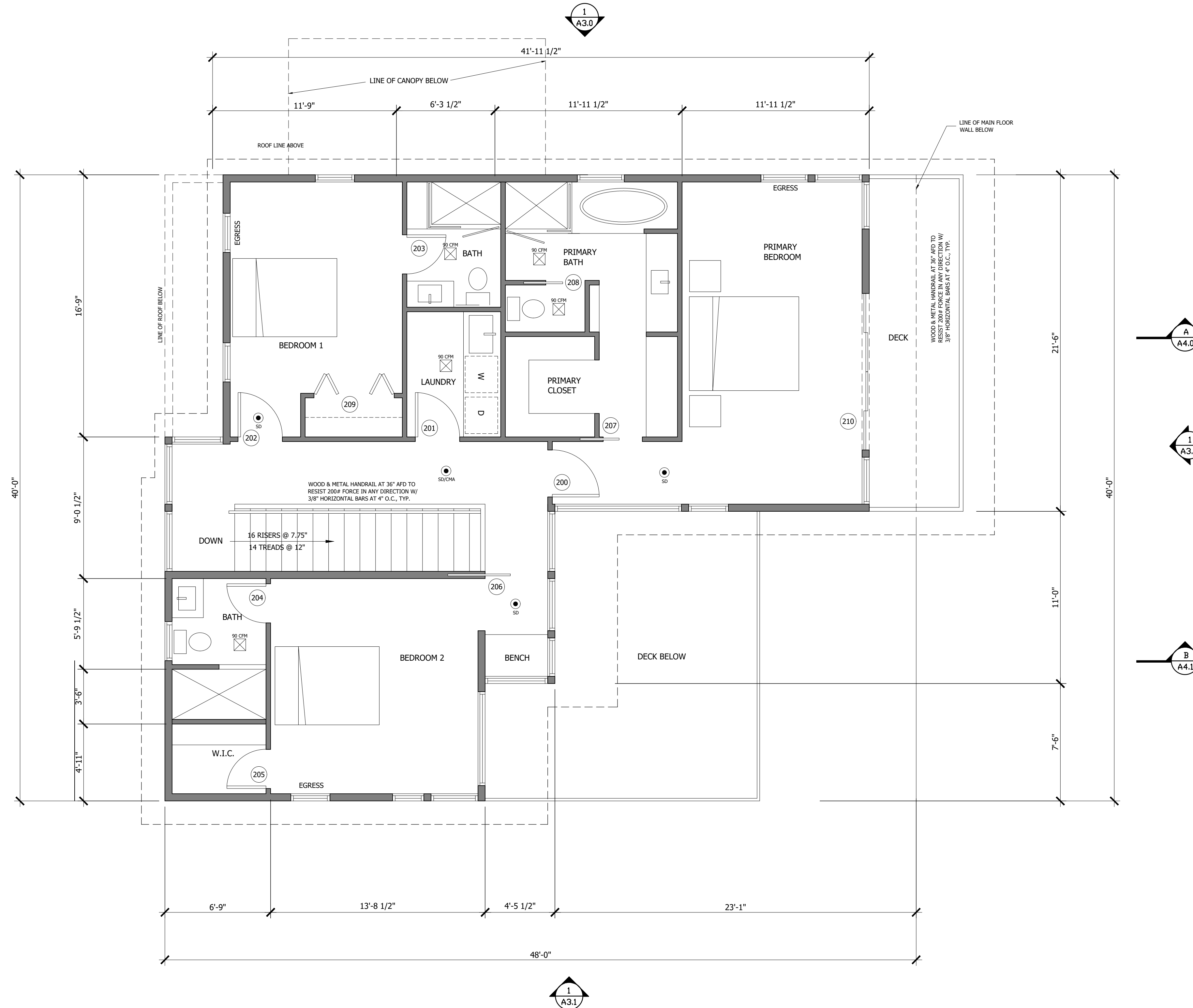
MARK	R.O. SIZE	TYPE	THICK	REMARKS
200	3'0 X 7'0	SOLID CORE FLUSH	1-3/8"	
201	2'10 X 7'0	SOLID CORE FLUSH	1-3/8"	
202	2'10 X 7'0	SOLID CORE FLUSH	1-3/4"	
203	2'6 X 7'0	SOLID CORE FLUSH	1-3/8"	
204	2'6 X 7'0	SOLID CORE FLUSH	1-3/8"	
205	2'6 X 7'0	SOLID CORE FLUSH	1-3/8"	
206	4'0 X 7'0	POCKET DOOR	1-3/8"	
207	3'0 X 7'0	POCKET DOOR	1-3/8"	
208	2'6 X 7'0	POCKET DOOR	1-3/8"	
209	5'0 X 7'0	SOLID CORE BI-FOLD CLOSET	1-3/8"	
210	10'0 X 8'0	EXTERIOR SLIDER		GLAZED, TEMPERED U VALUE =0.28

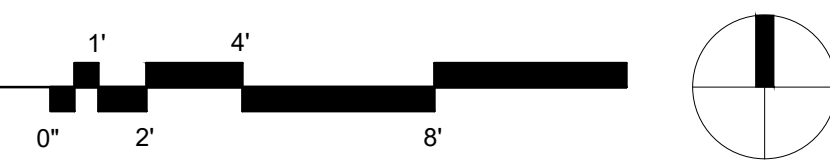
**PLAN KEY**

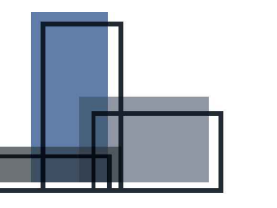
-  HARDWIRED COMBINED SMOKE/CARBON MONOXIDE ALARM
-  HARDWIRED SMOKE DETECTOR
-  EXHAUST VENTILATION FAN
-  DOOR TAG
-  STAIRWAY LIGHT SWITCH

**FIREBLOCKING & DRAFTSTOPPING**

PROVIDE HORIZONTAL AND VERTICAL FIREBLOCKING AND DRAFTSTOPPING AS REQUIRED PER IRC R302.11 AND R302.12



**2 UPPER LEVEL PLAN**  
 SCALE: 1/4" = 1'  




**FORMWORKS**  
 DESIGN | BUILD

SEAL  
 5530 REGISTERED ARCHITECT  
 ALLAN BLAIN CLARK  
 STATE OF WASHINGTON

CONSULTANT

PROJECT

**CHESHIRE**  
 92XX SE 76TH STREET  
 MERCER ISLAND, WA 98040

ISSUE INFORMATION

09.15.2022 PERMIT REVISIONS

SHEET TITLE

**SECOND FLOOR PLAN**

SHEET NUMBER

**A-2.2**



WINDOW SCHEDULE					
MARK	R.O. SIZE	TYPE	QTY	U VALUE	REMARKS
A	30 X 90	CASEMENT/FIXED	10	0.28	TEMPERED LOWER LITE
B	26 X 90	CASEMENT/FIXED	2	0.28	TEMPERED LOWER LITE
C	30 X 56	CASEMENT	1	0.28	
D	26 X 56	CASEMENT	3	0.28	
E	20 X 90	FIXED	1	0.28	TEMPERED
F	36 X 90	FIXED	1	0.28	TEMPERED
G	26 X 90	FIXED	1	0.28	TEMPERED
H	34 X 90	FIXED	1	0.28	TEMPERED
I	3'10" X 90"	FIXED	1	0.28	TEMPERED
J	30 X 50	CASEMENT	3	0.28	
K	26 X 50	CASEMENT	3	0.28	
L	20 X 50	FIXED	1	0.28	
M	26 X 40	CASEMENT	3	0.28	
N	30 X 66	FIXED	1	0.28	
O	36 X 76	FIXED	3	0.28	
P	110 X 10	FIXED	1	0.28	
Q	30 X 76	CASEMENT	2	0.28	
R	26 X 76	FIXED	1	0.28	TEMPERED
S	34 X 76	FIXED/AWNING	1	0.28	TEMPERED AWNING
T	3'10" X 76"	FIXED/AWNING	1	0.28	TEMPERED AWNING
U	30 X 46	CASEMENT	2	0.28	
V	30 X 40	CASEMENT	2	0.28	
W	36 X 40	CASEMENT	1	0.28	



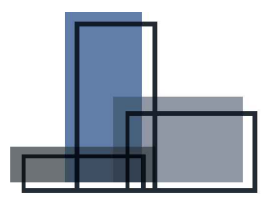
**1 NORTH ELEVATION**  
SCALE: 1/4" = 1'

**WINDOW SCHEDULE**

MARK	R.O. SIZE	TYPE	QTY	U VALUE	REMARKS
A	30 X 90	CASEMENT/FIXED	10	0.28	TEMPERED LOWER LITE
B	26 X 90	CASEMENT/FIXED	2	0.28	TEMPERED LOWER LITE
C	30 X 56	CASEMENT	1	0.28	
D	26 X 56	CASEMENT	3	0.28	
E	20 X 90	FIXED	1	0.28	TEMPERED
F	36 X 90	FIXED	1	0.28	TEMPERED
G	26 X 90	FIXED	1	0.28	TEMPERED
H	34 X 90	FIXED	1	0.28	TEMPERED
I	3'10 X 90	FIXED	1	0.28	TEMPERED
J	30 X 50	CASEMENT	3	0.28	
K	26 X 50	CASEMENT	3	0.28	
L	20 X 50	FIXED	1	0.28	
M	26 X 40	CASEMENT	3	0.28	
N	30 X 66	FIXED	1	0.28	
O	36 X 76	FIXED	3	0.28	
P	110 X 0	FIXED	1	0.28	
Q	30 X 76	CASEMENT	2	0.28	
R	26 X 76	FIXED	1	0.28	TEMPERED
S	34 X 76	FIXED/AWNING	1	0.28	TEMPERED AWNING
T	3'10 X 76	FIXED/AWNING	1	0.28	TEMPERED AWNING
U	30 X 46	CASEMENT	2	0.28	
V	30 X 40	CASEMENT	2	0.28	
W	36 X 40	CASEMENT	1	0.28	

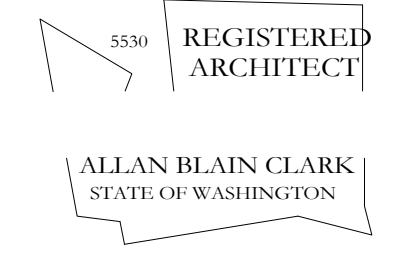


**1 SOUTH ELEVATION**  
SCALE: 1/4" = 1'



**FORMWORKS**  
DESIGN | BUILD

SEAL



CONSULTANT

PROJECT

**CHESHIRE**  
9271 SE 76TH STREET  
MERCER ISLAND, WA 98040

ISSUE INFORMATION

09.15.2022 PERMIT REVISIONS

SHEET TITLE

**SOUTH ELEVATION**

SHEET NUMBER

**A-3.1**

### WINDOW SCHEDULE

MARK	R.O. SIZE	TYPE	QTY	U VALUE	REMARKS
A	30 X 90	CASEMENT/FIXED	10	0.28	TEMPERED LOWER LITE
B	26 X 90	CASEMENT/FIXED	2	0.28	TEMPERED LOWER LITE
C	30 X 56	CASEMENT	1	0.28	
D	26 X 56	CASEMENT	3	0.28	
E	20 X 90	FIXED	1	0.28	TEMPERED
F	36 X 90	FIXED	1	0.28	TEMPERED
G	26 X 90	FIXED	1	0.28	TEMPERED
H	34 X 90	FIXED	1	0.28	TEMPERED
I	3'10 X 90	FIXED	1	0.28	TEMPERED
J	30 X 50	CASEMENT	3	0.28	
K	26 X 50	CASEMENT	3	0.28	
L	20 X 50	FIXED	1	0.28	
M	26 X 40	CASEMENT	3	0.28	
N	30 X 66	FIXED	1	0.28	
O	36 X 76	FIXED	3	0.28	
P	110 X 0	FIXED	1	0.28	
Q	30 X 76	CASEMENT	2	0.28	
R	26 X 76	FIXED	1	0.28	TEMPERED
S	34 X 76	FIXED/AWNING	1	0.28	TEMPERED AWNING
T	3'10 X 76	FIXED/AWNING	1	0.28	TEMPERED AWNING
U	30 X 46	CASEMENT	2	0.28	
V	30 X 40	CASEMENT	2	0.28	
W	36 X 40	CASEMENT	1	0.28	

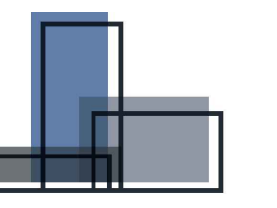
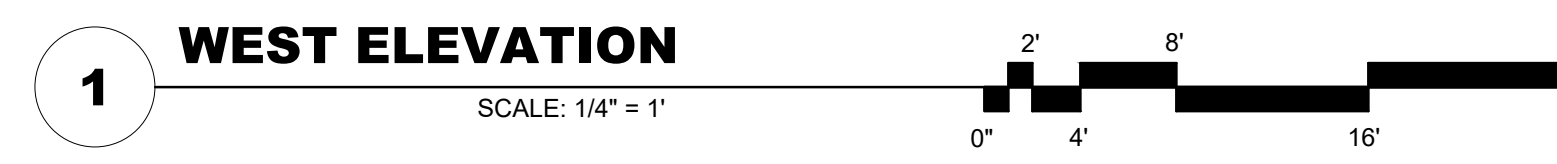
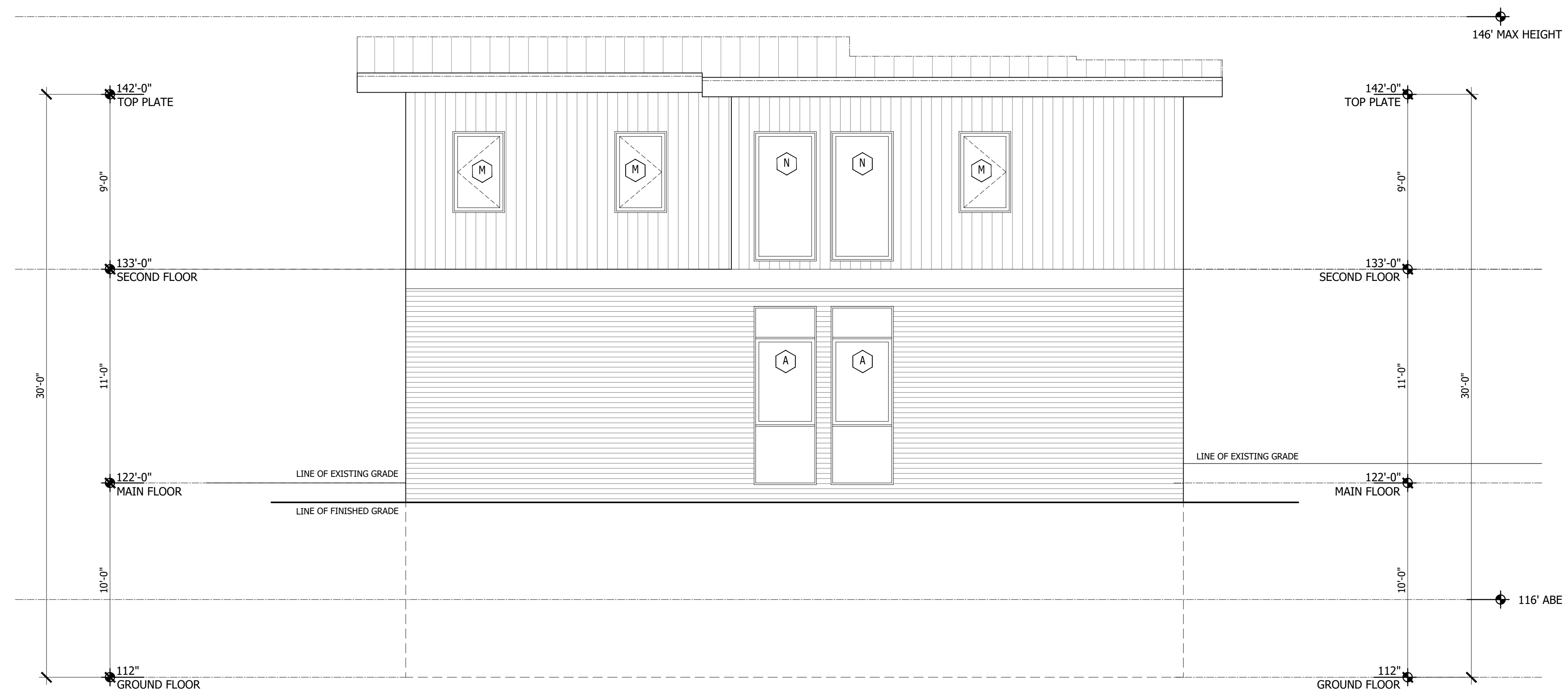


**1 EAST ELEVATION**  
SCALE: 1/4" = 1'



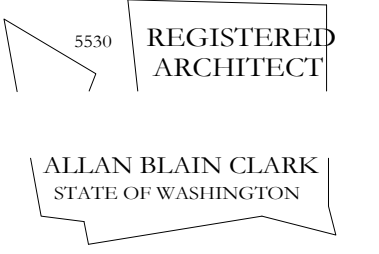
### WINDOW SCHEDULE

MARK	R.O. SIZE	TYPE	QTY	U VALUE	REMARKS
A	30 X 90	CASEMENT/FIXED	10	0.28	TEMPERED LOWER LITE
B	26 X 90	CASEMENT/FIXED	2	0.28	TEMPERED LOWER LITE
C	30 X 56	CASEMENT	1	0.28	
D	26 X 56	CASEMENT	3	0.28	
E	20 X 90	FIXED	1	0.28	TEMPERED
F	36 X 90	FIXED	1	0.28	TEMPERED
G	26 X 90	FIXED	1	0.28	TEMPERED
H	34 X 90	FIXED	1	0.28	TEMPERED
I	3'10 X 90	FIXED	1	0.28	TEMPERED
J	30 X 50	CASEMENT	3	0.28	
K	26 X 50	CASEMENT	3	0.28	
L	20 X 50	FIXED	1	0.28	
M	26 X 40	CASEMENT	3	0.28	
N	30 X 66	FIXED	1	0.28	
O	36 X 76	FIXED	3	0.28	
P	110 X 0	FIXED	1	0.28	
Q	30 X 76	CASEMENT	2	0.28	
R	26 X 76	FIXED	1	0.28	TEMPERED
S	34 X 76	FIXED/AWNING	1	0.28	TEMPERED AWNING
T	3'10 X 76	FIXED/AWNING	1	0.28	TEMPERED AWNING
U	30 X 46	CASEMENT	2	0.28	
V	30 X 40	CASEMENT	2	0.28	
W	36 X 40	CASEMENT	1	0.28	



**FORMWORKS**  
 DESIGN | BUILD

SEAL



CONSULTANT

PROJECT

**CHESHIRE**  
 9271 SE 76TH STREET  
 MERCER ISLAND, WA 98040

ISSUE INFORMATION

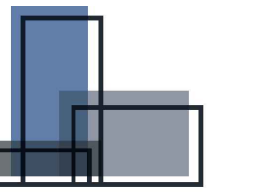
09.15.2022 PERMIT REVISIONS

SHEET TITLE

**WEST ELEVATION**

SHEET NUMBER

**A-3.3**



SEAL



ALLAN BLAIN CLARK  
STATE OF WASHINGTON

CONSULTANT

PROJECT

**CHESHIRE**  
9271 SE 76TH STREET  
MERCER ISLAND, WA 98040

ISSUE INFORMATION

09.15.2022 PERMIT REVISIONS

SHEET TITLE

**SECTION A-A**

SHEET NUMBER

**A-4.0**

**F1** TYPICAL SLAB ON GRADE FLOOR  
FINISH FLOOR PER PLANS  
UNDERLAYMENT  
CONCRETE SLAB PER STRUCTURAL  
R-10 RIGID INSULATION ENTIRE SLAB  
6 MIL. VAPOR BARRIER  
6" FREE DRAINING MATERIAL

**F2** FLOOR OVER UNHEATED GARAGE  
FINISH FLOOR PER PLANS  
UNDERLAYMENT  
3/4" PLYWOOD SUBFLOOR.  
R-38 BATT INSULATION  
FLOOR JOISTS PER STRUCTURAL  
2 LAYERS 1/2" TYPE "X" G.W.B.

**F3** FLOOR OVER HEATED SPACE  
FINISH FLOOR PER PLANS  
UNDERLAYMENT  
3/4" PLYWOOD SUBFLOOR.  
FLOOR JOISTS PER STRUCTURAL  
5/8" G.W.B.

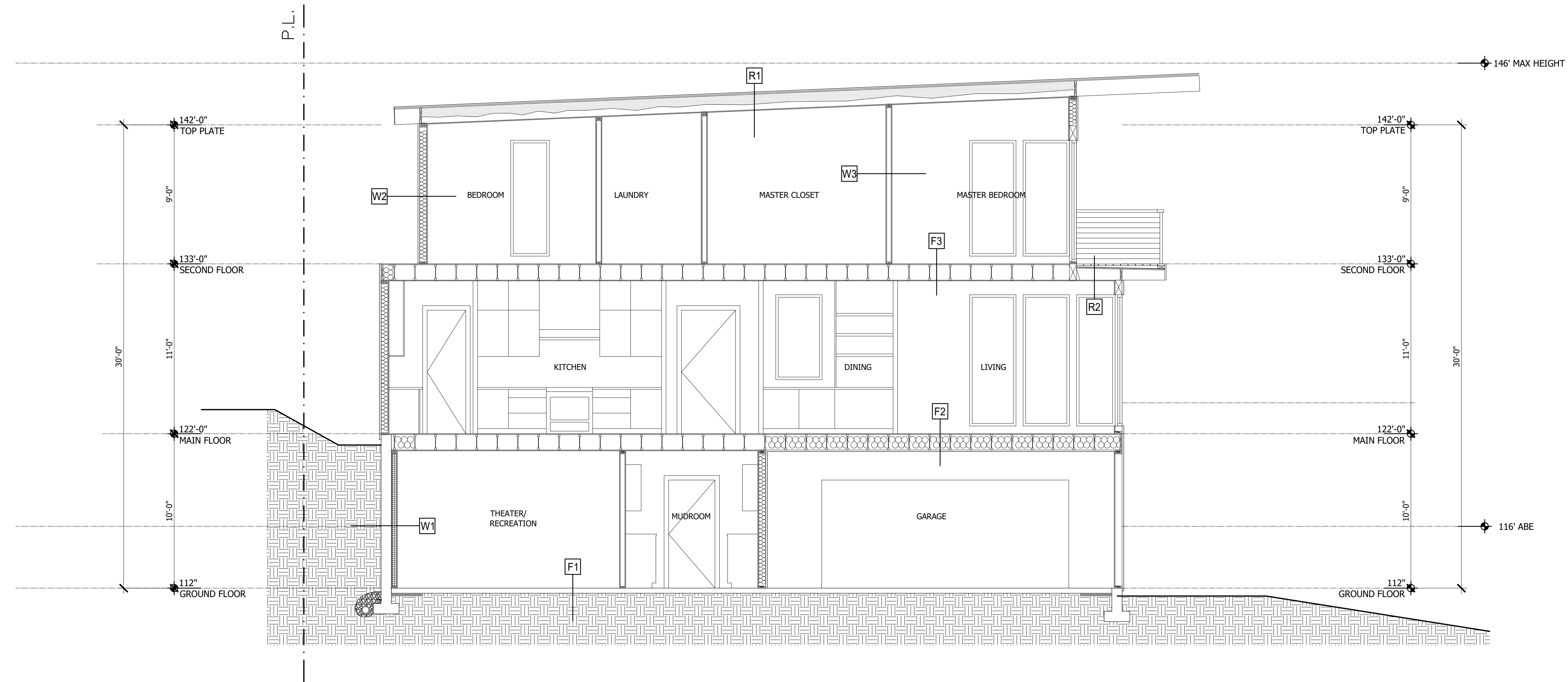
**W1** BELOW GRADE WALL  
DRAINAGE MAT  
SPRAY ON WATERPROOFING  
CONCRETE WALL PER STRUCTURAL  
2 X 4 STUDS @ 16" O.C. SET OFF FROM CONCRETE  
R-21 BATT INSULATION G.W.B.  
5/8" G.W.B.

**W2** TYPICAL EXTERIOR WALL  
WALL FINISH PER ELEVATIONS  
2 LAYERS 60 MIN. BUILDING PAPER  
PLYWOOD SHEATHING PER STRUCTURAL  
2 X 6 STUDS @ 16" O.C.  
R-21 KRAFT FACED BATT INSULATION  
5/8" G.W.B.

**W3** TYPICAL INTERIOR WALL  
5/8" G.W.B.  
2 X 4 STUDS @ 16" O.C.  
5/8" G.W.B.

**R1** TYPICAL SLOPED ROOF  
STANDING SEAM METAL ROOFING  
30# BUILDING FELT  
SHEATHING PER STRUCTURAL  
ROOF JOISTS PER STRUCTURAL  
R-14 CLOSED CELL SPRAY FOAM INSULATION AND  
R-25 BATT INSULATION (MIN R-49 COMBINED)  
5/8" G.W.B.

**R2** FLAT ROOF DECK OVER HEATED SPACE  
FINISH DECKING PER PLANS  
TAPERED 2X SLEEPERS  
MEMBRANE ROOFING  
SHEATHING PER STRUCTURAL  
R-14 CLOSED CELL SPRAY FOAM INSULATION AND  
R-25 BATT INSULATION (MIN R-49 COMBINED)  
5/8" G.W.B.



**A SECTION A-A**  
SCALE: 1/4" = 1'  
0' 2' 4' 8'



## ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
APPROX	APPROXIMATE
APB	ANTHONY POWER BEAM
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
@	AT
BLDG	BUILDING
BUC	BUILT UP COLUMN
CANT	CANTILEVER
CLR	CLEAR, CLEARANCE
CMU	CONCRETE MASONRY UNIT
CNCR	CONCRETE
COL	COLUMN
CL	CENTER LINE
CJ	CONSTRUCTION JOINT
db	NOMINAL DIAMETER OF BAR
dbl	DOUBLED
DBA	DEFORMED BAR ANCHOR
DIA, Ø	DIAMETER
DIM	DIMENSION
DL	DEAD LOAD
EF	EACH FACE
ENGR	ENGINEER
EW	EACH WAY
EXP AB	EXPANSION ANCHOR BOLT
FB	FLITCH BEAM
FDN	FOUNDATION
FF	FINISHED FLOOR
FL	FLOOR
FLN	FLANGE
FT	FOOT OR FEET
GALV	GALVANIZED (HOP DIP)
HORIZ	HORIZONTAL
HT	HEIGHT
IBC	INTERNATIONAL BUILDING CODE
INSUL	INSULATION
JT	JOINT
KIP(S)	THOUSAND POUNDS
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
L	ANGLE OR L-SHAPE
LWR	LOWER
LB(S)	POUNDS(S), FORCE
LD	DEVELOPMENT LENGTH
LG	LONG
LL	LIVE LOAD
LONG	LONGITUDINAL
MATL	MATERIAL
MAX	MAXIMUM
MISC	MISCELLANEOUS
NTS	NOT TO SCALE
O TO O	OUT TO OUT
OC	ON CENTER
OD	OUTSIDE DIAMETER
PLF	POUNDS FORCE PER LINEAR FOOT
PROJ	PROJECTION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
STD	STANDARD
SW	Shear Wall
TJ	TOP OF CONCRETE
TOP	TOP OF
Typ	TYPICAL
T&B	TOP AND BOTTOM
UNO	UNLESS NOTED OTHERWISE
UWA	UNDER WALL ABOVE
W/	WITH

## DESIGN CRITERIA

DESIGN CODE	2018 INTERNATIONAL BUILDING CODE
BUILDING RISK CATEGORY	CATEGORY II
DEAD LOAD	
FLOOR	30 PSF
ROOF	15 PSF
LIVE LOAD	
RESIDENTIAL	40 PSF
ROOF LIVE LOAD	
ROOF	20 PSF
ROOF SNOW LOAD DATA	
FLAT-ROOF SNOW LOAD, Pf	25 PSF
RAIN ON SNOW SURCHARGE	5 PSF
SNOW LOAD EXPOSURE FACTOR, Ce	B
SNOW LOAD IMPORTANCE FACTOR, Is	1.0
THERMAL FACTOR, Ct	1.0
SNOW DRIFTS	NO
WIND DESIGN DATA	
DESIGN WIND SPEED, Vdes (3-sec gust)	110 MPH
WIND EXPOSURE CATEGORY	C
WIND IMPORTANCE FACTOR, Iw	1.0
TOPOGRAPHIC FACTOR, Kzt	B
INTERNAL PRESSURE COEF (GCP)	0.18/-0.18
MWFRS	SIMPLIFIED METHOD - CH 26
WIND BASE SHEAR	TRANSVERSE: 11.5 KIPS LONGITUDINAL: 9.7 KIPS
EARTHQUAKE DESIGN DATA	
SEISMIC DESIGN CATEGORY	D
SITE CLASS	E
MAPPED SPECTRAL RESPONSE ACCELERATION	Ss=1.709 S1=1.094
DESIGN SPECTRAL RESPONSE ACCELERATION	Sds=1.139 Sd1=0.729
RESPONSE MODIFICATION FACTOR, R	6.5
OVERSTRENGTH FACTOR, OMEGA	3.0
REDUNDANCY FACTOR, RHO	1.0
SEISMIC RESPONSE COEFFICIENT, Cs	0.1
SEISMIC BASE SHEAR	17.1 KIPS
GEOTECHNICAL INFORMATION	
ALLOWABLE BEARING PRESSURE	2000 PSF
ALLOWABLE PASSIVE PRESSURE	300 PCF
ALLOWABLE COEFFICIENT OF SLIDING (FRICTION)	0.35
ACTIVE PRESSURE (EQUIV FLUID PRESSURE)	
- RESTRAINED WALLS	140 PCF + 100 PSF
- UNRESTRAINED WALLS	40 PCF
SEISMIC LOAD ON BELOW GRADE WALLS (UNIFORM PRESSURE EQUIV)	8H

## GENERAL NOTES - STRUCTURAL DESIGN

- PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR AND FABRICATOR SHALL VERIFY ALL QUANTITIES, DIMENSIONS AND CONDITIONS AND NOTIFY ARCHITECT / ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS FOR DIMENSIONS.
- VERIFY REQUIREMENTS OF OTHER TRADES, (CIVIL, MECHANICAL, ELECTRICAL, ETC.), PRIOR TO PROCEEDING WITH FABRICATION OR INSTALLATION OF MATERIALS.
- THE CONTRACT STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE, AND EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR AND THEIR SUB-CONTRACTORS SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCES AND SAFETY MEASURES INCLUDING, BUT NOT LIMITED TO, ADHERENCES TO ALL OSHA GUIDELINES. THE ENGINEER SHALL NOT HAVE CONTROL OF, AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR ANY OTHER PERSON PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THESE PERSONS TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. ANY PROPOSED APPLICATIONS OF CONSTRUCTION LOADS OR OF ANY LOADS TO THE PARTIALLY COMPLETED STRUCTURE WHICH EXCEED THE DESIGN LOADS WILL REQUIRE REANALYSIS AND POSSIBLE REDESIGN.

## FOUNDATION

- FOUNDATION DESIGN IS BASED UPON RECOMMENDATIONS AND ASSUMPTIONS FROM IBC CHAPTER 18. STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR SUBSURFACE CONDITIONS ENCOUNTERED IN THE FIELD THAT ARE DIFFERENT FROM THOSE ASSUMED FOR DESIGN.
- ALL SUBGRADE UNDERCUT AND SOIL PREPARATION SHALL BE IN CONFORMANCE WITH IBC CHAPTER 18 RECOMMENDATIONS.
- EXCAVATIONS SHALL BE KEPT FREE OF LOOSE MATERIAL AND STANDING WATER.
- ANY FILL PLACED IN BUILDINGS PAD AREAS SHOULD CONSIST OF SELECT FILL. SELECT FILL SHOULD BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8" IN COMPACTED TO DENSITIES OF 95 PERCENT OF STANDARD PROCTOR (ASTM D-698) AND AT A MOISTURE CONTENT BETWEEN OPTIMUM AND 4 PERCENT ABOVE OPTIMUM MOISTURE CONTENT. THE SUBGRADE TO RECEIVE SELECT FILL SHOULD BE SCARIFIED TO A DEPTH OF 6 INCHES AND COMPACTED TO AT LEAST 95 PERCENT OF STANDARD PROCTOR AND AT MOISTURE CONTENT BETWEEN OPTIMUM AND 4 PERCENT ABOVE OPTIMUM.
- ALL EXTERIOR FOOTINGS SHALL BEAR AT OR BELOW FROST DEPTH OF 12 INCHES. ALL INTERIOR FOOTINGS SHALL BEAR A MINIMUM OF 12 INCHES BELOW TOP OF GRADE OR TOP OF SLAB.

## REINFORCED CONCRETE

- SUBMITTALS:**  
PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL SUBMIT THE FOLLOWING FOR THE OWNER'S APPROVAL:  
A. SUBMIT A MIX DESIGN FOR EACH CLASS OF CONCRETE REQUIRED FOR THE PROJECT. CONCRETE PROPORTIONS SHALL BE ESTABLISHED ON THE BASIS OF PREVIOUS FIELD EXPERIENCE OR TRIAL MIXTURES.  
B. SUBMIT SHOP DRAWINGS FOR ALL REINFORCING. INDICATE STRENGTH, SIZE, AND DETAILS OF ALL BAR REINFORCING.  
C. SUBMIT PRODUCT LITERATURE FOR ADMISTUES AND CURING COMPOUNDS PROPOSED FOR USE.  
D. SUBMIT REPORTS OF ALL REQUIRED TESTING AND INSPECTIONS.  
E. SUBMIT CONCRETE POUR PLAN INDICATING CONTROL JOINT LOCATIONS AND DETAILS.

### CONCRETE CONSTRUCTION STANDARDS

- IBC CHAPTER 19: CONCRETE
- ACI 318 - LATEST EDITION
- ACI 117 - LATEST EDITION
- ACI 301 - LATEST EDITION

- MAINTAIN THE FOLLOWING MIX REQUIREMENTS UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER:

### STRUCTURAL CONCRETE

DESCRIPTION	F'c	MAX W/C RATIO	AIR CONTENT
FOOTINGS AND STEM WALLS	3,500	0.50	--
INTERIOR SLABS ON GRADE	3,500	0.50	--
EXTERIOR SLABS ON GRADE	4,500	0.45	5-7%
SITE RETAINING WALLS	5,000	0.45	5-7%

- CEMENT SHALL BE PORTLAND CEMENT PER ASTM C150, TYPE I/II.
- AGGREGATE SHALL BE PER ASTM C33. PROVIDE MAX AGGREGATE SIZE OF 1 INCH FOR ALL CLASSES UNLESS NOTED OTHERWISE.
- MAXIMUM ALLOWABLE FLY ASH CONTENT SHALL BE 20%. FLY ASH SHALL BE PER ASTM C618, TYPE C OR F.
- MAINTAIN SLUMP RANGE OF 5-7 WITHIN TOLERANCES PER ACI 301.
- ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE FOLLOWING CODES AND STANDARDS: IBC CHAPTER 19, ACI 318-14, ACI 301-05, ACI 117-10.
- REINFORCING STEEL SHALL BE ASTM A615, GRADE 60 UNO. LONGITUDINAL BARS IN SHEAR WALLS SHALL CONFORM TO ASTM A706, GRADE 60 OR SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:  
A. WELDING OF THE REINFORCING BARS IS NOT PERMITTED.  
B. SUBMIT MILL CERTIFICATES INDICATING PHYSICAL AND CHEMICAL PROPERTIES.  
C. ACTUAL YIELD STRENGTH, BASED ON MILL TESTS, DOES NOT EXCEED THE SPECIFIED YIELD STRENGTH BY MORE THAN 18000 PSI. (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3000 PSI).  
D. THE RATIO OF THE ACTUAL TENSILE STRENGTH TO THE ACTUAL YIELD STRENGTH IS NOT LESS THAN 1.25.

### REINFORCING PROTECTION FOR CAST-IN-PLACE CONCRETE AS PER ACI 318 UNLESS NOTED.

- CAST AGAINST AND PERMANENTLY EXPOSED 3" TO EARTH, ALL REINFORCING.
- FORMED SURFACES EXPOSED TO EARTH OR WEATHER.  
NO. 6 THRU NO. 18 BARS 2"  
NO. 5 BAR, W32 OR D31 WIRE AND SMALLER 1 1/2"
- SURFACES NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND.  
1. BEAMS, COLUMNS, PRIMARY REINFORCEMENT, TIES  
STIRRUPS OR SPIRALS 1 1/2"  
2. SLABS, WALLS & JOISTS  
-NO. 14 AND NO. 18 BARS 1 1/2"  
-NO. 11 BAR AND SMALLER 1 1/2"

### BAR SPLICES SHALL BE CLASS "B" UNLESS NOTED OTHERWISE.

- HORIZONTAL REINFORCING BARS SHALL BE LAPPED AROUND CORNERS OF INTERSECTING WALLS AND BEAMS. STANDARD ACI HOOKS AND BENDS SHALL BE USED.

- TOP BARS: HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE. MULTIPLE HORIZONTAL BARS IN A SINGLE VERTICAL PLANE SUCH AS COLUMN TIES OR HORIZONTAL BARS IN WALLS ARE NOT TOP BARS.

## REINFORCED CONCRETE (CONT.)

- UNLESS OTHERWISE DETAILED ON DRAWING SPLICES SHALL BE LOCATED SO THAT NO MORE THAN 50% OF BARS ARE SPLICED AT SAME LOCATION

### FINISH CONCRETE SURFACES IN ACCORDANCE WITH THE FOLLOWING:

- INTERIOR SLABS ON GRADE: FINISH TO FLATNESS AND LEVELNESS OF F(f) = 30 AND F(1) = 20 IN ACCORDANCE WITH ACI 117.
- INTERIOR FLOOR AREAS TO RECEIVE CARPET, RESILIENT FLOOR COVERING, OR REMAIN EXPOSED: SMOOTH TROWEL FINISH.
- INTERIOR FLOOR AREAS TO RECEIVE QUARRY TILE OR CERAMIC TILE: FLOAT FINISH.
- EXTERIOR SLABS: BROOM FINISH.

- CONCRETE QUALITY CONTROL AND STRENGTH TESTING REQUIREMENTS:  
CONDUCT CONCRETE TESTING OF CYLINDERS IN ACCORDANCE WITH ACI. OBTAIN CONCRETE FOR REQUIRED TESTS AT POINT OF PLACEMENT. FOR EACH CLASS OF CONCRETE PERFORM ONE STRENGTH TEST FOR EACH 50 YARDS, OR FRACTION THEREOF, FOR ONE DAY PLACEMENT. DETERMINE SLUMP FOR EACH TEST AND DETERMINE AIR CONTENT FOR EACH STRENGTH TEST OF EXTERIOR EXPOSED CONCRETE.

- TESTING: CURE (4) SIX INCH X 12 INCH CYLINDERS FOR TESTING IN ACCORDANCE WITH ACI 301 SECTION 1.6.4.2. TEST ONE CYLINDER AT 7 DAYS, TEST TWO CYLINDERS AT 28 DAYS AND HOLD ONE CYLINDER IN RESERVE FOR USE AS DIRECTED BY THE ENGINEER. AFTER 56 DAYS, UNLESS NOTIFIED BY THE ENGINEER OTHERWISE, THE RESERVE CYLINDER MAY BE DISCARDED WITHOUT BEING TESTED FOR SPECIMENS MEETING THE 28-DAY STRENGTH REQUIREMENTS.

- ACCEPTANCE: STRENGTH IS ACCEPTABLE WHEN THE FOLLOWING ARE MET. A "TEST" IS DEFINED AS THE AVERAGE OF TWO 6X12 CYLINDERS OR THREE 4X8 CYLINDERS AT THE SPECIFIED TEST AGE.
  - THE AVERAGES OF ALL SETS OF 3 CONSECUTIVE STRENGTH TESTS EQUAL OR EXCEED THE SPECIFIED COMPRESSIVE STRENGTH.
  - NO STRENGTH TEST RESULT FALLS BELOW F'c BY MORE THAN 500 PSI.

## TIMBER

- SUBMITTALS:**  
SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE ALL MATERIAL LAYOUT AND ASSEMBLY INFORMATION INCLUDING MEMBER MATERIAL, GRADES, SIZES, SPACING, CONNECTIONS, AND ASSEMBLY DETAILS. PROVIDE SHOP DRAWINGS FOR ENGINEER REVIEW FOR THE FOLLOWING ITEMS:  
A. ALL ENGINEERED LUMBER MEMBERS: GLULAM MEMBERS, PSL MEMBERS, LVL MEMBERS, LSL MEMBERS, PREFABRICATED WOOD I-JOIST MEMBERS, WOOD THE DOWN SYSTEMS.
- TIMBER CONSTRUCTION STANDARDS**  
A. IBC CHAPTER 23: WOOD  
B. NDS 2018 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS)  
C. APA PDS-99 PLYWOOD DESIGN SPECIFICATION  
D. ANSI/TPI 1 NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSSES  
E. TRI D5B RECOMMENDED DESIGN SPECIFICATION FOR TEMPORARY BRACING OF METAL PLATE CONNECTED TRUSSES  
F. BCSI GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, & BRACING OF METAL PLATE CONNECTED TRUSSES  
G. APA REPORT TT-045B MINIMUM NAIL PENETRATION FOR WOOD STRUCTURAL PANEL CONNECTIONS SUBJECT TO LATERAL LOADS
- MATERIALS:**  
ALL SAWN LUMBER SHALL CONFORM TO GRADING RULES OF WHPA, NLGA OR WCLB. GLULAMS SHALL CONFORM TO AITC 117-2004 AND ANSI/AITC A190.1. ALL GLULAM BEAMS, EXCEPT CONTINUOUS MULTISPAN BEAMS, SHALL BE CAMBERED TO 3000 FT RADIUS UNLESS NOTED OTHERWISE. ALL WOOD MATERIALS SHALL HAVE MINIMUM MOISTURE CONTENT OF 19% EXCEPT FOR PRESSURE TREATED SILL PLATES. ALL PRESSURE TREATED MEMBERS SHALL BE TREATED PER IBC SECTION 2304.12.

### LUMBER GRADE TABLE

MEMBER	SIZE	SPECIES & GRADE
WALL STUDS	2x, 3x	Doug Fir Larch, No. 2
SILL PLATES	2x, 3x	PT Doug Fir Larch, No 2
POSTS	4x, 6x, 8x	Doug Fir Larch, No 2
FLOOR AND ROOF JOISTS	2x, 3x	Doug Fir Larch, No. 2
BEAMS	4x and up	Doug Fir Larch, No 1
GLULAMS - SINGLE SPAN	ALL	24F-V4
GLULAMEN - MULTI SPAN	ALL	24F-V8
GLULAM COLS	ALL	L2
TIMBERSTRAND LSL	ALL	1.5E, Fb=1700, Fv=400, Fc_parallel=1400
MICROLAM LVL	ALL	1.9E, Fb=2600, Fv=285, Fc_parallel=2510

### STUD FRAMED WALLS

- ALL EXTERIOR WALLS WITH 10 FT HEIGHT OR LESS SHALL BE 2X6 @ 16" O.C. UNLESS NOTED OTHERWISE ON THE PLANS. REFER TO PLANS FOR WALLS GREATER THAN 10 FT HEIGHT.
- ALL INTERIOR BEARING WALLS SHALL BE MINIMUM 2X6 @ 16" O.C. UNLESS NOTED OTHERWISE ON THE PLANS.
- AT ALL EXTERIOR AND LOAD BEARING WALL OPENINGS PROVIDE BUNDLED STUDS OF TWO TRIMMER AND ONE KING STUD AT EACH SIDE OF OPENING UNLESS NOTED OTHERWISE ON DRAWINGS.

### BEAMS AND HEADERS

- CENTERLINE OF EACH BEAM SHALL ALIGN WITH THE CENTERLINE OF WALL AND STUDS BELOW.
- BEAMS MADE UP OF MULTIPLES OF 2x LUMBER SHALL BE BUILT AS FOLLOWS:  
2-2x 16d NAILS @ 12" O.C. TOP AND BOTTOM - STAGGER EACH FACE  
3-2x 20d NAILS @ 12" O.C. TOP AND BOTTOM - STAGGER EACH FACE  
4-2x (OR MORE) 3/4" Ø BOLTS @ 12" O.C. TOP & BOTTOM, STAGGER - USE STD. WASHERS (EA. FACE).  
a. PROVIDE STANDARD NUTS & WASHERS AT 3/4" Ø BOLTS (GALV. IF EXPOSED TO WEATHER)  
b. PROVIDE 2" EDGE DISTANCE FROM CENTERLINE OF BOLTS TO EDGE OF WOOD [TYPICAL]
- ALL BEAMS AND HEADERS SHALL BE SUPPORTED WITH EITHER BUNDLED STUDS PER SECTION 4 ABOVE OR WITH POST AND POST CAP CONNECTION PER THE PLANS. REFER TO SECTION 7 BELOW FOR MINIMUM POST CAP SIZES UNLESS NOTED OTHERWISE ON THE DRAWINGS.

### JOISTS

- BRIDGING: PROVIDE BRIDGING AT ALL FLOOR JOISTS NOT TO EXCEED 8'-0" MAXIMUM OR IN COMPLIANCE WITH JOINT MANUFACTURER RECOMMENDATIONS FOR ENGINEERED JOISTS.
- DO NOT NOTCH OR CUT HOLES IN JOISTS WITHOUT ENGINEER APPROVAL.
- BLOCKING: AT BEARING WALLS PROVIDE 2-2x SOLID BLOCKING UNDER BEARING WALLS PERPENDICULAR AND PARALLEL TO THE JOIST DIRECTION.
- BLOCKING (TO MATCH JOIST DEPTH) SHALL BE PROVIDED AT EA. END & AT EACH SUPPORT OF JOIST, EXCEPT WHERE THE ENDS OF JOISTS ARE FASTENED TO A HEADER, RIM JOIST, OR AN ADJOINING STUD. SOLID BLOCKING SHALL BE A MIN. OF 2-2x MEMBERS.
- ATTACHMENTS  
A. THRU BOLTS SHALL BE ASTM A-307 OR ASTM A-325. PROVIDE STANDARD WASHERS AT EACH FACE.  
B. FASTENERS, INCLUDING BOLTS, NUT, WASHERS, AND OTHER CONNECTORS SHALL BE HOT-DIPPED GALVANIZED WHERE EXPOSED TO WEATHER.  
C. CONNECTORS TO BE PROVIDED BY "SIMPSON" STRONG-TIE COMPANY, INC., SAN LEANDRO, CALIFORNIA, OR EQUAL. APPLY NAIL AT EACH NAIL HOLE WITH SIZE AND TYPE PER CONNECTOR MANUFACTURER.  
D. AT COLUMNS 4" SQUARE AND LARGER, PROVIDE CAP & BASE CONNECTORS AS BELOW:  
E. COLUMN CAP CONNECTOR: PC SERIES (OR EPC AT BM ENDS). COLUMN BASE CONNECTOR: CB SERIES.  
F. USE RECOMMENDED COLUMN/BEAM MODEL NUMBERS.

## TIMBER (CONT.)

- HURRICANE CLIPS  
A. PROVIDE MINIMUM H2.5A AT EACH END OF EACH ROOF JOIST OR RAFTER WITH SPAN LESS THAN 20 FEET.  
B. PROVIDE MINIMUM H6 OR (2) H2.5A AT EACH END OF EACH ROOF JOIST OR RAFTER WITH SPAN GREATER THAN 20 FEET.
- FLOOR AND ROOF DECK  
C. FLOOR AND ROOF DECK SHALL BE APA RATED PLYWOOD OR OSB WITH THICKNESS AND NAIL SIZE AND SPACING PER THE PLANS.  
D. PLACE PANELS IN A STAGGERED PATTERN. GLUE & NAIL TO FRAMING MEMBERS. GLUE SHALL CONFORM TO APA SPEC. AF6-01, AND APPLIED PER MANUF. SPECIFICATIONS.  
E. ORIENT SHEATHING PANELS WITH THE LONG DIMENSION PERPENDICULAR TO RAFTERS.  
F. PLYWOOD CLIPS SHALL BE INSTALLED @ ROOF DECKING TO RESULT IN A 1/8" GAP BETWEEN PANEL EDGES. PROVIDE 1 CLIP PER JOIST SPACING SPAN. USE "SIMPSON" PSCl, OR APPROVED EQUAL. MATCH CORRESPONDING PLYWOOD THICKNESS.

- MISCELLANEOUS  
A. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED LUMBER.

- PREFABRICATED WOOD FRAMING MEMBERS  
A. PREFABRICATED WOOD FRAMING MEMBERS INCLUDE WOOD TRUSSES, TJI'S, ASI'S OR OTHER SIMILAR PREFABRICATED MEMBERS USED IN LIEU OF SAWN WOOD JOISTS, OR RAFTERS.  
B. PRODUCT DESIGN SHALL BE BASED UPON ACTUAL BUILDING DEAD LOADS, CODE SPECIFIED LIVE LOADS, AND STANDARDS OUTLINED IN THE BUILDING CODE FOR WINDSTORM RESISTANT CONSTRUCTION. TRUSSES SHALL BE DETAILED AND DESIGNED BY THE MANUFACTURER, UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. UPON REQUEST, THE MANUFACTURER SHALL SUBMIT CALCULATIONS AND/OR SHOP DRAWINGS TO THE ARCHITECT/ENGINEER OF RECORD FOR REVIEW.  
C. CONTRACTOR SHALL PROVIDE TEMPORARY AND PERMANENT LATERAL BRACING OF ALL FABRICATED TRUSSED MEMBERS PER THE DETAILING AND DESIGN OF THE TRUSS MANUFACTURER. TRUSSES SHALL BE DETAILED AND DESIGNED BY THE MANUFACTURER.  
D. PROVIDE TEMPORARY SHORING WHERE SHEET ROCK AND OTHER CONSTRUCTION MATERIALS ARE BEING TEMPORARILY STORED. IF TJI'S ARE BEING UTILIZED, KEEP THE MEMBERS ABSOLUTELY DRY.

- WOOD CONNECTORS, FASTENERS, NAILS, AND BOTS  
A. ALL WOOD CONNECTORS, HANGERS, CLIPS, HOLD-DOWN, POST CAPS AND OTHER WOOD CONNECTIONS SHALL BE SIMPSON STRONG TIE AS SPECIFIED IN THEIR LATEST WOOD CONENCTORS CATALOG. ALTERNATE CONNECTORS BY OTHER MANUFACTURERS MAY BE USED IF SUBMITTED FOR APPROVAL TO EOR. ALL CONNECTORS SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS WITH ALL INDICATED FASTENERS. WHERE MULTIPLE OPTIONS OR SIZES EXIST FOR FASTENERS USE THE LARGEST NUMBER OF FASTENERS AND THE LARGEST SIZE OF FASTENERS UNLESS NOTED OTHERWISE ON THE PLANS. ALL CONNECTORS EXPOSED TO WEATHER SHALL BE GALVANIZED OR FINISHED WITH SIMPSON ZMAX FINISH.  
B. NAILS, SCREWS, AND BOLTS SHALL CONFORM TO IBC SECTION 2304.10 CONNECTORS AND FASTENERS. ALL FASTENERS ATTACHED TO PRESSURE TREATED LUMBER SHALL HAVE SIMILAR CORROSION PROTECTION MATCHING THE WOOD TREATMENT. PROVIDE WASHERS AT ALL BOLT HEADS AND NUTS. ALL NAILS SHALL BE FULL LENGTH COMMON UNLESS NOTED OTHERWISE EXCEPT 16D SHALL BE SINKERS.  
C. ALL LAG BOLTS SHALL BE ASTM A307.

## STRUCTURAL STEEL PILES

- SUBMITTALS:**  
A. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW IN ACCORDANCE WITH AISC 360 SECTION M.1 AND AISC 303 SECTION 4.  
B. SUBMIT WELDERS CERTIFICATES SHOWING QUALIFICATION WITHIN PAST 12 MONTHS.  
C. SUBMIT WELDING PROCEDURE SPECIFICATIONS.  
D. PROVIDE MILL TEST REPORTS (MTR) OR AFHD/AVIT INDICATING THE STEEL MEETS THE REQUIREMENTS OF THE GRADES SPECIFIED.  
E. SUBMIT ICC REPORTS FOR ALL POST INSTALLED STEEL ANCHORS.  
F. SUBMIT FABRICATION SHOP QA/QC PLAN FOR APPROVAL.

- STEEL CONSTRUCTION STANDARDS:  
A. IBC CHAPTER 22 "STEEL"  
B. AISC MANUAL OF STEEL CONSTRUCTION FIFTEENTH EDITION  
C. AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BRIDGES  
D. AISC 303-16 CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES  
E. AISC 348-14 SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS  
F. AWS D1.1-2020 STRUCTURAL WELDING CODE

- MATERIALS:**  
A. STRUCTURAL BARS AND PLATES "PL" ASTM A572, Fy=50ksi  
B. STRUCTURAL PIPE PILES "P" ASTM A53, Fy=35ksi

- ALL CONSTRUCTION, FABRICATION, AND ERECTION SHALL CONFORM TO AISC SPECIFICATION SECTION M2, FABRICATION AND M4, ERECTION, AND AISC CODE SECTIONS 6 AND 8 FOR FABRICATION & DELIVERY AND QUALITY CONTROL, RESPECTIVELY.

- WEATHER PROOFING: ALL STEEL PILES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123. WELD JOINTS SHALL BE COLD GALVANIZED IN ACCORDANCE WITH ASTM A780 MATERIALS AND PROCEDURES.

- ALL BOLTS SHALL BE INSTALLED TO SNUG TIGHT CONDITION PER RCSC, UNLESS NOTED OTHERWISE ON THE PLANS.

- ALL WELDING SHALL CONFORM TO AWS D1.1 AND WELDERS SHALL BE CERTIFIED IN ACCORDANCE WITH AWS REQUIREMENTS. USE E70XX ELECTRODES UNLESS NOTED OTHERWISE.

- BRACING AND SAFETY: ALL FRAMING AND CONSTRUCTION SHALL BE TEMPORARILY BRACED AND SAFETY PROTECTION PROVIDED AS REQUIRED BY AISC SPECIFICATION SECTION M4.2 AND IN ACCORDANCE WITH THE CODE OF STANDARD PRACTICE.



Merrell Design Services

Practical Structural Solutions

MERRELL DESIGN SERVICES PLLC  
Nine Mile Falls, Washington 99026  
509-998-7410  
TJ@MDSstructural.com

PROJECT:

CHESHIRE

JOB SITE ADDRESS:

7615 E. MERCER WAY  
MERCER ISLAND, WA 98040

ARCHITECT:

Formworks Design Build  
7434 SE 71st St  
Mercer Island, WA  
98040

PROPRIETARY DATA IS INCLUDED IN THE INFORMATION DISCLOSED HEREIN AND IS THE SOLE PROPERTY OF MERRELL DESIGN SERVICES PLLC. THIS INFORMATION IS SUBMITTED IN CONFIDENCE AND NEITHER THIS DOCUMENT NOR THE INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY MERRELL DESIGN SERVICES PLLC.

DRAWING ISSUE RECORD:

NO.	STATUS	DATE
	FOR PERMIT	08/12/21

REVISION RECORD:

REV	BY	DESCRIPTION	DATE
1		REVISION 1	09/19/22
2		REVISION 2	12/09/22

SEAL:



SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT MERRELL DESIGN LLC IS THE ENGINEER OF RECORD FOR THIS PROJECT. ONLY THE DESIGN DESCRIBED IN THE SCOPE AND AS SHOWN ON THESE DRAWINGS IS MERRELL DESIGN'S RESPONSIBILITY. NO INSPECTION OR SUPERVISION IS IMPLIED.

JOB#

21-045

SHEET TITLE:

GENERAL NOTES

SHEET#:

S1.0

SCALE:  
AS SHOWN

DRAWN:	DATE:	CHECKED:	DATE:
SG	09/19/2022	AJM	09/19/2022

**FOUNDATION PLAN NOTES:**

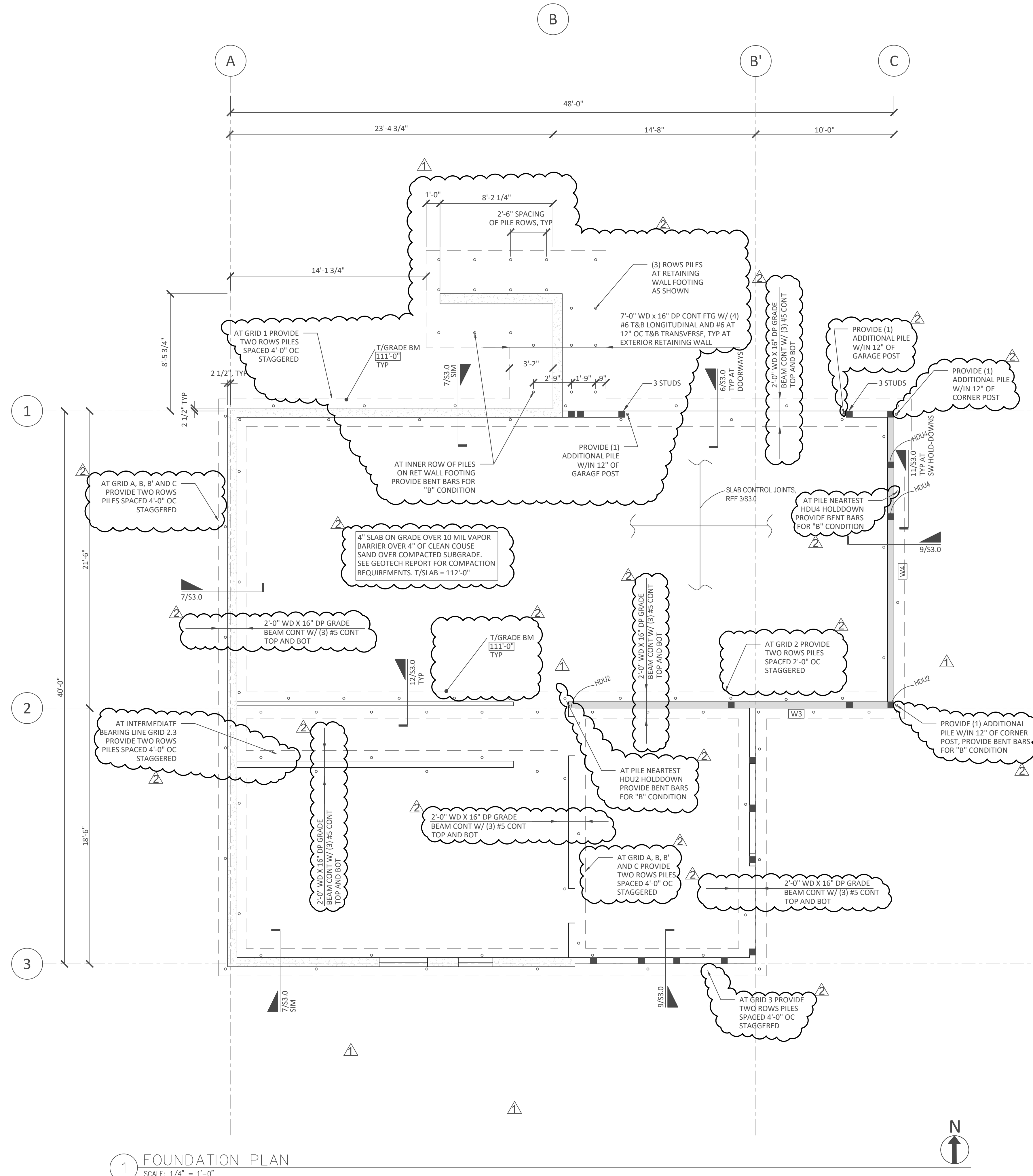
1. VERIFY LOCATIONS OF NEW COLUMNS, WALLS, OPENINGS, ETC. WITH ARCHITECTURAL DRAWINGS BEFORE PLACING FOUNDATIONS. PROVIDE BLOCKOUTS FOR PLUMBING, HVAC, AND SPECIAL EQUIPMENT AS SHOWN ON ARCHITECTURAL AND MEP PLANS.
2. TOP OF SLAB ELEVATION ASSUMED AT 112'-0" EXCEPT AS NOTED. REFERENCE CIVIL AND ARCHITECTURAL PLANS FOR ACTUAL TOP OF SLAB ELEVATION. REFERENCE ARCHITECTURAL DRAWINGS FOR DAMPPROOFING AND WATERPROOFING REQUIREMENTS FOR SLAB AND BASEMENT WALLS.
3. DESIGN SOIL BEARING PRESSURE OF 2000 PSF BASED ON IBC 2018 TABLE 1806.2.
4. ALL EXTERIOR FOOTINGS SHALL BEAR AT OR BELOW THE MINIMUM FROST DEPTH OF 12" BELOW FINISHED GRADE. ALL INTERIOR FOOTINGS SHALL BEAR A MINIMUM OF 12 INCHES BELOW TOP OF SLAB.
5. ALL FOOTINGS AND SLABS SHALL BEAR ON COMPETANT NATIVE SOIL OR STRUCTURAL FILL. ALL FILL SHALL BE COMPACTED IN LIFTS OF 8 INCHES MAXIMUM AND COMPACTED TO MINIMUM 95% OF MODIFIED PROCTOR.
6. PROVIDE PRESSURE TREATED WOOD AT ALL LOCATIONS WHERE IN CONTACT WITH CONCRETE, WITHIN 8" OF EXPOSED GRADE, OR NOT OTHERWISE WEATHERPROOFED.
7. REFERENCE HOLD-DOWN SCHEDULE AND SHEAR WALL SCHEDULE FOR HOLD-DOWN ANCHOR AND SILL PLATE ANCHORAGE REQUIREMENTS.
8. REFERENCE THE STRUCTURAL GENERAL NOTES FOR DESIGN CRITERIA, LEGEND, AND ABBREVIATIONS.

**STUD AND SHEAR WALL PLAN NOTES:**

1. ALL EXTERIOR WALLS AND INTERIOR BEARING WALLS SHALL BE PER THE PLANS OR STUD WALL SCHEDULE, UNLESS NOTED OTHERWISE. STUDS SHALL ALIGN NOMINALLY FLOOR TO FLOOR WITH STUDS, JOISTS, AND TRUSSES. ATTACH SILL PLATES TO CONCRETE, RIM BOARD, OR TOP PLATE PER SCHEDULE, UNO IN SHEAR WALL SCHEDULE.
2. REFERENCE THE STRUCTURAL GENERAL NOTES FOR DESIGN CRITERIA, LUMBER GRADES, LEGEND, AND ABBREVIATIONS.
3. PROVIDE MINIMUM BLOCKING AT 5'-0" OC MAX FOR ALL BEARING AND EXTERIOR WALLS. REFER TO SHEAR WALL SCHEDULE FOR ADDITIONAL BLOCKING REQUIREMENTS.
4. PROVIDE MINIMUM SILL ANCHORAGE OF 5/8" X 7" EMBED BOLTS AT 48" OC UNLESS NOTED OTHERWISE ON SHEARWALL SCHEDULE. BOLTS SHALL BE GALVANIZED AT PRESSURE TREATED SILL PLATES.
5. FOR SHEAR WALL STRAPS AND ATTACHMENT REQUIREMENTS, REFERENCE THE SHEAR WALL SCHEDULE.
6. INDICATES HOLD-DOWN TYPE, REFERENCE HOLD-DOWN SCHEDULE.

**STEEL PIPE PILE PLAN NOTES:**

1. ALL PILES SHALL BE ASTM A53 SCHEDULE 80 STEEL PILES.
2. PILES AND SPICE JOINTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A780.
3. PILES SHALL BE DRIVEN TO REFUSAL DEFINED AS LESS THAN ONE INCH OF PENETRATION FOLLOWING 30 SECONDS OF DRIVING USING A HYDRAULIC HAMMER WEIGHING 125 POUNDS. THE MAXIMUM HAMMER WEIGHT CLASS SHALL BE 350.
4. PILE LENGTHS ARE EXPECTED TO BE 30 TO 40 FT BASED ON SOIL CONDITIONS.
5. REFER TO GEOTECH REPORT BY TERRA ASSOCIATES, INC DATED NOV 21, 2022 FOR ADDITIONAL INFO.
6. PROVIDE WELD SPICE BACKER PLATES OF SAME MATERIAL AS THE STEEL PILES.
7. ALL REBAR ANCHORS WELDED TO PILE CAP PLATES SHALL BE ASTM A706 WELDABLE REBAR.
8. PROVIDE DRIVING EQUIPMENT AND HAMMER SPECIFICATIONS TO ENGINEER A MINIMUM OF 15 DAYS PRIOR TO BEGINNING DRIVING FOR REVIEW AND APPROVAL.
9. GEOTECHNICAL ENGINEER SHALL BE ENGAGED TO PROVIDE ON SITE INSPECTION AND OBSERVATION DURING PILE INSTALLATION.



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

PROJECT:  
CHESHIRE

JOB SITE ADDRESS:  
7615 E. MERCER WAY  
MERCER ISLAND, WA 98040

ARCHITECT:  
Formworks Design Build  
7434 SE 71st St  
Mercer Island, WA  
98040

PROPRIETARY DATA IS INCLUDED IN THE INFORMATION DISCLOSED HEREIN AND IS THE SOLE PROPERTY OF MERRELL DESIGN SERVICES PLLC. THIS INFORMATION IS SUBMITTED IN CONFIDENCE AND NEITHER THIS DOCUMENT NOR THE INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY MERRELL DESIGN SERVICES PLLC.

**DRAWING ISSUE RECORD:**

NO.	STATUS	DATE
	FOR PERMIT	08/12/21

**REVISION RECORD:**

REV.	BY:	DESCRIPTION	DATE
1		REVISION 1	09/19/22
2		REVISION 2	12/09/22

**SEAL:**



SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT MERRELL DESIGN LLC IS THE ENGINEER OF RECORD FOR THIS PROJECT. ONLY THE DESIGN DESCRIBED IN THE SCOPE AND AS SHOWN ON THESE DRAWINGS IS MERRELL DESIGN'S RESPONSIBILITY. NO INSPECTION OR SUPERVISION IS IMPLIED.

JOB#  
21-045

SHEET TITLE:  
FOUNDATION PLAN

SHEET#: **S2.0** SCALE:  
AS SHOWN

DRAWN:	DATE:	CHECKED:	DATE:
SG	09/19/2022	AJM	09/19/2022

PROJECT:  
**CHESHIRE**

JOB SITE ADDRESS:  
7615 E. MERCER WAY  
MERCER ISLAND, WA 98040

ARCHITECT:  
Formworks Design Build  
7434 SE 71st St  
Mercer Island, WA  
98040

PROPRIETARY DATA IS INCLUDED IN THE INFORMATION DISCLOSED HEREIN AND IS THE SOLE PROPERTY OF MERRELL DESIGN SERVICES PLLC. THIS INFORMATION IS SUBMITTED IN CONFIDENCE AND NEITHER THIS DOCUMENT NOR THE INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY MERRELL DESIGN SERVICES PLLC.

**DRAWING ISSUE RECORD:**

NO.	STATUS	DATE
	FOR PERMIT	08/12/21

**REVISION RECORD:**

REV.	BY:	DESCRIPTION	DATE
1		REVISION 1	09/19/22
2		REVISION 2	12/09/22

**SEAL:**



SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT MERRELL DESIGN LLC IS THE ENGINEER OF RECORD FOR THIS PROJECT. ONLY THE DESIGN DESCRIBED IN THE SCOPE AND AS SHOWN ON THESE DRAWINGS IS MERRELL DESIGN'S RESPONSIBILITY. NO INSPECTION OR SUPERVISION IS IMPLIED.

JOB#  
**21-045**

SHEET TITLE:  
**FIRST FLOOR FRAMING PLAN**

SHEET#: **S2.1** SCALE: AS SHOWN

DRAWN: DATE: CHECKED: DATE:  
SG 09/19/2022 AJM 09/19/2022

**FLOOR FRAMING PLAN NOTES:**

- VERIFY LOCATIONS OF NEW COLUMNS, WALLS, OPENINGS, ETC. WITH ARCHITECTURAL DRAWINGS. VERIFY ALL WALL, FLOOR, AND ROOF ELEVATIONS WITH ARCHITECTS DRAWINGS.
- COORDINATE FRAMING WITH ALL MECHANICAL, HVAC, SPRINKLER, PLUMBING, AND ELECTRICAL DRAWINGS.
- ALL WOOD EXPOSED TO WEATHER, OR IN CONTACT WITH CONCRETE, OR WITHIN 8" OF GRADE SHALL BE PRESSURE TREATED.
- PROVIDE SOLID BLOCKING BETWEEN FLOOR JOISTS/TRUSSES OVER ALL BEARING WALLS AND SHEAR WALLS.
- ALL HORIZONTAL STRAP TIES INDICATED ON PLAN SHALL BE ALIGNED WITH TOP PLATE OR BEAM AND BE CENTERED OVER THE JOINT BETWEEN ADJOINING ELEMENTS. REFERENCE THE STRAP MANUFACTURER FOR FASTENER SIZE AND SPACING.
- ALL JOIST HANGERS SHALL BE SIMPSON TOP FLANGE BEARING JB TYPE, UNO. GLULAM HANGERS SHALL BE HGLTV UNLESS NOTED OTHERWISE ON PLAN. ENGINEERED "I" JOIST HANGERS SHALL BE DESIGNED AND SUPPLIED BY THE JOIST SUPPLIER.
- ALL HEADERS SHALL BE MINIMUM (2) 2X10 FOR SPANS UP TO 3 FEET AND MINIMUM 5 1/8 X 12 GLULAM FOR SPANS UP TO 6 FEET, UNLESS INDICATED OTHERWISE. ALL HEADERS AND BEAMS SHALL BE SUPPORTED BY A MINIMUM OF (2) TRIMMER AND (1) KING STUD. REFERENCE THE PLANS FOR LARGER POSTS OR ADDITIONAL TRIMMERS WHERE REQUIRED. TRIMMER STUDS OR POSTS SHALL BE CONTINUOUS TO THE FOUNDATION UNLESS SUPPORTED BY TRANSFER BEAM.
- REFERENCE SHEAR WALL SCHEDULE FOR SHEAR WALL TYPES AND CONSTRUCTION REQUIREMENTS.
- REFERENCE THE STRUCTURAL GENERAL NOTES FOR DESIGN CRITERIA, LEGEND, AND ABBREVIATIONS.
- PROVIDE JOIST/TRUSS BRIDGING PER MANUFACTURERS REQUIREMENTS FOR ALL ENGINEERED JOISTS AND TRUSSES.
- PROVIDE DOUBLE JOISTS OR DOUBLE BLOCKING AROUND ENTIRE PERIMETER OF OPENINGS GREATER THAN ONE JOIST BAY. PROVIDE DOUBLE JOIST HANGER AT ENDS OF BLOCKING.
- FLOOR SHEATHING SHALL BE AS FOLLOWS:

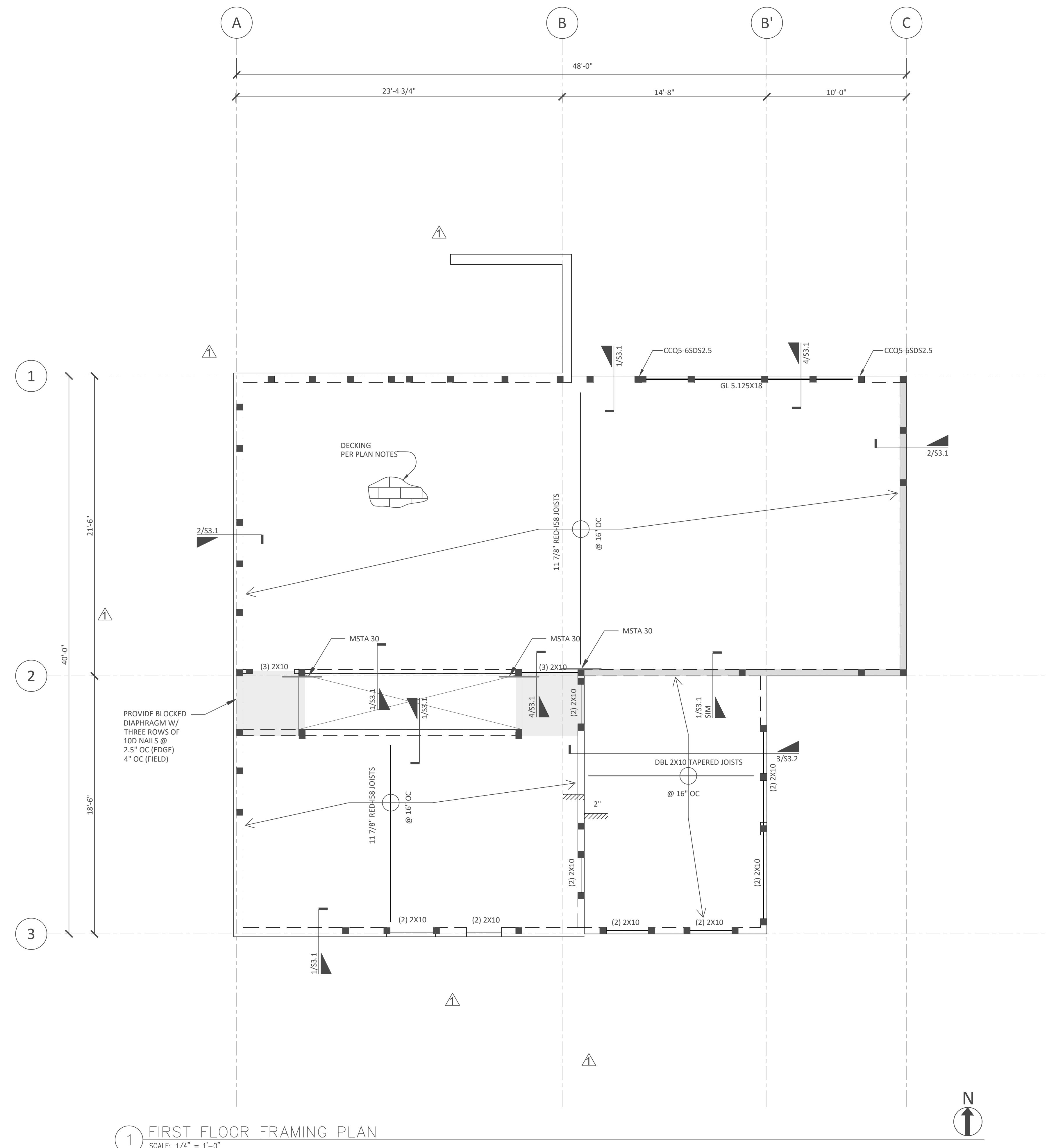
FLOOR SHEATHING			
SIZE	EDGE NAILING	FIELD NAILING	SPAN RATING
23/32"	0.131 X 2.5" @ 6" OC	0.131 X 2.5" @ 12" OC	24 OC

NOTES:

- ALL SHEATHING SHALL BE APA-RATED.
- LAY SHEATHING WITH FACE GRAIN PERPENDICULAR TO SUPPORTS.
- STAGGER ALL SHEATHING PANEL END JOINTS
- PROVIDE 1/8" GAP BETWEEN PANEL ENDS AND EDGES
- FLOOR SHEATHING SHALL BE STURD-I-FLOOR GRADE.

- STRUCTURAL WALL STUD SIZES ARE AS FOLLOWS. REFERENCE THE GENERAL NOTES FOR LUMBER SPECIES:

STRUCTURAL WALL STUD SIZES (minimum)			
Wall	Stud Size	Spacing	Grade
Interior Bearing	2x4	16" OC	no 2
Exterior	2x6	16" OC	no 2



**1 FIRST FLOOR FRAMING PLAN**  
SCALE: 1/4" = 1'-0"



PROJECT:  
**CHESHIRE**

JOB SITE ADDRESS:  
7615 E. MERCER WAY  
MERCER ISLAND, WA 98040

ARCHITECT:  
Formworks Design Build  
7434 SE 71st St  
Mercer Island, WA  
98040

PROPRIETARY DATA IS INCLUDED IN THE INFORMATION DISCLOSED HEREIN AND IS THE SOLE PROPERTY OF MERRELL DESIGN SERVICES PLLC. THIS INFORMATION IS SUBMITTED IN CONFIDENCE AND NEITHER THIS DOCUMENT NOR THE INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY MERRELL DESIGN SERVICES PLLC.

**DRAWING ISSUE RECORD:**

NO.	STATUS	DATE
	FOR PERMIT	08/12/21

**REVISION RECORD:**

REV.	BY:	DESCRIPTION	DATE
1		REVISION 1	09/19/22
2		REVISION 2	12/09/22

**SEAL:**



SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT MERRELL DESIGN LLC IS THE ENGINEER OF RECORD FOR THIS PROJECT. ONLY THE DESIGN DESCRIBED IN THE SCOPE AND AS SHOWN ON THESE DRAWINGS IS MERRELL DESIGN'S RESPONSIBILITY. NO INSPECTION OR SUPERVISION IS IMPLIED.

JOB#  
**21-045**

SHEET TITLE:  
**SECOND FLOOR FRAMING PLAN**

SHEET#:  
**S2.2**

SCALE:  
AS SHOWN

DRAWN: SG DATE: 09/19/2022 CHECKED: AJM DATE: 09/19/2022

**FLOOR FRAMING PLAN NOTES:**

- VERIFY LOCATIONS OF NEW COLUMNS, WALLS, OPENINGS, ETC. WITH ARCHITECTURAL DRAWINGS. VERIFY ALL WALL, FLOOR, AND ROOF ELEVATIONS WITH ARCHITECTS DRAWINGS.
- COORDINATE FRAMING WITH ALL MECHANICAL, HVAC, SPRINKLER, PLUMBING, AND ELECTRICAL DRAWINGS.
- ALL WOOD EXPOSED TO WEATHER, OR IN CONTACT WITH CONCRETE, OR WITHIN 8" OF GRADE SHALL BE PRESSURE TREATED.
- PROVIDE SOLID BLOCKING BETWEEN FLOOR JOISTS/TRUSSES OVER ALL BEARING WALLS AND SHEAR WALLS.
- ALL HORIZONTAL STRAP TIES INDICATED ON PLAN SHALL BE ALIGNED WITH TOP PLATE OR BEAM AND BE CENTERED OVER THE JOINT BETWEEN ADJOINING ELEMENTS. REFERENCE THE STRAP MANUFACTURER FOR FASTENER SIZE AND SPACING.
- ALL JOIST HANGERS SHALL BE SIMPSON TOP FLANGE BEARING JB TYPE, UNO. GLULAM HANGERS SHALL BE HGLTV UNLESS NOTED OTHERWISE ON PLAN. ENGINEERED "T" JOIST HANGERS SHALL BE DESIGNED AND SUPPLIED BY THE JOIST SUPPLIER.
- ALL HEADERS SHALL BE MINIMUM (2) 2X10 FOR SPANS UP TO 3 FEET AND MINIMUM 5 1/8 X 12 GLULAM FOR SPANS UP TO 6 FEET, UNLESS INDICATED OTHERWISE. ALL HEADERS AND BEAMS SHALL BE SUPPORTED BY A MINIMUM OF (2) TRIMMER AND (1) KING STUD. REFERENCE THE PLANS FOR LARGER POSTS OR ADDITIONAL TRIMMERS WHERE REQUIRED. TRIMMER STUDS OR POSTS SHALL BE CONTINUOUS TO THE FOUNDATION UNLESS SUPPORTED BY TRANSFER BEAM.
- REFERENCE SHEAR WALL SCHEDULE FOR SHEAR WALL TYPES AND CONSTRUCTION REQUIREMENTS.
- REFERENCE THE STRUCTURAL GENERAL NOTES FOR DESIGN CRITERIA, LEGEND, AND ABBREVIATIONS.
- PROVIDE JOIST/TRUSS BRIDGING PER MANUFACTURERS REQUIREMENTS FOR ALL ENGINEERED JOISTS AND TRUSSES.
- PROVIDE DOUBLE JOISTS OR DOUBLE BLOCKING AROUND ENTIRE PERIMETER OF OPENINGS GREATER THAN ONE JOIST BAY. PROVIDE DOUBLE JOIST HANGER AT ENDS OF BLOCKING.
- FLOOR SHEATHING SHALL BE AS FOLLOWS:

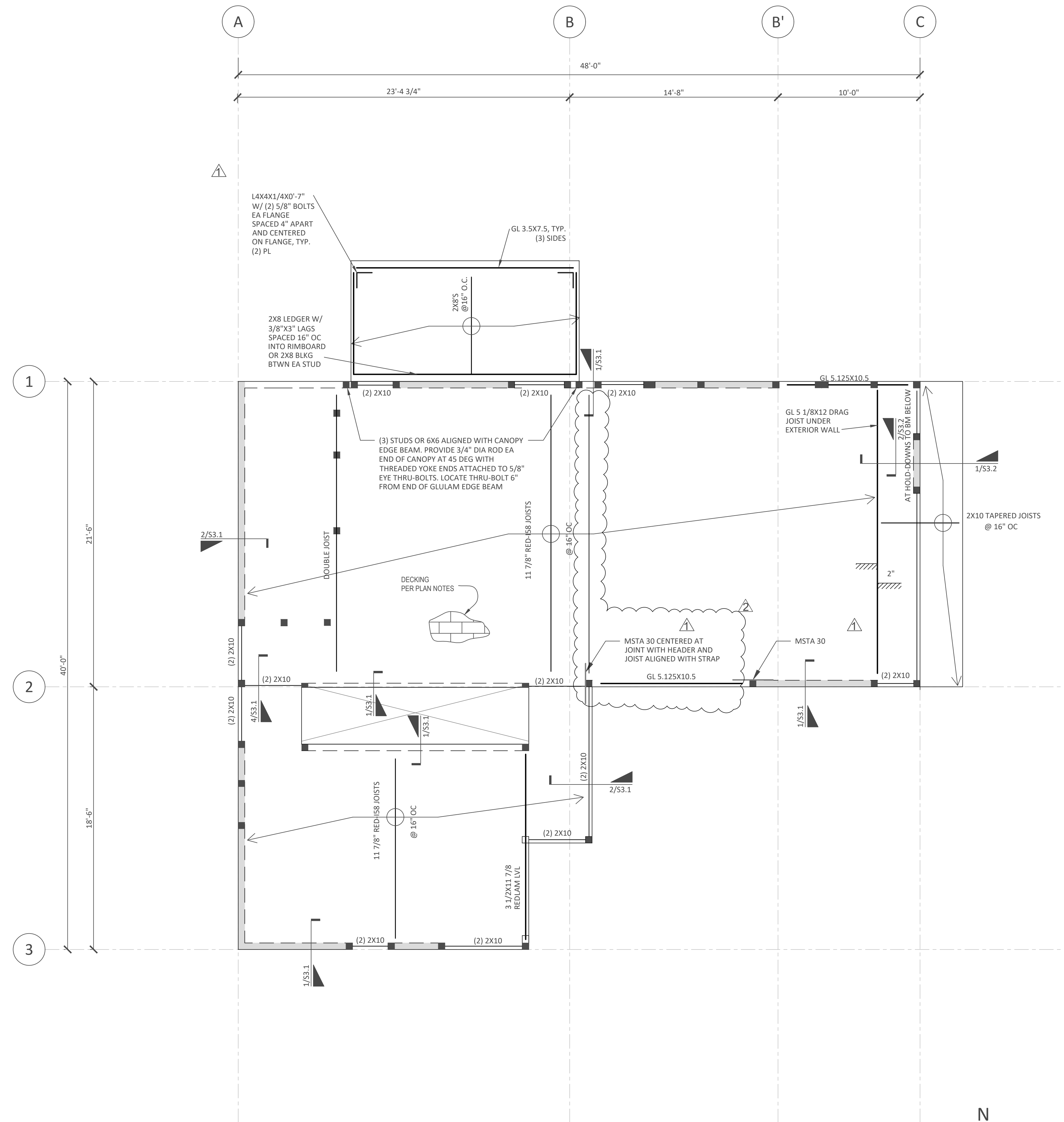
FLOOR SHEATHING			
SIZE	EDGE NAILING	FIELD NAILING	SPAN RATING
23/32"	0.131 X 2.5" @ 6" OC	0.131 X 2.5" @ 12" OC	24 OC

NOTES:

- ALL SHEATHING SHALL BE APA-RATED.
- LAY SHEATHING WITH FACE GRAIN PERPENDICULAR TO SUPPORTS.
- STAGGER ALL SHEATHING PANEL END JOINTS
- PROVIDE 1/8" GAP BETWEEN PANEL ENDS AND EDGES
- FLOOR SHEATHING SHALL BE STURD-I-FLOORGRADE.

- STRUCTURAL WALL STUD SIZES ARE AS FOLLOWS. REFERENCE THE GENERAL NOTES FOR LUMBER SPECIES:

STRUCTURAL WALL STUD SIZES (minimum)			
Wall	Stud Size	Spacing	Grade
Interior Bearing	2x4	16" OC	no 2
Exterior	2x6	16" OC	no 2



**1 SECOND FLOOR FRAMING PLAN**  
SCALE: 1/4" = 1'-0"









**Merrell Design Services**  
Practical Structural Solutions

MERRELL DESIGN SERVICES PLLC  
Nine Mile Falls, Washington 99026  
509-998-7410  
TJ@MDSstructural.com

PROJECT:  
**CHESHIRE**

JOBSITE ADDRESS:  
7615 E. MERCER WAY  
MERCER ISLAND, WA 98040

ARCHITECT:  
Formworks Design Build  
7434 SE 71st St  
Mercer Island, WA  
98040

PROPRIETARY DATA IS INCLUDED IN THE INFORMATION DISCLOSED HEREIN AND IS THE SOLE PROPERTY OF MERRELL DESIGN SERVICES PLLC. THIS INFORMATION IS SUBMITTED IN CONFIDENCE AND NEITHER THIS DOCUMENT NOR THE INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY MERRELL DESIGN SERVICES PLLC.

**DRAWING ISSUE RECORD:**

NO.	STATUS	DATE
	FOR PERMIT	08/12/21

**REVISION RECORD:**

REV.	BY:	DESCRIPTION	DATE
1		REVISION 1	09/19/22
2		REVISION 2	12/09/22
3			
4			
5			

**SEAL:**



SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT MERRELL DESIGN LLC IS THE ENGINEER OF RECORD FOR THIS PROJECT. ONLY THE DESIGN DESCRIBED IN THE SCOPE AND AS SHOWN ON THESE DRAWINGS IS MERRELL DESIGN'S RESPONSIBILITY. NO INSPECTION OR SUPERVISION IS IMPLIED.

JOB#  
**21-045**

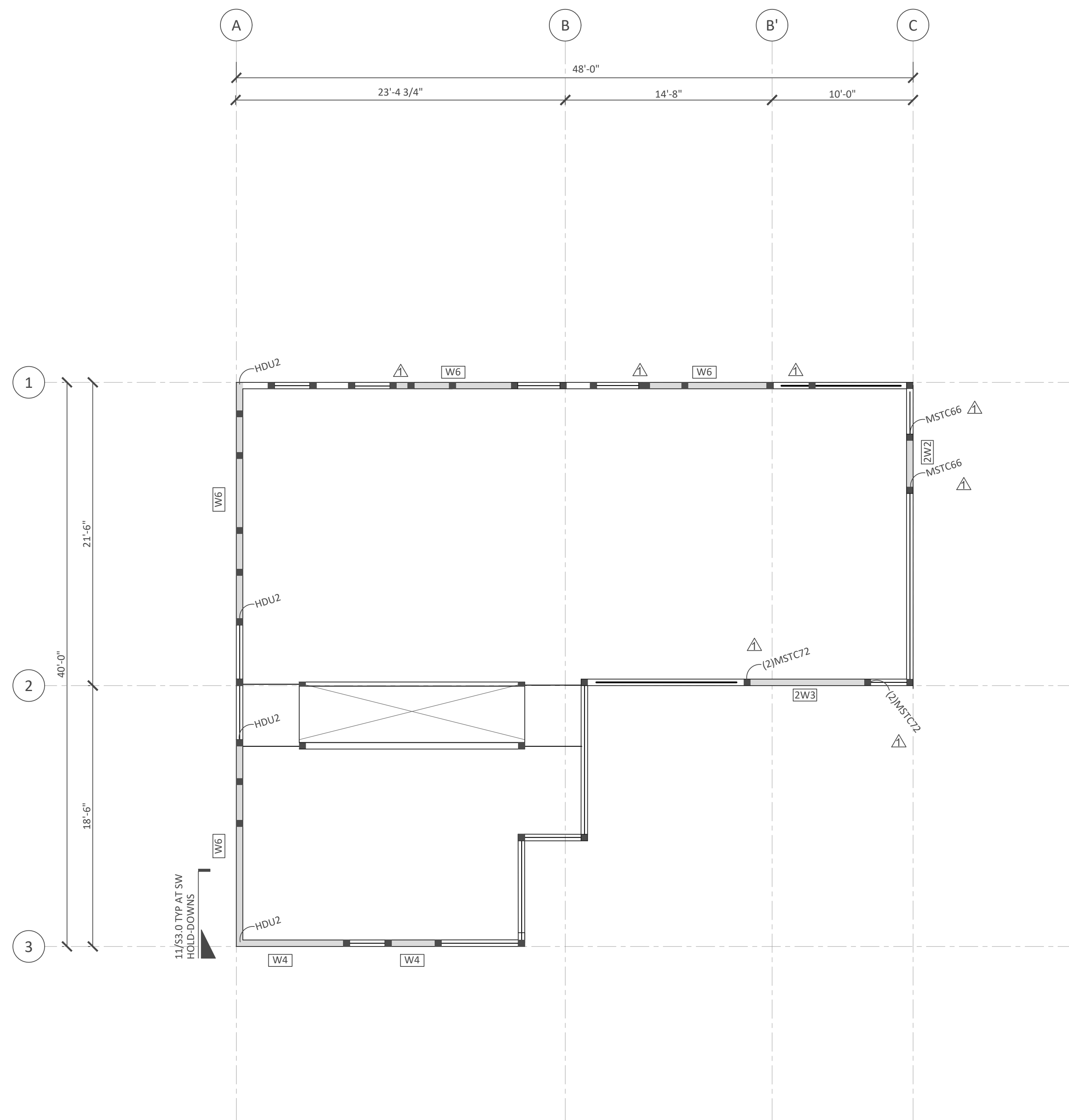
SHEET TITLE:  
**FIRST & SECOND FLOOR STUD PLANS**

SHEET#: **S2.4** SCALE: AS SHOWN

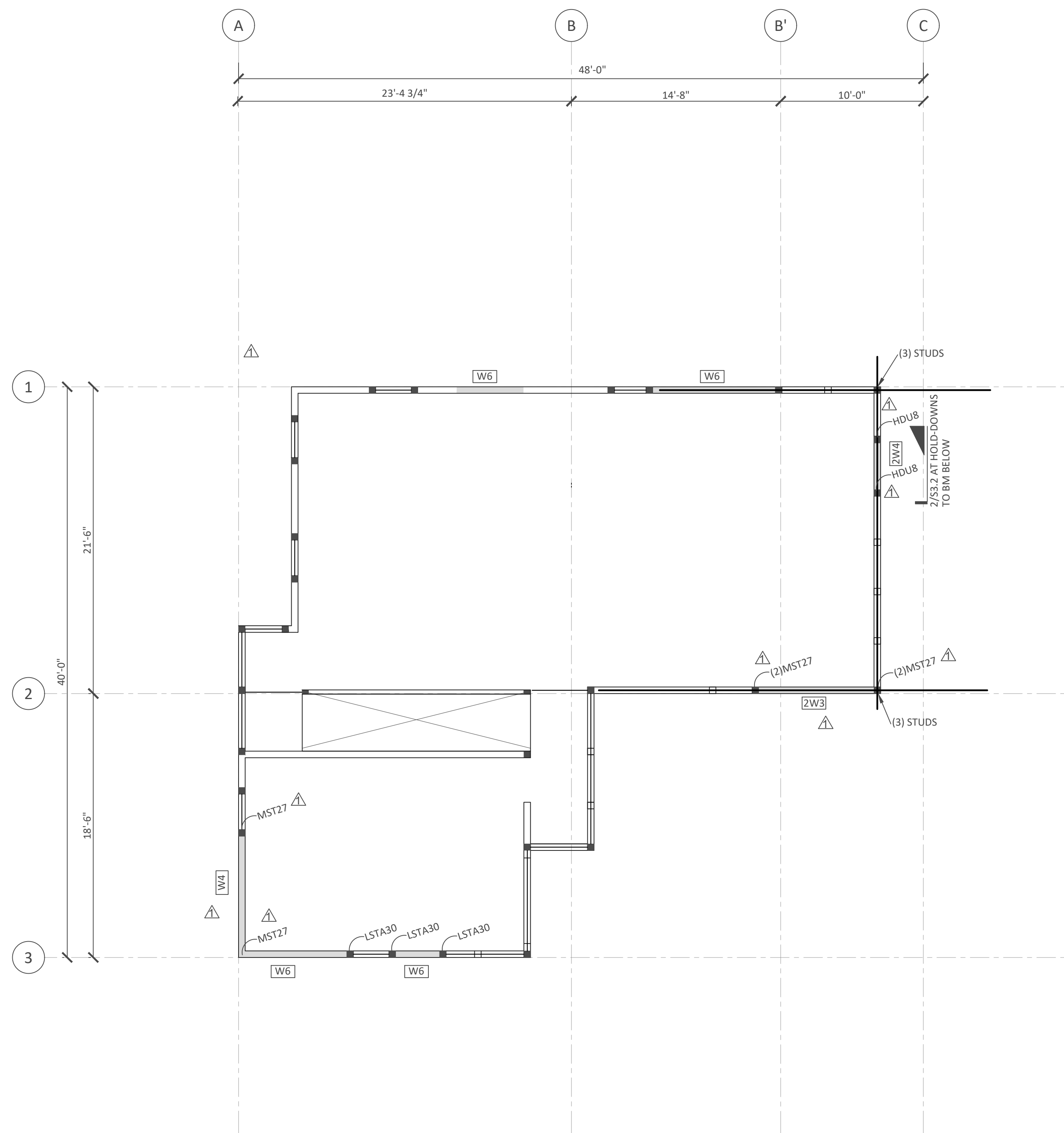
DRAWN: SG	DATE: 09/19/2022	CHECKED: AJM	DATE: 09/19/2022
-----------	------------------	--------------	------------------

**STUD AND SHEAR WALL PLAN NOTES:**

1. ALL EXTERIOR WALLS AND INTERIOR BEARING WALLS SHALL BE PER THE PLANS OR STUD WALL SCHEDULE, UNLESS NOTED OTHERWISE. STUDS SHALL ALIGN NOMINALLY FLOOR TO FLOOR WITH STUDS, JOISTS, AND TRUSSES. ATTACH SILL PLATES TO CONCRETE, RIM BOARD, OR TOP PLATE PER SCHEDULE, UNO IN SHEAR WALL SCHEDULE.
2. REFERENCE THE STRUCTURAL GENERAL NOTES FOR DESIGN CRITERIA, LUMBER GRADES, LEGEND, AND ABBREVIATIONS.
3. PROVIDE MINIMUM BLOCKING AT 5'-0" OC MAX FOR ALL BEARING AND EXTERIOR WALLS. REFER TO SHEAR WALL SCHEDULE FOR ADDITIONAL BLOCKING REQUIREMENTS.
4. PROVIDE MINIMUM SILL ANCHORAGE OF 5/8" X 7" EMBED BOLTS AT 48" OC UNLESS NOTED OTHERWISE ON SHEARWALL SCHEDULE. BOLTS SHALL BE GALVANIZED AT PRESSURE TREATED SILL PLATES.
5. FOR SHEAR WALL STRAPS AND ATTACHMENT REQUIREMENTS, REFERENCE THE SHEAR WALL SCHEDULE.
6. INDICATES HOLD-DOWN TYPE, REFERENCE HOLD-DOWN SCHEDULE.
7. SEE DETAIL 8/S3.1 FOR STANDARD SHEAR WALL CONSTRUCTION AND HOLD-DOWN STRAP ATTACHMENT.

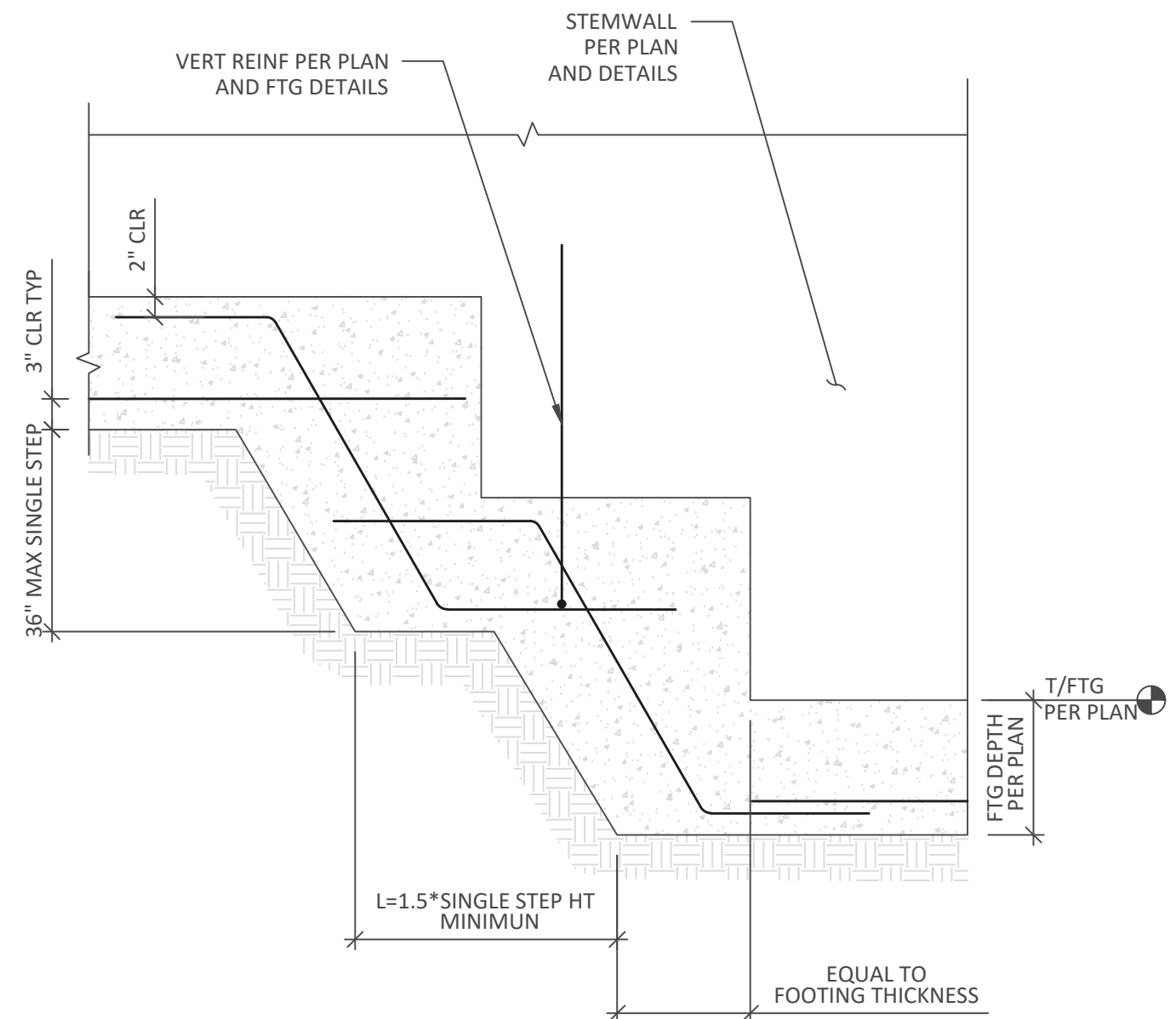


1 FIRST FLOOR STUD FRAMING PLAN  
SCALE: 3/16" = 1'-0"

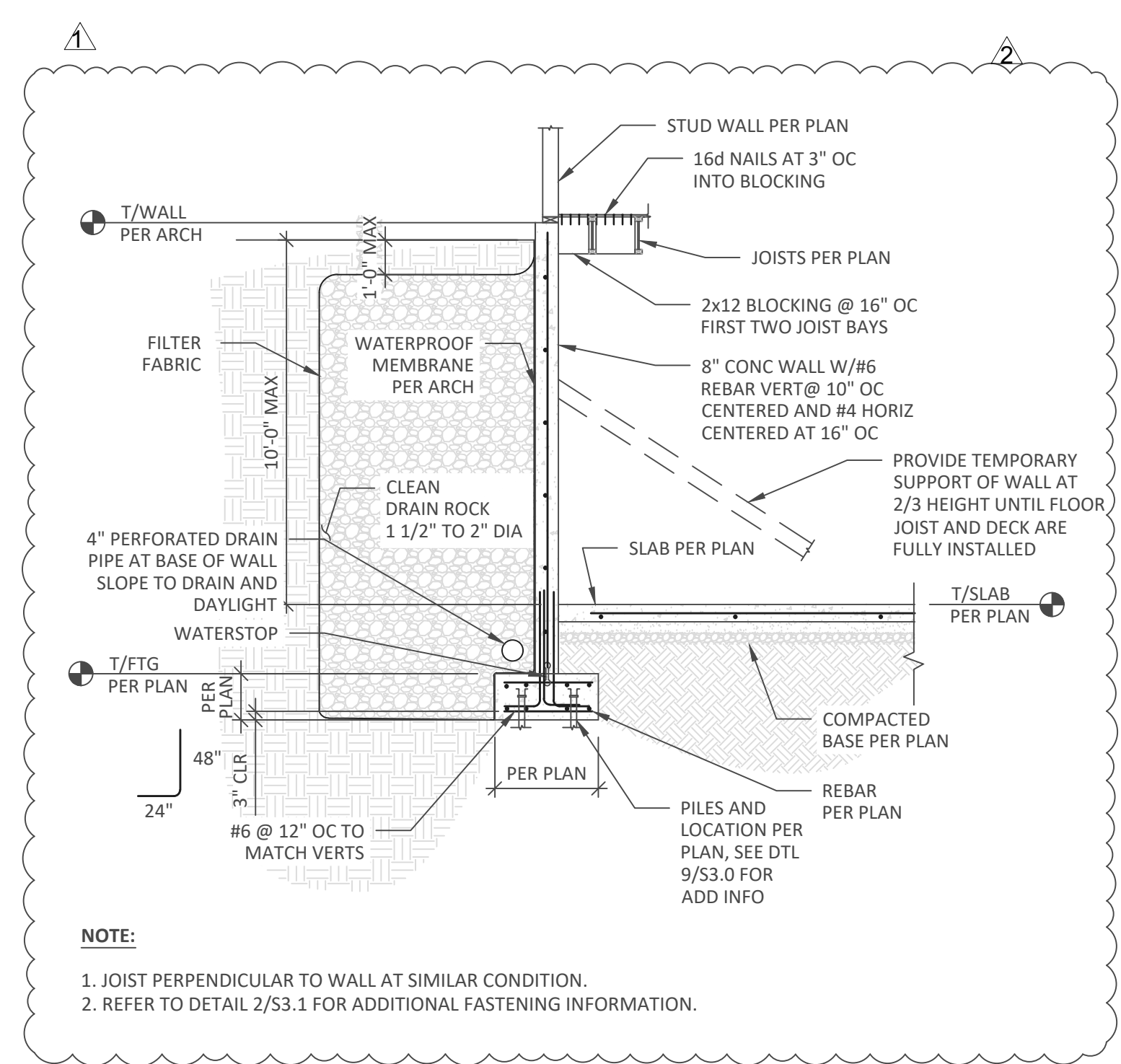


2 SECOND FLOOR STUD FRAMING PLAN  
SCALE: 3/16" = 1'-0"

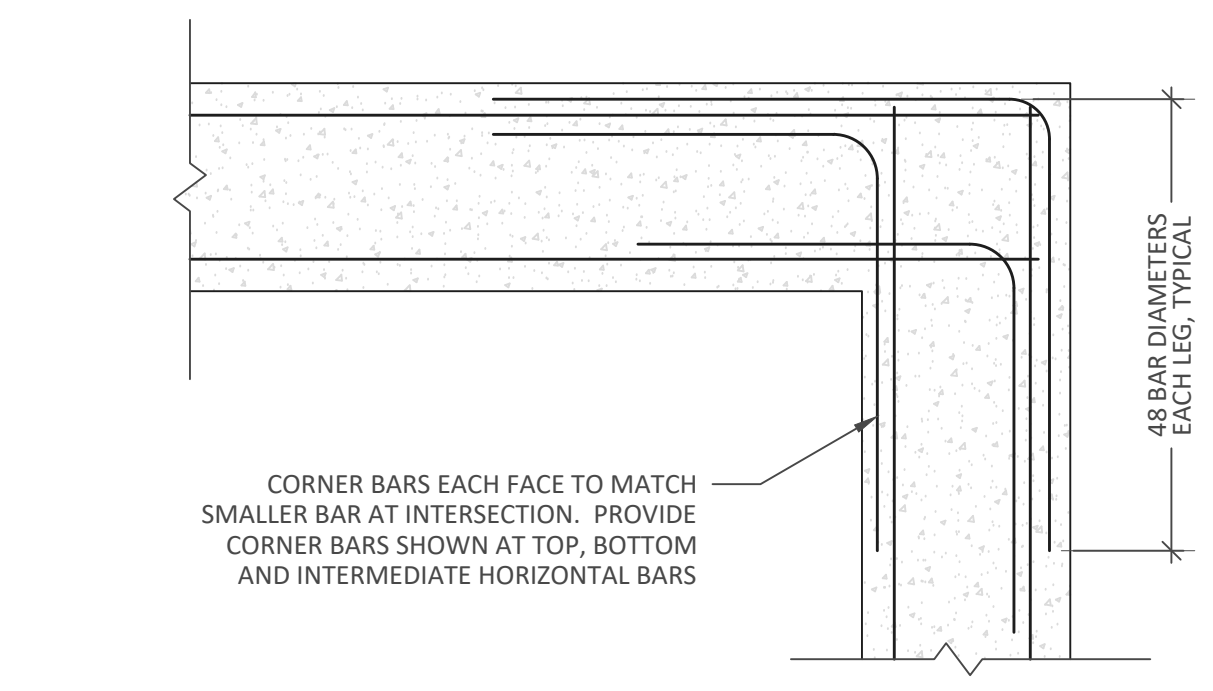




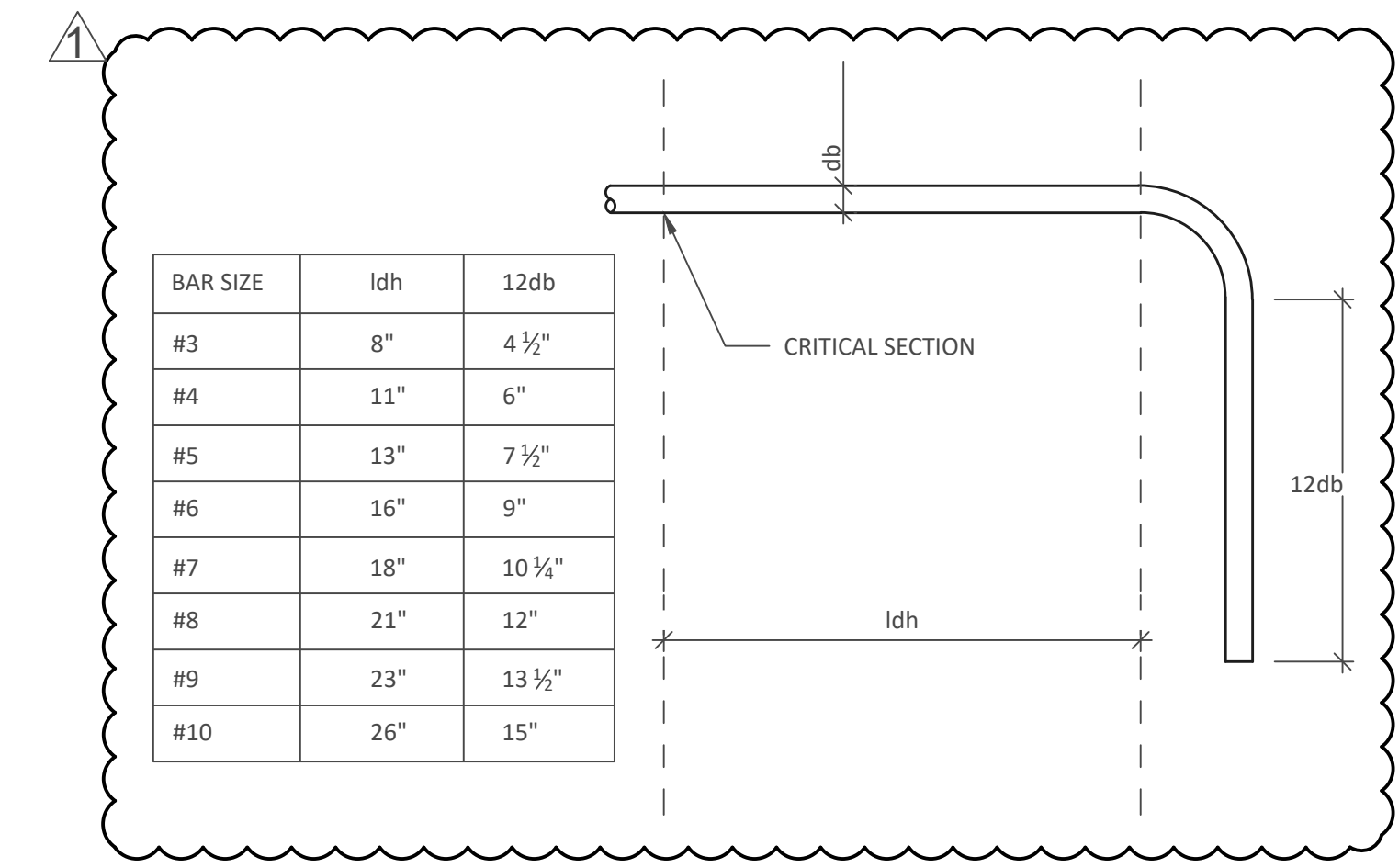
10 STANDARD STEPPED FOOTING DETAIL  
SCALE: 3/4" = 1'-0"



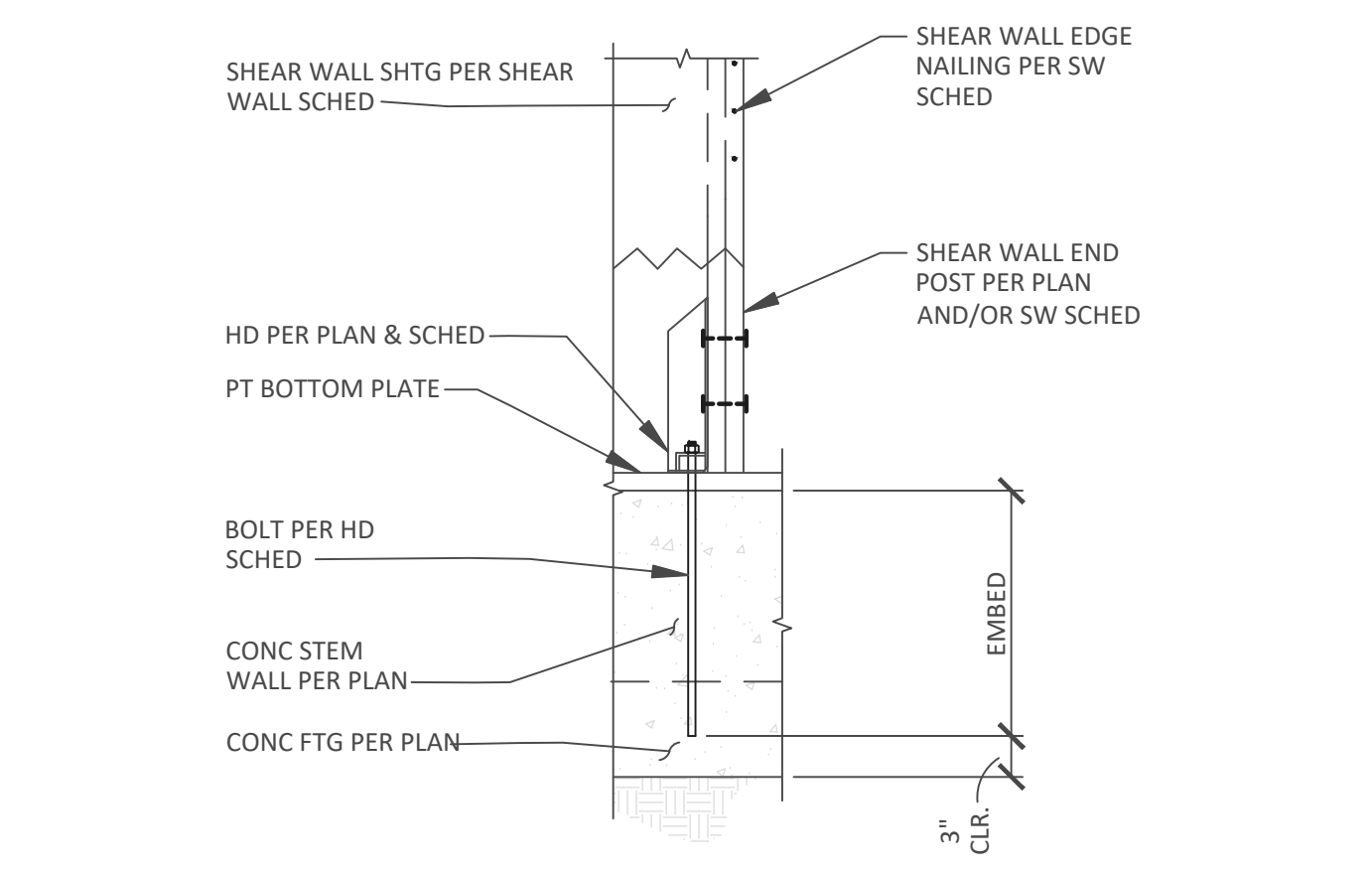
7 BASEMENT WALL AND FOOTING  
SCALE: 1/4" = 1'-0"



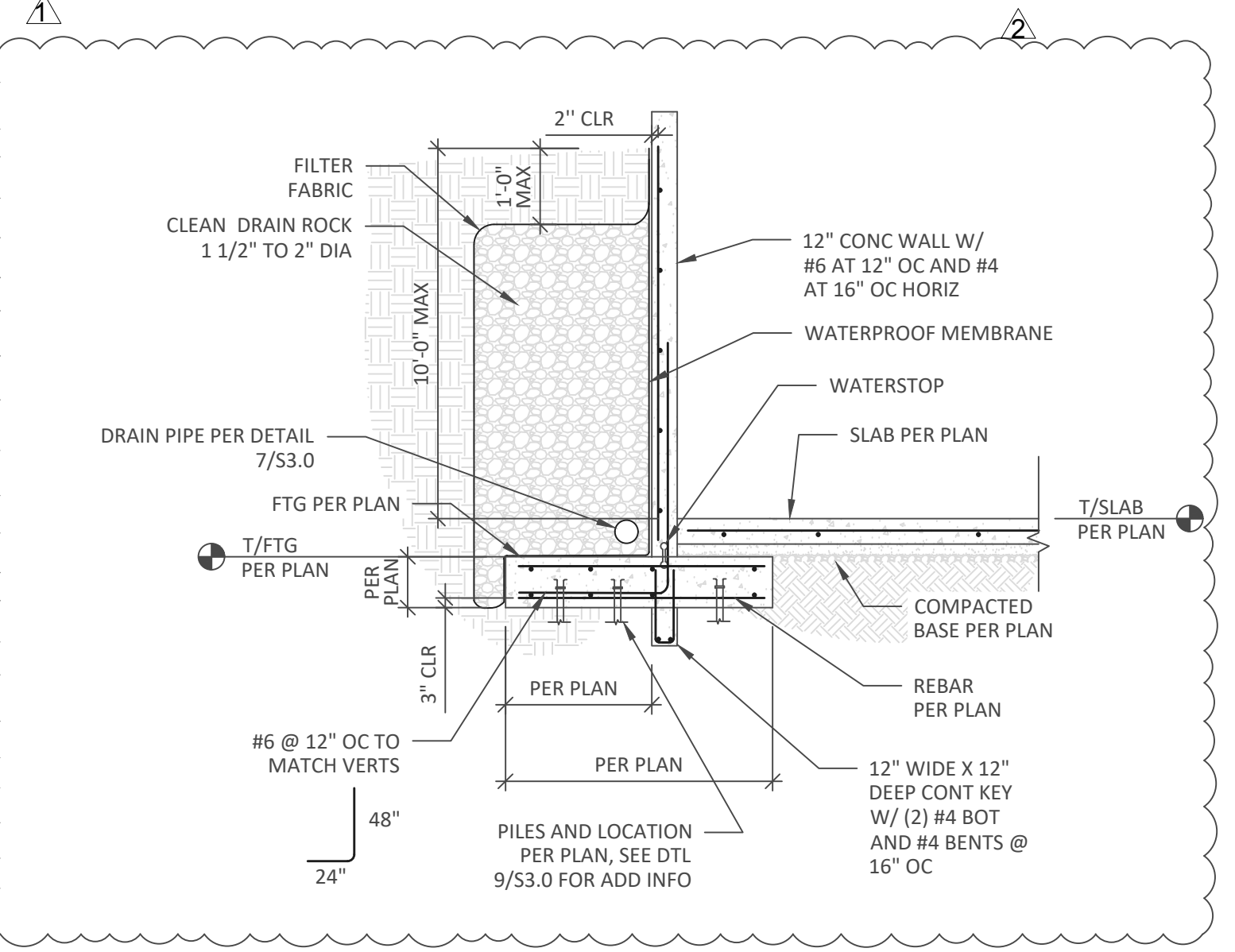
4 TYPICAL CORNER BARS AT INTERSECTION DETAIL  
NOT TO SCALE



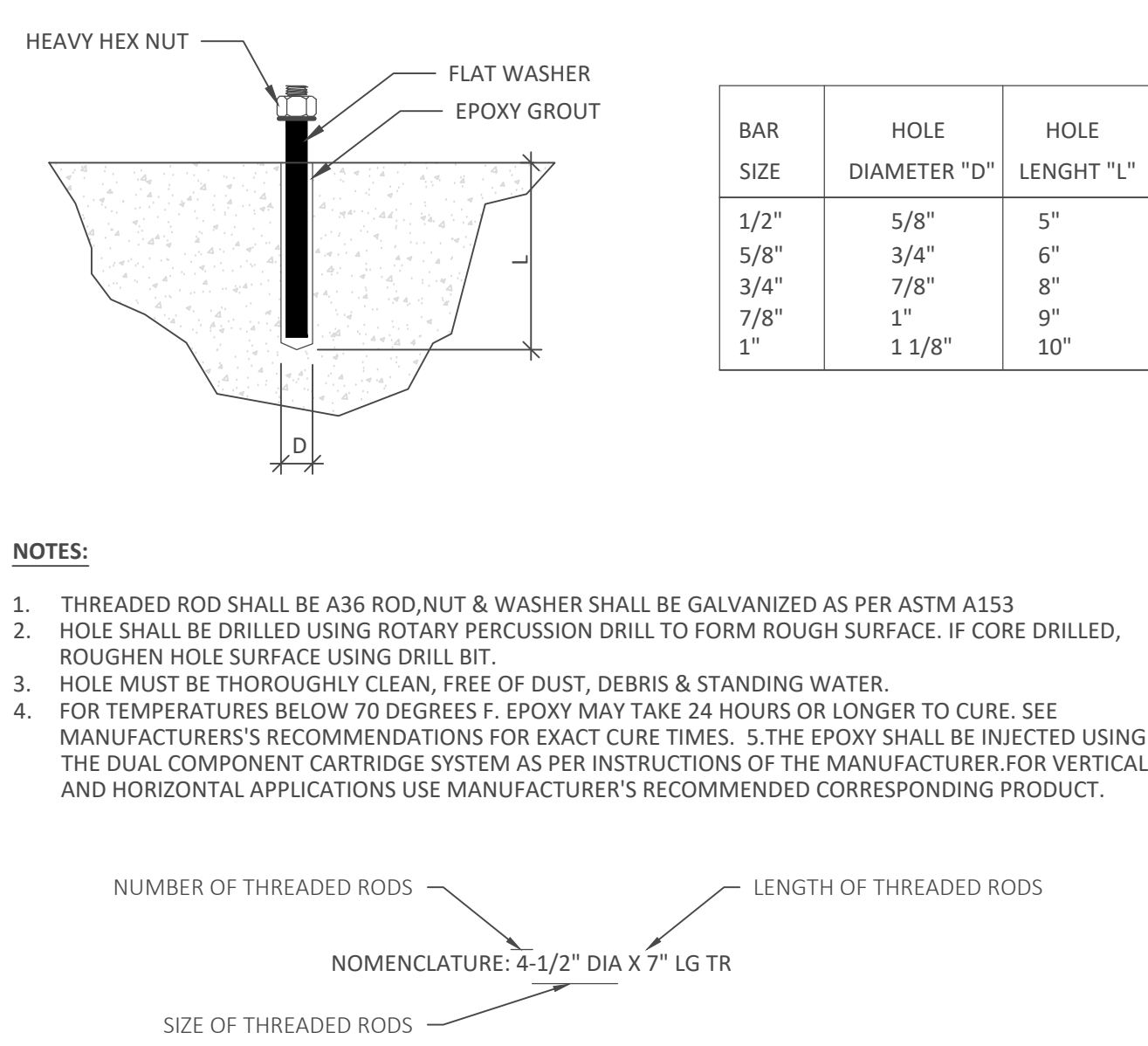
1 90° HOOK DIMENSIONS GRADE 60 BARS AND 3500 PSI CONCRETE  
NOT TO SCALE



11 TYPICAL HOLD DOWN AT FOUNDATION/CONCRETE  
SCALE: 1" = 1'-0"



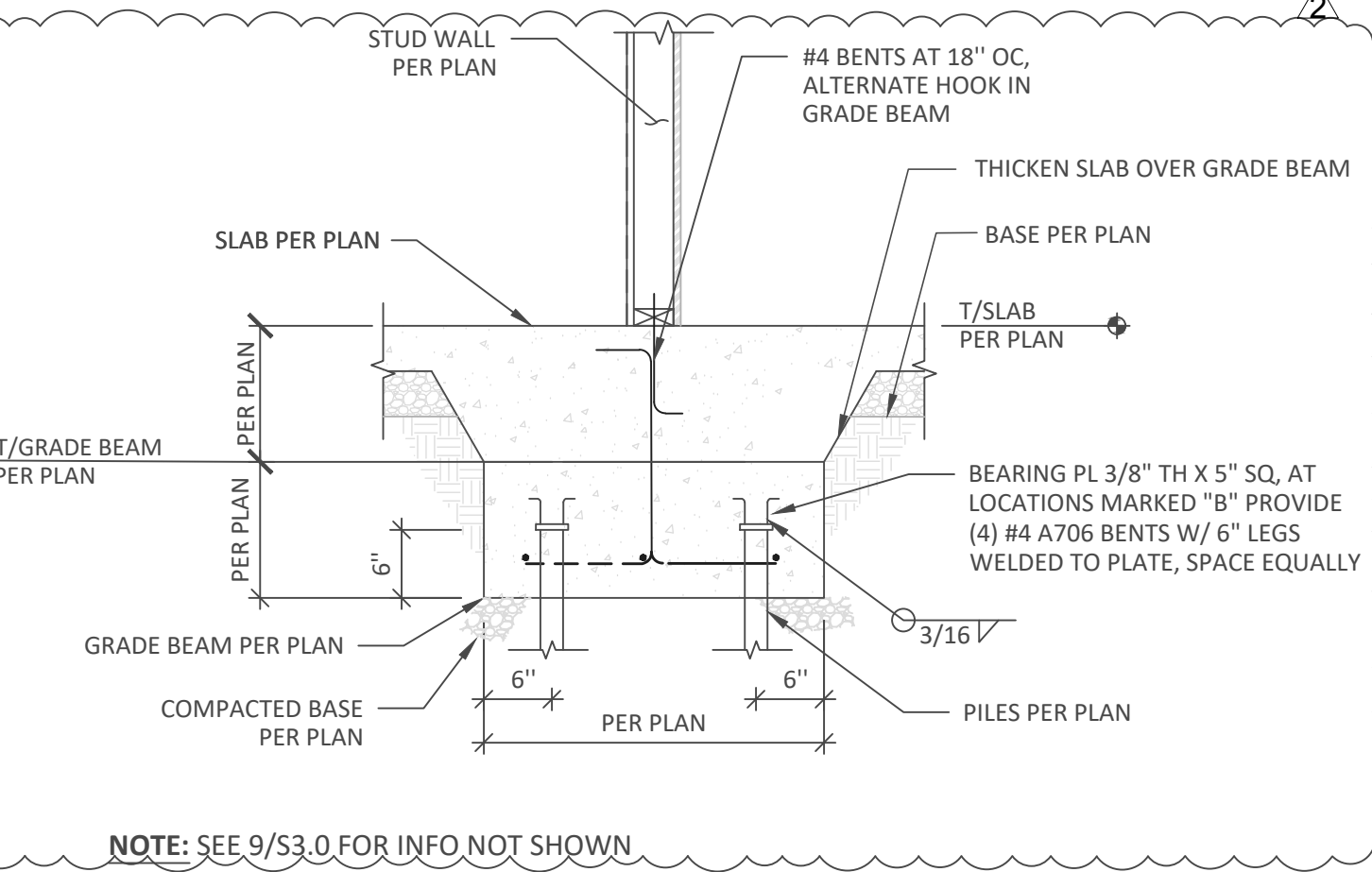
8 SITE RETAINING WALL  
SCALE: 1/4" = 1'-0"



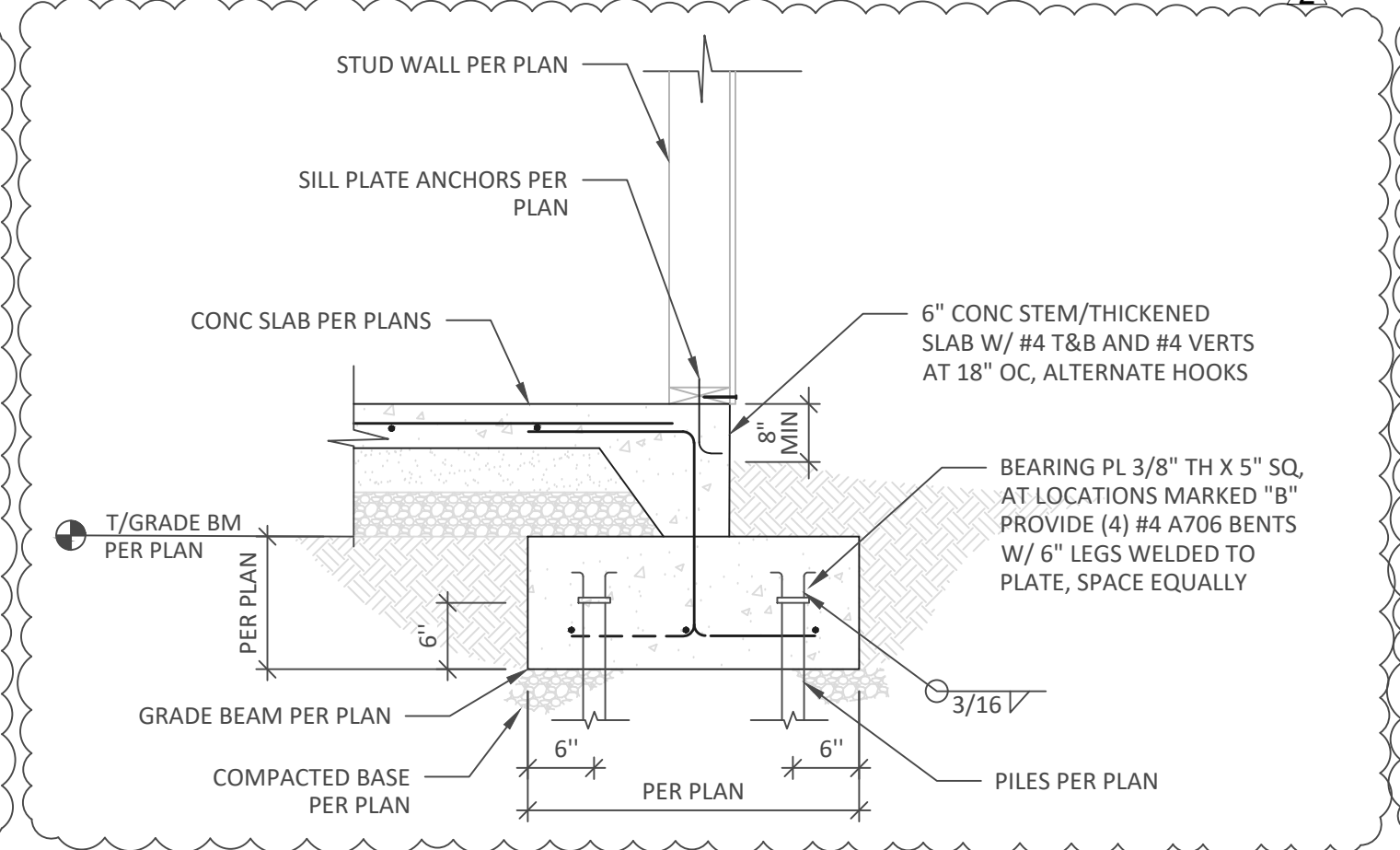
5 CONCRETE STD THREADED ROD ANCHOR  
NOT TO SCALE

BAR SIZE	TOP BARS		OTHERS THAN TOP BARS	
	ld	1.3ld	ld	1.3ld
#3	13"	17"	10"	13"
#4	18"	24"	14"	19"
#5	22"	29"	17"	23"
#6	26"	34"	20"	26"
#7	38"	50"	29"	38"
#8	43"	56"	33"	43"
#9	49"	64"	37"	49"
#10	54"	71"	42"	55"

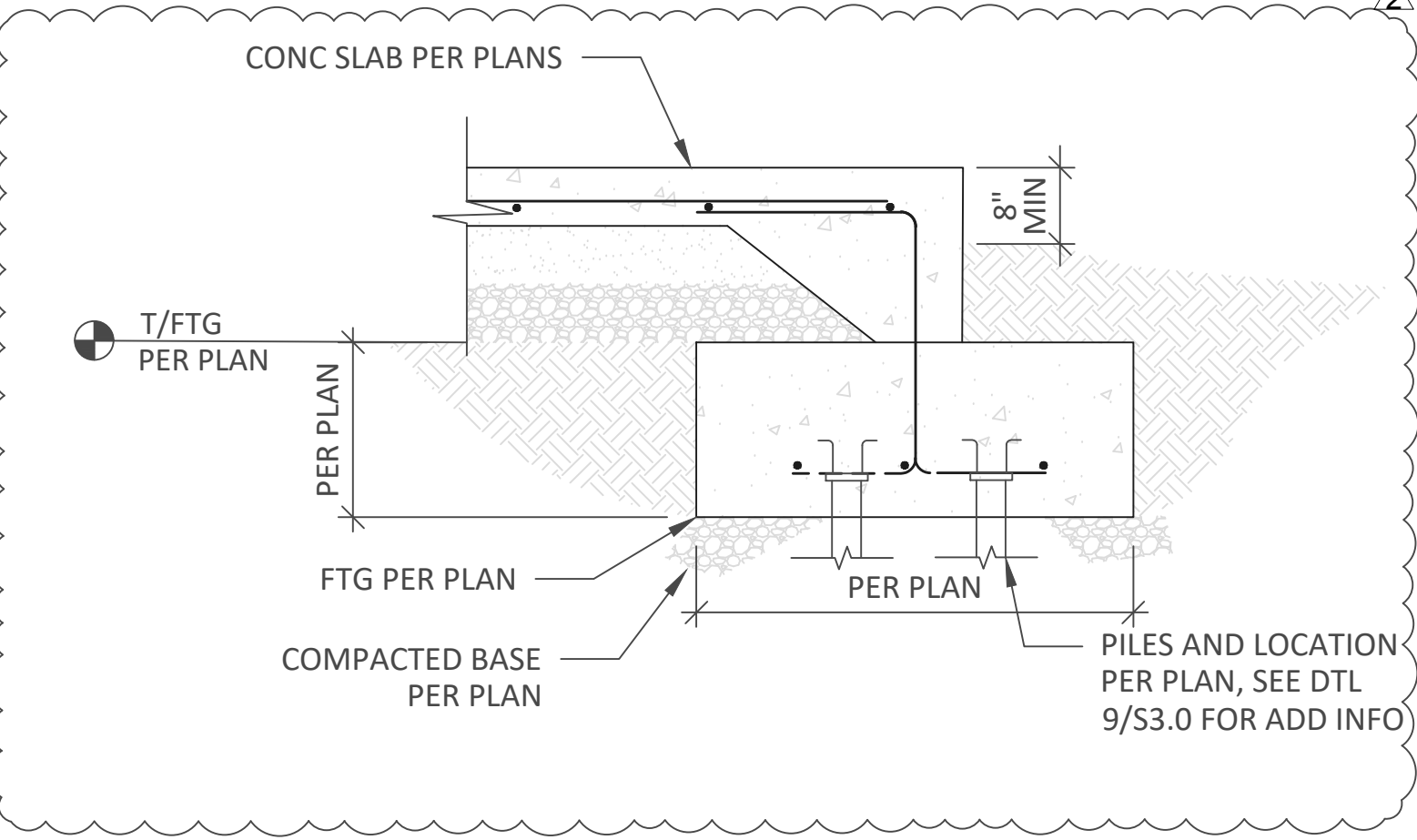
2 DEVELOPMENT LENGTH AND TENSION LAP SPlice LENGTH GRADE 60 BARS AND 3000 PSI CONCRETE  
NOT TO SCALE



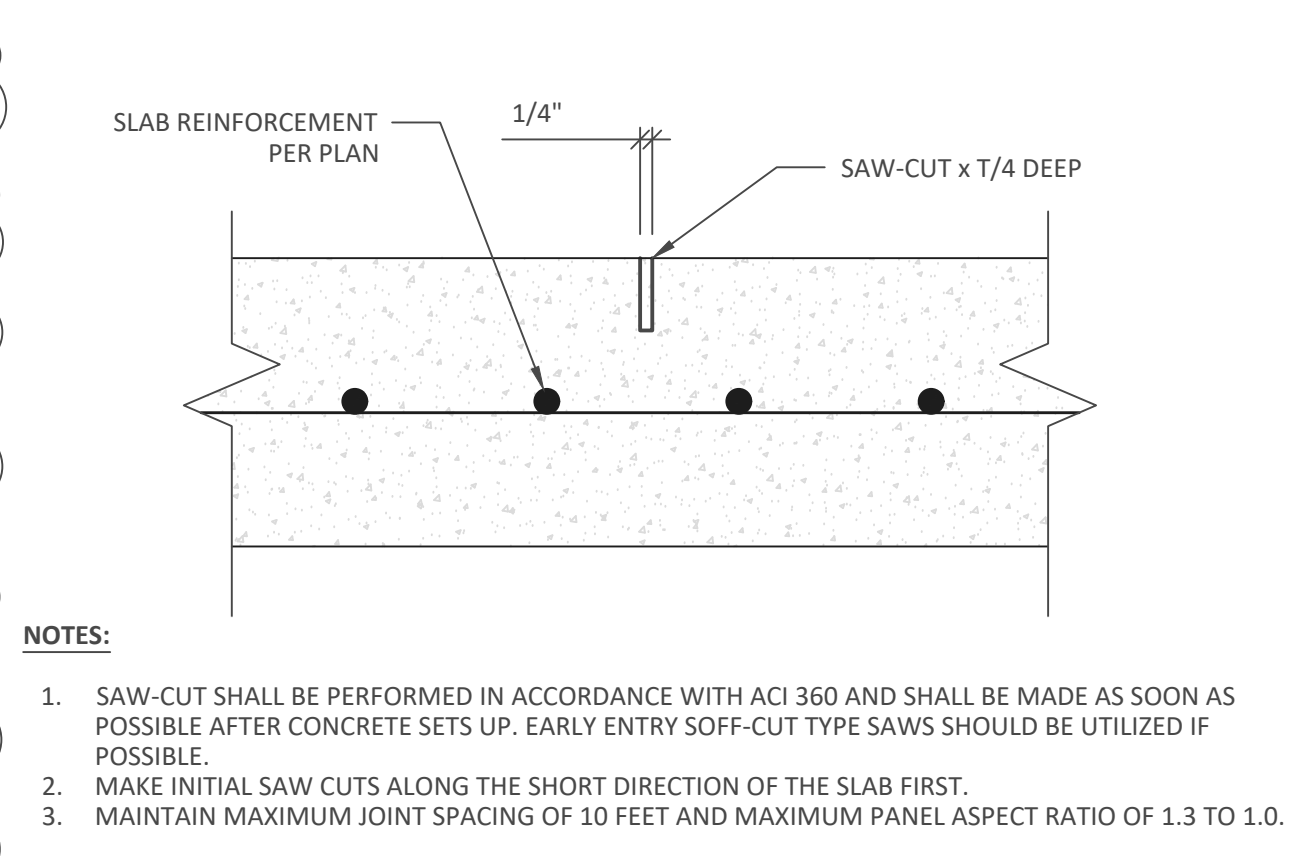
12 INTERIOR THICKENED OVER GRADE BEAM  
SCALE: 3/4" = 1'-0"



9 TYPICAL EXTERIOR GRADE BEAM  
SCALE: 3/4" = 1'-0"



6 SECTION AT SLAB THICKENED EDGE (TYP)  
SCALE: 1" = 1'-0"



3 CONTROL JOINT  
NOT TO SCALE

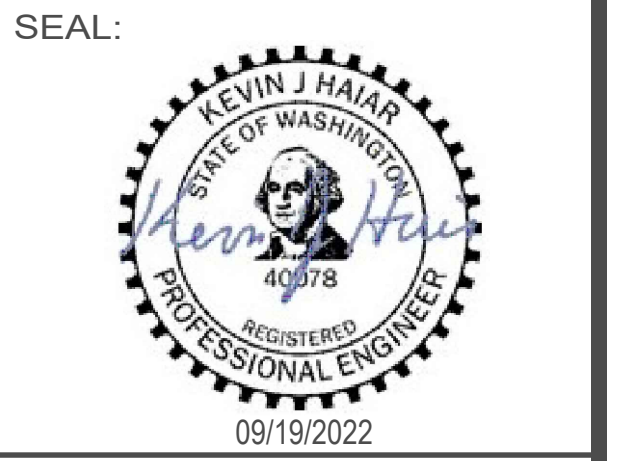
PROPRIETARY DATA IS INCLUDED IN THE INFORMATION DISCLOSED HEREIN AND IS THE SOLE PROPERTY OF MERRELL DESIGN SERVICES PLLC. THIS INFORMATION IS SUBMITTED IN CONFIDENCE AND NEITHER THIS DOCUMENT NOR THE INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY MERRELL DESIGN SERVICES PLLC.

DRAWING ISSUE RECORD:

NO.	STATUS	DATE
	FOR PERMIT	08/12/21

REVISION RECORD:

REV.	BY	DESCRIPTION	DATE
1		REVISION 1	09/19/22
2		REVISION 2	12/09/22



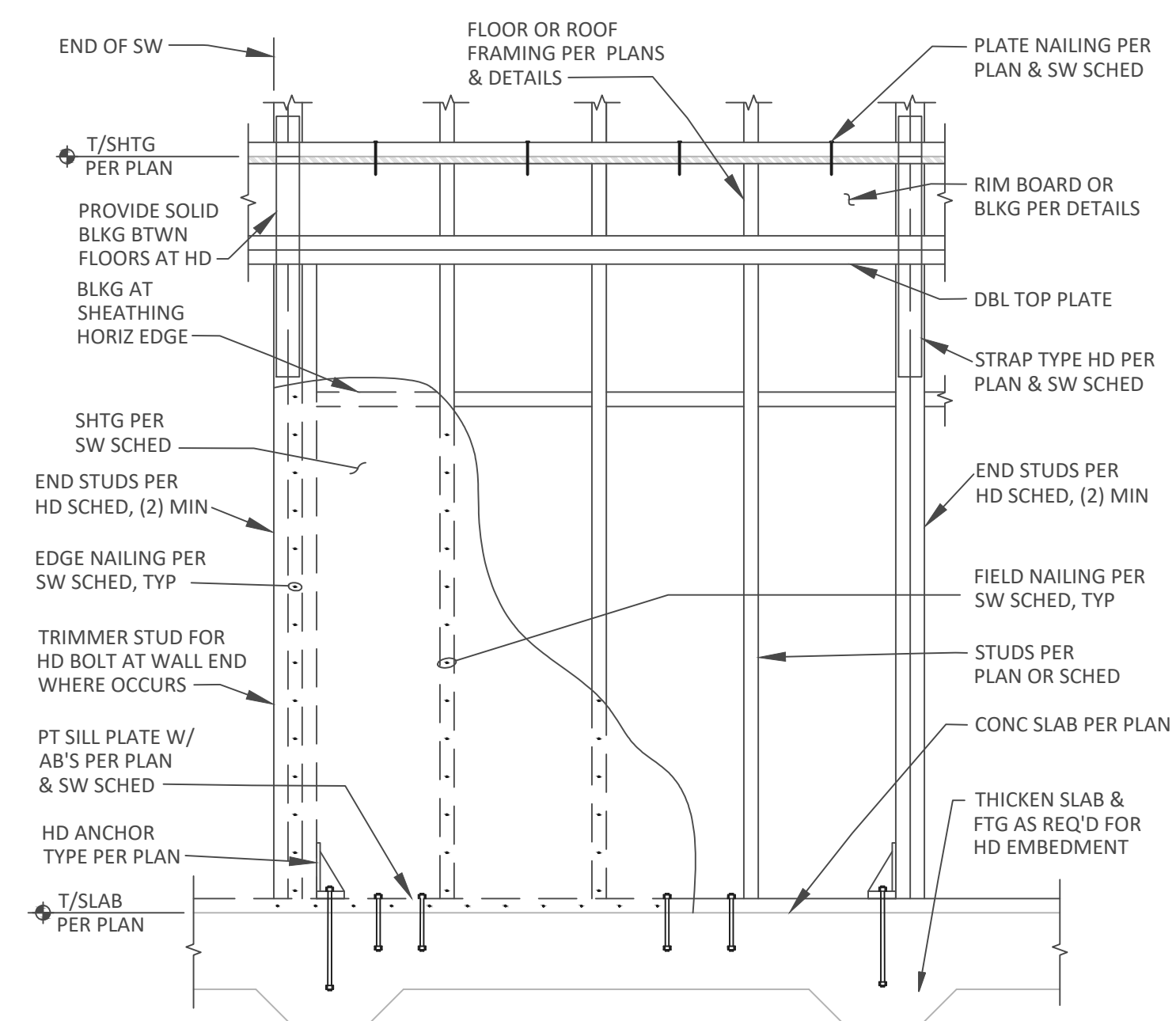
SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT MERRELL DESIGN LLC IS THE ENGINEER OF RECORD FOR THIS PROJECT. ONLY THE DESIGN DESCRIBED IN THE SCOPE AND AS SHOWN ON THESE DRAWINGS IS MERRELL DESIGN'S RESPONSIBILITY. NO INSPECTION OR SUPERVISION IS IMPLIED.

NO.	STATUS	DATE
	FOR PERMIT	08/12/21

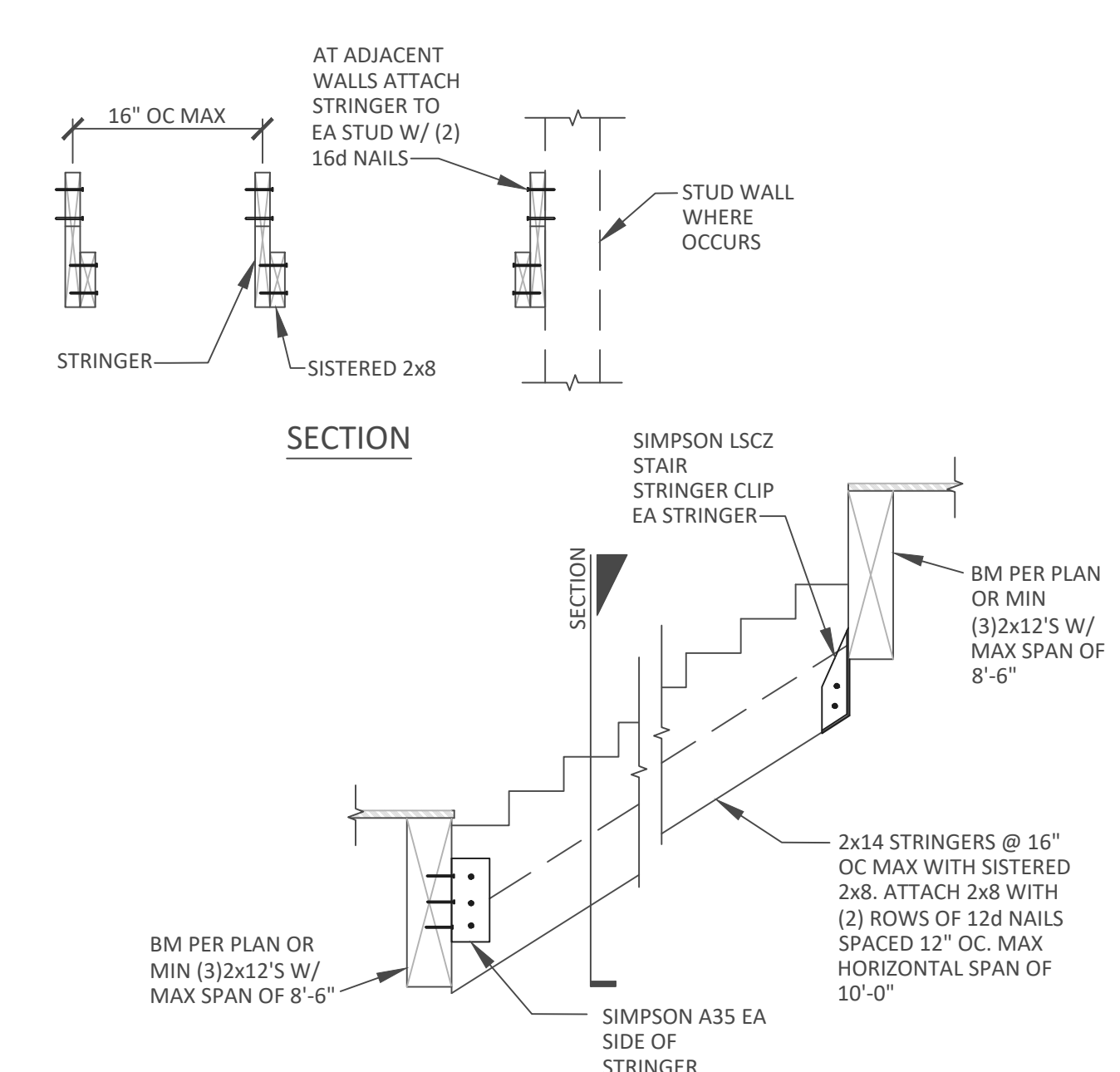
REV.	BY:	DESCRIPTION	DATE
1		REVISION 1	09/19/22
2		REVISION 2	12/09/22
3			
4			
5			
6			



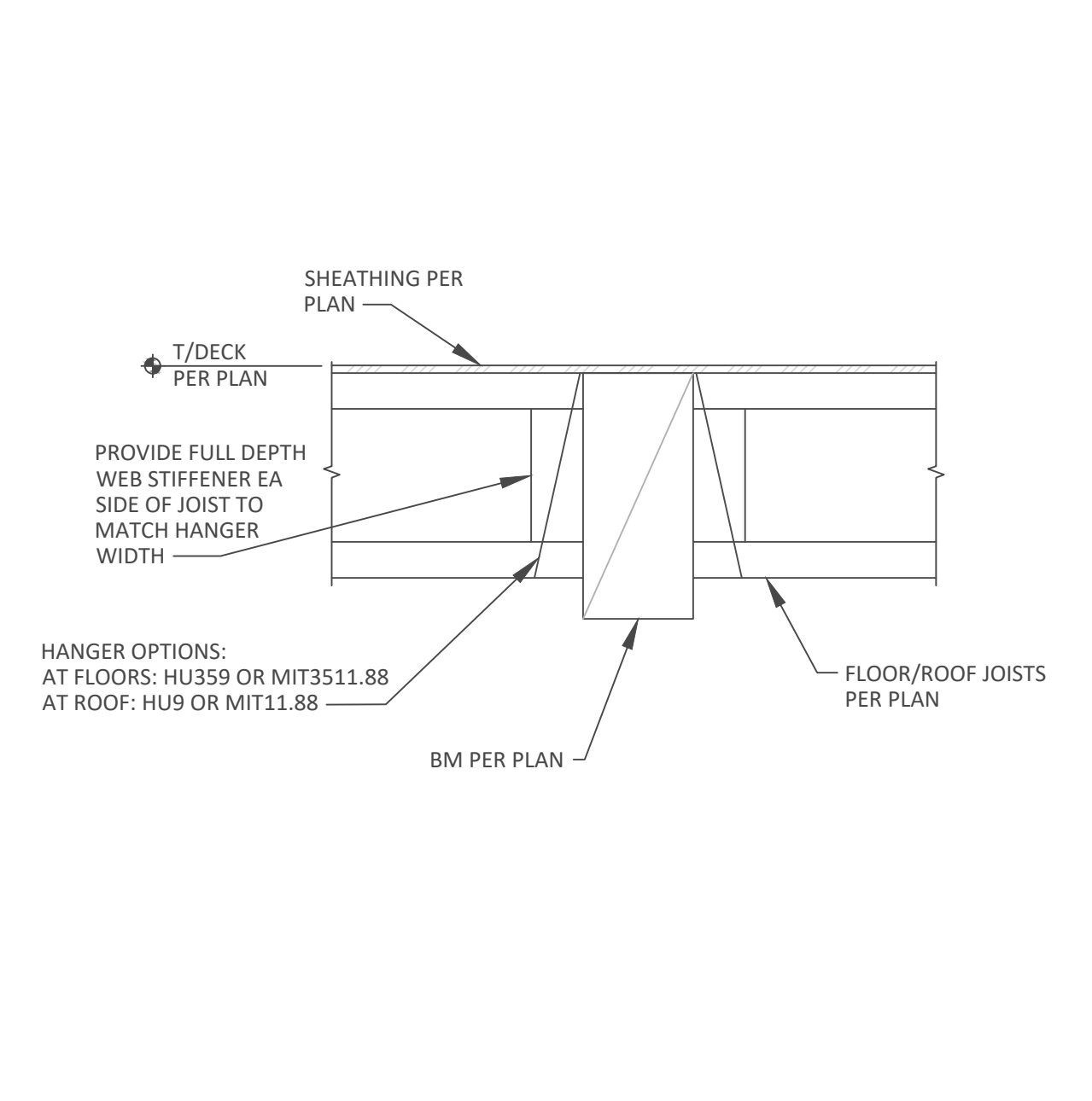
SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT MERRELL DESIGN LLC IS THE ENGINEER OF RECORD FOR THIS PROJECT. ONLY THE DESIGN DESCRIBED IN THE SCOPE AND AS SHOWN ON THESE DRAWINGS IS MERRELL DESIGN'S RESPONSIBILITY. NO INSPECTION OR SUPERVISION IS IMPLIED.



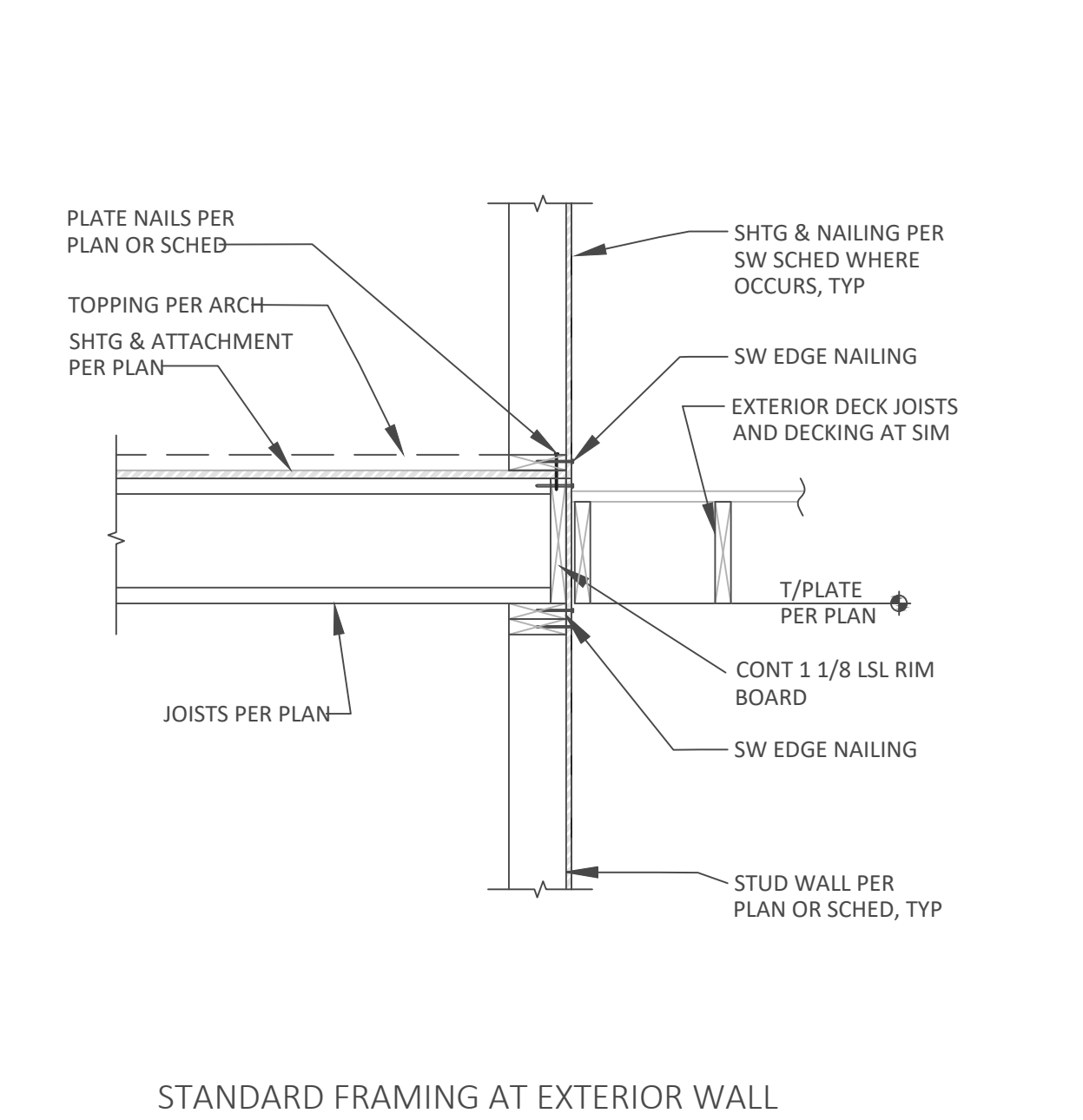
8 STANDARD SHEAR WALL CONSTRUCTION  
NOT TO SCALE



7 STANDARD STAIR FRAMING  
NOT TO SCALE



4 FLOOR JOIST BEARING AT BEAM  
NOT TO SCALE

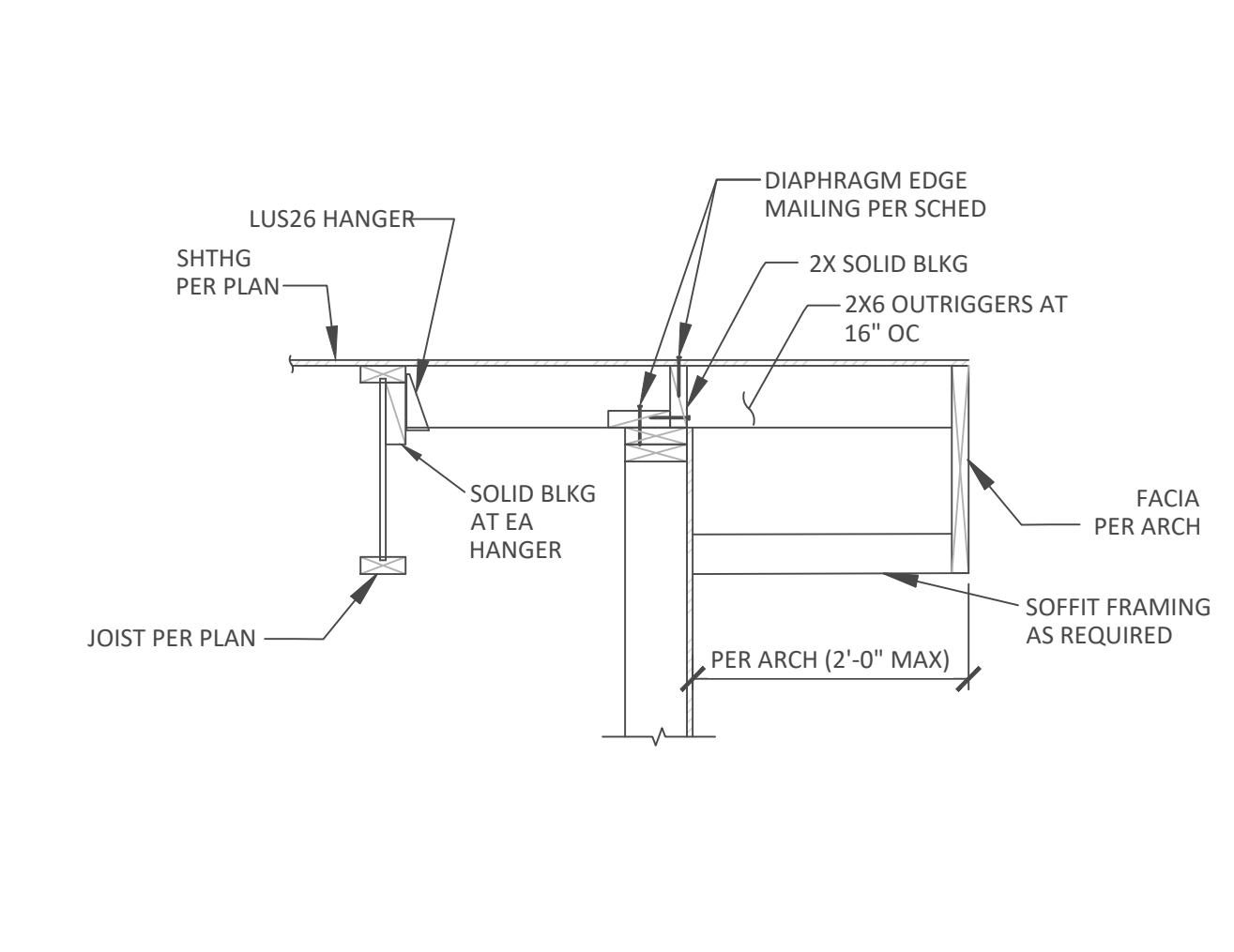


1 STANDARD FRAMING AT EXTERIOR WALL PERPENDICULAR TO JOIST  
NOT TO SCALE

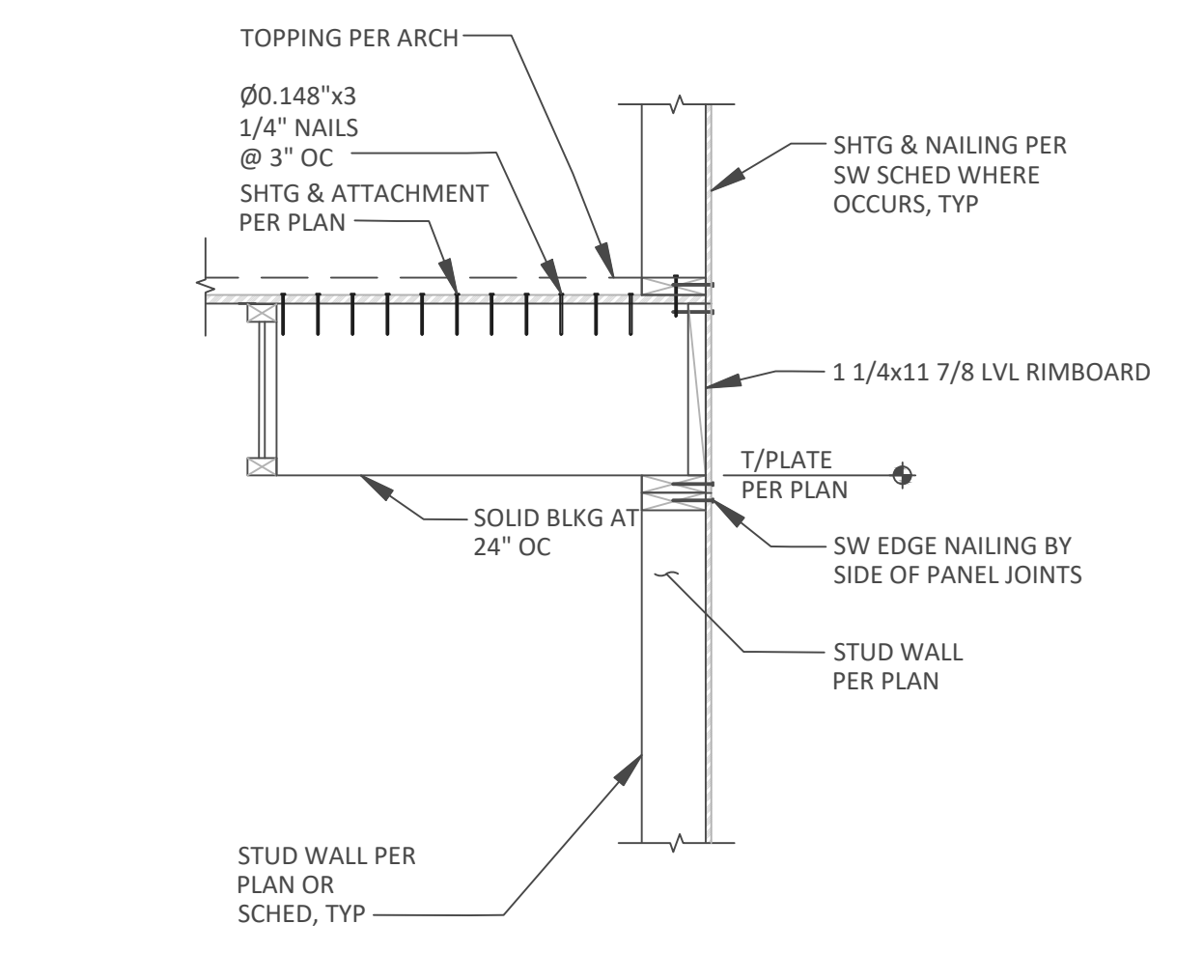
	TYPE	NUMBER OF STUDS/POST	NAILS, SCREWS, OR BOLTS	DIAMETER	ANCHOR			CAPACITY, LBS	NOTES
					CONCRETE EMBEDMENT				
					STEM WALL	SPREAD FOOTING			
					CIP	ADHESIVE	CIP OR ADHESIVE		
WOOD TO CONCRETE	HDU2	(2) 2X	(6) SDS 1/4x2 1/2	5/8"	10"	10"	7"	3075	
	HDU4	(2) 2X	(10) SDS 1/4x2 1/2	5/8"	10"	10"	7"	4565	
	HDU5	(2) 2X	(14) SDS 1/4x2 1/2	5/8"	12"	15"	9"	5645	
	HDU8	6X	(20) SDS 1/4x2 1/2	7/8"	18"	-	11"	7870	
	HDU11	5.5"	(30) SDS 1/4x2 1/2	1	18"	-	11"	9535	
WOOD TO WOOD	LSTA30	(2) 2X	(22) 10d	-	-	-	-	1640	
	MSTA30	(2) 2X	(22) 10d	-	-	-	-	2050	
	MST27	(2) 2X	(30) 16d	-	-	-	-	3700	
	MSTI48	(2) 2X	(48) 16d	-	-	-	-	5070	
	MSTC66	(2) 2X	(76) 16d	-	-	-	-	5860	
	MSTC72	(2) 2X	(62) 16d	-	-	-	-	6730	

- NOTES:**
- PROVIDE SHEAR WALL EDGE NAILING AT AT HOLD-DOWN STUDS/POST.
  - CAPACITY BASED ON 2,500 PSI CONCRETE STRENGTH.
  - STEM WALL SHALL BE MINIMUM 6 INCHES WIDE FOR 5/8" ANCHOR BOLTS AND 8" MINIMUM FOR 7/8" AND LARGER BOLTS.
  - ALL HOLD-DOWNS AND STRAPS ARE BY SIMPSON STRONG TIE. CONTACT ENGINEER FOR ALTERNATE SUPPLIERS.
  - CAST IN PLACE ANCHORS SHALL BE HEX HEAD OR A STANDARD "J" BOLT.
  - ADHESIVE ANCHORS SHALL BE SIMPSON SET OR HILTI HY-150 ADHESIVE.
  - PLACE 1/2 OF NAILS ABOVE FLOOR JOIST AND 1/2 BELOW FLOOR JOIST. NO NAILS IN CLEAR SPAN.

9 HOLD DOWN STRAP SCHEDULE  
NOT TO SCALE



5 ROOF JOIST PARALLEL TO EXTERIOR WALL  
NOT TO SCALE

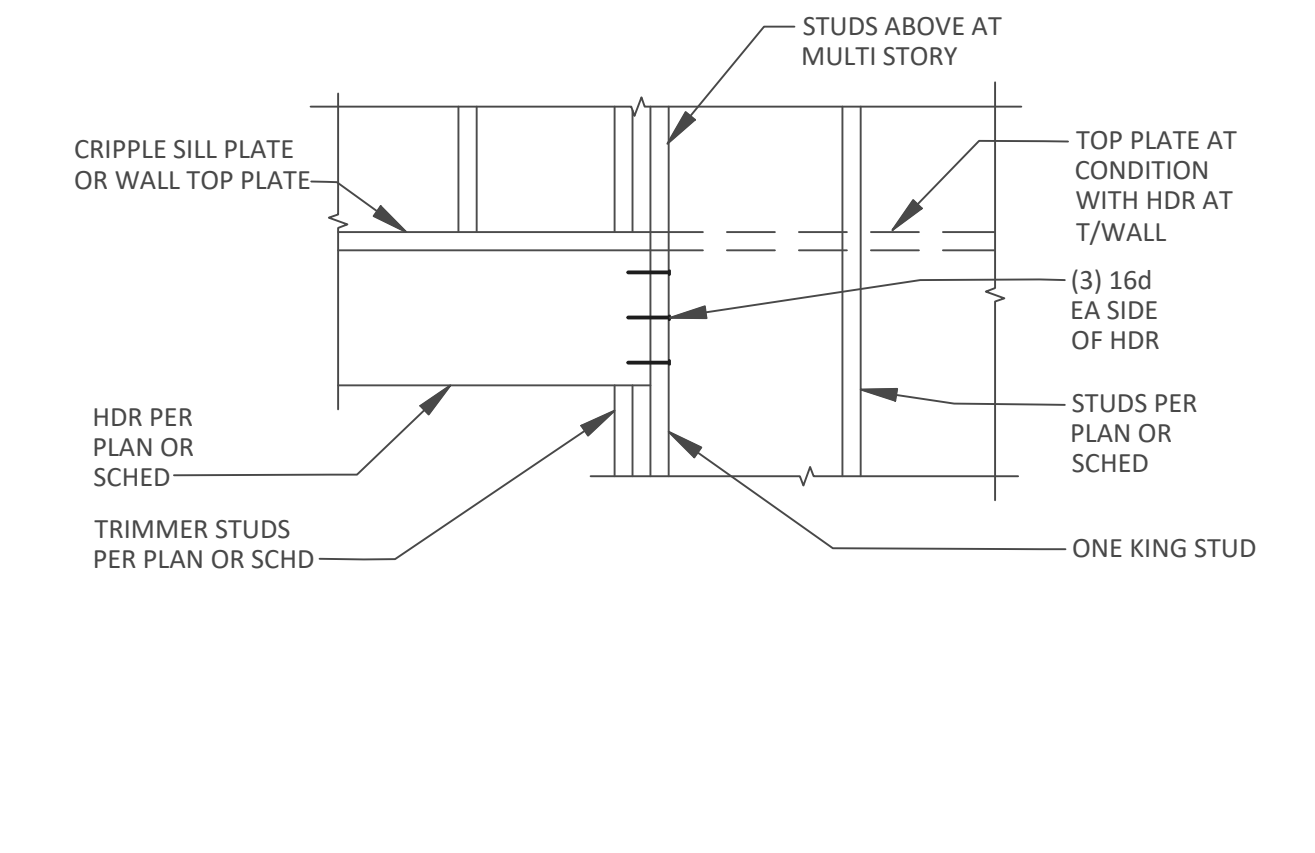


2 TYPICAL FRAMING AT EXTERIOR WALL PARALLEL TO JOIST  
NOT TO SCALE

- NOTES:**
- STUDS SHALL BE SPACED A MAXIMUM OF 16" ON CENTER EXCEPT GYP WALLS MAY BE SPACED AT 24" ON CENTER.
  - BLOCKING IS REQUIRED AT ALL PANEL EDGES.
  - ALL SHEAR PANELS SHALL BE CONTINUOUS BETWEEN HORIZONTAL DIAPHRAGMS SW'S (ROOF TO FLOOR, FLOOR TO FLOOR, FLOOR TO FOUNDATION).
  - REFERENCE GENERAL NOTES ON SHEET S1.0 FOR ADDITIONAL INFO.
  - SHEATHING EDGE NAILING IS REQUIRED AT ALL HOLD-DOWN POST LOCATIONS. PROVIDE MIN (2) STUDS AT ENDS OF ALL. SEE HOLD-DOWN SCHEDULE FOR LARGER END STUDS AT HOLD-DOWNS.
  - ALL NAILING WITH TWO ROWS SHALL HAVE 1 1/2" SPACING BETWEEN ROWS.
  - NO. 6 X 1 1/4" DRYWALL SCREWS MAY BE USED IN LIEU OF 5D COOLER NAILS FOR GYPSUM SHEAR WALLS.
  - 3X BLOCKING AT PANEL EDGES MAY BE SUBSTITUTED WITH (2) 2X BLOCKING NAILED TOGETHER WITH NAIL SIZE AND SPACING TO MATCH SILL NAILING
  - A35 AND LTP5 CLIPS ARE SIMPSON PRODUCTS, BUT MAY BE SUBSTITUTED WITH APPROVED EQUIVALENTS.
  - SOME SHEAR WALL TYPES MAY NOT BE USED ON THIS PROJECT.

6 SHEAR WALL SCHEDULE  
NOT TO SCALE

TYPE	WALL SHEATHING (APA RATED)	EDGE NAILING	FIELD NAILING	BLOCKING AT PANEL EDGES	FASTENERS (WHERE APPLICABLE)			SILL PLATE SIZE	CAPACITY, lbs/ft
					RIM JOIST TO PLATE BELOW	SILL PLATE TO RIM OR TOP PLATE BELOW	SILL ANCHORS		
W6	15/32"	8d AT 6" OC	8d AT 12" OC	2x	A35 OR LTP5 AT 16" OC	16d SINKER AT 8" OC	5/8" DIA AT 48" OC	2x	260
W4	15/32"	8d AT 6" OC	8d AT 12" OC	2x	A35 OR LTP5 AT 12" OC	16d SINKER AT 6" OC	5/8" DIA AT 48" OC	2x	380
W3	15/32"	8d AT 3" OC STAGGERED	8d AT 12" OC	3x OR (2) 2x	A35 OR LTP5 AT 10" OC	16d SINKER AT 4" OC	5/8" DIA AT 16" OC	2x	490
W2	15/32"	8d AT 2" OC STAGGERED	8d AT 12" OC	3x OR (2) 2x	A35 OR LTP5 AT 8" OC	(2) ROWS 16d SINKER AT 6" OC	5/8" DIA AT 32" OC	3x OR (2) 2x	640
2W4	15/32" BOTH SIDES	8d AT 4" OC STAGGERED	8d AT 12" OC	3x OR (2) 2x	A35 OR LTP5 AT 12" OC EACH SIDE	(2) ROWS 16d SINKER AT 6" OC	5/8" DIA AT 24" OC	3x OR (2) 2x	760
2W3	15/32" BOTH SIDES	8d AT 3" OC STAGGERED	8d AT 12" OC	3x OR (2) 2x	A35 OR LTP5 AT 10" OC EACH SIDE	(2) ROWS 16d SINKER AT 4" OC	5/8" DIA AT 24" OC	3x OR (2) 2x	980
2W2	15/32" BOTH SIDES	8d AT 2" OC STAGGERED	8d AT 12" OC	3x OR (2) 2x	A35 OR LTP5 AT 8" OC EACH SIDE	A35 OR LTP5 AT 8" OC EACH SIDE	5/8" DIA AT 16" OC	3x OR (2) 2x	1280
G7	1/2" GYP BOARD	5d COOLER @ 7" OC	5d COOLER @ 7" OC	2x	A35 OR LTP5 AT 24" OC	16d SINKER AT 8" OC	5/8" DIA AT 48" OC	2x	75
G4	1/2" GYP BOARD	5d COOLER @ 4" OC	5d COOLER @ 4" OC	2x	A35 OR LTP5 AT 24" OC	16d SINKER AT 8" OC	5/8" DIA AT 48" OC	2x	110



3 STANDARD HEADER PERPENDICULAR TO FLOOR JOIST  
NOT TO SCALE



**Merrell Design Services**  
Practical Structural Solutions

MERRELL DESIGN SERVICES PLLC  
Nine Mile Falls, Washington 99026  
509-998-7410  
TJ@MDSstructural.com

PROJECT:  
**CHESHIRE**

JOB SITE ADDRESS:  
7615 E. MERCER WAY  
MERCER ISLAND, WA 98040

ARCHITECT:  
Formworks Design Build  
7434 SE 71st St  
Mercer Island, WA  
98040

PROPRIETARY DATA IS INCLUDED IN THE INFORMATION DISCLOSED HEREIN AND IS THE SOLE PROPERTY OF MERRELL DESIGN SERVICES PLLC. THIS INFORMATION IS SUBMITTED IN CONFIDENCE AND NEITHER THIS DOCUMENT NOR THE INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY MERRELL DESIGN SERVICES PLLC.

**DRAWING ISSUE RECORD:**

NO.	STATUS	DATE
	FOR PERMIT	08/12/21

**REVISION RECORD:**

REV.	BY:	DESCRIPTION	DATE
1		REVISION 1	09/19/22
2		REVISION 2	12/09/22

**SEAL:**



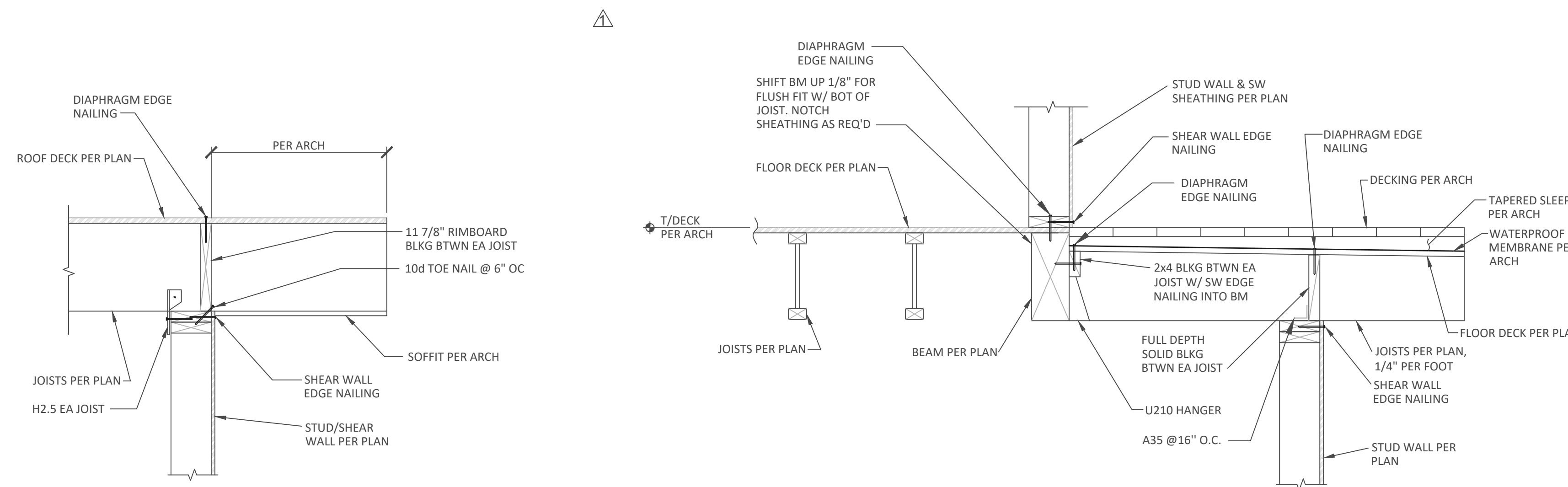
SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT MERRELL DESIGN LLC IS THE ENGINEER OF RECORD FOR THIS PROJECT. ONLY THE DESIGN DESCRIBED IN THE SCOPE AND AS SHOWN ON THESE DRAWINGS IS MERRELL DESIGN'S RESPONSIBILITY. NO INSPECTION OR SUPERVISION IS IMPLIED.

JOB#  
**21-045**

SHEET TITLE:  
**DETAILS**

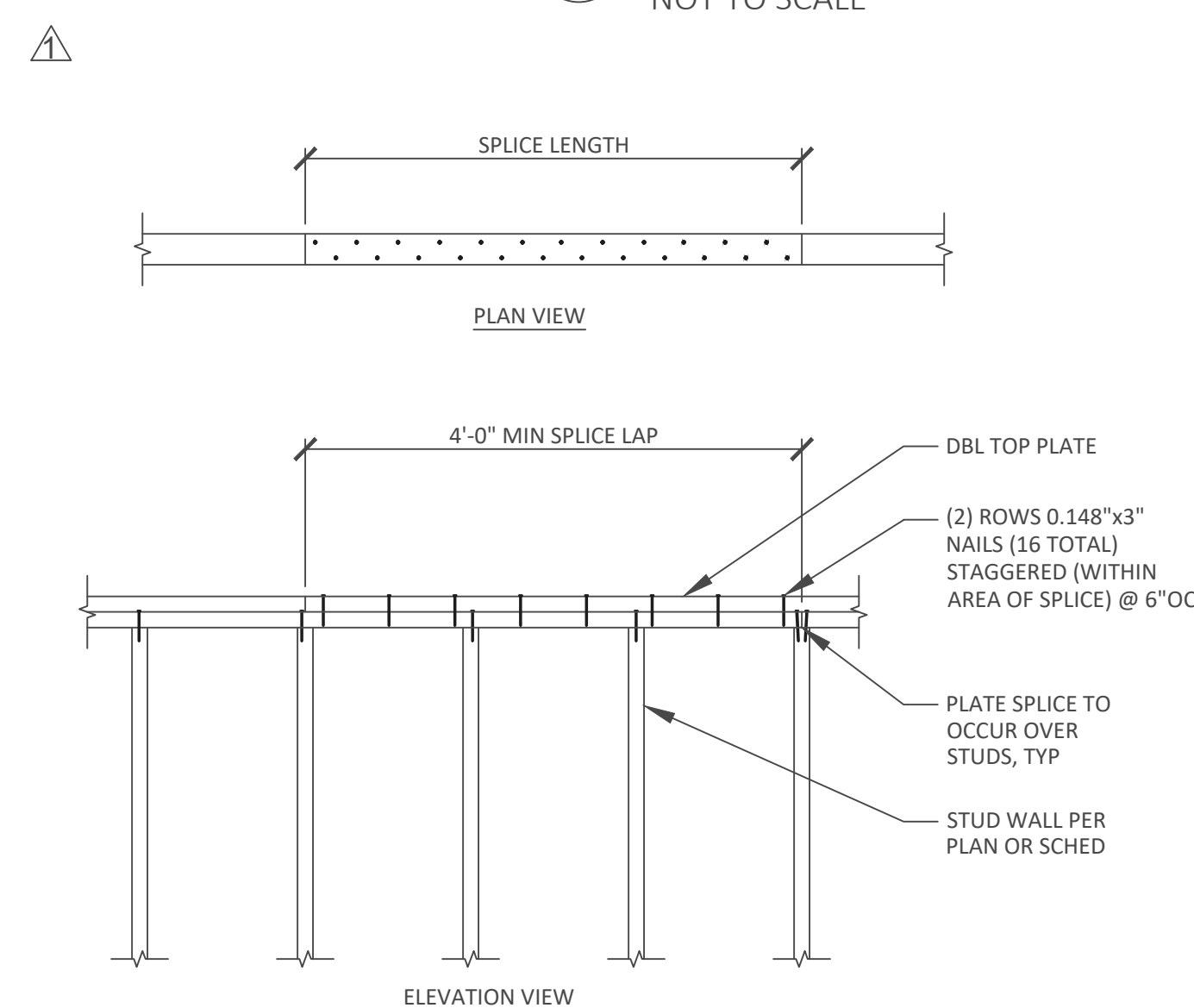
SHEET#:  
**S3.2** SCALE: AS SHOWN

DRAWN:	DATE:	CHECKED:	DATE:
SG	09/19/2022	AJM	09/19/2022



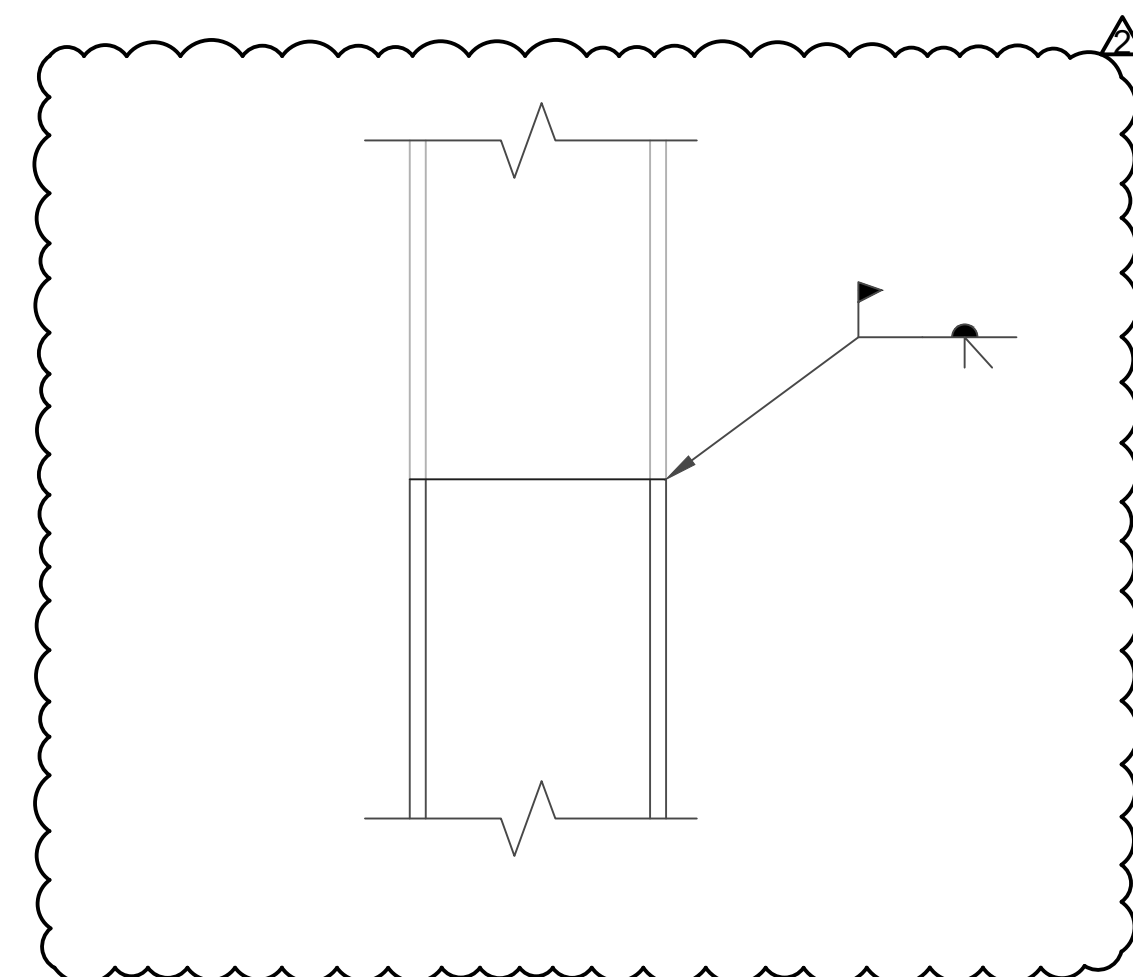
1 SECTION AT DECK OVERHANG  
NOT TO SCALE

4 TYPICAL ROOF JOIST BEARING/OVERHANG  
NOT TO SCALE

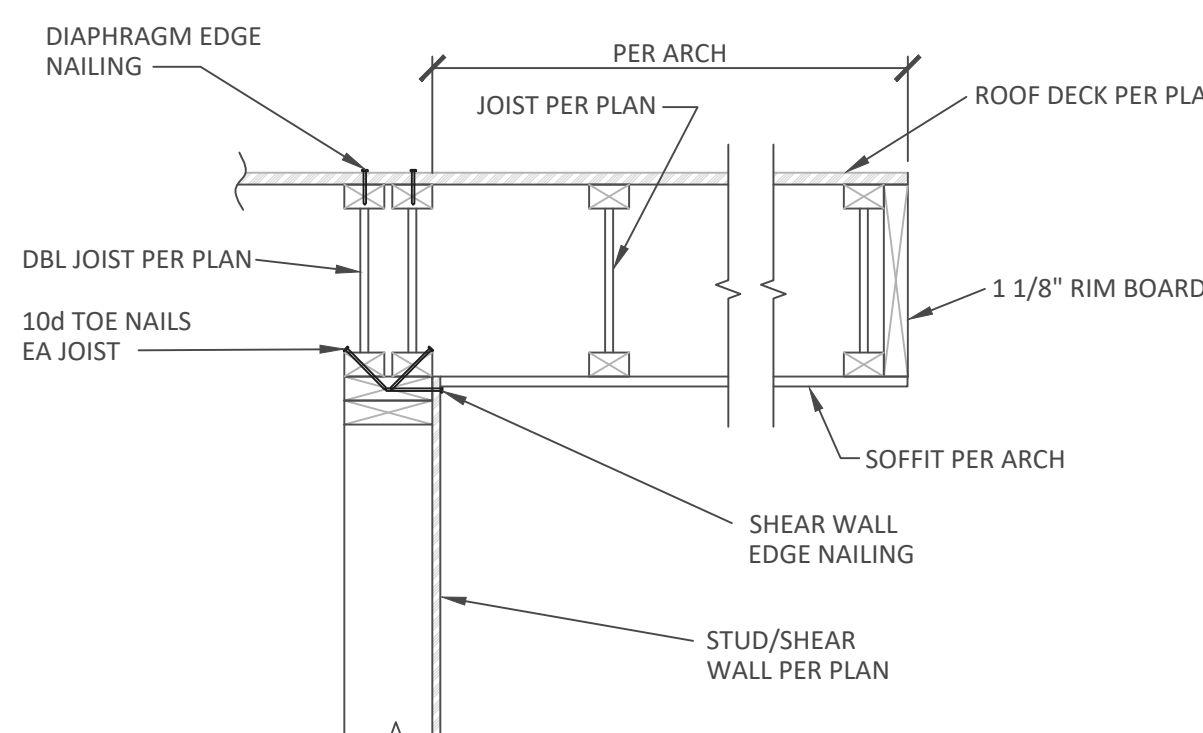


**NOTE:**  
FLOOR/ROOF FRAMING NOT SHOWN FOR CLARITY.

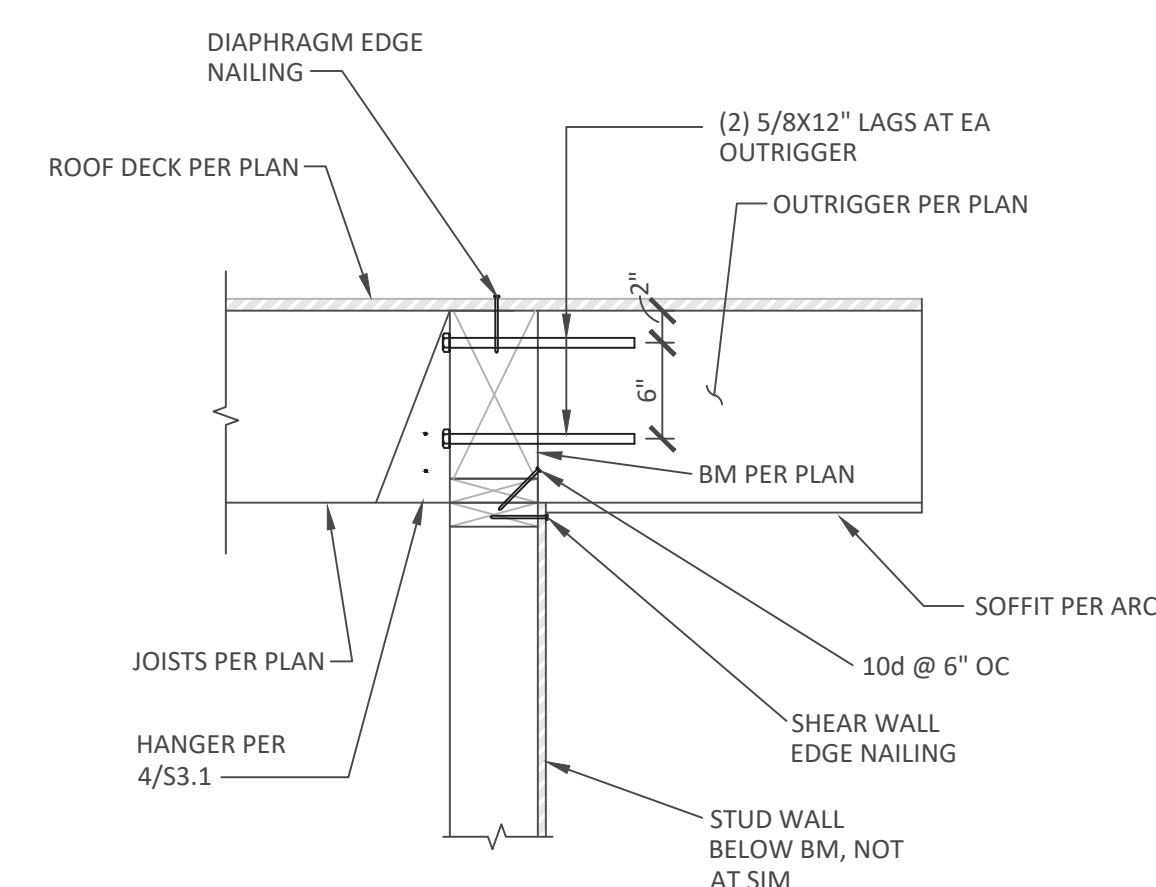
7 TYPICAL PLATE SPLICE DETAIL  
SCALE: 3/4" = 1'-0"



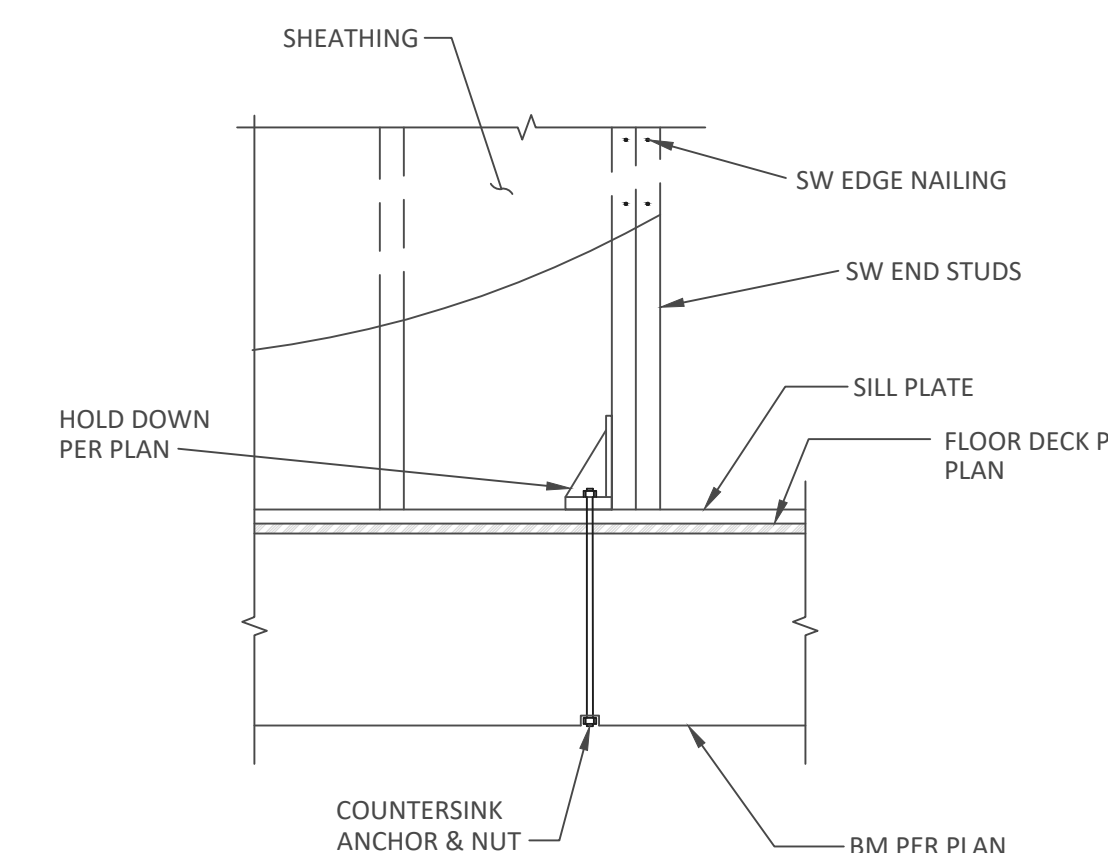
6 STEEL PIPE PILE SPLICE DETAIL  
NOT TO SCALE



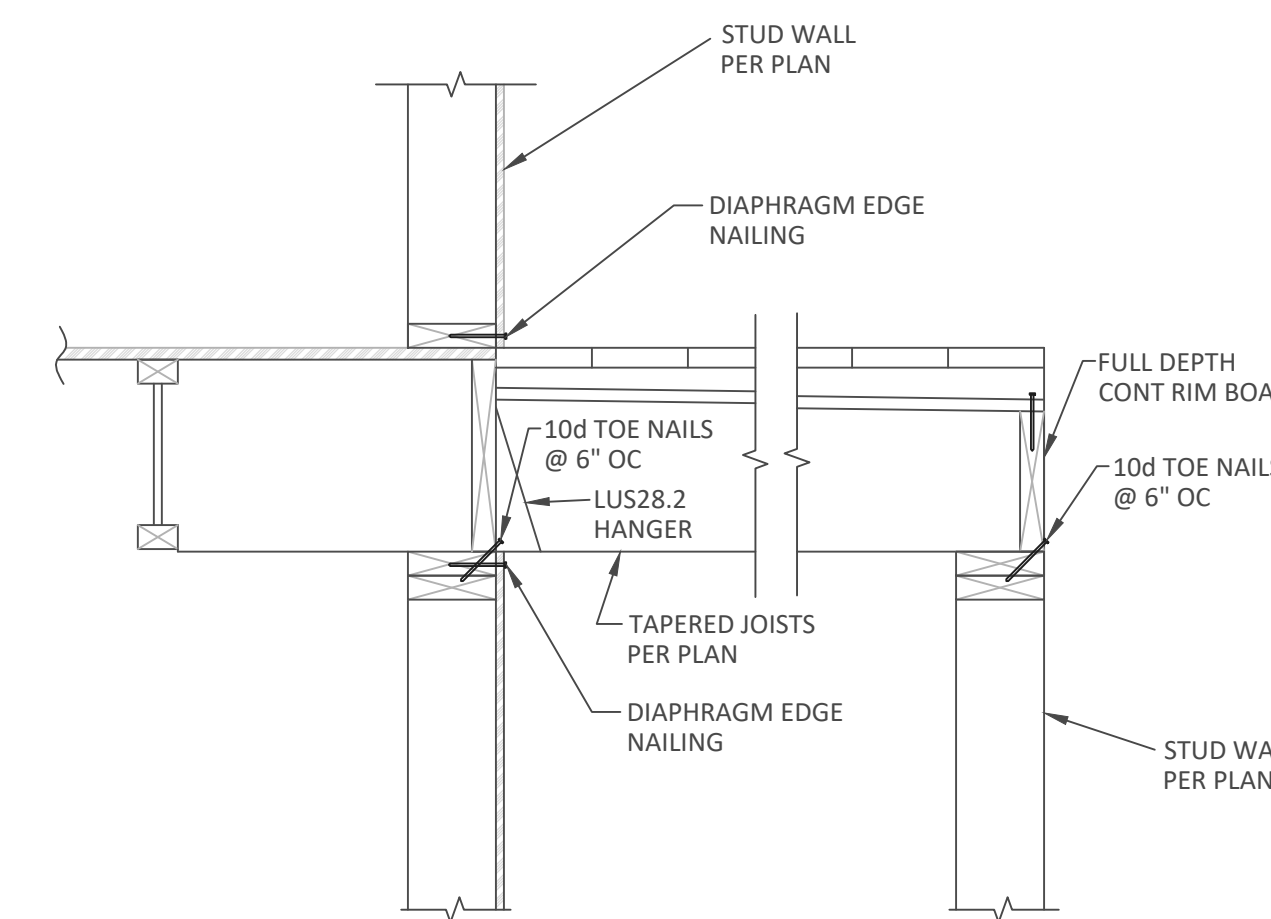
5 ROOF DRAG BEAM  
NOT TO SCALE



6 ROOF JOISTS AT CANTILEVERED GIRDER  
NOT TO SCALE



2 HOLD-DOWN ANCHOR AT BEAM  
NOT TO SCALE



**NOTE:**  
REFERENCE 1/S3.2 AND 2/S3.1 FOR INFORMATION NOT SHOWN.

3 MAIN FLOOR DECK FRAMING  
NOT TO SCALE