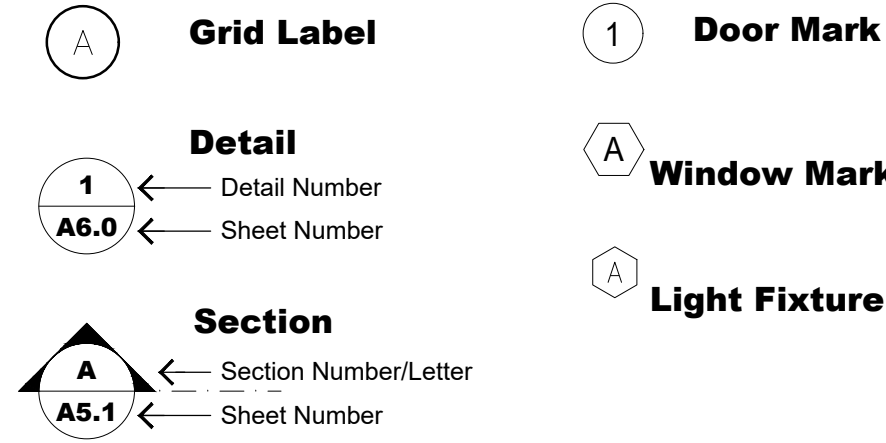


SYMBOL LEGEND



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

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 ITEMS 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.
-

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 #402.4.1.2 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 #401.3, A CERTIFICATE IS REQUIRED TO BE POSTED WITHIN 3 FT OF THE ELECTRICAL PANEL. IT MUST INCLUDE THE FOLLOWING: 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.

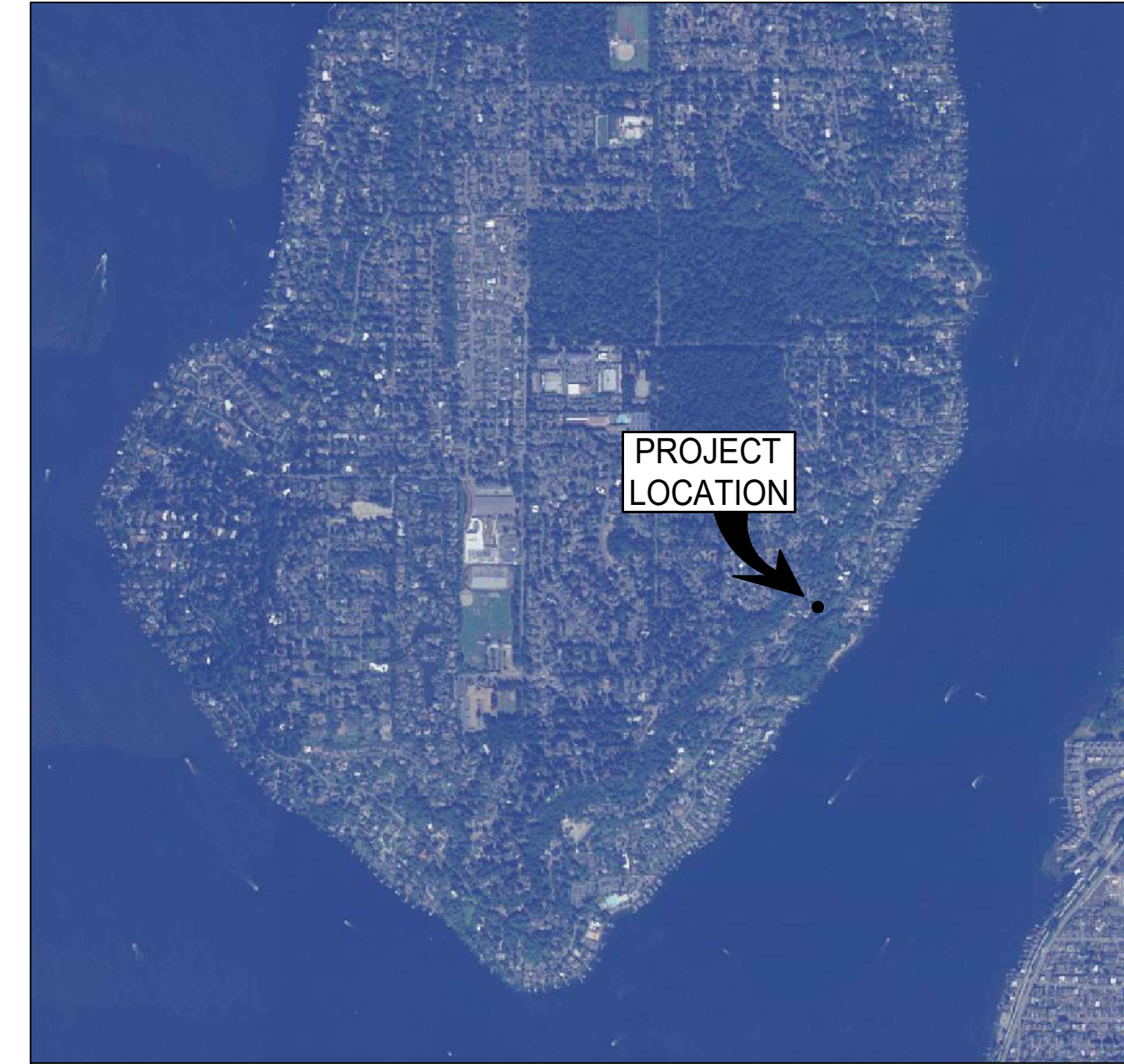
- AIR INFILTRATION MANUFACTURED DOORS/WINDOWS: CONFORM TO SECTION R402.4.3 OF THE WASHINGTON STATE ENERGY CODE
- EXTERIOR JOINTS/OPENINGS: SEAL, CALK, GASKET OR WEATHERSTRIP TO LIMIT AIR LEAKAGE AT EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, OPENINGS BETWEEN WALLS AND FOUNDATION, BETWEEN WALLS AND ROOF, OPENINGS AT PENETRATIONS OF UTILITY SERVICES AND ALL OTHER SUCH OPENINGS IN THE BUILDING ENVELOPE.
- MOISTURE CONTROL 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)
- ATTIC/CEILINGS: VAPOR RETARDER OF ONE PERM CUP RATING (4 MIL POLYETHYLENE). INSTALL CONTINUOUSLY
- CRAWL SPACE: 6 MIL POLYETHYLENE
- VENTILATION ATTICS WITH LOOSE FILL: N/A. BAFFLE VENT OPENINGS TO DEFLECT AIR ABOVE INSULATION SURFACE ENCLOSED JOIST OR RAFTER SPACES: PROVIDE MINIMUM OF ONE INCH CLEAR VENTED AIR SPACE ABOVE INSULATION. TAPER OR COMPRESS INSULATION AT PERIMETER TO INSURE PROPER VENTILATION, MAINTAINING MINIMUM OF R-38.
- HEATING & COOLING GAS FURNACE & AIR SOURCE HEAT PUMP
- TEMP. CONTROL FOR HEATING AND COOLING, THERMOSTAT SHALL BE CAPABLE OF BEING SET FROM 55-85 DEGREES FAHRENHEIT AND OF OPERATING THE HEATING/COOLING SYSTEM IN SEQUENCE. THERMOSTAT TO BE AUTOMATIC DAY/NIGHT SETBACK TYPE.
- DUCT ISULATION THERMALLY INSULATE ALL PLUMBING, DUCTS AND ENCLOSURES IN ACCORDANCE WITH SECTION #403.3.1 OF THE WASHINGTON STATE ENERGY CODE.
- 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.
 - DUCTS WITHIN A CONCRETE SLAB OR IN THE GROUND SHALL BE INSULATED TO R-10, WITH INSULATION DESIGNED TO BE USED BELOW GRADE.
- LIGHTING RECESSED LIGHTING FIXTURES INSTALLED IN BUILDING ENVELOPE SHALL COMPLY WITH WSEC PROVISIONS AND SHALL BE IC LISTED. A MIN. OF 75% OF PERMANENTLY INSTALLED LAMPS IN INTERIOR AND EXTERIOR LIGHTING FIXTURES MUST BE HIGH-EFFICACY LAMPS, PER WSEC #404.1.
- PIPE INSULATION 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:
 - WHOLE HOUSE VENTILATION SHALL BE PROVIDED BY EXHAUST FAN PROVIDING 320 CFM RUNNING INTERMITTENTLY PER 2018 IRC TABLE M507.3.3 (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.
 - SYSTEM SHALL HAVE A 3" SMOOTH FRESH AIR DUCT W/ LOUVER & SCREEN CONNECTED TO THE RETURN AIR STREAM & UPSTREAM OF THE AIR HANDLER AND INSULATED W/ R-4 MIN IN HEATED AREAS.
 - 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 FUELS, MIN 10' FROM PLUMBING OR APPLIANCE VENTS, AWAY FROM ROOMS W/ FUEL BURNING APPLIANCES, AND OUT OF ATTICS, CRAWL SPACES, AND GARAGES.
 - AIRFLOW FOR WHOLE HOUSE EXHAUST FAN SHALL BE PROVIDED BY UNDERCUTTING INTERIOR DOORS 1/2" ABOVE FINISHED FLOOR, TYP.
- PLUMBING FIXTURES ALL PLUMBING FIXTURES SHALL CONFORM TO ROW 19.27.170
- | | |
|-------------------------|---------------------------|
| 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

MEDIUM DWELLING UNIT : 6 CREDITS REQUIRED		
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 #403.3.7	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 206-406-1589	LANDSCAPE ARCHITECT BERGER PARTNERSHIP 1927 POST ALLEY STE. 2 SEATTLE WA 98101 JASON HENRY 206-492-1589 206-492-5579	SHORING ENGINEER GROUND SUPPORT 15704 NE 157TH STREET WOODINVILLE WA 98072 JOHN BYRNE 425-985-9338
STRUCTURAL ENGINEERING MERRELL DESIGN SERVICES NINE MILE FALLS WA 99026 T.J. MERRELL 206-255-7410	GEOTECH TERRA ASSOCIATES 12220 113TH AVENUE NE, SUITE 130 KIRKLAND WA 98034 CAROLYN DECKER 206-255-4988	ENVIRONMENTAL THE WATERSHED COMPANY 750 6TH AVENUE S. KIRKLAND WA 98033 DAN NICKEL 425-822-5242
CIVIL ENGINEER CORE DESIGN 12100 NE 195TH ST. #300 BOTHELL WA 98011 SHERI MURATA 425-885-7877	ARBORIST ABC CONSULTING ARBORISTS 10307 JASMINE LANE CHATTAROY WA 99003 DANIEL MAPLE 509-953-0293	
SURVEYOR TERRANE 10801 MAIN STREET #102 BELLEVUE WA 98004 425-458-4488		



2 VICINITY MAP

PROJECT INFORMATION

OWNERS NAME:	LONGVIEW BELLA LLC 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 S87°25'49"E 20.08' TO SAID WESTERLY MARGIN AND A POINT OF NON-RADIAL INTERSECTION WITH A 603.14 RADIUS CURVE TO THE RIGHT, THE CENTER OF WHICH BEARS S30°03'18"E;
THENCE NORTHEASTERLY, 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

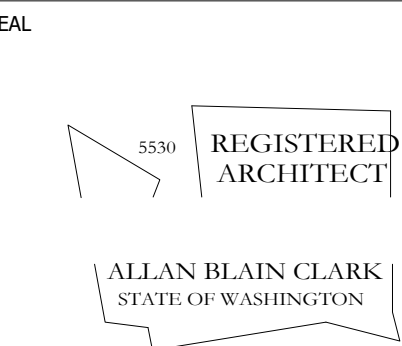
A-0	COVER SHEET	S1.0	GENERAL STRUCTURAL NOTES
A-1	PROJECT INFORMATION, LEGAL DESCRIPTION, VICINITY MAP, SYMBOL LEGEND, ABBREVIATIONS LIST, GENERAL NOTES, VENTILATION & ENERGY NOTES, DRAWING INDEX	S2.0	FOUNDATION PLAN
C-1	SURVEY	S2.1	FIRST FLOOR FRAMING PLAN
C-2	SITE PLAN	S2.2	SECOND FLOOR FRAMING PLAN
C-3	TITLE SHEET	S2.3	ROOF FRAMING
C-4	TESC PLAN	S2.4	FIRST & SECOND FLOOR STUD PLANS
C-5	ROAD AND GRADING PLAN	S3.0	STRUCTURAL DETAILS
C-6	UTILITY PLAN	S3.1	STRUCTURAL DETAILS
C-7	STORMWATER DETAILS	SH1.0	COVER SHEET
L-1	TREE PLAN	SH1.1	NOTES
A2.0	SHORING PLAN	SH1.2	NOTES
A2.1	LOWER FLOOR PLAN	SH2.0	SHORING PLAN
A2.2	SECOND FLOOR	SH3.0	SOUTH WALL ELEVATION
A2.3	ROOF PLAN	SH3.1	WEST WALL ELEVATION
A3.0	NORTH ELEVATION	SH3.2	NORTH WALL ELEVATION
A3.1	SOUTH ELEVATION	SH3.A	PILE AND ANCHOR SCHEDULE
A3.2	EAST ELEVATION	SH4.0	CROSS SECTIONS
A3.3	WEST ELEVATION	SH5.0	DETAILS
A4.1	SECTION	SH5.1	DETAILS
A4.2	SECTION	SH5.2	DETAILS
		SH5.3	DETAILS
		SH5.4	DETAILS
		SH5.5	DETAILS
		SH6.0	SPECIFICATIONS

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



CONSULTANT

PROJECT

LONGVIEW BELLA LLC
9271 SE 76TH STREET
MERCER ISLAND, WA 98040

ISSUE INFORMATION

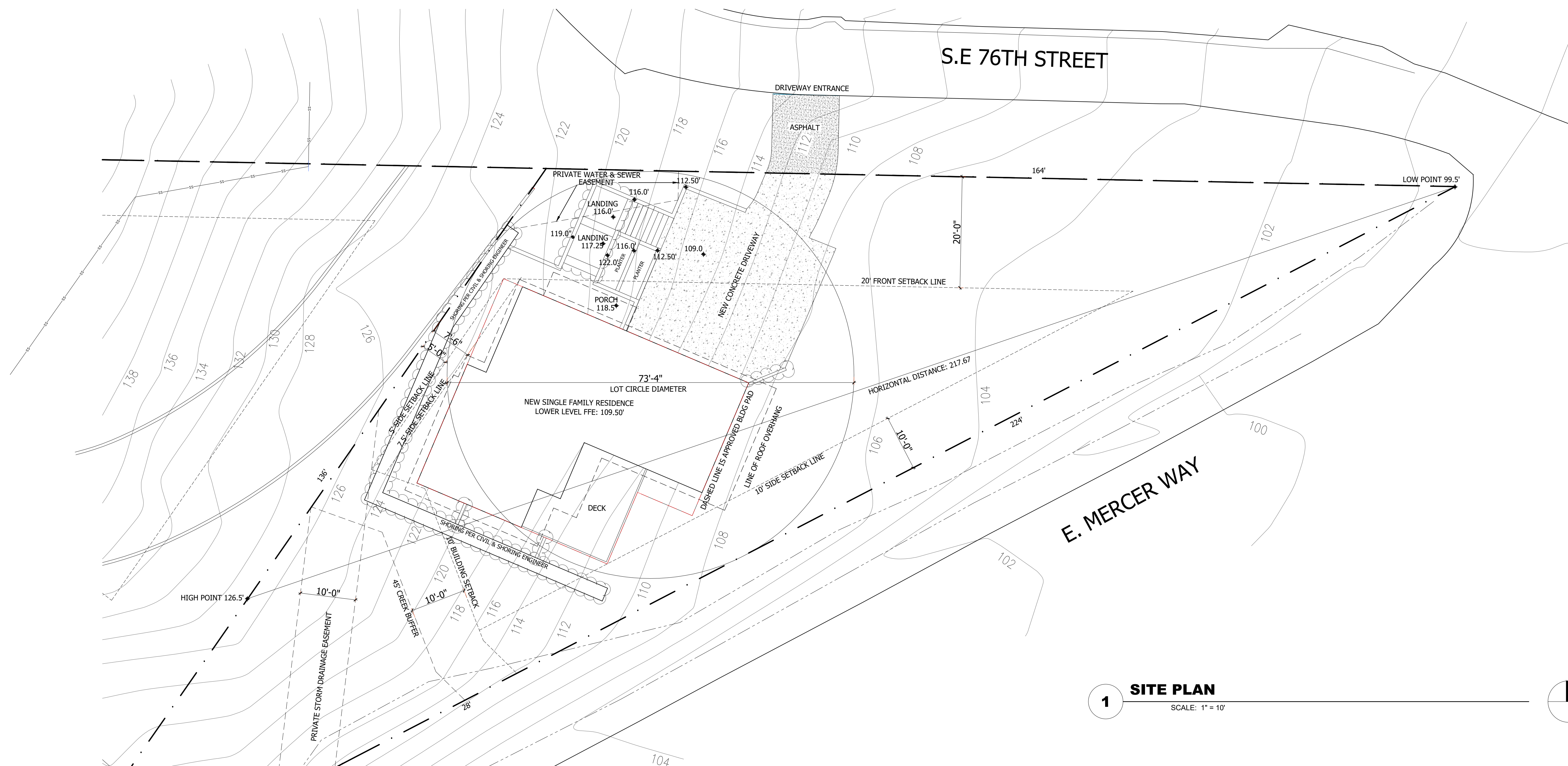
11.01.2023 PERMIT REVISIONS

SHEET TITLE

COVER SHEET PROJECT INFORMATION

SHEET NUMBER

A-0



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	326 SF
BASEMENT EXCLUSION	746 SF
STAIR EXCLUSION	69 SF
TOTAL GFA COVERAGE	3,999 SF
PERCENTAGE OF SITE AREA	35.85 %

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	191 SF
STAIRS	100 SF
UNCOVERED DECKS	275 SF
TOTAL HARDSCAPE AREA	566 SF
PERCENTAGE OF SITE AREA	5.07 %

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%

AVERAGE BUILDING ELEV CALC

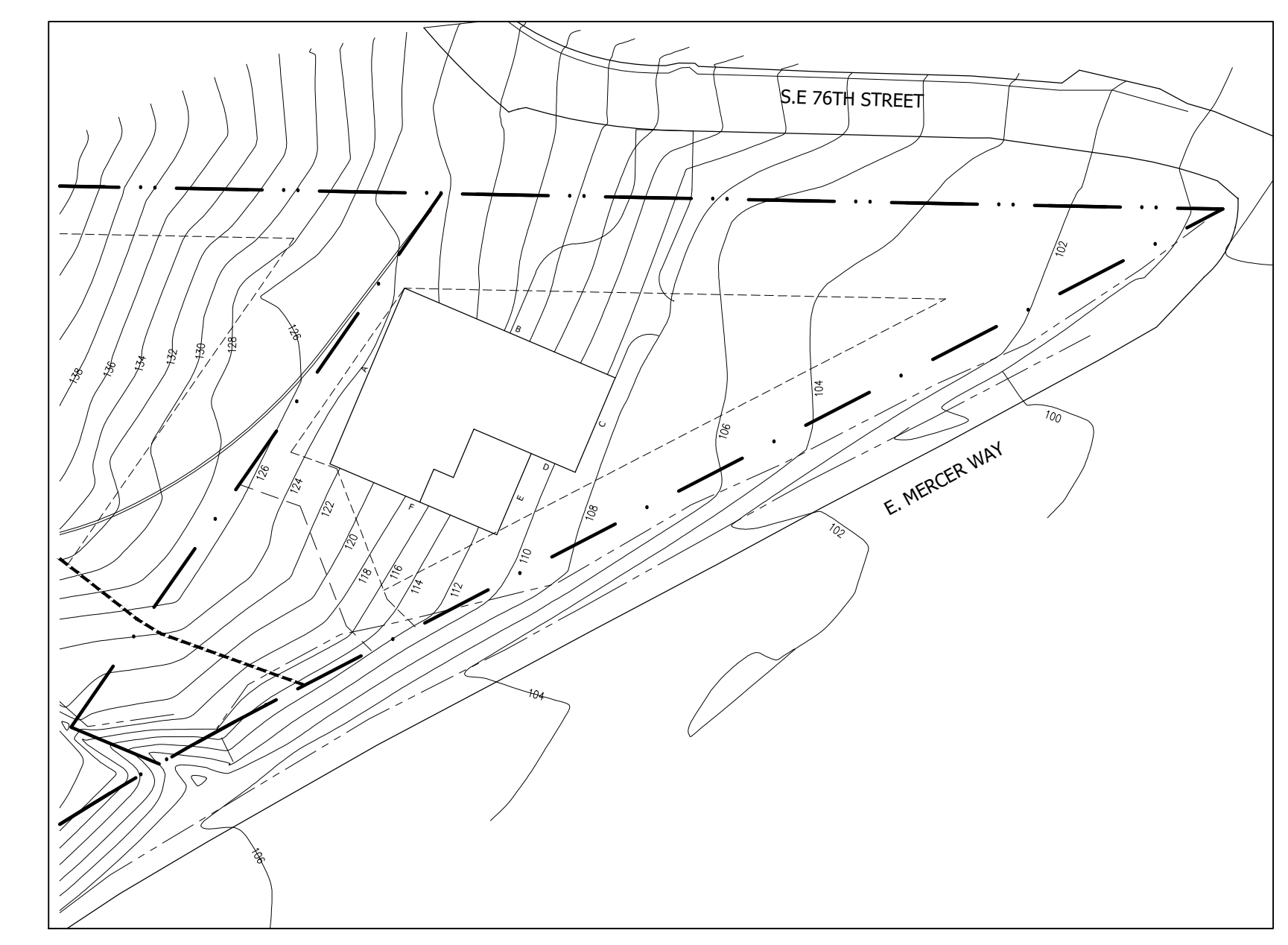
WALL SEGMENT	MID-POINT ELEV (FT)	WALL LENGTH (FT)	TOTAL (FT)
A	122.50	40'	4,890'
B	116.75	48'	5,604'
C	109.00	21.5'	2,343.5'
D	110.00	10'	1,100'
E	110.75	18.5'	2,049'
F	116.50	38'	4,427'
TOTALS		176'	20,413.5'

$\frac{20,413.5}{176} = 116'$ AVERAGE BUILDING ELEVATION

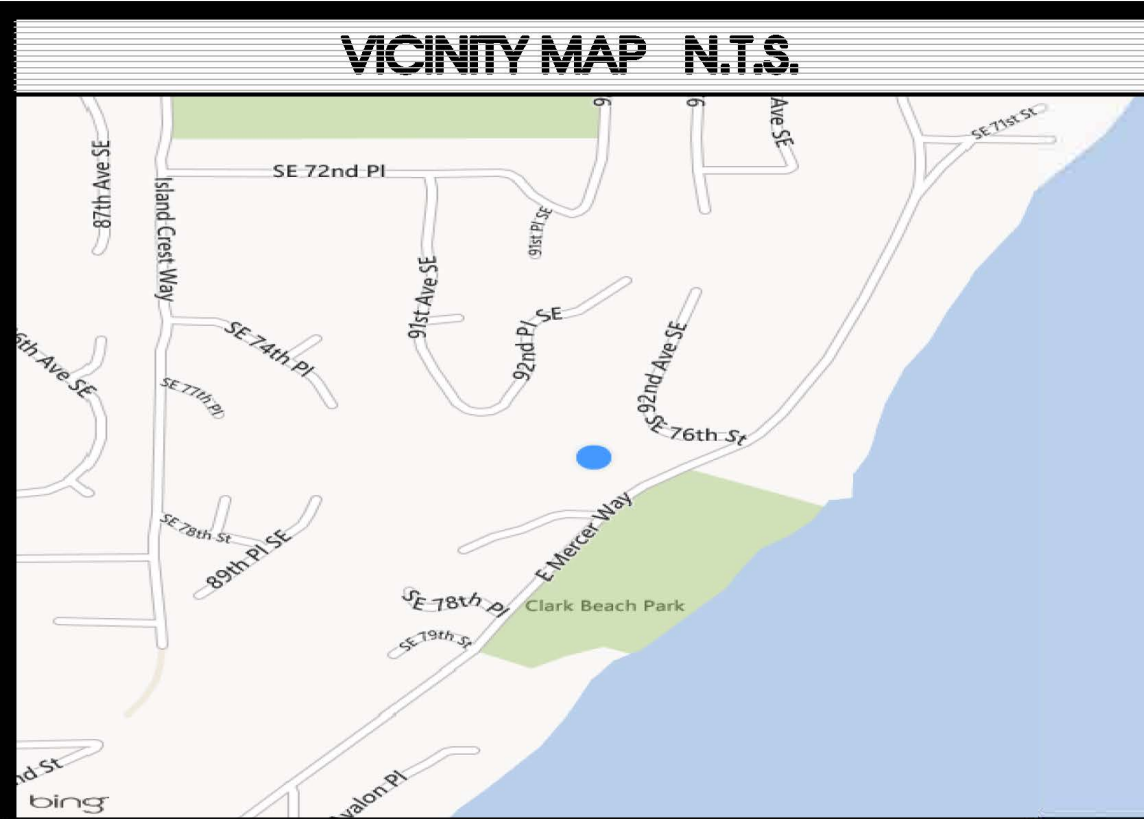
BASEMENT EXCLUSION CALC

WALL SEGMENT	LENGTH	COVERAGE	RESULT
A	40'	100%	40
B	48'	50%	24
C	21.5'	0%	0
D	10'	0%	0
E	18.6'	0%	0
F	38'	33%	12.54
TOTALS	176		76.54

BASEMENT AREA: $1,736 \text{ SF} \times \frac{76.54}{176} = 746.05$ EXCLUDED



2 ABE PLAN
SCALE: 1:30



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.

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.

VERTICAL DATUM

CITY OF MERCER ISLAND BENCH MARK NO. 2415 (NAVD 88) (VISITED 07/09/2013)
 FOUND "4"x4" CONC W/COPPER TACK IN LEAD (ON 1.0')", LOCATED 250FT S. INTX E MERCER WAY & SE 76TH ST.
 ELEVATION = 104.47'

METHOD OF SURVEY

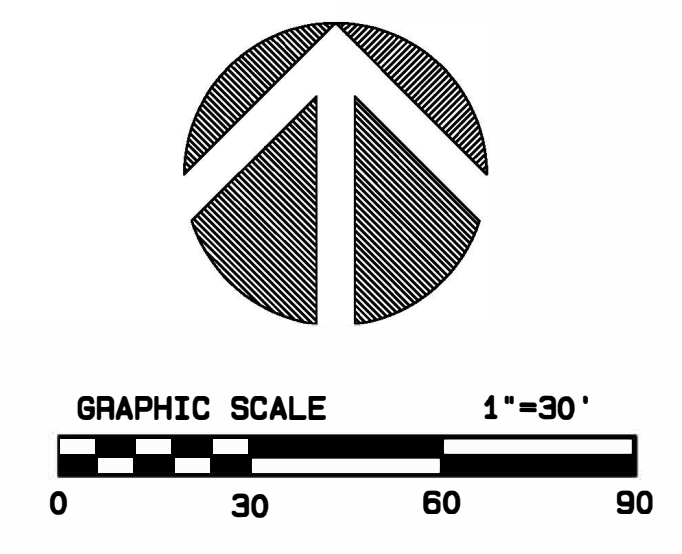
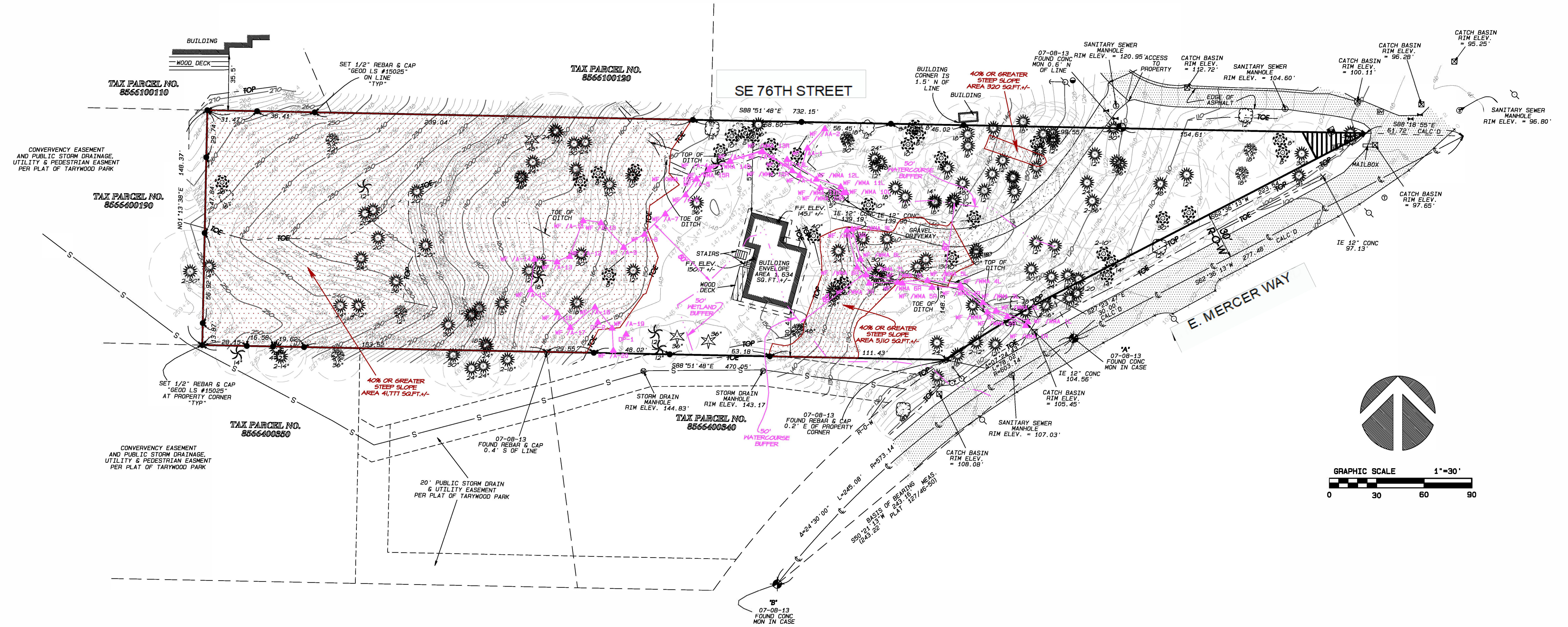
INSTRUMENTATION FOR THIS SURVEY WAS A LEICA ELECTRONIC DISTANCE MEASURING UNIT. PROCEDURES USED IN THIS SURVEY WERE DIRECT AND REVERSE ANGLES. NO CORRECTION NECESSARY. MEETS STATE STANDARDS SET BY MAC 332-130-090.

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 CONVIENENCE 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.

LEGEND

<ul style="list-style-type: none"> ◆ 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 X SPOT ELEVATION ⊕ FIRE HYDRANT ⊖ STORM DRAIN MANHOLE ⊕ WATER VALVE ⊖ GAS VALVE ⊖ ELECTRIC TRANSFORMER ⊖ CABLE TV POLE ⊖ TELEPHONE RISER ⊖ TELEPHONE MANHOLE 	<ul style="list-style-type: none"> ▨ ASPHALT SURFACE ▨ STAIRS ▨ DECK ▨ GRAVEL SURFACE <p>R-O-W RIGHT-OF-WAY () RECORD AS NOTED *TYP* TYPICAL</p> <ul style="list-style-type: none"> ▬ TOE OF DITCH AS NOTED ▬ BUILDING LINE ▬ CENTERLINE OF ROAD ▬ SLOPE AS NOTED ▬ EAVES ▬ GUY WIRE 	<ul style="list-style-type: none"> ⊗ 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.
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TOPOGRAPHIC & BOUNDARY SURVEY

JOB NUMBER: 13507	
DATE: 07/09/2013	
DRAFTED BY: Y.L.J.	
CHECKED BY: E.J.G.	
SCALE: 1" = 30'	
REVISION HISTORY	REVISION HISTORY
DATE: 06/20/2016	DATE: 01/26/2016
DATE: 07/12/2016	SHEET NUMBER
DATE: 03/24/2017	1 OF 1

Terrane

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



TOPOGRAPHIC & BOUNDARY SURVEY
 NE 1/4 OF THE SW 1/4 AND THE NW 1/4 OF THE SE 1/4
 OF SEC. 30, TWP. 24N., RGE. 5E., W.M.
 CITY OF MERCER ISLAND, KING COUNTY, WA.

CHESHIRE RESIDENCE
 7615 E. MERCER WAY
 MERCER ISLAND, WA. 98040

measure success

BUILDING PERMIT PLANS FOR **CHESHIRE SHORT PLAT LOT 1** LONG VIEW BELLA, LLC

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

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SURVEYOR'S NOTES

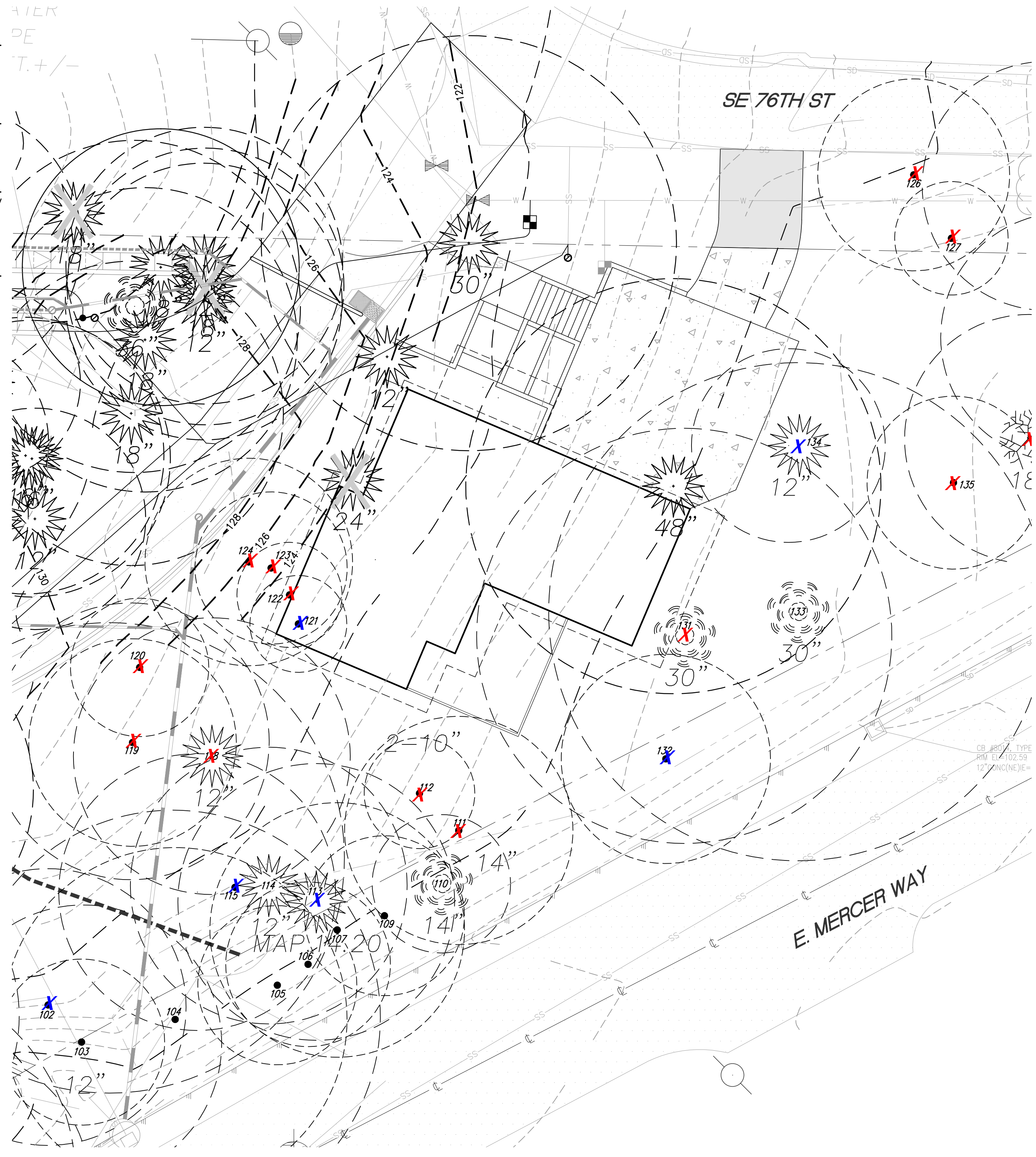
1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN JULY OF 2013. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON 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.

SETBACKS

CODE	PROPOSED
FRONT	20'
SIDE	VARIABLE SEE MICC 19.02.020(C)(1)(c)(iii)
REAR	25'

SITE STATISTICS

PARCEL NO:	302405-9036
TOTAL AREA: (+/-)	92,347 S.F. (2.12± ACRES)
PROPOSED NUMBER OF LOTS	2
MAXIMUM UNITS:	2
ZONING	R-9.6
EXISTING USE:	SINGLE FAMILY RESIDENTIAL
PROPOSED USE:	SINGLE FAMILY RESIDENTIAL
MAXIMUM BUILDING HEIGHT:	30' ABOVE TO THE HIGHEST POINT OF THE ROOF
MAXIMUM IMPERVIOUS SURFACE:	
LOT SLOPE	LOT COVERAGE (LIMIT FOR IMPERVIOUS SURFACE)
LESS THAN 15%	40%*
15% TO LESS THAN 30%	35%*
30% TO 50%	30%*
GREATER THAN 50% SLOPE	20%*
LOT 1 HAS A SLOPE OF 12%. THEREFORE THE MAXIMUM LOT COVERAGE IS 40% OR 4,461 SF.	



SHEET INDEX

- 1 TITLE SHEET
- 2 TESC PLAN
- 3 ROAD & GRADING PLAN
- 4 UTILITY PLAN
- 5 STORMWATER DETAILS
- 6 TREE PLAN
- 7 SHORING PLAN AND PROFILE

APPLICANT/OWNER

LONG VIEW BELLA, LLC
7615 MERCER WAY
MERCER ISLAND, WA 98040
DCHESHIRE@BOSKONE.NET

ENGINEER

CORE DESIGN, INC.
12100 NE 195TH ST, SUITE 300
BOTHELL, WA 98011
(425) 885-7877
CONTACT: SHERI MURATA, P.E. - ENGINEER
SHW@COREDESIGNING.COM

SURVEYOR

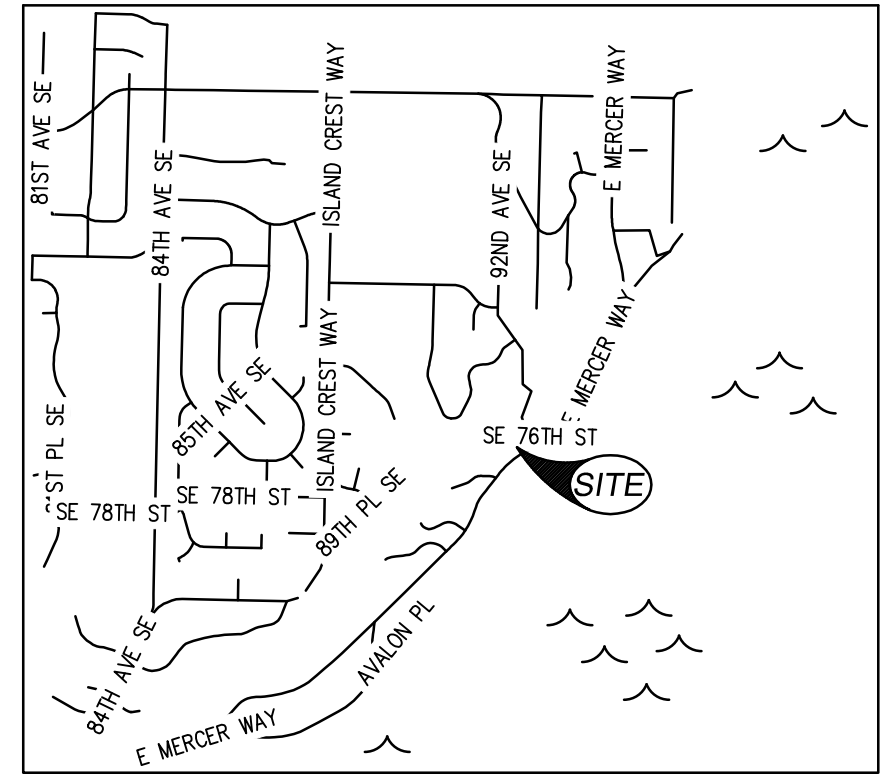
TERRANE
10801 MAIN STREET, SUITE 102
BELLUVE, WA. 98004
(425) 458-4488
CONTACT: EDWIN J. GREEN
SUPPORT@TERRANE.NET

ARBORIST

A.B.C. CONSULTING ARBORISTS, LLC
DANIEL J. MAPLE
(509) 953-0293
DANIEL@ABCARBORIST.COM

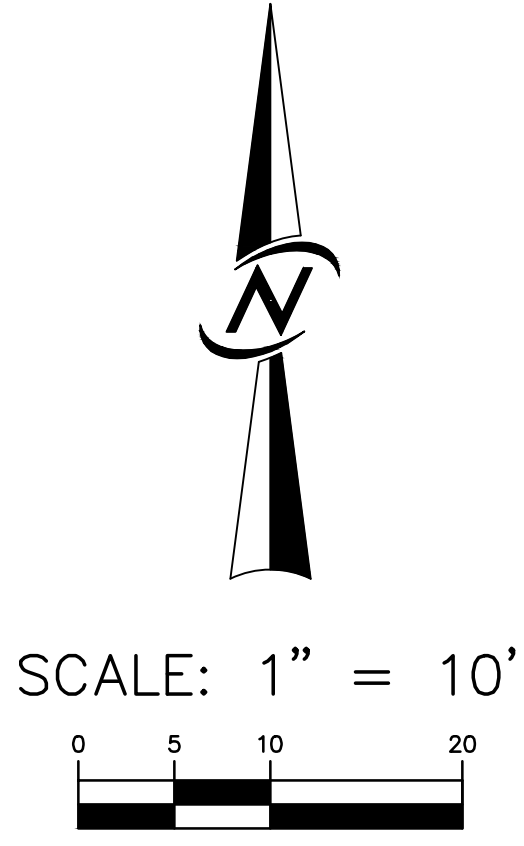
GEOTECHNICAL ENGINEER

TERRA ASSOCIATES, INC.
12220 113TH AVENUE NE, SUITE 130
KIRKLAND, WA. 98034
(425) 821-7777
CONTACT CAROLYN DECKER



VICINITY MAP
NOT TO SCALE

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NO.	REVISIONS	DATE
1	CITY COMMENTS	6/21/22
2	CITY COMMENTS	10/9/22
3	CITY COMMENTS	12/27/22
4	LOWEFED FF	10/20/23
5	ADD WALL DETAIL	1/17/24
6		
7		

CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
PLANNING
SURVEYING

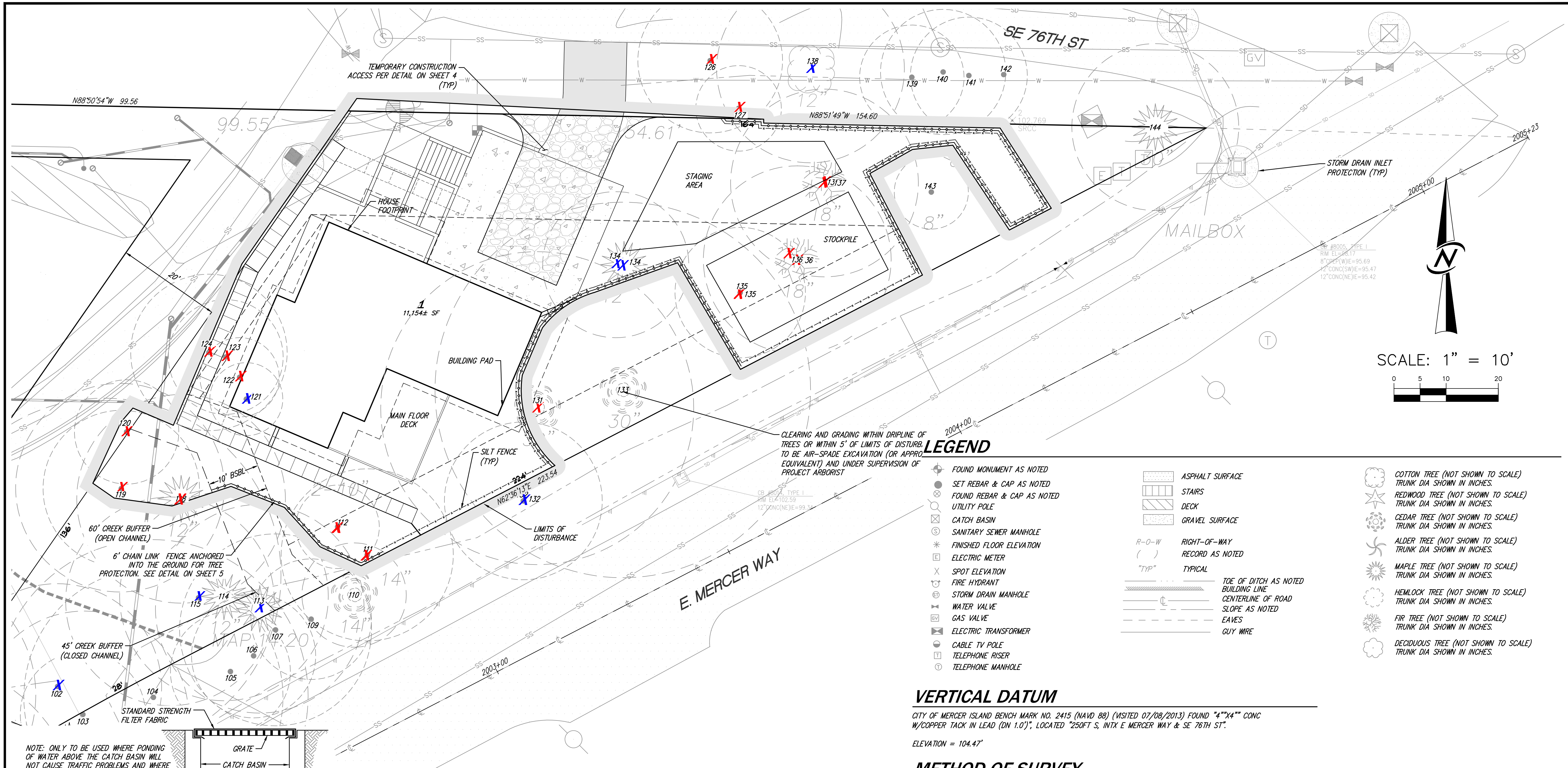
CORE
DESIGN

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

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	

TITLE SHEET	
CHESHIRE SHORT PLAT LOT 1	
LONG VIEW BELLA, LLC	
7615 E MERCER WAY MERCER ISLAND, WA 98040	
SHEET	OF
1	7
PROJECT NUMBER	
19205	

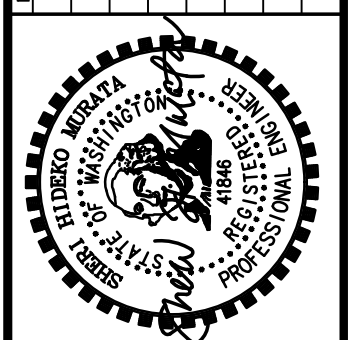
PERMIT NO: 2109-050-SUB5



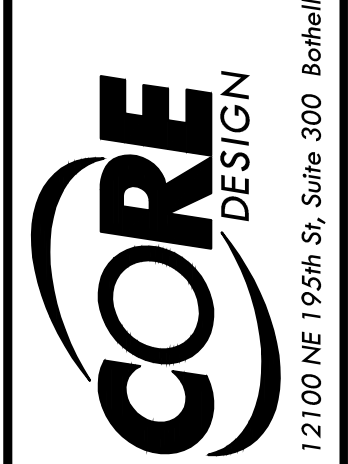
NO. 1 2 3 4 5

REV. CITY COMMENTS

DATE 6/21/22 10/09/22 12/27/22 10/23/23 1/17/24



CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
PLANNING
SURVEYING



TESC PLAN
CHESHIRE SHORT PLAT LOT 1
LONG VIEW BELLA, LLC
7615 E. MERCER WAY
MERCER ISLAND, WA 98040

DATE	JULY 2020 (1ST SUB)
DESIGNED	SHERI MURATA, P.E.
DRAWN	SAM D. SIMPSON-GORDON
APPROVED	SHERI MURATA, P.E.
PROJECT MGR	ROBERT WEST, PLS
PROJECT NUMBER 19205	

SCALE: 1" = 10'

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
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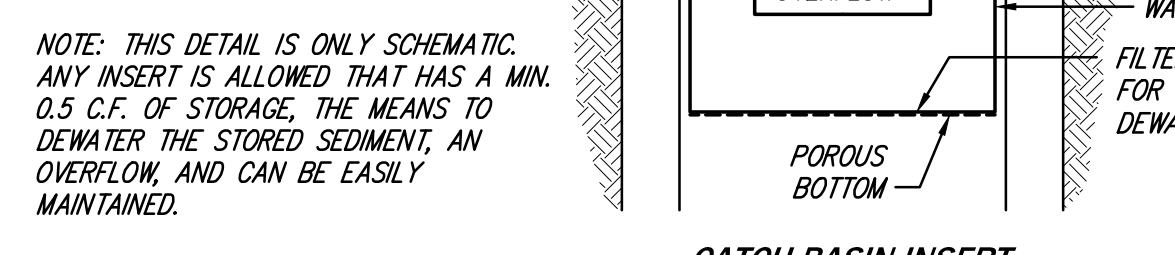
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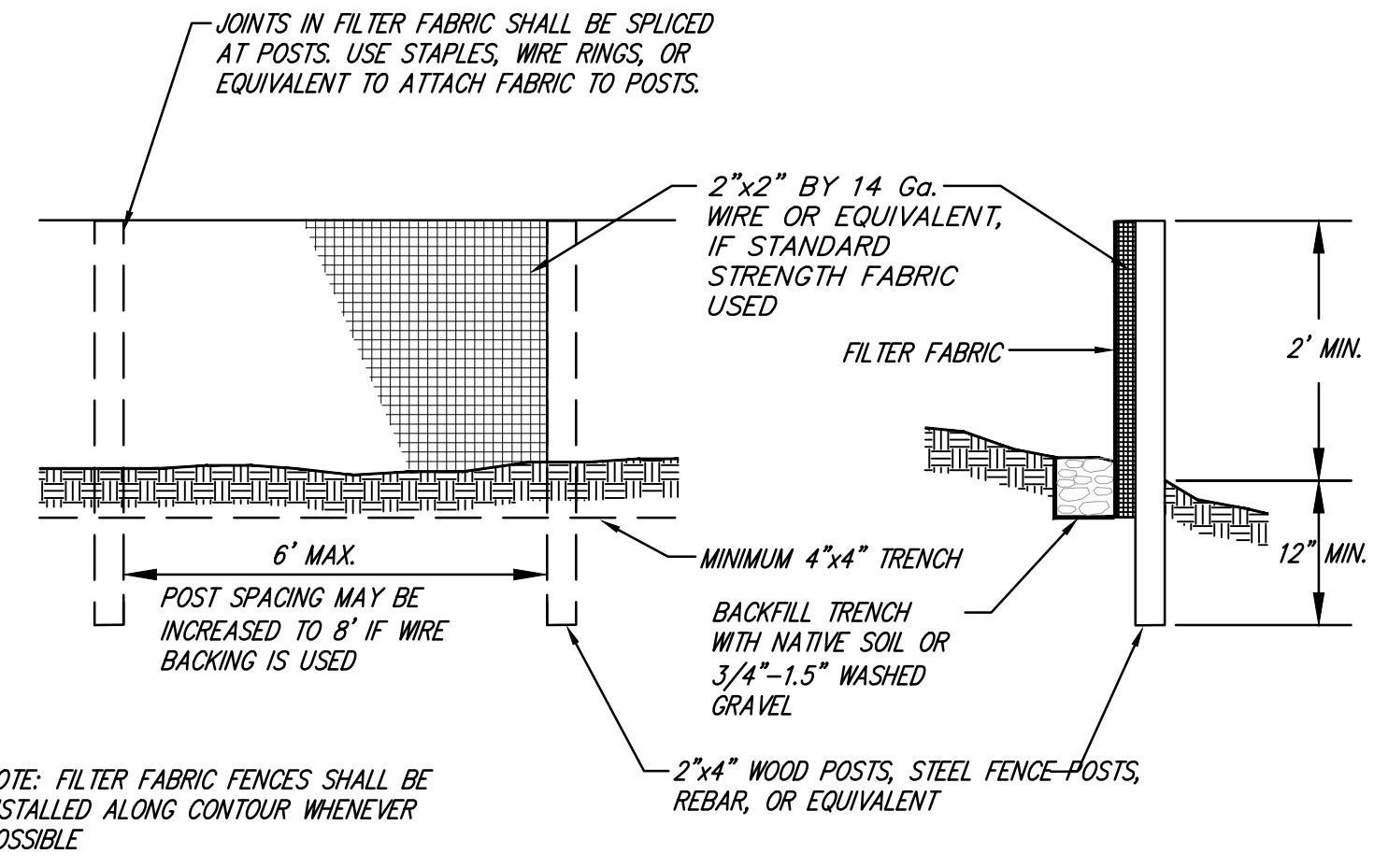
LEGEND

- 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 (110)
- PROPOSED CONTOUR (110)
- EX TREE TO BE REMOVED (X)

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- MANTENANCE 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.



LEGEND

- FOUND MONUMENT AS NOTED
- SET REBAR & CAP AS NOTED
- FOUND REBAR & CAP AS NOTED
- UTILITY POLE
- CATCH BASIN
- SANITARY SEWER MANHOLE
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- ELECTRIC METER
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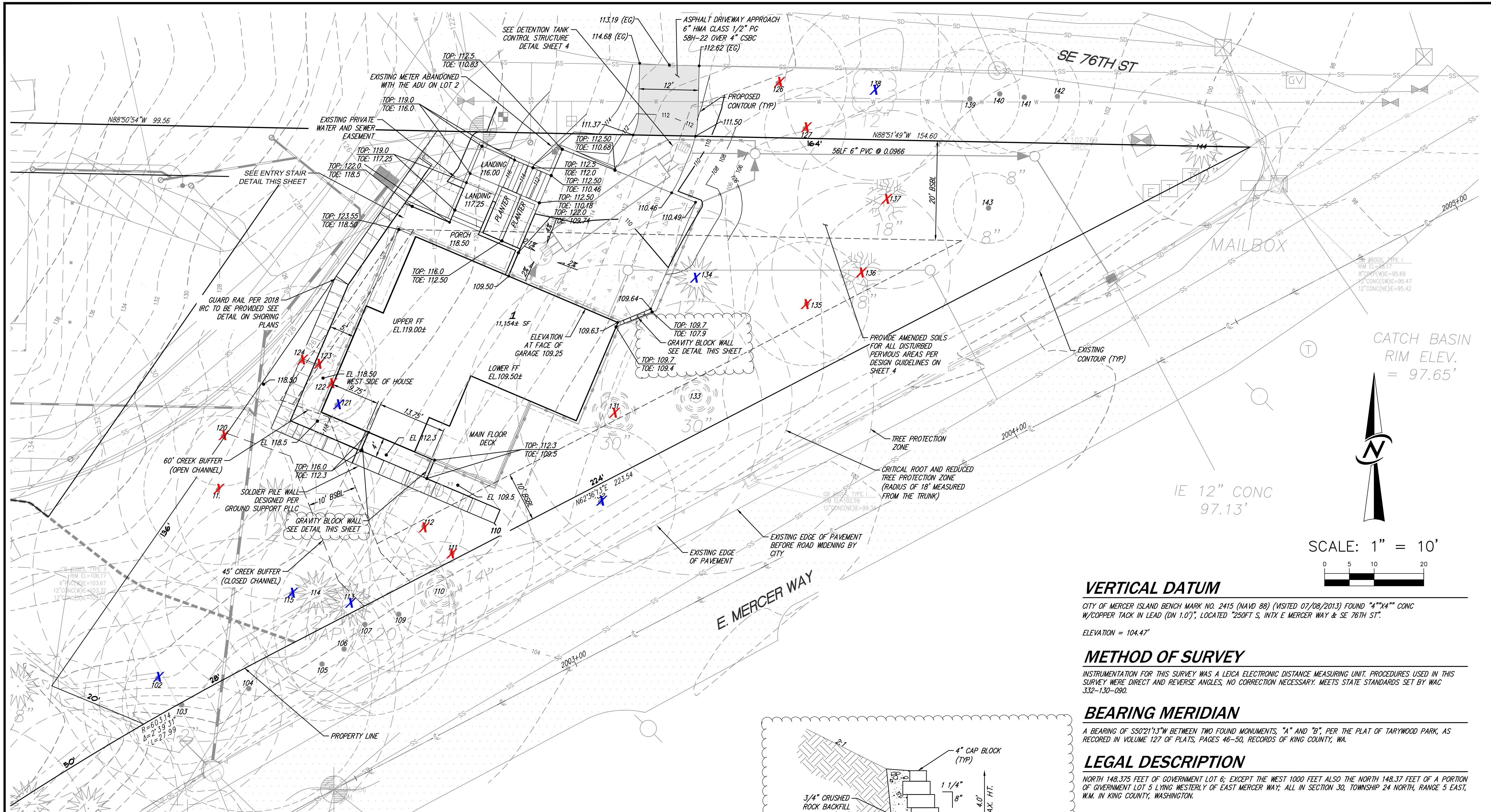
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- CLEARING LIMITS
- EXISTING CONTOUR (110)
- PROPOSED CONTOUR (110)
- EX TREE TO BE REMOVED (X)

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FILTER FABRIC PROTECTION FOR CB's
NO SCALE

FILTER FABRIC FENCE DETAIL
NO SCALE

PERMIT NO: 2109-050-SUB5



LEGEND

<ul style="list-style-type: none"> ⊕ 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 	<ul style="list-style-type: none"> ▨ 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 	<ul style="list-style-type: none"> ☉ 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. 	<ul style="list-style-type: none"> X TREE NOT VIABLE ⊗ TREE TO BE REMOVED
--	--	---	---

KEYSTONE WALL SECTION - STANDARD UNIT
NO SCALE

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DATE	7/19/2024	DESIGNED	SHERI MURATA, P.E.
REVISIONS	1 CITY COMMENTS 2 CITY COMMENTS 3 CITY COMMENTS 4 LOWMED FF 5 ADD WALL DETAIL	DRAWN	SAM D. SIMPSON-GORDON
		APPROVED	SHERI MURATA, P.E.
			ROBERT WEST, PLS
			PROJECT MANAGER

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

SHEET 3 OF 7

PROJECT NUMBER 19205

ROAD & GRADING PLAN
CHESHIRE SHORT PLAT LOT 1
LONG VIEW BELLA, LLC
7615 E MERCER WAY
MERCER ISLAND, WA 98040

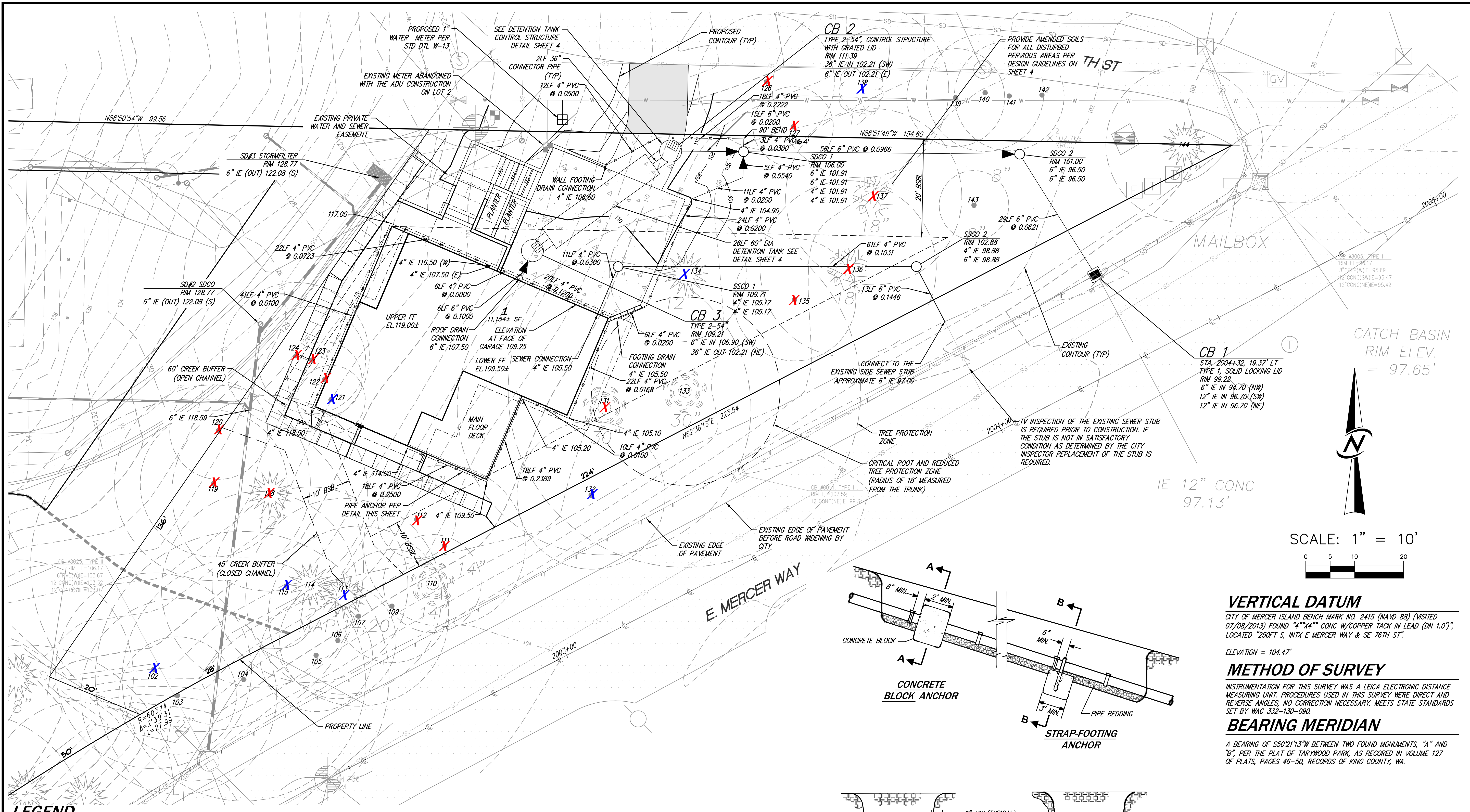
CIVIL ENGINEERING
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CORE DESIGN

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

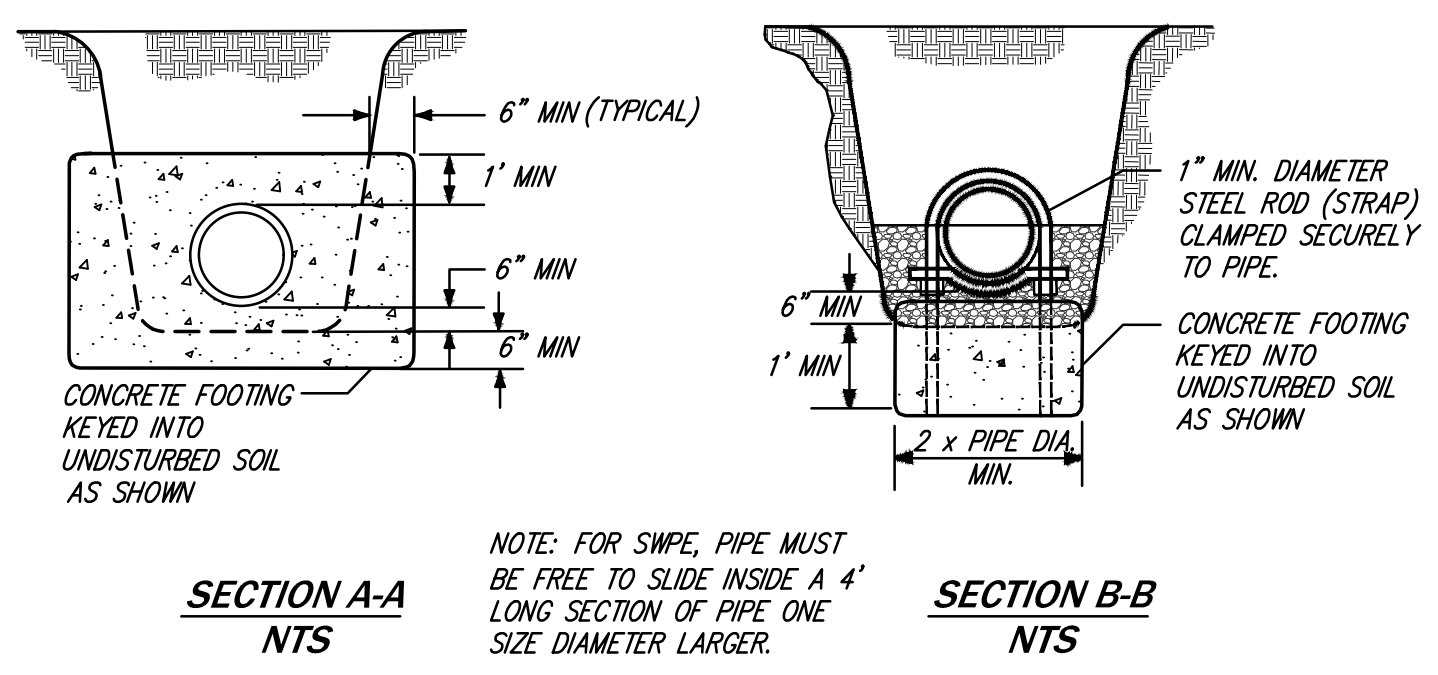
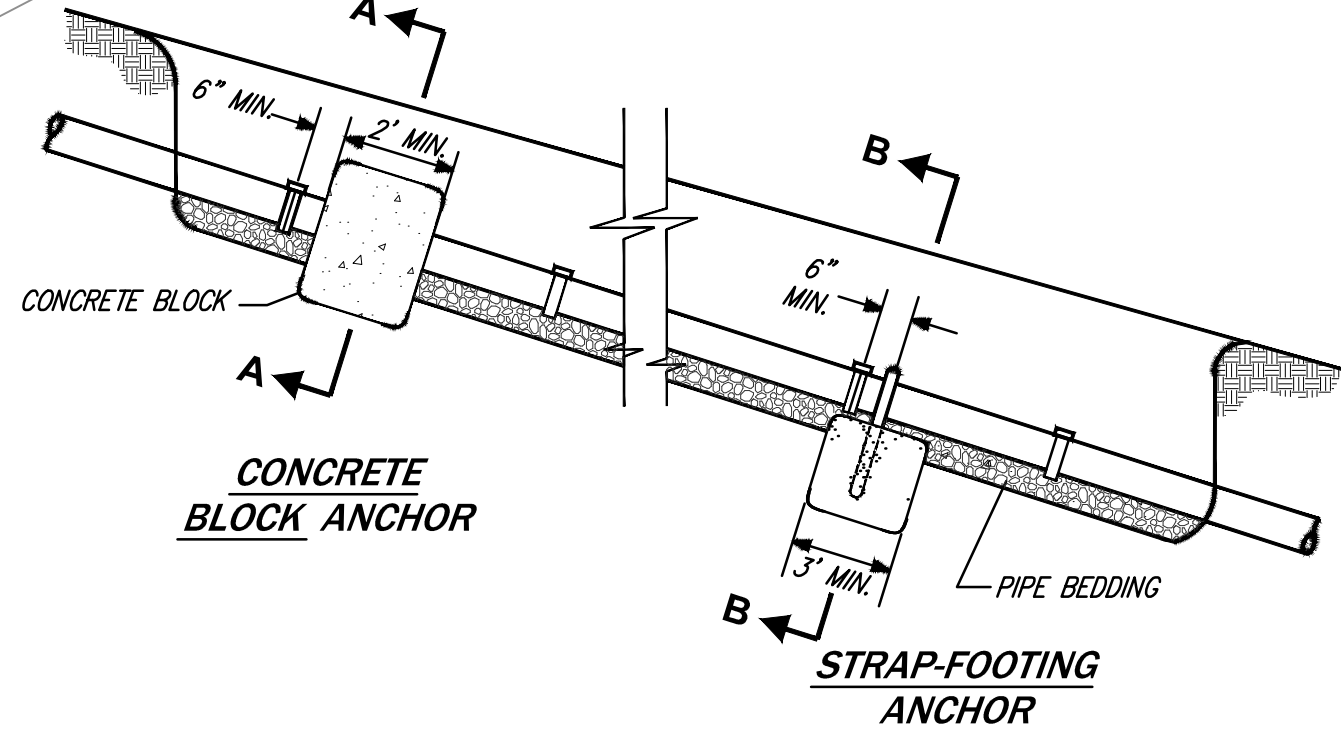
01-18-24

1/18/2024 3:45 PM J:\2019\ENGINEERING\FINAL SHEETS\19205_3.DWG



LEGEND

- | | | | |
|--|--|---|---|
| <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> X TREE NOT VIABLE X TREE TO BE REMOVED |
|--|--|---|---|



PIPE ANCHOR DETAIL
NO SCALE



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 "250 FT 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.

UNDERGROUND LOCATOR SERVICE
CALL BEFORE YOU DIG!
811

PERMIT NO: 2109-050-SUB5

DATE	DESIGNED	DRAWN	APPROVED	PROJECT MANAGER
JULY 2020 (IST SUB)	SHERI MURATA, P.E.	SAM D. SIMPSON-GORDON	SHERI MURATA, P.E.	ROBERT WEST, PLS
CITY COMMENTS				
CITY COMMENTS				
CITY COMMENTS				
LOWE/FEE FF				
ADD WALL DETAIL				

DATE: 6/21/22
10/9/22
12/27/22
10/31/23
1/17/24

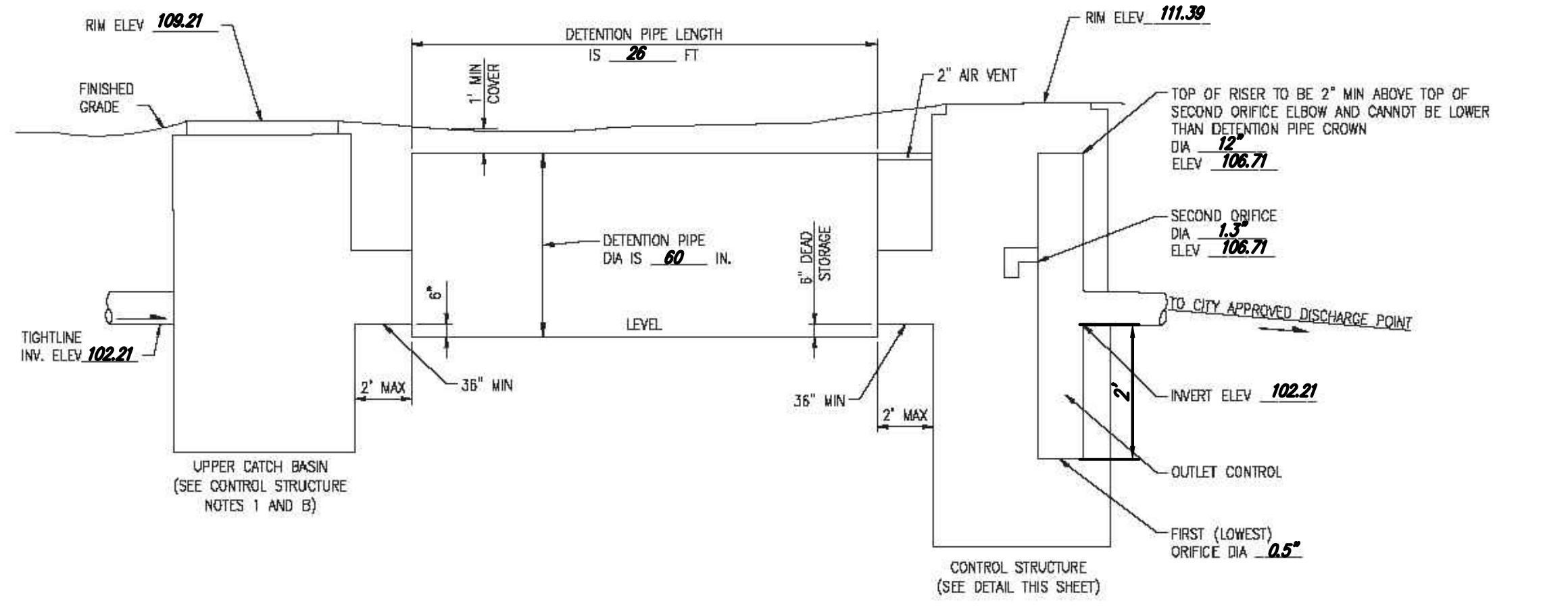
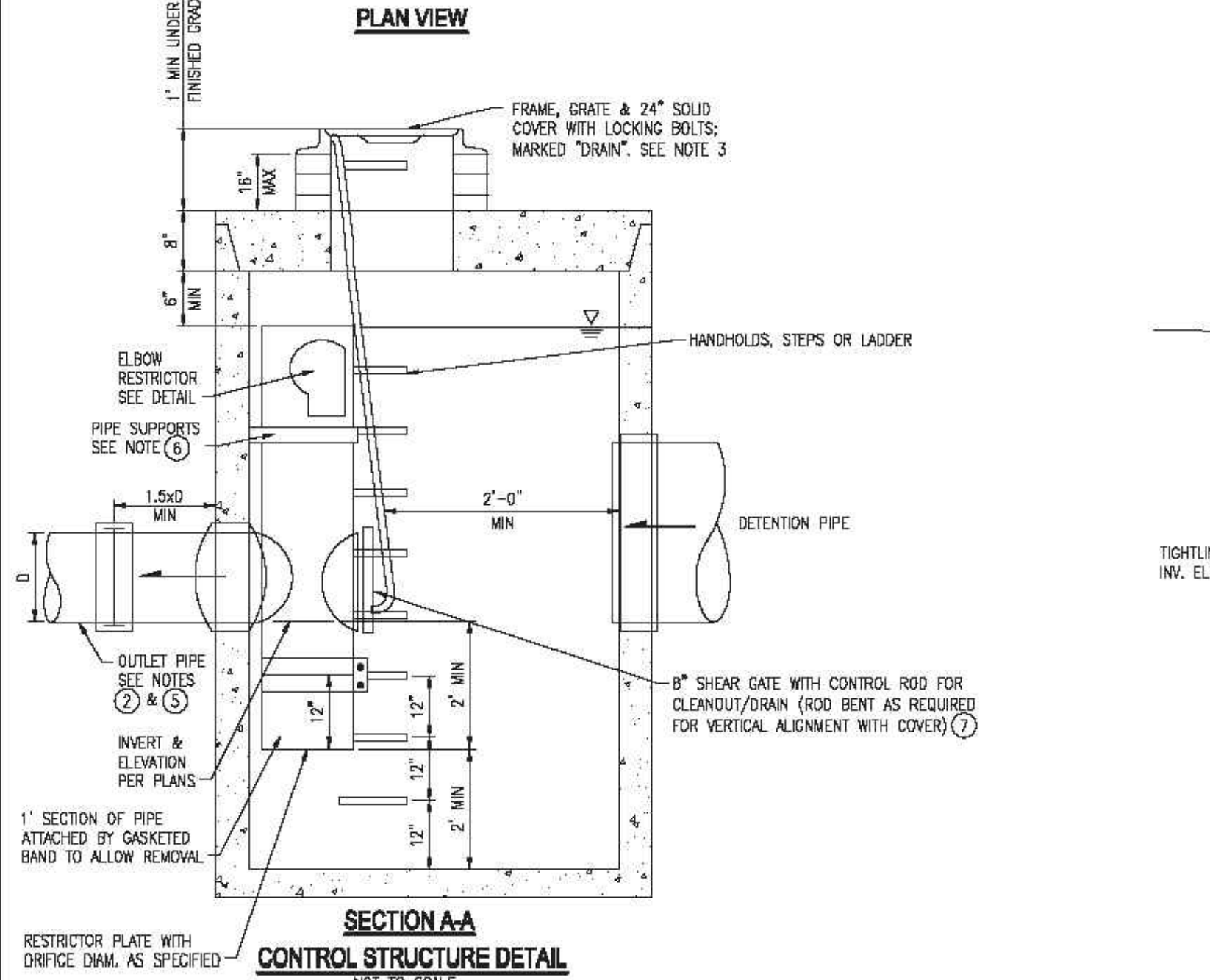
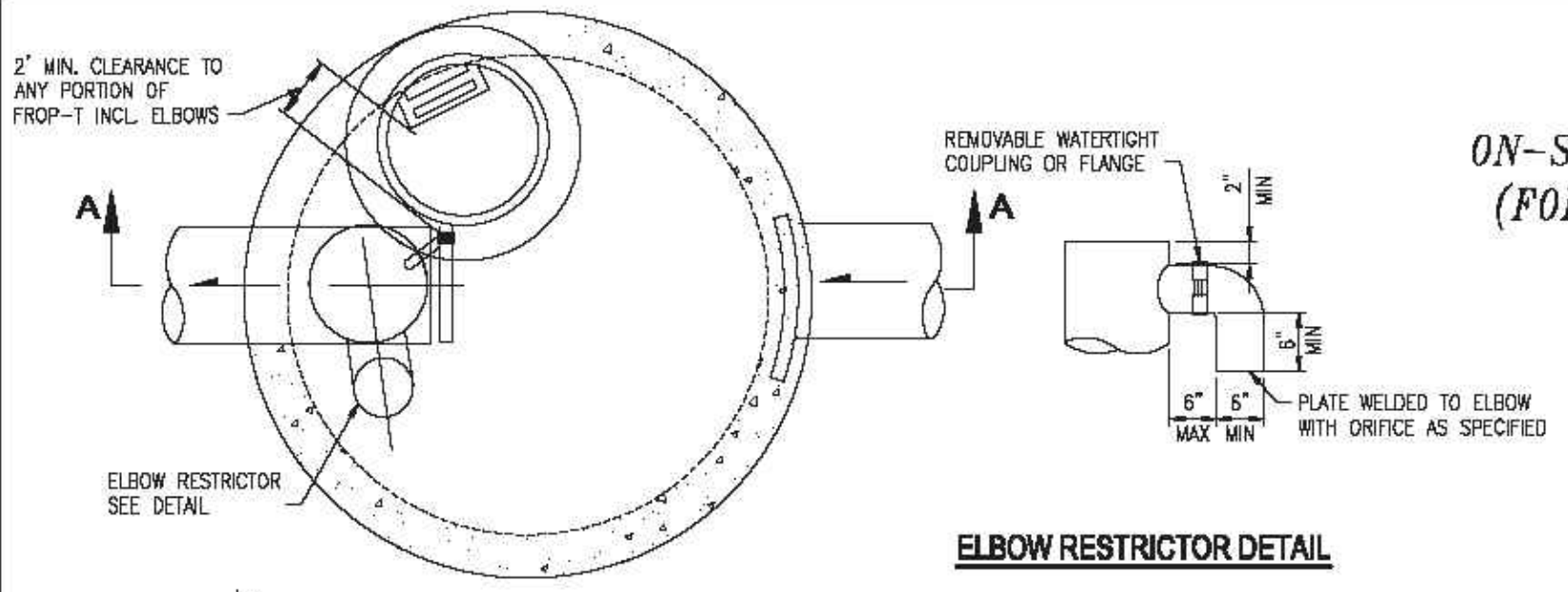
CHESHIRE SHORT PLAT LOT 1
LONG VIEW BELLA, LLC
7615 E MERCER WAY
MERCER ISLAND, WA 98040

CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
PLANNING
SURVEYING
CORE DESIGN

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

**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, MERCER ISLAND, WA 98040 PREPARED BY: SHERI MURATA, P.E.
 PERMIT #: _____ PHONE: 425-885-7877 DATE: 10/31/23
 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 102.21
 SOIL TYPE: C PIPE MATERIAL: CMP ORIFICE #2 DIA 1.3" INCH, ELEV 106.21



ON-SITE DETENTION SYSTEM NOTES:

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

CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT, NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
 - A. CLEANOUT GATE IS VISIBLE FROM TOP;
 - B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
 - C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D., LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.890 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZG32A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF 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.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

(SEE BMP T5.13 POST CONSTRUCTION SOIL QUALITY AND DEPTH IN THE 2014 DOE MANUAL FOR THE FULL DESIGN REQUIREMENT)

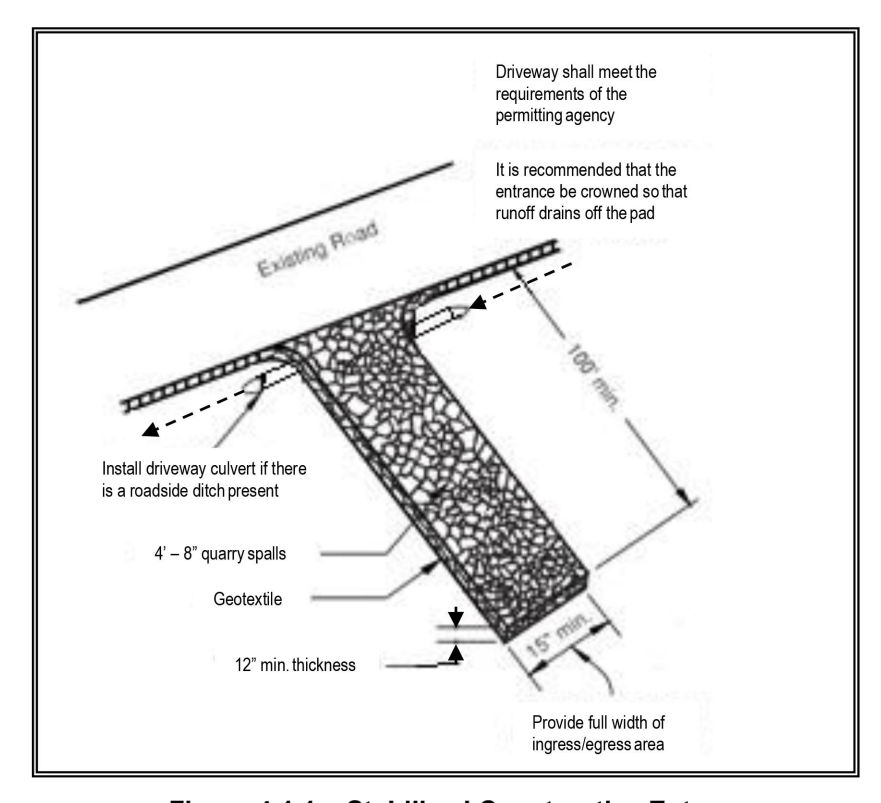
SOIL RETENTION
 RETAIN, IN AN UNDISTURBED STATE, THE DUFF LAYER AND NATIVE TOPSOIL TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND CRITICAL AREAS, TO BE REAPPLIED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

1. A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
2. MULCH PLANTING BEDS WITH 2 INCHES OF ORGANIC MATERIAL
3. USE COMPOST AND OTHER MATERIALS THAT MEET THESE ORGANIC CONTENT REQUIREMENTS:
 - a. THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE COMPOST SPECIFICATION FOR BIORETENTION (BMP 17.30), WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE.
 - b. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1.
 - c. 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.
 - d. 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.

NO.	REV.	1	CITY COMMENTS	6/21/22
		2	CITY COMMENTS	10/9/22
		3	CITY COMMENTS	12/27/22
		4	LOWEDED FF	10/20/23
		5	ADD WALL DETAIL	1/17/24
CIVIL ENGINEERING LANDSCAPE ARCHITECTURE PLANNING SURVEYING CORE DESIGN 12100 NE 195th St, Suite 300 Bothell, Washington 98011 425.985.7877				
DATE	JULY 2020 (IST SUB)	DESIGNED	SHERI MURATA, P.E.	
		DRAWN	SAM D. SIMPSON-GORDON	
		APPROVED	SHERI MURATA, P.E.	
		PROJECT MANAGER	ROBERT WEST, PLS	
STORMWATER DETAILS		CHESHIRE SHORT PLAT LOT 1		
LONG VIEW BELLA, LLC		7615 E MERCER WAY MERCER ISLAND, WA 98040		
		UNDERGROUND LOCATOR SERVICE CALL BEFORE YOU DIG! 811		
SHEET	OF	PROJECT NUMBER		
5	7	19205		

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>



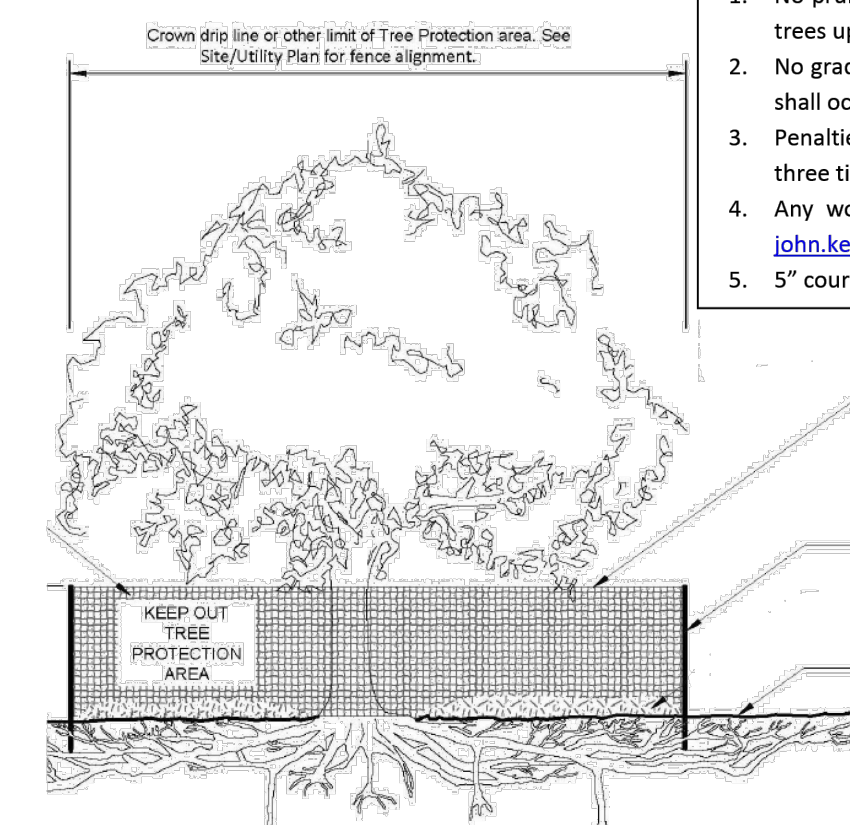
TREE PROTECTION AREA (TPZ)

KEEP OUT!

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

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

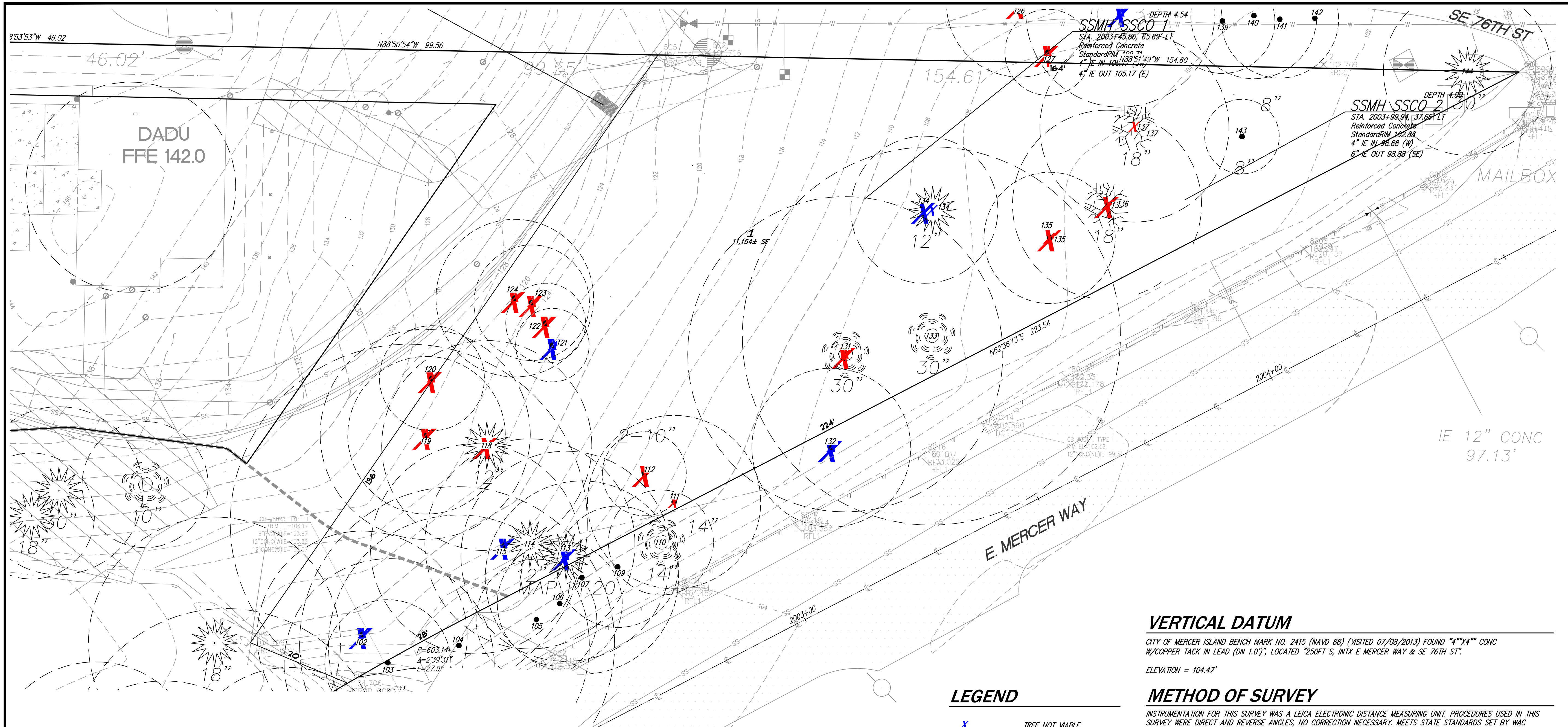
1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees/financial penalties
3. Arborist reports recommending mitigation



Notes

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

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



ATTACHMENT 2 - TREE SUMMARY, TPZ, CRZ

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

LEGEND

- X TREE NOT VIABLE
- 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

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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.

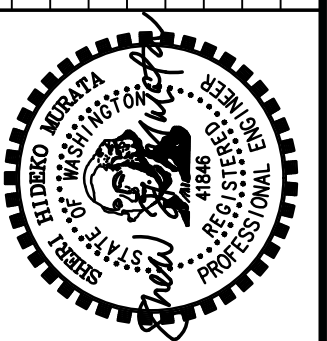


SCALE: 1" = 10'



UNDERGROUND LOCATOR SERVICE
CALL BEFORE YOU DIG!
811

NO.	DATE	REVISIONS
1	6/21/22	CITY COMMENTS
2	10/25/22	CITY COMMENTS
3	12/27/22	CITY COMMENTS
4	10/20/23	LOWE/FEE
5	1/17/24	ADD WALL DETAIL



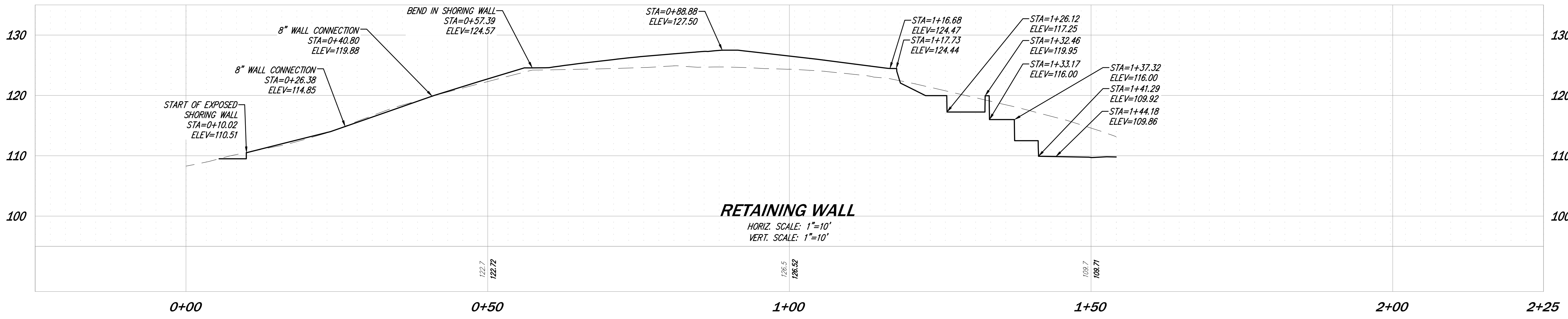
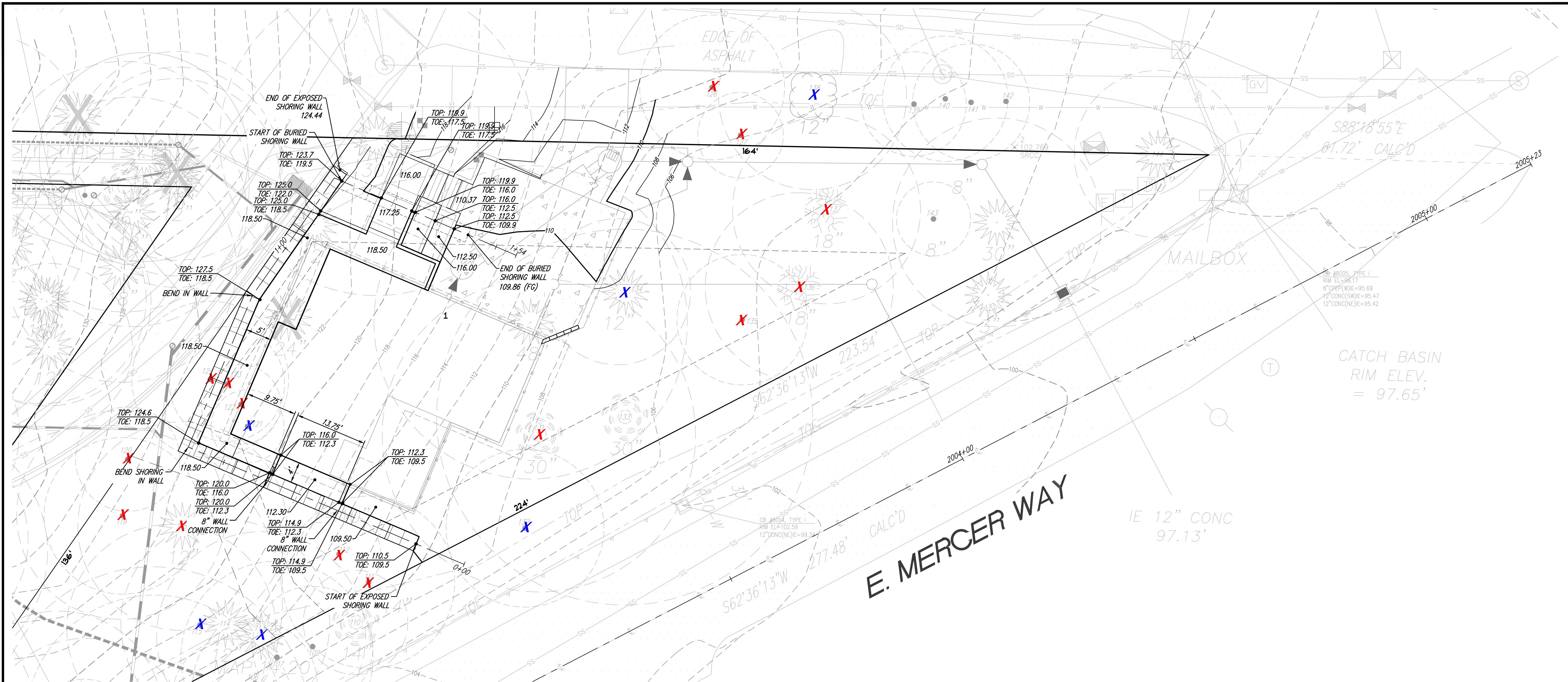
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
PLANNING
SURVEYING



TREE PLAN
CHESHIRE SHORT PLAT LOT 1
LONG VIEW BELLA, LLC
7615 E MERCER WAY
MERCER ISLAND, WA 98040

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
SHEET	OF
6	7
PROJECT NUMBER	19205

PERMIT NO: 2109-050-SUB5

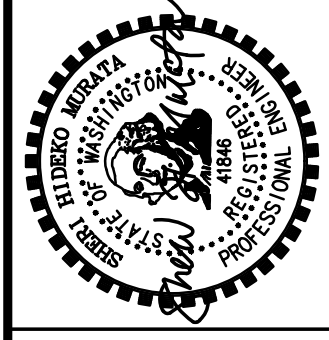


RETAINING WALL
 HORIZ. SCALE: 1"=10'
 VERT. SCALE: 1"=10'

UNDERGROUND LOCATOR SERVICE
 CALL BEFORE YOU DIG!
 811

PERMIT NO: 2109-050-SUB5

NO.	REVISIONS	DATE
1	CITY COMMENTS	6/21/22
2	CITY COMMENTS	10/29/22
3	CITY COMMENTS	12/27/22
4	LOM/FED FF	10/31/23
5	ADD WALL DETAIL	1/17/24



CIVIL ENGINEERING
 LANDSCAPE ARCHITECTURE
 PLANNING
 SURVEYING



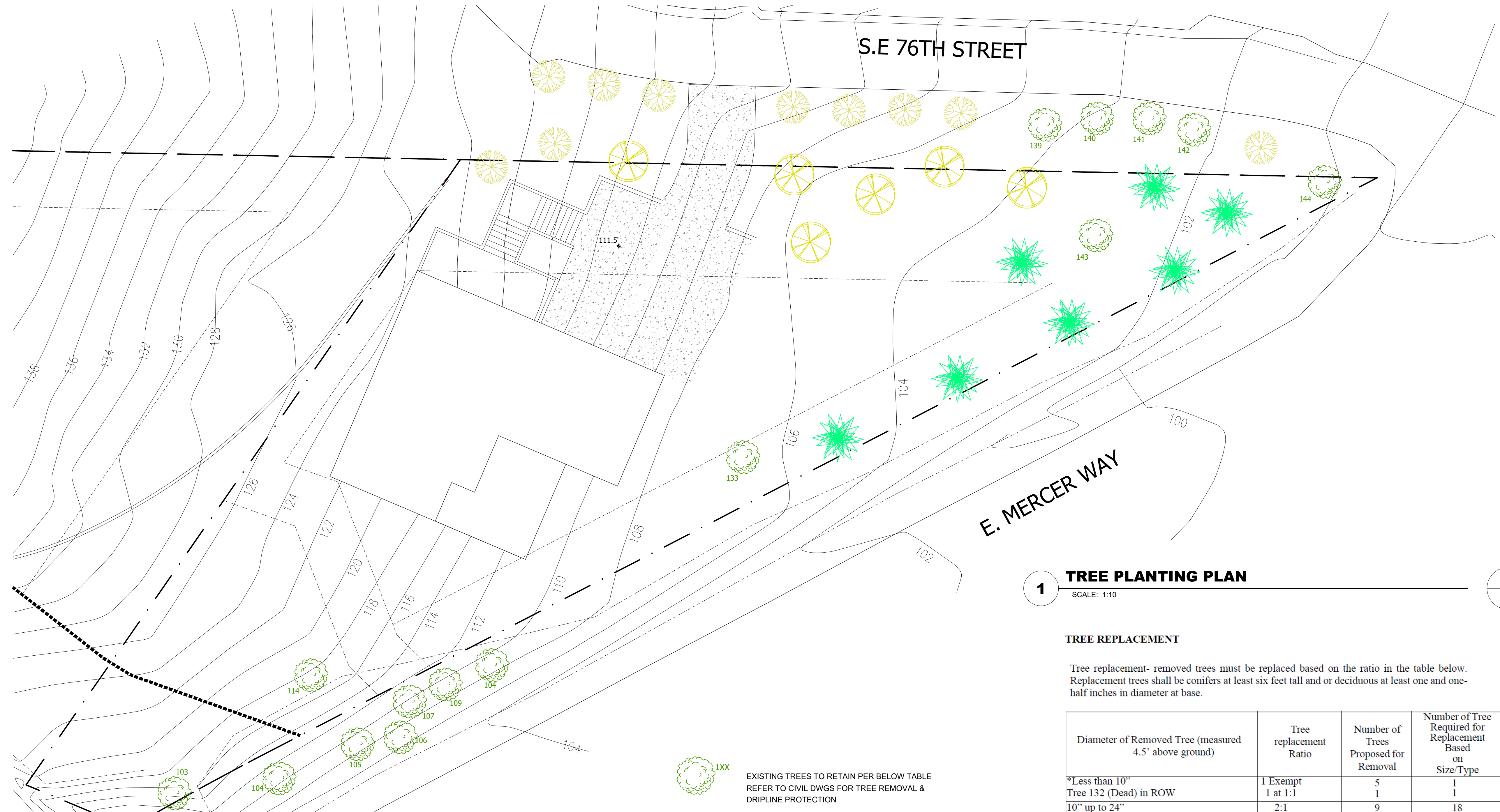
SHORING PLAN AND PROFILE
CHESHIRE SHORT PLAT LOT 1
LONG VIEW BELLA, LLC
 7615 E MERCER WAY
 MERCER ISLAND, WA 98040

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

SHEET	OF
7	7
PROJECT NUMBER	
19205	

01-18-24

1/18/2024 3:46 PM A:\2019\19205\ENGINEERING\FINAL\SHEETS\19205_7.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	5	1
Tree 132 (Dead) in ROW	1 at 1:1	1	1
10" up to 24"	2:1	9	18
Greater than 24" up to 36"	3:1	1	3
Greater than 36" and any Exceptional Tree	6:1	0	0
TOTAL TREE REPLACEMENTS			23

*PER ARBORIST REPORT DATED JULY 25TH 2019

TREE REPLACEMENT SCHEDULE

SYMBOL	NAME	SPACING	QUANTITY
	VINE MAPLE	10'	10
	ACER CIRCINATUM		
	MOUNTAIN HEMLOCK	10'	7
	TSUGA MERTENSIANA		
	PACIFIC DOGWOOD	10'	6
	CORNUS NUTTALLII		
TOTAL			23

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. PROVIDE AUTOMATIC DRIP IRRIGATION SYSTEM 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	53	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+)	Conflicts with plans	16.5	8.25	
112	Maple	Acer macrophyllum	8	50	12	Fair (70+)	Conflicts with plans	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+)	Conflicts with plans	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
123	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	Sydneya sampaiviriana	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	*3618	18	*TPZ of 18' is viable. Can be star 6-9 months before working near tree
134	Maple	Acer macrophyllum	13	40	28	Poor (50+)	Not Viable	13	6.5	Suppressed /barked crown/ not viable
135	Cherry	Prunus spp.	10	45	22	Fair poor (50-70)	Conflicts with plans	12.5	6.25	AREA Required to remove building material
136	Cedar	Thuja plicata	11.1	40	22	Good (80+)	Conflicts with plans	11.1	5.55	AREA Required to remove building material
137	Fir	Abies balsamea	22	98	30	Good (80+)	Conflicts with plans	22	11	AREA Required to remove building material
138	Alder	Alnus rubra	16	50	26	Fair (70+)	Not Viable	20	10	Top 1/4 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 @ 20ft/14' Measure and mitigation prove 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

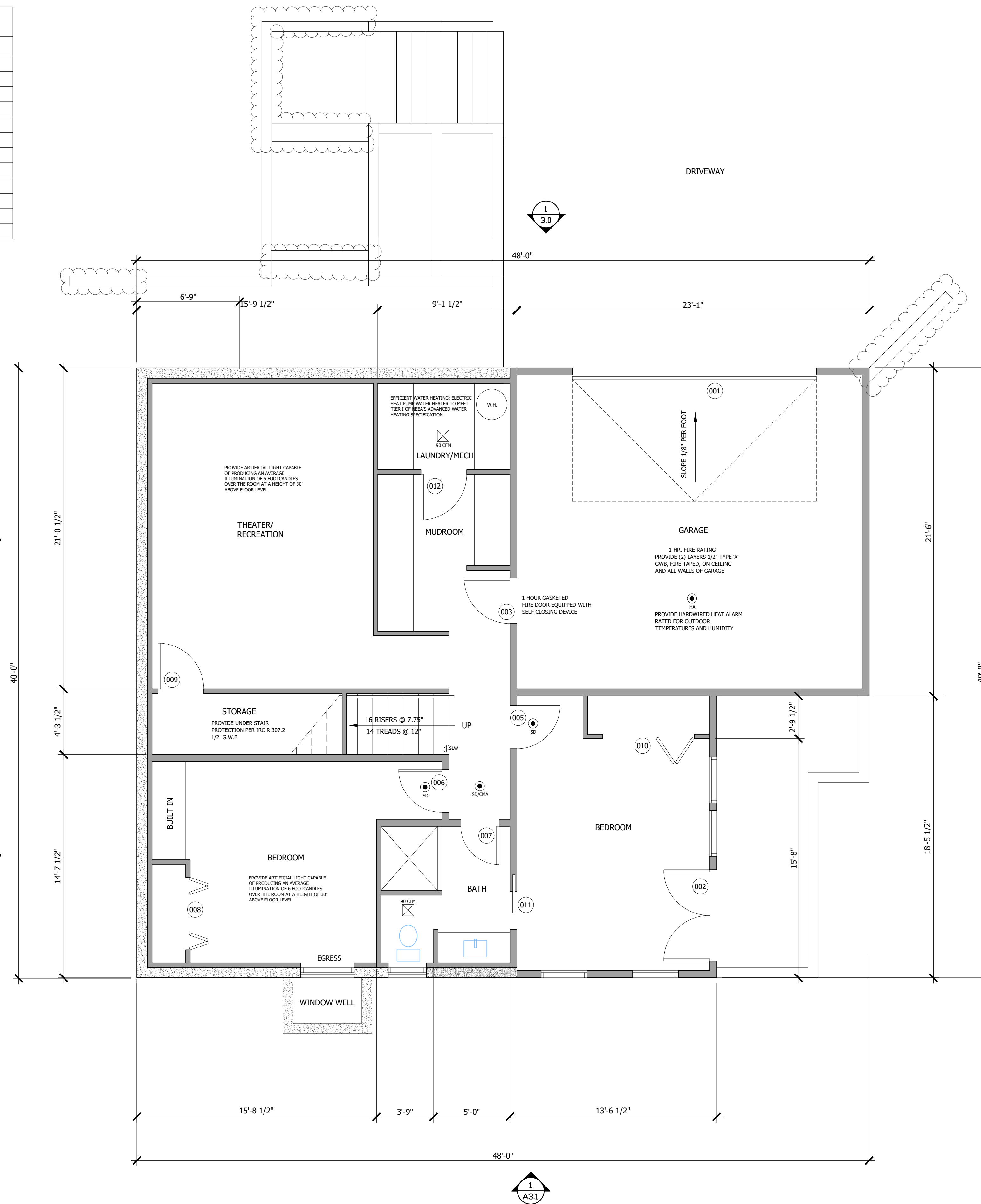
MARK	R.O. SIZE	TYPE	THICK	REMARKS
001	8'0 X 16'0	OVERHEAD GARAGE DOOR	1-3/4"	
002	6'0 X 7'0	EXTERIOR FRENCH DOORS	1-3/8"	GLAZED U VALUE = 0.28
003	3'0 X 7'0	SOLID CORE FLUSH	1-3/4"	1 HOUR FIRE RATED SELF CLOSING
005	2'10 X 7'0	SOLID CORE FLUSH	1-3/8"	
006	2'10 X 7'0	SOLID CORE FLUSH	1-3/8"	
007	2'6 X 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"	


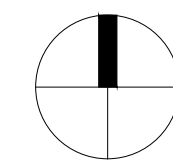
PLAN KEY

-  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

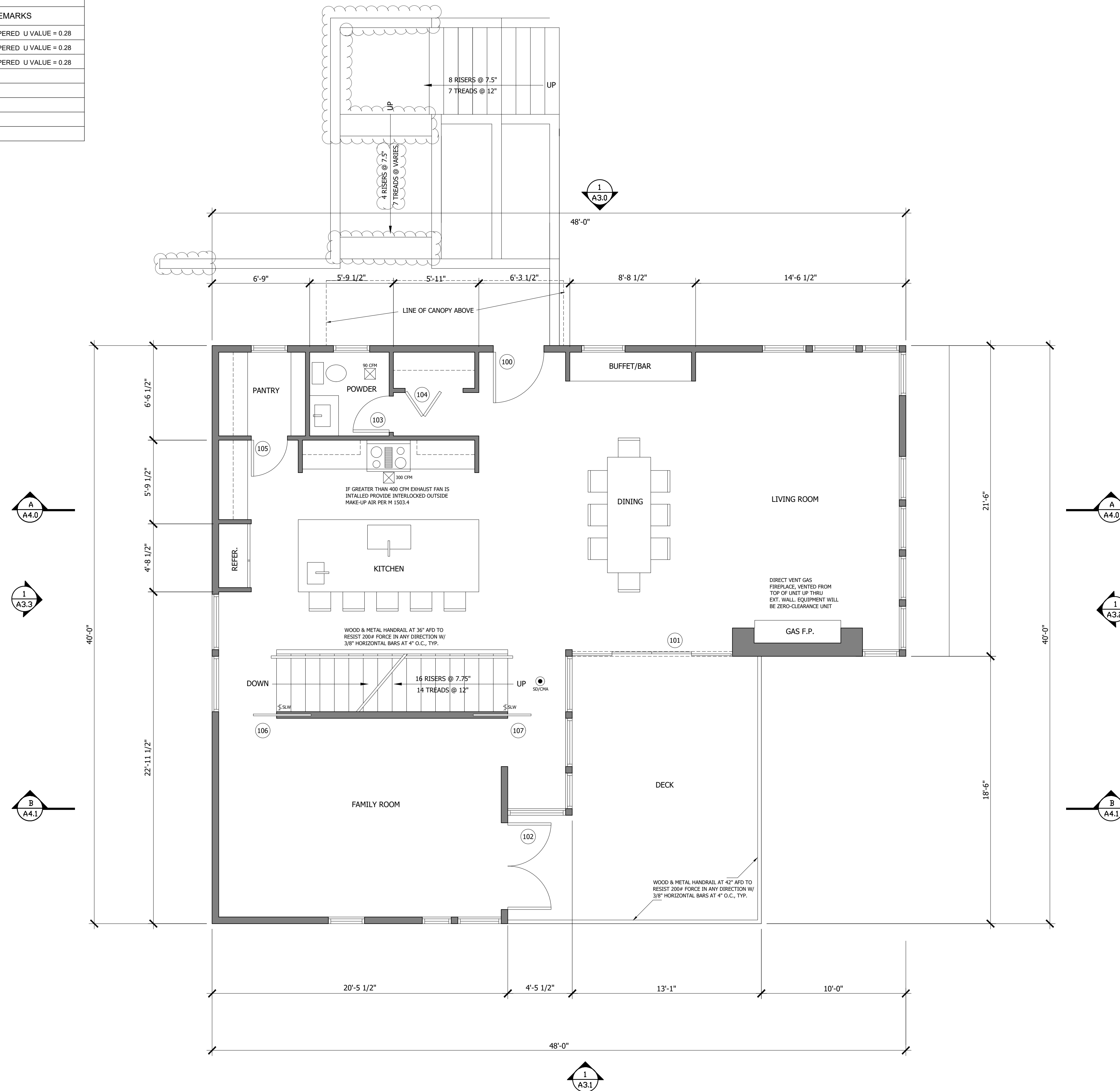
MARK	R.O. SIZE	TYPE	THICK	REMARKS
100	3'6" X 8'0"	EXTERIOR ENTRY DOOR	1-3/4"	GLAZED, TEMPERED U VALUE = 0.28
101	11'0" X 8'0"	EXTERIOR SLIDER	1-3/4"	GLAZED, TEMPERED U VALUE = 0.28
102	6'0" X 8'0"	EXTERIOR FRENCH DOORS	1-3/4"	GLAZED, TEMPERED U VALUE = 0.28
103	2'6" X 8'0"	SOLID CORE FLUSH	1-3/8"	
104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

SECOND FLOOR DOOR SCHEDULE

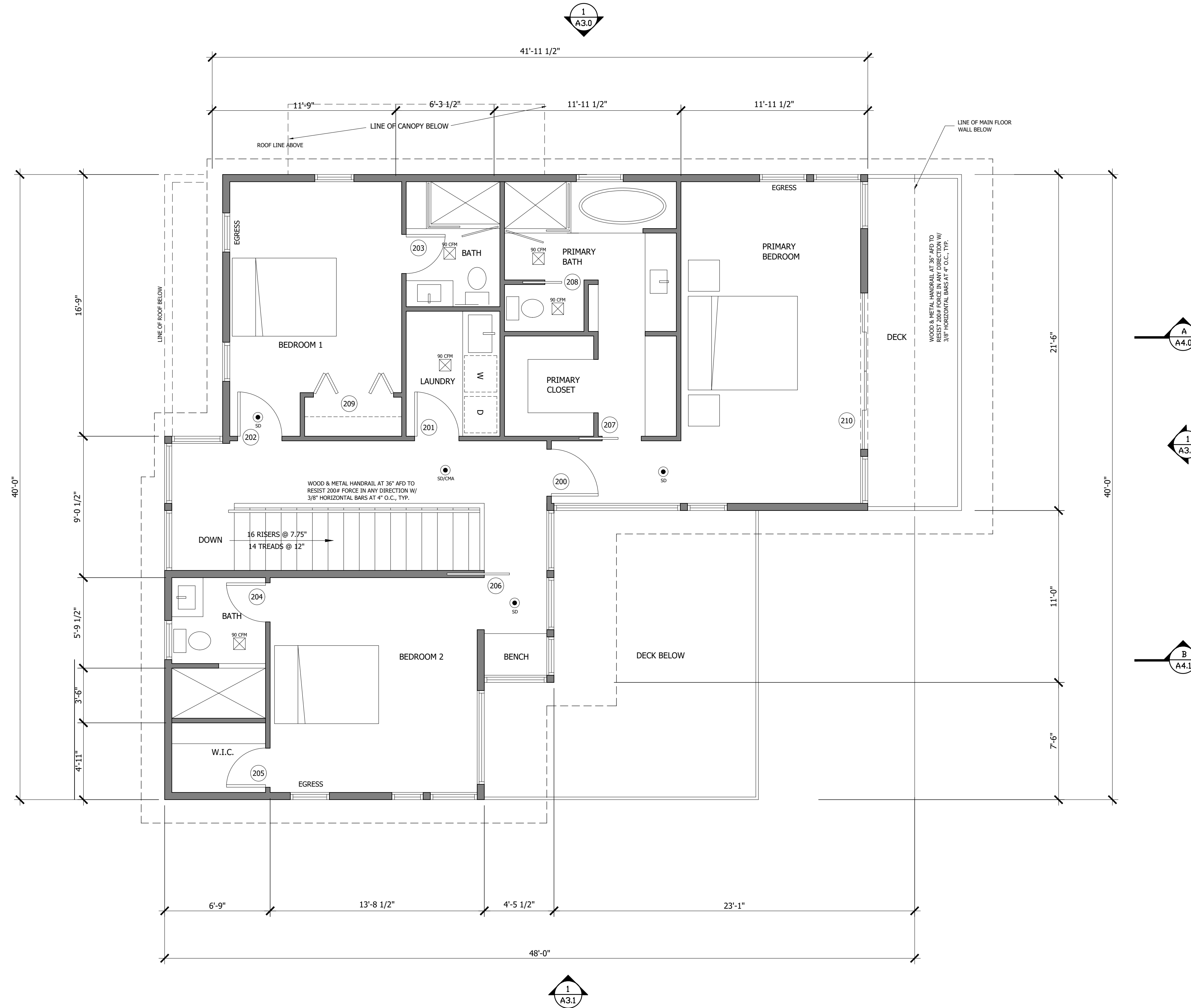
MARK	R.O. SIZE	TYPE	THICK	REMARKS
200	3'0 X 7'0	SOLID CORE FLUSH	1-3/8"	
201	2'10 X 7'0	SOLID CORE FLUSH	1-3/8"	
202	2'10 X 7'0	SOLID CORE FLUSH	1-3/4"	
203	2'6 X 7'0	SOLID CORE FLUSH	1-3/8"	
204	2'6 X 7'0	SOLID CORE FLUSH	1-3/8"	
205	2'6 X 7'0	SOLID CORE FLUSH	1-3/8"	
206	4'0 X 7'0	POCKET DOOR	1-3/8"	
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

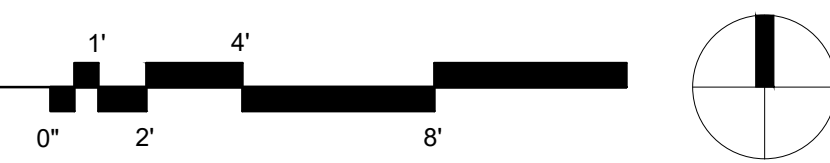
PLAN KEY

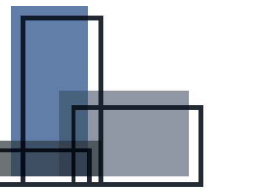
-  HARDWIRED COMBINED SMOKE/CARBON MONOXIDE ALARM
-  HARDWIRED SMOKE DETECTOR
-  EXHAUST VENTILATION FAN
-  DOOR TAG
-  SLW STAIRWAY LIGHT SWITCH

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
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5530 REGISTERED ARCHITECT

ALLAN BLAIN CLARK
 STATE OF WASHINGTON

CONSULTANT

PROJECT

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 MERCER ISLAND, WA 98040

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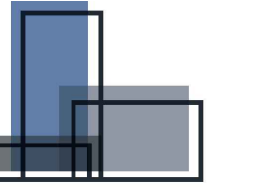
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SHEET TITLE

SECOND FLOOR PLAN

SHEET NUMBER

A-2.2



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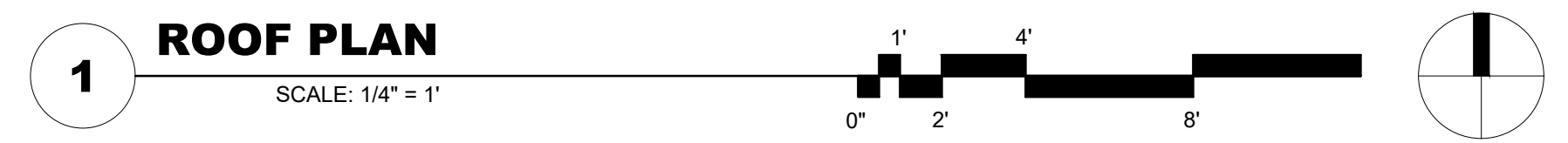
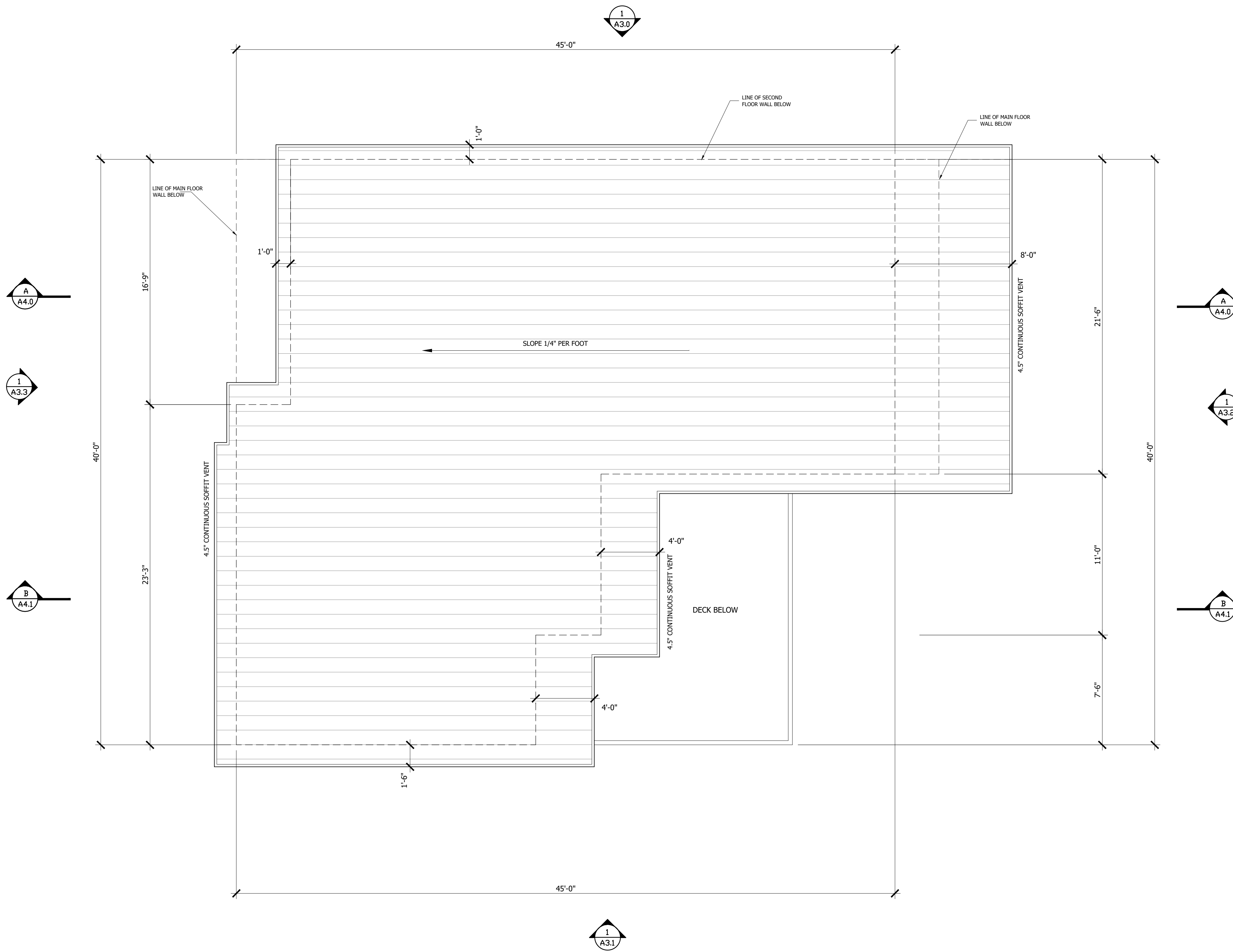
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SHEET TITLE

ROOF PLAN

SHEET NUMBER

A-2.3



1 ROOF PLAN
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	310 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	310 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	



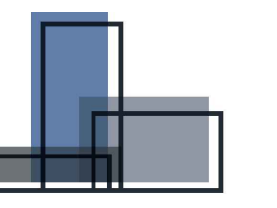
1 NORTH ELEVATION
SCALE: 1/4" = 1'

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	

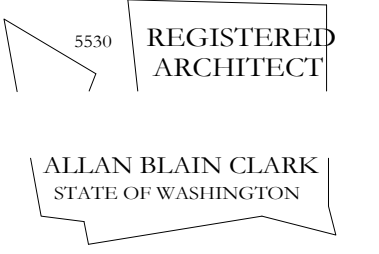


1 SOUTH ELEVATION
 SCALE: 1/4" = 1'
 0' 2' 4' 8'



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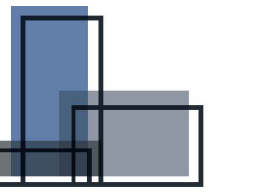
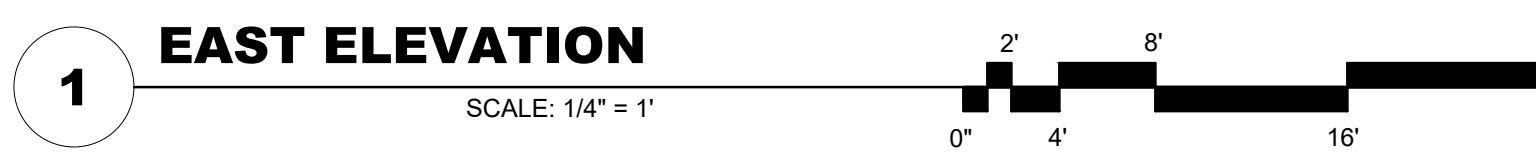
SOUTH ELEVATION

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	



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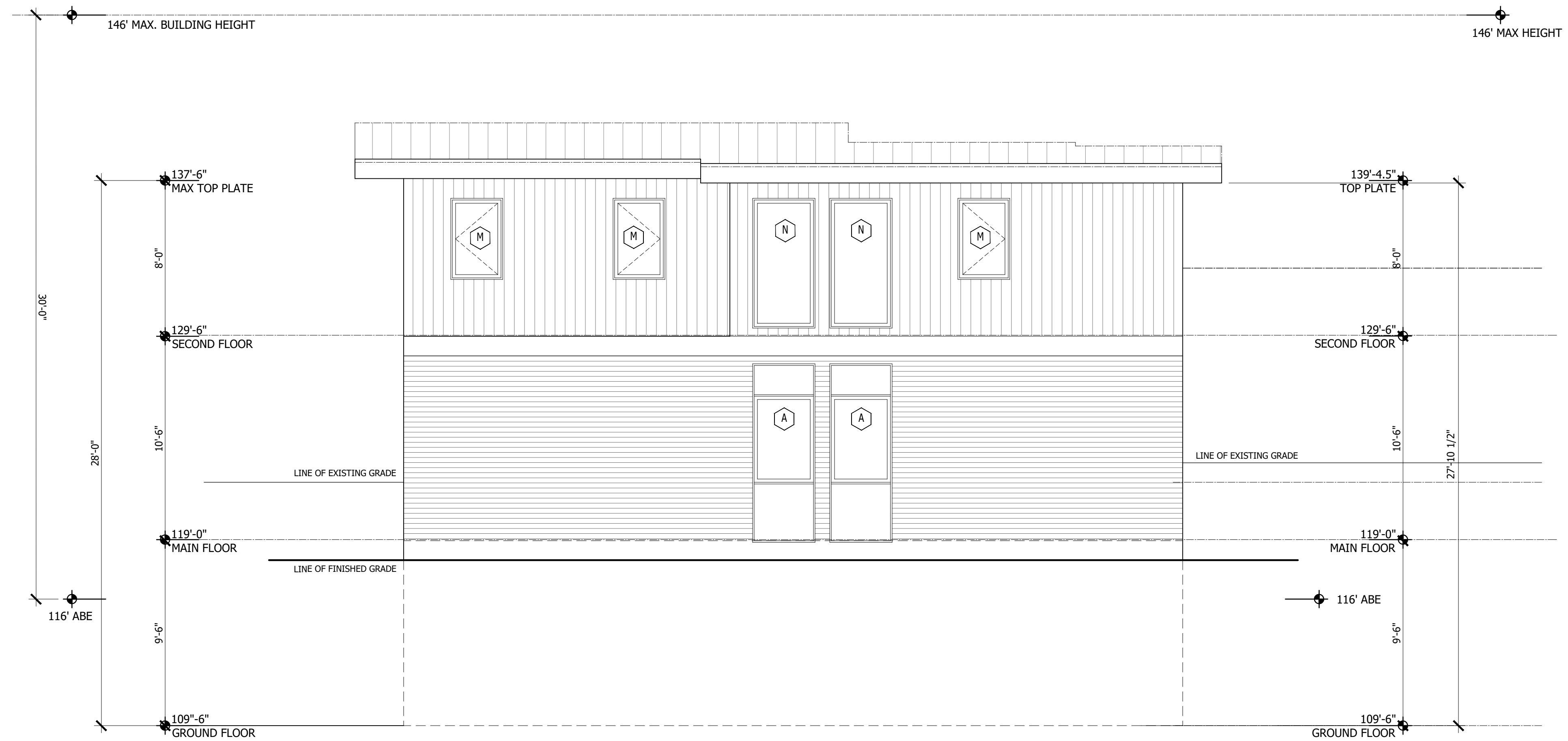
EAST ELEVATION

SHEET NUMBER

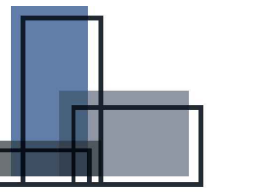
A-3.2

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 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 WEST ELEVATION
SCALE: 1/4" = 1'



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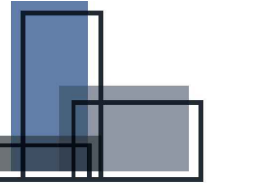
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SHEET TITLE

**WEST
ELEVATION**

SHEET NUMBER

A-3.3



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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.

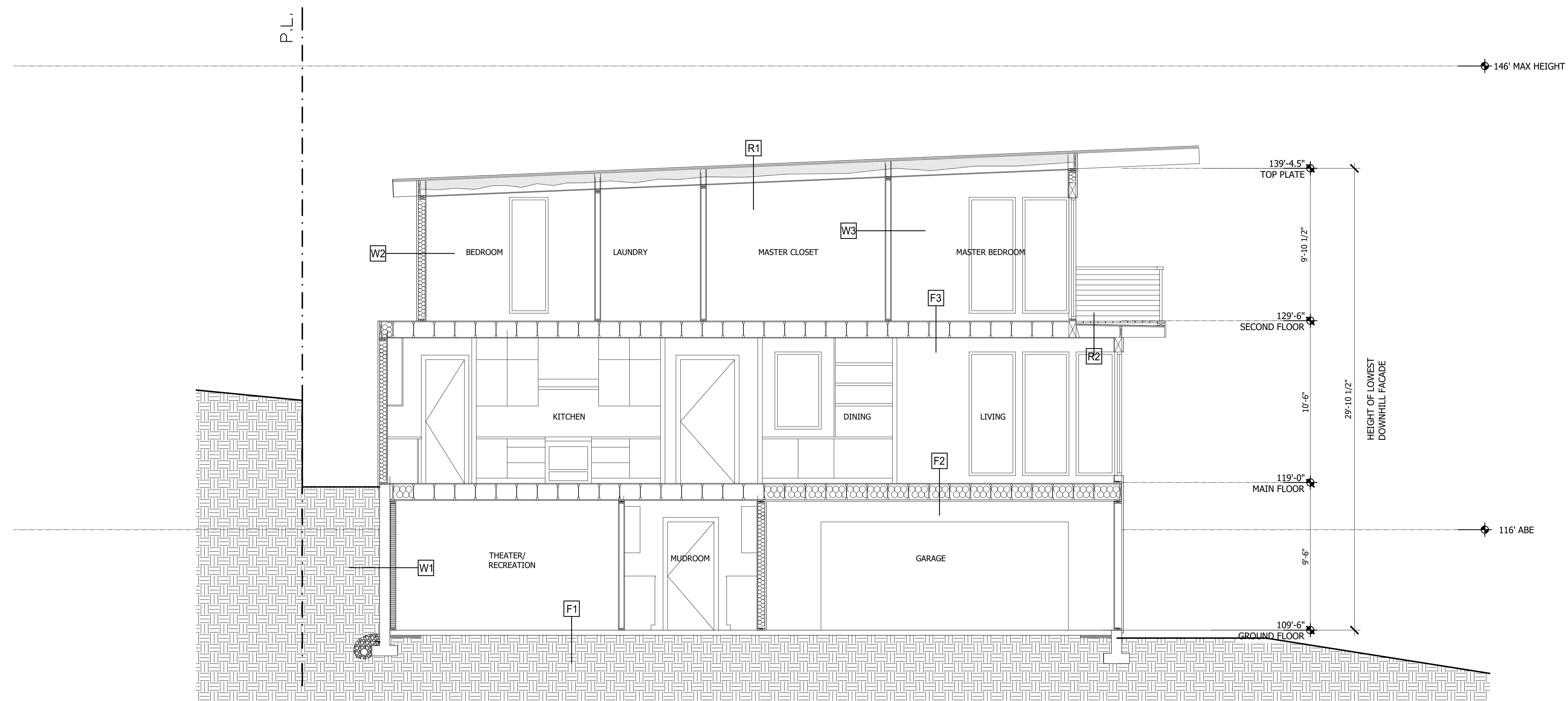
W1 BELOW GRADE WALL
DRAINAGE MAT
SPRAY ON WATERPROOFING
CONCRETE WALL PER STRUCTURAL
2 X 4 STUDS @ 16" O.C. SET OFF FROM CONCRETE
R-21 BATT INSULATION G.W.B.
5/8" G.W.B.

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.

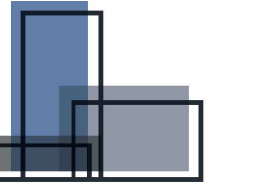
W3 TYPICAL INTERIOR WALL
5/8" G.W.B.
2 X 4 STUDS @ 16" O.C.
5/8" G.W.B.

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'



SEAL



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MERCER ISLAND, WA 98040

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SHEET TITLE

SECTION B-B

SHEET NUMBER

A-4.1

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.

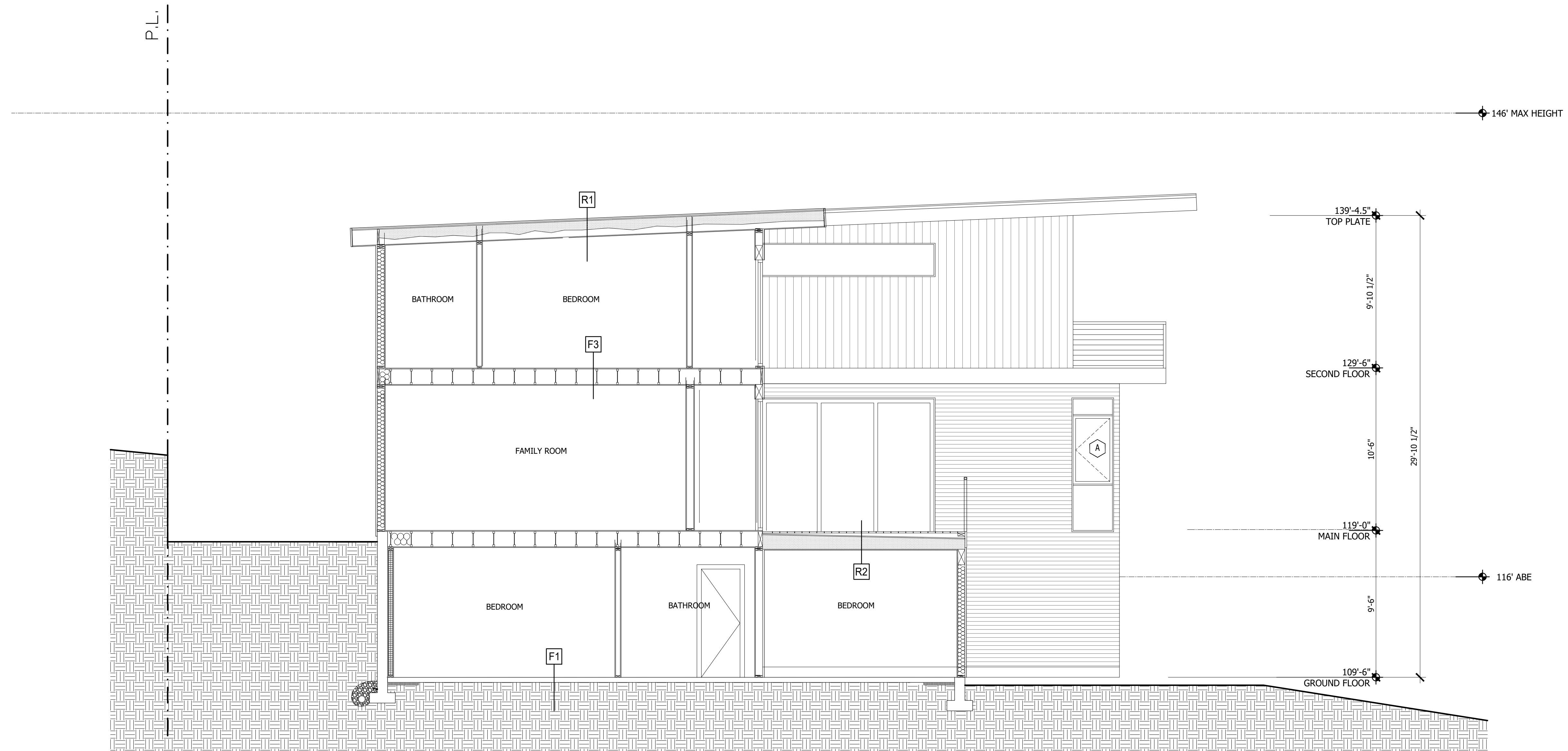
W1 BELOW GRADE WALL
DRAINAGE MAT
SPRAY ON WATERPROOFING
CONCRETE WALL PER STRUCTURAL
2 X 4 STUDS @ 16" O.C. SET OFF FROM CONCRETE
R-21 BATT INSULATION G.W.B.
5/8" G.W.B

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.



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

ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes items like AB ANCHOR BOLT, ACI AMERICAN CONCRETE INSTITUTE, etc.

DESIGN CRITERIA

Table with 2 columns: Criteria and Value. Includes items like DESIGN CODE 2018 INTERNATIONAL BUILDING CODE, DEAD LOAD 30 PSF, etc.

GENERAL NOTES - STRUCTURAL DESIGN

- 1. 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.

FOUNDATION

- 1. 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.

REINFORCED CONCRETE

- 1. 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.

REINFORCED CONCRETE (CONT.)

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

TIMBER

- 1. 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.

LUMBER GRADE TABLE

Table with 4 columns: MEMBER, SIZE, SPECIES & GRADE, and Values. Lists various timber products like WALL STUDS, SILL PLATES, etc.

- 4. STUD FRAMED WALLS A. ALL EXTERIOR WALLS WITH 10 FT HEIGHT OR LESS SHALL BE 2X6 @ 16" O.C. UNLESS NOTED OTHERWISE ON THE PLANS.

TIMBER (CONT.)

- 8. HURRICANE CLIPS A. PROVIDE MINIMUM H2.5A AT EACH END OF EACH ROOF JOIST OR RAFTER WITH SPAN LESS THAN 20 FEET.

STRUCTURAL STEEL PILES

- 1. SUBMITTALS: A. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW IN ACCORDANCE WITH AISC 360 SECTION M.1 AND AISC 303 SECTION 4.



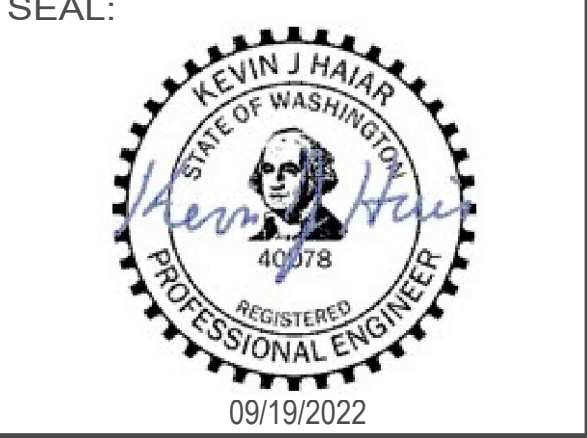
PROJECT: CHESHIRE
JOB SITE ADDRESS: 7615 E. MERCER WAY MERCER ISLAND, WA 98040

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

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DRAWING ISSUE RECORD table with columns: NO., STATUS, DATE. Shows FOR PERMIT on 08/12/21.

REVISION RECORD table with columns: REV, BY, DESCRIPTION, DATE. Shows REVISION 1, 2, 3.



SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT MERRELL DESIGN LLC IS THE ENGINEER OF RECORD FOR THIS PROJECT.

JOB#: 21-045

SHEET TITLE: GENERAL NOTES

SHEET#: S1.0 SCALE: AS SHOWN

Table with 4 columns: DRAWN, DATE, CHECKED, DATE. Values: 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:

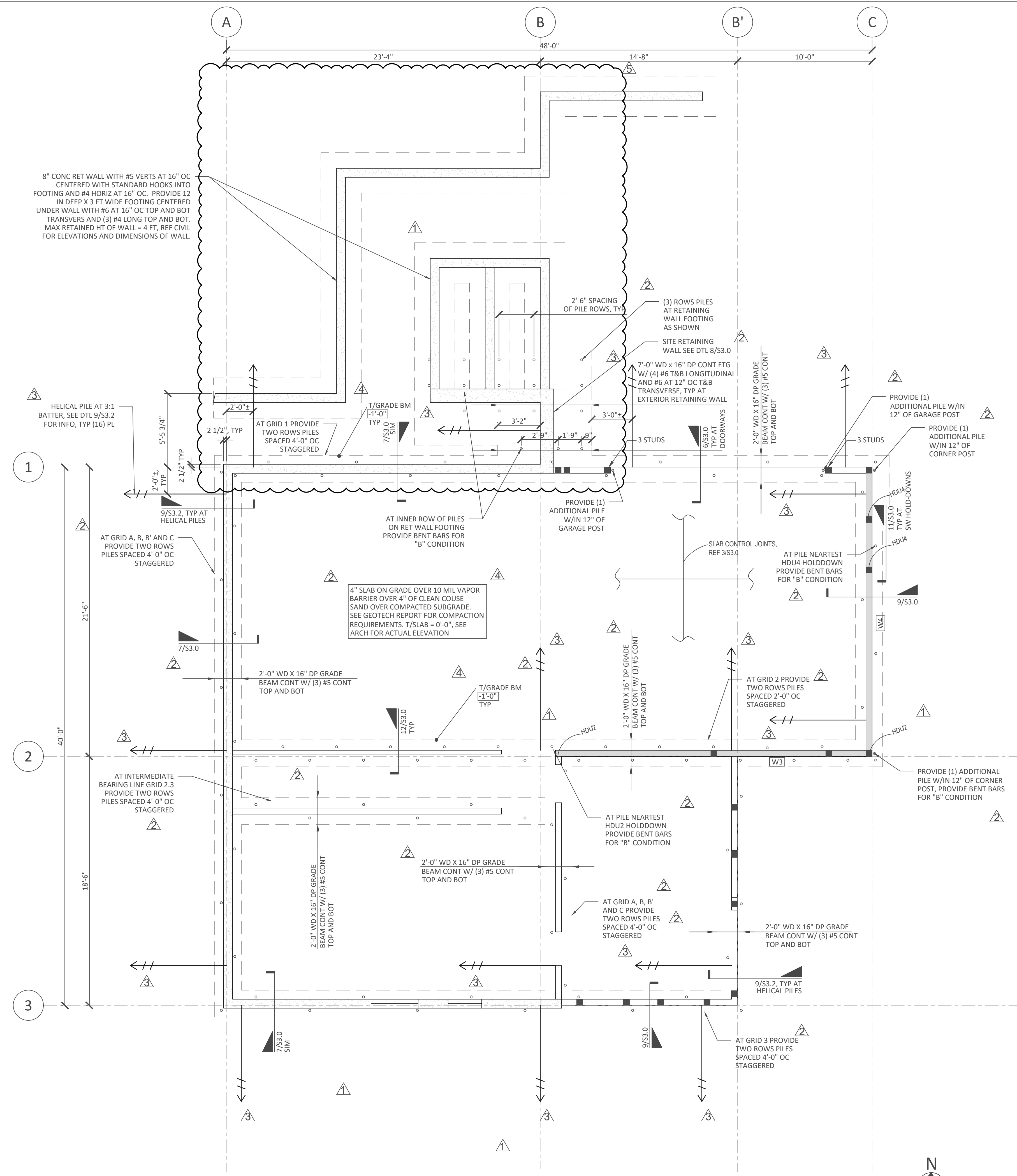
1. ALL EXTERIOR WALLS AND INTERIOR BEARING WALLS SHALL BE PER THE PLANS OR STUD WALL SCHEDULE, UNLESS NOTED OTHERWISE. STUDS SHALL ALIGN NOMINALLY FLOOR TO FLOOR WITH STUDS, JOISTS, AND TRUSSES. ATTACH SILL PLATES TO CONCRETE, RIM BOARD, OR TOP PLATE PER SCHEDULE, UNO IN SHEAR WALL SCHEDULE.
2. REFERENCE 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 40 3 INCH DIAMETER STANDARD PIPE 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.
10. A MINIMUM OF 3%, BUT NEED NOT EXCEED 5% OF PIPE PILES SHALL BE COMPRESSION TESTED IN ACCORDANCE WITH ASTM D1143 QUICK TEST

HELICAL PILE PLAN NOTES:

1. HELICAL PILES SHALL BE EXCALIBUR 10/12/14 TYPE WITH 4.5" SHAFT WITH 0.290" WALL THICKNESS MIN YIELD OF 35KSI.
2. PILE DESIGN CAPACITY: 9 KIPS COMPRESSION/TENSION WITH 2.0 GEOTECHNICAL FACTOR OF SAFETY (18K ULTIMATE). MANUFACTURER SHALL PROVIDE BOLTED OR WELDED SPICE CONNECTION AS NECESSARY WITH 9K COMP/TEN ALLOWABLE CAPACITY.
3. MINIMUM INSTALLATION TORQUE = 30,000 FT-LB
4. MAXIMUM INSTALLATION TORQUE = 3,000 FT-LB
5. INSTALL PILES AT 3:1 NOMINAL BATTER WITH MINIMUM DEPTH OF 25 FEET BELOW GRADE TO TOP HELIX.
6. A MINIMUM OF TWO PILES SHALL BE TENSION TESTED AND PILE TENSION TESTING SHALL BE DIRECTED AND MONITORED BY THE GEOTECHNICAL ENGINEER.



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



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

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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		REVISION 3	02/22/23
4		REVISION 4	12/01/23
5		REVISION 5	01/19/24

SEAL:



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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
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DRAWING ISSUE RECORD:

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1		REVISION 1	09/19/22
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4			
5			

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JOB#
21-045

SHEET TITLE:
FIRST FLOOR FRAMING PLAN

SHEET#:
S2.1 SCALE: AS SHOWN

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

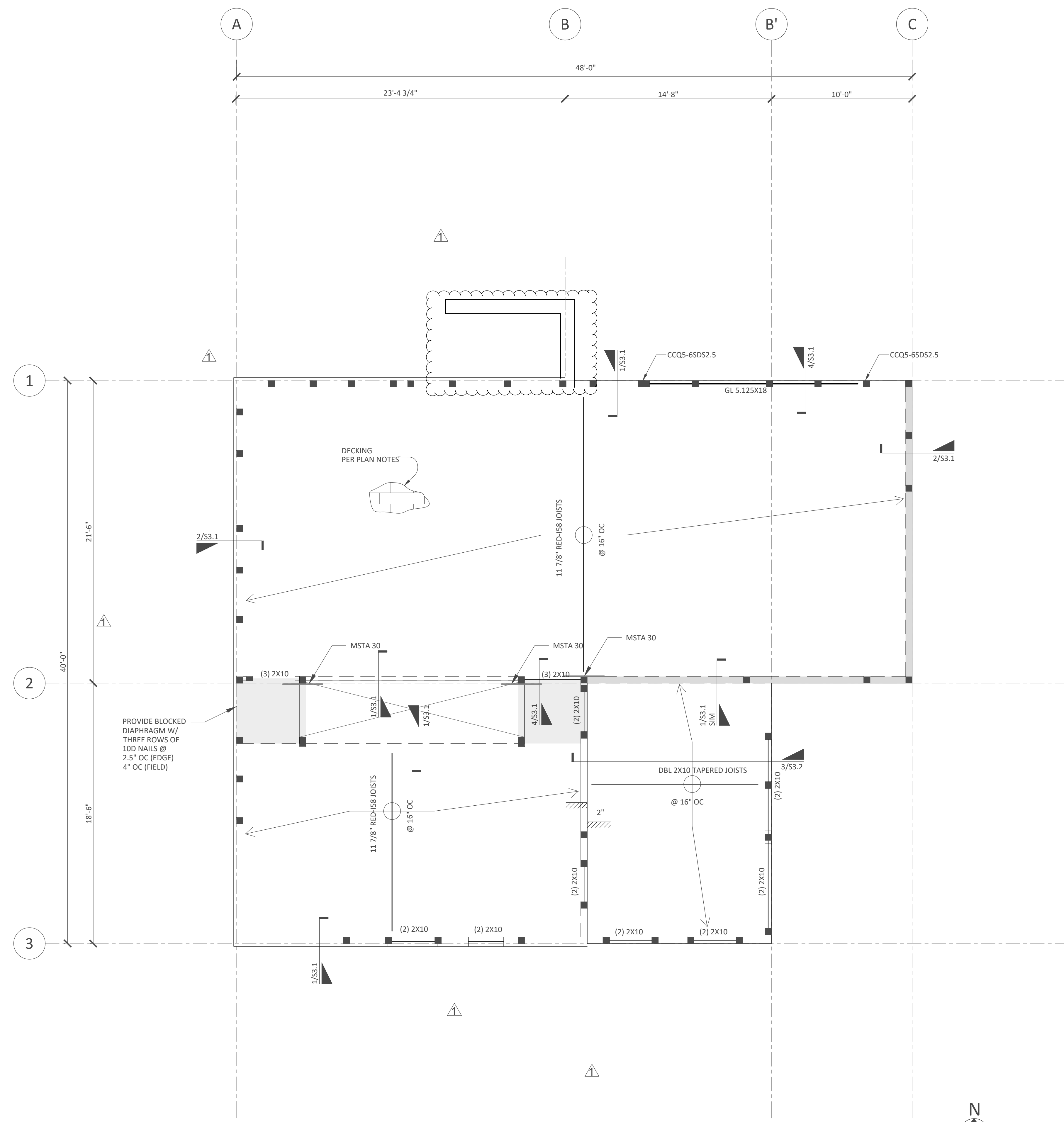
FLOOR SHEATHING			
SIZE	EDGE NAILING	FIELD NAILING	SPAN RATING
23/32"	0.131 X 2.5" @ 6" OC	0.131 X 2.5" @ 12" OC	24 OC

NOTES:

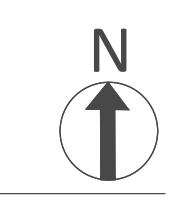
- ALL SHEATHING SHALL BE APA-RATED.
- LAY SHEATHING WITH FACE GRAIN PERPENDICULAR TO SUPPORTS.
- STAGGER ALL SHEATHING PANEL END JOINTS
- PROVIDE 1/8" GAP BETWEEN PANEL ENDS AND EDGES
- FLOOR SHEATHING SHALL BE STURD-I-FLOOR GRADE.

- 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

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	FOR PERMIT	08/12/21

REVISION RECORD:

REV.	BY:	DESCRIPTION	DATE
1		REVISION 1	09/19/22
2		REVISION 2	12/09/22
3		REVISION 3	02/22/23

SEAL:



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JOB#
21-045

SHEET TITLE:
SECOND FLOOR FRAMING PLAN

SHEET#:
S2.2

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 "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:

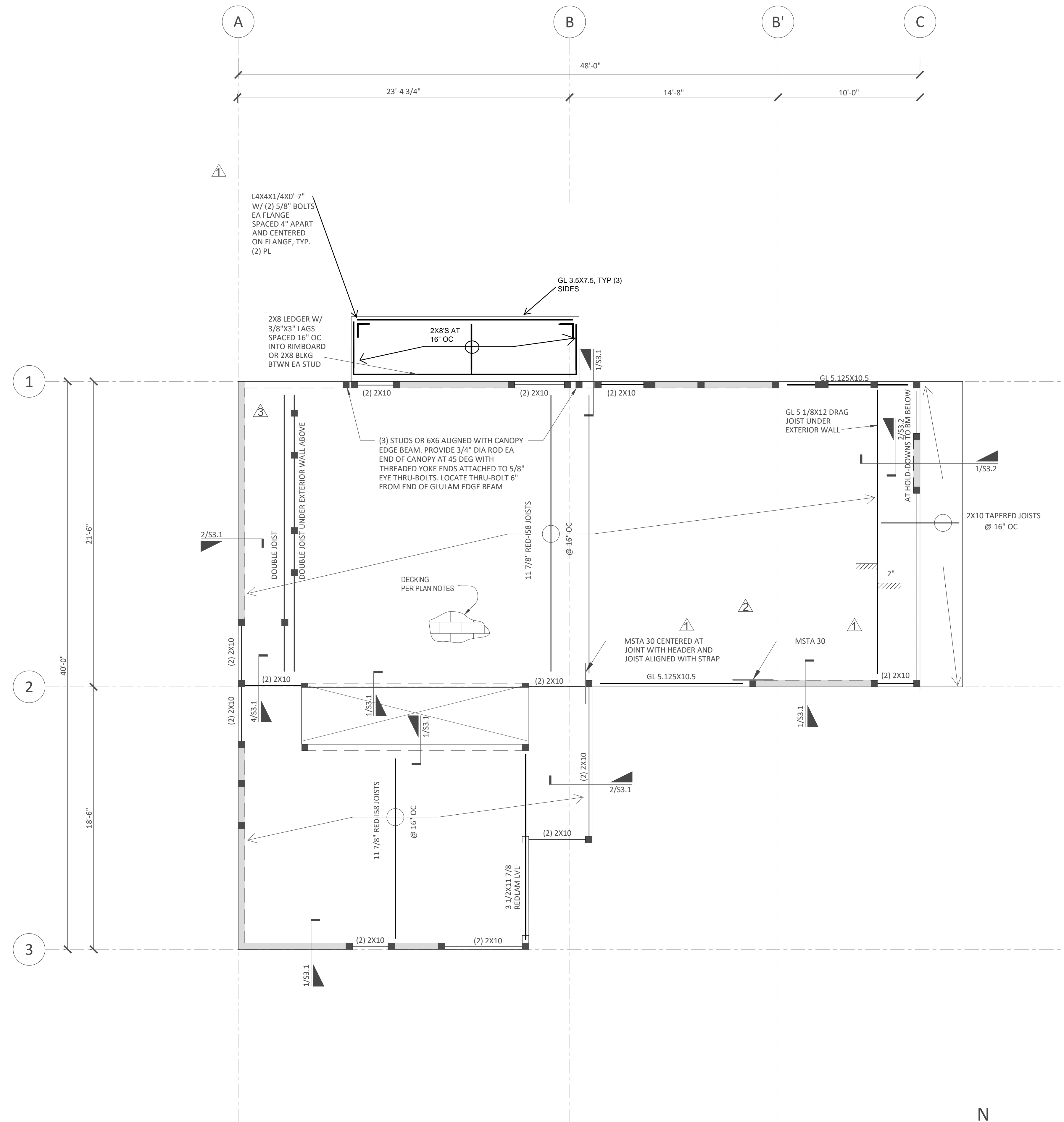
FLOOR SHEATHING			
SIZE	EDGE NAILING	FIELD NAILING	SPAN RATING
23/32"	0.131 X 2.5" @ 6" OC	0.131 X 2.5" @ 12" OC	24 OC

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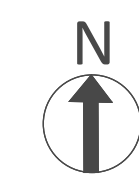
- ALL SHEATHING SHALL BE APA-RATED.
- LAY SHEATHING WITH FACE GRAIN PERPENDICULAR TO SUPPORTS.
- STAGGER ALL SHEATHING PANEL END JOINTS
- PROVIDE 1/8" GAP BETWEEN PANEL ENDS AND EDGES
- FLOOR SHEATHING SHALL BE STURD-I-FLOORGRADE.

- 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"



PROJECT:
CHESHIRE

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

ARCHITECT:
Formworks Design Build
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SEAL:



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JOB#
21-045

SHEET TITLE:
ROOF FRAMING PLAN

SHEET#:
S2.3 SCALE: AS SHOWN

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

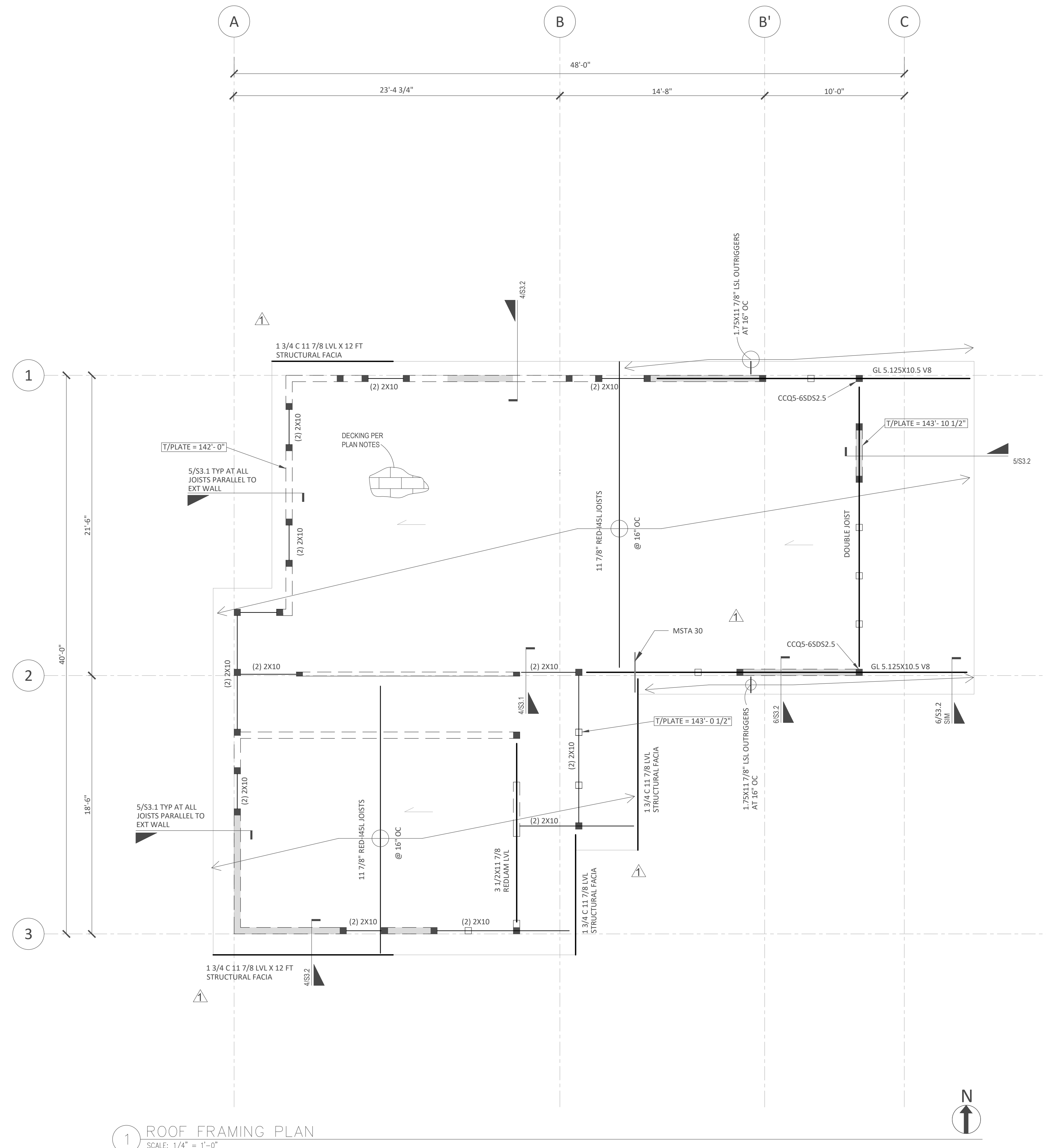
ROOF FRAMING PLAN NOTES:

1. VERIFY LOCATIONS OF NEW COLUMNS, WALLS, OPENINGS, ETC. WITH ARCHITECTURAL DRAWINGS. VERIFY ALL WALL, FLOOR, AND ROOF ELEVATIONS WITH ARCHITECTS DRAWINGS.
2. COORDINATE FRAMING WITH ALL MECHANICAL, HVAC, SPRINKLER, PLUMBING, AND ELECTRICAL DRAWINGS.
3. PROVIDE MINIMUM SIMPSON H2.5A HURRICANE TIES AT ALL ROOF JOISTS/TRUSSES UNLESS HEAVIER TIES ARE INDICATED ON PLAN.
4. PROVIDE SOLID BLOCKING BETWEEN ROOF JOISTS/TRUSSES OVER ALL BEARING WALLS AND SHEAR WALLS.
5. 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.
6. 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.
7. 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.
8. REFERENCE SHEAR WALL SCHEDULE FOR SHEAR WALL TYPES AND CONSTRUCTION REQUIREMENTS.
9. REFERENCE THE STRUCTURAL GENERAL NOTES FOR DESIGN CRITERIA, LEGEND, AND ABBREVIATIONS.
10. PROVIDE JOIST/TRUSS BRIDGING PER MANUFACTURERS REQUIREMENTS FOR ALL ENGINEERED JOISTS AND TRUSSES.
11. ROOF SHEATHING SHALL BE AS FOLLOWS:

ROOF SHEATHING			
SIZE	EDGE NAILING	FIELD NAILING	SPAN RATING
19/32"	0.131 X 2.5" @ 6" OC	0.131 X 2.5" @ 12" OC	32/16

NOTES:

1. ALL SHEATHING SHALL BE APA-RATED.
2. LAY SHEATHING WITH FACE GRAIN PERPENDICULAR TO SUPPORTS.
3. STAGGER ALL SHEATHING PANEL END JOINTS
3. PROVIDE 1/8" GAP BETWEEN PANEL ENDS AND EDGES
4. ROOF SHEATHING SHALL BE C-D GRADE



1 ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"





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Practical Structural Solutions

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JOB SITE ADDRESS:
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MERCER ISLAND, WA 98040

ARCHITECT:
Formworks Design Build
7434 SE 71st St
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98040

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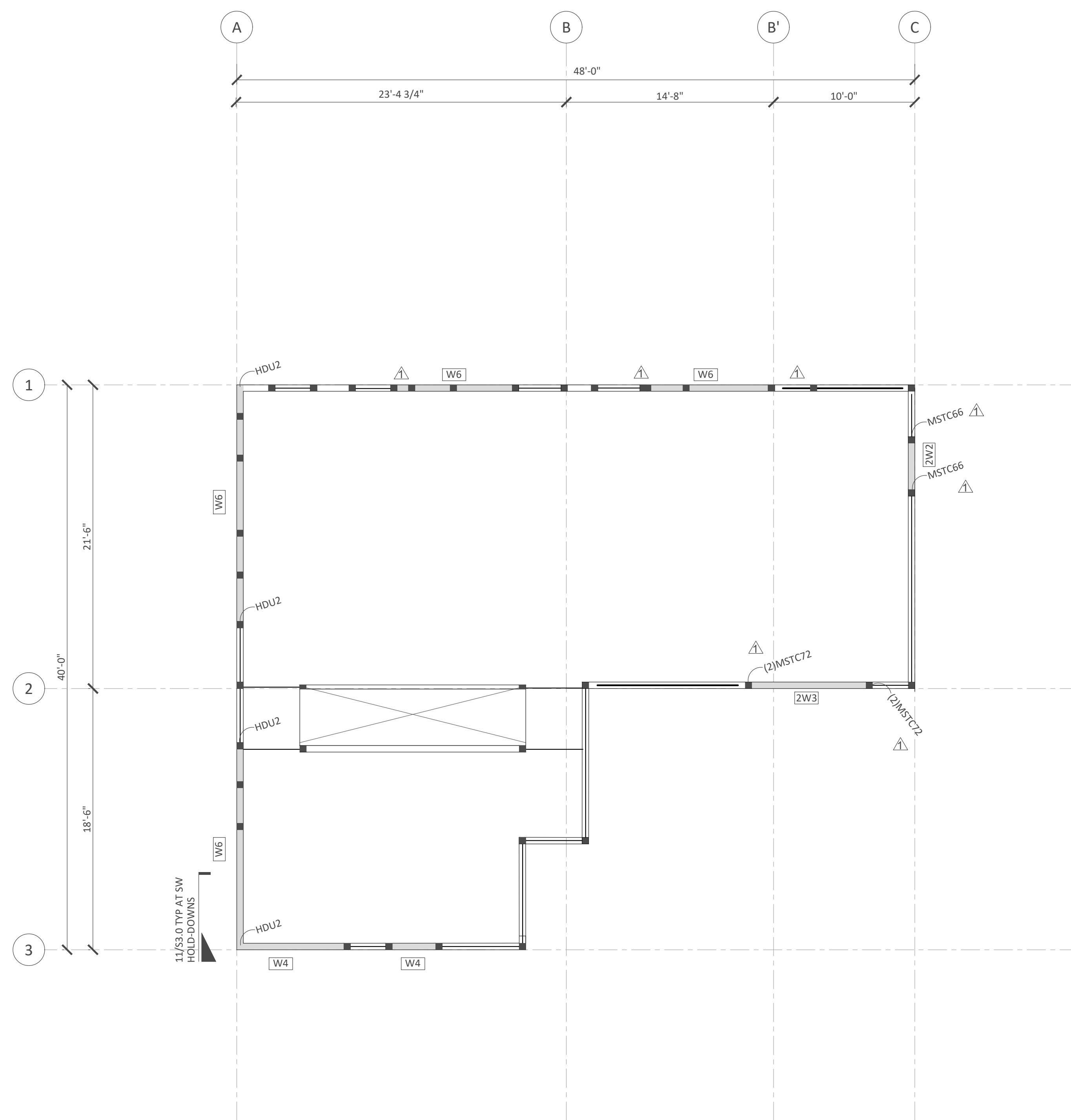
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FIRST & SECOND FLOOR STUD PLANS

SHEET#:
S2.4 SCALE: AS SHOWN

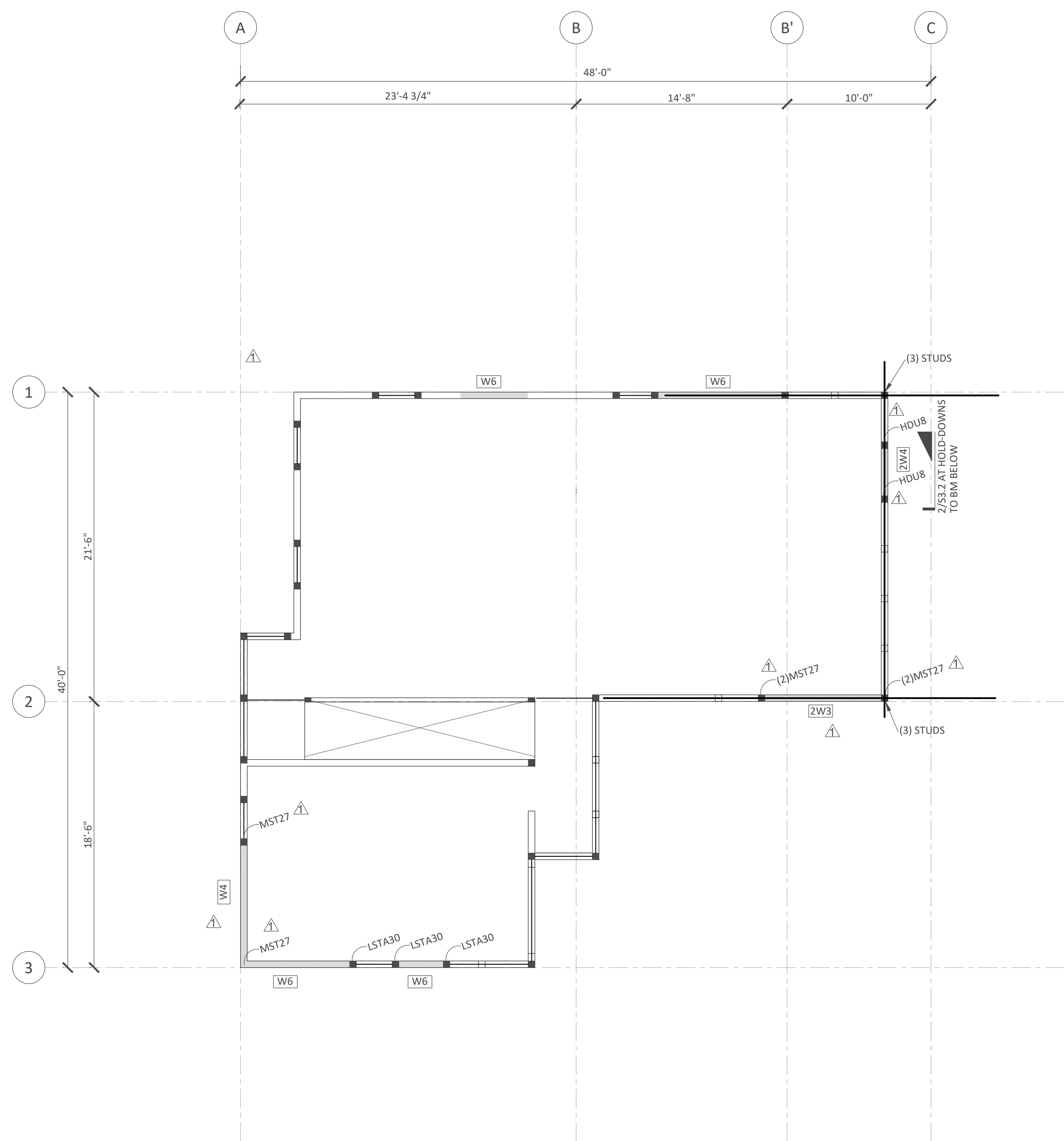
DRAWN: SG	DATE: 09/19/2022	CHECKED: AJM	DATE: 09/19/2022
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STUD AND SHEAR WALL PLAN NOTES:

- 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.
- REFERENCE THE STRUCTURAL GENERAL NOTES FOR DESIGN CRITERIA, LUMBER GRADES, LEGEND, AND ABBREVIATIONS.
- PROVIDE MINIMUM BLOCKING AT 5'-0" OC MAX FOR ALL BEARING AND EXTERIOR WALLS. REFER TO SHEAR WALL SCHEDULE FOR ADDITIONAL BLOCKING REQUIREMENTS.
- 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.
- FOR SHEAR WALL STRAPS AND ATTACHMENT REQUIREMENTS, REFERENCE THE SHEAR WALL SCHEDULE.
- INDICATES HOLD-DOWN TYPE, REFERENCE HOLD-DOWN SCHEDULE.
- 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"



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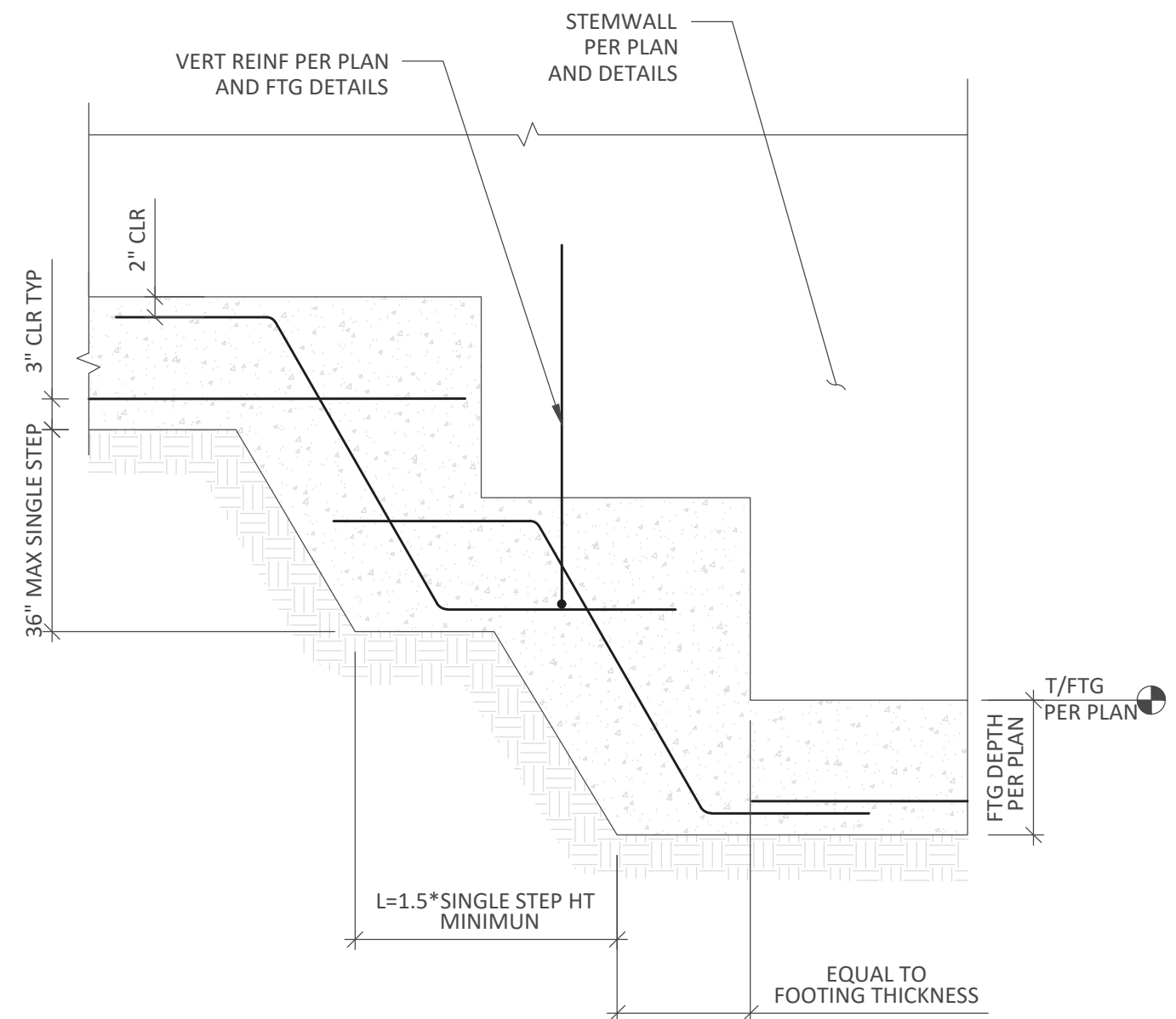
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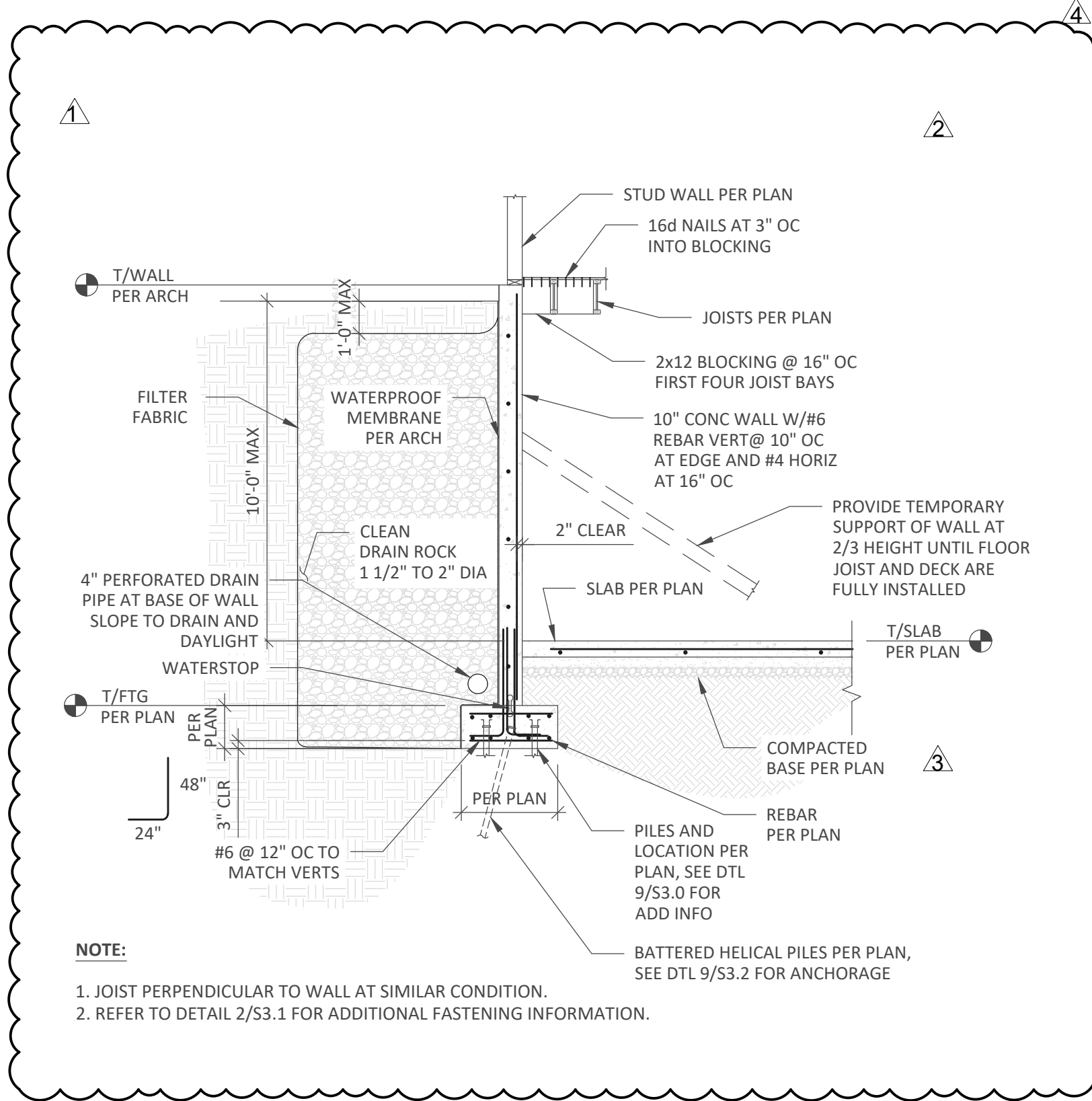
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DETAILS

SHEET#:
S3.0

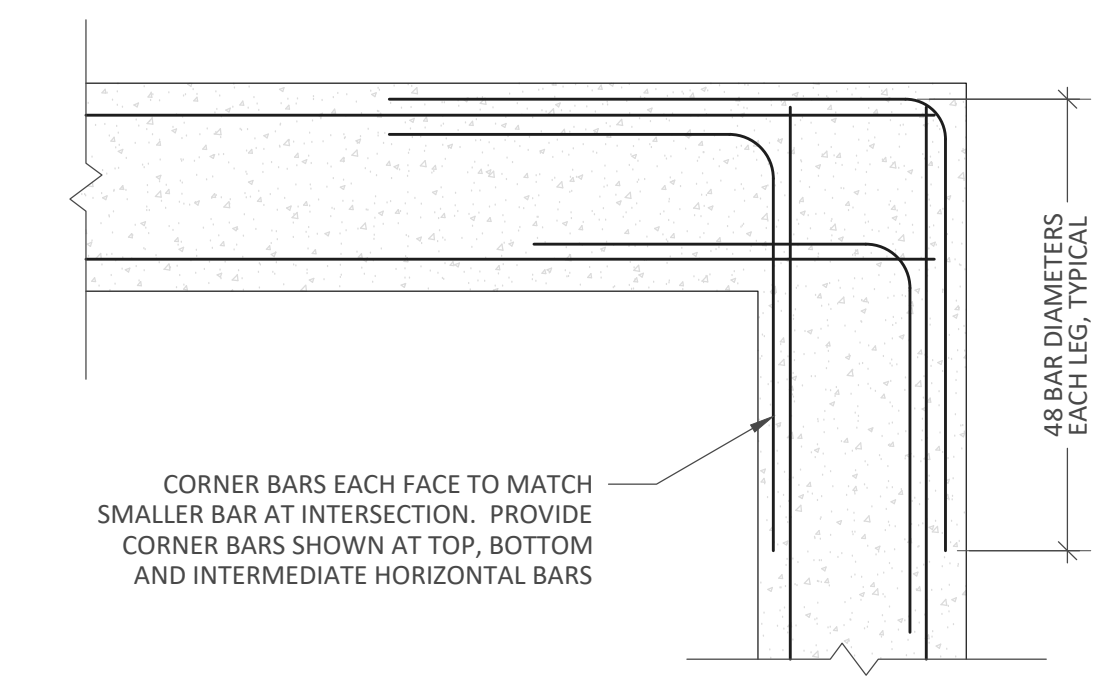
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SG	09/19/2022	AJM	09/19/2022



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

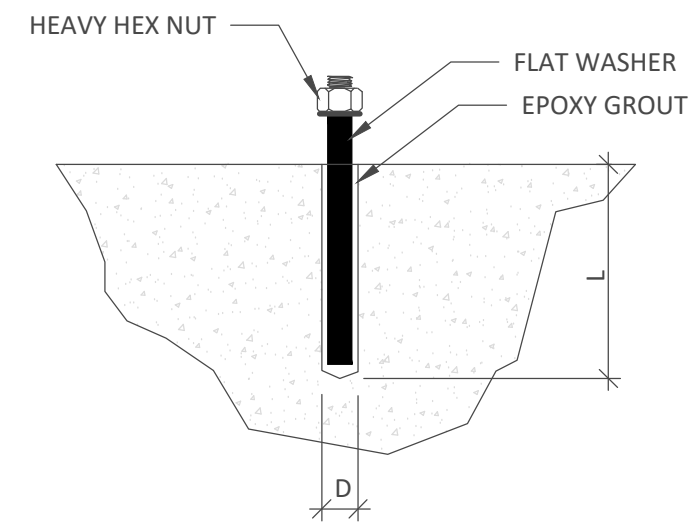


7 BASEMENT WALL AND FOOTING
SCALE: 1/4" = 1'-0"



- NOTES:
- WHERE 90 DEGREE HOOKS ARE SCHEDULED OR DETAILED FOR TOP BARS, CORNER BARS MAY BE OMITTED.
 - MATCH SIZE, LOCATION AND NUMBER OF HORIZONTAL BEAM AND WALL BARS, EXCEPT THAT WHERE THERE ARE MORE THAN 2 TOP OR BOTTOM BARS, ONLY THE INSIDE AND OUTSIDE BARS MUST BE MATCHED.
 - STOP DETAILED REINFORCEMENT 2" SHORT OF FORM.

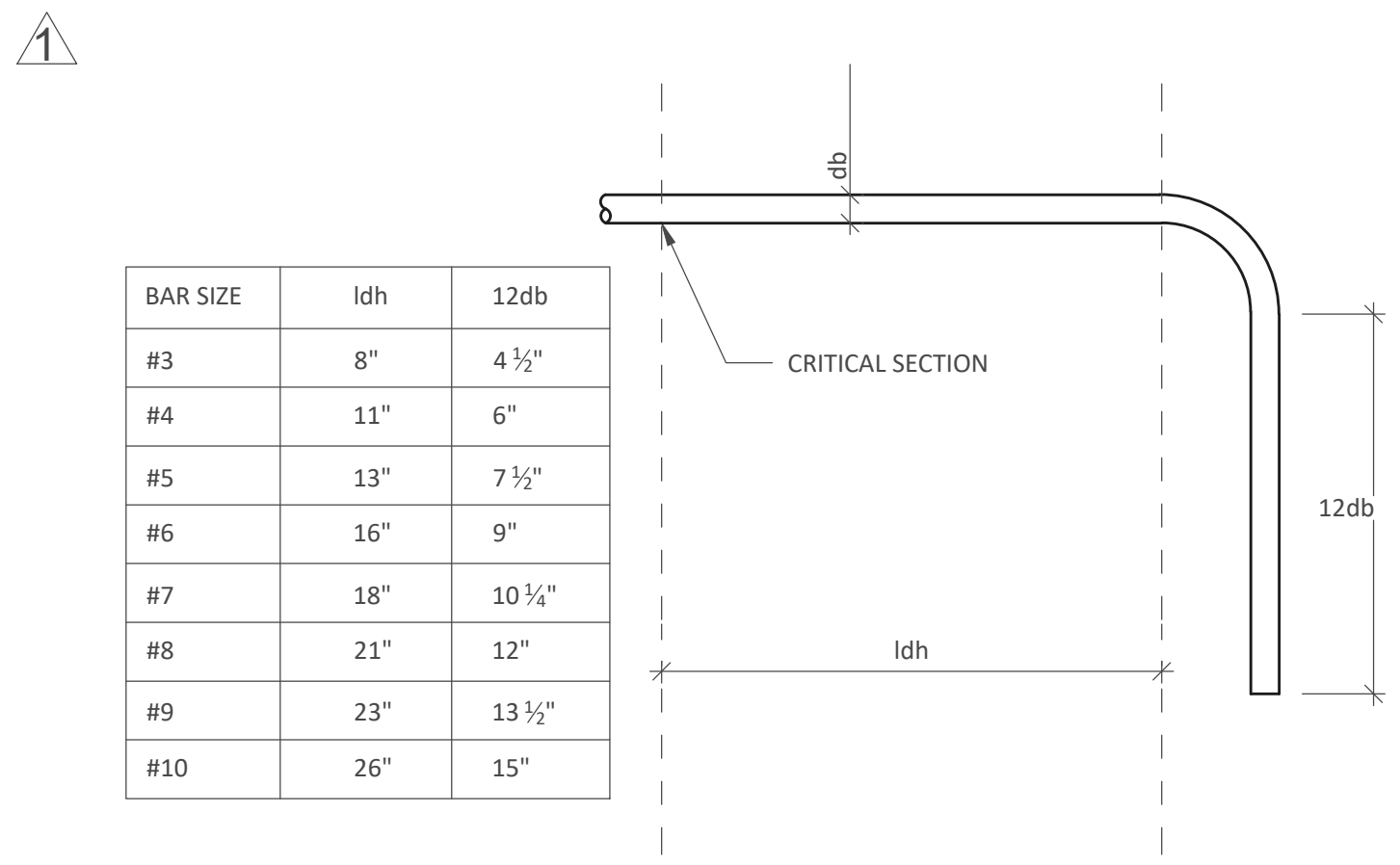
4 TYPICAL CORNER BARS AT INTERSECTION DETAIL
NOT TO SCALE



BAR SIZE	HOLE DIAMETER "D"	HOLE LENGTH "L"
1/2"	5/8"	5"
5/8"	3/4"	6"
3/4"	7/8"	8"
7/8"	1"	9"
1"	1 1/8"	10"

- NOTES:
- THREADED ROD SHALL BE A36 ROD, NUT & WASHER SHALL BE GALVANIZED AS PER ASTM A153
 - HOLE SHALL BE DRILLED USING ROTARY PERCUSSION DRILL TO FORM ROUGH SURFACE. IF CORE DRILLED, ROUGHEN HOLE SURFACE USING DRILL BIT.
 - HOLE MUST BE THOROUGHLY CLEAN, FREE OF DUST, DEBRIS & STANDING WATER.
 - FOR TEMPERATURES BELOW 70 DEGREES F, EPOXY MAY TAKE 24 HOURS OR LONGER TO CURE. SEE MANUFACTURER'S RECOMMENDATIONS FOR EXACT CURE TIMES. 5. THE EPOXY SHALL BE INJECTED USING THE DUAL COMPONENT CARTRIDGE SYSTEM AS PER INSTRUCTIONS OF THE MANUFACTURER. FOR VERTICAL AND HORIZONTAL APPLICATIONS USE MANUFACTURER'S RECOMMENDED CORRESPONDING PRODUCT.

5 CONCRETE STD THREADED ROD ANCHOR
NOT TO SCALE

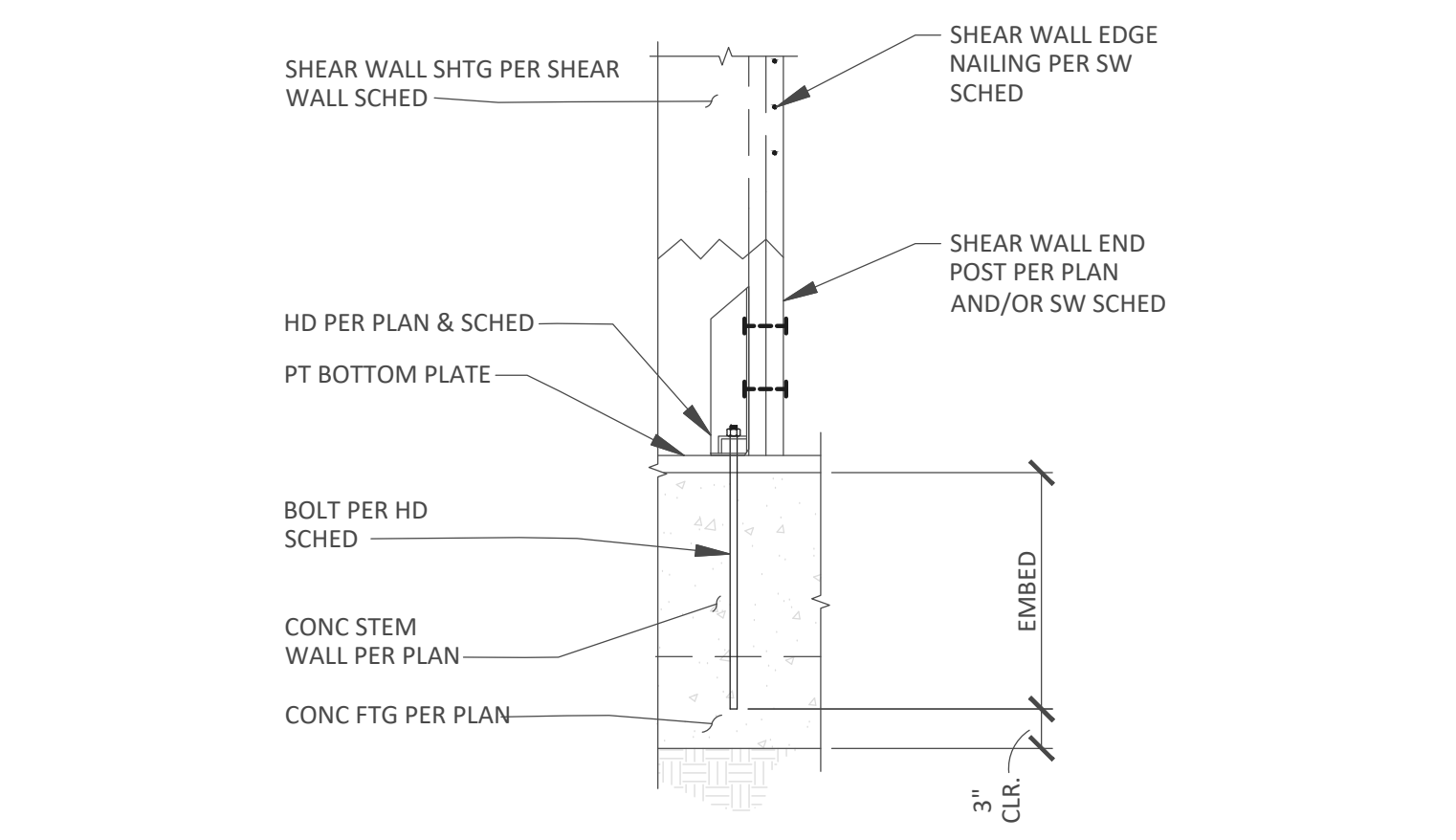


BAR SIZE	ldh	12db
#3	8"	4 1/2"
#4	11"	6"
#5	13"	7 1/2"
#6	16"	9"
#7	18"	10 1/4"
#8	21"	12"
#9	23"	13 1/2"
#10	26"	15"

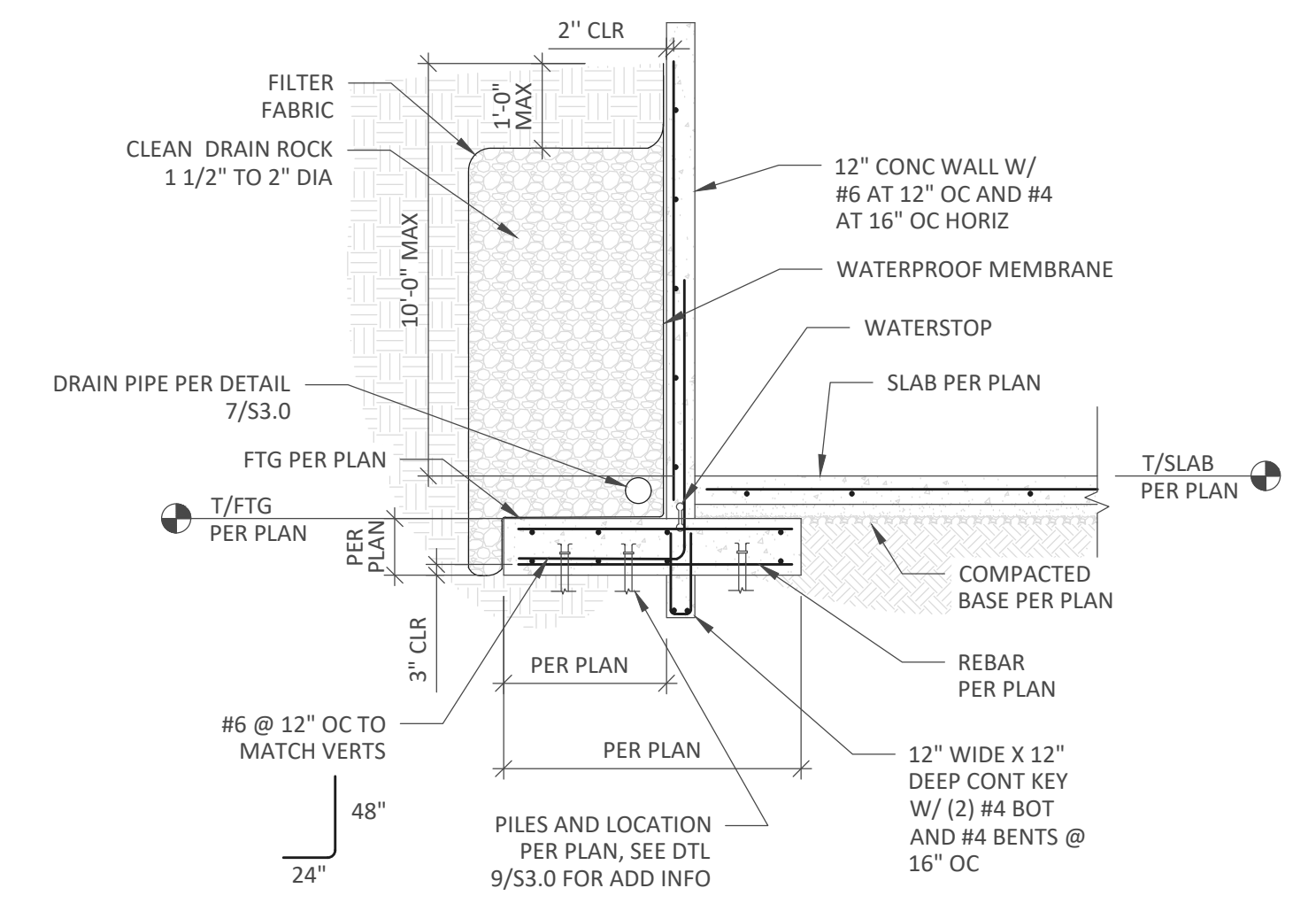
1 90° HOOK DIMENSIONS GRADE 60 BARS AND 3500 PSI CONCRETE
NOT TO SCALE

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"

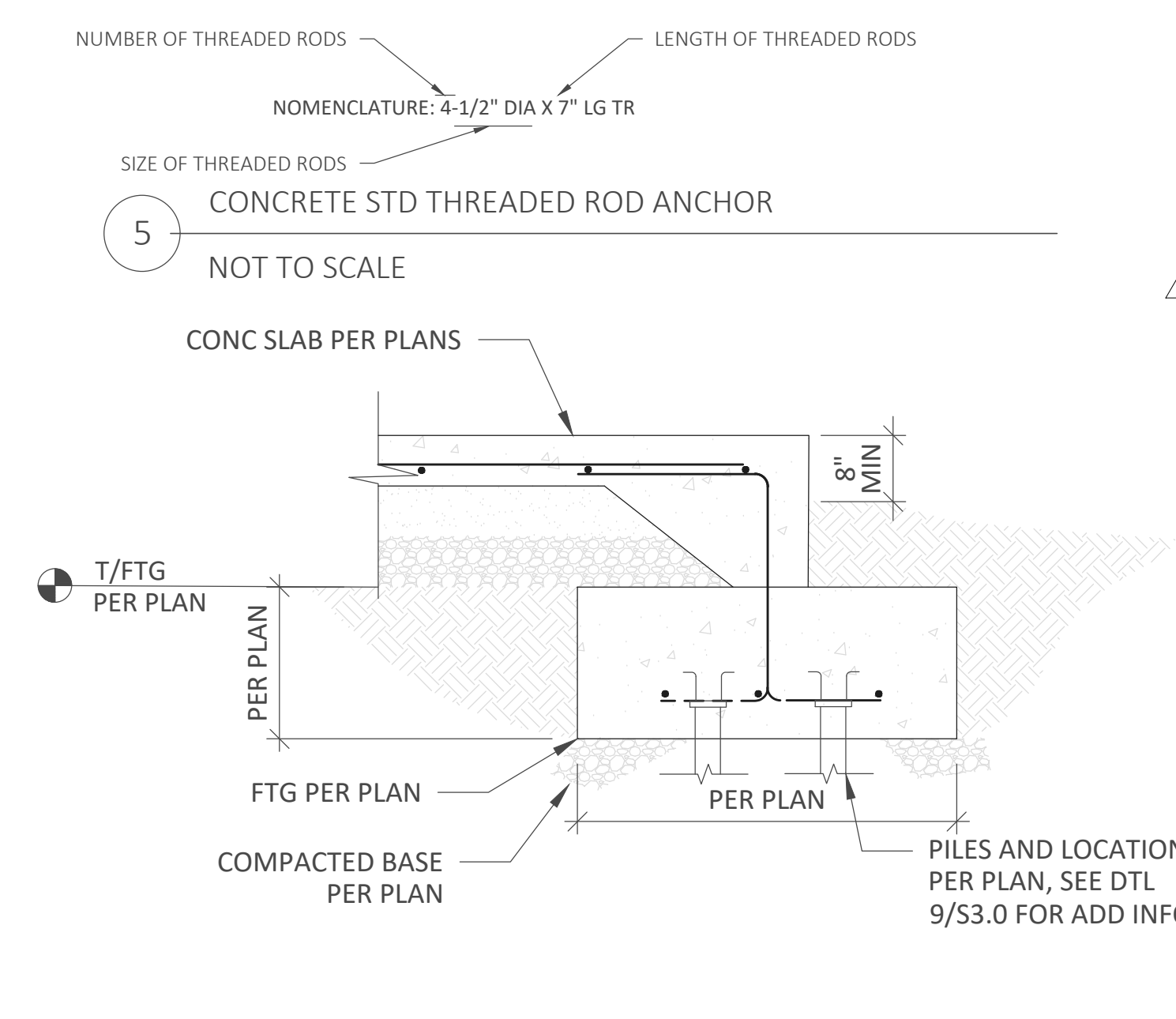
2 DEVELOPMENT LENGTH AND TENSION LAP SPlice LENGTH GRADE 60 BARS AND 3000 PSI CONCRETE
NOT TO SCALE



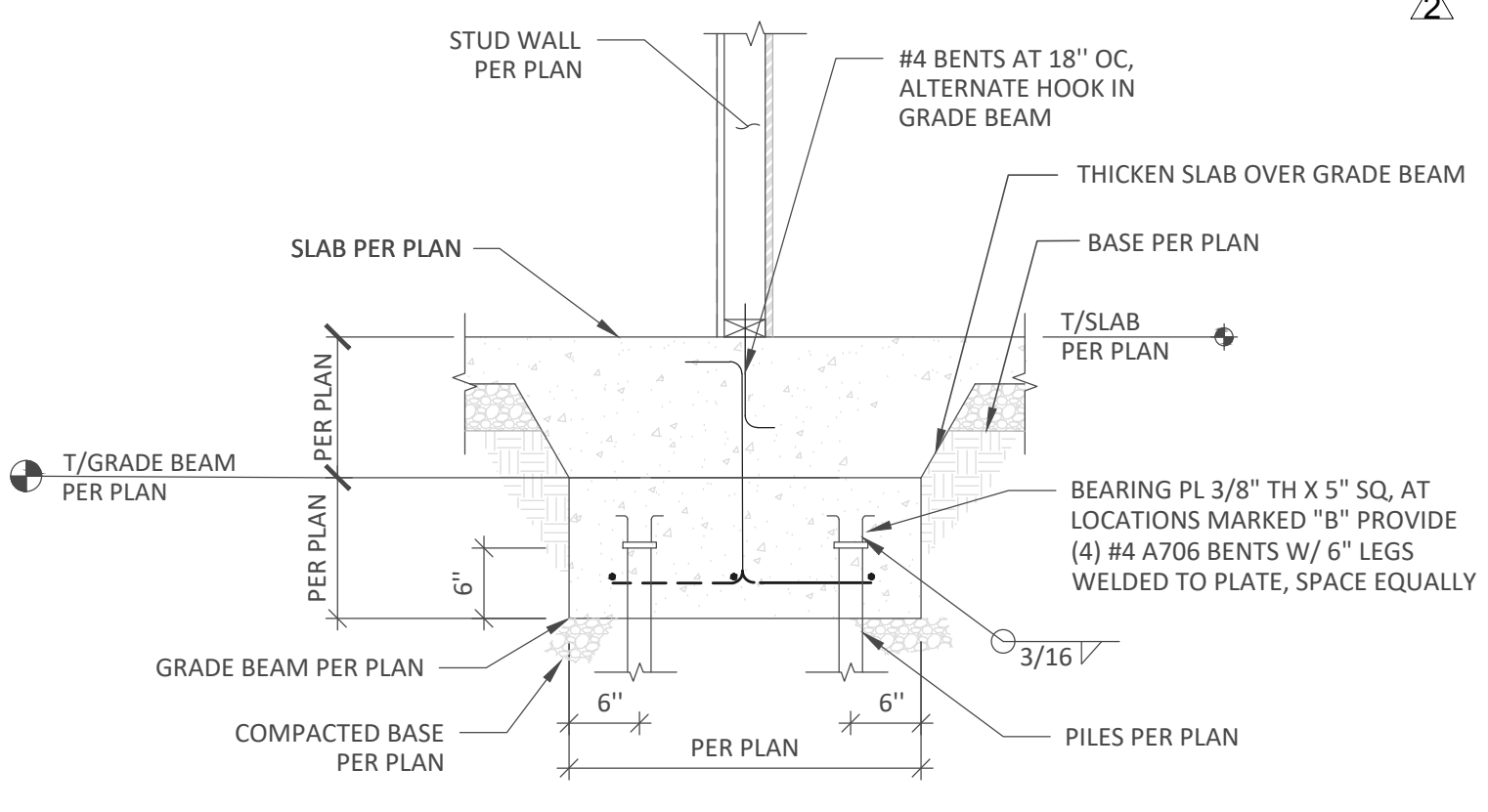
11 TYPICAL HOLD DOWN AT FOUNDATION/CONCRETE
SCALE: 1" = 1'-0"



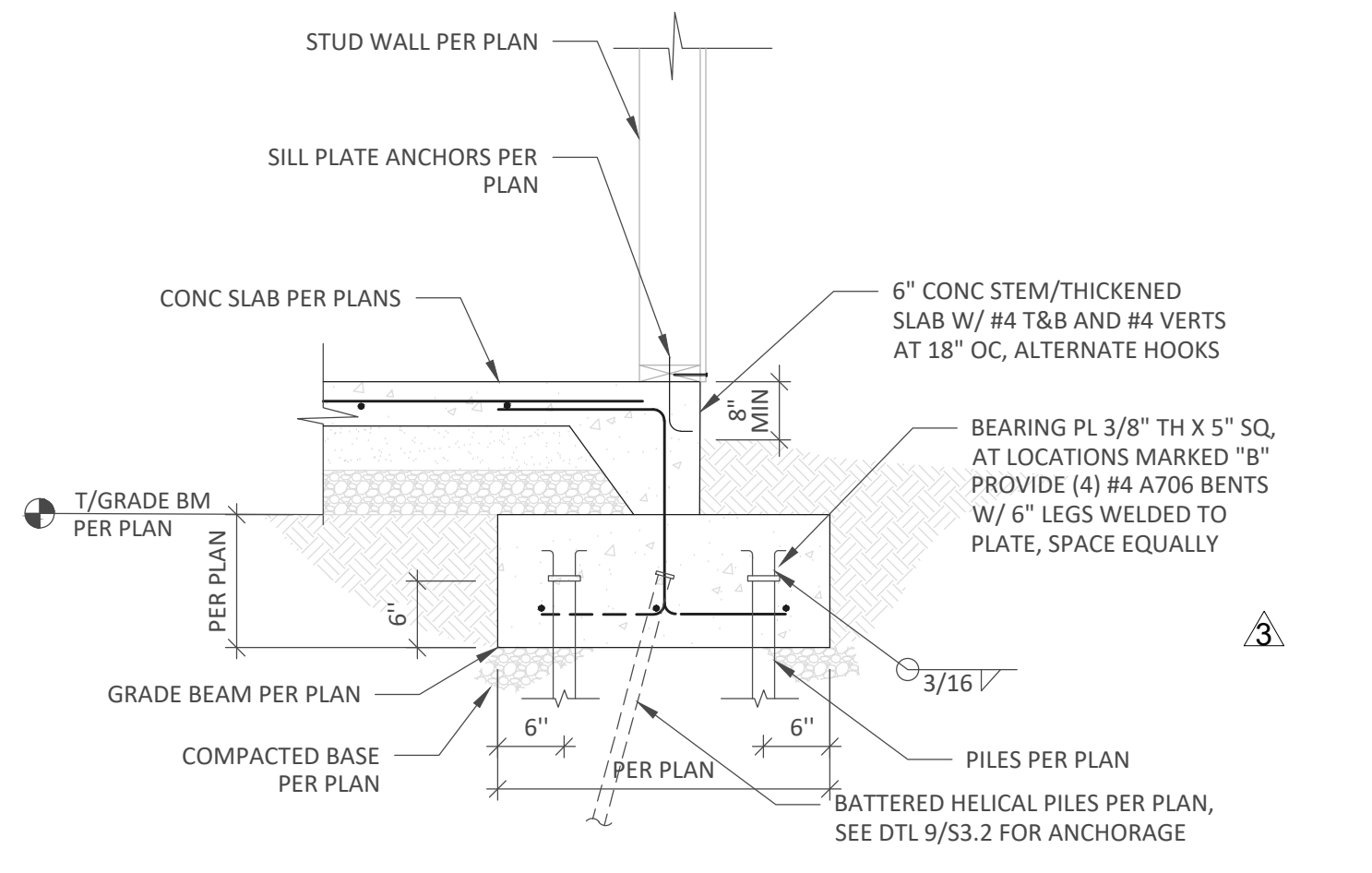
8 SITE RETAINING WALL
SCALE: 1/4" = 1'-0"



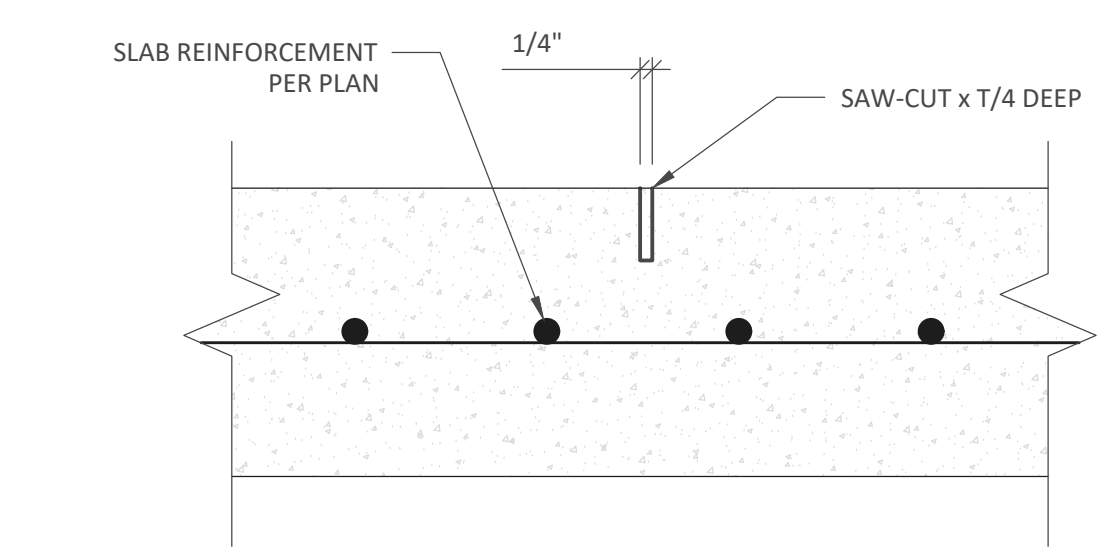
6 SECTION AT SLAB THICKENED EDGE (TYP)
SCALE: 1" = 1'-0"



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



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



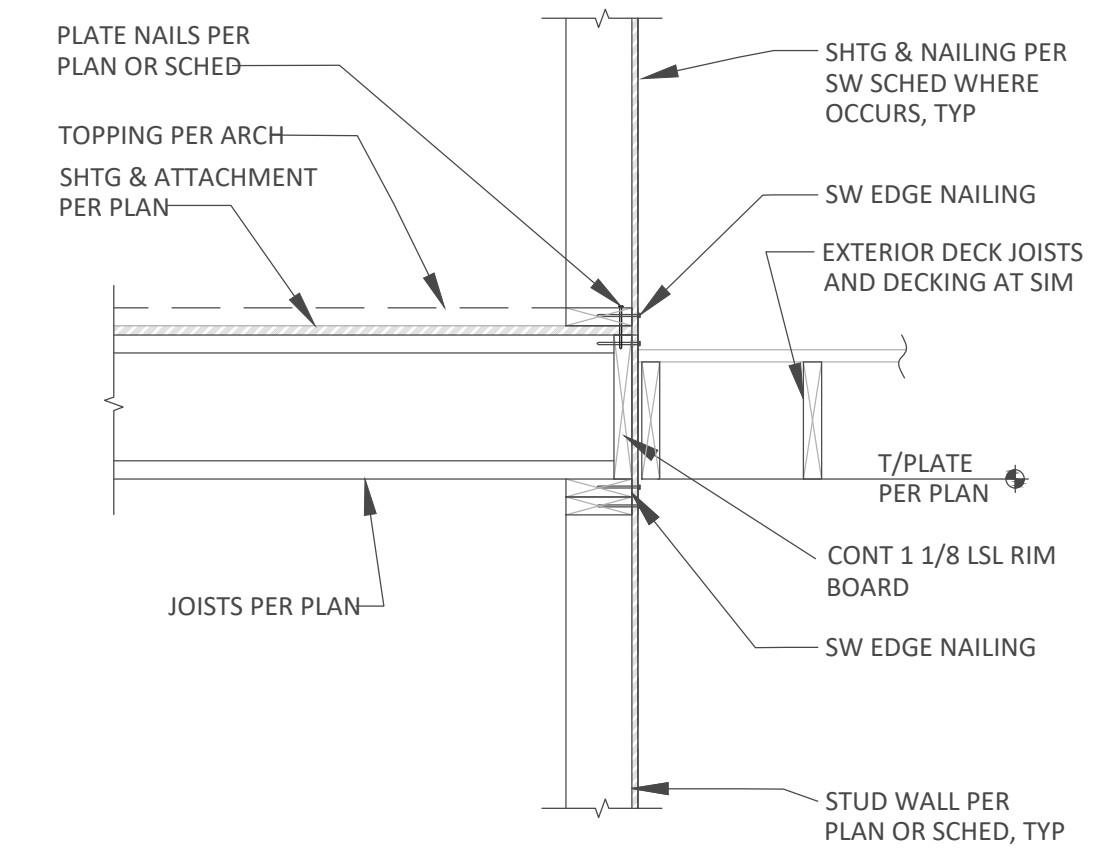
3 CONTROL JOINT
NOT TO SCALE

- NOTES:
- SAW-CUT SHALL BE PERFORMED IN ACCORDANCE WITH ACI 360 AND SHALL BE MADE AS SOON AS POSSIBLE AFTER CONCRETE SETS UP. EARLY ENTRY SOFT-CUT TYPE SAWS SHOULD BE UTILIZED IF POSSIBLE.
 - MAKE INITIAL SAW CUTS ALONG THE SHORT DIRECTION OF THE SLAB FIRST.
 - MAINTAIN MAXIMUM JOINT SPACING OF 10 FEET AND MAXIMUM PANEL ASPECT RATIO OF 1.3 TO 1.0.

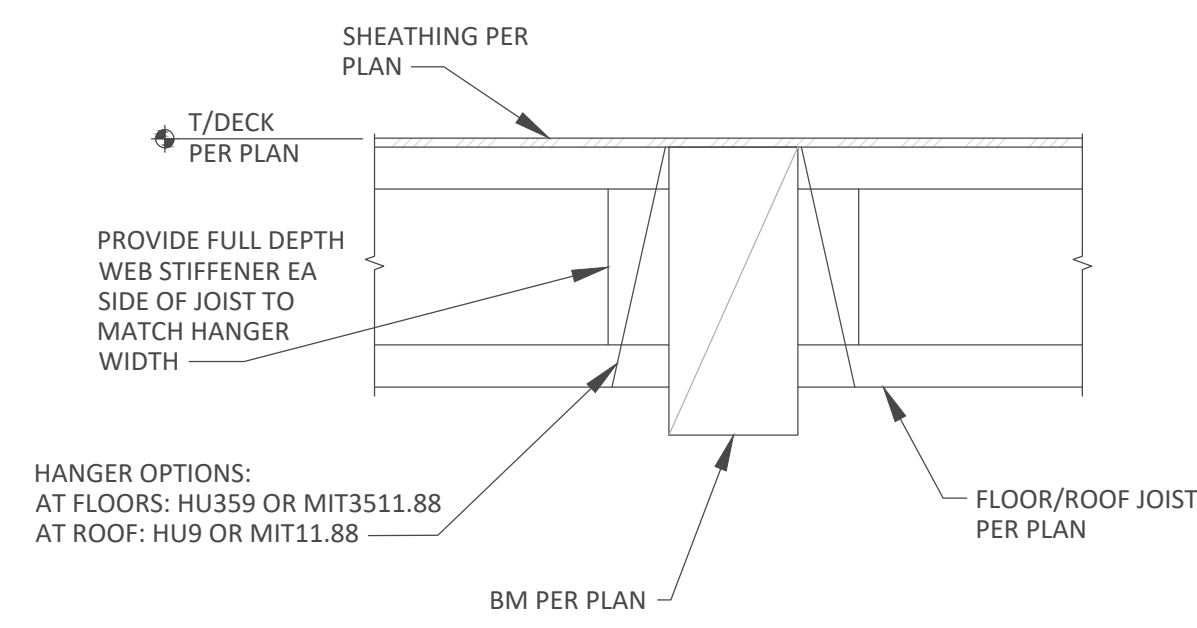
NOTE: SEE 9/S3.0 FOR INFO NOT SHOWN

NO.	STATUS	DATE
	FOR PERMIT	08/12/21

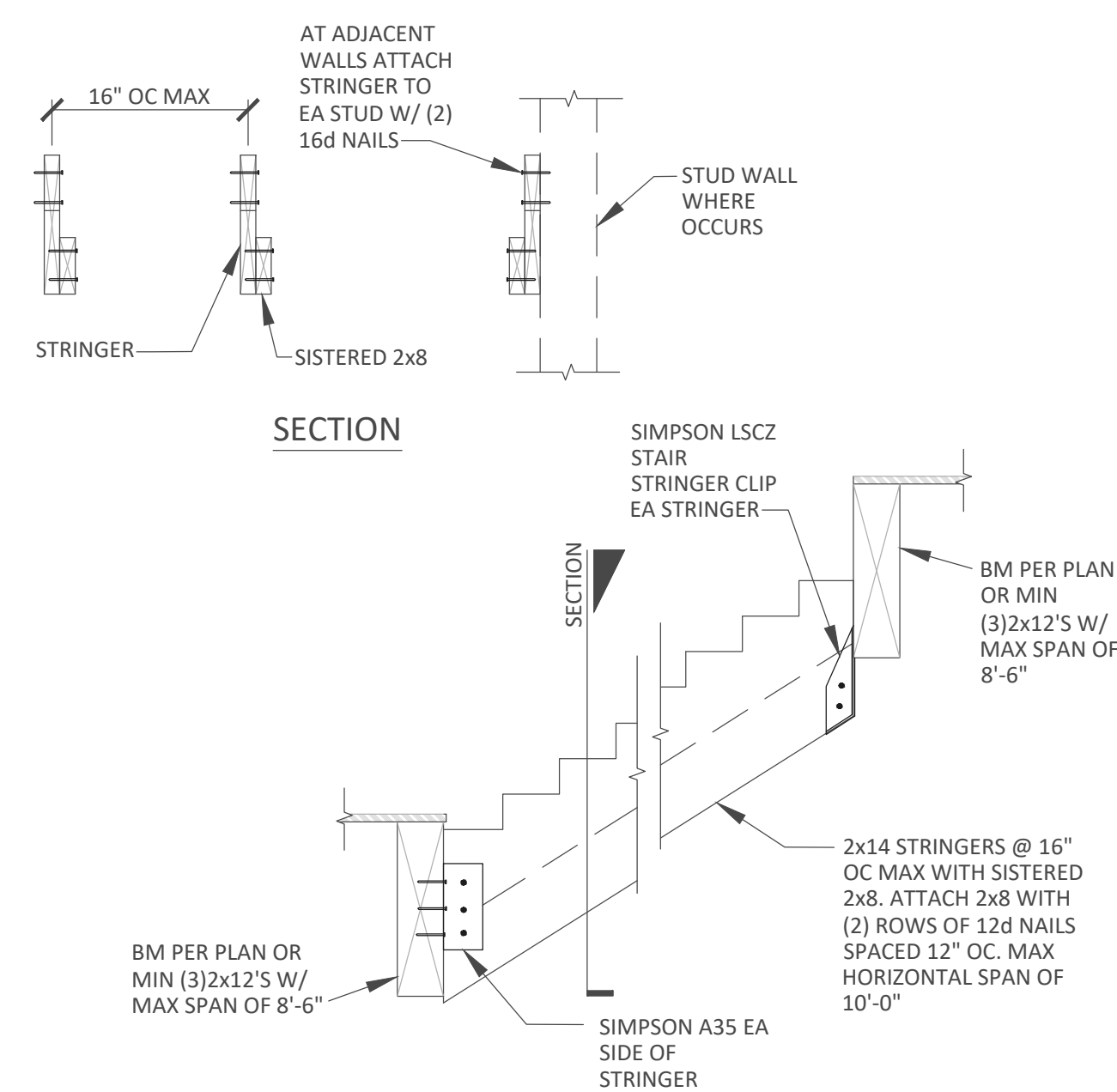
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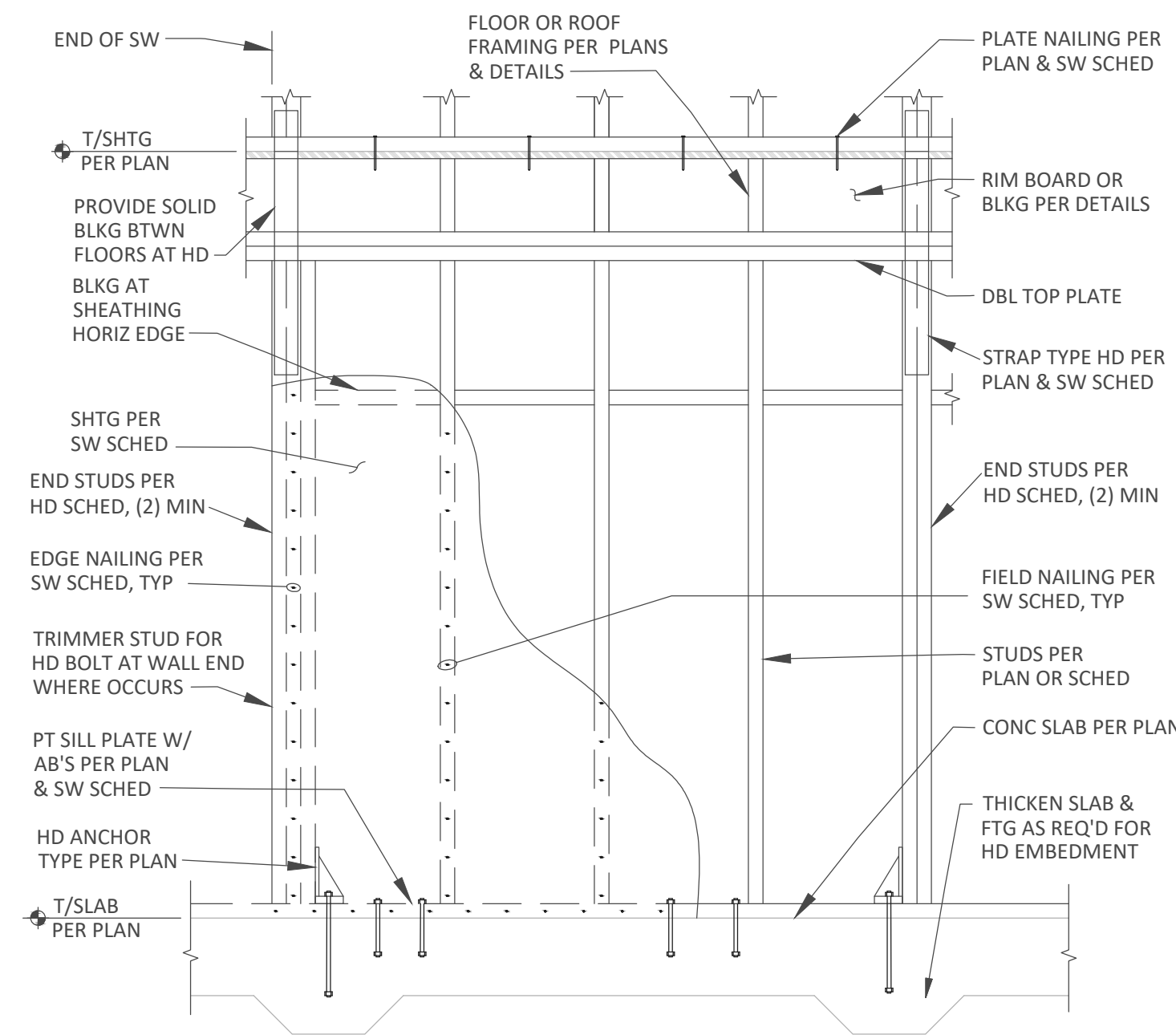
1 STANDARD FRAMING AT EXTERIOR WALL PERPENDICULAR TO JOIST
NOT TO SCALE



4 FLOOR JOIST BEARING AT BEAM
NOT TO SCALE



7 STANDARD STAIR FRAMING
NOT TO SCALE



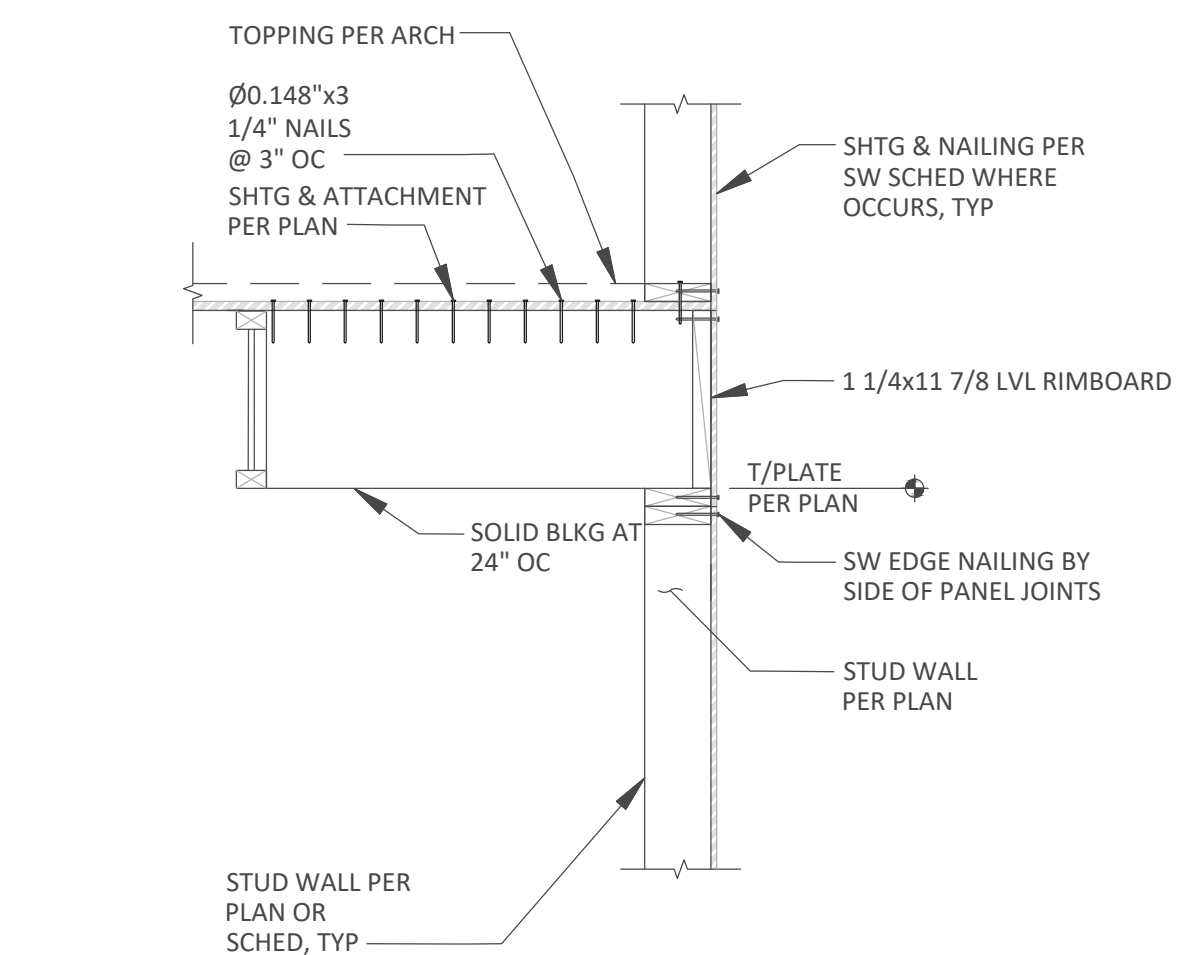
8 STANDARD SHEAR WALL CONSTRUCTION
NOT TO SCALE

	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	
		7.25"	(30) SDS 1/4x2 1/2	1	18"	-	11"	11175	
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	

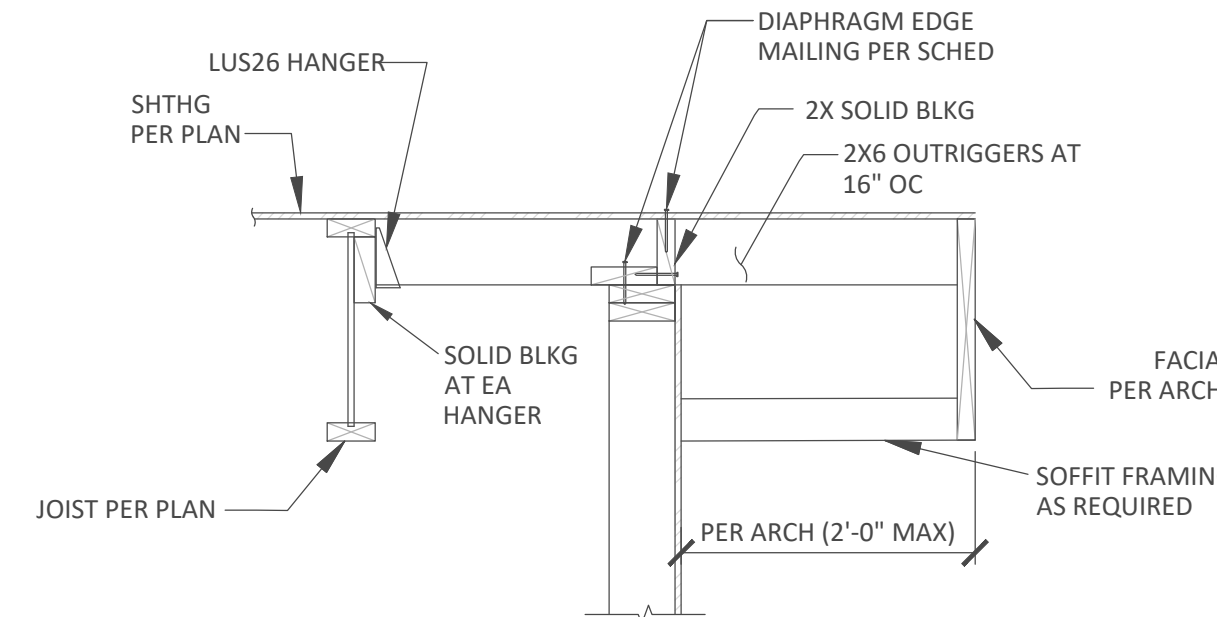
NOTES:

- 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



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



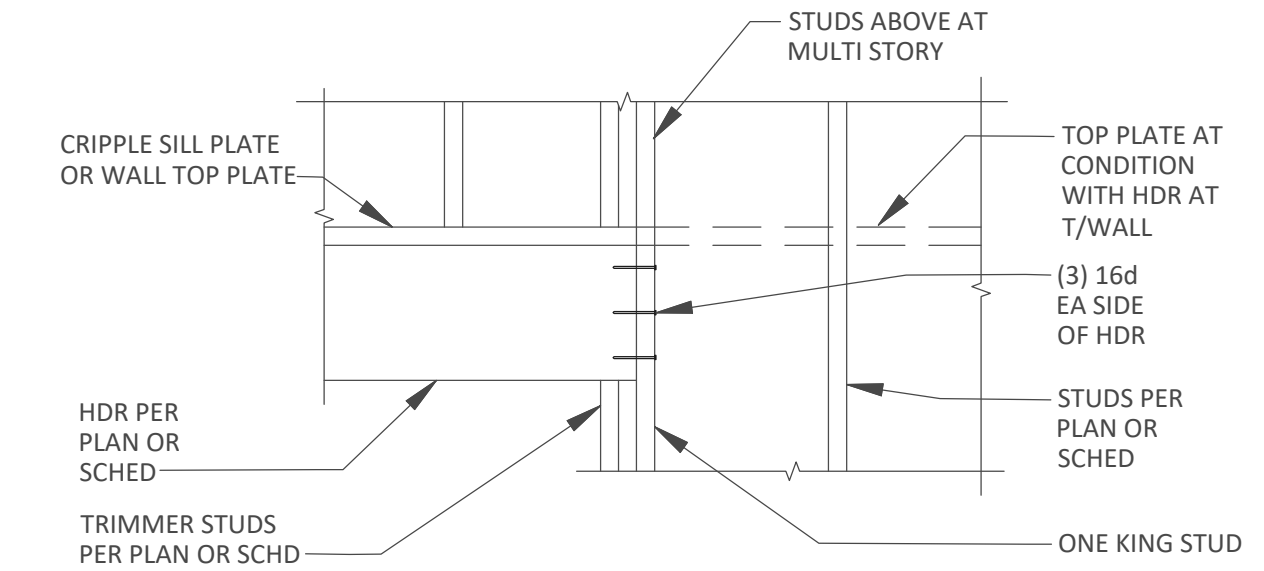
5 ROOF JOIST PARALLEL TO EXTERIOR WALL
NOT TO SCALE

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

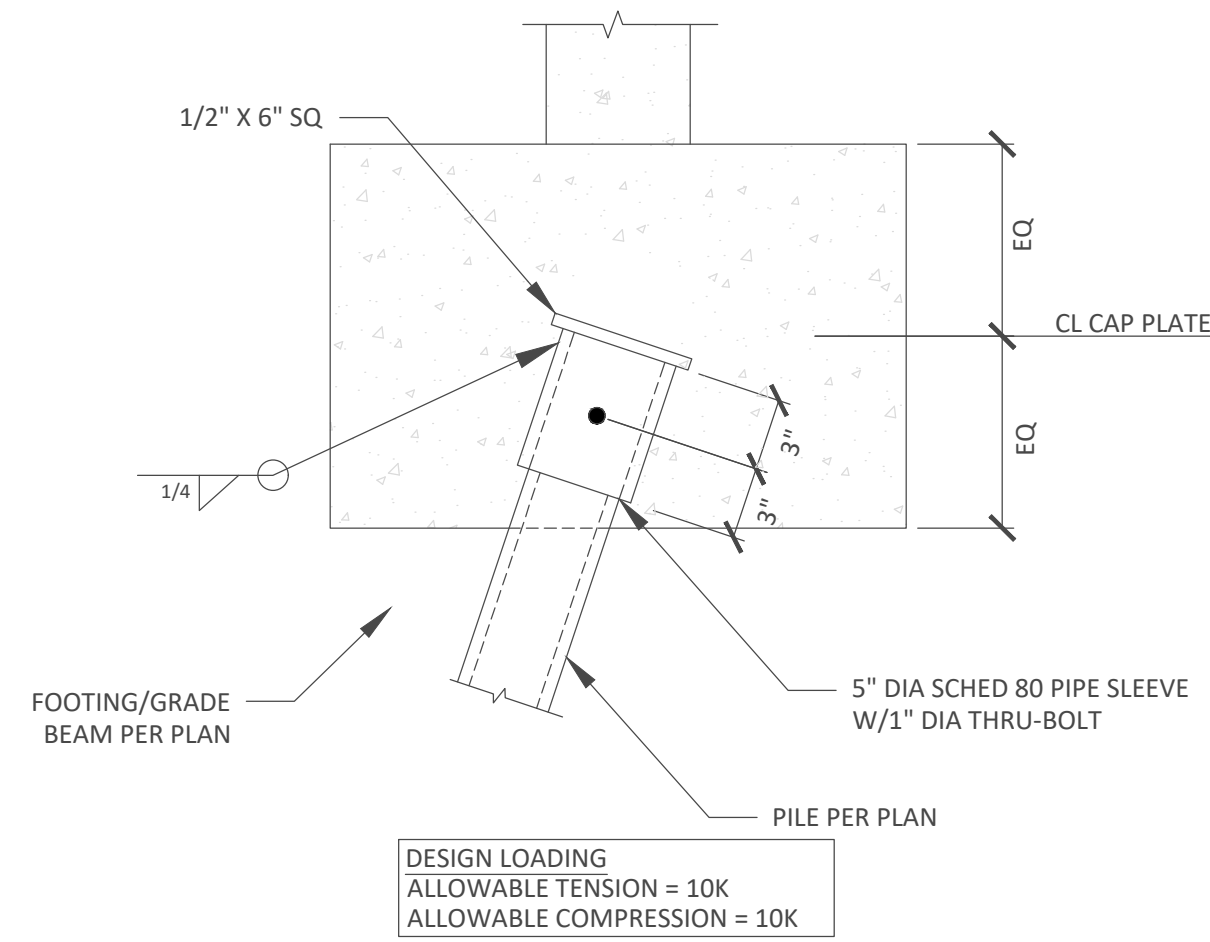
NOTES:

- 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.

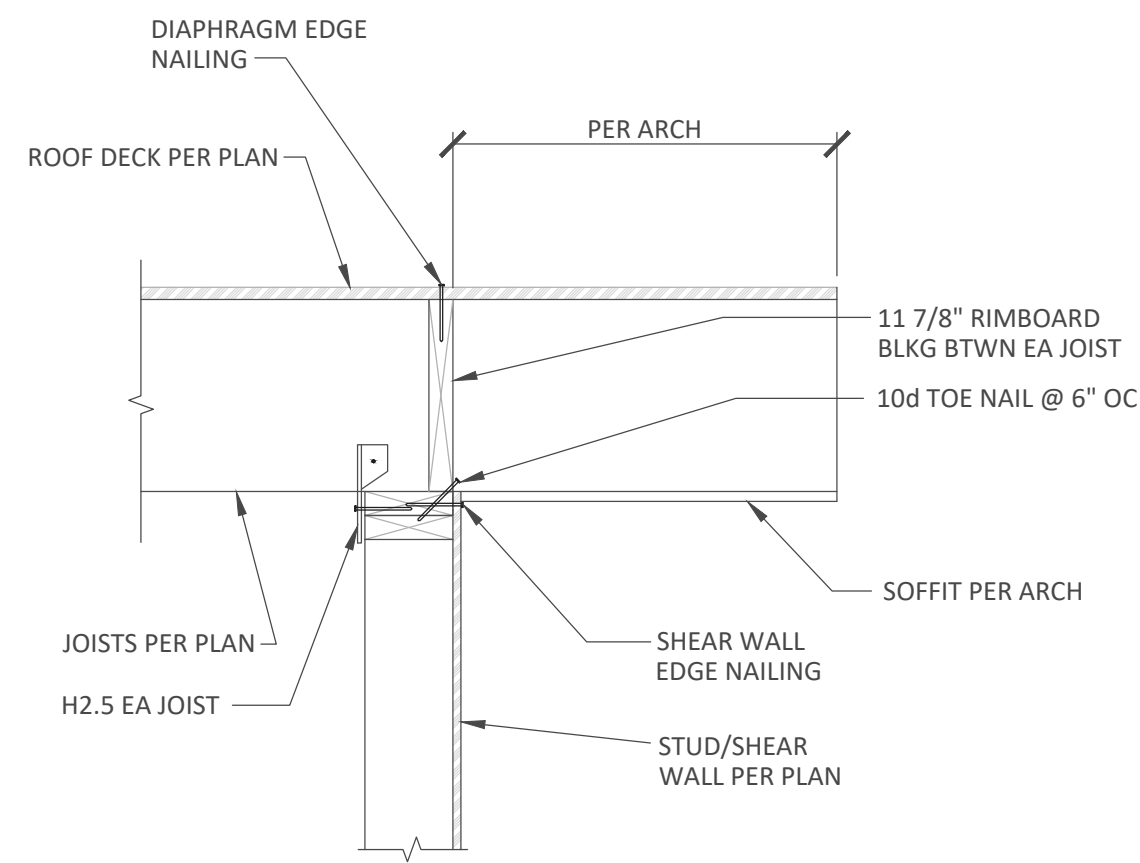
6 SHEAR WALL SCHEDULE
NOT TO SCALE



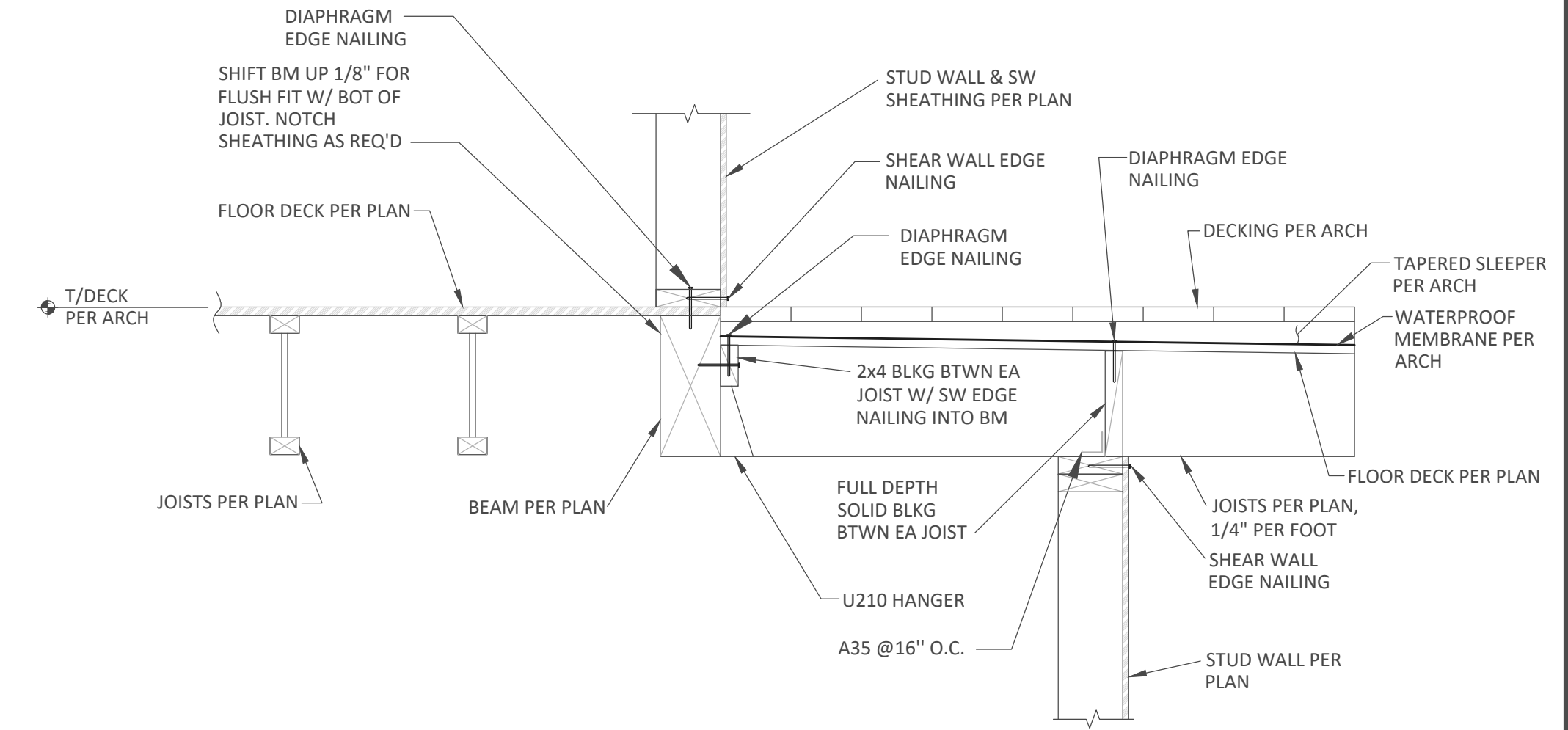
3 STANDARD HEADER PERPENDICULAR TO FLOOR JOIST
NOT TO SCALE



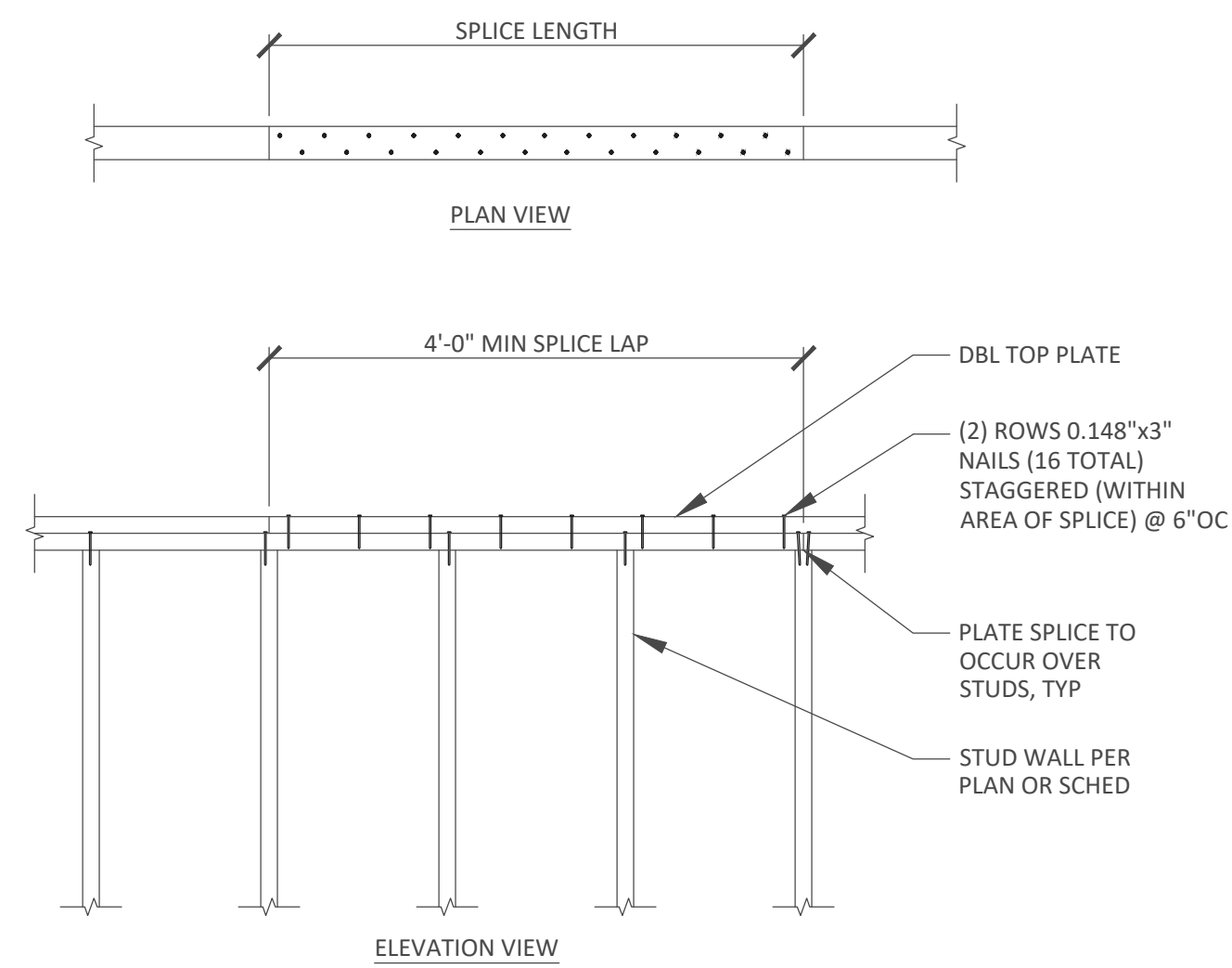
9 HELICAL PILE ANCHORAGE DETAIL
SCALE: 3/4" = 1'-0"



4 TYPICAL ROOF JOIST BEARING/OVERHANG
NOT TO SCALE

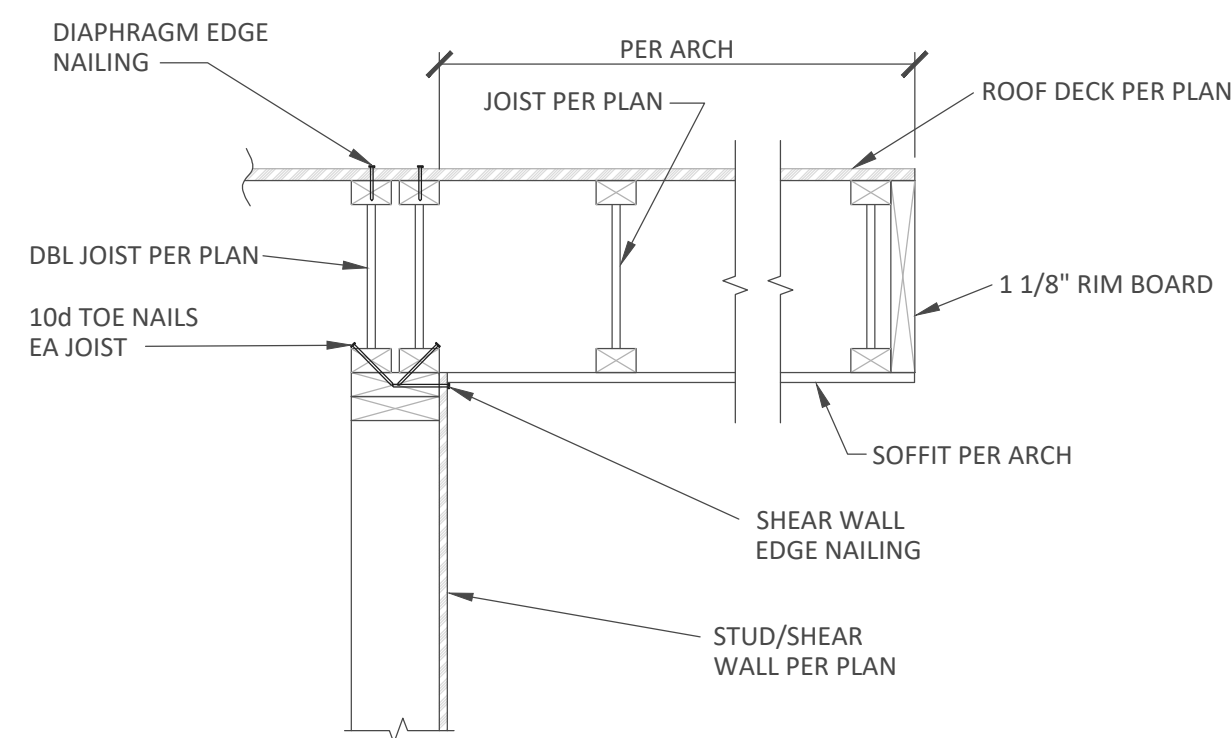


1 SECTION AT DECK OVERHANG
NOT TO SCALE

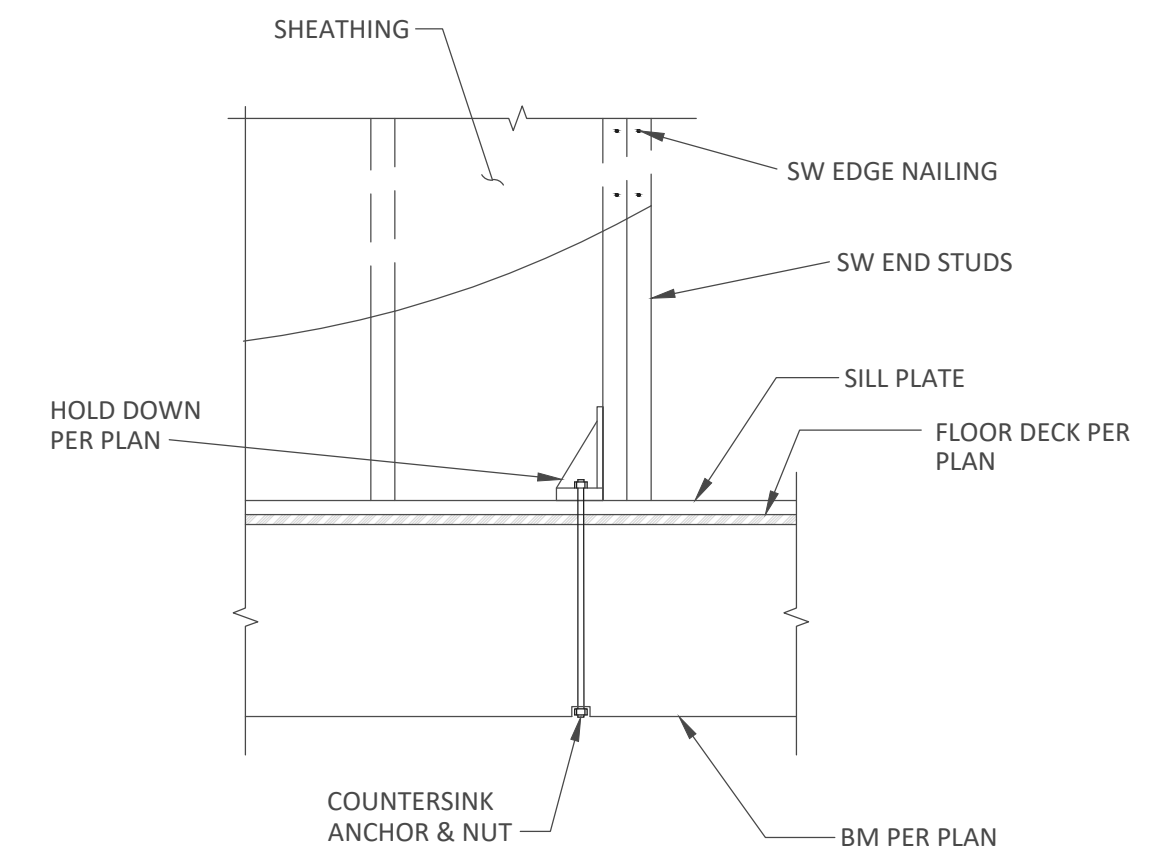


NOTE:
FLOOR/ROOF FRAMING NOT SHOWN FOR CLARITY.

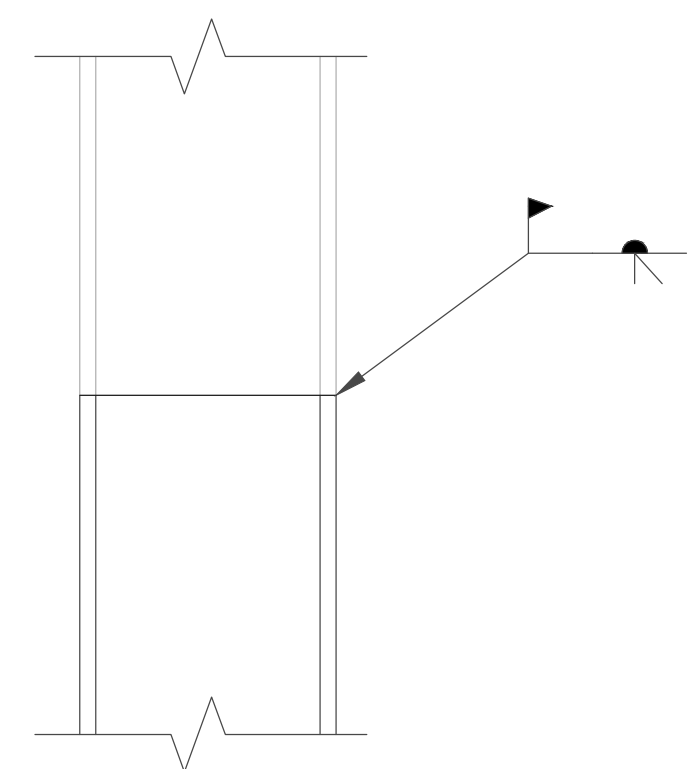
7 TYPICAL PLATE SPLICE DETAIL
SCALE: 3/4" = 1'-0"



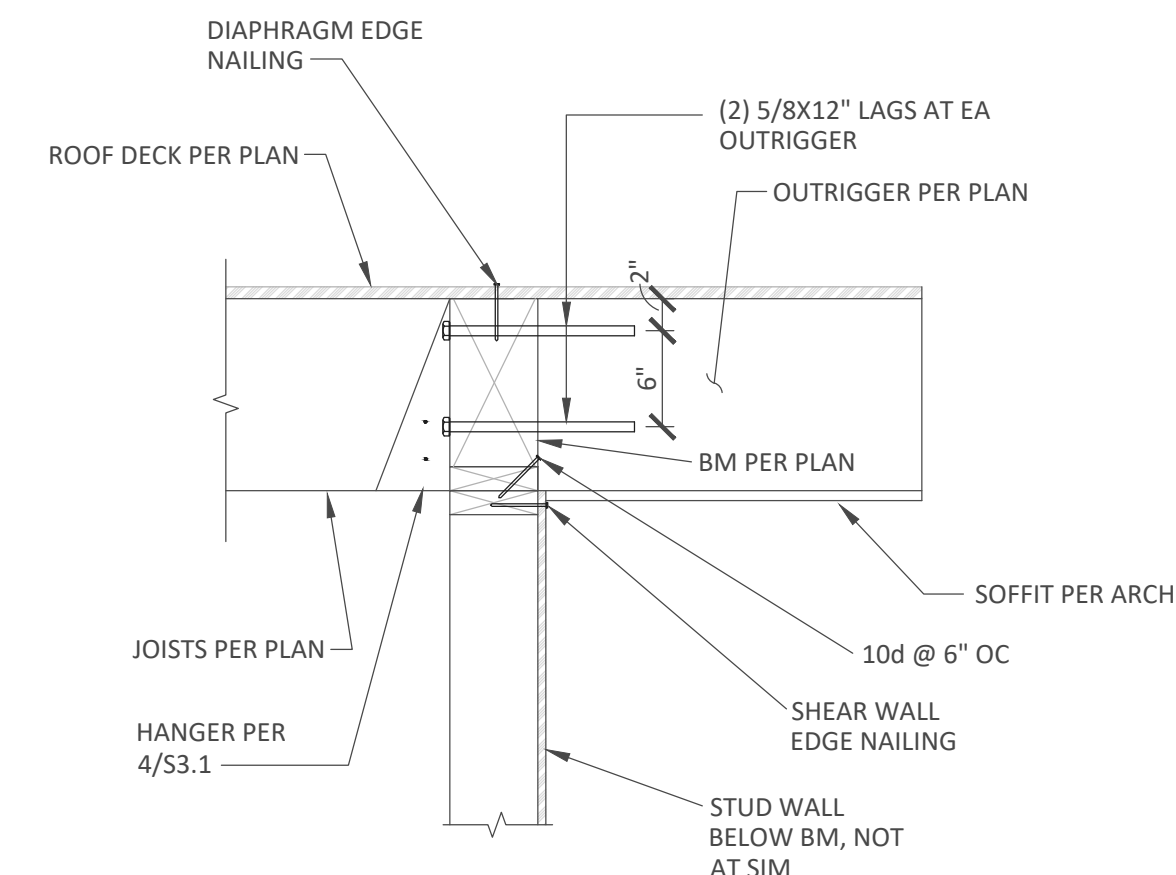
5 ROOF DRAG BEAM
NOT TO SCALE



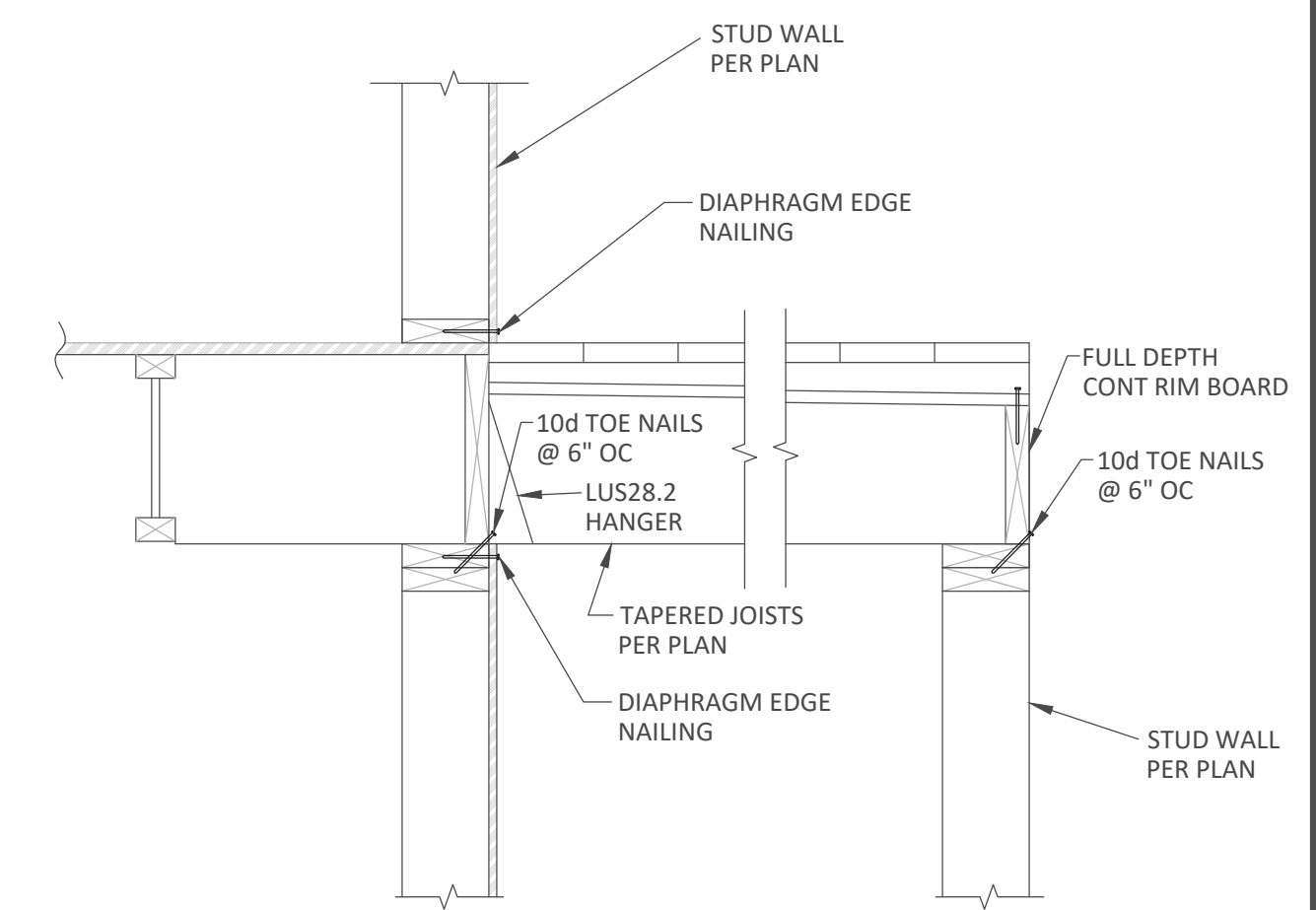
2 HOLD-DOWN ANCHOR AT BEAM
NOT TO SCALE



8 STEEL PIPE PILE SPLICE DETAIL
NOT TO SCALE



6 ROOF JOISTS AT CANTILEVERED GIRDER
NOT TO SCALE



NOTE:
REFERENCE 1/53.2 AND 2/53.1 FOR INFORMATION NOT SHOWN.

3 MAIN FLOOR DECK FRAMING
NOT TO SCALE

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	FOR PERMIT	08/12/21

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2		REVISION 2	12/09/22
3		REVISION 3	02/22/23
4			
5			

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21-045

SHEET TITLE:
DETAILS

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

SHEET#:
S3.2 SCALE:
AS SHOWN

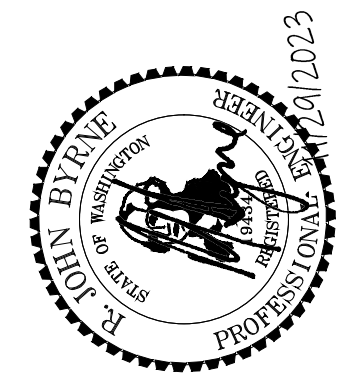
LONG VIEW BELLA, LLC.

CHESHIRE SHORT PLAT

7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040

TEMPORARY AND PERMANENT RETAINING SHORING WALL PLANS

REV	DATE	DESCRIPTION
0	11/28/2023	PERMIT ISSUE
1	1/11/2024	MERCER ISLAND CITY REVIEW COMMENTS



Ground Support PLLC
 16932 Woodinville Redmond Rd NE, #210
 Woodinville, WA 98072
 Ph: (425) 488-1143 Fax: (425) 605-4057

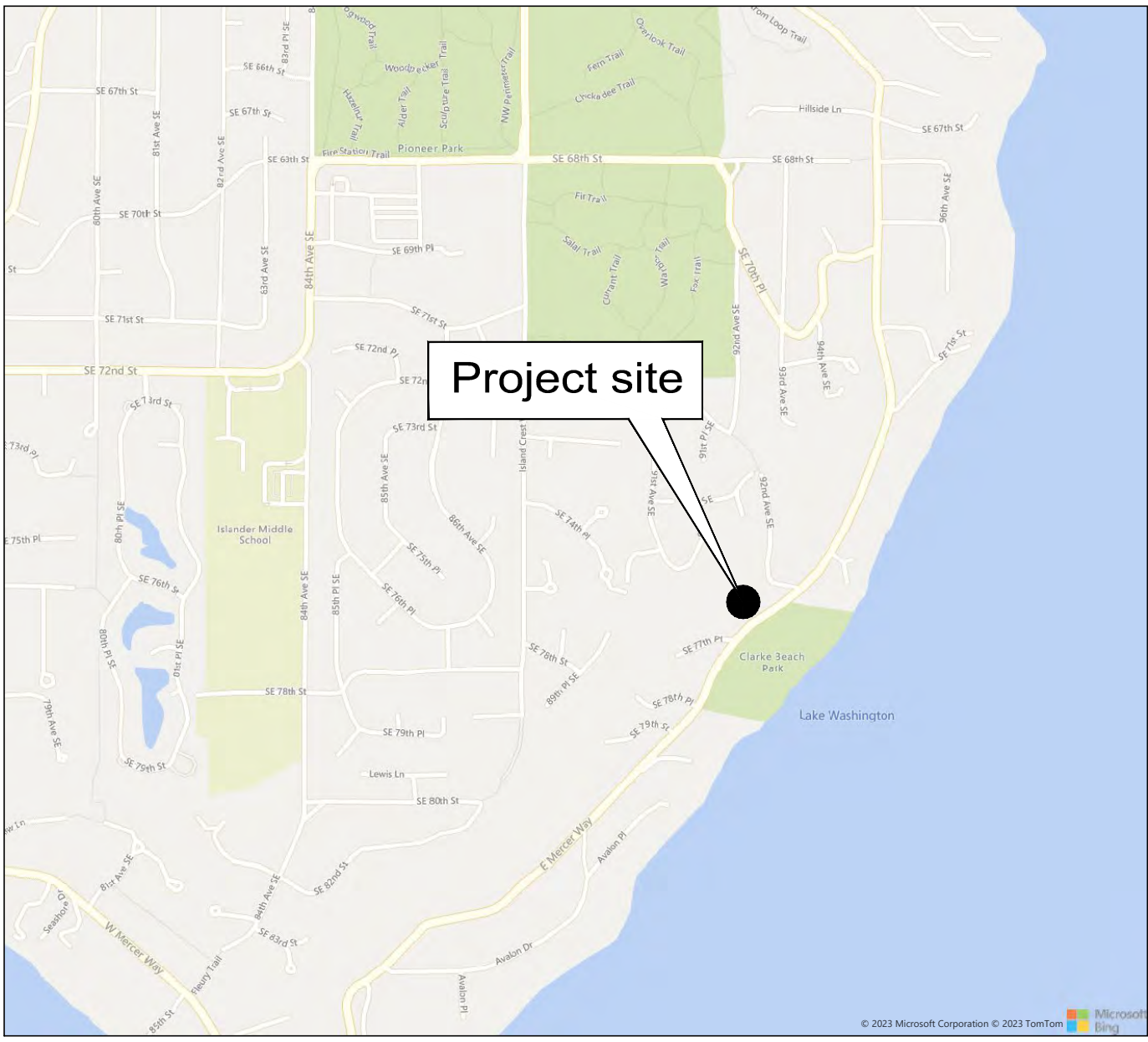
CHESHIRE SHORT PLAT
 7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040
 TEMPORARY SHORING WALL
 COVER & SHORING NOTES

PROJ. NO. 23-30
 SHEET NUMBER

SH1.0

F:\GROUND SUPPORT PLLC\2023\23-30 CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-DEREK CHESHIRE\SHORING\PERMITTING\1123\30SH01R0.DWG - sSH1.D - Plotted: 1/11/2024 4:15 PM

SHEET NUMBER	SHEET TITLE
SH1.0-1.2	COVER & SHORING NOTES SHORING PLAN SHORING ELEVATION PILE AND ANCHOR SCHEDULE CROSS-SECTIONS AND DESIGN DIAGRAMS DETAILS SPECIFICATIONS
SH2.0	
SH3.0-3.2	
SH3.A	
SH4.0	
SH5.0-5.5	
SH6.0	



SHORING WALL NOTES:

GENERAL:

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING DIMENSIONS AND SITE CONDITIONS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS AND THOSE UTILITIES OR UNDERGROUND OBSTRUCTIONS NOT SHOWN ON THE PLANS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL ABANDONED UTILITIES, OR OTHER UNDERGROUND OBSTRUCTIONS THAT INTERFERE WITH THE NEW CONSTRUCTION.

THE GENERAL CONTRACTOR AND SUBCONTRACTORS ARE RESPONSIBLE FOR THE CONSTRUCTION PROCESS AND THE SAFETY OF THE WORKERS. THIS INCLUDES BUT IS NOT LIMITED TO, THE CONSTRUCTION SEQUENCE, TEMPORARY HANDRAILS, EXCAVATION ACCESS, AND BARRIERS. IT ALSO INCLUDES LIFTING OF MATERIALS AND CONSTRUCTION EQUIPMENT INTO AND OUT OF THE EXCAVATION, TEMPORARY BRACING OF SINGLE-SIDED FORMWORK, TEMPORARY SHORING OF EXCAVATIONS, AND STABILITY OF ALL TEMPORARY CUT SLOPES.

A PRE-CONSTRUCTION MEETING SHALL BE HELD PRIOR TO THE START OF THE WORK AND SHALL BE ATTENDED BY THE OWNER'S REPRESENTATIVES, THE ENGINEER, THE GENERAL CONTRACTOR, THE EXCAVATION SUBCONTRACTOR, THE SHORING SPECIALTY SUBCONTRACTOR, THE GEOTECHNICAL SPECIAL INSPECTOR, THE SPOT REPRESENTATIVE, AND THE SDCI SITE INSPECTOR. THE PRE-CONSTRUCTION MEETING SHALL BE CONDUCTED TO CLARIFY THE REQUIREMENTS FOR THE WORK, TO COORDINATE THE CONSTRUCTION ACTIVITIES, AND TO IDENTIFY CONTRACTUAL RELATIONSHIPS AND RESPONSIBILITIES.

PRE-CONSTRUCTION REVIEW:

SIX WEEKS PRIOR TO ORDERING SHORING SYSTEM MATERIALS, NOTIFY GROUND SUPPORT PLLC SO THAT THE EXCAVATION PLAN CAN BE CHECKED FOR CHANGES.

REFERENCE DATA:

ALL EXISTING SITE DATA, EXISTING AND PROPOSED TOPOGRAPHICAL DATA, AND EXISTING AND PROPOSED UTILITY DATA, AND PROPOSED SHORING WALL LOCATIONS ARE BASED ON:

- THE CIVIL PLAN SET TITLED "19205 Eng Set.PDF", DATED OCTOBER 31, 2023, PROVIDED TO GROUND SUPPORT PLLC, PREPARED BY CORE DESIGN.
- THE CIVIL DRAWING FILES NAMED "ACAD-19205 U-Model.DWG" DATED NOVEMBER 17TH, 2023, PROVIDED TO GROUND SUPPORT PLLC BY CORE DESIGN.
- THE ELECTRONIC SURVEY FILE "19205 SURVEY.DWG" DATED NOVEMBER 15, 2023 PREPARED BY TERRANE PROVIDED BY CORE DESIGN.

BUILDING CODES, DESIGN MANUALS, AND SPECIFICATIONS:

2018 INTERNATIONAL BUILDING CODE, AS AMENDED BY THE CITY OF MERCER ISLAND.

1998 FHWA SUMMARY REPORT OF RESEARCH ON PERMANENT GROUND ANCHOR WALLS.

GEOTECHNICAL ENGINEERING CIRCULAR NO. 4, "GROUND ANCHORS AND ANCHORED SYSTEMS", FHWA, DATED JUNE 1999.

DESIGN LIVE LOADS:

TRAFFIC/CONSTRUCTION SURCHARGE = SEE SH4.0

DESIGN CALCULATIONS:

THE SOLDIER PILE SHORING WALL DESIGN CALCULATIONS ARE CONTAINED IN THE REPORT TITLED: "DESIGN MEMORANDUM, CHESHIRE RESIDENTIAL PROJECT (PROJECT NO. 23-30), 7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040", PREPARED BY GROUND SUPPORT PLLC FOR LONG VIEW BELLA, LLC., DATED NOVEMBER 20, 2023.

SUBSURFACE DESIGN:

ALL SUBSURFACE DESIGN PARAMETERS USED IN THE SHORING DESIGN ARE BASED ON THE SUBSURFACE CHARACTERIZATION PRESENTED IN THE REPORT "GEOTECHNICAL REPORT, CHESHIRE SHORT PLAT, 7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON", PREPARED BY TERRA ASSOCIATES, INC., DATED NOVEMBER 22, 2023.

SEISMIC DESIGN PARAMETERS:

SEISMIC EARTH PRESSURE = 10H PSF.

CONTROLLED-DENSITY-FILL (CDF):

ALL CONTROLLED-DENSITY-FILL (CDF) SHALL HAVE A MINIMUM OF 1.5 SACKS (141 LB) OF CEMENT PER CUBIC YARD OF CONCRETE.

TYPE I, II, OR III PORTLAND CEMENT CONFORMING TO ASTM C150 / AASHTO M85 SHALL BE USED FOR CDF.

SUMP FOR ALL CONCRETE SHALL NOT BE LESS THAN 5 INCHES AND NO GREATER THAN 9 INCHES.

ADMIXTURES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C494 / AASHTO M194, SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AND SHALL BE APPROVED BY THE ENGINEER.

AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C33 / AASHTO M6 FOR FINE AGGREGATES AND AASHTO M80, CLASS B FOR COARSE AGGREGATES.

TIMBER LAGGING:

ALL LAGGING BOARDS SHALL BE PRESSURE-TREATED, IN GOOD CONDITION, AND SHALL BE HEM-FIR NO. 1 OR BETTER HEM-FIR NO. 2 OR BETTER, WITH AN ALLOWABLE FLEXURAL STRESS FB=1020 PSI (4-INCH LAGGING) AND FB=1050 PSI (6-INCH LAGGING) (WHICH INCLUDES ALL APPLICABLE FLAT-USE AND SIZE FACTORS).

ALL LAGGING BOARDS SHALL BE PRESSURE-TREATED IN ACCORDANCE WITH ANFA STANDARD U1-05 (FOR END USE CLASSIFICATION UC4), TO A MINIMUM RETENTION OF 0.40 PCF, USING THE CCA PROCESS (COMMERCIAL PRODUCT NAME OSMOSE OR APPROVED EQUAL). ALTERNATIVE TREATMENT PROCESSES MAY BE SUBMITTED TO GROUND SUPPORT PLLC FOR APPROVAL.

STRUCTURAL STEEL:

ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO ASTM A992 (F_y=50 KSI (MIN)), AND PLATES SHALL CONFORM TO ASTM A572 GRADE 50, UNLESS SHOWN OTHERWISE ON THE PLANS, OR APPROVED OTHERWISE BY THE ENGINEER.

STRUCTURAL WELDING:

MINIMUM WELD SIZE 1/4 INCH CONTINUOUS FILLET. MINIMUM WELD LENGTH 2 INCHES. ALL WELDING TO CONFORM TO AWS D11. USE E70XX ELECTRODES.

SHORING ELEMENT LAYOUT:

LAYOUT OF SHORING ELEMENTS PERPENDICULAR TO THE BUILDING WALLS SHALL BE BASED ON THE ARCHITECTURAL PLANS TAKING INTO ACCOUNT PERTINENT BUILDING ELEMENTS (E.G., WATERPROOFING) NOT SHOWN ON THESE PLANS.

WATERPROOFING:

THE SHORING SYSTEM IS TEMPORARY IN NATURE, IS CONSTRUCTED EXTERNAL TO THE BUILDING ENVELOPE OF THE PERMANENT STRUCTURE, AND SHALL NOT BE CONSTRUED AS CONTRIBUTING ANY LONG-TERM UTILITY TO THE PERMANENT STRUCTURE. THIS INCLUDES ISSUES RELATING TO DRAINAGE/WATER-PROOFING OF THE PERMANENT BASEMENT WALLS. IF THE STRUCTURAL ENGINEER INTENDS TO INCORPORATE ANY ELEMENTS OF THE SHORING SYSTEM INTO THE PERMANENT BUILDING DESIGN (INCLUDING DRAINAGE/WATER-PROOFING COMPONENTS), HE/SHE SHALL INDEPENDENTLY EVALUATE THEIR UTILITY FOR INCLUSION AS PART OF THE PERMANENT DESIGN.

F:\GROUND SUPPORT PLLC\2023\23-30 (CHESHIRE SP, MERCER ISLAND - LONG VIEW BELLA, LLC-WA-DEREK CHESHIRE)\SHORING\PERMITTING\1R123330\SH101.DWG - \$SH1.1P-Platenc - 11/11/2024 4:14 PM

DRILLED SOLDIER PILES:

THE MINIMUM REQUIRED STRUCTURAL STEEL SHAPES FOR THE SOLDIER PILES ARE INDICATED IN THE SCHEDULES. ALTERNATIVE STEEL SECTIONS MAY BE USED PROVIDED THAT THE CROSS-SECTIONAL AREA AND SECTION MODULUS OF EACH ALTERNATIVE STEEL SECTION ARE EQUAL TO OR GREATER THAN THE CROSS-SECTIONAL AREA AND SECTION MODULUS OF THE CORRESPONDING STEEL SECTION SHOWN ON THE PLANS.

SHAFTS SHALL BE CONSTRUCTED SO THAT THE CENTER AT THE TOP OF THE SHAFT IS WITHIN +/- 3 INCHES OF THE PLAN LOCATION. SHAFT PLUMBNESS MAY VARY UP TO 1 PERCENT OF PILE LENGTH.

THE STEEL SOLDIER PILES SHALL BE PLACED SO THAT THE CENTER LINE OF THE PILE IS WITHIN +/- 1 INCH OF THE PLAN LOCATION. THE STEEL SOLDIER PILE SHALL BE PLUMB CONSISTENT WITH MAXIMUM DEVIATION INTO/OUT-OF THE EXCAVATION AS DEFINED BY THE STRUCTURAL ENGINEER AND GENERAL CONTRACTOR. THE TOP ELEVATION OF THE STEEL SOLDIER PILE SHALL BE WITHIN +/- 3 INCHES OF THE PLAN ELEVATION.

SHAFTS SHALL BE EXCAVATED TO THE REQUIRED DEPTH AS SHOWN ON THE PLANS. THE EXCAVATION SHALL BE COMPLETED IN A CONTINUOUS OPERATION USING EQUIPMENT CAPABLE OF EXCAVATING THROUGH THE TYPE OF MATERIAL EXPECTED TO BE ENCOUNTERED.

IF THE SHAFT EXCAVATION IS STOPPED WITH THE APPROVAL OF THE ENGINEER, THE SHAFT SHALL BE SECURED BY INSTALLATION OF A SAFETY COVER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE SAFETY OF THE SHAFT AND SURROUNDING SOIL, AND THE STABILITY OF THE SIDE WALLS. A TEMPORARY CASING SHALL BE USED IF NECESSARY TO ENSURE SUCH SAFETY AND STABILITY.

WHERE GAVING CONDITIONS ARE ENCOUNTERED, THE CONTRACTOR SHALL SELECT A METHOD TO PREVENT GROUND MOVEMENT. THE CONTRACTOR MAY ELECT TO PLACE A TEMPORARY CASING.

THE CONTRACTOR SHALL USE APPROPRIATE MEANS (SUCH AS A CLEANOUT BUCKET), TO CLEAN THE BOTTOM OF THE EXCAVATION SUCH THAT NO MORE THAN 2 INCHES OF LOOSE OR DISTURBED MATERIAL IS PRESENT.

UNLESS SHOWN OTHERWISE ON THE PLANS, EXCAVATION OF SHAFTS SHALL NOT COMMENCE UNTIL A MINIMUM OF 12 HOURS AFTER THE GDF FOR THE ADJACENT SHAFTS HAS BEEN PLACED.

TEMPORARY CASINGS FOR THE SHAFTS SHALL BE REMOVED. A MINIMUM 5 FOOT HEAD OF CONCRETE MUST BE MAINTAINED TO BALANCE THE SOIL AND WATER PRESSURE AT THE BOTTOM OF THE CASING DURING REMOVAL. THE CASING SHALL BE SMOOTH.

SHAFT GDF SHALL BE PLACED AS SHOWN ON THE PLANS. SHAFT GDF SHALL BE PLACED IN ONE CONTINUOUS OPERATION TO THE TOP OF THE SHAFT.

IF WATER IS NOT PRESENT, THE GDF SHALL BE DEPOSITED BY A METHOD WHICH PREVENTS AGGREGATE SEGREGATION.

IF WATER IS PRESENT, THE GDF SHALL BE DEPOSITED BY TREMIE PLACEMENT METHODS.

EXCAVATION, LAGGING, BACKFILL, AND ANCHOR STRESSING:

THE CONTRACTOR SHALL EXCAVATE THE WALL FACE AND INSTALL LAGGING IN SUCH A MANNER AS TO MAINTAIN A SAFE WORK PLACE AND AVOID EXCESSIVE SLOSHING AND OVERTREK AS A MINIMUM, PRIOR TO PLACING THE SUBSEQUENT SET OF TIMBER LAGGING, DO NOT EXCAVATE MORE THAN 4 FEET BELOW THE CURRENT DEPTH OF LAGGED WALL FACE. IF FACE STABILITY CONDITIONS REQUIRE, THIS HEIGHT MUST BE REDUCED.

DO NOT EXCAVATE TO A DEPTH GREATER THAN 2 FEET BELOW A LEVEL OF ANCHORS PRIOR TO INSTALLATION, TESTING, AND LOCKOFF (AS APPLICABLE) OF THOSE ANCHORS.

LAGGING SHALL BE INSTALLED FROM THE TOP OF THE PILE PROCEEDING DOWNWARD. THE TIMBER LAGGING SHALL MAKE DIRECT CONTACT WITH THE SOIL. VOIDS BEHIND THE LAGGING SHALL BE FILLED WITH FREE-DRAINING BACKFILL. LEAVE GAPS (1/4-INCH TYP) BETWEEN LAGGING FOR DRAINAGE. GDF MAY BE USED AS BACKFILL IN LOCALIZED AREAS.

SHOTCRETE:

ALL SHOTCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI, AND A MINIMUM 3-DAY COMPRESSIVE STRENGTH OF 2000 PSI. SEE THE SPECIFICATIONS PLAN SHEETS FOR SPECIFIC REQUIREMENTS.

TYPE I/II PORTLAND CEMENT CONFORMING TO ASTM C150 / AASHTO M85 SHALL BE USED FOR SHOTCRETE. SUBMIT MIX DESIGNS IN ACCORDANCE WITH THE SPECIFICATIONS.

TEMPORARY SHOTCRETE MAY BE LEFT WITH AN AS-SHOT GUN FINISH. PERMANENT SHOTCRETE SHALL BE LEFT WITH A WOOD OR RUBBER FLOAT FINISH.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 FOR DEFORMED BARS, AND ASTM A185 FOR WELDED WIRE FABRIC. ALL REINFORCING STEEL DETAILS IN ACCORDANCE WITH ACI 315 MANUAL OF STANDARD PRACTICE.

SUBMIT REINFORCING STEEL SHOP DRAWINGS TO ENGINEER IN ACCORDANCE WITH THE SPECIFICATIONS.

ALL DEFORMED REINFORCING BAR LAPS SHALL BE CLASS B, IN ACCORDANCE WITH THE 1996 FHWA MANUAL FOR DESIGN AND CONSTRUCTION OF SOIL NAIL WALLS, OR AS SUMMARIZED IN THE FOLLOWING TABLE:

Table with 2 columns: BAR SIZE, LAP SPLICE LENGTH (IN). Rows: #4 25, #5 31, #6 28.

HEADED STUDS:

ALL HEADED STUDS SHALL CONFORM TO ASTM A29 WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 61 KSI. HEADED STUDS SHALL BE "NELSON STUDS" BY NELSON DIVISION OF TRV, INC. OR AN APPROVED EQUAL, AUTOMATICALLY END WELDED. HEADED STUD PROPORTIONS SHALL COMPLY WITH ASTM A 1044.

TEMPORARY GROUND ANCHORS:

I. GENERAL:

1A. THE CONTRACTOR SHALL SELECT THE INSTALLATION METHOD, THE ANCHOR DIAMETER, AND THE METHOD OF GROUTING, IN ORDER TO DEVELOP THE DESIGN LOADS INDICATED ON THE PLANS, AS VERIFIED IN ACCORDANCE WITH THE ANCHOR TESTING PROGRAM.

1B. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL WORKING DRAWINGS AND A DESIGN SUBMISSION DESCRIBING THE GROUND ANCHOR SYSTEM OR SYSTEMS INTENDED FOR USE. THE WORKING DRAWINGS AND DESIGN SUBMISSION SHALL BE SUBMITTED 5 DAYS PRIOR TO THE COMMENCEMENT OF THE GROUND ANCHOR WORK. THE WORKING DRAWING AND DESIGN SUBMISSION SHALL INCLUDE THE FOLLOWING:

- 1. CERTIFIED MILL TEST RESULTS AND TYPICAL STRESS-STRAIN CURVES FOR THE PRESTRESSING STEEL. THE TYPICAL STRESS-STRAIN CURVE SHALL BE OBTAINED BY APPROVED STANDARD PRACTICES... 2. GROUT MIX DESIGN AND THE PROCEDURES FOR GROUT PLACEMENT... 3. CALIBRATION DATA FOR EACH TEST JACK, PRESSURE GAUGE AND REFERENCE PRESSURE GAUGE TO BE USED...

2. GROUND ANCHOR INSTALLATION:

2A. AT THE GROUND SURFACE, THE DRILLHOLE SHALL BE LOCATED WITHIN 4 INCHES OF THE LOCATION SHOWN ON THE PLANS. THE DRILLHOLE SHALL BE LOCATED SO THE LONGITUDINAL AXIS OF THE DRILLHOLE AND THE LONGITUDINAL AXIS OF THE TENDON ARE PARALLEL.

2B. AT THE POINT OF ENTRY, THE GROUND ANCHOR SHALL BE INSTALLED WITHIN +/- 3 DEGREES OF THE INCLINATION FROM HORIZONTAL SHOWN IN THE PLANS. AT THE POINT OF ENTRY, THE HORIZONTAL ANGLE MADE BY THE GROUND ANCHOR AND THE STRUCTURE SHALL BE WITHIN +/- 3 DEGREES OF A LINE DRAWN PERPENDICULAR TO THE PLANE OF THE STRUCTURE, UNLESS SHOWN OTHERWISE ON THE PLANS. AT ALL ANCHOR LOCATIONS WHERE TIEBACKS CROSS, THE INCLINATION AND ORIENTATION OF THE ANCHORS SHALL BE +/- 1 DEGREE.

2C. WHEN GAVING CONDITIONS ARE ENCOUNTERED, THE CONTRACTOR SHALL SELECT A METHOD TO PREVENT GROUND MOVEMENT. THE CONTRACTOR MAY USE TEMPORARY CASING.

2D. THE TENDON SHALL BE INSERTED INTO THE DRILLHOLE TO THE DESIRED DEPTH WITHOUT DIFFICULTY. WHEN THE TENDON CANNOT BE COMPLETELY INSERTED, THE CONTRACTOR SHALL REMOVE THE TENDON FROM THE DRILLHOLE AND CLEAN OR REDRILL THE HOLE TO PERMIT INSERTION. PARTIALLY INSERTED TENDONS SHALL NOT BE DRIVEN OR FORCED INTO THE HOLE.

2E. THE CONTRACTOR SHALL USE A NEAT-CEMENT OR A SAND-CEMENT GROUT. THE CEMENT SHALL NOT CONTAIN LUMPS OR OTHER INDICATIONS OF HYDRATION. ADMIXTURES, IF USED, SHALL BE MIXED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

2F. THE GROUT EQUIPMENT SHALL PRODUCE A GROUT FREE OF LUMPS AND UNDISPERSED CEMENT. A POSITIVE DISPLACEMENT GROUT PUMP SHALL BE USED. THE PUMP SHALL BE EQUIPPED WITH A PRESSURE GAUGE TO MONITOR GROUT PRESSURES AND A STROKE COUNTER. THE PRESSURE GAUGE SHALL BE CAPABLE OF MEASURING PRESSURES OF AT LEAST 150 PSI OR TWICE THE ACTUAL GROUT PRESSURES USED BY THE CONTRACTOR, WHICHEVER IS GREATER. THE GROUTING EQUIPMENT SHALL BE SIZED TO ENABLE THE GROUT TO BE PUMPED IN ONE CONTINUOUS OPERATION. THE MIXER SHALL BE CAPABLE OF CONTINUOUSLY AGITATING THE GROUT.

2G. THE GROUT SHALL BE INJECTED FROM THE LOWEST POINT OF THE DRILLHOLE. THE GROUT MAY BE PUMPED THROUGH GROUT TUBES, CASING, OR DRILL RODS. THE GROUT CAN BE PLACED BEFORE OR AFTER INSERTION OF THE TENDON. THE QUANTITY OF THE GROUT AND THE GROUT PRESSURES SHALL BE RECORDED. THE GROUT PRESSURES AND GROUT TAKES SHALL BE CONTROLLED TO PREVENT EXCESSIVE HEAVE IN SOILS OR FRACTURING OF ROCK FORMATIONS.

2H. NO GROUT SHALL BE PLACED UNDER PRESSURE ABOVE THE BOND LENGTH DURING INITIAL GROUTING OF THE ANCHOR BOND LENGTH. THE GROUT AT THE TOP OF THE DRILLHOLE SHALL NOT CONTACT THE BACK OF THE STRUCTURE.

2I. AFTER GROUTING, THE TENDON SHALL NOT BE LOADED UNTIL THE GROUT HAS ATTAINED SUFFICIENT STRENGTH TO CARRY THE TEST LOAD.

2J. ALL TEMPORARY GROUND ANCHORS SHALL BE DE-STRESSED AFTER SHORING IS NO LONGER NEEDED.

3. ANCHOR GROUT:

3A. THE GROUT SHALL BE A NEAT OR SAND/CEMENT MIXTURE WITH A MINIMUM 3-DAY COMPRESSIVE STRENGTH OF 1500 PSI AND A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI PER ASTM C109 / AASHTO T106.

3B. TYPE II CEMENT CONFORMING TO THE REQUIREMENTS OF ASTM C150 / AASHTO M85 SHALL BE USED.

3C. FINE AGGREGATES SHALL CONSIST OF CLEAN, NATURAL SAND, CONFORMING TO THE REQUIREMENTS OF ASTM C23 / AASHTO M6. MANUFACTURED SAND IS ACCEPTABLE PROVIDED IT IS SUITABLE FOR PUMPING IN ACCORDANCE WITH ACI 304, SECTION 4.2.2.

3D. ADMIXTURES SHALL BE IN ACCORDANCE WITH ASTM C494 / AASHTO M194. ADMIXTURES WHICH CONTROL BLEED, IMPROVE FLOW, REDUCE WATER CONTENT, AND RETARD SET MAY BE USED IN THE GROUT SUBJECT TO THE APPROVAL OF THE ENGINEER. EXPANSIVE ADMIXTURES SHALL ONLY BE ADDED TO THE GROUT USED FOR FILLING SEALED ENCAPSULATIONS, TRUMPETS AND ANCHORAGE COVERS. ACCELERATORS WILL NOT BE PERMITTED. ADMIXTURES SHALL BE COMPATIBLE WITH PRESTRESSING STEELS AND MIXED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

4. ANCHOR TENDONS:
4A. THE STRAND GROUND ANCHORS TENDONS SHALL CONSIST OF THE FOLLOWING:
1. SEVEN-WIRE, LOW-RELAXATION STRANDS WITH AN ULTIMATE TENSILE STRENGTH OF 270 KSI CONFORMING TO ASTM A416 / AASHTO M203.
4B. STRAND COUPLERS SHALL NOT BE ALLOWED.
4C. THE BAR GROUND ANCHORS TENDONS SHALL CONSIST OF THE FOLLOWING:
1. THREADBARS CONFORMING TO ASTM A615 / AASHTO M31, GRADE 60 OR 75 OR ASTM A722 / AASHTO M275, GRADE 150.
4D. BAR COUPLERS ARE ALLOWED.
5. BONDBREAKER:

5A. A BONDBREAKER MUST BE PROVIDED TO PREVENT THE TENDON FROM BONDING TO THE ANCHOR GROUT SURROUNDING THE UNBONDED LENGTH.

5B. THE BONDBREAKER SHALL BE FABRICATED FROM A SMOOTH PLASTIC TUBE OR PIPE HAVING THE FOLLOWING PROPERTIES:

- 1. RESISTANCE TO CHEMICAL ATTACK FROM AGGRESSIVE ENVIRONMENTS, GROUT OR GREASE.

- 2. RESISTANCE TO AGING BY ULTRAVIOLET LIGHT.
3. FABRICATED FROM MATERIAL NON-DETRIMENTAL TO THE TENDON.
4. CAPABLE OF WITHSTANDING ABRASION, IMPACT, AND BENDING DURING HANDLING AND INSTALLATION.
5. ENABLE THE TENDON TO ELONGATE DURING TESTING AND STRESSING.
6. ALLOW THE TENDON TO REMAIN UNBONDED AFTER LOCKOFF.

6. SPACERS AND CENTRALIZERS:

6A. SPACERS SHALL BE USED ALONG THE TENDON BOND LENGTH OF MULTI-ELEMENT TENDONS TO SEPARATE EACH OF THE INDIVIDUAL ELEMENTS OF THE TENDON SO THE PRESTRESSING STEEL WILL BOND TO THE GROUT. SPACERS SHALL BE POSITIONED SO THEIR CENTER-TO-CENTER SPACING DOES NOT EXCEED 10 FEET. IN ADDITION, THE UPPER SPACER SHALL BE LOCATED A MAXIMUM OF 5 FEET FROM THE TOP OF THE TENDON BOND LENGTH AND THE LOWER SPACER SHALL BE LOCATED A MAXIMUM OF 5 FEET FROM THE BOTTOM OF THE TENDON BOND LENGTH. SPACERS SHALL PERMIT GROUT TO FREELY FLOW UP THE DRILLHOLE. SPACERS SHALL BE FABRICATED FROM PLASTIC.

6B. CENTRALIZERS SHALL PERMIT FREE GROUT FLOW AND SHALL PROVIDE A MINIMUM OF 1 INCH OF COVER OVER THE TENDON BOND LENGTH. CENTRALIZERS SHALL BE SECURELY ATTACHED TO THE TENDON AND THE CENTER TO CENTER SPACING SHALL NOT EXCEED 10 FEET. THE UPPER CENTRALIZER SHALL BE LOCATED A MAXIMUM OF 5 FEET FROM THE TOP OF THE TENDON BOND LENGTH AND THE LOWER CENTRALIZER SHALL BE LOCATED A MAXIMUM OF 3 FEET FROM THE BOTTOM OF THE TENDON BOND LENGTH. CENTRALIZERS SHALL BE FABRICATED FROM PLASTIC.

7. ANCHORAGE DEVICES:

7A. ANCHORAGE DEVICES SHALL BE CAPABLE OF DEVELOPING 95% OF THE MINIMUM SPECIFIED ULTIMATE TENSILE STRENGTH OF THE PRESTRESSING STEEL TENDON. THE ANCHORAGE DEVICES SHALL CONFORM TO THE STATIC STRENGTH REQUIREMENTS OF SECTION 3.1.6(i) AND SECTION 3.1.8(i) OF THE PTI 'GUIDE SPECIFICATION FOR POST TENSIONING MATERIALS'.

7B. THE BEARING PLATES SHALL BE STRUCTURAL STEEL CONFORMING TO ASTM A36/AASHTO M33. THE BEARING PLATES SHALL BE SIZED SO THE ALLOWABLE BENDING STRESSES IN THE PLATE PER AISC-ASD ARE NOT EXCEEDED WHEN THE DESIGN LOAD OF THE GROUND ANCHOR IS APPLIED.

8. ANCHOR TESTING:

8A. EACH GROUND ANCHOR SHALL BE TESTED. THE MAXIMUM TEST LOAD SHALL NOT EXCEED 80% OF THE MINIMUM GUARANTEED ULTIMATE TENSILE STRENGTH (GUTS) OF THE TENDON. THE TEST LOAD SHALL BE SIMULTANEOUSLY APPLIED TO THE ENTIRE TENDON. STRESSING OF SINGLE ELEMENTS OF MULTI-ELEMENT TENDONS WILL NOT BE PERMITTED.

8B. THE TESTING EQUIPMENT SHALL CONSIST OF:

- 1. A DIAL GAUGE OR VERNIER SCALE CAPABLE OF MEASURING TO 0.001 INCHES SHALL BE USED TO MEASURE THE GROUND ANCHOR MOVEMENT. THE MOVEMENT-MEASURING DEVICE SHALL HAVE A MINIMUM TRAVEL EQUAL TO THE THEORETICAL ELASTIC ELONGATION OF THE TOTAL ANCHOR LENGTH AT THE MAXIMUM TEST LOAD PLUS 1 INCH. THE DIAL GAUGE OR VERNIER SCALE SHALL BE SUPPORTED INDEPENDENT OF THE JACKING SYSTEM AND RETAINED STRUCTURE AND SHALL BE ALIGNED SO THAT ITS AXIS IS WITHIN 5 DEGREES FROM THE AXIS OF THE GROUND ANCHOR.

- 2. A HYDRAULIC JACK AND PUMP SHALL BE USED TO APPLY THE TEST LOAD. THE JACK AND PRESSURE GAUGE SHALL BE CALIBRATED BY AN INDEPENDENT TESTING LABORATORY AS A UNIT. THE PRESSURE GAUGE SHALL BE GRADUATED IN 100 PSI INCREMENTS OR LESS. THE PRESSURE GAUGE WILL BE USED TO MEASURE THE APPLIED LOAD. THE RAM TRAVEL OF THE JACK SHALL NOT BE LESS THAN THE THEORETICAL ELASTIC ELONGATION OF THE TOTAL ANCHOR LENGTH AT THE MAXIMUM TEST LOAD PLUS ONE INCH. THE JACK SHALL BE INDEPENDENTLY SUPPORTED AND CENTERED OVER THE TENDON SO THAT THE TENDON DOES NOT CARRY THE WEIGHT OF THE JACK.

8C. VERIFICATION TESTS SHALL BE PERFORMED ON 2 ANCHORS PER ANCHORAGE SOIL TYPE ENCOUNTERED: WALL TYPE AND PER ANCHOR INSTALLATION METHOD USED. THE VERIFICATION TEST SHALL BE MADE BY INCREMENTALLY LOADING THE GROUND ANCHOR IN ACCORDANCE WITH THE FOLLOWING SCHEDULE.

Table with 4 columns: LOAD, HOLD TIME, LOAD, HOLD TIME. Rows show load increments (AL, 0.25DL to 2.00DL) and hold times (1 MINUTE to 10 MINUTES).

THE ALIGNMENT LOAD (AL) SHALL BE THE MINIMUM LOAD REQUIRED TO ALIGN THE TESTING APPARATUS AND SHALL NOT EXCEED 0.05DL. DIAL GAUGES SHALL BE SET AT "ZERO" AFTER THE ALIGNMENT LOAD HAS BEEN APPLIED.

A CREEP TEST SHALL BE PERFORMED AT THE 150 DL INCREMENT. ANCHOR MOVEMENT DURING THE CREEP TEST SHALL BE MEASURED AND RECORDED AT 1, 2, 3, 5, 10, 20, 30, 50 AND 60 MINUTES OF ELAPSED TIME FROM WHEN THE LOAD INCREMENT IS APPLIED. IF AN ANCHOR FAILS IN CREEP, RETESTING WILL NOT BE ALLOWED.

THE ACCEPTANCE CRITERIA FOR VERIFICATION TEST ARE AS FOLLOWS:

- 1. EXHIBITS A LINEAR OR NEAR-LINEAR RELATIONSHIP BETWEEN UNIT STRESS AND MOVEMENT OVER THE PERCENT STRESS RANGE DURING LOADING FROM AL TO 2.0DL.
2. HOLD THE MAXIMUM TEST UNIT STRESS AT 150DL WITHOUT NOTICEABLE CREEP. NOTICEABLE CREEP IS DEFINED AS A RATE OF MOVEMENT MORE THAN 0.04-INCH BETWEEN 1- AND 10-MINUTE READINGS, OR MORE THAN 0.08-INCHES BETWEEN THE 6- AND 60-MINUTE READINGS. IF THE READINGS DOES NOT STABILIZE TO 0.08-INCH OR LESS PER LOG CYCLE OF TIME, THE TEST SHALL BE CONSIDERED AS FAILING THE CREEP CRITERIA.
3. SATISFIES THE APPARENT FREE TENDON LENGTH CRITERIA:
A) MINIMUM APPARENT FREE LENGTH BASED ON MEASURED ELASTIC AND RESIDUAL MOVEMENT, SHOULD BE GREATER THAN 80% OF THE DESIGNED FREE LENGTH PLUS THE JACK LENGTH; AND
B) MAXIMUM APPARENT FREE LENGTH BASED ON MEASURED ELASTIC AND RESIDUAL MOVEMENT, SHOULD BE LESS THAN 100% OF THE DESIGNED FREE LENGTH PLUS 50% OF THE BOND LENGTH PLUS THE JACK LENGTH.
4. THE ANCHOR DOES NOT PULL OUT UNDER REPEATED LOADING OR AT 2.0DL.

8D. PROOF TESTS SHALL BE PERFORMED ON ALL PRODUCTION ANCHORS BY INCREMENTALLY LOADING THE GROUND ANCHOR IN ACCORDANCE WITH THE FOLLOWING SCHEDULE. AT LOAD INCREMENTS OTHER THAN MAXIMUM TEST LOAD, THE LOAD SHALL BE HELD LONG ENOUGH TO OBTAIN A STABLE READING.

Table with 2 columns: LOAD, HOLD TIME. Rows show load increments (AL, .25DL to 1.50DL) and hold times (1 MINUTE to UNTIL STABLE).

THE ALIGNMENT LOAD (AL) SHALL BE THE MINIMUM LOAD REQUIRED TO ALIGN THE TESTING APPARATUS AND SHALL NOT EXCEED 0.05DL. DIAL GAUGES SHALL BE SET AT "ZERO" AFTER THE ALIGNMENT LOAD HAS BEEN APPLIED.

THE MAXIMUM TEST LOAD SHALL BE HELD FOR 10 MINUTES. THE LOAD SHOULD BE HELD CONSTANT TO WITHIN 50psi AND THE ANCHOR MOVEMENT SHALL BE MEASURED AND RECORDED AT 1, 2, 3, 5, 6, AND 10 MINUTES. IF THE ANCHOR MOVEMENT BETWEEN 1 AND 10 MINUTES EXCEEDS 0.04 INCHES, THE MAXIMUM TEST LOAD SHALL BE HELD FOR AN ADDITIONAL 50 MINUTES. IF THE LOAD HOLD IS EXTENDED, THE ANCHOR MOVEMENTS SHALL BE RECORDED AT 20, 30, 50, AND 60 MINUTES. IF AN ANCHOR FAILS IN CREEP, RETESTING WILL NOT BE ALLOWED.

8E. A PROOF TESTED GROUND ANCHOR WITH A 10 MINUTE LOAD HOLD CREEP TEST IS CONSIDERED ACCEPTABLE WHEN:

- 1. THE GROUND ANCHOR CARRIES THE MAXIMUM TEST LOAD WITH LESS THAN 0.04 INCHES OF MOVEMENT BETWEEN THE 1 AND 10 MINUTE READINGS.
3. SATISFIES THE APPARENT FREE TENDON LENGTH CRITERIA:
A) MINIMUM APPARENT FREE LENGTH BASED ON MEASURED ELASTIC AND RESIDUAL MOVEMENT, SHOULD BE GREATER THAN 80% OF THE DESIGNED FREE LENGTH PLUS THE JACK LENGTH; AND
B) MAXIMUM APPARENT FREE LENGTH BASED ON MEASURED ELASTIC AND RESIDUAL MOVEMENT, SHOULD BE LESS THAN 100% OF THE DESIGNED FREE LENGTH PLUS 50% OF THE BOND LENGTH PLUS THE JACK LENGTH.

8F. A PROOF TESTED GROUND ANCHOR WITH A 60 MINUTE LOAD HOLD CREEP TEST IS CONSIDERED ACCEPTABLE WHEN:

- 1. THE GROUND ANCHOR CARRIES THE MAXIMUM TEST LOAD WITH LESS THAN 0.08 INCHES OF MOVEMENT BETWEEN 6 AND 60 MINUTES AND THE CREEP RATE IS LINEAR OR DECREASING.
3. SATISFIES THE APPARENT FREE TENDON LENGTH CRITERIA:
A) MINIMUM APPARENT FREE LENGTH BASED ON MEASURED ELASTIC AND RESIDUAL MOVEMENT, SHOULD BE GREATER THAN 80% OF THE DESIGNED FREE LENGTH PLUS THE JACK LENGTH; AND
B) MAXIMUM APPARENT FREE LENGTH BASED ON MEASURED ELASTIC AND RESIDUAL MOVEMENT, SHOULD BE LESS THAN 100% OF THE DESIGNED FREE LENGTH PLUS 50% OF THE BOND LENGTH PLUS THE JACK LENGTH.

IN ADDITION TO THE ABOVE, A VERIFICATION TESTED GROUND ANCHOR MUST NOT EXPERIENCE A PULLOUT FAILURE OR TENDENCY TO FAILURE DURING LOADING. A PULLOUT FAILURE IS DEFINED AS THE LOAD AT WHICH ATTEMPTS TO INCREASE THE TEST LOAD RESULT IN CONTINUED PULLOUT MOVEMENT OF THE TEST ANCHOR.

8G. GROUND ANCHORS THAT HAVE A CREEP RATE GREATER THAN SPECIFIED CAN BE INCORPORATED IN THE FINISHED WORK AT A LOAD EQUAL TO ONE-HALF OF THE FAILURE LOAD. THE FAILURE LOAD IS THE MAXIMUM LOAD CARRIED BY THE ANCHOR AFTER THE LOAD HAS BEEN ALLOWED TO STABILIZE FOR TEN MINUTES.

8H. WHEN A GROUND ANCHOR FAILS, THE CONTRACTOR SHALL MODIFY THE ANCHOR DESIGN, THE CONSTRUCTION PROCEDURES, OR BOTH. THESE MODIFICATIONS MAY INCLUDE, BUT ARE NOT LIMITED TO: INSTALLING REPLACEMENT GROUND ANCHORS, MODIFYING THE INSTALLATION METHODS, INCREASING THE BOND LENGTH, OR CHANGING THE GROUND ANCHOR TYPE. ANY MODIFICATION WHICH REQUIRES CHANGES TO THE STRUCTURE SHALL HAVE PRIOR APPROVAL OF THE ENGINEER.

PERMANENT WALL DRAINAGE:

- A. THE WALL DRAINAGE NETWORK SHALL CONSIST OF GEOCOMPOSITE DRAIN STRIPS AND KEEP PIPES AS SHOWN ON THE PLANS. THE GEOCOMPOSITE DRAIN STRIPS SHALL BE MIRADRIN 6000 OR AMERDRAIN 500. KEEP PIPES SHALL BE MINIMUM 2-INCH DIAMETER SCHEDULE 40 PVC.
B. GEOCOMPOSITE DRAIN STRIPS SHALL BE PROVIDED IN ROLLS WRAPPED WITH A PROTECTIVE COVERING AND STORED IN A MANNER THAT PROTECTS THE FABRIC FROM MUD, DIRT, AND DEBRIS. PROTECTIVE WRAPPING SHALL NOT BE REMOVED UNTIL IMMEDIATELY BEFORE INSTALLATION. EXTENDED EXPOSURE TO ULTRAVIOLET LIGHT SHALL BE AVOIDED.
C. THE GEOCOMPOSITE DRAIN STRIPS SHALL BE AT LEAST 16 INCHES WIDE AND SHALL BE SECURED TO THE LAGGED FACE WITH THE GEOTEXTILE SIDE AGAINST THE LAGGINGS. DRAIN STRIPS SHALL BE MADE CONTINUOUS BY USING THE "SHINGLE" METHOD OF SPLICING WITH A 16 INCH MINIMUM OVERLAP SUCH THAT THE FLOW OF WATER IS NOT IMPEDED.
D. THE JOINT BETWEEN THE KEEP HOLE AND THE GEOCOMPOSITE DRAIN STRIP, AND THE DISCHARGE END OF THE KEEP PIPE SHALL BOTH BE SEALED TO PREVENT INTRUSION OF THE CONCRETE/SHOTCRETE PERMANENT FACING. DAMAGE OF THE GEOCOMPOSITE DRAIN STRIP WHICH, IN THE OPINION OF THE OWNER'S REPRESENTATIVE, MAY CAUSE INTERRUPTION IN FLOW SHALL REQUIRE INSTALLATION OF ADDITIONAL KEEP PIPES ABOVE THE DAMAGED SECTION.

Project information block including: PROJ. NO. 23-30, SHEET NUMBER, CHESHIRE SHORT PLAT, 7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040, TEMPORARY SHORING WALL COVER & SHORING NOTES, Ground Support PLLC, 16932 Woodinville Redmond Rd NE, #210 Woodinville, WA 98072, and a circular seal for the Washington State Professional Engineer.

SH1.1

F:\GROUND SUPPORT PLLC\2023\23-30 (CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WADBEREK CHESHIRE)\SHORING\PERMITTING\IR1233\SH01\RO.DWG -SHT 2- Plotter: 1/11/2024 4:14 PM

MONITORING:


PER THE REQUIREMENTS OF THE GEOTECHNICAL SPECIAL INSPECTOR, THE SHORING MONITORING PROGRAM SHALL CONSIST OF THE FOLLOWING:

- PRE-CONSTRUCTION SURVEY (VIDEO OR PHOTOGRAPHIC SURVEY) OF ADJACENT STREETS, UTILITIES AND BUILDINGS, TO BE SUBMITTED IMMEDIATELY TO CITY OF MERCER ISLAND. OPTICAL SURVEY POINTS SHALL BE INSTALLED ON ALL ADJACENT ROADWAY CENTERLINES WITH SPACING NO GREATER THAN 50 FEET OR AS RECOMMENDED BY THE ENGINEER.
- OPTICAL SURVEY OF MONITORING POINTS TO BE COMPLETED TWICE WEEKLY DURING CONSTRUCTION, AND TWICE PER MONTH (OR AS DETERMINED BY THE GEOTECHNICAL SPECIAL INSPECTOR WITH THE CONCURRENCE OF CITY OF MERCER ISLAND) FOLLOWING COMPLETION OF THE EXCAVATION AND BEFORE THE INTERIOR BUILDING FLOORS REACH THE GROUND SURFACE. MONITORING SHALL INCLUDE VERTICAL AND HORIZONTAL SURVEY MEASUREMENTS TO AN ACCURACY OF 0.01 FEET. BASELINE READINGS OF ALL MONITORING POINTS ARE TO BE TAKEN PRIOR TO START OF CONSTRUCTION. ALL RESULTS ARE TO BE SENT TO THE GEOTECHNICAL SPECIAL INSPECTOR WITHIN 24 HOUR AND TO CITY OF MERCER ISLAND WEEKLY. A LICENSED SURVEYOR (NOT THE CONTRACTOR) SHOULD PERFORM THE MONITORING AT LEAST ONCE PER WEEK.
- OPTICAL SURVEY POINTS SHOULD BE ESTABLISHED AT THE TOP OF THE SHORING WALL AROUND THE PERIMETER OF THE EXCAVATION. ESTABLISH MONITORING POINTS ON THE TOP OF EVERY OTHER PILE. MONITORING POINTS SHOULD BE ESTABLISHED ON EXISTING SETTLEMENT-SENSITIVE STRUCTURES LOCATED CLOSER TO THE EXCAVATION THAN A HORIZONTAL DISTANCE EQUAL TO THE EXCAVATION DEPTH, PRIOR TO DEWATERING, EXCAVATION, AND INSTALLATION OF SHORING SYSTEMS.
- SURVEY FREQUENCY CAN BE DECREASED AFTER THE SHORING SYSTEM HAS BEEN INSTALLED AND EXCAVATION IS COMPLETE IF THE DATA INDICATES LITTLE OR NO ADDITIONAL MOVEMENT. SURVEYING MUST CONTINUE UNTIL THE PERMANENT STRUCTURE (INCLUDING FLOOR SLABS AS BRACES) IS COMPLETE UP TO FINAL AND STREET GRADES. THE SURVEY FREQUENCY WILL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AFTER REVIEW AND APPROVAL BY CITY OF MERCER ISLAND.
- ADDITIONAL SURVEY POINTS SHOULD BE ESTABLISHED ALONG THE CURBLINE OF ADJACENT ROADWAYS, AND SPACED AT 20 FEET HORIZONTALLY. THESE POINTS NEED TO BE MONITORED IF SHORING WALL MOVEMENTS REACH 0.5-INCHES, OR AT CITY OF MERCER ISLAND REQUEST.
- THE GEOTECHNICAL ENGINEER SHALL REVIEW SURVEY DATA AND PROVIDE AN EVALUATION OF WALL PERFORMANCE ALONG WITH SURVEY DATA TO CITY OF MERCER ISLAND ON AT LEAST A WEEKLY BASIS. IMMEDIATELY AND DIRECTLY NOTIFY CITY OF MERCER ISLAND IF ANY UNUSUAL OR SIGNIFICANTLY INCREASED MOVEMENT OCCURS.
- IMMEDIATELY AND DIRECTLY NOTIFY THE GEOTECHNICAL AND STRUCTURAL ENGINEERS, WALL DESIGNER, AND CITY OF MERCER ISLAND IF 0.5-INCHES OF MOVEMENT OCCURS BETWEEN TWO CONSECUTIVE READINGS OR WHEN TOTAL MOVEMENTS REACH 0.5-INCHES. AT THAT AMOUNT OF MOVEMENT, THE ENGINEERS AND DESIGNERS SHALL DETERMINE THE CAUSE OF DISPLACEMENT AND DEVELOP REMEDIAL MEASURES SUFFICIENT TO LIMIT TOTAL WALL MOVEMENTS TO 1 INCH. ALL EARTHWORK AND CONSTRUCTION ACTIVITIES MUST BE DIRECTED TOWARDS IMMEDIATE IMPLEMENTATION OF REMEDIAL MEASURES NECESSARY TO LIMIT TOTAL WALL MOVEMENTS TO WHAT HAS BEEN DEFINED AS ACCEPTABLE BY THE DESIGN TEAM AND CITY OF MERCER ISLAND (AS INDICATED ABOVE).

SPECIAL INSPECTION OF THE SHORING WALLS:

IN ACCORDANCE WITH SECTION 1704 OF IBC (2018), SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING SHORING ITEMS OR PROCESSES: SOLDIER PILE INSTALLATION, AND GROUND ANCHOR INSTALLATION AND TESTING. ALSO SEE SPECIAL INSPECTION REQUIREMENTS FOR SHOTCRETE (SH6.0).

PSN	PRA	CHK	DATE	REV	DESCRIPTION
	RJB	RJB	11/28/2023	0	PERMIT ISSUE
	BPM	RJB	1/11/2024	1	MERCER ISLAND CITY REVIEW COMMENTS
	RJB	RJB			



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 16932 Woodinville Redmond Rd NE, #210
 Woodinville, WA 98072
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CHESHIRE SHORT PLAT
 7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040

**TEMPORARY SHORING WALL
 COVER & SHORING NOTES**

PROJ. NO.	23-30
SHEET NUMBER	

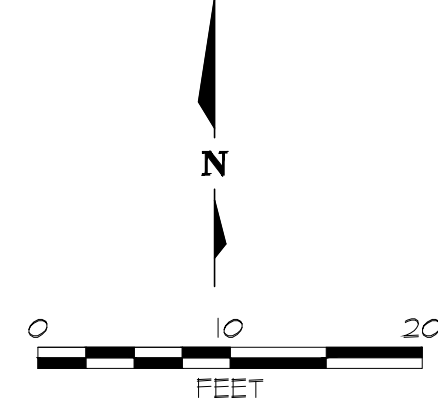
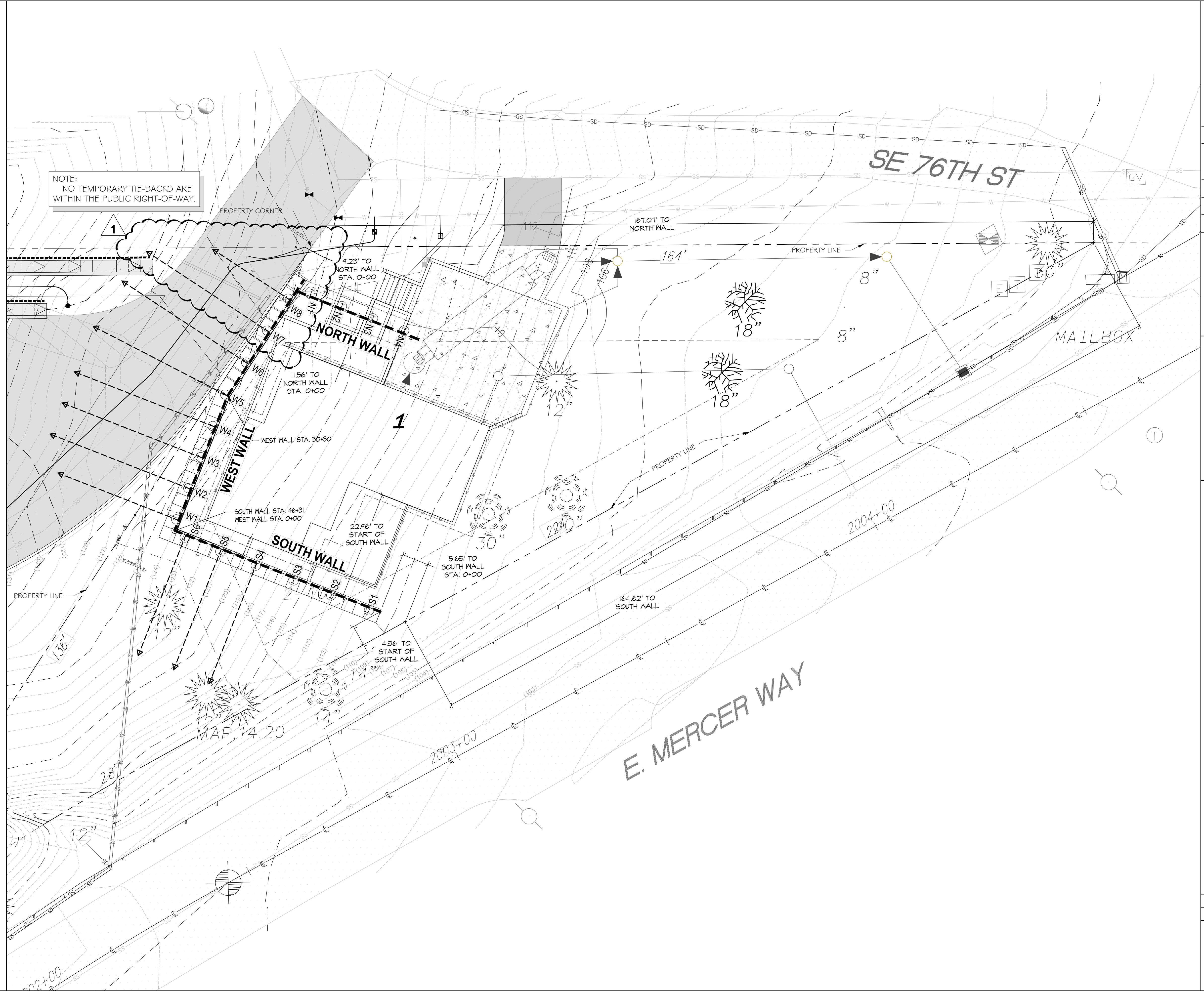
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SH1.2

WALL KEY PLAN



NOTE:
NO TEMPORARY TIE-BACKS ARE
WITHIN THE PUBLIC RIGHT-OF-WAY.

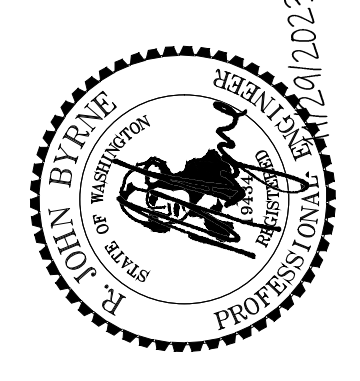


LEGEND

- GROUND ANCHOR
- WALER
- GROUND ANCHOR
- 3° GROUND ANCHOR SPREAD ANGLE
- P1 SOLDIER PILE
- B BUILDING GRID LOCATION
- FACE OF GROUND ANCHOR WALL
- EXISTING GRADE CONTOUR
- PROPOSED BUILDING WALL

FIGROUND SUPPORT PLLC/2023/03-30 CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-BEREK CHESHIRE (SHORING)/PERMITTING/IR12330SH02R0.DWG -SH2.0- Plotted: 11/17/2024 12:51 PM

REV	DATE	DESCRIPTION
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1	1/11/2024	MERCER ISLAND CITY REVIEW COMMENTS



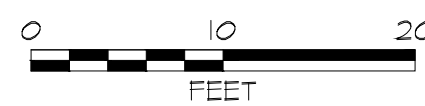
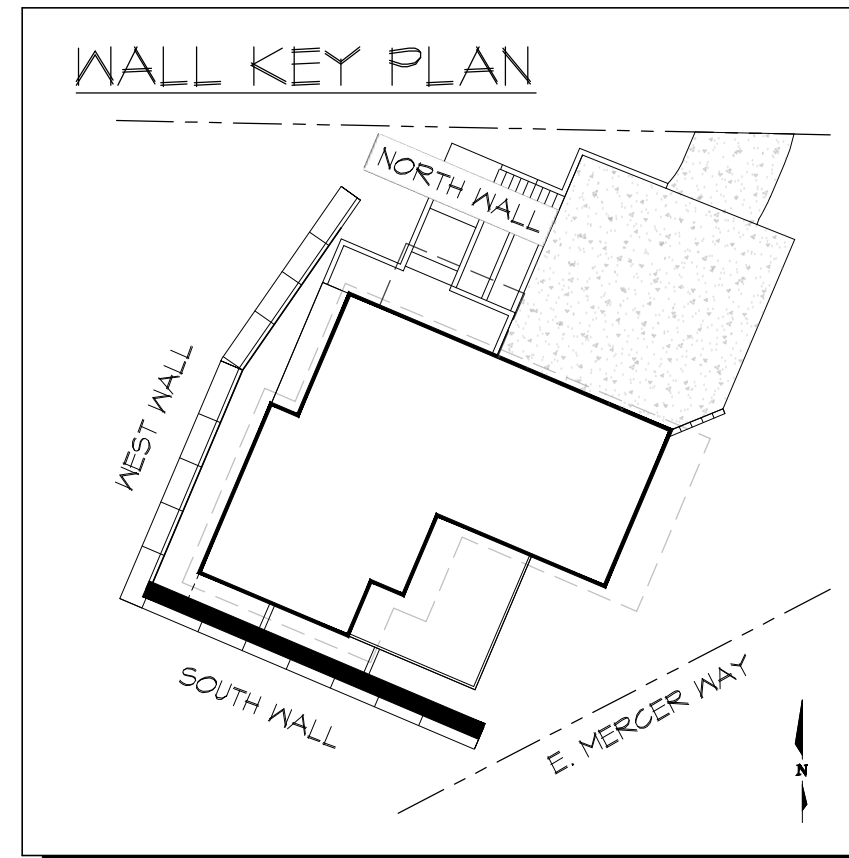
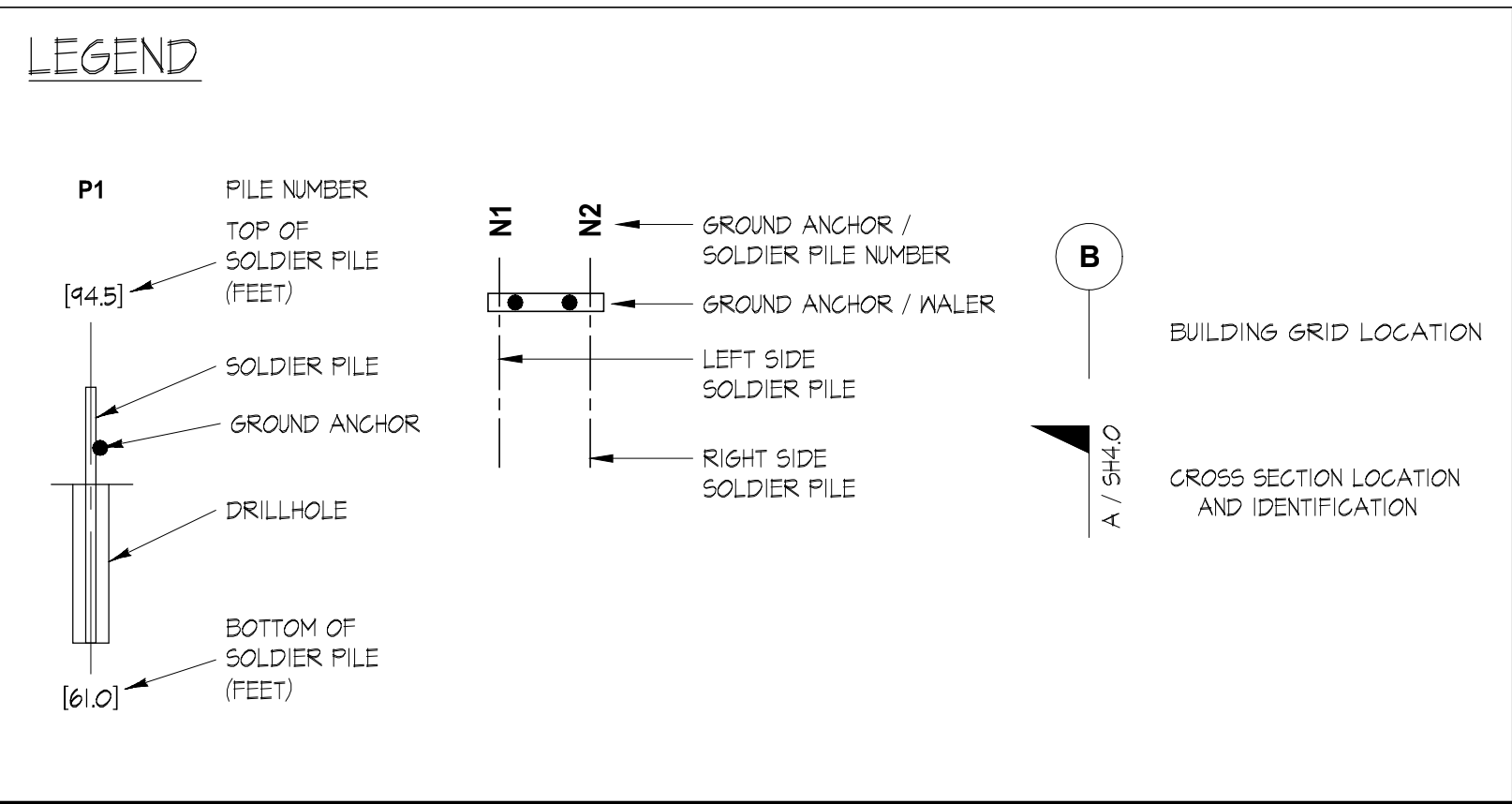
Ground Support PLLC
 16932 Woodinville Richmond Rd NE, #210
 Woodinville, WA 98072
 Ph: (425) 488-1143 Fax: (425) 605-4057

CHESHIRE SHORT PLAT
 7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040
**TEMPORARY SHORING WALL
 SHORING PLAN (RETAINING WALL)**

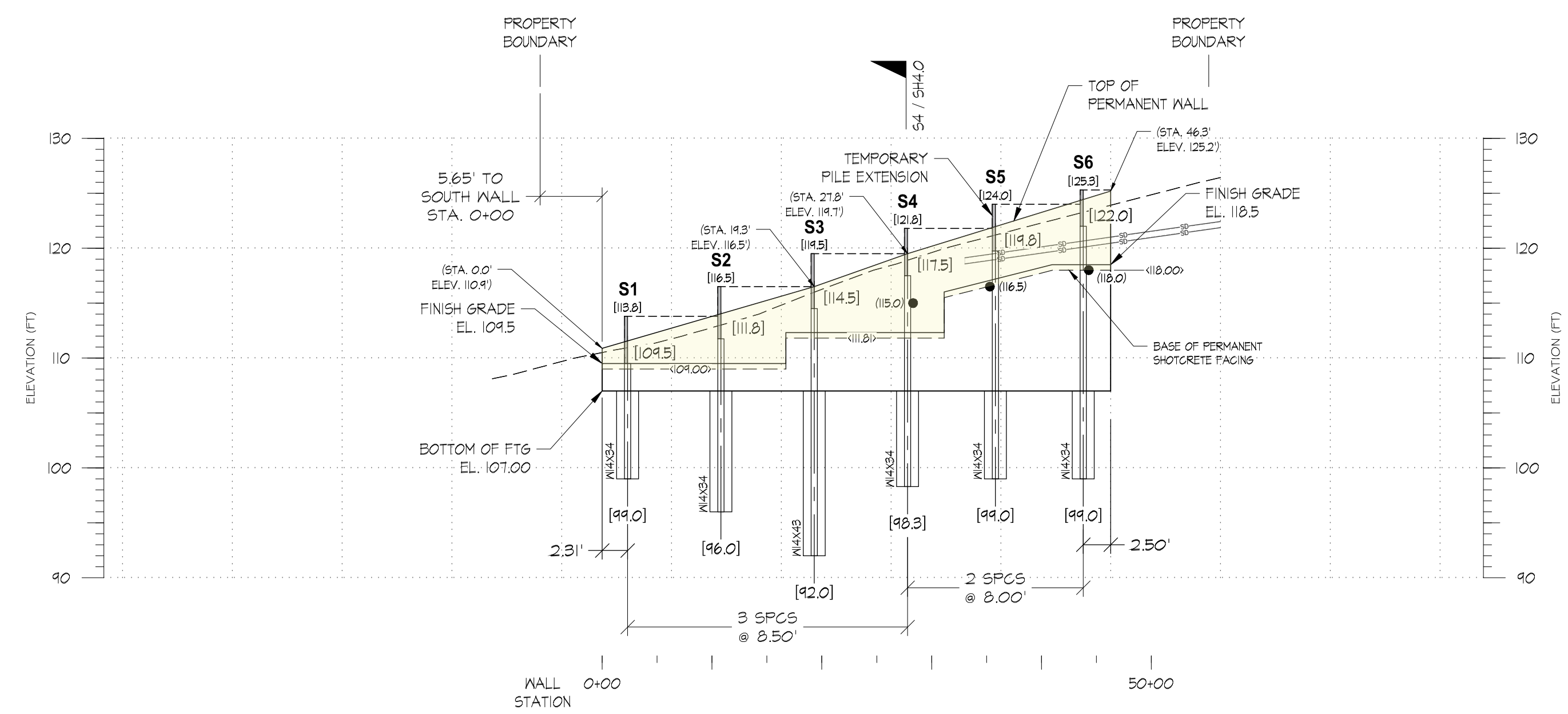
PROJ. NO. 23-30
 SHEET NUMBER

SH2.0

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NOTE: INFORMATION SUPPLIED TO GROUND SUPPORT PLLC AT TIME OF SHORING DESIGN INSUFFICIENT TO CHECK FOR ALL POTENTIAL CONFLICTS BETWEEN SHORING ELEMENTS AND UTILITIES. CONTRACTOR IS RESPONSIBLE FOR LOCATION OF ALL UTILITIES WITHIN ZONE OF SHORING ELEMENTS AND FOR CHECKING THAT NO SUCH CONFLICTS EXIST.



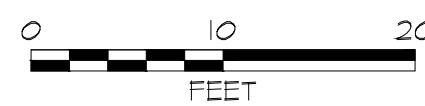
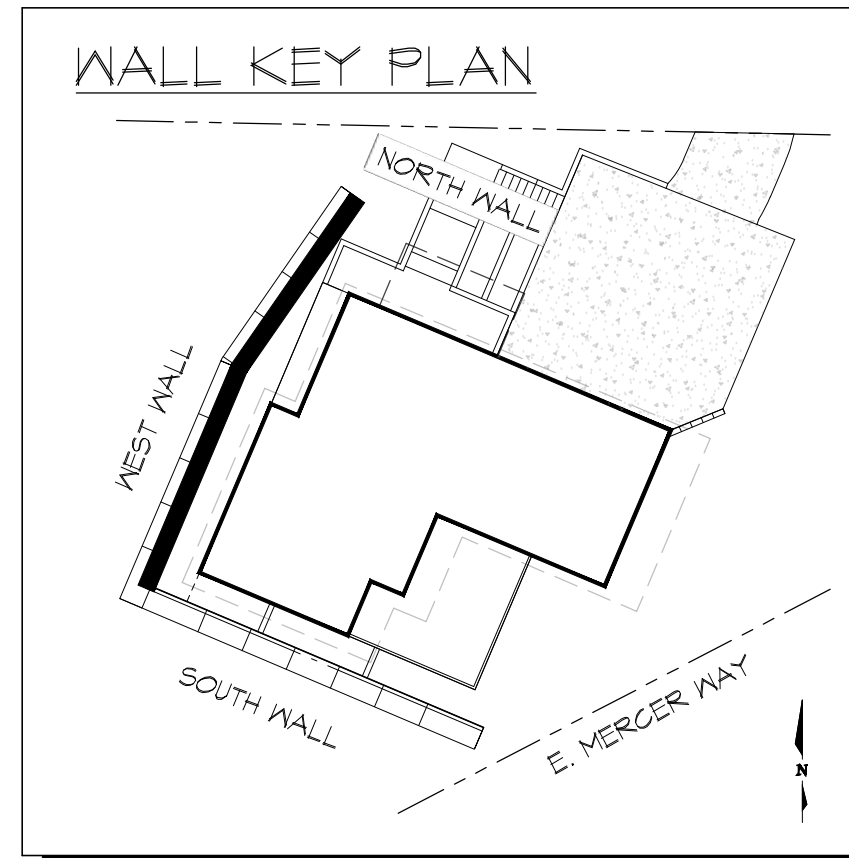
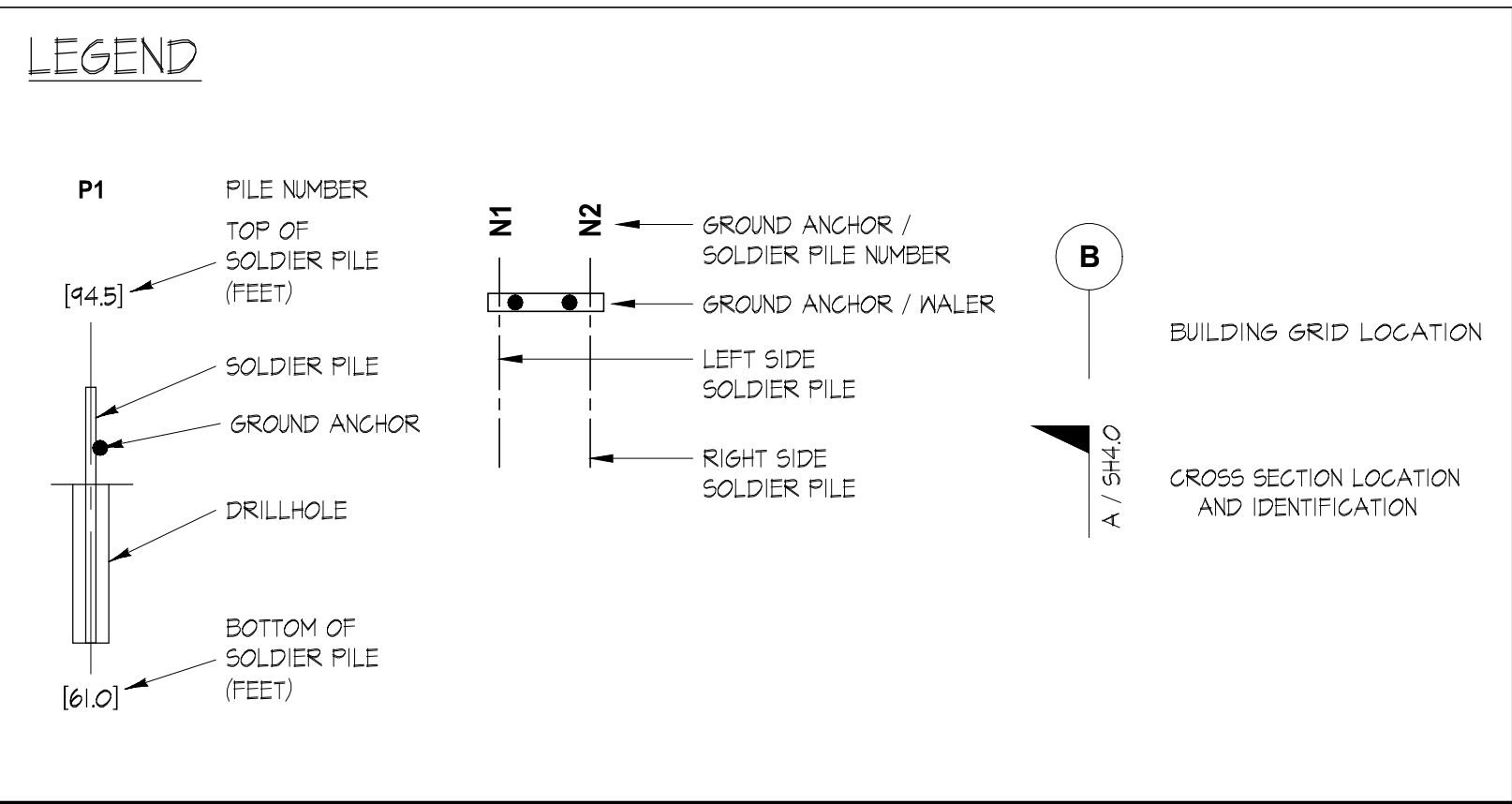
CHESHIRE SHORT PLAT		DATE		DESCRIPTION	
7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040		11/26/2023		PERMIT ISSUE	
TEMPORARY SHORING WALL		1/11/2024		MERCER ISLAND CITY REVIEW COMMENTS	
SOUTH WALL ELEVATION					

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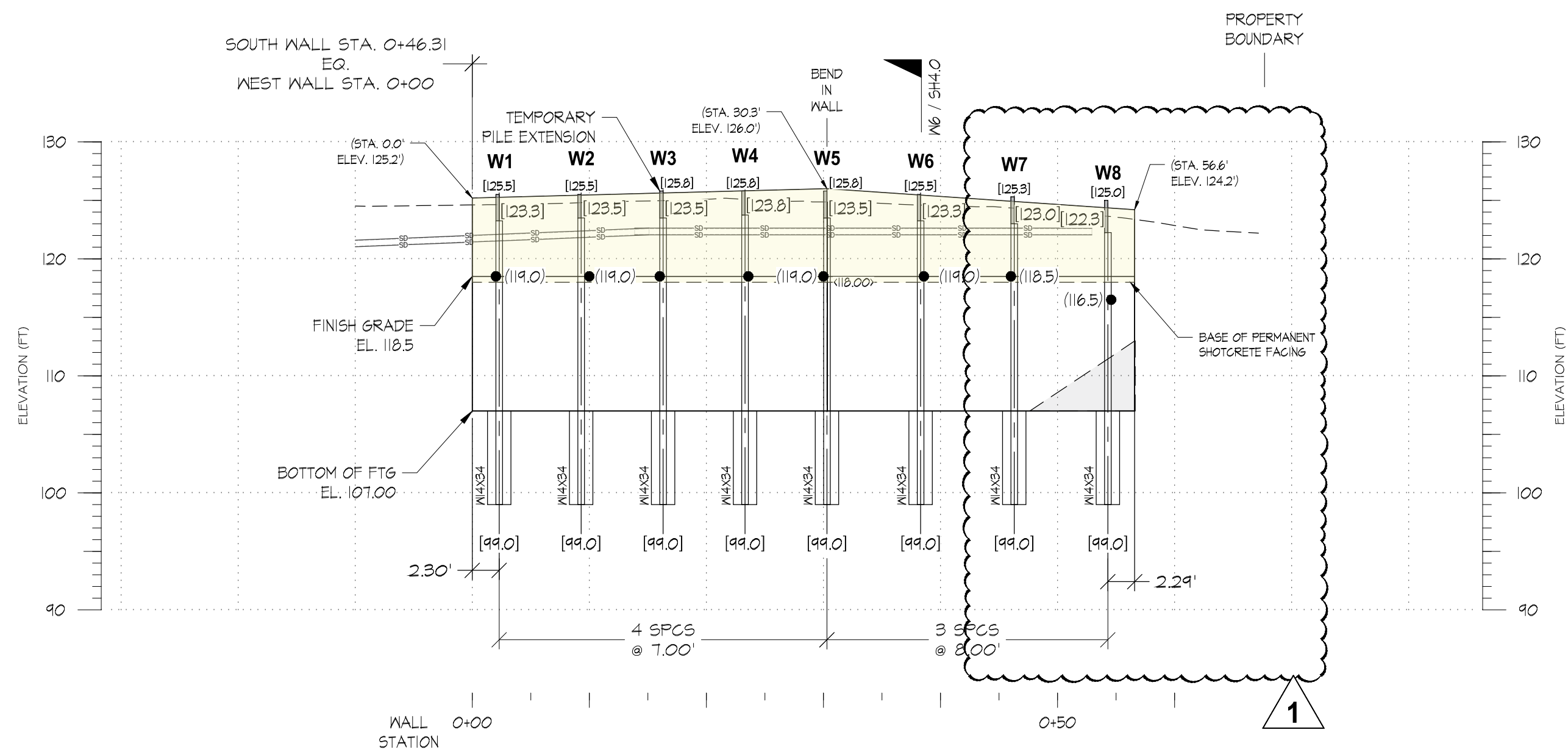
PROJ. NO. 23-30
 SHEET NUMBER

SH3.0

F:\GROUND SUPPORT PLLC\2023\23-30 CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-BEREK CHESHIRE\SHORING\PERMITTING\IR12330SH03R0.DWG <SH3.1> Plotted: 1/11/2024 4:10 PM

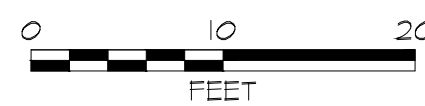
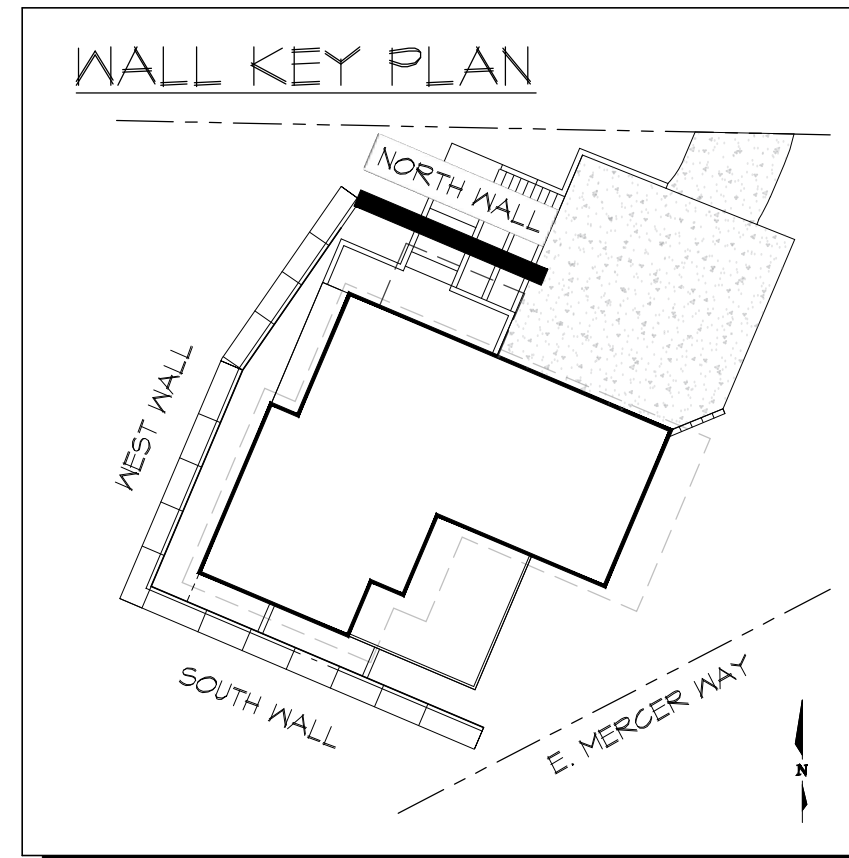
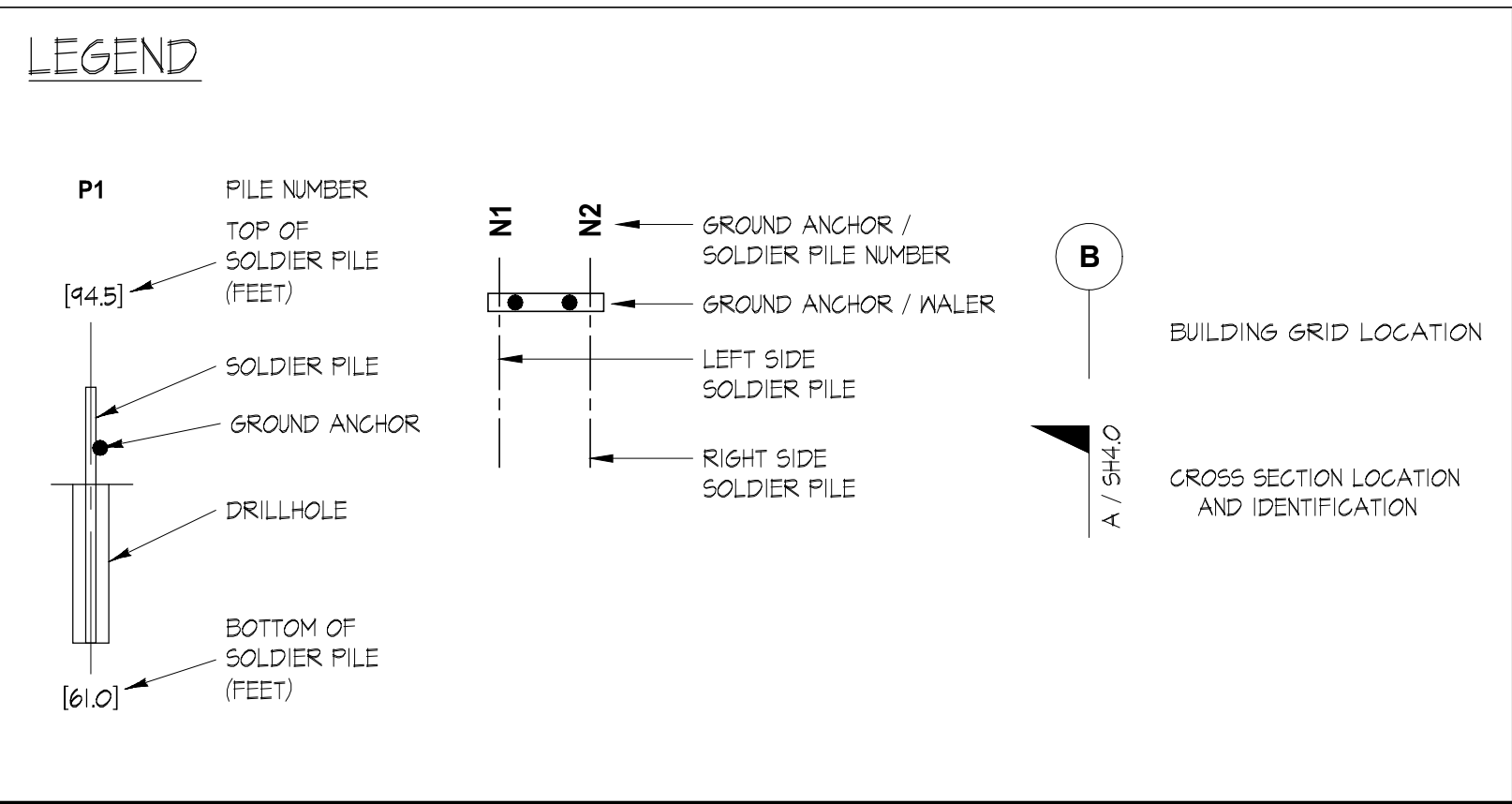


NOTE: INFORMATION SUPPLIED TO GROUND SUPPORT PLLC AT TIME OF SHORING DESIGN INSUFFICIENT TO CHECK FOR ALL POTENTIAL CONFLICTS BETWEEN SHORING ELEMENTS AND UTILITIES. CONTRACTOR IS RESPONSIBLE FOR LOCATION OF ALL UTILITIES WITHIN ZONE OF SHORING ELEMENTS AND FOR CHECKING THAT NO SUCH CONFLICTS EXIST.

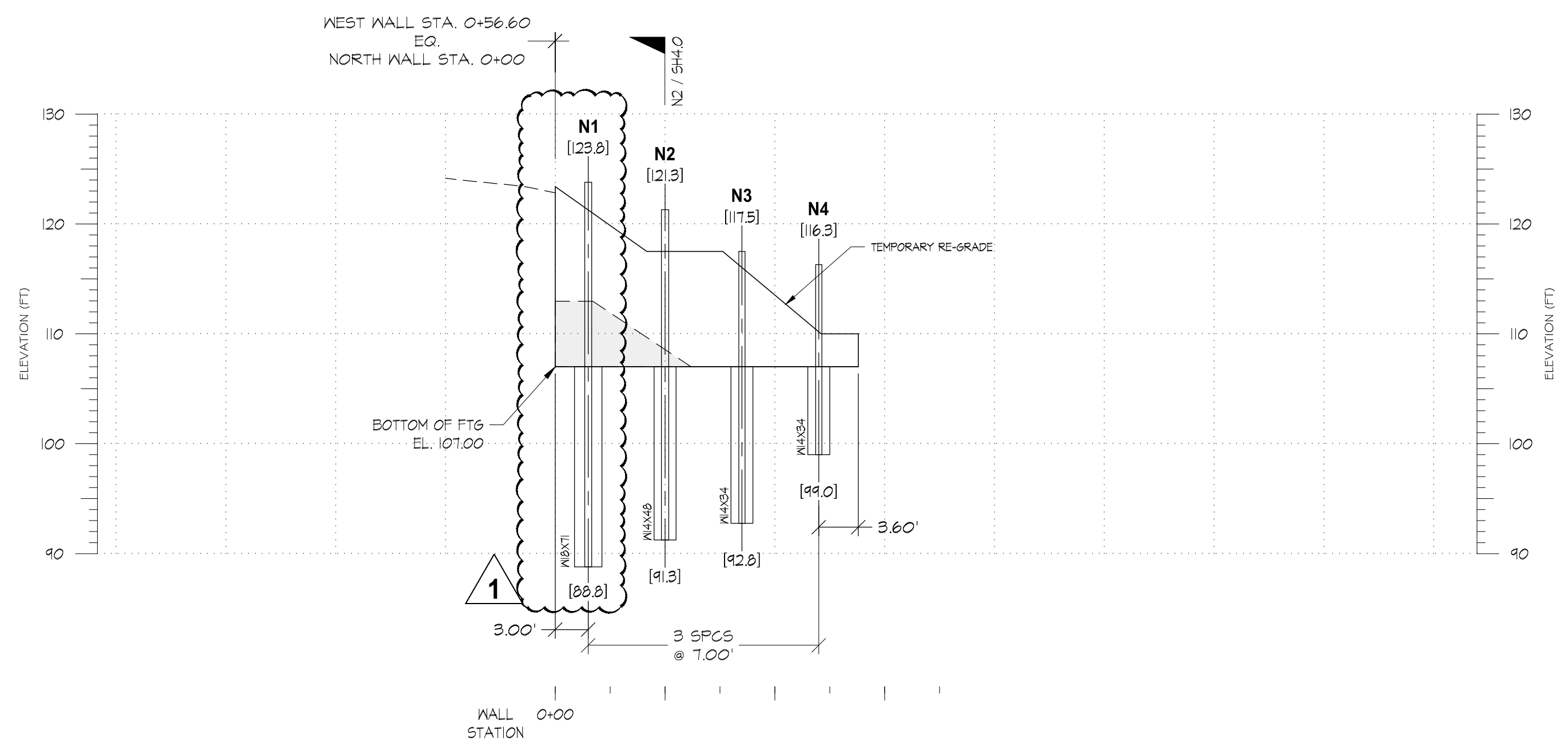


CHESHIRE SHORT PLAT 7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040		PROJ. NO. 23-30																	
TEMPORARY SHORING WALL WEST WALL ELEVATION		SHEET NUMBER																	
 Ground Support PLLC 16932 Woodinville Richmond Rd NE, #210 Woodinville, WA 98072 Ph: (425) 488-1143 Fax: (425) 605-4057																			
		<table border="1"> <thead> <tr> <th>PSN</th> <th>PRJ</th> <th>CHK</th> <th>DATE</th> <th>REV</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>RJB</td> <td>BPM</td> <td>RJB</td> <td>11/26/2023</td> <td>0</td> <td>PERMIT ISSUE</td> </tr> <tr> <td>RJB</td> <td>BPM</td> <td>RJB</td> <td>1/11/2024</td> <td>1</td> <td>MERCER ISLAND CITY REVIEW COMMENTS</td> </tr> </tbody> </table>	PSN	PRJ	CHK	DATE	REV	DESCRIPTION	RJB	BPM	RJB	11/26/2023	0	PERMIT ISSUE	RJB	BPM	RJB	1/11/2024	1
PSN	PRJ	CHK	DATE	REV	DESCRIPTION														
RJB	BPM	RJB	11/26/2023	0	PERMIT ISSUE														
RJB	BPM	RJB	1/11/2024	1	MERCER ISLAND CITY REVIEW COMMENTS														
SH3.1																			

F:\GROUND SUPPORT PLLC\2023\23-30 CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-BEREK CHESHIRE\SHORING\PERMITTING\IR12330SH03R0.DWG <SH3.2> - P1.ctb, 11/12/2024 4:10 PM



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CHESHIRE SHORT PLAT
 7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040
TEMPORARY SHORING WALL
NORTH WALL ELEVATION

PROJ. NO. 23-30
 SHEET NUMBER

SH3.2

PSN	PRN	CHK	DATE	REV	DESCRIPTION
RJB	BPY	RJB	11/26/2023	0	PERMIT ISSUE
RJB	BPY	RJB	1/11/2024	1	MERCER ISLAND CITY REVIEW COMMENTS

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F:\GROUND SUPPORT PLLC\2023\23-30 CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-BEREK CHESHIRE\SHORING\PERMITTING\IR12330SH3SCHRO.DWG - SH3.A - Plotter: 1/11/2024 5:44 PM

PILE AND ANCHOR SCHEDULE - SOUTH WALL																
PILE NUMBER	WALL STA	STEEL SECTION	PILE TOP ELEV (FT)	PILE BOT ELEV (FT)	PILE LENGTH (FT)	MIN. DRILL-HOLE DIA (FT)	ANCHOR I								PILE EXTENSION TOP ELEV. (FT)	
							ANCHOR ELEV (FT)	DECLINATION (DEG)	TOTAL LENGTH (FT)	UNBOND LENGTH (FT)	BOND LENGTH (FT)	NO. STRANDS OR BAR SIZE	DESIGN LOAD (K)	LOCK-OFF LOAD (K)		
S1	0+02.3	W4X34	109.5	99.0	10.5	2.0	-	-	-	-	-	-	-	-	-	113.0
S2	0+10.0	W4X34	111.0	96.0	15.0	2.0	-	-	-	-	-	-	-	-	-	116.5
S3	0+19.3	W4X34	114.5	92.0	22.5	2.0	-	-	-	-	-	-	-	-	-	119.5
S4	0+21.0	W4X34	117.5	90.0	19.2	2.0	115.0	25.0	30.0	15.0	15.0	2	30.0	30.0	30.0	121.0
S5	0+35.0	W4X34	119.0	94.0	20.0	2.0	116.5	25.0	30.0	15.0	15.0	2	30.0	30.0	30.0	124.0
S6	0+43.0	W4X34	122.0	94.0	23.0	2.0	118.0	25.0	30.0	15.0	15.0	2	30.0	30.0	30.0	125.3

NOTE: EXTENSION IS A WTTXIT SECURED TO PILE TOP AS INDICATED ON PLANS.

PILE AND ANCHOR SCHEDULE - WEST WALL																
PILE NUMBER	WALL STA	STEEL SECTION	PILE TOP ELEV (FT)	PILE BOT ELEV (FT)	PILE LENGTH (FT)	MIN. DRILL-HOLE DIA (FT)	ANCHOR I								PILE EXTENSION TOP ELEV. (FT)	
							ANCHOR ELEV (FT)	DECLINATION (DEG)	TOTAL LENGTH (FT)	UNBOND LENGTH (FT)	BOND LENGTH (FT)	NO. STRANDS OR BAR SIZE	DESIGN LOAD (K)	LOCK-OFF LOAD (K)		
W1	0+02.3	W4X34	123.3	99.0	24.3	2.0	119.0	25.0	30.0	15.0	15.0	2	30.0	30.0	30.0	123.3
W2	0+09.3	W4X34	123.5	99.0	24.5	2.0	119.0	25.0	35.0	15.0	20.0	2	40.0	40.0	40.0	123.5
W3	0+16.3	W4X34	123.5	99.0	24.5	2.0	119.0	25.0	35.0	15.0	20.0	2	40.0	40.0	40.0	123.5
W4	0+23.3	W4X34	123.0	99.0	24.0	2.0	119.0	25.0	35.0	15.0	20.0	2	40.0	40.0	40.0	123.0
W5	0+30.3	W4X34	123.5	99.0	24.5	2.0	119.0	25.0	35.0	15.0	20.0	2	40.0	40.0	40.0	123.5
W6	0+30.3	W4X34	123.3	99.0	24.3	2.0	119.0	25.0	35.0	15.0	20.0	2	40.0	40.0	40.0	123.3
W7	0+46.3	W4X34	123.0	99.0	24.0	2.0	118.5	25.0	34.0	14.5	19.5	2	40.0	40.0	40.0	123.0
W8	0+54.3	W4X34	122.3	99.0	23.3	2.0	116.5	40.0	25.5	0.5	17.0	No. 9	44.0	44.0	44.0	122.3

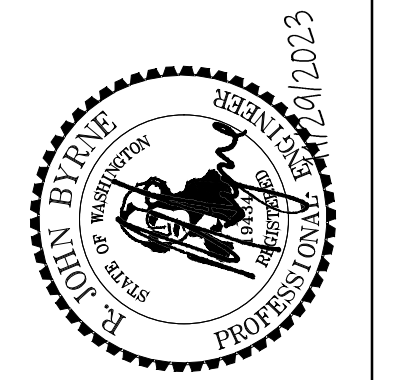
NOTE: EXTENSION IS A WTTXIT SECURED TO PILE TOP AS INDICATED ON PLANS.

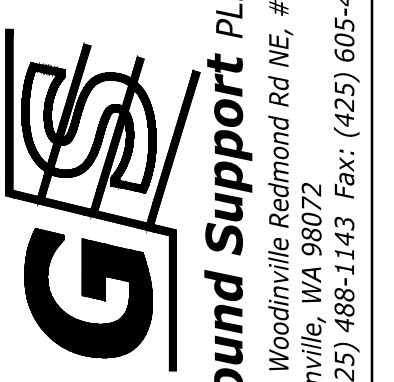
PILE AND ANCHOR SCHEDULE - NORTH WALL						
PILE NUMBER	WALL STA	STEEL SECTION	PILE TOP ELEV (FT)	PILE BOT ELEV (FT)	PILE LENGTH (FT)	MIN. DRILL-HOLE DIA (FT)
N1	0+03.0	W6X11	123.0	88.0	35.0	2.5
N2	0+10.0	W4X40	121.3	91.3	30.0	2.0
N3	0+17.0	W4X34	117.5	92.0	24.7	2.0
N4	0+24.0	W4X34	116.3	94.0	17.3	2.0

1

NOTE: EIGHT WEEKS PRIOR TO ORDERING SHORING PILE BEAMS FROM THE SCHEDULE(S), CONSULT WITH GROUND SUPPORT AND CONFIRM THAT THE CURRENT BUILDING/EXCAVATION CONFIGURATION HAS NOT CHANGED, AND THAT THE SHORING DESIGN STILL APPLIES.

	DESCRIPTION		PERMIT ISSUE		
REV	DATE	CHK	R.B.	R.B.	MERCER ISLAND CITY REVIEW COMMENTS
0	11/28/2023	R.B.	R.B.	R.B.	
1	1/11/2024	R.B.	R.B.	R.B.	
PSN	PRJ	CHK	R.B.	R.B.	
R.B.	R.B.	R.B.	R.B.	R.B.	
R.B.	R.B.	R.B.	R.B.	R.B.	





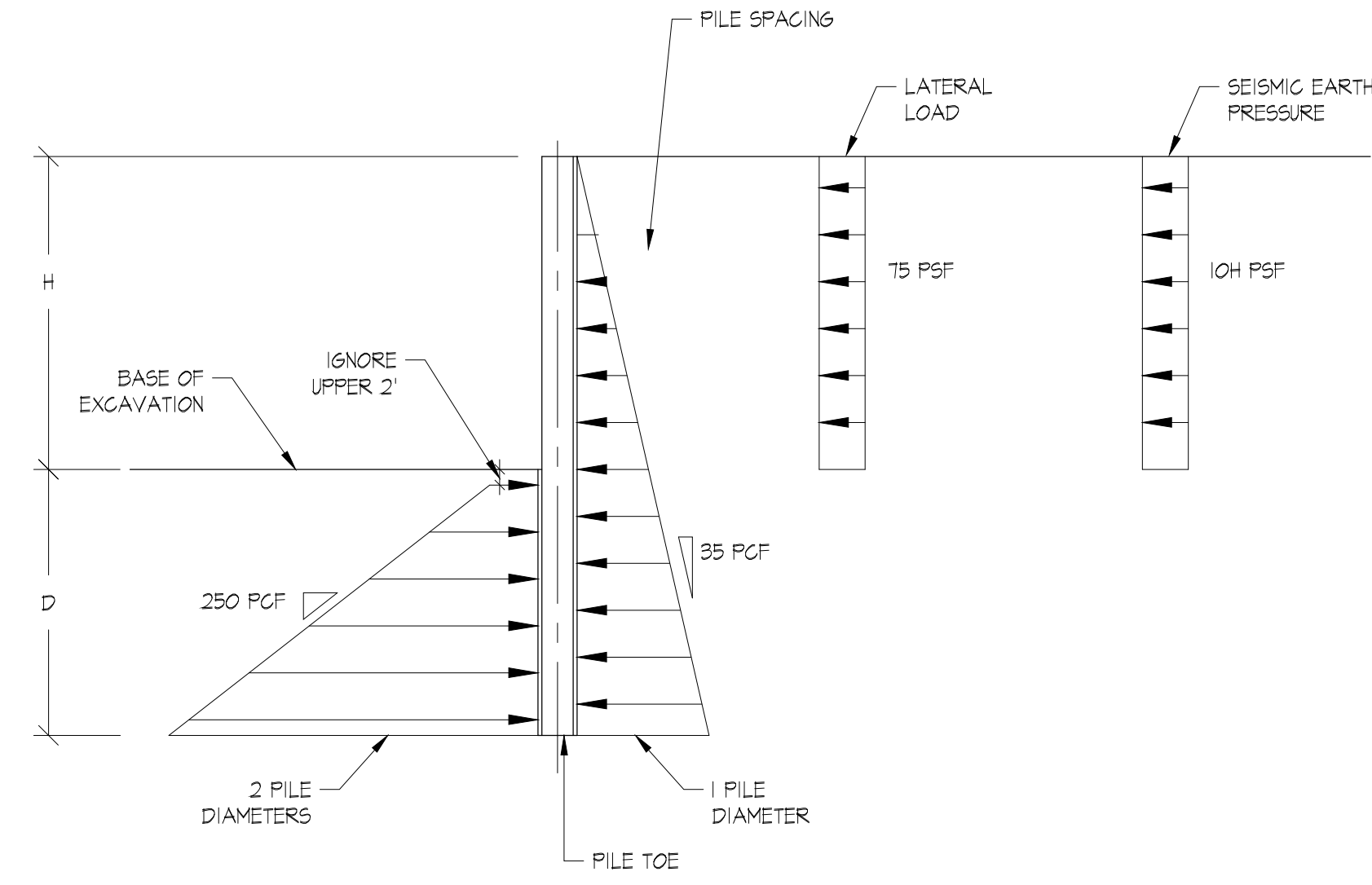
Ground Support PLLC
16932 Woodinville Redmond Rd NE, #210
Woodinville, WA 98072
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CHESHIRE SHORT PLAT
7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040

**TEMPORARY SHORING WALL
PILE AND ANCHOR SCHEDULE**

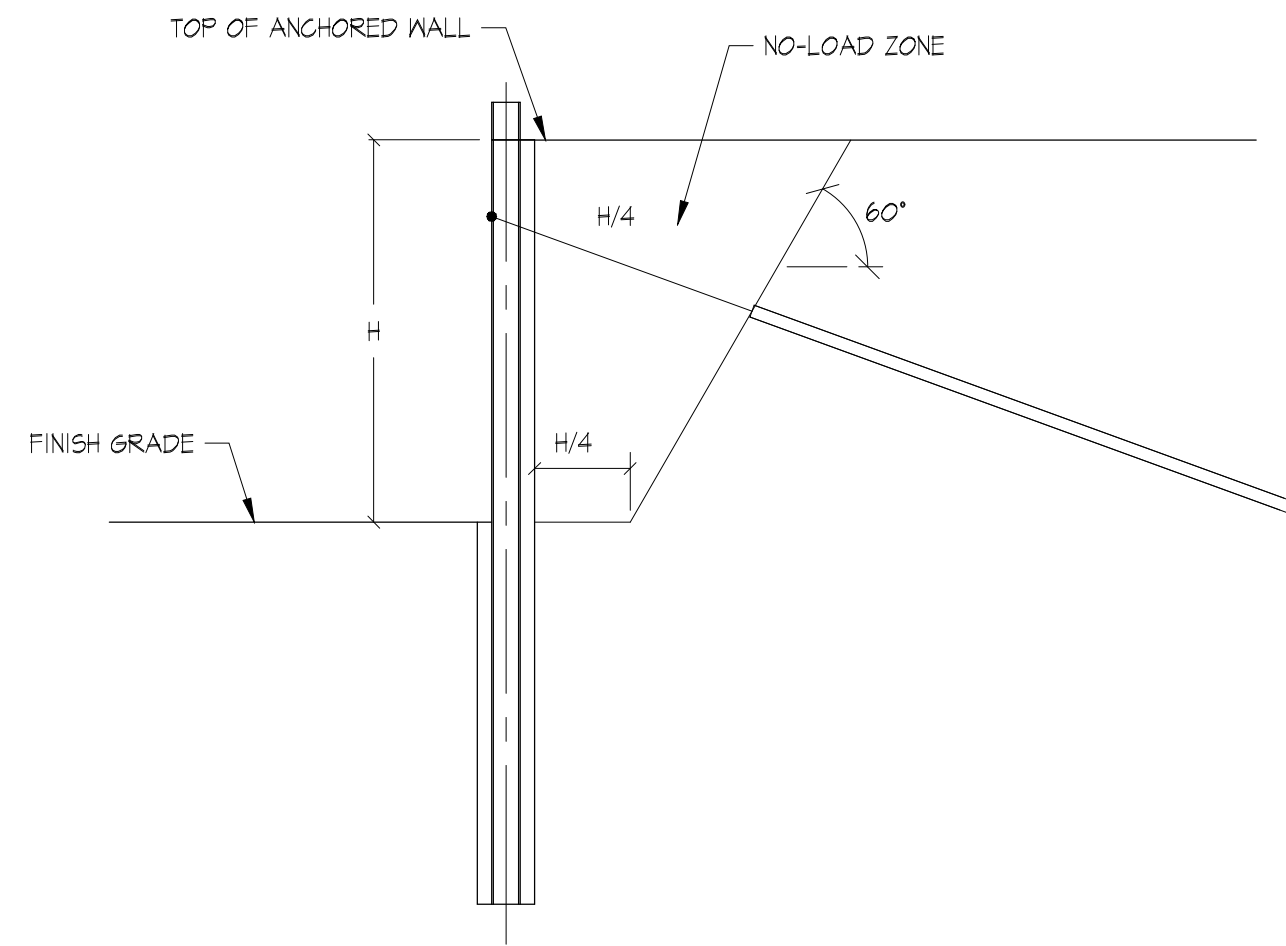
PROJ. NO.	23-30
SHEET NUMBER	
SH3.A	

FIGROUND SUPPORT PLLC 2023-03-30 CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-BEREK CHESHIRE (SHORING) (PERMITTING) R12330SH04R0.DWG <SH4.0> PLOT: 1/11/2024 4:22 PM

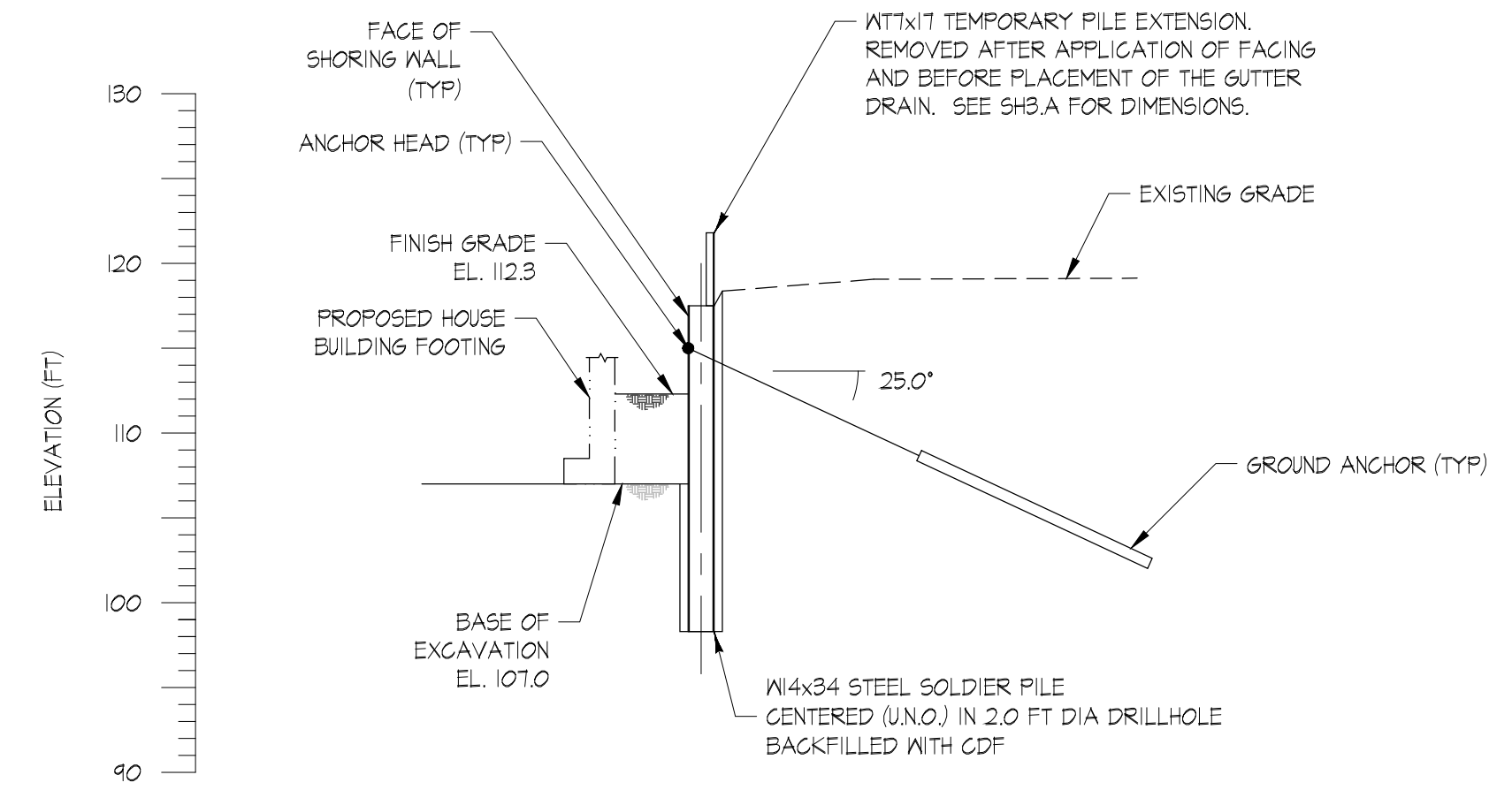


PILE TOE
ALLOWABLE END BEARING, $q_a = 15 \text{ KSF}$;
ALLOWABLE SKIN FRICTION, $f_a = 1.5 \text{ KSF}$

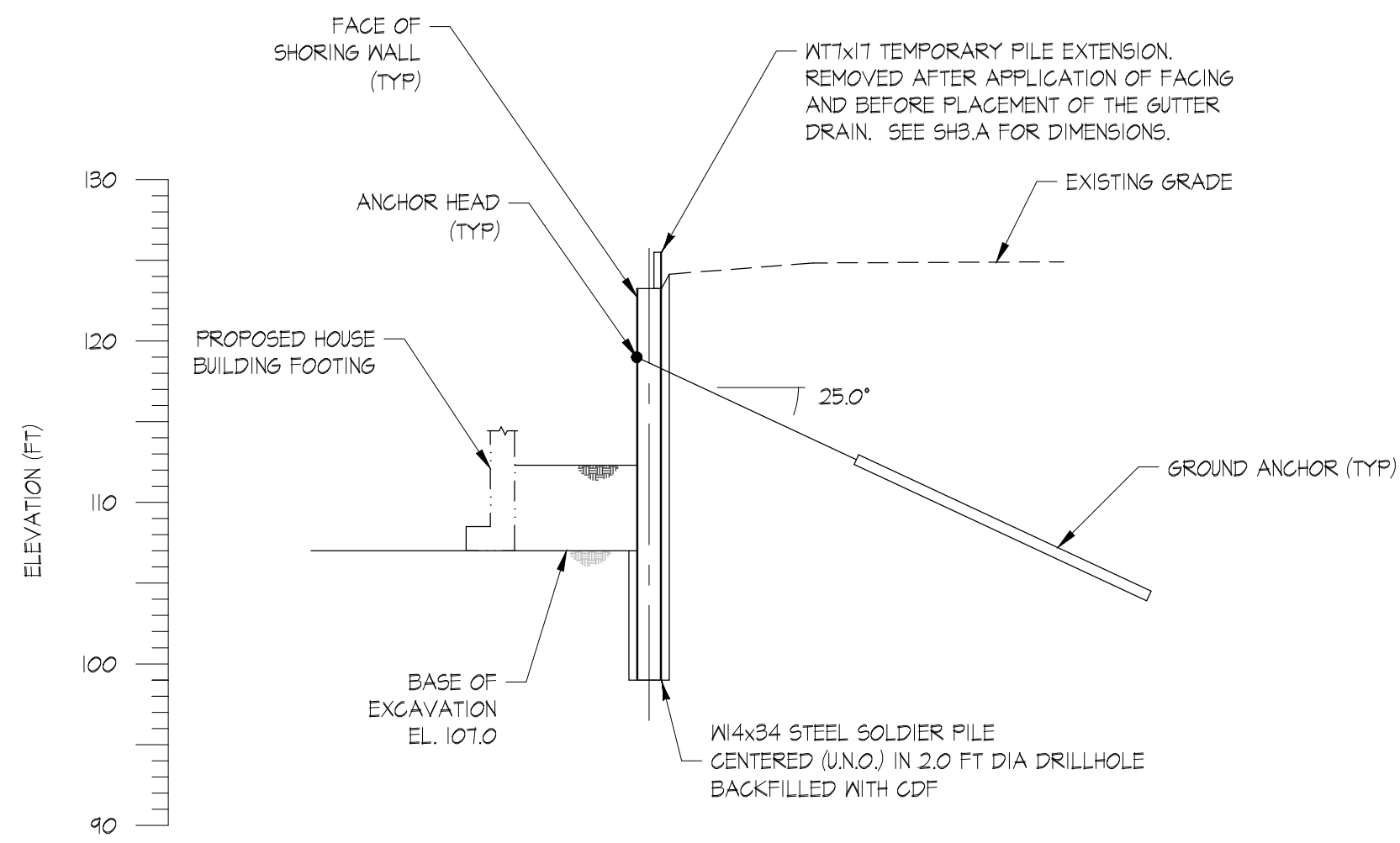
1
SH4.0
WALL PRESSURE DIAGRAM
VERTICAL ELEMENTS
NOT TO SCALE



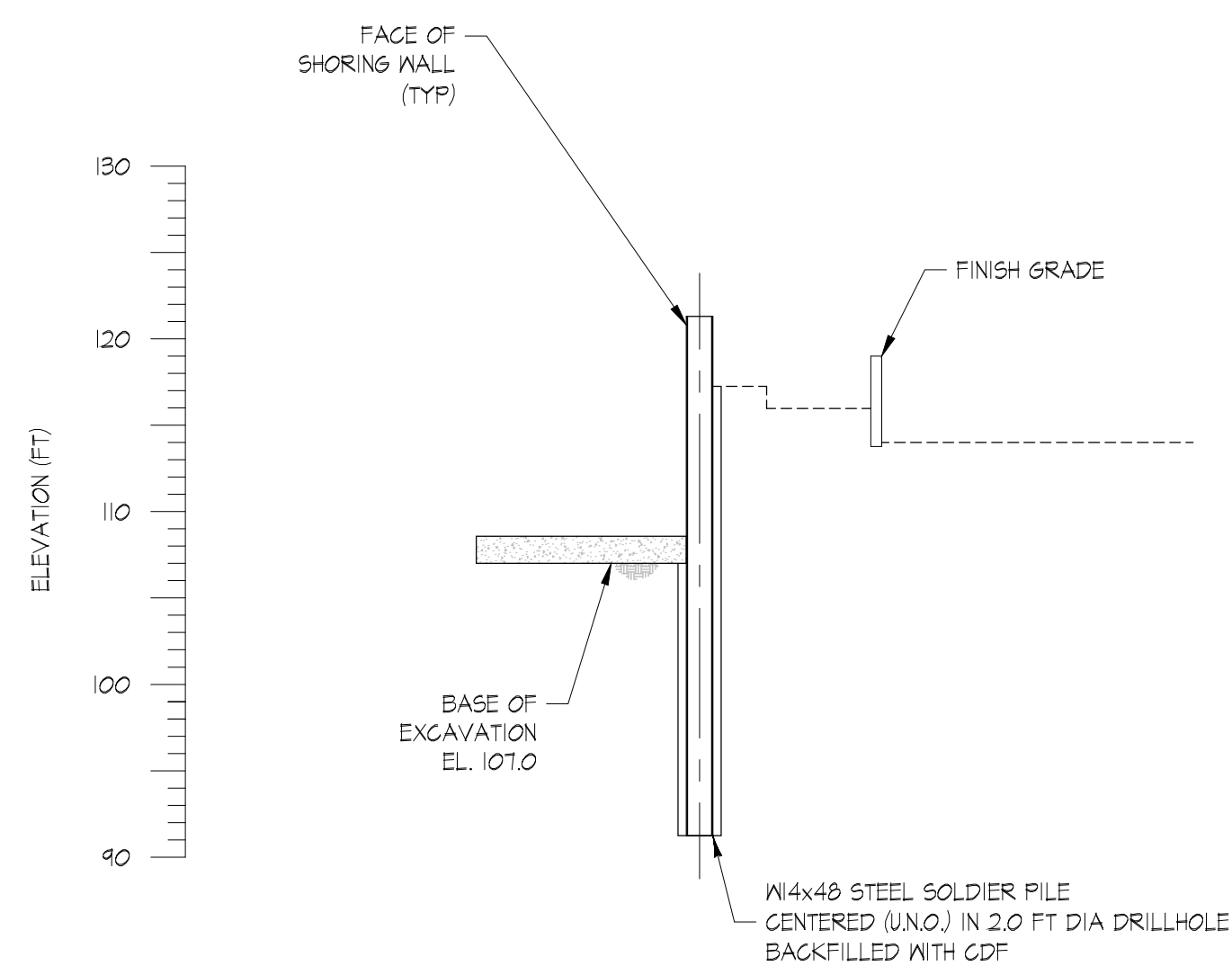
2
SH4.0
NO-LOAD ZONE
NOT TO SCALE



S4
SH4.0
SOUTH WALL
CROSS-SECTION AT PILE S4
0 10
FEET

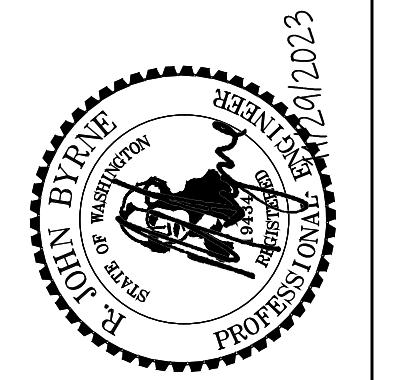


W6
SH4.0
WEST WALL
CROSS-SECTION AT PILE W6
0 10
FEET



N2
SH4.0
NORTH WALL
CROSS-SECTION AT PILE N2
0 10
FEET

REV	DATE	DESCRIPTION
0	11/28/2023	PERMIT ISSUE
1	1/11/2024	MERCER ISLAND CITY REVIEW COMMENTS



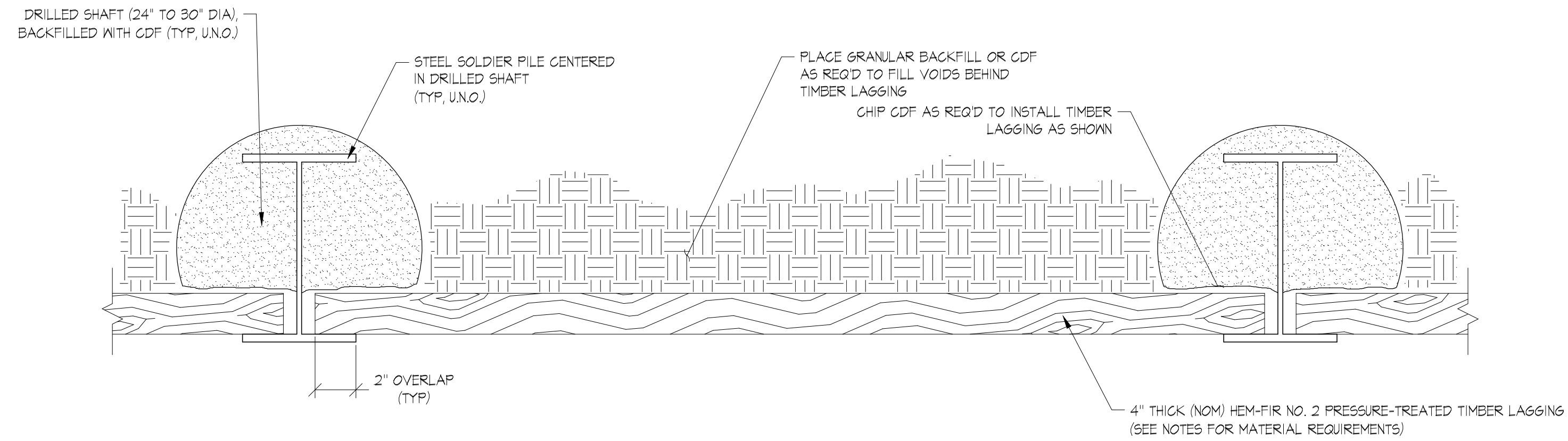
Ground Support PLLC
16932 Woodinville-Redmond Rd NE, #210
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Ph: (425) 488-1143 Fax: (425) 605-4057

CHESHIRE SHORT PLAT
7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040
**TEMPORARY SHORING WALL
CROSS-SECTIONS**

PROJ. NO. 23-30
SHEET NUMBER

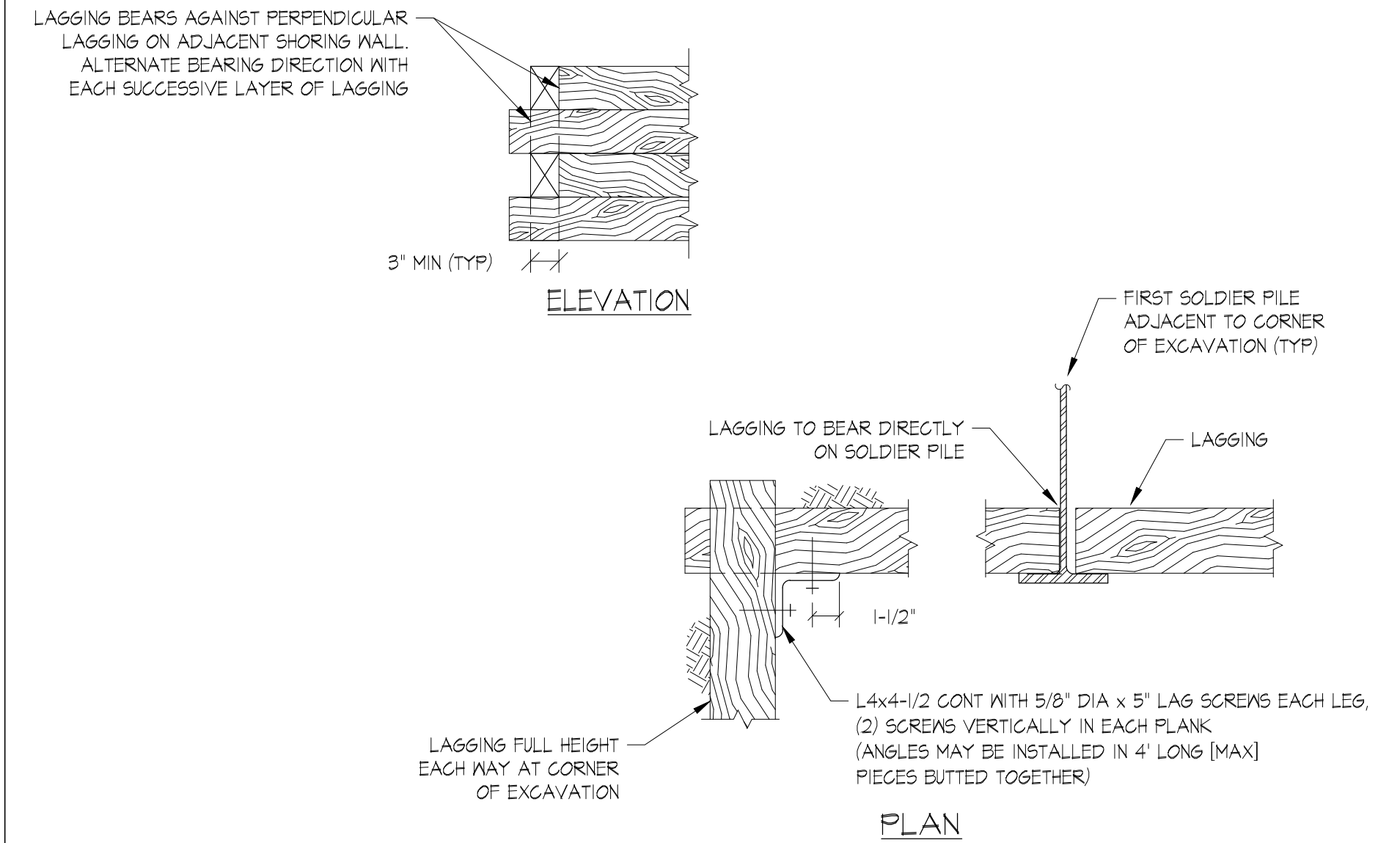
SH4.0

FIGROUND SUPPORT PLLC(2023)23-30 (CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-BEREK CHESHIRE)(SHORING)(PERMITTING)R11233SH08R01.DWG - SH5.0 - P1.ctb: 1/11/2024 4:20 PM



1
SH5.0 PILE / SHAFT / LAGGING DETAIL
NOT TO SCALE

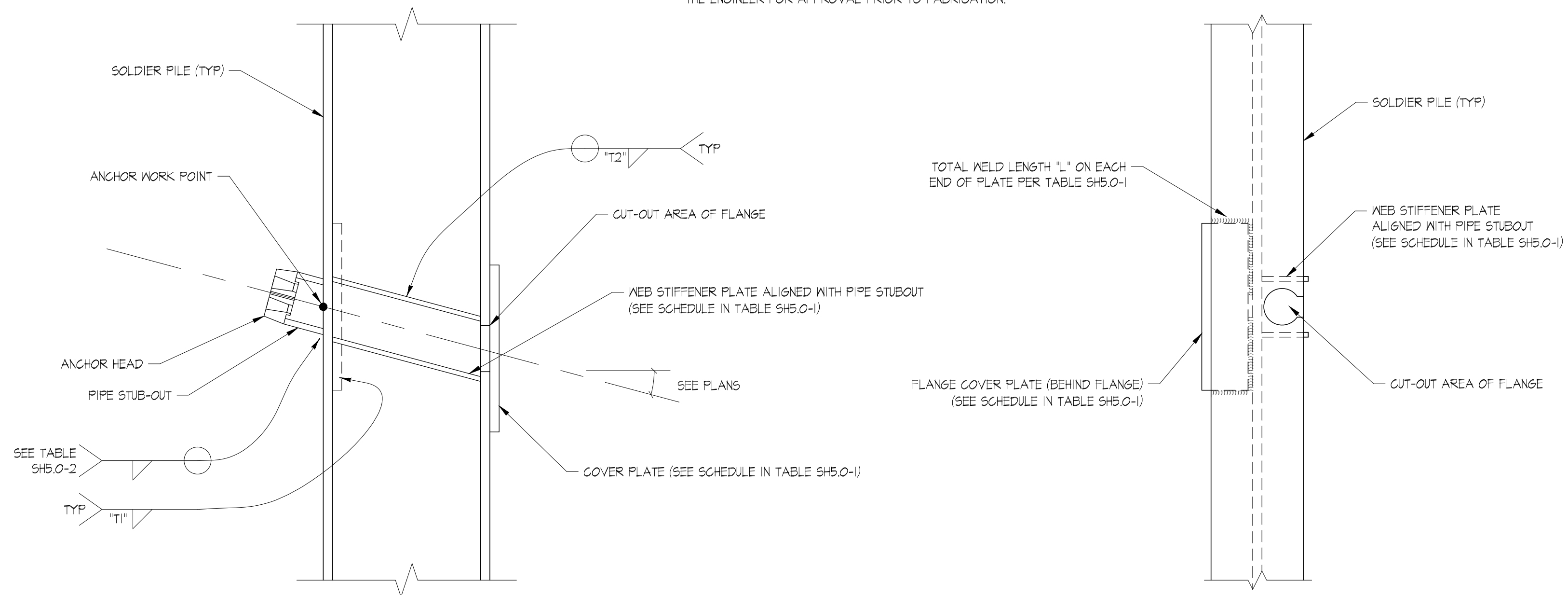
NOTE: THIS METHOD ONLY APPLIES TO INTERIOR CORNERS WITH INCLUDED ANGLE OF 90°±0°.



4
SH5.0 TYPICAL INTERIOR CORNER LAGGING SUPPORT DETAIL
NOT TO SCALE

NOTE:

CONTRACTOR SHALL SUBMIT DETAILS OF PROPOSED ANCHOR HEAD, PIPE STUB-OUT, FLANGE CUT-OUT, AND CORRESPONDING WELD CONNECTIONS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.



2
SH5.0 ANCHOR TO PILE CONNECTION DETAIL (SIDE VIEW)
NOT TO SCALE

3
SH5.0 ANCHOR TO PILE CONNECTION DETAIL (FRONT VIEW)
NOT TO SCALE

TABLE SH5.0-1
ANCHOR TO PILE CONNECTION SCHEDULE

ANCHOR LOAD (KIPS)	PILE SECTION	COVER PLATE DIMENSIONS (IN)	COVER PLATE WELD LENGTH L (IN)	COVER PLATE WELD SIZE T1 (IN)	WEB STIFFENER PLATE DIMENSIONS (IN)	WEB STIFFENER PLATE WELD SIZE T2 (IN)
40.0	W14x34	1/2 x 3 x 27	13	1/4	1/2 x 4 x 12	1/4

NOTE:

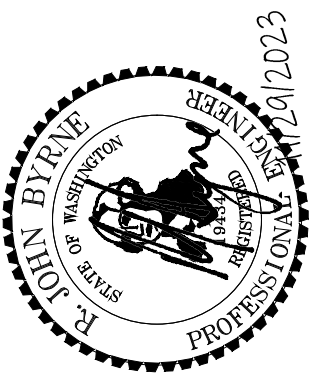
- WEB STIFFENER PLATES ARE FULL DEPTH, ARE FLUSH AT BEARING ENDS, AND WELDED FULL LENGTH AND ALONG BEARING ENDS ON ONE SIDE ONLY.
- NO COVER PLATES ON PILES N4 TO N46.

TABLE SH5.0-2
ANCHOR STUBOUT WELD SCHEDULE

ANCHOR DECLINATION (DEG)	ANCHOR LOAD (KIPS)		
	30	40	50
25	4/16	4/16	4/16

NOTES:

- WELD SIZES IN INCHES.
- WELD SIZES ASSUME MINIMUM WELD LENGTHS OF 12 INCHES.



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CHESHIRE SHORT PLAT
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TEMPORARY SHORING WALL
DETAILS

PROJ. NO. 23-30

SHEET NUMBER

SH5.0

DESCRIPTION
PERMIT ISSUE
MERCER ISLAND CITY REVIEW COMMENTS

REV. 0

DATE 11/28/2023

CHK. R.B.

DESIGNER R.B.

DATE 1/11/2024

DESIGNER R.B.

DATE 1/11/2024

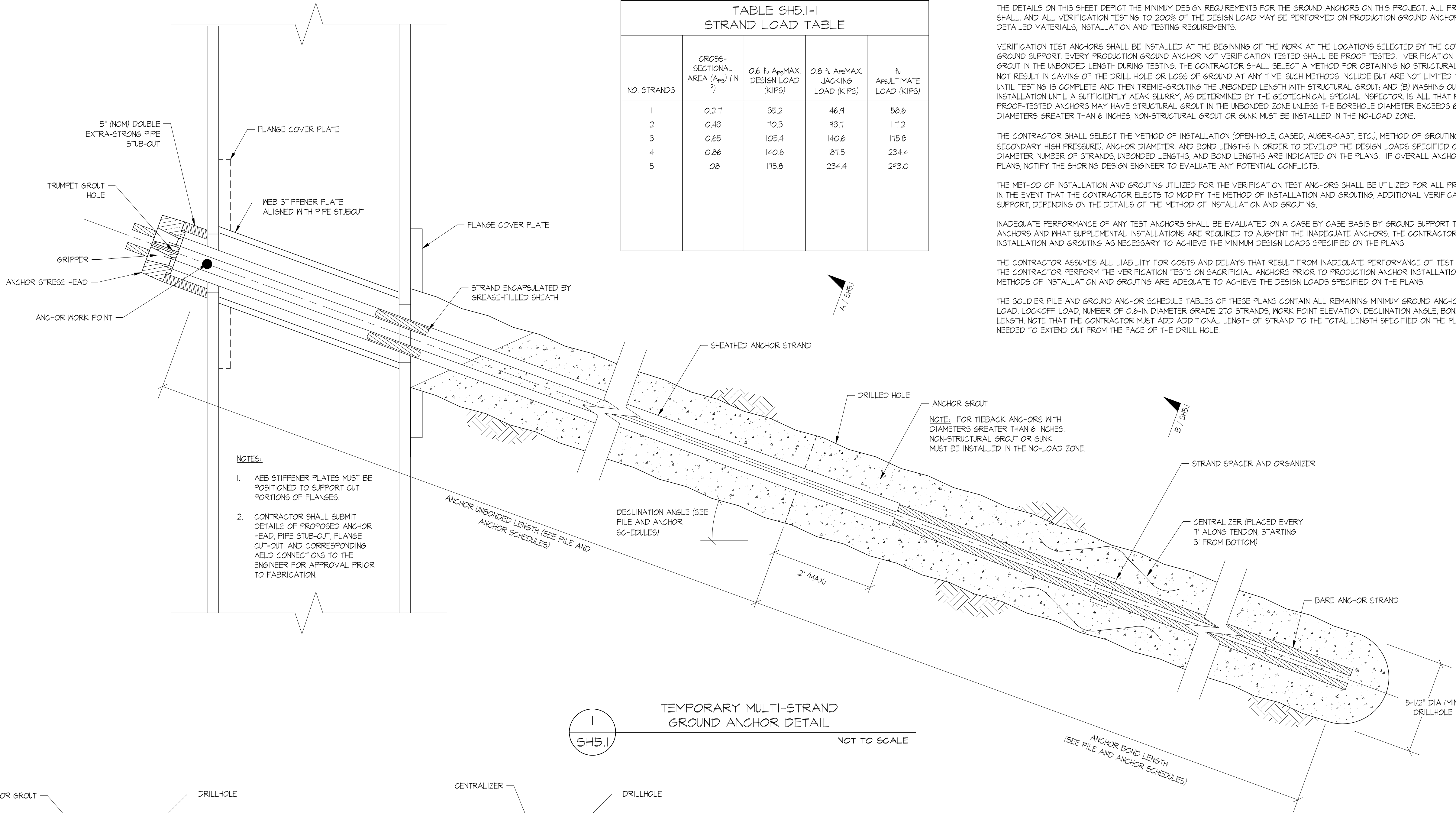
DESIGNER R.B.

DATE 1/11/2024

DESIGNER R.B.

DATE 1/11/2024

F:\GROUND SUPPORT PLLC\2023\23-30 CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-BEREK CHESHIRE\SHORING\PERMITTING\IR1233\SH5.1\DWG -SH5.1-1-Plotted: 11/12/2024 4:20 PM



NO. STRANDS	CROSS-SECTIONAL AREA (A_{ps}) (IN ²)	0.6 f_u A_{ps} MAX. DESIGN LOAD (KIPS)	0.8 f_u A_{ps} MAX. JACKING LOAD (KIPS)	f_u A_{ps} ULTIMATE LOAD (KIPS)
1	0.217	35.2	46.9	58.6
2	0.43	70.3	93.7	117.2
3	0.65	105.4	140.6	175.8
4	0.86	140.6	187.5	234.4
5	1.08	175.8	234.4	293.0

TEMPORARY STRAND GROUND ANCHOR NOTES:

THE DETAILS ON THIS SHEET DEPICT THE MINIMUM DESIGN REQUIREMENTS FOR THE GROUND ANCHORS ON THIS PROJECT. ALL PROOF TESTING TO 133% OF THE DESIGN LOAD SHALL, AND ALL VERIFICATION TESTING TO 200% OF THE DESIGN LOAD MAY BE PERFORMED ON PRODUCTION GROUND ANCHORS. SEE THE NOTES ON SHEET SH11 FOR DETAILED MATERIALS, INSTALLATION AND TESTING REQUIREMENTS.

VERIFICATION TEST ANCHORS SHALL BE INSTALLED AT THE BEGINNING OF THE WORK AT THE LOCATIONS SELECTED BY THE CONTRACTOR AND APPROVED IN WRITING BY GROUND SUPPORT. EVERY PRODUCTION GROUND ANCHOR NOT VERIFICATION TESTED SHALL BE PROOF TESTED. VERIFICATION TEST ANCHORS SHALL NOT HAVE STRUCTURAL GROUT IN THE UNBONDED LENGTH DURING TESTING. THE CONTRACTOR SHALL SELECT A METHOD FOR OBTAINING NO STRUCTURAL GROUT IN THE UNBONDED LENGTH THAT DOES NOT RESULT IN CAVING OF THE DRILL HOLE OR LOSS OF GROUT AT ANY TIME. SUCH METHODS INCLUDE BUT ARE NOT LIMITED TO: (A) LEAVING THE UNBONDED LENGTH OPEN UNTIL TESTING IS COMPLETE AND THEN TREMIE-GROUTING THE UNBONDED LENGTH WITH STRUCTURAL GROUT; AND (B) WASHING OUT THE UNBONDED LENGTH AFTER INSTALLATION UNTIL A SUFFICIENTLY PEAQ SLURRY AS DETERMINED BY THE GEOTECHNICAL SPECIAL INSPECTOR IS ALL THAT REMAINS IN THE UNBONDED LENGTH. PROOF-TESTED ANCHORS MAY HAVE STRUCTURAL GROUT IN THE UNBONDED ZONE UNLESS THE BOREHOLE DIAMETER EXCEEDS 6 INCHES. FOR TIEBACK ANCHORS WITH DIAMETERS GREATER THAN 6 INCHES, NON-STRUCTURAL GROUT OR GUNK MUST BE INSTALLED IN THE NO-LOAD ZONE.

THE CONTRACTOR SHALL SELECT THE METHOD OF INSTALLATION (OPEN-HOLE, CASED, AUGER-CAST, ETC.), METHOD OF GROUTING (TREMIE, PRIMARY LOW-PRESSURE, SECONDARY HIGH PRESSURE), ANCHOR DIAMETER, AND BOND LENGTHS IN ORDER TO DEVELOP THE DESIGN LOADS SPECIFIED ON THE PLANS. THE MINIMUM REQUIRED ANCHOR DIAMETER, NUMBER OF STRANDS, UNBONDED LENGTHS, AND BOND LENGTHS ARE INDICATED ON THE PLANS. IF OVERALL ANCHOR LENGTHS EXCEED THOSE SHOWN ON THE PLANS, NOTIFY THE SHORING DESIGN ENGINEER TO EVALUATE ANY POTENTIAL CONFLICTS.

THE METHOD OF INSTALLATION AND GROUTING UTILIZED FOR THE VERIFICATION TEST ANCHORS SHALL BE UTILIZED FOR ALL PRODUCTION ANCHORS INSTALLED THEREAFTER. IN THE EVENT THAT THE CONTRACTOR ELECTS TO MODIFY THE METHOD OF INSTALLATION AND GROUTING, ADDITIONAL VERIFICATION TESTING MAY BE REQUIRED BY GROUND SUPPORT, DEPENDING ON THE DETAILS OF THE METHOD OF INSTALLATION AND GROUTING.

INADEQUATE PERFORMANCE OF ANY TEST ANCHORS SHALL BE EVALUATED ON A CASE BY CASE BASIS BY GROUND SUPPORT TO DETERMINE THE REMAINING VALUE OF THE ANCHORS AND WHAT SUPPLEMENTAL INSTALLATIONS ARE REQUIRED TO AUGMENT THE INADEQUATE ANCHORS. THE CONTRACTOR SHALL MODIFY THE METHOD OF INSTALLATION AND GROUTING AS NECESSARY TO ACHIEVE THE MINIMUM DESIGN LOADS SPECIFIED ON THE PLANS.

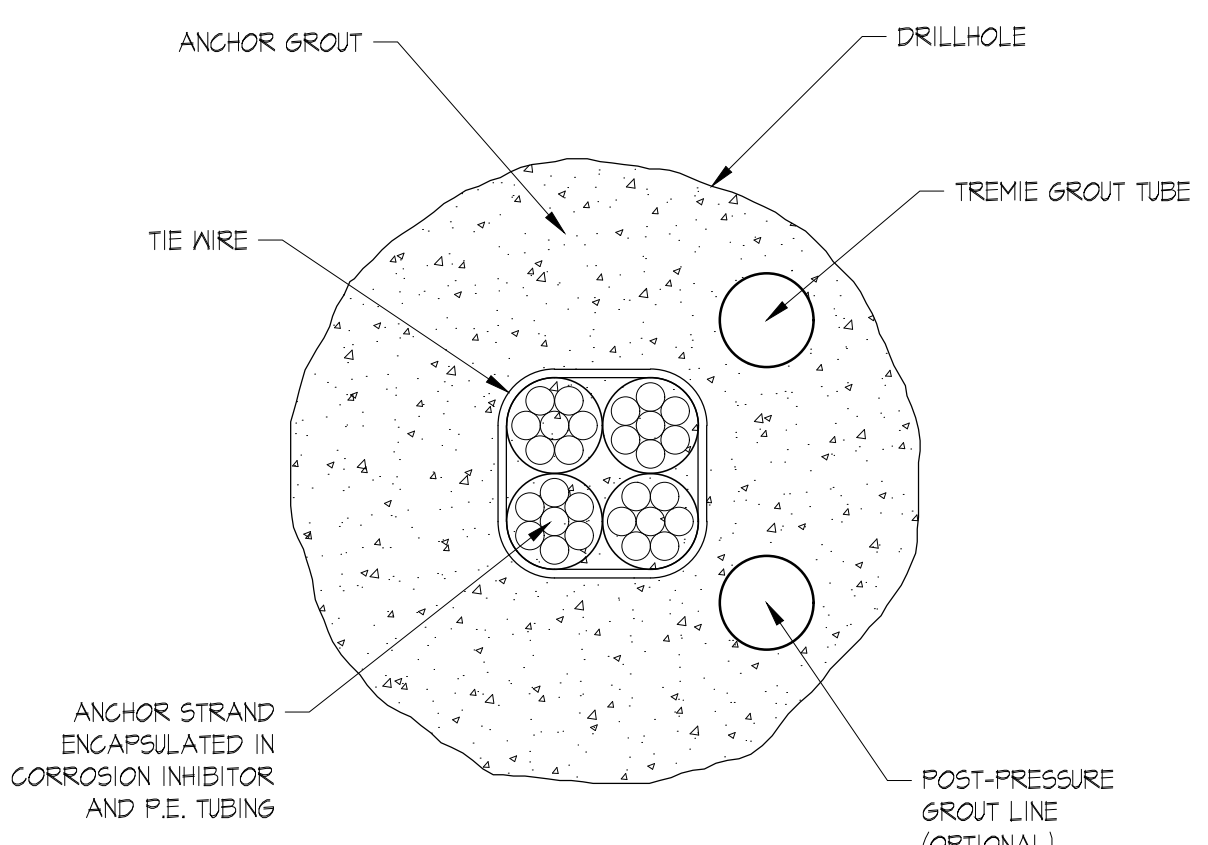
THE CONTRACTOR ASSUMES ALL LIABILITY FOR COSTS AND DELAYS THAT RESULT FROM INADEQUATE PERFORMANCE OF TEST ANCHORS. IT IS HIGHLY RECOMMENDED THAT THE CONTRACTOR PERFORM THE VERIFICATION TESTS ON SACRIFICIAL ANCHORS PRIOR TO PRODUCTION ANCHOR INSTALLATION IN ORDER TO CONFIRM THAT THE CHOSEN METHODS OF INSTALLATION AND GROUTING ARE ADEQUATE TO ACHIEVE THE DESIGN LOADS SPECIFIED ON THE PLANS.

THE SOLDIER PILE AND GROUND ANCHOR SCHEDULE TABLES OF THESE PLANS CONTAIN ALL REMAINING MINIMUM GROUND ANCHOR DESIGN PARAMETERS INCLUDING: DESIGN LOAD, LOCKOFF LOAD, NUMBER OF 0.6-IN DIAMETER GRADE 270 STRANDS, WORK POINT ELEVATION, DECLINATION ANGLE, BOND LENGTH, UNBONDED LENGTH, AND TOTAL LENGTH. NOTE THAT THE CONTRACTOR MUST ADD ADDITIONAL LENGTH OF STRAND TO THE TOTAL LENGTH SPECIFIED ON THE PLANS TO ACCOUNT FOR ANY TAILS THAT ARE NEEDED TO EXTEND OUT FROM THE FACE OF THE DRILL HOLE.

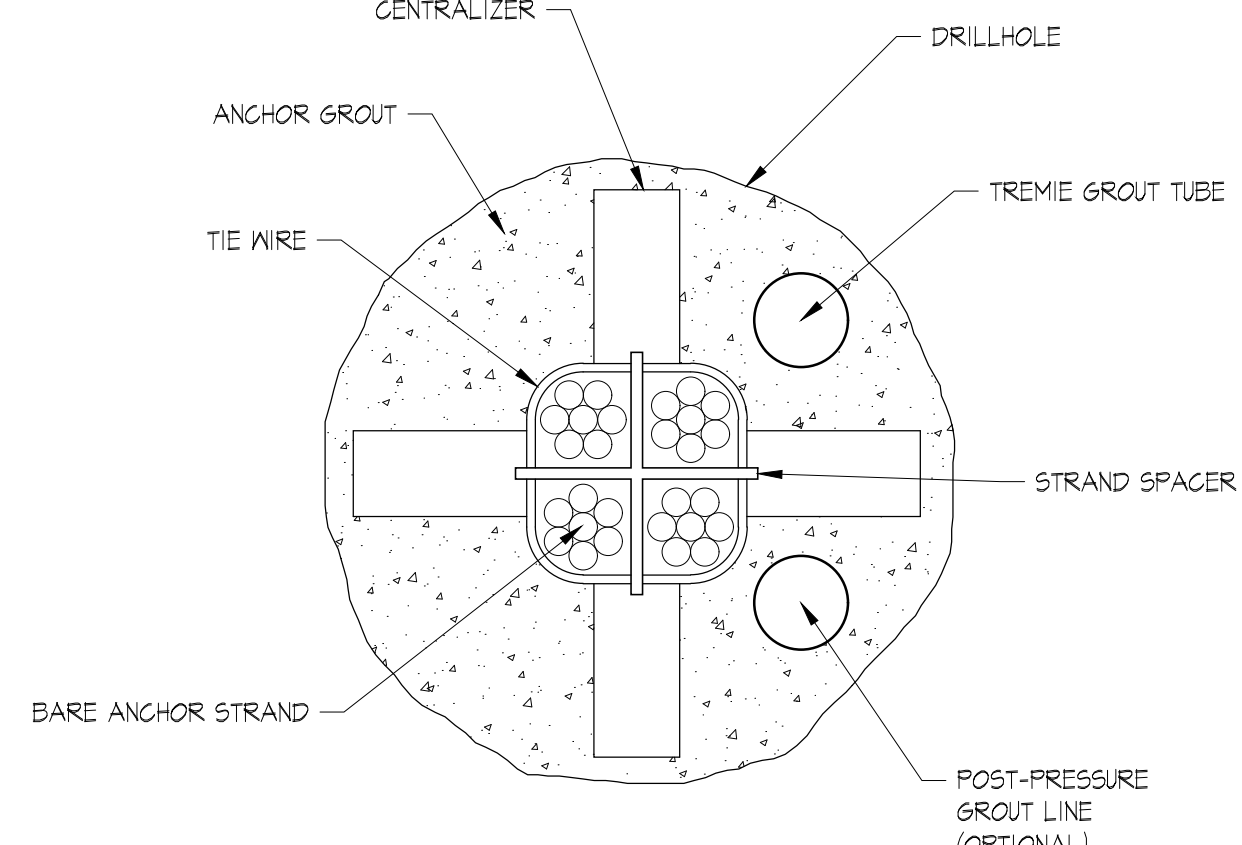
- NOTES:**
1. WEB STIFFENER PLATES MUST BE POSITIONED TO SUPPORT CUT PORTIONS OF FLANGES.
 2. CONTRACTOR SHALL SUBMIT DETAILS OF PROPOSED ANCHOR HEAD, PIPE STUB-OUT, FLANGE CUT-OUT, AND CORRESPONDING WELD CONNECTIONS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.

NOTE: FOR TIEBACK ANCHORS WITH DIAMETERS GREATER THAN 6 INCHES, NON-STRUCTURAL GROUT OR GUNK MUST BE INSTALLED IN THE NO-LOAD ZONE.

1 SH5.1
TEMPORARY MULTI-STRAND GROUND ANCHOR DETAIL
NOT TO SCALE



A SH5.1
UNBONDED ZONE TYPICAL SECTION
NOT TO SCALE



B SH5.1
BONDED ZONE TYPICAL SECTION
NOT TO SCALE

DESCRIPTION	REV	DATE
PERMIT ISSUE <td>0 <td>11/28/2023</td> </td>	0 <td>11/28/2023</td>	11/28/2023
MERCER ISLAND CITY REVIEW COMMENTS	1	1/11/2024

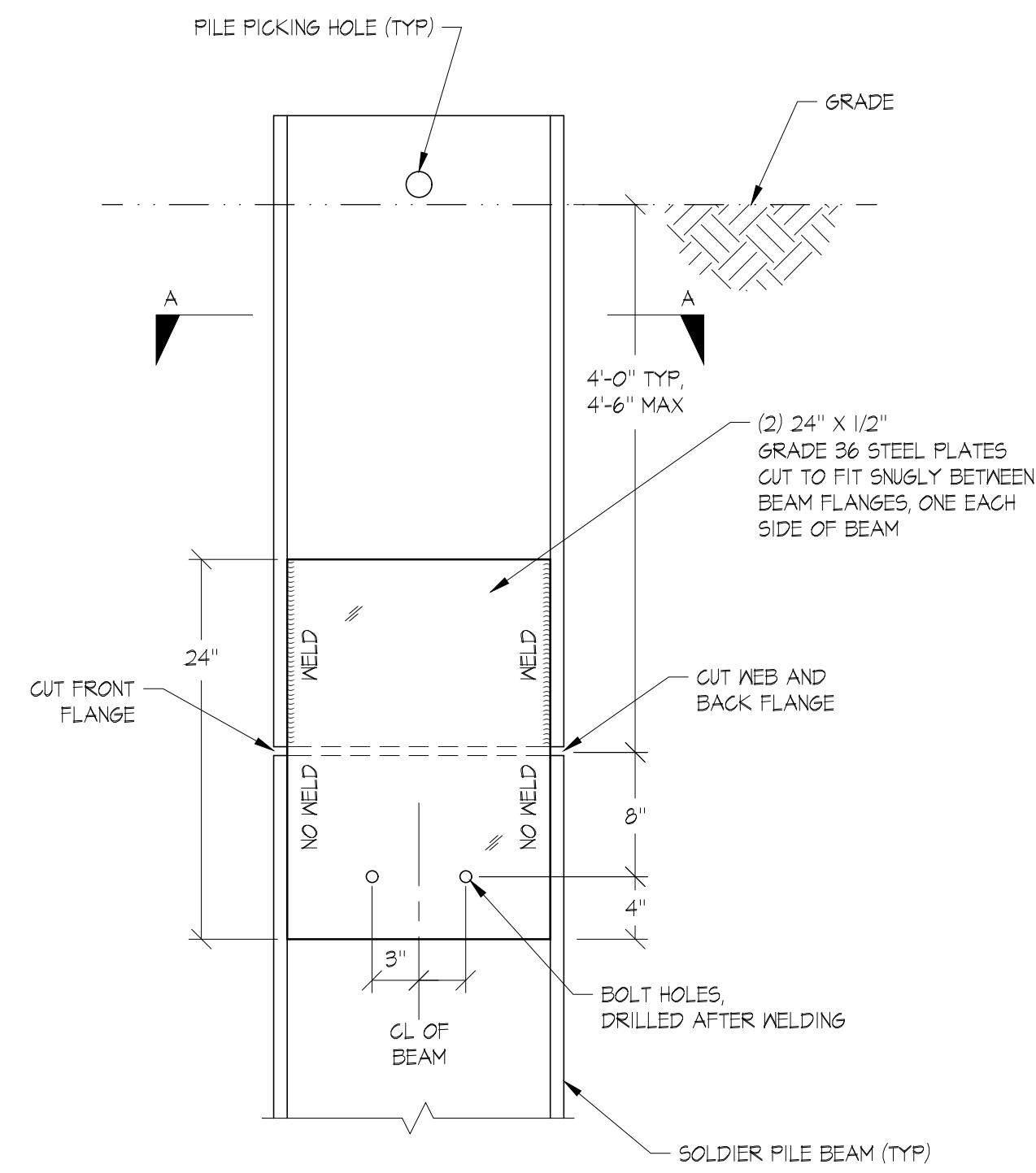
Ground Support PLLC
16932 Woodinville Redmond Rd NE, #210
Woodinville, WA 98072
Ph: (425) 488-1143 Fax: (425) 605-4057

CHESHIRE SHORT PLAT
7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040
**TEMPORARY SHORING WALL
DETAILS**

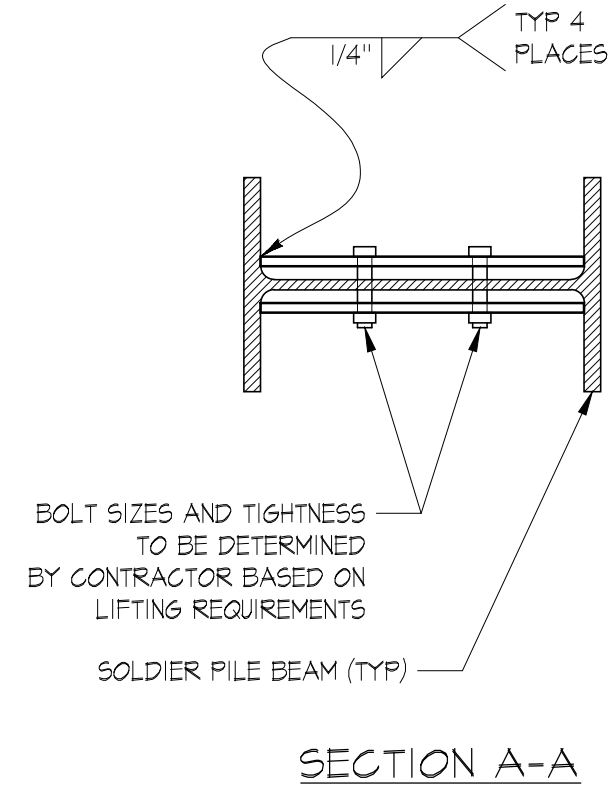
PROJ. NO. 23-30
SHEET NUMBER

SH5.1

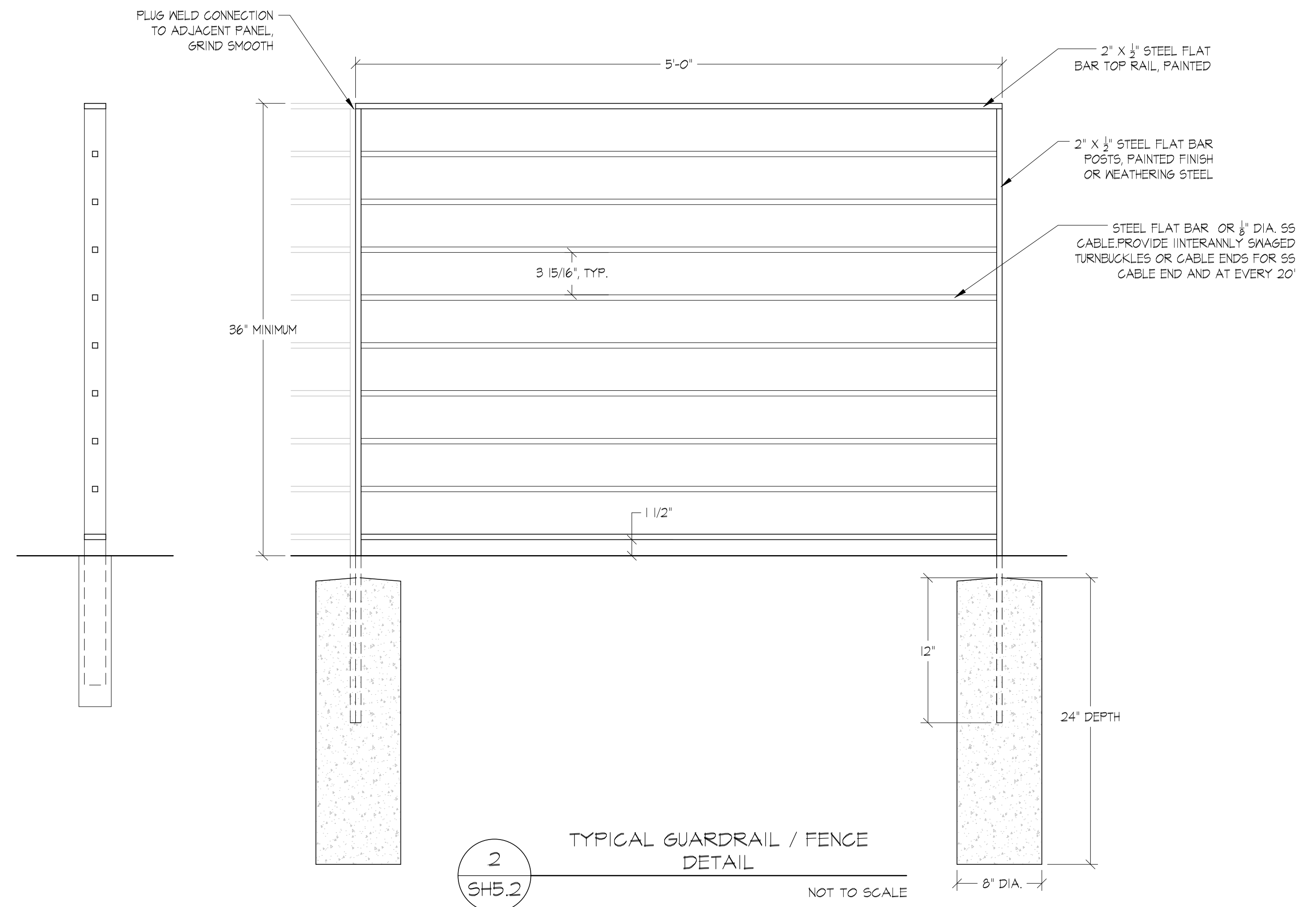
FIGROUND SUPPORT PLLC\2023\23-30 (CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-BEREK CHESHIRE)\SHORING\PERMITTING\IR1233\SH5.2\DWG - SH5.2 - P1.dwg, 1/11/2024 4:19 PM



NOTES:
DO NOT USE THIS DETAIL WHEN:
1. DETAIL CONFLICTS WITH SHALLOW ANCHORS,
2. AXIAL LOADS ARE APPLIED TO TOPS OF PILES.



1
SH5.2
TYPICAL REMOVABLE PILE
TOP CONNECTION DETAIL
NOT TO SCALE



2
SH5.2
TYPICAL GUARDRAIL / FENCE
DETAIL
NOT TO SCALE

PSN	PRJ	CHK	DATE	REV	DESCRIPTION
R.B.	BPM	R.B.	11/28/2023	0	PERMIT ISSUE
R.B.	BPM	R.B.	1/11/2024	1	MERCER ISLAND CITY REVIEW COMMENTS

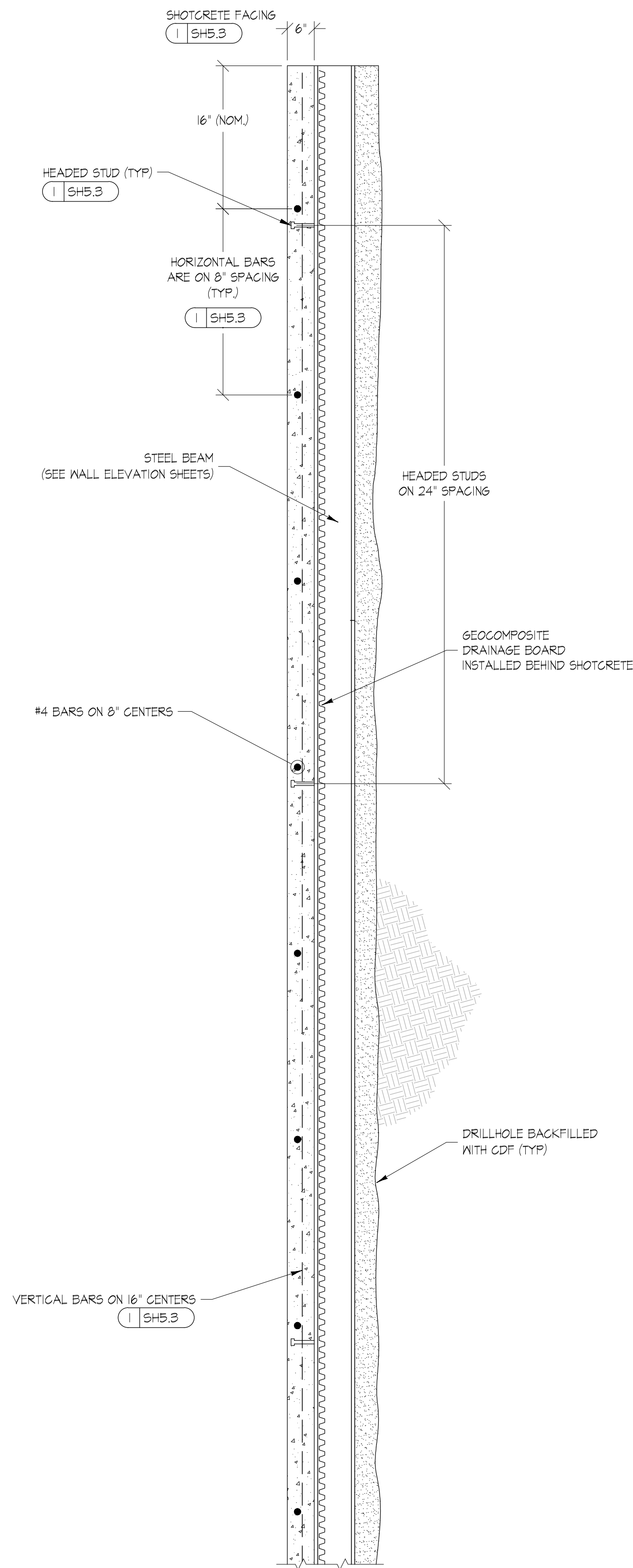
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CHESHIRE SHORT PLAT
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**TEMPORARY SHORING WALL
DETAILS**

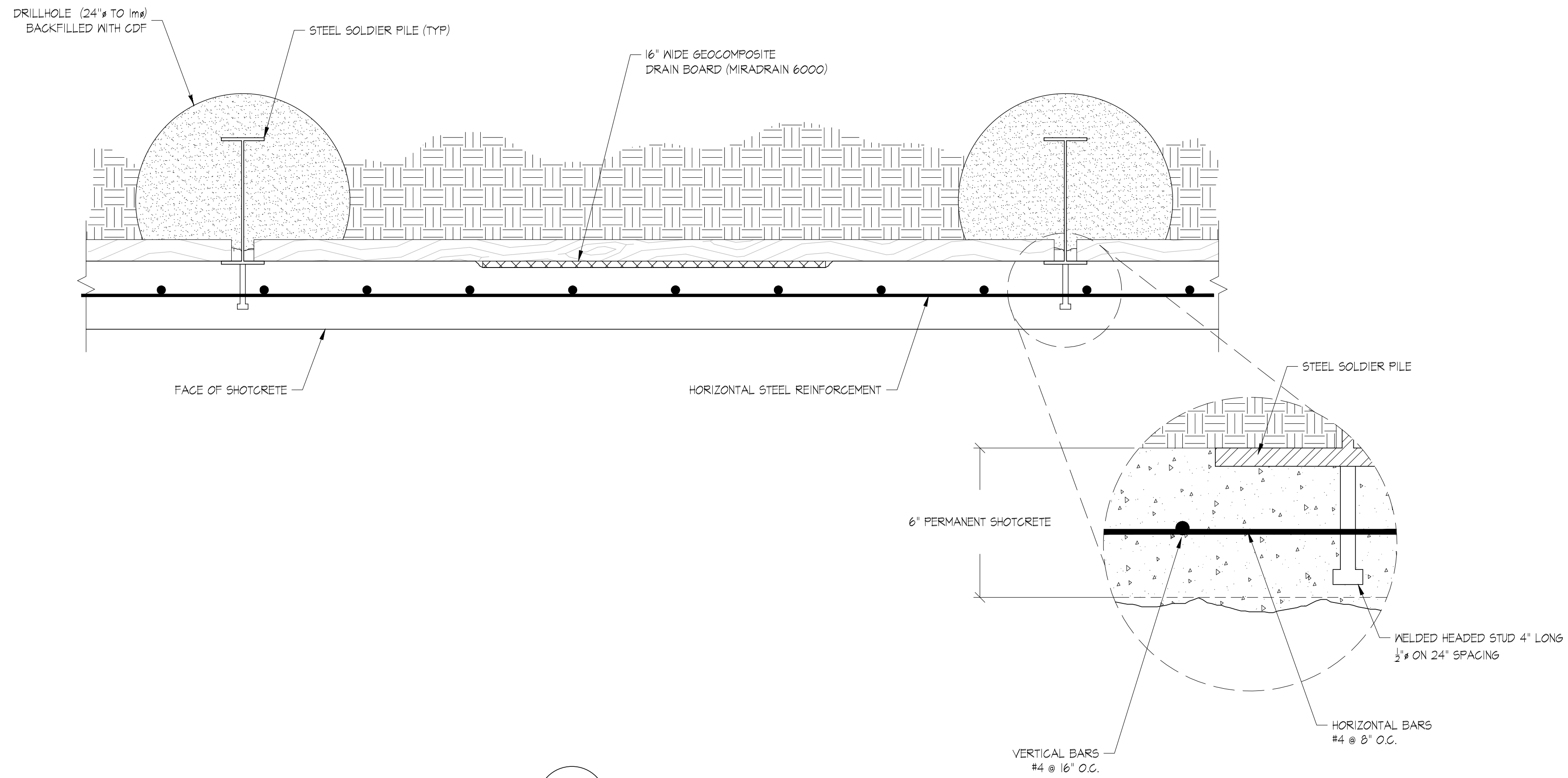
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SHEET NUMBER

SH5.2

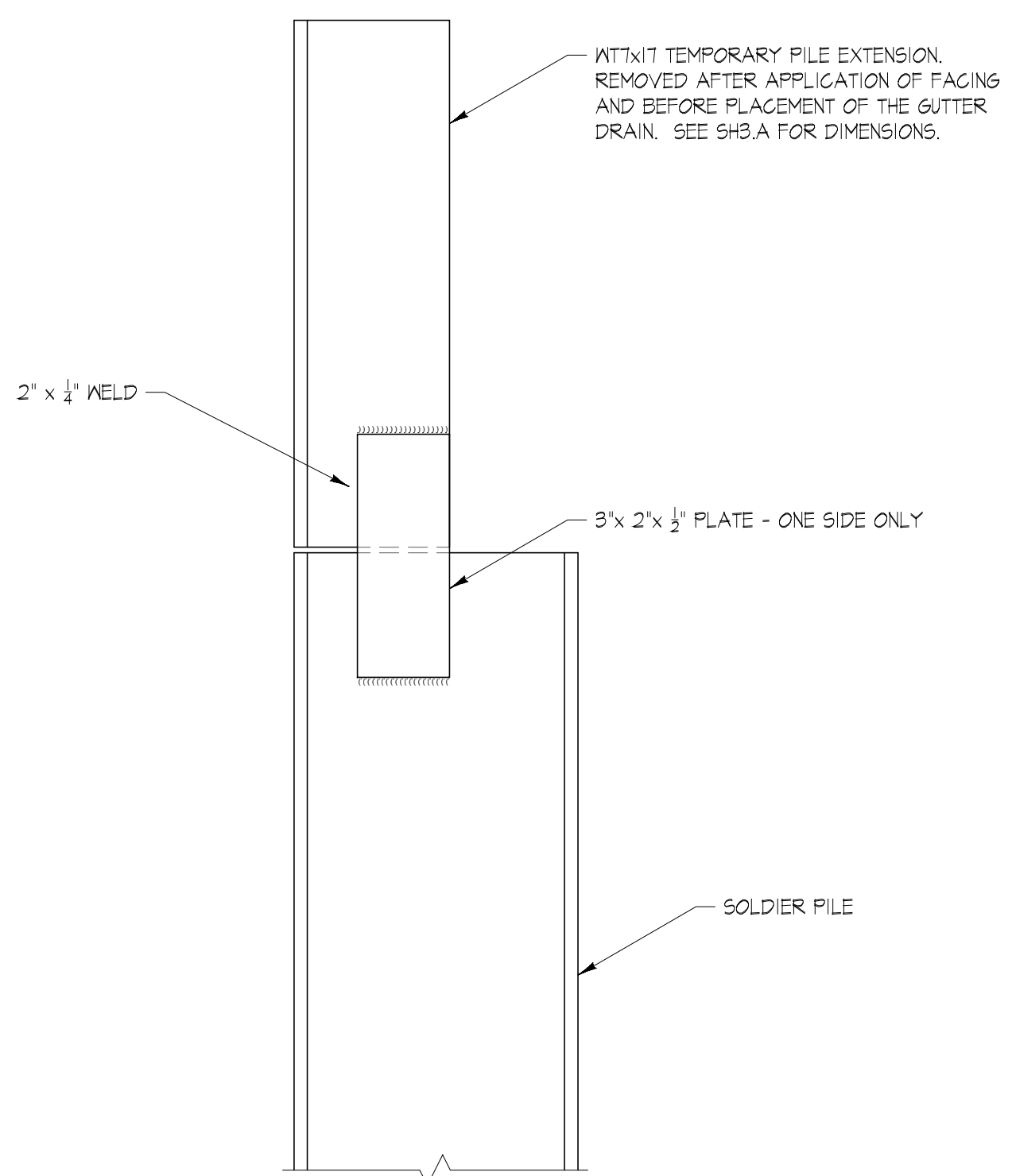
FIGROUND SUPPORT PLLC(2023)23-30 (CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-BEREK CHESHIRE)(SHORING)(PERMITTING)(R12330SH05R0)DWG - SH5.3 - PLOTED: 11/12/2024 4:19 PM



2
SH5.3 **SOLDIER PILE AND FACING DETAIL**
NOT TO SCALE



1
SH5.3 **PERMANENT FACING DETAILS**
NOT TO SCALE



3
SH5.3 **TEMPORARY PILE EXTENSION DETAIL**
NOT TO SCALE

REV	DATE	DESCRIPTION
0	11/28/2023	PERMIT ISSUE
1	11/1/2024	MERCER ISLAND CITY REVIEW COMMENTS

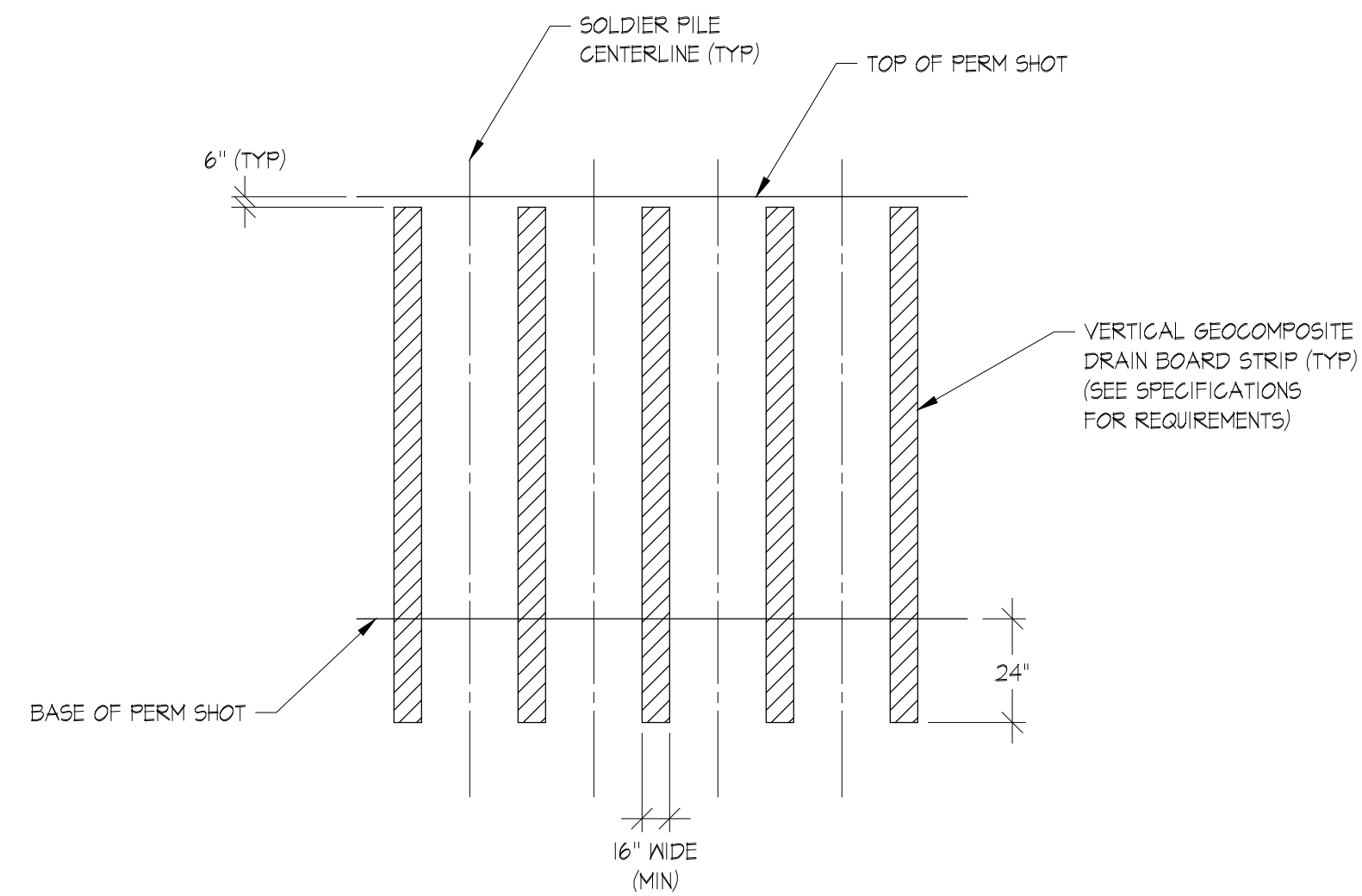
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CHESHIRE SHORT PLAT
 7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040
**TEMPORARY SHORING WALL
 DETAILS**

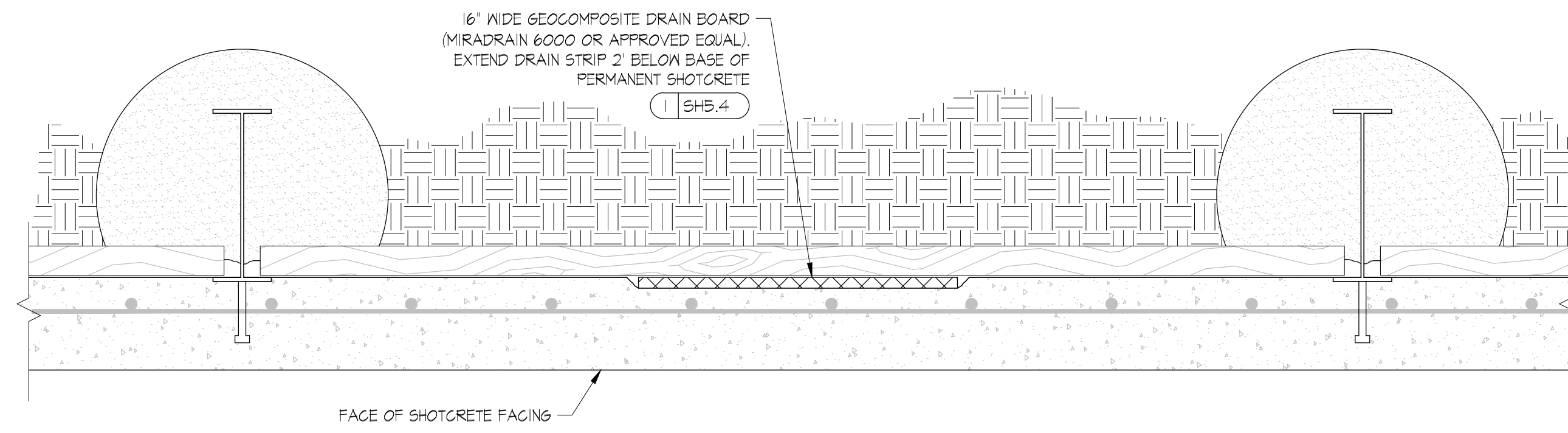
PROJ. NO. 23-30
 SHEET NUMBER

SH5.3

FIGROUND SUPPORT PLLC\2023\23-30 (CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-DEREK CHESHIRE)\SHORING\PERMITTING\IR1233\SH5.4.DWG -SH5.4- P1.ctb, 1/11/2024 4:19 PM

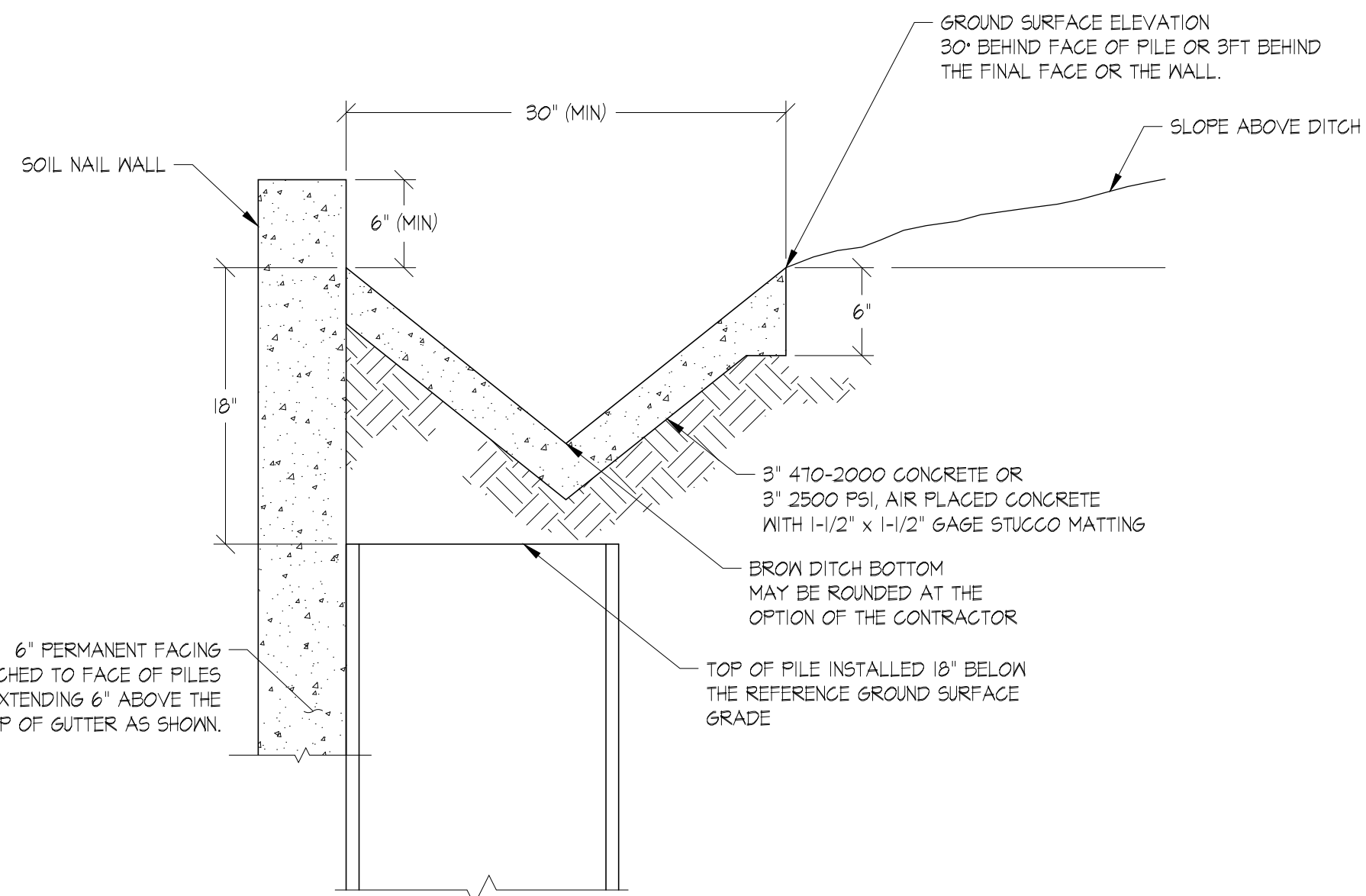


1
SH5.4
PERMANENT GEOCOMPOSITE
DRAIN BOARD DETAIL
NOT TO SCALE

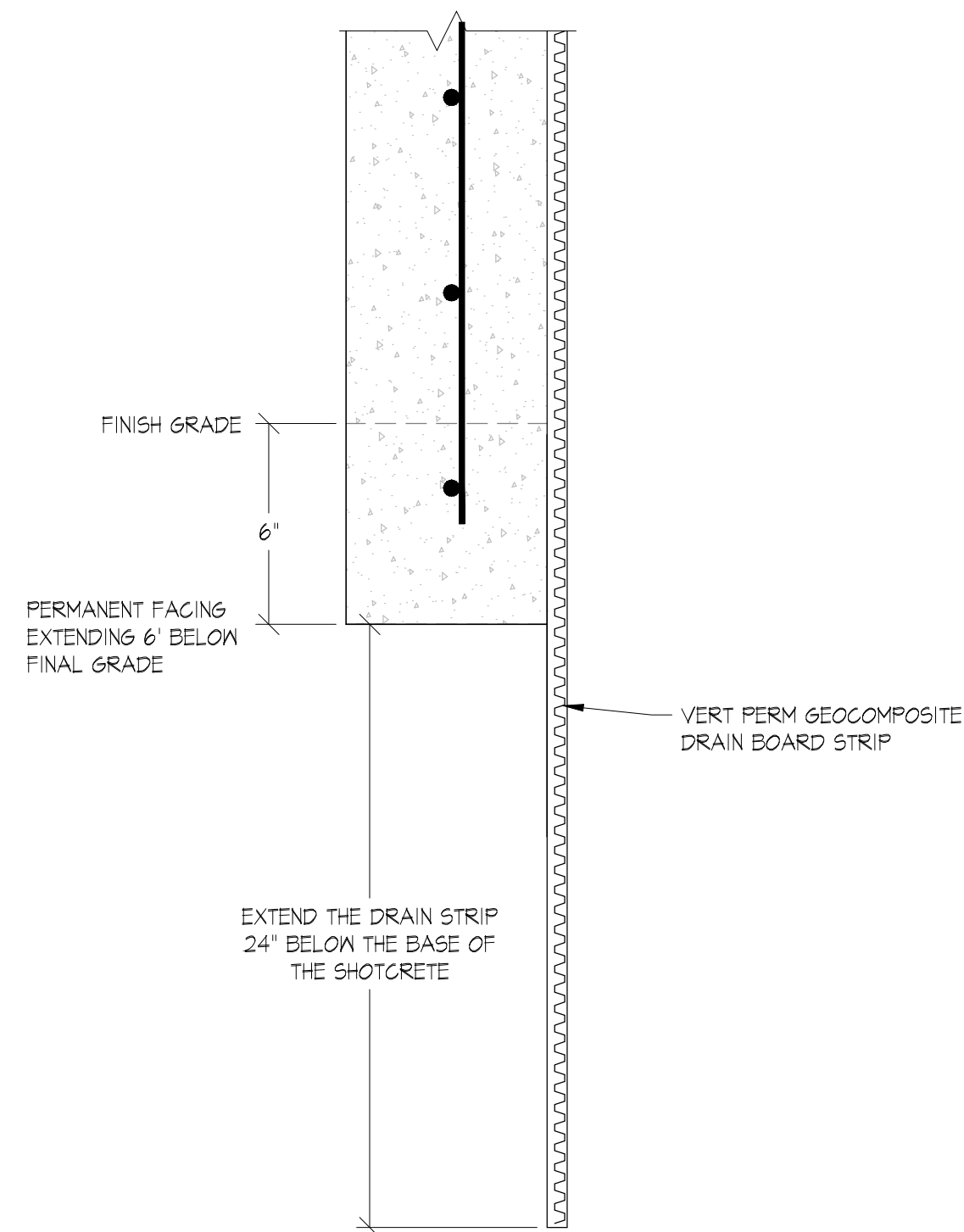


2
SH5.4
WALL DRAIN
DETAIL
PLAN
NOT TO SCALE

NOTES:
CONTRACTOR MAY SUBMIT ALTERNATE
DETAIL FOR APPROVAL.

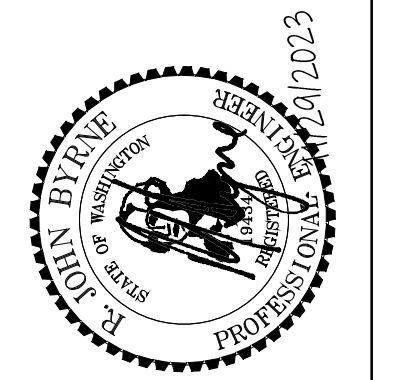


3
SH5.4
TYPICAL BROW DITCH
DETAIL
NOT TO SCALE



4
SH5.4
SOIL NAIL SOLDIER PILE WALL
DRAINAGE DETAIL
NOT TO SCALE

REV	DATE	DESCRIPTION
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1	1/11/2024	MERCER ISLAND CITY REVIEW COMMENTS



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**TEMPORARY SHORING WALL
DETAILS**

PROJ. NO. 23-30
SHEET NUMBER

SH5.4

F:\GROUND SUPPORT PLLC\2023\23-30 (CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-BEREK CHESHIRE)\SHORING\PERMITTING\IR1233\SH5.5\DWG <SH5.5> - P1.ctb, 1/11/2024 4:18 PM

TEMPORARY BAR GROUND ANCHOR NOTES:

THE DETAILS ON THIS SHEET DEPICT THE MINIMUM DESIGN REQUIREMENTS FOR THE GROUND ANCHORS ON THIS PROJECT. ALL PROOF TESTING TO 133% OF THE DESIGN LOAD SHALL, AND ALL VERIFICATION TESTING TO 200% OF THE DESIGN LOAD MAY BE PERFORMED ON PRODUCTION GROUND ANCHORS. SEE THE NOTES ON SHEET SH11 FOR DETAILED MATERIALS, INSTALLATION AND TESTING REQUIREMENTS.

VERIFICATION TEST ANCHORS SHALL BE INSTALLED AT THE BEGINNING OF THE WORK AT THE LOCATIONS SELECTED BY THE CONTRACTOR AND APPROVED IN WRITING BY GROUND SUPPORT. EVERY PRODUCTION GROUND ANCHOR NOT VERIFICATION TESTED SHALL BE PROOF TESTED.

PROOF-TESTED ANCHORS SHALL BE FULLY GROUTED PRIOR TO TESTING AS ILLUSTRATED ON THIS SHEET. VERIFICATION TEST ANCHORS SHALL NOT HAVE STRUCTURAL GROUT IN THE UNBONDED LENGTH DURING TESTING. THE CONTRACTOR SHALL SELECT A METHOD FOR OBTAINING NO STRUCTURAL GROUT IN THE UNBONDED LENGTH THAT DOES NOT RESULT IN CAVING OF THE DRILL HOLE OR LOSS OF GROUND AT ANY TIME. SUCH METHODS INCLUDE BUT ARE NOT LIMITED TO: (A) LEAVING THE UNBONDED LENGTH OPEN UNTIL TESTING IS COMPLETE AND THEN TREMIE-GROUTING THE UNBONDED LENGTH WITH STRUCTURAL GROUT, AND (B) WASHING OUT THE UNBONDED LENGTH AFTER INSTALLATION UNTIL A SUFFICIENTLY WEAK SLURRY, AS DETERMINED BY THE GEOTECHNICAL SPECIAL INSPECTOR, IS ALL THAT REMAINS IN THE UNBONDED LENGTH.

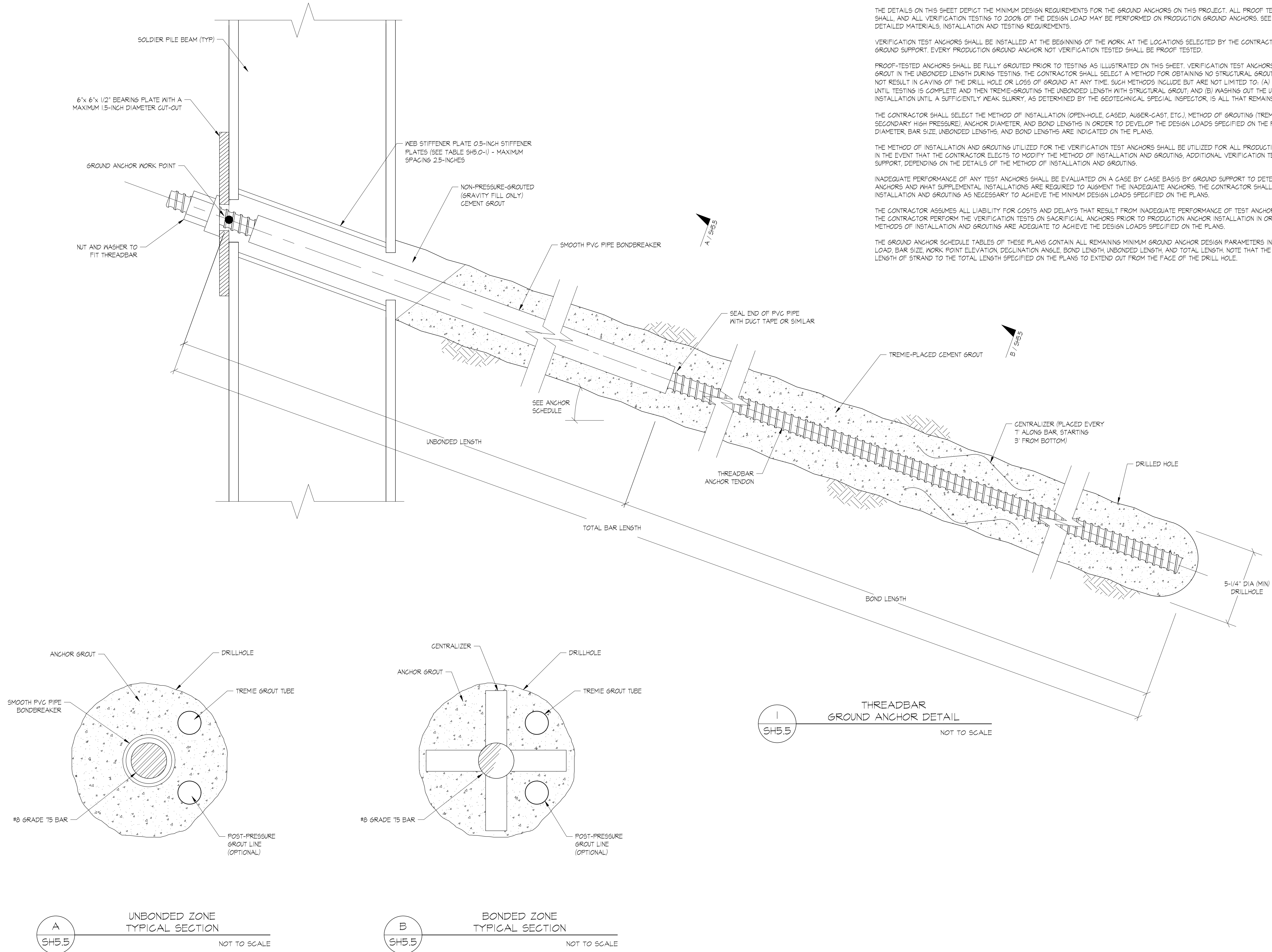
THE CONTRACTOR SHALL SELECT THE METHOD OF INSTALLATION (OPEN-HOLE, CASED, AUGER-CAST, ETC.), METHOD OF GROUTING (TREMIE, PRIMARY LOW-PRESSURE, SECONDARY HIGH PRESSURE), ANCHOR DIAMETER, AND BOND LENGTHS IN ORDER TO DEVELOP THE DESIGN LOADS SPECIFIED ON THE PLANS. THE MINIMUM REQUIRED ANCHOR DIAMETER, BAR SIZE, UNBONDED LENGTHS, AND BOND LENGTHS ARE INDICATED ON THE PLANS.

THE METHOD OF INSTALLATION AND GROUTING UTILIZED FOR THE VERIFICATION TEST ANCHORS SHALL BE UTILIZED FOR ALL PRODUCTION ANCHORS INSTALLED THEREAFTER. IN THE EVENT THAT THE CONTRACTOR ELECTS TO MODIFY THE METHOD OF INSTALLATION AND GROUTING, ADDITIONAL VERIFICATION TESTING MAY BE REQUIRED BY GROUND SUPPORT, DEPENDING ON THE DETAILS OF THE METHOD OF INSTALLATION AND GROUTING.

INADEQUATE PERFORMANCE OF ANY TEST ANCHORS SHALL BE EVALUATED ON A CASE BY CASE BASIS BY GROUND SUPPORT TO DETERMINE THE REMAINING VALUE OF THE ANCHORS AND WHAT SUPPLEMENTAL INSTALLATIONS ARE REQUIRED TO AUGMENT THE INADEQUATE ANCHORS. THE CONTRACTOR SHALL MODIFY THE METHOD OF INSTALLATION AND GROUTING AS NECESSARY TO ACHIEVE THE MINIMUM DESIGN LOADS SPECIFIED ON THE PLANS.

THE CONTRACTOR ASSUMES ALL LIABILITY FOR COSTS AND DELAYS THAT RESULT FROM INADEQUATE PERFORMANCE OF TEST ANCHORS. IT IS HIGHLY RECOMMENDED THAT THE CONTRACTOR PERFORM THE VERIFICATION TESTS ON SACRIFICIAL ANCHORS PRIOR TO PRODUCTION ANCHOR INSTALLATION IN ORDER TO CONFIRM THAT THE CHOSEN METHODS OF INSTALLATION AND GROUTING ARE ADEQUATE TO ACHIEVE THE DESIGN LOADS SPECIFIED ON THE PLANS.

THE GROUND ANCHOR SCHEDULE TABLES OF THESE PLANS CONTAIN ALL REMAINING MINIMUM GROUND ANCHOR DESIGN PARAMETERS INCLUDING: DESIGN LOAD, LOCKOFF LOAD, BAR SIZE, WORK POINT ELEVATION, DECLINATION ANGLE, BOND LENGTH, UNBONDED LENGTH, AND TOTAL LENGTH. NOTE THAT THE CONTRACTOR MUST ADD ADDITIONAL LENGTH OF STRAND TO THE TOTAL LENGTH SPECIFIED ON THE PLANS TO EXTEND OUT FROM THE FACE OF THE DRILL HOLE.



REV	DATE	DESCRIPTION
0	11/28/2023	PERMIT ISSUE
1	1/11/2024	MERCER ISLAND CITY REVIEW COMMENTS

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**CHESHIRE SHORT PLAT
 7615 E. MERCER WAY, MERCER ISLAND, WASHINGTON 98040
 TEMPORARY SHORING WALL
 DETAILS**

PROJ. NO. 23-30
 SHEET NUMBER

SH5.5

F:\GROUND SUPPORT PLLC\2023\23-30 CHESHIRE SP MERCER ISLAND - LONG VIEW BELLA, LLC-WA-BEREK CHEESHIRE\ISHORING\PERMITTING\RI19233\SH6\DWG -SH6.D- Plotter: 1/11/2024 4:16 PM

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1. TEMPORARY SHOTCRETE
2. PERMANENT SHOTCRETE

1. TEMPORARY SHOTCRETE

1.1 GENERAL

A. ALL SHOTCRETE SHALL COMPLY WITH THE REQUIREMENTS OF ACI 506.2-95 EXCEPT AS SPECIFIED OTHERWISE HEREIN. THE OWNER SHALL CONTRACT AN INDEPENDENT TESTING LABORATORY TO CORE AND TEST SHOTCRETE PANELS AND INSPECT ALL SHOTCRETE AND STEEL REINFORCEMENT PLACEMENT IN ACCORDANCE WITH ACI 506.4R-94.

B. ALL WORKERS, INCLUDING FOREMAN, NOZZLEMEN, FINISHERS AND DELIVERY EQUIPMENT OPERATORS, SHALL BE FULLY QUALIFIED TO PERFORM THE WORK. QUALIFICATION OF THE NOZZLEMEN SHALL BE BASED ON THE RESULTS OF TEST PANELS AS REQUIRED HEREIN, UNLESS APPROVED OTHERWISE BY THE ENGINEER.

C. AT LEAST 15 DAYS PRIOR TO INITIATING THE WORK, THE CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE ENGINEER FOR REVIEW:

1. WRITTEN DOCUMENTATION OF THE NOZZLEMEN QUALIFICATIONS AND PROPOSED METHOD OF SHOTCRETE PLACEMENT.
2. SHOTCRETE MIX DESIGN INCLUDING: BRAND AND TYPE OF PORTLAND CEMENT, SOURCE, GRADATION, AND QUALITY OF AGGREGATES; MIX PROPORTIONS BY WEIGHT; PROPOSED ADMIXTURES AND THEIR MANUFACTURER, DOSAGE, AND TECHNICAL LITERATURE; AND COMPRESSIVE STRENGTH TEST RESULTS FROM THE SUPPLIER NO OLDER THAN 6 MONTHS VERIFYING THE 28-DAY COMPRESSIVE STRENGTH.
3. ONCE AVAILABLE, CERTIFIED MILL TESTS FOR ALL REINFORCING STEEL FROM EACH HEAT SPECIFYING THE MINIMUM ULTIMATE STRENGTH, YIELD STRENGTH, ELONGATION, AND COMPOSITION.
4. SPECIFICATION AND DATA FOR REVIEW ON EQUIPMENT PROPOSED FOR THE PROJECT INCLUDING SHOTCRETING AND COMPRESSED AIR EQUIPMENT, PROPOSED ACCESS ARRANGEMENTS, AND CAPACITIES.
5. METHODS OF CONTROLLING THE LOCATION OF THE FINISH FACE AND DETERMINING SHOTCRETE THICKNESS.

1.2 MATERIALS

A. ALL MATERIALS FOR SHOTCRETE SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.

1. CEMENT SHALL CONFORM TO ASTM C150 / AASHTO M85, TYPE I.
2. FINE AGGREGATE SHALL CONFORM TO ASTM C33 / AASHTO M6.
3. COARSE AGGREGATE SHALL CONFORM TO AASHTO M-80, CLASS B.
4. WATER SHALL BE POTABLE, CLEAN, AND FREE FROM SUBSTANCES DELETERIOUS TO CONCRETE AND STEEL, OR THAT WOULD CAUSE STAINING.
5. ACCELERATOR SHALL BE THE FLUID TYPE, APPLIED AT NOZZLE, AND MEET THE REQUIREMENTS HEREIN.
6. WATER-REDUCER AND SUPER-PLASTICIZER SHALL CONFORM TO ASTM C494 / AASHTO M194, TYPE A, D, F, G.
7. AIR-ENTRAINING AGENT SHALL CONFORM TO ASTM C260 / AASHTO M154.
8. FLY ASH SHALL CONFORM TO ASTM C618 / AASHTO M295, TYPE F OR G, CEMENT REPLACEMENT UP TO 35% BY WEIGHT OF CEMENT.
9. SILICA FUME SHALL CONFORM TO ASTM C1240, 90% MINIMUM SILICON DIOXIDE SOLIDS CONTENT, NOT TO EXCEED 12% BY WEIGHT OF CEMENT.
10. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 / AASHTO M55.
11. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 / AASHTO M31, GRADE 60. ALL REINFORCING STEEL DETAILS SHALL CONFORM TO ACI 315.
12. CURING COMPOUNDS SHALL CONFORM TO AASHTO M148, TYPE ID OR TYPE 2.
13. FILM PROTECTION FOR CURING SHALL CONFORM TO AASHTO M111 OR POLYETHYLENE FILM.

B. SHOTCRETE ADMIXTURES SHALL NOT BE USED UNLESS APPROVED BY THE ENGINEER. ADMIXTURES USED TO ENTRAIN AIR, TO REDUCE WATER-CEMENT RATIO, TO RETARD OR ACCELERATE SETTING TIME, OR TO ACCELERATE THE DEVELOPMENT OF STRENGTH, SHALL BE THOROUGHLY MIXED INTO THE SHOTCRETE AT THE RATE SPECIFIED BY THE MANUFACTURER UNLESS SPECIFIED OTHERWISE. ACCELERATING ADDITIVES SHALL BE COMPATIBLE WITH THE CEMENT USED, BE NON-CORROSIVE TO STEEL AND SHALL NOT PROMOTE OTHER DETRIMENTAL EFFECTS SUCH AS CRACKING OR EXCESSIVE SHRINKAGE. THE MAXIMUM ALLOWABLE CHLORIDE ION CONTENT OF ALL INGREDIENTS SHALL NOT EXCEED 0.10 PERCENT WHEN TESTED PER AASHTO T260.

C. MATERIALS SHALL BE DELIVERED, STORED AND HANDLED TO PREVENT CONTAMINATION, SEGREGATION, CORROSION OR DAMAGE. LIQUID ADMIXTURES SHALL BE STORED TO PREVENT EVAPORATION AND FREEZING.

D. AGGREGATES FOR SHOTCRETE SHALL MEET THE STRENGTH AND DURABILITY REQUIREMENT OF AASHTO M80 AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING BY WEIGHT	SIEVE SIZE	PERCENT PASSING BY WEIGHT
1/2 INCH	100	NO. 16	35-55
3/8 INCH	90-100	NO. 30	20-35
NO. 4	70-85	NO. 50	8-20
NO. 8	50-70	NO. 100	2-10

E. CEMENT CONTENT SHALL BE AT LEAST 600 POUNDS PER CUBIC YARD. THE WATER/CEMENT RATIO SHALL NOT BE GREATER THAN 0.45. FOR NET-MIX SHOTCRETE EXPOSED TO FREEZING AND THAWING, THE AIR CONTENT AT THE TRUCK SHALL BE BETWEEN 7 TO 10 PERCENT WHEN TESTED IN ACCORDANCE WITH ASTM C231 / AASHTO T152.

F. SHOTCRETE SHALL BE PROPORTIONED TO ATTAIN A COMPRESSIVE STRENGTH OF 2500 PSI IN 3 DAYS AND 5000 PSI IN 28 DAYS. THE AVERAGE COMPRESSIVE STRENGTH OF EACH SET OF THREE CORES EXTRACTED FROM TEST PANELS OR WALL FACE MUST BE EQUAL TO OR EXCEED 85%, WITH NO INDIVIDUAL CORE LESS THAN 75% OF THE SPECIFIED COMPRESSIVE STRENGTH IN ACCORDANCE WITH ACI 506.2.

1.4.3 DELIVERY AND APPLICATION

A. A CLEAN, DRY, OIL-FREE SUPPLY OF COMPRESSED AIR SUFFICIENT FOR MAINTAINING ADEQUATE NOZZLE VELOCITY FOR ALL PARTS OF THE WORK AND FOR SIMULTANEOUS OPERATION OF A BLOW PIPE FOR CLEANING AWAY REBOUND SHALL BE MAINTAINED AT ALL TIMES. THE EQUIPMENT SHALL BE CAPABLE OF DELIVERING THE PREMIXED MATERIAL ACCURATELY, UNIFORMLY, AND CONTINUOUSLY THROUGH THE DELIVERY HOSE.

VOLUME IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C94 / AASHTO M121. MIXING EQUIPMENT SHALL BE CAPABLE OF THOROUGHLY MIXING THE MATERIALS IN SUFFICIENT QUANTITY TO MAINTAIN PLACING CONTINUITY. READY-MIX SHOTCRETE SHALL BE DELIVERED AND PLACED WITHIN 1-1/2 HOURS OF THE BATCH TIME UNLESS APPROVED OTHERWISE BY THE ENGINEER.

1.3 TEST PANELS

A. IN GENERAL, PRECONSTRUCTION AND PRODUCTION SHOTCRETE TEST PANELS SHALL BE REQUIRED. HOWEVER, DEPENDING ON THE AMOUNT OF SHOTCRETE WALL REINFORCEMENT, THE ENGINEER MAY WAIVE THE REQUIREMENTS FOR A REINFORCED PRECONSTRUCTION TEST PANEL. PRECONSTRUCTION AND PRODUCTION TEST PANELS SHALL NOT BE DISTURBED OR MOVED WITHIN THE FIRST 24 HOURS AFTER SHOOTING. TEST PANELS SHALL BE FIELD CURED UNDER CONDITIONS SIMILAR TO THOSE ANTICIPATED FOR THE WORK. SHOTCRETING AND CORING OF TEST PANELS SHALL BE PERFORMED BY QUALIFIED PERSONNEL IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE NOT LESS THAN 2 DAYS PRIOR TO THE SHOOTING OF THE PRECONSTRUCTION TEST PANELS.

B. EACH NOZZLEMAN SHALL FURNISH AT LEAST TWO PRECONSTRUCTION TEST PANELS FOR EACH PROPOSED MIXTURE BEING CONSIDERED AND FOR EACH SHOOTING POSITION ENCOUNTERED ON THE JOB. PRECONSTRUCTION TEST PANELS SHALL BE MADE BY EACH APPLICATION CREW USING THE EQUIPMENT, MATERIALS, MIXTURE PROPORTIONS, AND PROCEDURES PROPOSED FOR THE JOB PRIOR TO THE COMMENCEMENT OF WORK.

C. PRECONSTRUCTION TEST PANELS SHALL BE 30 INCHES X 30 INCHES (MINIMUM), IN ACCORDANCE WITH ACI 506.2-95 AND THE FOLLOWING:

1. ONE TEST PANEL SHALL BE THE MAXIMUM SHOTCRETE THICKNESS SHOWN ON THE PLANS AND SHALL INCLUDE THE MAXIMUM ANTICIPATED REINFORCING CONGESTION. CORES EXTRACTED FROM THE REINFORCED TEST PANEL SHALL DEMONSTRATE ENCAPSULATION OF THE REINFORCEMENT IN ACCORDANCE WITH ACI 506.2 EQUAL TO CORE GRADE 2 OR BETTER.
2. ONE TEST PANEL SHALL BE UNREINFORCED, AT LEAST 6 INCHES THICK, AND USED FOR COMPRESSIVE STRENGTH TESTING.
3. THE SIDES OF THE TEST PANELS SHALL BE CHAMFERED OUTWARD AT 45 DEGREES OVER THE FULL THICKNESS OF THE PANEL.

D. THE CONTRACTOR SHALL FURNISH AT LEAST ONE PRODUCTION TEST PANEL OR, IN LIEU OF PRODUCTION TEST PANELS, SIX 3-INCH DIAMETER CORES FROM THE SHOTCRETE FACE DURING THE FIRST APPLICATION OF SHOTCRETE AND HENCEFORTH FOR EVERY FIFTH APPLICATION OF SHOTCRETE, OR EVERY 5000 SQUARE FEET, OR 50 CUBIC YARDS OF SHOTCRETE PLACED, WHICHEVER IS LESS. THE PRODUCTION TEST PANELS SHALL BE CONSTRUCTED SIMULTANEOUSLY WITH THE SHOTCRETE FACING INSTALLATION AT TIMES DESIGNATED BY THE OWNER'S REPRESENTATIVE. THE PRODUCTION TEST PANELS SHALL HAVE MINIMUM DIMENSIONS OF 18 INCHES X 18 INCHES X 6 INCHES.

E. SHOTCRETE WILL BE ACCEPTED BASED ON THE 28-DAY STRENGTH OF CORES TAKEN FROM THE PRODUCTION TEST PANELS. THE FREQUENCY SPECIFIED FOR THE PRODUCTION TEST PANELS IS APPROXIMATE. A GREATER NUMBER OF PANELS MAY BE REQUIRED BY THE ENGINEER.

F. AT LEAST SIX CORES WILL BE CUT FROM EACH PRECONSTRUCTION AND PRODUCTION TEST PANEL FOR COMPRESSIVE STRENGTH TESTING. CORES SHALL BE SOAKED IN WATER FOR AT LEAST 40 HOURS IN ACCORDANCE WITH AASHTO T24 OR ACI 506.2. CORES SHALL BE AT LEAST 3 INCHES IN DIAMETER AND SHALL HAVE A MINIMUM LENGTH TO DIAMETER RATIO OF ONE. WHEN THE LENGTH OF A CORE IS LESS THAN TWICE THE DIAMETER, APPLY THE CORRECTION FACTORS GIVEN IN ASTM C42 TO OBTAIN THE COMPRESSIVE STRENGTH OF INDIVIDUAL CORES. THREE CORES SHALL BE TESTED AT 3-DAYS, AND THREE CORES SHALL BE TESTED AT 28-DAYS FOR COMPRESSIVE STRENGTH. CORE HOLES IN THE WALL SHALL BE FILLED WITH PATCHING MORTAR AFTER CLEANING AND THOROUGH DAMPENING.

1.4 EXECUTION OF PRODUCTION SHOTCRETE WORK

1.4.1 ALIGNMENT CONTROL

A. ALIGNMENT WIRES AND/OR THICKNESS CONTROL PINS SHALL BE PROVIDED AS NECESSARY TO ESTABLISH AND MAINTAIN THE MINIMUM SHOTCRETE THICKNESS SHOWN ON THE PLANS. THE MAXIMUM DISTANCE BETWEEN THE WIRES AND/OR THICKNESS CONTROL PINS ON ANY SURFACE SHALL BE XXXXXXXXXXXXXXXXXXXXXXXXXXXX SPACING. THE CONTRACTOR SHALL ENSURE THAT ALIGNMENT WIRES ARE TIGHT, TRUE TO LINE, AND PLACED TO ALLOW FURTHER TIGHTENING.

1.4.2 SURFACE PREPARATION

A. PRIOR TO SHOTCRETING THE UNGROUTED ZONE, THE CONTRACTOR SHALL REMOVE ALL LOOSE MATERIALS FROM THE SURFACE OF THE GROUT.

B. THE CONTRACTOR SHALL REMOVE ALL LOOSE MATERIALS AND LOOSE DRIED SHOTCRETE FROM PREVIOUS PLACEMENT OPERATIONS AND FROM ALL RECEIVING SURFACES BY METHODS ACCEPTABLE TO THE OWNER'S REPRESENTATIVE. THE REMOVAL SHALL BE ACCOMPLISHED IN SUCH A MANNER AS NOT TO LOOSEN, CRACK, OR SHATTER THE SURFACES TO RECEIVE THE SHOTCRETE. ANY SURFACE MATERIAL THAT, IN THE OPINION OF THE OWNER'S REPRESENTATIVE, IS SO LOOSENED OR DAMAGED SHALL BE REMOVED TO SUFFICIENT DEPTH TO PROVIDE A BASE THAT IS SUITABLE TO RECEIVE THE SHOTCRETE. MATERIAL THAT LOOSENS AS THE SHOTCRETE IS APPLIED SHALL BE REMOVED. SHOTCRETE SHALL NOT BE PLACED ON FROZEN SURFACES.

B. THE SHOTCRETE SHALL BE APPLIED FROM THE LOWER PART OF THE WORK AREA UPWARDS TO PREVENT ACCUMULATION OF REBOUND ON UNCOVERED SURFACES. THICKNESS, METHODS OF SUPPORT, AIR PRESSURE, AND RATE OF PLACEMENT OF SHOTCRETE SHALL BE CONTROLLED TO PREVENT SAGGING OR SLOUGHING OF FRESHLY APPLIED SHOTCRETE. WHERE SHOTCRETE IS USED TO FILL THE BIRD'S BEAK, THE NOZZLE SHALL BE POSITIONED INTO THE MOUTH OF THE DRILLHOLE TO COMPLETELY FILL THE VOID. REBOUND SHALL NOT BE WORKED BACK INTO THE PLACEMENT NOR SHALL THE REBOUND BE SALVAGED. REBOUND THAT DOES NOT FALL CLEAR OF THE WORKING AREA SHALL BE REMOVED. THE NOZZLE SHALL BE HELD AT A DISTANCE AND AT AN ANGLE APPROXIMATELY PERPENDICULAR TO THE WORKING FACE SO THAT REBOUND WILL BE MINIMAL AND COMPACTION WILL BE MAXIMIZED. THE NOZZLE SHOULD BE ROTATED STEADILY IN A SMALL CIRCULAR PATTERN.

C. SHOTCRETE PLACEMENT SHALL BE BY THE BENCH GUNNING METHOD WHEN THE THICKNESS OF THE SHOTCRETE LAYER IS 6 INCHES OR GREATER. THE GUNNING METHOD SHALL CONSIST OF BUILDING UP A THICK LAYER OF SHOTCRETE FROM THE BOTTOM OF THE LIFT AND MAINTAINING THE TOP SURFACE AT APPROXIMATELY A 45-DEGREE SLOPE.

1.4.4 VISUAL OBSERVATION

A. A CLEARLY DEFINED PATTERN OF CONTINUOUS HORIZONTAL OR VERTICAL RIDGES OR DEPRESSIONS AT THE REINFORCING ELEMENTS AFTER THEY ARE COVERED WILL BE CONSIDERED INDICATION OF INSUFFICIENT COVER OF REINFORCEMENT OR POOR APPLICATION AND PROBABLE VOID. IN THIS CASE, THE WORK SHALL BE IMMEDIATELY SUSPENDED AND THE WORK CAREFULLY INSPECTED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL IMPLEMENT AND COMPLETE CORRECTIVE MEASURES PRIOR TO RESUMING THE SHOTCRETE OPERATIONS.

B. THE SHOTCRETING PROCEDURE MAY BE CORRECTED BY ADJUSTING THE NOZZLE DISTANCE AND ORIENTATION PERPENDICULAR TO THE SURFACE. ADJUSTING THE WATER CONTENT OF THE SHOTCRETE MIX, OR OTHER MEANS ACCEPTABLE TO THE OWNER'S REPRESENTATIVE. ALL OVERSPRAY AND REBOUND SHALL BE REMOVED FROM THE SURFACE.

C. SURFACE DEFECTS SHALL BE REPAIRED AS SOON AS POSSIBLE AFTER INITIAL PLACEMENT OF SHOTCRETE. ALL SHOTCRETE THAT LACKS UNIFORMITY, EXHIBITS SEGREGATION, SAGGING, HONEYCOMBING, OR LAMINATION, OR CONTAINS ANY VOIDS OR SAND POCKETS SHALL BE REMOVED AND REPLACED WITH FRESH SHOTCRETE BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

1.4.5 CONSTRUCTION JOINTS

A. CONSTRUCTION JOINTS SHALL BE TAPERED TOWARD THE EXCAVATION FACE OVER A MINIMUM DISTANCE EQUAL TO THE THICKNESS OF THE SHOTCRETE LAYER. THE SURFACE OF THE JOINTS SHALL BE ROUGH AND CLEANED OF ALL LAITANCE AND FOREIGN SUBSTANCES PRIOR TO SHOTCRETE PLACEMENT.

1.4.6 FINISHING AND CURING REQUIREMENTS

A. TEMPORARY SHOTCRETE MAY BE LEFT WITH AN AS-SHOT GUN FINISH.

B. THERE ARE NO SPECIFIC CURING REQUIREMENTS FOR TEMPORARY SHOTCRETE.

1.4.7 WEATHER LIMITATIONS

A. SHOTCRETE SHALL NOT BE PLACED IN COLD WEATHER UNLESS ADEQUATELY PROTECTED WHEN THE AMBIENT TEMPERATURE IS BELOW 40° F AND FALLING AND/OR WHEN THE SHOTCRETE IS LIKELY TO BE SUBJECTED TO FREEZING TEMPERATURES BEFORE REACHING A MINIMUM STRENGTH OF 150 PSI. COLD WEATHER PROTECTION SHALL BE MAINTAINED UNTIL THE STRENGTH OF THE SHOTCRETE IS GREATER THAN 150 PSI. COLD WEATHER PROTECTION SHALL INCLUDE HEATING UNDER TENTS, BLANKETS OR OTHER MEANS ACCEPTABLE TO THE OWNER'S REPRESENTATIVE. THE TEMPERATURE OF THE SHOTCRETE, WHEN DEPOSITED, SHALL BE NOT LESS THAN 50 DEGREES F NOR MORE THAN 80 DEGREES F. THE AIR IN CONTACT WITH SHOTCRETE SURFACES SHALL BE MAINTAINED AT TEMPERATURES ABOVE 32 DEGREES F FOR A MINIMUM OF 7 DAYS.

B. SHOTCRETE APPLICATION SHALL ALSO BE SUSPENDED DURING HIGH WINDS AND HEAVY RAINS WHEN IN THE OPINION OF THE OWNER'S REPRESENTATIVE THE QUALITY OF THE APPLICATION IS NOT ACCEPTABLE. NEWLY-PLACED SHOTCRETE EXPOSED TO RAIN THAT WASHES OUT CEMENT OR OTHERWISE MAKES THE SHOTCRETE UNACCEPTABLE TO THE OWNER'S REPRESENTATIVE SHALL BE REMOVED AND REPLACED. THE CONTRACTOR SHALL PROVIDE ADEQUATELY SECURED POLYETHYLENE SHEETING OR EQUIVALENT WHEN ADVERSE EXPOSURE TO WEATHER IS ANTICIPATED.

1.4.8 TOLERANCES

A. THE TOLERANCES FOR SHOTCRETE FACINGS SHALL BE AS FOLLOWS:

1. THE VERTICAL LOCATION OF A HORIZONTAL SHOTCRETE JOINT SHALL BE WITHIN 1 FOOT OF THE ELEVATION SHOWN ON THE PLANS.
2. THE SHOTCRETE WALL THICKNESS SHALL BE NO LESS THAN THAT SHOWN ON THE PLANS MINUS 0.5 INCHES.
3. THE HORIZONTAL AND VERTICAL LOCATIONS OF REINFORCING BARS SHALL BE WITHIN 1 INCH OF THE LOCATIONS SHOWN ON THE PLANS.
4. REINFORCING BAR LAP LENGTHS SHALL BE NO LESS THAN THAT SHOWN ON THE PLANS MINUS 1 INCH.
5. REINFORCING BAR SPACING SHALL NOT EXCEED THAT SHOWN ON THE PLANS PLUS 1 INCH.

2. PERMANENT SHOTCRETE

2.1 GENERAL

A. IN ADDITION TO THE REQUIREMENTS OF SECTION 1, PERMANENT SHOTCRETE SHALL SATISFY THE REQUIREMENTS OF SECTION 2.

2.2 SUBMITTALS

A. AT LEAST 15 DAYS PRIOR TO INITIATING THE WORK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW:

1. WRITTEN DOCUMENTATION OF THE FINISHERS QUALIFICATIONS.
2. SHOP DRAWINGS OF THE REINFORCING LAYOUT AND SCHEDULES.

2.3 EXECUTION OF PRODUCTION SHOTCRETE WORK

2.3.1 CONSTRUCTION JOINTS

A. CONSTRUCTION JOINTS SHALL BE WATERTIGHT AND UNIFORMLY TAPERED TOWARD THE EXCAVATION FACE OVER A MINIMUM DISTANCE EQUAL TO THE THICKNESS OF THE SHOTCRETE LAYER. THE SURFACE OF THE JOINTS SHALL BE ROUGH, CLEAN, SOUND AND DAMP. THE HARDENED SURFACE SHALL BE CLEANED OF ALL LAITANCE, FOREIGN SUBSTANCES, WASHED WITH CLEAN WATER, AND METTED THOROUGHLY IMMEDIATELY PRIOR TO PLACEMENT OF FRESH SHOTCRETE.

2.3.2 FINISHING AND CURING REQUIREMENTS

A. SHOTCRETE FINISH SHALL BE EITHER A WOOD FLOAT OR STEEL TROWELED FINISH, AS SHOWN ON THE PLANS.

B. THE SHOTCRETE SHALL BE PROTECTED FROM LOSS OF MOISTURE FOR AT LEAST 7 DAYS AFTER PLACEMENT. WHEN SHOTCRETE IS BEING PROTECTED FROM LOW TEMPERATURES, CURING SHALL BE TERMINATED NO SOONER THAN ONE DAY AFTER THE REMOVAL OF LOW TEMPERATURE PROTECTION. CURING OF SHOTCRETE SHALL BE BY METHODS THAT WILL KEEP SHOTCRETE SURFACES ADEQUATELY WET AND PROTECTED DURING THE SPECIFIED PERIOD. CURING SHALL COMMENCE WITHIN ONE HOUR OF SHOTCRETE APPLICATION. WHEN THE AMBIENT TEMPERATURE EXCEEDS 80 DEGREES FAHRENHEIT THE CONTRACTOR SHALL PLAN THE WORK SUCH THAT CURING CAN COMMENCE IMMEDIATELY AFTER FINISHING. THE CURING SHALL BE COMPLETED USING WATER, MEMBRANE, OR FILM CURING METHODS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

C. FOR WATER CURING, THE RATE OF WATER APPLICATION SHALL BE REGULATED TO PROVIDE COMPLETE SURFACE COVERAGE WITH A MINIMUM OF RUNOFF.

D. FOR MEMBRANE CURING, CURING COMPOUNDS SHALL NOT BE USED ON ANY SURFACES AGAINST WHICH ADDITIONAL SHOTCRETE OR OTHER FINISHING MATERIALS ARE TO BE BONDED UNLESS THE SURFACE IS SANDBLASTED IN A MANNER ACCEPTABLE TO THE OWNER'S REPRESENTATIVE. MEMBRANE CURING COMPOUNDS SHALL BE SPRAY APPLIED AS QUICKLY AS PRACTICAL AFTER INITIAL SHOTCRETE SET AT A COVERAGE OF NOT LESS THAN 40 SQUARE FEET PER GALLON.


E. FOR FILM CURING, POLYETHYLENE SHEETING MAY BE USED TO SUPPLEMENT WATER CURING ON SHOTCRETE THAT WILL BE COVERED LATER WITH ADDITIONAL SHOTCRETE OR CONCRETE. THE SHEETING SHALL COMPLETELY COVER ALL SURFACES, AND HAVE EDGES OVERLAPPED FOR PROPER SEALING AND ANCHORAGES.

2.3.4 TOLERANCES

A. THE TOLERANCES FOR SHOTCRETE FACINGS SHALL BE AS FOLLOWS:

1. THE VERTICAL LOCATION OF A HORIZONTAL SHOTCRETE JOINT SHALL BE WITHIN 0.5 FEET OF THE ELEVATION SHOWN ON THE PLANS.
2. THE SHOTCRETE WALL THICKNESS SHALL BE NO LESS THAN THAT SHOWN ON THE PLANS MINUS 0.5 INCHES.
3. THE HORIZONTAL AND VERTICAL LOCATIONS OF REINFORCING BARS SHALL BE WITHIN 1 INCH OF THE LOCATIONS SHOWN ON THE PLANS.
4. REINFORCING BAR LAP LENGTHS SHALL BE NO LESS THAN THAT SHOWN ON THE PLANS MINUS 1 INCH.
5. REINFORCING BAR SPACING SHALL NOT EXCEED THAT SHOWN ON THE PLANS PLUS 1 INCH.
6. THE DEVIATION IN PLANARITY OF THE FINISHED WALL SURFACE SHALL NOT EXCEED 0.5 INCHES IN 10 FEET.

	DESCRIPTION			
	PERMIT ISSUE			
	MERCER ISLAND CITY REVIEW COMMENTS			
	REV	DATE	CHK	
	0	11/28/2023	RJB	
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	PSN	PRN	CHK	
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	RJB	RJB		



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PERMANENT RETAINING WALL SPECIFICATIONS

PROJ. NO.	23-30
SHEET NUMBER	
SH6.0	