

- LEGEND**
- STORM DRAIN CATCH BASIN (CB)
 - YARD DRAIN
 - SANITARY SEWER MANHOLE (SSMH)
 - SANITARY SEWER CLEAN OUT (SSCO)
 - GAS VALVE
 - GM GAS METER
 - W WATER VALVE
 - I IRRIGATION CONTROL VALVE
 - WM WATER METER
 - FH FIRE HYDRANT
 - P POWER POLE
 - E ELECTRIC METER
 - T&B TELE. JUNCTION BOX
 - ★ CONIFEROUS TREE
 - DECIDUOUS TREE

- SURVEY NOTES:**
- 1.) THIS SURVEY HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF PARTIES WHOSE NAMES APPEAR HEREON ONLY, AND DOES NOT EXTEND TO ANY UNNAMED THIRD PARTIES WITHOUT EXPRESS RECTIFICATION BY THE LAND SURVEYOR.
 - 2.) BOUNDARY LINES SHOWN AND CORNERS SET REPRESENT DEED LOCATION; OWNERSHIP LINES MAY VARY; NO GUARANTEE OF OWNERSHIP IS EXPRESSED OR IMPLIED. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND DOES NOT PURPORT TO SHOW ALL EASEMENTS, RESTRICTIONS, RESERVATIONS, AND OCCUPATION WHICH MAY ENCUMBER TITLE TO OR USE OF THE PROPERTY. UTILITY LOCATION BASED ON SURFACE EVIDENCE.
 - 3.) FIELD WORK PERFORMED AND MONUMENTS RECOVERED IN OCTOBER 23, 2020

- REFERENCES**
1. PLAT OF LUCAS HILL, VOL. 54, PG. 51

PARCEL NUMBER: 445770-0050
3624 81ST AVE. S.E. MERCER ISLAND, WA 98040

VERTICAL CONTROL:
NAVD88 PER GPS OBSERVATIONS IN WASHINGTON STATE REFERENCE NETWORK.

SITE BM
SSMH AS SHOWN, ELEVATION 233.33

EQUIPMENT AND PROCEDURES:
METHOD OF SURVEY:
SURVEY PERFORMED BY FIELD TRAVERSE
INSTRUMENTATION:
TOPCON PS103A ELECTRONIC TOTAL STATION AND LEICA GPS RECEIVER.
PRECISION:
MEETS OR EXCEEDS STATE STANDARDS WAC 322-130-090
BASIS OF BEARING:
STATE PLANE COORDINATE SYSTEM PER FOUND MONUMENTS ON 9TH AVE.

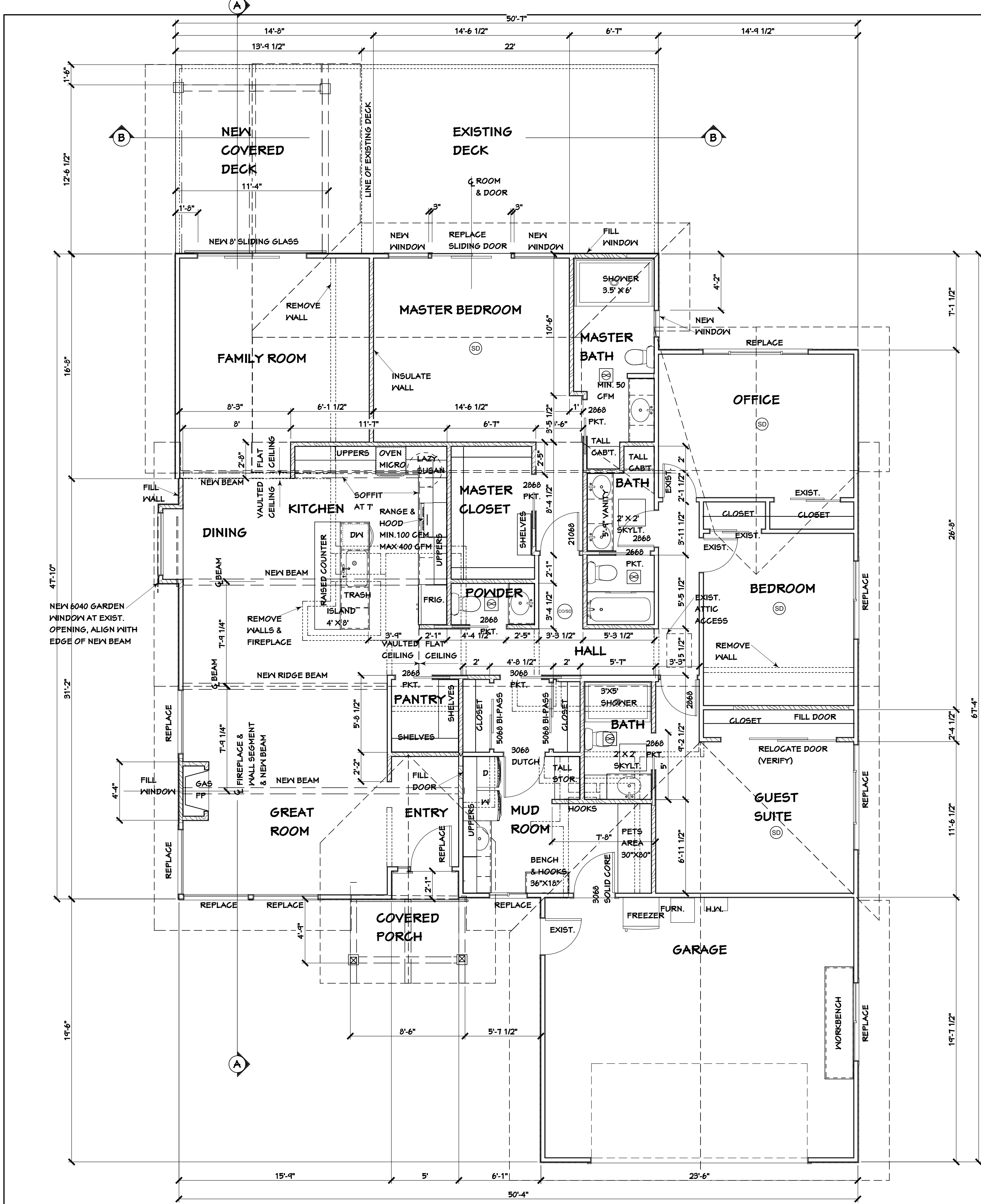
LEGAL DESCRIPTION
LOT 5, BLOCK 1, LUCAS HILL, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 54 OF PLATS, PAGE 51, RECORDS OF KING COUNTY, WASHINGTON.



ACREAGE
LAND
SURVEYING

24225 107TH PLACE WEST EDMONDS 98020
11/22/2020

TOPOGRAPHIC SURVEY		
FOR FRED BRUTHEL & JOANNE WEBSTER		
IN THE NE1/4, SE1/4, SEC.12, T.24N., R.4E, W.M. SNOHOMISH COUNTY, WASHINGTON		
DWN. BY: BH	DATE: 11/19/2020	JOB NO. 20102
CHK. BY: JP	SCALE: 1" = 10'	SHEET: 1 OF 1



REVISED FLOOR PLAN
 1/4" = 1'-0"
 ——— EXISTING
 - - - - - REMOVED
 - / - / - NEW

NO.	DESCRIPTION

CONSULTANTS
 CK ENGINEERING LLC
 (206) 417 0670

4340 REGISTERED ARCHITECT
 CYNTHIA BASSETT LARSEN
 STATE OF WASHINGTON

2704 34TH AVENUE SOUTH, SEATTLE, WA 98144 . (206) 232-0602

BASSETT LARSEN DESIGN LLC
 WEBSTER-BUETHEL RESIDENCE
 3624 81ST AVE. S.E.
 MERCER ISLAND, WA 98040

SHEET TITLE
 REVISED FLOOR PLAN

SHEET **A2**
 OF 4 SHEETS

DATE 12-18-20

STRUCTURAL NOTES

GENERAL REQUIREMENTS & DESIGN CRITERIA

BUILDING CODE & REFERENCE STANDARDS: THE "INTERNATIONAL BUILDING CODE", 2015 EDITION, GOVERNS THE DESIGN AND CONSTRUCTION OF THIS PROJECT. REFERENCE TO A SPECIFIC SECTION IN THE CODE DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE ENTIRE MATERIALS REFERENCE STANDARDS NOTED BELOW. THE LATEST EDITION OF THE MATERIALS REFERENCE STANDARDS SHALL BE USED.

ARCHITECTURAL DRAWINGS: REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION INCLUDING, BUT NOT LIMITED TO: DIMENSIONS, ELEVATIONS, SLOPES, DOOR AND WINDOW OPENINGS, NON-BEARING WALLS, STAIRS, CURBS, DRAINS, DEPRESSIONS, RAILINGS, WATERPROOFING, FINISHES AND OTHER NONSTRUCTURAL ITEMS.

STRUCTURAL RESPONSIBILITIES: THE PE IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE PRIMARY STRUCTURE IN ITS COMPLETED STATE.

CONTRACTOR RESPONSIBILITIES: THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA AND WSHA. THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.

DISCREPANCIES: IN CASE OF DISCREPANCIES BETWEEN THESE GENERAL NOTES, THE CONTRACT DRAWINGS AND SPECIFICATIONS, AND/OR REFERENCE STANDARDS, THE ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

SITE VERIFICATION: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR CONSTRUCTION. CONFLICTS BETWEEN THE DRAWINGS AND ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ALL UNDERGROUND UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO EXCAVATION OR DRILLING.

WIND DESIGN: BASIC WIND SPEED (3-SECOND GUST), V = 85 MPH(ASD); WIND IMPORTANCE FACTOR, IW = 1.0; OCCUPANCY CATEGORY = II; EXPOSURE CATEGORY = B;

SEISMIC DESIGN: SEISMIC IMPORTANCE FACTOR IE = 1.0; OCCUPANCY CATEGORY = II; SS = 1.408G; S1 = 0.490G; SITE CLASS = D; SDS = 1.126G; SD1 = 0.49G; SEISMIC DESIGN CATEGORY = D; BASIC SEISMIC FORCE RESISTING SYSTEM = A-13 (BEARING WALL SYSTEMS) LIGHT-FRAMED WALLS WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE; CS = 0.12I; R = 6.5; ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE PER ASCE 7, SEC 12.8.

SNOW LOAD: GROUND SNOW LOAD, PG = 25 PSF; FLAT ROOF SNOW LOAD, PF = 25 PSF (DRIFT LOADS CONSIDERED PER ASCE 7 WHERE APPLICABLE); SNOW EXPOSURE FACTOR, CE = 1.0; SNOW IMPORTANCE FACTOR, IS = 1.0; THERMAL FACTOR, CT = 1.0.

LIVE LOADS:	ROOF (LIVE)	20 PSF
	ROOF (SNOW)	25 PSF
	RESIDENTIAL FLOOR	40 PSF
	RESIDENTIAL DECK	60 PSF

DEFERRED SUBMITTALS: ITEMS DESIGNED BY OTHERS SHALL INCLUDE CALCULATIONS, SHOP DRAWINGS AND PRODUCT DATA. DESIGN SHALL BE PREPARED BY THE PE AND SUBMITTED TO THE ARCHITECT AND PE FOR REVIEW PRIOR TO SUBMISSION TO THE JURISDICTION FOR APPROVAL. THE PE SHALL SUBMIT TO THE ENGINEER FOR REVIEW CALCULATIONS AND SHOP DRAWINGS THAT ARE STAMPED AND SIGNED BY THE PE. REVIEW OF THE PE'S SHOP DRAWINGS IS FOR GENERAL COMPLIANCE WITH DESIGN CRITERIA AND COMPATIBILITY WITH THE DESIGN OF THE PRIMARY STRUCTURE AND DOES NOT RELIEVE THE PE OF RESPONSIBILITY FOR THAT DESIGN. ALL NECESSARY BRACING, TIES, ANCHORAGE, AND PROPRIETARY PRODUCTS SHALL BE FURNISHED AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS OR THE PE'S DESIGN DRAWINGS AND CALCULATIONS.

INSPECTIONS: ALL CONSTRUCTION IS SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL IN ACCORDANCE WITH IBC SEC 109. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE BUILDING OFFICIAL. SUBMIT COPIES OF ALL INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.

PREFABRICATED CONSTRUCTION: ALL PREFABRICATED CONSTRUCTION SHALL CONFORM TO IBC SEC 1703.6.

GEOTECHNICAL INSPECTION: THE GEOTECHNICAL ENGINEER OR BUILDING OFFICIAL SHALL INSPECT ALL PREPARED SOIL BEARING SURFACES PRIOR TO PLACEMENT OF CONCRETE AND REINFORCING STEEL AND PROVIDE A LETTER TO THE OWNER STATING THAT SOILS ARE ADEQUATE TO SUPPORT THE "ALLOWABLE FOUNDATION PRESSURE" SHOWN BELOW. SOIL VALUES SHALL BE FIELD VERIFIED BY THE BUILDING OFFICIAL OR THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

DESIGN SOIL VALUES:	
ALLOWABLE BEARING PRESSURE (ASSUMED)	1500 PSF
PASSIVE LATERAL PRESSURE	150 PSF/FT
ACTIVE LATERAL PRESSURE (UNRESTRAINED)	35 PSF/FT
ACTIVE LATERAL PRESSURE (RESTRAINED)	50 PSF/FT
COEFFICIENT OF SLIDING FRICTION	0.25

SLABS-ON-GRADE & FOUNDATIONS: ALL FOUNDATIONS SHALL BEAR ON STRUCTURAL COMPACTED FILL OR COMPETENT NATIVE SOIL PER THE GEOTECHNICAL REPORT. ALL SLABS-ON-GRADE SHALL BE FOUNDED ON APPROPRIATE SUB-GRADE PREPARATION AS NOTED IN THE GEOTECHNICAL REPORT. EXTERIOR PERIMETER FOOTINGS SHALL BEAR NOT LESS THAN 18 INCHES BELOW FINISH GRADE, OR BY THE GEOTECHNICAL ENGINEER AND THE BUILDING OFFICIAL. INTERIOR FOOTINGS SHALL BEAR NOT LESS THAN 12 INCHES BELOW FINISH FLOOR.

COMPACTION: UNLESS OTHERWISE SPECIFIED BY A GEOTECHNICAL ENGINEER, FOOTINGS SHALL BE PLACED ON COMPACTED MATERIAL AND SHALL BE WELL-GRADED GRANULAR MATERIAL WITH NO MORE THAN 5% PASSING A #20 SIEVE. FILLS PLACED SHALL BE IN MAXIMUM 8" LIFTS AND ALL BEARING SOILS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT USING THE MODIFIED PROCTOR TEST.

CAST-IN-PLACE CONCRETE & REINFORCEMENT

REFERENCE STANDARDS: CONFORM TO:

- (1) ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY".
- (2) IBC CHAPTER 19.
- (3) ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE", SEC 3 "REINFORCEMENT AND REINFORCEMENT SUPPORTS."

FIELD REFERENCE: THE CONTRACTOR SHALL KEEP A COPY OF ACI FIELD REFERENCE MANUAL, SP-15, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) WITH SELECTED ACI AND ASTM REFERENCES."

CONCRETE MIXTURES: CONFORM TO ACI 318 CHAPTER 5 "CONCRETE QUALITY, MIXING, AND PLACING."

MATERIALS: CONFORM TO ACI 318 CHAPTER 3 "MATERIALS" FOR REQUIREMENTS FOR CEMENTITIOUS MATERIALS, AGGREGATES, MIXING WATER AND ADMIXTURES.

REINFORCING BARS: ASTM A615, GRADE 60, DEFORMED BARS.

DEFORMED WELDED WIRE FABRIC: ASTM A497

BAR SUPPORTS: CRSI MSP-2, CHAPTER 3 "BAR SUPPORTS."

TIE WIRE: 16.5 GAGE OR HEAVIER, BLACK ANNEALED.

MIX DESIGNS: PROVIDE A 5-SACK MINIMUM, 28-DAY COMPRESSIVE STRENGTH F'c = 2,500 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO FOR ALL ISOLATED POST AND CONTINUOUS WALL FOOTINGS, SLABS-ON-GRADE, AND BASEMENT WALLS EXTENDING NO MORE THAN 8" ABOVE FINISH GRADE ELEVATION. FOR BASEMENT WALLS EXTENDING MORE THAN 8" ABOVE FINISH GRADE AND ALL SITE WALLS, PROVIDE A 5-1/2 SACK MINIMUM F'c = 3,000 PSI CONCRETE MIX WITH MAXIMUM 3/4" AGGREGATE AND 0.50 W/C RATIO.

MIX DESIGN NOTES:

- (1) W/C RATIO: WATER-CEMENTITIOUS MATERIAL RATIOS SHALL BE BASED ON THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS.
- (2) CEMENTITIOUS CONTENT: THE USE OF FLY ASH, OTHER POZZOLANS, SILICA FUME, OR SLAG SHALL CONFORM TO ACI 301 SEC 4.2.2.8.8. MAXIMUM AMOUNT OF FLY ASH SHALL BE 20% OF TOTAL CEMENTITIOUS CONTENT UNLESS REVIEWED AND APPROVED OTHERWISE BY SER.
- (3) AIR CONTENT: CONFORM TO ACI 301 SEC 4.2.2.4. HORIZONTAL EXTERIOR SURFACES IN CONTACT WITH THE SOIL REQUIRE ENTRAINED AIR. USE "MODERATE EXPOSURE". VERTICAL EXTERIOR SURFACES REQUIRE "MODERATE EXPOSURE". TOLERANCE IS +/- 1-1/2%. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT.
- (4) SLUMP: CONFORM TO ACI 301 SEC 4.2.2.2. SLUMP SHALL BE DETERMINED AT POINT OF PLACEMENT.
- (5) NON-CHLORIDE ACCELERATOR: NON-CHLORIDE ACCELERATING ADMIXTURE MAY BE USED IN CONCRETE SLABS PLACED AT AMBIENT TEMPERATURES BELOW 50F AT THE CONTRACTOR'S OPTION.

FORMWORK: CONFORM TO ACI 301 SEC 2 "FORMWORK AND FORM ACCESSORIES." REMOVAL OF FORMS SHALL CONFORM TO SEC 2.3.2 EXCEPT STRENGTH INDICATED IN SEC 2.3.2.5 SHALL BE 0.75 F'c.

MEASURING, MIXING, AND DELIVERY: CONFORM TO ACI 301 SEC 4.3.

HANDLING, PLACING, CONSTRUCTING AND CURING: CONFORM TO ACI 301 SEC 5.

REBAR FABRICATION & PLACING: CONFORM TO ACI 301, SEC 3.2.2 "FABRICATION", AND ACI SP-66 "ACI DETAILING MANUAL." CONFORM TO ACI 301, SEC 3.3.2 "PLACEMENT." PLACING TOLERANCES SHALL CONFORM TO SEC 3.3.2.1 "TOLERANCES."

SPLICES: CONFORM TO ACI 301, SEC 3.3.2.7. REFER TO PLANS FOR TYPICAL SPLICES.

FIELD BENDING: CONFORM TO ACI 301 SEC 3.3.2.8. "FIELD BENDING OR STRAIGHTENING." BAR SIZES #3 THROUGH #5 MAY BE FIELD BENT COLD THE FIRST TIME. OTHER BARS REQUIRE PREHEATING. DO NOT TWIST BARS.

CORNERS BARS: PROVIDE MATCHING-SIZED "L" CORNER BARS FOR ALL HORIZONTAL WALL AND FOOTING BARS WITH THE APPROPRIATE SPLICE LENGTH, UNO.

CONCRETE COVER: CONFORM TO THE FOLLOWING COVER REQUIREMENTS FROM ACI 301, TABLE 3.3.2.3:	
CONCRETE CAST AGAINST EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER (#5 & SMALLER)	1-1/2"
BARS IN SLABS AND WALLS	3/4"

CONSTRUCTION JOINTS: CONFORM TO ACI 301 SEC 2.2.2.5, 5.1.2.3A, 5.2.2.1, AND 5.3.2.6. CONSTRUCTION JOINTS SHALL BE LOCATED AND DETAILED AS ON THE CONSTRUCTION DRAWINGS. USE OF AN ACCEPTABLE ADHESIVE, SURFACE RETARDER, PORTLAND CEMENT GROUT, OR ROUGHENING THE SURFACE IS NOT REQUIRED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS. WHERE SHEAR BOND IS REQUIRED, ROUGHEN SURFACES TO 1/4" AMPLITUDE.

WOOD FRAMING

REFERENCE STANDARDS: CONFORM TO:

- (1) IBC CHAPTER 23 "WOOD".
- (2) NDS AND NDS SUPPLEMENT - "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION".
- (3) ANSI/TPI 1 "NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION".

DEFERRED SUBMITTALS: SUBMIT PRODUCT DATA AND PROOF OF ICC APPROVAL FOR FRAMING MEMBERS AND FASTENERS THAT HAVE BEEN DESIGNED BY OTHERS. SUBMIT CALCULATIONS PREPARED BY THE SSE IN THE STATE OF WASHINGTON FOR ALL MEMBERS AND CONNECTIONS DESIGNED BY OTHERS ALONG WITH SHOP DRAWINGS. ALL NECESSARY BRIDGING, BLOCKING, BLOCKING PANELS AND WEB STIFFENERS SHALL BE DETAILED AND FURNISHED BY THE SUPPLIER. TEMPORARY AND PERMANENT BRIDGING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DEFLECTION LIMITS SHALL BE AS NOTED UNDER DESIGN LOADS SECTION.

IDENTIFICATION: ALL SAWN LUMBER AND PRE-MANUFACTURED WOOD PRODUCTS SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION ISSUED BY THE CERTIFYING AGENCY.

MATERIALS:

- **SAWN LUMBER:** CONFORM TO GRADING RULES OF WMPA, WCLIB OR NLGA. FINGER JOINTED STUDS ACCEPTABLE AT INTERIOR WALLS ONLY.

MEMBER USE	SIZES	SPECIES	GRADE
STUDS & POSTS	2x, 4x	HEM-FIR	NO. 2
RAFTERS	2x4 - 2x10	HEM-FIR	NO. 2
BEAMS	4x8 - 4x12	HEM-FIR	NO. 2
BEAMS	6x8 - 6x12	HEM-FIR	NO. 2
POSTS & TIMBERS	6x, 8x	DOUG-FIR	NO. 2

- **GLUED LAMINATED TIMBER:** CONFORM TO AITC 117 "STANDARD SPECIFICATIONS FOR STRUCTURAL GLUE LAMINATED TIMBER OF SOFTWOOD SPECIES, MANUFACTURING AND DESIGN" AND ANSI/AITC A190.1 "STRUCTURAL GLUED LAMINATED TIMBER." CAMBER ALL GLUED LAMINATED MEMBERS BEAMS TO 2000" RADIUS, UNLESS SHOWN OTHERWISE ON THE PLANS.

MEMBER USE	SIZES	SPECIES	STRESS CLASS	USES
BEAMS	ALL	DF/DF	24F-1.8E	SIMPLE SPANS
	ALL	DF/DF	24F-1.8E [(-FB)=(+FB)]	CANTILEVER SPANS

- **METAL PLATE CONNECTED WOOD ROOF TRUSSES:** CONFORM TO IBC SEC 2303.4 "TRUSSES."

- **WOOD STRUCTURAL SHEATHING (PLYWOOD):** WOOD APA-RATED STRUCTURAL SHEATHING INCLUDES: ALL VENEER PLYWOOD, ORIENTED STRAND BOARD, WATERBOARD, PARTICLEBOARD, T1-11 SIDING, AND COMPOSITES OF VENEER AND WOOD BASED MATERIAL. CONFORM TO PRODUCT STANDARDS PS-1 AND PS-2 OF THE U.S. DEPT. OF COMMERCE AND THE AMERICAN PLYWOOD ASSOCIATION (APA).

LOCATION	THICKNESS	SPAN RATING	PLYWOOD GRADE	EXPOSURE
ROOF	15/32"	32/16	C-D	1
FLOOR	23/32" T&G	24 OC	STURD-I-FLOOR	1
WALLS	15/32"	32/16	C-D	1
WALLS(ALT)	7/16" OSB	24/16	C-D	1

- **JOIST HANGERS AND CONNECTORS:** SHALL BE "STRONG TIE" BY SIMPSON COMPANY OR USP EQUIVALENT AS SPECIFIED IN THEIR LATEST CATALOGS. ALTERNATE CONNECTORS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUIVALENT OR GREATER LOAD CAPACITIES AND ARE REVIEWED AND APPROVED BY THE SER PRIOR TO ORDERING. CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE 1/2 OF THE NAILS OR BOLTS IN EACH MEMBER. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE FULL LENGTH COMMON. NAIL STRAPS TO WOOD FRAMING AS LATE AS POSSIBLE IN THE FRAMING PROCESS TO ALLOW THE WOOD TO SHRINK AND THE BUILDING TO SETTLE.

- **NAILS AND STAPLES:** CONFORM TO IBC SEC 2303.6 "NAILS AND STAPLES." UNLESS NOTED ON PLANS, NAIL PER IBC TABLE 2304.9.1. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE COMMON. NAIL SIZES SPECIFIED ON THE DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
8D	2-1/2"	0.131"
10D	3"	0.148"
(8D & 10D ALTERNATIVE) PASLODE TETRAGRIP NAILS	2-3/8"	0.113"
12D (16D SINKER)	3-1/4"	0.148"
16D	3-1/2"	0.162"

- **LAG BOLTS/BOLTS:** CONFORM TO ASTM A307.

NAILING REQUIREMENTS: PROVIDE MINIMUM NAILING IN ACCORDANCE WITH IBC TABLE 2304.9.1 "FASTENING SCHEDULE" EXCEPT AS NOTED ON THE DRAWINGS. NAILING FOR ROOF/FLOOR DIAPHRAGMS/SHEAR WALLS SHALL BE PER DRAWINGS. NAILS SHALL BE DRIVEN FLUSH AND SHALL NOT FRACTURE THE SURFACE OF SHEATHING.

STANDARD LIGHT-FRAME CONSTRUCTION: UNLESS NOTED ON THE PLANS, CONSTRUCTION SHALL CONFORM TO IBC SEC 2308 "CONVENTIONAL LIGHT-FRAME CONSTRUCTION" AND IBC SEC 2304 "GENERAL CONSTRUCTION REQUIREMENTS."

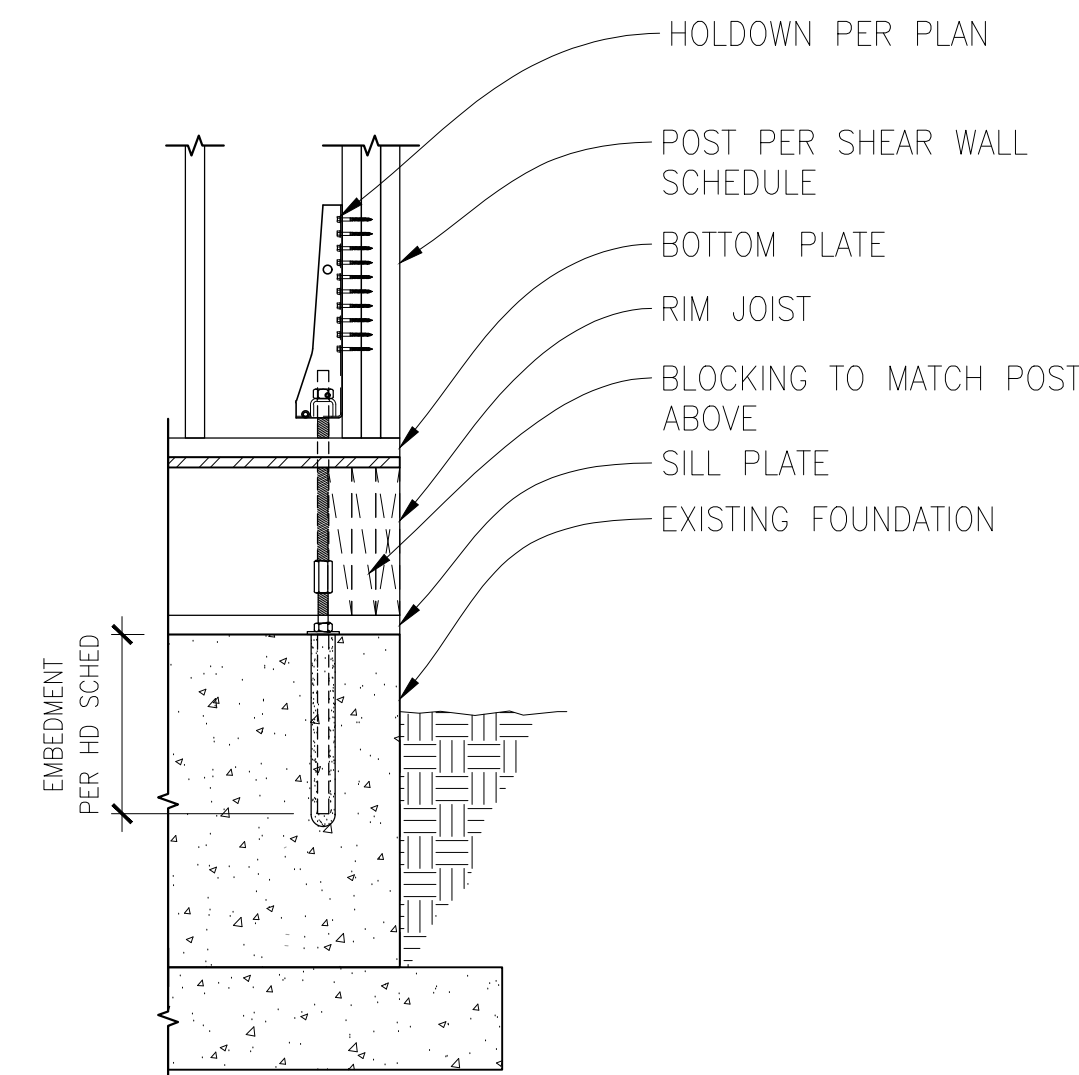
- (1) **WALL FRAMING:** UNLESS OTHERWISE NOTED, ALL INTERIOR WALLS SHALL BE 2x4 @ 16"OC AND ALL EXTERIOR WALLS SHALL BE 2x6 @ 16"OC. PROVIDE (2)BUNDLED STUDS MIN AT WALL ENDS AND EACH SIDE OF ALL OPENINGS. UNO, ALL SOLID SAWN LUMBER HEADERS SHALL BE SUPPORTED BY A MINIMUM OF (1)TRIM AND (1)KING STUD AND ALL GLULAM OR ENGINEERED WOOD HEADERS BY (2)TRIM AND (2)KING STUDS. AT FRAMED WALLS, UNO, ALL SOLID SAWN LUMBER BEAMS SHALL BE SUPPORTED ON A MINIMUM OF (2) BUNDLED 2X STUDS AND ALL GLULAM OR ENGINEERED WOOD BEAMS ON A MINIMUM OF (3) BUNDLED 2X STUDS. STITCH-NAIL BUNDLED STUDS WITH (2)10D @ 12"OC. UNO, ALL INTERIOR AND EXTERIOR HEADERS SHALL BE 4X6. PROVIDE SOLID BLOCKING THRU FLOORS TO SUPPORTS BELOW FOR BEARING WALLS AND POSTS. UNO, ATTACH BOTTOM PLATES OF STUD WALLS TO WOOD FRAMING BELOW WITH 16D @ 12"OC OR TO CONCRETE WITH 5/8"-DIA. ANCHOR BOLTS X 7" EMBEDMENT AT 48"OC. REFER TO SHEAR WALL SCHEDULE FOR SPECIFIC SHEATHING, STUD, AND NAILING REQUIREMENTS AT SHEAR WALLS. UNO, PROVIDE GYPSUM SHEATHING ON INTERIOR SURFACES AND PLYWOOD SHEATHING ON EXTERIOR SURFACES.

- (2) **ROOF/FLOOR FRAMING:** UNLESS OTHERWISE NOTED, PROVIDE DOUBLE JOISTS/RAFTERS UNDER ALL PARALLEL BEARING PARTITIONS AND SOLID BLOCKING AT ALL BEARING POINTS. PROVIDE DOUBLE JOISTS AROUND ALL ROOF/FLOOR OPENINGS. UNO, MULTI-JOISTS/RAFTERS SHALL BE STITCH-NAILED TOGETHER WITH (2)10D @ 12"OC. PROVIDE ROOF SHEATHING EDGE CLIPS CENTERED BETWEEN FRAMING AT UNLOCKED PLYWOOD EDGES. ALL FLOOR SHEATHING SHALL HAVE TONGUE AND GROOVE JOINTS OR BE SUPPORTED BY SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF ROOF/FLOOR SHEATHING. ROOF/FLOOR SHEATHING SHALL BE LAID FACE GRAIN PERPENDICULAR TO FRAMING MEMBERS.

MOISTURE CONTENT: WOOD MATERIAL USED FOR THIS PROJECT SHALL HAVE MAXIMUM MOISTURE CONTENT OF 19% EXCEPT FOR THE PRESSURE-TREATED WOOD SILL PLATE.

PRESERVATIVE TREATMENT: WOOD MATERIALS ARE REQUIRED TO BE "TREATED WOOD" UNDER CERTAIN CONDITIONS IN ACCORDANCE WITH IBC SEC 2304.11 "PROTECTION AGAINST DECAY AND TERMITES". CONFORM TO THE APPROPRIATE STANDARDS OF THE AMERICAN WOOD-PRESERVERS ASSOCIATION (AWPA) FOR SAWN LUMBER, GLUED LAMINATED TIMBER, ROUND POLES, WOOD PILES AND MARINE PILES. FOLLOW AMERICAN LUMBER STANDARDS COMMITTEE (ALSC) QUALITY ASSURANCE PROCEDURES. PRODUCTS SHALL BEAR THE APPROPRIATE MARK.

METAL CONNECTORS/PJT WOOD: CK ENGINEERING LLC RECOMMENDS THAT ALL METAL HARDWARE AND FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER BE STAINLESS STEEL TYPE 316L. AT THE OWNER'S RISK AND DISCRETION, HOT-DIPPED GALVANIZED METAL HARDWARE AND FASTENERS MAY BE INVESTIGATED FOR USE IN LIEU OF STAINLESS STEEL PROVIDED THAT THE FINISH HAS A MINIMUM ZINC CONTENT OF AT LEAST 1.85 OZ/SF AND ITS USE IS COORDINATED BY THE CONTRACTOR AND WOOD SUPPLIER FOR THE EXPECTED ENVIRONMENT AND MOISTURE EXPOSURE FOR APPROPRIATE USE BASED ON THE METHOD OF PRESERVATIVE TREATMENT OF THE WOOD.



ALL-THREAD ROD INSTALLATION INTO EXISTING FOUNDATION

SCALE: N.T.S.

4

HOLDOWN SCHEDULE					
MODEL # (1)	ANCHORAGE TYPE (4.6)	FASTENERS	END STUD REQUIRED (2.6)	CAPACITY (LBS)	
				DOUG-FIR	HEM-FIR
HDU2	5/8" ALL-THREAD ROD W/ 10" EPOXY EMBED INTO CONC	(6) 1/4"x2 1/2" SDS WOOD SCREWS	(2) 2x STUDS	1,310	1,310

NOTES:

1. HOLDOWNS SPECIFIED ARE AS MANUFACTURED BY SIMPSON ANCHOR TIE DOWN CO., INC; ACCEPTABLE EQUIVALENT PRODUCT SUBSTITUTIONS ARE AVAILABLE FROM OTHER MANUFACTURERS WITH SER APPROVAL.
2. LOCATE ALL HOLDOWNS AT ENDS OF ALL SHEAR WALLS & FASTEN TO BUNDLED END STUDS.
3. BUNDLED END STUDS SHOULD BE STITCH-NAILED TOGETHER USING MINIMUM (2) 16d @ 10"OC, UNO.
4. LOCATE "HDU#", "LSTDH#" & "STHD#" HOLDOWNS AT CONCRETE FOUNDATION LEVEL. (DETAIL B & C)
5. LOCATE "CSH#", "MST#" "MS1#" & "CMS1#" STRAPS AT FLOOR-TO-FLOOR CONNECTIONS. (DETAIL A)
6. ALL HOLDOWN ANCHOR BOLTS SHALL BE MIN 5" FROM CONCRETE WALL ENDS.
7. USE "SSTB" FOR 2x SILL PLATES & "SSTBL" FOR 3x SILL PLATES.
8. ADDITIONAL END STUD REQUIRED TO MEET MINIMUM 1 1/2" EDGE DISTANCE FROM CONCRETE CORNER TO "STDH" STRAP. USE "RL" STYLE WITH "STHD" WHERE RIM JOIST IS PRESENT.
9. INSTALL ALL HOLDOWN HARDWARE PER MANUFACTURER'S INSTRUCTIONS & RECOMMENDATIONS.
10. USE SIMPSON SET-XP EPOXY FOR ANCHOR BOLT TO EXISTING CONCRETE INSTALLATION.

HOLDOWN SCHEDULE

SCALE: N.T.S.

8

WOOD-FRAMED SHEAR WALL SCHEDULE

FOR HEM-FIR/DOUG-FIR STUD FRAMING								
SW TYPE	SW SHEATHING APA-RATED	NAIL SIZE & SPACING @ PANEL EDGES	RIM JOIST OR BLOCKING ATTACHMENT TO TOP PLATE BELOW	BOTTOM PLATE & EDGE MEMBER REQUIREMENTS (3, 7, 13)		SILL PLATE REQUIREMENTS		SHEAR LOAD CAPACITY (PLF)
				SHEAR NAILING TO WOOD FRAMING BELOW	BOTTOM PLATE AT FRAMING	ANCHOR BOLT TO CONCRETE FOUNDATION (10)	SILL PLATE AT FOUNDATION (11)	
SW-6	15/32" CD-EXT	0.131" x 2 1/2" @ 6"OC	CLIP @ 18"OC	0.148" x 3 1/4" @ 6"OC	2x	5/8" @ 48"OC	P.T. 2x	260

NOTES:

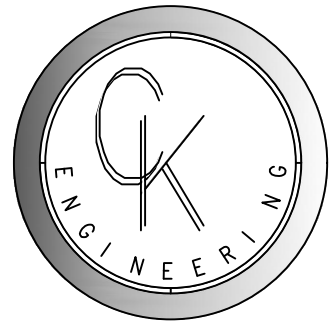
1. INSTALL PANELS EITHER HORIZONTALLY OR VERTICALLY.
2. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF WALL, PANEL EDGE JOINTS ON 2x FRAMING SHALL BE STAGGERED SO THAT JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUDS.
3. BLOCKING IS REQUIRED AT ALL PANEL EDGES.
4. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF FULL HEIGHT WALLS ARE DESIGNATED BY WINDOWS, OR DOORWAYS OR AS DESIGNATED ON PLANS. HOLDOWN REQUIREMENTS PER PLANS.
5. SHEAR WALLS DESIGNATED AS PERFORATED SHEAR WALLS REQUIRE SHEATHING, SHEAR WALL NAILING, ETC. ABOVE AND BELOW ALL OPENINGS.
6. SHEATHING EDGE NAILING IS REQUIRED AT ALL HOLDOWN POSTS. EDGE NAILING MAY ALSO BE REQUIRED TO EACH STUD USED IN BUILT-UP HOLDOWN POSTS. ADDITIONAL INFORMATION PER HOLDOWN SCHEDULE & DETAILS.
7. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH 0.148" x 2 1/2" NAILS AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND 0.148" x 2 1/2" NAILS AT 6"OC WHERE STUDS ARE SPACED AT 24"OC.
8. BASED ON 0.131" x 1 1/2" NAILS USED TO ATTACH FRAMING CLIPS DIRECTLY TO FRAMING. USE 0.131" x 2 1/2" NAILS WHERE INSTALLED OVER SHEATHING.
9. FRAMING CLIPS: SIMPSON "A35" OR "LTP5" OR APPROVED EQUIVALENT.

10. ANCHOR BOLTS SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED STEEL PLATE WASHERS 5"x3"x0.229"(MIN). THE HOLE IN THE PLATE WASHER MAY BE DIAGONALLY SLOTTED 1 3/16"x1 1/4" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. PLATE WASHER TO EXTEND TO WITHIN 1/2" OF THE EDGE OF THE SILL PLATE ON THE SIDE(S) WITH SHEATHING. WHERE SHEAR WALLS ARE SHEATHED ON BOTH SIDES OF 2x6 WALL FRAMING, USE 4.5"x4.5"x0.229"(MIN) PLATE WASHERS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE.
11. PRESSURE TREATED MATERIAL CAN CAUSE EXCESSIVE CORROSION IN THE FASTENERS. PROVIDE HOT-DIPPED GALVANIZED (ELECTRO-PLATING IS NOT ACCEPTABLE) NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) FOR ALL CONNECTORS IN CONTACT WITH PRESSURE TREATED FRAMING MEMBERS. ADDITIONAL INFORMATION PER STRUCTURAL NOTES.
12. WHERE WOOD SHEATHING IS APPLIED OVER GYPSUM SHEATHING, CONTACT THE ENGINEER OF RECORD FOR ALTERNATE NAILING REQUIREMENTS.
13. AT ADJOINING PANEL EDGES, (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2x STUDS SHALL BE CONNECTED TOGETHER BY NAILING THE STUDS TOGETHER WITH 3" LONG NAILS OF THE SAME SPACING AND DIAMETER AS THE PLATE NAILING.
14. CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR ADHESIVE OR EXPANSION BOLT ALTERNATIVES TO CAST-IN-PLACE ANCHOR BOLTS. SPECIAL INSPECTION MAY BE REQUIRED.
15. NAIL STUDS TO 3x BOTTOM-SILL PLATES WITH EITHER (2) 0.148"x4" END NAILS OR (4) 0.131"x2 1/2" TONELLS.

WOOD-FRAMED SHEAR WALL SCHEDULE

SCALE: N.T.S.

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12/14/2020

WEBSTER-BUETHEL RESIDENCE
3624 81ST AVE SE
MERCER ISLAND, WA 98040

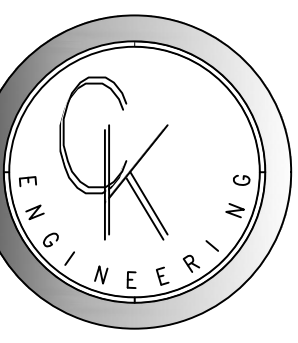
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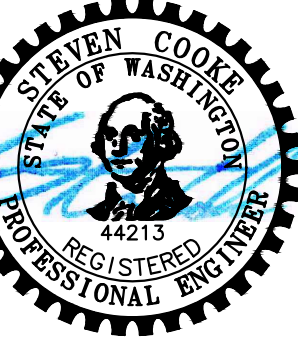
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STRUCTURAL
NOTES/SCHED.

S-1.0



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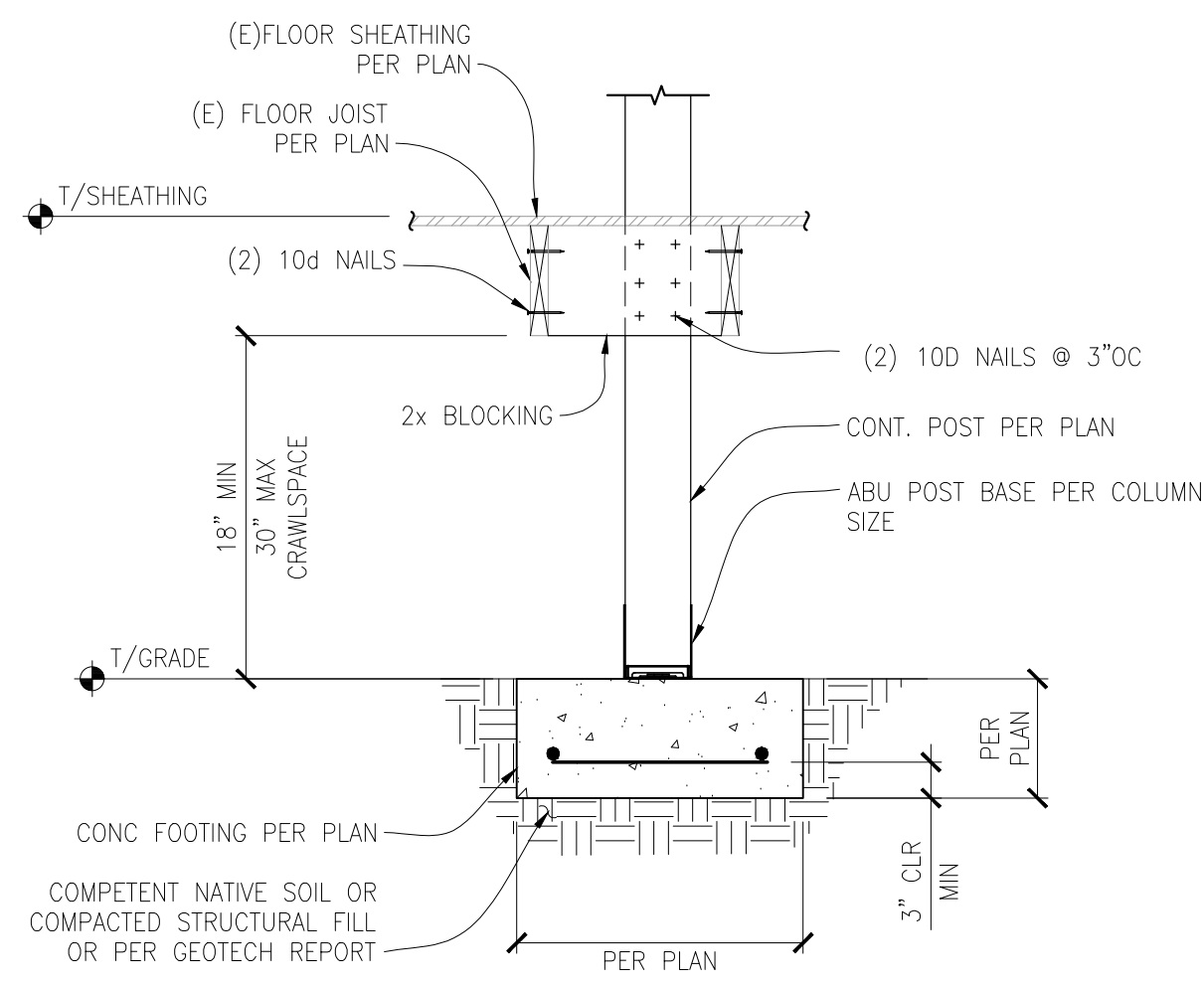
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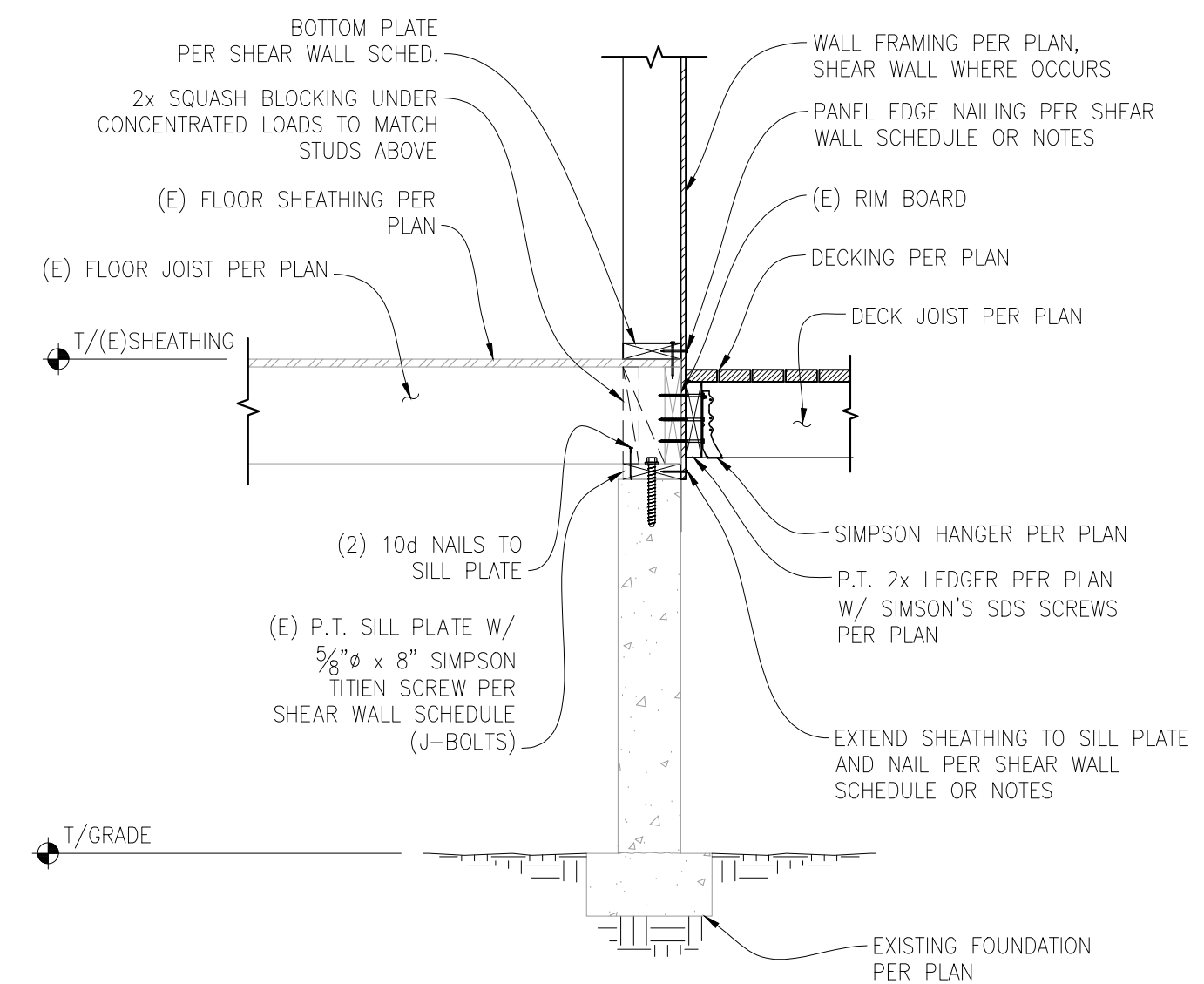
STRUCTURAL
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S-2.0



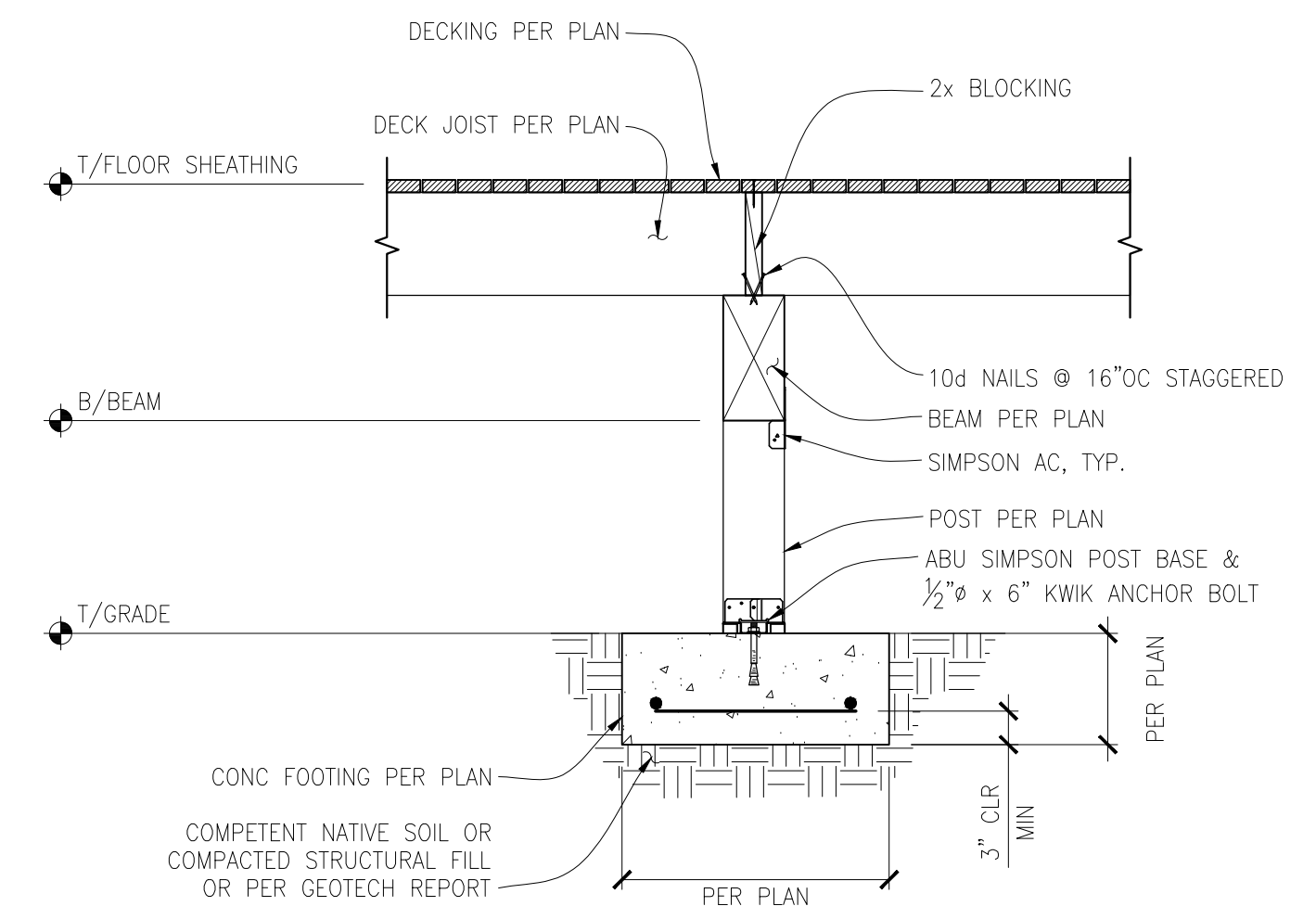
ABU/POST TO FOOTING CONNECTION
 SCALE: 3/4" = 1'-0"

1



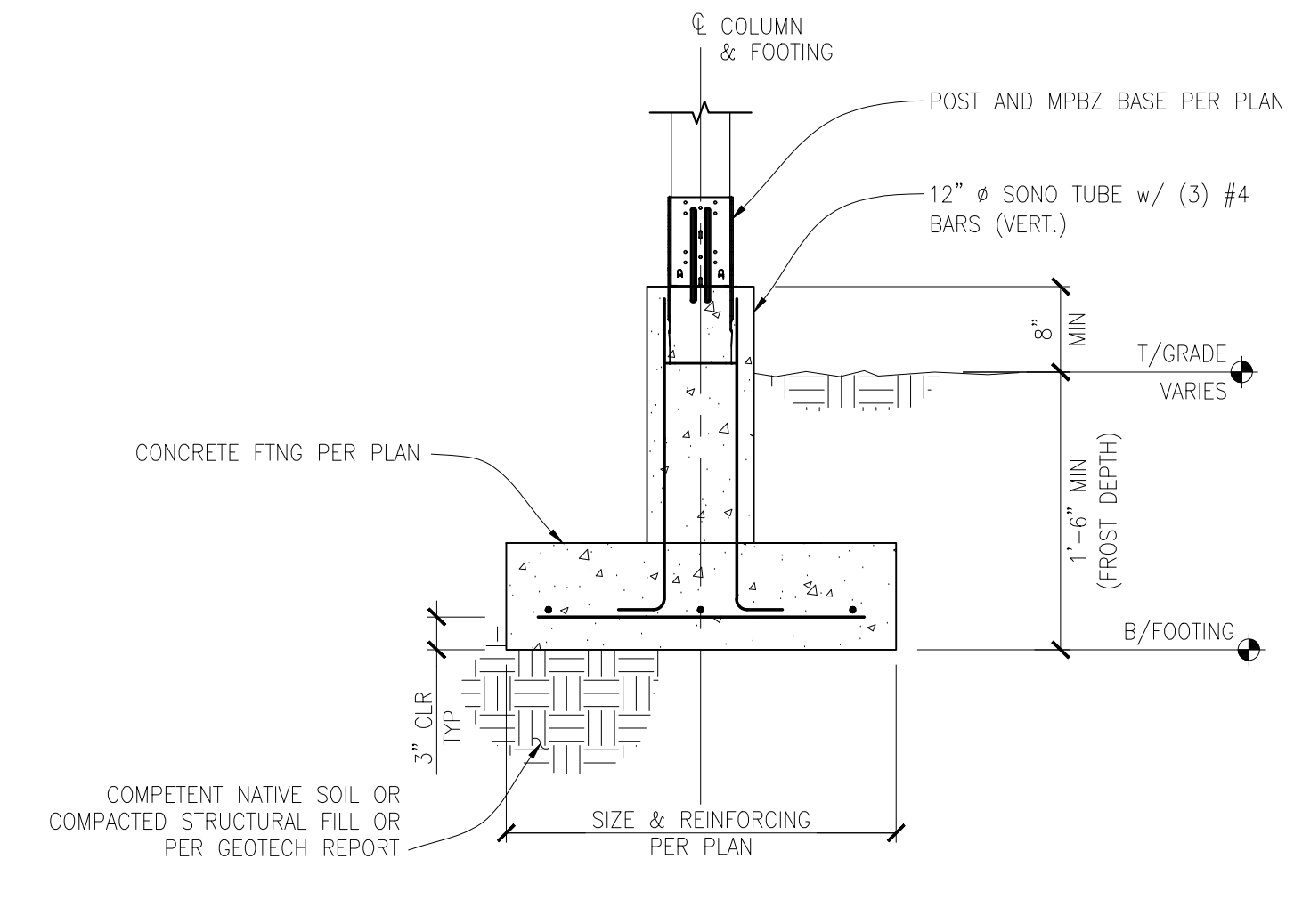
SHEAR WALL/DECK JOIST TO EXISTING FOUNDATION CONNECTION
 SCALE: 3/4" = 1'-0"

2



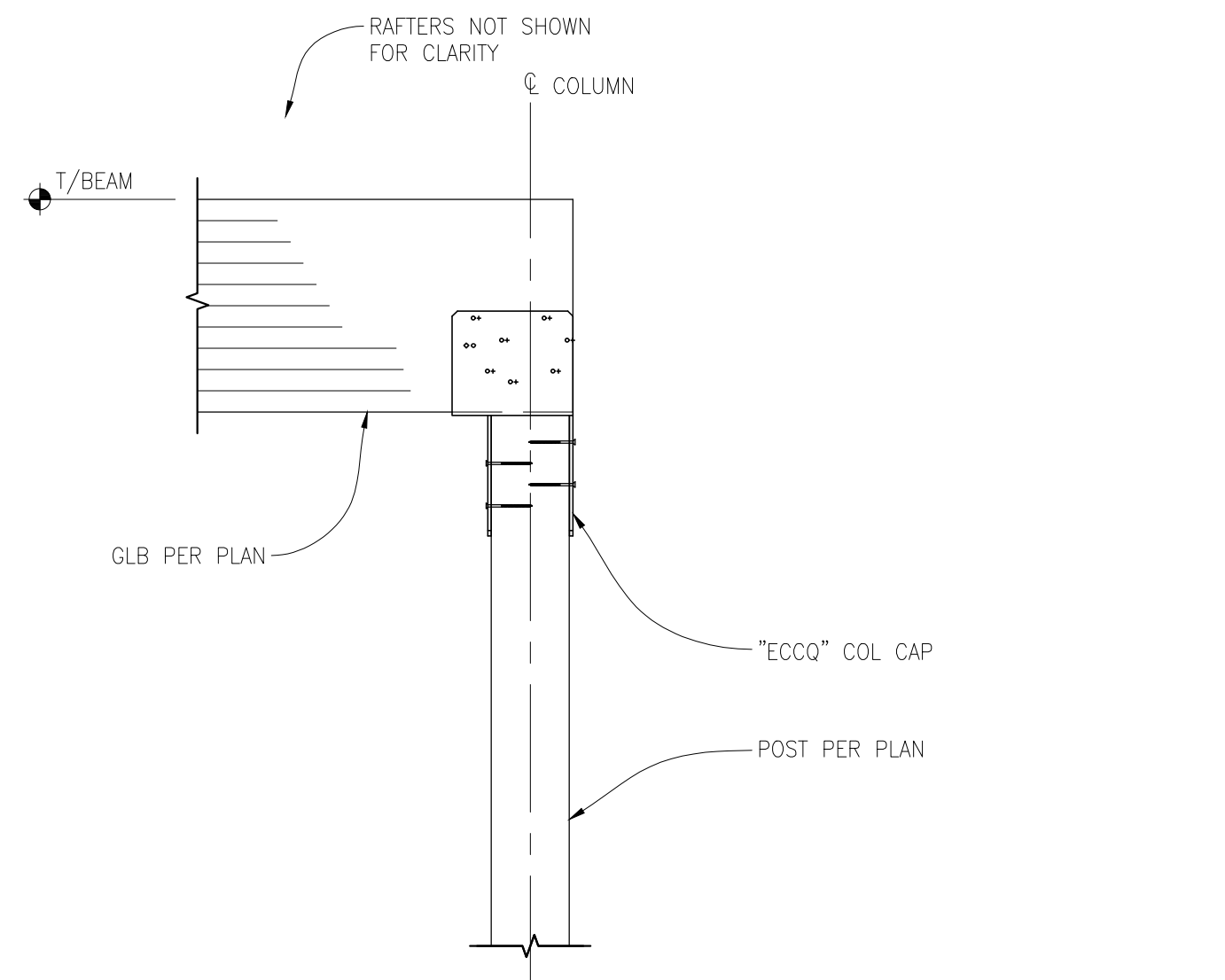
BEAM/POST/FTNG DECK CONNECTION
 SCALE: 3/4" = 1'-0"

3



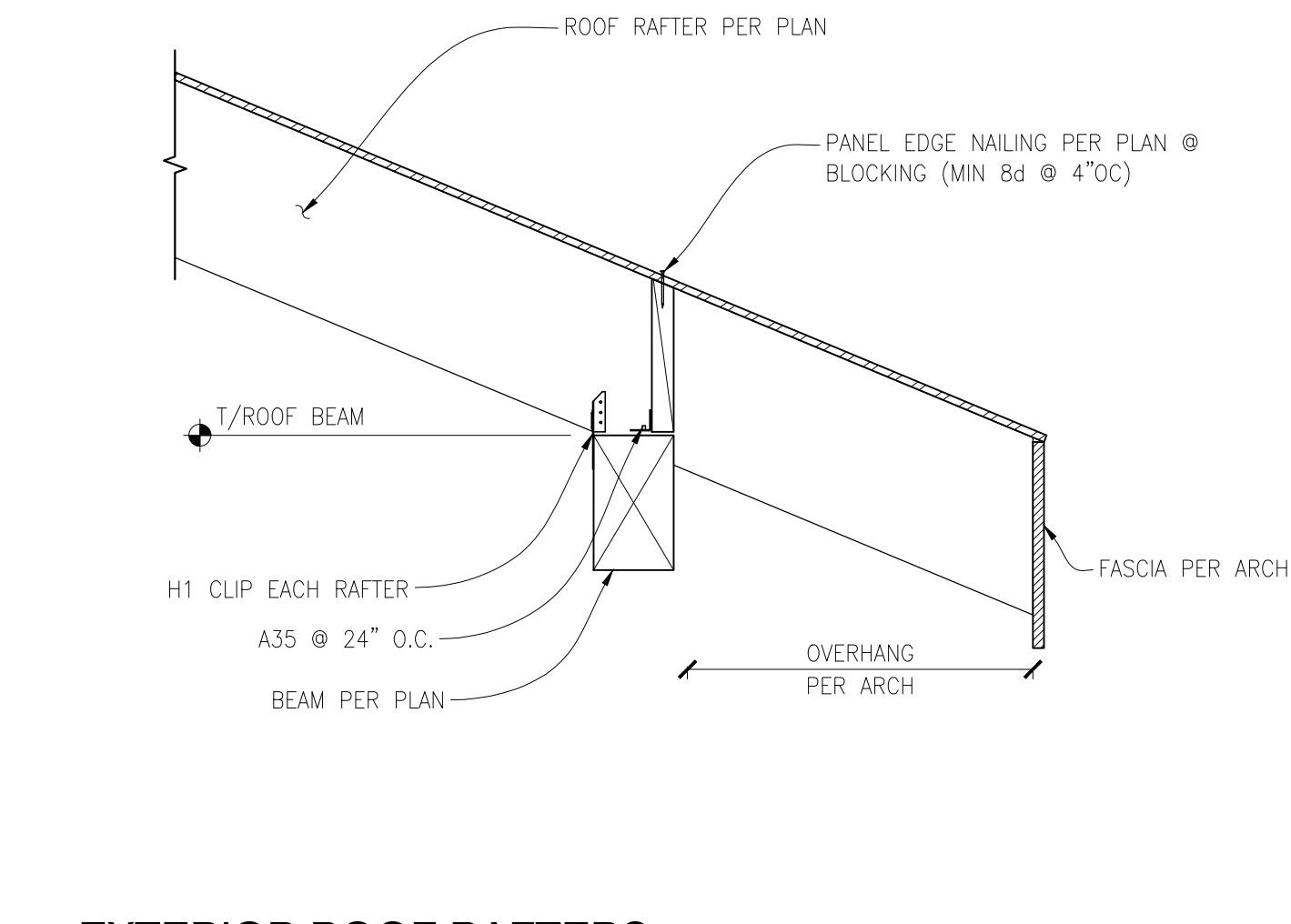
NEW FOOTING/POST CONNECTION
 SCALE: 3/4" = 1'-0"

4



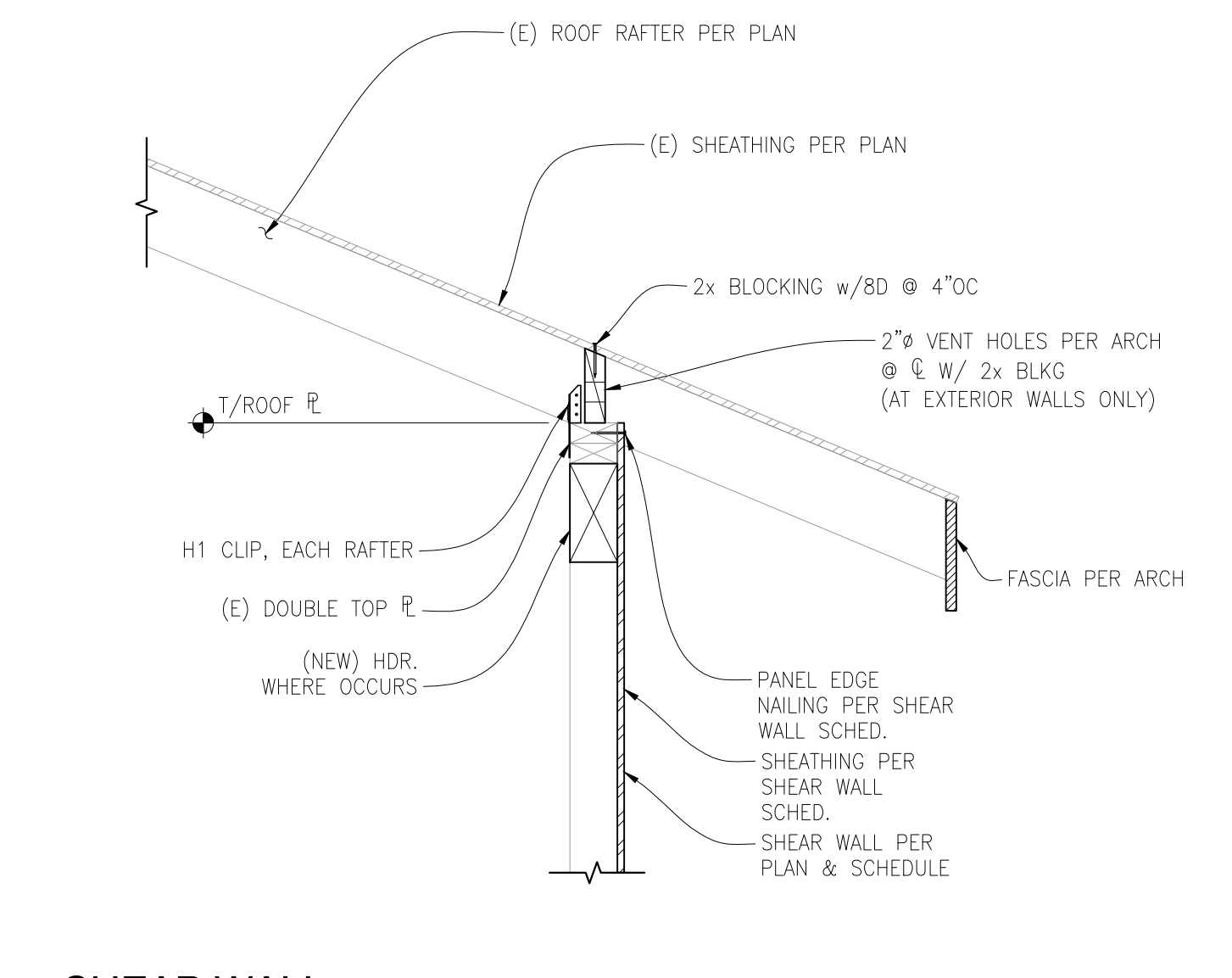
TYPICAL BEAM TO COLUMN CONNECTION
 SCALE: NTS

6



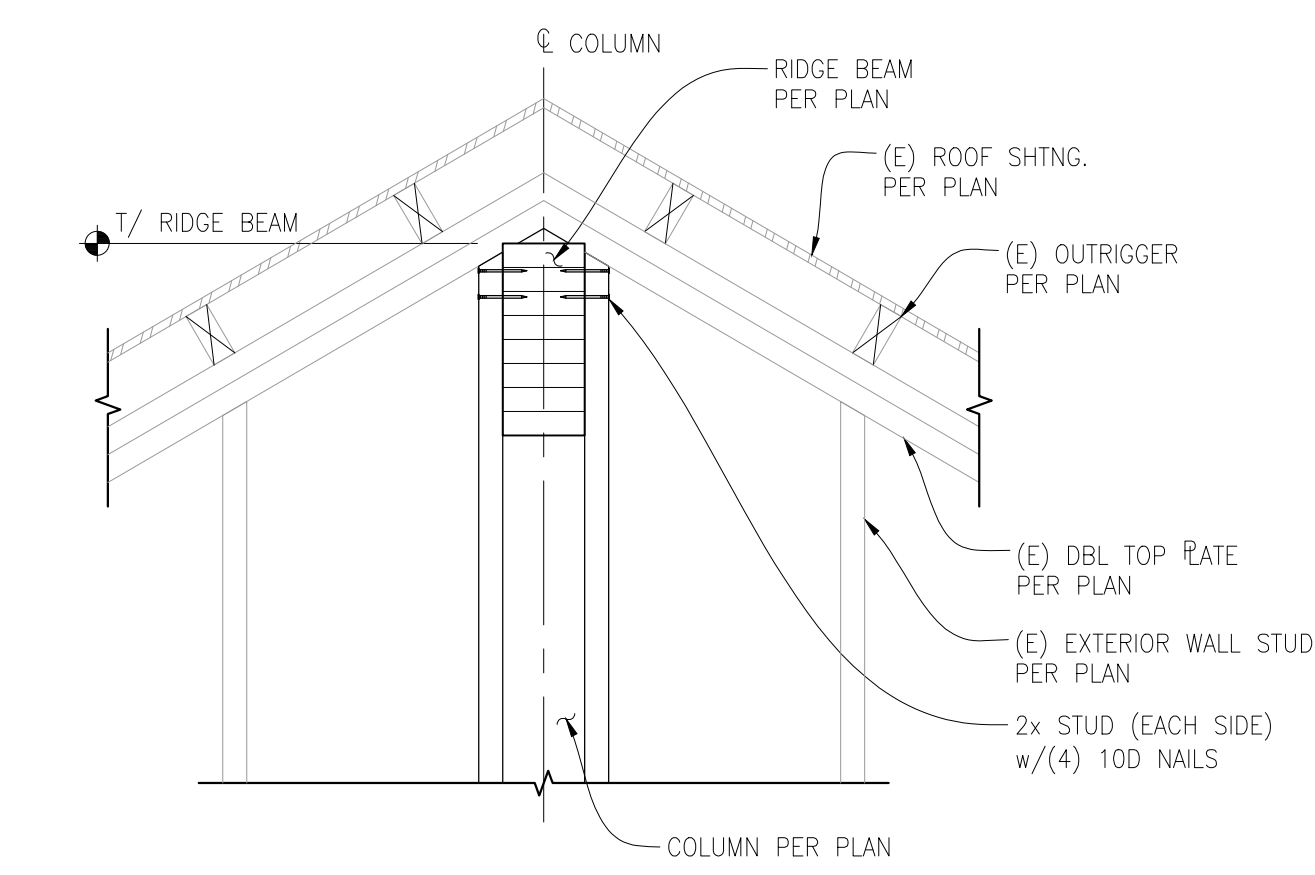
EXTERIOR ROOF RAFTERS TO ROOF BEAM CONNECTION
 SCALE: 1" = 1'-0"

7



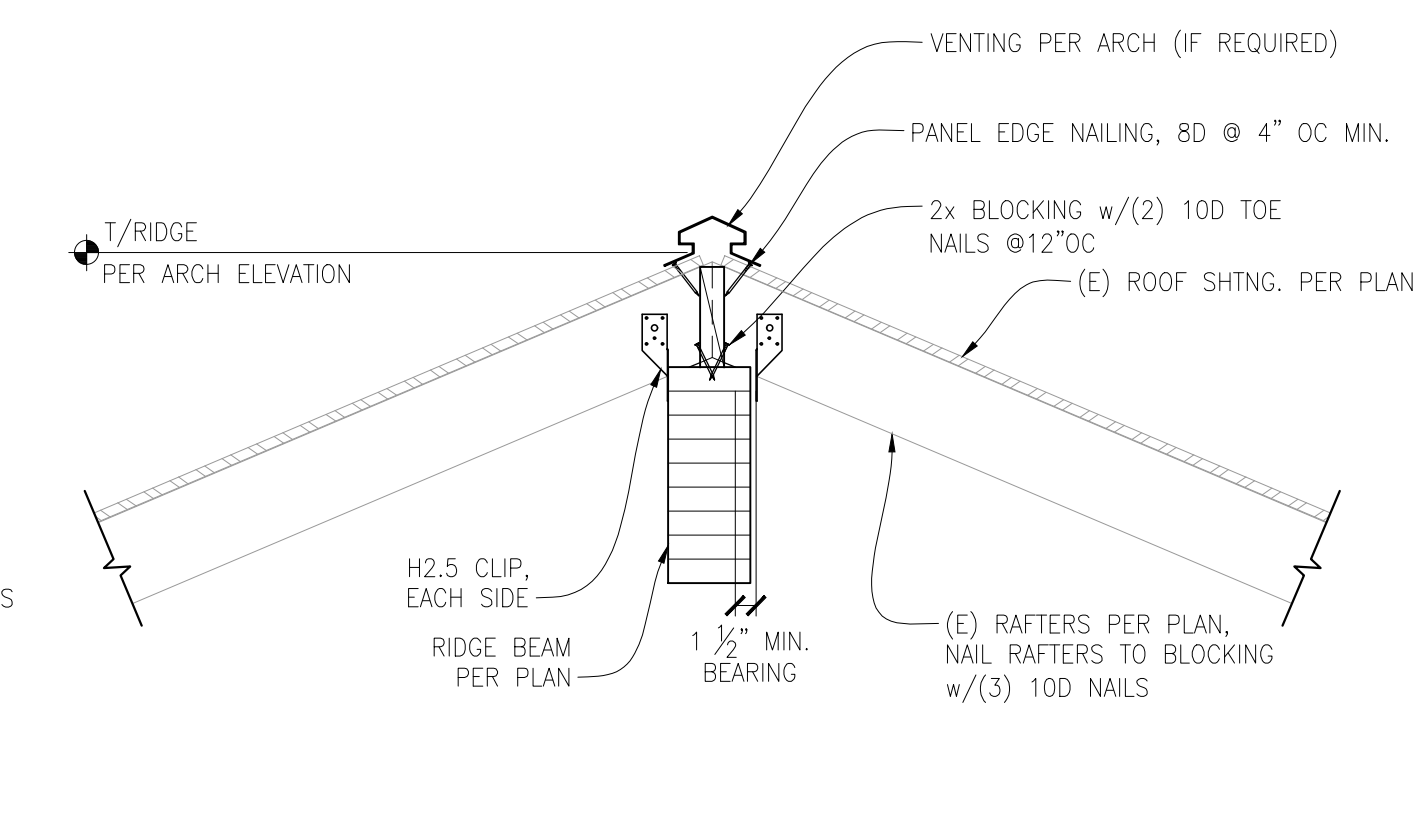
SHEAR WALL PERPENDICULAR TO ROOF RAFTER
 SCALE: 1" = 1'-0"

8



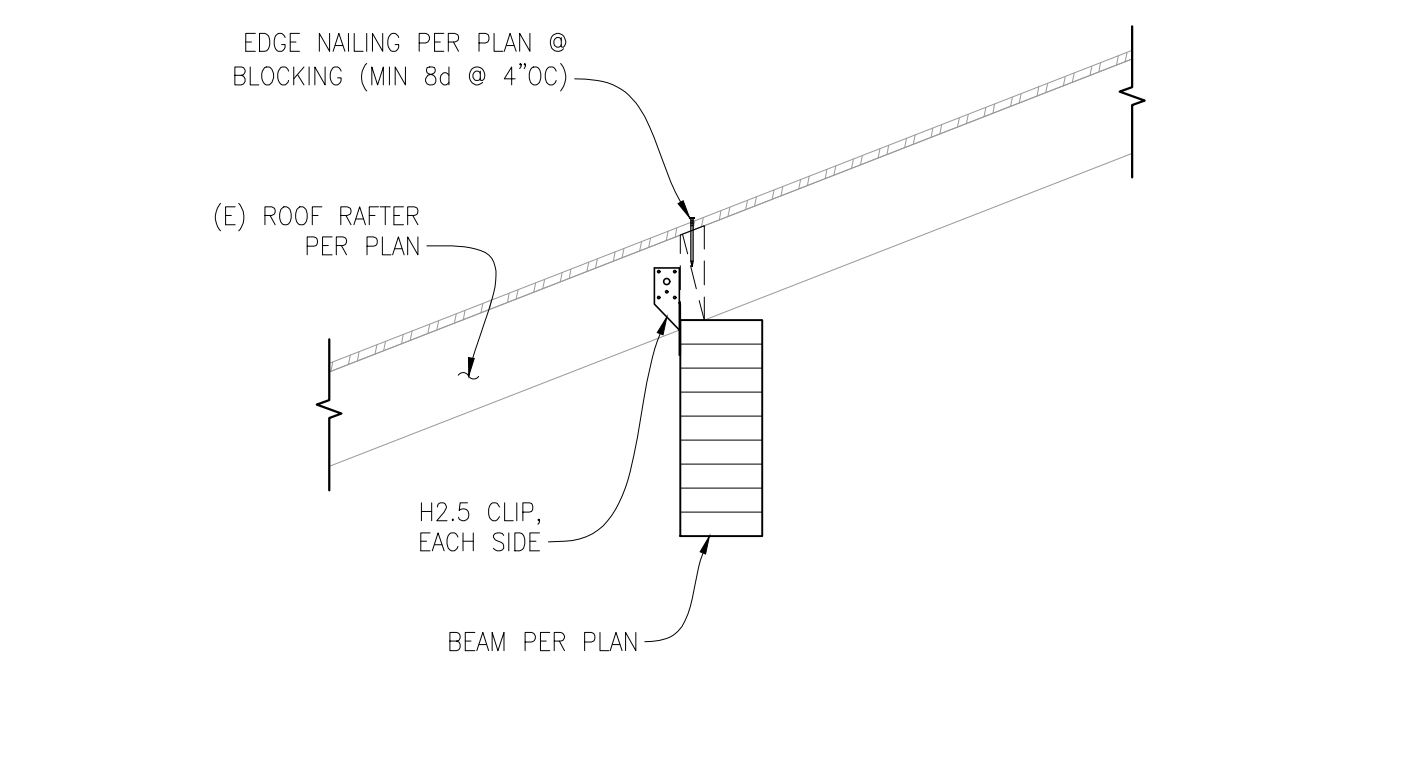
RIDGE BEAM (POCKET) WOOD WALL CONNECTION
 SCALE: 1" = 1'-0"

9



RIDGE BEAM TO EXISTING RAFTERS CONNECTION
 SCALE: 1" = 1'-0"

10



(E) ROOF RAFTER TO BEAM CONNECTION
 SCALE: 1" = 1'-0"

11